In the discussion of previous chapters it became clear that there are some fundamental principles that need to be met in order for a building type such as an information resource centre to be successful within a rural environment. Most important is that it needs to be part of a larger civic, **economic and social network** within an appropriate context and that it should become a **social symbol and centre for interaction** within the community.

CHAPTER SEVEN
designing within the framework

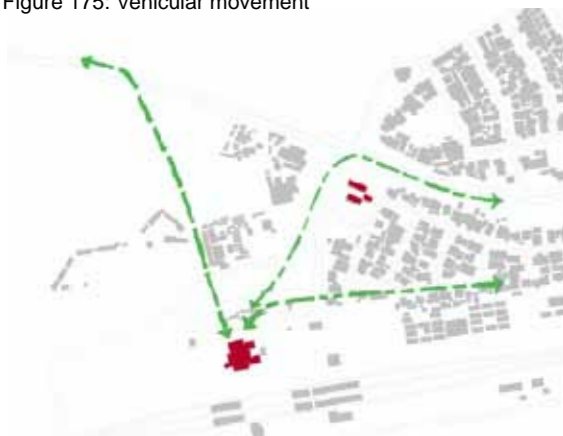Figure 174: Context

Figure 175: Vehicular movement

Figure 176: Padestrian movement

Block plan development_ movement as context

Eerste Fabrieke has very little context to relate to (Figure: 174); consequently the scheme should be approached with a vision toward the future. In order to create an adequate context, certain prerequisites need to be met in relation to the formation and creation of an environment representing African space; providing the energy needed to establish the Eerste Fabrieke precinct not only as a community focal point, but also as an envisaged urban core.

The theoretical component of the document concluded with the identification of four principal guidelines with the aim of guiding the process for creating a successful urban environment in which the intervention might become a symbol for the community: linearity as a network for shaping a city and as a prevalent African phenomenon; movement as a tool for organization and source of energy for connecting and creating rural urban space; movement as a requirement for interaction between people in order to create both infrastructure and shape social positive space; the provision of a series of formal economic and civic programmes whilst ensuring flexibility for adaptation, self-organisation and ownership relating to both the information centre and larger neighbourhood.

Linearity as a network for shaping the city
The creation of linear networks takes place on different scales: Connecting important nodal points within the larger Mamelodi area, which has been discussed during the urban design framework; the introduction of smaller scale economic interventions between nodal points ensuring walkability and community focus; the establishment of a minibus drop-off connected to the Eerste Fabrieke station through a shared street concept and pedestrian arcade.

Movement as a tool for organization and source of energy
Due to the lack of built form, the only context to relate to comprises the movement patterns of both vehicular and pedestrian activities around the site. By means of analysis one can begin to organise the adjacent space, creating an environment which will benefit and enhance the public transport system as well as pedestrian mobility. This will in turn provide the energy required to 'fuel' a community in order to support local economy, the quality of which is determined by the established network of which it forms a part.

Movement as a requirement for interaction
Interaction between people within a rural environment can be established through movement between smaller scale nodes of importance by providing the necessary economic and civic activities. Interaction leads to the establishment of an informal economy, creating the invisible infrastructure mentioned by De Boek. This form of infrastructure, however, requires flexibility and ability for expansion in order to ensure the possibility of creating positive African space. This transformation from open space into place occurs when users adapt space according to their own needs.

The creation of a skeleton structure, or so called open building system, with the opportunity for infill prior to use is, however, not conductive to the creation of self-organising societies. The intervention should aim at adaptation as the reaction to something that already exists. In order for this to succeed, a large magnitude of different users is required to create the initial energy for a community to function within itself. Therefore, a multi-functional precinct, as part of a master plan, will create the most opportunities for the adaptation and transformation from space into a place belonging to its users.

In essence, the project has evolved from an architectural intervention to an urban problem and needs to be solved accordingly.

Figure 177: Block development

Figure 178: Massing investigation
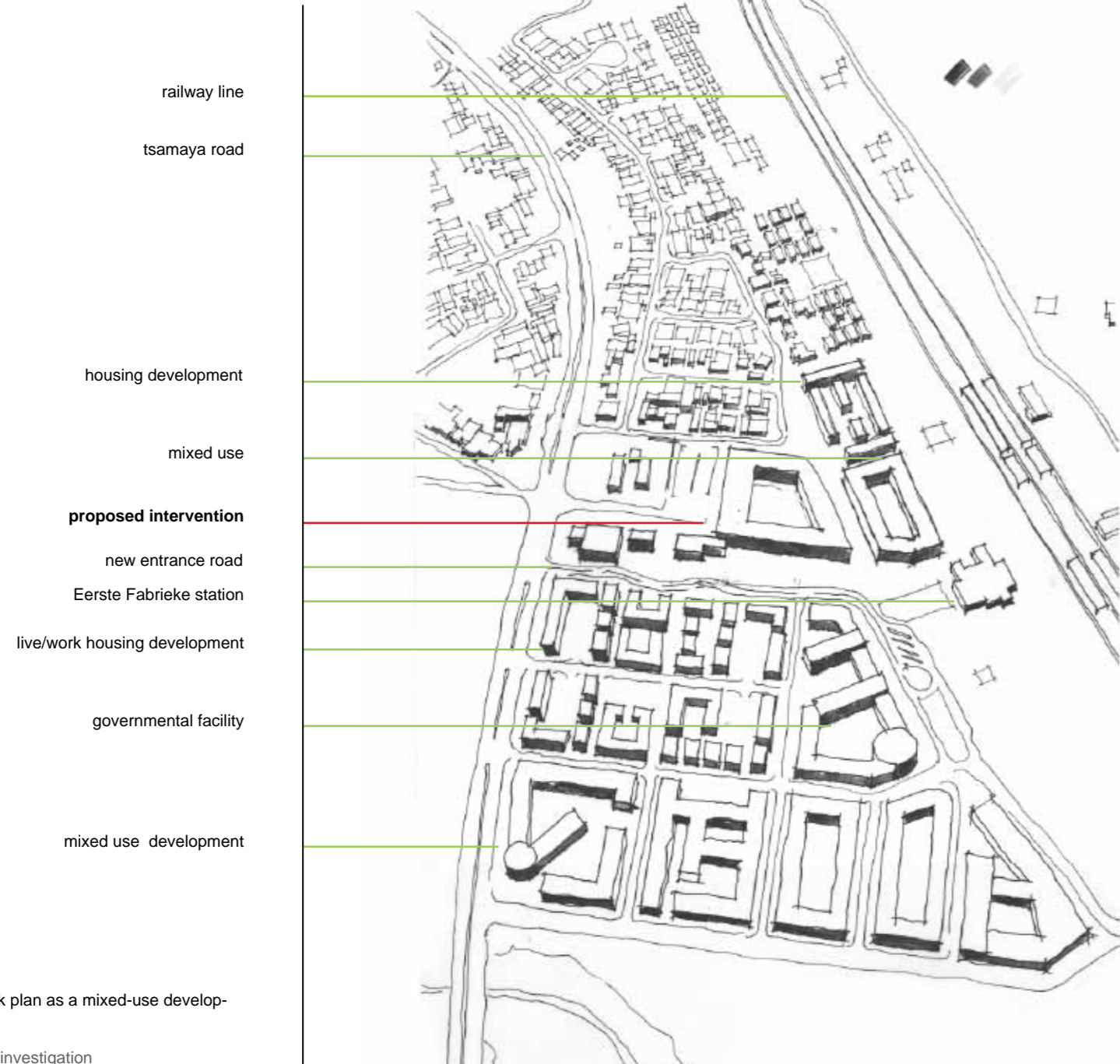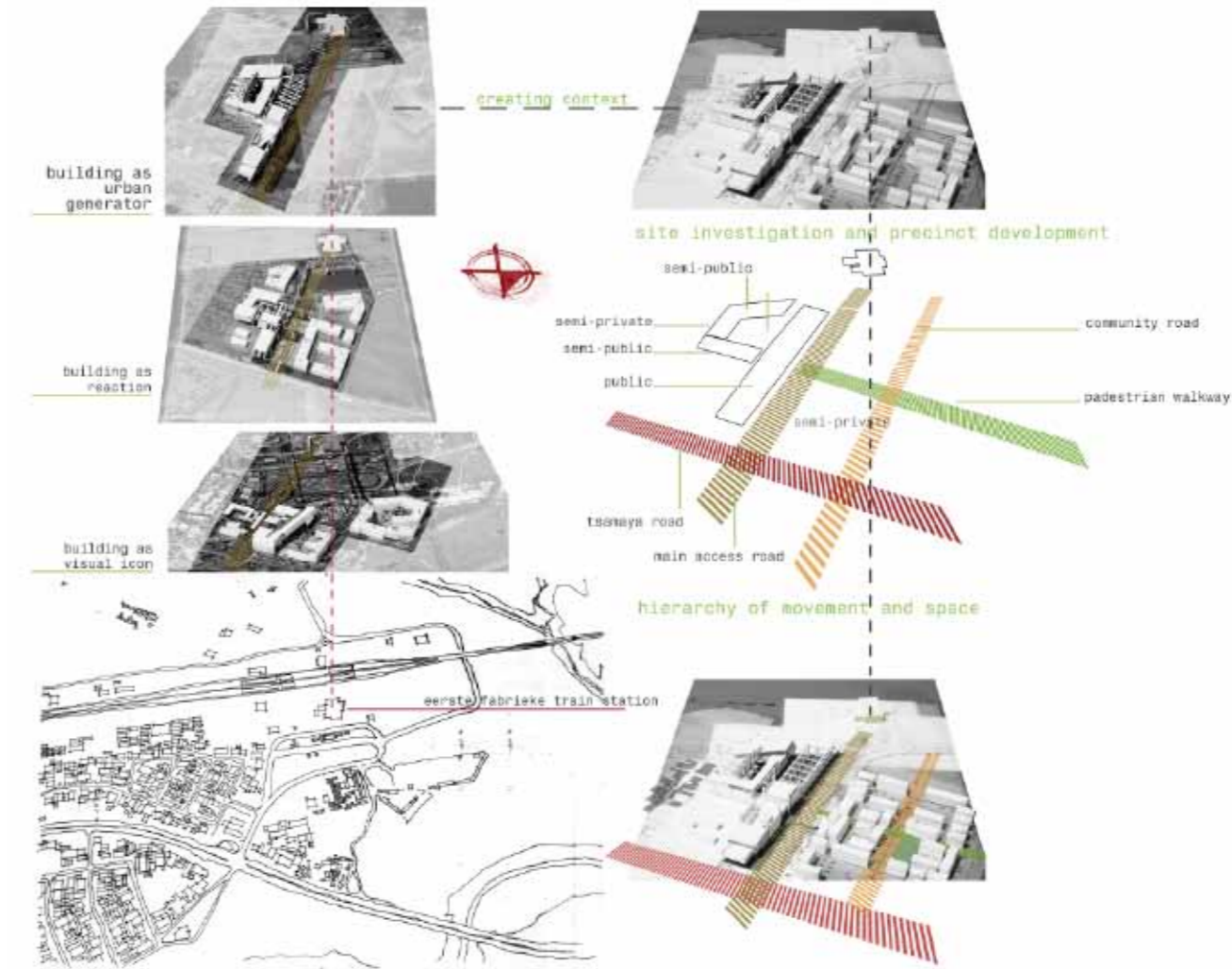

Figure 179: Refinement of massing

railway line

tsamaya road

housing development

mixed use

proposed intervention

new entrance road

Eerste Fabrieke station

live/work housing development

governmental facility

mixed use development

Figure 180: Proposed block plan as a mixed-use development

Site Plan development_ an issue of sustainability

"Sustainable building begins with the understanding of the forces and qualities that make places unique and vital. Understanding the ecology of climate, landscape, and habitation of a place allows us to begin a dialogue with that place. The most sustainable architecture begins with the thoughtful consideration of the building program and site. These fundamental decisions, in turn inform a continuum of decisions from planning to systems integration to material selection. Ultimately, the building, landscape, and inhabitants interact and bring meaning to one another. Sustainable buildings are places which not only optimize the use of resources, but which help to sustain and renew culture and spirit. Our buildings and our cities play a central role in helping to nurture community and in providing the vessels for our shared experiences and cultural growth. By shaping buildings to help connect people and places, we can reinforce the cultural vitality of communities. This happens at many scales and includes the serendipitous interaction on the street. Architecture can be shaped to energize this ongoing matrix of interaction, which is central to cultural evolution" (Moore, Ruble, Yudel 2007: 83).
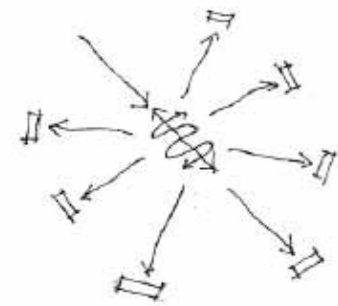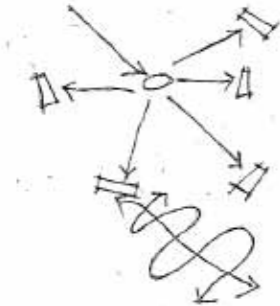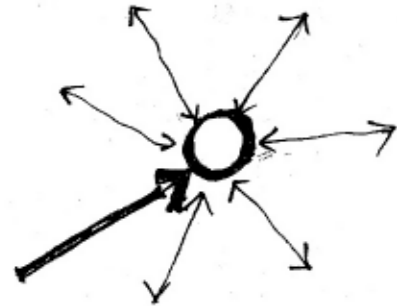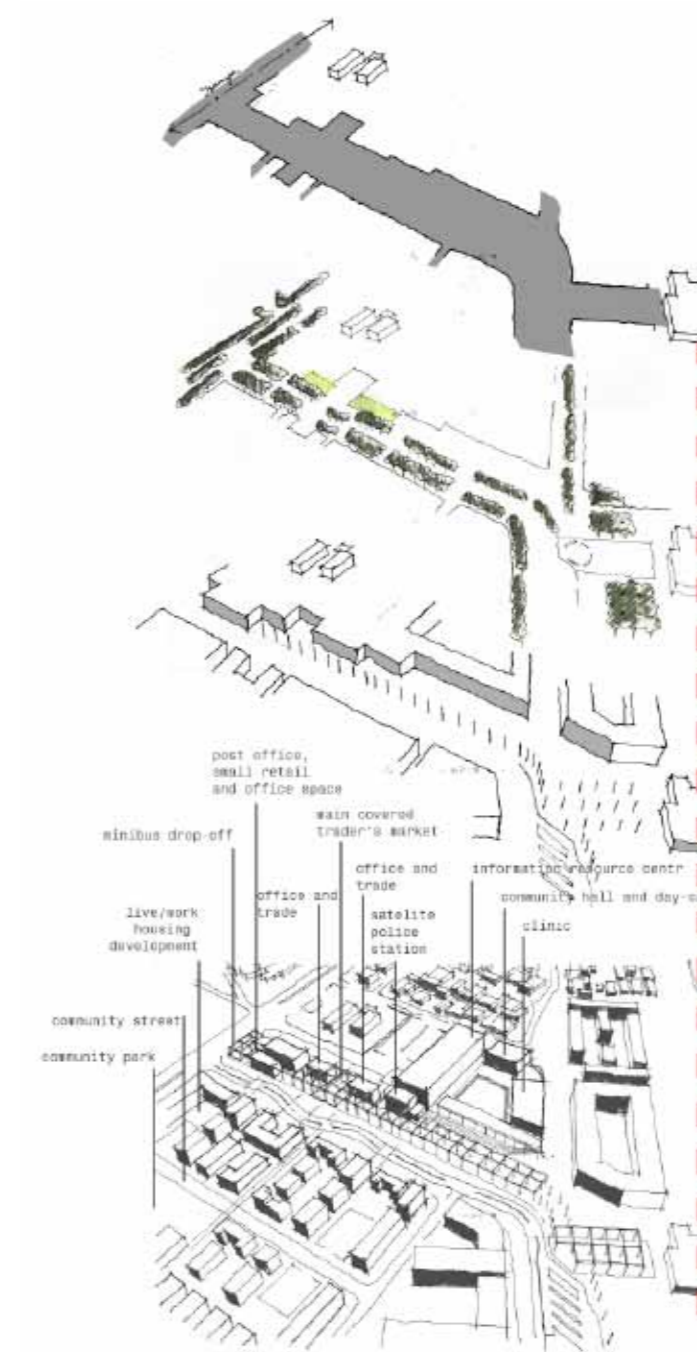
Weaving together the community

The building aims to act as a catalyst whilst weaving together a series of functions, programmes and a variety of different types of people in order to establish a connection between solid and void, formal and informal, social and academic, building and landscape with the hope of engaging the community in interaction and conversation.

This is supported by sets of secondary spaces, shaping a series of paths, corridors and courtyards while providing a hierarchy of social spaces from public to semi-private.
Electronic and social infrastructure strengthens the idea of interconnectedness, celebrating the freedom to access information as well as the culture and informal trade which contribute greatly to the character of Mamelodi. People can interact with the resources provided as well as with one another.

The entire ground level is mainly programmed for maximum activity and public services. Clear entries, bays, terraces and social spaces animate the street and open foyer in order to contribute to a sense of transparency and inclusive public accessibility (Figure: 189).
In this case, open space and edge activation became a pre-requisite for form and architectural structure. The site development plan introduces three elements as an integrated system: an activities arcade and live/work housing development located along the eastern and western edge of the access road, and the main civic centre consisting of an information and resource centre, a community hall and day-care centre, and a clinic. (Figure: 190-191)

activities arcade providing the necessary civic, economic and informal activities required to serve a community

information resource centre providing access to information and education aimed to become a social icon and symbol of pride within the community

eerste fabrieke train station

community hall and day care allowing in-door meeting space, day-care centre and children's library

community clinic providing medical assistance on health education

light retail activating street edge and connecting to trader's market

community street

community park

social housing development

mixed-use

fill station

minibus drop-off point. located adjacent to the activities arcade and tsamaya road as to also benefit east-west commuters

new access road as an extension of the urban environment and social space

live/work units on ground floor activating edge along tsamaya

Activities arcade_ the street as organiser of space

The proposed arcade, connected to the information centre, is less of a building, being rather a method of framing and activating the street edge leading to the train station. Trancik mentions that a successful street, although linear in form, will also possess the properties of a three dimensional frame, a two dimensional pattern, and objects to provide interest and focal points (Trancik 1986: 70). The predominantly linear nature of the arcade structure should function as an extension of the street, providing pedestrians with the essential freedom of movement and interaction while offering the advantage of basic civic services, access to public transport and produce supply.

Similar to the main corridor leading through Isfahan, Iran, the street is conceived as a positive exterior space of richly varied uses where traffic of different types co-exists and in which social and functional activities are gathered. It becomes a connector to a variety of public programmes and a whole hierarchy of integrated public spaces, linear or contained, covered or open (Figure: 195).

Trancik asks whether or not we should aim at re-inventing the street to reflect the reality of mixed-uses (Trancik 1986:70). The street, apart from serving as a social space and link between entities, becomes an organiser of space including light retail and trader stalls, a post office and pay point, the main trader's market, formal retail and a satellite police station, all of which are located along the public edge to emphasise its social responsibility.
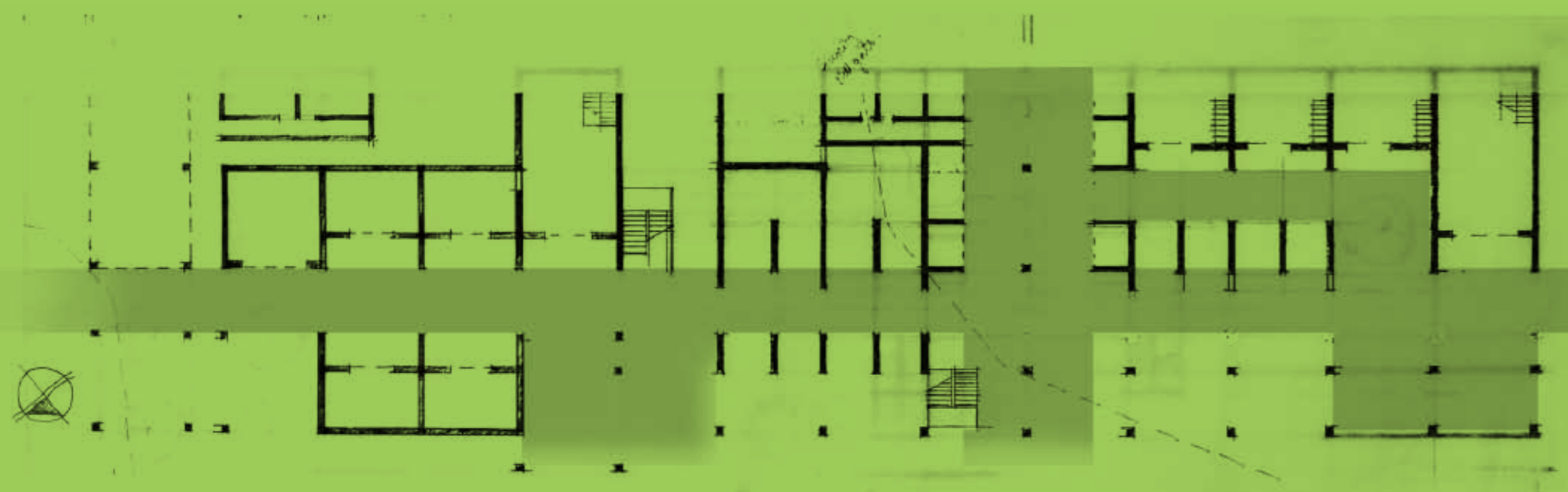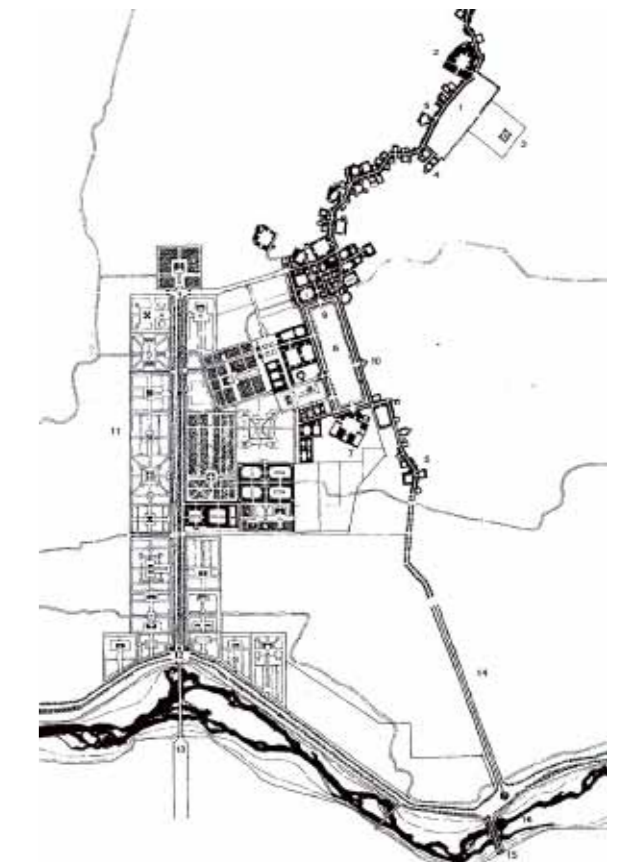
Figure 195: Isfahan, Iran. The street forms a strong spine for the co-existence of activities
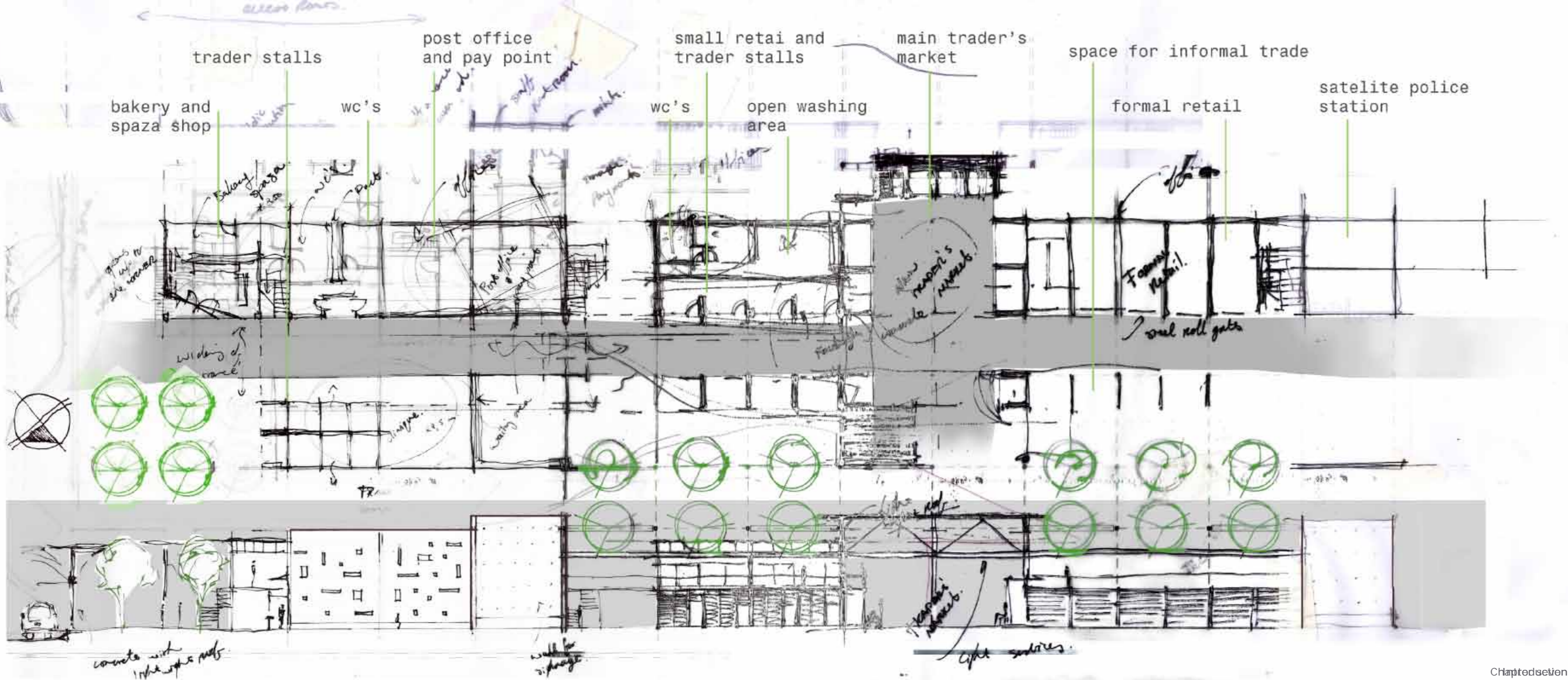
bakery and spaza shop

trader stalls

wc's

post office and pay point

small retai and trader stalls

wc's

open washing area

main trader's market

space for informal trade

formal retail

satelite police station
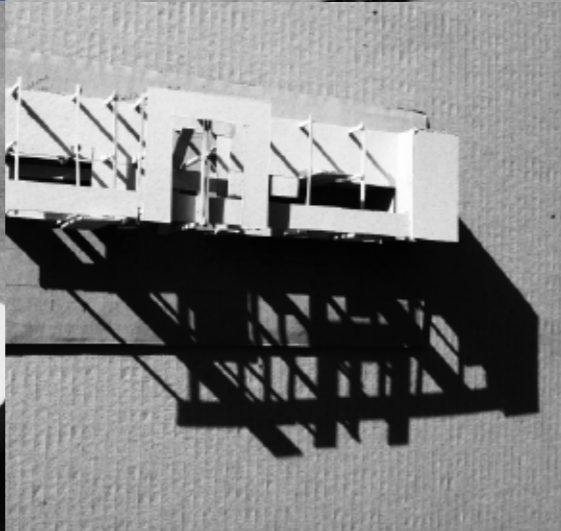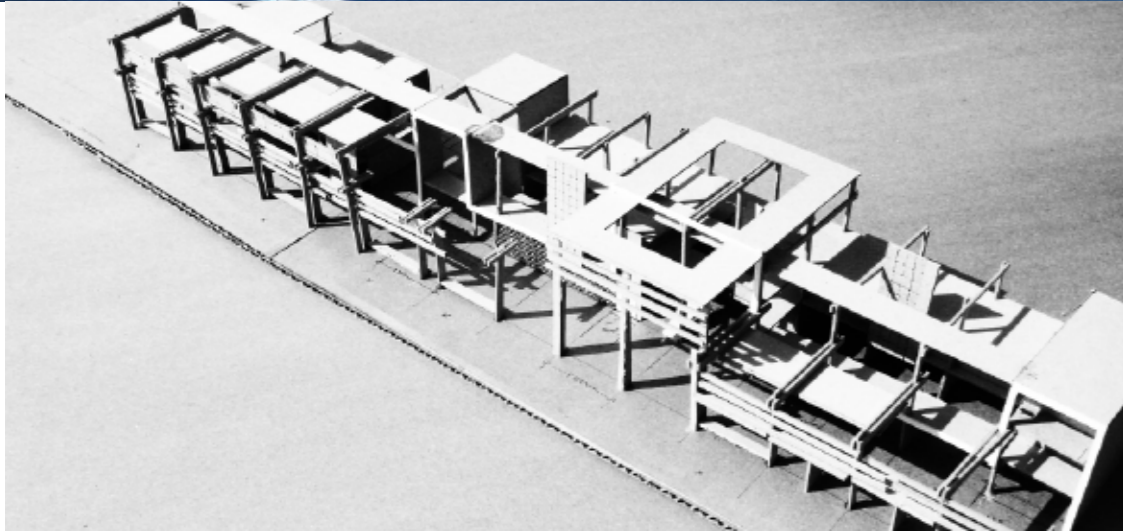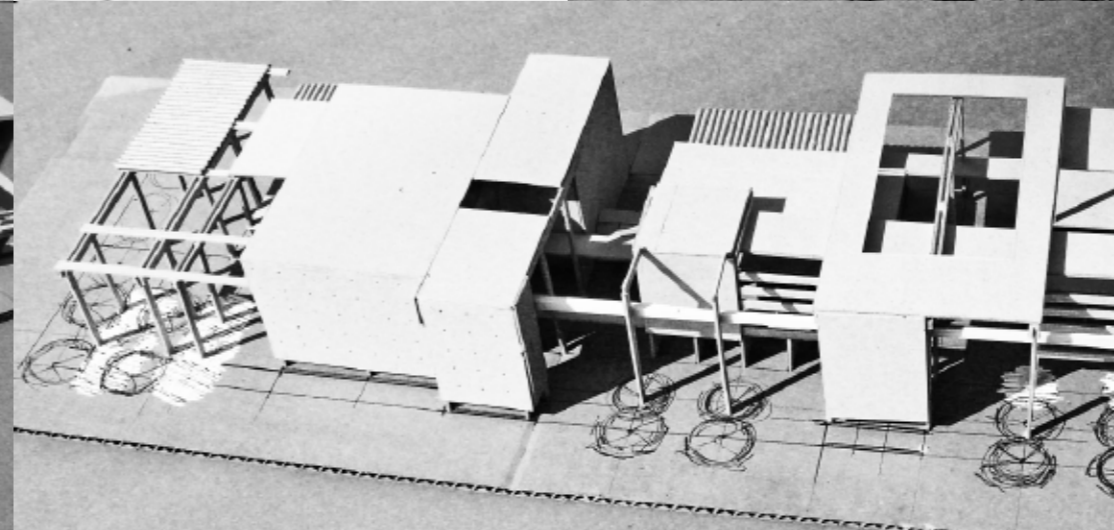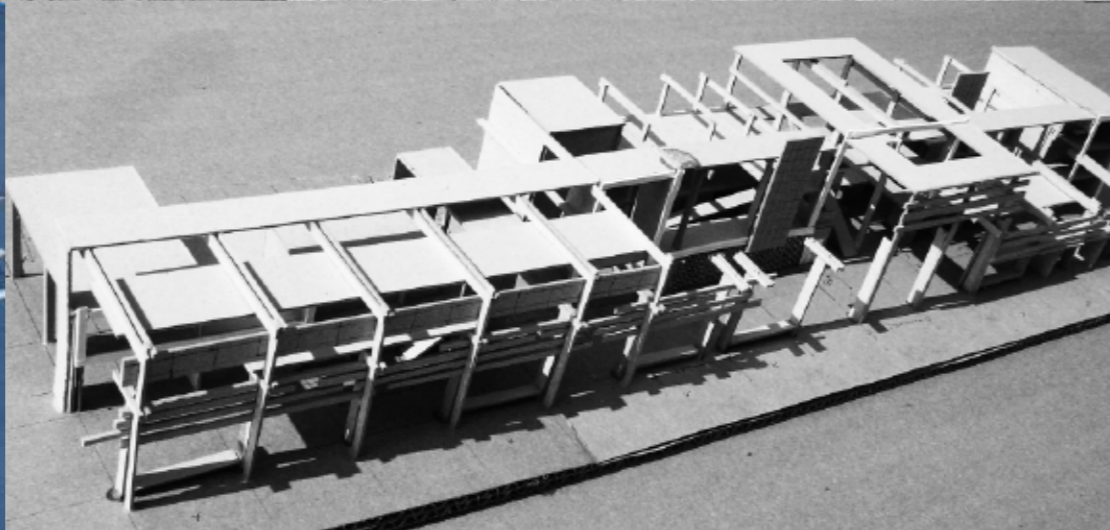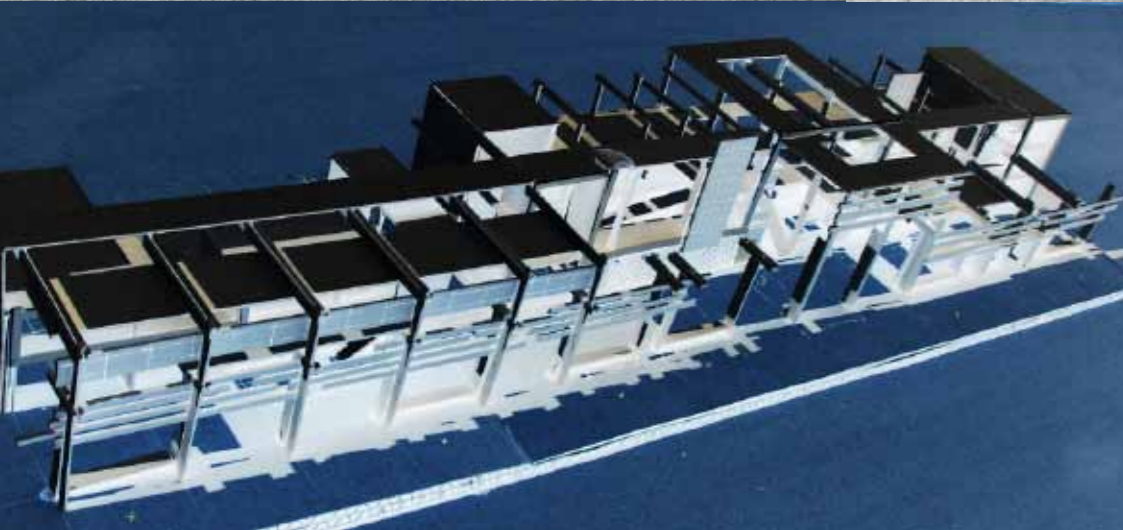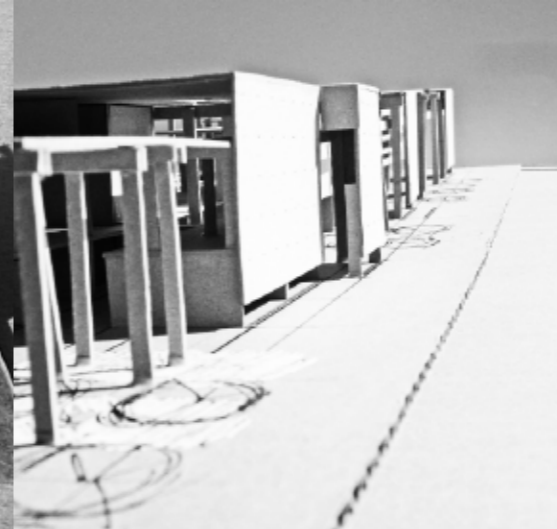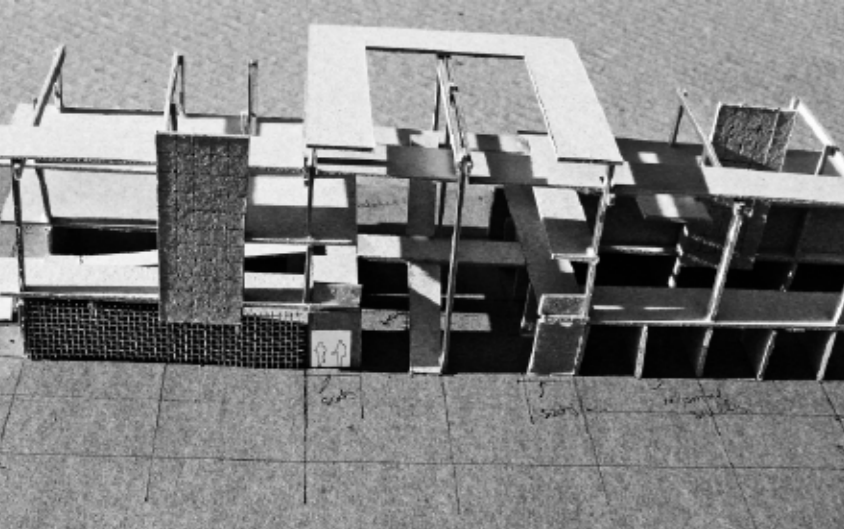
197 198   199   204 205 206 207

200   201   208   209
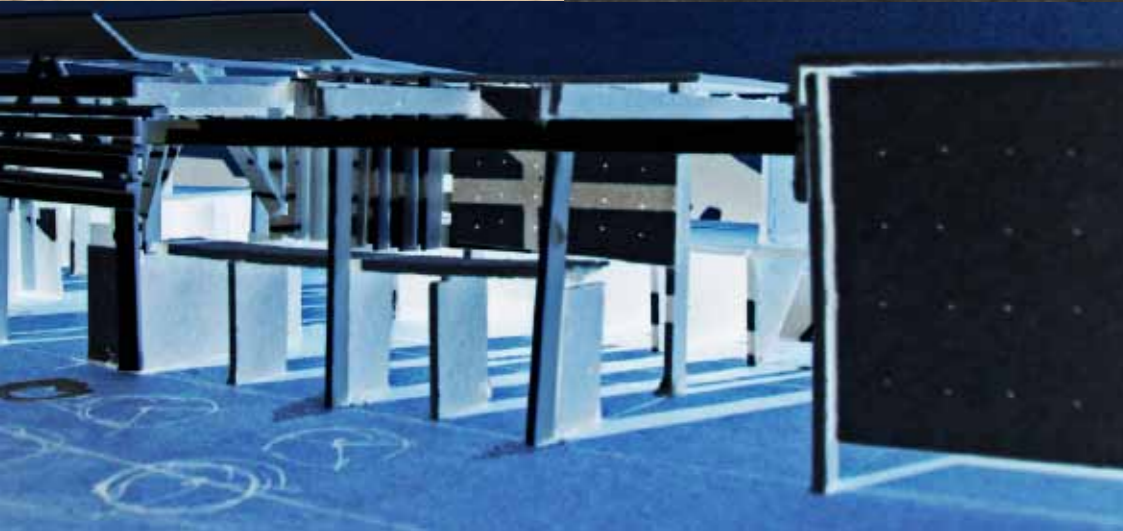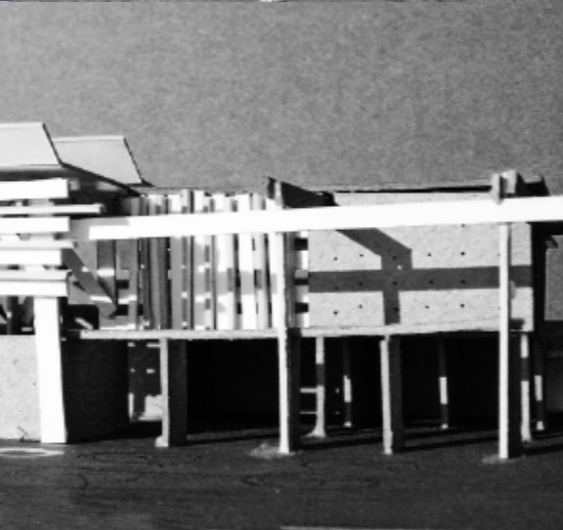
202   203   210 211
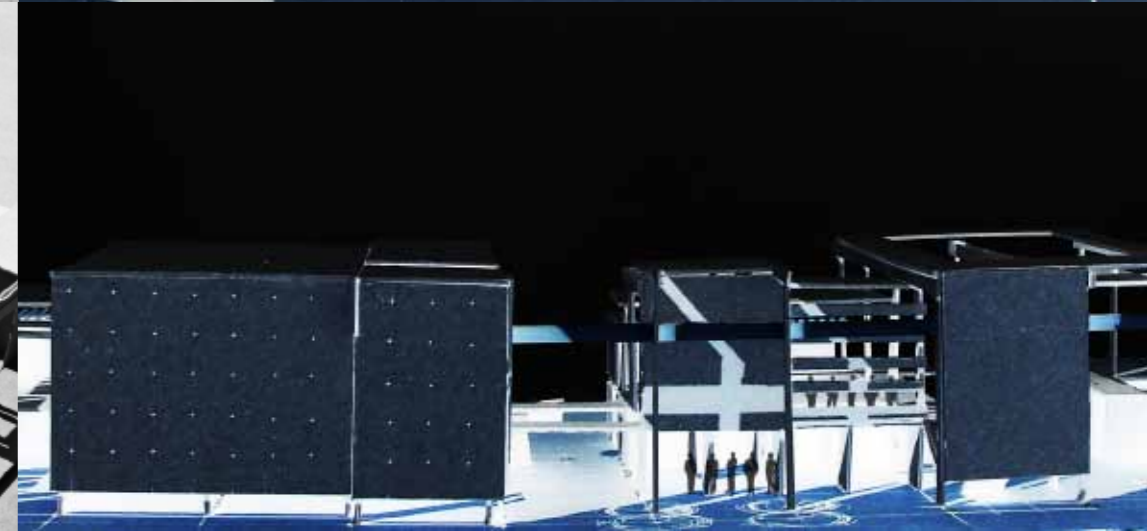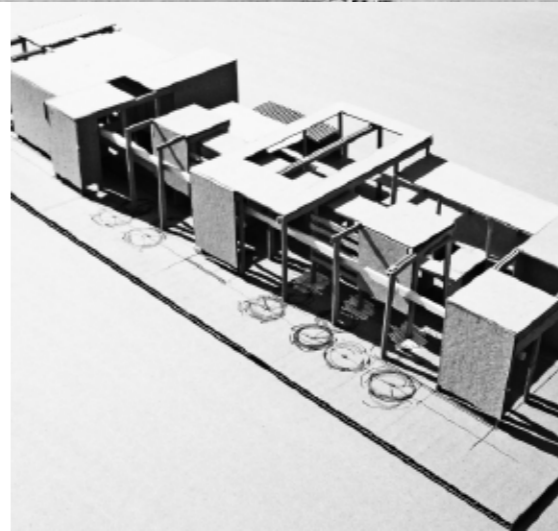
Figure 220: Intervention as permeable and extension of the street
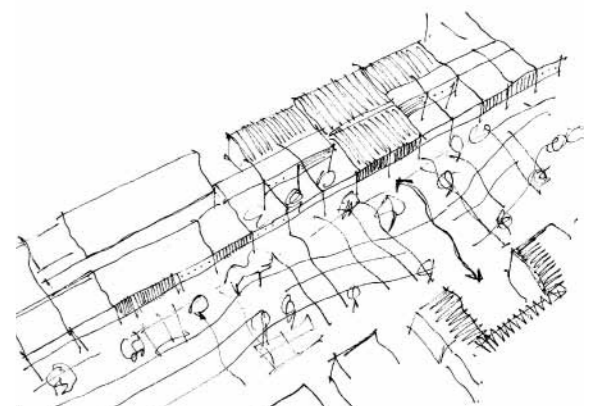

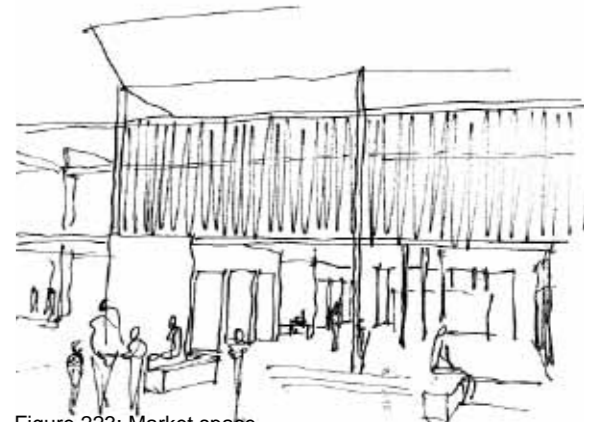Figure 221: Activation of street edge
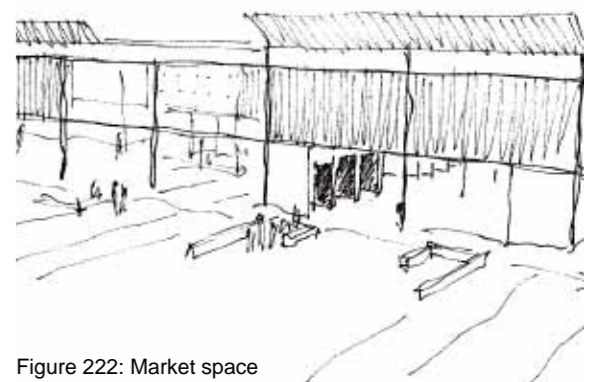
Figure 222: Market space

Figure 223: Market space

212			213
214	215	216	217
218		219	

Figure: 204-211 introduces a 'civic hub' located adjacent to the proposed minibus drop-off at the northern entrance of the arcade. Its permeable, yet slightly more solid, structure still allows for street life to filter through the spine.

Figure 212-219 depicts the design as responding more to the existing fabric by means of a fragmented composition. The more solid materiality of the building, representing programmes and services, becomes more lightweight, both in terms of materiality and void, as it extends toward the more public street realm.
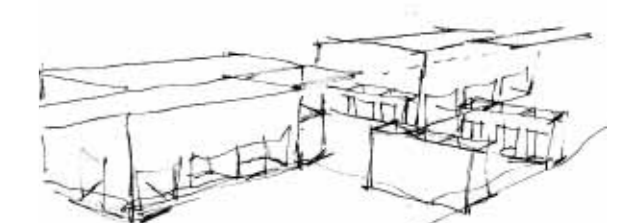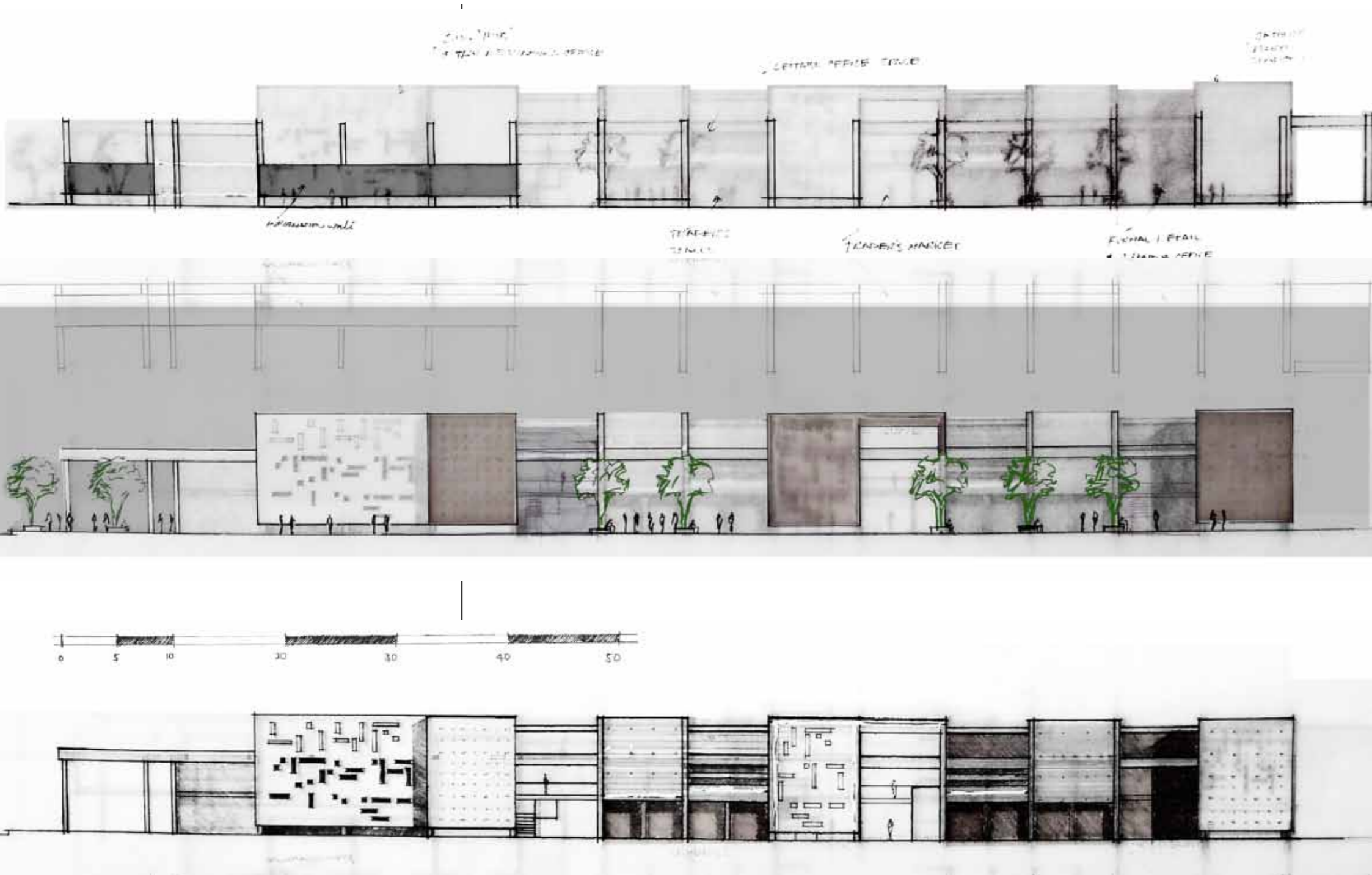
Figure 227: Functions
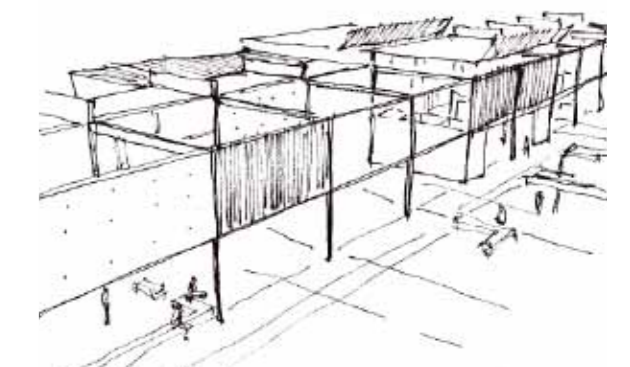
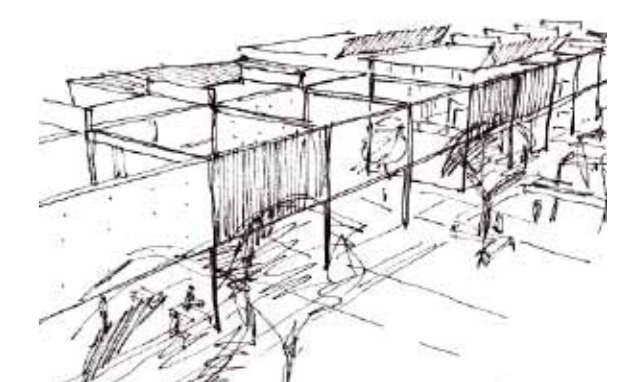Figure 228: Extension toward the street

Figure 229: Softening the street edge

The introduction and establishment of 'threshold zones' as either signage posts, street lamps, soft space or permeable screen, allows people to interact according to their own free will. In addition, this also provides an opportunity for a variety of functions, from office space to informal trade, diversifying both experience and users.
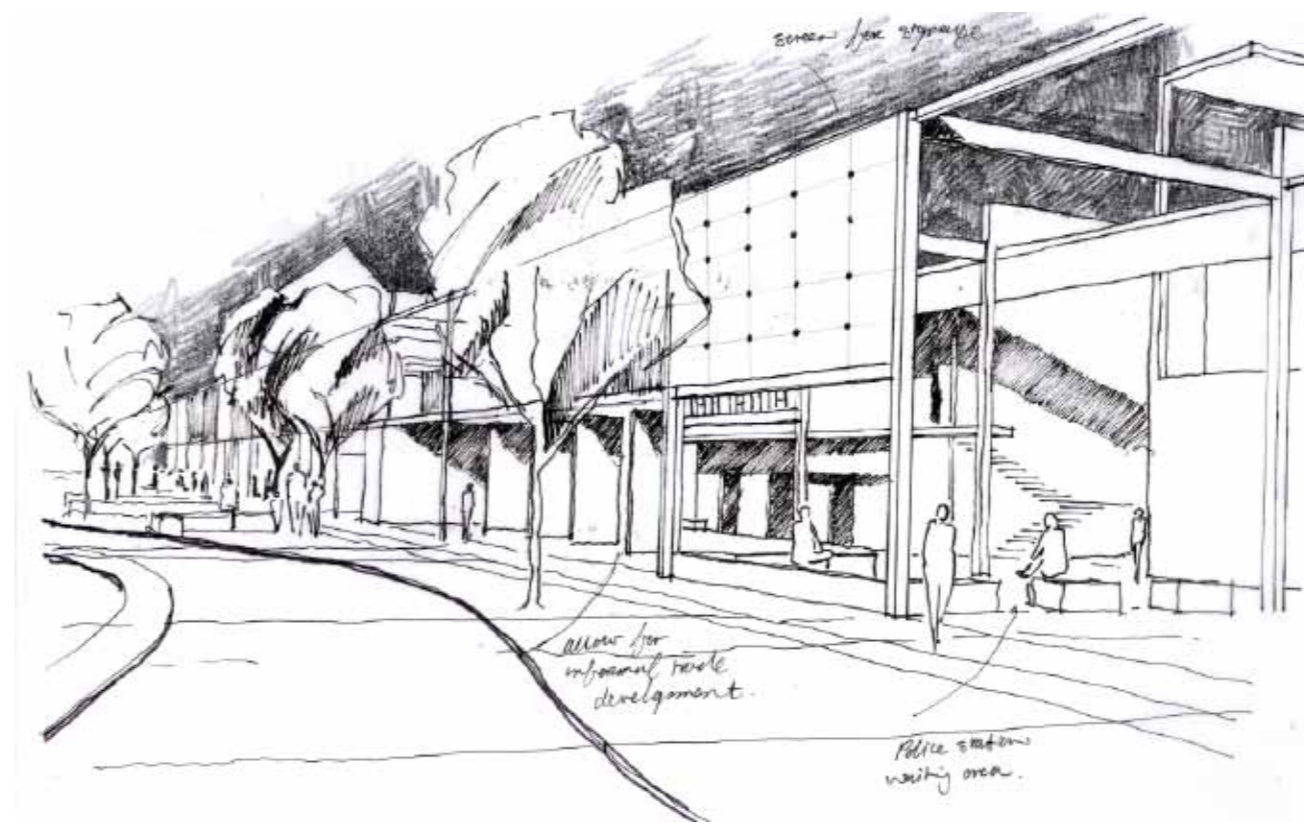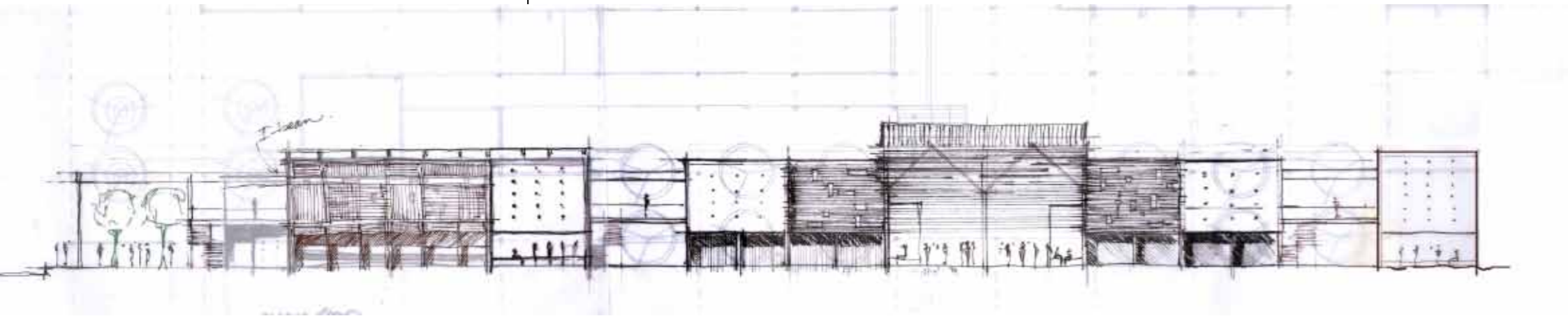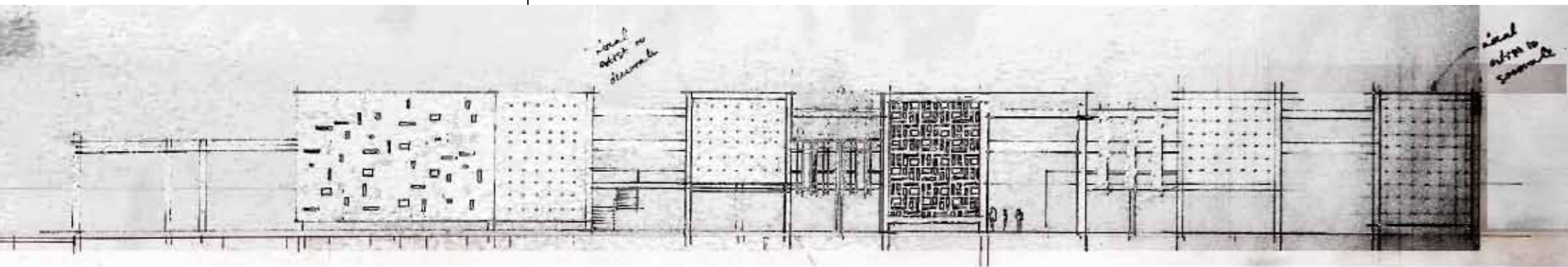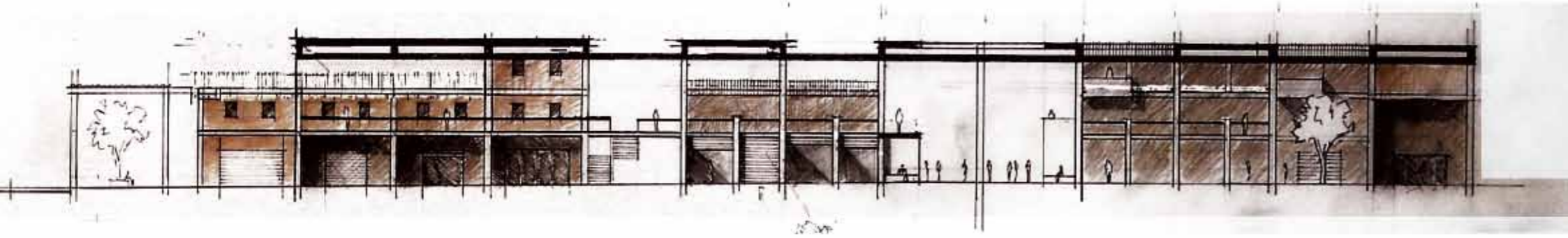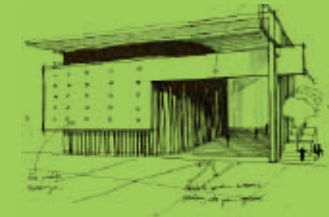
Figure 233: View from southern end

Figure 234: Open space and Post-office

Figure 235: Arcade from minibus drop-off

Building as a statement and icon within the community, building as metaphor for information transfer, building as fragmented mass, building as a generator of movement, and the building as a public space.

Information resource centre_ a series of interconnected solids and voids

As a civic building, the information and resource centre is explored on various levels of representation (Figure: 236-241); the building serving as a statement and icon within the community, as metaphor for information transfer, as fragmented mass, as a generator of movement, and the building as a public space.

Carving into and out of solid mass was described by Le Corbusier as "a positive architectural statement" (1960: 82) (Figure: 242-243), and as with previous urban theories of open space, the same principles of voids can be applied on an architectural scale. Tranacik writes of the integration of solids and voids, the manner in which they interact and complement one another in order to create a "human city in which architecture and exterior spaces are inextricably fused." (1986: 103) With relation to the architectural intervention, the building possesses an integration of functions and spaces, like the connectivity mentioned during the mention of the theory of cognitive schemas, in order to establish the whole. It exists as a solid, with a series of definable voids carved out of and pushed into and through the mass. This creates a definable public events space (Figure: 244-245) for community concerts and celebrations of all kinds. It aim at creating a sense of openness; reflecting the principle that, like the freedom of movement through public spaces and squares in an urban environment, every human has the right and freedom to information and education.
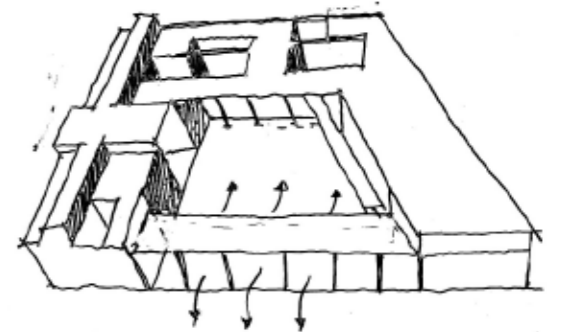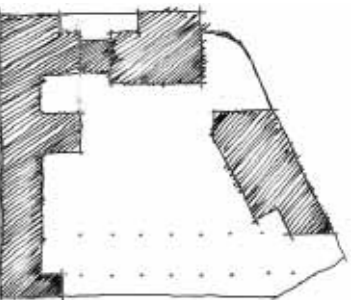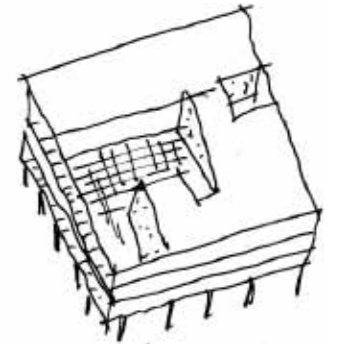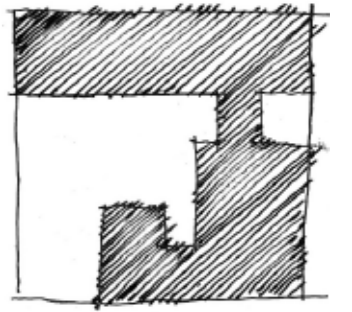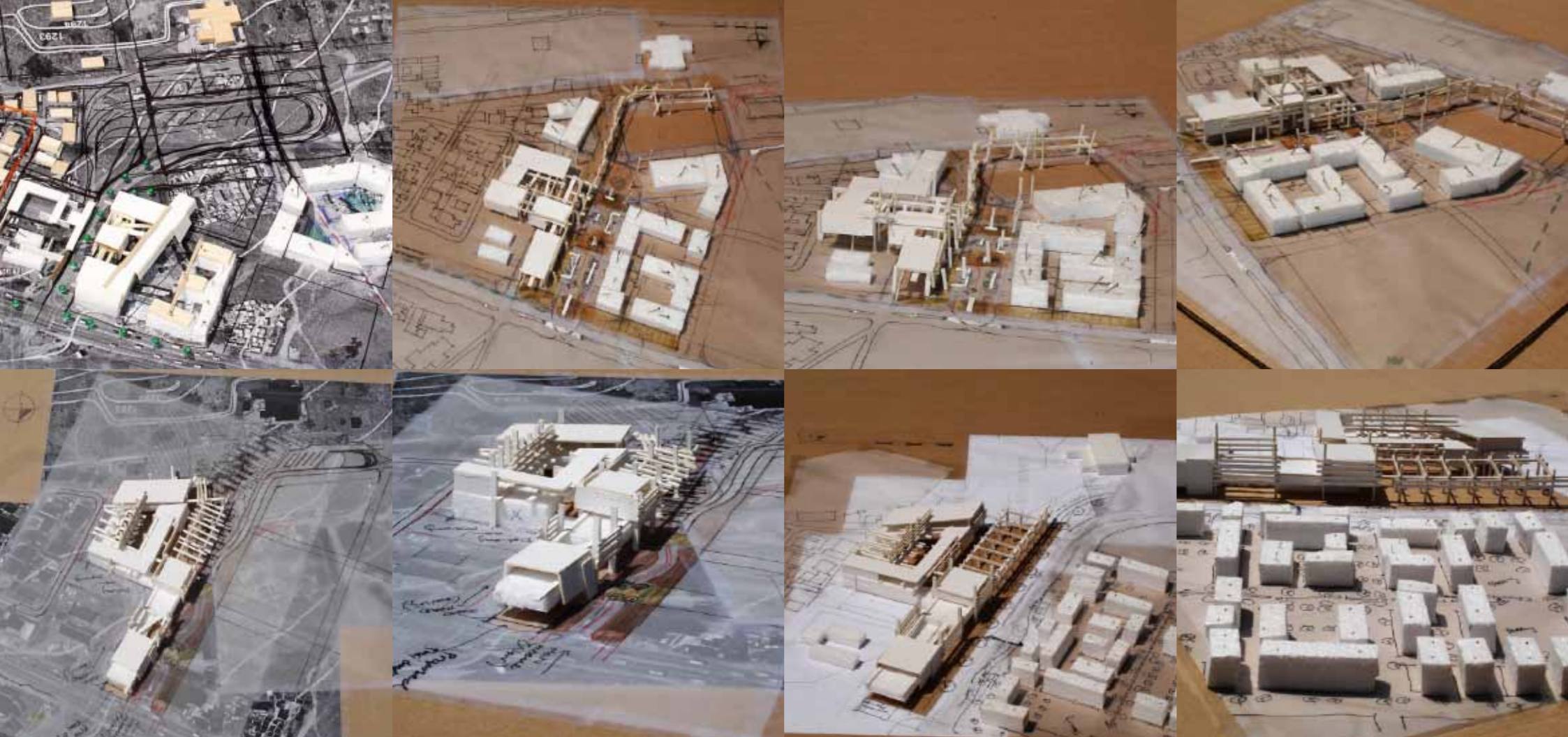
In this informal and challenging context, the resource centre assumes the difficult role of mediator between different spaces and between the social and intellectual realm. It aims to arrive at a form representing its civic responsibility; unifying interior and exterior space through a series of boundaries and thresholds, yet without excluding or separating the one from the other. In order to attract a variety of people, the centre introduces accessibility to various resources such as computers, journals and newspapers on ground floor, together with a library, exhibition space and open studio. Similar to what Be Bure (2010: 106) describes as a Multimedia Library; "combining a multiplicity of cultural activities (exhibitions, concerts, shows and screenings) with diverse reading practices (on paper or computer) and studios of all kinds."

The centre is located around a central courtyard servicing the different functions. The open courtyard, although public, is defined through architectural mass and allows for the hosting of concerts, celebrations and community events. The eastern side is completely open; enabling the spill-out of events and people into the street and adjacent space (Figure: 245).

Multimedia Libraries: "Multimedia Libraries combine a multiplicity of cultural activities (exhibitions, concerts, shows and screenings) with diverse reading practices (on paper or computer) and studios of all kinds. (De Bure 2010:106)

The intervention strives to accomplish a building which is moderate in size, yet great in inviting ambition and service orientated, flexible and equipped with the latest in information resources. Despite the latest library dictum of a single guarded entrance, it is important to connect the building as closely as possible with its surrounding edges. In some instances, as with the eastern facade, relation is achieved merely through fragmentation and an adjustment of a scale more appropriate to the existing surroundings. The design allows entrances from multiple sides (Figure: 256) into a main open-air foyer, servicing a series of functions; an information and resource centre, a community hall and day-care and a community clinic. All of these are placed on a podium; framing the central public courtyard.
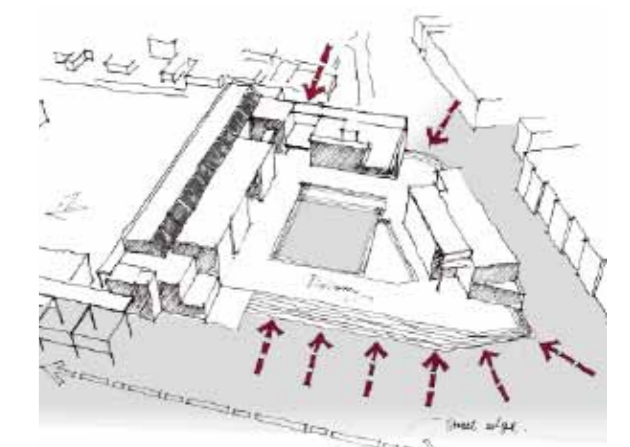
Figure 256: Centre allows for multiple entries into courtyard
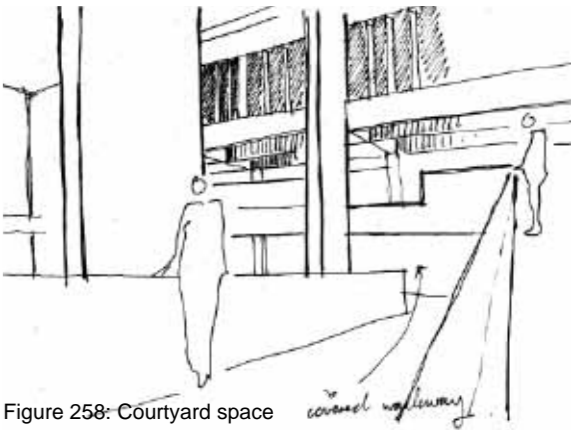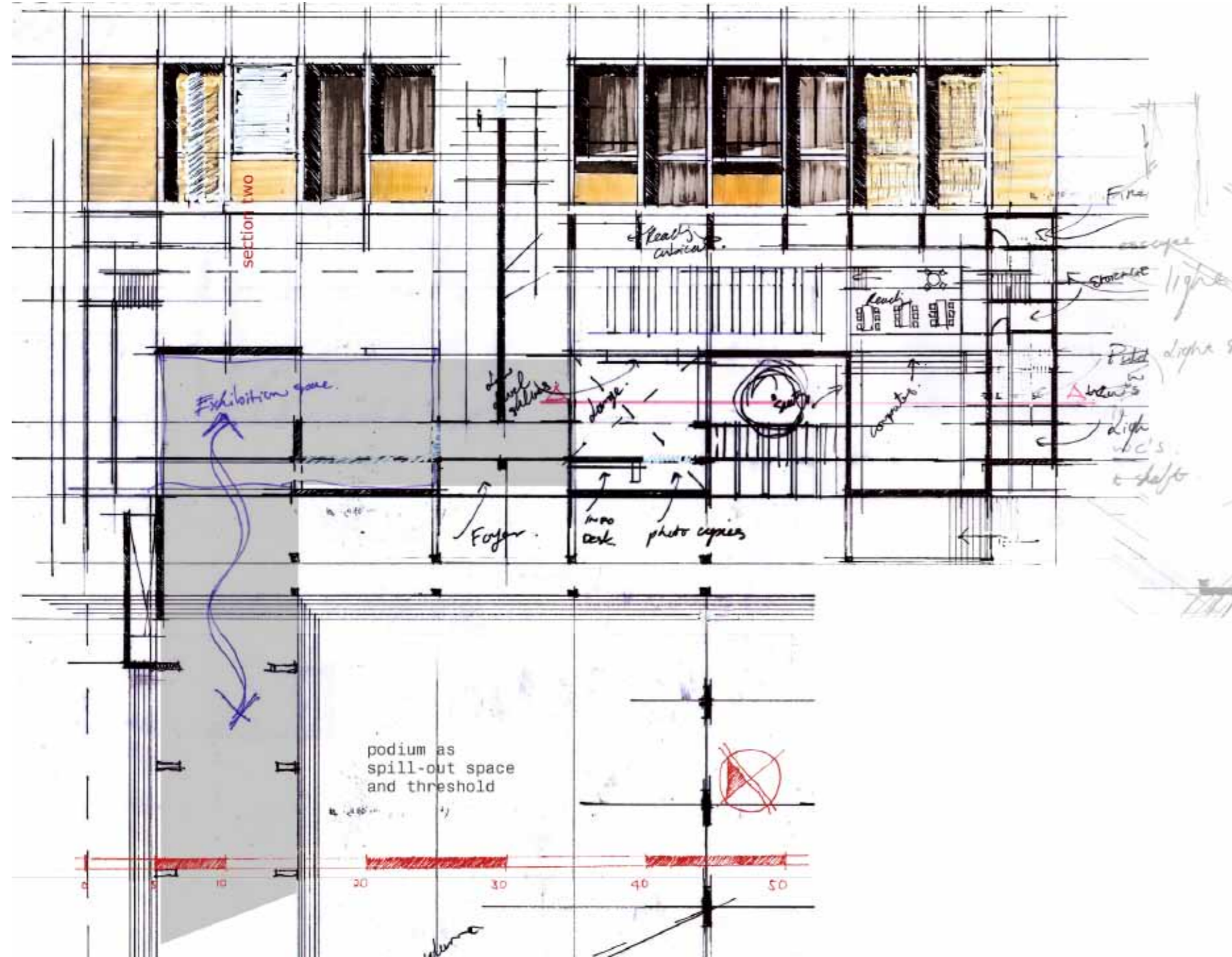
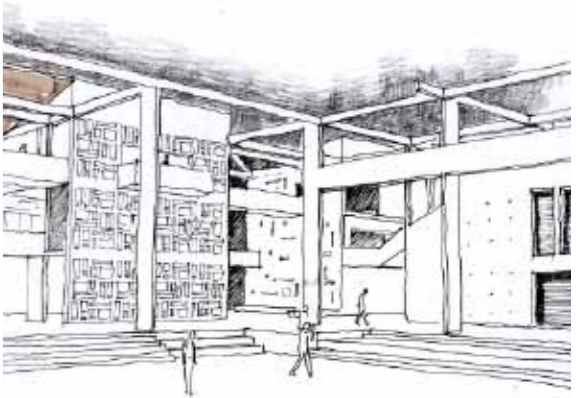section two

Exhibition space.

podium as
spill-out space
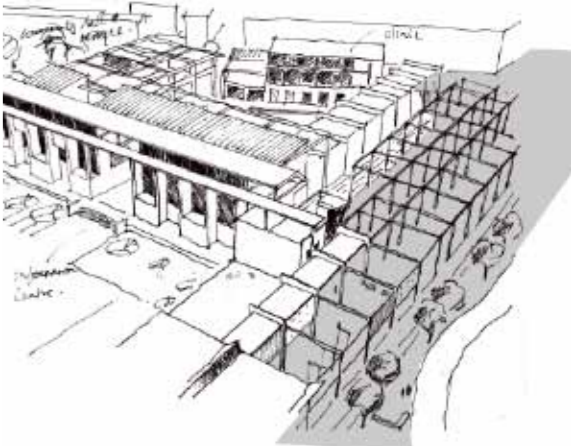and threshold

Figure 258: Courtyard space

Figure 259: Courtyard space

Figure 260: Connection to public realm

Discarding the general 'template' of a library as a 'walled city'; exclusive, with its main focal point toward the inside, the resource centre becomes more fragmented - focusing on civicness rather than exclusivity. Almost half of the building consists of a permanent and contemporary exhibition space which can spill out onto the covered western podium - completely exposing it to the public (Figure: 257). Some of the spaces within the centre are visible from the street and courtyard foyer, lending a sense of transparency to the public areas of the building establishing connectivity and legibility (Figure: 259).
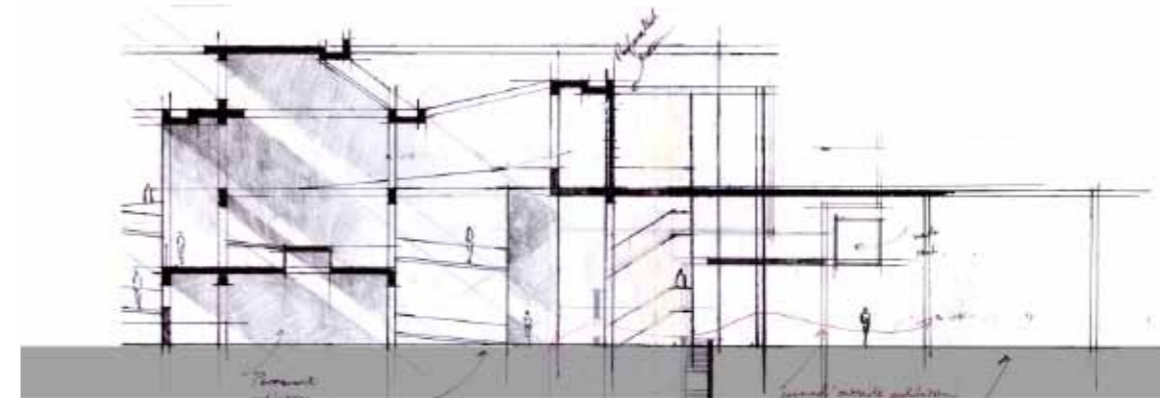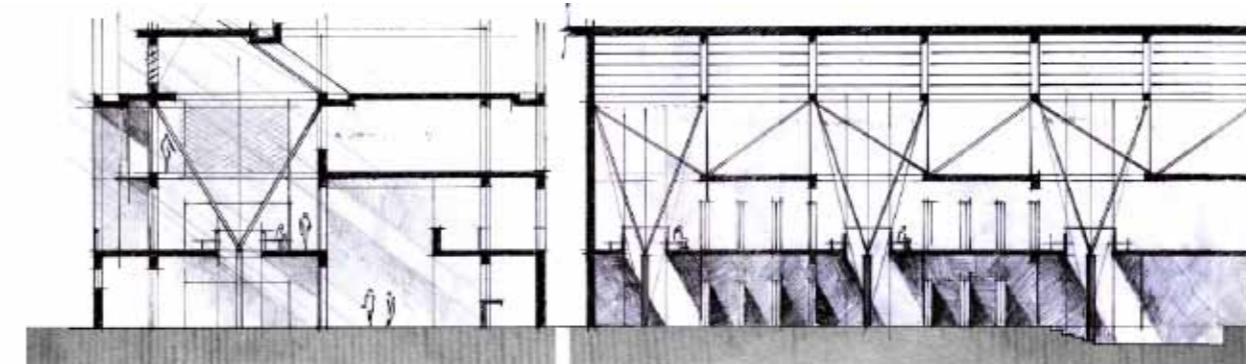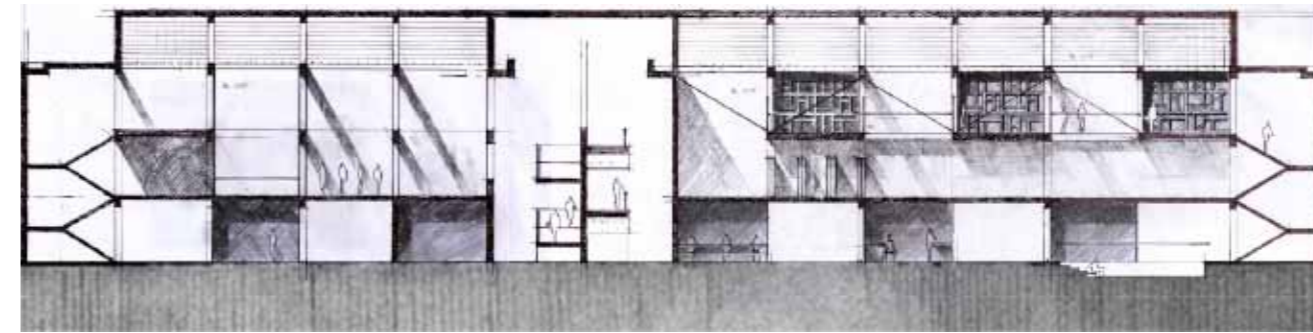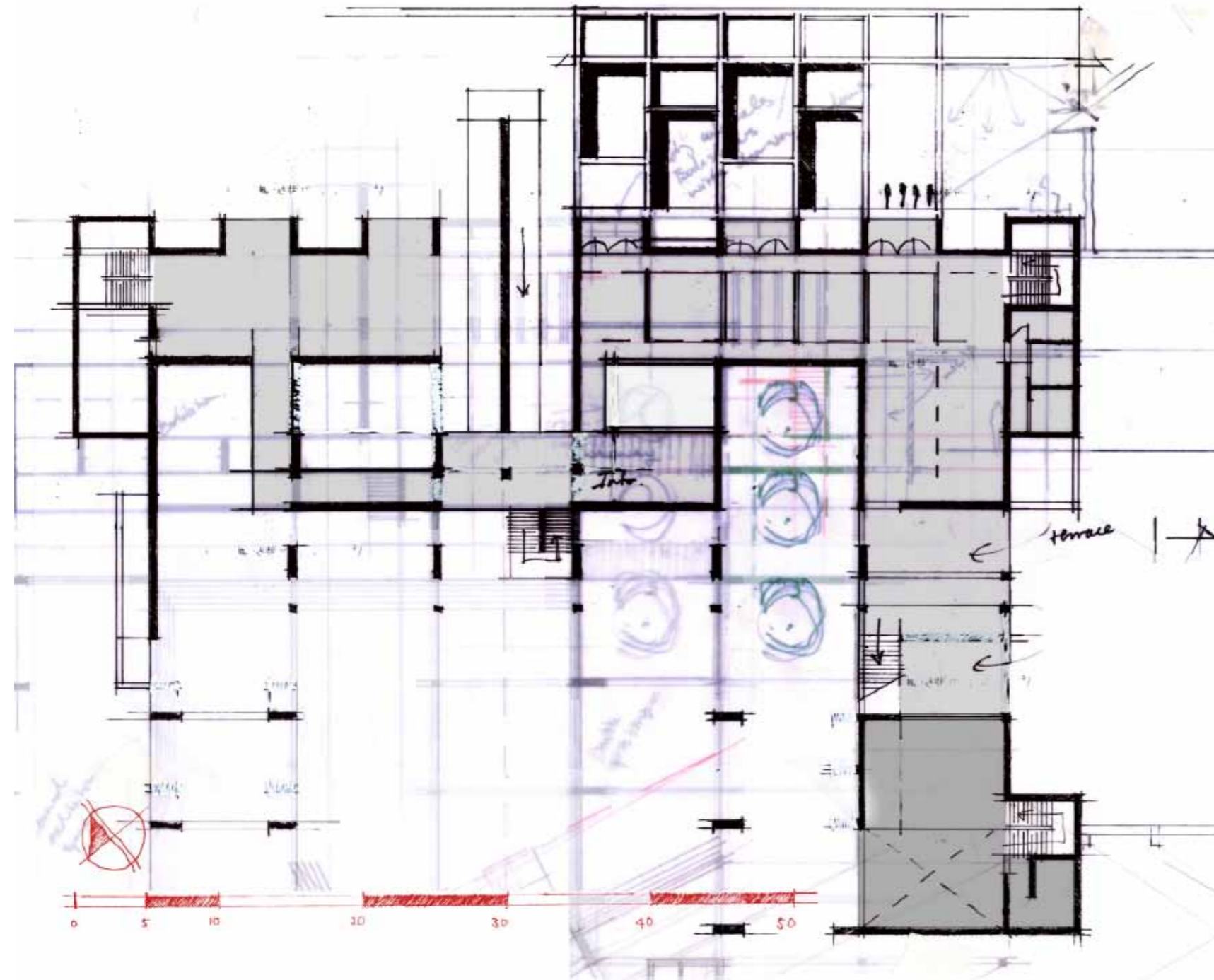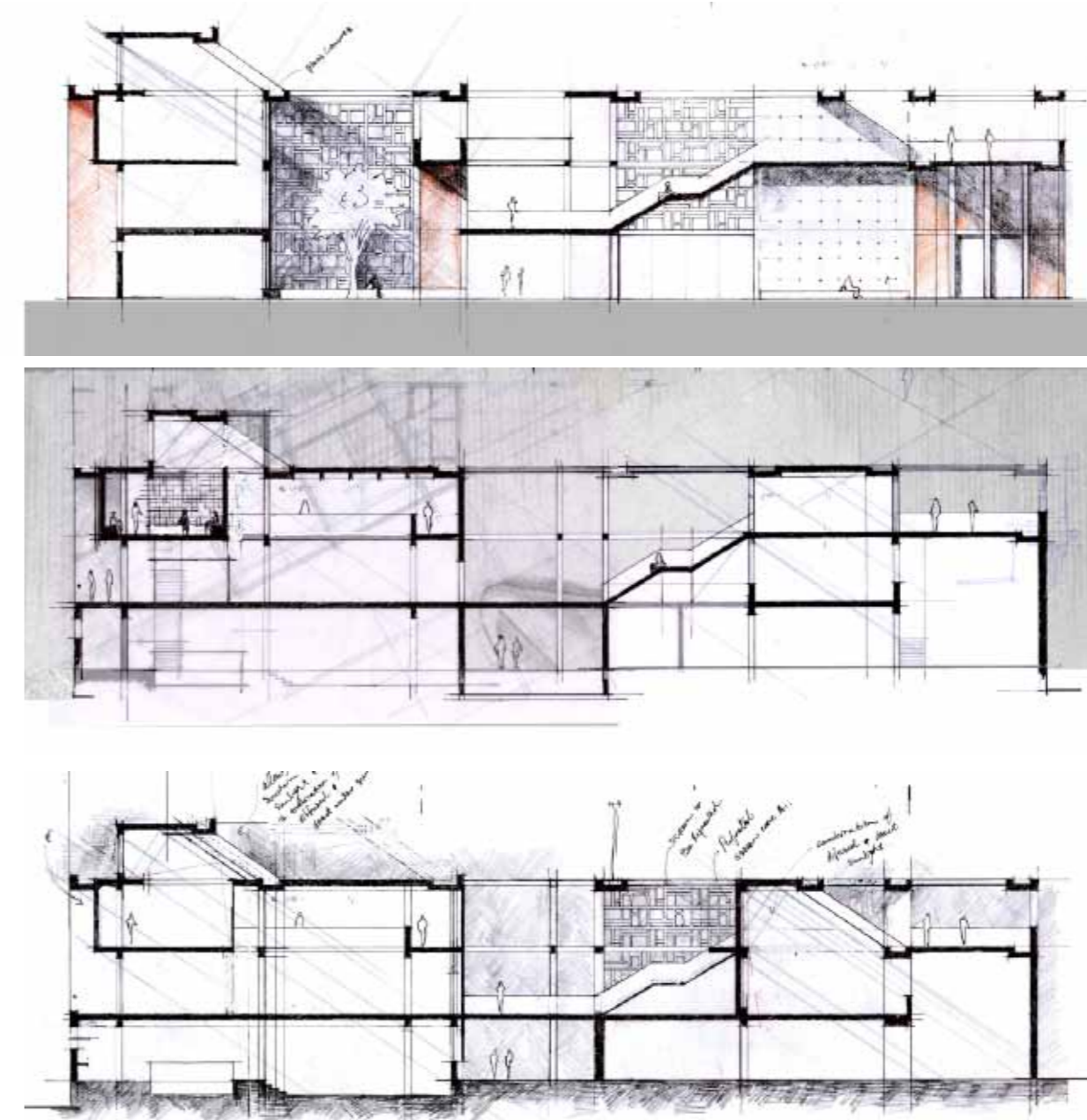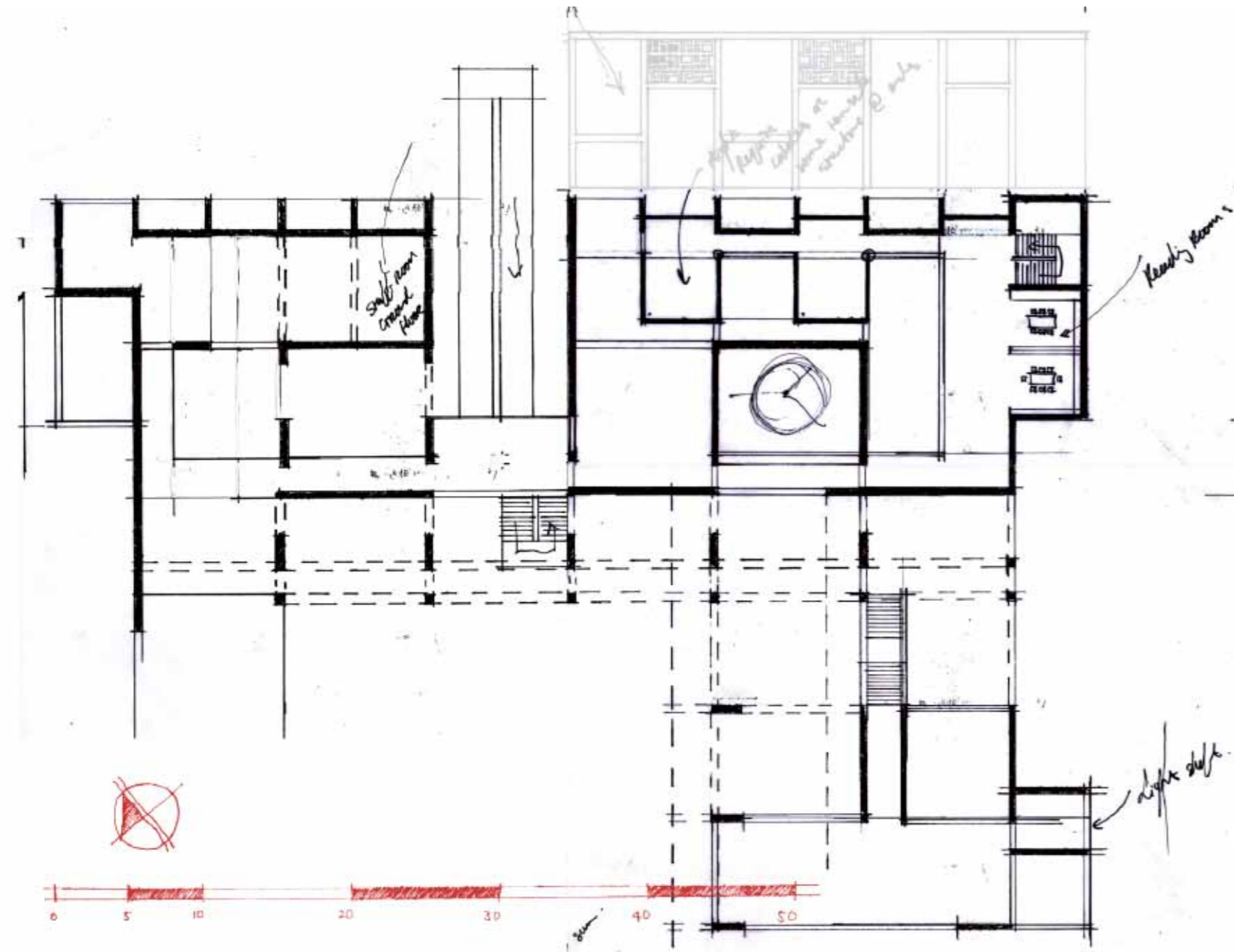
From left to right and from top to bottom:

Figure 262: Longitudinal section indicating volume

Figure 263: Section through exhibition space

Figure 264: Section through library

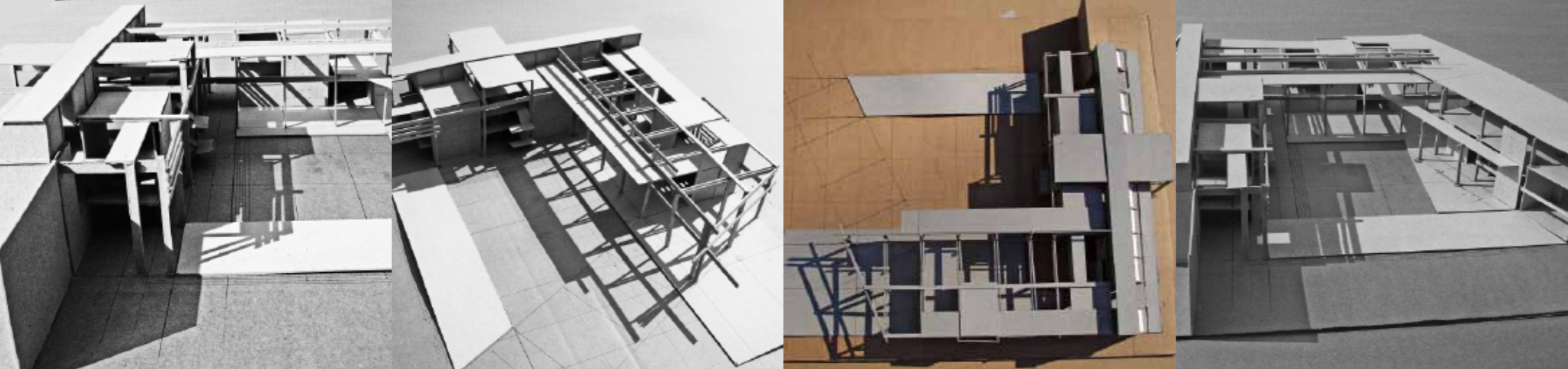Figure 265: Revised section through exhibition space

From top to bottom:

Figure 267: Section indicating relationship between open and closed space

Figure 268: Section indicating relation between library and community hall
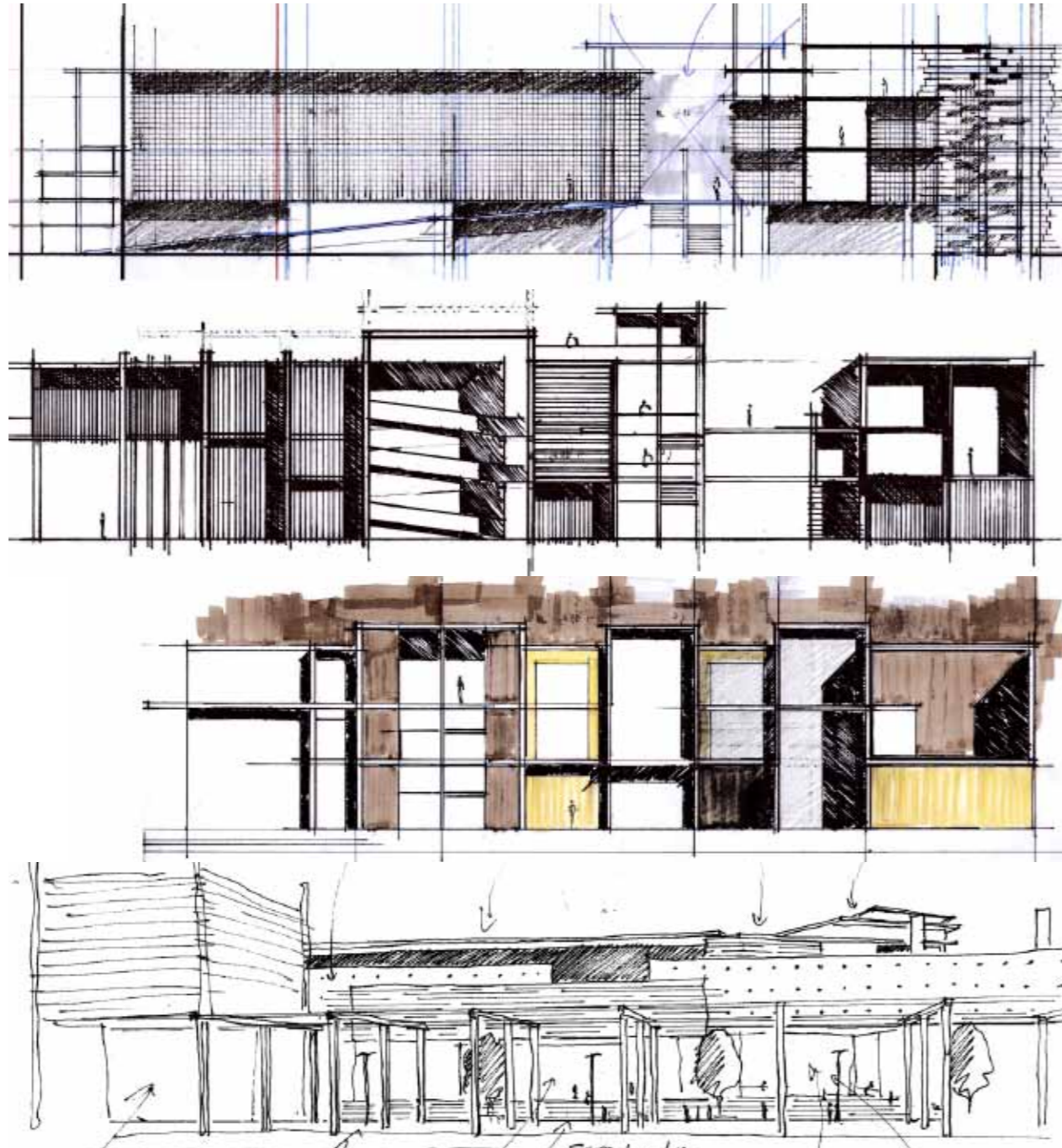
Figure 269: Revised section of Figure 262

270 271 272 273

274 275 276 277 281 282 283 284

278 279 280 285 286 287

The interior is interspersed with a series of open spaces, enriching and articulating the edges, allowing natural light to flood through the building in different ways. Open corridors and an articulated concrete skeleton connect a variety of spaces and experiences in order to create unity and fluidness relating to the resource centre and to the greater civic complex (Figure: 300-302).
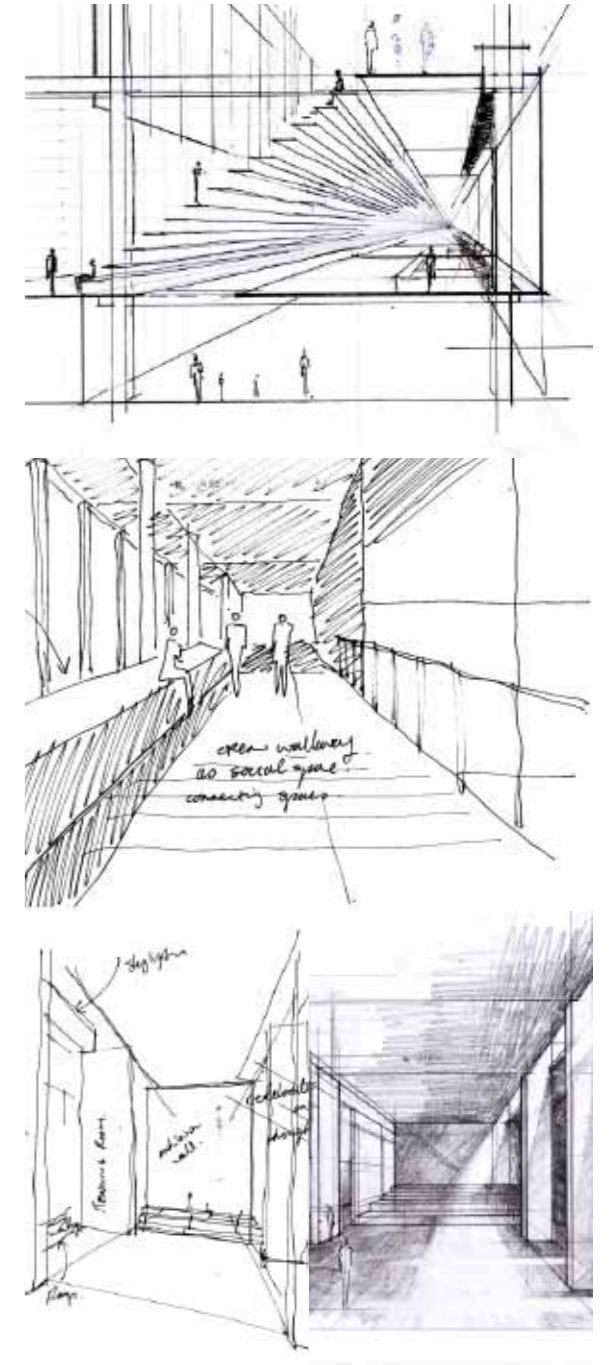
Community clinic_ an expansion of community obligation

The community clinic, situated adjacent to the public courtyard (Figure: 319), serves as an expansion of the intervention's obligation toward the community. Apart from its medical services, the waiting area can be used for health awareness education. Internal functions include doctor's offices, child and adult consulting and treatment room, a dispensary and utilities room. Although detached from the information resource centre and community hall, it is connected through an outdoor amphitheatre and helps to frame and define the public courtyard. Dividable office space is located on top of the clinic which might serve as a source of possible income for the centre and could help finance community events or maintenance expenses.

The clinic is entered from the podium on the southern side of the centre, yet allows for the northern facade to open up onto the courtyard; allowing for the expansion of the waiting area during busy days (Figure: 306).

A primary pedestrian route (Figure: 309) is located adjacent to the service core along the southern facade of the clinic, rendering it as an un-activated dead edge. The provision of a roof overhang and small scale interventions, together with the ground floor activation and opposite a proposed housing development, allows for the possible development of informal trade; creating a pedestrian corridor linking the residential area to the train station.

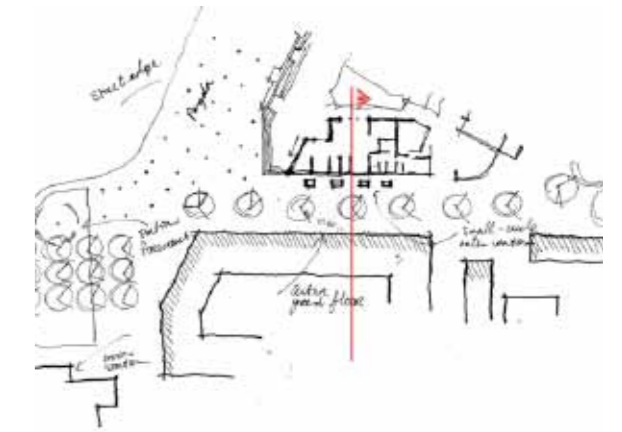Page 123:Figure 304: Section through clinic in relation to Information centre, courtyard and pedestrian corridor

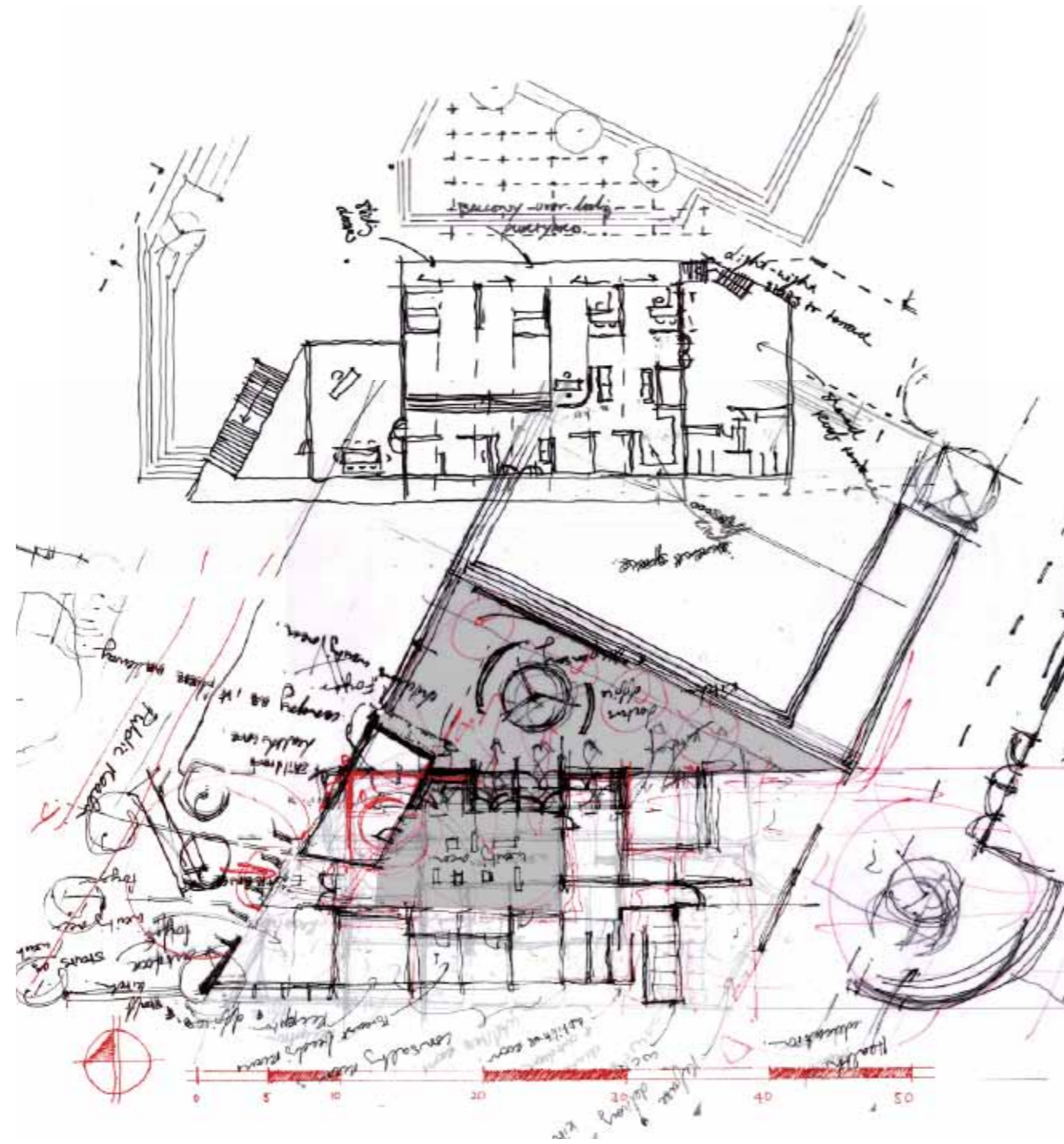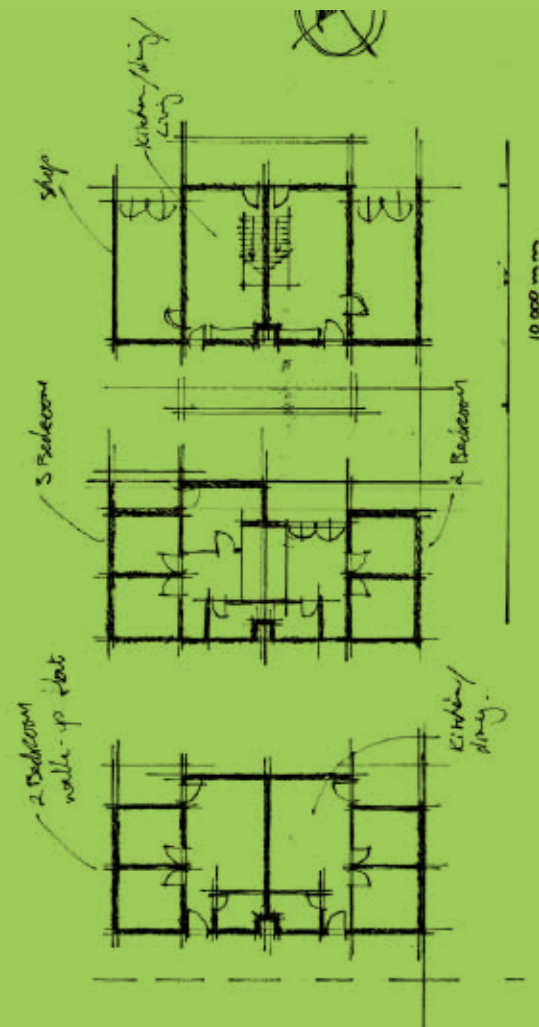Figure 305: Clinic in relation to Eerste Fabrieke Station

Figure 306-307: Ground and first floor investigation

Figure 308: Section through clinic indicating treatment rooms, waiting area and first floor office space

Figure 309: Perspective of pedestrian walkway south of the clinic

Live/work housing development _generating required energy

Primarily informed by a reaction to the activities arcade, the development is derived from the face-block concept; proposing the activation of its peripheral edges to serve the public realm, whilst maintaining an internal environment based on the principles of self-sustaining community life. The edges and internal spaces are based on movement through boundaries and establishment of thresholds in order to create a series semi-public and semi-private spaces; connected through pedestrian walkways linking a permeable environment belonging to its residents.

Considering the precinct development proposal, the development consists of two blocks sharing a community street (Figure: 312); accessing resident's parking and a community park. A pedestrian corridor running perpendicular to the community street divides the development into four separate quadrants (Figure: 327). The quadrants are all of a different scale and density, yet all located around and living on to communal courtyards and parking spaces (Figure: 313). This provides the residents with additional safety, a choice between a variety of spaces as well as the freedom to move between the public and private realm.
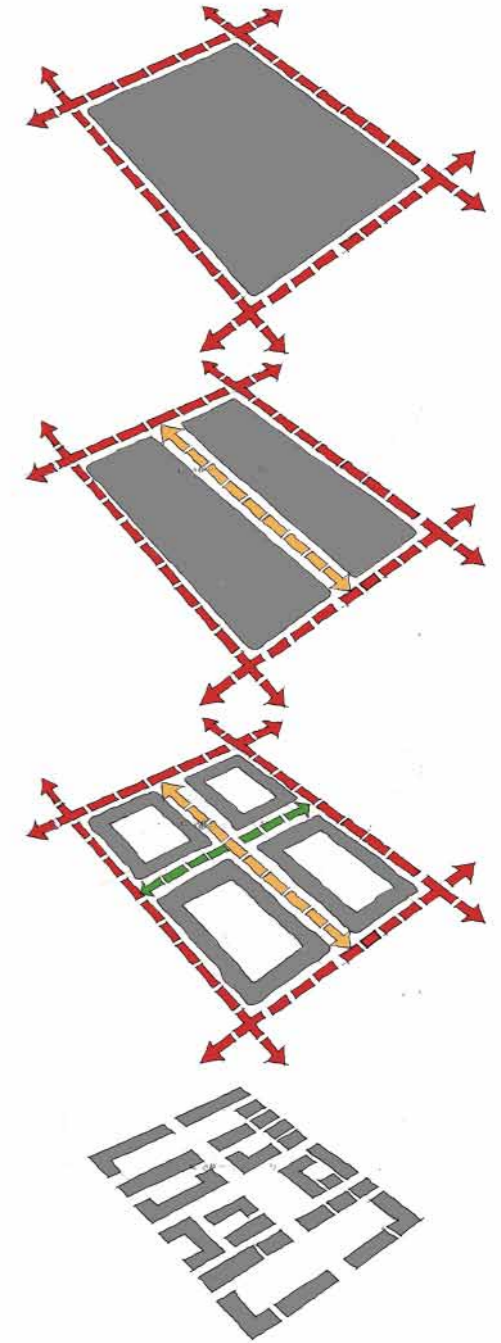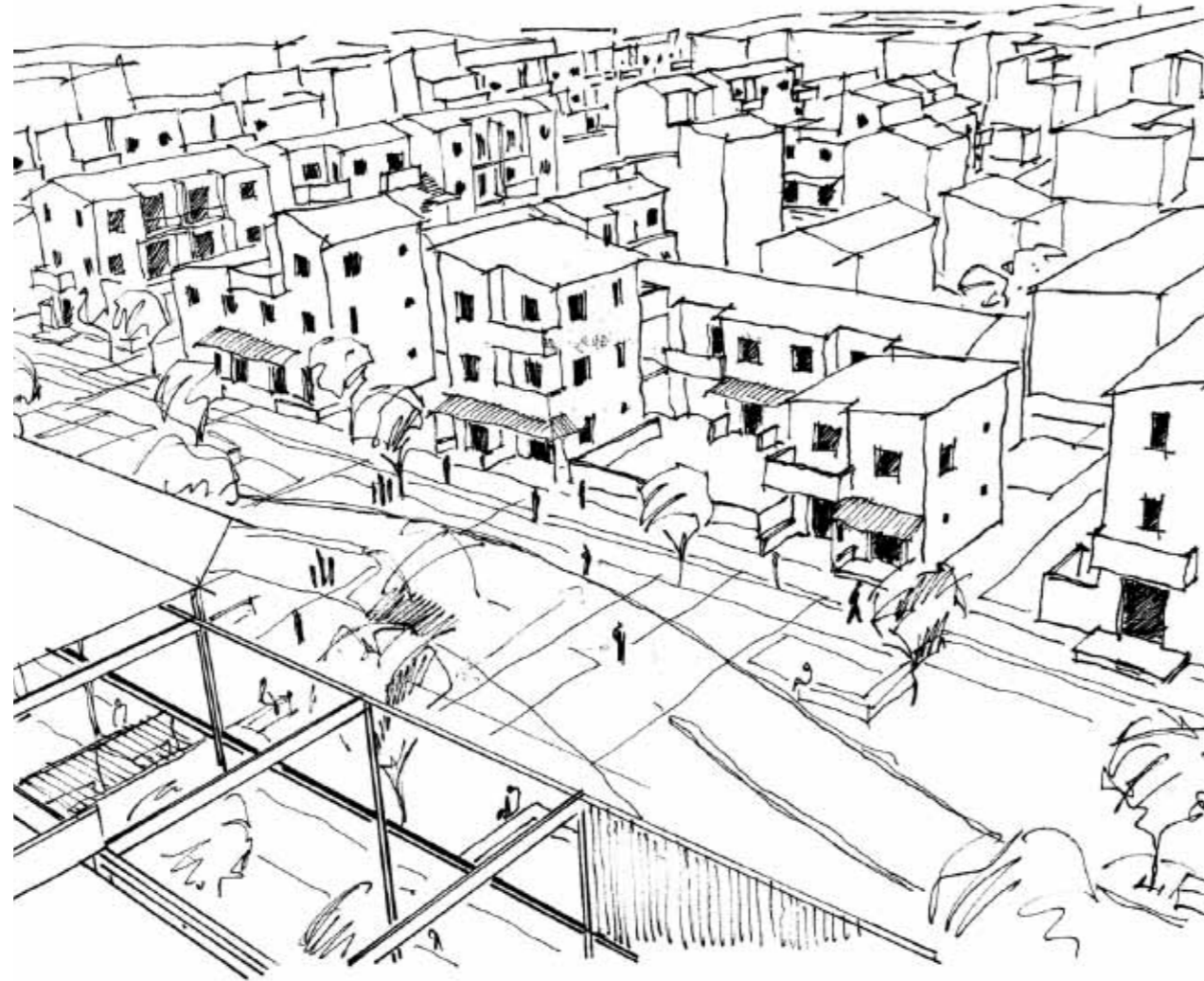
Figure 315: Vision as seen from the activities arcade

Modular units

The individual units are based on a 3500mm x 3500mm modular grid, or 7000mm x 7000mm structural grid, as to allow for easy adaption and flexibility. The development would most likely be built in phases and the modular grid would enable comfortable expansion. Taking into account that the initial concept behind the housing scheme was the activation of edges and creating a self-sustaining community environment; all ground floor units located along the peripheral edges are two story live/work units with internal staircases. The idea being that both ground floor and first floor can be adjusted and adapted which allow small businesses to expand according to individual requirements. The result is either a two- or three bedroom 98 square meter adjustable live/work unit. (Figure: 319)

The second floor units are accessible from a main staircase designed to be wide enough to serve as semi-public space, and connected through a walkway and series of shared balconies and communal terraces. Second floor units consist of 36 square meters interlocking one bedroom units (Figure: 316), 49 square meters two bedroom apartments (Figure: 317), and 75 square meters three bedroom loft apartments at the ends; exempting either the entrance or ends of the development (Figure: 318).

Most of the units face a north- eastern direction, but those opposite the activities arcade, are primarily orientated to face south-east as to activate the access road leading to the station (Figure: 337). The skyline articulating and slight staggering of units allow for almost all living rooms to receive natural northern light (Figure: 320-321).
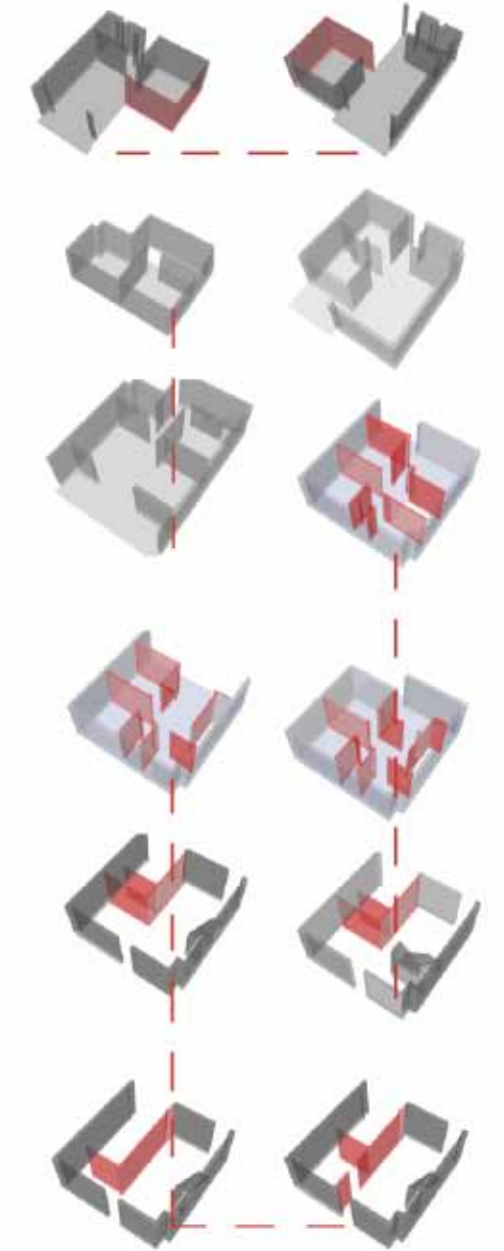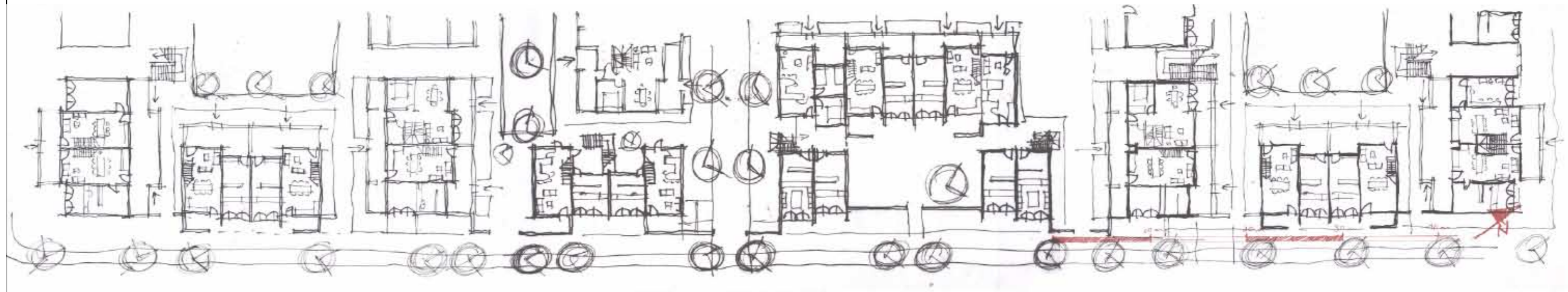
From top to bottom:

Figure 320: North- eastern perspective

Figure 321: Longitudinal section

Figure 322: Units facing access road