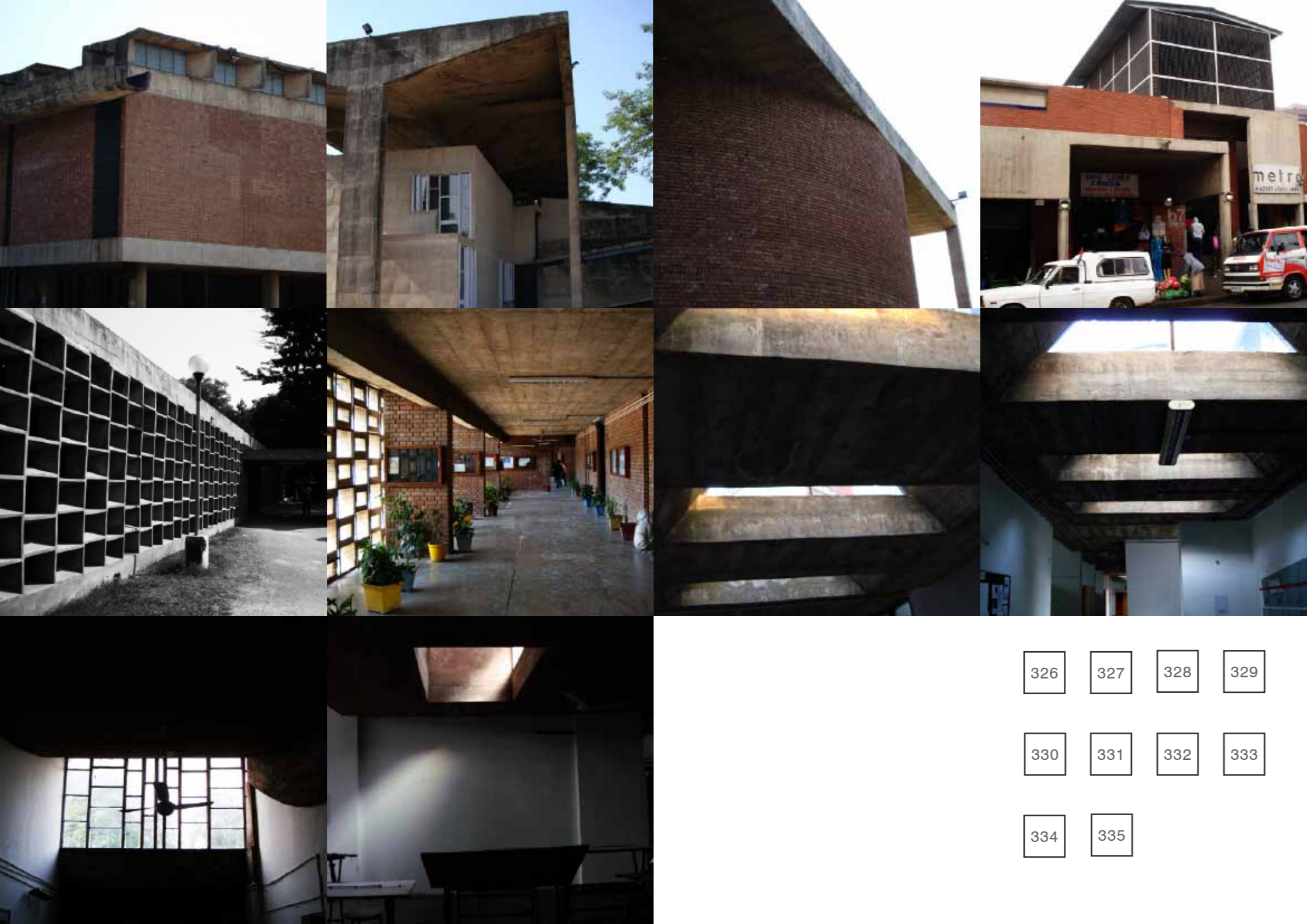


CHAPTER EIGHT

technical investigation



Designing for change

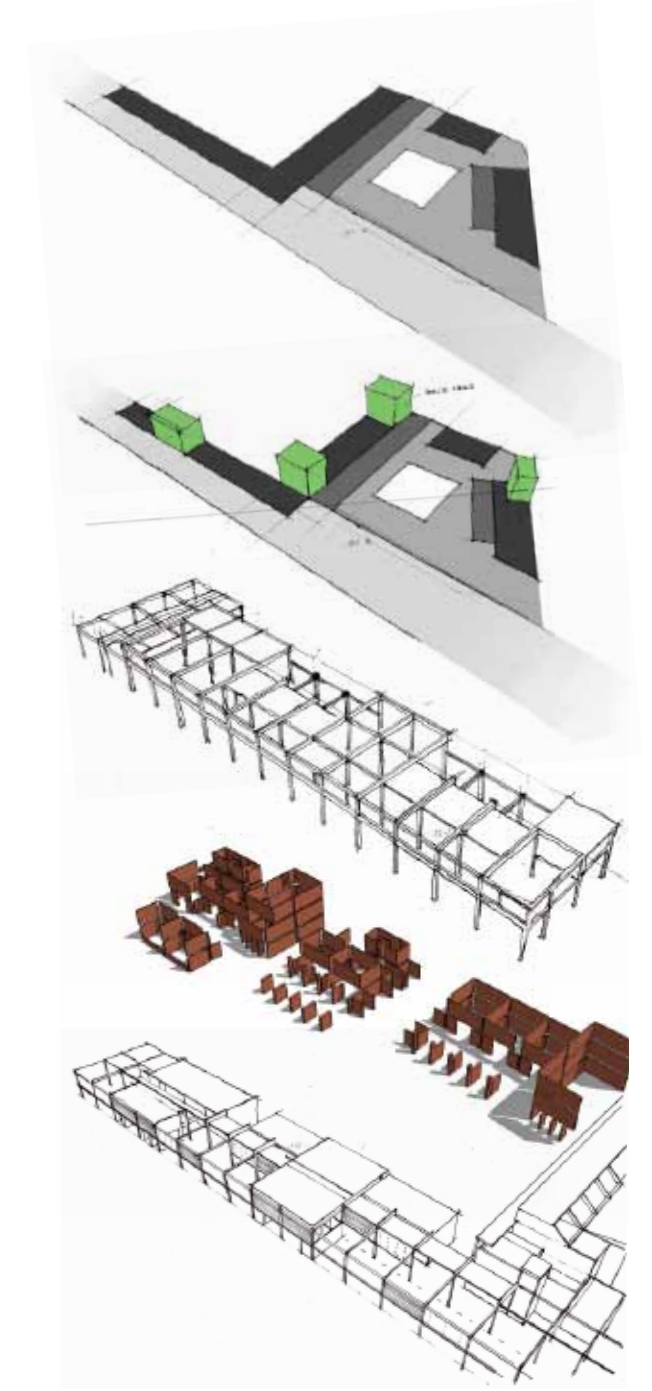
Concrete and masonry are without a doubt third world building materials. Not only is it robust and durable, thus minimising maintenance issues, it does not always require skilled labour in order to give it an aesthetic appeal (Figure: 326-329).

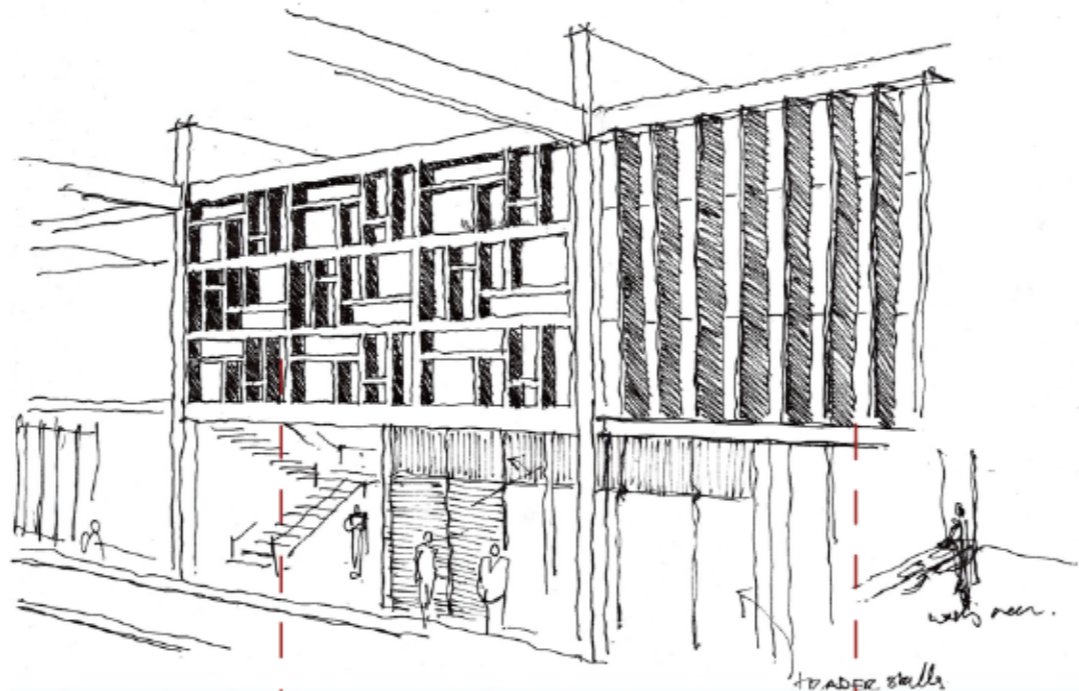
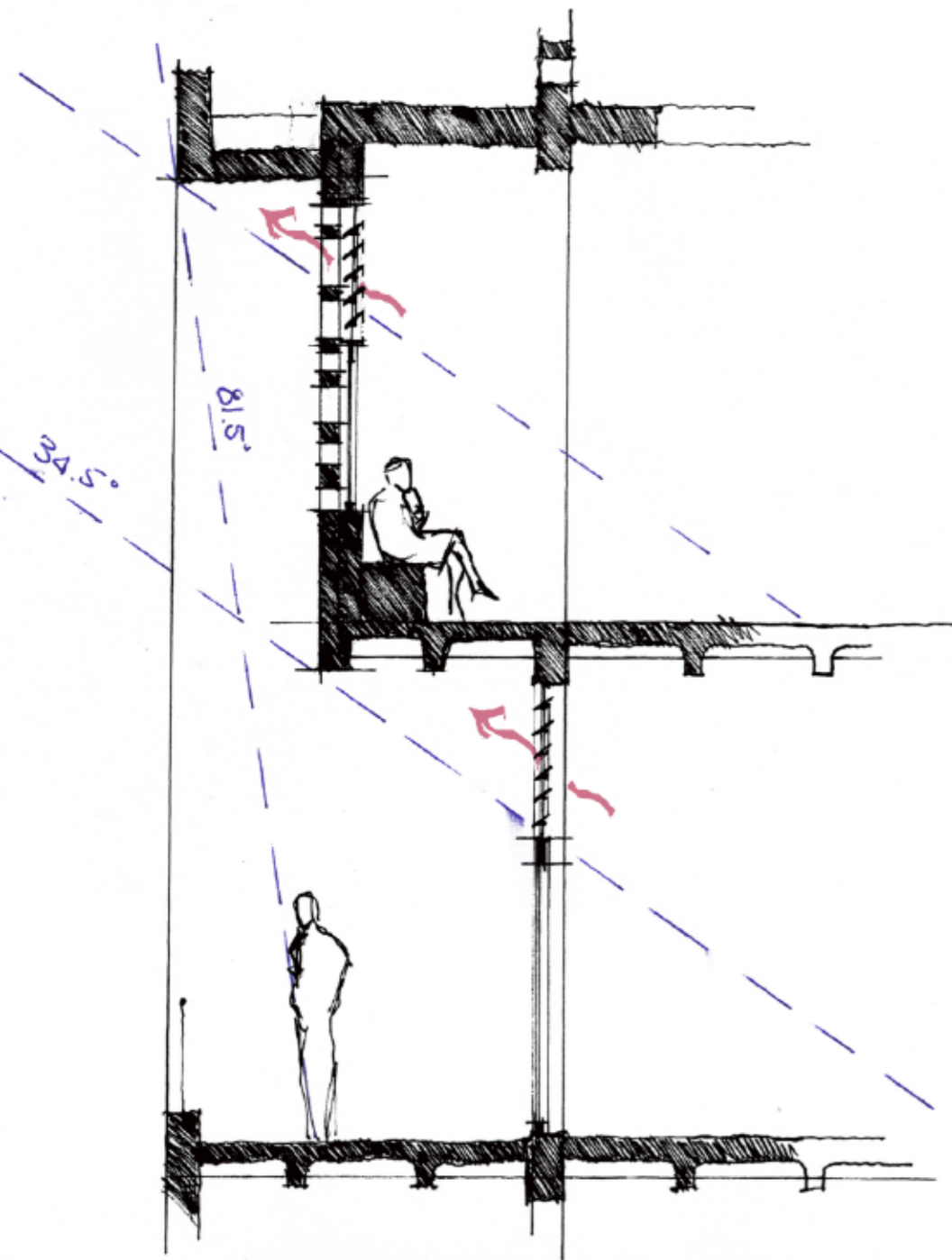
The introduction chapter identified Mamelodi's current problem of lost space and environmental degradation as being the result of two factors: Unutilised structures not functioning as its intended purpose and buildings that were not intended to accommodate any form of change. Through grouping together 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.

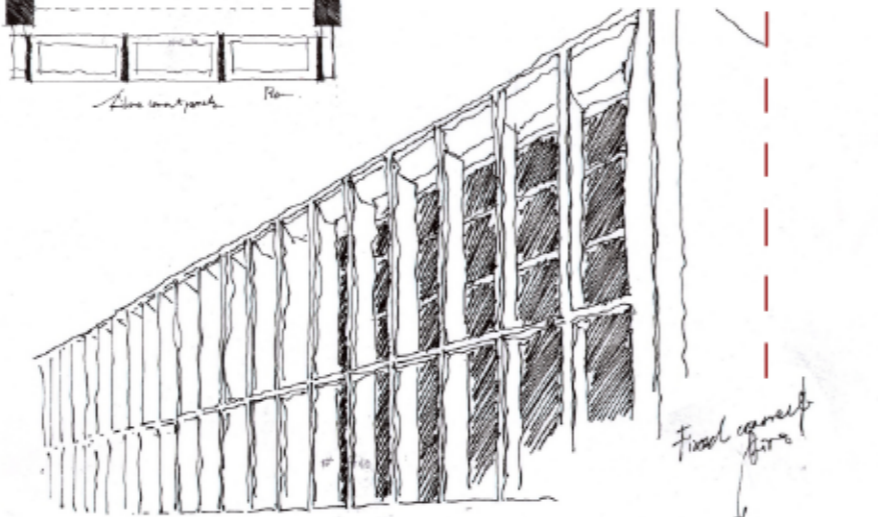
This proposal is derived from urban and environmental principles, creating a vision for sustainable growth within a community. 'Weaving' (Moore 2007: 138) together function and community allows for creative, flexible phase implementation creating community involvement and local employment opportunities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

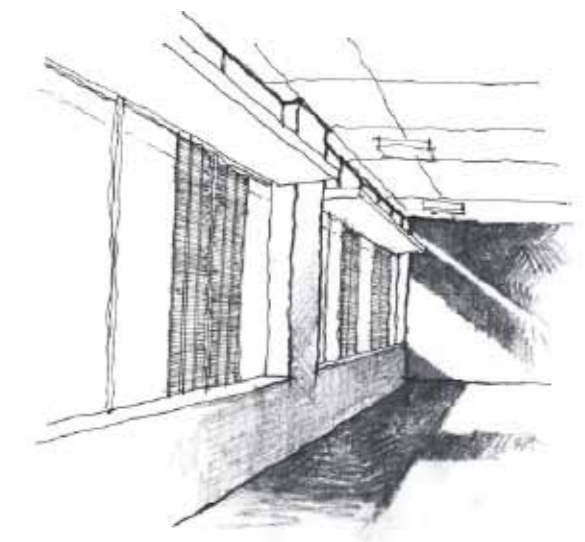


Figure 344: Articulation of interior spaces through in-situ cast light shelves

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

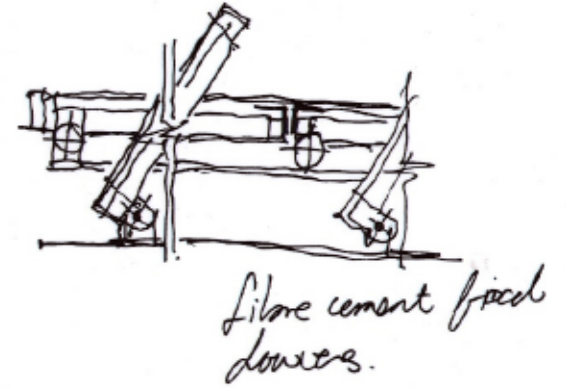
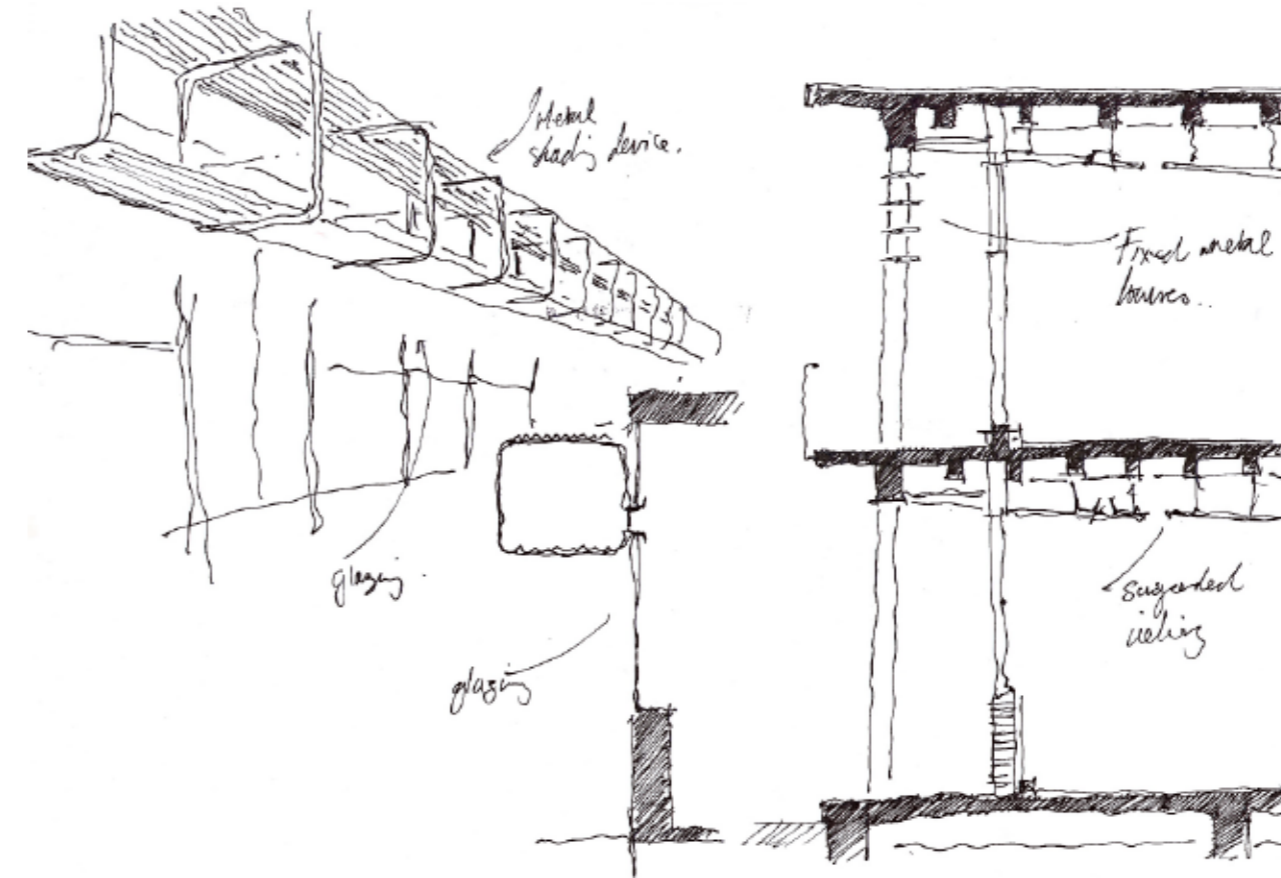
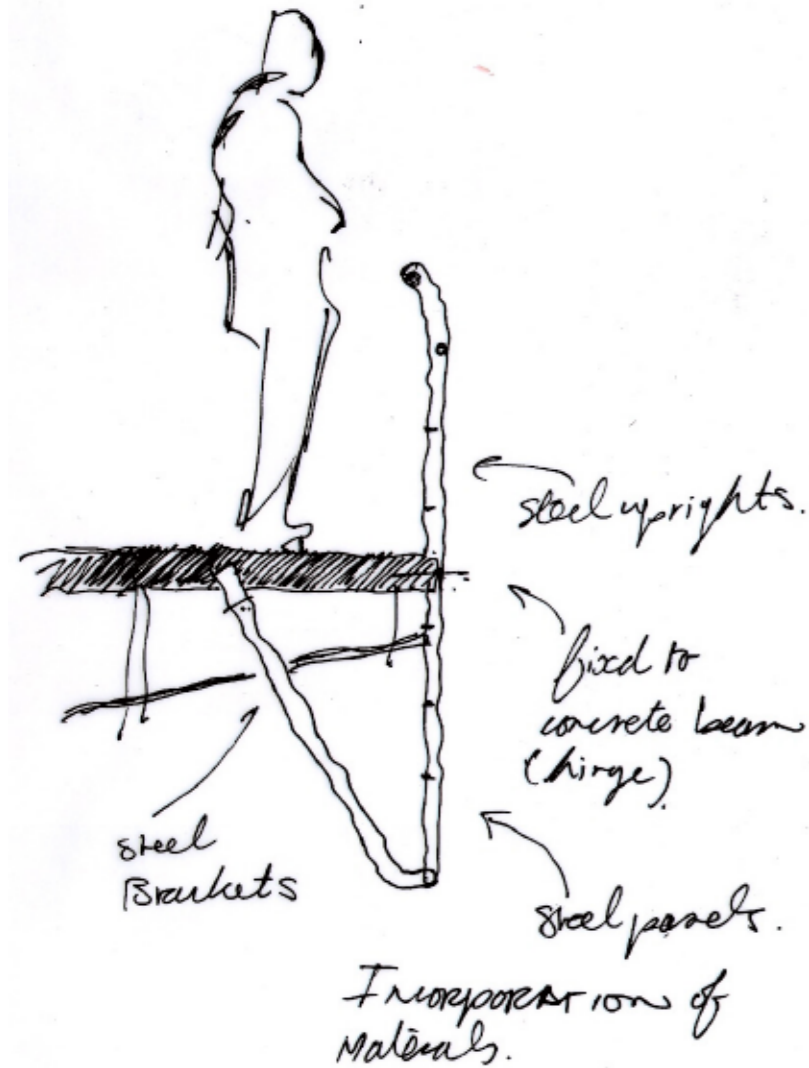
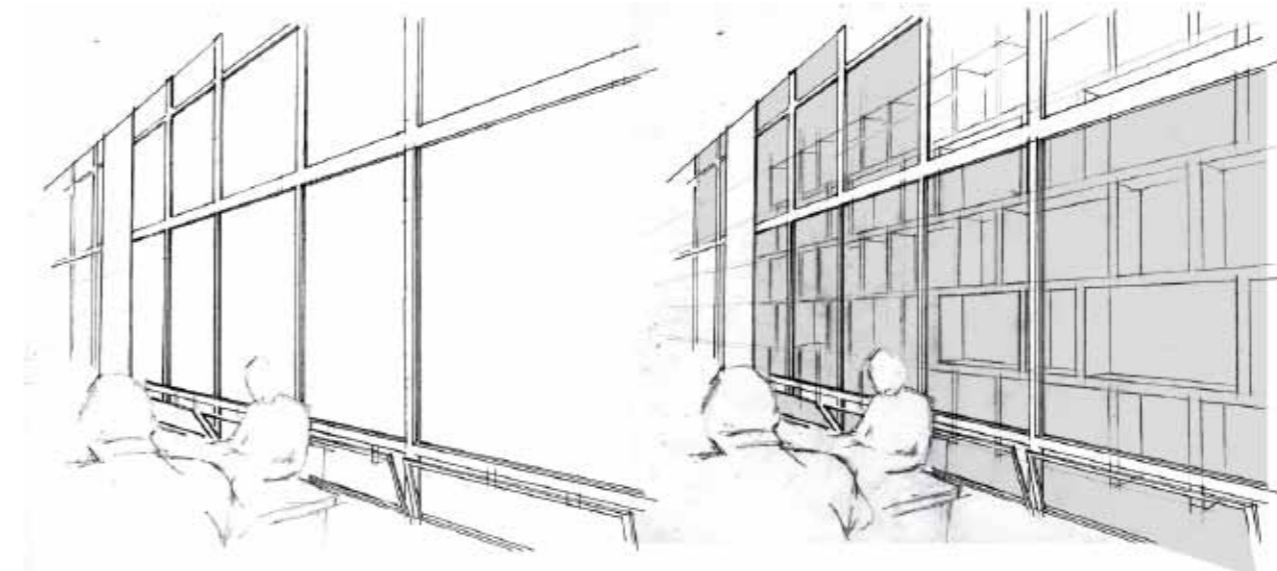
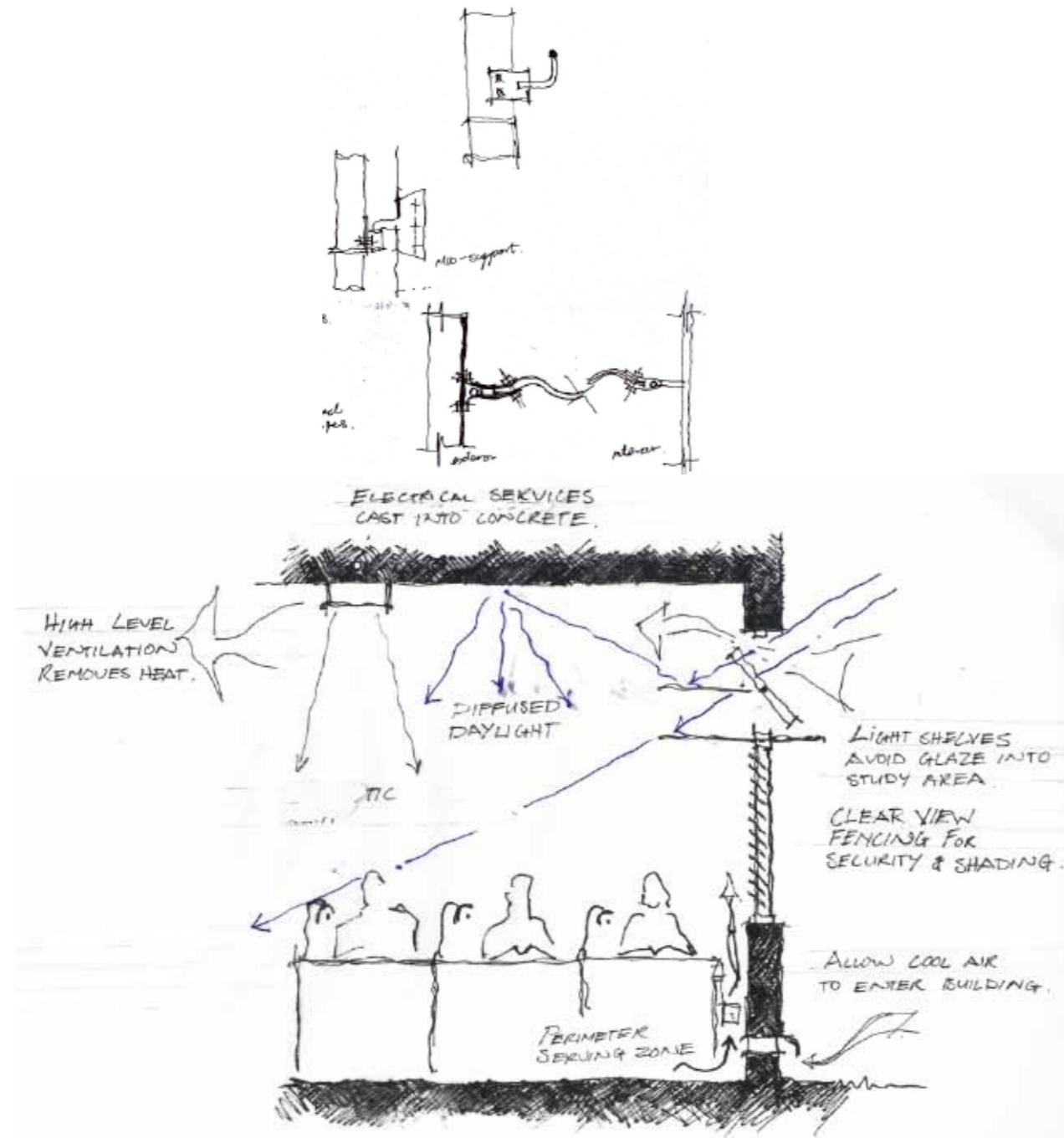


Figure 346: Fiber cement louver detail

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

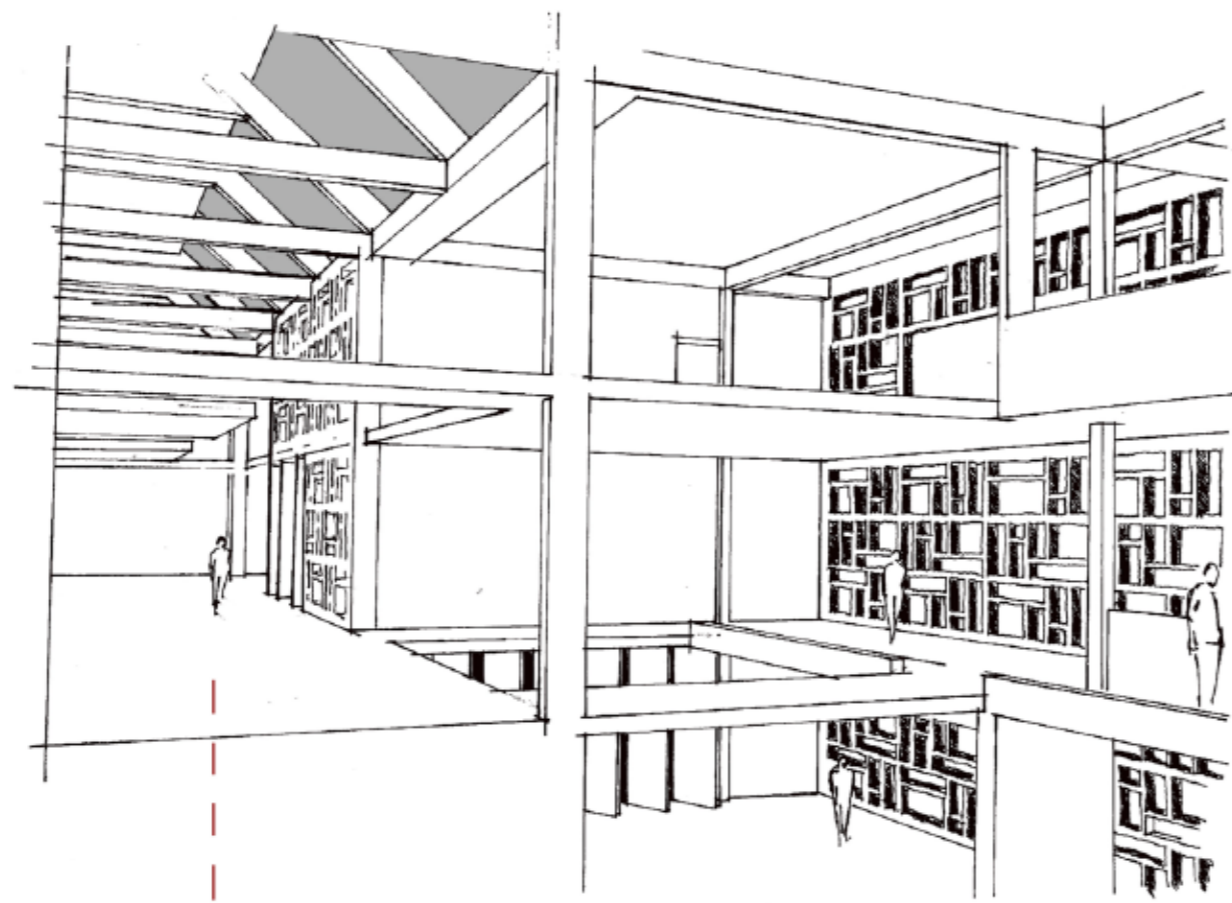


Figure 354: Defining space through basic structure

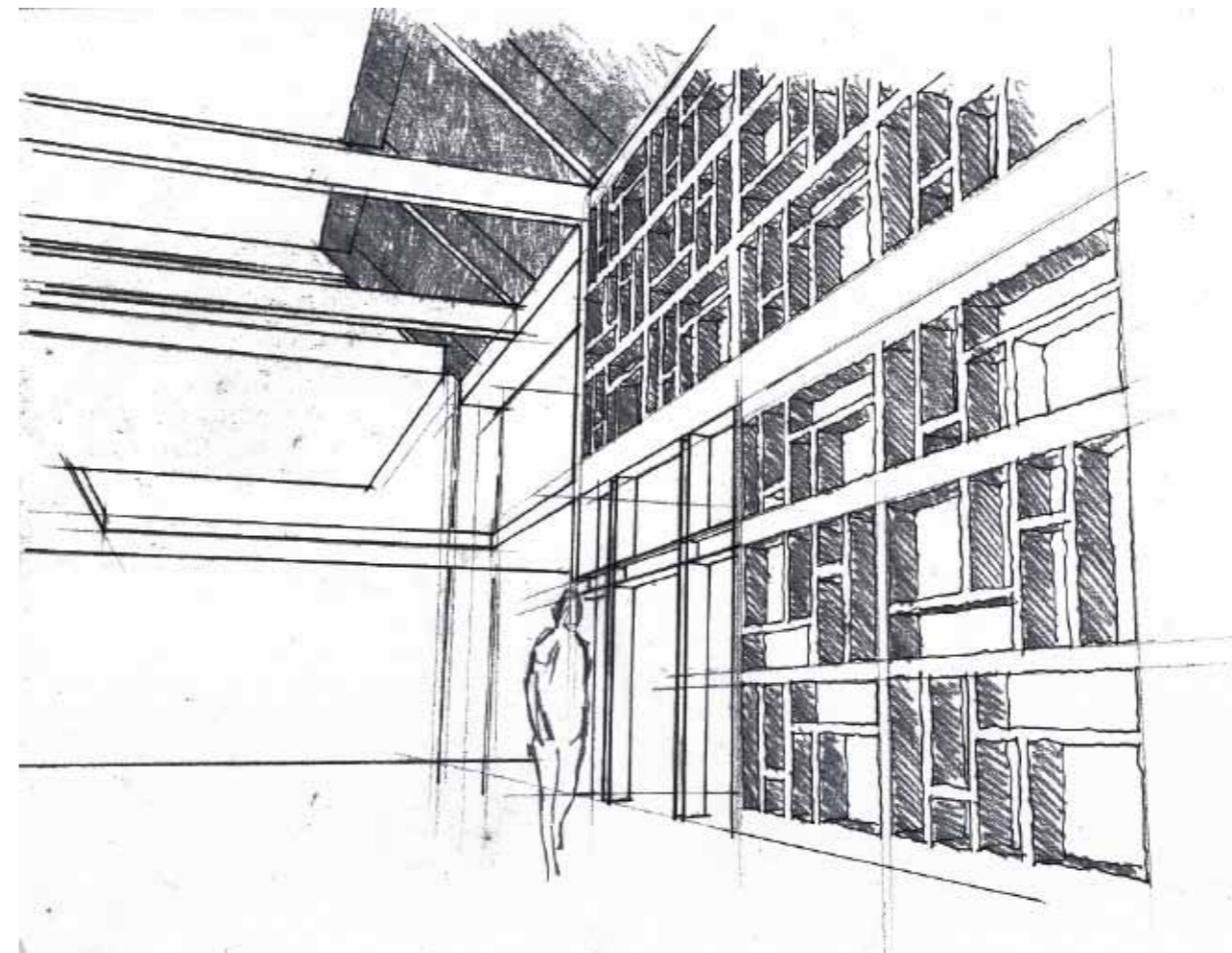
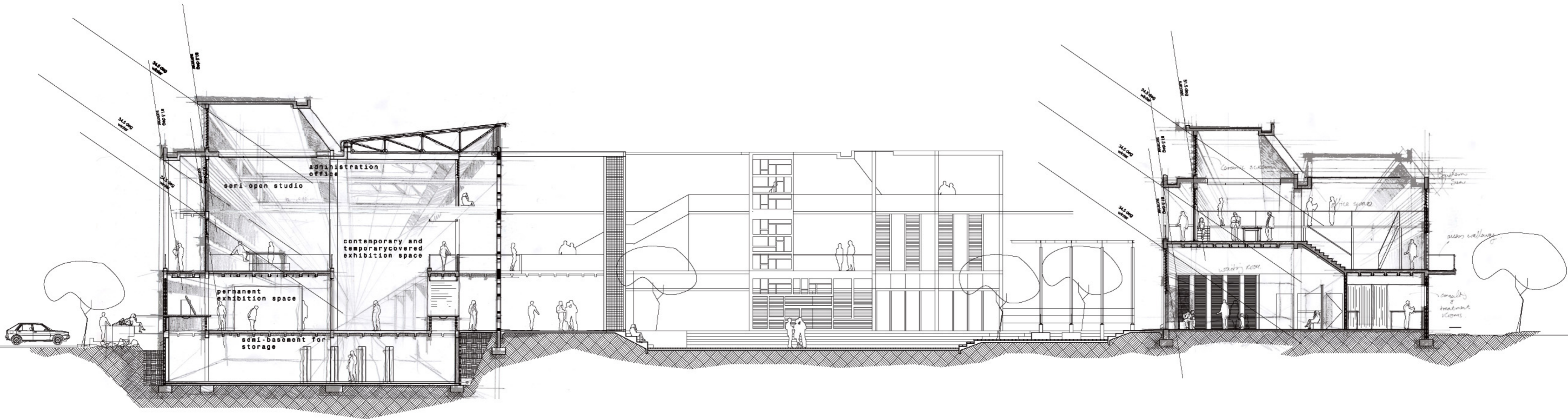
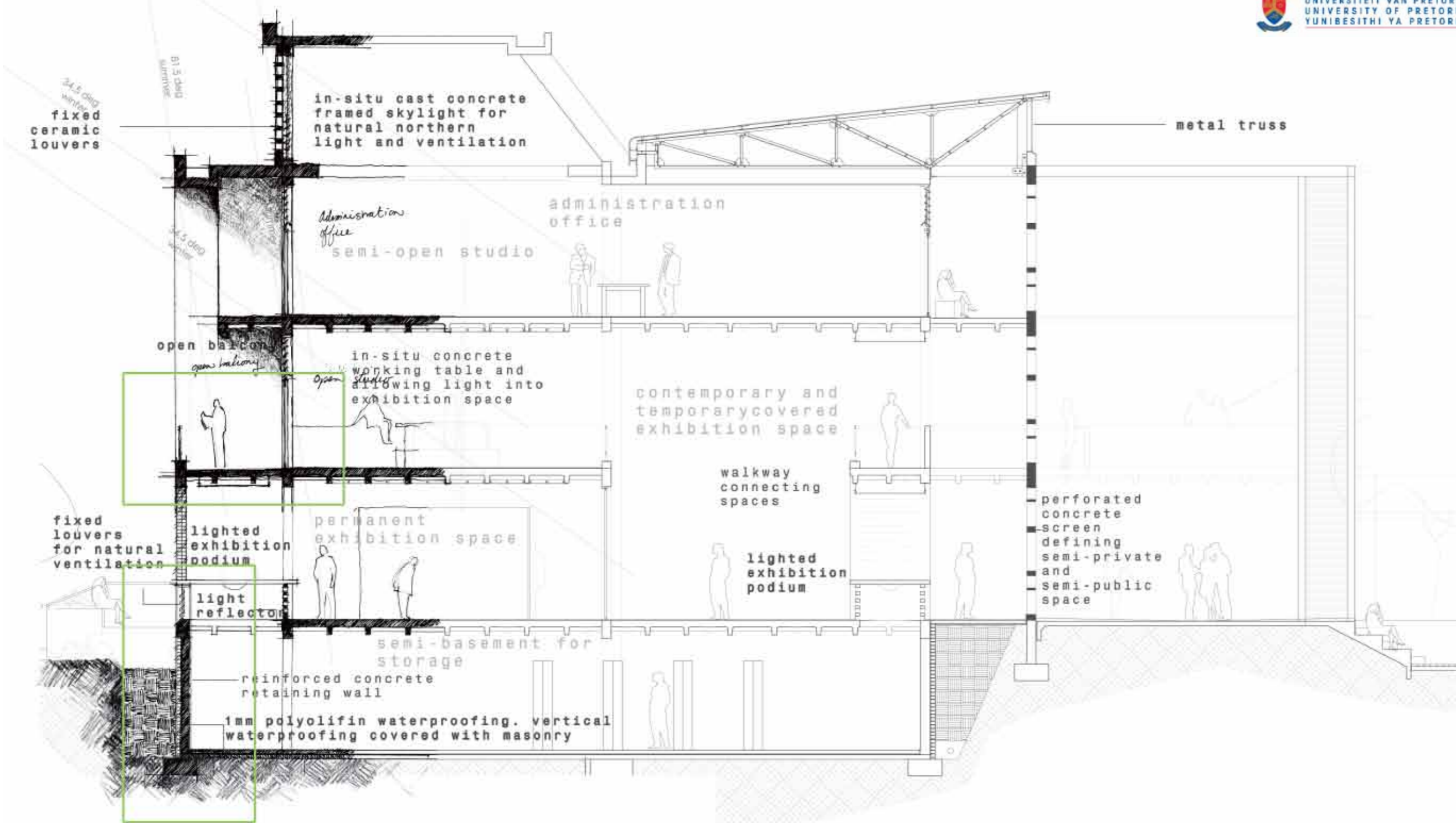


Figure 355: Articulation of façade and interior space through screens as sun-control





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

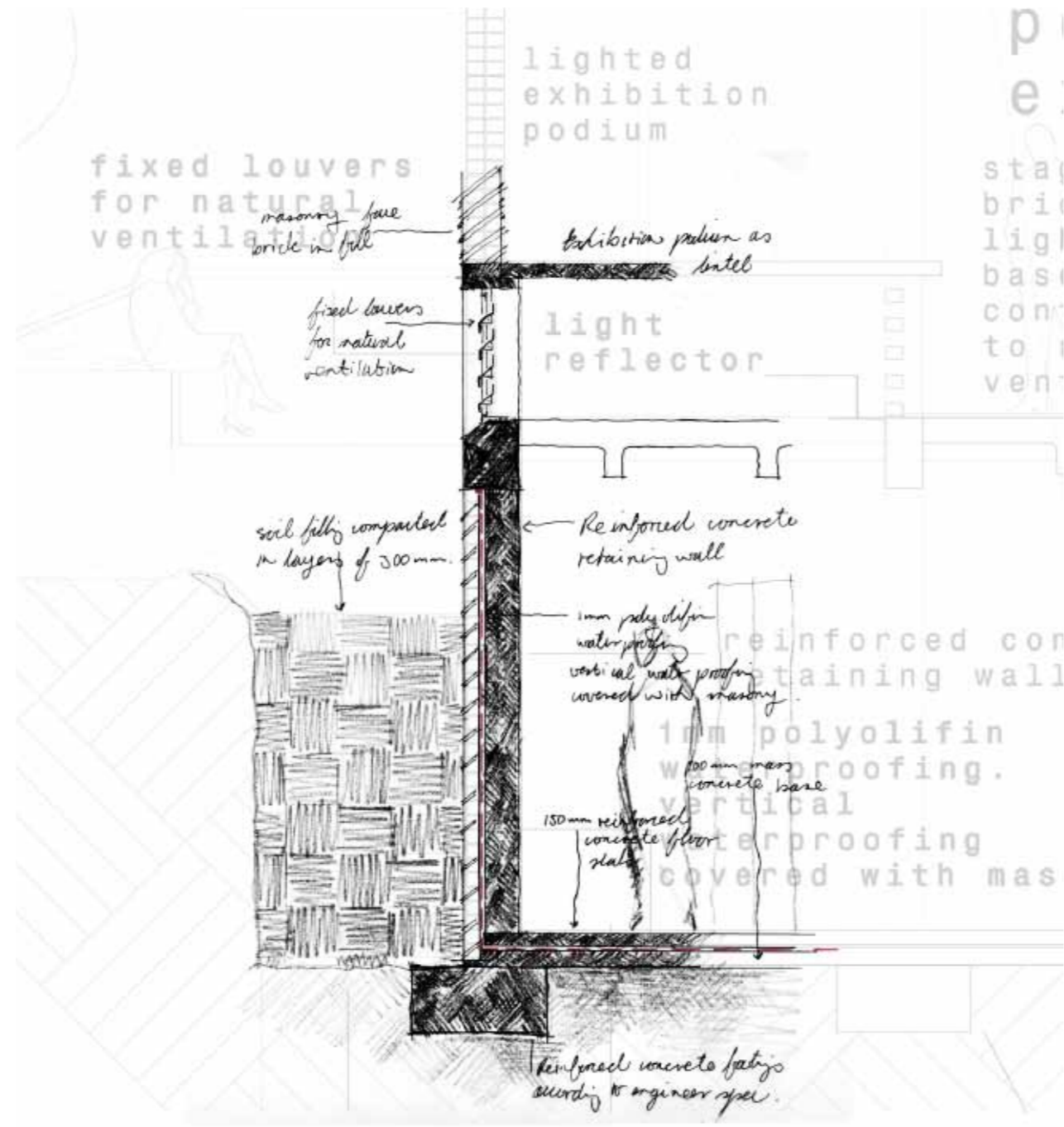


Figure 355: Semi-basement detail

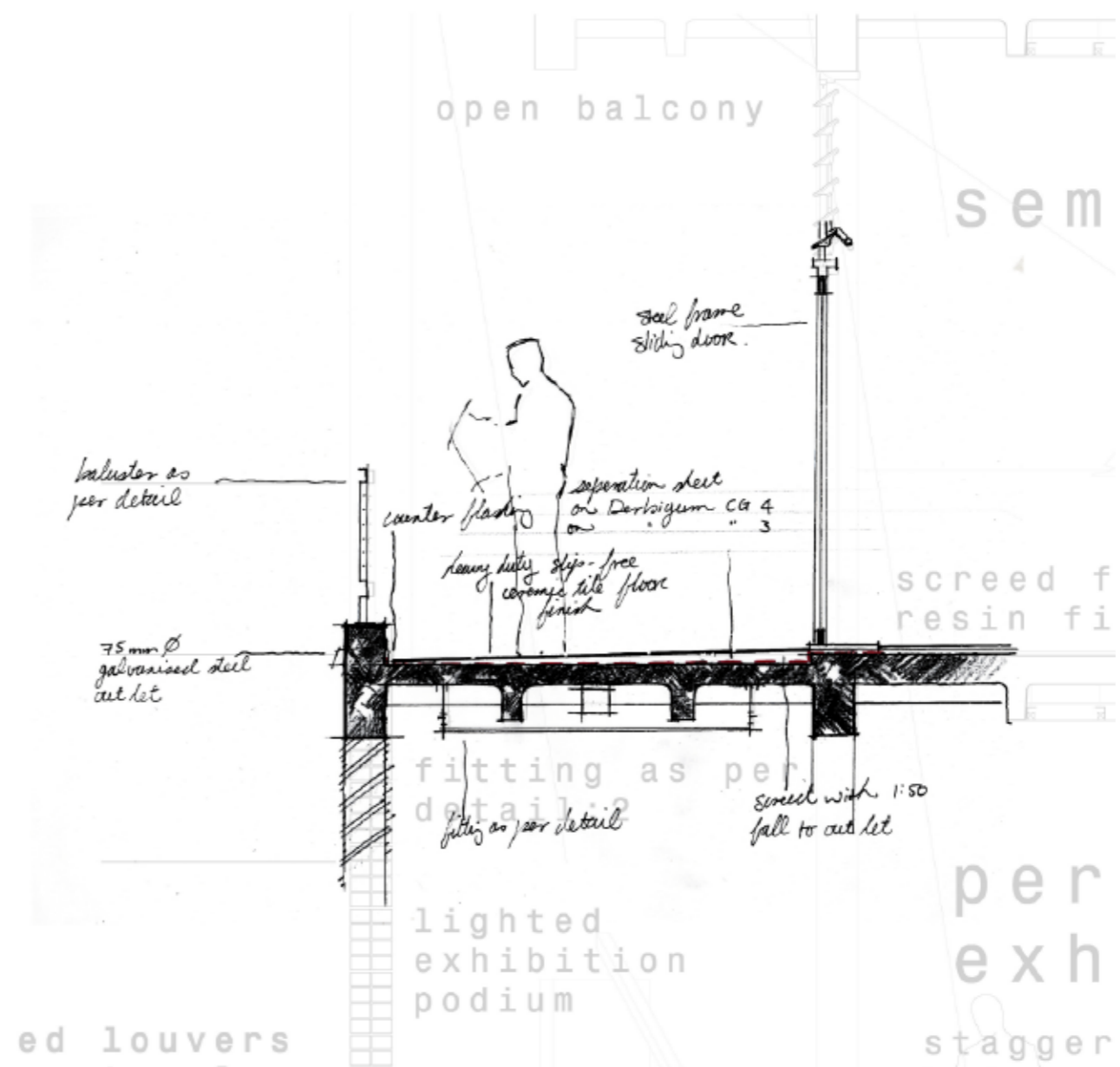
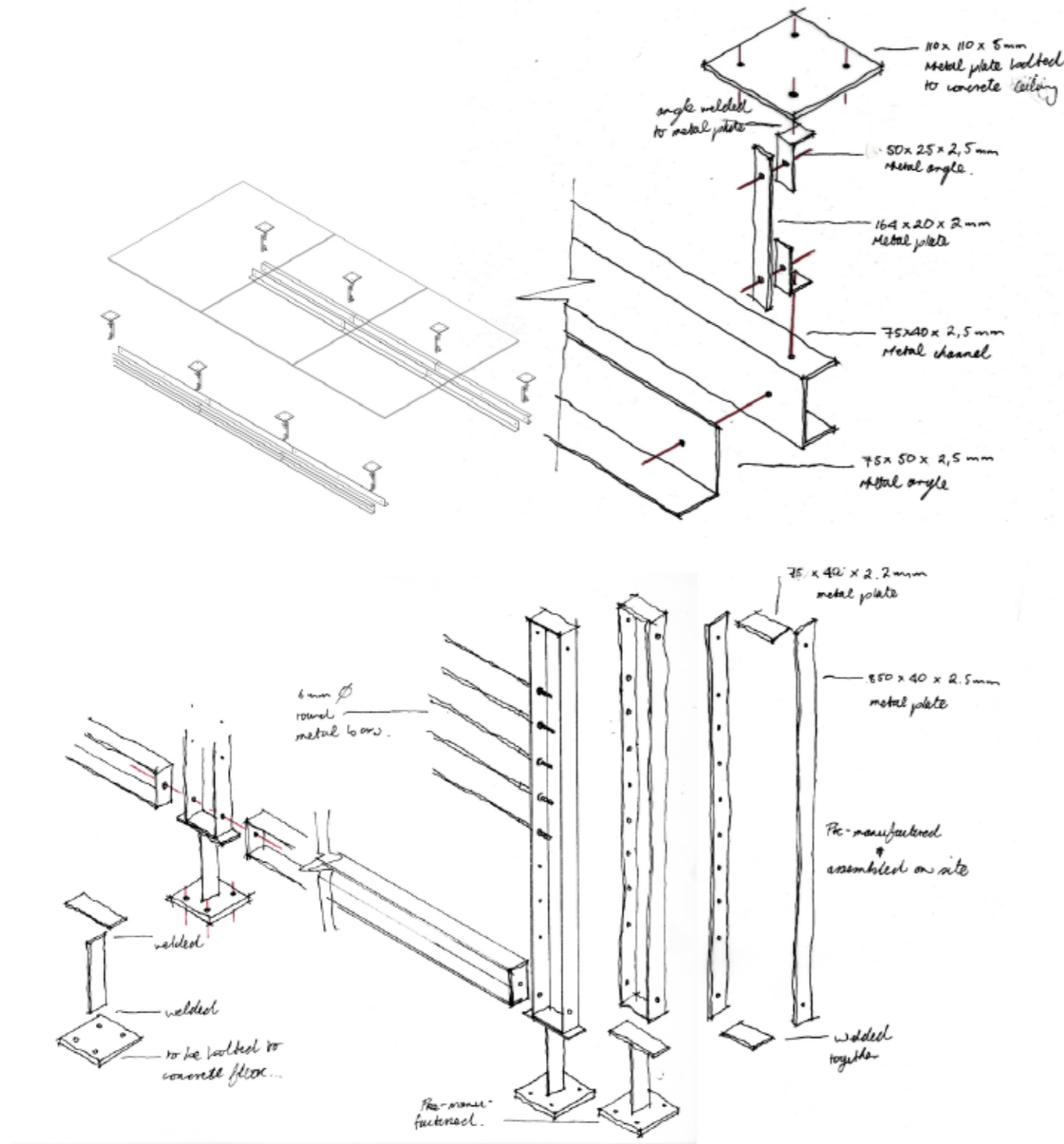


Figure 356: Balcony detail



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

Page 151: Figure 357: General metal lighting or suspended ceiling connection detail

Figure 358: General metal baluster connection detail

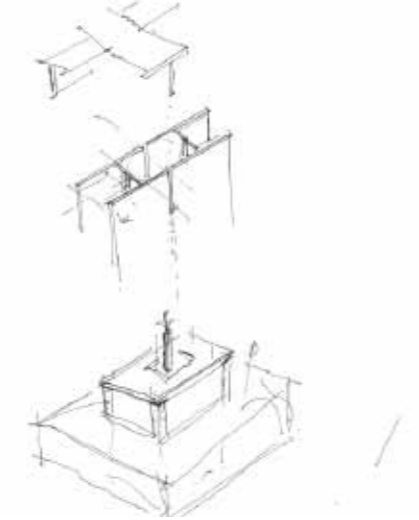
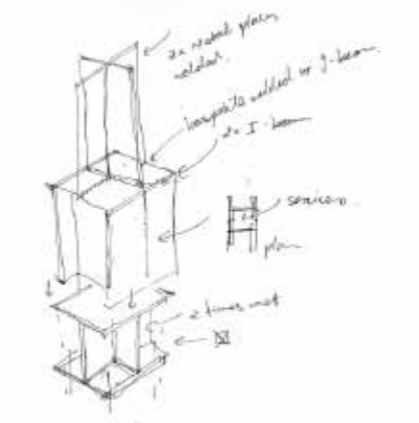
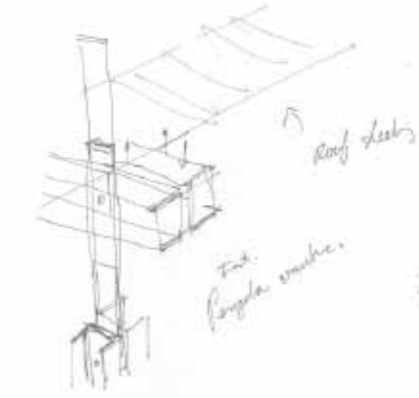
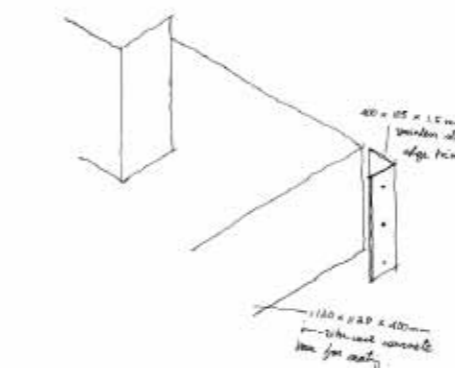
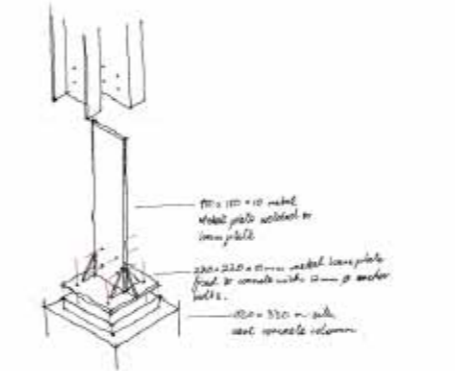
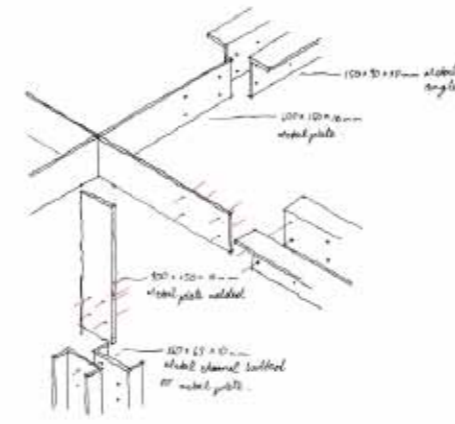


Figure 365-366: Pergola connection details