

**detail**

## site

Position of the site demands interaction with the surrounding fabric. The design does not intend to replace the existing character, but to attribute to it by adding layers of intervention and meaning to it. The design aims to integrate the Brownfield site into the existing fabric of Vermeulen and Church Street. Of further importance is the 2,5m slope of the site from south to north over a distance of 140m. Infill building components are terraced, following the rise of the terrain towards the southern boundary. All levels are accessible to all abilities.

## services

Stormwater runoff to follow the natural slope of the site. Stormwater is dispatched of by storm water channels on various levels on the site. The stormwater channels connect to the municipal stormwater in Vermeulen street. Water runoff on hard surfaces of the open public courtyards to flow to nearest covered drain to connect to municipal services.

All main municipal services run along Vermeulen Street. All new services to connect to municipal connection. Building services in the existing library building will be used in the functioning parts of the building. Service corridor for public ablution facility to be covered with mentis grating panels.

Municipal access for the collection of refuse and services is through the proposed service entrance on the southern site boundary through Church Street. Service corridor also used for bar and kiosk deliveries.

## security

Access to the area is possible from three entrances. The main entrance being the new connection with the Noordvaal Thoroughfare, with the existing street entrance through the library building acting as a secondary entrance. The proposed entrance to the underground parking basement on the eastern boundary provides an alternative route in case of emergency. After hours access to be controlled at the entrance connection of the Thoroughfare. Possible after hours closure of the entrance connection to the Thoroughfare to be considered. The Knowledge Room will feature a pass through sensor arrangement, preventing the unauthorized removal of library material.

## public space

The creation of a successful public space relies on a dynamic set of connections rather than one destination. The intervention creates connections between the street, arcade, parking garage and existing building. Public space plays a role as a catalyst for urban regeneration and development, by improving the quality of civic life, and has the capacity to be the container of as many aspects of community life as possible. The design should promote the freedom for people to choose how to inhabit or interpret the place within certain constraints.



fig. 5.01. Concept sketch of entrance to underground parking arcade



## landscaping

To accommodate many varied activities, a range of different kinds of space are necessary, with differing degrees of shelter: roofed, shaded by trees or open to the sky; with differing degrees of enclosure and connection; with differing surfaces.

The proposition is that if edges, level changes, sheltering elements paving patterns, trees – all the components of exterior space- are organised to make subtle differentiations and dimensioned for various sizes of groups, they will invite people to inhabit them in various ways (Cooke 2005:33).

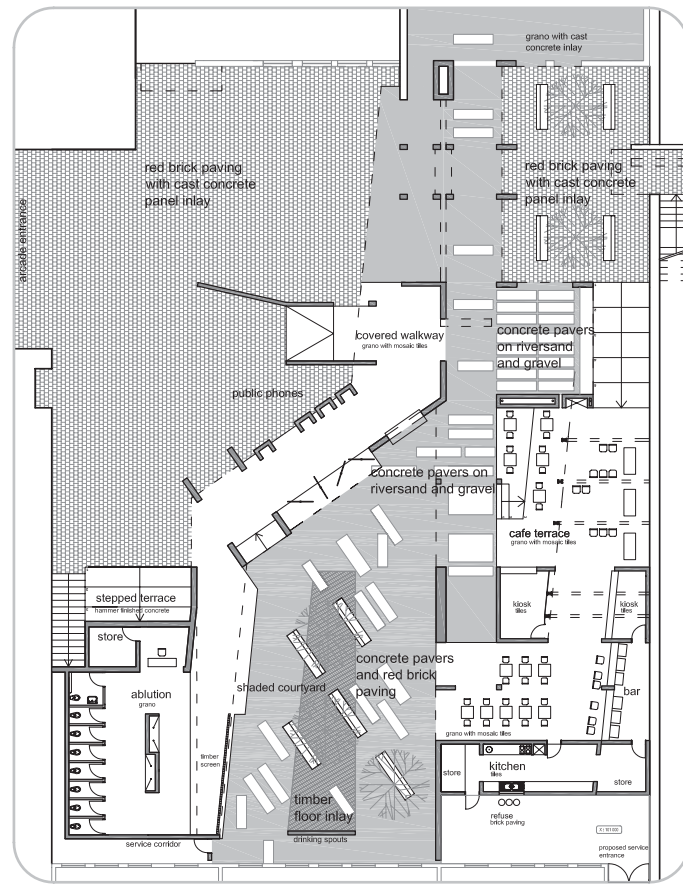


fig. 5.03. Detail plan indicating exterior floor surfaces. Not to scale.

### EXTERIOR FLOOR SURFACES

Floor surfaces are used to indicate the different areas and movement routes through the area. Red brick paving continues from the arcade floor surface into the site. Paving is laid in stack bond, suggesting the direction and rhythm of movement.

From the arcade the primary view of the brick pattern should occur perpendicular to the brick course. Alternative surface includes cast concrete panels either on gravel or inbetween paved areas.

The centre of the shaded courtyard is differentiated by a broad timber deck strip, laid in a herringbone pattern.

### LIGHTING

Exterior lighting provides a sense of security at night, and therefore improves the quality and use of the area. The objective is to provide a general level of illumination over the central areas, local lighting to task specific areas and lighting at a low level, illuminating walkways for easy route recognition.

### DRINKING SPOUTS

Wall mounted stainless steel spouts provide drinking water. Valves are manually operated. Mentis grid to cover the overflow drain for excess water.

### LITTER BINS

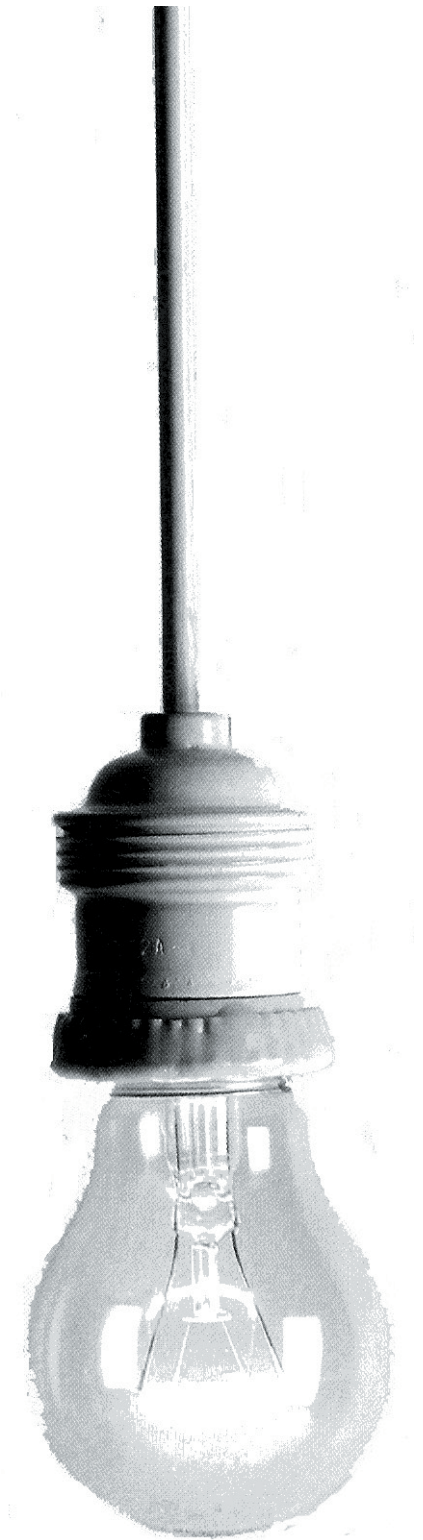
Litter bins need to be conveniently positioned close to where people sit and move, and also be immediately obvious. Bins are sited in recessed walls, to avoid obstruction, and constructed with a fixed outer concrete casing, together with an inner, corrosion resistant, lockable but removable, perforated sheet metal lining for emptying.

### VEGETATION

Mature Celtis Africana (white stinkhout) trees will provide adequate shade during summer. Its deciduous nature will present the area with a differing character every season, and allow for ample sun spots during winter.

### MAINTENANCE

The use of low maintenance, durable materials lowers the running cost and physical labour maintaining the area. Minimal painted exterior surface, and the use of raw materials reduce maintenance costs.







**the habitable space between things**

The art of architecture is not only to make beautiful things – nor is it only to make useful things, it is to do both at once. Hertzberger (1991:176) calls it 'inviting form', describing architecture which is not only accommodating but also stimulating.

Design of public places should be more useful, more applicable and suited to more purposes. The objective is to increase a space's accommodating potential, thus making it more receptive to different situations. The habitable space between things represents a shift in attention from the official level to the informal, to where ordinary day-to-day lives are led (Hertzberger 1991:188).

*Response: Level differences are consciously exploited to provide seating. Parapet walls are broadened to provide somewhere to pause, lean against or to sit on.*



5.06

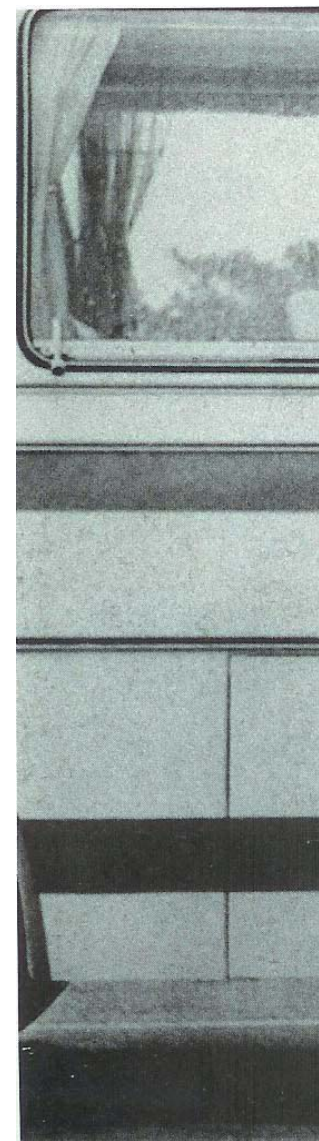


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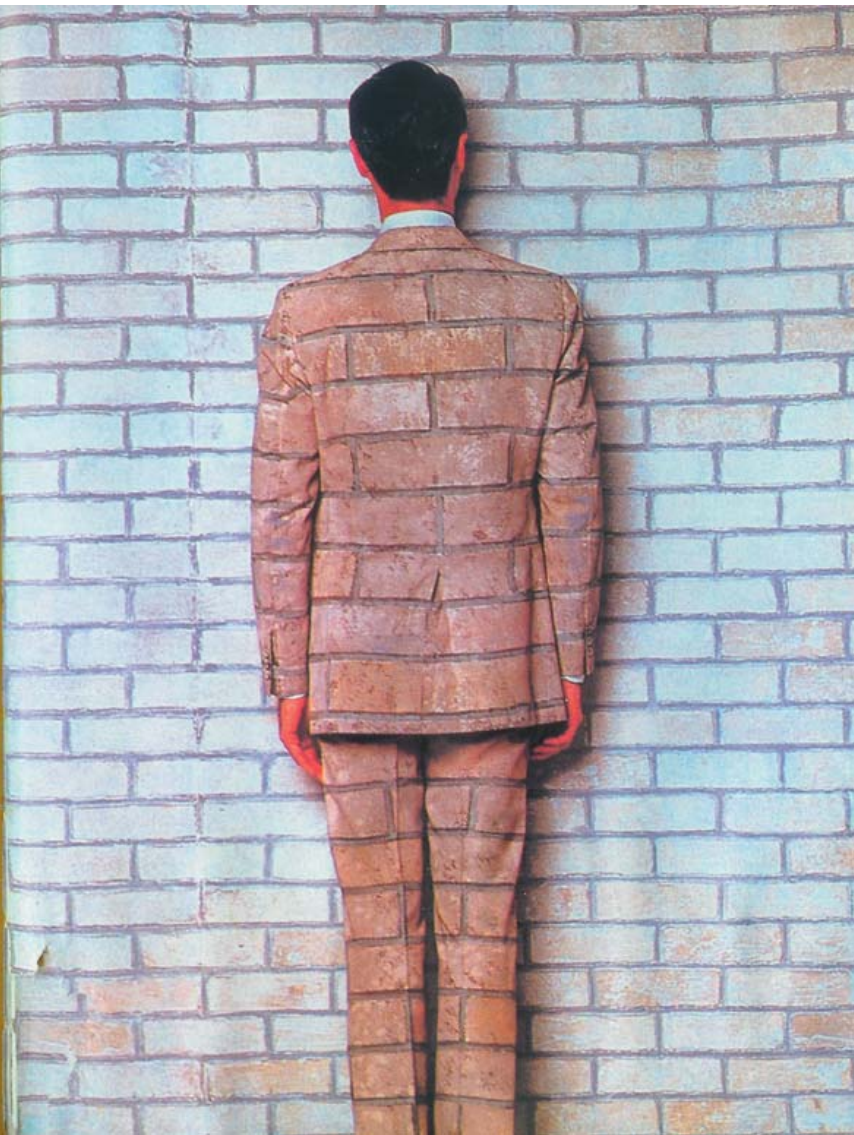
5.08

fig. 5.06. Timber bench.  
fig. 5.07. Structure as seating.  
fig. 5.08. Bollard seating.





## materiality



Sustainable public places need to be robust enough to endure environmental and human impact. Material quality of the intervention is intended to be created over time. Similar to the surroundings, the space will become a patchwork of cultures and materials, and will gain a patina that allows it to sustain and be homogenous with the adjacent urban fabric.

Materials are selected for tactility, durability and strength. Signs of vandalism are regularly noticed in public areas. The objective is to create a robust area for human activity, discouraging damage to it.

In-situ concrete is used as a structural, sculptural and landscape element. All concrete walls are high finished off-shutter with varying finishes. Movement routes are constructed from 30 MPa reinforced concrete and sand-blasted to reveal the aggregate and aid in slip resistance of the walkways. Exterior steps are hammered finished. All concrete surfaces to have expansion joints at 1500mm intervals, filled with polyethylene joint filler.

A third neutral material acts as a transition between contrasting materials, and different floor surfaces should therefore be separated with a stainless steel strip. Interior floor surfaces are finished with 25mm concrete screed tinted and finished with a layer of 6mm clear epoxy. Cast concrete pavers in different sizes are used in paved areas in-between either red brick paving or gravel.

All glass used are 6mm laminated safety glass. The component is strong and fire proof. Aluminium window frames lower maintenance, and prevent corrosion.

Doors are manufactured of hardwood, and varnished. Ablution cubicle doors have self-closing door hinges. All fixings are non-removable and made of galvanized steel or stainless steel.



fig. 5.10. Cast concrete pavers on gravel

## construction

Construction becomes lighter and connections more visible and exposed as the intervention fills the urban gap and punches through the existing building towards Vermeulen Street. The intervention in the gap (described as infill), is perceived as a solid infill inbetween the existing boundary walls. Mass is asserted by concrete columns, thick off-shutter walls and brushed concrete walkways. Tectonic mass reduces by introducing steel elements as the structure enters the existing building. The intervention in the existing adds another material layer to the present. Added elements of the intervention should not be perceived as existing. All new elements and their connections are announced. Either through a gap, division of materials, visible fastening methods or lighting.

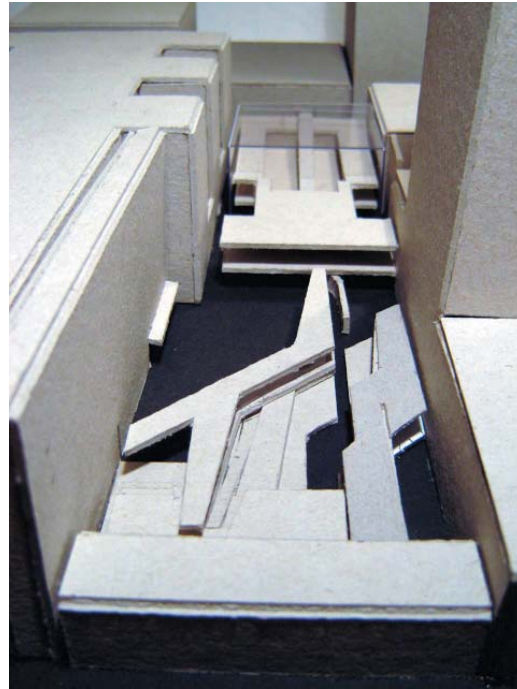


fig. 5.11. Concept model

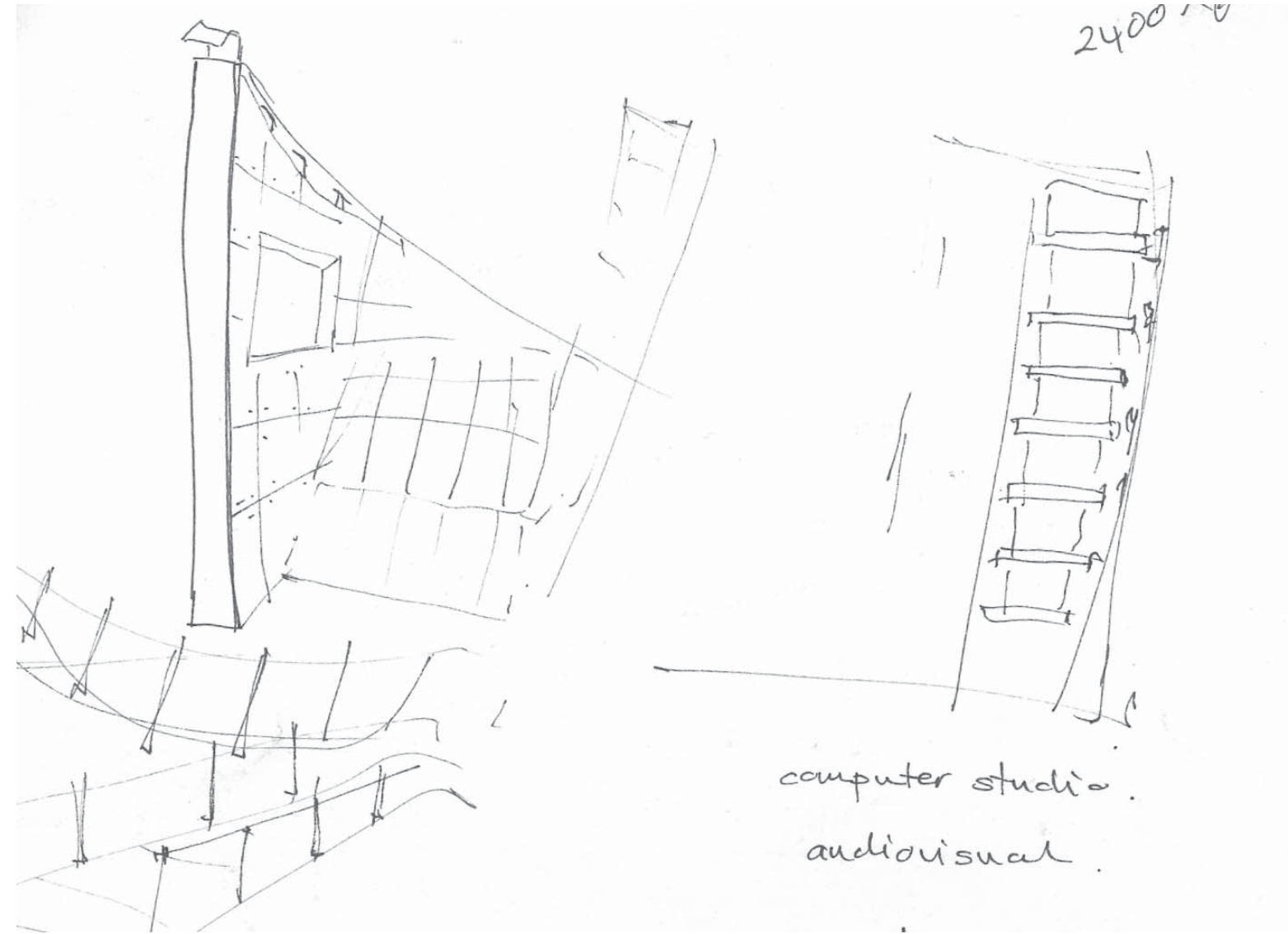


fig. 5.12. Concept sketches of lighter, tactile interior construction



## connections

By showing how things work, and letting each element speak for itself as far as its function in the larger whole is concerned, the architecture of a building can intensify one's awareness of the phenomena that make up our environment. The expression of construction gives interdependence to the component parts. A shift of emphasis occurs from the objects themselves to what connects them, to their interrelationships. The connections of new elements with existing fabric are designed in such a manner.

### INSERTED BRICK WALL IN THE PUBLIC LINK TO THE LIBRARY

The existing first floor slab is cut 200mm either side of the protruding wall. Structural support is added through a steel I-section beam bolted to the existing floor slab. Beam to end 300mm before the supporting wall, accentuating the addition. Line of insertion is repeated at the base of the new wall with a 200x150mm parallel strip removed of the existing floor, and covered with a metal grid infill and lit from below.

### INSERTED STEEL COLUMNS

All new steel columns to be fastened to steel angle supports to end 200mm above finished floor level. Base plates to be exposed and fastened on top of finished floor level.

### FLOOR FINISH

All new concrete screed and floor finish to be finished with stainless steel angles at the ends.

### H-COLUMN FIXING CONDITION

H-column as part of structural frame in circulation shaft, not fastened to neighbouring building. Aluminium channel fastened to building, into which column clips into, to provide lateral support and allow for expansion movement between two existing buildings.

### CONCRETE SLAB FINISH

The exposed cut ends of concrete floor slabs are covered with new H-section beams to announce the threshold between existing and added.

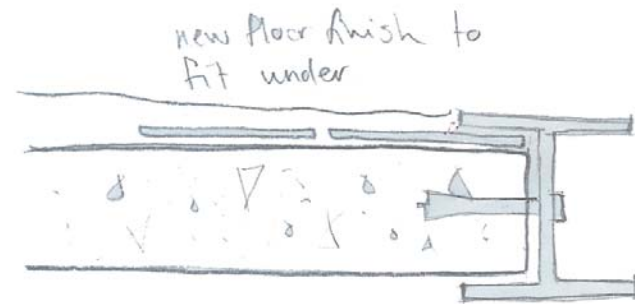


fig. 5.13. Concrete slab finish

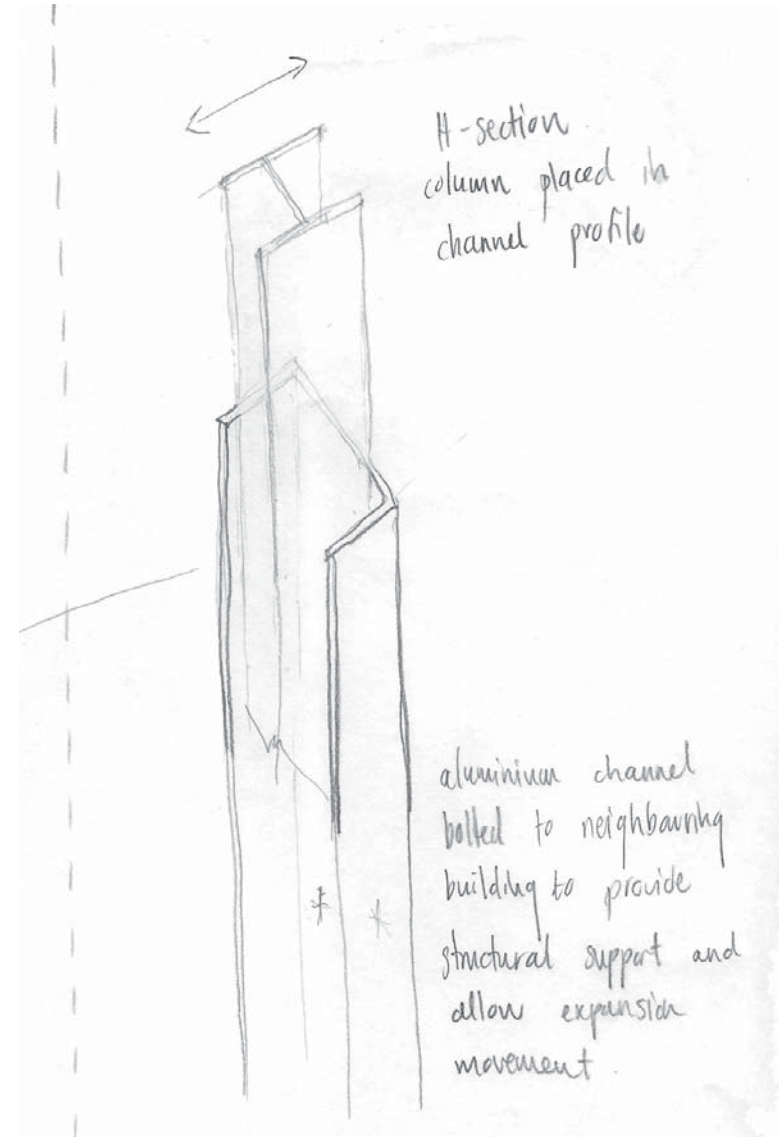


fig. 5.14. H-column fixing

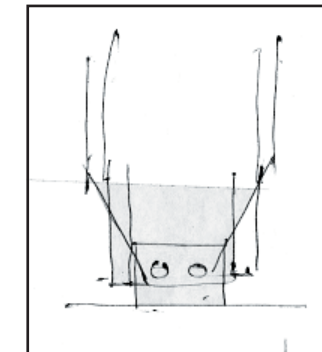


fig. 5.15. Inserted steel I-column fixing

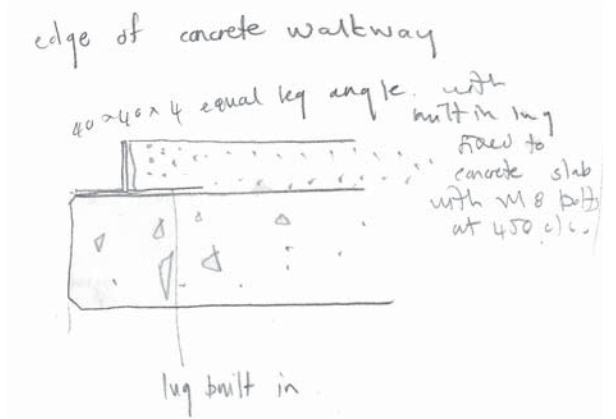


fig. 5.16. Floor finish

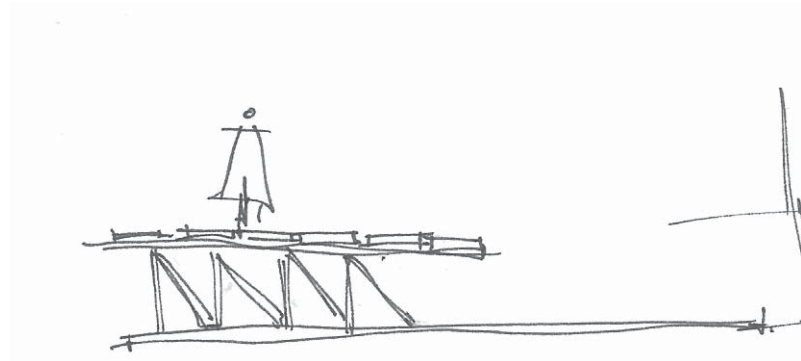


fig. 5.17. Raised timber floor

## knowledge room

The materiality of the intervention inside the existing building addresses addition in a specific space. The intervention challenges a new perception of the double volume shaped by the barrel vaulted ceiling. The inserted composed elements propose new use of the existing space. A 400mm raised timber floor directs one into the area, and defines the circulation and cybercafé area by means of the level change.

The eastern wall is defined by curved fiberglass and polycarbonate panels. Suspended curved fiberglass panels are painted with white light reflecting paint to carry natural light from the existing east facing windows into the area. The windows will not create glare in the area with computer screens as they are 2100mm above raised floor level, and facing to the back of the computer screens. Each curved panel ends 300mm beyond an inserted tubular skylight panel, providing additional light to the area. An acrylic skylight dome is installed on the east side of the existing clay tile pitch roof. The existing roof truss should be strengthened with an inserted steel channel bolted to the truss, to support a steel cable frame to which the skylight and fiberglass panel is fastened.

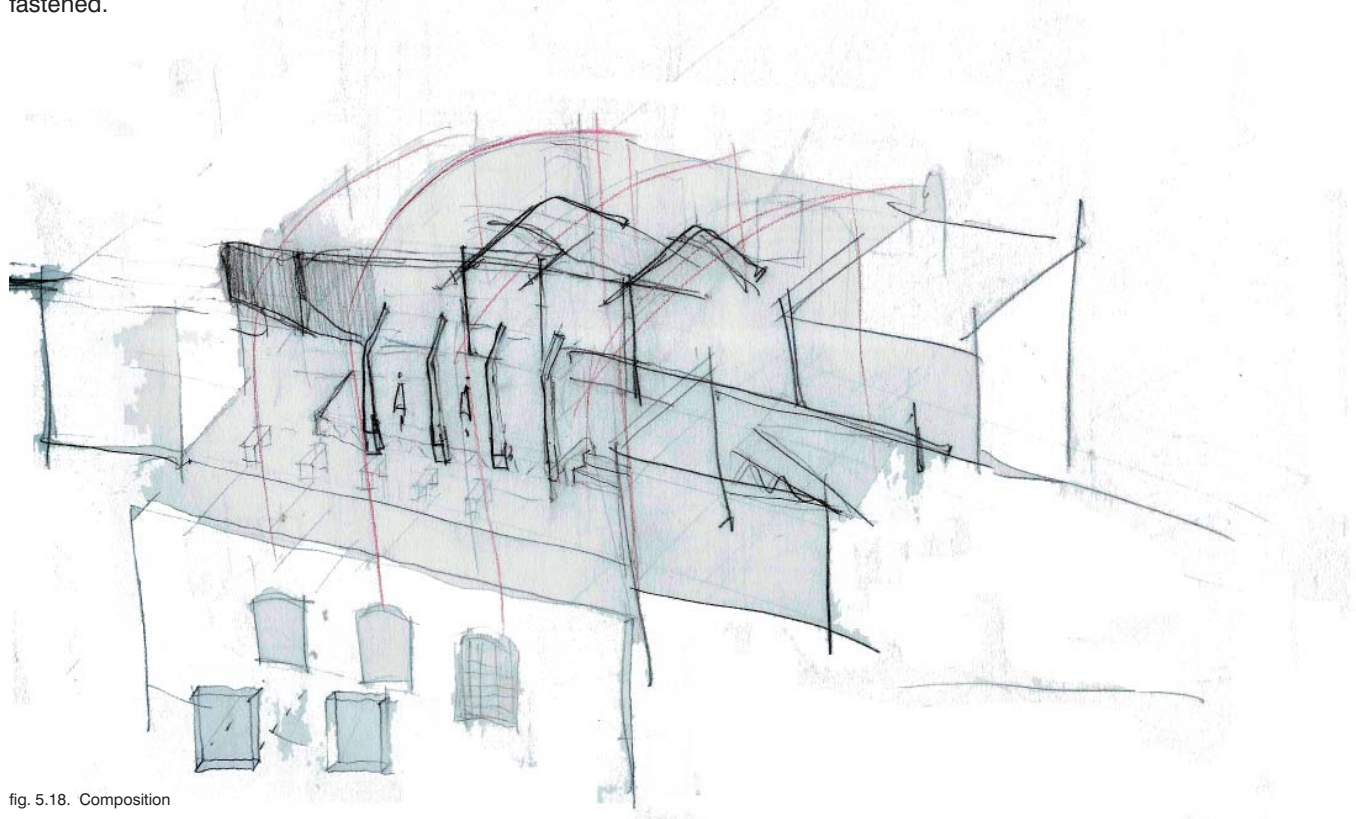
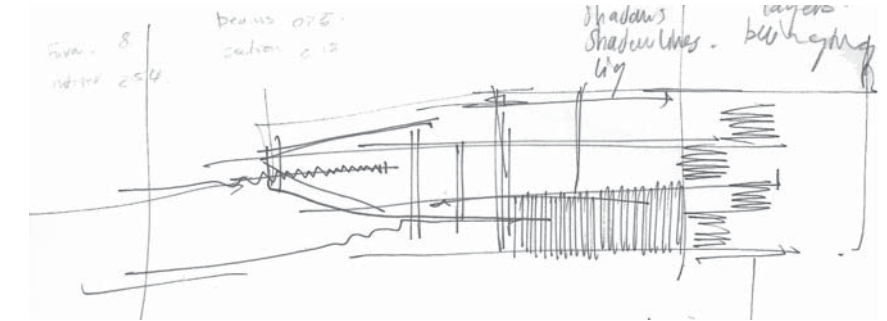
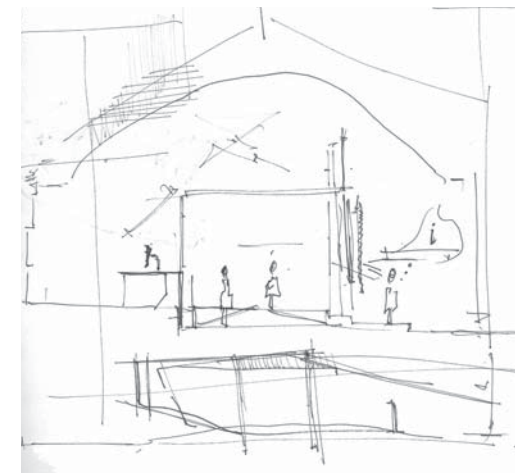


fig. 5.18. Composition



Continuous hot rolled steel i-sections form a structural frame for work stations in the cybercafé. Cast concrete keyboard desks, and 10mm frosted clear polycarbonate panels are inserted in between two columns, to provide backing screens. The panels are horizontally braced for support. The frames are bolted to the existing floor, underneath the raised floor and supported steel tension cables fixed to the strengthened roof truss.

Fluorescent striplights are inserted inside the flanges of the I-section columns and covered with perspex, to provide additional lighting.

Addition of protruding windows to the western facade, visually connects the Knowledge Room with the library courtyard below.

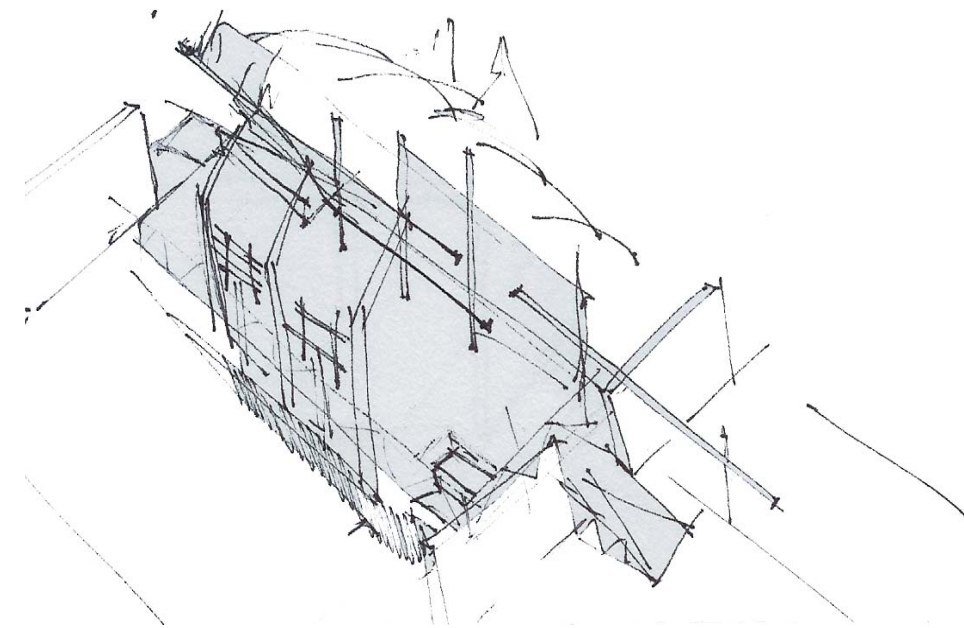


fig. 5.19. Composition of



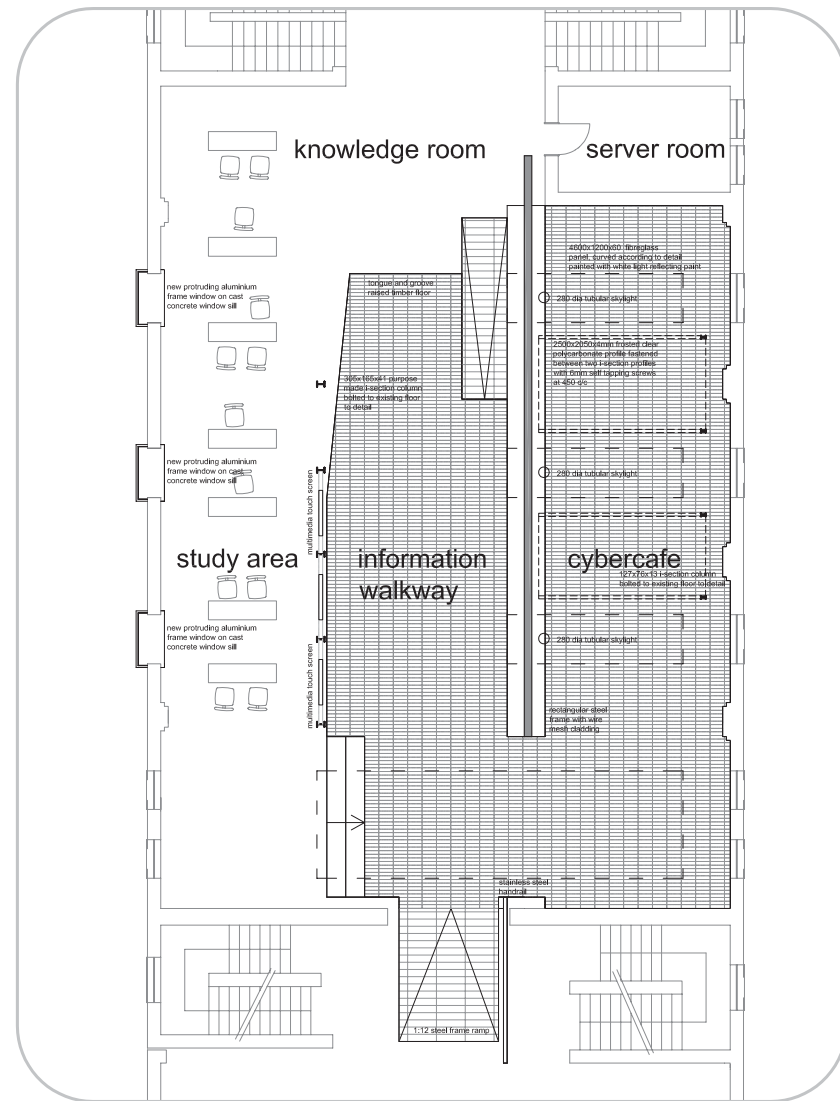


fig. 5.20. Detail plan of Knowledge Room. Scale 1:200

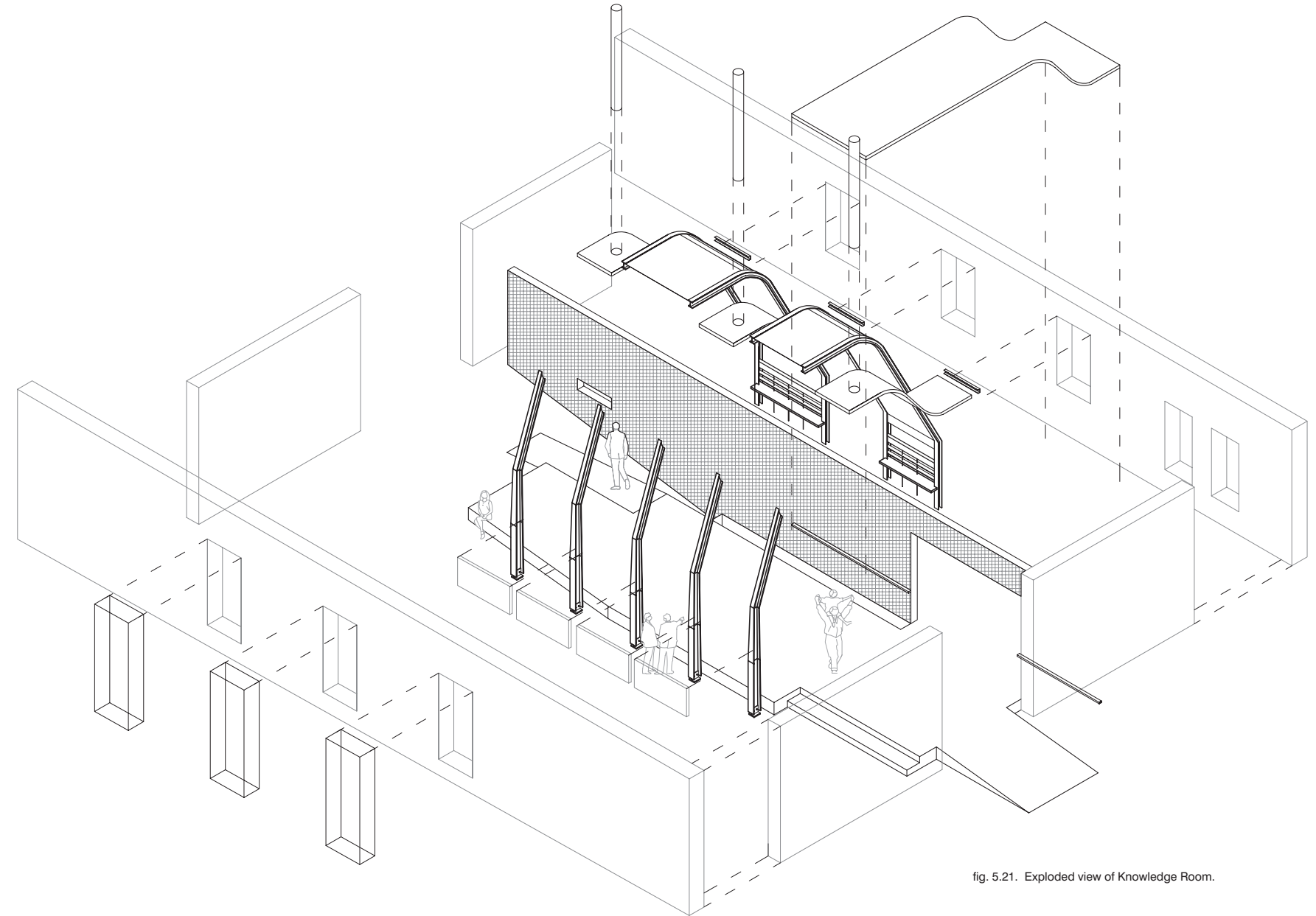


fig. 5.21. Exploded view of Knowledge Room.

## circulation

The design forms part of the urban fabric and supports the flow and movement patterns of the CBD, especially the pedestrian network. The intervention uses the existing conditions to create a more successful place of encounter. Various routes and access points create a non-sequential experience of space, immersing the visitor in the event of the place. The success of the intervention relies on presence and movement through the area.

Circulation occurs on two levels. Horizontal circulation relies on the movement from either Vermeulen or Church Street through the Noordvaal Thoroughfare into the infill area, or directly from Vermeulen Street through the existing library building, into the infill area. The covered concrete walkway pierces into the existing building thus extending the horizontal plane of movement into the existing. The walkway provides a raised level of inhabitation and movement from the city floor. The accessible roof and level changes which doubles as seating adds to the flexibility thereof.

Two transparent staircase blocks, inserted into the 3,6m pan-handle allow for vertical circulation. It connects public presence and movement to all three levels of the existing building. They are visible from street level, announcing activity in the city. The blocks consist of a steel frame hanging between the existing library and the neighbouring building, supported by two H-columns.

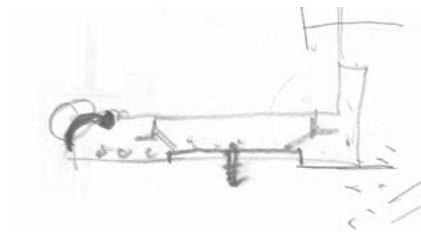


fig. 5.22. Cast concrete tread

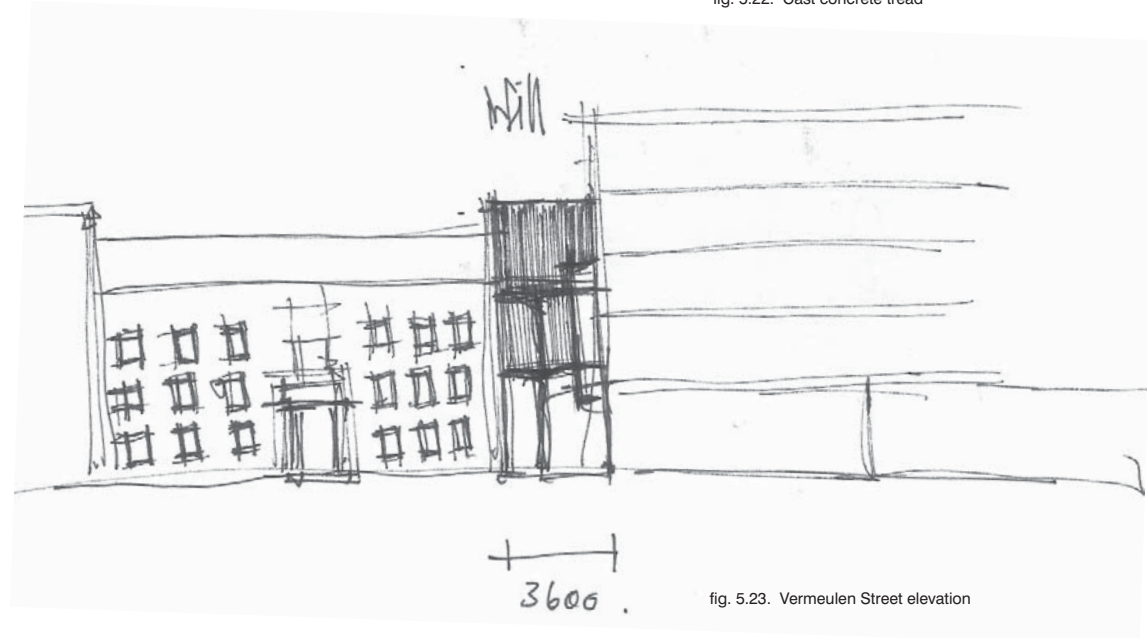


fig. 5.23. Vermeulen Street elevation

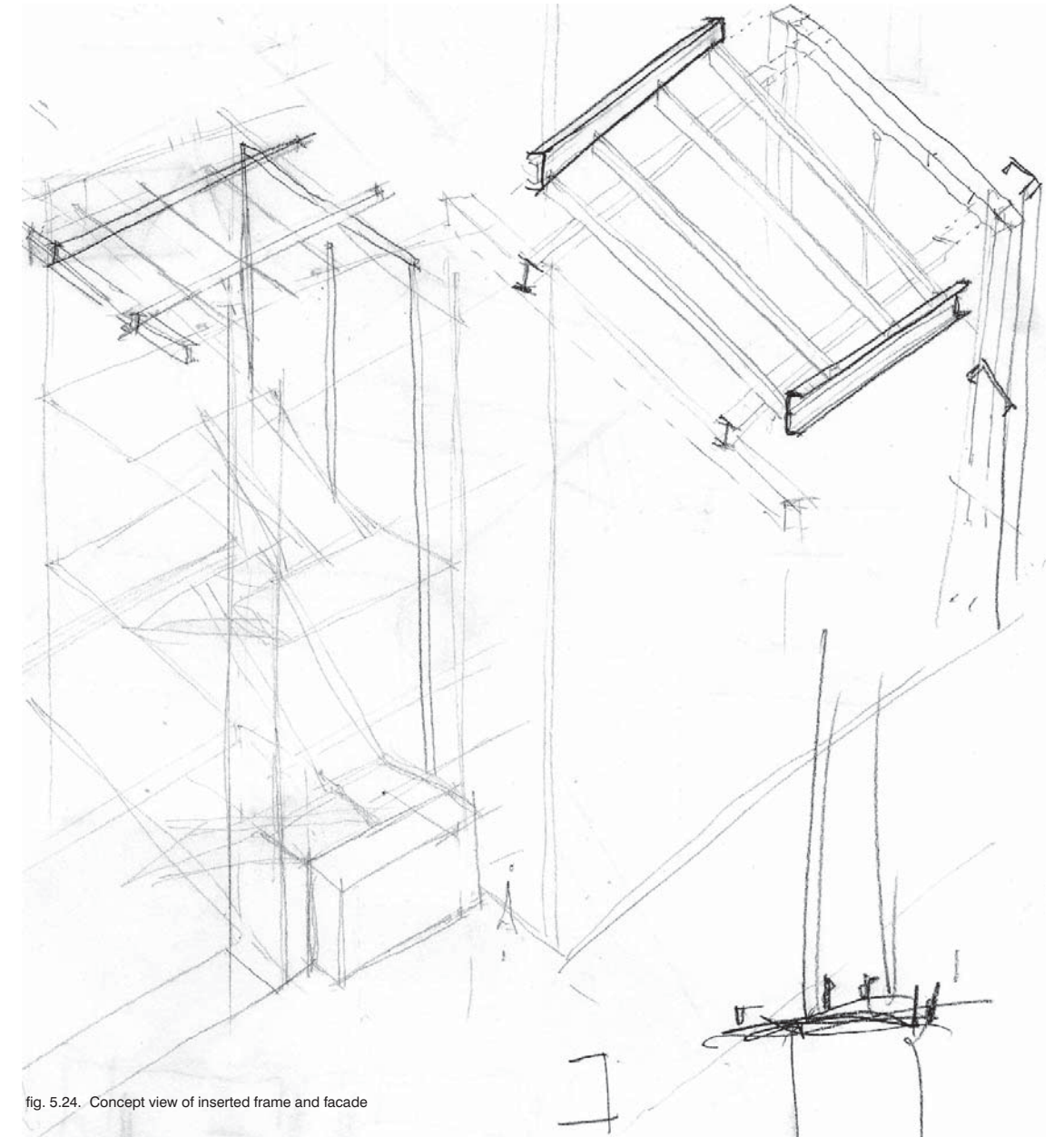


fig. 5.24. Concept view of inserted frame and facade

Stair construction is independent from the inserted frame and glass facades. The cast concrete tread profile are also used as canopy and window sill for the protruding windows in the Knowledge Room, as keyboard desks in the cyber café, and as balustrades for the accessible walkway.

An off-shutter concrete protruding block on ground level, facing the street elevation acts as the first landing. It is also a signage wall on street level. The concrete landing announces the first pause in the vertical block. The other steel frame landings with cast concrete infill panels are celebrated as platforms to look out into the city, courtyard or infill area. Spotlights underneath each landing lights the one below.



A lightweight composite roof covers the two blocks. Roof construction consists of plywood panels between 170x50 timber bearer beams supported by steel hangers, with an infill of lightweight concrete screed on top, providing sufficient insulation, for thermal considerations. Screed to fall to a stainless steel downpipe. The plywood panels act as shuttering for the screed as well as finished ceiling panels. A powder coated aluminium fascia ends the construction at both ends. The aluminium channel is the fixing member to the aluminium framed glass panel. The inserted frame supporting the roof construction is only fixed to the existing library building, and only leans against the neighbouring building to allow for expansion movement.

Fixed aluminium framed glass louvers assist in natural ventilation and the thermal comfort of the glass stacks. Aluminium framed sliding doors opens onto the private courtyard on ground level, which allows for fresh cool air to enter the area. The glazing occurs only on the north and south facades. Heat reflecting laminated glass is used to reduce direct radiation into the area.

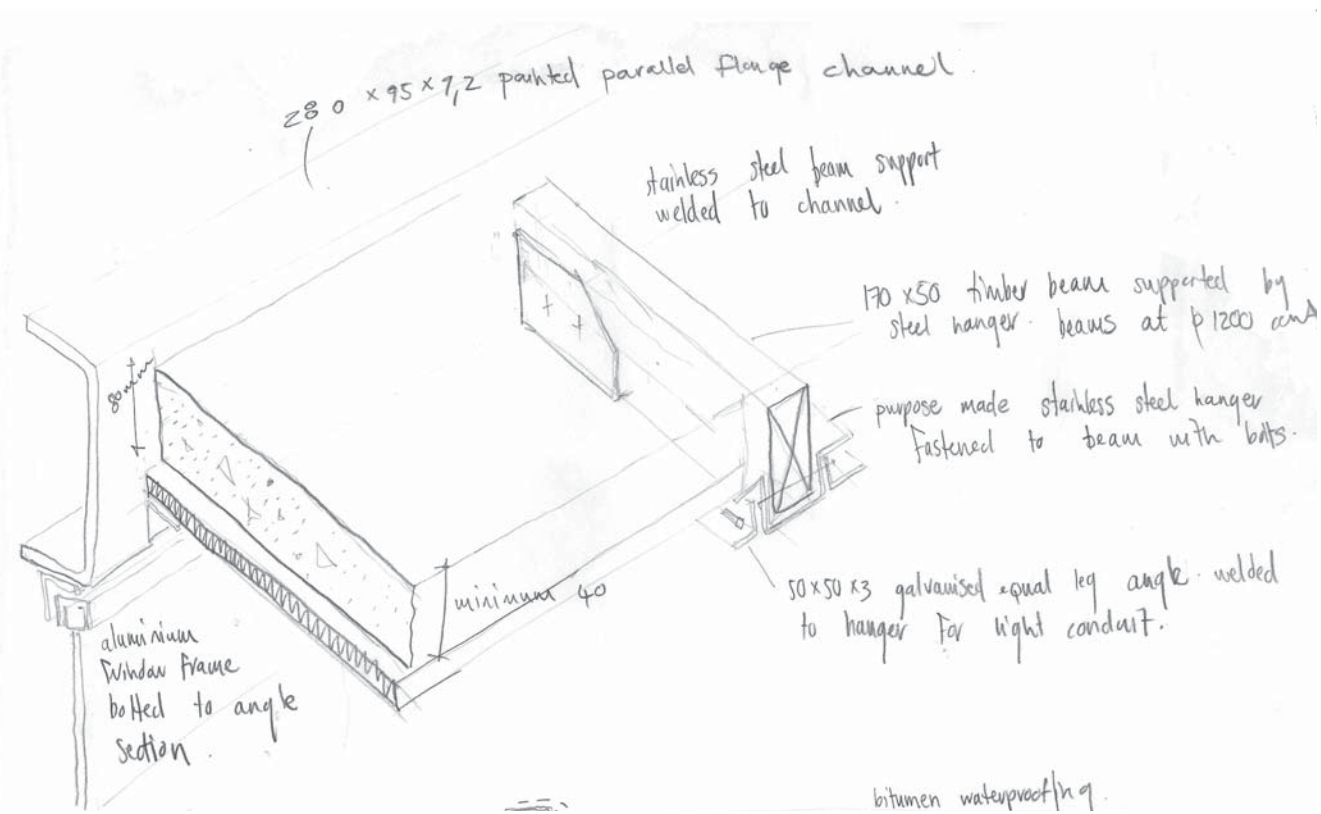


fig. 5.25. Detail construction of composite roof

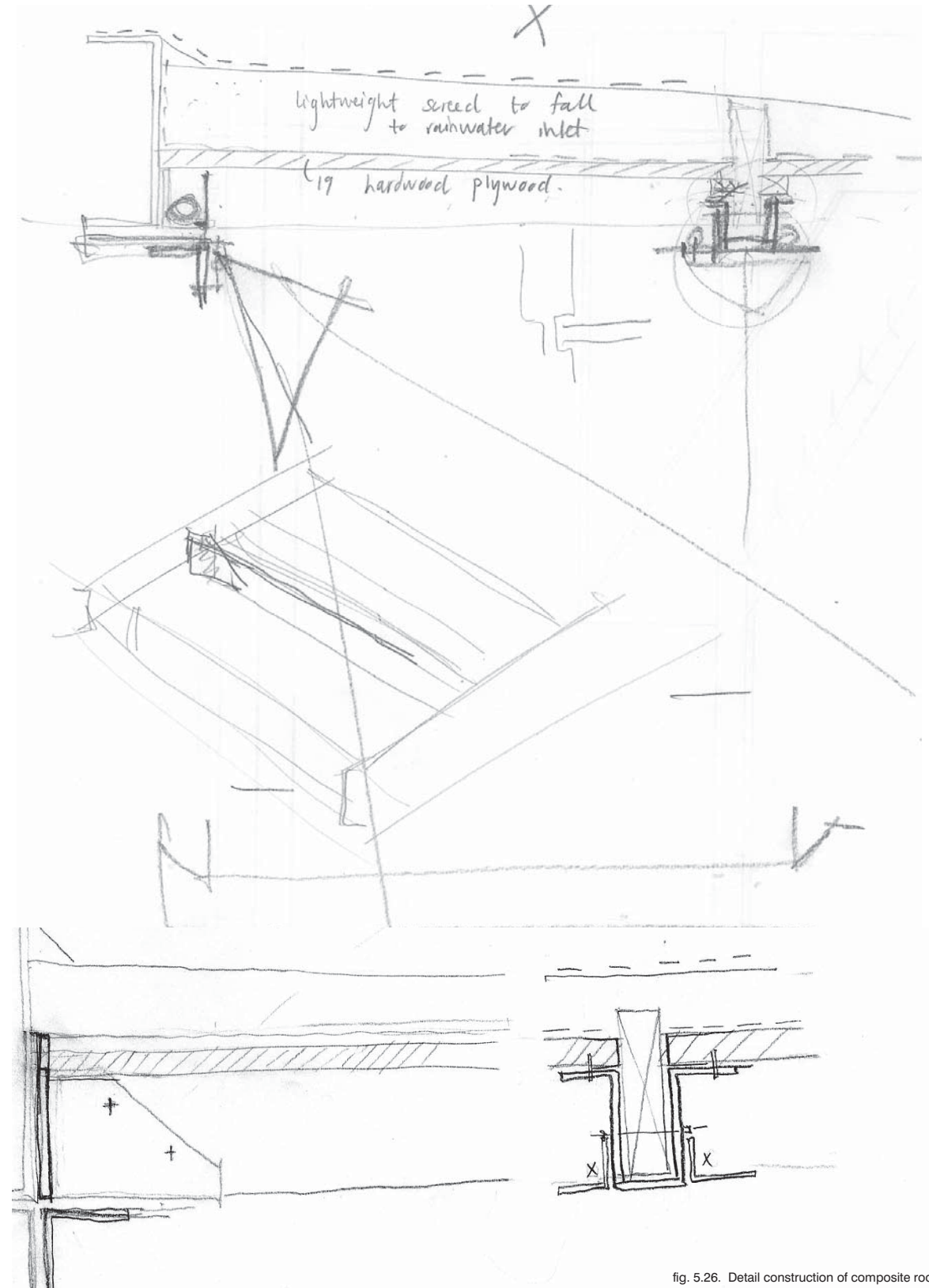
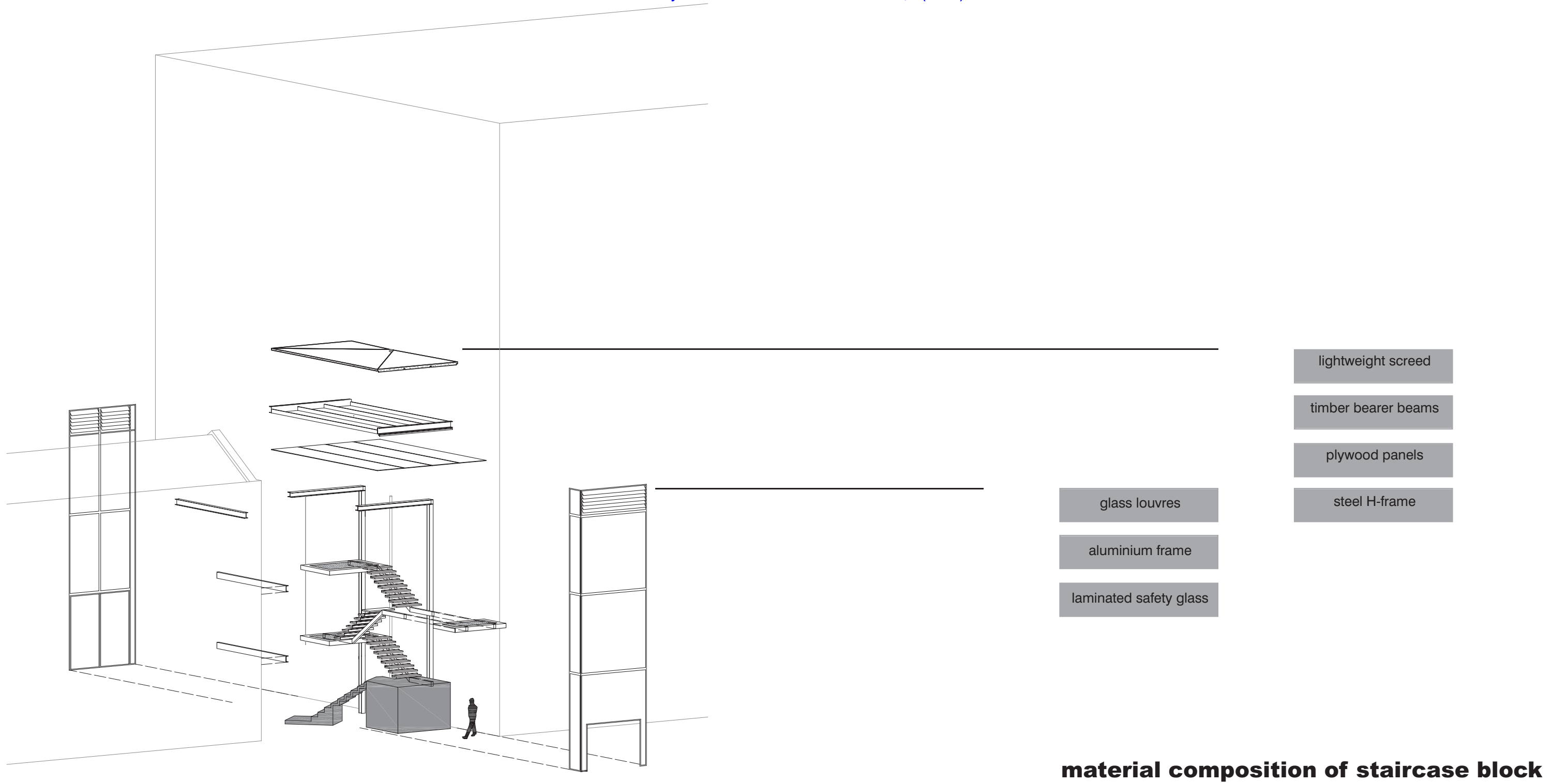


fig. 5.26. Detail construction of composite roof support



**material composition of staircase block**

fig. 5.27. Exploded view of staircase block