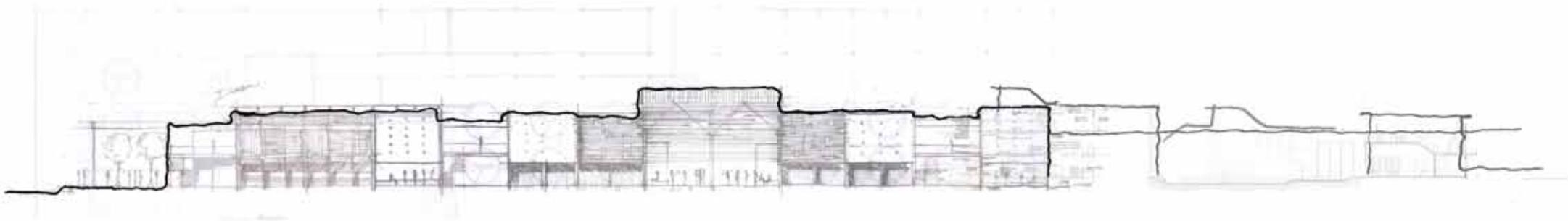


PUBLIC INFORMATION RESOURCE CENTRE

knowledge transference_connectivity_community



K. Steyn

If there is one thing that I've learned during this year, it is that you'll never know the outcome of your decision unless you follow through.

Public information resource centre

Information transference_connectivity_community

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Study leader: G. White

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Africa

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I would like to express my sincere gratitude and appreciation to first of all my parents. Both of whom contributed in their own unique manner; my dad for being there every step of the way, his constant support, un-edited advice and somewhat militaristic method of encouragement. My mother: for her calming words, positive attitude and for just being het light hearted humoristic self. Gary White, my mentor and study leader, for his urban and architectural contribution, belief, and who taught me to just relax and enjoy. Arthur Barker, for always making time to help a student, always being there when we needed him, even if it was just for a pleasant conversation, and for having faith in us, even when we had none in ourselves. Lastly I would like to thank all my architecture friends, whom made every late night a pleasure, every early morning a joy, and for always having time to help one another.

Abstract

The project is situated within the underdeveloped periphery of Mamelodi. It addresses urban issues of connectivity at a physical, spatial and educational level, as a setting for the proposed architectural intervention. The thesis explores a number of architectural issues, mainly the design of a multi-functional information and resource centre to facilitate a series of public, civic and economic services. These issues are formed through programmes which concern information and knowledge provision. Aspects that informed the nature and scope of the intervention include methods of knowledge distribution, the role of the public library as one beyond that of its functional origin and the potential of the building type to serve as a catalyst within a community. Owing to the physical and programmatic context of the building, it needs to offer adaptability, flexibility and eventually change; both in terms of changing information technologies and within an informal trading-dominant society. Pertinent considerations are small scale construction methods that would allow the participation of local contractors, the creation of tectonics and articulation of space with which the community can associate as well as energy saving principles to allow minimal cost.

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South Africa contains substantial concentrations of extremely poor communities in remote, inaccessible villages and economically stagnant small towns. The land between major urban centers and small towns and villages is dominated by large-scale concerns such as mining and commercial farming. On the expanding peripheries of big cities the land is being consumed by large, low-density gated communities and huge RDP schemes.

The historical townships, also called Model Townships, were built during the early 1950's apartheid era as barrack-like, dormitory 'developments' outside cities and towns, lacking the basic amenities required for sustainable communities. Their designers and planners alluded to Garden City ideals (Calderwood 1962), but for politicians they were simply mechanisms to stabilize and control the black population (Minkley 1998: D11; Mills 1989: 65-74).

INTRODUCTION

a brief overview

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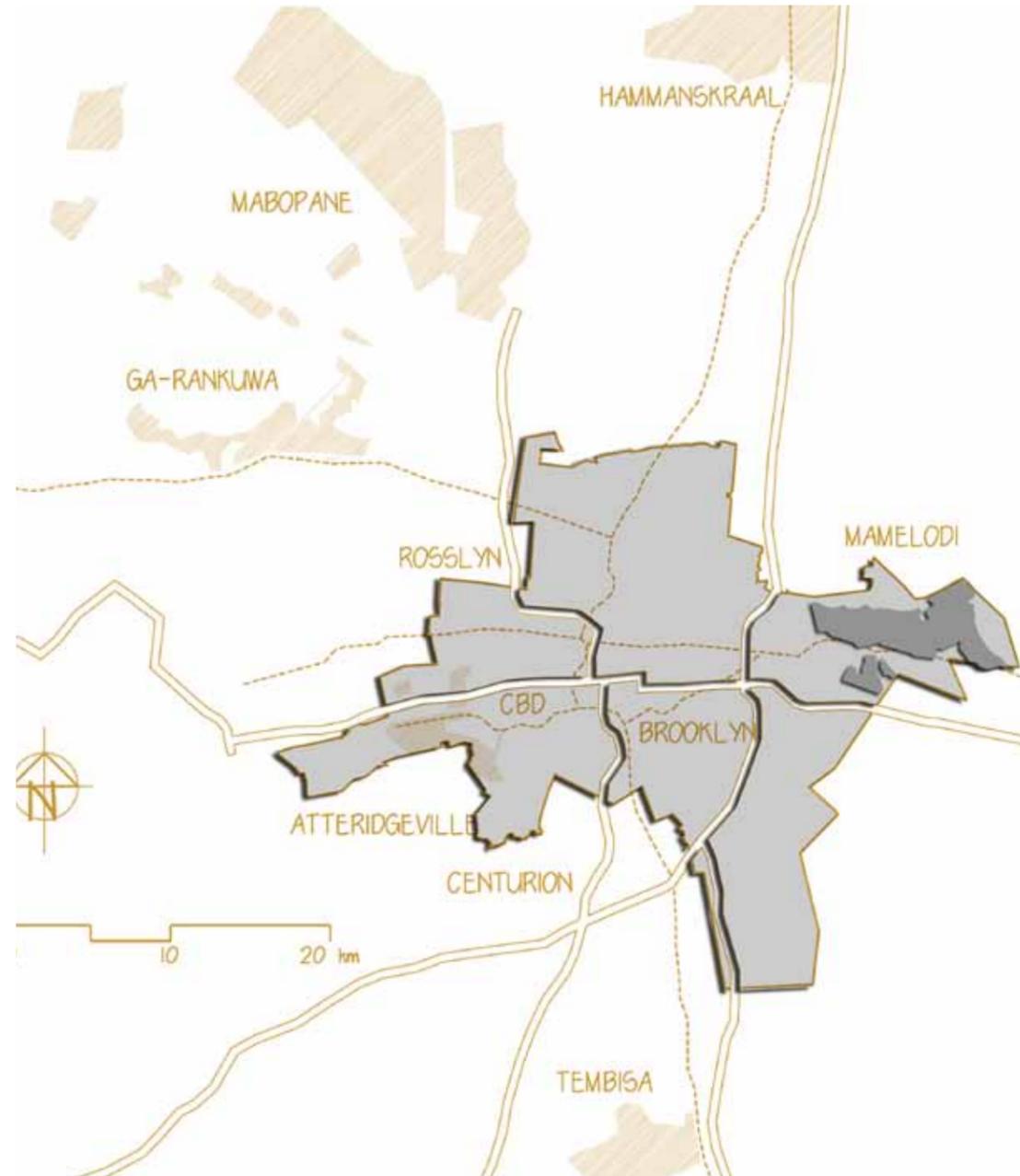
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Mamelodi in context

In relation to Mamelodi (Figure:4), situated to the east of the Pretoria CBD and along the eastern periphery of the greater Tshwane metropolitan region, its development as a so-called Model Township led to its segregation from the Pretoria CBD. Without the provision of basic and effective public amenities, such as proper schools and hospitals, Mamelodi could not successfully develop as an entity within itself. The result is that Mamelodi relies, and is still relatively dependent, on the Tshwane-CBD area regarding the provision of employment opportunities and basic amenities.

E.F. Schumacher (1989: 183) in 'Small is beautiful' avers that since "rural unemployment produces mass migration into cities, leading to a rate of urban growth which would tax the resources of even the richest societies; rural unemployment then becomes urban unemployment". This statement can be translated back to Mamelodi's current situation. The lack of an identifiable urban core and related need for economic growth accounts for Mamelodi remaining underdeveloped. Because work opportunities in Mamelodi are so restricted, almost 50% of its residents are unemployed and many more underemployed. In relation to Schumacher, Edgar Pieterse (2004/2005: 51) observes that the poor continue to find shelter opportunities mainly on the outskirts of cities with either no or limited essential services. He continues that impoverished citizens find themselves cooped up in badly built, poorly designed and distant RDP settlements that effectively amount to a ghetto of limited opportunities and stigmatization.

The result is an economic dependence on the city and industrial area, both remote from an envisaged urban core, yet there is no work available there either. All the same, residents still flock towards the city. The influx of rural inhabitants into Pretoria CBD leads to an unsupported and neglected local economy, leaving Mamelodi in no better state than that of a couple of years ago.

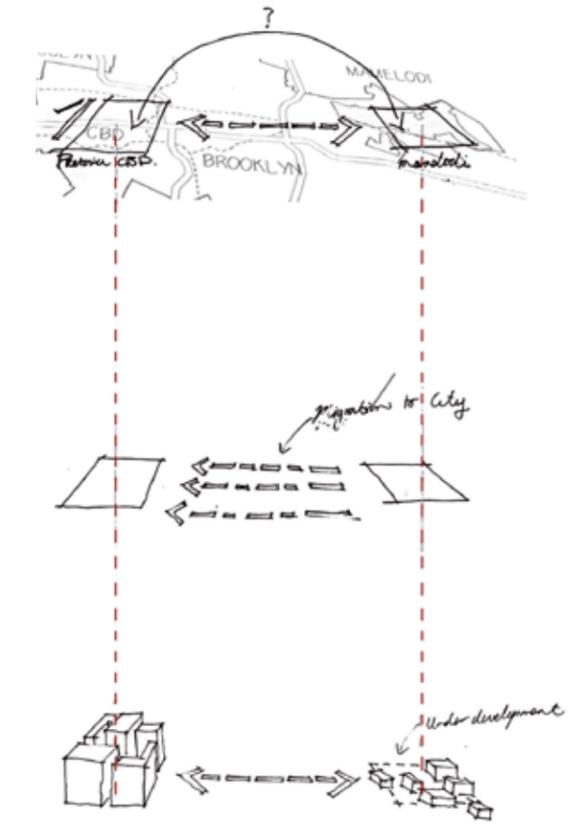
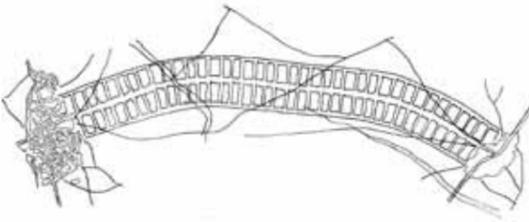
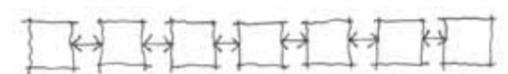
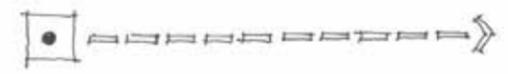
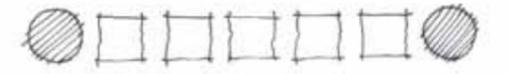
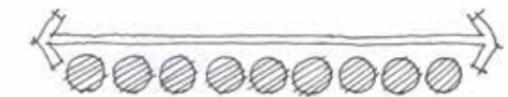


Figure 5: Diagrammatical illustration of Mamelodi's current situation



Urban scale intervention

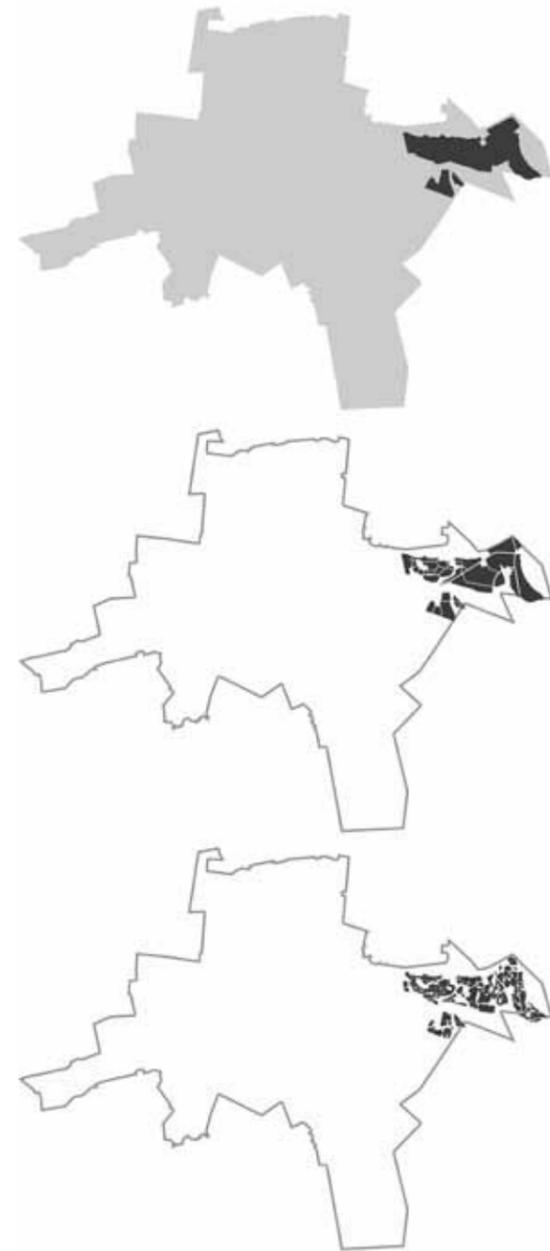
Figure: 5 illustrate the dispensation of segregation (connectivity) and under-development diagrammatically. It is very evident, however, that the first step towards exploring a possible solution to Mamelodi's current detachment from the Pretoria CBD lies on an urban scale, that is, the development of Mamelodi as a self-sustaining economic entity as well as the establishment of an economic, spatial and movement corridor connecting Mamelodi to the Pretoria CBD (Figure: 6-11).

Although the concept of linear development is a prevalent un-planned urban phenomenon in Africa, it has a long history. First conceived by the Spanish transport engineer, Arturo Y Mata, who proposed his Ciudad Lineal in 1882 (figure 12), it represents "a continuous pattern of urban growth stretching through the countryside on either side of a rapid-transit spine route, incorporating both old and new urban centers" (Risebero 1997: 233-238).

The same concept has proved enormously successful in according order and structure to first-world cities such as Atlanta, Georgia. In relation to this, a founding principle of Cooper Carry, from Jerome Cooper Architect, points out that Atlanta comprises nodes of development, each of which has special characteristics and makes its own individual contributions to the city as a whole (Carabet 2008: 04). He continues: "Like a string of pearls these nodes are connected by interstate highways and rapid transit and are separated from each other by some of the finest single-family neighborhoods in the world" (Figure 13).

The same principle of a multi nodal linear development can be applied on a smaller scale to Mamelodi in an attempt to 'stitch' together its fragmented urban fabric (Figure: 14). This enables an opportunity to create both a more defined urban core together with a sense of place and a series of economically-sustainable communities as well as to provide the foundation for envisaged linear development. In relation to Jerome Cooper's description of Atlanta, one of the key pillars of the Tsosolosa Program is the concept of the "Strengthening activity linkages". This government document states the following: "The design of the activity spines and streets and their public environment is of vital importance because they require people to continuously move past them whilst enhancing their convenience, enjoyment and safety. However in the promotion of certain activity linkages the need for permanent 'forces of attraction' is paramount as they will further the sustainability of the economic activities along the street as well as the benefit from developing a conducive public environment" (City of Tshwane Spatial Development Strategy, February 2007: 3).





Intervention

E.F Schumacher (1989:178) opines that development, as a possible solution to poverty, does not begin with goods, but with education, organization and discipline. He continues by explaining that education stands as one of the three pillars of society.

My premise is that architecture, in an underdeveloped environment, can serve as a facilitator of knowledge transfer whilst also serving as a catalyst for community upliftment.

The conditions of the prerequisites are both physical and metaphysical. Physically, the intervention should be fully integrated with a public realm and civic infrastructure. On a metaphysical scale the intervention should promote accessibility and association with the community in order to ensure ownership.

The nature of the proposed intervention introduces a multi-functional information and resource centre, as part of a series of public, civic and economic programmes proposed by the government to constitute a new urban core surrounding the Eerste Fabrieke train station, located in ward 40 on the eastern side of the City of Tshwane Metropolitan Municipality (City of Tshwane Spatial Development Strategy, February 2007: 3). Ward 40 is adjacent to the township of Mamelodi and includes the low-income residential area of Nellmapius.

Apart from its displacement from the city, Mamelodi itself consists of a fragmented urban fabric, mainly because of the lack of a defined urban core within the recently established area of Mamelodi-East. The above mentioned development aims to fulfill this role, providing the necessary facilities in order to maintain a self sustaining community whilst contributing to economic and social growth within the Eerste Fabrieke area (Figure: 15-17).

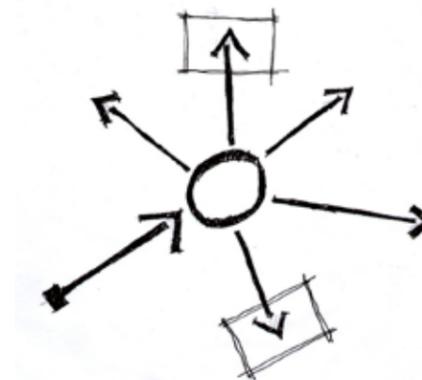
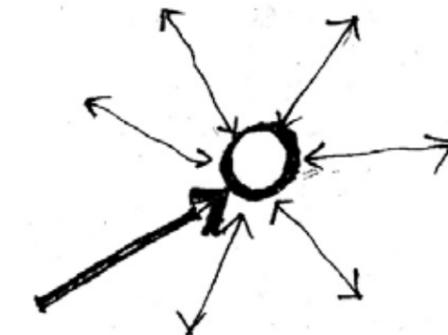
Knowledge as catalyst

The purpose of the proposed building type, an information and resource centre, is the distribution of knowledge, both in an intellectual and physical manner, and to serve as a catalyst for neighboring communities to inspire community upliftment. Intellectually, the intervention aims to achieve this by encouraging public accessibility to a variety of information resources such as books, journals, newspapers and educational methods, as well as through the provision of IT and multimedia facilities. It also aims to achieve educational connectivity through the physical distribution of educational materials, mainly books, journals and newspapers, to schools within the greater area of Mamelodi and Nellmapius. It then represents a functional centre of education and knowledge, filling the void between Mamelodi and Nellmapius, not merely in terms of urban fabric, but also with respect to accessibility and distribution of basic knowledge.

Knowledge itself can be viewed as a catalyst; a method of congregating a variety of people in search of information. The architectural intervention becomes a vessel, or container, for such activities and thus it must also comply with the requirements of the social realm, establishing itself in the community as a symbol of a free world where every individual has the choice to learn.

The library as knowledge container

The role of the library, in the conventional sense, as a container for knowledge and a vessel for books, is currently in question. The supremacy of the book is now being challenged owing to the introduction of advanced information technology (IT). The question is whether or not the library, as a building type, has any reason to survive when the media it holds have undergone such profound transformation. Brian Edwards (2009: 151) argues that the library should no longer be viewed as a functional container, but rather as a cultural icon and social symbol; a centre of community interaction and a place to celebrate learning. Therefore, essentially, in its function, the library has morphed from being a place for books to one for people.





Page 016:Figure 18-19: Diagrammatic representation of how knowledge can serve as a physical catalyst

Page 016:Figure 20: Building as a physical container of knowledge

Page 017:Figure 21-30: Examples of arts, crafts and trade as characteristic to Mamelodi



Building as a symbol in a community

In terms of architecture and tectonic expression, the projected building can be viewed as an object composed from a variety of physical elements and created with different components. These are a combination of materials, construction methods, the space it defines and contains and the function or functions it serves. Through the articulation, expression and celebration of these materials, spaces and its related functions and form, the building reveals itself to the public. It stands as a symbol of its time and as a metaphor for equality, every human being's right to information, the freedom to learn, and to share and celebrate both education and civic services.

With regard to the building as an object within a community, the response to climatic and topographical conditions, expression and incorporation of local art, labour, craftsmanship, informal trade and materials may strongly reflect an identity relating to the community, its people and physical surroundings. The building should constitute an expression of a liberated, multicultural, progressive yet tradition rich nation.

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Providing for informal trade

Located within an envisaged urban core, the establishment of informal trade is surely inevitable and thus needs to be taken into consideration and provided for. As viewed at the bus station in the Denneboom precinct, roofed provision was made for local trade, yet non-utilisation of these structures has left them standing desolate and abandoned while a more successful, yet completely informal, market was created right next to the previously mentioned structures. (Figure 41-43). By means of observation it has become clear that within a rural, informal trading society the provision for local economic opportunities requires more attention and a more creative solution rather than merely providing single storey, domino-like face brick buildings with corrugated roof sheeting.

The topic of appropriate materials should also be carefully revised in this context. If indeed informal traders choose to locate themselves on their own terms, the materials and applied building method should be of such a nature that they can be re-used and re-worked in order to be successfully replaced and rearranged. By implementing this strategy of adaptive re-use one can avoid abandoned structures becoming breeding grounds for the homeless and for illegal immigrants. Roger Trancik (1986: 3) describes the deterioration of the environment and buildings that do not serve their intended purpose as being "lost space / anti space" and elaborates that this is caused by a failure to connect elements in a coherent manner, as seen in the photographs of the old dormitory (Figure 31-40) - and Denneboom bus station structures (figure 41-43). The result is the desolation of not only an internal environment, but also the negatively shaped spaces around it. Figure 31-40 depicts the degradation of the internal and external environment of the hostels.



Page 019:Figure 31-40: Abandoned dormitories as lost and deteriorating space

Page 020:Figure 41-43: Desolation and abandonment of the trader stalls at the bus station vs. the lively self-developed trader's market in Mamelodi

Research methods and methodology

The methodologies employed for this study are both qualitative and quantitative and stem from the literature and precedents as well as observation in the field and photo surveys. More particularly, an investigation is undertaken into the manner in which rural environments are shaped and into the effect of a commuting and predominantly informal-trading society on the creation of urban space.

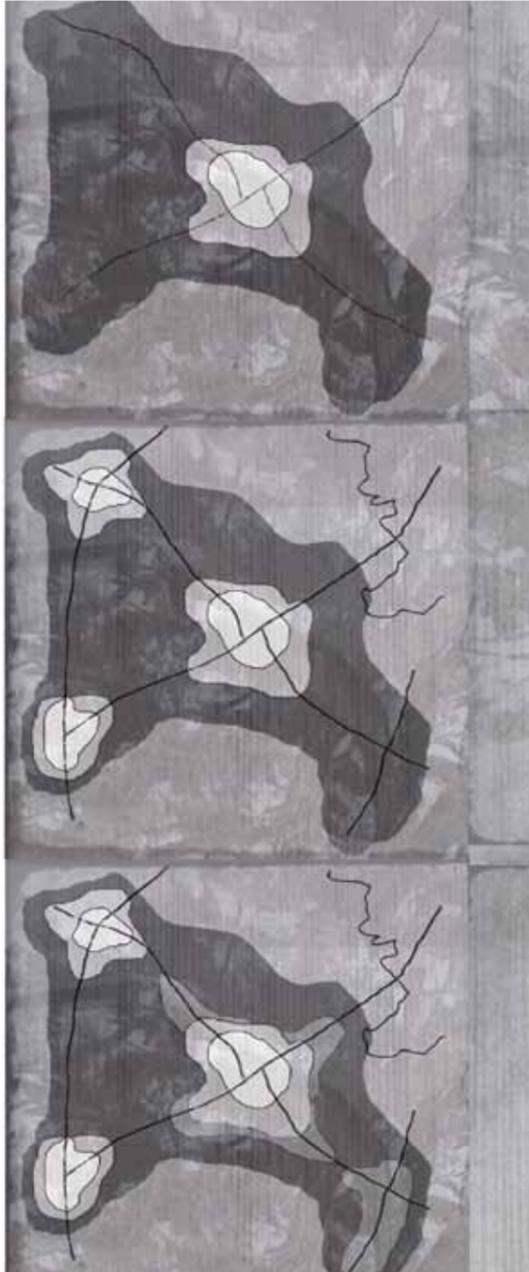
Limitations: In terms of ethical considerations I refrained from interviewing members of the community in order to avoid raising false expectations. In a real life scenario, the design would be informed and supported by extensive public participation and consultation with the envisaged end users. For example: When designing the very successful Metro Mall in New Town, Johannesburg, for example, Ludwig Hansen (former head of Urban Solutions) convened approximately 150 meetings with the public.

It has been mentioned that linearity is a prevalent unplanned urban phenomenon in Africa, yet in order to apply this concept to a local intervention, either urban or architectural, it needs to be better understood in terms of pattern formation.

Arturo y Mata's Ciudad Lineal and the spatial layout of Atlanta are examples relating to linear and multi nodal existence, yet although noble ideas, they remain Western in origin and applicable to a different set of rules from those of African rural development.

CHAPER THREE

understanding african space



Movement as space generator and Feedback system

The current formation of a settlement in Kenya (figure: 66-68) would be a pattern more appropriate to this context. Similarly, while the core principles deal with connectivity between established nodes, a more chaotic, informal and self-organizing pattern is derived from African linearity.

The pattern of informal economic development is not well understood except for the fact that its being is born from a system of dependence on interaction between commuters and product, as well as its ability to adapt to an environment dominated by constant movement between significant points.

Feedback is a defining characteristic of any self-organizing system and is the main driving force behind complexity. It can be broadly described as parts interacting with the whole. As mentioned earlier, the creation of informal markets, although seemingly chaotic, still remains successful in many ways. This implies an underlying sense of order fitting its rural context. These informal markets rely on constant feedback from consumers in order to ensure survival. In turn, the consumers rely on the formation of informal markets, located along and around movement corridors and transport interchange nodes and drop-offs, for the provision of necessities and fresh produce.

Invisible Urbanism

“Invisibility seems so analytically central to thinking about the contemporary African city” Vyjayanthi Rao (2007: 87).

In Kinshasa: Tales of the Invisible City, Filip De Boeck (2007: 77 Journal) refers to this interaction between people and their environment as forming part of a city’s non-material infrastructure. He explains: “In spite of the fact that an analysis of the different physical sites through which the city exists and invents itself helps us to better understand the specific ways in which the materiality of the infrastructure generates particular sets of relations in the city, I would submit that in the end, in a city like Kinshasa, it is not, or not primarily, the material infrastructure or the built form that makes the city a city. The city, in a way, exists beyond its architecture... the infrastructure and architecture that functions best in Kinshasa are almost totally invisible on a material level.” Furthermore, De Boeck (2007: 87) elaborates on the invisible infrastructure as comprising urban networks and the manner in which people move through the city, make use of the city, and how they create and generate the city while doing so.

It can be argued that this interaction between supplier and consumer is the best functioning form of infrastructure in Mamelodi. It establishes a link between nodal points and on a theoretical basis replaces the lack of urban fabric, or physical “built form”, with the energy and movement required to keep Mamelodi alive.

In this case, movement can be considered as a ground floor activity within an urban environment, shaping its own self-organizing urban and social space through a general feedback system. These activities or infrastructure mainly determine and are responsible for Mamelodi’s current amorphous form.

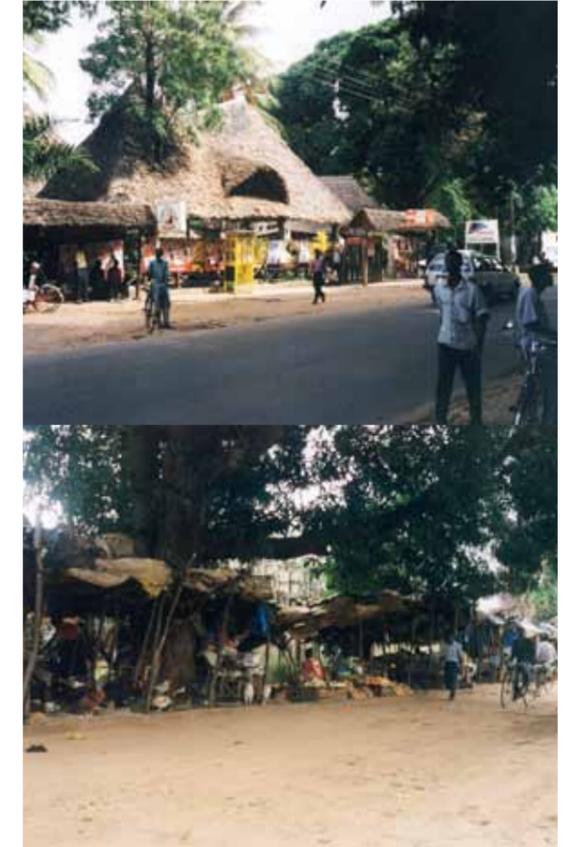


Figure 69-70: Market development along main routes in Kenya

Page 037:Figure 66-68: From top to bottom: Indicating the growth of a settlement pattern in Kenya as movement patterns



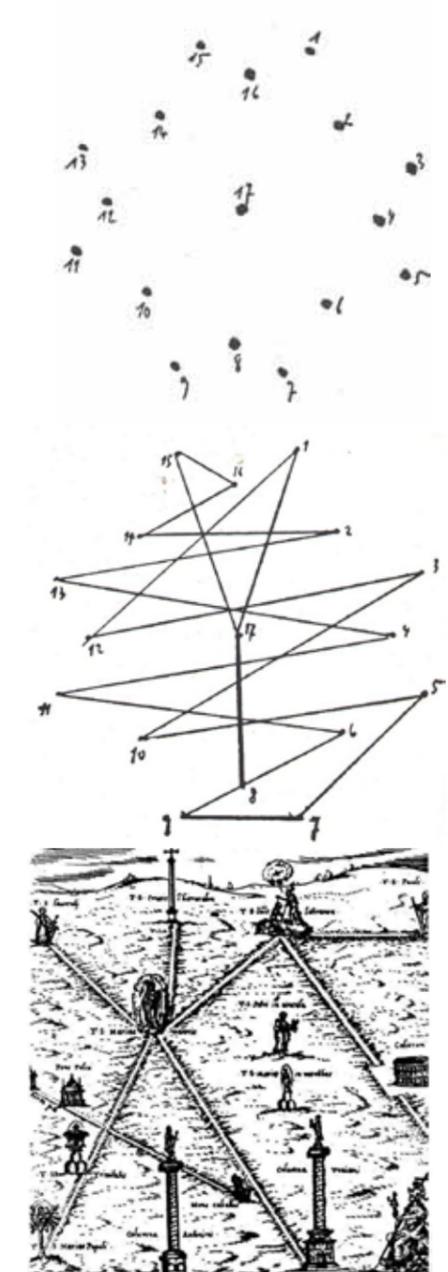
Movement as a tool for organization

By means of the brief investigation of the peripheral formation of a settlement in Kenya and basic observation of the informal trade in Mamelodi, one can deduce that movement, as a method of connectivity between well established nodal points, is a possible basic organizational tool.

Edmund Bacon (1968: 114) refers to the work of Paul Klee with regard to the flow of lines of energy along the veins of a leaf being comparable to the movement of people. Reflecting on Klee's water-color painting (Figure: 71), Bacon describes it as adding another dimension to the structural movement of energy within the city and interprets this as, "the creation of fields of quality at the points of convergence of movement systems".

He writes that, "Since the veins of a leaf or the branches of a tree are comparable to the channels of movement of people and goods within a city, we see the parallel between organic structural form and the city movement system, their sequential effect on the sensibilities of the people who move over them, and the resulting effect on the appearance and character of the city adjacent to them." (Bacon 1968: 114) Relating to movement as a tool for organizing space, Bacon mentions that movement and the interaction of the people that move through it have an effect on the character of the city, or place, adjacent to these movement patterns.

Comparing Klee's painting to Figure: 72, it is evident that the same "dimension of structural movement" (Bacon 1968: 114) is applicable to the settlement formation of current Kenya (Figure 68). Bacon's described fields of quality at the points of convergence of movement systems becomes a prominent aspect in the formation of African space and place.



Domenico Fontana, when commissioned by Pope Sixtus V to restructure the city of Rome in 1585, conceived it as a network, rather than as "a static controlled object". Francescato believes that such a network can serve as a framework for incremental growth and change, as a generator of urban form when responsive to communications and circulation, and as a means of managing spatial organisation.

The nodes and webs of connections are then given "spatial presence" through the architectural control of elements. He does not acknowledge Kevin Lynch, whose approach to imagining a city through the elements of paths, edges, districts, nodes and landmarks is considerably more comprehensive than his, and is still widely used as an analytical technique (1960), but cannot be used to reliably predict the dynamics of a city either.

Page 039:Figure 71-72: Water-color painting by Klee (Bacon 1968: 115) relating to current Kenya settlement pattern formation

Page 040:Figure 73-75: Fontana's plan for restructuring Rome, 1585, by Bordino (Bacon 1968: 124-125)

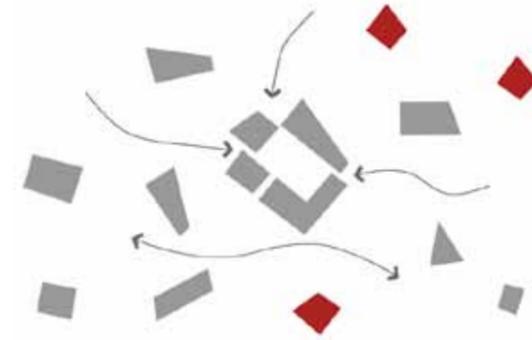


Figure 76: Frederick's diagram indicating positive and negative space (2007: point 6, author's image)

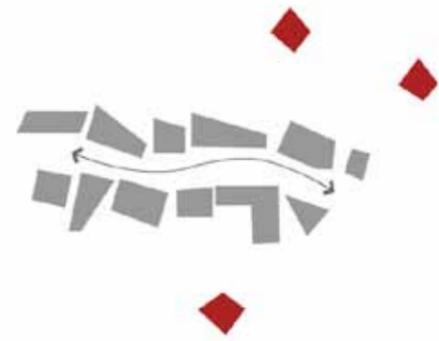


Figure 77: linear movement as positive space

Matthew Frederick states (2007: point 6): "The shapes of architectural spaces greatly influence human experience and behavior, for we inhabit the spaces of our built environment and not the solid walls, roofs and columns that shape it. Positive space is almost always preferred by people for lingering and social interaction, Negative space tends to promote movement rather than dwelling in place." (Figure: 76)

Relating these statements back to Mamelodi, its character and identity is one born from the interaction between movement and people and in turn between people and their needs. The 'veins of a leaf', as referred to by Bacon, essentially become veins of movement which keep Mamelodi alive. It is the combination of negative spaces, as a promoter of movement that creates positive space. Thus movement and its constant interaction with people creates place (Figure: 77).

One then arrives at a better understanding of these seemingly "chaotic" patterns of formation so that the possibility exists for organizing and designing an intervention in order to ensure its survival through the interaction and constant feedback between people and their surrounding environment and those between people and building.

Scale and surroundings

Colossal, over-scaled buildings tend to be uniformly ugly, and managing the massing and scale of a big building in a fine-grained context, like a township or informal settlement, is always a challenge. A big, elegant, monumental building can, however, bring presence and civic pride to a poor community, and if it draws visitors it can provide significant employment opportunities and other spin-offs. An example is the Museum of Struggle in Port Elizabeth by Jo Noero and Heinrich Wolff (Figure: 78). Completed in 2005 and the first of five buildings to form the Red Location Cultural Precinct (Figure: 79), it is a big (nearly 8,000 square metres) building. Whereas the interiors and exhibitions are hauntingly disturbing, the typology points to the intention to create an asset with which the community can associate itself. At a physical level, the materials reflect those of the surrounding areas. Socially and economically the building is intended as a backdrop for community activities, with the eastern edge being reserved for informal traders, described as a "habitable wall". Similarly, the entrance pergola is a public gathering space, while a generous grassed area inside the L-shape footprint features a large screen and provides an outdoor cinema for 2,500 people. The street on the eastern side offers access to a row of houses, and is configured to favour pedestrian traffic.

The concept of large-scale buildings within a finer grain urban fabric as a community focus is one that dates back in time. Just like the Museum of Struggle the Mosque in Timbuktu (Figure: 80) stands tall above all of its surroundings. In spite of the views of certain social scientists to the contrary, contemporary cities, their buildings and public spaces are no longer expected to be expressions of culture in an ethnocentric manner. They should rather constitute manifestations of contextual characteristics, economic realities, existential necessities, aspirations and expectations, and choice.

Culture as a life-style is embodied in the dynamics of townships and informal settlements. Taste is reflected in a preference for nostalgically-historical, neutral, modernist or avant-garde aesthetics. And at the very highest level, culture provides clues, whether intentionally or not, to the ideals and hopes and fears of a society.

What we desperately want to avoid are buildings that are coded to signal "only for poor black people".



Conclusion

It is evident that movement, or the commuting of people on a daily basis, in a rural context exerts a large impact on how an environment is shaped. It is this invisible infrastructure of interaction and energy that proves to be the most efficient urban network and creator of rural urban space. In Mamelodi, these linear urban spaces are a result of human beings' behavior and their interaction with the surrounding environment. By means of connectivity between new and existing nodes, one can establish an integrated system of movement as well as functional and social urban spaces, creating a 'spine' of economic opportunities connecting the town of Mamelodi.

As is the case with changing technologies, so too should the physical environment be adaptive for change and flexibility. It is my opinion that only through the fusion of a functioning non-material and architectural environment is it possible to arrive at a truly social facility belonging to the people of Mamelodi.

The creation of public space and architectural form should not be an expression of culture and its surroundings, but should rather adapt a series of guidelines in order for those spaces to fit within its context. This does not imply an aesthetic quality, but rather an adaptation to a specific lifestyle so as to enhance current circumstances. By means of theoretical and physical investigation one can conclude that for an architectural intervention to serve as a catalyst within a community, it has to be grouped together with a series of functions and placed within a context compatible with the characteristics of Mamelodi. Reaction to context, in essence, is a reaction to an outdoor environment where four principles play a determining role: linearity as a network for shaping African cities; movement as a tool for organization and source of energy for connectivity; movement as a requirement for interaction between people in order to create both infrastructure and to shape social positive space; the provision of a series of formal economic and civic programmes whilst ensuring flexibility for adaptation, self-organization and ownership within a community and neighbourhood.

Page 042:Figure 78: The Museum of Struggle from the air
(Digest of SA Architecture, 2005/2006: 12)

Page 042:Figure 79: Museum of Struggle as part of the Red
Location precinct (Noero 2009: 99)

Page 042:Figure 80: Mosque in Timbuktu



All precedents are based on African examples; more specific, context appropriate interventions and how its surroundings adapt and change according to reaction. The study aim at investigating the manner in which architecture, or built form, may serve as a catalyst within a community; ensuring the required flexibility to establish an environment shaped by its users, multi functional interventions in an urban context and how physical characteristics of an environment can influence community participation and design decisions.

CHAPTER FOUR

precedent study



Kariakoo Market

Location: Dar Es Salaam
1914

“In Kariakoo, the market has gained ground over the public interest to the point where the manifestation of the event has grown to become the expanding brand of the city” (Claassens 2005).

Kariakoo was planned in 1914. Because of an increase in the population of Dar Es Salaam, this city was required to expand in order to accommodate the new inhabitants. The African quarter was extended westward, toward what was at that time a coconut plantation belonging to the Sultan of Zanzibar. Kariakoo was born.

To structure the new quarter, a rectangular street pattern was laid out with Kitchwelle Strasse (the current Uhuru Street) as the basis. The imposed grid structure reused the plantation structure. Proceeding through a series of self-developed plots allocated to the people of Kariakoo, and the construction of housing schemes by eliminating the public squares, the Kariakoo neighborhood reached its final size. Since independence, this neighbourhood has undergone a metamorphosis from being a residential neighbourhood, as a peripheral fragment of the city, to the centre of Dar Es Salaam impelled by the implementation of the market. It has been transformed from a homogeneous residential quarter, to a commercial cluster. This profound mutation had obvious implementations for the typology of the surrounding buildings, causing the single storey Swahili house to be replaced by “mushrooming multi level constructions” (Claasens 2005).

The building designed to house the market is situated in the former African quarter of Dar Es Salaam. The building offers three layers of market area and forms the centre of the Kariakoo market which is spread out in the neighborhood.

“The presence of the market initiated the transformation of Kariakoo and can partly be held responsible for the fast development of the neighborhood” (Amuli 2005).

The first proposal with regards to the location of the market was constructed along the edge of the grid next to an open green area. The intention was that the open area allowed for expansion of the market and could easily be connected to the main infrastructure including the railway. Its location on the edge was also seen as an attempt to connect the Indian and African quarters, regarded as a step towards unification of the city and breaking the tradition of separation; creating a multi-cultural space (Figure: 86).

Placing the market in the centre though, generated the opposite effect (Figure: 89). The market would form the heart of the African quarter and the Indian influence would be minimized. Thus, instead of creating connectivity between the two quarters, they became even more isolated from one another; each with its own centre. The central location of the building had an enormous effect on the environment; the previously residential dominant neighbourhood was confronted with an intervention on a different scale. The whole area turned into a commercial zone which is rapidly becoming the “main commercial centre of Dar Es salaam” with the market building in its centre (Amuli 2005).

Use of the market

The actual market is no longer situated within the building and over time has spread into the adjacent streets and open spaces. In order to reach the main building one has to meander between informal market stands and salesmen to reach the entrance, which is practically blocked by those structures. The ground and first floor of the building are occupied by more specialized and expensive shops and goods. In time, different constructions have been built within the adjacent open spaces, contributing to the ever evolving atmosphere of the Kariakoo market. “The function of the market is changing” (Amuli 2005).



Figure 86: Kariakoo



Figure 87: Proposal one



Figure 88: Proposal two



Figure 89: Currently

Figure 93: Typical traders corridor with stalls at each side

Figure 94: Example of small-scale, lockable trader stalls as storage

Figure 91: Photo indicating the formation of informal trade surrounding the Farady Market



Figure 90: Precinct plan (Joubert 2009: 142)



Faraday Market and transport Interchange

Location: Johannesburg, South Africa

Architects: Albonico, Sack and Mzmara Architects and Urban Designers and MMA
2006

Similar to the Kariakoo market, the Farady Market and Transport Interchange is placed in an urban context and was designed to manifest itself within a larger precinct plan (Figure: 90). Its success is partly due to the fact that trading activity is associated with the taxi industry and is linked to the commercial and transport precinct. This generates the required energy for a development such as this to function within its surroundings; supplying commuters with the necessities for everyday living and allowing for the interaction between consumer and product, which we have determined is vital to the creation of African space.

The architectural intervention is a combination of existing and new structures together with a series of functions. Administration and storage are housed in two refurbished buildings, whereas other structures have been converted to accommodate “multi-traders” (Joubert 2009: 142) who amount to the majority of the market’s occupants. These structures range from small lockable stalls, to larger enclosed and lockable sheds, to a space which is, apart from a roof structure, predominantly open (Figure 92-94). A variety of additional facilities include a railway station forecourt, ablutions, offices and formal shops as well as numerous gathering spaces.

Like Kariakoo, the intervention was designed to house a trading industry, yet consciously accommodating for adaptability and the opportunity to change. The manner in which the Faraday Market is shaping the environment is pertinent through Figure: 91, which shows the influence of the market and how informal trade has extended beyond that of its original boundaries.



Metro Mall Transport Facility and Traders Market
Location: Johannesburg, South Africa
Architects: Urban Solutions Architects and Urban Designers
2002

Johannesburg, like Mamelodi, a large part of its commuter population is dependent on minibus taxis for daily transport between their homes in the townships and their work which mainly located in the city. The Metro Mall development takes cognisance of the needs of the taxi industry and the informal street traders who operate across the inner city (Deckler, Graupner, Rasmuss 2006: 60).

Metro Mall was one of the first major infrastructural improvements of Johannesburg's new municipal dispensation. Prior 1994, no ranking facilities were provided for the rapidly increasing informal taxi sector, compromising the functioning of the city and "causing inconvenience" (Joubert 2009: 144). "This transport-cum- retail facility form an essential part of the City's urban renewal strategy" (Joubert 2009: 144).

Based on a perimeter-block typology, the internal spaces of the building mainly provide permanent facilities for the large number of taxis in the area. The edges, facing toward the public realm and adjacent to pedestrian routes, formalise street trading by housing a series of different trader stall as well as small retail shops (Figure 100- 103).

Although Mamelodi cannot compare to Johannesburg in terms of scale and economic development, the essential needs for a commuting-dominant society are the same. Through introducing a similar multi-purpose intervention in Mamelodi, it would not only adhere to the basic requirements of its inhabitants, but can also provide new economic opportunities in an attempt to establish Mamelodi as its own entity.



Figure 96-99: Metro Mall in an urban environment and the way it reacts to context by edge activation



Figure 95: Urban development framework by Urban Solutions (Joubert 2009: 144)



Figure 106: Building as derived from the physical environment (Lee 2010: 50)



Figure 104: Programs located around a central courtyard

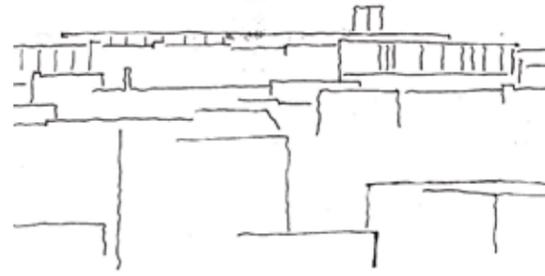
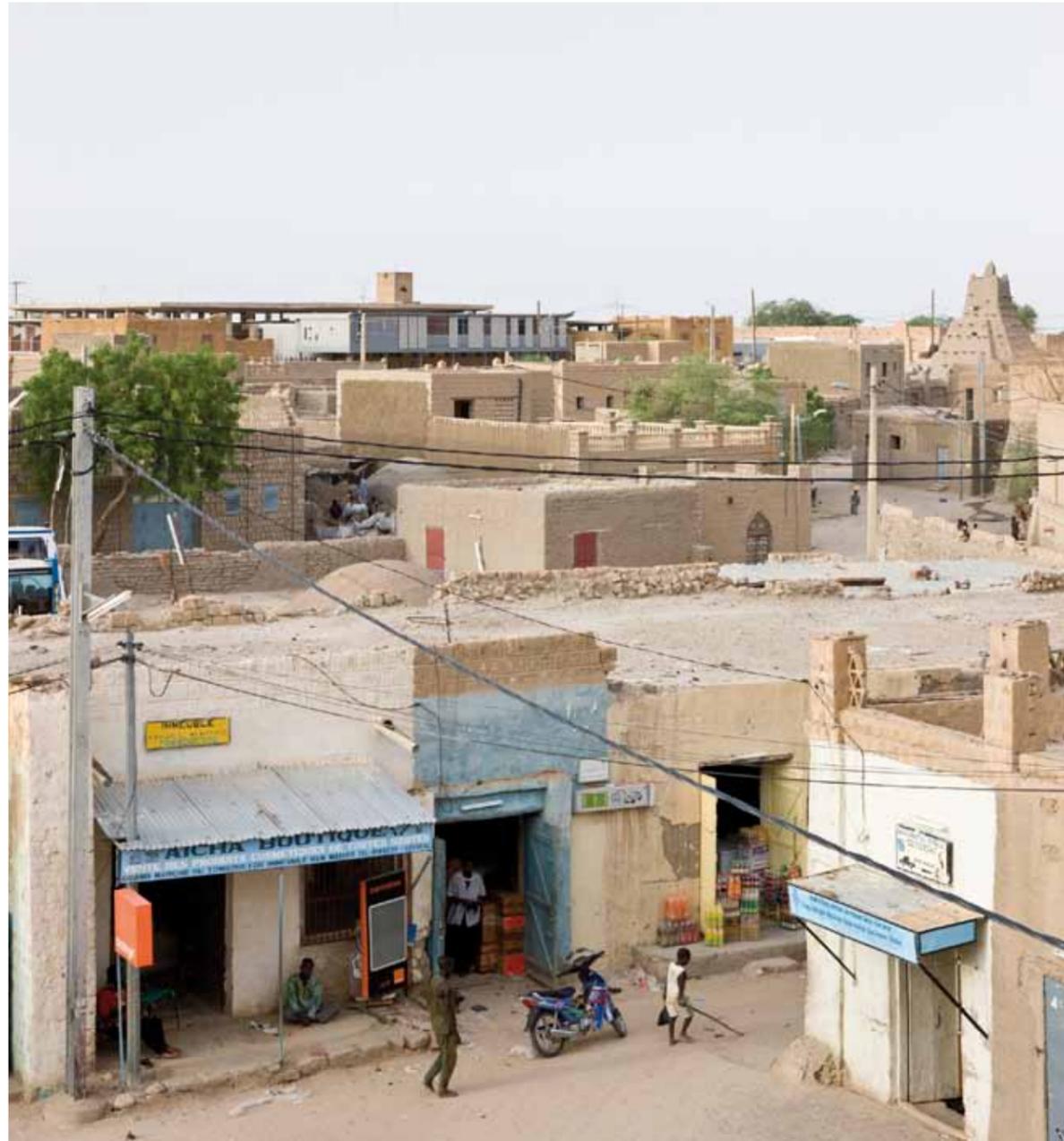


Figure 105: Line sketch of how the building fits into its context



Amhed Baba Center Timbuktu, Mali

Architects: DHK Architects, Twotthink Architecture

“The Ahmed Baba Centre in Timbuktu has the unique mission of preserving and presenting the ancient written treasures that testify for Africa’s intellectual past, challenging the notion that the continent had only an oral tradition” (Lee 2010: 50).

The centre’s content is primarily focused on facilitating and restoring writings from the countries effervescent past. It is an archive for factual documents such as letters, journals and legal papers; giving insight to Timbuktu’s society and its polemics. Manuscripts dating back from the 12th century, mainly written in Arabic, cover a broad range of subjects from history, theology and law, to astronomy and medicine (Lee 2010: 50). The building stands as a documentation of culture and container of knowledge, and a mediator between different times.

Apart from its written content, the building houses a variety of programs located around a central courtyard and connected through a walkway (Figure: 104). Programs include: an outdoor gallery, amphitheatre, kiosks, classrooms, lecture theatre, library and reading room, kitchen, photographic studio, restoration rooms, computer rooms and office space located on the first floor on top of the library.

“The city is dominated by the monochrome, uniform tones of clay houses and tangled dirt roads. The doors are always open, bread is baked in mud ovens on the road, and kids are taught on empty street corners, occasionally disturbed by roaring cars and scooters” (Lee 2010: 53). The project architect, Andre Spies, said that the sporadic and organic growth of the urban environment, together with the interesting spaces in the city, became the backbone of the concept and that the architecture is expresses civicness through connecting to the surrounding urban squares, “drawing in the people from the street” (Lee 2010: 54). Traditional methods of clay building and construction ensured community participation, resulting in a well articulated, context-appropriate resource center belonging to the community and the people of Mali.





Within the mentioned MSDF, the government clearly identifies the Eerste Fabrieke Station and Precinct (Figure: 111) as one of five “Urban Core and Metropolitan Activity node(s)” within the greater Tshwane Metropolitan area (2004: 02). In this document, Urban Cores are described as “activity nodes of metropolitan significance aimed at providing economic, social and residential opportunities in an integrated, vibrant, high-intensity, mixed-use and pedestrian friendly environment linked to public transport facilities and the highest level of accessibility”.

CHAPTER FIVE

context and site



Eerste Fabrieke location: Metropolitan context

The Eerste Fabrieke Station Study Area is located on the eastern side of the City of Tshwane Metropolitan Municipality, in ward 40. Ward 40 is adjacent to the township of Mamelodi and includes the low-income residential area of Nellmapius (figure: 113).

As noted, Mamelodi is a typical dormitory town situated on the outskirts of the city. For various reasons, Mamelodi is characterised by a lack of economic activities with little or no private investment as well as negative perceptions regarding safety and security.

Nellmapius, situated south of Mamelodi, is earmarked by the Municipality as a Strategic Development Area that should contribute to addressing the housing backlog and lack of economic, social and recreational opportunities within Mamelodi as well.

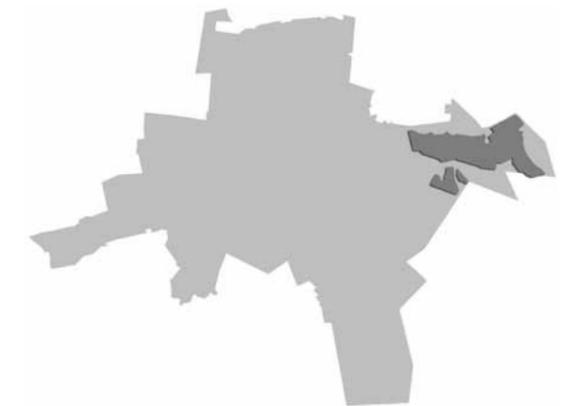
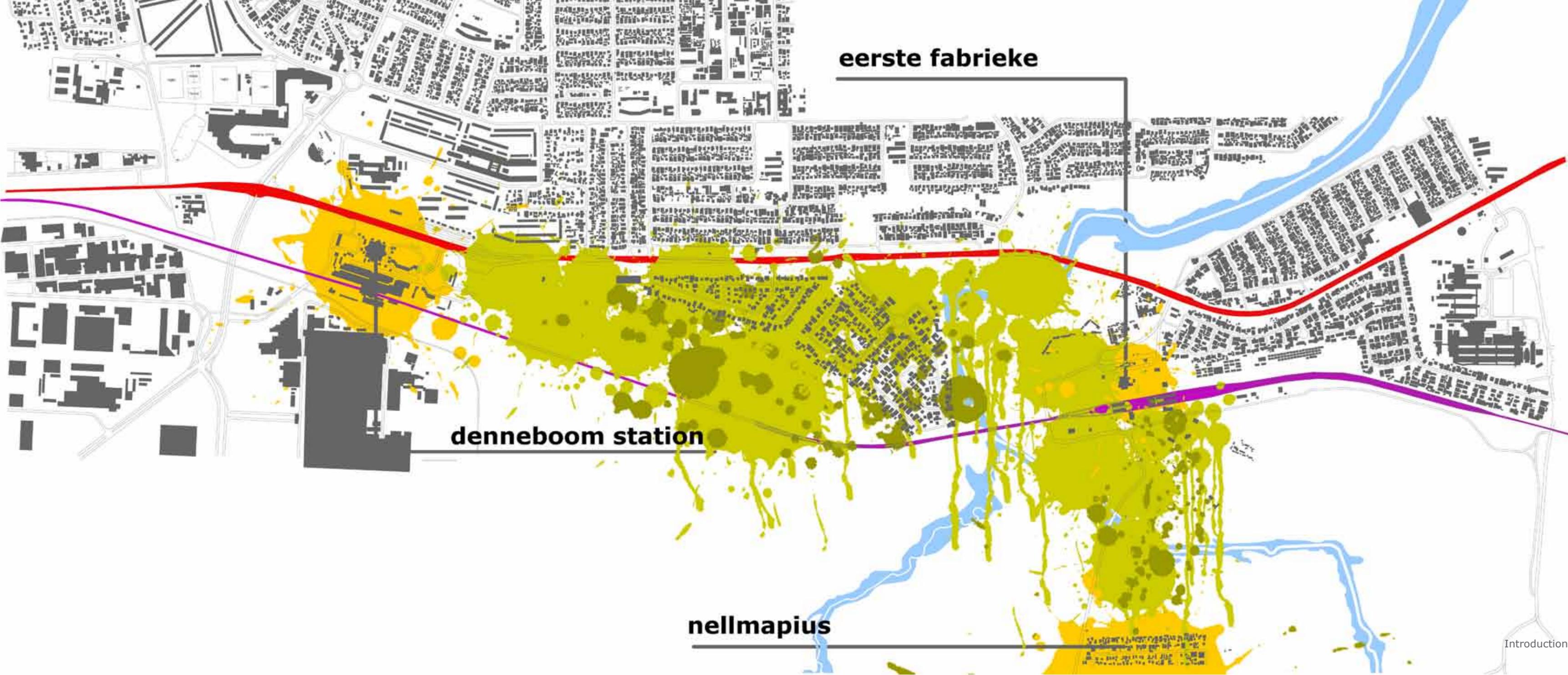


Figure 112: Mamelodi in metropolitan context



eerste fabriek

denneboom station

nellmapius



Nodal identification



Area under investigation



Figure 114: Main vehicular movement



Figure 115: Main pedestrian movement

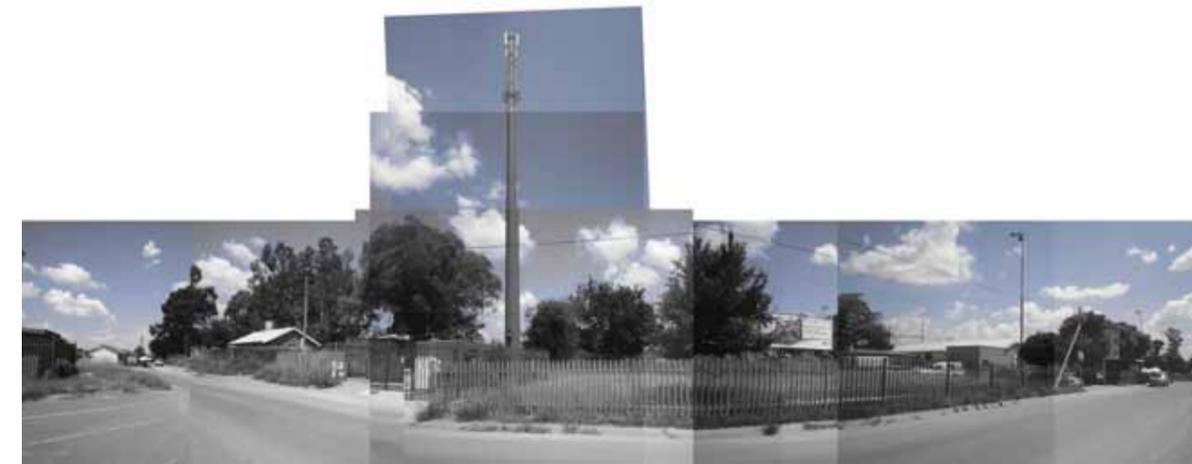
Local context

The Study Area is strategically situated along a railway line that runs parallel to Tsamaya Road in Mamelodi. Tsamaya Road extends into Stormvoël Road to the west.

An existing station, Denneboom Station, is located alongside the railway line, west of the Study Area and currently serves as the main commercial and intermodal transport node in Mamelodi (Figure: 114).

Other main roads surrounding the Study Area that link it with the rest of the City of Tshwane include the following:

- Simon Vermooten Road, to the west (Figure: 114).
- On the eastern side, Hans Strijdom Road (Figure: 114).
- South of the Study Area, the proposed K16 Route (Addendum A).



History

The earliest formal proof of habitation in the current Mamelodi area is a reference to the farm Vlakfontein 329 JR, found in a register which states that the farm was inspected on 4 March 1854, in other words, a year before the founding of Pretoria.

In 1874 Vlakfontein was divided into three parts with the Moretele River, also known as the Pienaars River, separating the land into two halves: Mamelodi west and Mamelodi east.

The first inhabitants of the area were thus herdsmen and farmers. In 1882 this altered with the registration of Eerste Fabrieke, the first factory in the Transvaal: The Hatherly Distillery. In 1902 it became a bottle factory using the sand from the Pienaars River to produce the glass. The factory employed people locally, attracted more people, and houses and other buildings were erected. It closed down in 1920.

Figure 116: Panoramic view of Eerste Eabreike station



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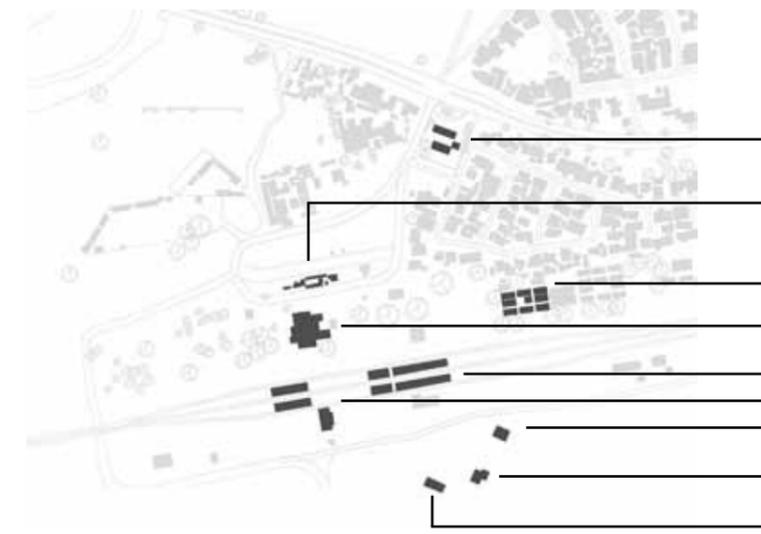


Figure 126: Buildings and structures of significance

Existing buildings and structures:

- On an urban scale, existing buildings and structures of significance include:
- A petrol station and tavern, both adjacent to Tsamaya Road (Figure: 126: 01). (Applicable to intervention)
 - Informal trade stalls (Figure: 126: 02).
 - Existing hostels (Figure: 126: 03).
 - The current station buildings to the north and south of the railway line (Figure: 126: 04 & 06).
 - Platform structures of station (Figure: 126: 05).
 - Historical outbuilding dating back to the founding of the distillery to the South of the railway line (Figure: 120: 09).
 - Houses dating back to the founding of the distillery to the south of the railway line (Figure: 126: 07 & 08).

- fill station 01
- informal trade 02
- hostels 03
- Eerste Fabrieke station North 04
- platforms 05
- Eerste Fabrieke station South
- historic fabric 07
- historic fabric 08
- historic fabric 09



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Analysis

- The site is undeveloped, with the exception of the petrol station east of the main access route to the station, the small yet busy local tavern to the west, indicating possible economic opportunities, and the station itself.
- The surface is relatively flat except for sloping toward the Pienaars River to the west of the site, meaning that special sub-structure building methods are not required.
- Wind is of no real concern.
- Climate is relatively moderate with no extreme temperatures during winter or summer, creating ample opportunities for creating a relatively self sustaining intervention through the usage of optimal northern natural sunlight and cross-ventilation.
- The site and surrounding area is not supplied with a police station (although Community Policing Forums are established in both Mamelodi and Nelmapius) yet lacks sufficient street lighting. Together with the large overgrown river floodplain, the area is perceived as dangerous and unsafe by the community.
- An increase in the number of commuters who utilise the Eerste Fabrieke station could impact on the condition of the station.
- The lack of taxi and bus services results in the under-utilisation of Eerste Fabrieke station (except during the mornings) and extensive utilisation of Denneboom station, resulting in the fact that the local economy cannot be supported in this area and the opportunities for development and growth remain slim.
- Tsamaya Road, as a successful 'main' road running through Mamelodi and passing by Eerste Fabrieke, provides opportunity for the creation of a public transportation node and provision of more prominent and established bus and taxi services.

Page 065: Figure 127: Panoramic view from Eerste Fabrieke station

Figure 128: Panoramic view of southern farmlands

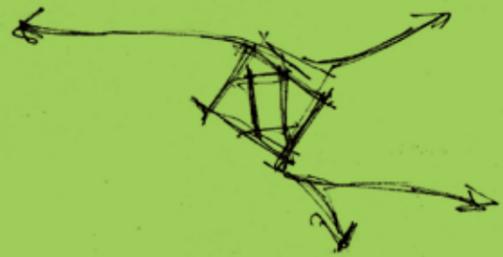
Figure 129: Panoramic view of southern farmlands

Figure 130: Panoramic view of Nelmapius

“Maybe we finally need to understand that history and environment are the two faces of architecture, that no building stands alone, and that architectural solutions however brilliant cannot overcome the limitations of the urban fabric in which they are placed” (Trancik 1986: 19).

Relating Trancik’s statement to Mamelodi’s internal segregation of fabric, it is clear that this is a problem which can only be solved on an urban scale; the development of a well thought out urban design framework becomes just as important as the actual architectural intervention itself. In the case of Mamelodi as an under-developed rural environment, one should refrain from the usual process of urban development by treating buildings as isolated objects sited on the landscape, not as part of the larger fabric of streets, squares and viable open spaces.

In chapter two, the Theory of Cognitive Schemas was described as a series of interlinking strains of information functioning as a system. This can relate to an urban design concept as an interconnectedness of economic opportunities combined with social, civic and public space in a holistic scheme; persisting from an urban perspective to an architectural intervention.



CHAPTER SIX

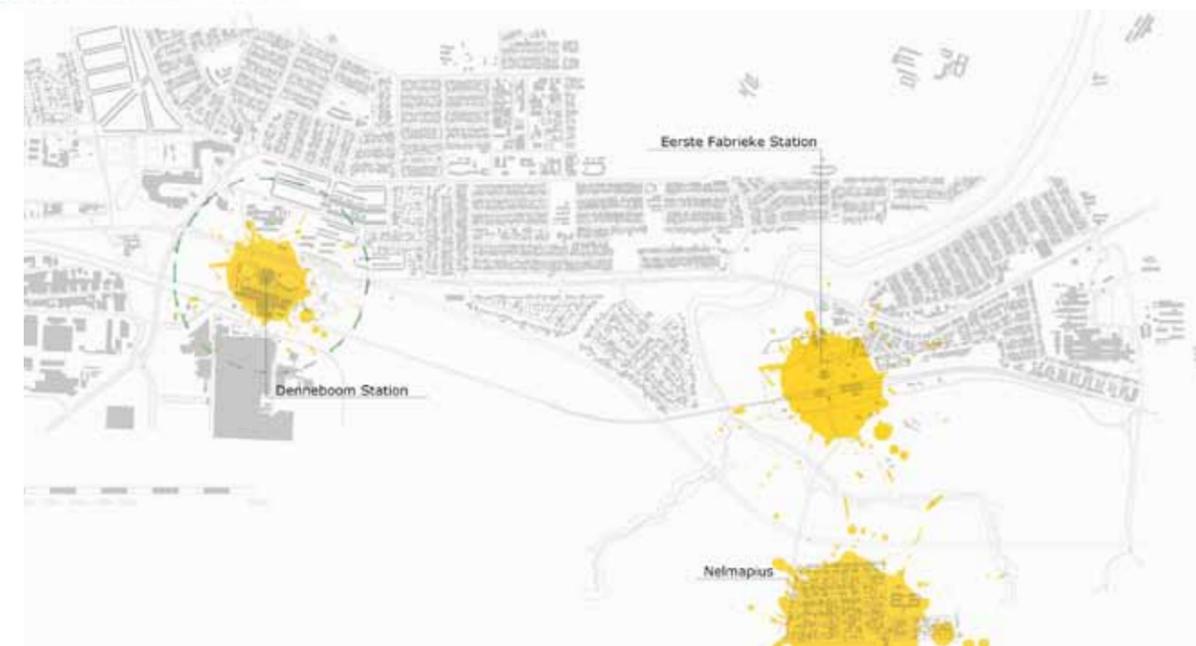
urban design framework



Eerste Fabrieke as Lost space

The Eerste Fabrieke precinct can be described as being “lost space” (Trancik 1986:2), which according to Trancik, is the underused and deteriorating residual space between districts, yet provides the opportunity to reshape an urban centre so that it draws people together in order to counteract urban sprawl (1986: 2).

He further describes lost space/ anti space as being ill-defined, without measurable boundaries and a failure to connect elements in a coherent manner (Trancik 1986: 4) (Figure: 135). This does not necessarily indicate a connectedness of physical fabric and, in the case of Eerste Fabrieke, relates more to its segregation from a transport and economic system. approximately 15 300 people make use of Eerste Fabrieke Station during the mornings, yet prefer Denneboom Station during the late afternoon, because the Denneboom precinct meets the necessary social and economic requirements demanded by a commuting society. Together with the availability of public transport facilities, such as mini-bus drop-off points and a bus station, people prefer Denneboom Station, the result of which is an increase of human activities leading to a safer, more vibrant environment, leaving Eerste Fabrieke unsafe, underutilised and underdeveloped.



Connecting the bigger picture

In order to address the issue of segregation in Mamelodi, however, an emphasis on the grouping of a sequence of public and economic spaces should be established before focussing on Eerste Fabrieke as an individual entity. The residual spaces between districts need to be “reclaimed” (Trancik 1986: 19) and connected by transforming them into opportunities for development. It is vital to develop the proposed Eerste Fabrieke core as part of a greater series of economic nodes in an attempt to reshape, not only the Eerste Fabrieke precinct, but Mamelodi in general.

Figure 135: Identify nodes for development and indicating the residual space in between



Figure 136: Possible solution for connectivity

Figure 137: Established economic opportunities within 800m walkable radius from one another

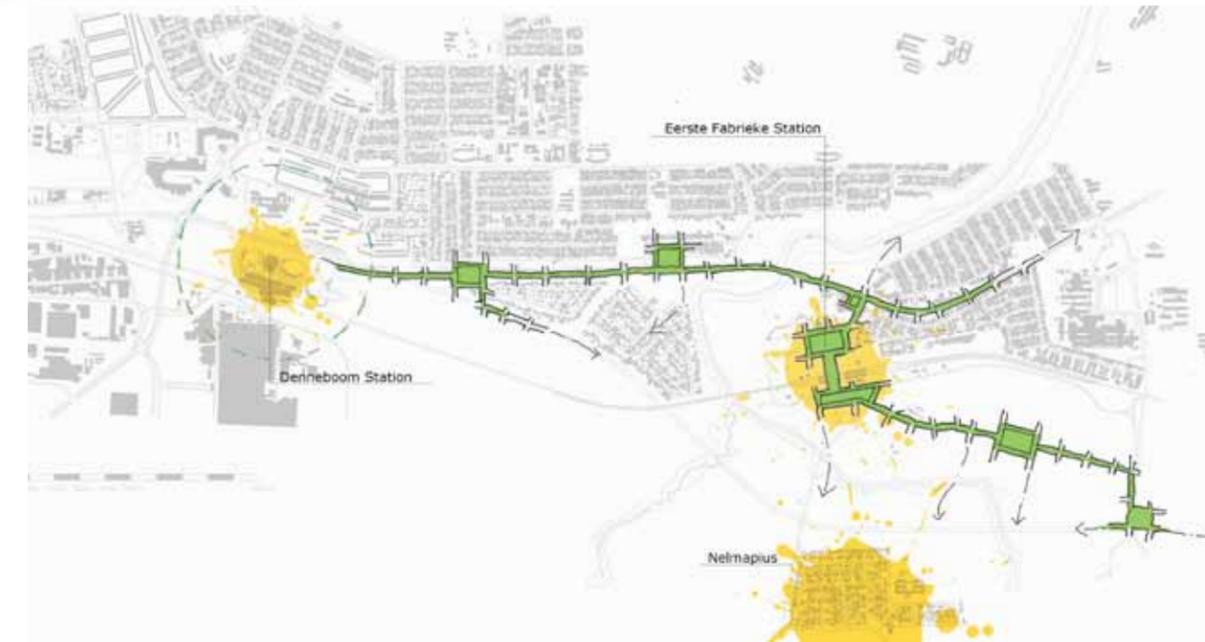
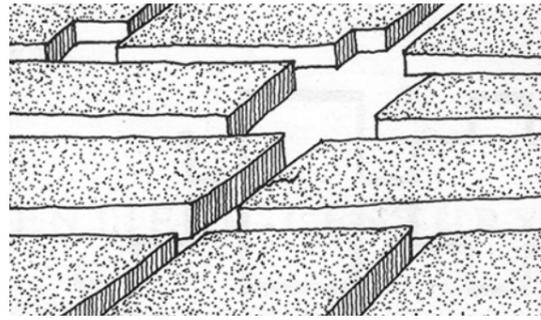


Figure 138: Establishing structure along 'economic spine' .

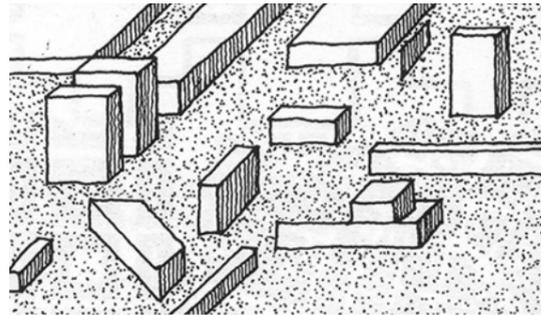
Connectivity

One of the first steps towards creating an envisaged urban environment would be to address the fragmented and displaced fabric in an attempt to unify Mamelodi by proposing a new spatial structure; one that incorporates some of the existing fabric and connections / infrastructure, such as Denneboom Station, as an existing node, and Tsamaya Road, as a connection between the west and east.

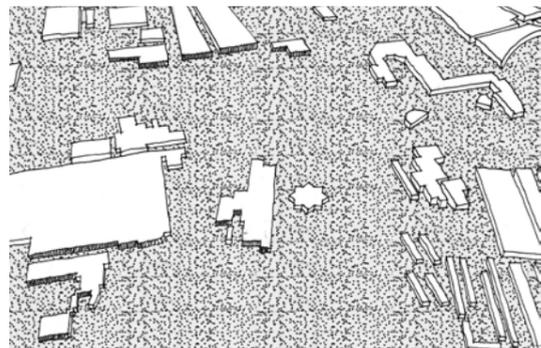
It has been established that within a rural community, the western laws of space and structure do not always apply and that the boundaries between positive and negative space are blurred. Thus, a unified structural system needs to be introduced whilst allowing for the flexibility and adaptability required in such an environment as Mamelodi for people to create and fill spaces that are true to their culture and lifestyle.



Traditional city form



Modern city form



Mamelodi city form

Figure 139-141: Above two images: Traditional and modern urban form (Trancik 1986: 19), Below: Current Mamelodi urban form (author's image)

“One of the major requirements therefore is to design environments in which individual buildings are integrated with exterior public spaces so that the physical form of the city does not fall victim to separation caused either by zoning or by a dictatorial circulation system” (Trancik 1986: 19).

Figure: 139 illustrate the spatial structure of traditional cities and the fragmentary form of the modern city (Figure: 140) and that of current Mamelodi (Figure 141). In the traditional city, urban blocks direct movement and establish orientation; the architectural and built form is integrated with the exterior space it defines in such a way that it creates a spatial structure which connects a series of public spaces. In the modern city and Mamelodi, the fragmentary and confused structure creates disorientation where a hierarchy and definition of exterior public spaces become nonexistent.

The concept of a ‘spatial spine’ (Figure: 136-138, 142-143) serves as a multi-nodal linear development, establishing a clear linkage between existing nodes (Denneboom Precinct, Eerste Fabrieke Precinct and Nelmapius) through ‘stitching’ together a series of envisaged self sufficient cellular units in order to reconnect Mamelodi’s internal fragmentation. It introduces a configuration of smaller scale communities, all within an 800m walkable radius from one another. It allows for informal ‘infill’ as both time and community progresses. The lack of fabric is replaced by the energy and movement required to commute between west and east Mamelodi, which in turn, will be accompanied by a growth in fabric establishing an envisaged physical connection between nodes; literally replacing the voids of residual land with solid mass.

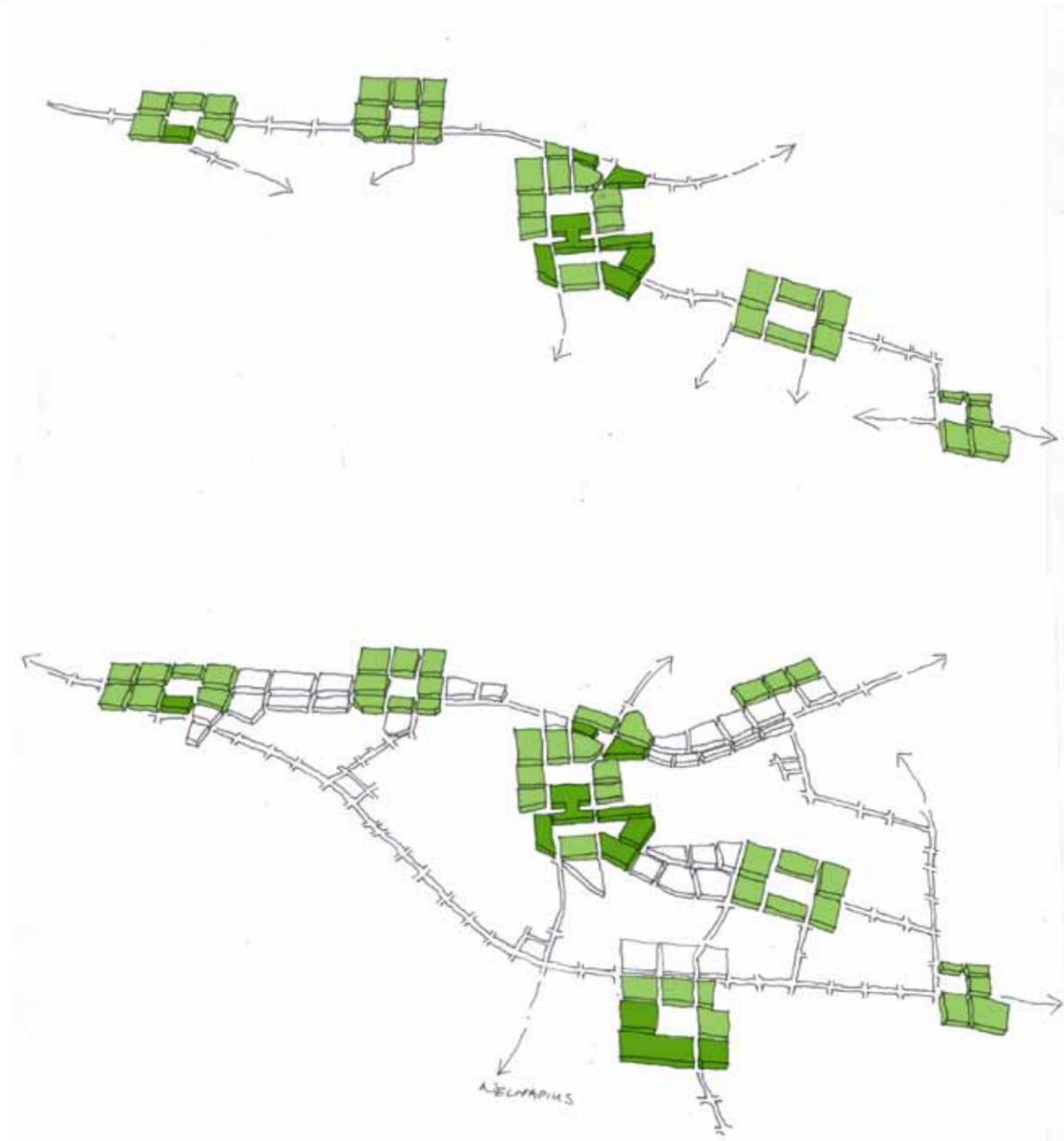


Figure 142: An incorporation of built form and a spatial structure of public spaces

Figure 143: Envisaged expansion of progression and development

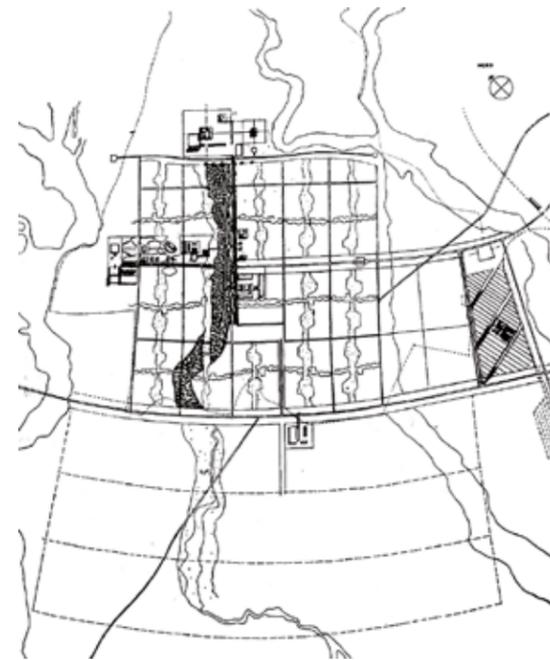


Figure 144: Le Corbusier's plan of Chandigarh, India. The functionalists tended to use the grid as a means of segregating activities into different zones (Trancik 1986: 31)

The functionalist grid

The grid is an easily applied mechanical method of organising separate parts: while according to architects such as Le Corbusier “the right-angle” is far superior to any other angles. If the right angle were applied to the ordering of exterior space, the resulting grid could be used as a method for eliminating accidental juxtapositions (Trancik 1986: 30). It can be argued that this is exact “accidental juxtaposition”, which is the creator of African rural environments such as Mamelodi, yet a vision for a more structured future needs to be manifested within this context in order to prevent further urban sprawl.

Although seemingly rigid, the grid has advantages of flexibility and expandability. The introduction of a primary spine of activities would eliminate the possibility of the lines of a grid contributing to spatial containment by becoming “super highways” (Trancik 1986: 31). The importance and effectiveness of the grid, as a tool for organising space, should thus be used as a method for the connectivity and not the separation of parts. Applied to the context of Mamelodi, it could provide a sense of unification in an environment where community centres and intermodal mixed use nodes are replaced by strict or no zoning conditions and low density residential environments.

In Le Corbusier's Chandigarh (Figure: 144), which is mainly a functionalist approach, the grid was used to differentiate places and activities. Each urban element is given its own identity as a separate part of the composition. For example, the government centre is set apart from the grid and not integrated into the rest of the city (Trancik 1986: 32).

Determining Hierarchy

The problem with the grid, however, is that there is no logical way to establish a centre, the result of which might lead to a system that does not reflect the collective, centralized concept of public space and thus ignoring the importance of Eerste Fabrieke as an envisaged urban core and a community focus point for meetings and interaction. The difficulty in identifying the centre of the grid can promote the notion of non-hierarchical, repetitive spatial structures which will leave Mamelodi in a no better state than its current condition.

Relating the flexibility and non-hierarchical nature of the grid to what Francis D. K. Ching believed with regards to the principles of order, he remarks: “Nothing but confusion can result when order is considered a quality that can equally well be accepted or abandoned, something that can be forgone and replaced by something else. Order must be understood as indispensable to the functioning of an organized system...” (1996: 319).

He elaborates (1996: 338) that for a form or space to be articulated as being important or significant to an organisation, it must be made uniquely visible. Visual emphasis can be achieved by endowing a form or shape with (Figure: 145-147):

- Exceptional size: Form and space may dominate an architectural composition by being significantly different in size from all the other elements in the composition (Figure: 145).
- A unique shape: A discernible contrast in shape is critical, whether the differentiation is based on a change in geometry or regularity (Figure: 146).
- A strategic location: This can be achieved by either termination of a linear sequence or axial organisation, the centrepiece of a symmetrical organisation, the focus of a centralised or radial organisation or by being offset above, below or in the foreground of a composition (Figure: 147).

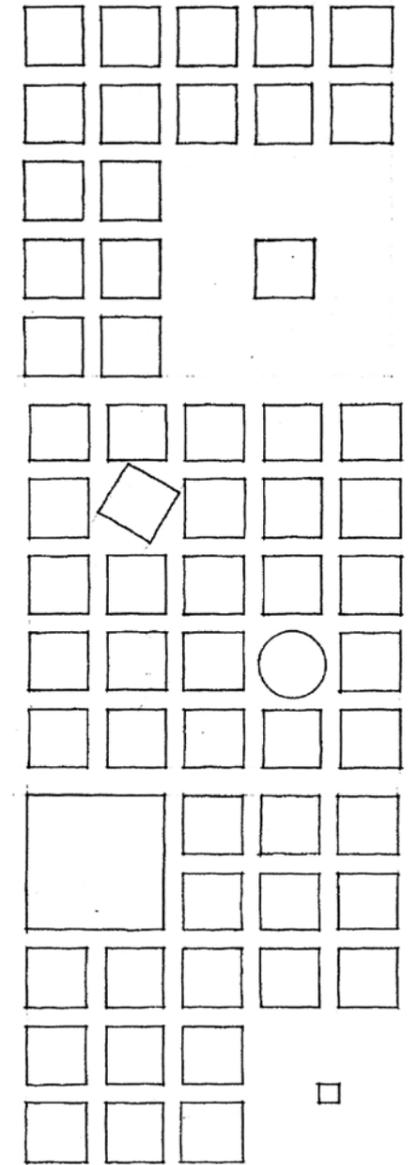


Figure 145-147: Ching's diagram for spatial hierarchy (1996: 339)



Figure 148: Master Plan; Applying the concept of hierarchy through shape in an attempt to emphasise Eerste Fabrieke as an important configuration



Figure 149: Spatial Structure; The primary network of streets and squares: A unifying structure that contains the active public life of the city

Theory of linkages

This theory, as stated by Trancik (1986: 73), is derived from lines connecting one element to another. He observes that these links are formed by streets, pedestrian ways, linear open spaces, or other linking elements physically linking parts of the city. Emphasis is placed on the circulation rather than on a static space.

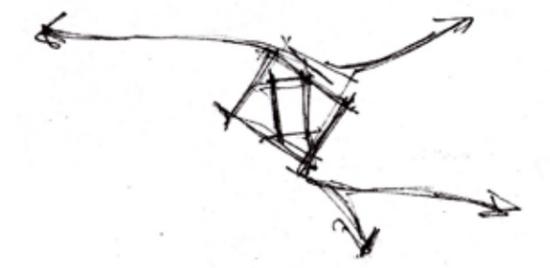


Figure 150: The primary network connectivity



Figure 151: Greenery; Differentiating between hard and soft spaces, and public and productive green areas



Figure 152: Land use; Allocating programme and function so as to optimise the efficiency in a general network

The place theory

The place theory, in addition to the linkage theory, adds the components of human needs and accords structure to the solids and voids of urban form (Trancik 1986: 97). It organises the links between parts, and responds to human needs and elements of the particular environment. Applied to the culture of Mamelodi, human needs refers to basic human needs in terms of the availability of fresh produce and general safety: allowing for flexibility and compensating for the formation of public space as demands increase and decrease, yet ensuring the provision of elements which would simplify and possibly accommodate such changes. Ideally, one would design an environment which is adaptable while maintaining a certain amount of control over the quality and efficiency of public space.

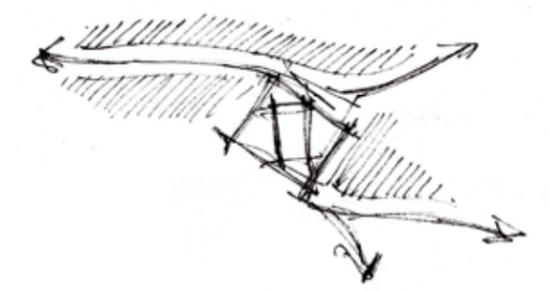


Figure 153: Self-development as infill of residual space

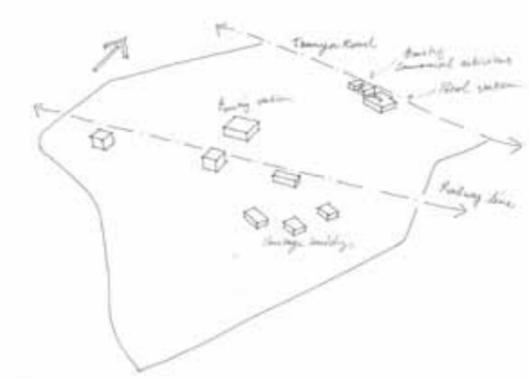


Figure 154: Historic fabric

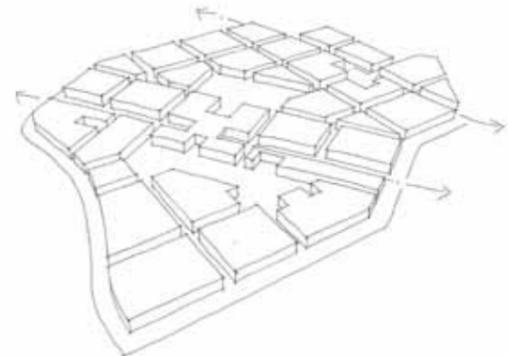


Figure 155: Solid and Void relation



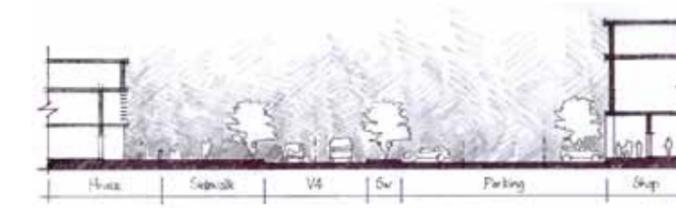
Figure 156: Incorporation

Urban voids

Definable “urban voids” are just as important as infill and the creation of urban mass (Trancik 1986: 103). Trancik describes these voids as needing to be carved out of and pushed into the solids to provide functional and visual continuities, thereby creating an environment where space, or void, and mass are integrated without just ‘framing’ exterior space. According to Trancik, there are three primary types of void (Trancik 1986: 103);

- The entry foyer: A space that establishes an important transition
- The inner block void: An enclosed space for leisure

Within a rural environment where the difference between positive and negative space is hybridised, the street is probably the most important form of void and method of connectivity. According to Trancik, the street has lost most of its social function and physical quality. It needs to be a space that represents an extension of function or enclosure, a place for discourse and a connecting spine, linking a “systematic hierarchy of order from locally controlled space to city wide routes for communication”.



The street as public space

Indian merchants introduced bazaar streets, or market streets, to Swahili towns where they remain functional to this day, and have evolved into major circulation routes in Zanzibar, Lamu and Old Mombasa (Figure: 157). Although intended to discourage traffic, adequate provision for cars and parking is made.

Over time, the African market has evolved as an identifiable typology and organiser of urban space. It is a distinct pattern with buildings facing a ‘communication route’ to benefit from passing trade. In some rural villages, the width of these streets is often 30 meters or more.

As can be observed in Mamelodi, the street serves a social and public function beyond that of vehicular requirements (Figure: 158-163). It often becomes a combination of pedestrian and vehicular activities that render it a positive space for gatherings and trade, allowing the provision of merchandise and services that commuters require, such as fresh produce, bread, sit-down and take-way meals, hair styling, shoe repairs, bars for after-hours socialising, and so forth. Pedestrian permeability is achieved as well as affective access to local public transport systems. It normally connects two points with significant value linking to train stations, bus stops and minibus taxi stands.

Through the provision of a minibus drop-off point along Tsamya Road (Figure: 168), connected to the existing filling station and serving commuters travelling in an east-west direction or to Eerste Fabrieke Train Station, one can incorporate such a trader’s route linking the two public transport nodes. Thus it needs to have the “flexibility to accommodate the varied activities of the traditional street” (Trancik 1986: 39).

Figure 153: Self-development as infill of residual space

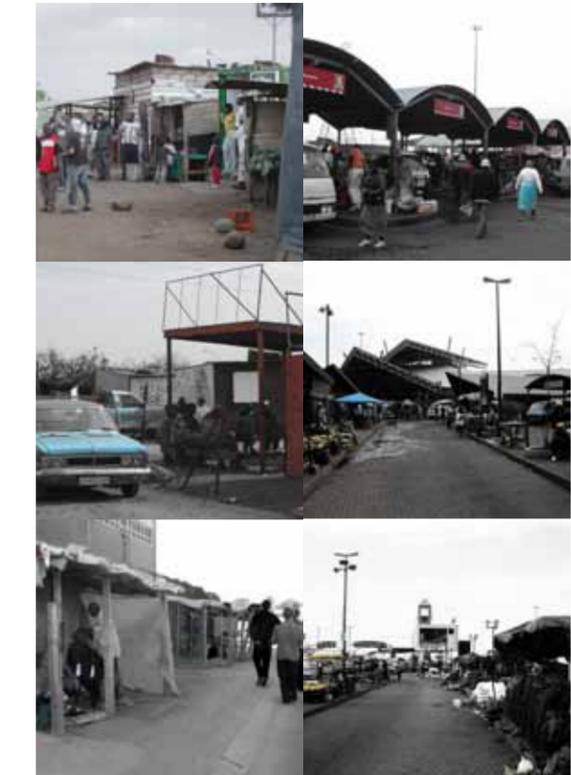


Figure 158-163: Street as an integration of activities and public space



Figure 164: Diagrammatic representation of the street as a public space

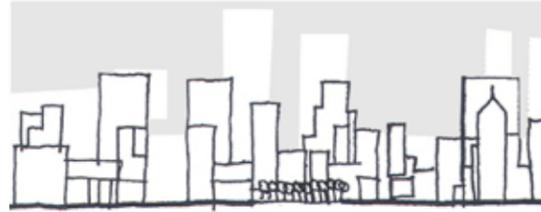


Figure 169-171: Sert, Soltan and von Moltke. New communities Project. The goal of this project was to create a compact environment based on intensive land use without the sprawl of the suburb or the inefficient planning of the core city. (Trancik 1986: 57)

What is a rural urban experience?

Perhaps, the Harvard study of 1968, led by a preeminent team of European architects including Joseph Lluís, Jerzy Soltan and Wilhelm von Moltke, described the perfect urban environment for an underdeveloped environment such as Mamelodi. They declared that it is not the high density city core, with its pockets of lost space, and political and social problems (Figure: 169), nor the low-density western typology of suburbia (Figure: 170), but a compact city open to all income groups (Figure: 171).

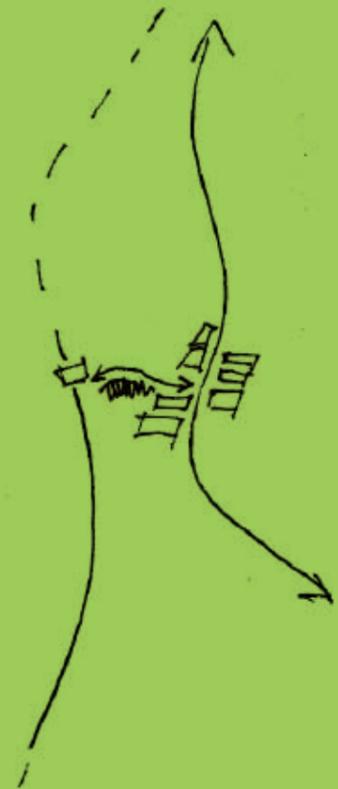
A city where the infrastructure of roads, utilities and open spaces would be coordinated and urbanity would be put into balance and harmony with the ecology of the site. Here, lost space would be eliminated and a composite city structure would provide positive urban space in a variety of formal and informal configurations. The city would become a place for learning, and residents would participate in any changes and control their own environment. All facilities would fall within walking distance or would be accessible by moving sidewalks or public transport (Trancik 1986: 57).

Conclusion

Creating a spirit in a new environment is essential, yet one of the designer's most difficult tasks. In the development of the twentieth-century outdoor space we have been optimistically searching for a new spirit of the modern age, yet have failed to realise that it is not the spirit that is lacking, but the physical requirements necessary to adapt to their environment.

Robert Venturi (Trancik 1986: 61) mentioned that the problem is not the lack of open spaces in the city, but its openness. One should realise that rural communities such as Mamelodi function according to their own culture and that one should not try to introduce a new or modern way of living, but rather enhance that which is existent, known and familiar whilst designing toward a vision for the future.





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

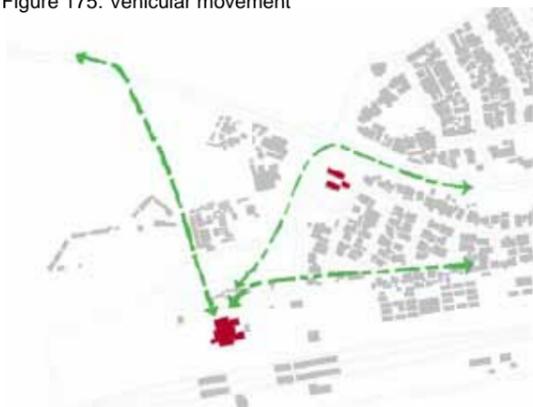


Figure 176: Pedestrian movement

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 conducive 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



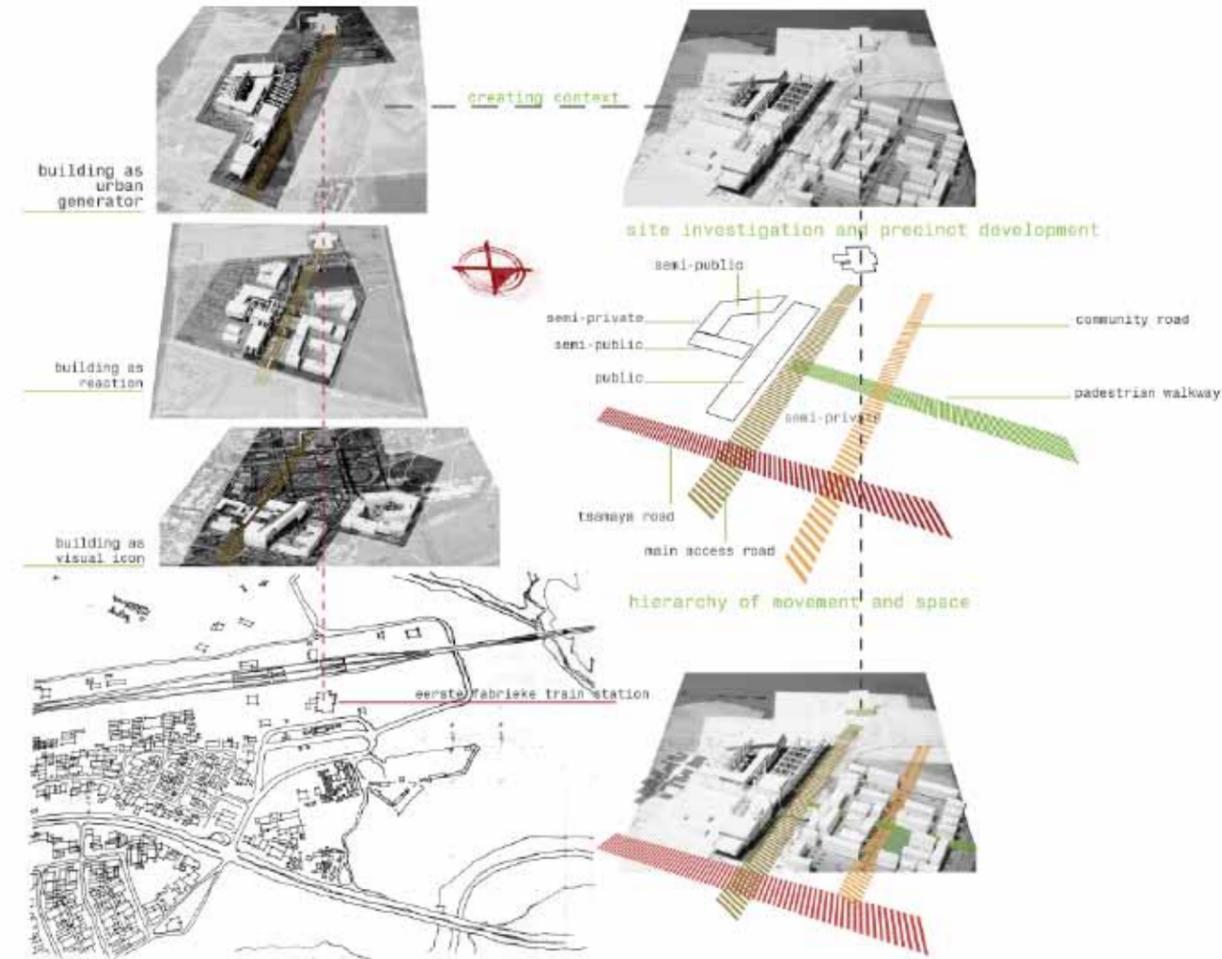
Figure 178: Massing investigation



Figure 179: Refinement of massing

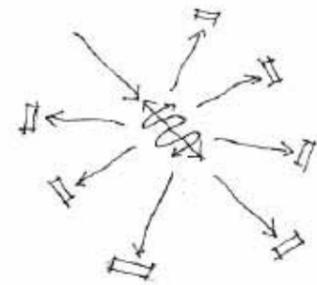
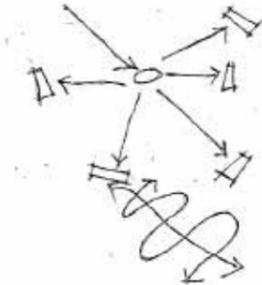
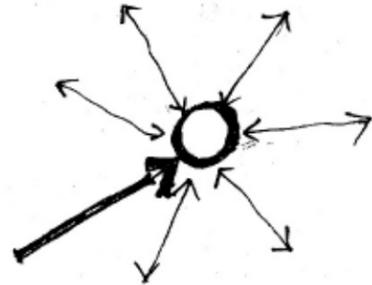
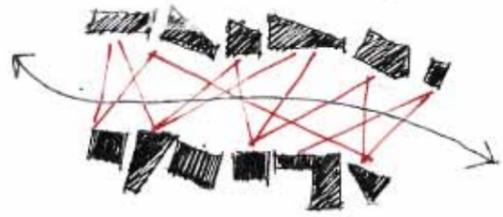


Figure 180: Proposed block plan as a mixed-use development



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

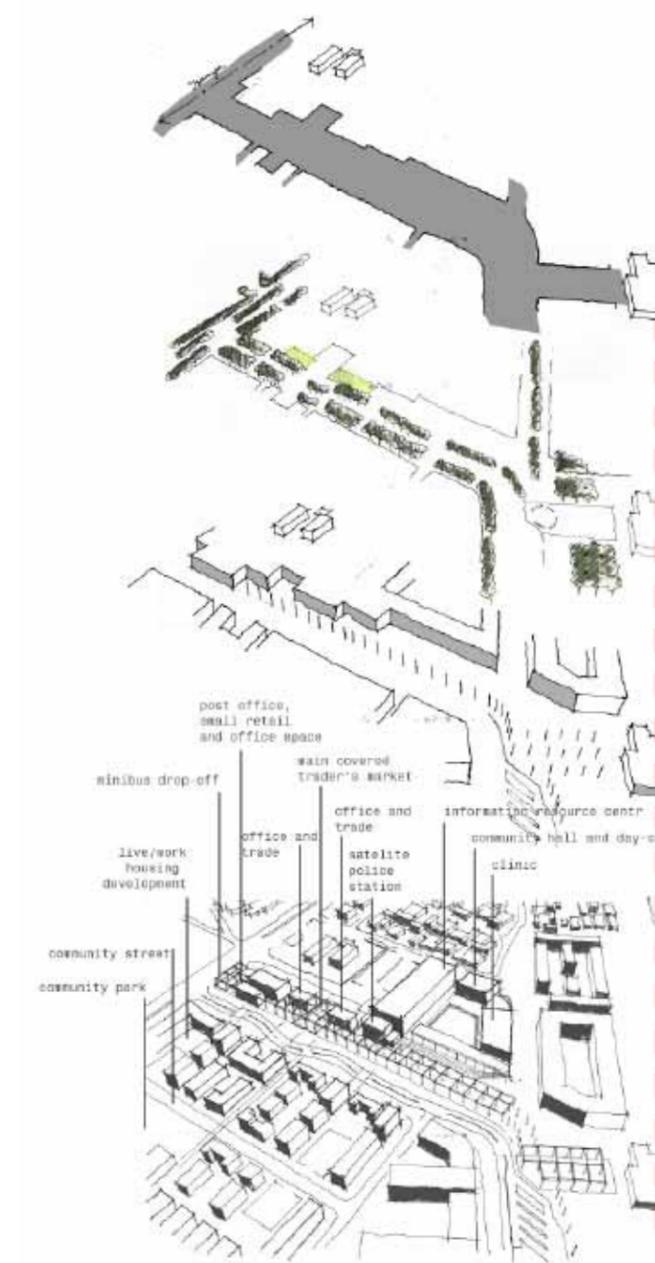
The building aims to act as a catalyst whilst weaving together a series of functions, programmes and a variety of different types of people in order to establish a connection between solid and void, formal and informal, social and academic, building and landscape with the hope of engaging the community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

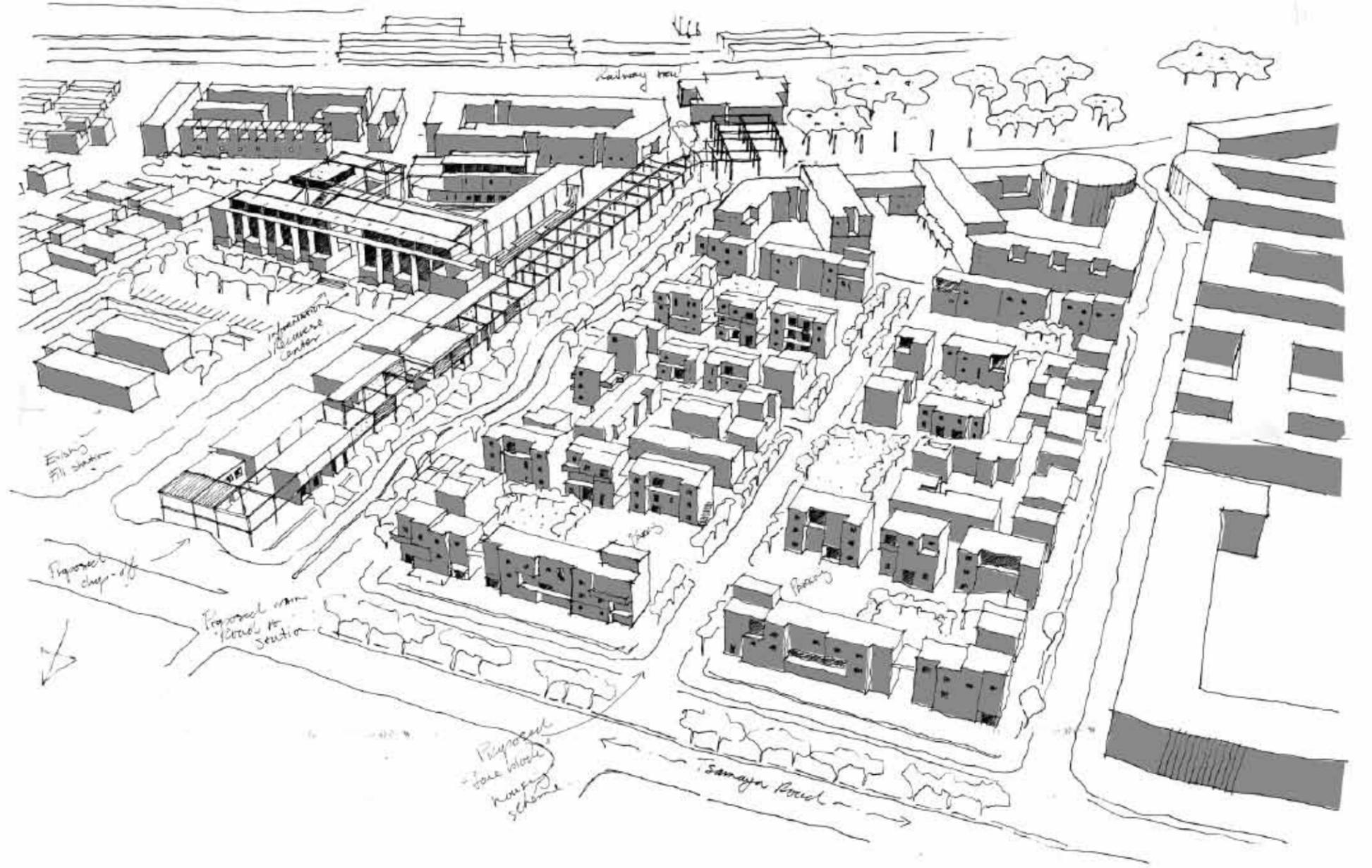
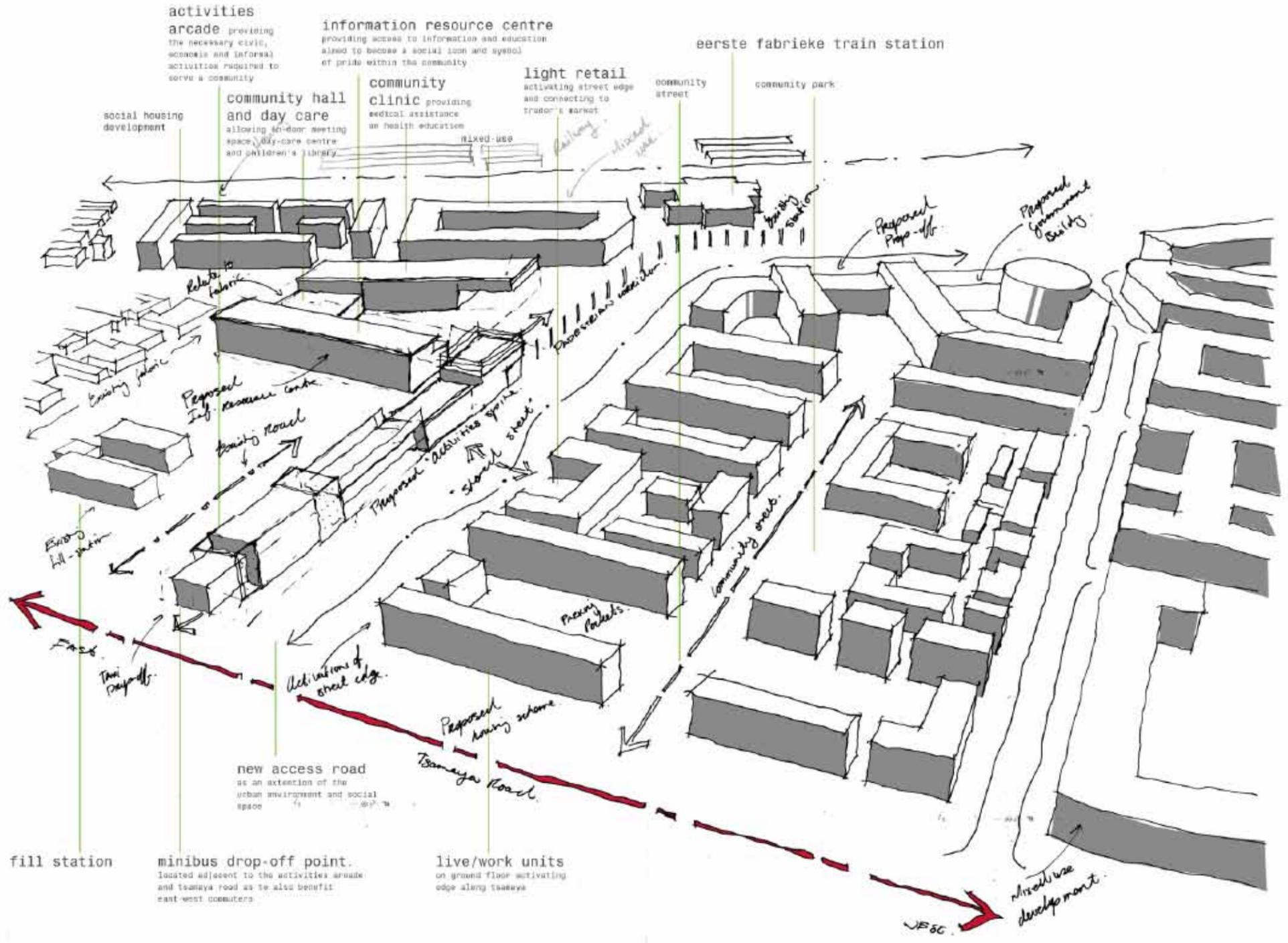
This is supported by sets of secondary spaces, shaping a series of paths, corridors and courtyards while providing a hierarchy of social spaces from public to semi-private.

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_ 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.



Page 097:Figure 192: Initial plan of activities arcade

Figure 193: Initial elevation of activities arcade

Figure 194: Extending an un-programed plan

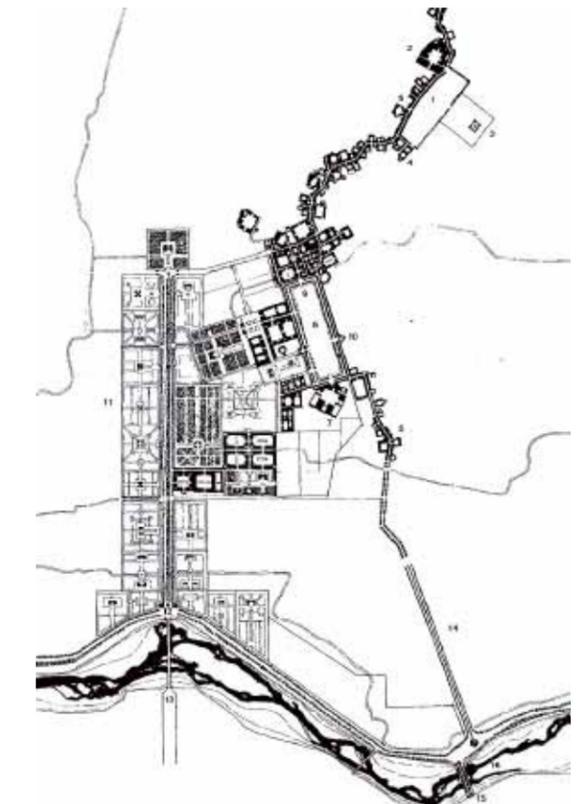
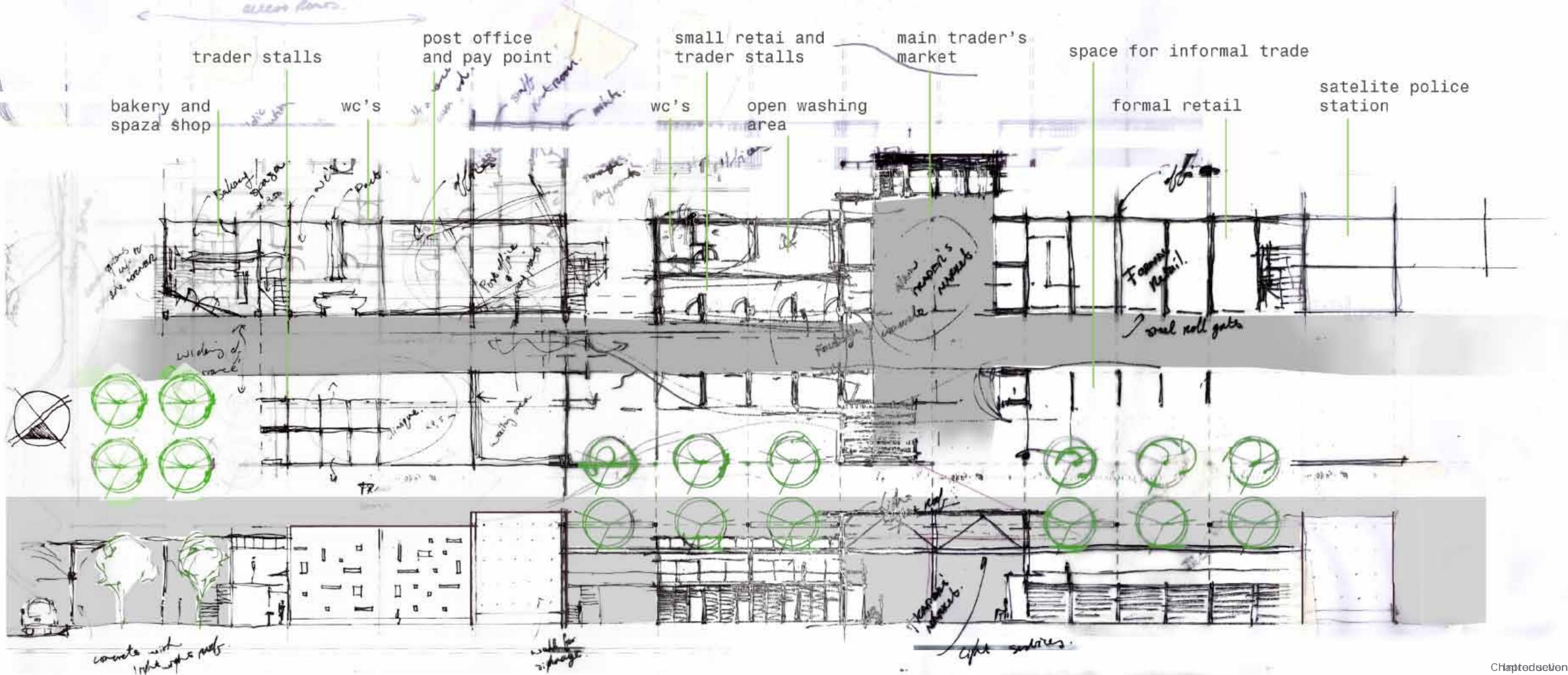


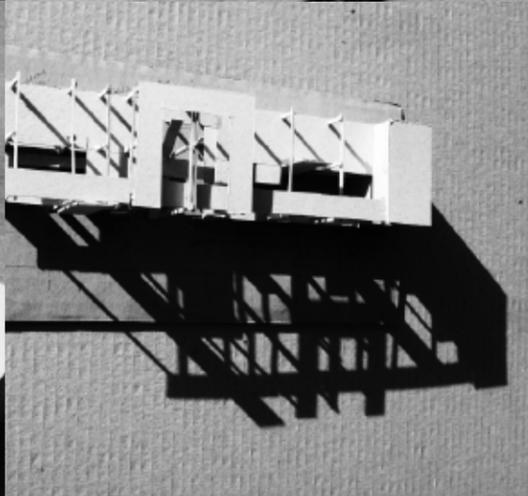
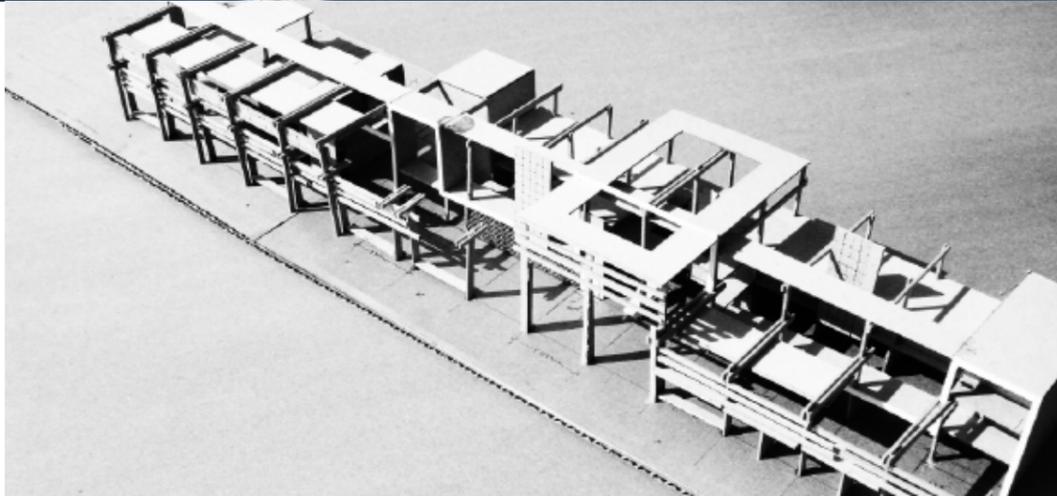
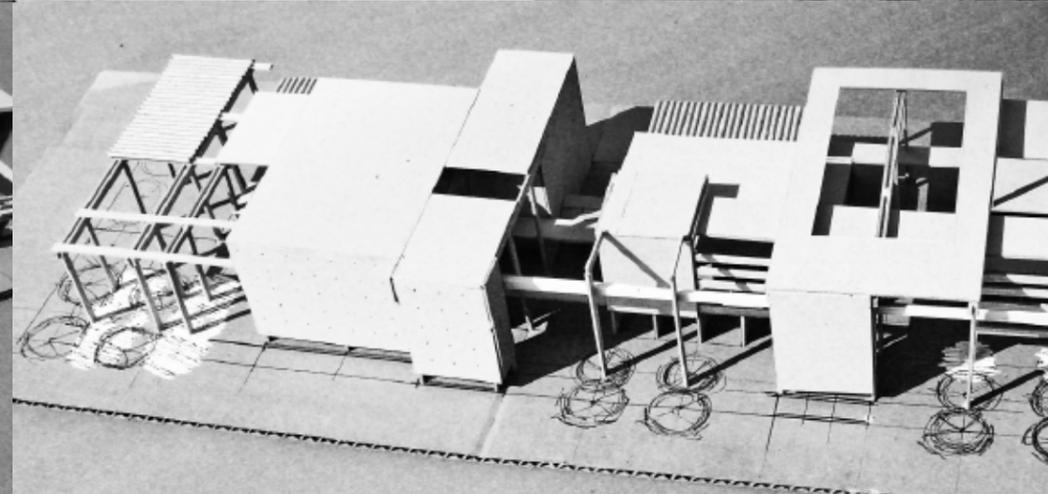
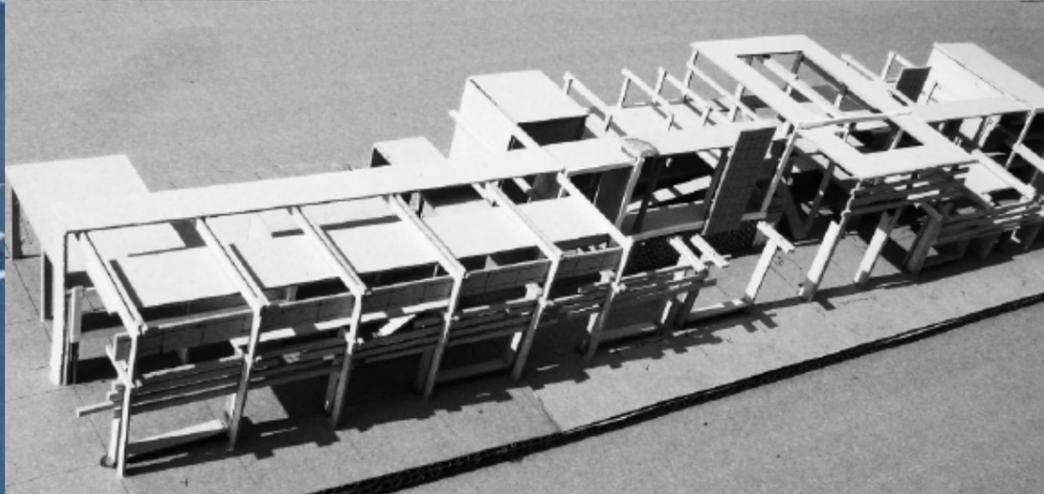
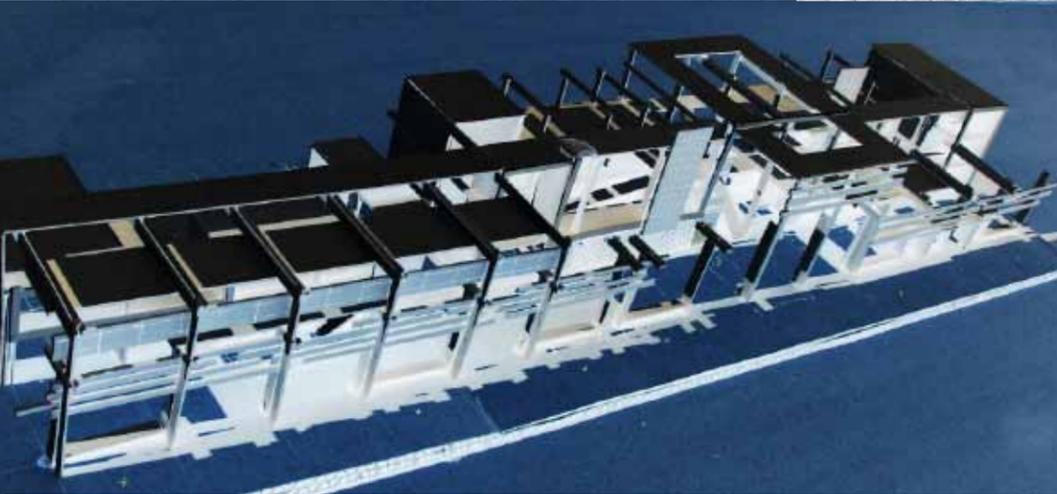
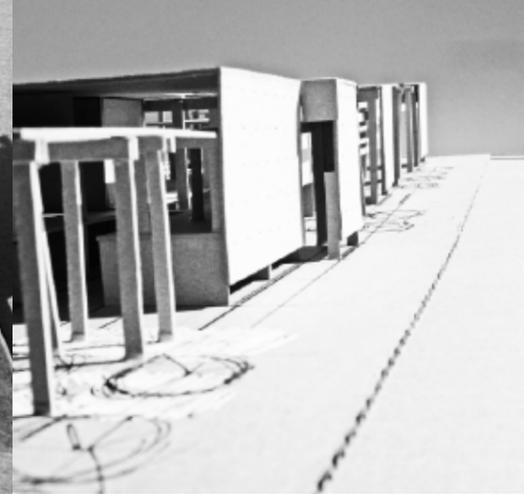
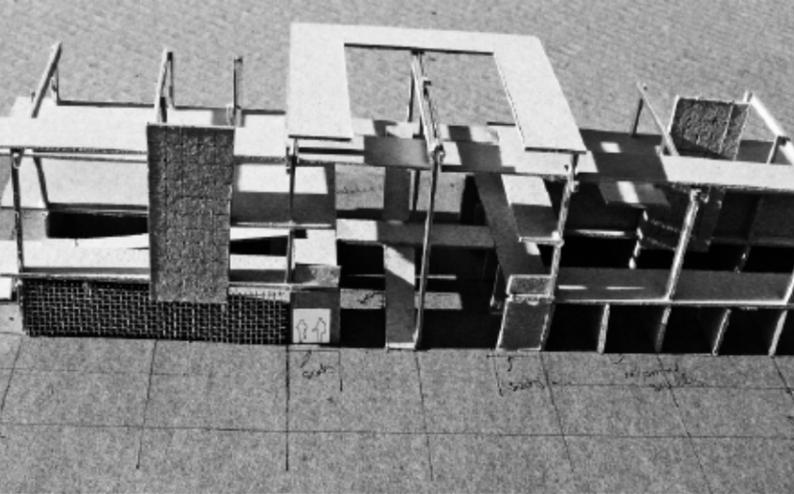
Figure 195: Isfahan, Iran. The street forms a strong spine for the co-existence of activities



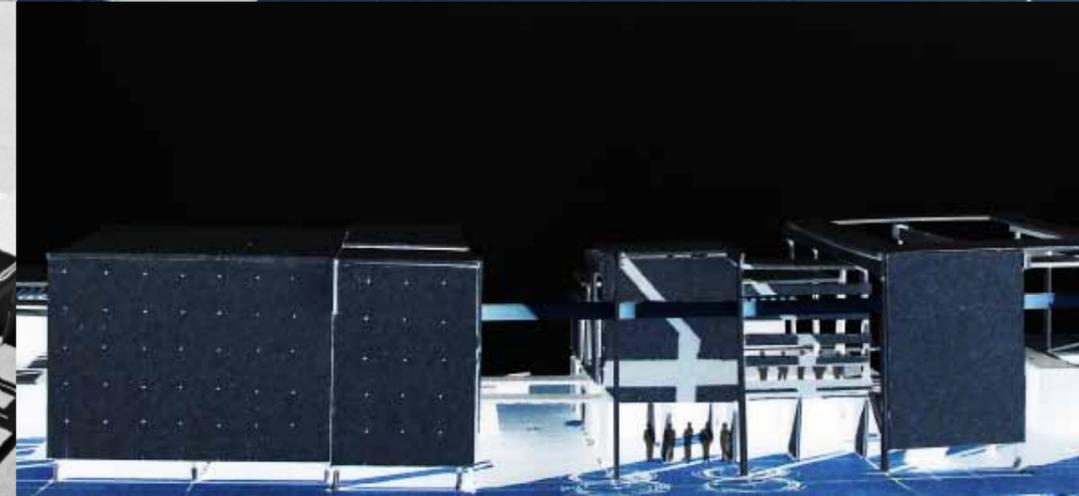
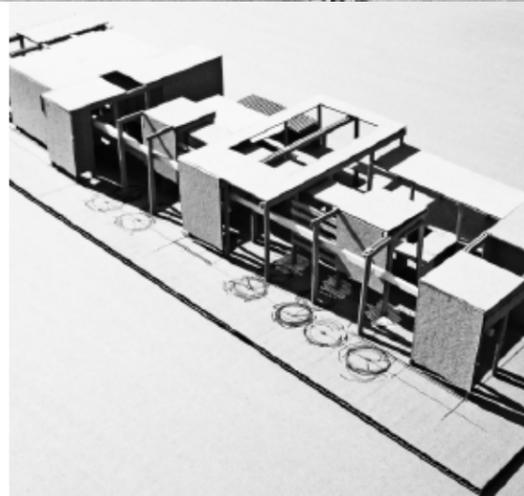
Page 101: Figure 197-203: Spatial exploration of prototype one

Page 102: Figure 204-211: Spatial exploration of prototype two

Page 103: Figure 212-219: Spatial exploration of prototype three



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| 200 | | 201 | | 208 | | 209 | |
| 202 | | 203 | | 210 | 211 | | |



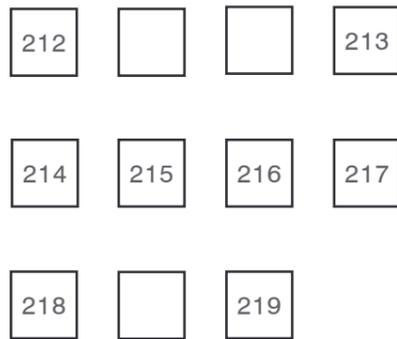
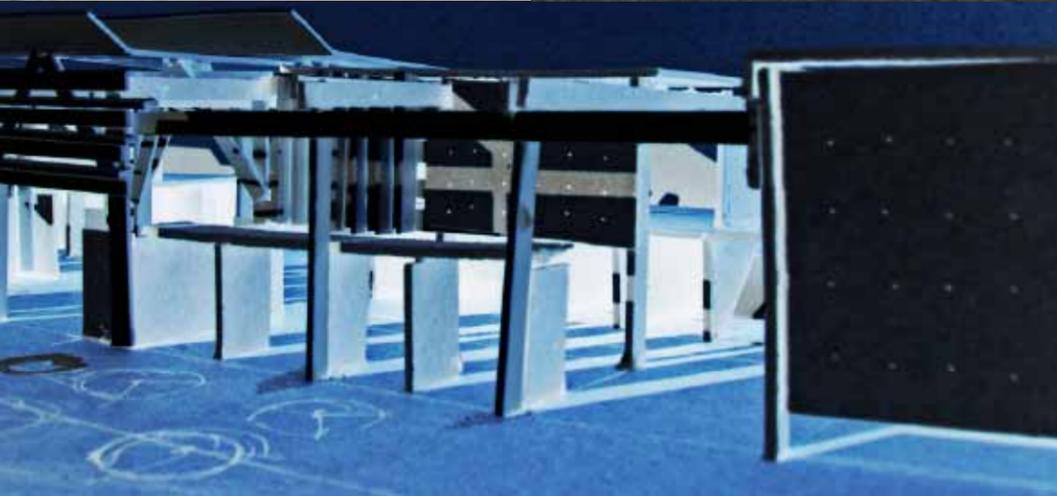
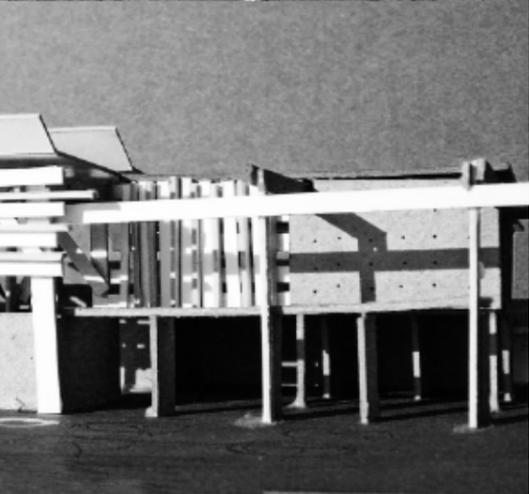


Figure 220: Intervention as permeable and extension of the street

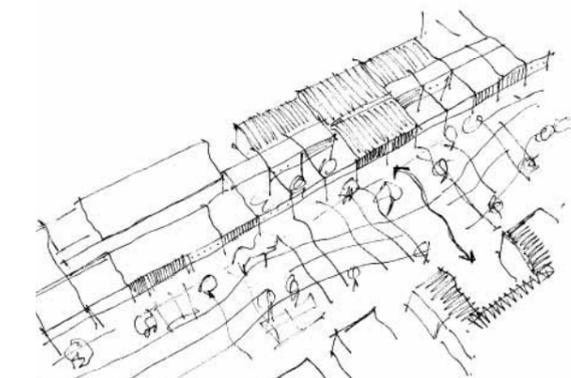


Figure 221: Activation of street edge

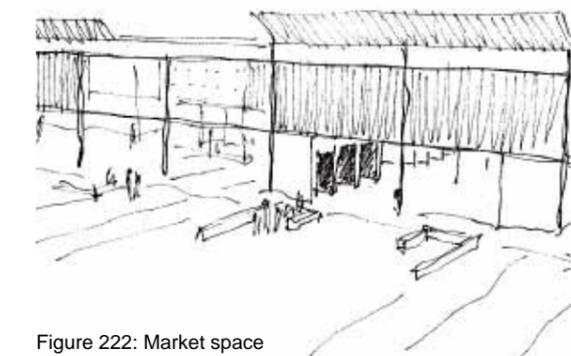


Figure 222: Market space

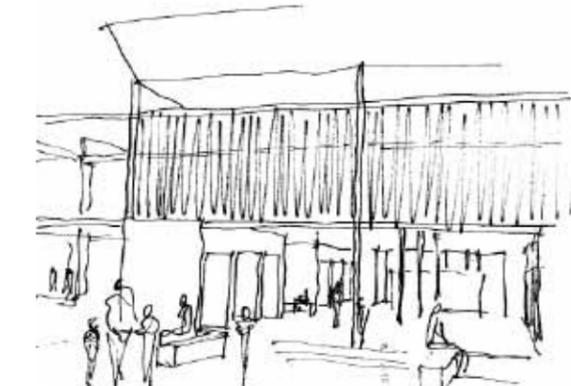


Figure 223: Market space

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.

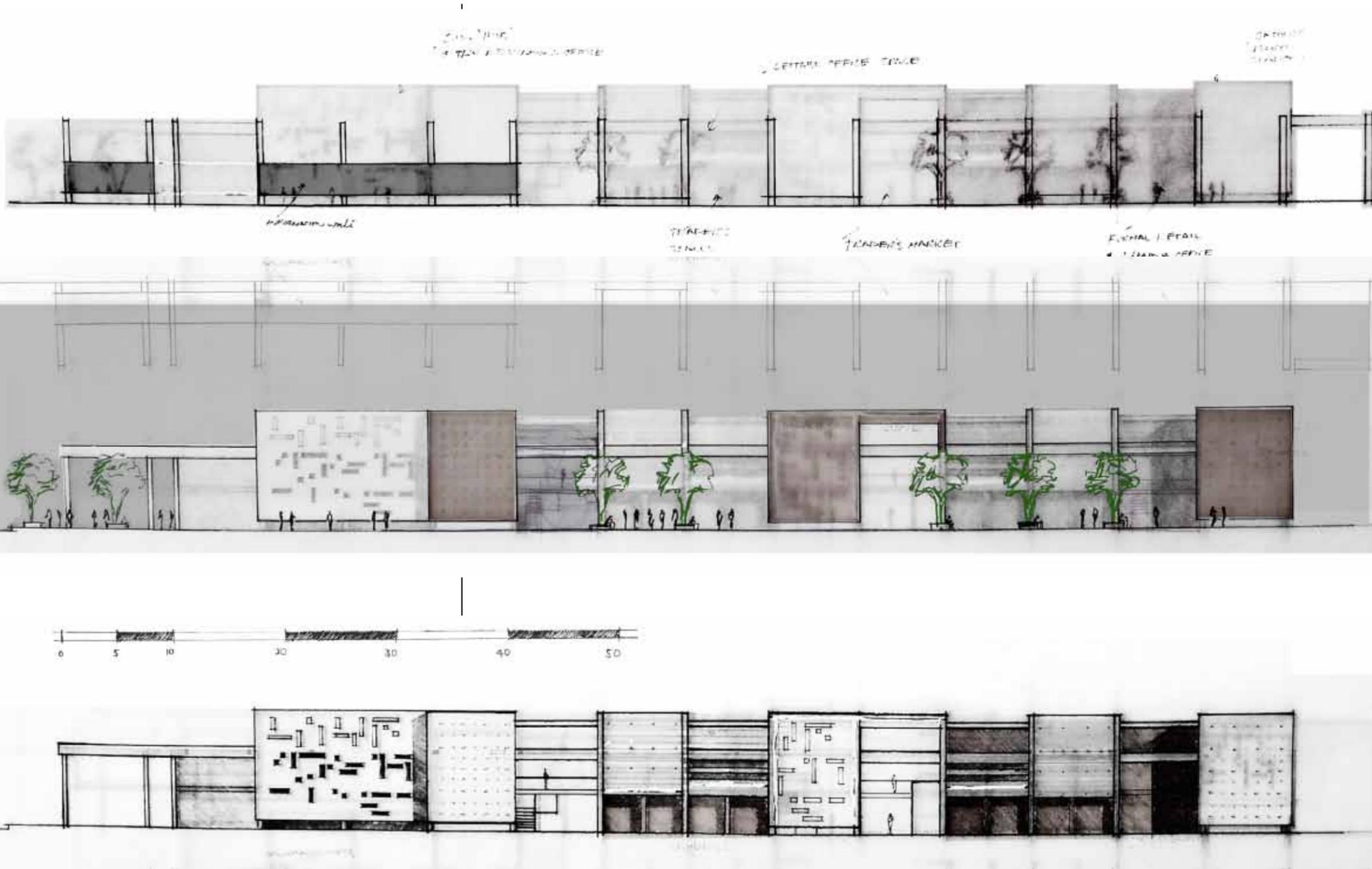


Figure 227: Functions

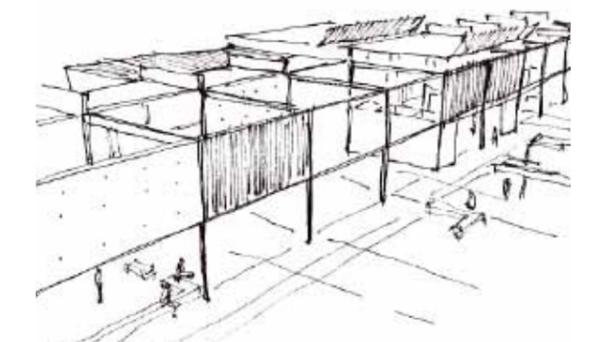


Figure 228: Extension toward the street

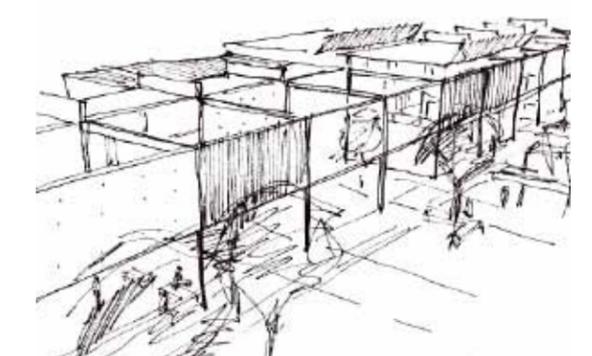


Figure 229: Softening the street edge

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.

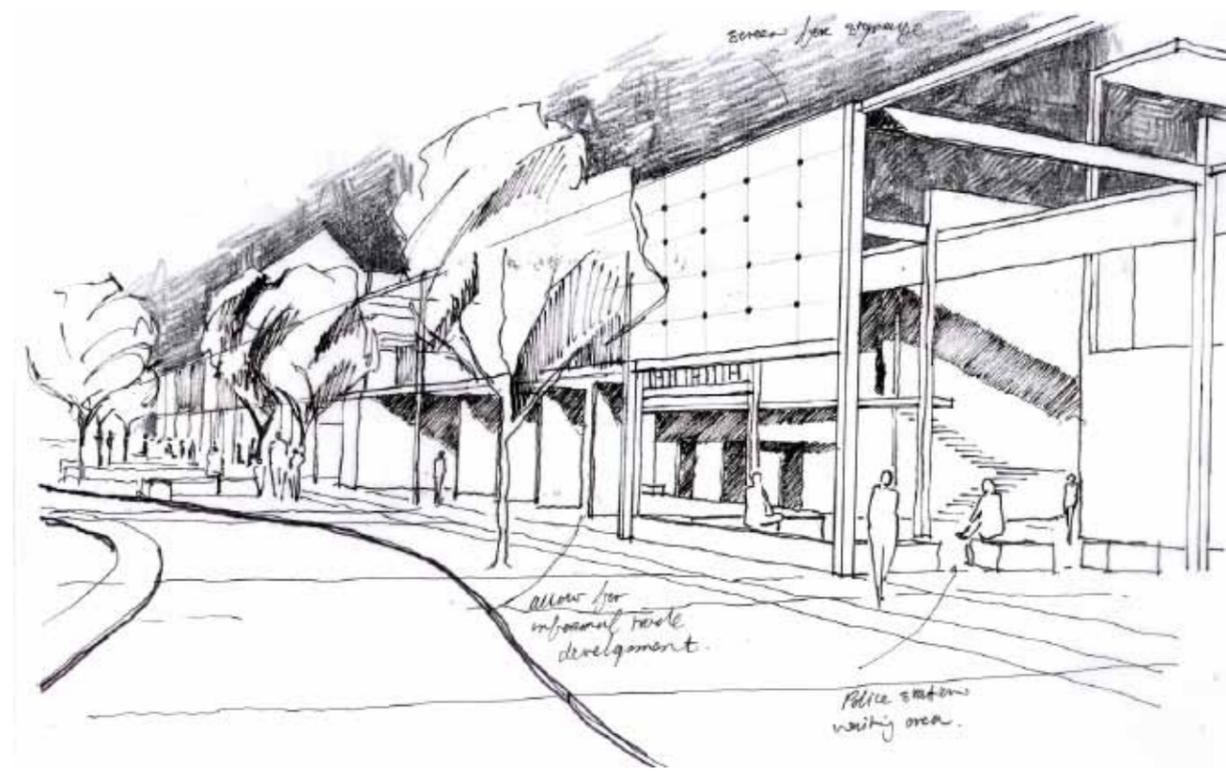
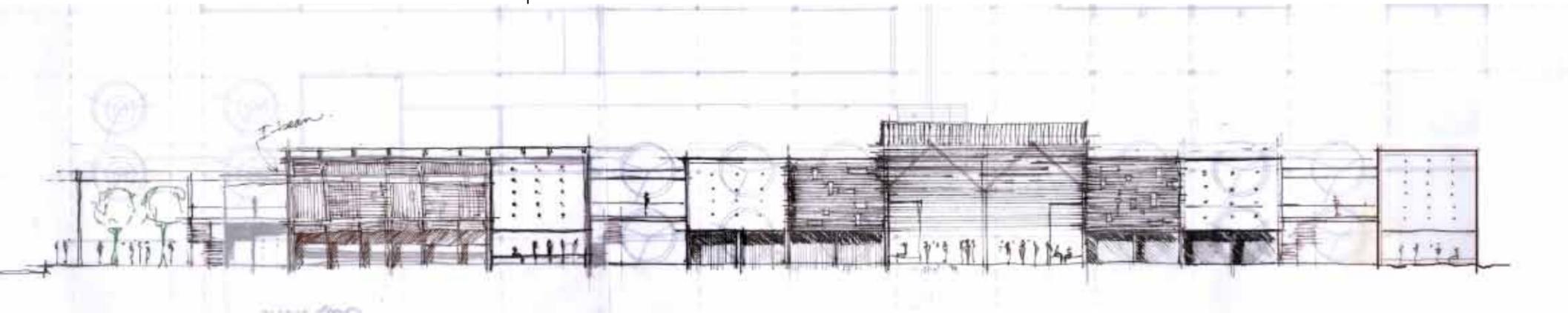
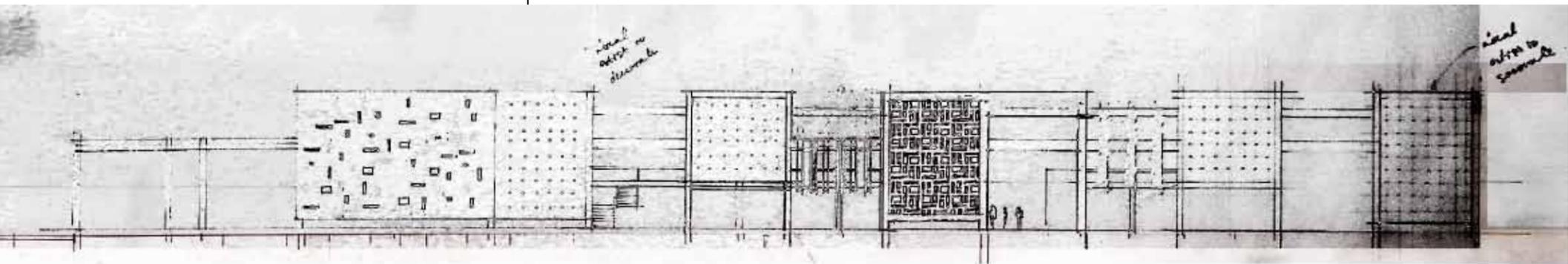
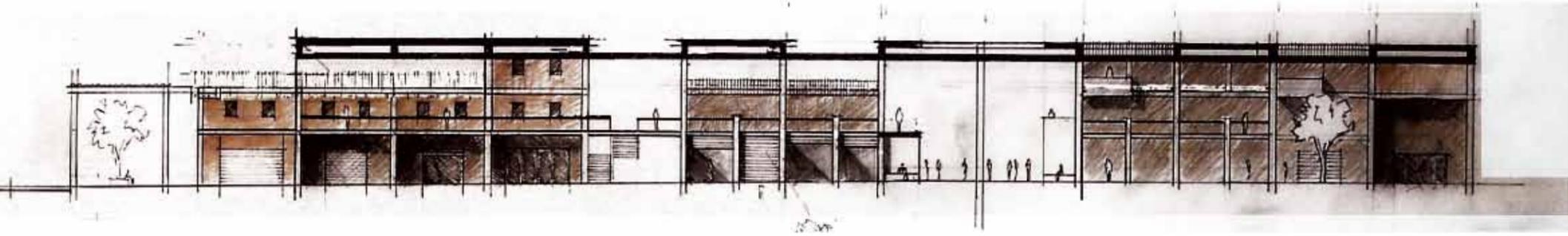


Figure 233: View from southern end

Figure 234: Open space and Post-office

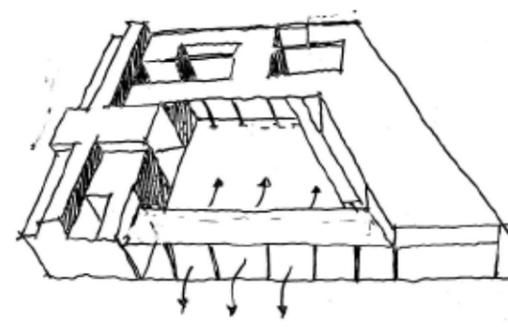
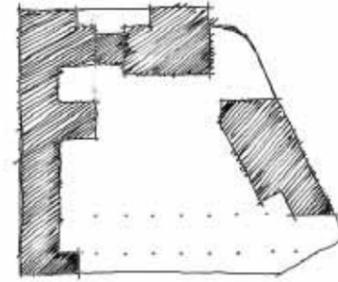
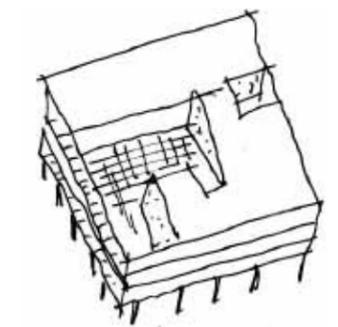
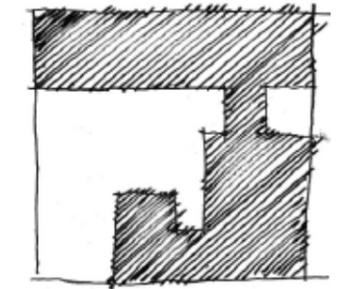


Figure 235: Arcade from minibus drop-off

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.



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.



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.

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| 247 | 247 | 248 | 248 |
| 250 | 251 | 252 | 253 |
| 254 | | 255 | |



Page 109:Figure 236-241: Building as representation within the community

Page 110:Figure 242-245: From top to bottom: 1928 – Villa Savoye- a positive architectural statement (Le Corbusier 1960: 82), Proposed Information and Resource Centre (author's drawings)

Page 111: Figure 246-255: Design process of site, form and scale

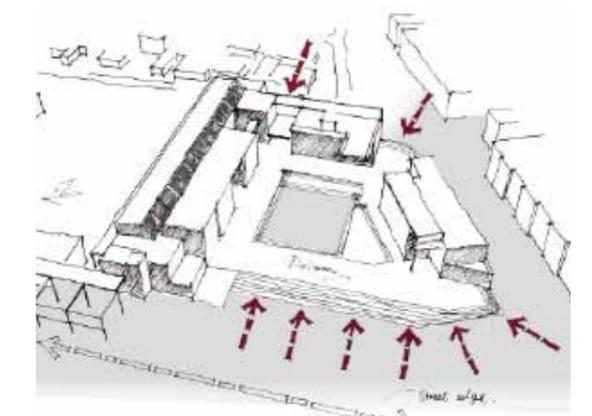


Figure 256: Centre allows for multiple entries into courtyard

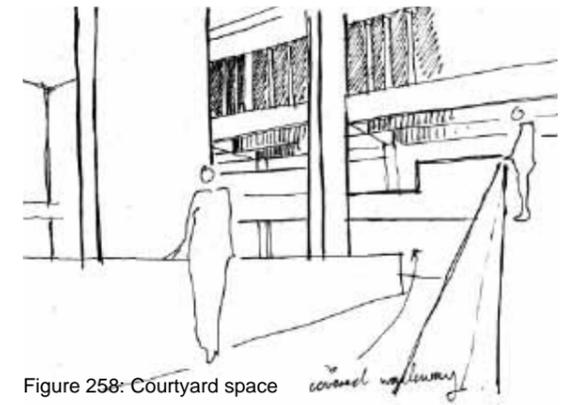
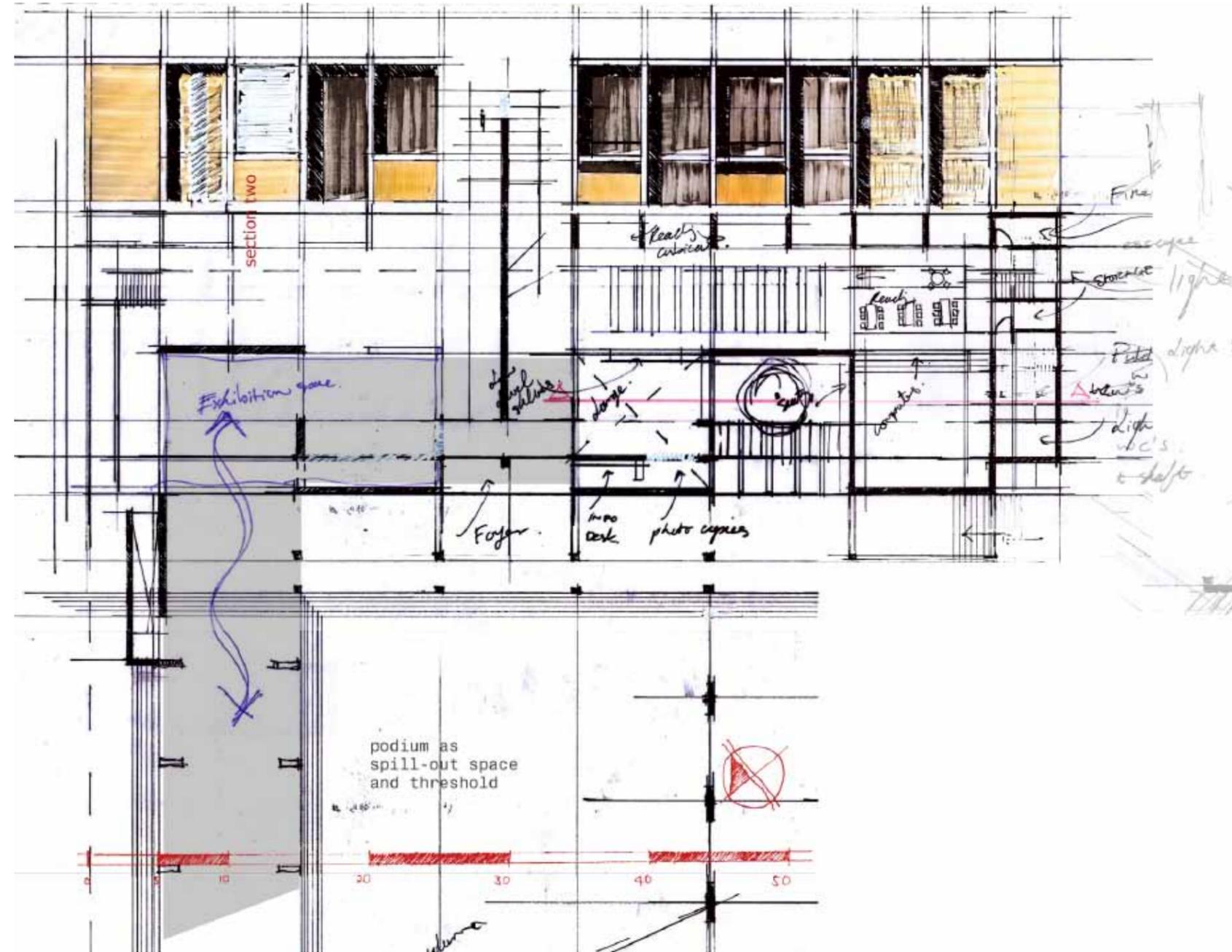


Figure 258: Courtyard space

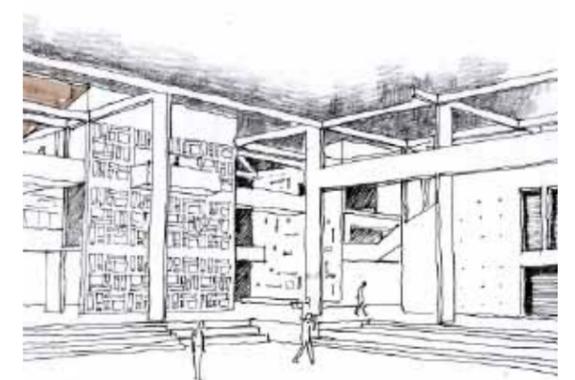


Figure 259: Courtyard space

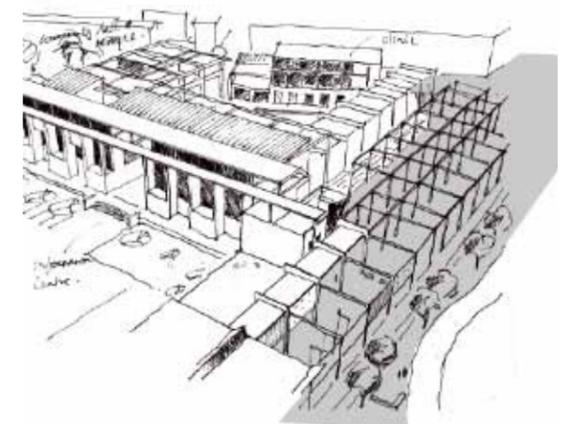
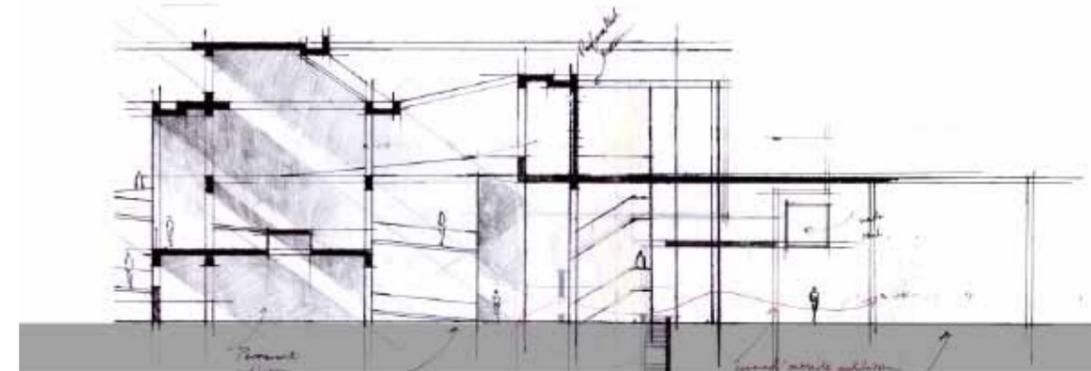
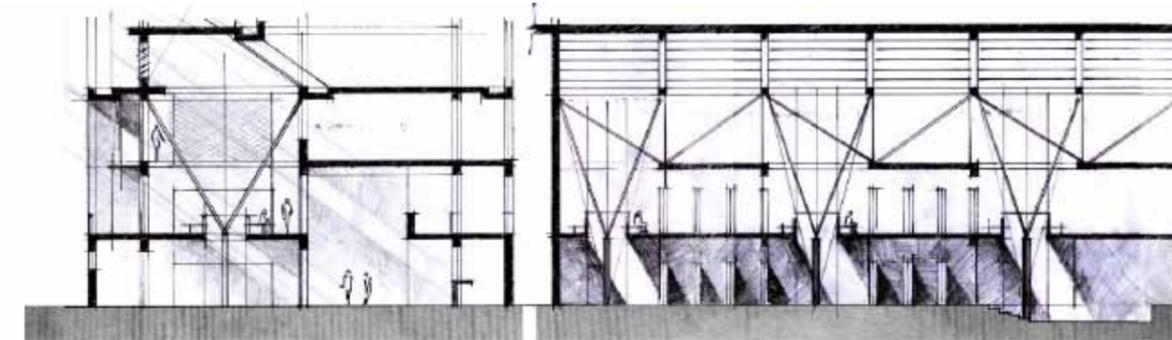
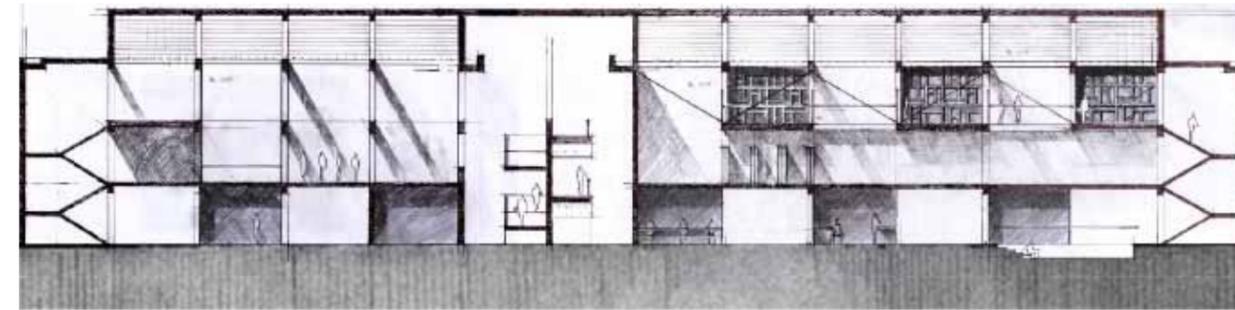
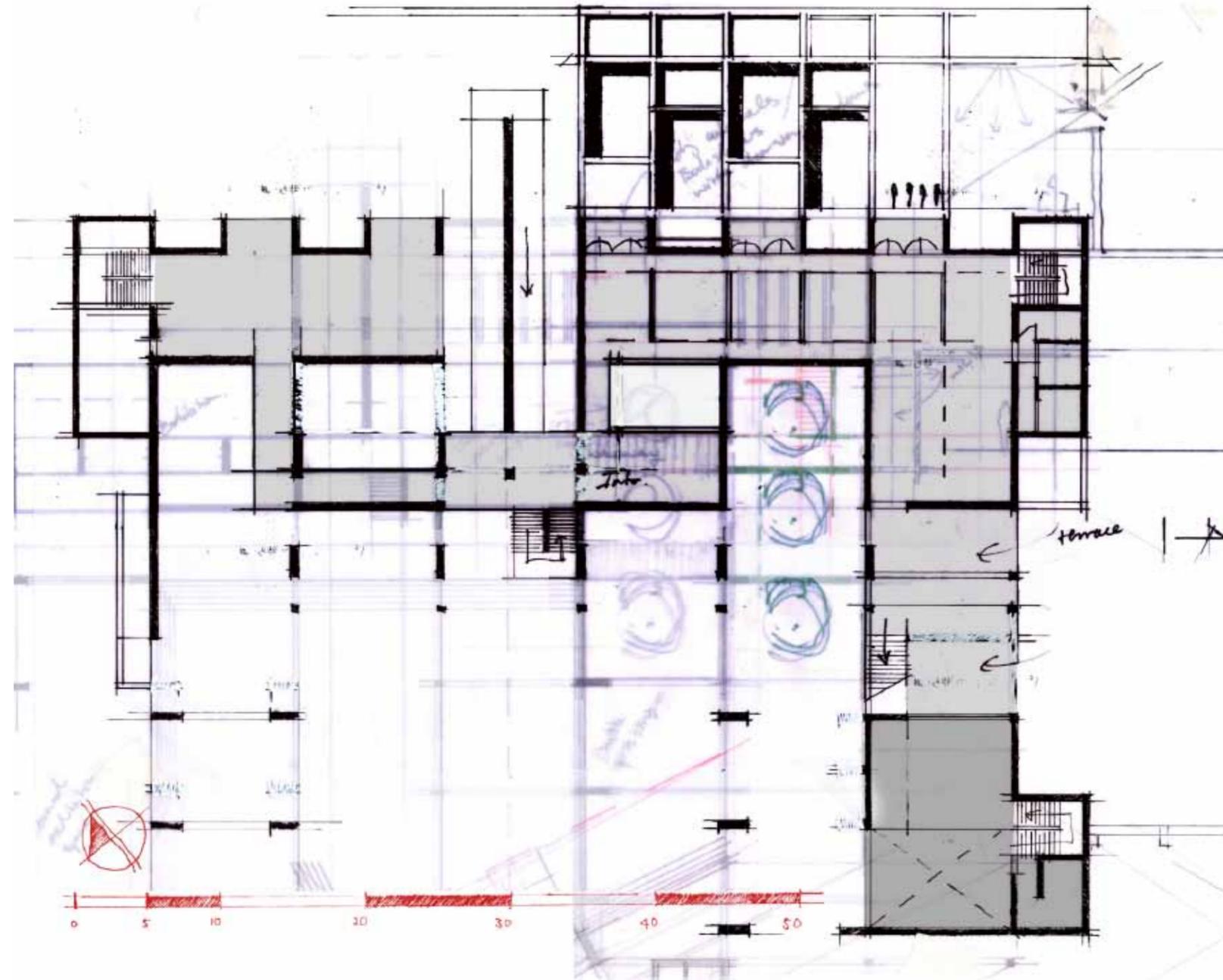


Figure 260: Connection to public realm

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 civiness 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).



Page 113: Figure 257: Ground floor expansion into public realm

Page 115: Figure 261: First floor investigation

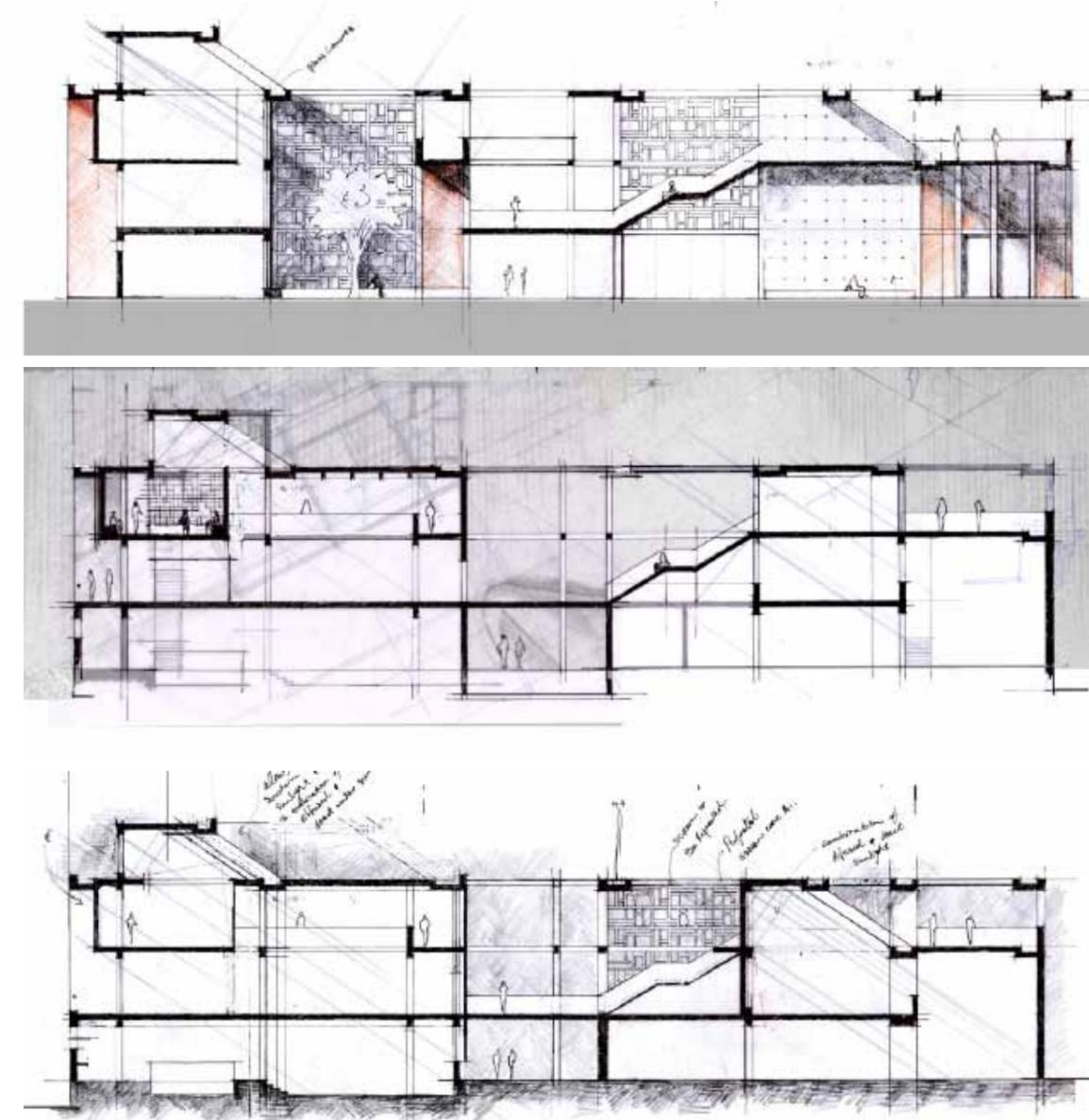
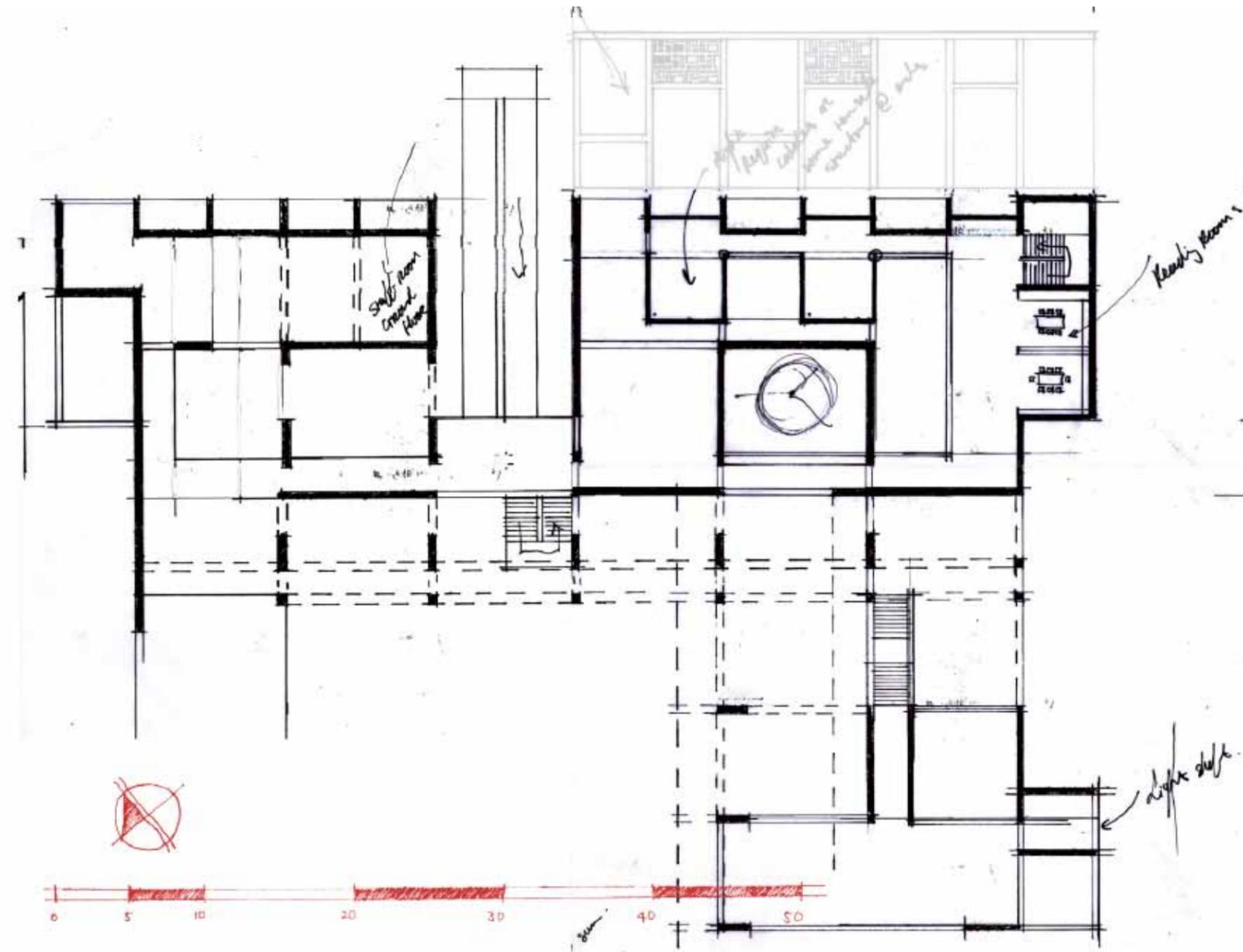
From left to right and from top to bottom:

Figure 262: Longitudinal section indicating volume

Figure 263: Section through exhibition space

Figure 264: Section through library

Figure 265: Revised section through exhibition space

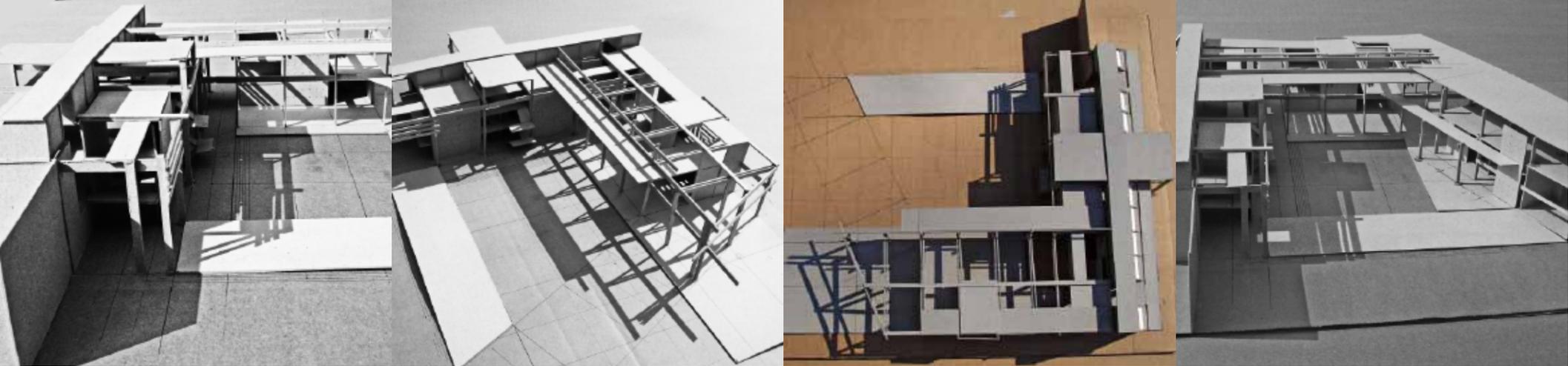


From top to bottom:

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



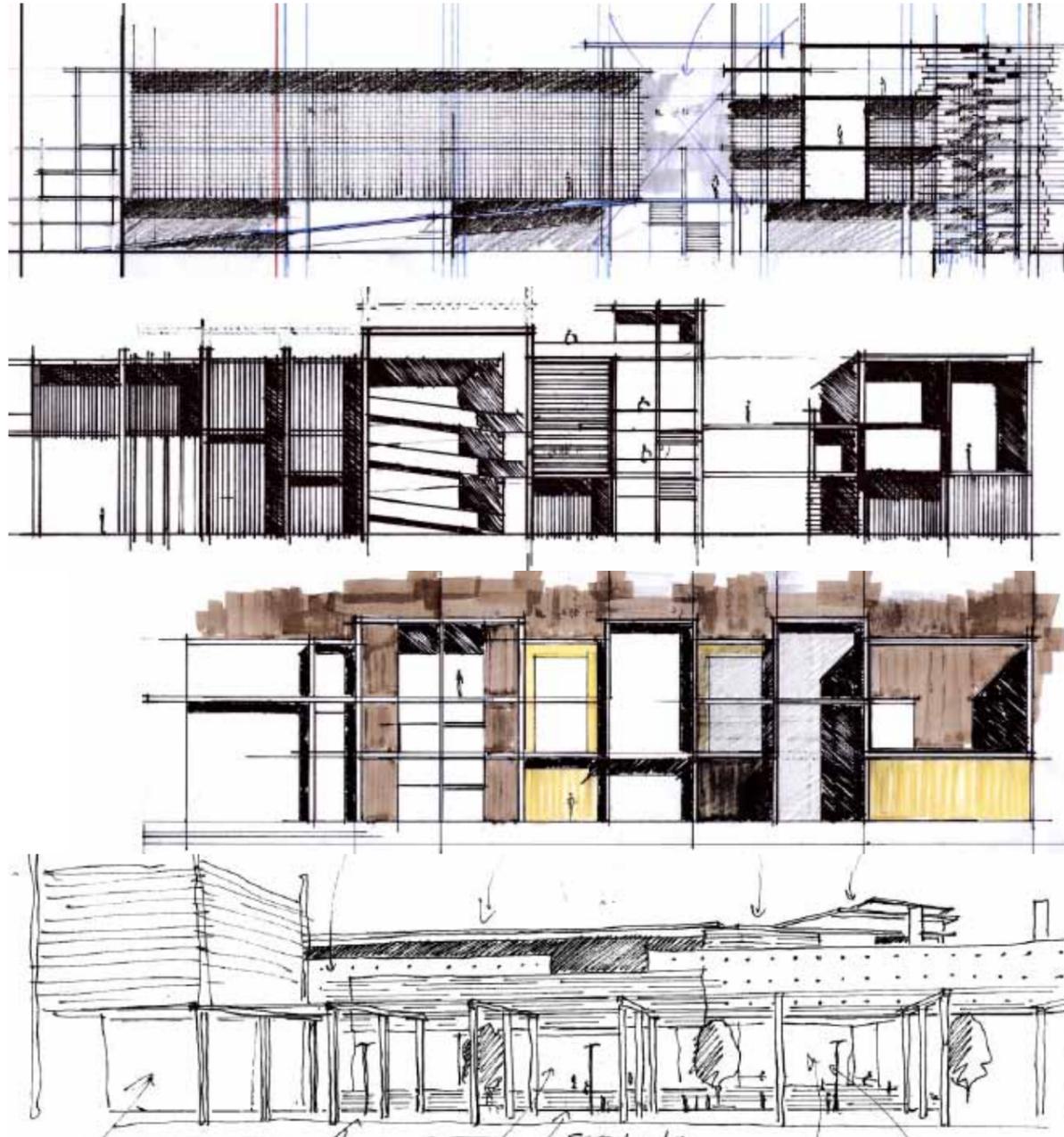
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| 270 | 271 | 272 | 273 | | | | |
| 274 | 275 | 276 | 277 | 281 | 282 | 283 | 284 |
| 278 | | 279 | 280 | 285 | 286 | | 287 |



Page 119 Figure 270-287: Prototype one and two: Spatial -120: exploration and fragmentation of the greater civic centre

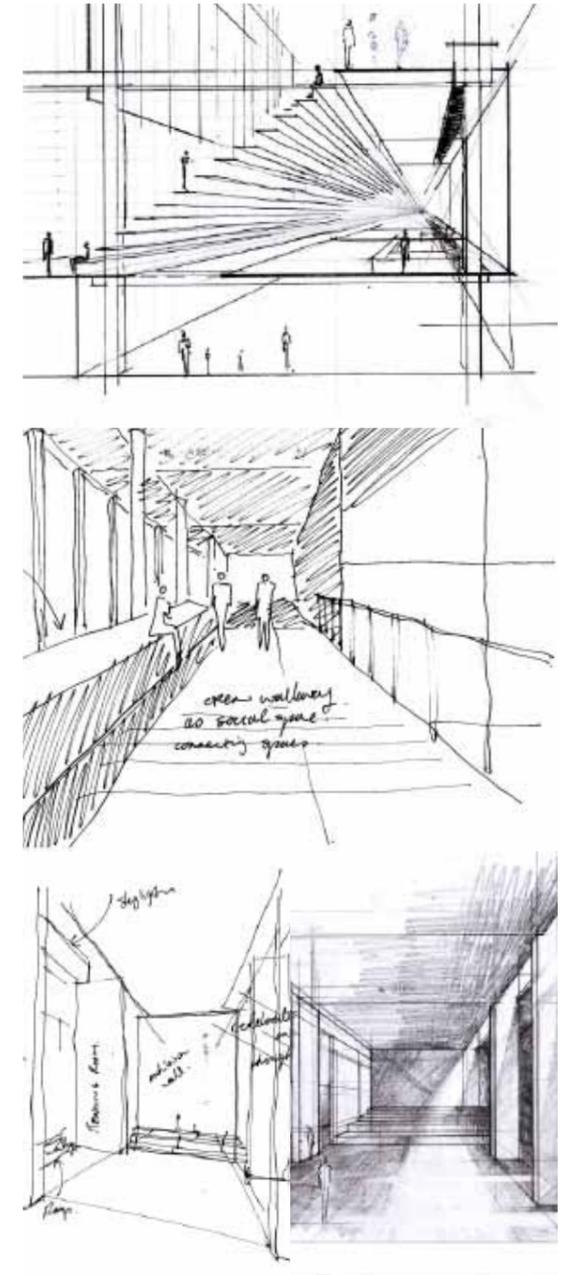
From top to bottom:

Figure 288-291: Facade investigation



Page 122: Figure 300-302: Internal space and natural light investigation

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

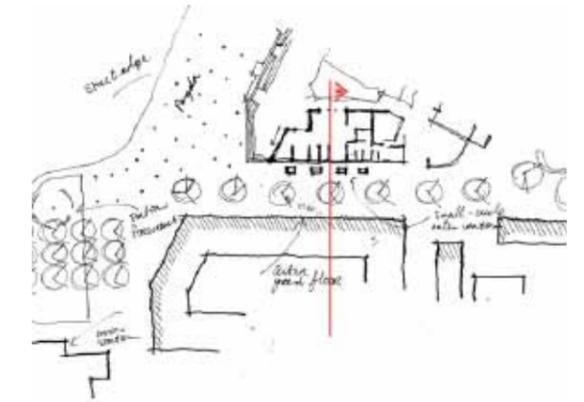
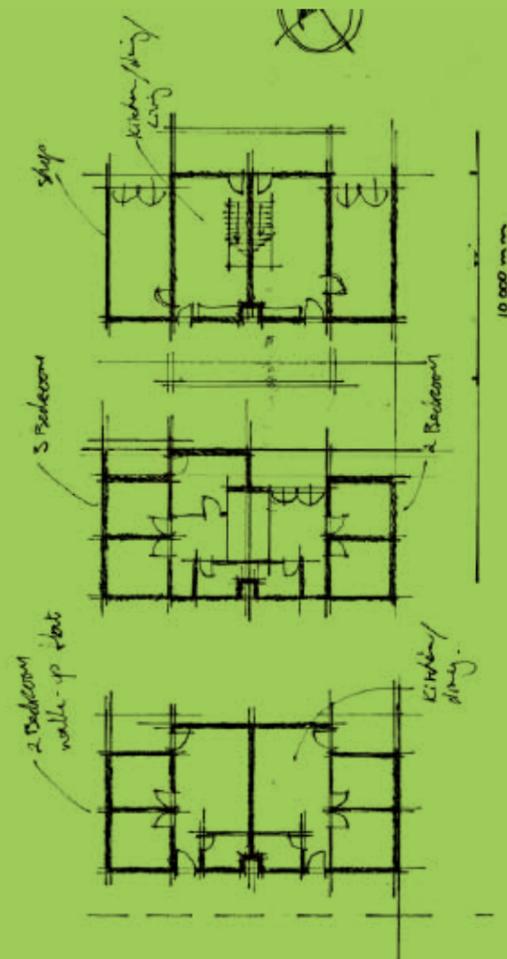


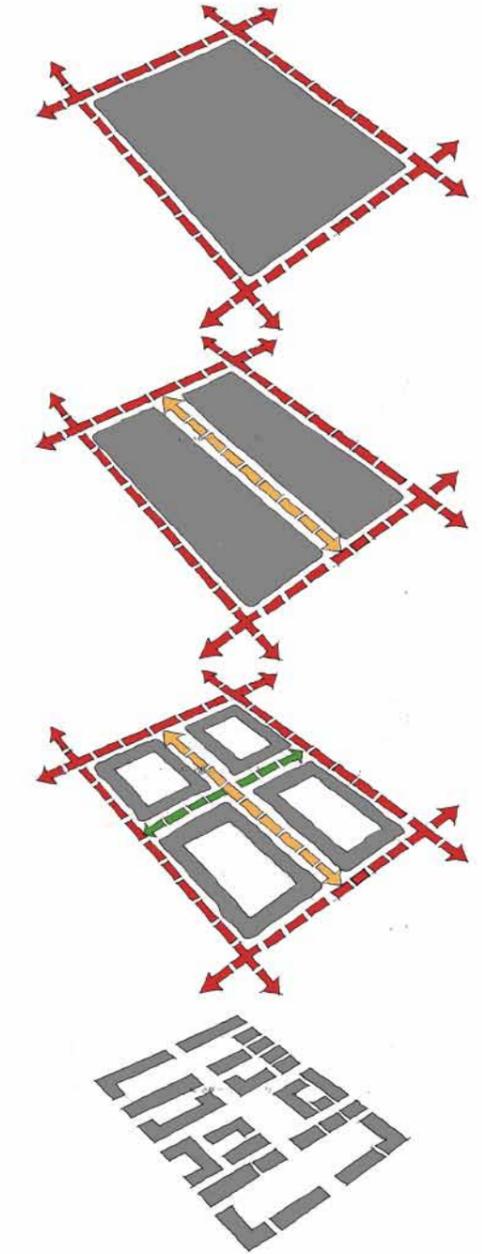
Figure 305: Clinic in relation to Eerste Fabriek Station



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.



Page 127:Figure 310: Planning the modular unit

Page 128:Figure 311-314: Primary elements influencing the form of the housing development

Page 130:From top to bottom and from left to right:
Figure 316-319: Indicating how modular units fit together

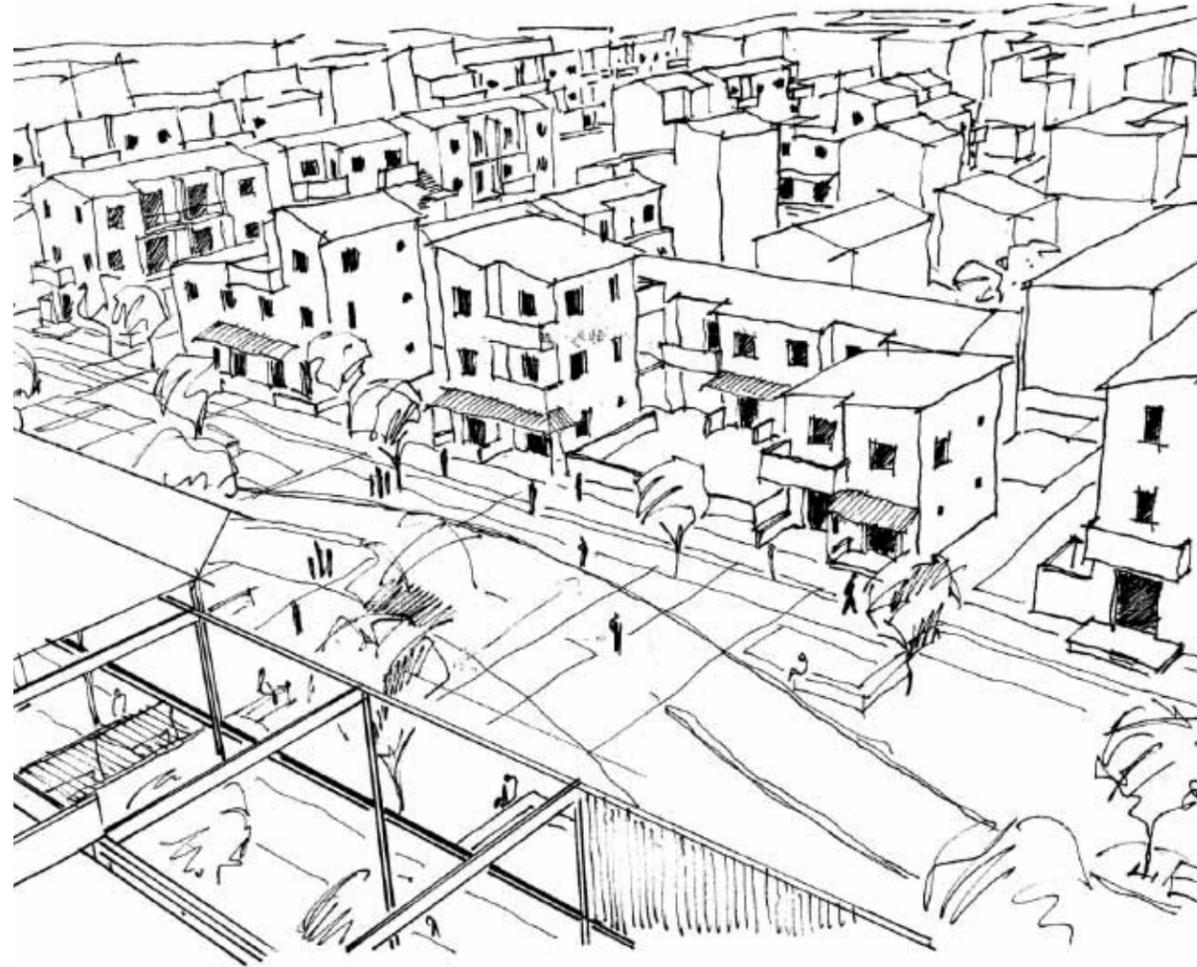


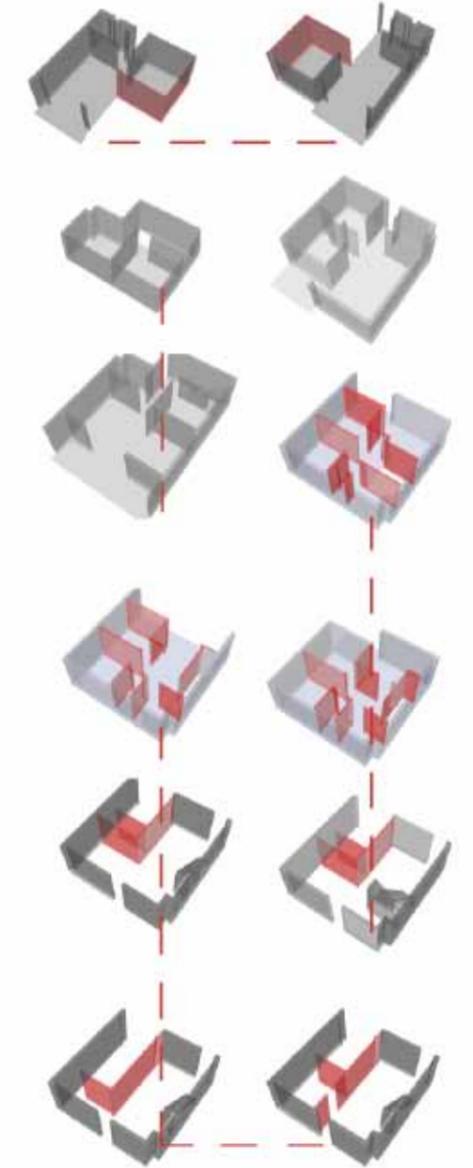
Figure 315: Vision as seen from the activities arcade

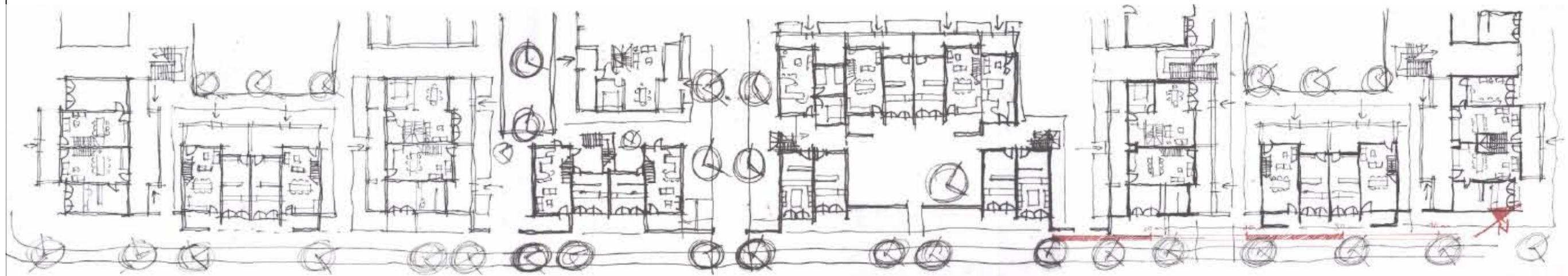
Modular units

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).



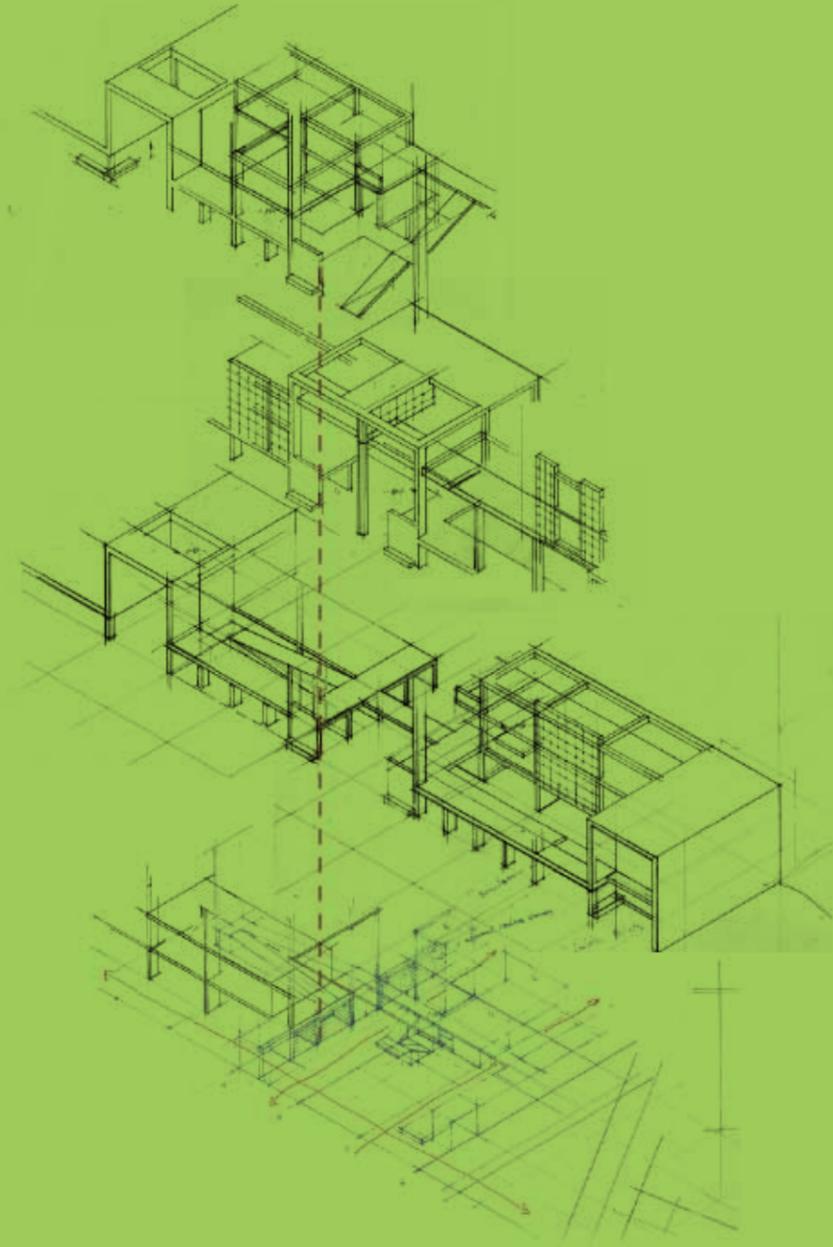


From top to bottom:

Figure 320: North- eastern perspective

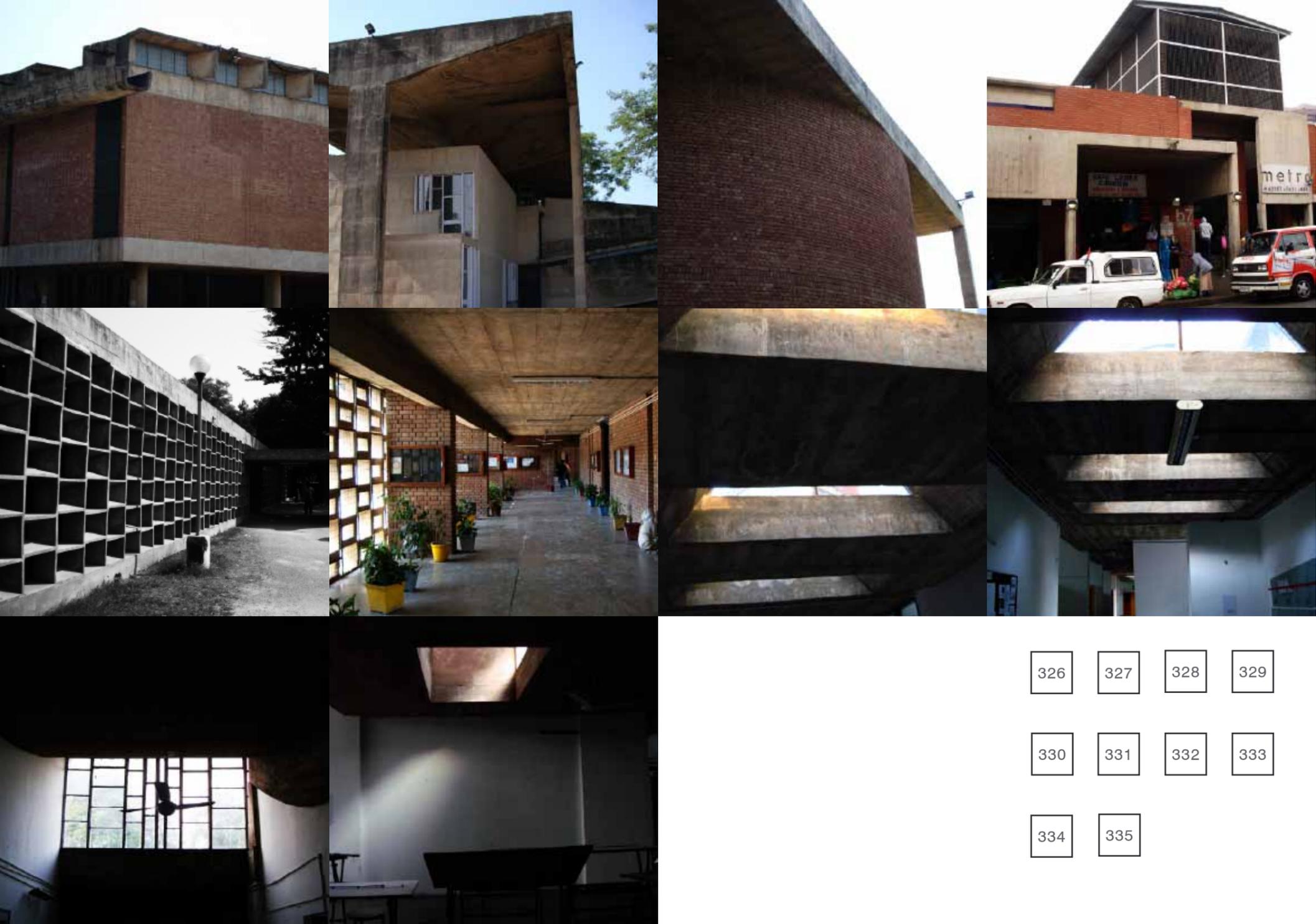
Figure 321: Longitudinal section

Figure 322: Units facing access road



CHAPTER EIGHT

technical investigation



Designing for change

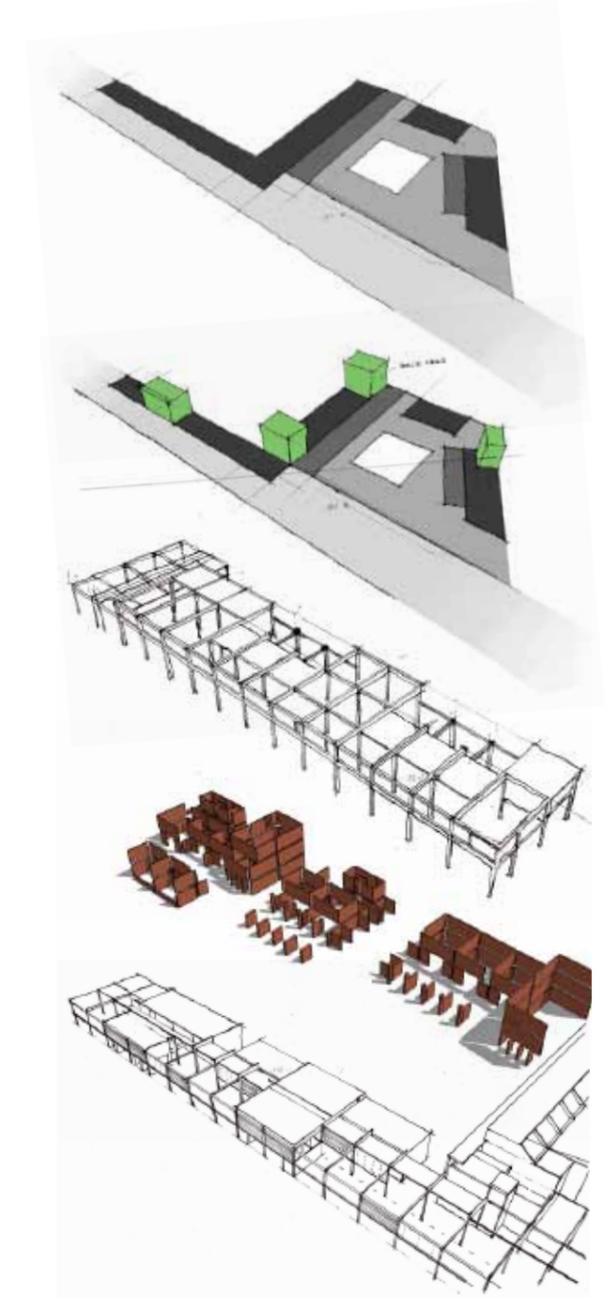
Concrete and masonry are without a doubt third world building materials. Not only is it robust and durable, thus minimising maintenance issues, it does not always require skilled labour in order to give it an aesthetic appeal (Figure: 326-329).

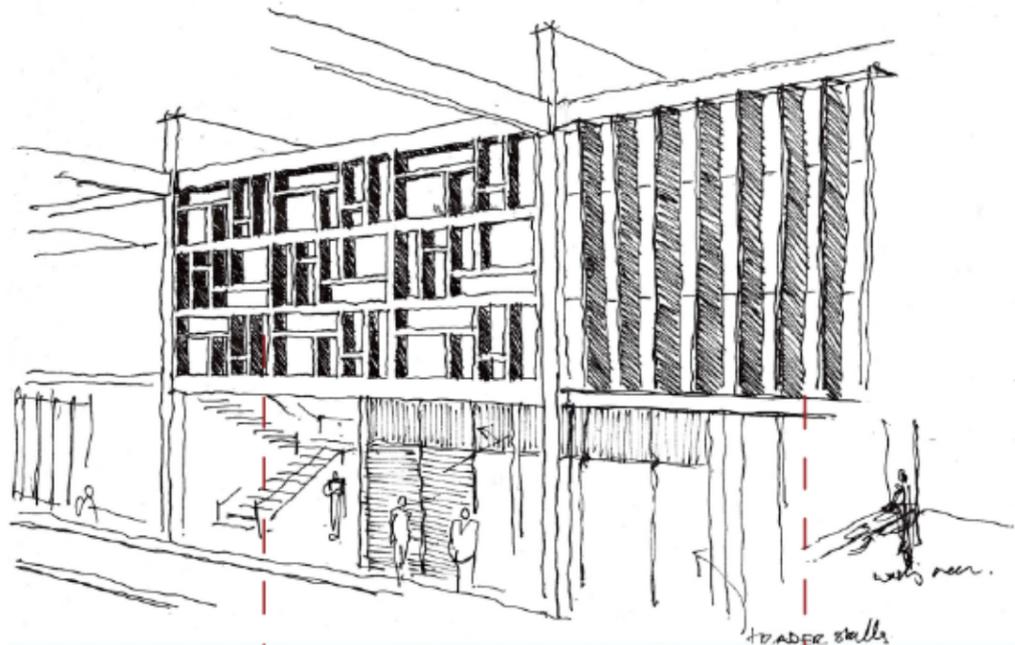
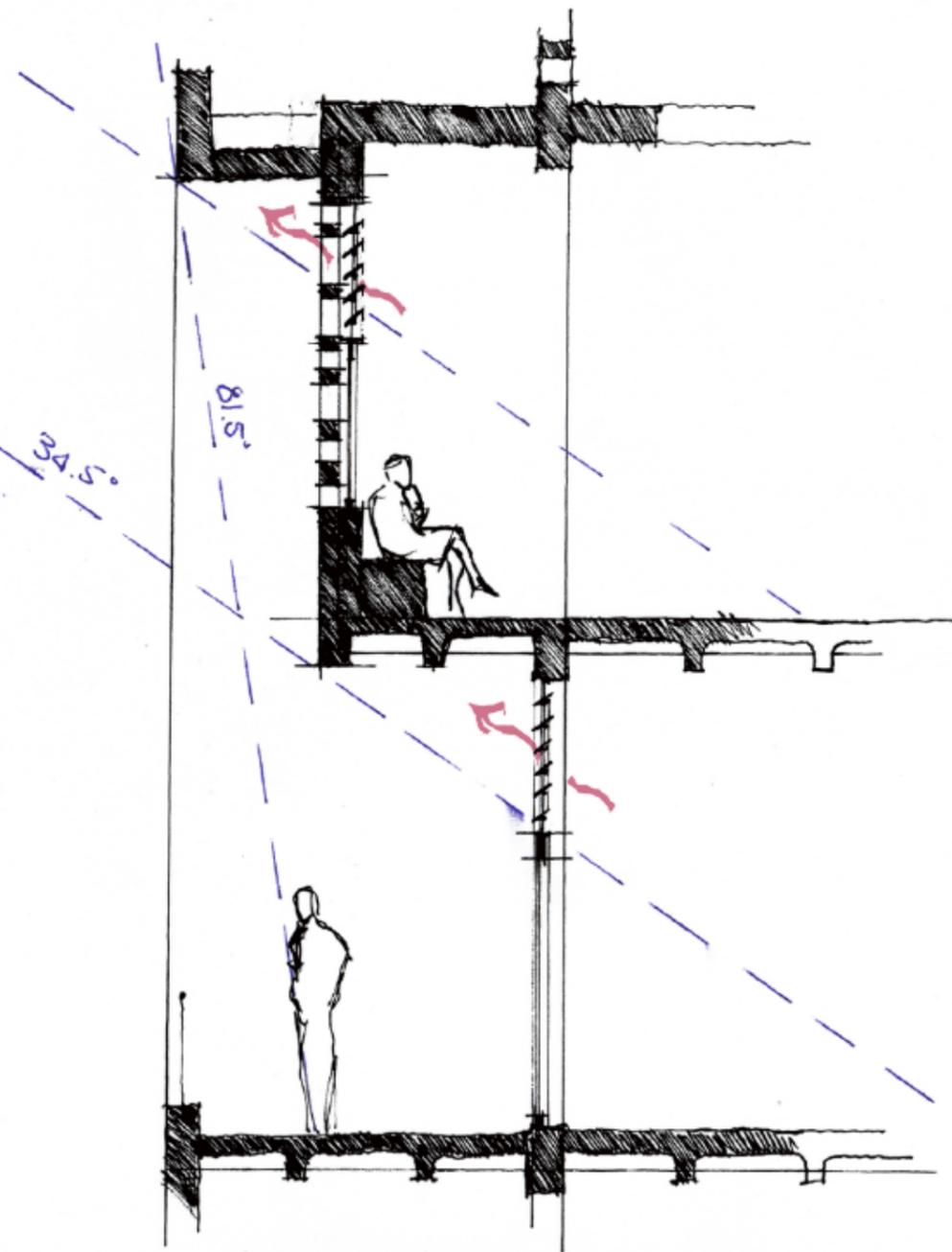
The introduction chapter identified Mamelodi's current problem of lost space and environmental degradation as being the result of two factors: Unutilised structures not functioning as its intended purpose and buildings that were not intended to accommodate any form of change. Through grouping together all phase one programmes (Figure: 336: the proposed post office and pay point, police station, information and resource centre, community hall and the community clinic) and creating a series of service cores (Figure: 337) one allows for the establishment of a flexible environment.

The intervention introduces a basic column and slab structural concrete skeleton which is designed to house the proposed uses, yet remains robust enough in order to accommodate change and allow for adaptability (Figure: 338). Apart from the masonry infill (Figure: 339), the concrete skeleton is articulated through a variety of in-situ cast and lightweight metal, ceramic and fibre cement shading devices as part of the initial structure (Figure: 340-341). This enables a certain amount of control regarding the quality and experience of space, as seen with Le Corbusier's College of Art and College of Architecture in Chandigarh (Figure: 330-335), whilst still compliant to the original theory of designing for change.

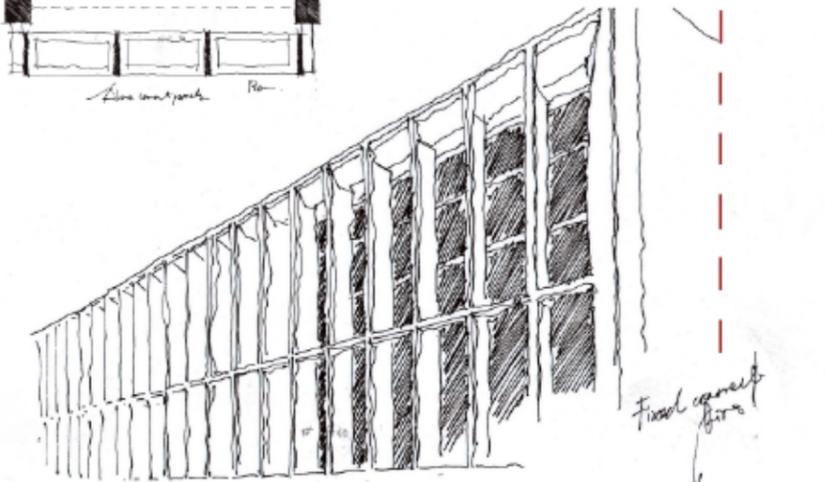
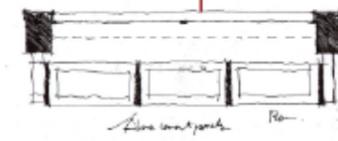
This proposal is derived from urban and environmental principles, creating a vision for sustainable growth within a community. 'Weaving' (Moore 2007: 138) together function and community allows for creative, flexible phase implementation creating community involvement and local employment opportunities leading to envisaged stewardship necessary to keep this intervention alive.

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in-situ cast concrete and fiber cement screens



allows for a deeper membrane

allows for a deeper membrane

Shading devices as façade articulation and general connections

Already mentioned earlier is that large parts of the building is covered or filled in with shading devices that are either incorporated into the original structure or placed in front of it. This allows control regarding the quality of spaces, including light and internal climate, and the articulation and fragmentation of the facade as well as creating permeability contributing to general legibility.

The nature of the facade is determined by the interior or exterior space it defines. This technical investigation looks possible materials, related connection details and how exposed structure might influence the buildings general identity.

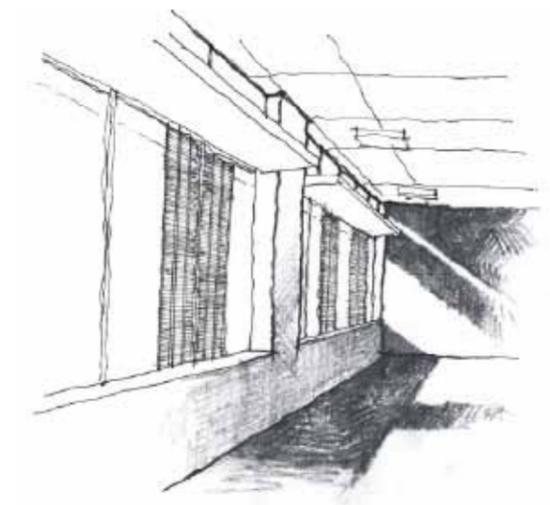


Figure 344: Articulation of interior spaces through in-situ cast light shelves

Page 135: From left to right:
Figure 326-328: Museum and Art gallery, City Museum, National History Museum by Le Corbusier, Chandigarh (author's photo)

Figure 329: Metro Mall by Urban Solutions, Johannesburg (author's photo)

Figure 330-335: College of Art and College of Architecture by Le Corbusier, Chandigarh (author's photo)

Page 136: Figure 336-337: Grouping of programmes and services

Figure 338-340: Primary concrete structure and secondary infill

Page 137: From top to bottom and left to right:
Figure 341: Section indicating incorporation of screens

Figure: 342-343: Concrete and fiber cement shading devices as infill

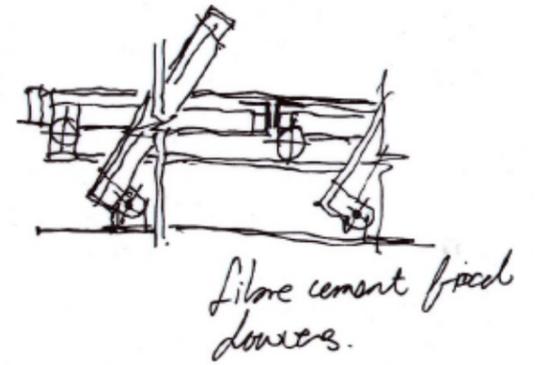
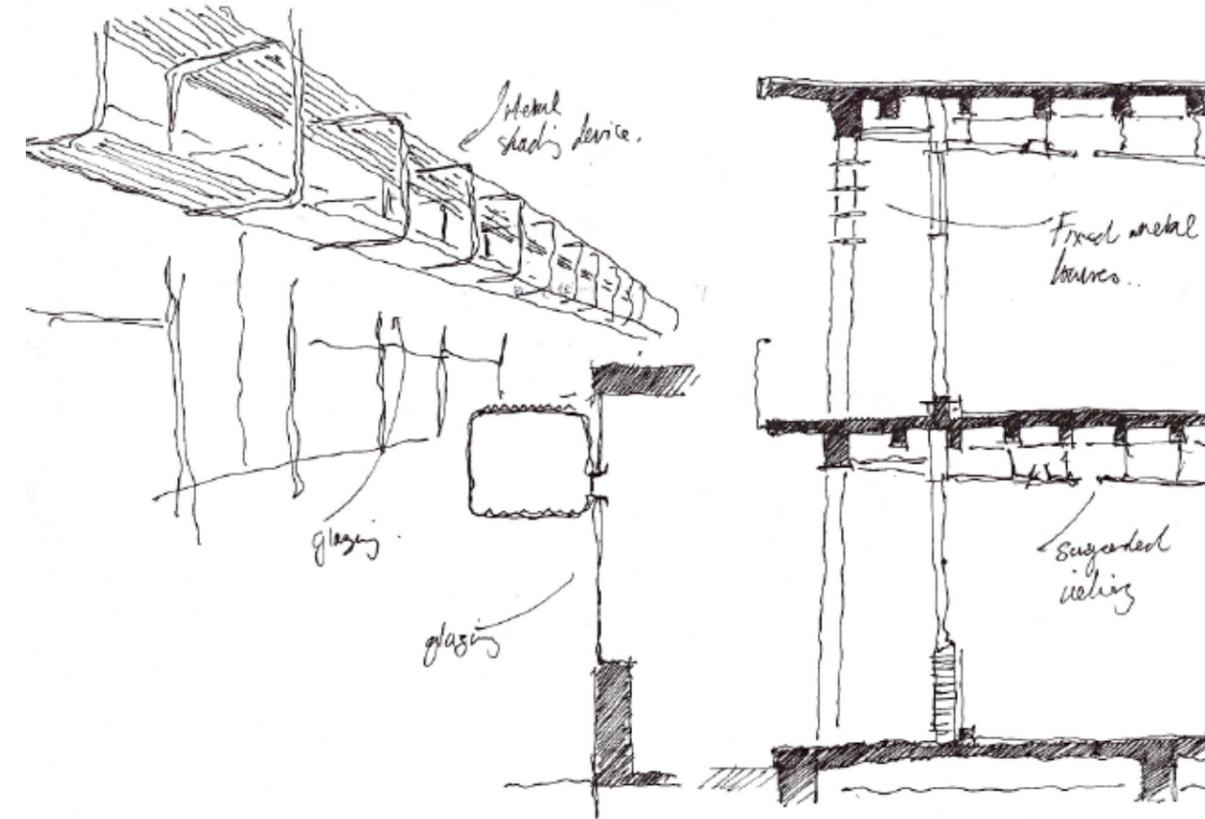
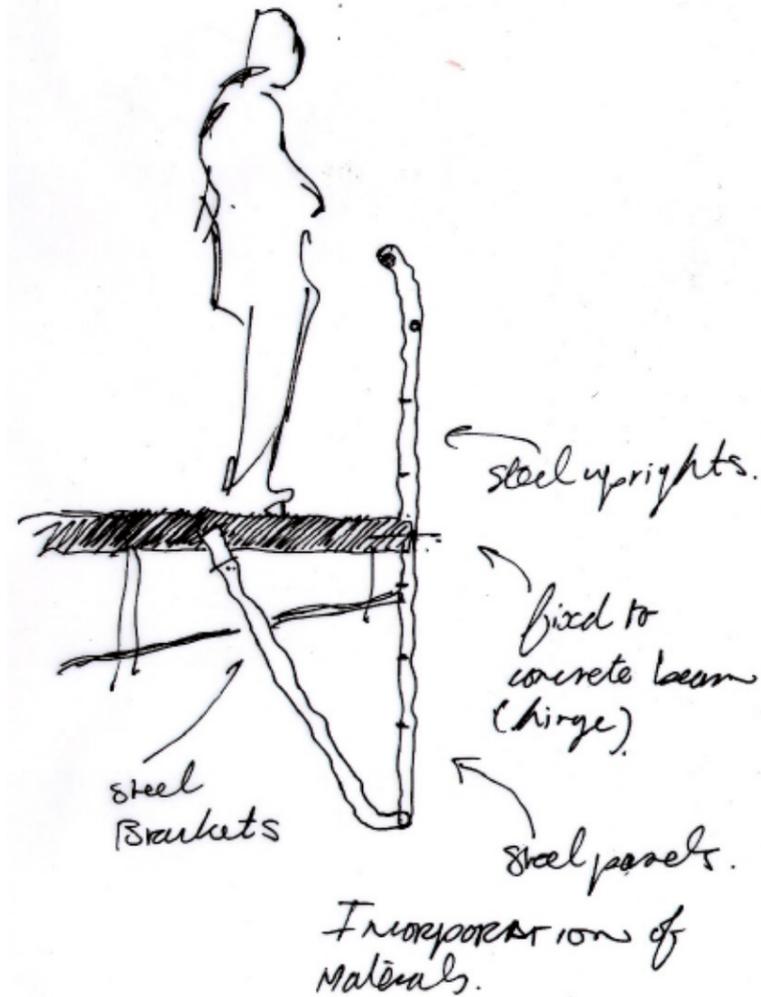
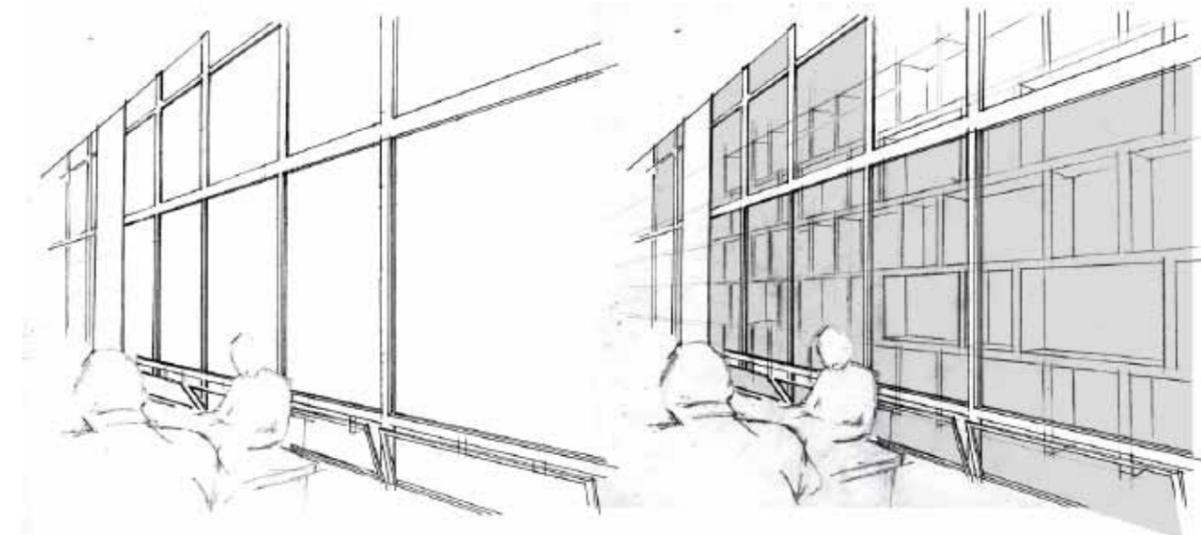
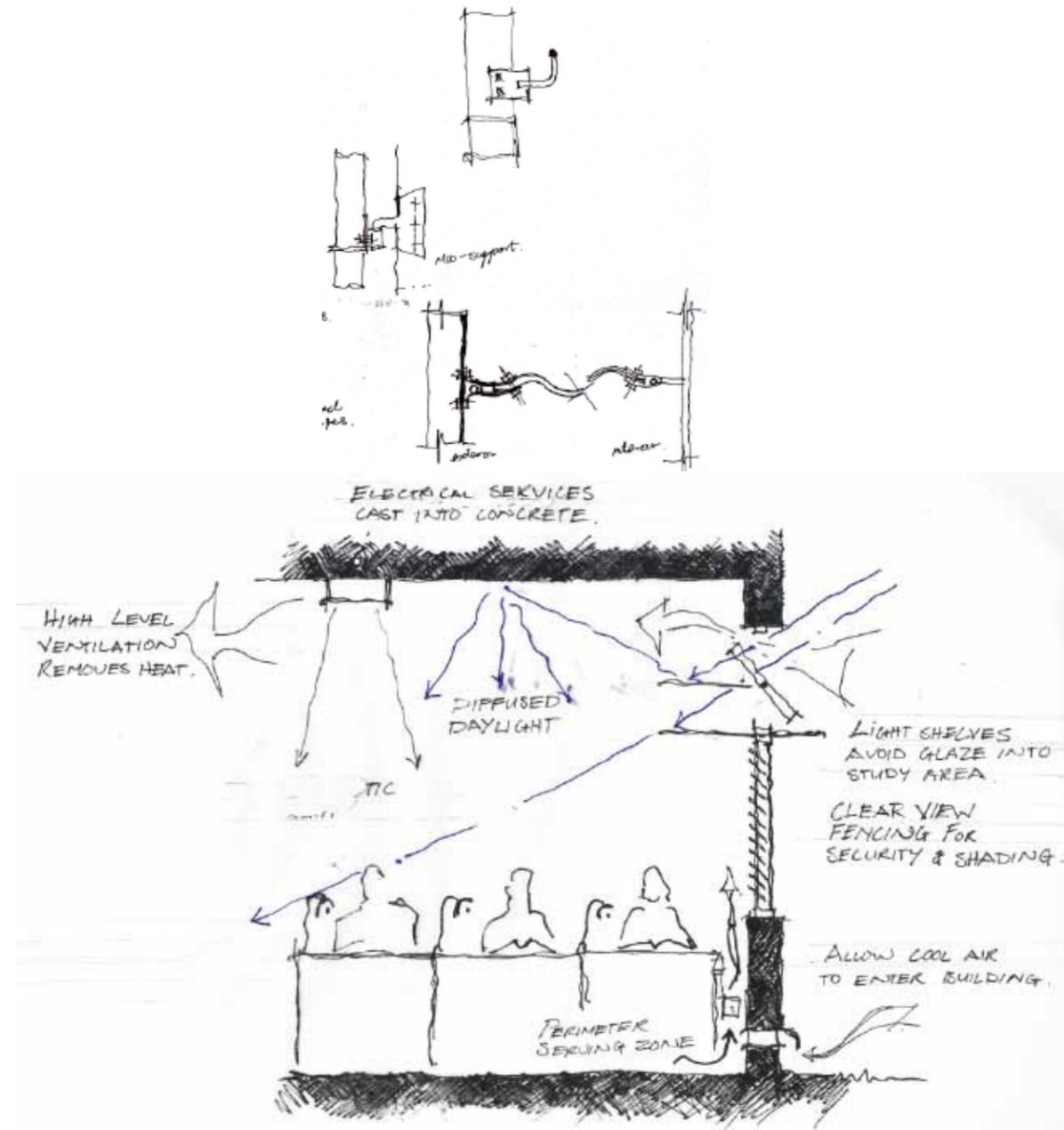


Figure 346: Fiber cement louver detail

Figure 347: Plan of adjustable metal louvers

Figure 348: Variety of lightweight metal shading devices fixed to concrete frame

Page 139: Figure 345: Incorporation of balustrade and fixed louver system for articulation of open walkways



Page 141: From top to bottom and from left to right:
Figure 349: Lightweight metal shading devices as method of controlling internal climate
Figure 350: Combination of fiber cement and concrete frame in section
Figure 351: Corrugated iron louver detail
Figure 352: Adjustable façade to control light and allow for natural ventilation

Figure 353: Providing a deeper membrane for sun control allows for flexibility and control of internal spaces



Figure 354: Defining space through basic structure

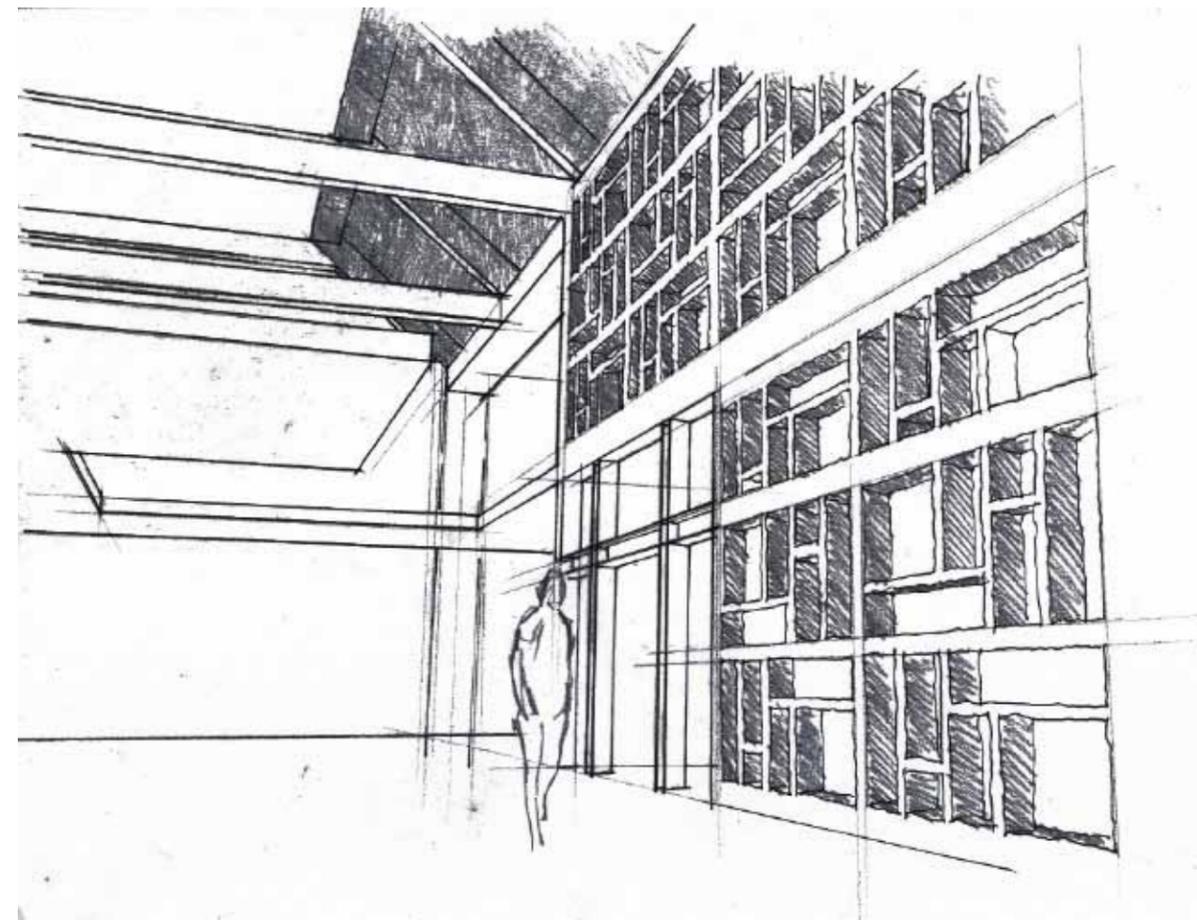
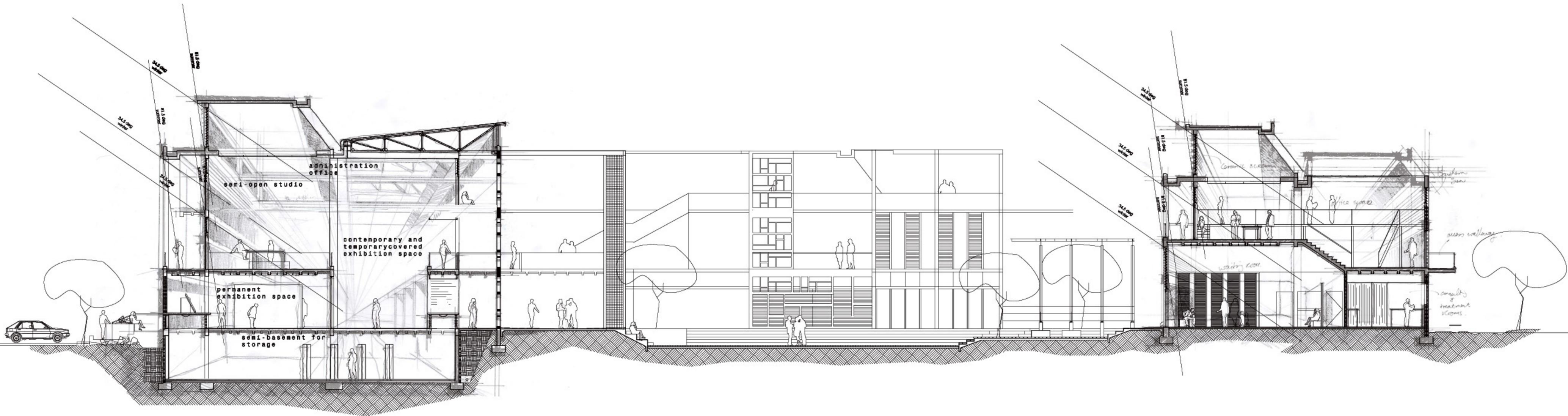
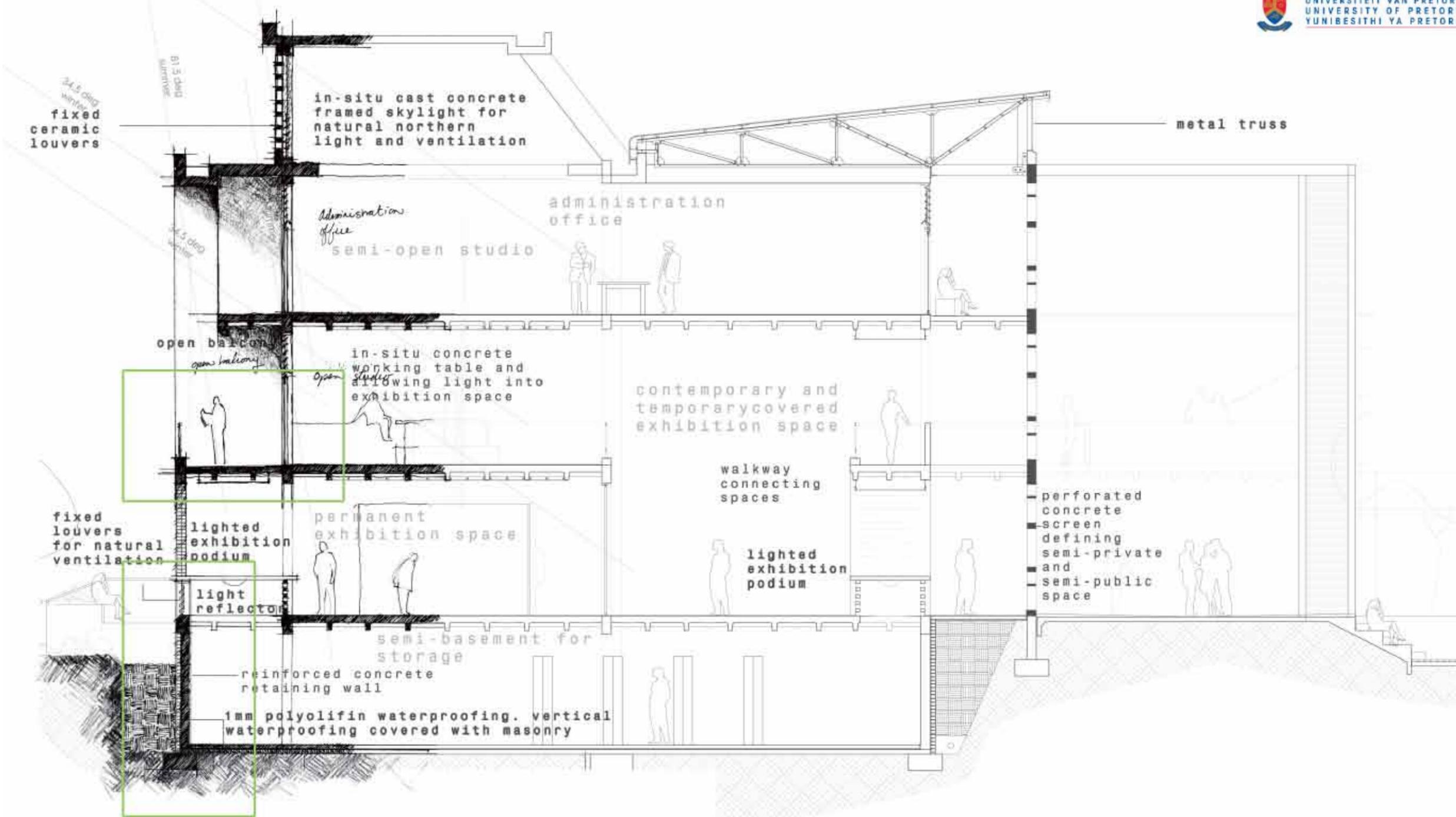


Figure 355: Articulation of façade and interior space through screens as sun-control





Page 145 Figure 352: Section showing relationship between -146: Information Centre, courtyard and Community Clinic

From left to right:
Figure 353: Spatial section through exhibition space and open studio

Figure 354: Section through exhibition space and semi-basement

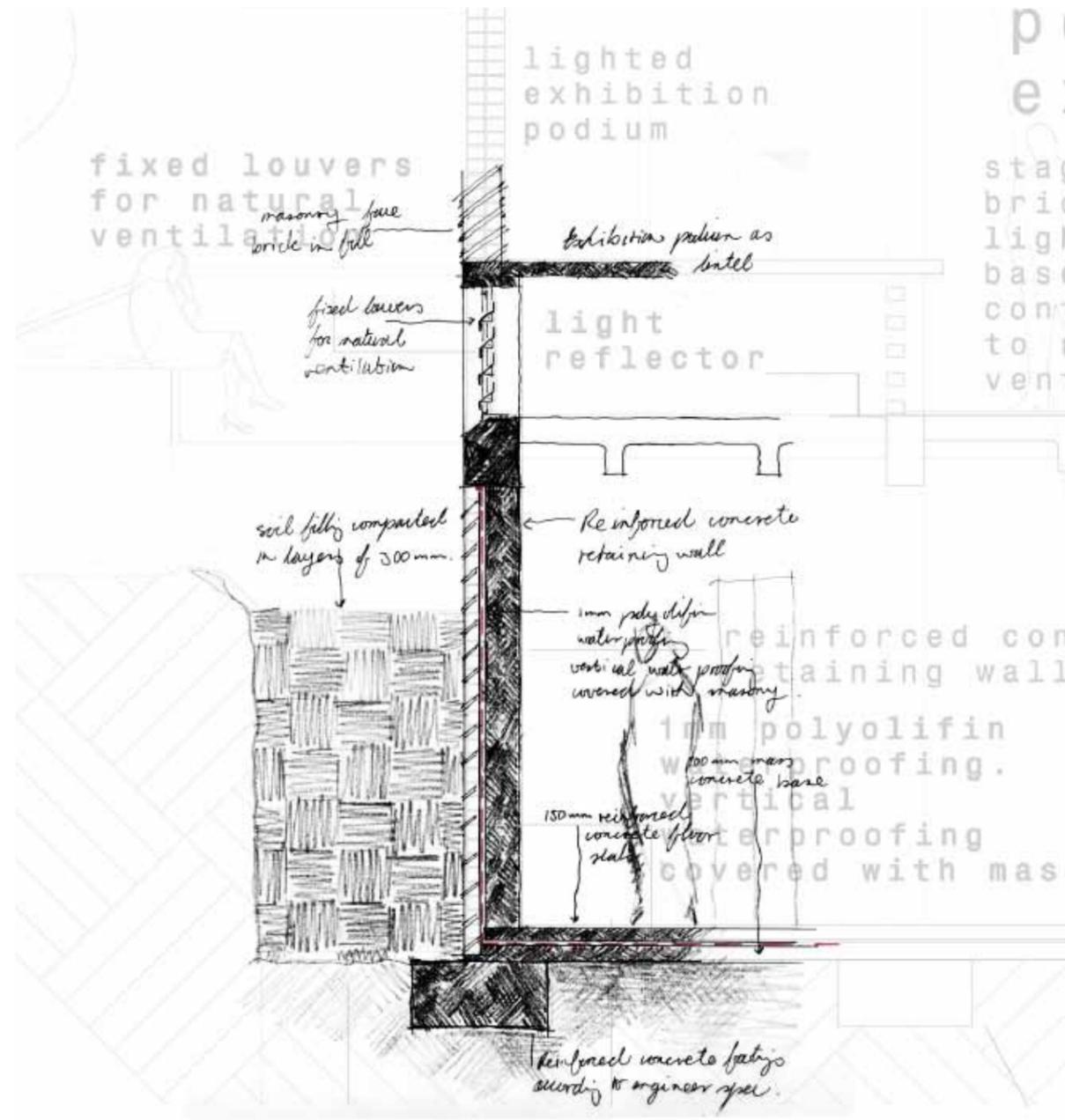


Figure 355: Semi-basement detail

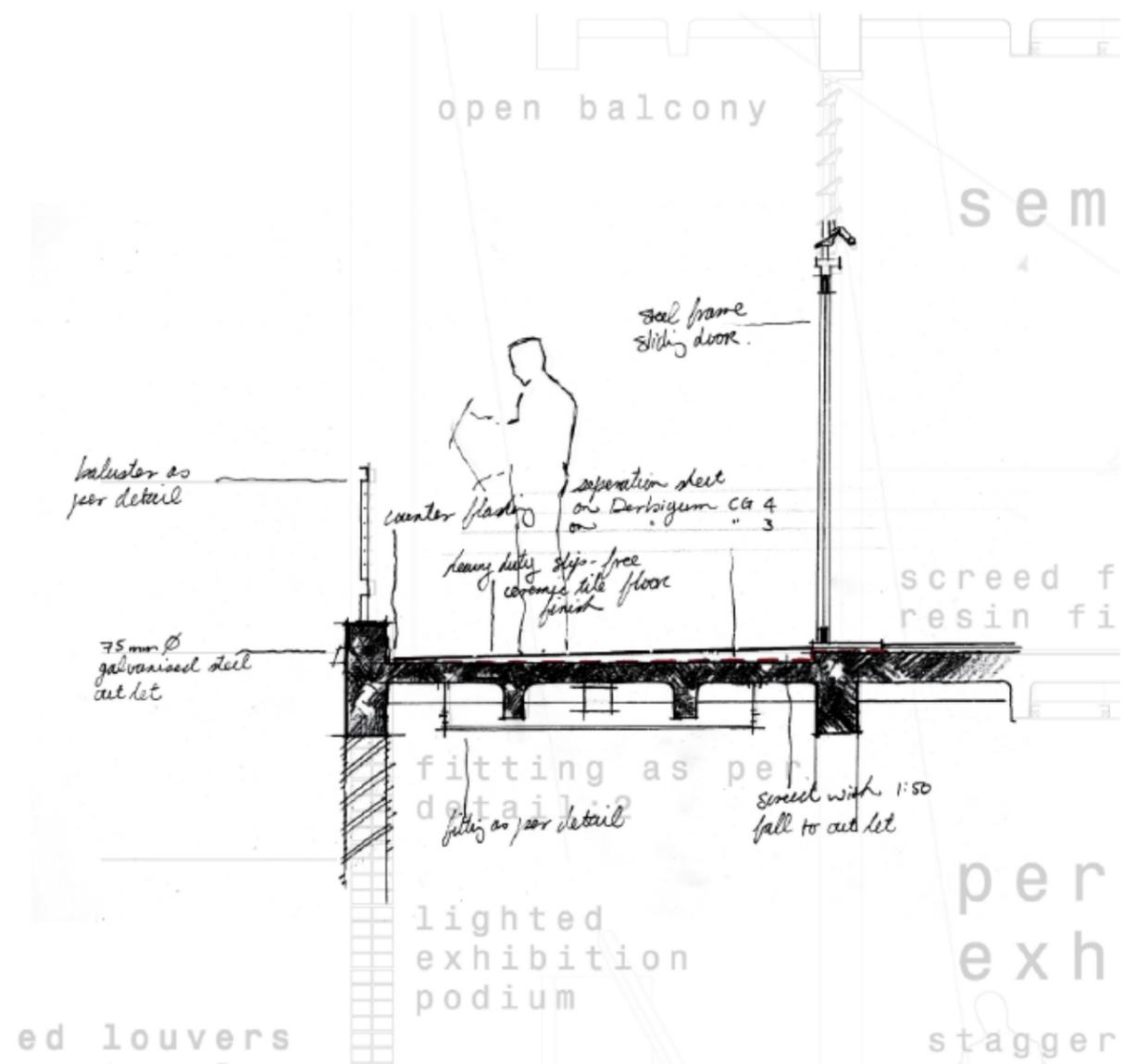
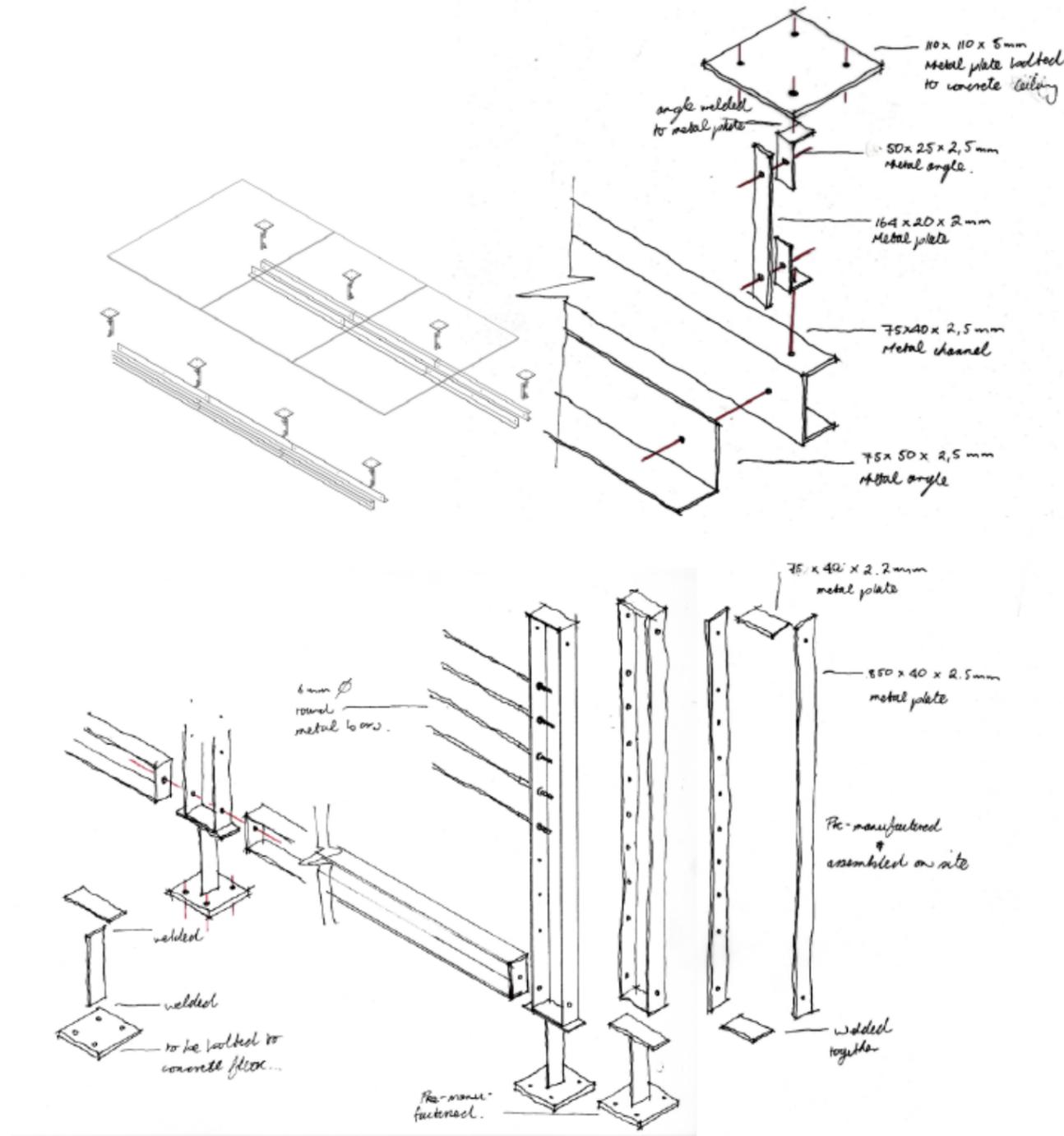


Figure 356: Balcony detail



Unity through detail

Through the usage of basic materials such as concrete and masonry face brick, an identity is created. The result is a variety of different functions servicing the public realm through a unified architectural form.

The concept of unification is reflected on a smaller scale by all metal elements. The aim is to strengthen identity in an environment that has none- from the public pergola structure, emphasising the connection between the information centre and the train station, to the more intimate lighting details indicating movement within the centre.



Figure 359: Protection of face brick edge, Metro Mall



Figure 360: Framed and covered walkway at Faraday Market Transport Interchange

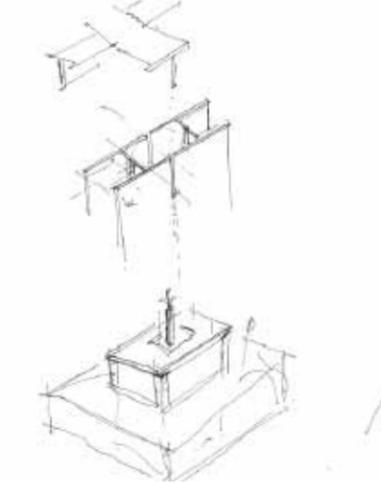
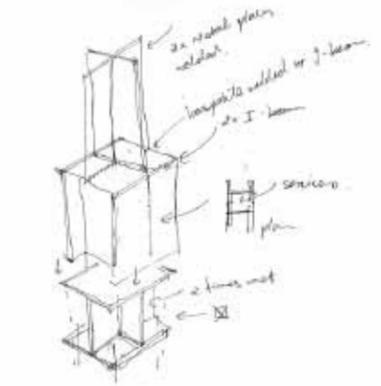
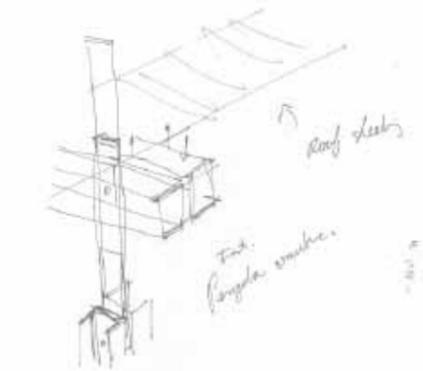
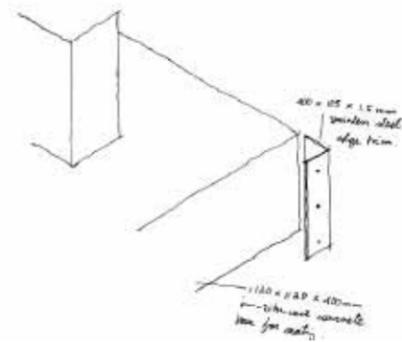
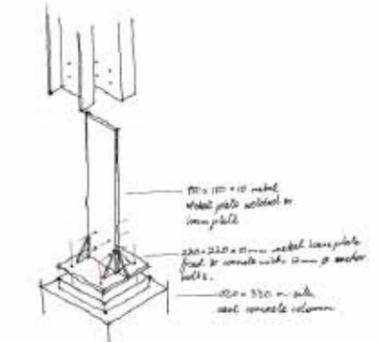
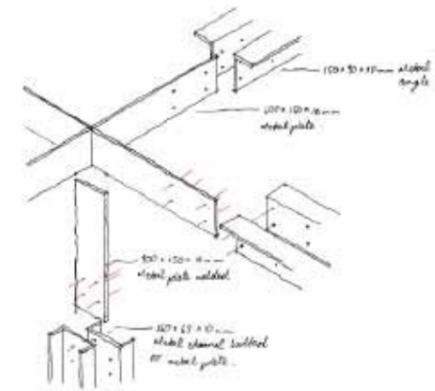
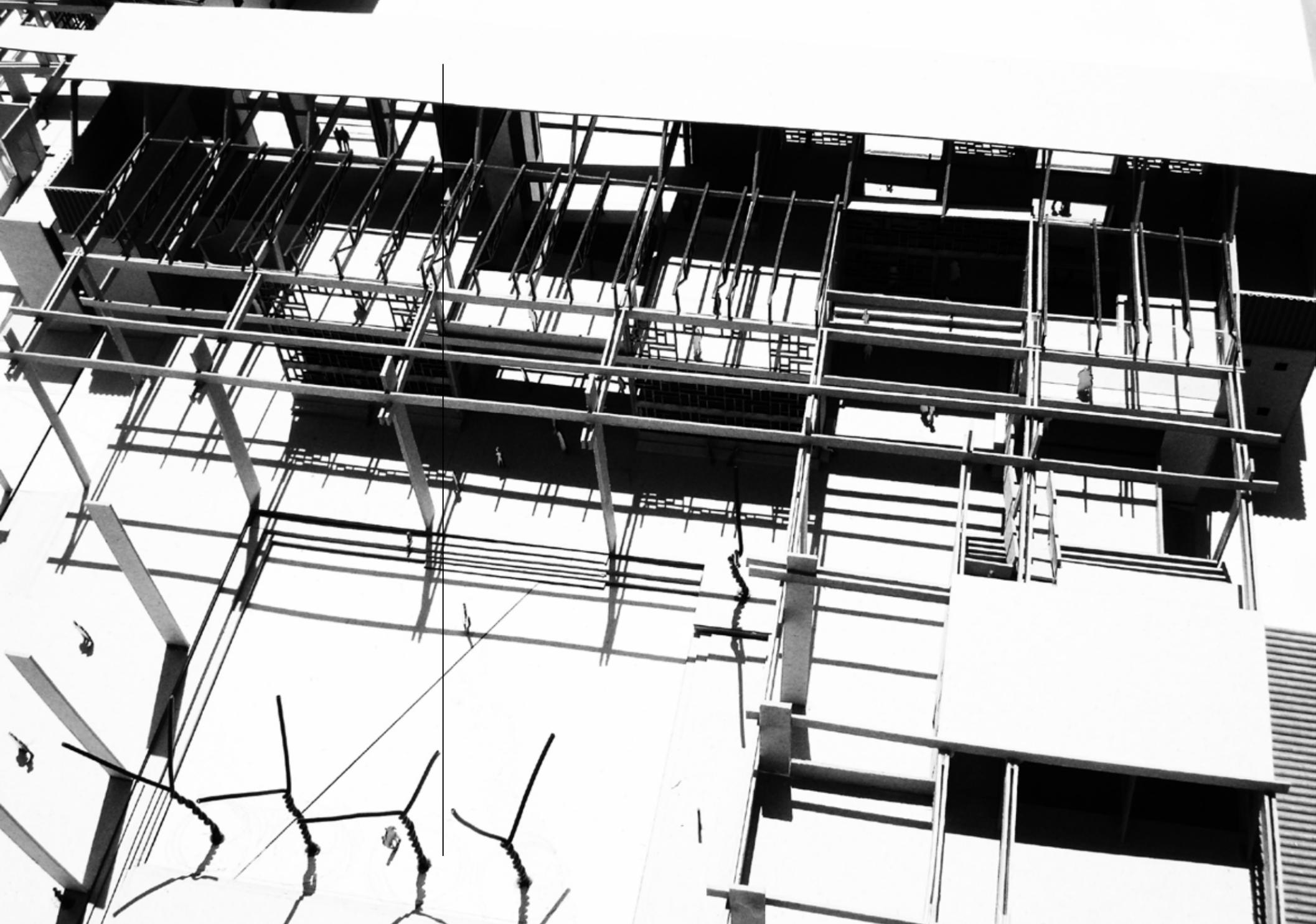


Figure 365-366: Pergola connection details



CHAPTER NINE

finale
intervention



From space to form

Through an investigative process of research and observation it has been determined that for a single architectural intervention to survive within an environment such as Eerste Fabrieke, it needs to form part of a larger network of functions. What initially started as a single intervention grew into a process of urban space and exploration.

Identifying outdoor space as a pre-requisite for form, the architectural intervention is the result of a reaction to its surroundings. This response is not necessarily to the existing built form, but rather to human behaviour, the way in which they move through space and how it can be optimised in order to benefit the everyday commuter. Referring back to Filip De Boeck where he wrote that it is not material infrastructure or built form that makes the city a city, but rather a means of interaction that proves to be the strongest form of infrastructure in most African cities: the way they move through the city, use the city and how they create and generate the city. Thus, the interaction between user and surroundings will ultimately determine the success or failure of the scheme.

African urbanism is a cultural phenomenon not yet clearly understood apart from the fact that it can change according to user needs and therefore should be designed accordingly. Through the provision of basic requirements (such as a post office, police station, information centre, just to name a few) necessary to establish Eerste Fabrieke precinct as a proposed urban core whilst accommodating the concept of ownership through self creation, one can derive an environment belonging to the people of Mamelodi.

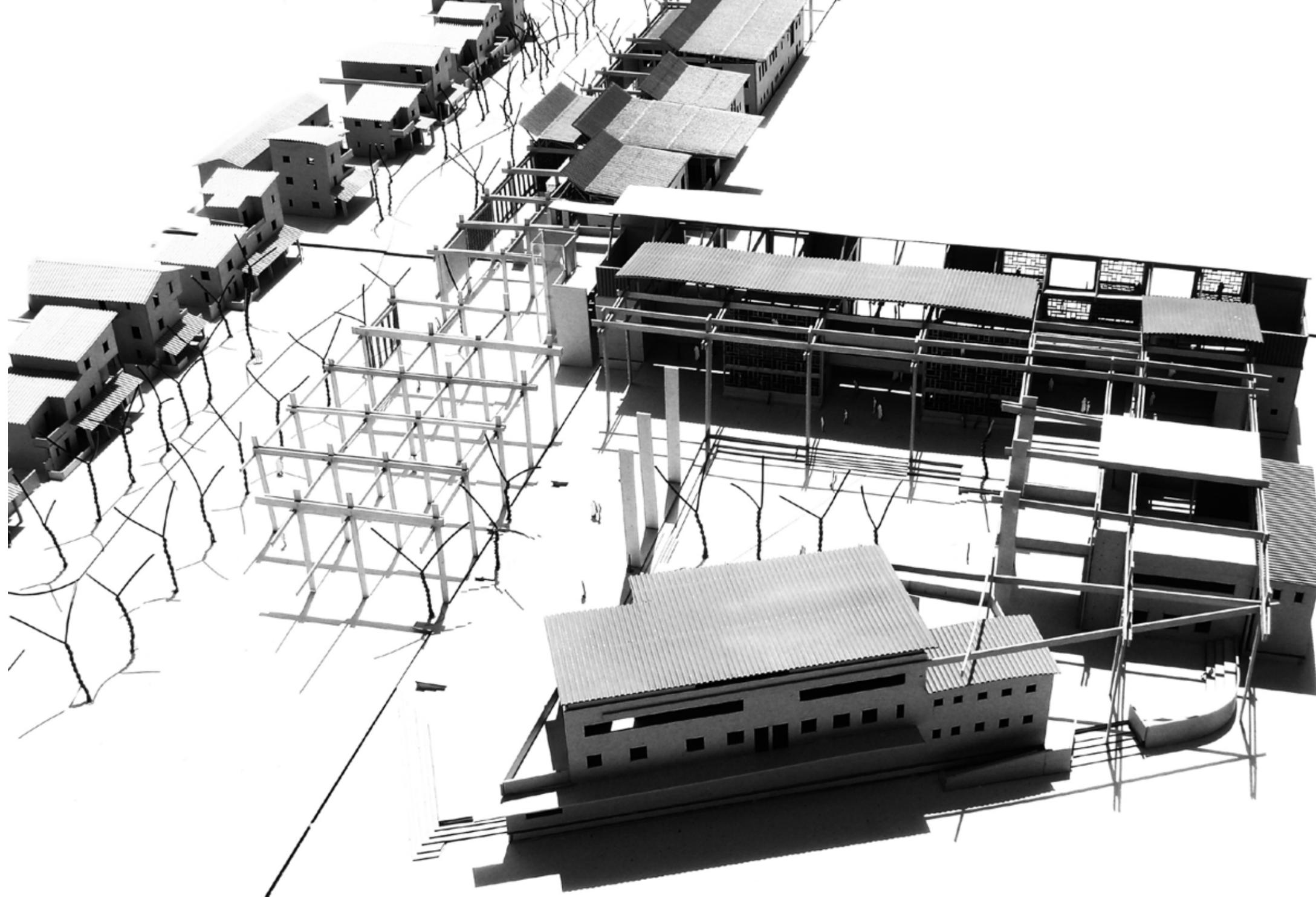


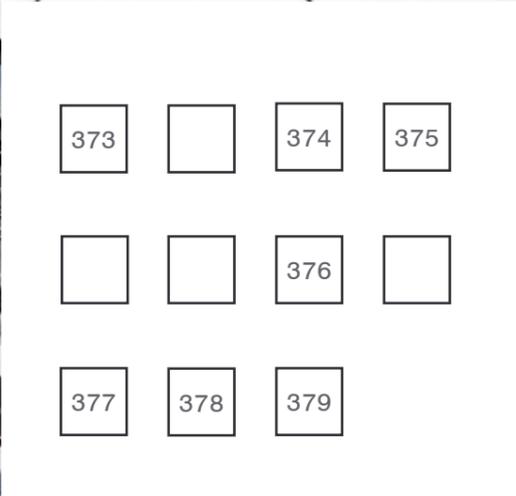
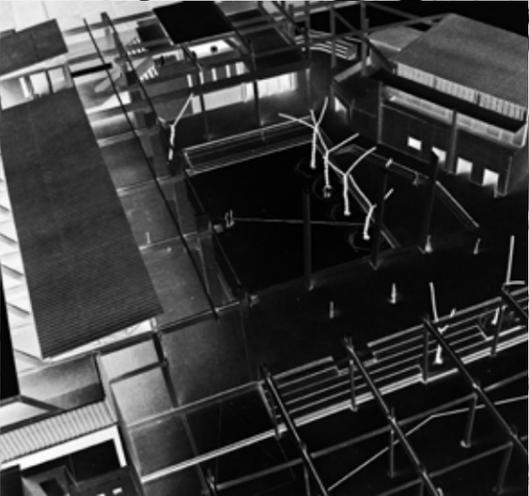
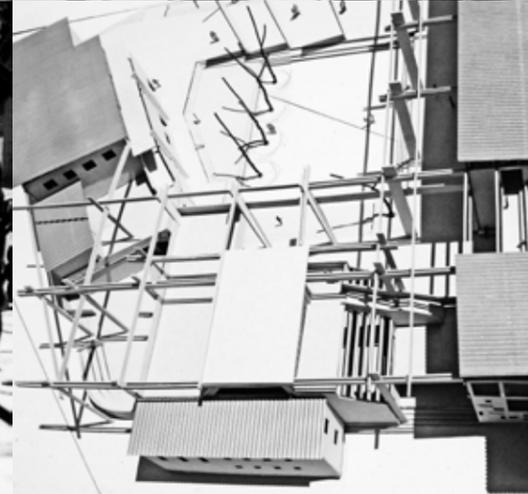
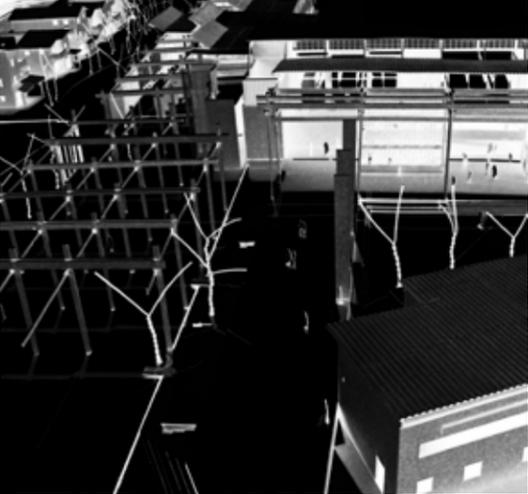
Figure 369: Southern bird's-eye view of the entire complex, street and live/work housing development along the street edge





Page 165 Figure 373-386: Spatial exploration of the entire
-166: intervention from different views and on a variety
of scales

Figure 372: North- Eastern perspective of the Information
Resource Centre



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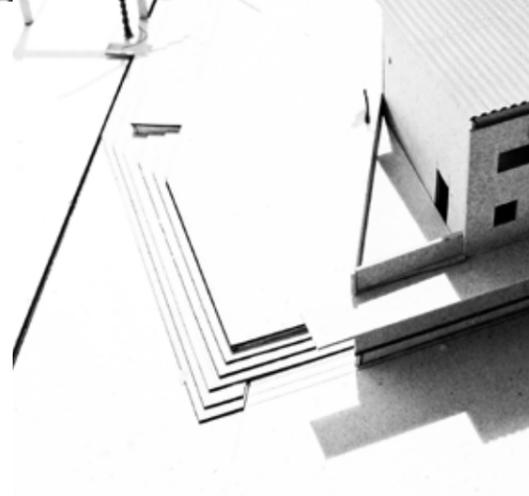
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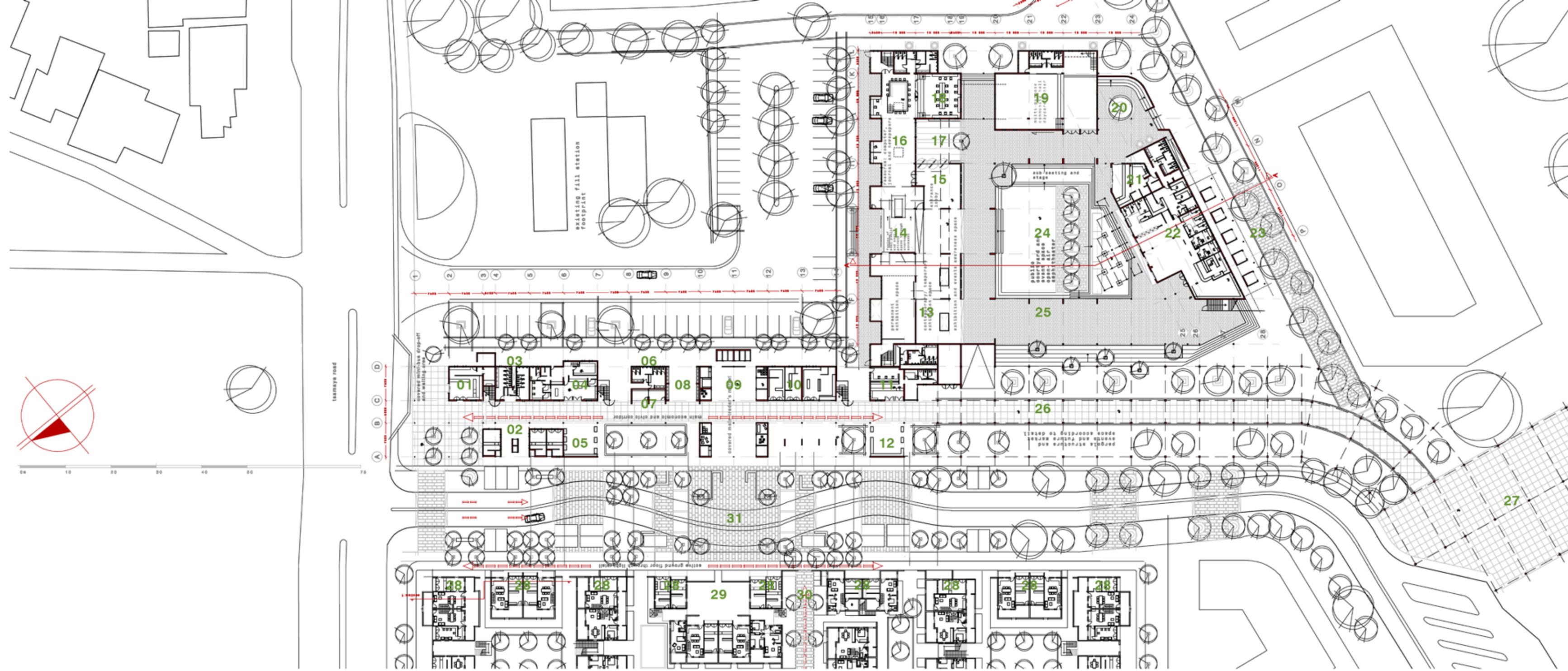
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Ground Floor Plan

- 01. Bakery
- 02. Small retail and trader stalls
- 03. Public ablutions
- 04. Post office and pay point
- 05. Post office and pay point waiting area
- 06. Public ablutions
- 07. Lockable trader stalls
- 08. Covered fresh produce washing area
- 09. Main covered trader's market
- 10. Formal retail
- 11. Police station
- 12. Police station waiting area
- 13. Permanent and contemporary exhibition space
- 14. Book store
- 15. Entrance lobby to Resource Centre
- 16. Resources: computers, journals and newspapers
- 17. Open reading courtyard
- 18. Multi-functional lecture room
- 19. Community hall and day-care centre
- 20. Open amphitheatre
- 21. Kitchen
- 22. Community clinic
- 23. Pedestrian walkway with trader stalls
- 24. Public courtyard and events space
- 25. Covered podium and exhibition spill-out space
- 26. Pergola structure as events and market space
- 27. Eerste Fabrieke Station forecourt
- 28. Two – three bedroom live/work units with shops on ground floor (double story)
- 29. Active courtyard for east-west connection
- 30. Pedestrian walkway
- 31. Raised cobbled surface to slow traffic

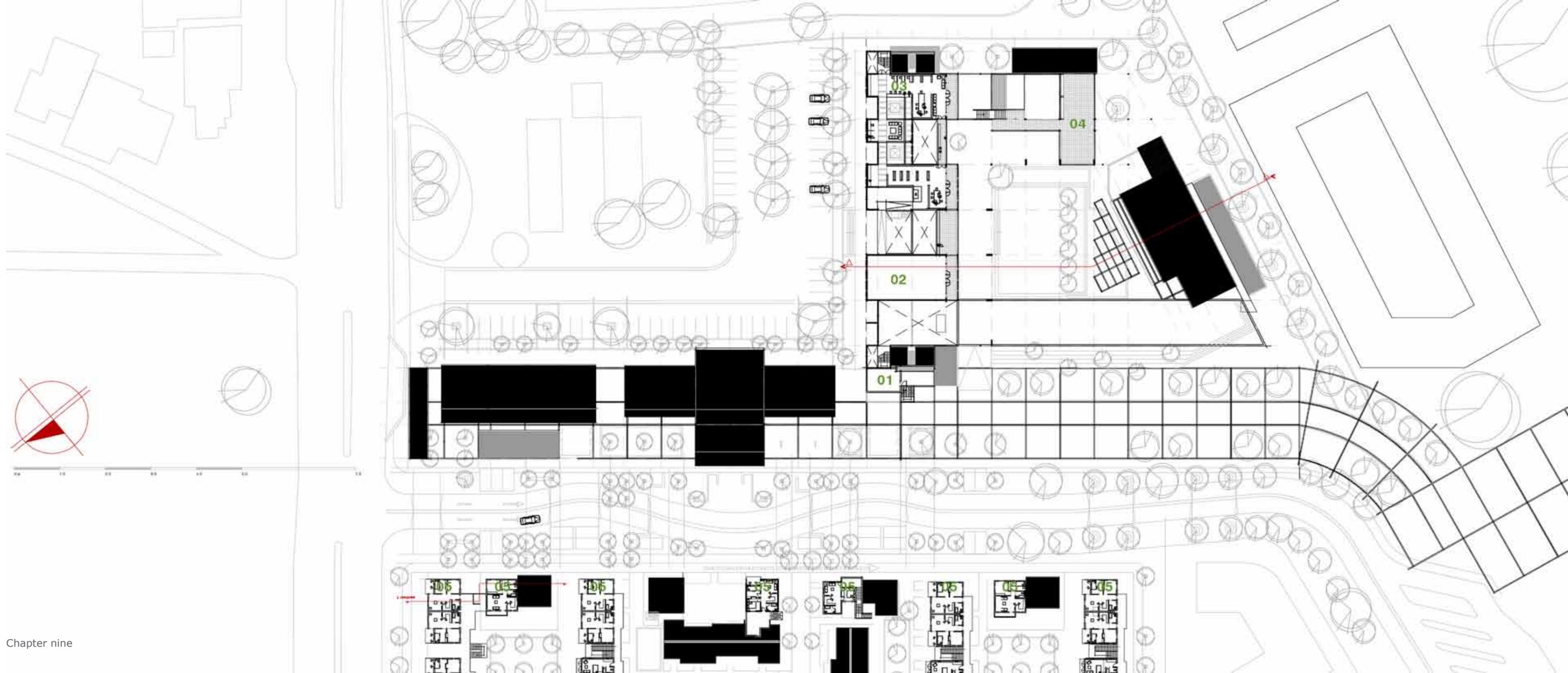


First Floor Plan

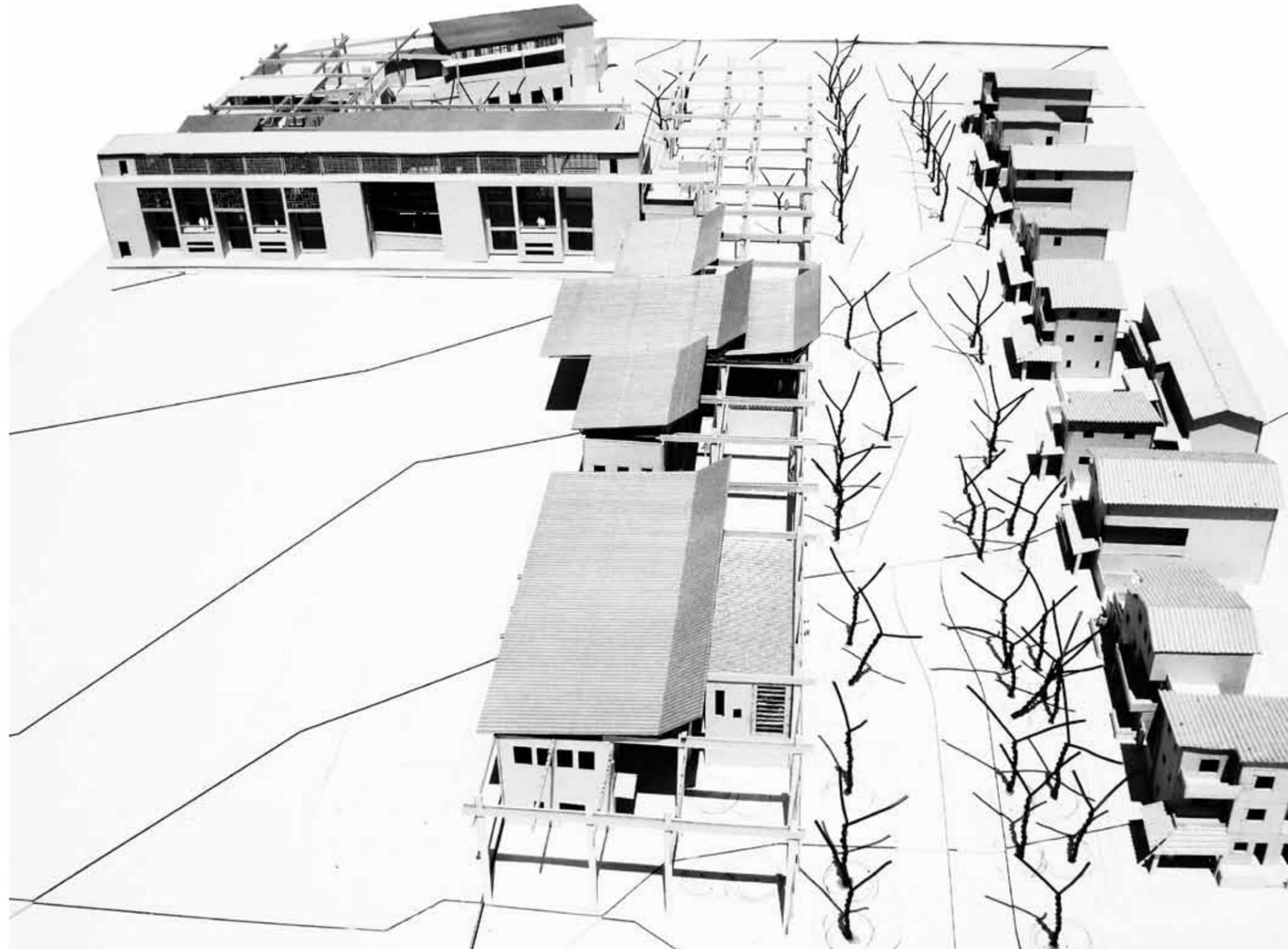
- 01. Office space
- 02. Shared ablutions
- 03. Post office administration
- 04. Police station boardroom
- 05. Open studio
- 06. Library
- 07. Open terrace
- 08. Children's homework area
- 09. Office space



Second Floor Plan



- 01. Police lookout point
- 02. General centre administration
- 03. Library
- 04. Open terrace
- 05. Single- and two bedroom walk-up apartments



Conclusion

On a city scale, this process of evolution, growth and change can span over hundreds of years. It is a progression of interaction based on requirements and reaction. Thus the intervention merely introduces a single step in the direction of establishing Eerste Fabrieke precinct as an envisaged urban core; contributing to the manifestation of Mamelodi as an economic and social entity within itself. In Conclusion, the success of African space is ultimately determined by one thing: Africans.

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