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(inter-) Facing Space

A Forum-Based Theatre inside an Indeterminate Urban Site

dAS.
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[Inter]facing Space: A Forum-based Theatre inside an Indeterminate Urban Site

by

Andreas Murray Hofmeyr

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I further state that no part of my thesis has already been, or is currently being, submitted for any such degree, diploma or other qualification.

I further declare that this thesis is substantially my own work. Where reference is made to the works of others, the extent to which that work has been used is indicated and fully acknowledged in the text and list of references.

The dissertation is 12 648 words long (excluding figure annotations).

Andreas Murray Hofmeyr

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[Inter]Facing Space: A Forum-based Theatre Inside an Indeterminate Urban Site

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Project summary

Programme: Public Forum Theatre and Theatre School
Site description: A derelict site located between other urban structures – situated to the immediate south of the State Theatre in the Sammy Marks precinct of Pretoria.
Client: Department of Arts and Culture (State Theatre)
Users: Public users, marginalised groups and theatre practitioners.

Site Location: 317 Pretorius Street, Pretoria
Address: Between the Fedhealth Forum and Momentum buildings; opposite the South African State Theatre and ABSA buildings, in the Pretoria CBD, Tshwane, South Africa
GPS Coordinates: 25°747957”S, 28°194058”E

Architectural Theoretical Premise: Forum theatre thrives on the informality of the city, and can start to inform an approach to dealing with indeterminacy in the urban fabric.
Architectural Approach: Generating a contextually sensitive theatre that connects to local features and inhabitants. Theatre provides a platform to local inhabitants to voice their opinions and collaborate in didactic, interactive theatre events.
Research filed: Heritage and cultural landscapes

00

Preface

Acknowledgements

In memory of Oupa, (Etienne Malherbe) who always responded to my work enthusiastically and believed in my capabilities, and who made it possible for me to embark on my personal journey as an aspiring architect.

The Lord gave us two ends to use – one to sit with and the other to think with.
Success depends on which you choose.

Heads you win,
Tails you lose

Anon

All possibilities are latent, dormant, and all those possibilities of composition are hidden for us to discover. ”
(Angelo Candalpas, n.d.)

Abstract

The study will investigate a design intervention that attempts to respond to the condition of spatial indeterminacy in the Sammy Marks precinct of Pretoria, where this condition is heavily pronounced in the form of disused public squares, inactive edges and inner-block voids. The study suggests that developing these spaces as cultural interfaces can provide a foothold for emergent city life and cultural activities. The specific project intervention will take the form of a theatrical interface that will serve as a platform for public interactive theatre events and a theatre school. The client is the State Theatre, in collaboration with the Department of Public Works. The site of the intervention is located in close proximity to the State Theatre. An investigation of the site and its surrounding context will generate opportunities for specific intervention.

Forum Theatre

Indeterminate

Site

Interfaces

Creativity

Community

Place

Culture

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01
Introduction

1.1 Real World Problem

The indeterminacy of space is a phenomenon that is synonymous with the city and human civilization. Not only is it represented in the fabric of built space, but it also illustrates a wider psychological phenomenon: that of the fragmentary nature of human thought and knowledge (Foucault, 1969:15). This fragmented condition of reality gives rise to gaps in the fabric of space that are difficult to understand: “These are spaces that do not fit into a category, that cannot be given a fixed name, use or user,” says architect Emma Williams (Transient Space: Habitat of the Outcast, n.d.).

For architects, the prevalence of indeterminate space in cities should be seen as an opportunity for reawakening the way in which they view urban space. As evidence of the flaws in our modern architectural practice, they offer us a basis on which to question conventions and to “generate new practices, new ecological habitats, new sub-cultures and new economies,” (Williams, n.d.). The detailing of these outcast spaces becomes imperative for their reincorporation into the fabric of urban space.

Fig. 1-1 Indeterminate space adjacent to project site (317 Pretorius Street).

1.2 Site, Client & Programme

1.2.1 Site

Within the Sammy Marks precinct, which is characterised by intense commercial activity existing inside a network of retail arcades, commercial block plazas and pedestrian routes, an opportunity to reconnect an indeterminate site with this network of spaces was identified. The site is currently appropriated as a parking space for urban users, and makes little contribution to local city life. The problematic relationship between the site and its context initiated an investigation of the surrounding structures, in order to discover potential opportunities for further intervention.

1.2.2 Client

An investigation of the State Theatre, which falls under the Department of Arts and Culture (DAC), revealed the opportunity to develop a public model of theatre in the project site that could function within the theatre's existing developmental framework.

1.2.3 Programme

This new challenge sparked an investigation into forms of theatre that could be applied to the local context, with its prevalent informal qualities and public forms of activity. Forum Theatre was found to be appropriate as it deals directly with citizens by inviting them to engage with actors in interactive story-telling plays, thereby providing a platform for social engagement. In terms of design, Forum Theatre informed a process of exploration into how a new theatre could adopt public elements designed to enhance public engagement: the ability of public users to witness and feel connected to the theatrical events. The final designed space took shape as a central open-air forum for staging public theatre events: a central acting arena surrounded on all sides by overhead viewing galleries, and circulation spaces that ensure the public are kept as close to the locus of activity as possible.

In order to ensure the long-term feasibility of the theatre and provide for regular programming of the new theatre venue, the design will incorporate a second educational component in the form of an apprentice – mentor residency programme. This component responds to an identified need to develop training infrastructure for new theatre professionals in the region (State Theatre, n.d.). The new training programme will be able to utilise the theatre forum as a laboratory for experimenting with new ideas and generating new practices.

The development of the above programmes will be likely to involve a bipartite relationship between the DAC and the Department of Public Works, the latter being the owner of the theatre complex. Sourcing of grants from local and foreign institutions will be necessary for the funding of future development. It is reasonable to assume that the City of Tshwane will show an interest in the project because of its potential for job creation and the engagement of unemployed youths.

The project approaches the problem of dealing with the site's inherent indeterminacy through the installation of these programmes. At an enlarged scale, the newly activated site can constitute a necessary addition to the current collection of public spaces, and provide a stage for public events, both theatrical and non-theatrical.

1.3 Hypothesis

Being isolated from its surrounding context, the project site currently exists in a state of indeterminacy. The redevelopment of the site as a cultural space with theatre at its core will enable it to host meaningful interactions. A careful investigation of the site and context for opportunities can generate a clearer formulation of the nature of this redevelopment, delivering a building that speaks to its context. The ultimate aim is the re-incorporation of the site into its context.

1.4 Sub-Problems

The aim of this investigation is to test the appropriateness of the design against the hypothetical statement in 1.4 above. Some underlying sub-problems that will need to be answered, might include the following:

- What is the nature of spatial indeterminacy in the site and immediate context, and how does it relate to cultural space?
- How does the State Theatre contribute to spatial indeterminacy in its immediate context? How does it contribute to cultural activation?
- How can architectural programming provide the necessary framework for encouraging cultural events and practices on the project site, reconnecting it to its context?

1.5 Methodology

The study relies on a grounded approach to generate its theoretical framework. The theory attempts to offer clarification on the condition of spatial indeterminacy and specifically, how it relates to culture in the CBD of Pretoria. The observation of poor utilisation of cultural and public spaces in the project context generated the cultural focus of the project.

1.5.1 Site Analysis

Site analysis provided a framework for an appropriate response, generating a general image of the area to serve as a reference framework. This included making photographic documentation of contextual spaces, sketching ideas for possible interventions and consulting local archive resources for context-specific information.

Fig. 1-2 The site currently functions as a parking lot that services the surrounding buildings. The administrative building is visible ahead with a part of the gap to be developed for the project. (Photograph by Author)

1.5.2 Urban Mapping

Mapping of the project context was conducted to generate graphical data, and provided a qualitative means of exploring latent spatial and material qualities of the project area. These were later used to develop a unique architectural identity.

A second mapping exercise loosely based on Deleuze and Gauttari's "rhizome" concept (Deleuze & Gauttari, n.d.), provided insight into the complexity of spatial analysis and design. The "rhizome" serves to demonstrate the impracticability of trying to identify specific causal factors behind spatial formations, i.e. sites. Rather, the "rhizome" exposes the complex, heterogeneous nature of spaces, the causes of which have no clear beginning or end. Indeterminate spaces, in particular, are difficult to define. As gaps or spaces falling in between individually imposing structures and programmes, the transitions from one to the next are difficult to identify. Architecturally speaking, this complexity of space and its contradictory nature means that there can be no perfect solution to indeterminacy. Architects can only make proposals regarding what they believe needs to be done.

Fig. 1-4 (Above-Left) Mapping the invisible on the visible: The Tramshed trusses onto The Tramshed parkade wall. (Photograph by author).

Fig. 1-3 (Top) Mapping the invisible on the visible: The Tramshed historical facade onto The Tramshed parkade wall. (Photograph by author)

Fig. 1-5 (Above-right) Mapping the invisible on the visible: The Momentum atrium space beyond onto the front wall of the same building.

1.5.3 Archive Documents

Old city maps and codes were consulted to reveal changes made to the fabric of the central business district (CBD) during the course of Pretoria's development, were studied in particular.

1.5.4 Precedent Studies

Projects that offer relevant guidance for the design of the proposed theatre have been considered. These have been separated into their relevant chapters. Each precedent relates to a particular aspect of the design (structural, theoretical, programmatic, etc.) and contributes to the normative approach to the design.

Fig. 1-6 Swings installed into an indeterminate facade at the Cascoland Public Arts Festival in 2007 (Photograph courtesy of Jan Koerbes).

Fig. 1-7 Lina Bo Bardi's Theatro Officiena was the site of many forum-based and applied theatre events. (Photo by Anne Graupner).

1.6 Delimitations

The study evaluates existing strategies and proposals by the DAC and third parties aimed at the future development of the Sammy Marks precinct.

The study focuses primarily on discovering evidence of spatial indeterminacy in the project context and how this relates back to the State Theatre and the project site. The observations and concerns will be listed and used to generate a unique set of programming guidelines for the design intervention.

The installation of a public model of theatre into the chosen site forms this study's approach to dealing with the site's indeterminate nature. It should also be noted that this project offers a site specific solution to the problem of spatial indeterminacy. Each site is unique in its make-up, which necessitates a fresh approach to dealing with its innate complexities.

02
Theory

2.1 The Condition of Cultural Infrastructure in Pretoria

2.1.1 The Erosion of Cultural Heritage

The negation of the cultural dimension of cities is a globally ubiquitous process that is associated with the growing tendency of world cities to move towards global standards of habitation (Weafer, 2010:369). In Pretoria, this is amplified by the city's history of decentralisation and fragmentation; determined efforts were made by planning authorities to relocate urban communities into dedicated cultural districts, outside the city. This had the effect of creating a culturally homogenous urban demographic.

In the case of theatre, the forced removal of inhabitants has resulted in a negation of cultural practices. Theatre venues and cultural production houses, such as the Deutsche Verrein and Capitol Theatre, that used to fuel the cultural activity of Pretoria have been replaced by governmental, financial and commercial infrastructures. The existing cultural fabric, which ought to perform a pivotal role in securing future development and the economic growth of the city, has thus been eroded (State Theatre Annual Report, 2010.)

Spaces that are officially earmarked for the staging of cultural events are poorly utilised for this purpose. There is a general tendency for open spaces towards the western periphery of the city to fall into disrepair or be closed to the public; in the city centre, by contrast, open public spaces are over-run by the informal urban activities of traders (legal and illegal), taxi owners and squatters. This "evolving informal urbanism" is a "motivated private initiative characteristic of multi-cultural communities" (Chodikoff, 2008:8); although indicative of a diverse city centre, it competes for space with local creative economies.

2.1.2 Cultural Homogeneity

Homogeneity of cultural space and practices is often an indication of an adoption of global values in society (Weafer, 2010:367). These values often serve to undermine local creativity, and there are various indicators suggesting this to be the case in Pretoria. The variety of goods on offer by traders and small business is limited; when questioned as to the origins of their merchandise, the majority of traders indicated that foreign exporters were the main suppliers. This suggests that the local manufacturing industry is struggling in the face of foreign competition, and that there is little new creative input from locals.

2.1.3 Artist-led Regeneration

There is growing global interest in the potential of culture and creative diversity to fuel economic development in cities. Richard Florida and Jane Jacobs (Hospers and Van Dalm, 2005) predict that the "global competition for creative talent will become one of the defining economic issues of the twenty first century", and that we are moving towards a "creative age" where creativity will be "the engine of national, regional and urban economic growth."

In view of its underdeveloped cultural infrastructure, as demonstrated by the gathered observations, Pretoria could benefit from an investment in cultural infrastructure. One way to do this is by encouraging creative people to move back into the city as part of a process of gentrification: the process through which creativity invites middle-class investment in urban spaces, leading to the economic upliftment of these areas (Evans and Shaw, 2006).

Fig. 2-8 The Capitol Theatre in its current state of disrepair. (Image source: internet.)

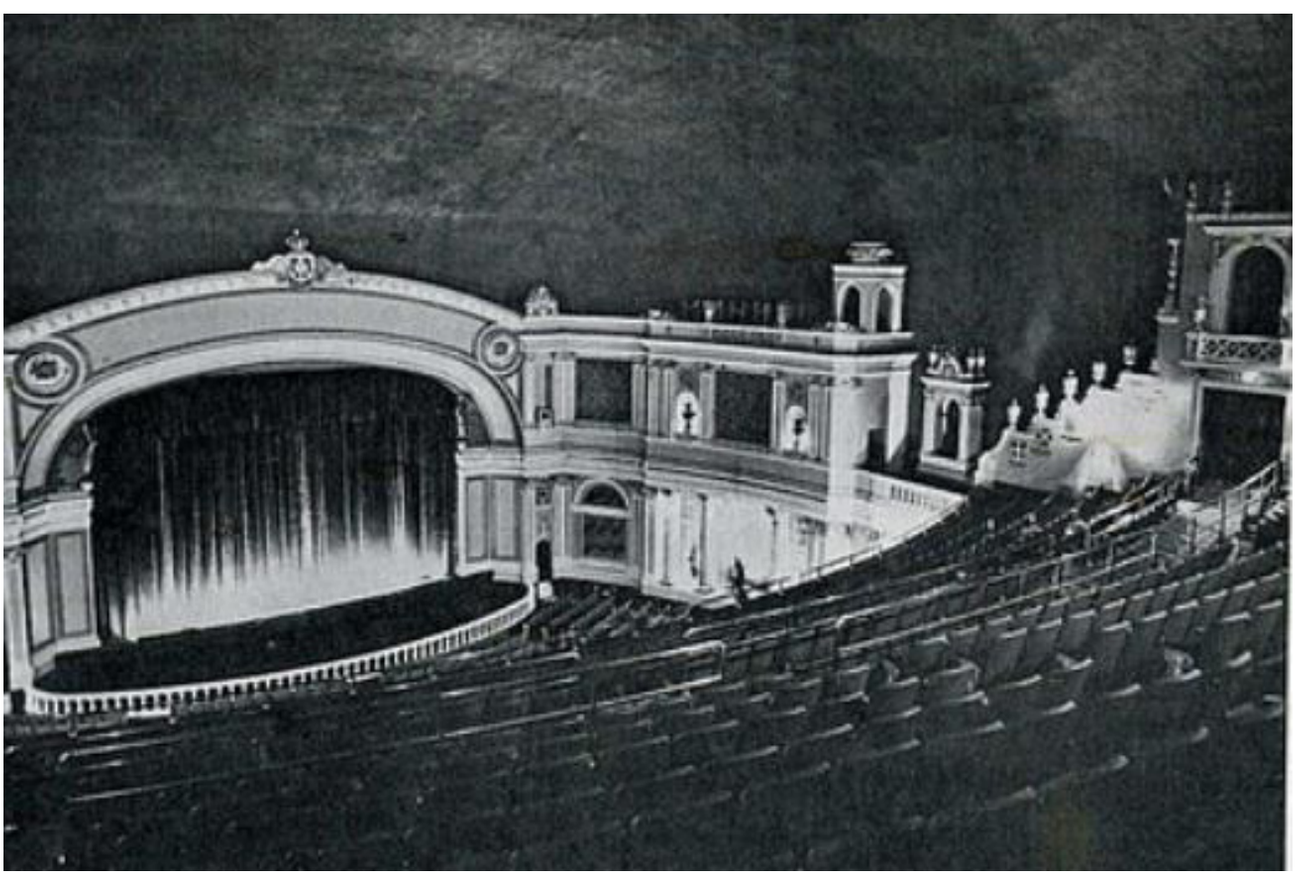

Fig. 2-9 The Capitol theatre in its former glory. (Image source: internet.)

2.2 The National State Theatre

2.2.1 No Longer a Production House

Currently registered with the DAC as a receiving house, the State Theatre makes no direct contribution to the creation of new theatre productions. The restructuring of theatre's fiscal agenda from production-based income to rental-based income has proven to be more lucrative for the theatre as a cultural facility. Most of its revenue is generated through the hiring out of venues and parking spaces for urban users (State Theatre Annual Report, 2010).

South African theatre practitioner Mark Fleischman maintains that although theatres which were previously subjected to segregation have now become available to all practitioners, the bulk of the funding has been withdrawn, and operations have been scaled down (Solberg, 2003:44). Underutilization of established venues is now less a political issue than a financial issue. Fewer and fewer classics are produced, and there are few resident companies with salaried workers. Theatre practice has largely become self-generating, and populated with freelance workers.

2.2.2 Relationship with the Surrounding Context

Fleischman states that "people are not going to the theatre", and that there doesn't seem to be a "plan". He also maintains that as no audience development policy was in place, the demographics of the theatre-going audience have not changed significantly. The location of the established theatre is also seen as a problem: "As long as theatre remains stuck in the paradigm of an event happening in a building called a theatre, and those theatres are placed at a great distance from the majority of the people and there is poor public transport, and serious security problems remain, you're not going to make theatre part of the lives of the majority of the population" (Solberg, 2003:58).

Temple Hauptfleisch confirms that "People don't go out!" He states, however, that people go in their droves to festivals, because they provide a safe, protected environment (Solberg, 2003:48).

The ability of architecture to frame social interactions or events is an important factor in the design of a successful public building (Tschumi, 2000:591). Insofar as it caters for these interactions, a space becomes inscribed in the memory of a community as one with significant personal and collective value. A theatre is not merely a space dedicated to the acting out of plays. As a venue for experience, social interaction, and the expression of social concerns, a theatre becomes a space for healing, learning, socialising and communication. Despite being such a prominent landmark in Pretoria, the State Theatre fails to provide this social and therapeutic aspect of theatre.

Firstly, it makes no real impact on the development of cultural life in its immediate vicinity, where there is a total absence of cultural programmes. Secondly, because of the manner in which the State Theatre has been designed, the structure of its exterior envelope serves to shut out the world. The regulation of light and sound is an important consideration in the design of theatre venues. A typical result of focusing production activities inward is that all services are pushed to the outside, leaving little area as social frontage. Peripheries with services present a bleak façade to the public on the outside.

The thick-skinned approach to the theatre's design stands in stark contrast to the contemporary preference, which is to provide active edges that serve to invite in public life (Jacobs, 1961:157) and frame social interactions. A thesis project undertaken in 2009 by Lizelle Cloete attempted to reactivate one of the State Theatre's non-communicative peripheries through the installation of a cultural programme into the adjacent Lillian Ngoyi Square (Cloete, 2009:21).

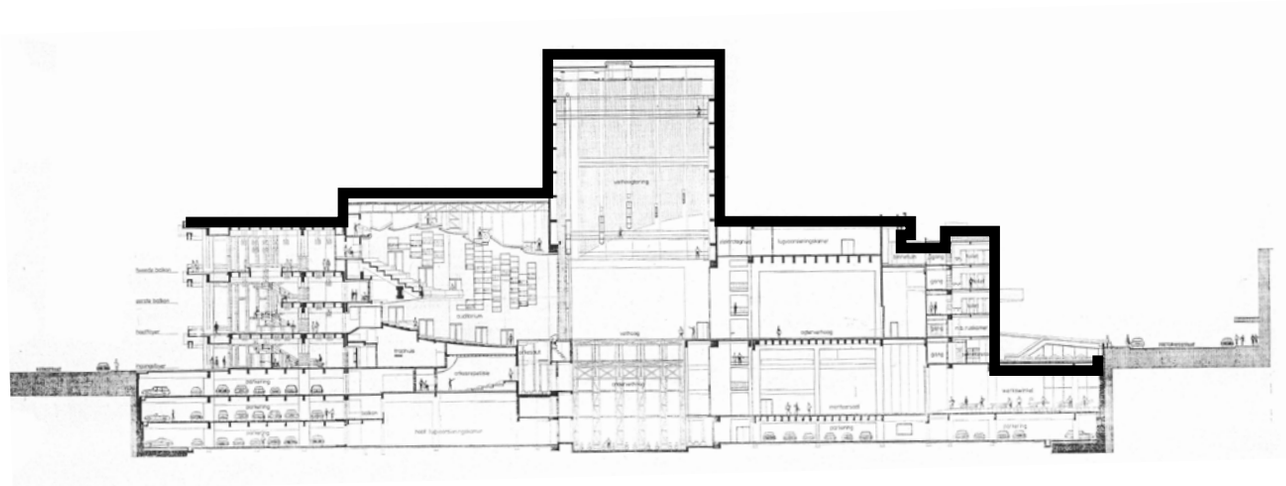

Fig. 2-8 State Theatre: a thick-skinned building with anti-social skin.

2.2.3 Social Programme

Apart from functioning as a receiving house for commercial productions, the theatre also engages itself with programmes aimed at developing the arts sector and theatre profession in local communities (State Theatre, 2010:iv). However, most of these initiatives are concentrated in outlying communities, rather than in the city. Exploiting some of these existing developmental objectives might provide some possibilities for a new extension programme of the State Theatre, enabling it to fulfil its role as an urban culture house. Possible exploitable programmes include:

- The Residency Programme: the theatre aims to install a new training programme for young theatre professionals under the guidance of established theatre professionals.
- Showcasing of Local Writers: the theatre aims to deliver a programme for showcasing new and upcoming playwrights by providing them with a platform for showcasing their plays.

2.2.4 Application in Project

- The State Theatre's existing developmental framework can be exploited as part of a new social agenda to develop theatre and cultural practices in Pretoria, thereby contributing to cultural diversity. The economic incentive generated by this renewal would allow urban-based theatres to compete with their suburban-based counterparts, which tend to offer a spectacle-based, non-didactic brand of theatre.
- The prevalence of lost urban spaces presents an opportunity for a new theatre to work within the public domain, and with the inherent condition of informality.
- Conventional theatre design tends to shut out exterior elements and activity. The consequent migration of all servicing parts to the exterior leads to a thick-skinned exterior envelope that communicates poorly with its surrounding context, as is the case with the State Theatre. This presents the challenge of exploring ways in which the envelope can start to perform a social function and deliver experience to public users: an activated edge.
- The State Theatre as a public institution can start to incorporate programmes that utilise theatre as a therapeutic tool for empowering community members.

The objective of this study is to frame theatre as a therapeutic and didactic (educative) tool that can function within the public domain and start to meet some of the challenges facing Pretoria, and the State Theatre, in particular. The study will attempt to define theatre in terms of these functions, by looking at appropriate applications in the South African context, and at examples from abroad. In order to do this, a clear definition of what theatre is must first be given.

2.3 What is Theatre?

2.3.1 Definition

Theatre studies the complex interrelations between human beings in society, and aims to elucidate societal truths and universal concerns (Boal, 1995:16). It does this by creating a platform where social concerns can be brought out into the open. In this way, it acts as an introspective mirror into the mind of society, through which society can analyse itself.

At its most fundamental level, theatre can be seen as comprising “two human beings, a passion and a platform” (De Vega in Boal 1995:16). Lope de Vega’s “platform” (ibid.) denotes a fundamental idea underlying all theatres: the platform serves as a rudimentary means of separating the actor from the spectator.

2.3.2 Architectural Application

De Vega’s definition offers opportunities for interpretation into the current design agenda in the following ways:

Two human beings can be reinterpreted as two (or more) users, a term more common within the architectural profession. Architecture is ultimately about catering to the needs of users, and requires a sensitivity to how people will use and experience spatial designs. There are countless uses and associated forms of theatre, each with certain philosophical and/or theoretical underpinnings, and a range of associated techniques. The intention is that theatre be flexible enough to suit the needs of a diversity of users, such as that in the Pretoria CBD.

The passion of theatre is what defines it as an art form embodying emotional values. The passion is what drives the artist in his creative efforts to convey a certain message or idea. In essence, this is what theatre aims to do: to deliver a message or lesson.

The role of the platform is self-explanatory. It serves as a rudimentary division that separates the spectator from the actor on stage. This has multiple applications in a building, and is open to various interpretations that go beyond the theatrical.

2.3.3 The Aesthetic Space

An extension of the idea of the platform is the concept of the “aesthetic space”, which provides the stage for the self-analysis of “internalized oppressions” and personal inhibitions, in order to put them in perspective and see them within the “larger context” (Jackson in Boal, 1995:xviii).

Mark Fleischman questions whether the theatre in a post-colonial context should focus on entertainment, or on current issues in an emerging society that is still in transformation. He recognizes that there was a definable theatre aesthetic that emerged from the 70s and 80s in the form of protest plays and workshop theatre, but is concerned about the lack of development of a post-apartheid theatre aesthetic (Solberg, 2003:58).

Fig. 2-9 (Opposite) Boal’s forum theatre is able to take place in informal environments. (Image source: internet.)

2.4 Forum-based Theatre

2.4.1 Background

In the context of this study, the term “Forum Theatre” embraces a range of forum-based theatre practices that allow for interaction and creative collaboration between the actors, the audience and the space in which the action takes place.

International proponents of this style of theatre were Bertholdt Brecht (in the 1920s in Germany) and Augusto Boal, creator of Forum Theatre, in the 1960s and 1970s in Brazil.

Bertholdt Brecht’s ideas and works were strongly influenced by his reaction to the theatre of his day, which he viewed as an institution which was run as a business, placing profits above what he believed to be the essential function. In his view, drama should be a realistic portrayal of current reality, which should communicate insights into that reality (Eskamp, 1989:48).

He didn’t regard the audience as passive consumers. Rather, he wanted them to be active and excited, not only by what was on the stage, but also by what was happening on the street. This view influenced ideas on theatre as a medium, and as a didactic instrument.

Educative theatre distinguished itself from other types of theatre through aiming primarily at the process of awareness raising among the audience. It aimed to change the view which the target group had of reality; to have them start considering reality in novel ways.

Augusto Boal was influenced by Brecht and by the didactic theories of his countryman, Paulo Freire, as captured in Freire’s Pedagogy of the Oppressed. Through experimentation in the Teatro de Arena in Sao Paulo in the late 1950s and 1960s, Boal developed his ideas, commonly known as “popular theatre” or “people’s theatre”. This form of theatre played off outside the established theatre, which was accessible only to the ticket-buying public, and provided a means for the audience to participate in the production of the theatre (Eskamp: 1989:51).

2.4.2 Forum-based Theatre in South Africa

In the South African context, there are many manifestations of forum-based theatre that are variously referred to as alternative, applied, community, collective, developmental, educational, environmental, people's, physical, political, popular, protest, or struggle theatre; most of these are not reliant on the technical and built infrastructure provided by established formal theatre.

In Rolf Solberg's book South African Theatre in the Melting Pot (2003:3), he describes theatre as one of the "mainstays in the struggle against apartheid". He refers to alternative theatre as a significant tool in the political conscientization of the rural and township youths, versus the established theatre venues in the major cities, which had catered mainly for the affluent white sector. With theatre serving as a "response" and as an instrument to deal with socio-political issues, Solberg suggests the use of the term "applied theatre" as the collective title for all issue-based and didactical theatre.

Dan Mvundle believes that communal or community theatre has evolved from forum theatre, and that it is characterized by spontaneous involvement of the audience in the story and the acting, and interaction between actors, the audience and all other stakeholders afterwards in the form of a discussion of the issues raised (Solberg, 2003:13).

Zakes Mda's developmental theatre, which he uses to "stimulate the audience's desire for change and development through participation in the action on the stage through interaction with the actors", is also forum-based.

Environmental theatre includes elements from educational and developmental theatre, and serves as a conduit between society at large and the rural majority. It makes use of "physical theatre" as a way to bridge the language barriers, and relies strongly on interaction with its audience (Solberg, 2003:15).

Political theatre constitutes the "struggle theatre" of the post-apartheid era. It makes use of "rituals of remembering and healing" which transforms the theatre space into a "cathartic cathedral". Zakes Mda regards Athol Fugard as the pioneer of "theatre of reconciliation", but holds that these are only some of the theatrical impulses used within the context of a nation-building process.

Public participation has been identified as a necessary condition for sustainable urban development (Enyedi, 2004). There is a tendency for authorities to by-pass public opinion in the process making decisions, often to the detriment of the resident urban community.

The participation of groups which are marginalised (for example through AIDS, racial discrimination, poverty, old age, or domestic abuse (of women and children, by men) in forum-based theatre can provide the necessary means to empower these groups.

Apart from playing an active role in the activation of indeterminate spaces, theatre can form the basis for providing minority groups with a say in public decision-making processes.

Fig. 2-10 (Opposite) Shadow theatre used to as a participatory tool at the 2007 Johannesburg Cascoland arts festival. (Photo by SharpCity.)

2.4.3 Application

The literature describes how forum-based theatre, or applied theatre, can be used as a developmental tool, and how it will be used in the specific social context of the project. The main people who will benefit from the theatre will be local members of the public who inhabit the immediate site context, such as traders, office workers and shoppers.

According to Solberg, “today’s practitioners seem to regard theatre in a socio- political context and consider their own roles as part of the country’s reconstruction and development programme”. He states that there is a “backlog of old issues to be addressed and new problems to be resolved.” John Kani predicted that theatre in SA would remain “issue-based” for the next 20 years (Solberg, 2003:195).

2.5 Precedent: Cascoland Urban Arts Festival

2.5.1 Background

In an article entitled Festivals and Community Involvement, Richard Bladel describes the sensitive process of designing festivals that reflect the needs and ideals of the communities that they actually celebrate (Bladel, 2004:92). From a cultural perspective, this is relevant because a city is made up of a specific intersection of cultural backgrounds and interrelated histories. A festival such as that envisioned for this framework needs to respond to these idiosyncrasies and the ideals of the local community stakeholders. An inappropriately designed festival would consequently not function in a city that does not exhibit the kinds of values that the festival seeks to express or engender.

Festivals have the capacity to be powerful activators of dysfunctional or "lost" urban spaces; they can fill urban voids with creative activity, thereby encouraging the public to make use of space. This appropriation serves to establish vital links and connections between creative individuals in the community; it engenders the formation of social networks that can strengthen both community development and urban regeneration, which in themselves are mutually reinforcing.

The 2007 Cascoland Festival was held in the downtown precinct of Johannesburg, on the site of the old Rand Infantry Drill Hall. This Netherlands-supported festival was intended as an inexpensive and accessible approach to enabling meaningful community interactions. Spontaneity was emphasized, and programming was kept to a minimum, thus enhancing artistic freedom. Through the use of arts to create opportunities for public interaction, locals were invited into small, yet potent on-site projects. The author and a colleague participated as consultants and active participants within this process, collaborating with other participants from the Netherlands and South Africa.

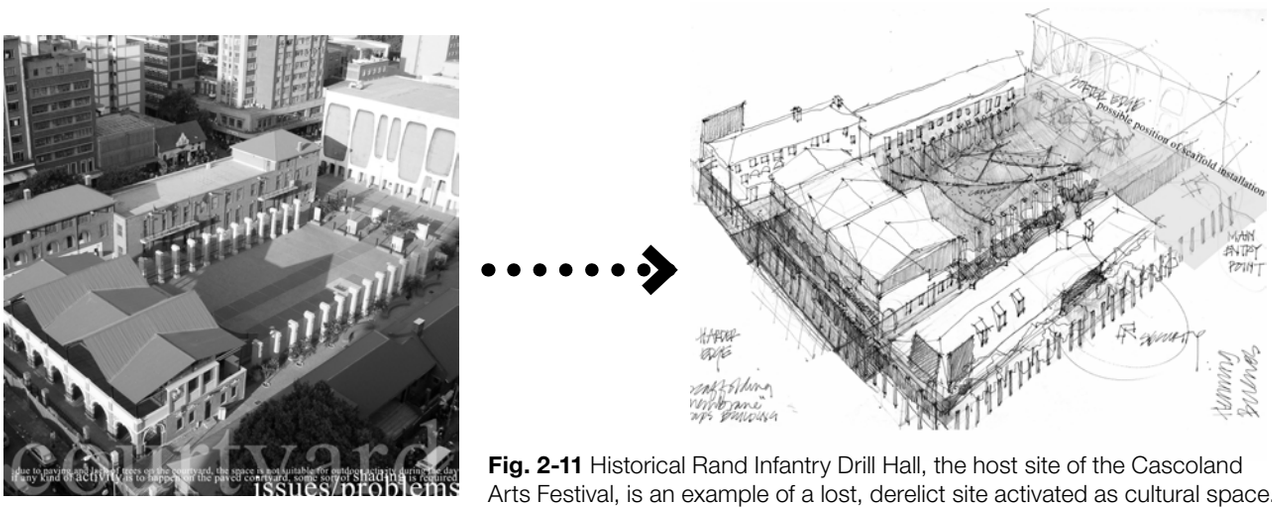

Fig. 2-11 Historical Rand Infantry Drill Hall, the host site of the Cascoland Arts Festival, is an example of a lost, derelict site activated as cultural space. (Photograph by Michael Hart; sketch by Dino Kiratzidis.)

2.5.2 Application

The State Theatre, in collaboration with other arts bodies, is responsible for the management of a number of important seasonal arts festivals. However, without a focus on hosting festivals in the central part of Tshwane, the transformative potential of these festivals is lost. It is therefore envisaged that new spaces dedicated to the hosting of urban-based festivals be provided.

Fig. 2-12 Children on swings newly inserted into a dysfunctional arcade on the Drill Hall site: small-scale regeneration. (Photo courtesy of Jan Korbes).

03 Context

Fig. 3-11 Roof truss system of The Tramshed (Photograph by Author)


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3.1 Urban Vision

The study envisages that the installation of cultural public amenities into the Sammy Marks precinct, meaningful interactions will be enabled that will build cultural diversity, and render the area more vibrant. The key aspect for this transition to a culturally rich district is the long-term sustainability of these processes. This will involve regular programming of cultural spaces with events such as festivals and public theatricals that serve to bring people together, providing platforms for fun, creative interplay, learning and collaboration. Users will come from a broad spectrum of society and diverse cultural backgrounds. People from foreign lands (artists and tourists) will also want to experience the activity in the area, and this will lead to further cultural intermingling. All these processes and events will initiate and engender a spirit and energy that will give the area character, making it a unique, fun and interesting place to be.

In itself, forum-based theatre will constitute only a small part of this energy, but it is through such small events that meaningful changes can be brought about; small sparks can kindle a great fire. Cascoland is an example of this small scale activation.

The final important aspect involves educating community members about their potential for greatness: for themselves, and for the city. Theatre engages citizens on so many levels. Education and didactic interplay are important aspects that make it a relevant tool in community development drives. It can be used to engage problems in society, build efficacy amongst individuals, raise awareness, and challenge counterproductive legislation. Theatre can be used to teach communities through direct learning; and lastly, it excites the imagination of the spectators and allows them to connect in the magical space of the theatre.

Fig. 3-12 (Opposite) Map of the Pretoria CBD: the proposed area to be developed by the group framework.

3.2 Framework Objectives

1. To connect dispersed urban programmes into a common interactive framework by articulating the in-between conditions
2. To exploit the existing matrix of open and public spaces as the backdrop for design interventions.
3. To create a continuous pedestrian corridor between these public spaces.
4. To source design ideas from the local context, leading to appropriate contextual solutions.

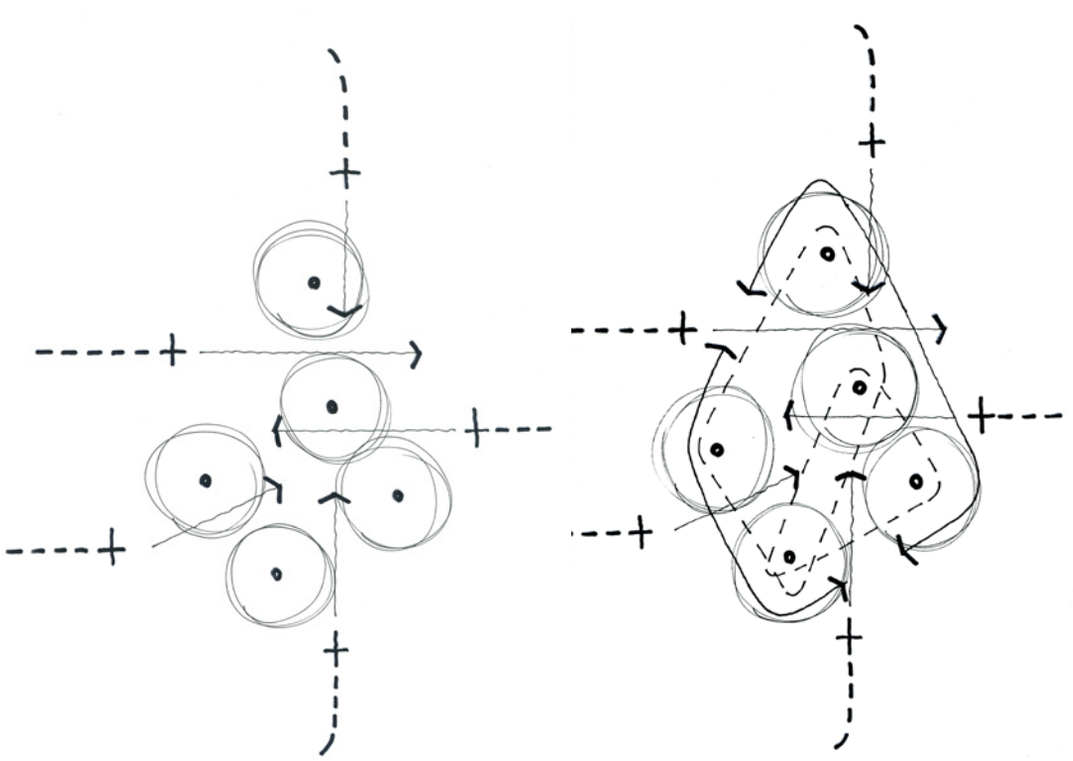


Fig. 3-13 The objective of the physical framework is connect diverse programmes, spaces and activities together into a single design framework.

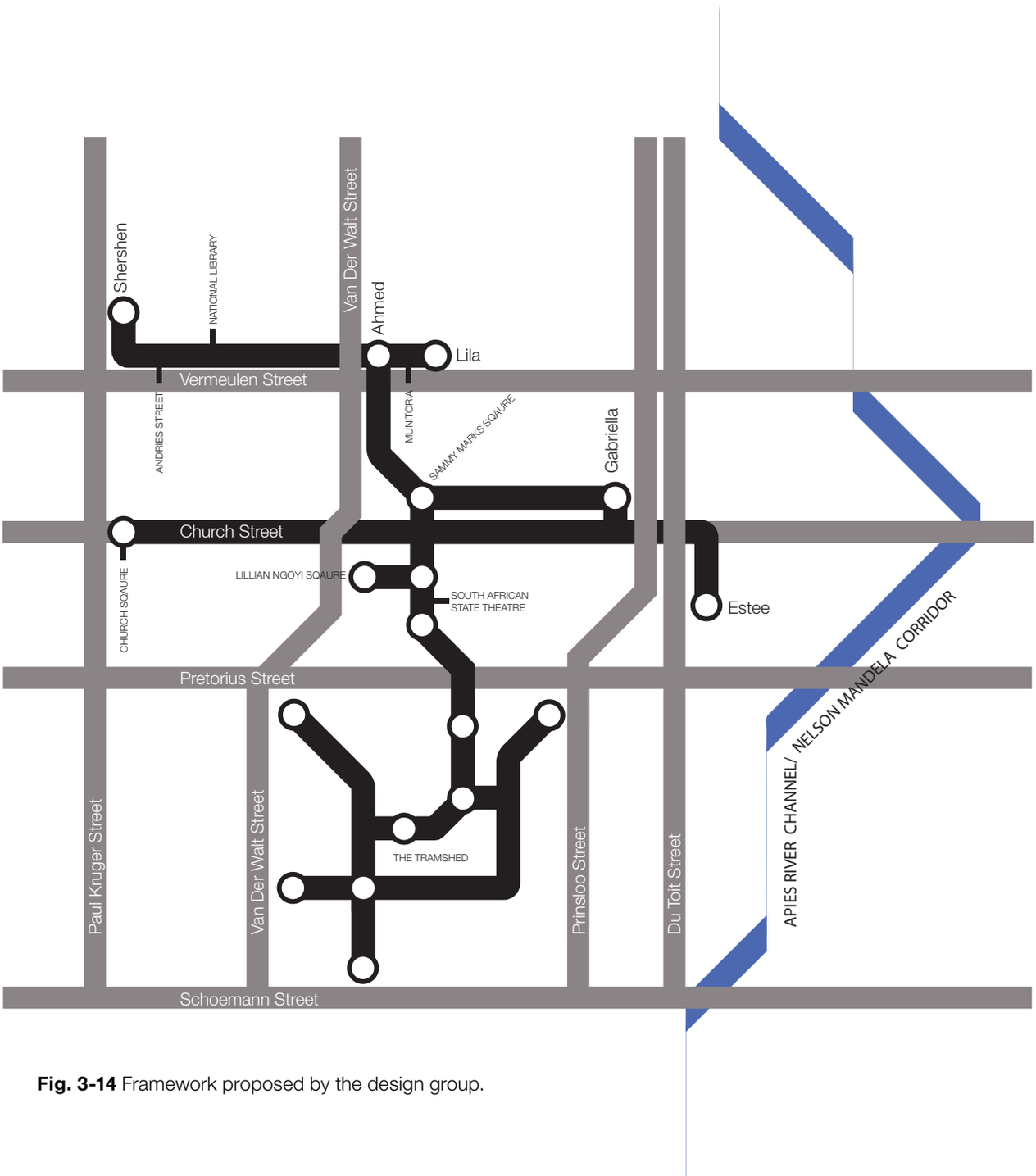


Fig. 3-14 Framework proposed by the design group.

3.3 Mapping Exercise

Abstract mapping techniques were undertaken to extract contextual ideas that could help enrich the future theatre design with contextually relevant references. Kenneth Frampton speaks about architecture that grows from its geographical context, a “return to sources” (Frampton , 1983:16). It is the belief of the author that the context can provide all the necessary creativity to build and layer an exciting project. This includes an appreciation for the climate and elements, as well as the people that inhabit the context. People are an important resource, as they lend their imagination, skills and know-how into the spaces that they create. The underlying idea is that an intervention should be a blend and balance of all these diverse sources.

The following mapping exercise involved the extraction of colour and textures along Paul Kruger Street. Although this street falls slightly outside the study area, it demonstrates the essence of the approach.

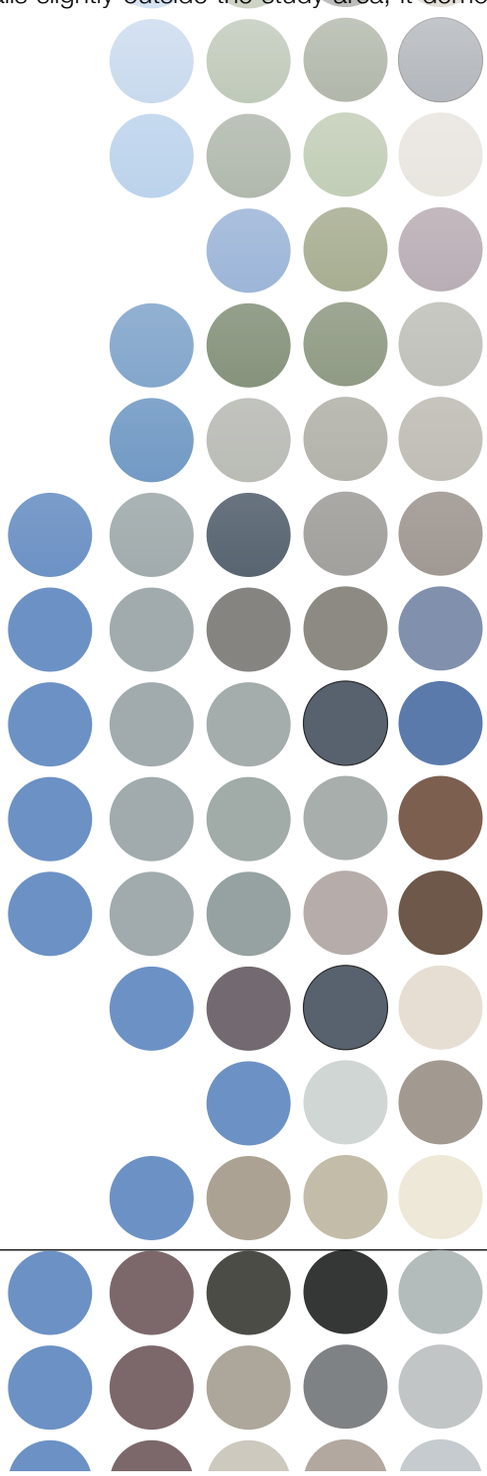
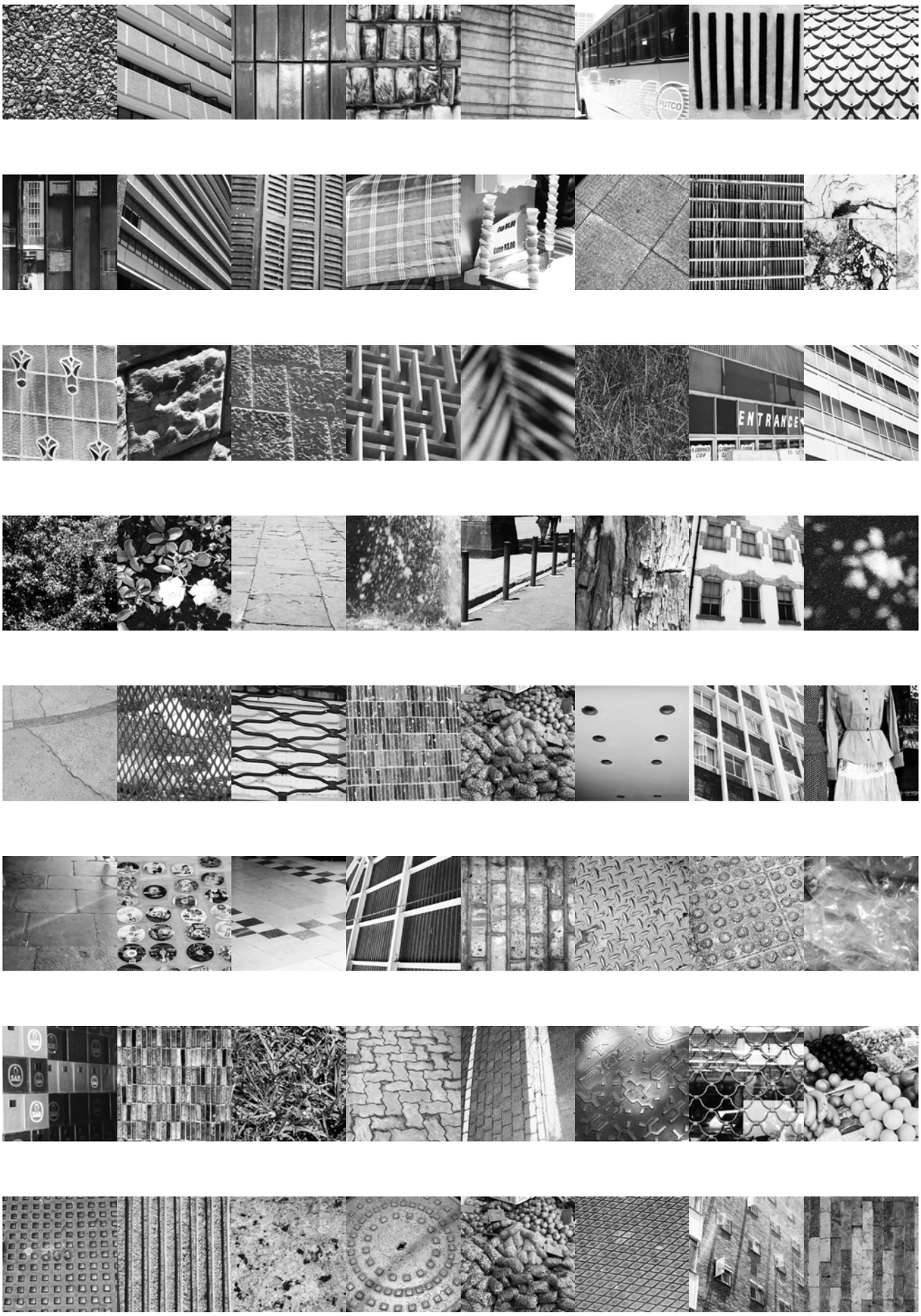


Fig. 3-15 (Left) Colour palette for possible future application.

Fig. 3-16 (Opposite) Texture paradigms that can applied to create a contextually referenced building language.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3.4 District Features

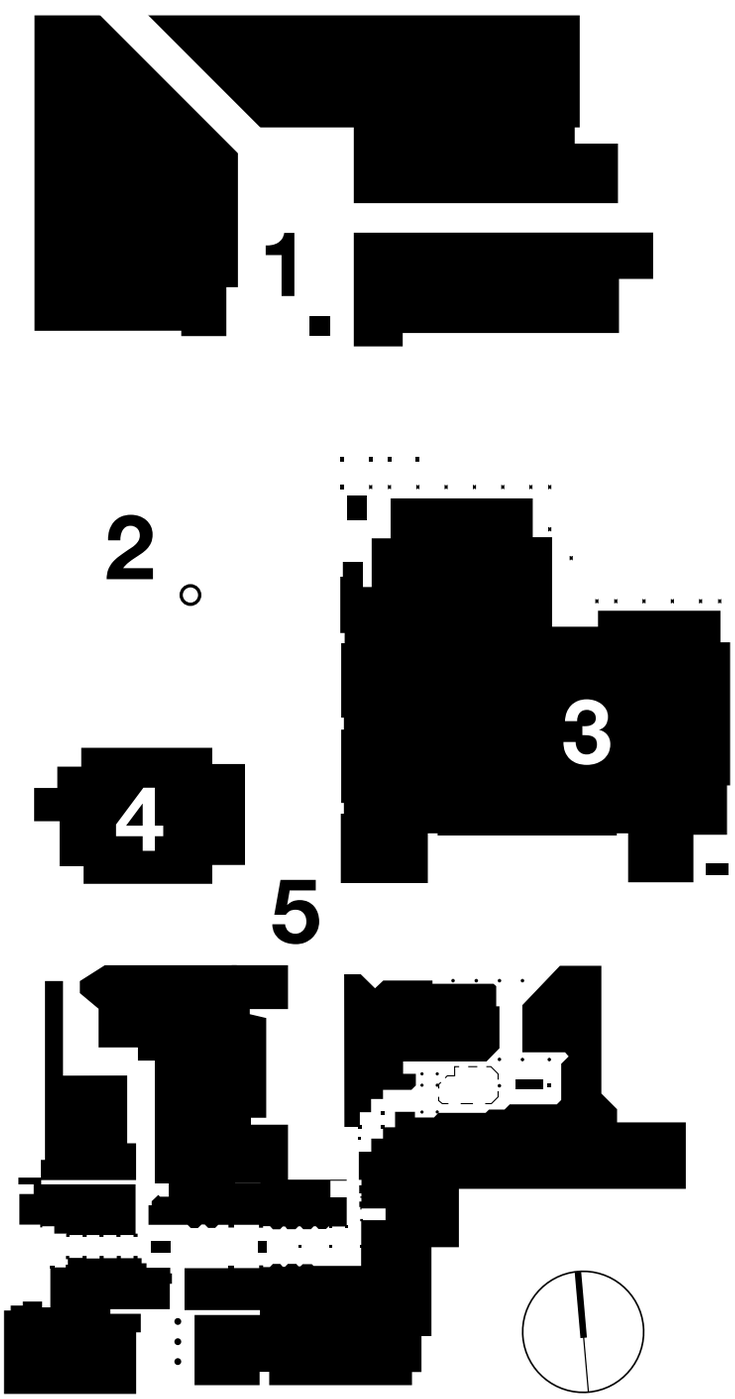


Fig. 3-17 (1) Clock tower on Sammy Marks Square. (Photo by author).

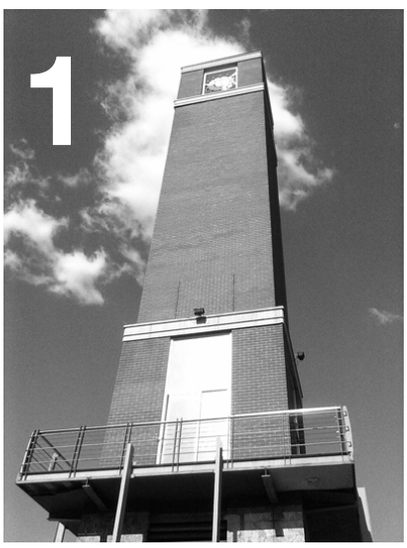
Fig. 3-18 (2) View of Lillian Ngoyi Square from roof of State Theatre administration block. (Photo by author).

Fig. 3-19 (3) View of State Theatre from glass elevator of ABSA building. (Photo by author).

Fig. 3-20 (4) View of ABSA building from entrance plaza of State Theatre admin tower. Notice new construction and photographic advertising. (Photo by author).

Fig. 3-21 (5) Looking eastwards down the Pretorius Street Urban canyon. (Photo by author).

Fig. 3-22 Figure-ground of project area (Sammy Marks precinct).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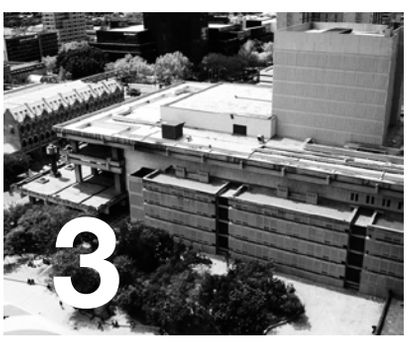
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Fig. 3-23 Project site in the Sammy Marks precinct.

Site Analysis

Fig. 3-24 The Tramshed barrier wall at southern edge of site. (Photo by author).

3.5 Project Site: 317 Pretorius Street...

The photo at right depicts the site chosen for the project, which is nestled between a number of opposing urban structures and programmes. The surrounding building edges form an obstacle to urban continuity. The site represents an isolated fragment in the city fabric. As a consequence of its fragmented nature, the site exists in an anonymous state of indeterminacy, making no functional contribution to its context. Currently, it functions only as a parking lot for the surrounding commercial and administrative complexes.

... An Indeterminate Space

Postmodernism theorists such as Michel Foucault question the unitary manner in which historians approach historical information. In The Archaeology of Knowledge, Foucault introduces a novel way of discovering historical documents (buildings, objects, records, artifacts). This method moves beyond the stale practice of treating them as perfect representations of epochs or ideologies, or "inert material". Foucault suggests a "working from within" method as a reactive recourse that embraces the uncertain, discontinuous nature of sites (Foucault, 1969:11).

The prevalence of isolated sites denotes dissonances and tensions in the fabric of society. These dissonances often contribute to a site's inherent indeterminacy. From a cultural perspective, these spaces make no real contribution to the "working" cultural memory of the city, and therefore represent voids or gaps in the city's memory (Hughes, 2010:26).

These indeterminate sites should be investigated to understand their development, and identify latent opportunities. The next step is to suggest how these sites should contribute to the collective working memory of the city. Design should re-establish connections between the gaps in city fabric: the transitional conditions between dissonant layers. For the purposes of this study, a cultural insertion in the form of a forum-based theatre could provide the social glue that will connect this indeterminate space to its surroundings.

Fig. 3-25 (Opposite) The site chosen for the project intervention. (Photo by author).


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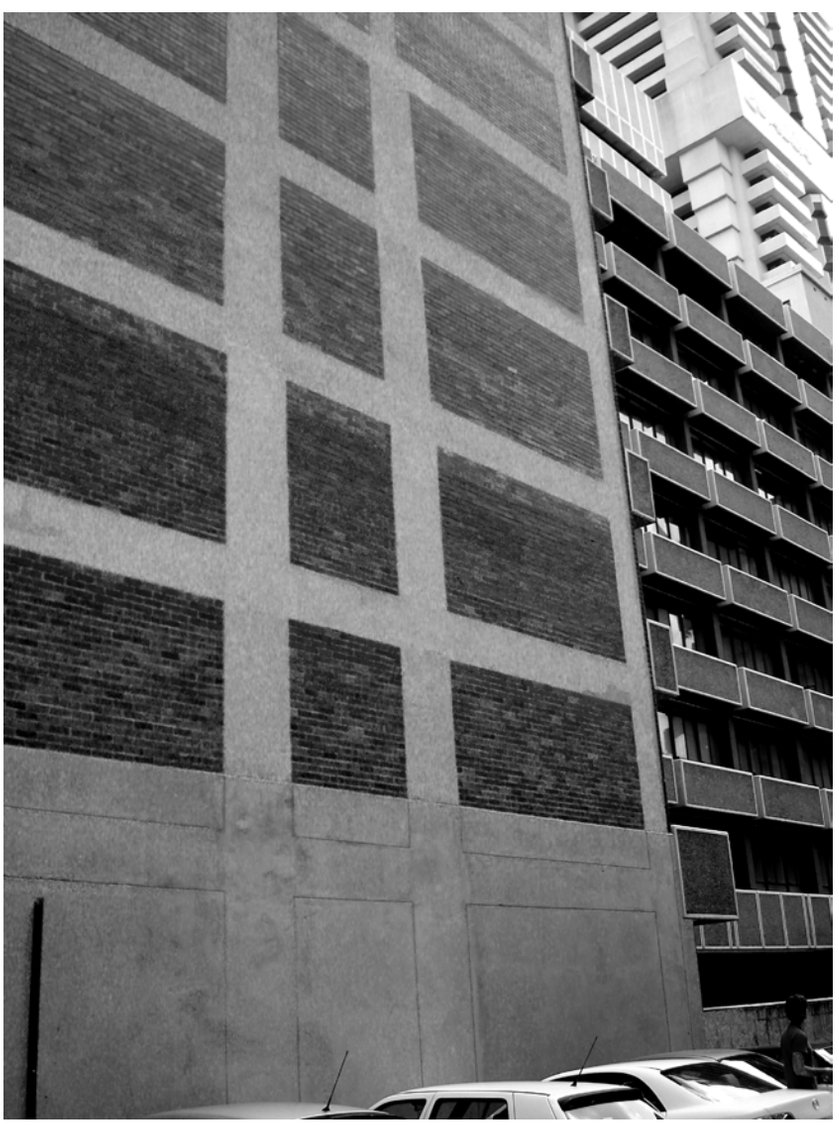
3.6 Photo Montage

> When I photograph, I try to get out of the way, and let the photograph happen; let the camera photograph by itself.
>
> John Daido Loori Roshi (Film Interview, n.d.)



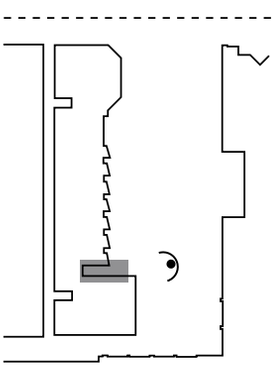


Fig. 3-26 (Opposite) Brutalist aesthetic on the facade of the Govpret building. (Photo by author).

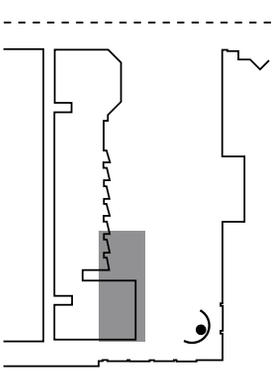


Fig. 3-27 (Left) Cross pattern created in brick and concrete on southern wing of Govpret. (Photo by author).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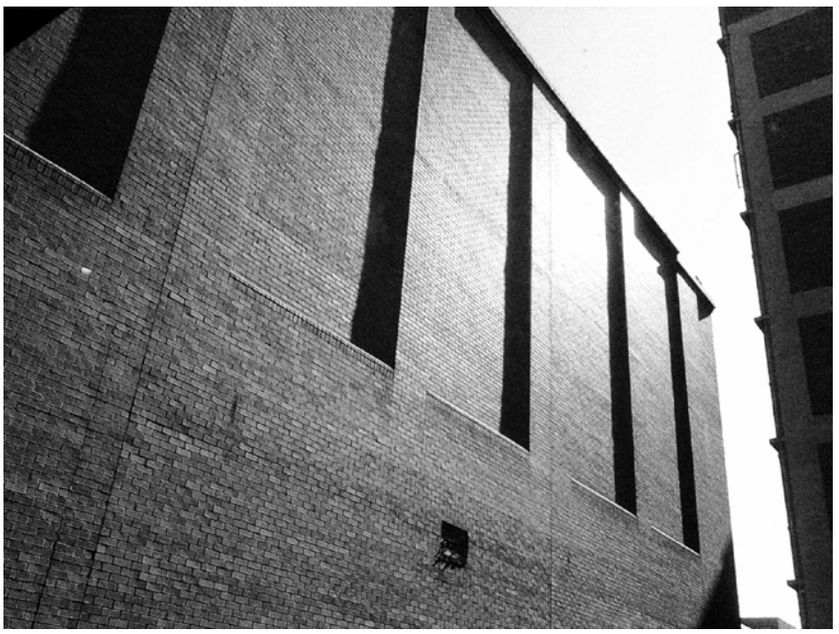


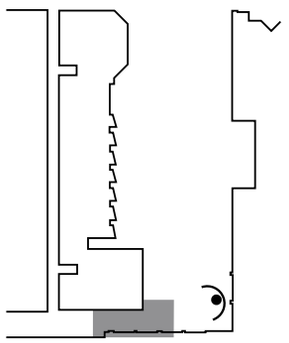


Fig. 3-28 Tramshed Parkade: rear wall with light through the cracks. (Photo by author).

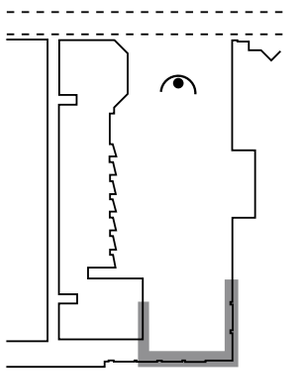


Fig. 3-29 Tramshed Parkade rear wall forming natural backdrop. (Photo by author).

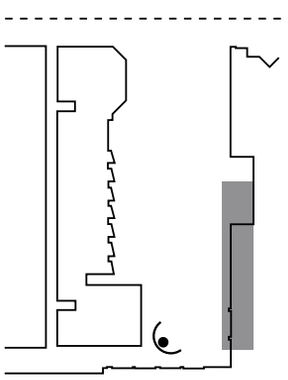


Fig. 3-30 Brick infill between concrete core structure of Momentum Centre, forming a barrier to pedestrian movement. (Photo by author).

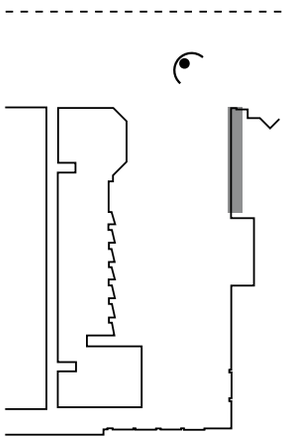


Fig. 3-31 Concrete scarring on Momentum facade facing site. (Photo by author).

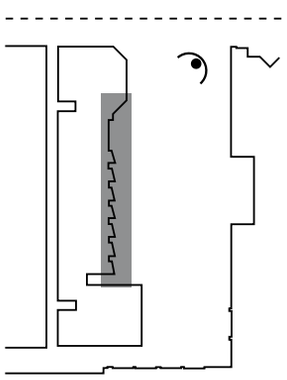


Fig. 3-32 Govpret building, currently rentable office space. Precast concrete balconies. (Photo by author).

3.7 Focus Areas/ Programme Guidelines

The site, its innate qualities and the contextual forces around it offer a contextual template from which ideas can be selected. In this case, each focus area below was briefly assessed, and contextual ideas and opportunities that might enrich the design response to the challenge of spatial indeterminacy are outlined. The site analysis will begin across the road at the State Theatre main complex, and then jump across the street to the project site. The current zoning for the site falls under “special use”, meaning that there is a wide variety available options for the new development. The analysis forms the basis of a mini-framework to activate the project area.

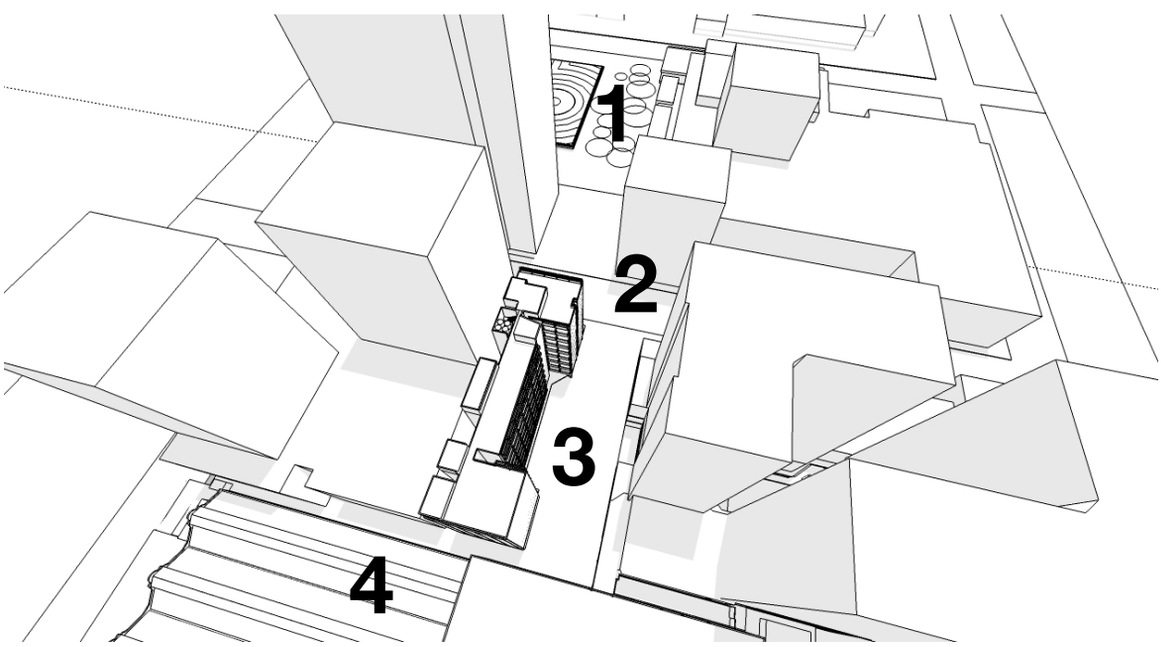


Fig. 3-33 Focus areas in the project context.

1 State Theatre/Lillian Ngoyi

2 Pretorius Street Urban Canyon

3 Project Site

4 Tramshed Mall

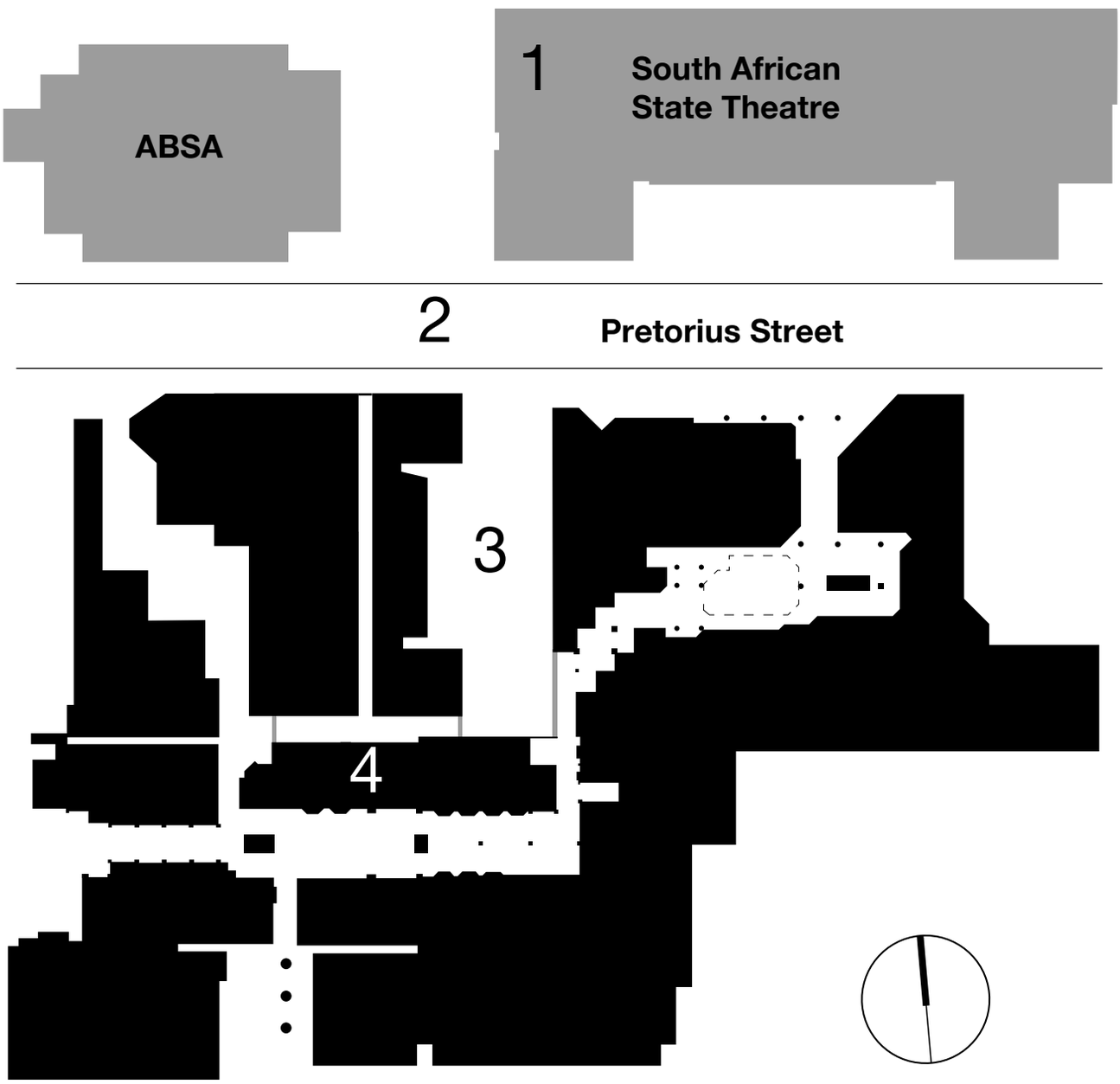


Fig. 3-34 Figure-ground diagram of zoomed in project area.

Focus Area #1:
SA State Theatre/ Lillian Ngoyi Square

Observation

The main observation regarding the State Theatre is:

The Western skin facing the square (1) is inactive. This contributes to the square's indeterminacy. This skin is thickened by the accommodation of circulation and sanitary facilities inside it. Indeterminacy, in this case, involves a dualistic tension between the square and the State Theatre, with the consequent dead in-between space.

Programming Guidelines

Lizelle Cloete's thesis project entitled The 4th wall: breaking down the boundaries of a public space in Pretoria (Cloete, 2009:21) provides some insight on how the western wall should be treated. The thesis proposes an active skin of public and cultural amenities along the façade that serves as a transitional layer between the State Theatre and the square. In essence, a gravitational anchor is placed on the site inviting people to use the site.

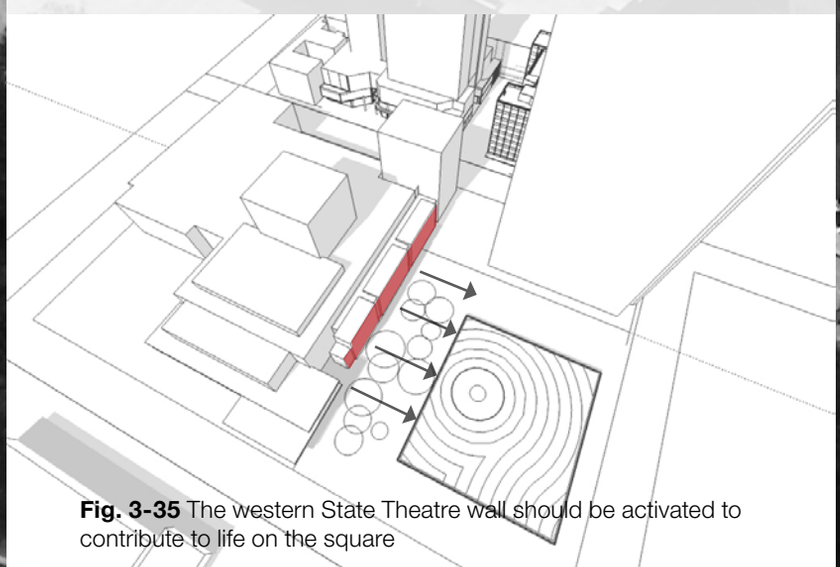


Fig. 3-35 The western State Theatre wall should be activated to contribute to life on the square

Problem #1 (continued)

Preamble

A deeper understanding of local cultural processes allows for a solid foundation when developing urban design strategies in multicultural cities (Chodikoff, 2008). These design strategies should correspond with emergent cultural practices. The creation of urban spaces for the cultural industries and emergent cultural forms is part of a process identified as “creative space making” (Duxbury & Murray, 2010:209). It involves creative people acting as diversity magnets and catalysts in cities, attracting people and activities into urban spaces. In terms of this project, it frames a possible approach to dealing with the challenge of indeterminate space.

Observations

1. Closer observation reveals a critical niche for creative forms of activity to appropriate public spaces. Presently, there is a lack of local creative expression in the area under investigation. One creative feature was an oversized “Jabulani Ball” that citizens had started to graffiti with signatures and short messages. Unfortunately, this was promptly removed.

Fig. 3-37 Lillian Ngoyi Square flanked by the State Theatre and Sammy Marks Square with Church Street. Most informality occurs on along Church Street where most people are concentrated. Little activity occurs on the squares. It possibly the absence of a magnetic anchor to attract people. Where there are people, there is trade. (Photo by author).

2. Lillian Ngoyi Square and the Sammy Marks squares are examples of public spaces that are poorly appropriated by informal activities such as trading. These spaces do not perform a specific function except as traversed space used as a crossing between destinations. These spaces are essentially gaps, or voids, in the cultural and functional urban fabric.

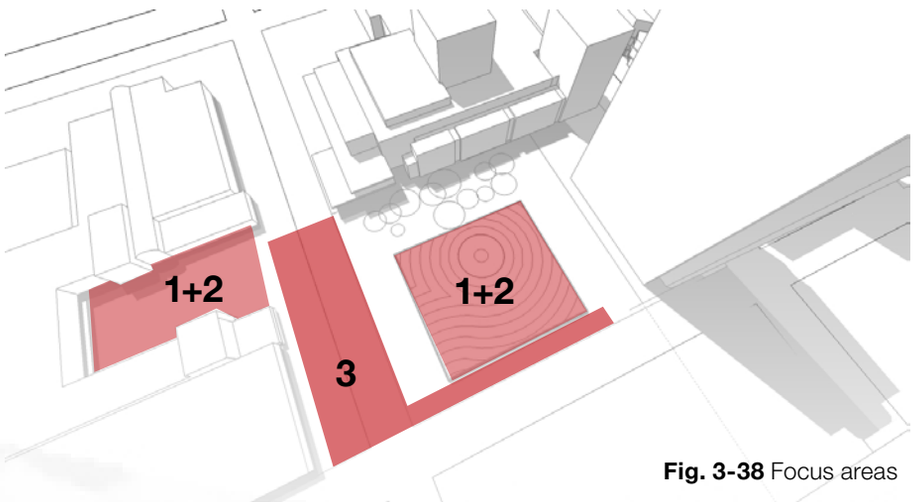


Fig. 3-38 Focus areas

3. The vibrant informal trade presence contributes to city life. However, on closer inspection a lack of variety of locally manufactured goods and crafts becomes evident. The majority of goods on display appear to be of foreign origin, and local traders confirm this. Foreign goods are cheap and relatively easy to obtain, with supply being constant. Locals buy into these markets firstly because there is a lack of local capacity to compete with the global markets; and secondly, because there is a serious lack of a local supportive infrastructure that would enable locals to design and manufacture their own goods (personal communication with entrepreneur Vivienne Schultz, 2010). This state of affairs is to the detriment of local creativity, and implies that there is a critical inefficiency in local supportive infrastructures that ought to encourage local creative industries, artisans and entrepreneurial bases.

Fig. 3-39 The kinds of items that are prevalent in trader stalls, are generally imported from foreign lands. (Photo by author).

Fig. 3-40 Little variety of locally manufactured goods. (Photo by author).

Fig. 3-41 (Below) Informal trading along Church Street pedestrian boulevard indicates vibrant urban life, yet serves to hide the latent cultural homogeneity. (Photo by author).

Conclusion

In attempting to understand why public spaces are not being properly appropriated, it is important to understand the city as a complex juxtaposition of publicly and privately owned spaces. Privately owned spaces tend to make poor provision for public life. On the other hand, the simple provision of public space is not effective if there is no life to appropriate it. Jan Gehl emphasizes the importance of transitional layers between private and public spaces that serve as appropriable public buffer zones (Gehl, 2006:113). These layers blur the distinction between the public and the private. People generally feel more confident appropriating urban spaces that exhibit this adaptability. It is therefore crucial that designers ensure that they are in place if they wish to achieve the level of vibrant city life envisioned for their projects.

Programming Guidelines

- An activation of site barriers could improve connectivity between the site and its surrounding programmes.
- To prevent the site from becoming merely a traversed space, the site could be programmed with regular events, both cultural (theatre and festivals) and non-theatrical (e.g. trading, markets).
- The transition between routes and public spaces (i.e. theatre) should be articulated.

Focus Area #2: Urban Canyon

Observations

The prevalence of large urban barriers such as vehicular routes contributes to the development of indeterminacy in the city. Concentrating commercial activity in the city leads to high land values, which in turn prompts property owners to build upwards in order to maximize rentable space. In Pretoria, the consequence has been a definite urban canyon forming along Pretorius Street, with high-rises such as ABSA, Momentum Centre and the Fedhealth Forum forming the steep canyon cliffs. Although it functions as an effective one-way carrier for vehicular traffic into the city, Pretorius Street hinders the easy movement of pedestrian traffic between city blocks. This is primarily due to the sheer width of the street and the intensity of the traffic.

- Pretorius Street contributes to the site's indeterminacy by blocking it off from neighbouring blocks.
- The presence of Pretorius Street poses a threat to the safety of users attempting to cross the street and reach the project site.
- An investigation of the site's context reveals that there is an existing culture of using bridges to connect adjacent blocks and structures.

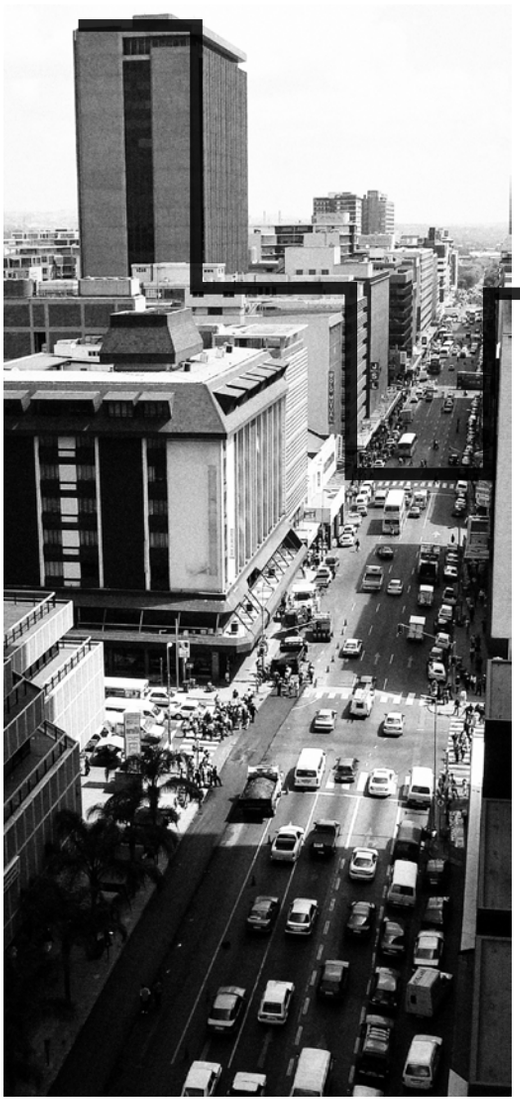


Fig. 3-42 (Above) Photograph taken by author from State Theatre roof, looking westwards towards Pretoria centre. Notice high levels of one-way vehicular activity, and the linearity (East-West axis) that results from Pretoria's grid-line planning arrangement.

Fig. 3-43 (Right, above) Bridge between Standard Bank plaza, and neighbouring mall.

Fig. 3-44 (Right) Bridge linking northern and southern sections of the Munitoria council.

Fig. 3-45 (Far, right) Small bridge connection between Momentum Centre and neighbouring office tower.

(Photos by author).

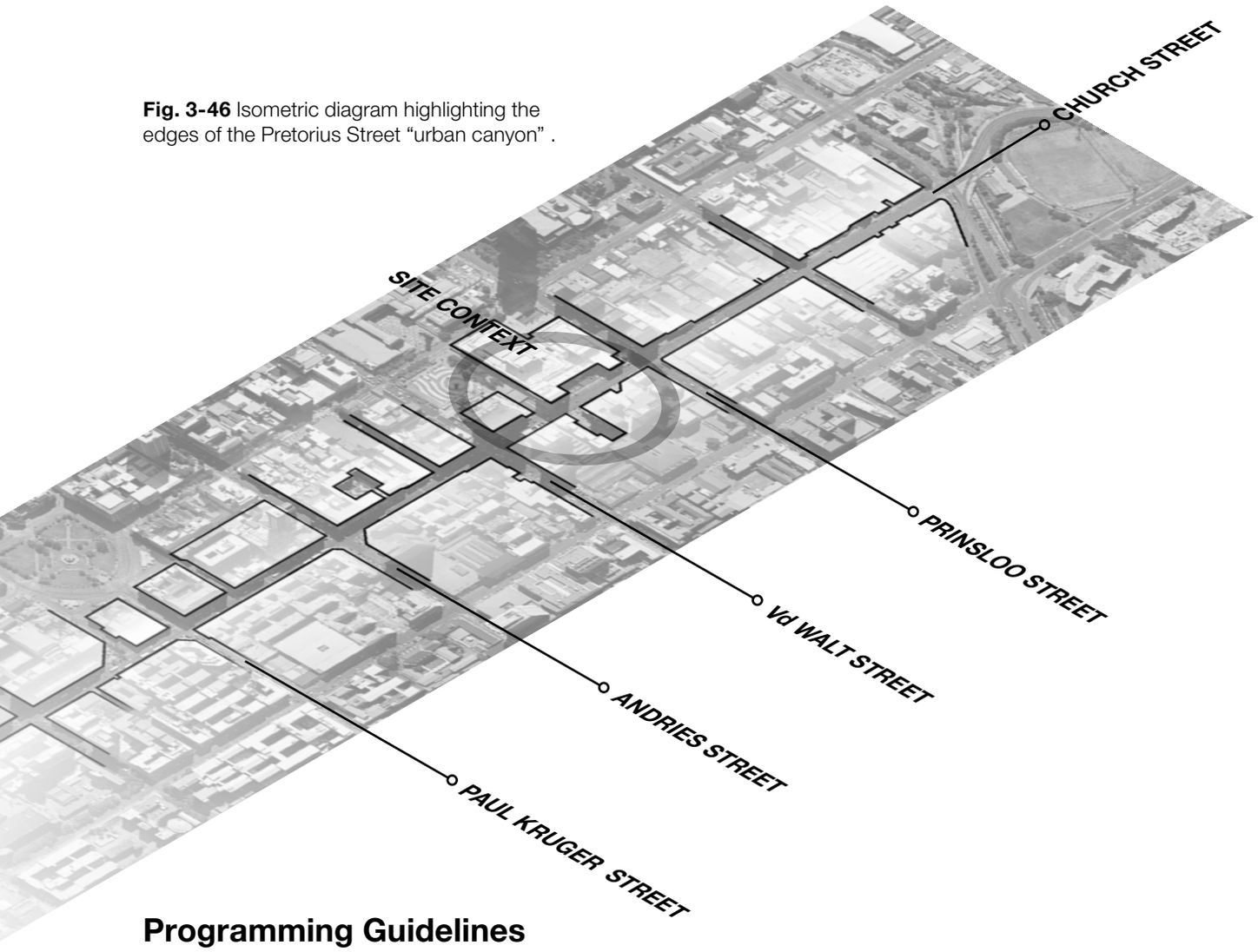


Fig. 3-46 Isometric diagram highlighting the edges of the Pretorius Street “urban canyon” .

Programming Guidelines

- Explore a bridging element for easy access between the State Theatre and the proposed extension across the road. An institutional bridge between the two theatres complexes would allow for the easy transport of staff and resources, for example at production and educational levels.
- The existing paradigm of bridging in the area justifies the construction of a new bridge to connect the State Theatre and the project site on both aesthetic and functional grounds.

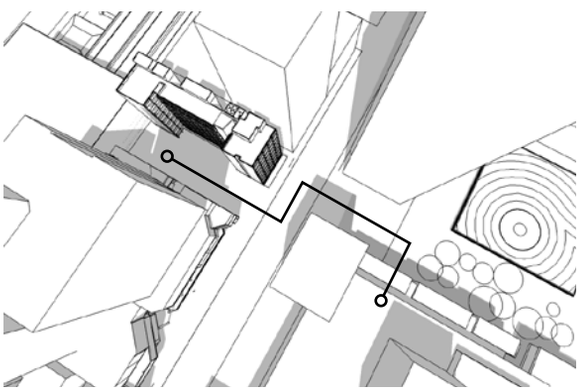


Fig. 3-47 Bridging concept: site to State Theatre.

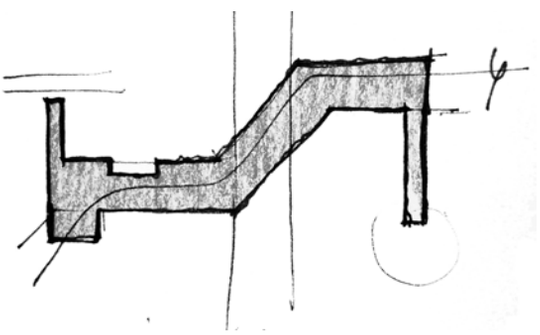
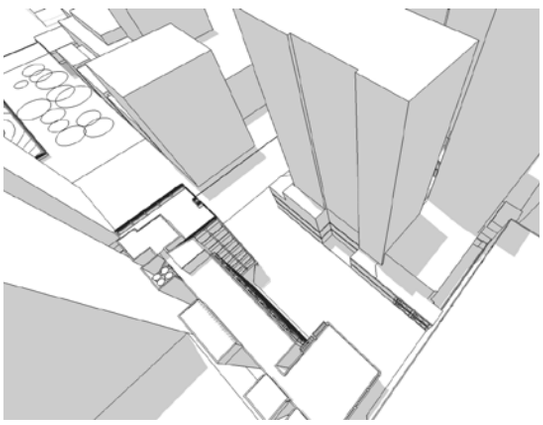


Fig. 3-48 Bridging parti sketch: a continuous building that plugs into the city fabric across block barriers.

Focus Area #3:
Project Site

Observations

The project site exists as an awkward gap between the Momentum and Govpret buildings. What is the history of this site, and how did it develop into such a problematic and indeterminate space? Old city maps suggest that the project site (A) used to accommodate a western extension to the existing Momentum Centre (B) (Department of Architecture Archives, accessed on 9 March 2011). At some point, and for no apparent reason, this extension was demolished. The diagrams on the opposite page explain the drastic effect this demolition had on the site, and its development as an indeterminate space.



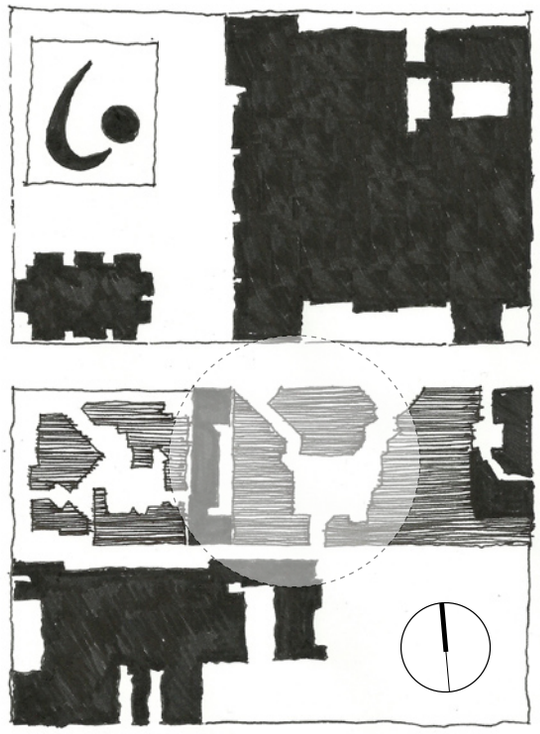


Fig. 3-49 (Above) Sketch of old map, showing original structure of block, with western plaza of Momentum Building.

Fig. 3-50 (Above, left) Project site.

Fig. 3-51 (Middle, left) The scarred concrete surface probably is an indication of a rapid casting job to finish off the building. The financiers might have run out of funding to complete the remainder of the building.

Fig. 3-52 (Left) Brick in-fill between existing concrete structure with square windows which allow a view into the Momentum forum space. (Photo by author).

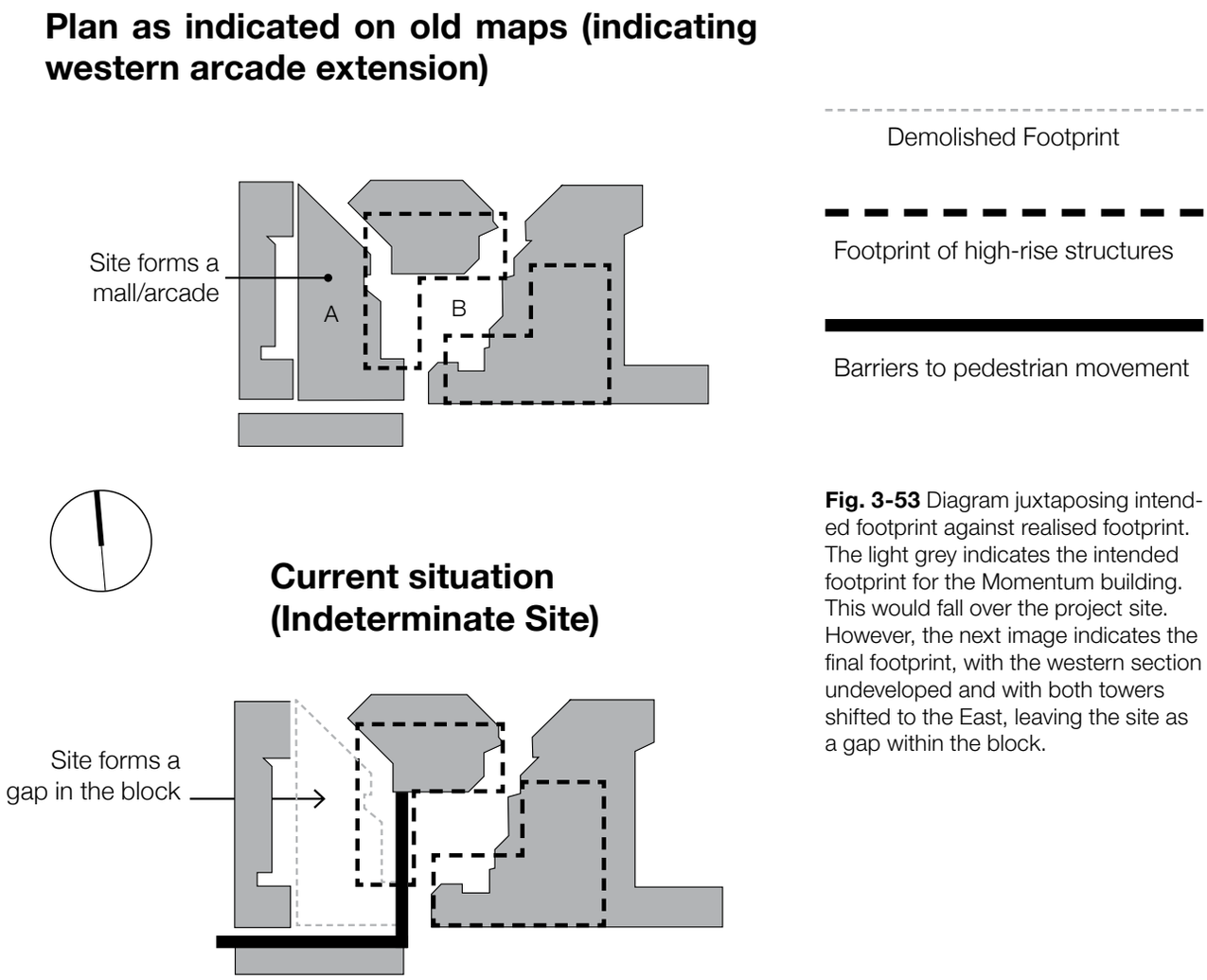


Fig. 3-53 Diagram juxtaposing intended footprint against realised footprint. The light grey indicates the intended footprint for the Momentum building. This would fall over the project site. However, the next image indicates the final footprint, with the western section undeveloped and with both towers shifted to the East, leaving the site as a gap within the block.

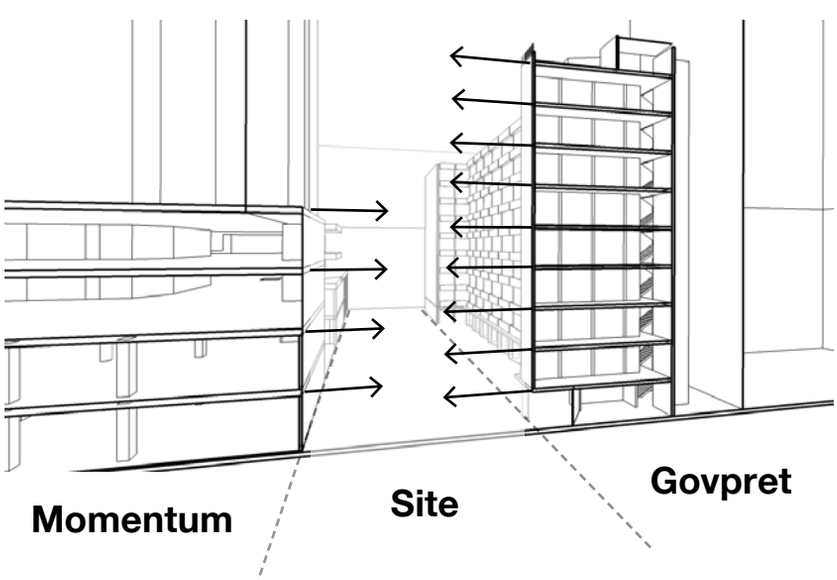


Fig. 3-54 The height dissonances between two opposing structures (Govpret and Momentum buildings) could pose a problem to movement between the buildings.

Seasonal Shade Comparisons

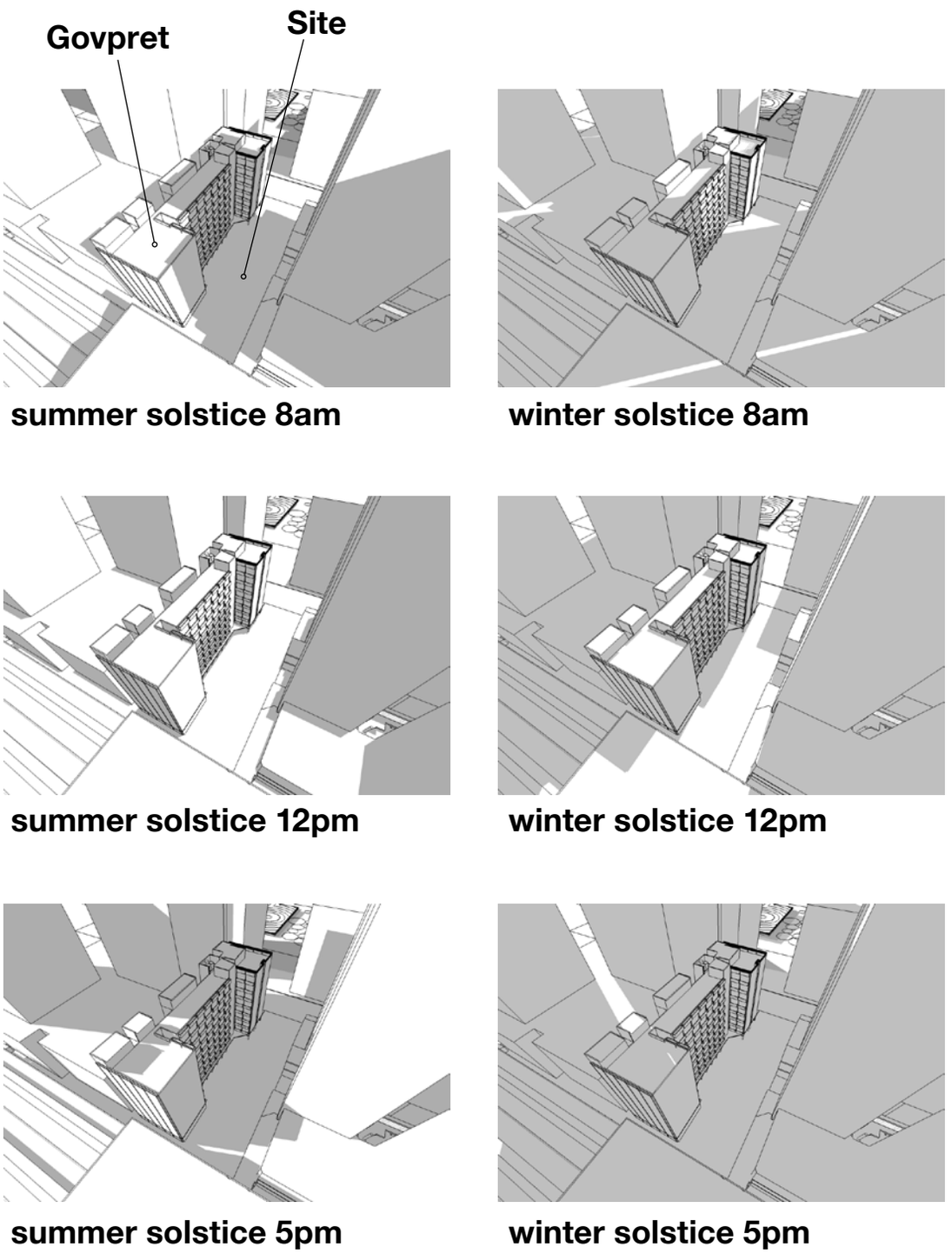


Fig. 3-55 Shadow studies demonstrating differences in amount of sunlight entering site.

An Existing Paradigm of Skylights & Forum Spaces

To generate a response to the problem of lighting the dark site, the study began looking at the context for ideas.

Observations

- The majority of blocks utilise large overhead skylights to bring light into their large dark volumes formed between high-rise towers. The resulting space below provides a well-lit environment for commercial activities.
- Forum spaces are typical features of Pretoria's commercial infrastructure. Users are abel to witness the activity below from the surrounding circulation galleries.

Fig. 3-56 (Far, left) Sanlam Centre.

Fig. 3-58 (Left) Translucent polycarbonate roof sheeting of The Tramshed.

Fig. 3-59 (Middle) Standard Bank Plaza.

Fig. 3-57 (Bottom, Left) Fedhealth Forum skylight and central lift shaft.

Fig. 3-60 (Bottom) Momentum Centre forum space lit by overhead skylight.

(Photos by author).

Programming Guidelines

- Exploit the existing culture of skylights as a means of lighting the theatre activities during the daytime.
- A forum-based theatre fits well in this environment of established forum spaces. Users can view the theatre events below as they move through the space. Seating or standing places can be provides to facilitate this function.

Precedent: Higgins Hall Insertion

Location:
Brooklyn, NY

Architect:
Steven Holl Architects,
Rogers Marvel Architects

Owner:
Pratt Institute

Programme:
Academic

Type of construction:
New

Completed:
2005

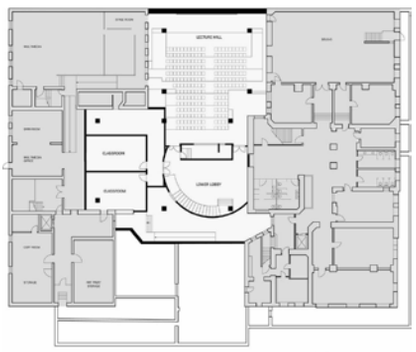


Fig. 3-61 Basement Plan

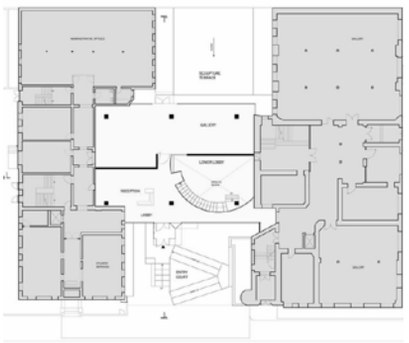


Fig. 3-64 First Floor Plan

The Higgin's Hall Insertion contains new academic amenities, studios, workshops and gallery spaces for the Pratt Institute's architectural school. It was originally constituted by three sections, but the central section was destroyed by a fire, leaving the two wings as isolated fragments.

Observations

- A newly designed structure was inserted into the resultant indeterminate space, re-establishing a connection while preserving the historical significance of the two interfacing structures (Lecuyer, 2006: 54).
- The level differences between the two opposing wings posed a major challenge to the architect. This closely resembles the scenario faced on the project site (see figure), where the Govpret and Momentum buildings were designed with different floor heights. The architect responded by inserting a light well where the dissonant level extensions intersected (Zuvela, 2010:12).
- A second articulating device, a pedestrian ramp, was also inserted along the light well, allowing for continuous movement between the rear and front street exits.

Fig. 3-62 (Opposite, above) View from across the street. (Image source: internet)

Fig. 3-63 (Opposite, below) Front facade – light penetrating polycarbonate sheet cladding detail. (Image source: internet).

- The new entrance is set back away from the main flow of traffic, creating a public gathering space in front of the facade where events can be held. A roof terrace at the uppermost level provides a second space for socializing (Zuvela, 2010:12).

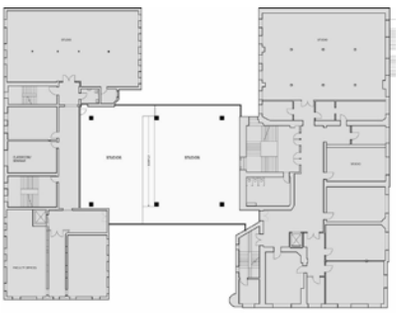


Fig. 3-66 Second Floor Plan

Fig. 3-67 Third Floor Plan

Fig. 3-68 Fourth Floor Plan

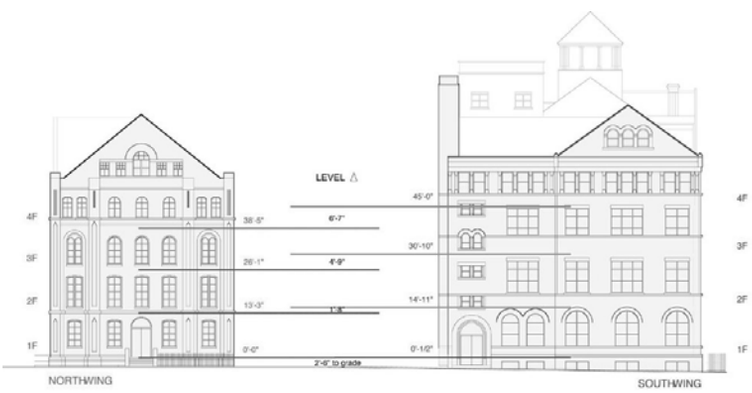


Fig. 3-65 Section illustrating level dissonances between opposing historical wings.

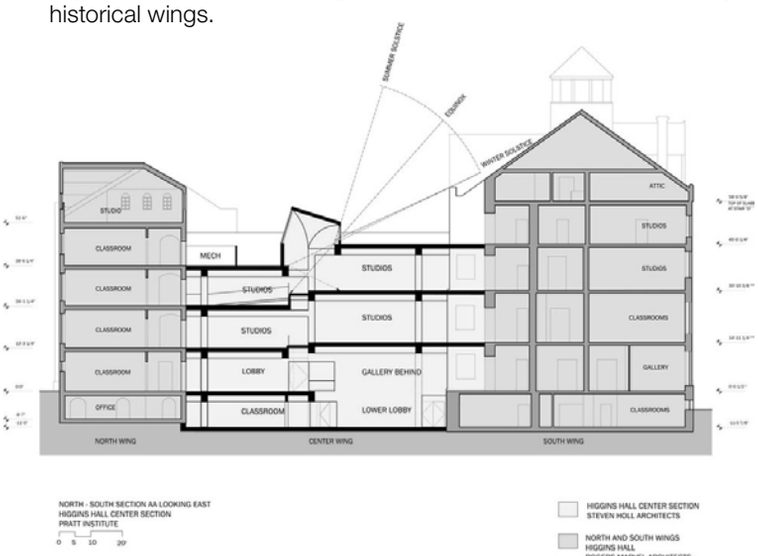


Fig. 3-69 Section illustrating skylight and seasonal sun entry angles.

(All Photos and Images sourced from the internet).

Fig. 3-70 Skylight and ramp accentuate the structural fault line and level dissonances.

Programming Guidelines

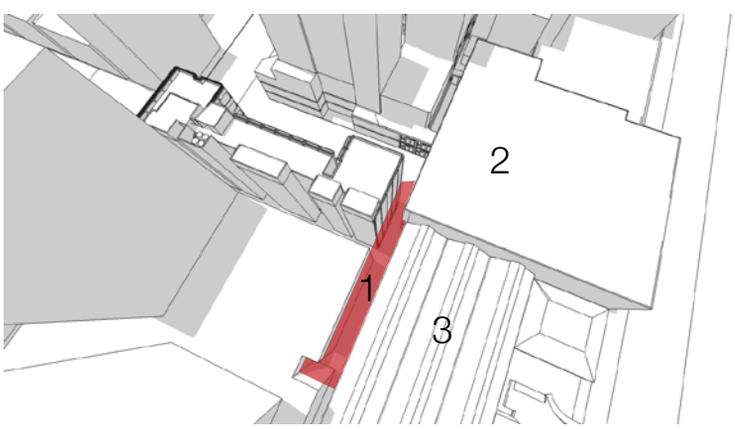
- Attempt to rectify level dissonances with a functional and aesthetic response.
- Use light as a connecting infill element between opposing structures. This corresponds with the existing culture of skylights in the project context. Follow this through into the building's tectonics: services, structure (e.g. light wells, roof structure) and material choices (e.g. translucent polycarbonate sheeting).
- Optimize user circulation through the building envelope (e.g. create a pedestrian thoroughfare).
- Develop the street front as a social interface, e.g. a pedestrian breathing space.

Focus Area #4:
The Tramshed

The Tramshed Mall (historically, the old Electricity Board, that was later used as a depot for defunct trams) is located to the south of the site; its modern parkade extension forms the southern edge of the site. How does The Tramshed Mall contribute to the site's indeterminacy? For the purposes of this study, the indeterminacy of the site can be evaluated in terms of how well it connects to its neighbouring structures. Connectivity could be evaluated with reference to the ease with which public users can move from one structure to the next, i.e. permeability through the block and across blocks.

Observations

- There is no permeability whatsoever between the site and the Tramshed Mall at present, but there is an opportunity for developing such a connection.
- The service corridor formed between the Tramshed Mall and the Govpret building serves to conceal an important piece of heritage: the historical Tramshed facade. In its current condition, the historical door and window archways have been filled in, cutting off connectivity with the service alley. The entire length of this façade has been rendered inactive as a consequence of this filling in, and historical heritage has been destroyed.
- A bridge that crosses over the service alley allows for pedestrian permeability between Fedhealth Forum and the Tramshed Mall.



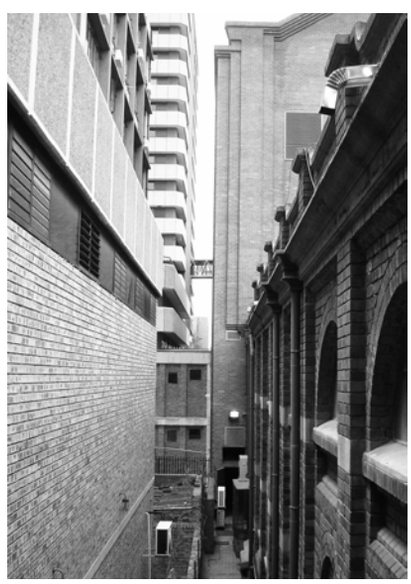


Fig. 3-71 (Above) 1. Alley, 2. Parkade, 3. Mall

Fig. 3-72 (Right) Alley between historical facade and Fedhealth Forum. (Photo by author).

- The southern periphery of the site formed by the Tramshed's parkade wall creates a major barrier to pedestrian movement.
- The Tramshed Mall is vibrant and busy, with a mix of public and commercial amenities. The central volume resembles a forum with a central space surrounded by suspended galleries. The central space has been appropriated as rentable trading space.
- The greater portion of the Tramshed roof is constructed out of translucent materials that bring in natural light, illuminating the activities below and saving on lighting costs.

Fig. 3-73 (Above) The Tramshed mall: central forum. (Photo by author).

Programming Guidelines

- Breaking through a portion of the southern edge of the site would create a connection between the site and The Tramshed. This could possibly extend all the way to Schoemann Street.
- Explore a possible interface that can be installed in the service alley between the Govpret building and the Tramshed Mall, thus revealing an indeterminate historical place. This would also enrich the experience of the site in its redeveloped state, and create an optional route for pedestrians.
- Developing the site as a retail and commercial extension would provide the final piece of the puzzle, linking the site to its neighbouring programmes.

Fig. 3-74 (Left) Tramshed-Govpret service alley. (Photo by author).

Precedent: Sackler Galleries

Location:
London

Architect:
Foster + Partners

Owner:
Royal Academy of Arts

Programme:
Gallery

Type of construction:
Interface

Completed:
1991

Sackler Galleries represents a modern conversion of an historical indeterminate space into a functional space with cultural significance.

Observations

- A sculpture gallery was inserted into the gap formed between the old Palladian House and Victorian Gallery. A light well articulates the linear gallery corridor, and brings in light to illuminate artworks. Light and simple geometries aid in directing users easily through the space and serve to create legibility and simplicity.
- A clear contrast is created between old and new structure: segments of the old Burlington House façade were left undisturbed; new structure utilized modern materials and design technologies. The result is a unified spatial experience, with the new framing the old, and vice-versa.

Programming Guidelines

- Explore light as connecting medium between disconnected buildings.
- Simple geometries contribute to the legibility of space.
- Expose historical facades to enrich the user's experience and illuminate latent historical layers.
- Utilize light to articulate circulation routes.

Fig. 3-75 (Above, left) View down volumetric light well depicting clearly the planar linearity of the space. (Image source: internet)

Fig. 3-76 (Below, left) View illustrating the use of translucent glass planes that allow for the subtle use of natural light to articulate the gallery volume, and illuminate the objects on display. (Image source: internet)

Fig. 3-77 Contemporary stair details are contrasted against the historical facade of the Burlington House, creating an awareness of coexisting time-frames. (Image source: internet).

3.8 Proposal

The aim of the project is to explore a public model of theatre inside the chosen site of 317 Pretorius Street. The public theatre is envisaged as an additional State Theatre venue that caters more to the informal and public sectors of society. In accordance with this vision, parts of the theatre will invite appropriation by local forms of creative culture and urban life. The articulation of the transitional space between public and private, between informal and formal, becomes pivotal in creating a symbiotic union of these contrasting uses.

The project proposes to reinstate the theatre's status as a production house, with its own resident theatre company overseeing the production and creation of new plays and the education of new theatre professionals. This will aid the State Theatre to realize its strategic community goals.

The social capabilities of theatre in its applied form will serve a central role in developing the site as a community space. The site transforms from a dead, indeterminate space, into a space given life by its community. In its applied form, theatre transcends the empty symbolism of conventional or classical forms of theatre that merely offer spectacles to users. Applied theatre, in this specific project context, will actively involve citizens in the construction and reconstruction of new and existing cultural symbols and memories.

A combination of two learning processes will simultaneously be occurring on the project site. The theatre school will dedicate itself to the generation of a new theatre curriculum that will benefit the development of the theatre arts in South Africa. The forum theatre will deal more with informal processes of learning that characterize applied drama: didactic interplay.

The concept of the site as a stage, not only for staging dramas, but as a stage for public events such as festivals, expos and markets, will inform how the site will cater to the community and informal city life. Markets have played an important historical role in Pretoria's development. Market Square (now Lillian Ngoyi Square)was historically used to host a number of important markets, such as the annual flower market, as well as regular farmers' markets (Pretoria archives).

Breaking through at necessary points will enhance connectivity between the site and its neighbouring buildings. Latent qualities and interesting features of the site will be emphasized in an attempt to create a rich experience for users. The development and design of the site will make reference to paradigms inherent in the context, to ensure a contextual response.

3.9 Objectives

The primary objective of this design intervention is to respond to the site's innate state of indeterminacy, and to derive an appropriate contextual response. Past practices and ideologies that favoured more purist approaches to design have resulted in a city that struggles to embrace progress and innovative approaches to urban design: a city that struggles to adapt to the needs of its inhabitants. If the city is to adapt to the emerging demands of the day, this must change. Public theatre that works with the inherent informality and diversity of city life becomes an important vector for effecting this objective.

The following list is a summary of the project objectives:

- To activate the vacant site in question by inserting an interface to create continuity with its context.
- To use this space as a venue for public events, social models of theatre and didactic processes, using theatre as the social glue.
- To extend the existing pedestrian arcade network by inserting a pedestrian thoroughfare.
- To provide a link across Pretorius Street that will serve to link a series of isolated urban spaces identified in the collective urban framework.
- To provide a venue for identifying and showcasing local talent, who will be given the opportunity to be educated under the guidance of experienced theatre professionals.

The realisation of these objectives will see the development of a multi-functional space that relies on a dialogue between on-site programmes and surrounding urban programmes.

3.10 Preliminary Accommodation List

It is envisaged that the following space provided in the newly developed site:

1. A **Central Forum Space** for staging public events (including but not limited to forum theatre, expositions, markets and festivals).
2. **Production and Educational Facilities** (informed by the collaborative needs of the residency programme).
3. **Residential Facilities** for mentors and students.
4. **Rentable trading space** located along a pedestrian corridor.
5. **Gallery Spaces** as ancillary spaces for expressing creative works. The Tramshed historical facade is a likely location for one of these spaces.

The Architect will be required to consult with all the relevant stakeholders. A task force representative of the DAC, the City of Tshwane, key occupants of The Tramshed, the State Theatre, Momentum, Fedhealth Forum has been constituted under the chairmanship of the Department of Arts & Culture, the main sponsor of the project.

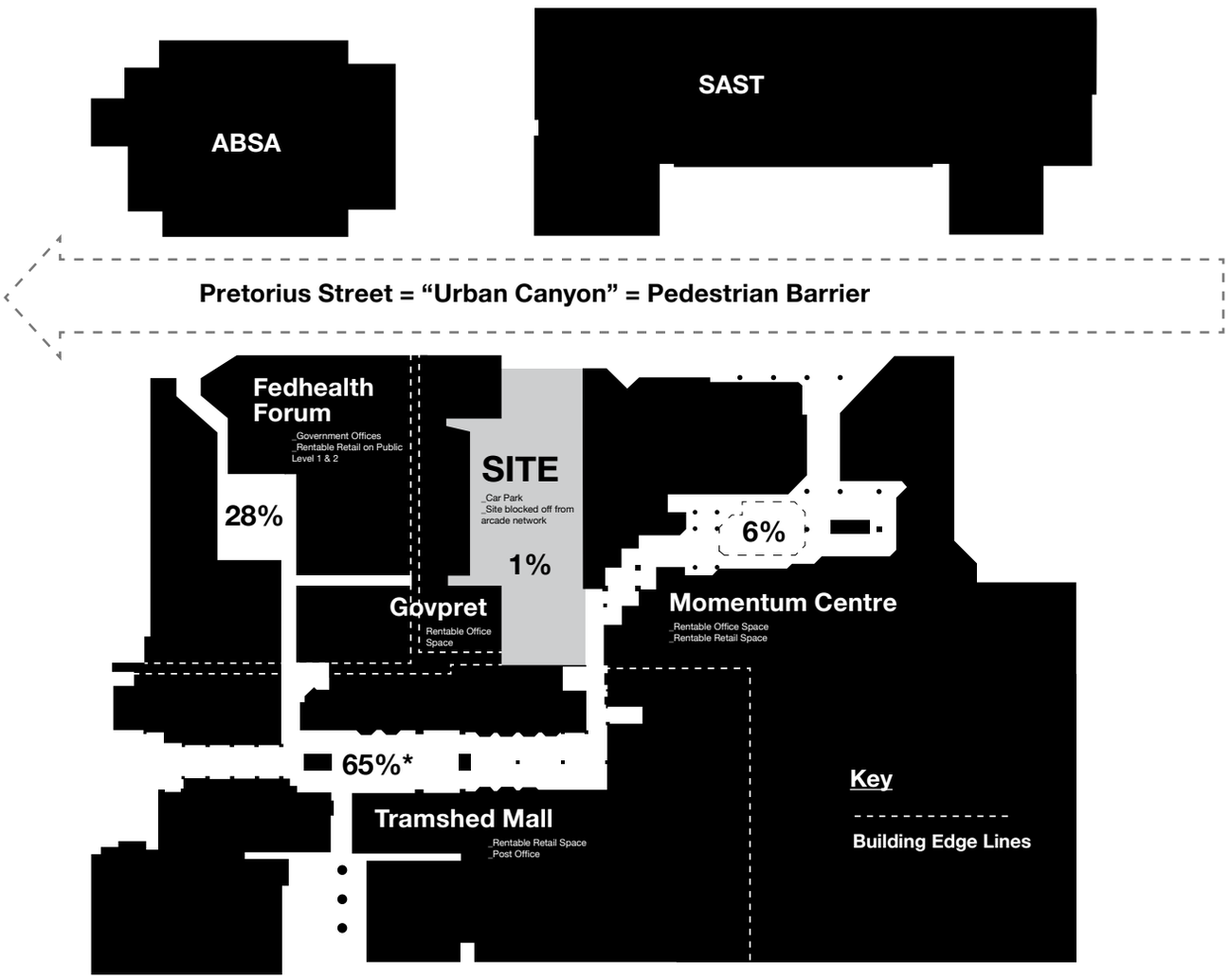
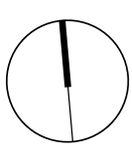


Fig. 3-78 Figure-ground existing

***%appropriation in block on retail levels**

Figure-Ground - Existing

- **Accessible volumes**
- **Inaccessible project Site**
- **Usage of lock by commercial activity**



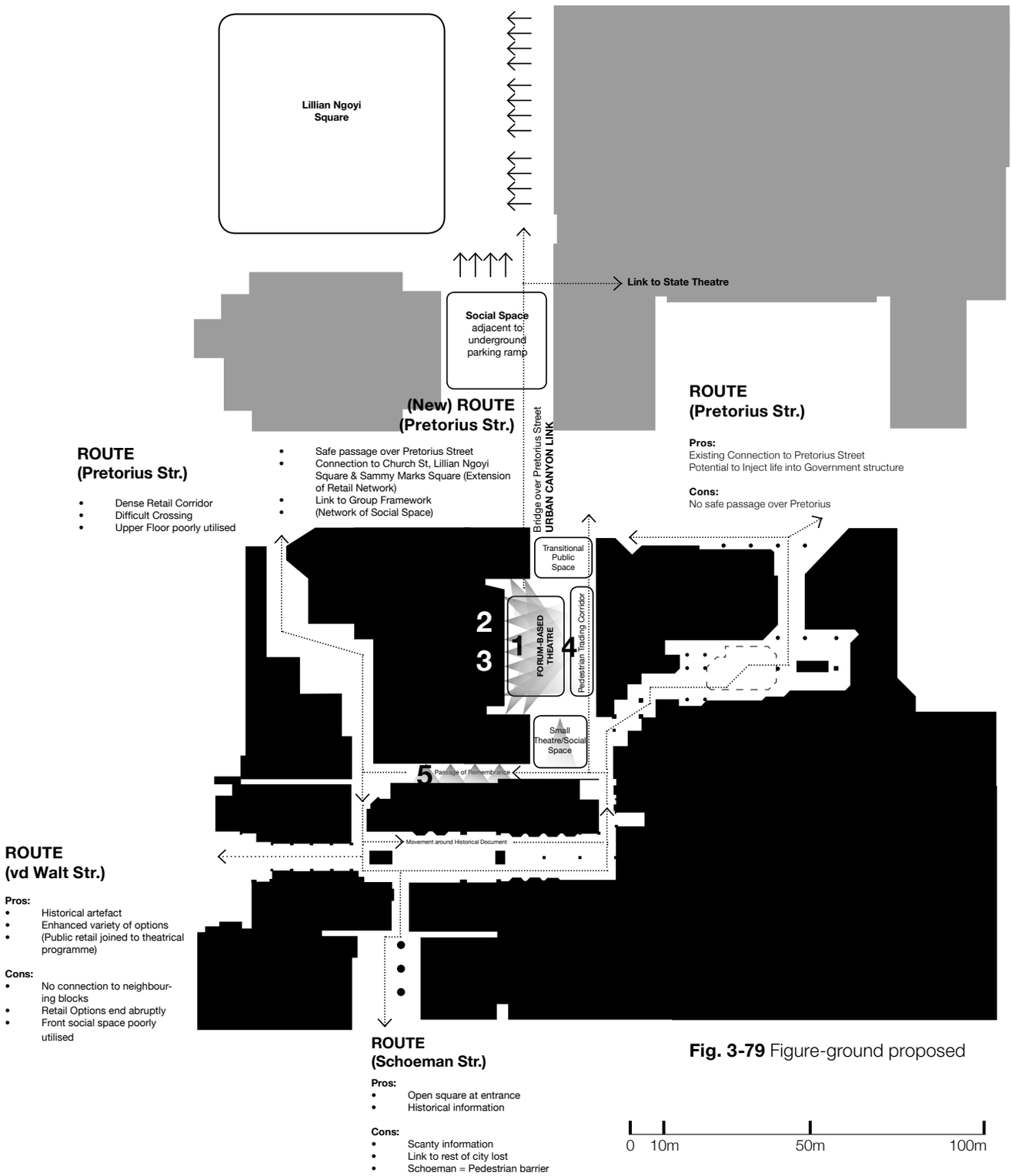


Fig. 3-79 Figure-ground proposed

Nolli Map - Proposed

- **Broadening Route Option Network**
- **Programming New Theatrical Social Space**
- **Connecting to group framework**
- **Exposing historical strata/documents**
- **Specific Interventions**

04

Programme & Brief

"Creativity is the ability to respond to all that goes on around us, to choose from the hundreds of possibilities of thought, feeling, action and reaction that arise within us, and to put these together in a unique response, expression, or message that carries movement, passion and meaning (Wilson, M., 1990:12)."

4.1 State Theatre Extension

Falling into the collective body of the creative arts sector, theatre can be viewed as an expressive medium aimed at delivering a message or lesson. It has already been suggested that an investment in the creative sector can aid in the rejuvenation of inner city diversity. A new public extension to the State Theatre can start to operate in the public domain by framing social events and providing the necessary platform for participatory processes that will allow neglected groups to be active participants in this rejuvenation process. In this process, architects and planners can design more sustainable and appropriate responses. Additionally, an extension can take on an educational role for the development of theatre in the city centre.

4.1.1 Forum-based Theatre

A programme for extensions to the theatre firstly needs to deliver a publicly accessible model of theatre. Forum-based theatre will fill this role. An appropriate design response that deals with the specific functional and expressive needs of forum theatre will have to be investigated. Aspects of informality, activated envelope, public participation, and shared event space can be integrated to deliver a unique design response.

The theatre can also become the new venue for delivering the State Theatre's objective of showcasing new creative talent, and function as a general public space that fits into the collective continuum of public spaces. This latter aspect will be assessed in the following chapter.

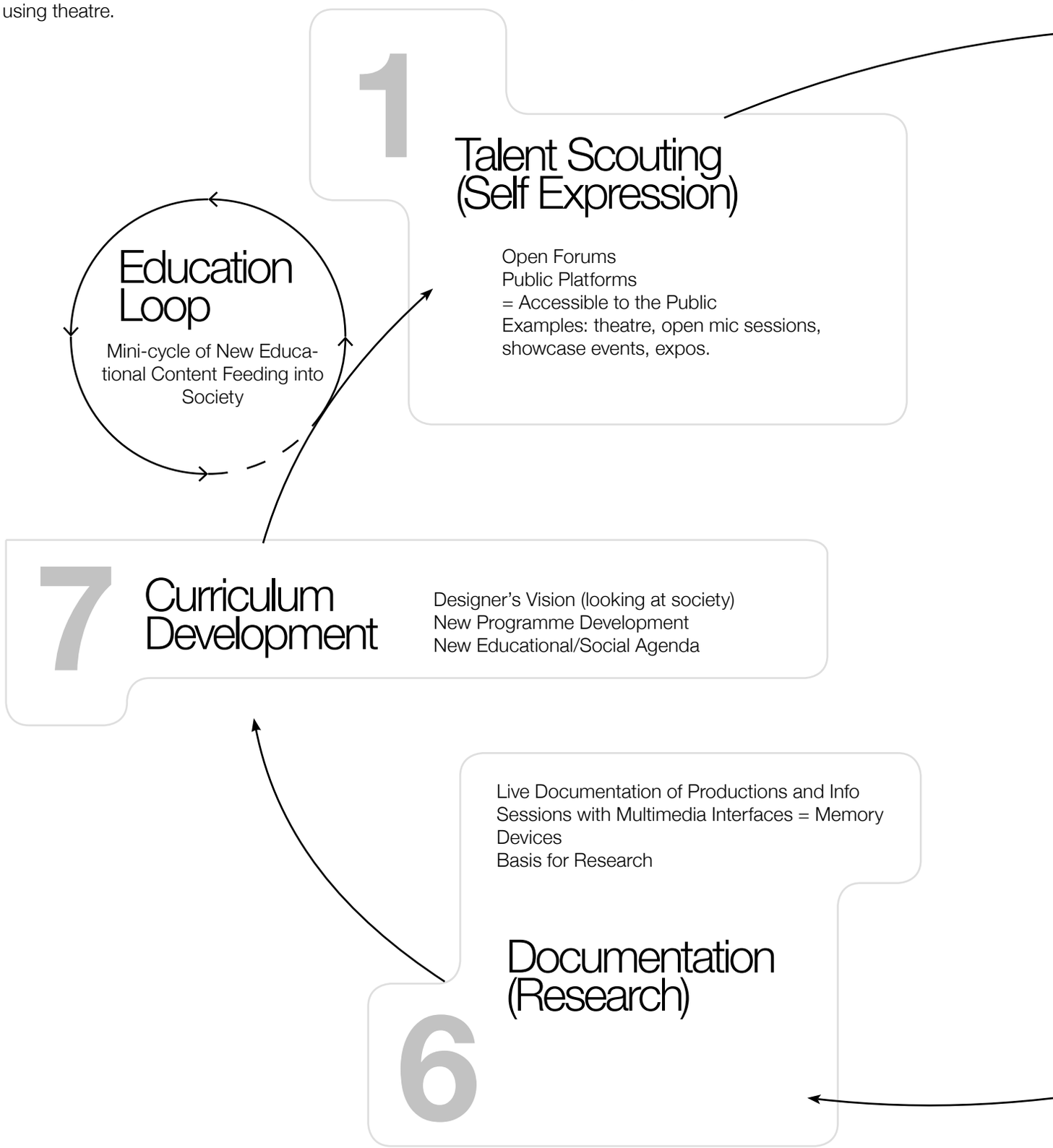
4.1.2 Theatre School

The State Theatre has identified the training of new theatre professionals as a primary developmental objective. The study proposes that an investigation be made into a new school for theatre professionals that will operate under a residency programme format. Apprentices will be enriched through various activities and skills development courses under the guidance of experienced mentors. The aforementioned design generators can begin to formalise the design of the new school, once again embodying the same principles of informality, social event spaces and participation, to mention a few.

The study will attempt to investigate how these two programmes can function in a shared environment. The theatre school might start to utilise the forum space as a playground for experimenting with public forms of theatre. Part of the training could integrate forum theatre as a means of enabling student-to-public participation.

4.2 The Creative Arts Production Cycle

The following is an adaptation of UNESCO's arts production cycle, remodelled to suit a new public theatre and theatre school. It demonstrates a system for incubating creative projects using theatre.



2

Development of Talent

Training
Mentoring (“shadowing”)
Residency Programme
Workshops

3

Creation

Brainstorming
Opporunitunity Recognition
Theme Development
Experimentation
= New Creative Output

4

Production

Pulling Resources Together:
Physcial, technical, financial, human resources.

Collaborating with contextual users:
Street Urchins, buskers,

Using contextual venues:
New Theatre
Public Squares
Basemen Parking
Rooftops
Hidden Alleys

5

Marketing (Audience Development)

Developing on-going relationships with audiences.
Finding New Audiences Outside the Mainstream E.g. Passing Pedestrians, Socially Excluded Groups .

Via:
Creative Programming
Education
Publicity
Distribution of Material

4.3 Creative Programming

The various stages of the creative arts production cycle can form the basis for developing a spatial accommodation schedule for the proposed theatrical interface.

1	**Talent Scouting (Self Expression)**	Large Adaptable Space for expos, Performance Spaces (platforms), Rehearsal Space, Public Amenities such as eating and drinking venues and sanitization.
2	**Development of Talent**	Educational and Workshop spaces such as Class rooms, Lecture Halls, Information and Media Labs, as well as Rehearsal Space. Possible residences for permanent trainees and mentors with associated spaces.
3	**Creation**	Workshop space such as Class rooms, Lecture Halls, Information and IT Labs, research library, as well as Rehearsal Space.
4	**Production**	Adaptable theatre venue/s with client amenities (restaurant and bar), space for set production, rehearsal rooms, technical control rooms for light, sound and video production.
5	**Marketing (Audience Development)**	Multimedia labs, broadcasting studios, art studios, spaces for sound recording/editing, and exhibition space, conference rooms, public amenities such as eating and drinking venues and cafes.
6	**Documentation (Research)**	Archives for video and hardcopy storage, multimedia IT labs, broadcasting studio.
7	**Curriculum Development**	Conference rooms, private offices, IT and media labs.

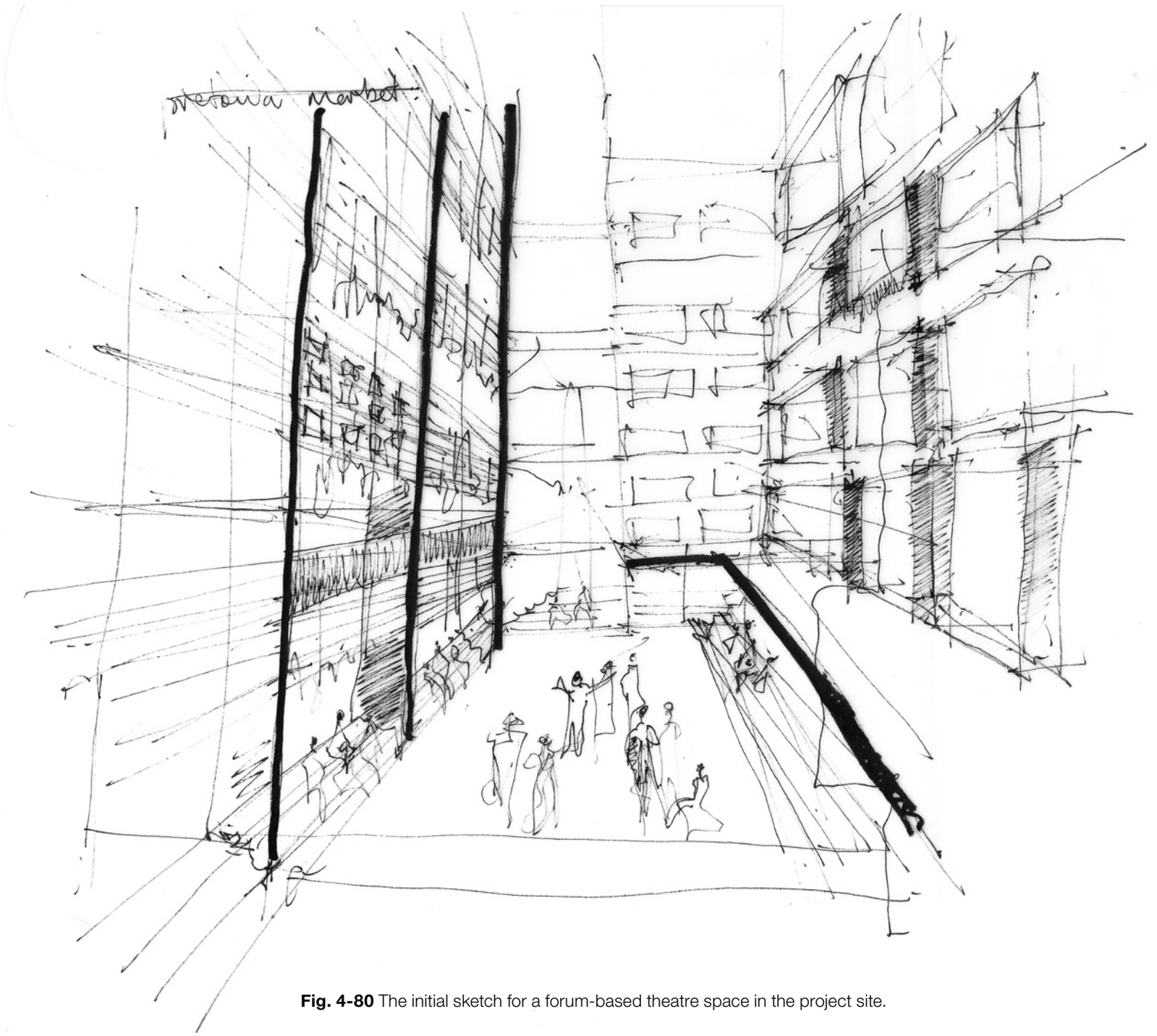


Fig. 4-80 The initial sketch for a forum-based theatre space in the project site.

4.4 Case Study: The Market Theatre Laboratory

Programme: Drama school & Theatre Laboratory for aspirant theatre professionals.

Funding source: Grants from other instituions (Oringinally) Swedish International Development Agency (SIDA), (Currently) Company initatied fundraisers and donations.

The market theatre laboratory is a learning space for young aspirant actors and playwrights located in Newtown, Johannesburg, and was set up in response to a need for developing talent and skills that would ensure the sustained “creation of new South African plays” (Cooke, V. Lab as Seedbed for New South African Plays).

> The Laboratory was a product of its socioeconomic and political context.
>
> Sibongiseni Mkhize, Former Chief Executive Officer
> The Market Theatre Foundation

In 1988, the Market Theatre laboratory was born out of a crisis to develop the Community Theatre sector. At that time, the natural flow of talent and creativity was being subverted by the race-based segregationist policies. The vision of the Market Theatre was to provide an experimental learning environment for talented young individuals hence the use of “laboratory” (Kani, 2011:n.d.). By placing young talent and experienced theatre professionals as mentors in a common environment, skills and knowledge transfer could be facilitated. This is similar to the creative learning processes encountered during the Cascoland festival event. The development of “self-efficacy” through skills training performs a pivotal role in ensuring the sustainability of the theatre arts industry.

A forum-based theatre in Pretoria, can provide a similar creative incubation of talent by involving professionals, students and public citizens in interactive theatre events. These interactions can be documented in order to develop curriculum for future learning.

> The Market Theatre Laboratory is more than just a well kept garden, it is a greenhouse for talent and innovations
>
> Vanessa Cooke, Former Administrator, Market Theatre Lab.

Performance and Theatre Skills Programme

To develop young theatre professionals, the Laboratory currently offers a two year programme with a strict enrollment and audition process which ensures that only the worthiest candidates are admitted. This is an important programme consideration due to the scarcity of resources available to the theatre sector. Funds are used to provide a sophisticated educative environment for transferring necessary skills.

Fieldwork

The concept of fieldwork arose from the need to provide practitioners from Community Theatre projects with space to showcase their productions, and develop a professional environment for transferring skills (The Market Theatre, n.d.)

The main forms through which lab manages this is through the staging of festivals - the Community Theatre Festival and the Zwakala Festival.

Programme Guidelines

The following is a list of likely spaces generated from the case study:

-A ***Public theatre forum*** with a focus on performance, public interaction, audience development and showcasing creative talents.
-***Workshop space*** for mentor/student interaction and the hosting of community development projects.
-***Production labs*** for set design and construction, lighting, sound and visual production, plus additional technical facilities.
-***Rehearsal space*** for students.
-Space for the ***documentation and archiving*** of produced and written works.
-***Residential facilities*** for students from communities and visiting mentors.

Incubation need not stop at the theatre arts, but could extend to other related disciplines such as dance, photography and art, thus calling for these associated spaces:

-***Dance studios***
-***Art studios***
-***Exhibition Galleries***

The central theatre space could function as the arena for hosting theatre festivals that showcase and discover potential talents.

05

Design

5.1 Key Concepts

The study will utilise the following key concepts in creating an appropriate design solution:

5.1.1 Connectivity/Diversity

Connectivity/Diversity implies the connecting of urban programmes and creation of continuous pedestrian corridors, leading to diversity of experience, programmes and activities. In terms of the project, a public theatre relies on a constant supply of public clientèle to make it feasible.

Fig. 5-81 Connectivity and diversity.

5.1.2 Informality/Formality

Informality refers to the inherent informality of spatial appropriation in the city. People tend to appropriate space that is flexible and adaptable, as opposed to restrictive, and unchanging. The project will explore the dichotomy of these two states. Stable infrastructure is necessary for informal activities and events to attach to but must provide for easy adaptability in order to suit the changing needs of the users.

Fig. 5-82 Use of theatre for staging informal events such as markets.

5.1.3 Micro-Regionalism

Regionalism implies learning from the context for developing a design approach. This includes responding to inherent urban problems as well as using the context as a palette for generating design ideas.

5.1.4 The Stage

In keeping with the theatrical theme of the project, various interpretations of “stage” can be generated to inform the design.

Stage as Separating Device

The stage serves as a separating device between actor and audience. The documentation of the **transition between the actor and spectator** thus becomes important, as this space represents the separating boundary line. This is reinterpreted in turn as an articulation of the **transition between public and private**, which will be an important consideration when articulating the in-between movement and use of individual spaces.

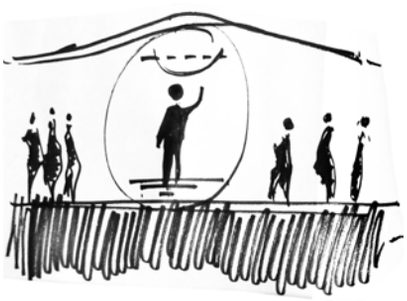


Fig. 5-83 The stage or platform that separates the actor from the spectator.

Stage as event or social platform.

The stage serves as a means to frame social interactions and events, implying the theatre’s use as a multi-purpose space for hosting markets, expo’s and talent events. Platforms need not be theatrical. The provision of social spaces can begin to inform how other parts of the design are used and experienced.

5.1.5 Performance

Performing parts is a conceptual exaggeration of the idea of theatre as a space of performance. If the people in the space can perform, why not allow the building to perform as well? Anthropomorphising the building in this way, lends the design to other related ideas such as multi-functionality, and ergonomic usability. The design has attempted to incorporate these where they can benefit the function and experience of the building and its surrounding programmes.

5.2 Site Redevelopment

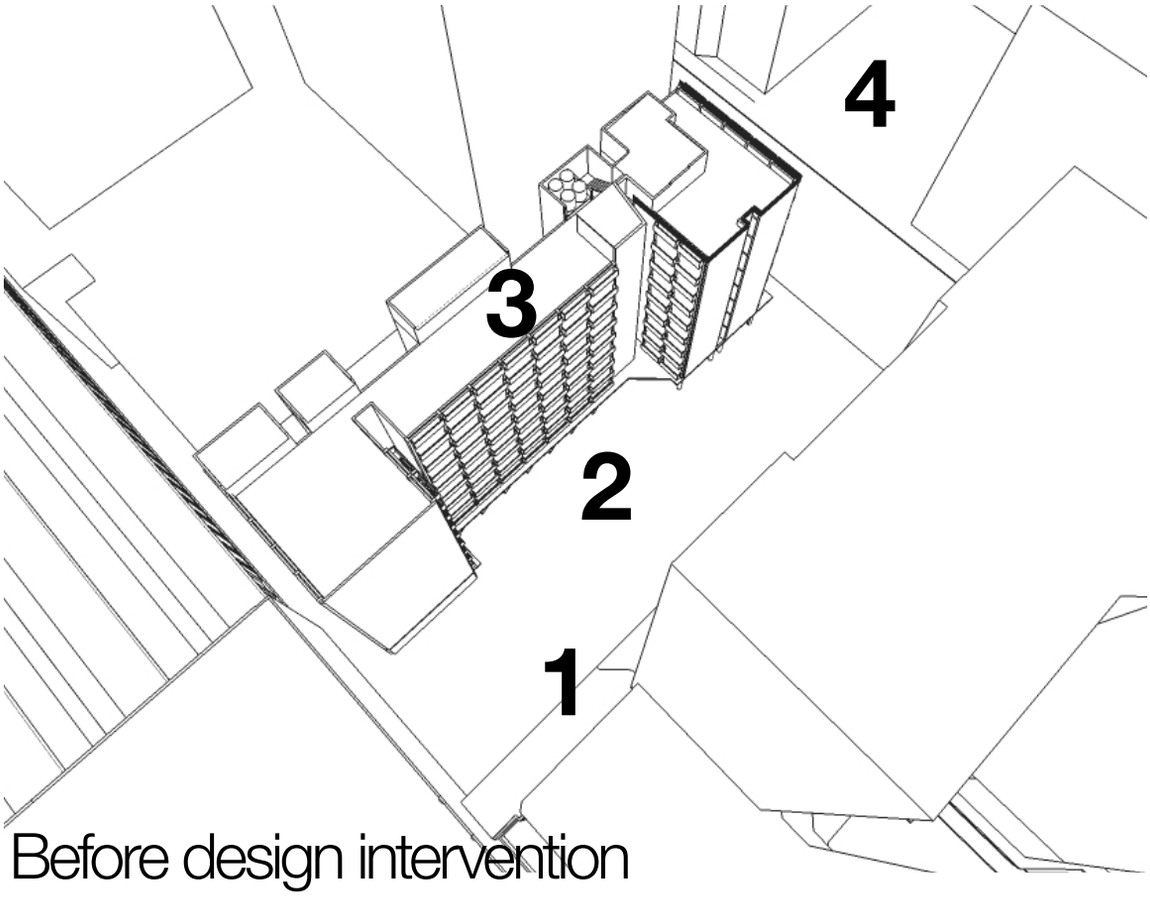
5.2.1 Phasing

The following is a list of the major redevelopment objectives for the site. The lists of programming guidelines generated in the previous chapters will be used to inform each step of the process:

1. Develop the site as an extension of the **pedestrian arcade network**, which will include adaptations to the existing peripheries of the site.
2. Develop the **existing parking lot** as the new location for the **public forum-based theatre**. This will include a major remodelling of the current floor surfaces. This space must speak coherently with it surrounding developments: theatre school and pedestrian arcade. By developing the theatre after the arcade, pedestrians will anticipate what is to come. This adds an element of mystery to the space.
3. Redevelop the **Govpret building** as the new location for the **theatre school**. This will include adaptations to the current exterior skin of the building. The intention is to use as much available infrastructure as possible without necessary wastage of resources.
4. Insert a **linking structure** (institutional) between the new theatre and the existing State Theatre complex, to create a connection between the two State Theatre buildings. Introduce a new mid-block pedestrian crossing between the site and the State Theatre at street level, allowing for safe and unhindered movement between the framework blocks. This will form the final piece in the developmental puzzle. The site will now be connected to the other sections of the urban framework.

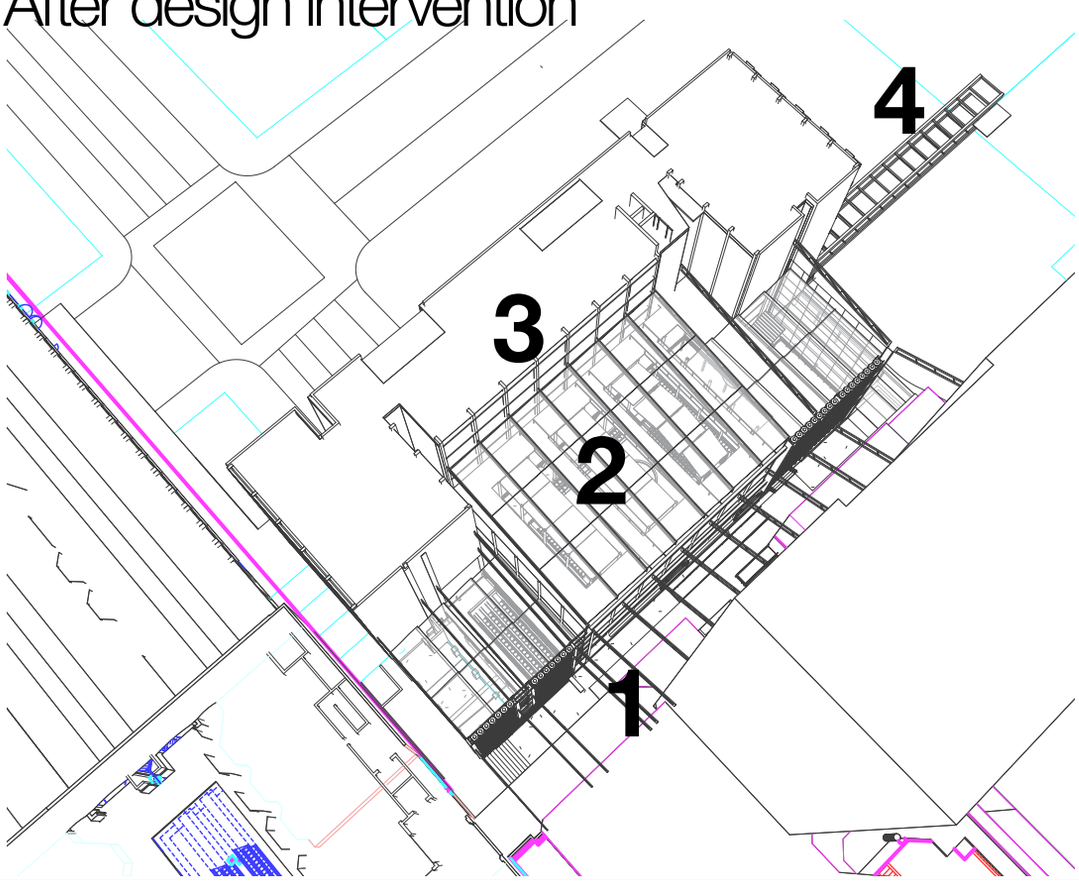
Fig. 5-84 (Opposite, top) Site before intervention.

Fig. 5-85 (Opposite, bottom) Site with new intervention inserted, with new pedestrian arcade and theatre separated by ordering structure.



Before design intervention

After design intervention



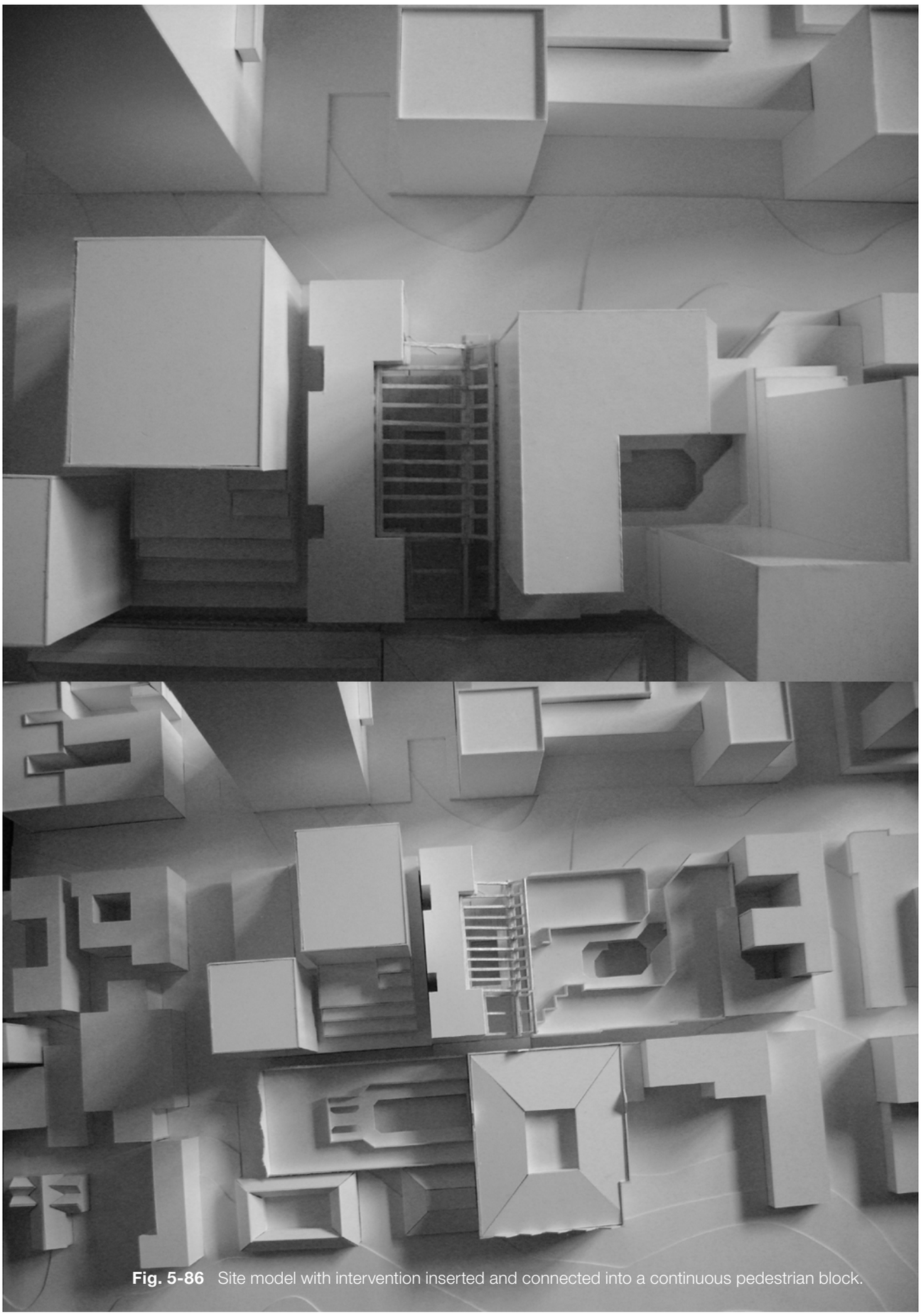


Fig. 5-86 Site model with intervention inserted and connected into a continuous pedestrian block.

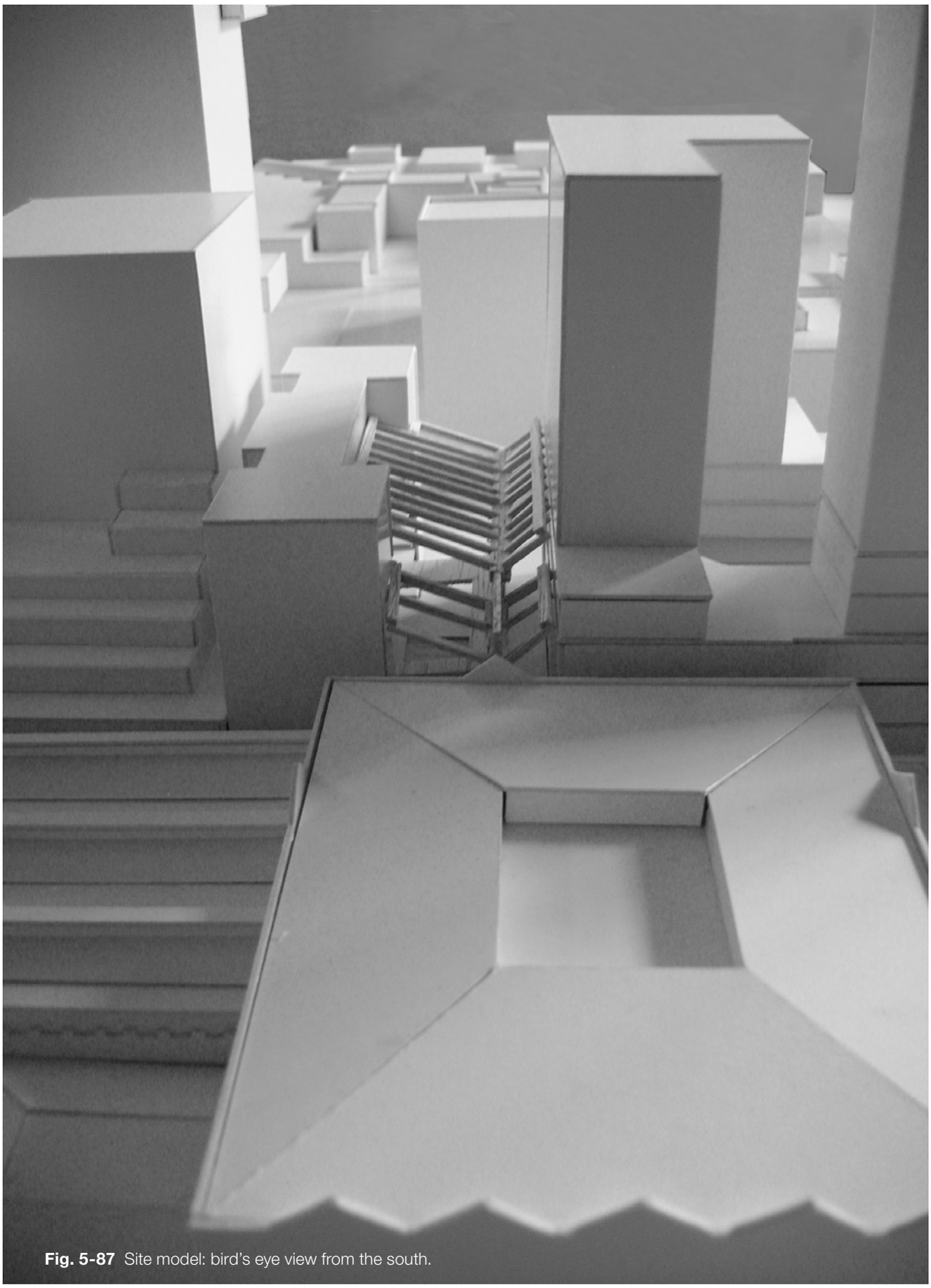


Fig. 5-87 Site model: bird's eye view from the south.

5.3 Parti Diagram

5.3.1 Description

The diagram below which represents the essential planning for the support system behind the design was generated from a number of specific site and programme interactions:

- The interplay between the need for natural lighting in a dark site, and the need for shading during periods of overhead sun
- The interplay between the programmes of the theatre school and the public
- Natural light from overhead (due to steepness of the surrounding edges, an overhead source of natural lighting was imperative. The use of vast overhead skylighting systems is a ubiquitous paradigm in the Pretoria CBD.

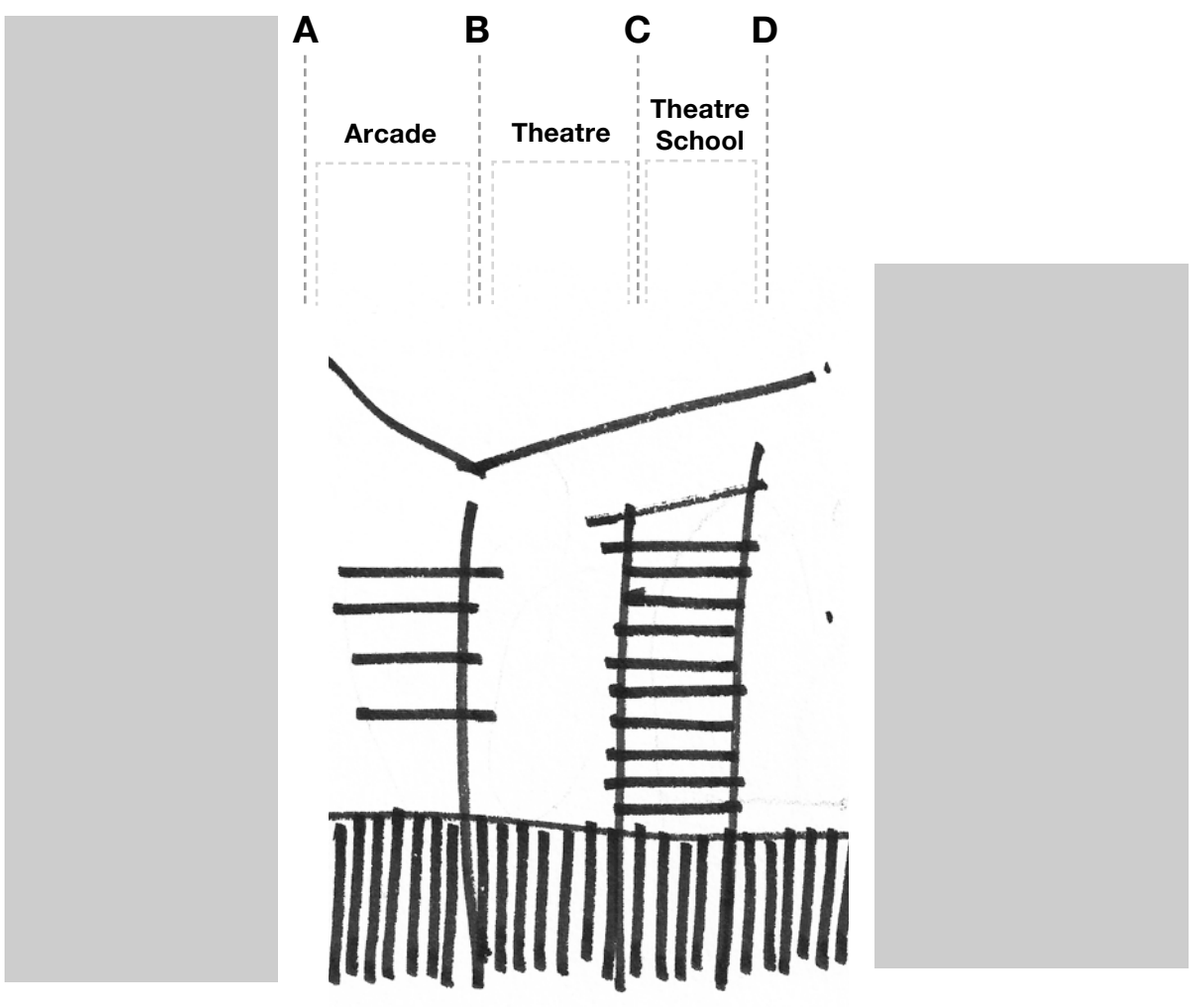


Fig. 5-88 The Parti Diagram attempts to describe the following important aspects of the design: 1. The location of interfaces or interphasing between the respective programmes (arcade, theatre and theatre school). These interfaces form the transition between areas of different use, and each area will provide a different kind of experience.

Interfaces

A Interface between Momentum Building and arcade

B Interface between theatre and theatre school

C Interface between arcade and theatre

D Interface between theatre school and Fedhealth Forum

5.4 Concept Model Exploration

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ere taken through into the final
theatre spaces.

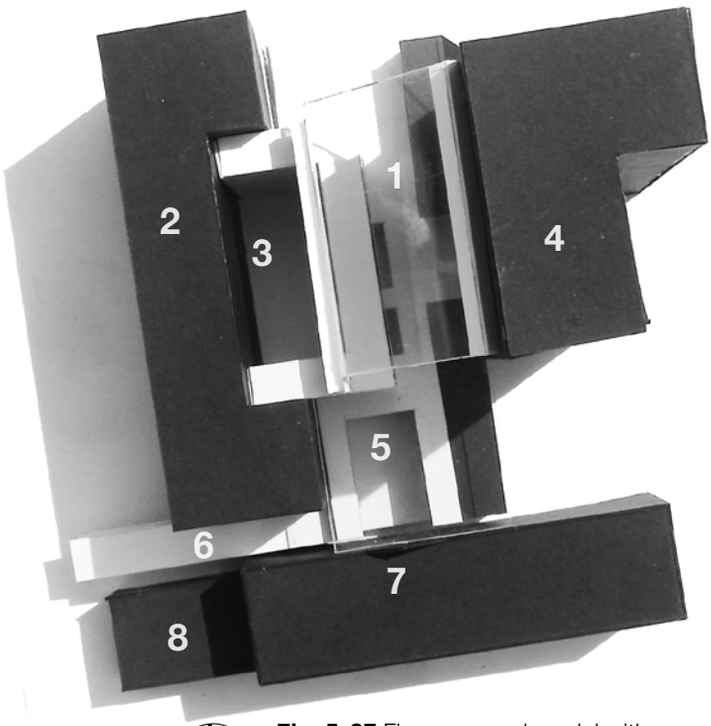


Fig. 5-87 Figure ground model with new intervention. (Photo by author).

1 Glazed Roof

2 Theatre School (Govpret)

3 Forum-based Theatre

4 Momentum Building

5 Student Theatre

6 The Tramshed Gallery

7 The Tramshed Parkade

8 The Tramshed Mall

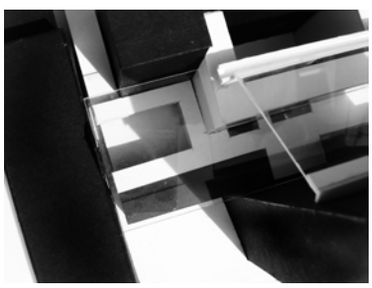


Fig. 5-89 Pedestrian arcade and The Tramshed Gallery intersect forming a social (theatre) space. (Photo by author).

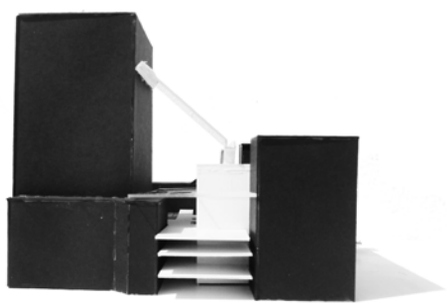


Fig. 5-90 A building that provides an interface between opposing structures. (Photo by author).

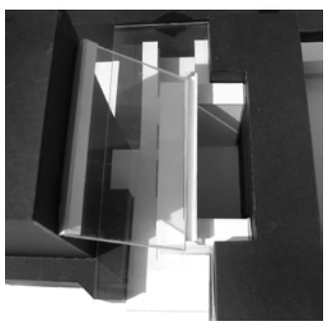


Fig. 5-91 A Glazed roof spans across the site, providing protection against the elements, while allowing natural light. (Photo by author).

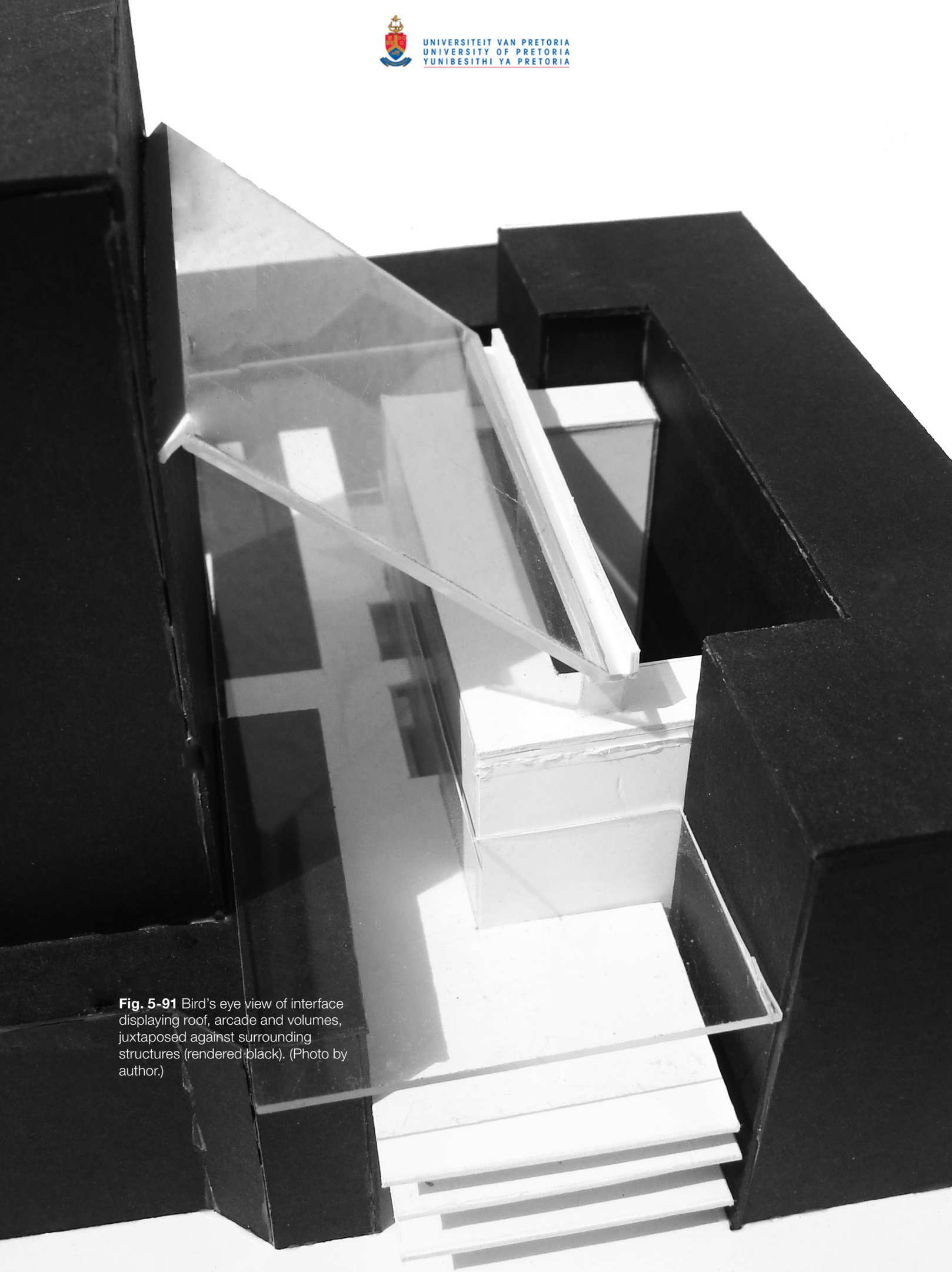


Fig. 5-91 Bird's eye view of interface displaying roof, arcade and volumes, juxtaposed against surrounding structures (rendered black). (Photo by author.)

5.5 Arcade Extension

The main aims for establishing a linking pedestrian arcade through the site are to:

1. Strengthen the connectivity between the site and the surrounding commercial arcade network, by creating permeability between programmes. The mix of cultural programmes (theatre, gallery, restaurant, cafe and school) will add a new variety of options to block users.
2. Generate the necessary clientele and audience base for the theatre.
3. Provide an economic incentive by renting out spaces for informal traders and small businesses. The magnetism generated by the theatre will feed these businesses with a regular clientele, and vice-versa.
4. In summary, the overall aims are to strengthen connectivity, encourage diversity, generate an economic incentive and develop new audience-bases.

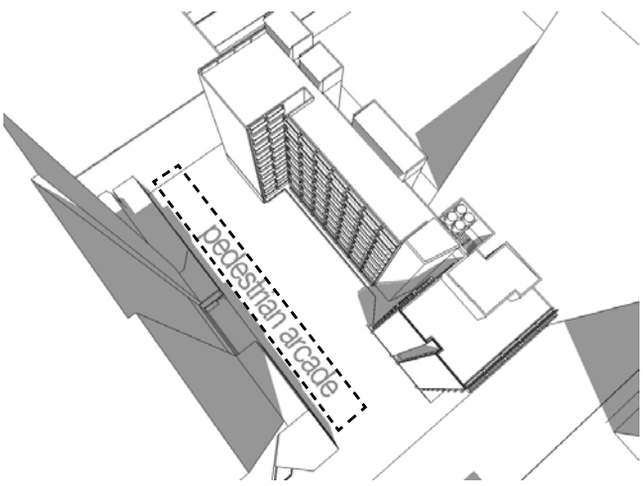


Fig. 5-92 Position of pedestrian arcade to be developed as a new retail corridor.

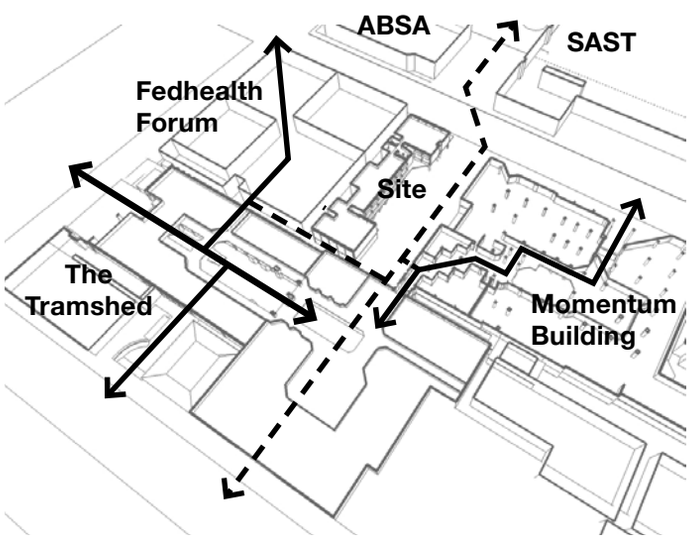


Fig. 5-93 Block connectivity diagram. New route indicated as dashed line. Existing routes indicated by solid line.

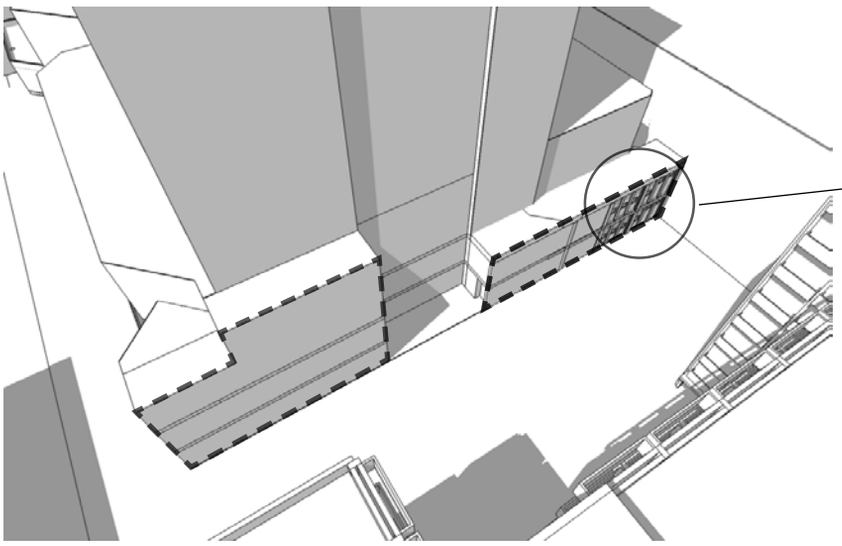


Fig. 5-99 Site in current state: Momentum Building as a barrier to movement.

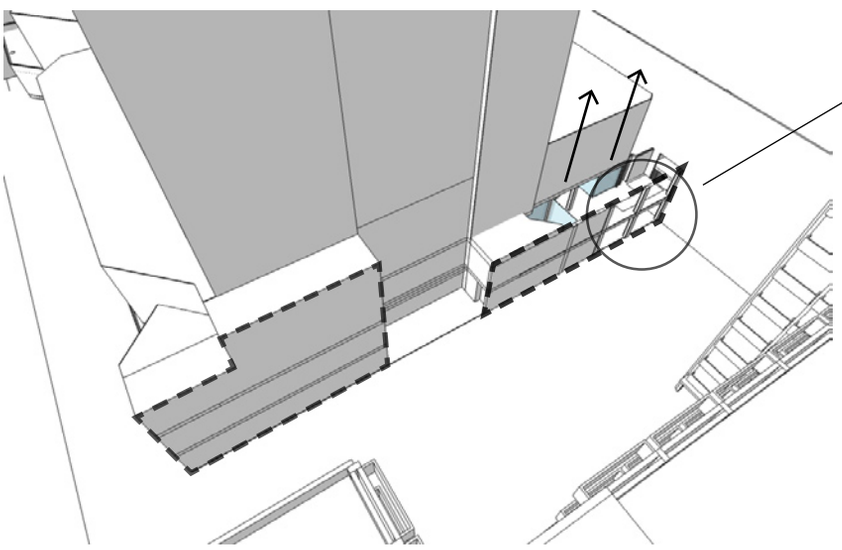


Fig. 5-98 Remove brick in-fill and existing corrugated steel roof.

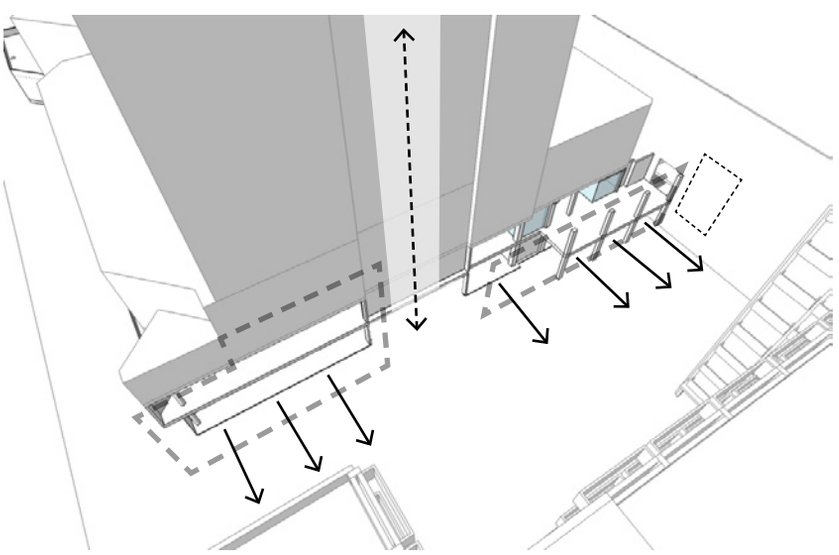


Fig. 5-97 Demolish the outer layer of Momentum facade, leaving volumes exposed. Store rubble on site. Utilise existing elevator shaft to provide future vertical circulation.

Fig. 5-94 Brick in-fill blocking connectivity between site and Momentum Building/The Tramshed (Photograph by author).

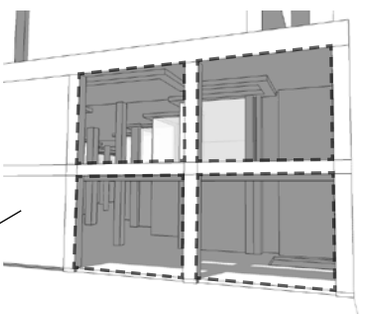


Fig. 5-95 Demolish brick in-fill. Reconnect the two spaces. Dashed line = removed material.

Fig. 5-96 Momentum Building retail arcade, approaching the brick in-fill barrier. In future, pedestrians will be able to access the site through this space. (Photo by author.)

5.6 Forum Theatre

The main aims for the design considerations for the proposed forum theatre are the following:

- To renovate the existing parking lot as the new site for the theatre venue.
- The theatre will provide the formal space for theatrical events but will double up as an event space for programming cultural and non-cultural programmes such as markets, expo's and public gatherings.
- To create a smooth transition between the theatre, the arcade and the theatre school.

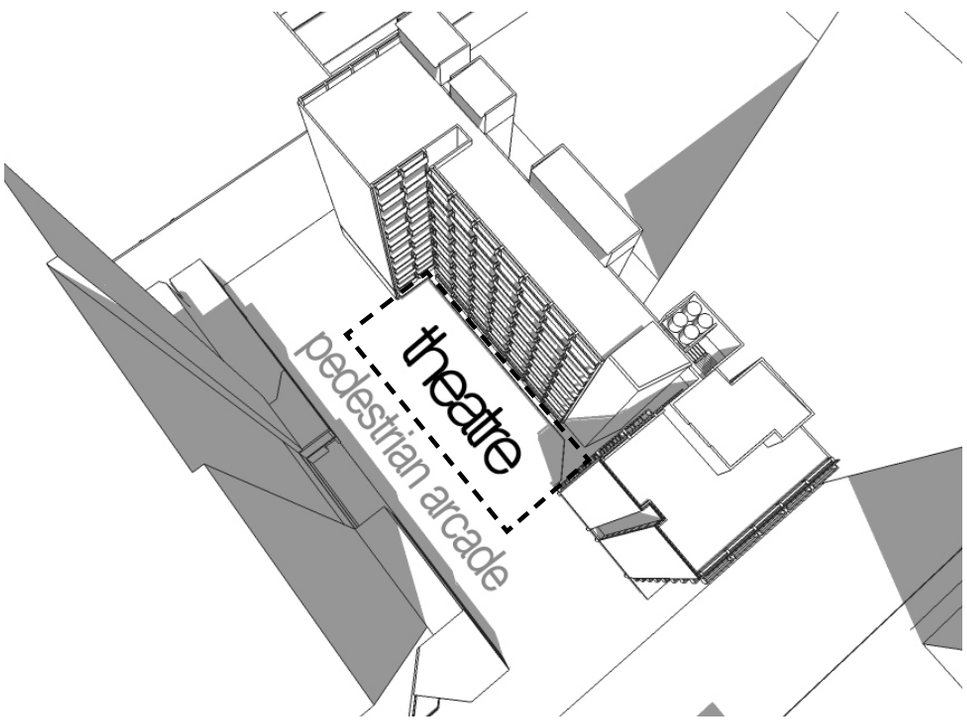


Fig. 5-100 Area designated for theatre forum separated from pedestrian arcade by dashed line. Boundaries were generated using the existing grid lines.

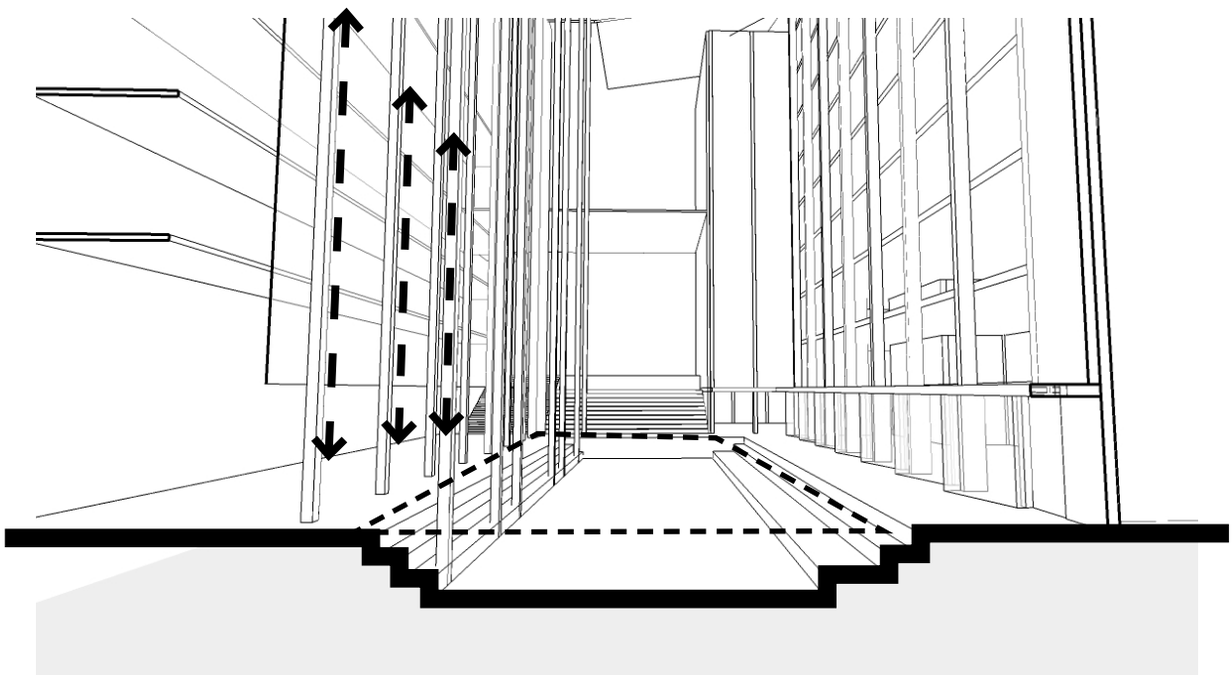


Fig. 5-101 Theatre excavation concept: the dashed line indicates the area excavated for the new theatre arena. Vertical columns accentuate the threshold between this new space and the pedestrian corridor.

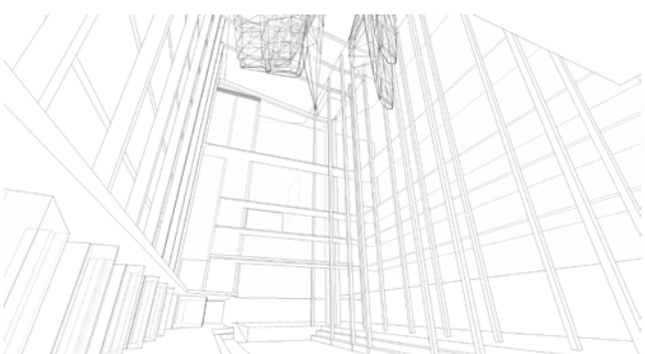


Fig. 5-102 Early spatial exploration of forum space

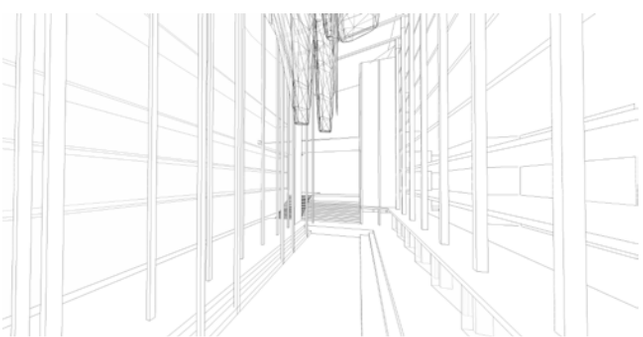


Fig. 5-103 Early spatial exploration of forum space.

5.7 Govpret Building/ New Theatre School

The main design considerations for the proposed theatre school include the following:

- Provide an educational facility for the training of aspiring theatre professionals that serves to facilitate the new theatre. The school will be responsible for programming the theatre with regular events.
- To locate this facility inside the existing on-site Govpret building.
- Alterations to the Govpret will be made in order to make it communicate better with the site. This includes changes to the existing facade such as new openings.

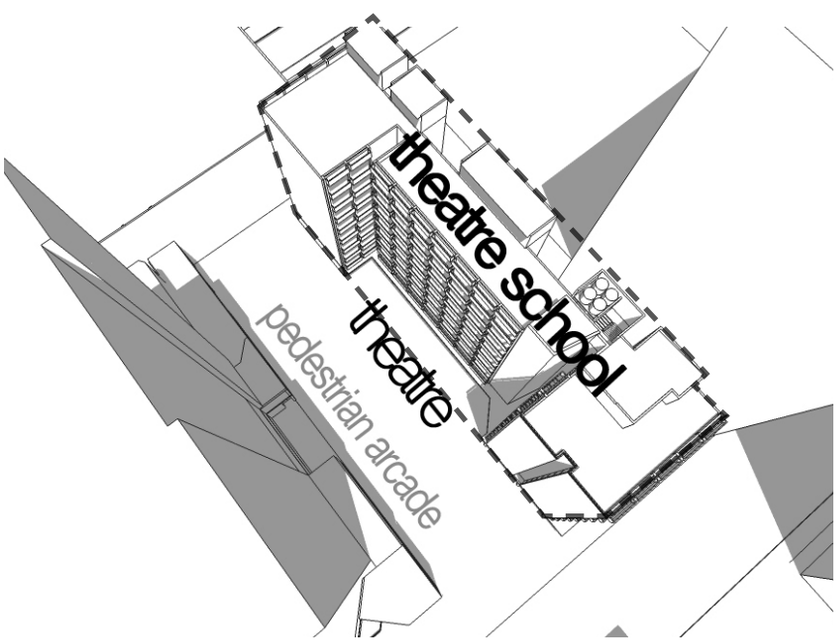


Fig. 5-104 Area designated for theatre forum separated from pedestrian arcade by dashed line. Boundaries were generated using the existing grid lines.

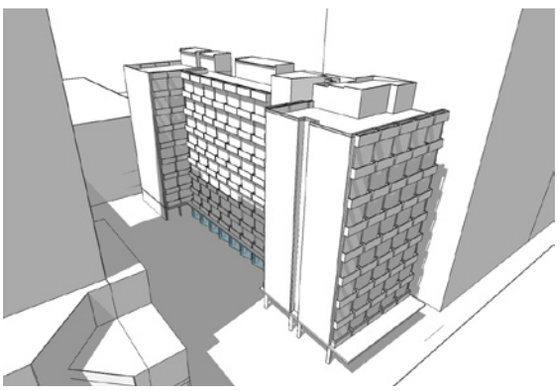


Fig. 5-105 Govpret in its current state.

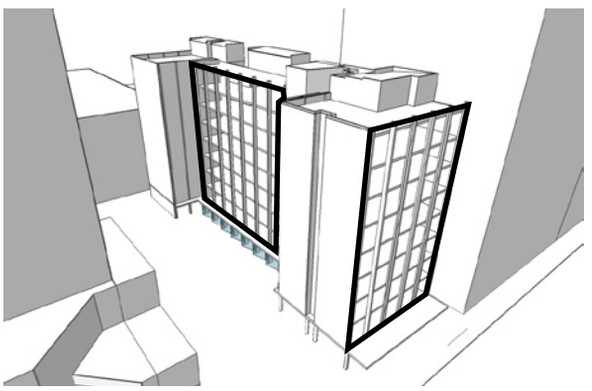


Fig. 5-106 Remove precast concrete balconies that are falling into disrepair and store on site.

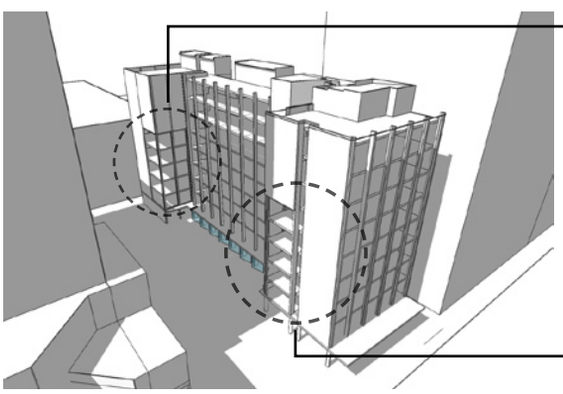


Fig. 5-107 Demolish sections of brick

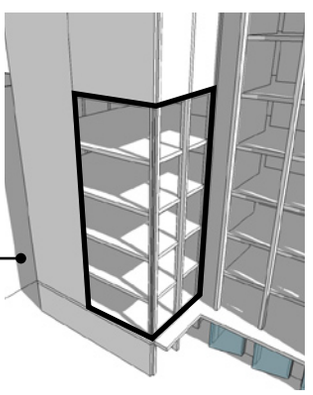


Fig. 5-108 Openings created in southern wing.

Fig. 5-110 Brick in-fill sections on southern wing of Govpret.

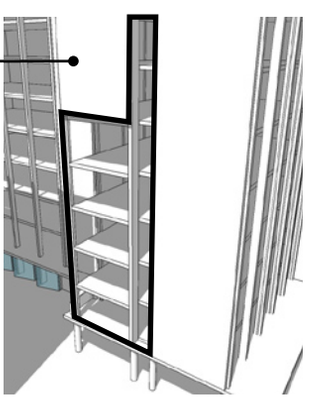


Fig. 5-109 Openings created in northern wing.

5.8 Initial Planning Sketches

5.8.1 Sections

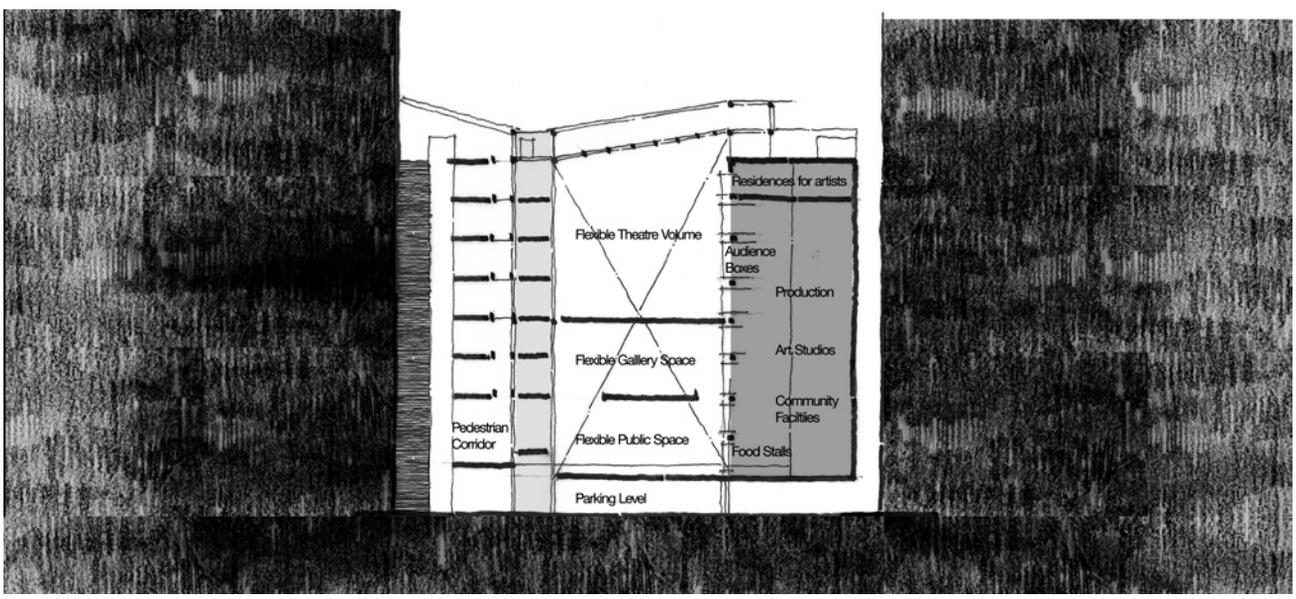


Fig. 5-111 EAST-WEST SECTION (A-A): The section illustrates the first attempts to programme the site using the parti separation sketch (butterfly roof and ordering wall). The line of separation could be thickened to accommodate additional functions and service. On the left of this a circulation core was inserted (A). On the right, the main volume for theatrical events (B). The dark grey volume indicates the theatre school with a mix of cultural facilities (C)

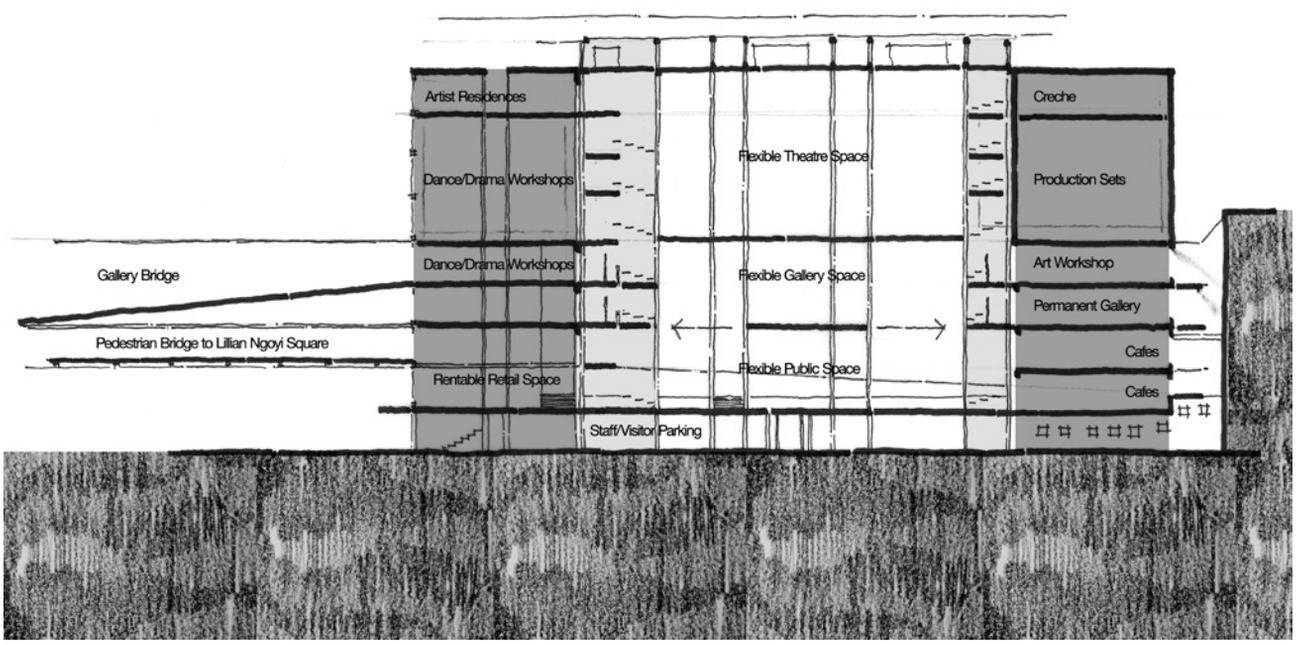


Fig. 5-112 NORTH-SOUTH SECTION (B-B): dark grey indicates the Govpret volumes, light grey indicates the circulation skin around the theatre voume, which is in the centre. At this stage, the author was still exploring possible intermediate retractable platforms. The decision was later made to eliminate these, and concentrate the theatre practices on the ground level plane.

5.8.2 Perspectives

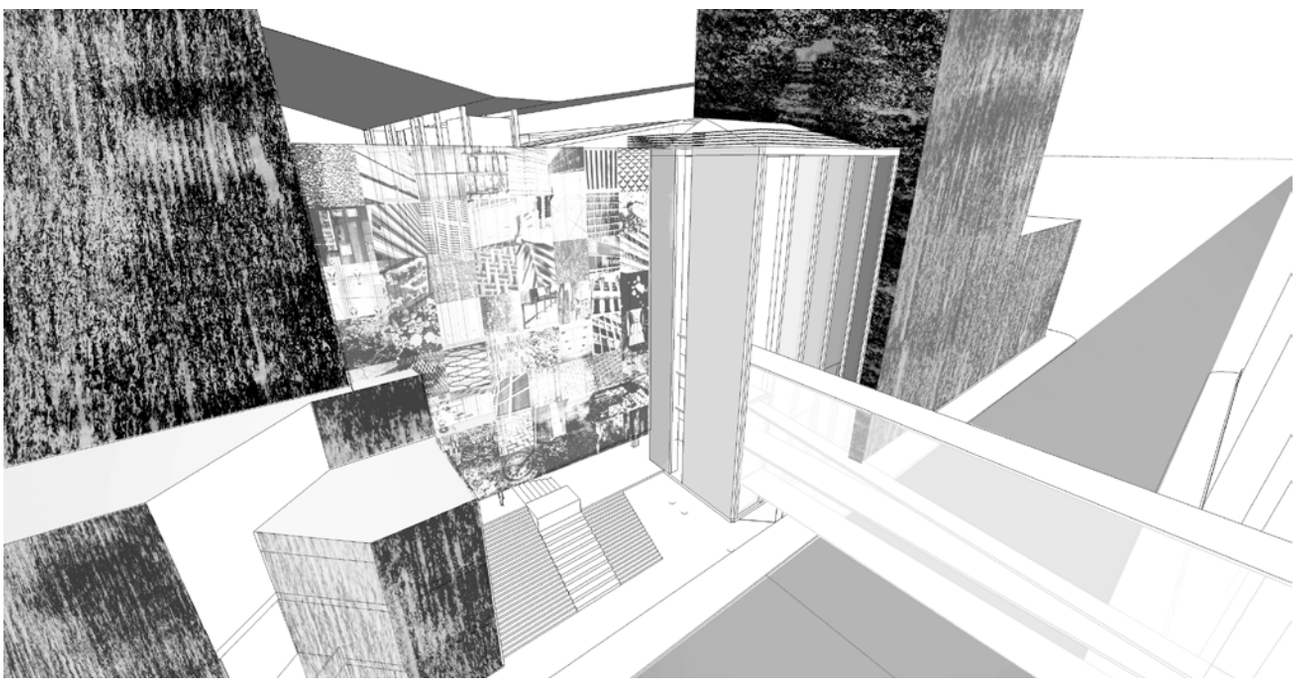


Fig. 5-113 Perspective of front facade and textured shading screen, as viewed from roof of State Theatre. The textures generated from the mapping exercise in Chapter 3 create a unique building identity. Screens may be removed and replaced according to user preference.

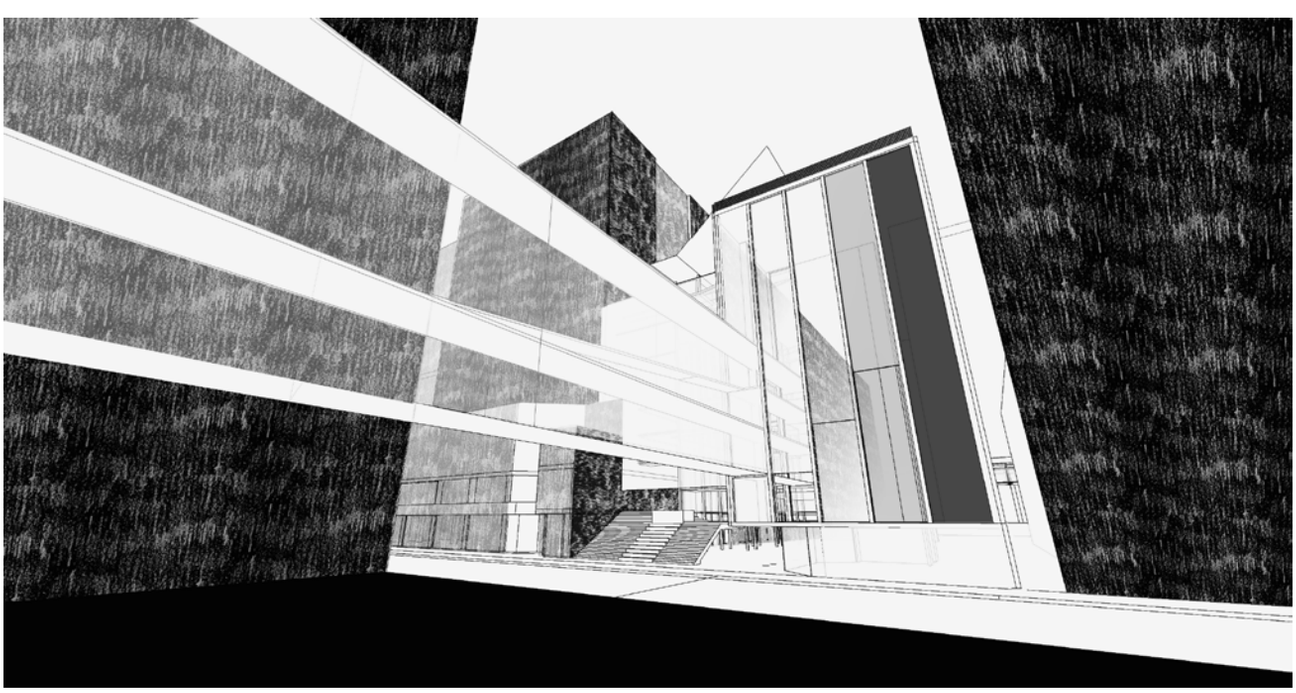


Fig. 5-114 Perspective of front facade as viewed from entrance plaza between State Theatre and ABSA building. A bridge links the theatre school to the State Theatre for institutional use.

5.8.3 Plans

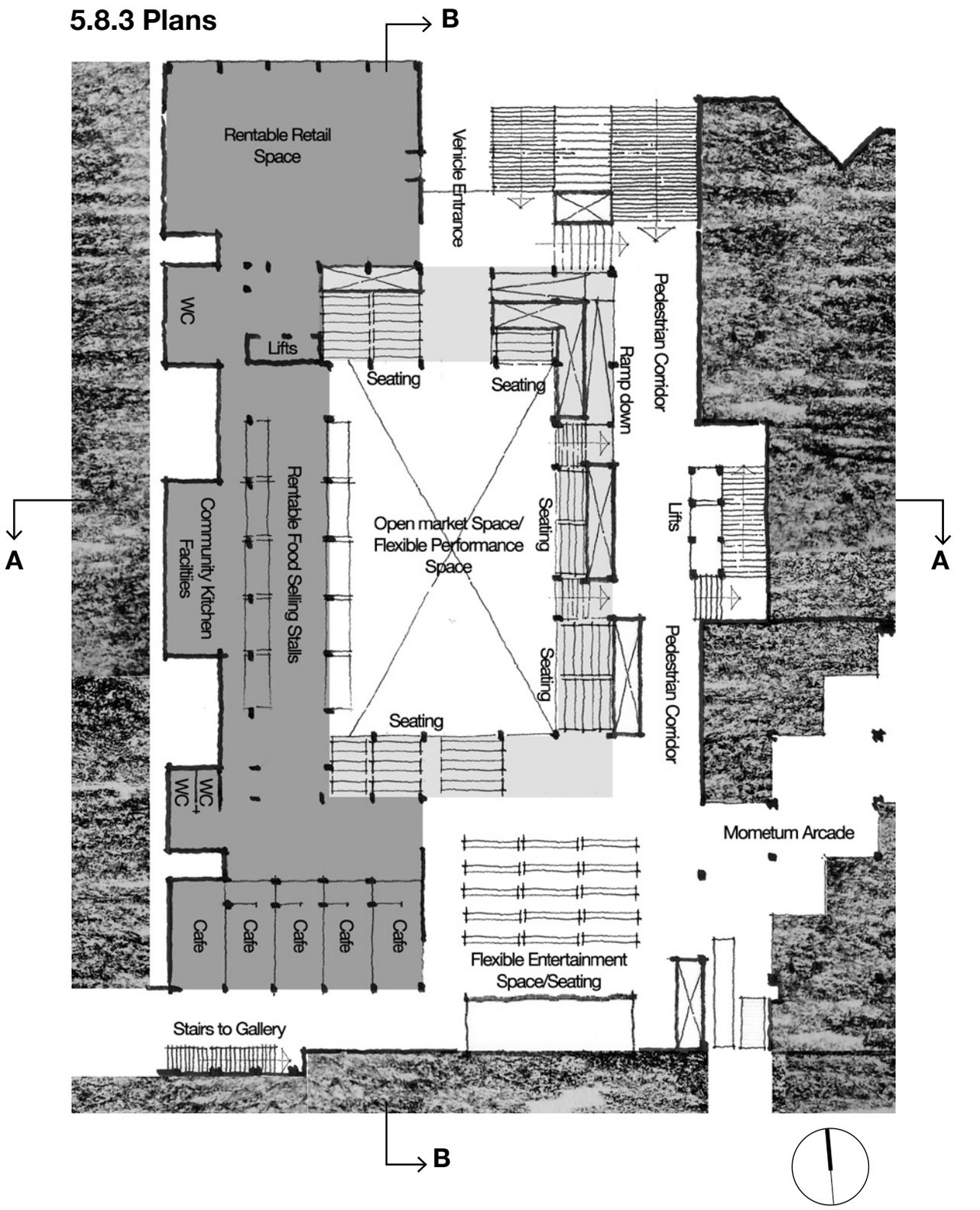


Fig. 5-115 GROUND FLOOR PLAN: attempting to generate a public theatre/building/space. The plan illustrates the articulation of the division between pedestrian arcade and performance using seating as a social device located in a surrounding skin (indicated as lighter grey). The concept is to treat the theatre as a social event space or pocket located off the pedestrian route. Users should be able to access and witness the event easily which will contribute to the public nature of the space. At ground level, the theatre school (indicated as darker grey) operates as a community space usable during public events (theatre, markets, expo's). The staircase at the top entrance to the site indicates that this level is located an entire level above ground level. This was later removed and all activity was shifted down to street level.

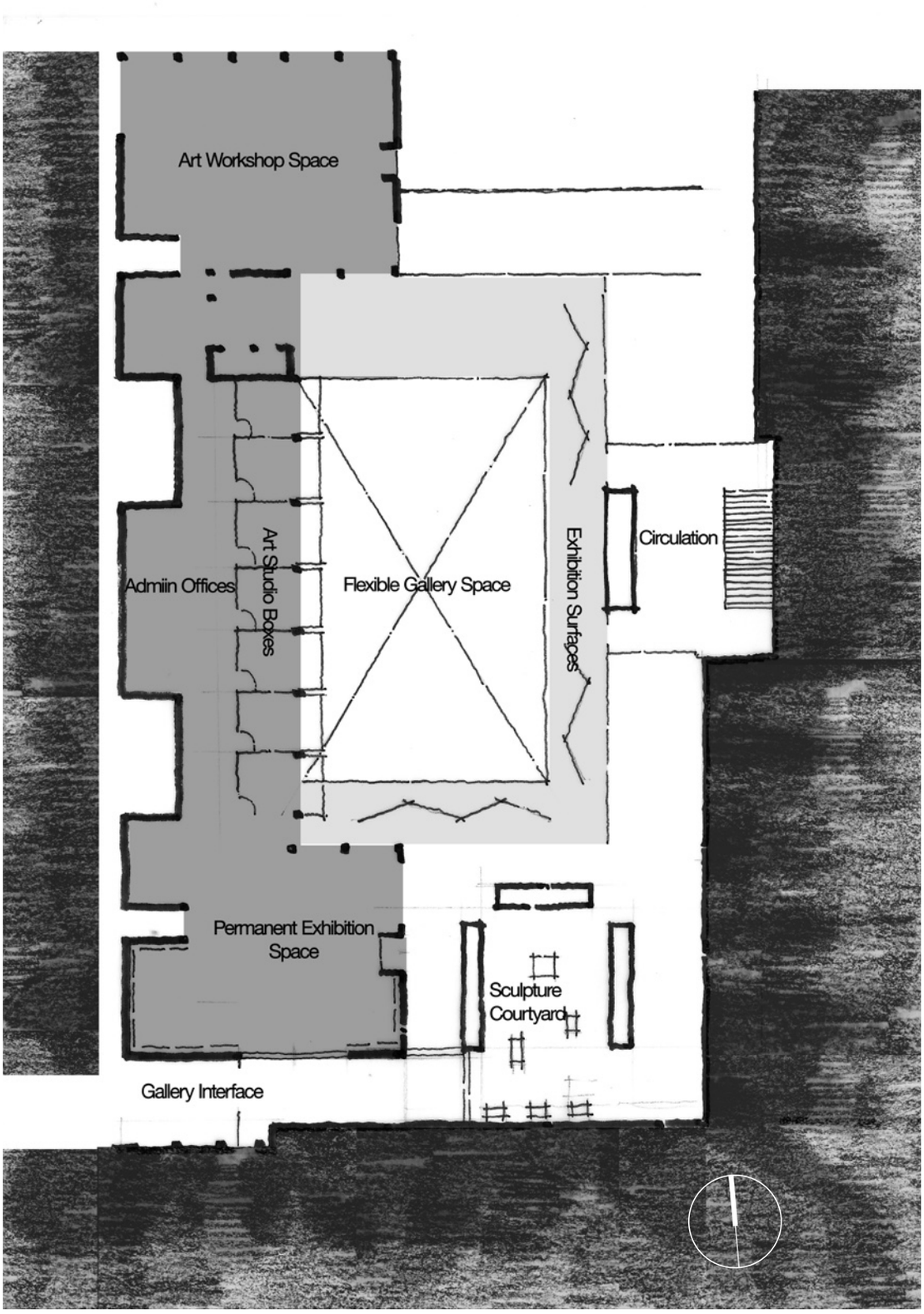


Fig. 5-116 FIRST FLOOR PLAN (GALLERY LEVEL): Initial concept for a gallery space that encircles the theatre atrium. At this level, the Govpret building is used solely for artistic works. However, the later version of this level will incorporate additional services to the theatre such as a restaurant and gallery seating. A gallery interface is inserted into the alley between The Tramshed and Govpret building. The sculpture garden would be set against the rear Tramshed parkade wall.

5.9 Facade Design

5.9.1 Forum Theatre

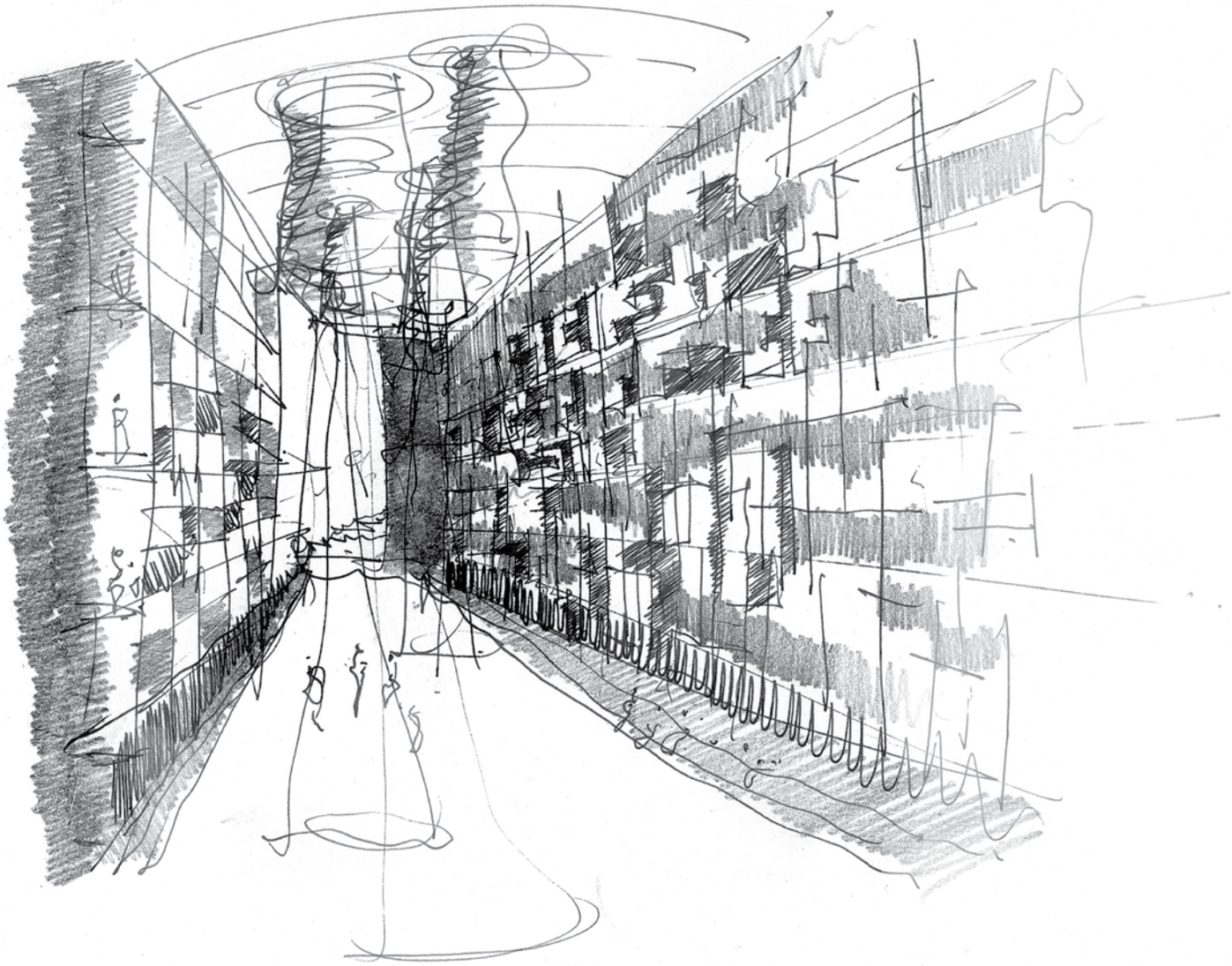


Fig. 5-117 Sketch inspired by Augusto Boal's concept of the "aesthetic space": the magical space where actors' and spectators' realities intertwine. Surrounding this is the forum which is formed by the eastern gallery structure – separating wall (left), and the Govpret building with its adapted "performing" facade (right). The latter idea relates to the concept of multi-functionality and adaptability: the performing facade can be altered according to user preferences.

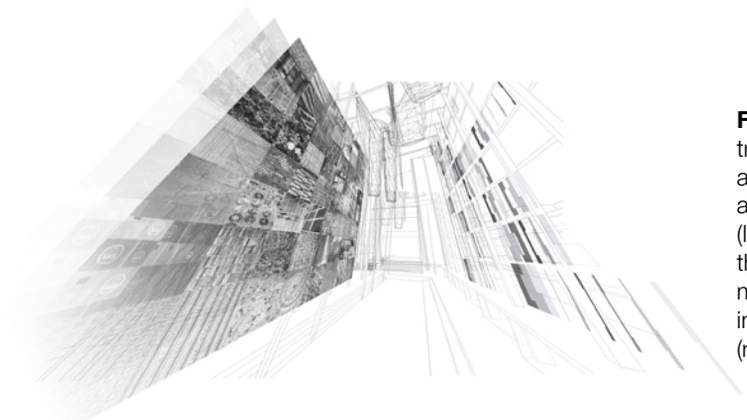


Fig. 5-118 Conceptual perspective illustrating the use of texture screens to create a varied facade pattern. The screens are attached to circulation gallery structures (left). At right, movable panels articulate the western building wand, and can be manipulated by users and the performing facade effect on the Govpret facade (right).

5.9.2 Theatre School

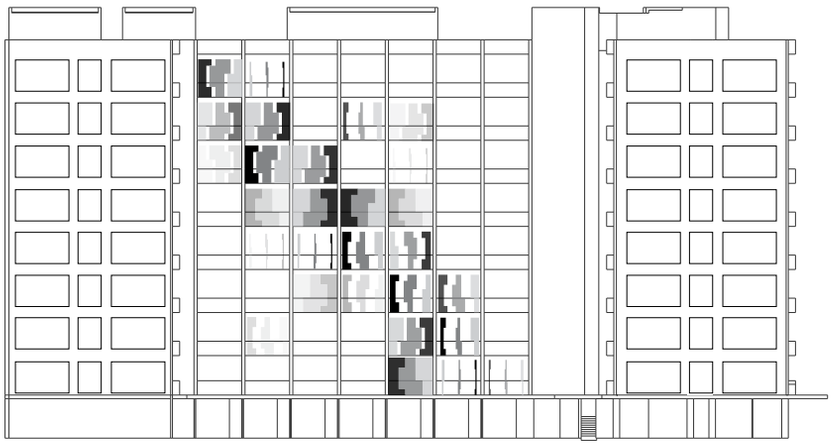


Fig. 5-116 General effect of a performing aesthetic on the facade of the Govpret building. Panels can be opened and closed depending on the situation.

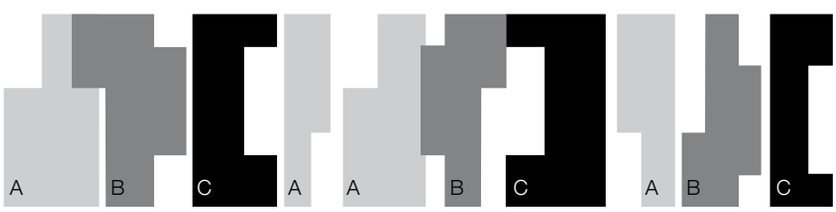


Fig. 5-117 A wide variety and diversity of patterns and forms can be generated using only 3 panel profiles in different orientations. Adaptable panels invite users to interact with the architecture.

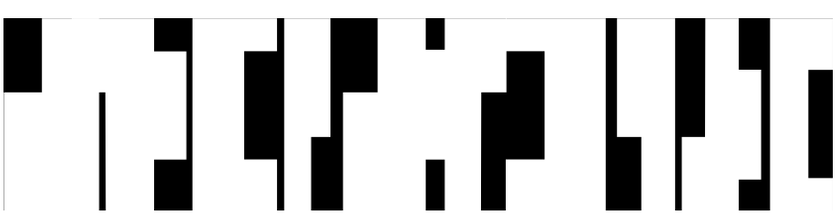


Fig. 5-118 Exploring negative-positive space with juxtapositions of light and dark.

Fig. 5-119 Stephen Holl's shop front for an architecture and arts school in New York. Panels in closed positions. (Image: internet.)

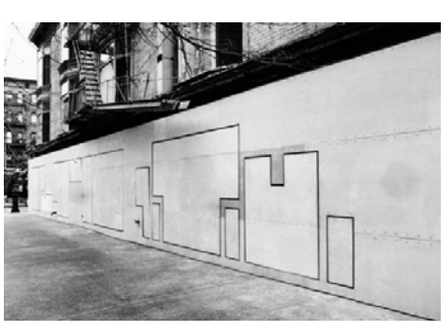


Fig. 5-119 Same project, with panels in closed position. (Image: internet.)

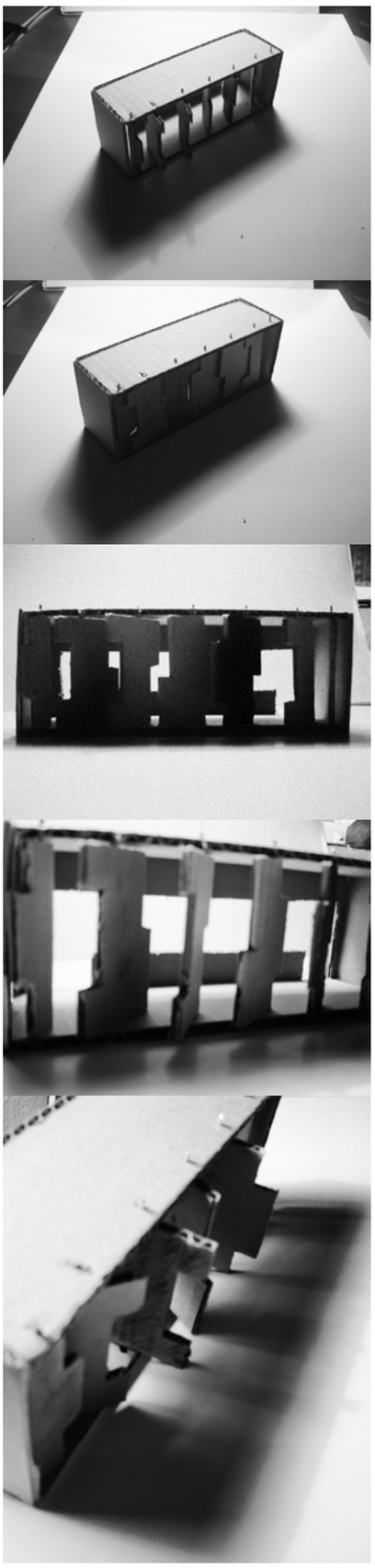


Fig. 5-119 Model explorations of moving panels and how they can be used to manipulate light, negative-positive contrasts, tone and shadow.

5.10 Sketches

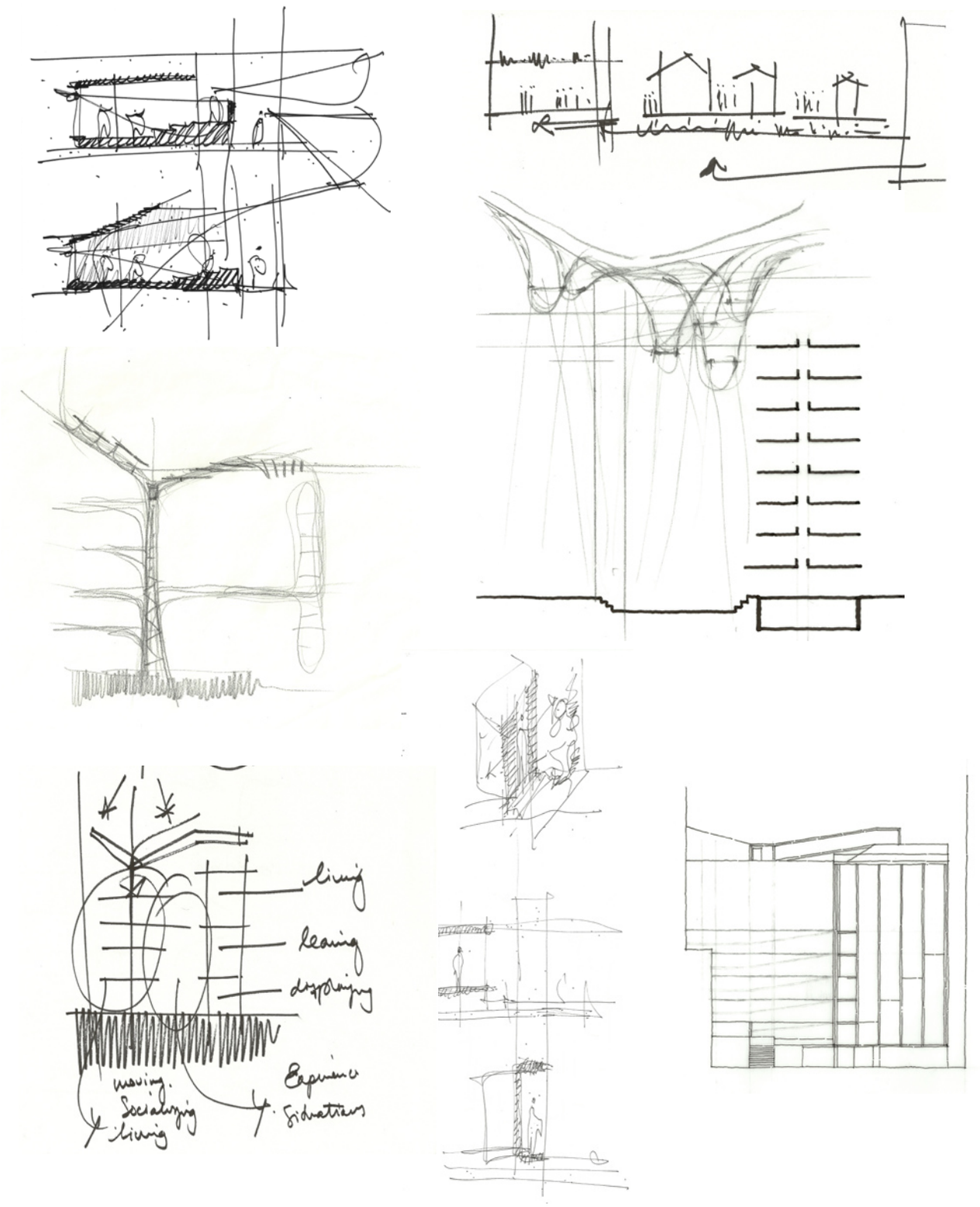
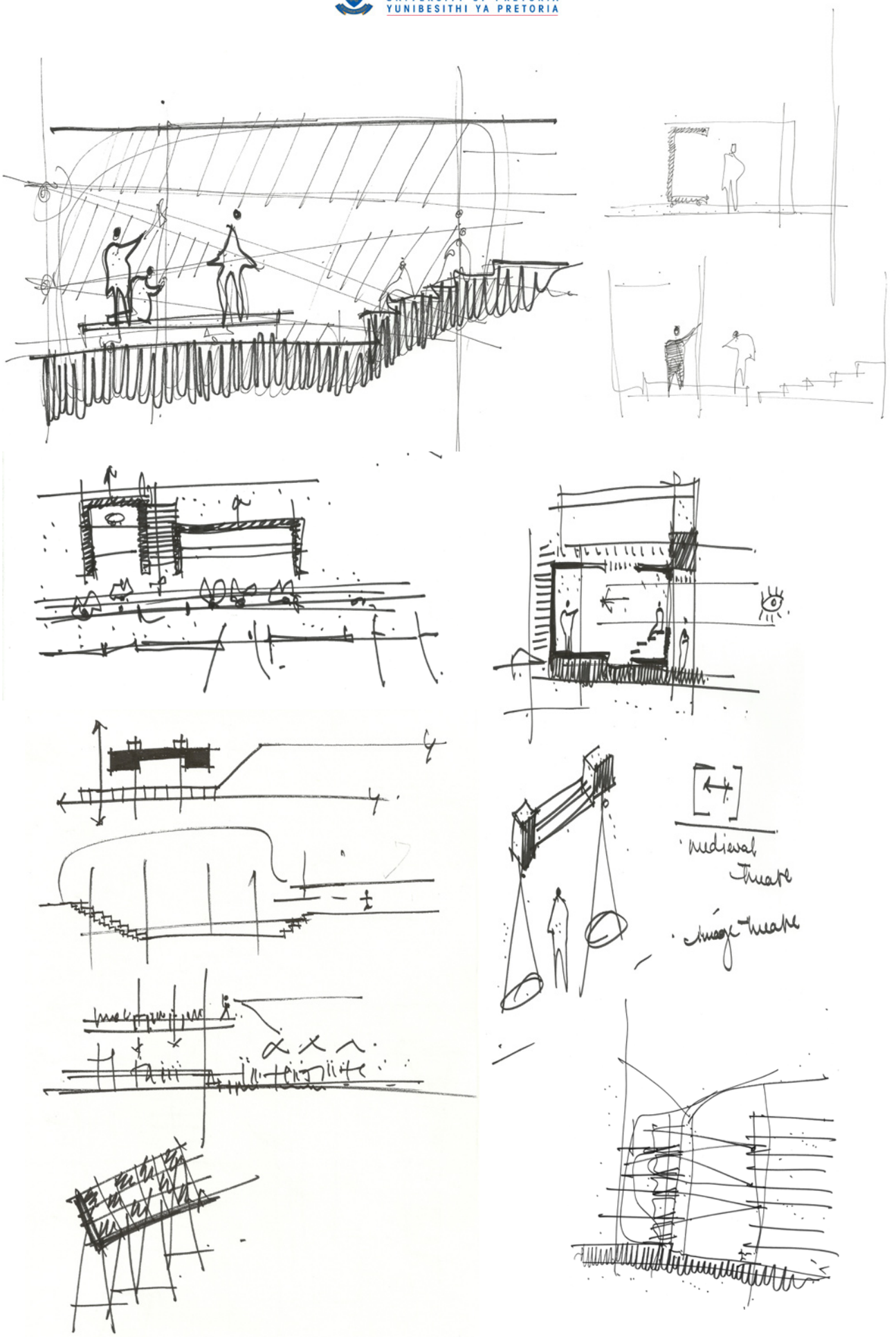


Fig. 5-119 Progress Sketches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5.11 Sketch Plans

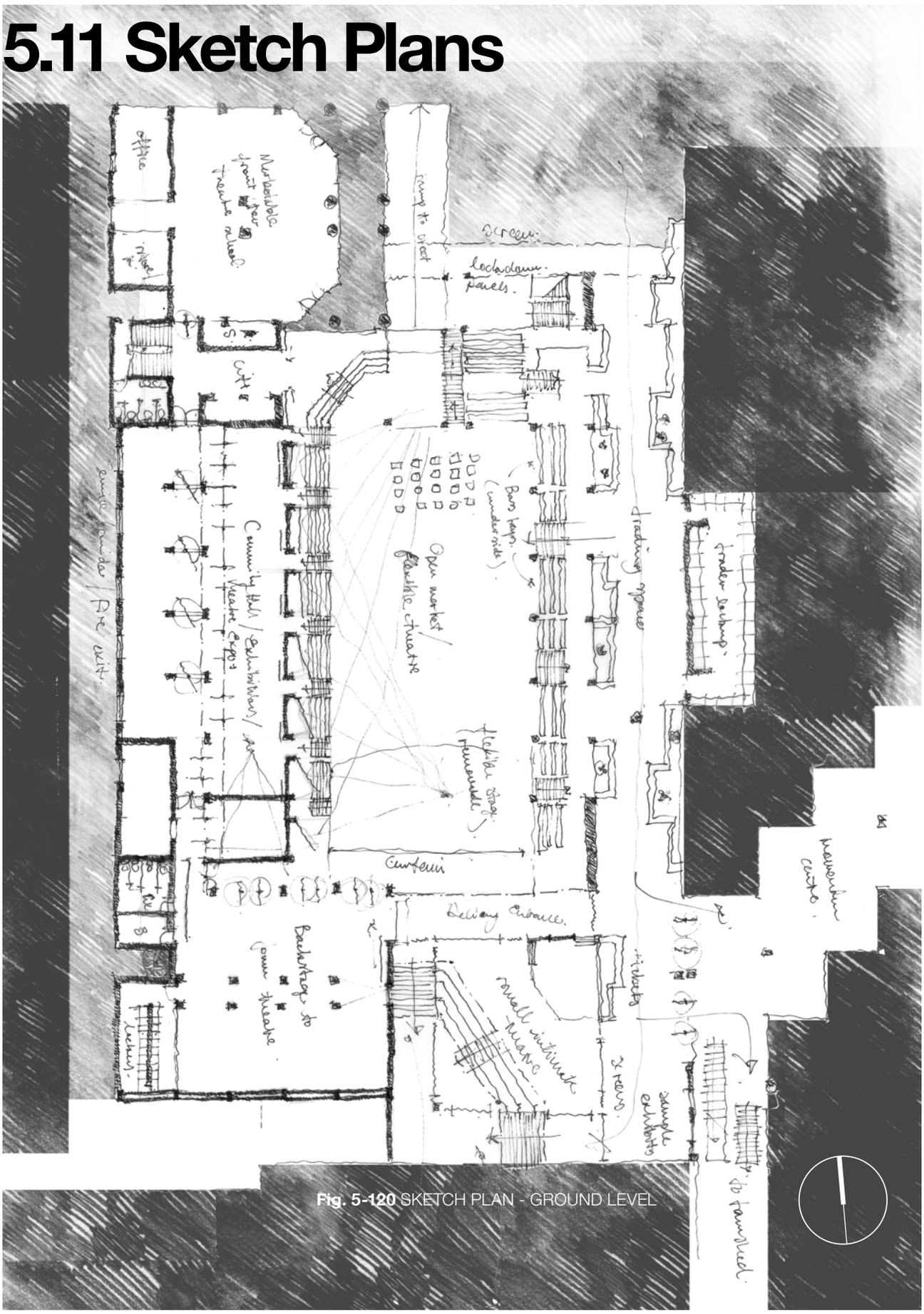


Fig. 5-120 SKETCH PLAN - GROUND LEVEL

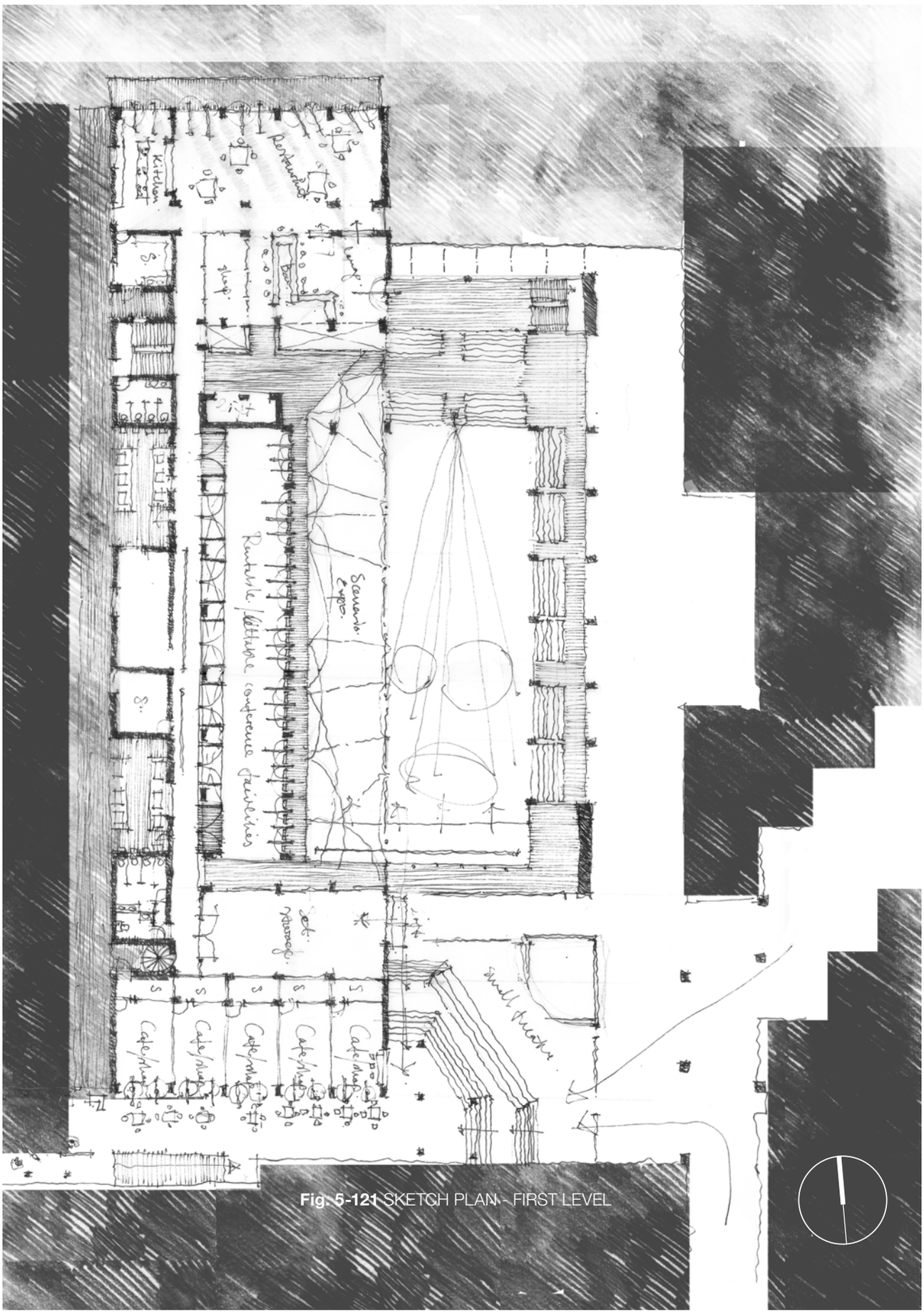


Fig. 5-121 SKETCH PLAN - FIRST LEVEL

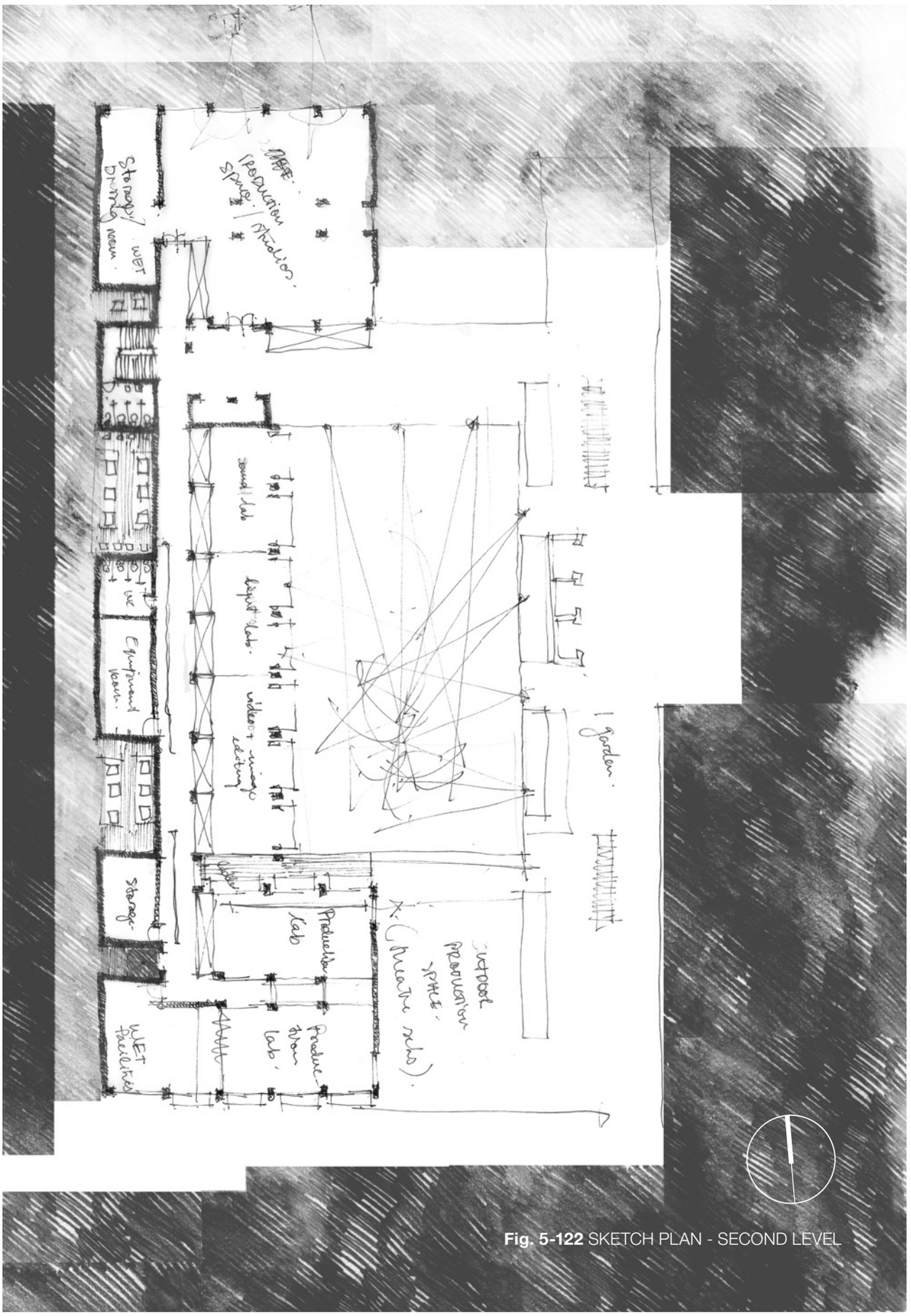


Fig. 5-122 SKETCH PLAN - SECOND LEVEL

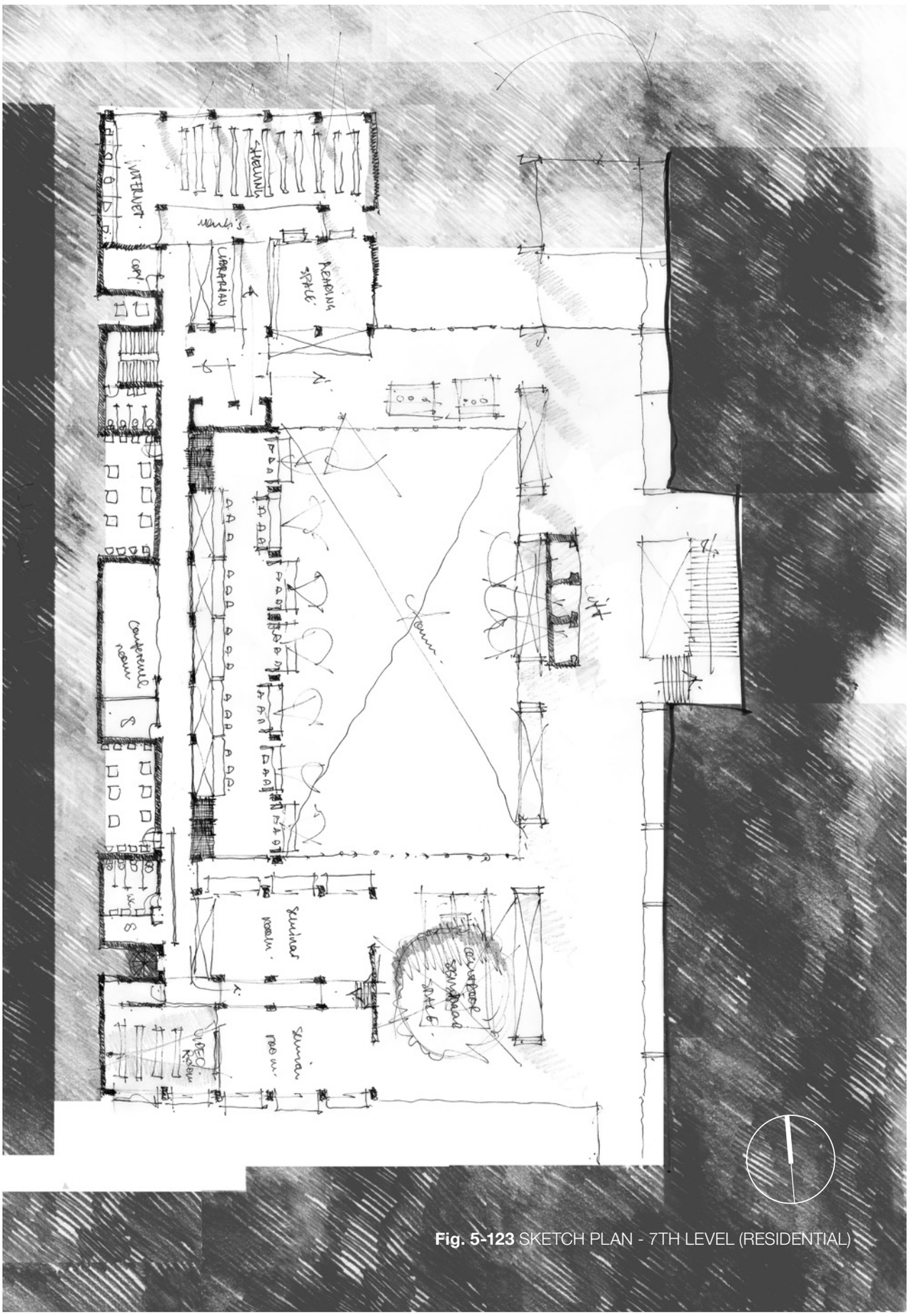


Fig. 5-123 SKETCH PLAN - 7TH LEVEL (RESIDENTIAL)

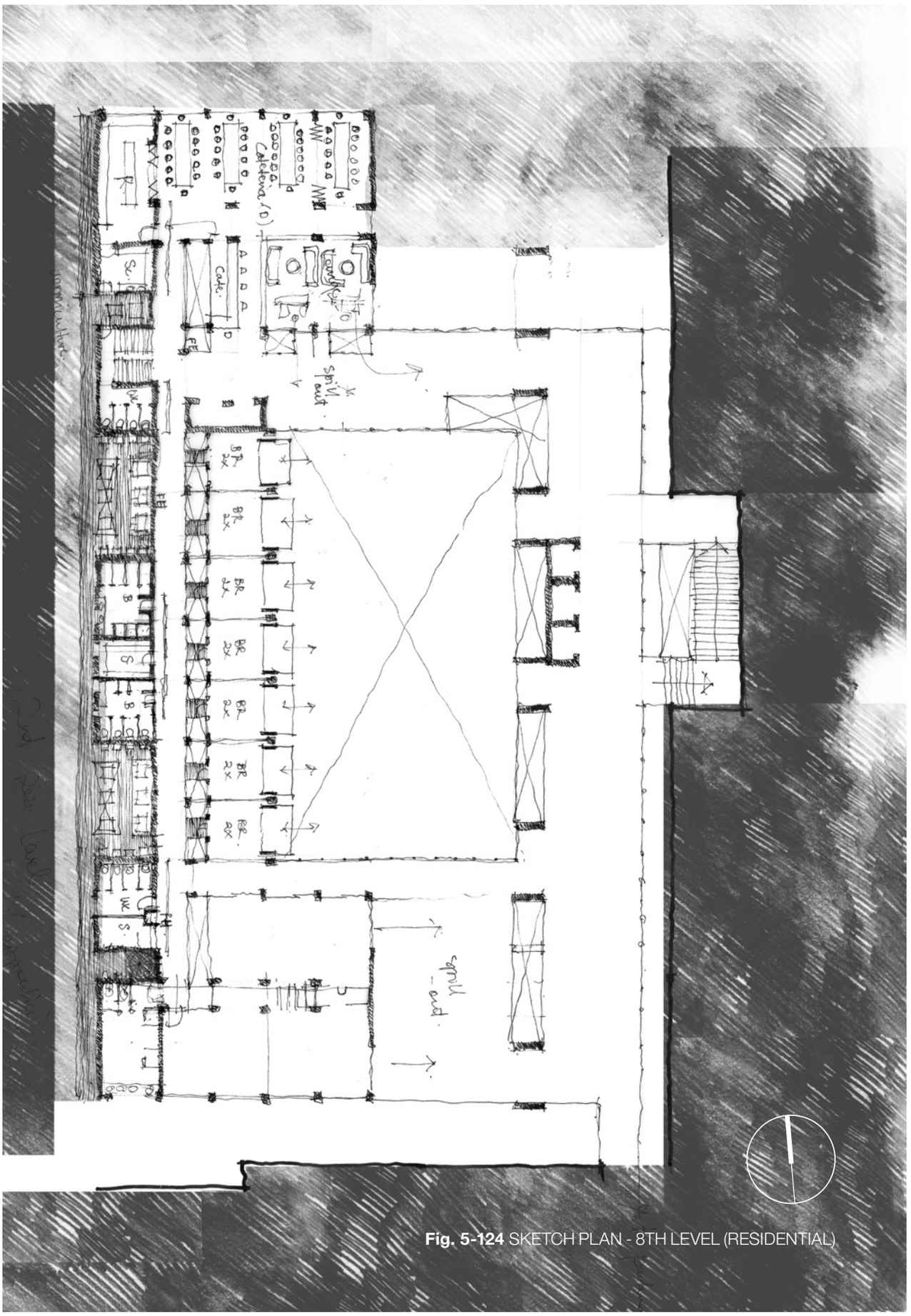


Fig. 5-124 SKETCH PLAN - 8TH LEVEL (RESIDENTIAL)

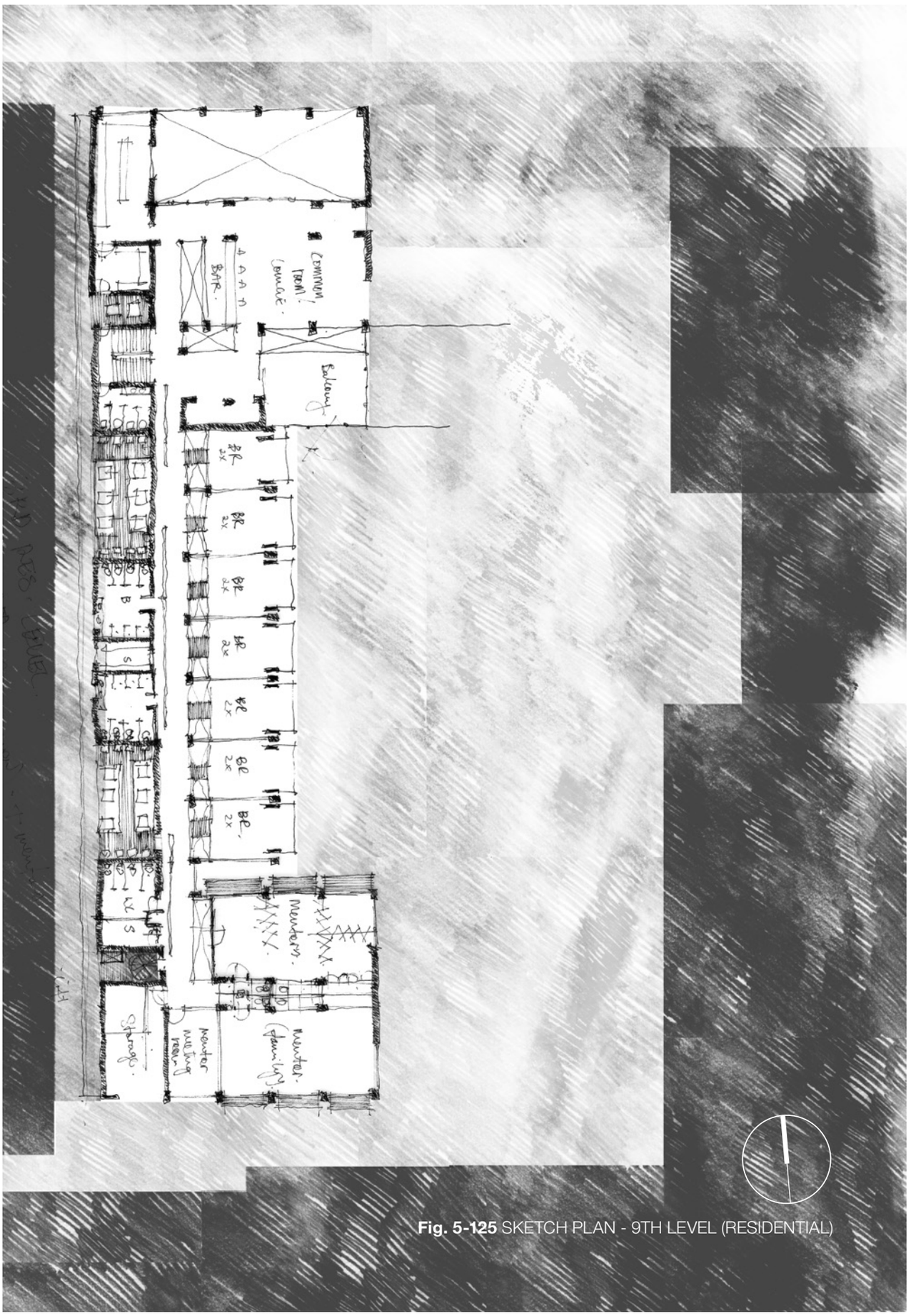


Fig. 5-125 SKETCH PLAN - 9TH LEVEL (RESIDENTIAL)

5.12 Axonometric Build-Up Sequence

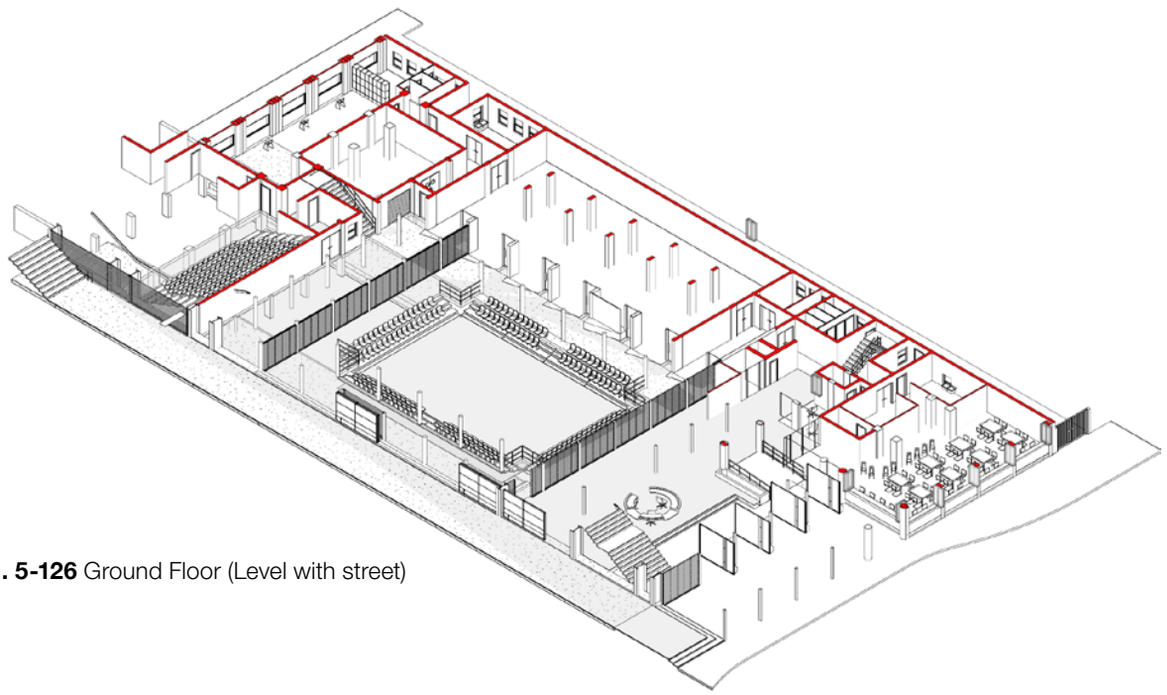


Fig. 5-126 Ground Floor (Level with street)

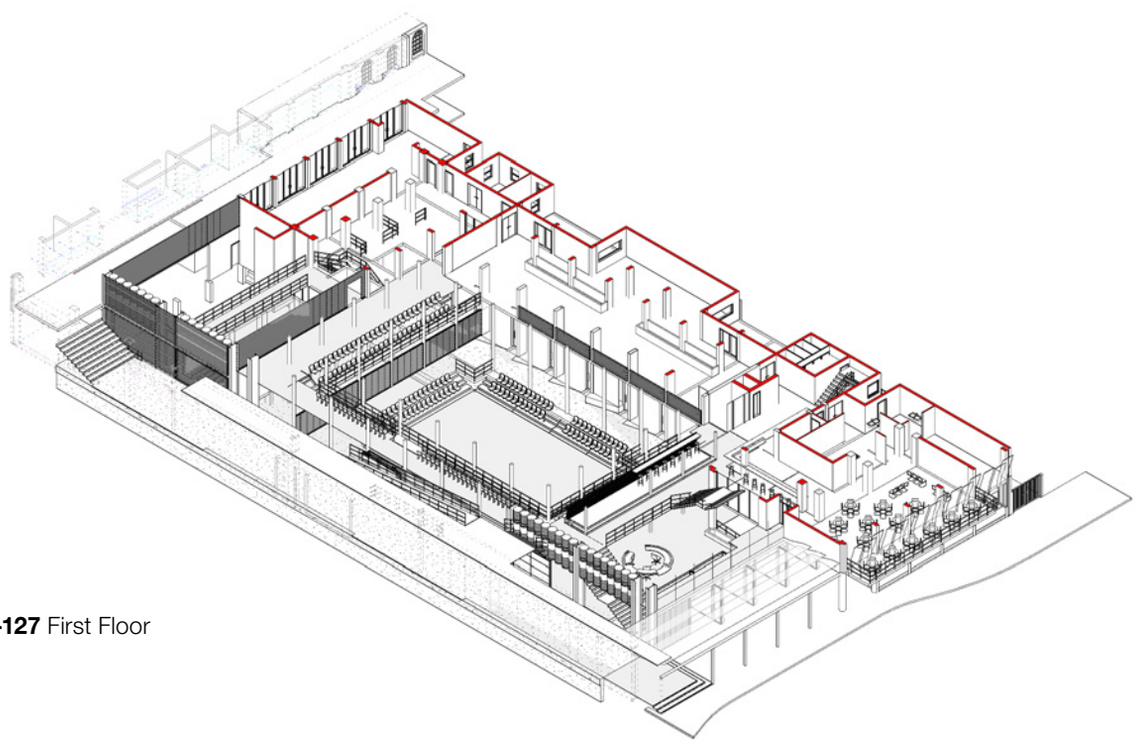


Fig. 5-127 First Floor

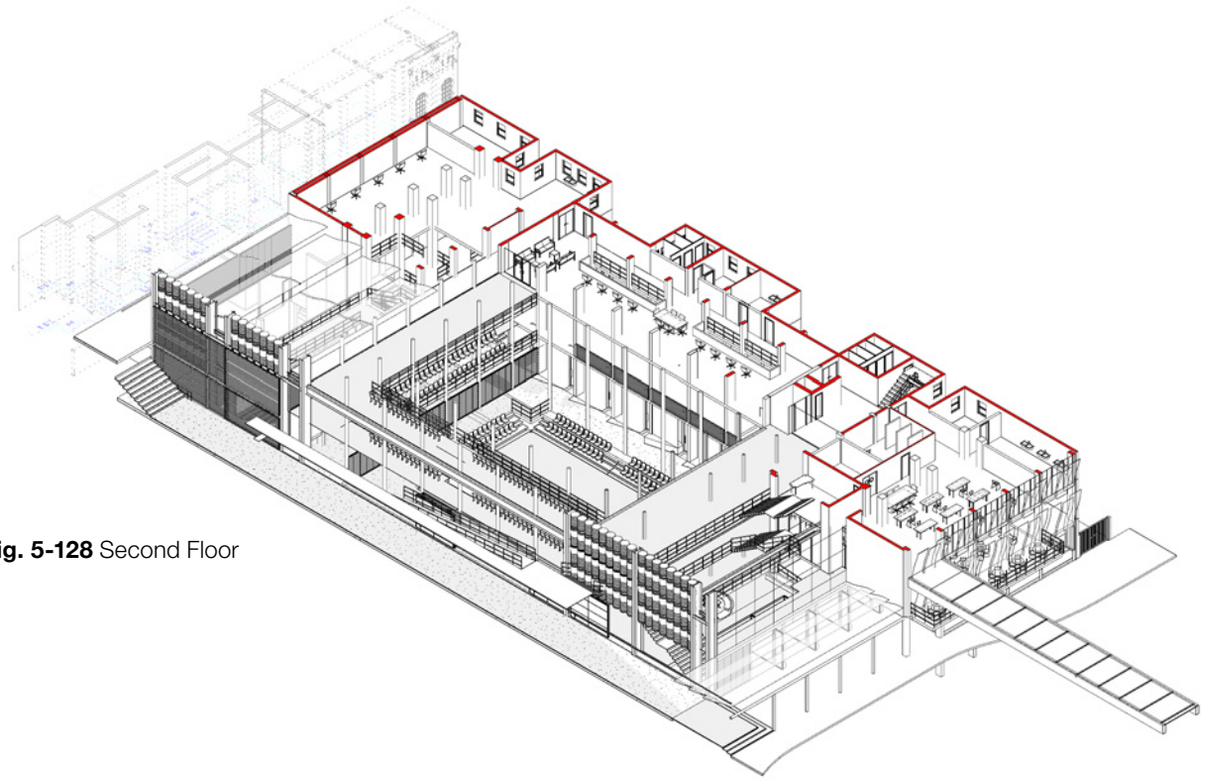


Fig. 5-128 Second Floor

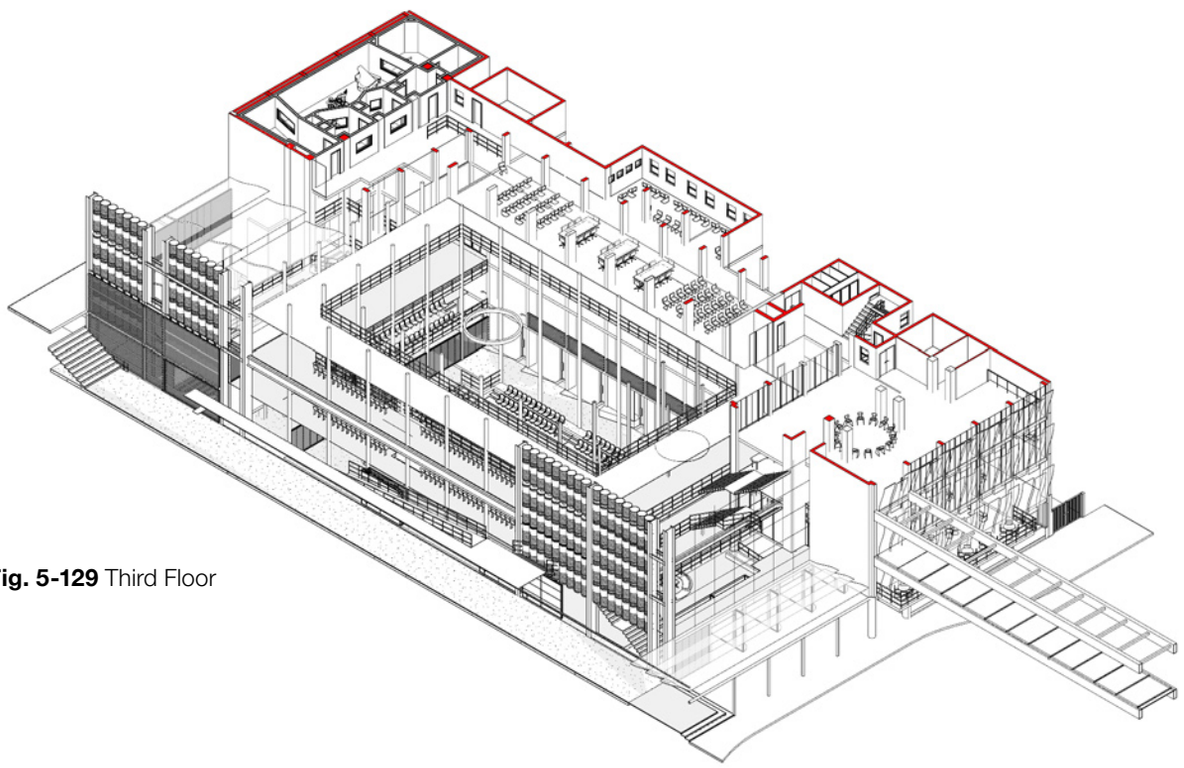


Fig. 5-129 Third Floor

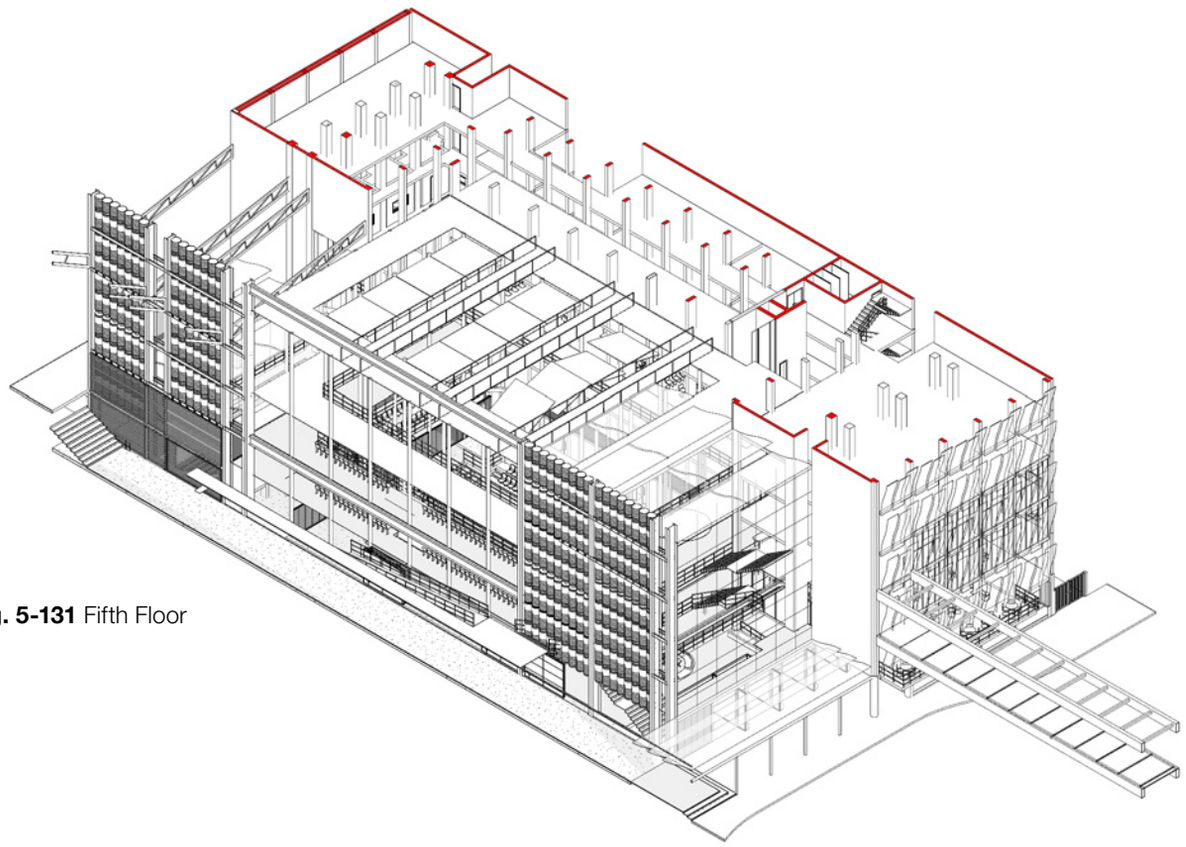


Fig. 5-131 Fifth Floor

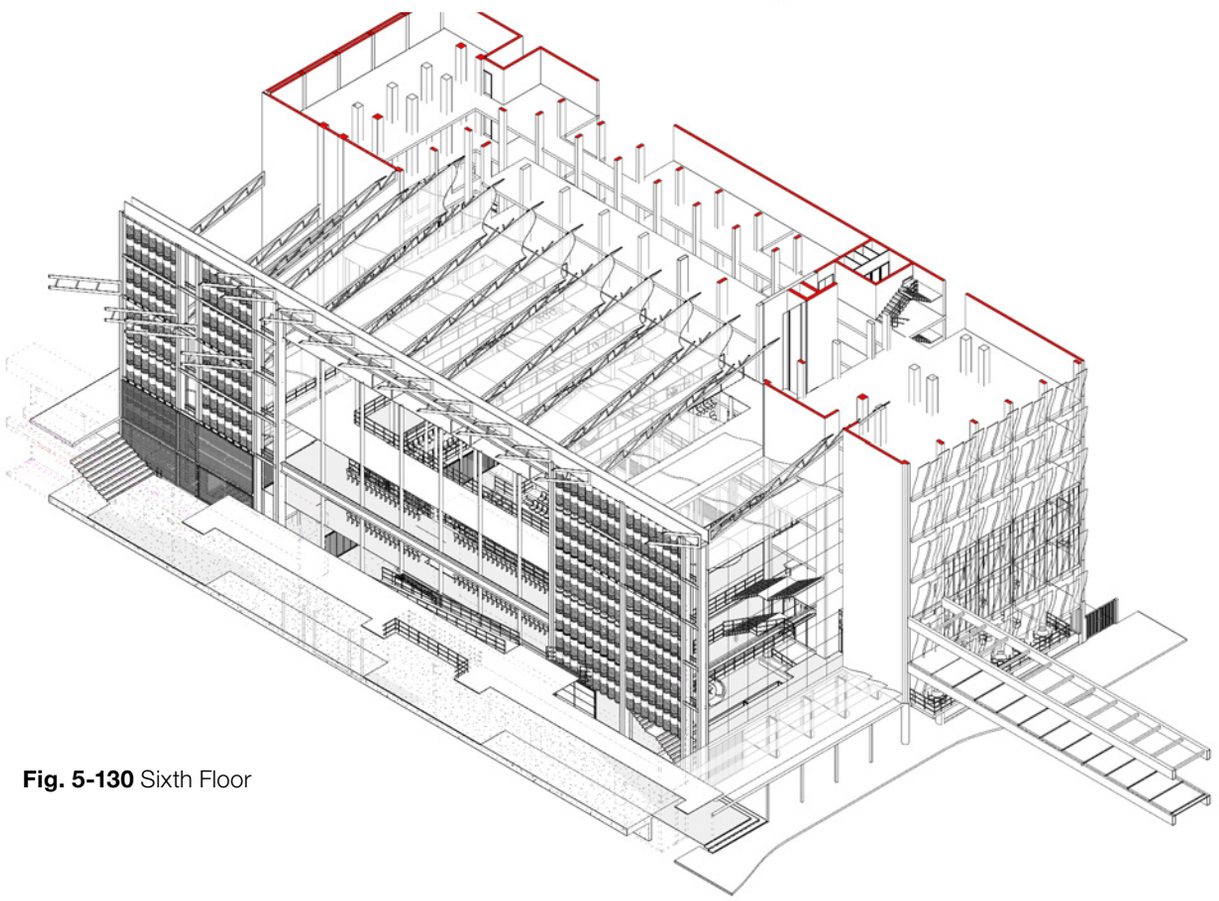


Fig. 5-130 Sixth Floor

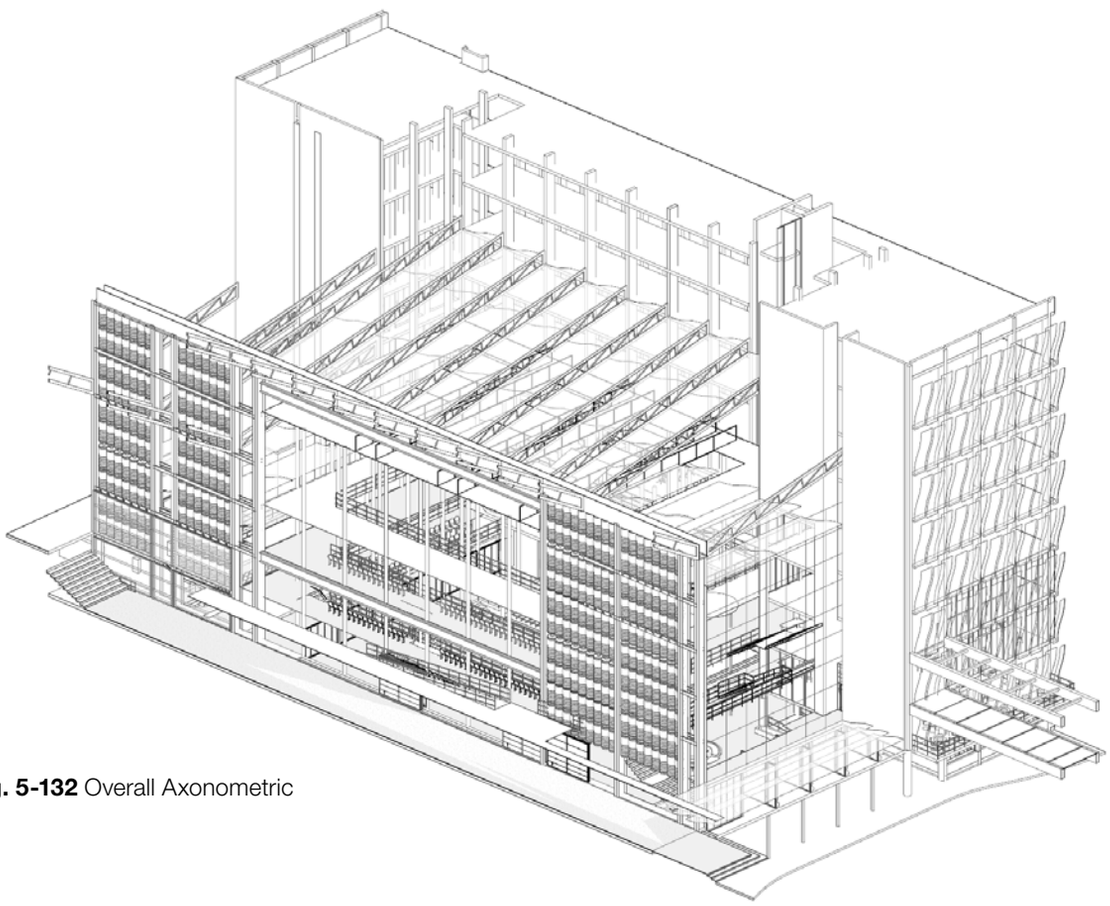
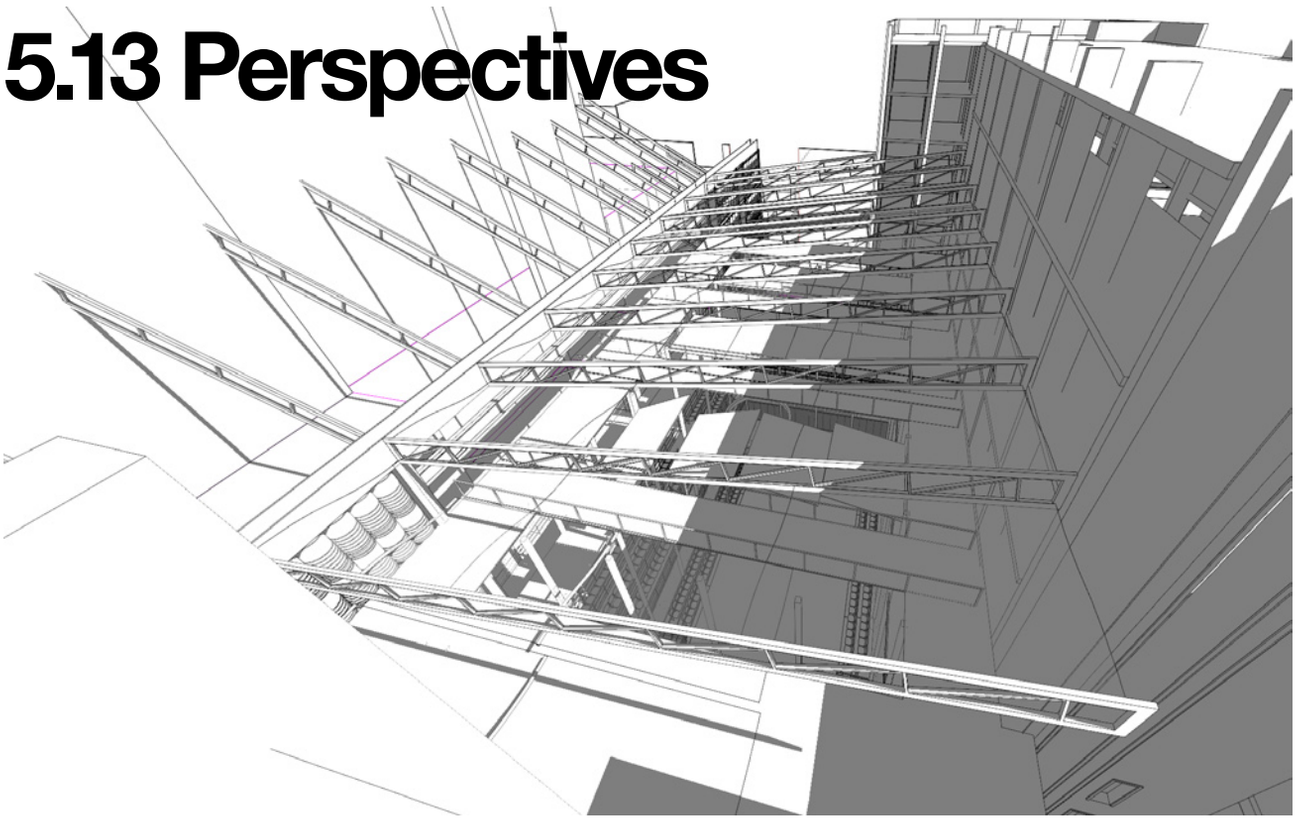
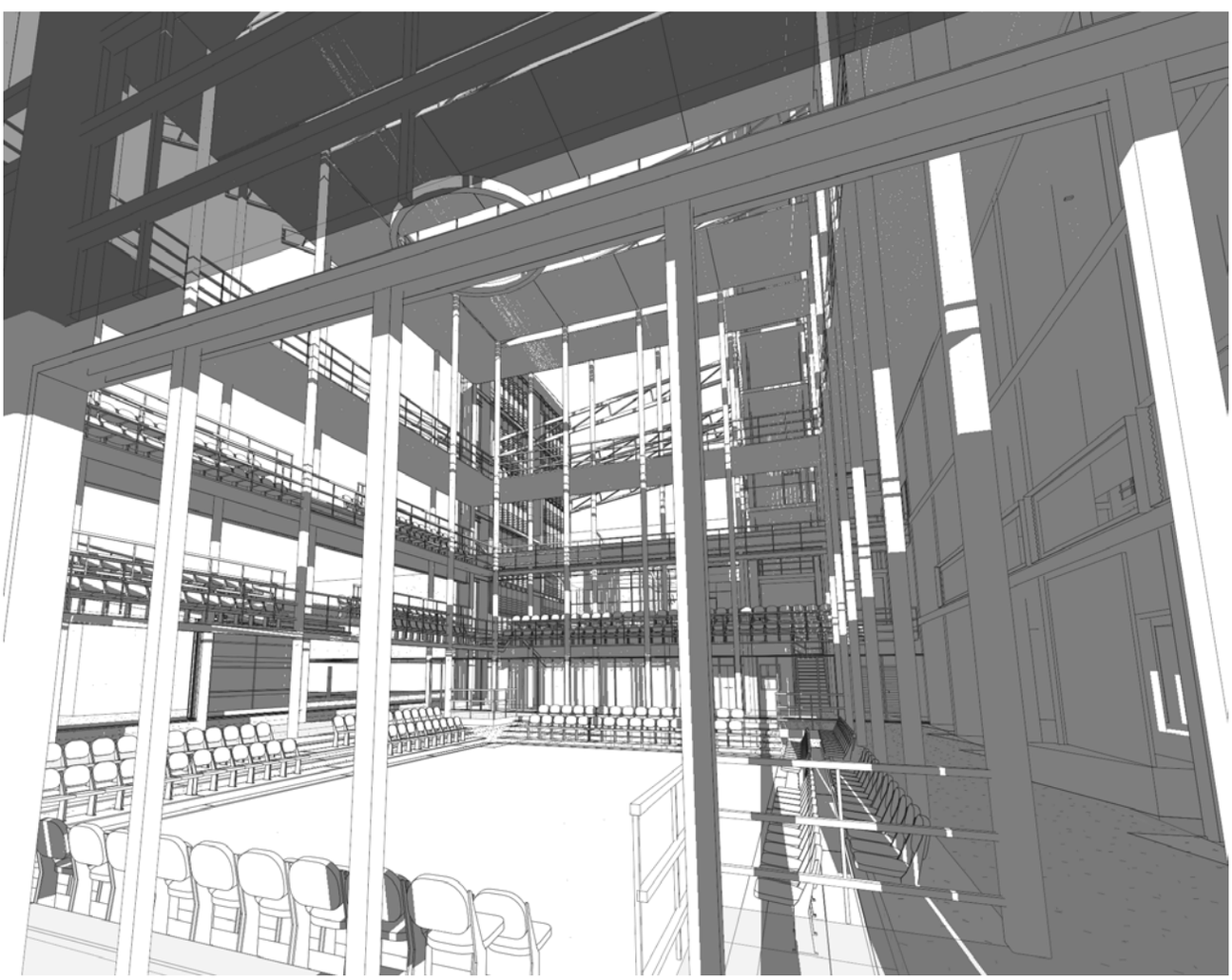


Fig. 5-132 Overall Axonometric

5.13 Perspectives





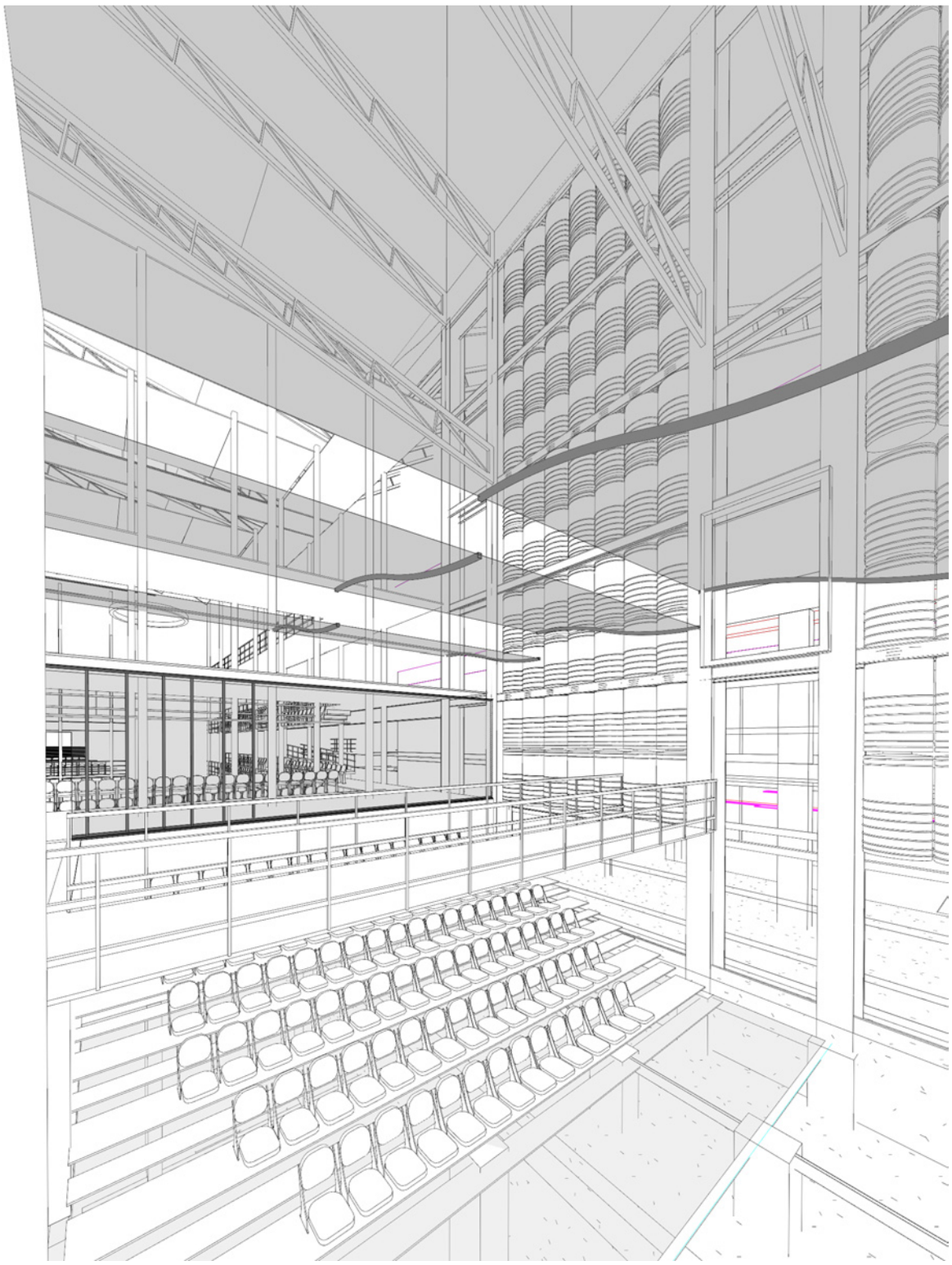


Fig. 5-133 (Opposite-top) Butterfly roof structure and shading panels, viewed from top of theatre school roof.

Fig. 5-134 (Opposite-bottom) View of theatre atrium space from entrance lobby.

Fig. 5-135 (Opposite-top) View into student theatre. This space is for more intimate productions such as shadow theatre and small plays.

5.14 Long Sections

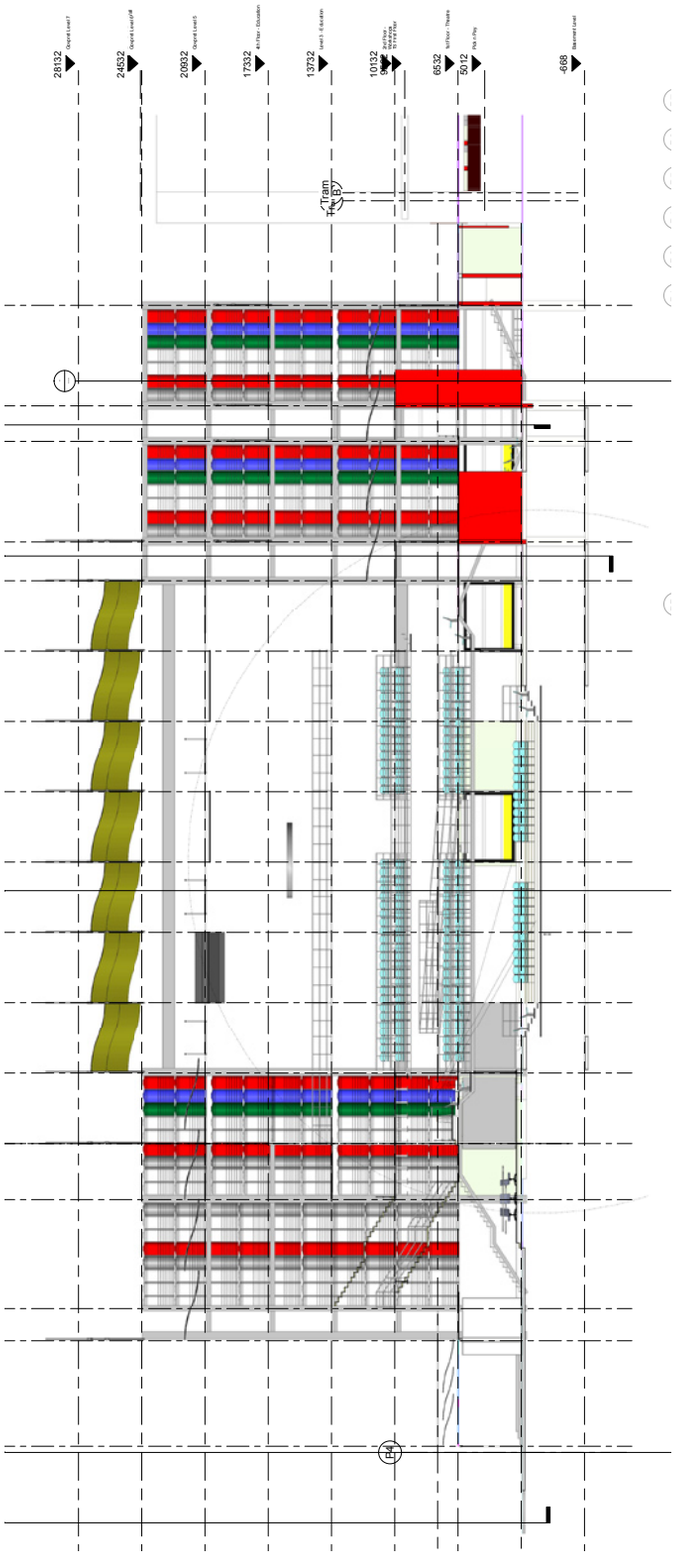


Fig. 5-136 LONG SECTION through forum theatre.

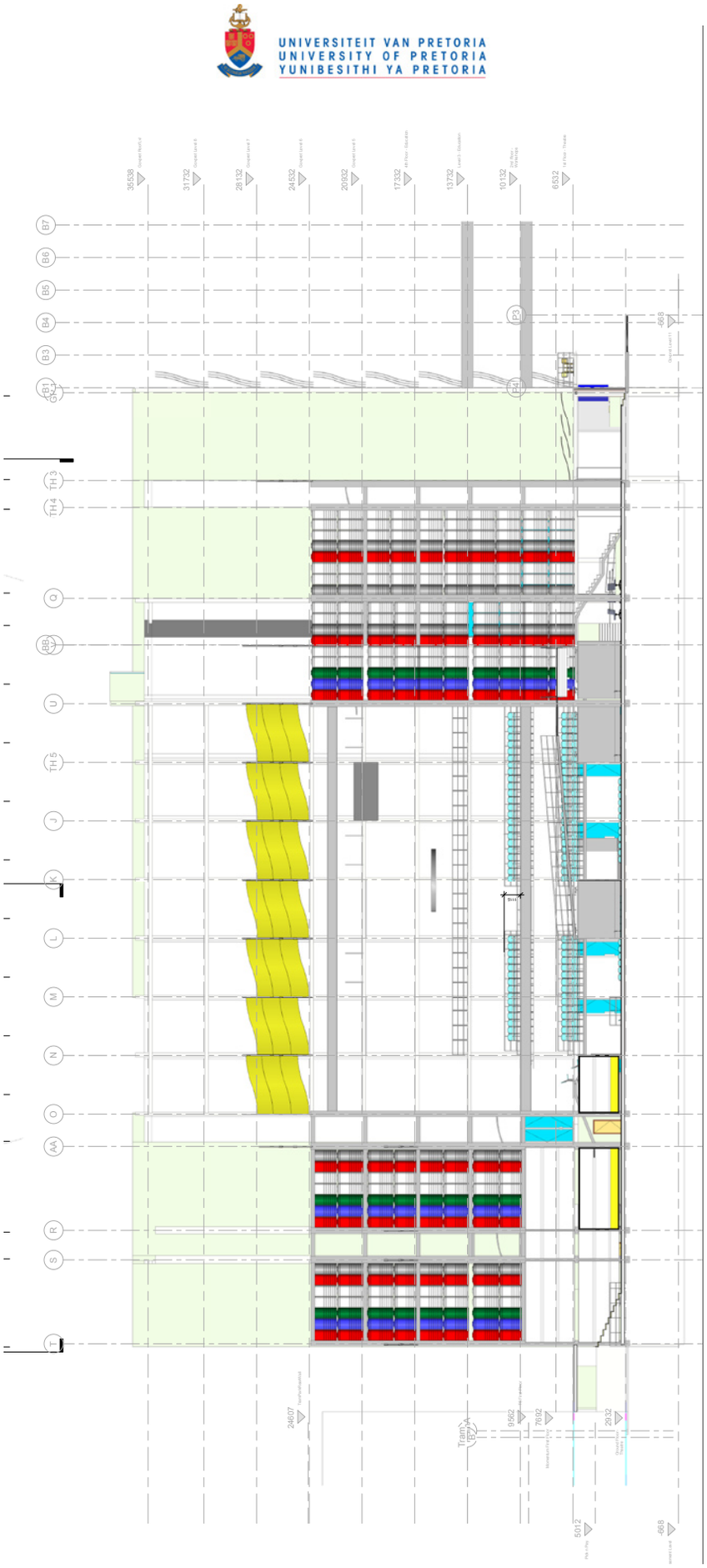
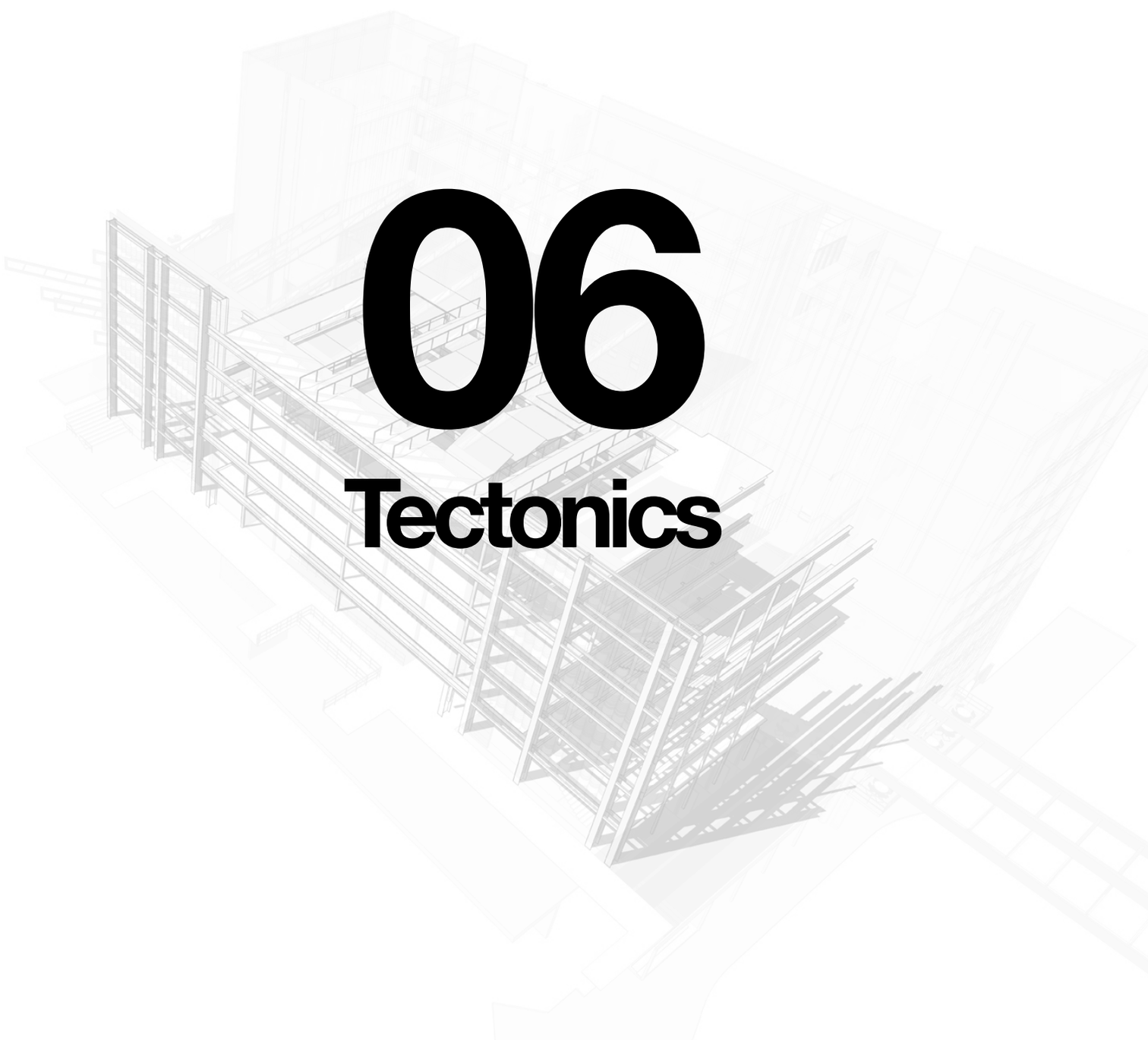


Fig. 5-137 LONG SECTION through pedestrian corridor.



06
Tectonics

6.1 Progress Drawings

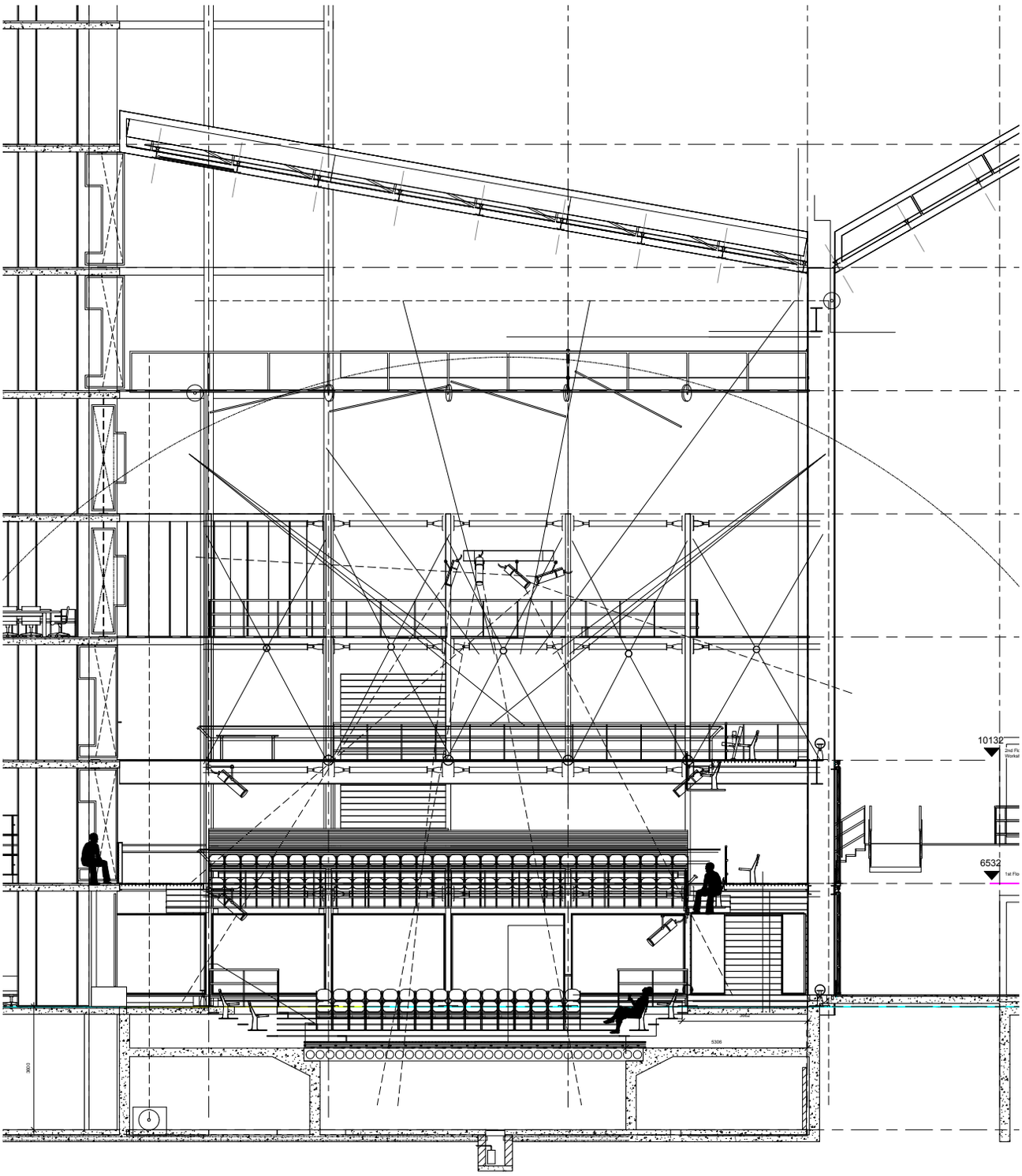


Fig. 6-138 SECTION A-A through forum theatre looking north.

PRETORIUS STREET

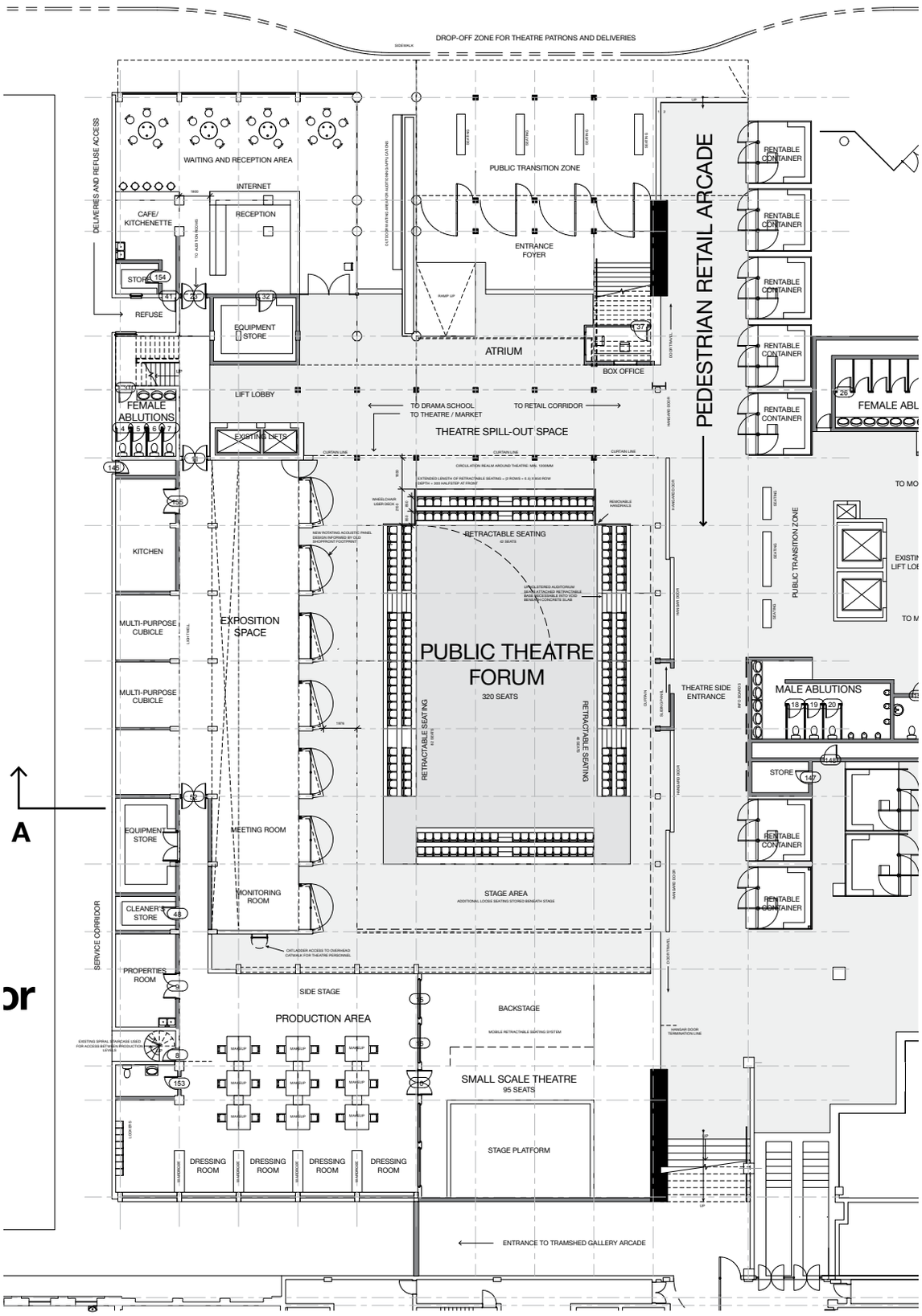


Fig. 6-139 GROUND FLOOR PLAN

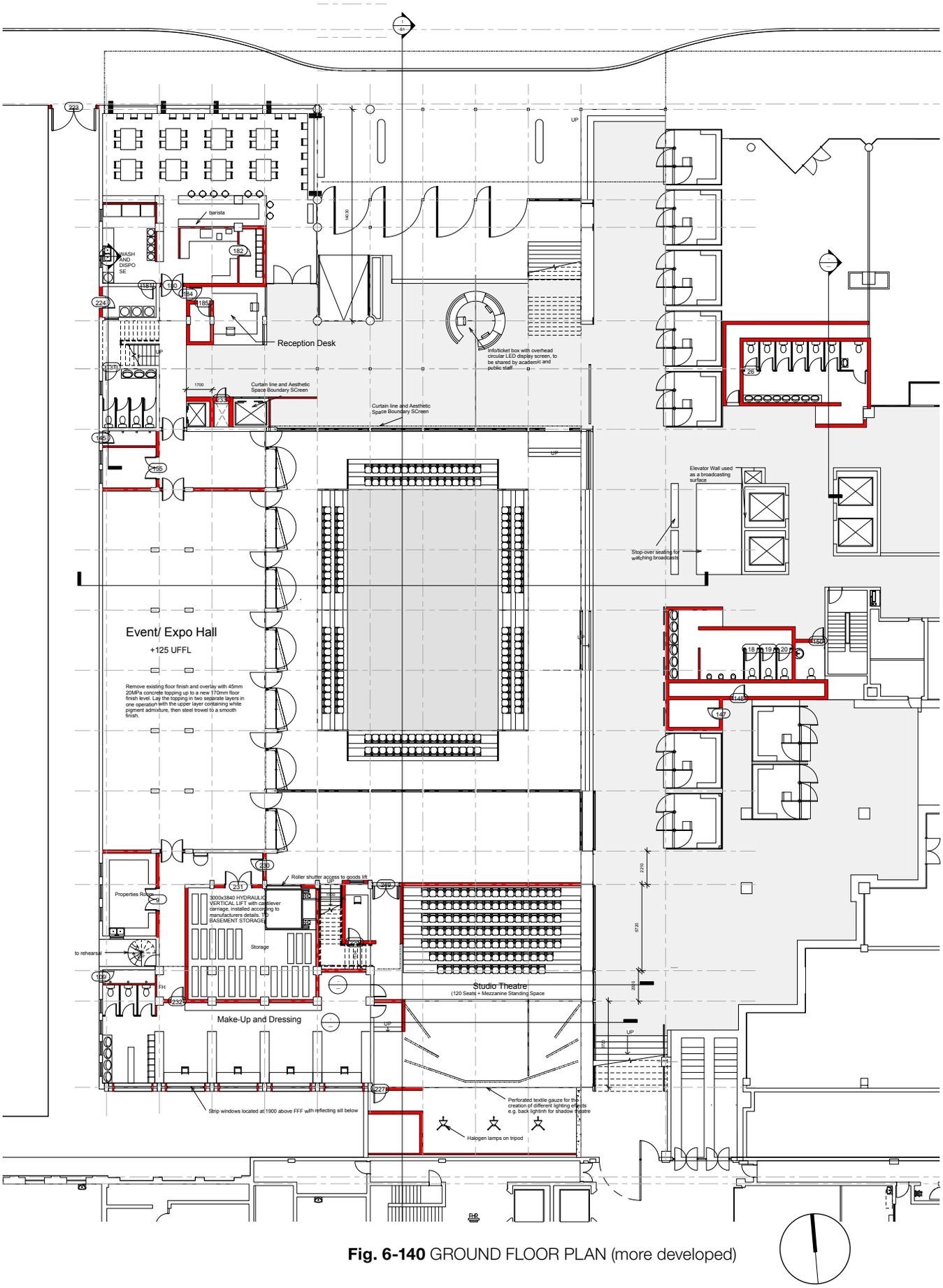


Fig. 6-140 GROUND FLOOR PLAN (more developed)

6.2 Structure

6.2.1 Primary Threshold Structure

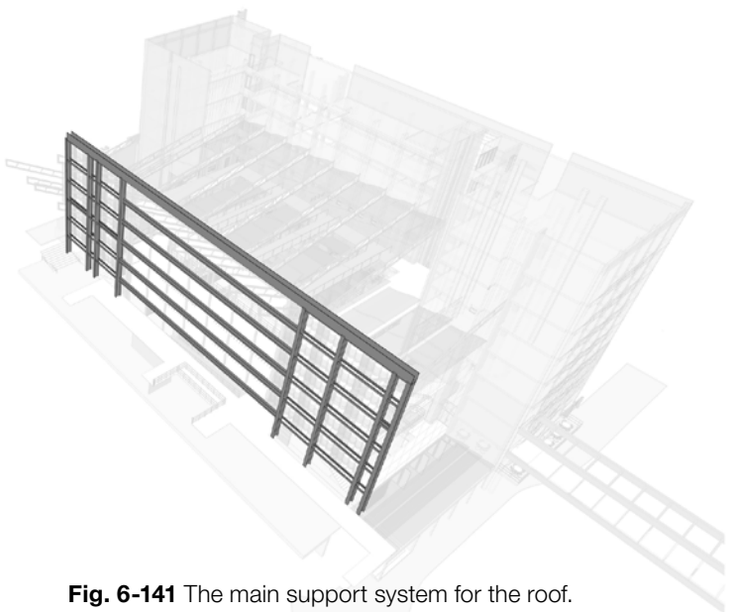


Fig. 6-141 The main support system for the roof.

The concept for the primary structure is to provide the following functionality:

- As a spatial ordering device that separates the theatre programme and pedestrian route. Access will be controlled along this threshold using hangar doors fitted with windows to allow views.
- As the primary support structure for the roof system, theatre structural systems and tensile shading systems.
- As a site memory device, an idea stemming from the concept of a site as an archive for displaying contextual information.

Fig. 6-144 Hangar doors serve to control public access but can be fitted with windows to allow passing pedestrians brief views into the theatre.

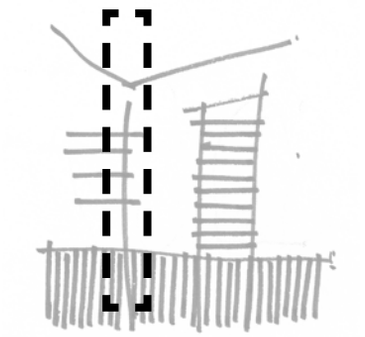


Fig. 6-142 Position of primary structure on parti diagram.

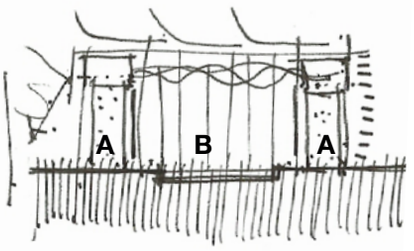


Fig. 6-143 Spatial concept sketch: two large permanent separations with a central flexible threshold that can either be opened to allow for public access, or closed to provide access control for private productions.

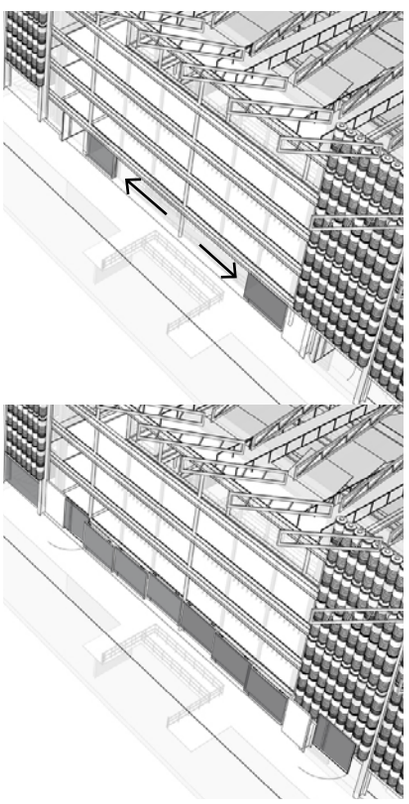


Fig. 6-145 Threshold with hangar doors in open position (top), and in closed position (bottom).

Construction:

The steel cage is composed of steel threaded rods tensioned between horizontal C-Channels. These in turn are bolted between vertical castellated columns which form the primary support for the entire cage system (see image at right). The castellated columns (spaced at 3 500 centimetres) are bolted onto steel base plates that are threaded and fastened into the underlying concrete substrate.

Detailing:

Detailing involves a combination of filling in and attaching of components to the steel cage system. Inf-ill material has been sourced from the demolished material from the adaptations to the Momentum building. Sections of in-fill can be omitted for allowing views and access ways.

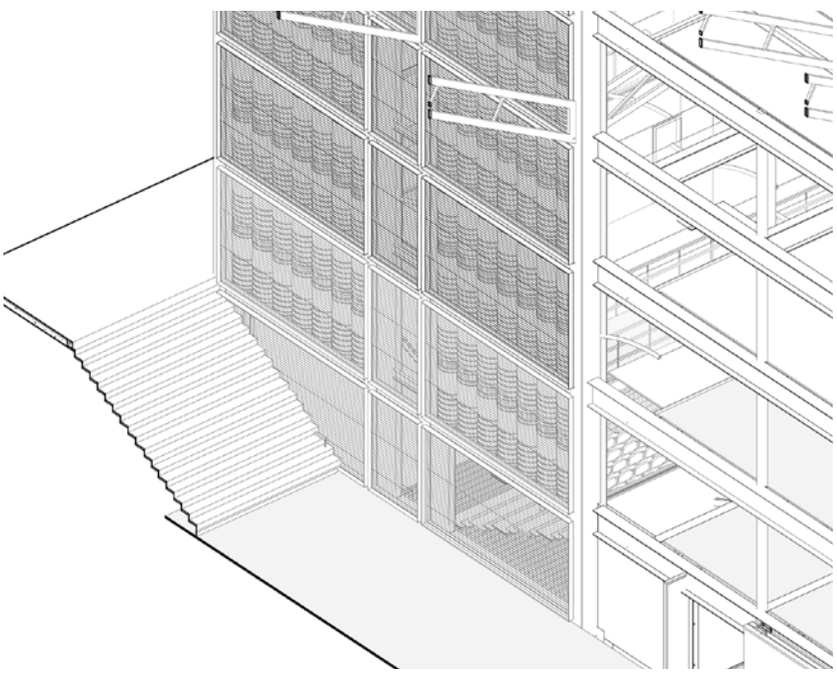


Fig. 6-146 Polycarbonate panels attached to primary steel structure.

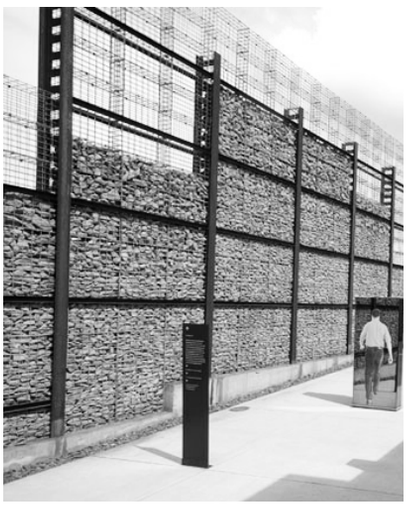


Fig. 6-147 Steel cage at Apartheid museum by Mashabane Rose Architects. The primary structure uses the same basic construction method. (Image source: internet.)

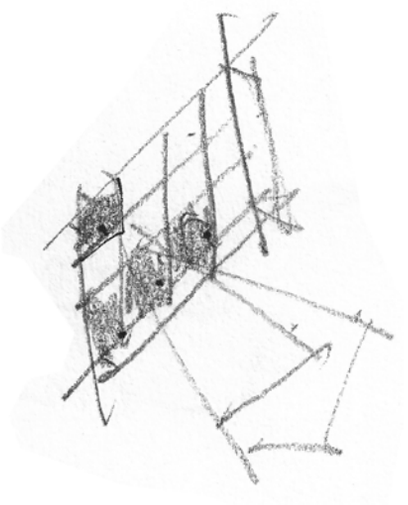


Fig. 6-148 Controlling views through the steel framework.

6.2.2 Forum Theatre Structure

The structure of the forum theatre comprises horizontal trusses and castellated beams that provide the following functions:

- Castellated beams fasten the primary threshold structure to the existing concrete structure of the Govpret building providing lateral stability which prevents the primary structure from collapsing.
- As the support structure for the translucent flooring.

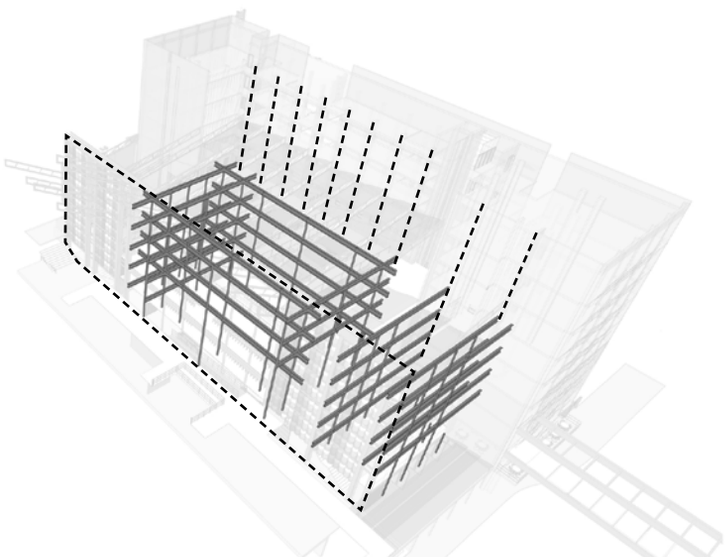


Fig. 6-150 Structural support system for floor and circulation systems. Horizontal beams structural members fasten the primary threshold structure to the Govpret structure (dashed lines) to provide lateral stability.

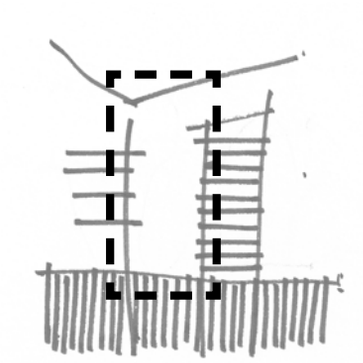


Fig. 6-149 Position of structure on parti diagram.

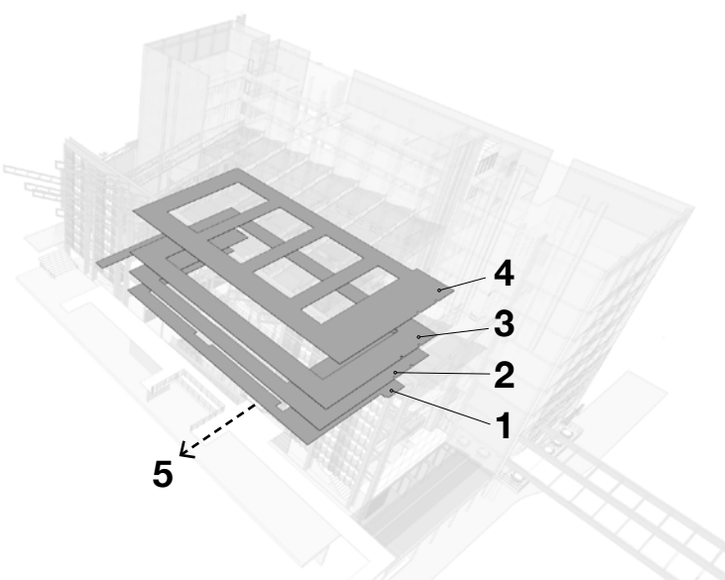


Fig. 6-151 Forum circulation galleries: (1) Gallery 1- public seating, and restaurant and bar amenities; (2) Gallery 2 - public seating; (3) Level 3, with spot lighting deck and roaming spectator gallery; (4) Technical deck for access to retractable spotbars (for stage lighting) and adjustable acoustic panels. (5) Access to ablution facilities.

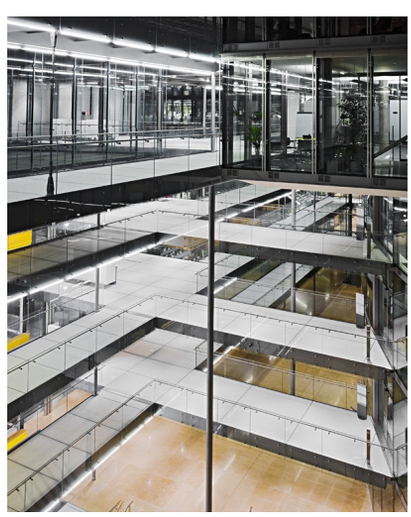


Fig. 6-152 Translucent flooring is used in the forum galleries at Merck Serono Headquarters and Research Centre designed by Murphy/Jahn Architects. (Image source: internet.)

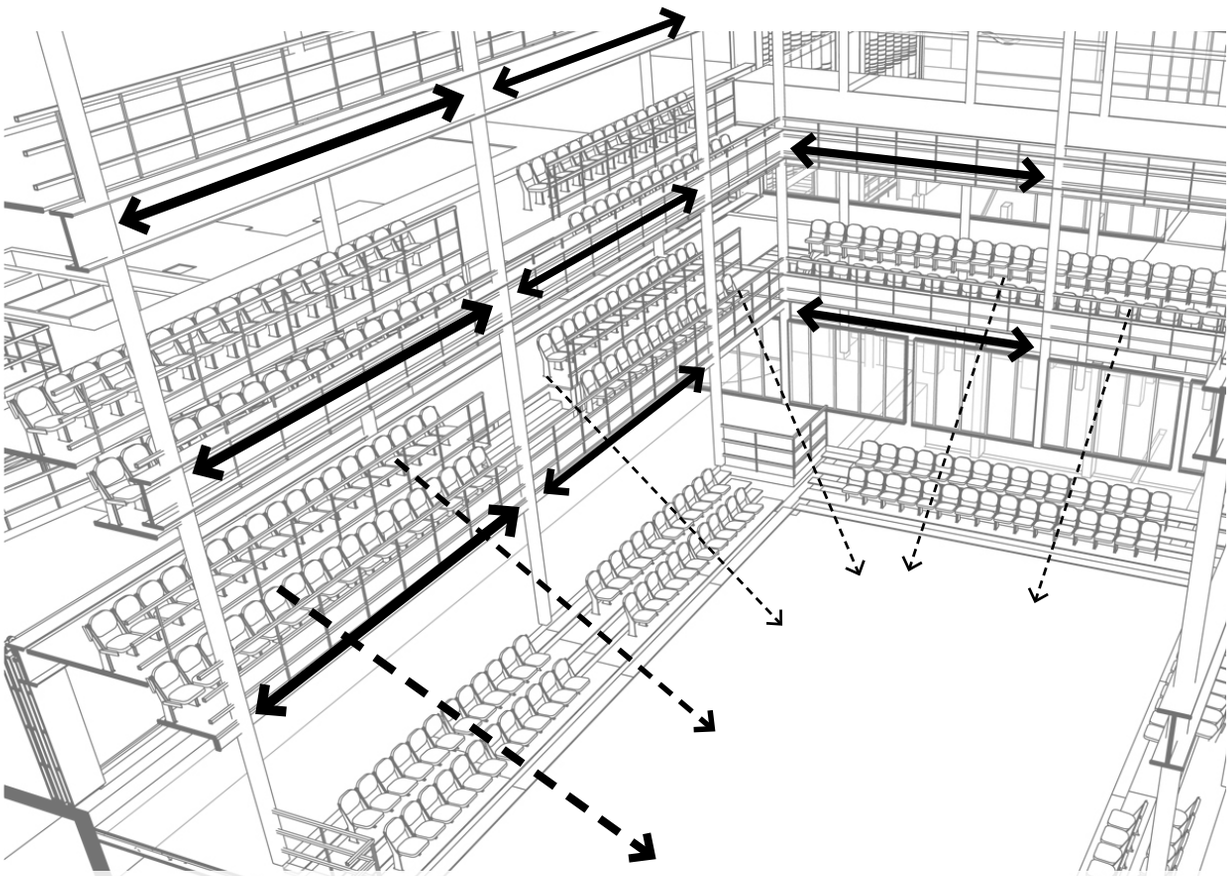


Fig. 6-154 The concept for the forum structure is to optimise the viewing capabilities of the spectator public. By using trusses that can span wide gaps, fewer columns can be used, meaning fewer viewing obstacles between spectators and actor. Columns are placed in line with stairwells, accordingly.

Fig. 6-153 Peter Seitowitz's residence utilises trusses on the galleries around its central atrium space. The use of trusses allows for spanning larger distances without the need of frequent intermediate columns, saving on materials and allowing clear views. (Image source: internet.)

Fig. 6-155 A simple truss constructed from steel rods threaded between bolted timber sections. A slender round steel section supports offers mid-span support. (Photo by author.)

6.2.3 Structure Build-Up Sequence

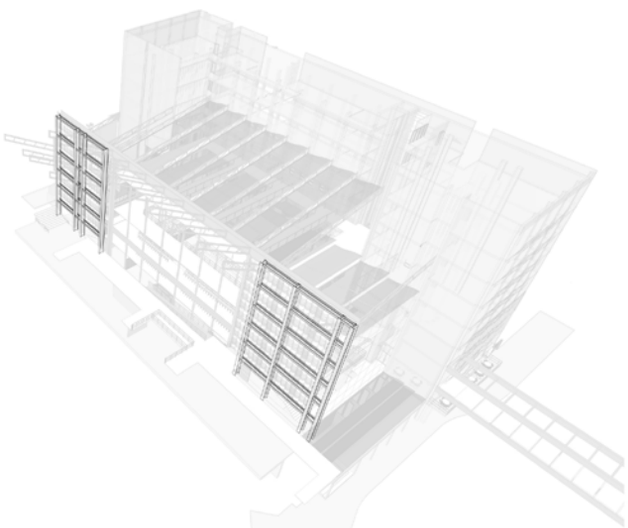


Fig. 6-156 Primary structure: vertical steel columns stiffened by horizontal channels.

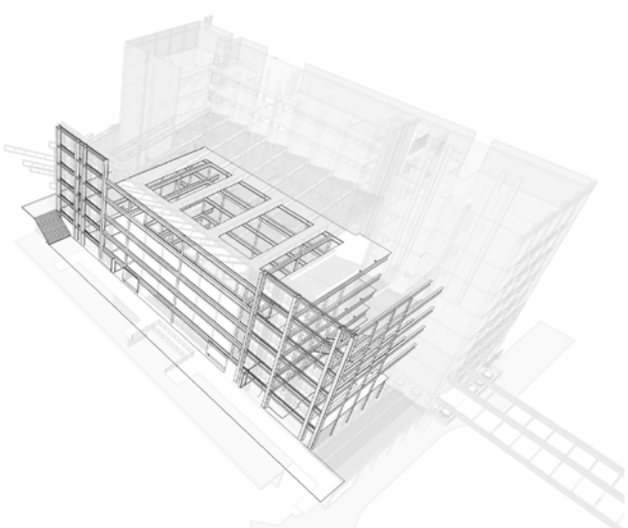


Fig. 6-157 Secondary structure plus floors: horizontal trusses tie the primary structure to the columns of the existing Govpret building. Floors provide stability for the secondary structure.

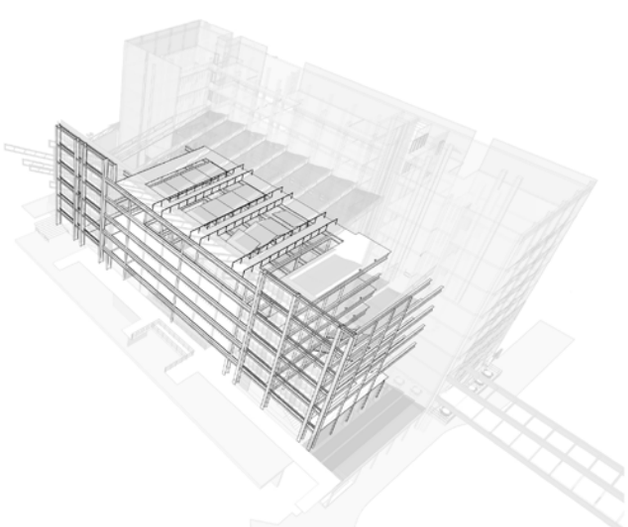


Fig. 6-158 Overhead acoustic panels suspended from steel trusses.

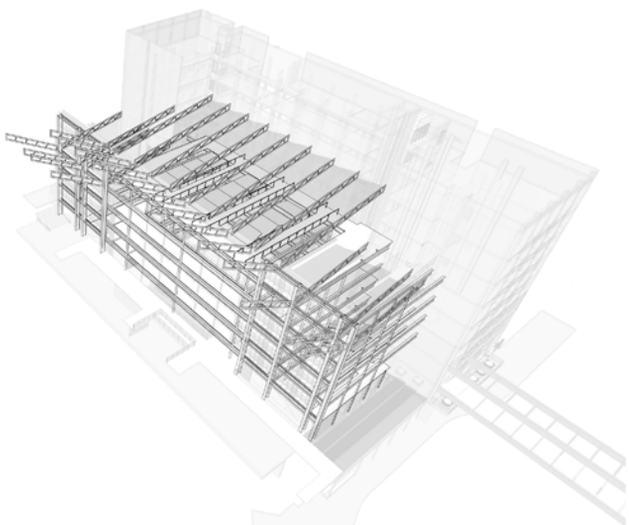


Fig. 6-159 Roof structure: the primary structure supports the roof truss structure.

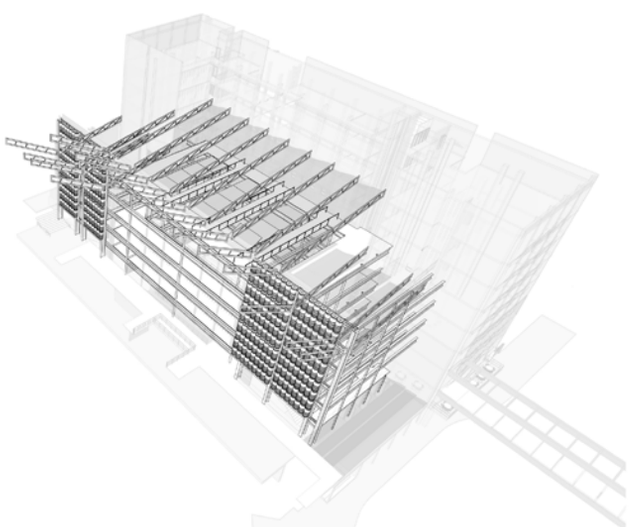


Fig. 6-160 Water tanks inserted into the northern and southern end sections of the primary structure.

6.3 Theatre Design

6.3.1 Introduction

In forum theatre, a drama will incorporate what Boal refers to as “simultaneous dramaturgy” (Boal, 1995:15), whereby the dramatic process can be halted and the spectators, or “spect-actors”, are allowed to intervene and make suggestions as to how the drama should proceed:

- The play typically commences with a conventional story line, and usually with a realistic plot.
- At a point, the actor (protagonist) will encounter some or other socio-economic issue as an obstacle or form of oppression, at which point a critical decision will need to be made.
- The play will be halted.
- The spectators will be able to give their own opinions as to how the problem should be resolved, thereby becoming active participants in the dramatic process.

Forum theatre attempts to create opportunities for interactions and participation by audience members. This has certain implications for the design of a theatre that must do more than cater only for a one-way spectator experience. Easy accessibility to the stage becomes an important aspect to consider. The study will analyse aspects of theatre design in terms of audience participation.

Fig. 6-162 Forum theatre in the Theatro Oficina in Sãu Paulo. (Image source: internet.)

6.3.2 Shape

Theatres are built in a wide variety of forms, chief amongst which are rectangular, square, polygonal, fan or horseshoe (Lord and Templeton, 1986:61).

For the purposes of this project, which deals with forum-based theatre, a rectangular shape was chosen above the other forms. Firstly, the rectilinear geometry of the site, together with its existing structures (the Govpret building), lends itself to a rectangular design. Both rectangles and squares are able to provide a higher degree of flexibility in seating arrangements when compared to other forms, but the smaller width of a rectangular space means that the audience are bought closer to the action on the stage. In a forum-based theatre that requires the participation of the audience, this will prove to be more beneficial in the long term.

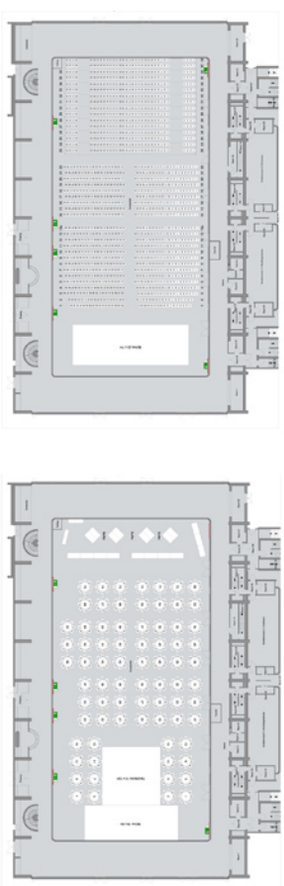


Fig. 6-161 The Europhalle has an adaptable layout which allows it to transform from a proscenium theatre into a banquet hall with a thrust stage. (Image source: internet).

6.3.3 Size

The theatre caters for 640 seated spectators. Circulation galleries are able to accommodate both seated and standing spectators.

6.3.4 Seating Arrangements

The theatre is intended as a venue for forum theatre, musical concerts, expos, talent shows and exhibitions. It therefore requires a great adaptability in its seating arrangements.

The majority of theatres employ conventional proscenium design (see Capitol Theatre, Chapter 2), thrust stage or theatre-in-the-round seating arrangements. This design focuses mainly on the latter two, which are better suited to the participatory nature of forum-based theatre, whereby spectators surround the acting area on more than one side.

From the wide spectrum of available products, a mobile retractable system was chosen for its mobility and adaptability. The system is composed of retractable risers that fold up into a rostra supported on a wheeled base. Rostras can be repositioned for different types of performances, and can be stored neatly underneath the floors surrounding the stage area.

The provision of upholstered seating for comfortable viewing is a standard expectation in contemporary theatres (Lord and Templeton, 1986:62). Not only does upholstered seating provide a higher level of comfort than conventional seating, but it also provides a certain degree of sound absorption.

Fig. 6-167 Lina Bo Bardi's Theatro Oficina, is a forum-based theatre in Sau Paulo that occupies an old service pit. The narrow shape of the led to the installation of vertical scaffolding with bench seating. It is an example of the kind of informal occupation that theatre is able to make. (Photo courtesy of Anne Graupner.)

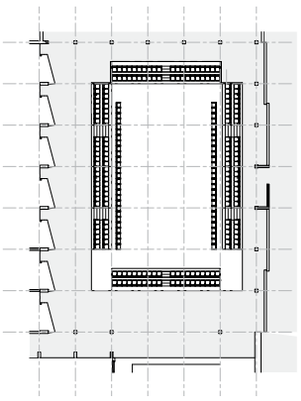


Fig. 6-164 Theatre-in-the-round

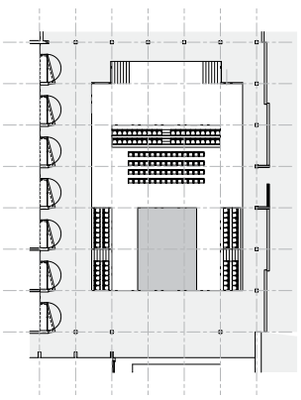


Fig. 6-165 Thrust Stage

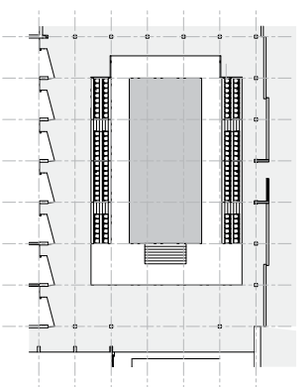


Fig. 6-166 Transverse Stage

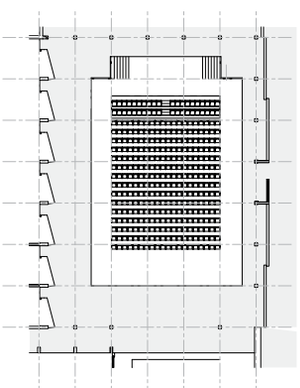


Fig. 6-163 End-stage

6.3.5 Sound Reinforcement

The main aim of sound reinforcement in theatres for drama is the transmission quality of vocal sound from actors to spectators. According to Lord and Templeton, “it is becoming rarer to hear, in public performances, the human voice… unaided by some form of sound reinforcement” (Lord and Templeton, 1986: 72). This is primarily due to the advent of television and the consequent demand that a show be a “live” version of its broadcast equivalent (*ibid*.).

The main form that vocal reinforcement takes is the use of live microphones and amplification. This can be beneficial for performances where sound needs to reach a large number of spectators. However, it also means that theatre loses its intimate scale that contributes to its “immediacy of presence” (Lord and Templeton, 1986:73).

Intimacy and immediacy of presence are essential parts of the participatory process and dramatic experience. However, as a multipurpose venue, the theatre also needs to be able to be adapted for performance scenarios that might require amplification.

The instalment of speech amplification makes the theatre vulnerable to unwanted reverberation behaviour, such as regenerative reverberation. This requires that the overall reverberation during these performances be reduced by around 10-15 per cent (*ibid*.). To facilitate this change in reverberation characteristics, the design utilises a combination of mechanisms. The optimum reverberation time (RT) for a theatre such as that envisaged for the current project is recommended at around 1.4 seconds for the hall when empty.

- Bass traps built into theatre school benches

Quarter-wavelength bass traps constructed out of bass-resonant low-density insulation wool will aid in mitigating low-level frequencies from speaker systems. These traps have been built into the low bench walls along the Tram-Theatre school ground level facade. The walls act as backing that is necessary for the functionality of the bass traps.

- Swivelling panels mounted on theatre school benches

The old shop front design of the Tram-Theatre school serves as a blueprint for the forms of the new adjustable acoustic panels. These are mounted onto the same benches as the bass trap installations. The acoustic treatments on either side of the panels vary to suit different acoustic requirements: reflection and absorption. The panel is rotated until the corresponding side faces the stage area. The more absorbent side is constructed of perforated plywood and mineral wool filling, and aids in mitigating medium- to low-frequency sounds. The opposite side functions as a vocal reflector, and comprises a smooth surface without any perforations. It is constructed of a painted phenolic bonded exterior grade plywood.

- Hangar doors filled with absorptive filling

The hangar doors incorporate unperforated, slotted plywood panels with a 25 mm mineral wool fibre filling to absorb medium-to low-frequency sounds, while simultaneously preserving higher frequency sounds that are important for preserving vocal intelligibility from the stage.

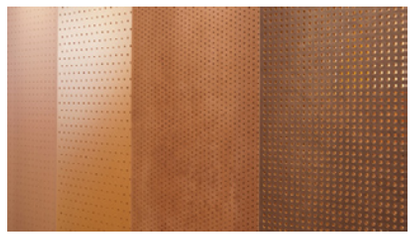


Fig. 6-170 Perforated plywood screens in a variety of warm hues.

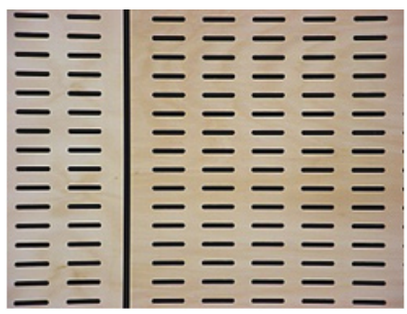


Fig. 6-169 Slotted plywood panels used on the hangar doors, end screens and swiveling panels.

Fig. 6-168 Cavity batt sound insulation installed behind plywood screens to absorb low- to medium frequency sounds during amplified performances.

The following characteristics of plywood make it an appropriate choice for the theatre’s design:

- Renewability
- Natural aesthetic qualities (plywood has a warm natural colour which contributes to a comfortable public atmosphere.)
- Versatility (plywood can be molded into the desired shapes.)
- Durability (plywood is long-lasting and low in maintenance).
- Efficiency (more of the tree is used when manufacturing plywood)
- Strength (plywood is stronger than steel by weight, making it structural).

- Adjustable overhead panels

These have been loosely modelled on the reflection panels used in the Europahalle in Castrop-Rauxel, Germany, designed by Dissing and Weitling. The panels aid in reflecting early reflections (the first few reflected sounds off immediate surfaces) from vocal and instrumental sources from the stage, and are constructed of 12 mm thick exterior grade plywood with gypsum plaster backing (Lord and Templeton, 1986:134). This results in a lightweight construction that can easily be suspended above the audience. The current project will adopt an automated rotating mechanism which will allow the panels to rest in the open vertical position. In this way, the filtration of natural light will be unimpeded during most of the theatre's uses.

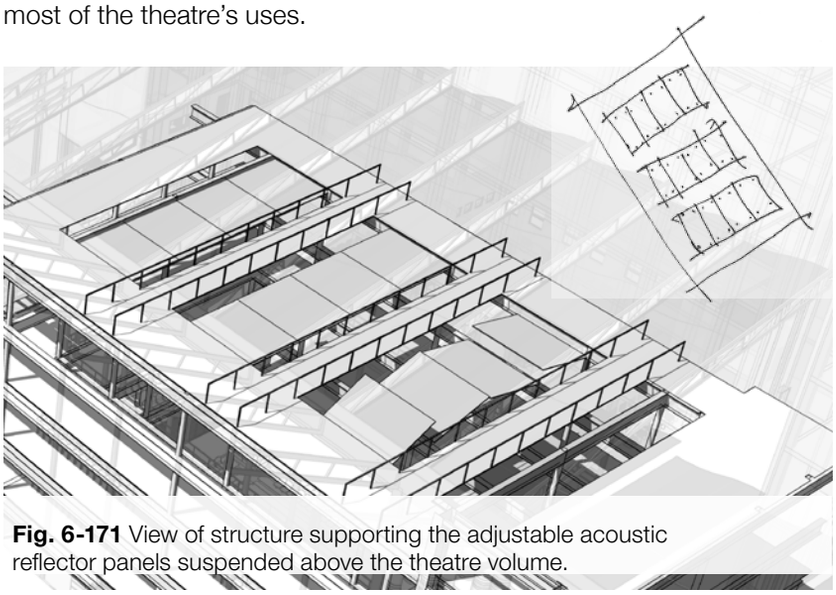


Fig. 6-171 View of structure supporting the adjustable acoustic reflector panels suspended above the theatre volume.

- End separating screens

The end screens are placed at the northern and southern ends of the acting area and following a similar construction to the hangar doors.

- Upholstered seating

The upholstering in the seating around the stage provides additional sound insulation.

- Sprung floor for performances

Special sprung timber floors incorporating extra traction, acoustic insulation and elasticity have been specified for the stage area. High neoprene pads provide added bounce to the floor for dance performances, while minimising the intensity of impact noise.

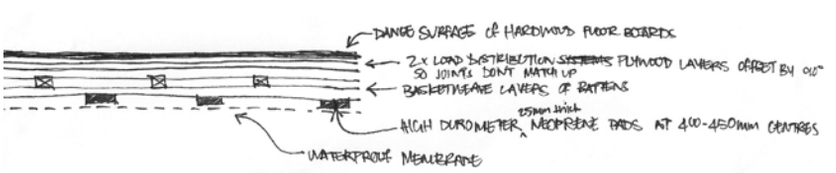


Fig. 6-175 Sprung floor detail sketch.

Fig. 6-174 (Right) Sprung floor: timber construction supported on neoprene pads.

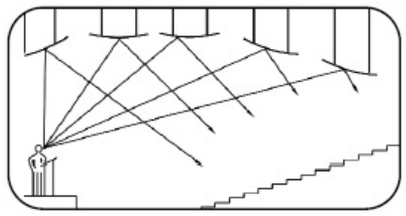


Fig. 6-173 Reflection pattern off overhead reflector panels. The desired effect is the reflection of early reflections which aid in voice intelligibility.

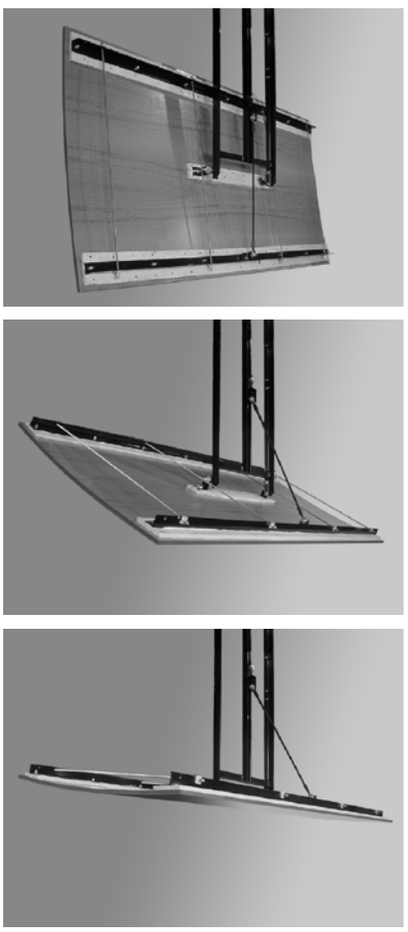
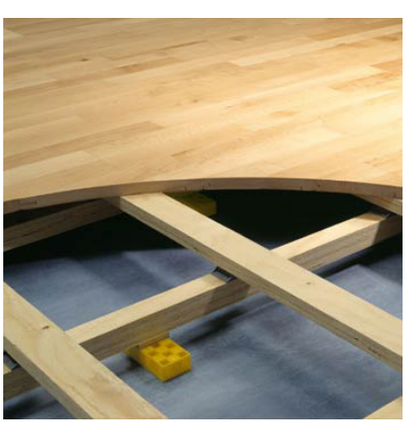


Fig. 6-172 Example of an adjustable acoustic reflector panel in different positions. (Image source: internet.)



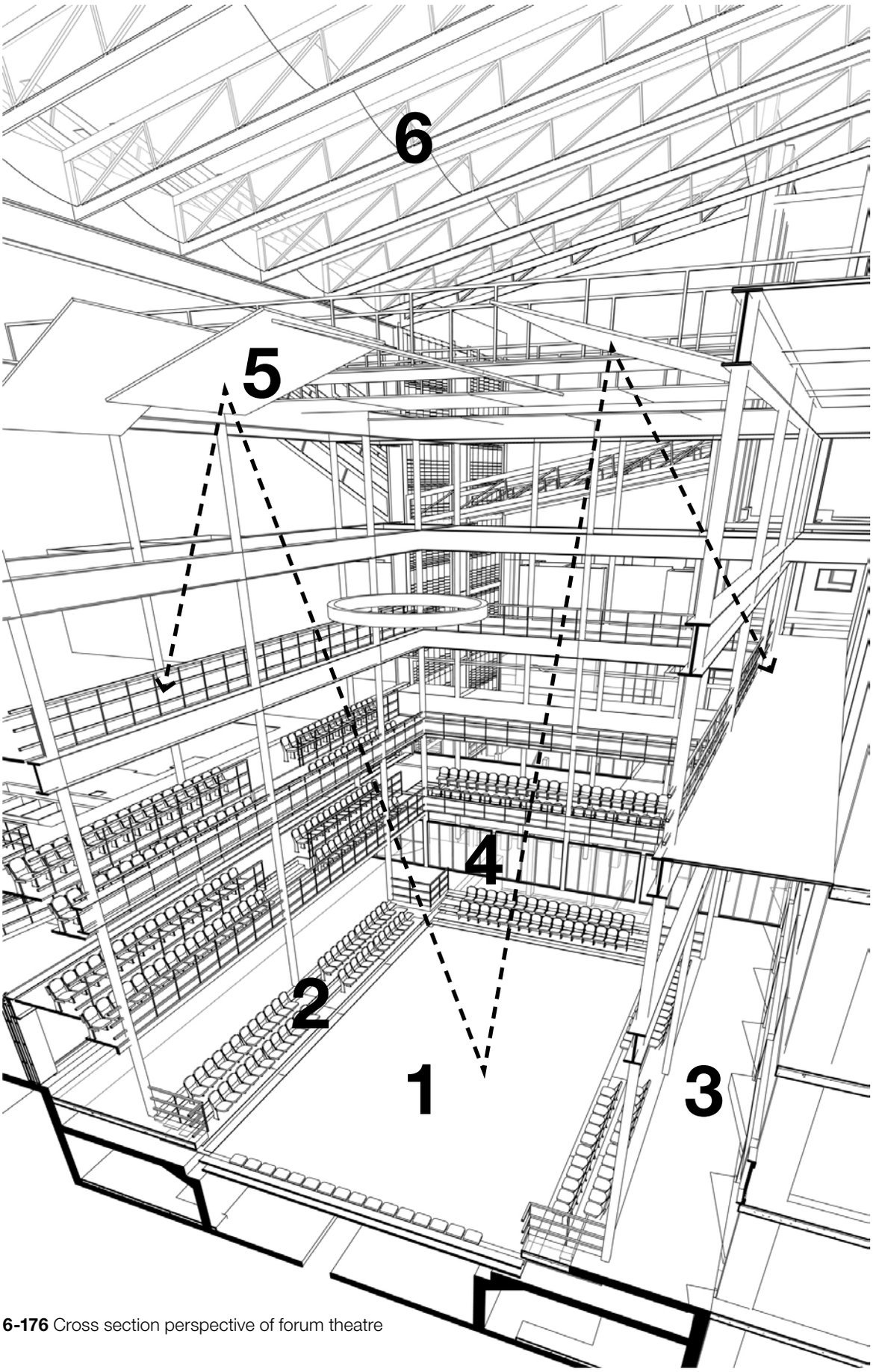


Fig. 6-176 Cross section perspective of forum theatre

1 Stage/acting area with sprung floor.

2 Upholstered seating with absorptive qualities.

3 Walkway and position of bass traps and rotating panels.

4 Slotted plywood end screens.

5 Unperforated plywood reflection panels.

6 Roof construction with double polycarbonate structure.

6.3.6 Additional Considerations

Contemporary theatres have started including a range of new features not offered by older theatres. The current design has attempted to accommodate some of these new elements, which include:

- The ability to record quality live performances

The high broadcasting demand for “live” recorded material has influenced many modern theatres to opt for theatre designs that cater for the recording of performances (Lord and Templeton, 1986:62). To facilitate on-site recording (and live broadcasting), appropriate control rooms and studios have been incorporated into the interface between the theatre school and the forum space. This location offers good visibility of the performances below, enhancing control. Situating media facilities in close proximity to each other also facilitates the production process.

The adaptable scale of the current theatre design allows for recording performances at a more intimate scale, enhancing recording quality. A typical scenario could be when an actor’s voice needs to be recorded above the din of background noise. A more intimate scale makes this task easier than it would be in a larger theatre, with more unpredictable acoustics.

- “Democracy of Hearing Quality” throughout theatre (Lord and Templeton, 1986:62)

Modern theatres attempt to provide an equal experience to all audience members, unlike older theatres, which typically divided audiences into paying categories. This entails all audience members having equal access to the performance. Democracy and equality are also fundamental tenets of forum theatre, which tries to break down social barriers by giving spectators an equal voice, raising them to the status of active participants (actors).

- A comfortable cultural experience

The theatre aims to offer audiences with a high level of comfort while they experience the theatre. Support facilities such as restaurants, bars and galleries are accessible in close proximity to the theatre activity.

6.4 Natural Lighting

The structure is designed to control the amount of natural light that is allowed to enter the central volume. The greater proportion of this light enters through the overhead transparent polycarbonate roof, which mimics how other structures in the surrounding block deal with natural light.

Like glass, the clear polycarbonate used for the roofing material transmits a generous proportion of the available incidental light radiation (more than 85%) but only admits a small fraction of infrared radiation (heat).

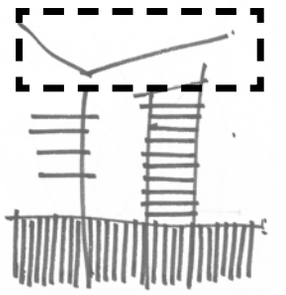


Fig. 6-181 Position of roof on parti diagram.

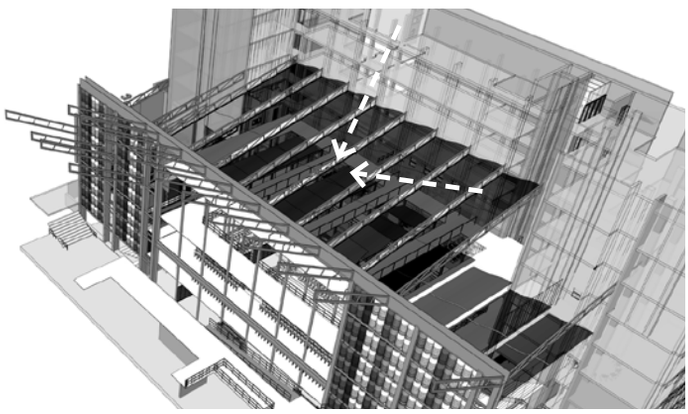


Fig. 6-180 Light filtering ceiling panels highlighted in dark. At this stage of the design, the aim was to explore a tensile system of larger S-panels. The decision was finally made to use a sturdy and durable material such as plywood that could be painted to reflect diffuse light into the central space during summer, and allow direct light to enter in winter.

Seasonal Lighting

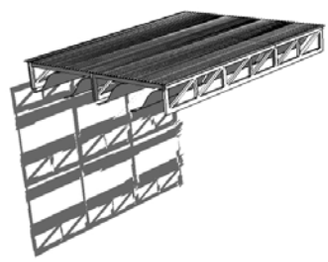


Fig. 6-177 Shadow cast by ceiling panels during winter solstice: 21 June. Angle of Incidence: 40.8°. Light is allowed to enter during the darker and colder periods of the year.

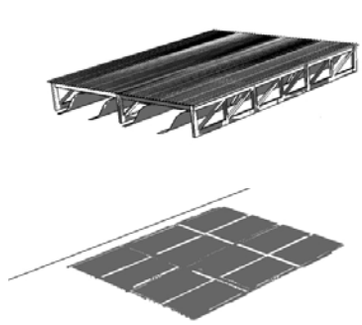


Fig. 6-178 Shadow cast by ceiling panels during summer solstice: 22 December. Angle of Incidence: 87.5°. Light is prevented from entering the main volume to excessive heating.

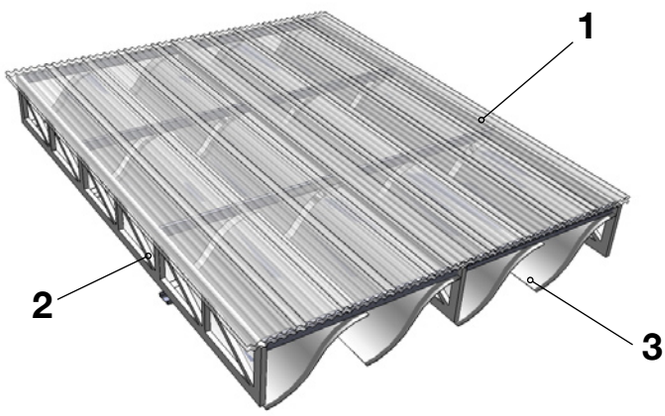


Fig. 6-179 Perspective of typical detail of a segment of the roof. (1) “Big six” translucent white polycarbonate (Opal 50) roof sheeting. A double layer is optional and useful for dampening impact noises caused by rain and hail; (2) Galvanised hot rolled steel truss; (3) 12 mm plywood ceiling panel formed into S-shape to control light.

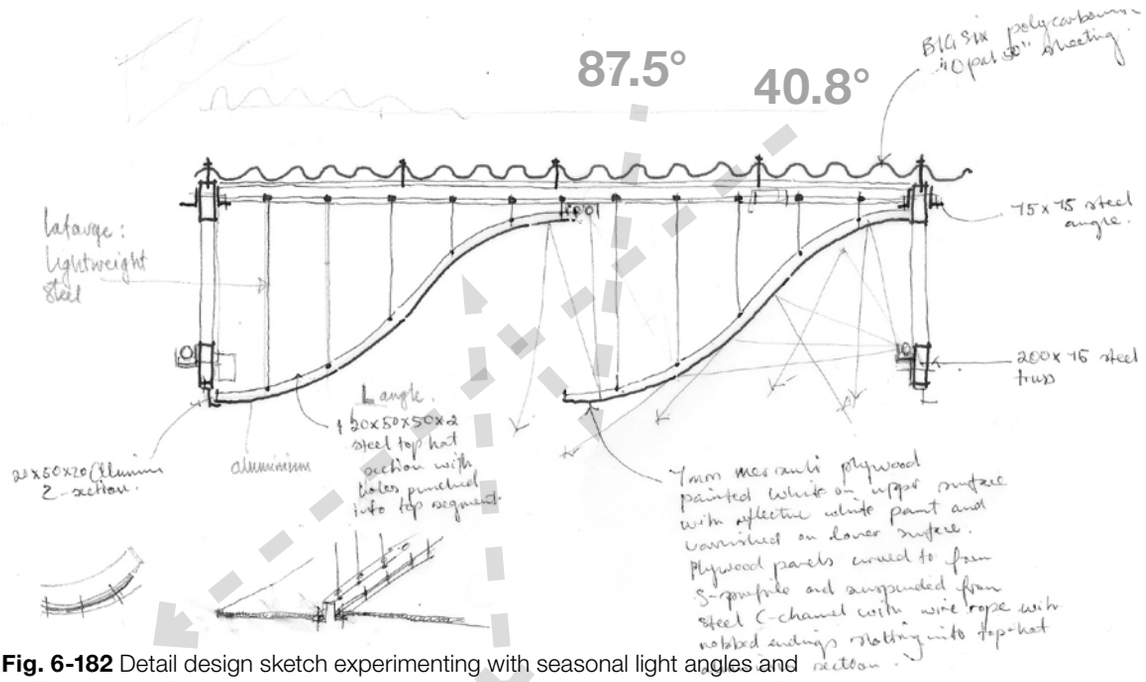


Fig. 6-182 Detail design sketch experimenting with seasonal light angles and profile shapes. Plywood panels are painted white on their upper sides to reflect direct light away during summer and create diffuse lighting.

The amount of light that enters the theatre volume is controlled via a retractable drape that moves across the theatre volume on rails. This facilitates the flexible use of the theatre, which at times needs to be blacked out completely for certain types of performances, e.g. shadow theatre. The greater proportion of this light enters through the overhead transparent polycarbonate roof, which mimics how other structures in the surrounding block deal with natural light.

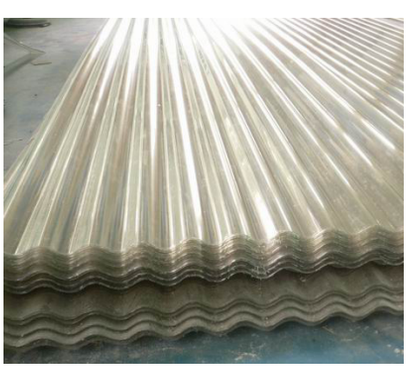


Fig. 6-186 Clear corrugated polycarbonate sheeting.

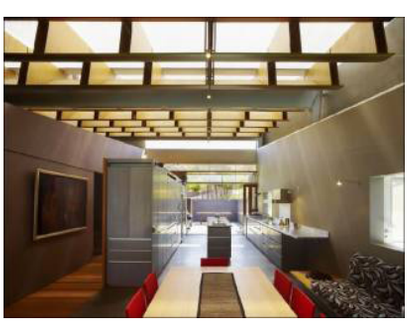


Fig. 6-183 Skylights in Peter Stutchbury's Outcrop House, Sydney, Australia. (Photo source: internet)

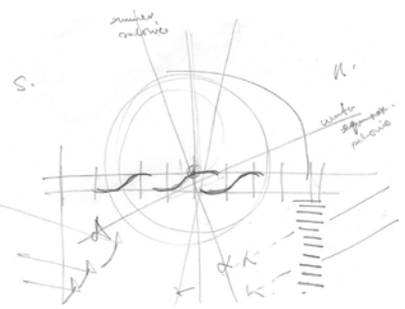


Fig. 6-185 Panel design sketch indicating sun angles and directions.

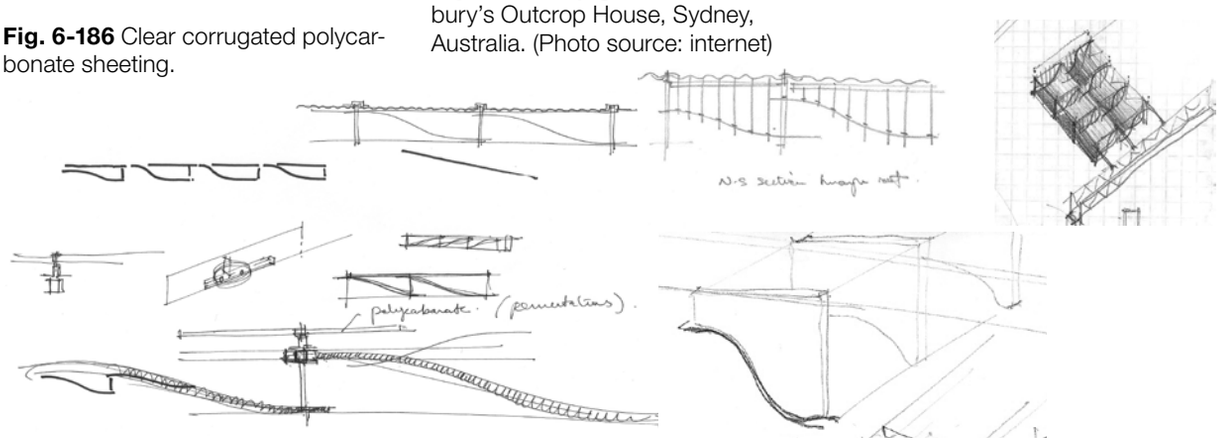


Fig. 6-184 Detail sketches of roof panel design.

6.5 Stage Lighting

6.5.1 Introduction

In response to the flat two-dimensional approach to stage lighting of the nineteenth century, Adolphe Appia proclaimed a new philosophy of stage lighting: Gestaltendes Licht. This was dramatic step forward that revolutionised stage lighting as a dynamic, three-dimensional "form revealing light", that could transmit to the audience the full emotion of the actors on the stage (Appia in Pilbrow, 1992:12).

Gestaltendes Licht brings into balance a dynamic interplay of two general lighting types: general indirect light, which Pilbrow likens to skylight or diffuse light, and directional light – analogous with sunlight (Pilbrow, 1992:12).

The interplay between these two types can be described in terms of colour, intensity distribution and movement, which in the right proportions can bring about effects demanded by the situation (ibid.).

Modern stage lighting aims to achieve the following four objectives that the lighting designer should always take into consideration when setting up:

- *Selective visibility* controls the ability of the audience to view the intended spectacle, and relates to the manner in which the objects of attention are illuminated to draw focus. Audience focus tends to be drawn to objects that are illuminated, as opposed to objects falling into shadow.

- *Revelation of form* implies the three-dimensional quality of modern day stage lighting, which does more than simply illuminate the stage. Rather, stage lighting involves a careful balance of light and shadow (shadow being the means by which three-dimensional objects are perceived in space).

- *Composition* involves how light is used to "paint" the stage, resulting in dramatic compositions and spectacular effects.

- *Mood* relates to how well the lighting designer is able to balance the first three properties to create a feeling or atmosphere that matches the content of the performance.

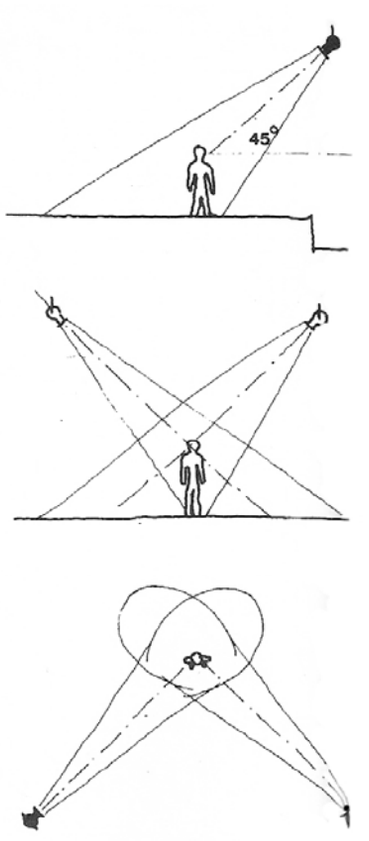


Fig. 6-187 Lighting the face of the actor. (Sketches by Richard Pilbrow).

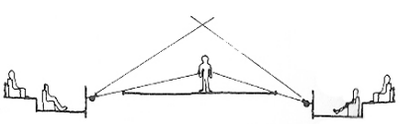


Fig. 6-188 Lighting the actor on a thrust stage using low-level lighting (Sketches by Richard Pilbrow).

6.5.2 Method of Stage Lighting

The objective of lighting is to reinforce the central idea or story of the performance, and to enable a perception of space around the actor in delivering the story (Pilbrow, 1992,30).
To efficiently light the acting area, a combination of multiple lights is necessary. Pilbrow has provided an outline of his personal approach to stage lighting:

1. *Dominant lighting:* this involves intentional lighting of the dramatic content on stage. In forum theatre, the lighting of actor's face is of primary importance.
2. *Lighting the acting area with secondary lights and rim-lights:* secondary lights provide the primary means of illuminating the acting area, especially when actors move out of the dominant zone. They tend to be complex in their arrangement and combine a wide variety of different lighting intensities, colours and distributions. Rim-lights are lights used to create dramatic effects, and are usually placed at the sides and rear of the actor. The further a source moves behind the actor, the more dramatic the effect and element of mystery become. Rim-lights will only be used in specific circumstances in the current project, because forum theatre generally focuses more on the content of the play and interaction with the audience, than on special effects and spectacles.
3. *Supplemetary acting areas*: these are areas that fall out of the general acting areas. In forum theatre, this could include audience seating areas. At times when actors exit the stage area to mingle amongst the audience , lighting will be required.

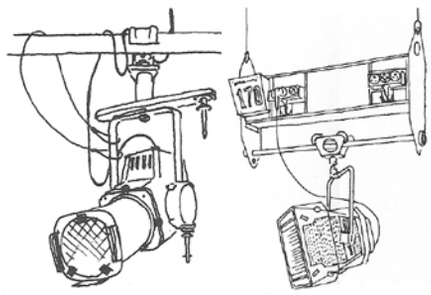


Fig. 6-189 Different attachment options: (left) A pole operated patt spot attached to a lighting boom; (right) A short TV-type spot bar. The aim is to lower these from the overhead technician decks (see image below). (Sketch by Richard Pilbrow.)

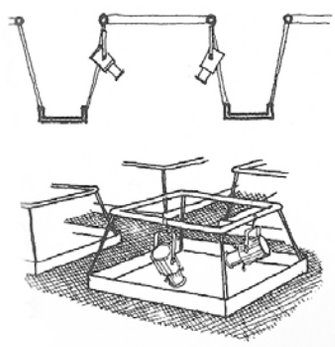


Fig. 6-190 Egg crate lighting grid. (Sketch by Richard Pilbrow.)

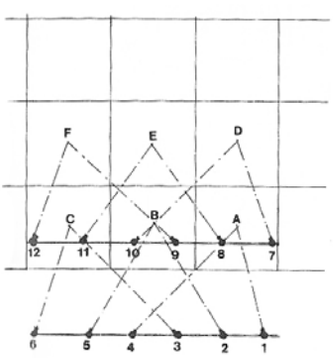


Fig. 6-192 Stage lighting of acting areas (Sketch by Richard Pilbrow).

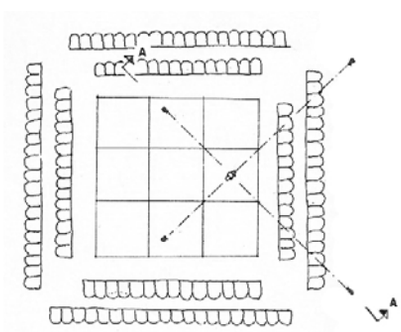


Fig. 6-191 Arena stage lighting (Sketch by Richard Pilbrow).

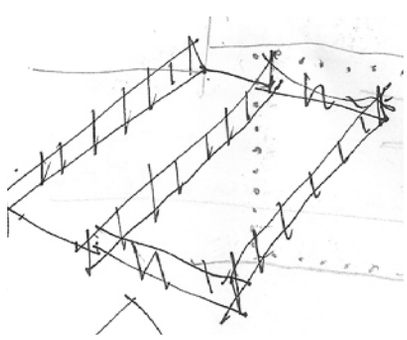


Fig. 6-193 The forum theatre utilises a similar concept for overhead access to lighting setups.

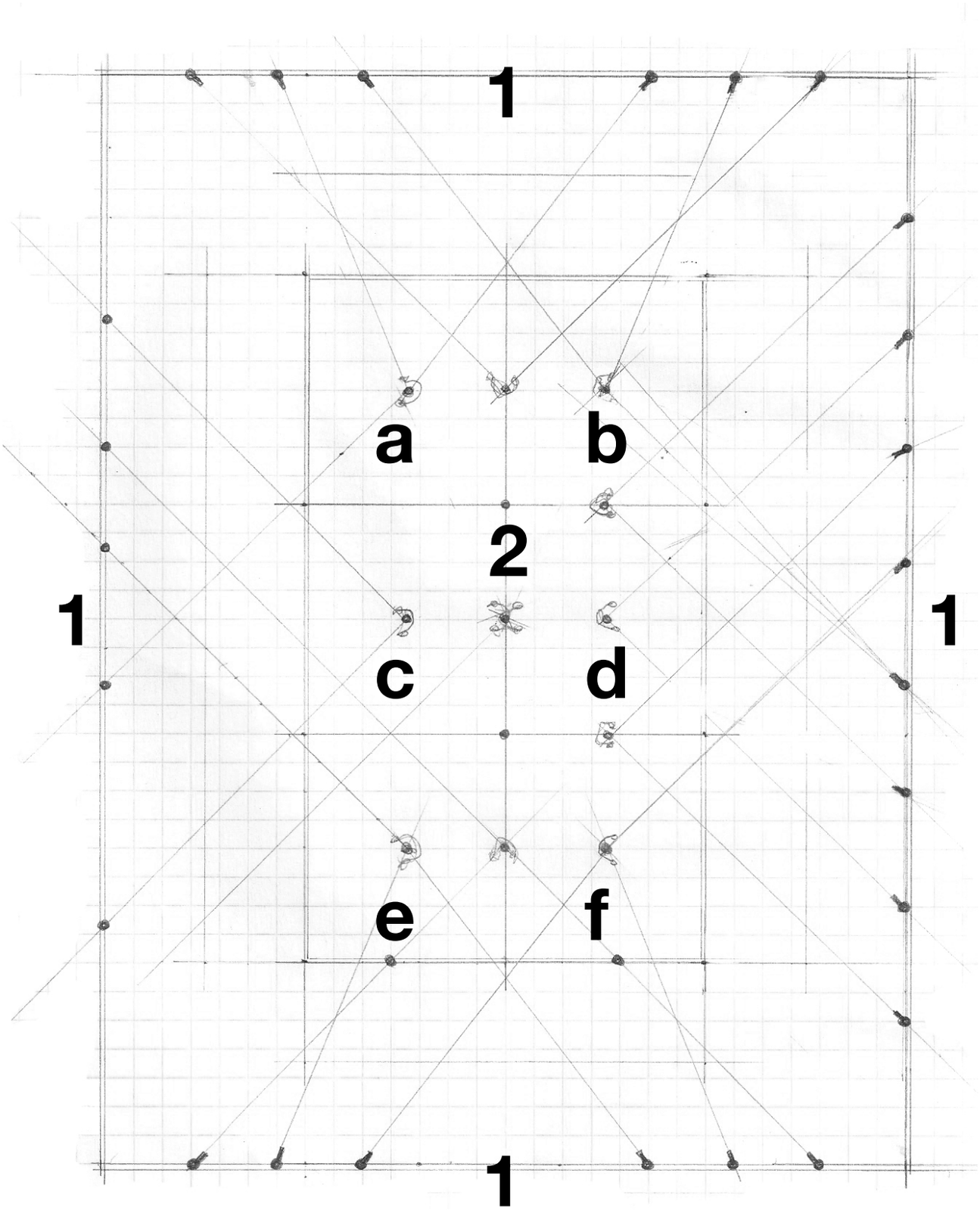


Fig. 6-194 The diagram illustrates how the method defined by Pilbrow has been used to position spotlights (1) to appropriately light the acting area (2). The main principle is to use a grid to divide the stage into smaller acting areas (a-f), which makes it easier to know where to locate the corresponding spotlights. The ideal angles for optimum actor lighting are 45° in the vertical plane and 45° in the horizontal plane. A minimum of two beams are required for adequate three-dimensional lighting.

6.5.3 Light Selection

The main consideration in the selection of stage light is the efficiency of the lantern model, and the intended use of the light. Modern developments in LED lighting technology have introduced models that incorporate greater functionality. Special lighting effects that previously relied on combinations of many different luminaire types can now be realised using individual, highly sophisticated LED units, with digital interfaces. The multi-functionality and efficiency of LEDs make them an appropriate choice in the context of the current demand for sustainable building solutions. LEDs form the sustainable component of the conventional stage lighting setup for this project.

The design makes the following recommendation for stage lighting:

- Spotlights: these form the static component of the theatre's dominant lighting, and will be placed in fixed locations. The lighting designer will control these from a central lighting control desk that is mobile. The project recommends the theatre use the following spotlight models: the *Philips Selecon "Arena" 4.5° – 60° PC Spotlight*, which offers crisp-edged beams and is intended for long-throw distances suited to the large volume of the theatre space; the *Philips Selecon "Rama" 175 HP 80V Fresnel Spotlight*, with a soft-edged beam and intended for medium-throw distances. These will be attached to overhead lighting booms and side gallery trusses. For colour spotlighting, a high output *Philips Selecon PL1 LED Luminaire* is recommended. This spotlight offers precise focus and mixable colour profiles without changes in intensity, which can be useful for creating dramatic stage effects.

- Follow spots: these form the dynamic component of the theatre's dominant lighting and can be moved to different locations. They are manually operated. A possible model could be the *Philips Selecon Pacific 7.5° – 19° Followspot*.

- LED colour wash and variable beam luminaires including tuneable whitewash will be used for both dominant and secondary lighting applications. A recommended model for colour washing is the *Philips Selecon PL RGB Floodlight*, which provides a wide variety of colours. For white washing, the design recommends the *Philips Selecon PL White Floodlight*, which offers different tones of temperature.

- HMI lights are used to mimic natural lighting in interior environments, and are typically chosen for TV and film lighting. For the purpose of delivering broadcast quality theatre, these lights will be used. Recommended lamp model: a high efficiency model such as the *Osram HMI 18000 W/SE/GX51*.

- Suspended LED house lights. This is a custom feature of the design and will provide centralised house lighting in the form of a suspended chandelier.

Fig. 6-195 Philips Selecon "Arena" 4.5° – 60° PC spotlight.

Fig. 6-196 Philips Selecon PL1 LED Luminaire.

Fig. 6-197 Philips Selecon Pacific 7.5° – 19° Followspot.

Fig. 6-198 Philips Selecon PL RGB Floodlight.

6.6 Ventilation

The main consideration for ventilation is the prevention of the build-up of excessive heat in the main theatre volume. The main process behind this build-up is the greenhouse effect, whereby material surfaces are heated up and radiate heat back into the space. This longer-wave radiation is unable to escape and creates an uncomfortable interior environment.

The near consistent shading of the site probably means that excessive heat build up will not pose a serious problem for this specific design. However, to prevent the build-up of excessive heat, the design relies on a process of passive ventilation to remove heated air from the theatre volume. This process combines the stack effect created by rising warm air, with the sloped inclination of the roof, to generate a thermal movement towards the top section of the volume, where an escape valve allows it to escape (see diagram).

The suction created by this process serves to remove stale air from the theatre volume, which would otherwise result in poor air quality. Fresh, ducted air supplied to outlets around the stage area and seating is drawn out, replacing the stale air above it.

The heat generated by the wide array of stage lighting also contributes to the heat stack effect. For instance, the average Fresnel spot lantern uses between 500 and 2000 Watts of electricity. A large percentage of this is lost as heat energy.

Lastly, the heat generated by theatre spectators will make a considerable contribution to the heat stack effect.

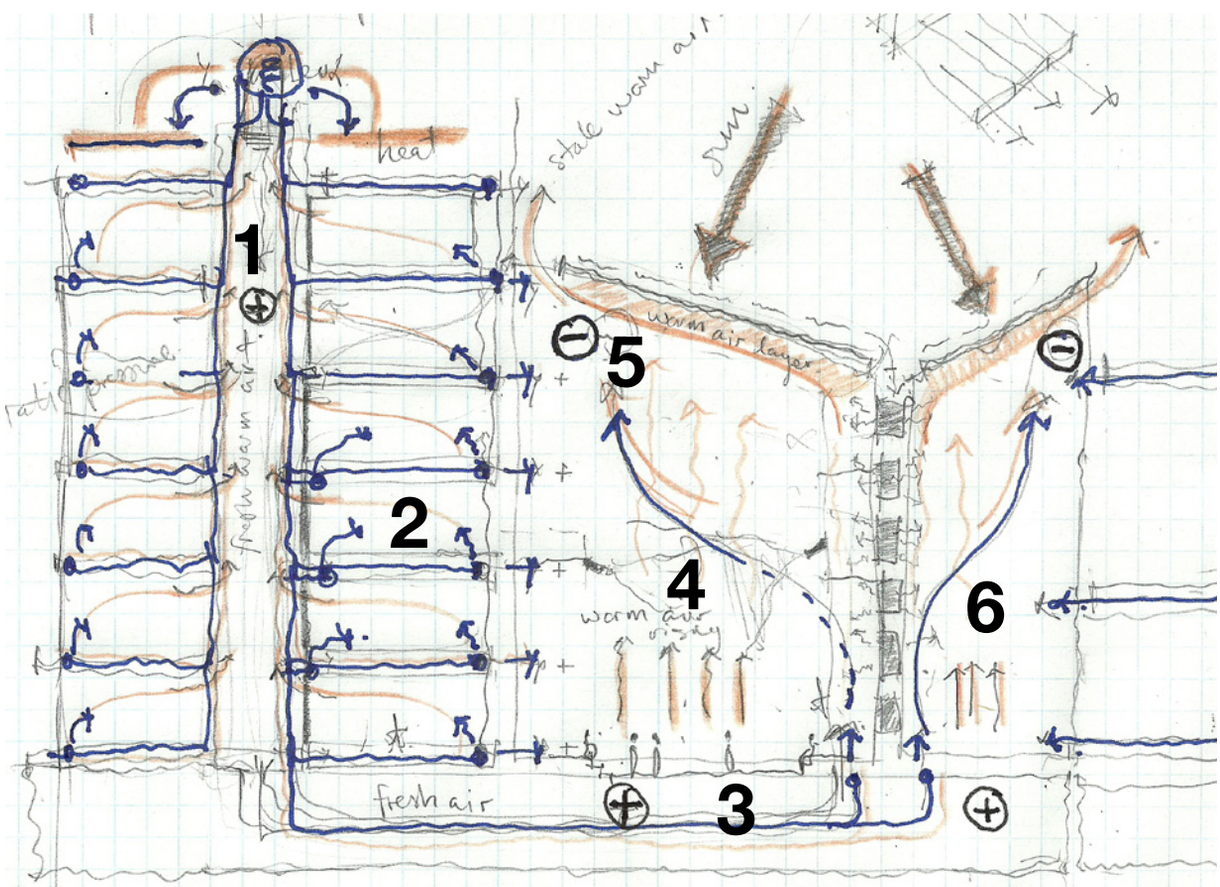


Fig. 6-199 VENTILATION CONCEPT SKETCH: cooled fresh air is vented under high pressure down the Govpret (1), into plenum floors with outlets on the Govpret facade (2) and into the basement level underneath the stage (3). The heat stack effect created by heat from solar radiation, electrical equipment and people (4), creates a negative pressure at the top end of the theatre volume (5). This pulls the fresh air out of the basement level and into the theatre. The same process serves to cool and ventilate the pedestrian corridor (6).

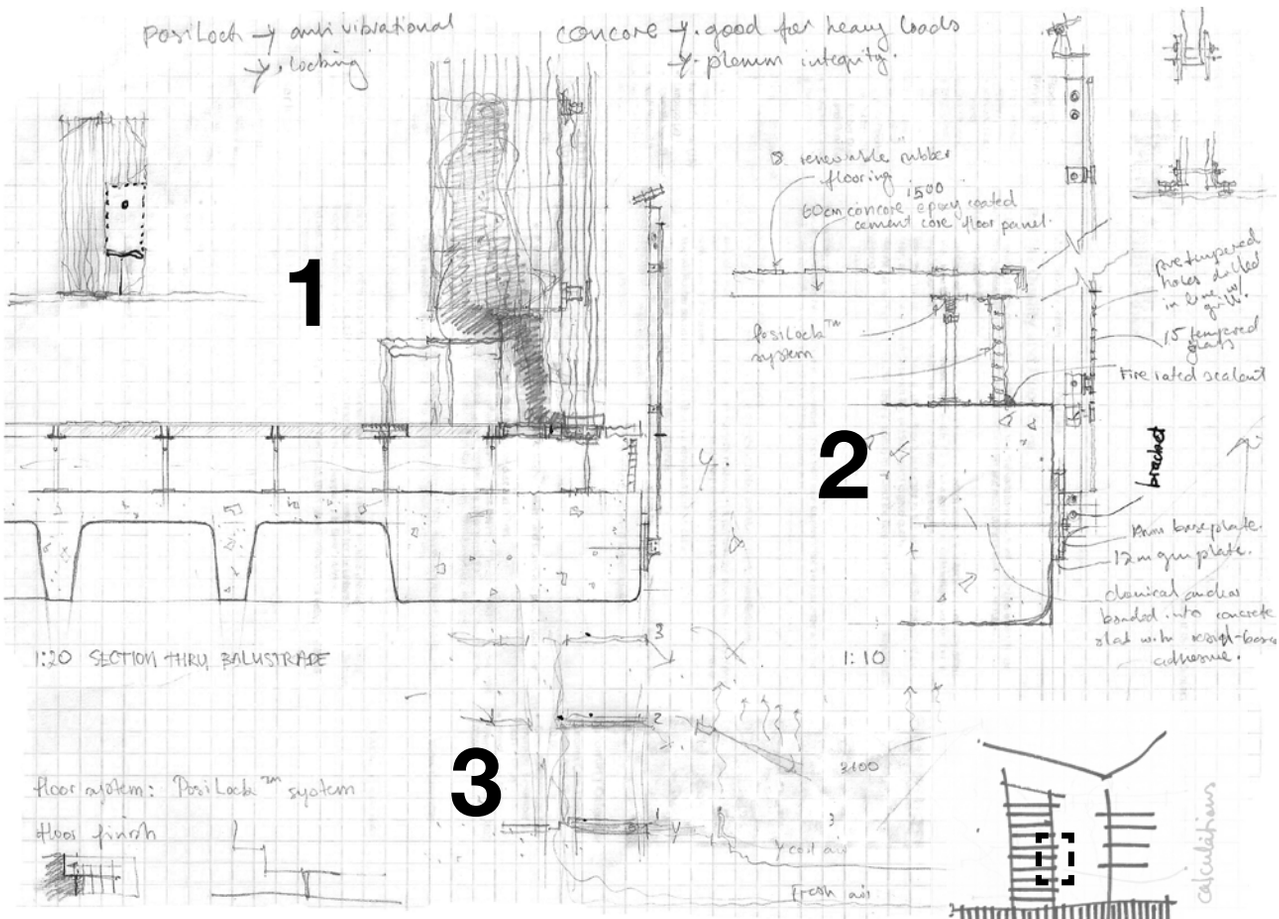


Fig. 6-201 Detail sketch of the portion of the theatre school/theatre interface showing elements of the proposed ventilation strategy: (1) Section through new plenum floor built on existing concrete slab, with adaptable seating and balustrade; (2) Close-up detail section of plenum floor outlet and balustrade; (3) Spatial heating and ventilation concept sketch.

Fig. 6-203 Position of detail on parti diagram

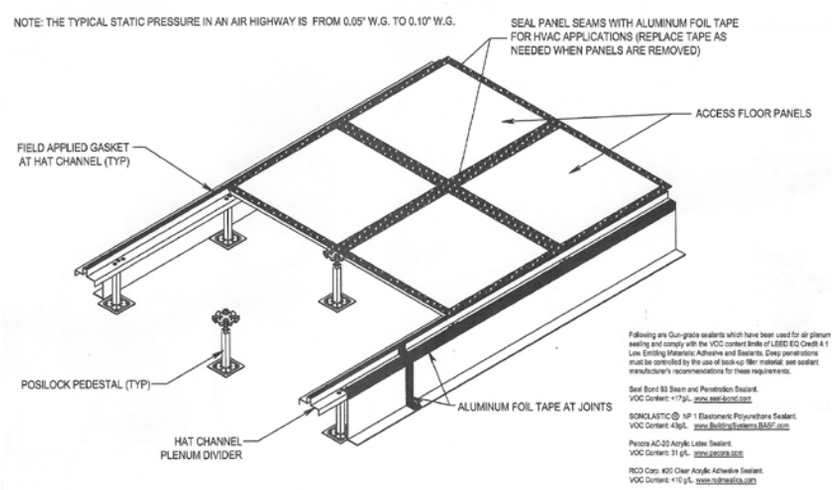


Fig. 6-200 Typical construction of a sealed posi-lock plenum floor that provides a static air highway between the theatre school light shaft and exterior interface.

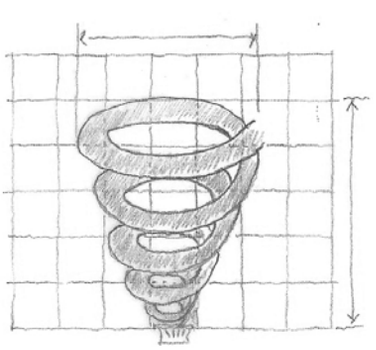


Fig. 6-202 Helix distribution pattern of fresh cool air from plenum floor outlet.

6.7 Rainwater harvesting

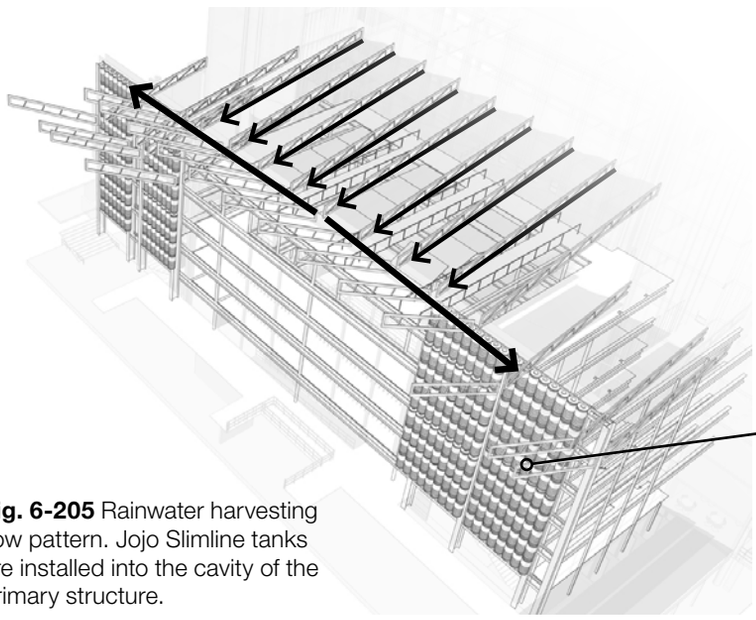


Fig. 6-205 Rainwater harvesting flow pattern. Jojo Slimline tanks are installed into the cavity of the primary structure.

Fig. 6-204 Jojo Slimline tank.

6.7.1 Rainwater Harvesting Calculations

Average monthly rainfall for Pretoria (mm):

January	122	July	10
February	106	August	10
March	91	September	21
April	33	October	60
May	22	November	117
June	6	December	117

(Source: http://www.climatetemp.info/south-africa/pretoria.html)

General Water consumption:
Sinks: 24L/person/day
Dishwashers: 8L/person/day
Basins: 5L/person/day
Showers: 56-80L/person/day
Toilets: 5x5L/person/day

Population to be served with rainwater:
Main theatre: 400 people (water needs: toilets in public bathrooms)
Studio theatre: 120 people (water needs: toilets in public bathrooms)
Vendors: 20 people (water needs: toilets in public bathrooms)

Daily consumption (toilet use) provided for:
400x5L= 2000L
120x5L = 600L
20x5L=100L
Total=2700L/day
=81000L/month

Rainwater availability:
runoff=A x (rainfall-B) x roof area
Vt=Vt-1 + runoff-demand

runoff jan= 0.85(122-2)x1215.5=123981
runoff feb=0.85(106-2)x1215.5=107450
runoff march=0.85(91-2)x1215.5=91953
runoff april=0.85(33-2)x1215.5=32028
runoff may =0.85(22-2)x1215.5=20664
runoff june=0.85(6-2)x1215.5=4133
runoff july=0.85(10-2)x1215.5=8265
runoff aug=0.85(10-2)x1215.5=8265
runoff sept=0.85(21-2)x1215.5=19630
runoff oct=0.85(60-2)x1215.5=59924
runoff nov=0.85(117-2)x1215.5=118815
runoff dec=0.85(117-2)x1215.5=118815

Vt nov=0+118815-81000=37815
Vt dec=37815+118815-81000=75630
Vt jan=75630+123981-81000=118611

Vt feb=118611+107450-81000=145061
Vt march=145061+91953-81000=156014
Vt april=156014+32028-81000=107042
Vt may=107042+20664-81000=46706
Vt june=46706+4133-81000=0

Rainwater supply is self sufficient for toilet water supply from November to May (7 of 12 months)
The rainwater supply is also adequate for the above 7 months to supply 9000L of water for fire protection purposes.

Between June and October the rainwater stores will have to be supplemented with the municipal water supply.

Fire protection water requirements (as per SABS 0400-1990 part TT37.4 & 37.5):
9000L water storage above building's highest level
1 portable fire extinguisher per 200sq m. Therefore 20 fire extinguishers required for 4000sq m.
(20x9L water-type extinguishers or 20x4.5kg dry chemical type)

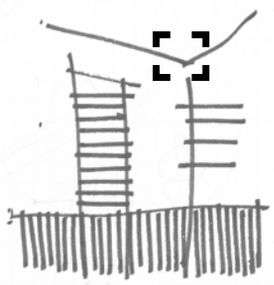


Fig. 6-207 Position of box gutter detail.

Fig. 6-206 Box gutter detail design sketches. The box-gutter lining is made from 0.58 galvanised steel lining on a 16mm supawood base nailed to 114x76 SA pine timber sections.

07

Addendum

7.1 Final Drawings

7.1.1 Section

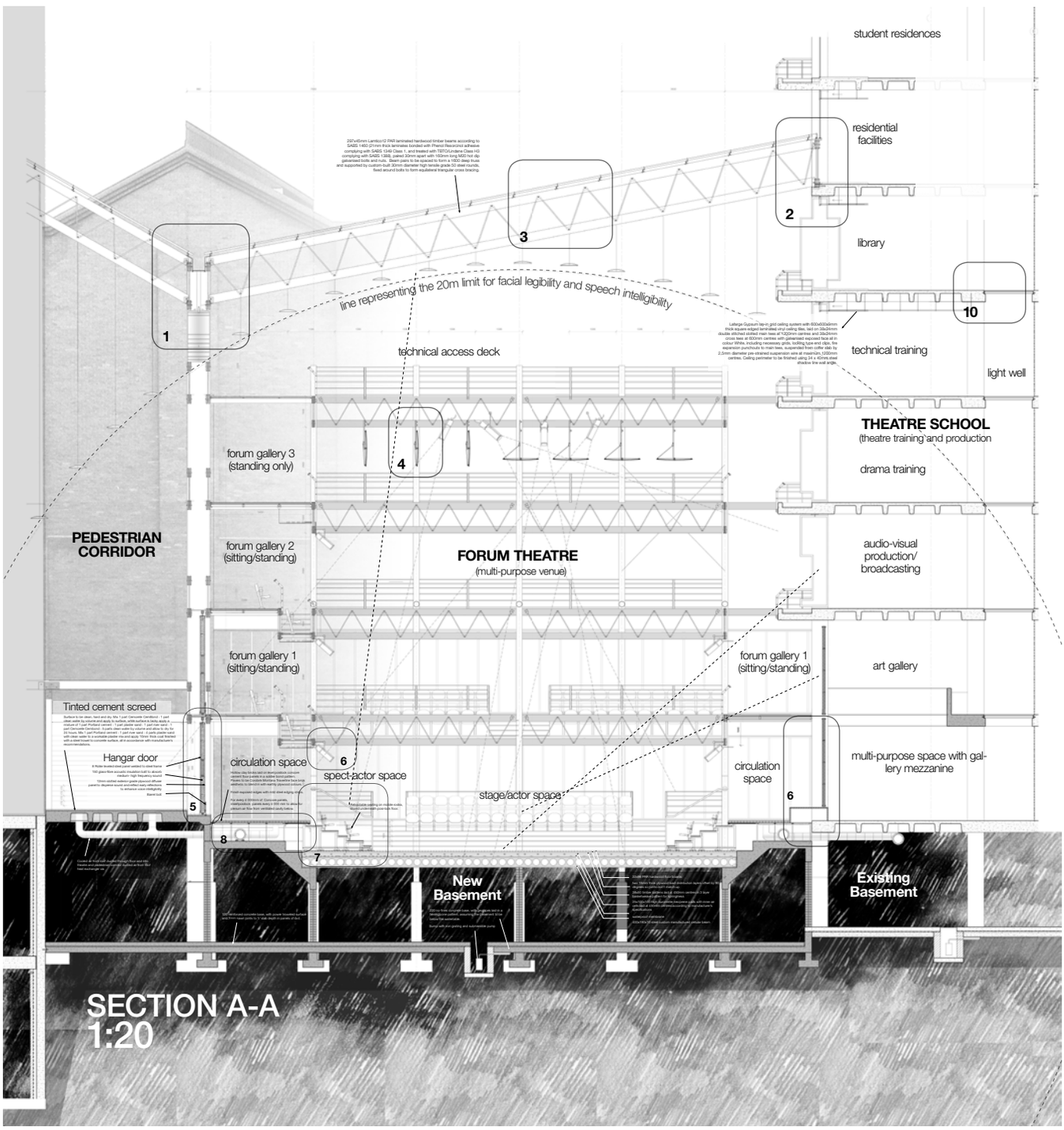


Fig. 7-208 SECTION A-A
SCALE 1:200

7.1.2 Box gutter detail

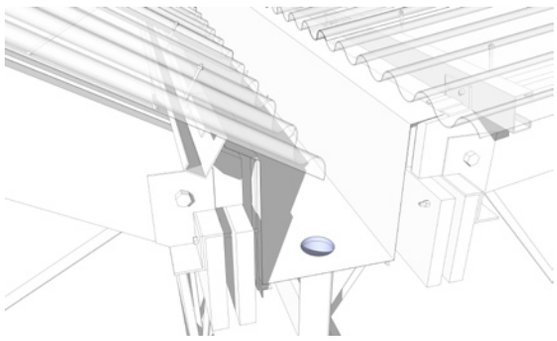


Fig. 7-209 Custom-made steel gutter and uPVC downpipe

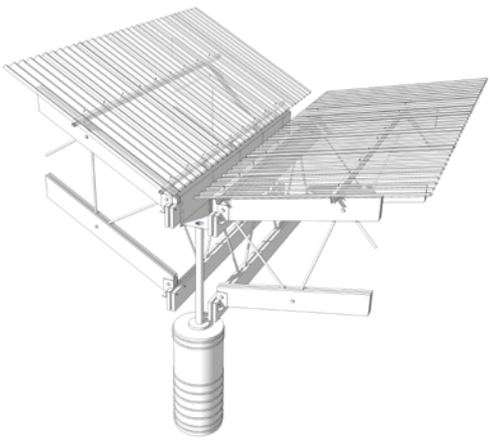


Fig. 7-210 View of Jojo slimline water tank

Hough Group big six profile 1.25mm thick clear polycarbonate translucent roof sheeting, fixed at a pitch of 10° and fastened to purlins according to SANS 10237 through crowns of the profile with 6mm diameter galvanized steel hook bolts, nuts and washers at 500 centres, and side stitched to adjacent sheet with minimum 250mm sealed end laps in continuous run pattern to steel purlins.

425x400x4mm purpose-made continuous hot-dip zinc-coated carbon steel gutter with 175mm edge folded over top of roof truss to form flashing, complying with SANS 3575/4998 class Z275.

Gutter to be fixed to 670x50x5mm purpose-formed flat bar brackets welded to 70x70x6mm mild steel equal angle across roof trusses at max 1000mm centres with M8 steel bolts and nuts.

Gutter to be laid on a 16mm supawood sub-base to a fall of 1:500 towards 110mm diameter downpipes, and secured with 30x30x3mm hot-rolled steel equal angles, bolted into pre-drilled holes in the flat bar brackets to correct depth with M8 steel bolts and nuts.

110mm diameter u-PVC downpipe fixed to bottom of gutter according to manufacturer's specifications and according to SANS11, and fitted with 40mm diameter u-PVC feeder pipes to connect with 40mm diameter inlet of Jojo tank

Custom welded 360mm long z-profile and gusset plate (composed of two 100x75x6 hot-rolled steel angles welded to custom-cut 5mm steel plate gusset) to be fixed to horizontal truss laminated beam with 180mm long M10 hot dip galvanised bolts and nuts on either side of the roof truss position, and through gusset plate through roof truss with 180mm long M20 hot dip galvanised bolts and nuts.

297x45mm Lamtico12 PAR laminated hardwood timber beams according to SABS 1460 (21mm thick laminates bonded with Phenol Resorcinol adhesive complying with SABS 1349 Class 1, and treated with TBTO/Lindane Class H3 complying with SABS 1388), paired 30mm apart with 160mm long M20 hot dip galvanised bolts and nuts. Beam pairs to be spaced to form a 1600 deep truss and supported by custom-built 30mm diameter high tensile grade 50 steel rounds, fixed around bolts to form equilateral triangular cross bracing.

1800mm high 750mm diameter Jojo Slimline 750 litre rainwater collection tank. Tank pre-fitted with 40mm diameter outlet for flow to lower tanks, as per supplier's recommendations.

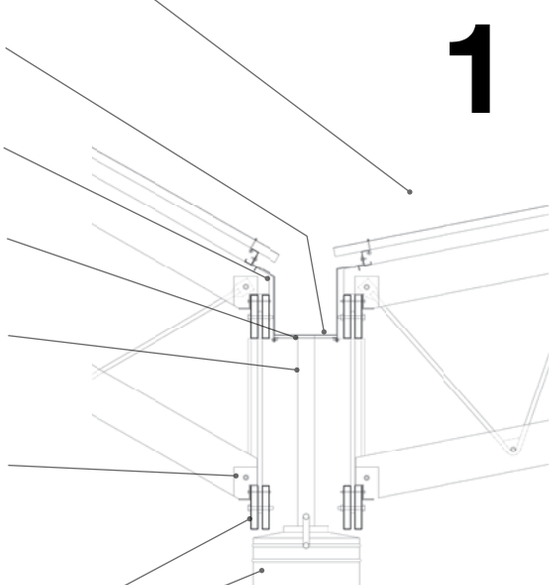


Fig. 7-211 Detail of box gutter to truss connection

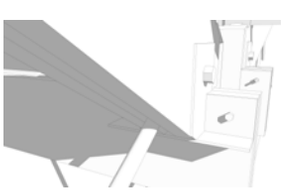


Fig. 7-212 Steel angle truss connection

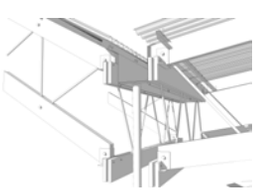


Fig. 7-213 View showing uPVC downpipe

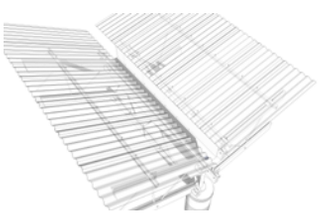


Fig. 7-214 View of transparent sheeting

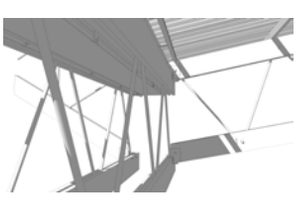


Fig. 7-215 View of laminated and steel round truss from below

7.1.3 Roof-to-existing column connection detail

2

Existing concrete columns to be protected during all construction work and any damage made good.

Existing standard steel floor to ceiling window and door frame. Existing 310mm high steel frame fanlight adapted for new suspended ceiling ventilation system outlet. Existing steel door removed.

Lafarge Gypsum lay-in grid ceiling system with 600x600x9mm thick square edged laminated vinyl ceiling tiles, laid on 38x24mm double stitched slotted main tees at 1200mm centres and 38x24mm cross tees at 600mm centres with galvanised exposed face all in colour White, including necessary grids, locking type end clips, fire expansion punchouts to main tees, suspended from coffer slab by 2,5mm diameter pre-strained suspension wire at maximum 1200mm centres. Ceiling perimeter to be finished using 34 x 40mm steel shadow line wall angle.

New standard steel frame top hung window fixed to standard steel mullion profile below fanlight.

1.25mm thick clear polycarbonate flashing fixed min 175mm over edge of roof sheeting and taken to inside leaf of new standard steel window frame. Custom-built PAR timber sill to finish off flashing connection

297x45mm Lamtico12 PAR laminated hardwood timber beams according to SABS 1460 (21mm thick laminates bonded with Phenol Resorcinol adhesive complying with SABS 1349 Class 1, and treated with TBTO/Lindane Class H3 complying with SABS 1388), paired 30mm apart with 160mm long M20 hot dip galvanised bolts and nuts. Beam pairs to be spaced to form a 1600 deep truss and supported by custom-built 30mm diameter high tensile grade 50 steel rounds, fixed around bolts to form equilateral triangular cross bracing.

Roof truss fixed to 6mm thick custom-cut steel plate and angle, bolted into horizontal truss on either side of the roof truss connection with 150mm long M10 hot-dip galvanised bolts and nuts.

Horizontal truss lower laminated beam fixed to 200x200x16mm hot-rolled steel equal angles at either end of roof truss connections with 175mm long M20 hot dip galvanised bolts and nuts. Steel angle to be fixed to existing concrete slab with 345mm long 20mm diameter chemical anchor. Space between top and bottom beams of horizontal truss to be fitted with two 16mm thick exterior grade meranti faced plywood layers with cavity batts in between.

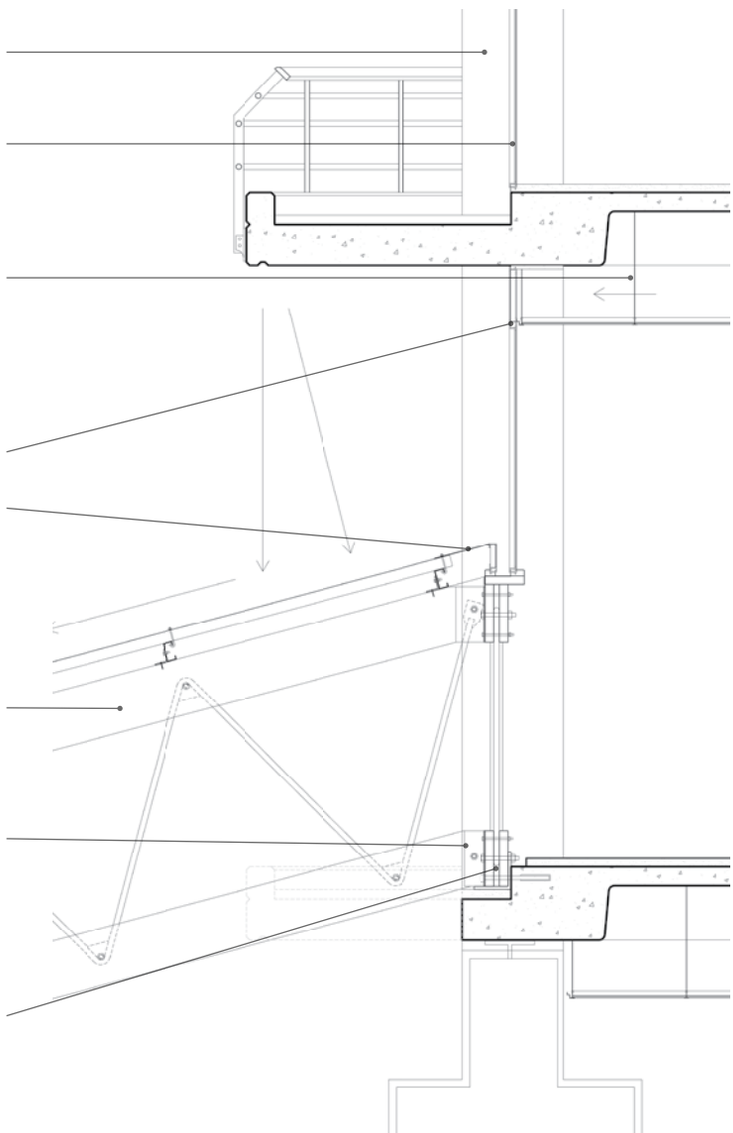


Fig. 7-216 Detail of truss connection to existing concrete column

7.1.4 Reflective plywood roof panels

3

Hough Group big six profile 1.25mm thick clear polycarbonate translucent roof sheeting, fixed at a pitch of 10° and fastened to purlins according to SANS 10237 through crowns of the profile with 6mm diameter galvanized steel hook bolts, nuts and washers at 500 centres, and side stitched to adjacent sheet with minimum 250mm sealed end laps in continuous run pattern to steel purlins.

70x70x6mm mild steel equal angle fixed to top of truss with 38mm long 3.5 diameter steel self-tapping screws to support 100x50x20x3mm cold-formed lipped channel purlins at 1500mm centres, fixed to equal angle with M8 steel bolts.

297x45mm Lamtico12 PAR laminated hardwood timber beams according to SABS 1460 (21mm thick laminates bonded with Phenol Resorcinol adhesive complying with SABS 1349 Class 1, and treated with TBTO/Lindane Class H3 complying with SABS 1388), paired 30mm apart with 160mm long M20 hot dip galvanised bolts and nuts. Beam pairs to be spaced to form a 1600 deep truss and supported by custom-built 30mm diameter high tensile grade 50 steel rounds, fixed around bolts to form equilateral triangular cross bracing.

2440x1220x12mm thick exterior grade meranti faced plywood (to comply with SANS 929) panel, pre-shaped to custom s-profile curve lower surface of plywood finished with 3 coats polyurethane varnish (complying with SANS 887 part 2)
upper surface of plywood covered with Isover Factorylite 50mm thick non-combustible flexible lightweight industrial fibreglass roof insulation with white metalized foil facing up to reflect direct light and heat out of the building.
Plywood and insulation fixed into custom-bent Lafarge 38x24mm galvanised steel main tee profile frame with steel Wafer Tek screws according to steel system supplier
Straight ends of panels finished off with Lafarge lightweight steel 75x50x2.5mm angles fixed to main tee profile with steel Wafer Tek screws
panel frames suspended by 2.5mm diameter pre-strained galvanised steel suspension wires at 300mm centres (to fit into Lafarge pre-cut slots) and twisted around themselves min 3 times before trimming acc. to manufacturer's specifications.

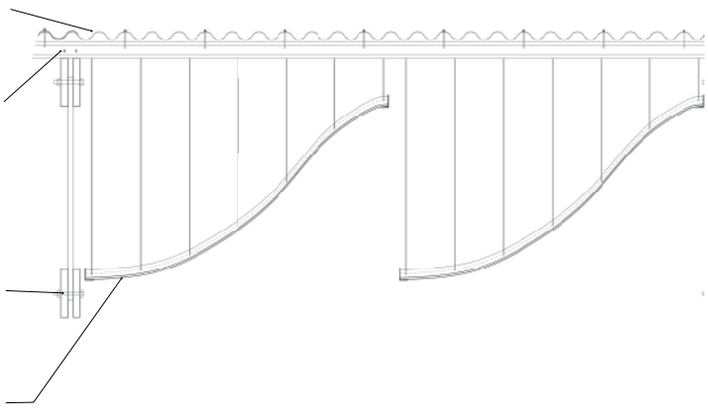
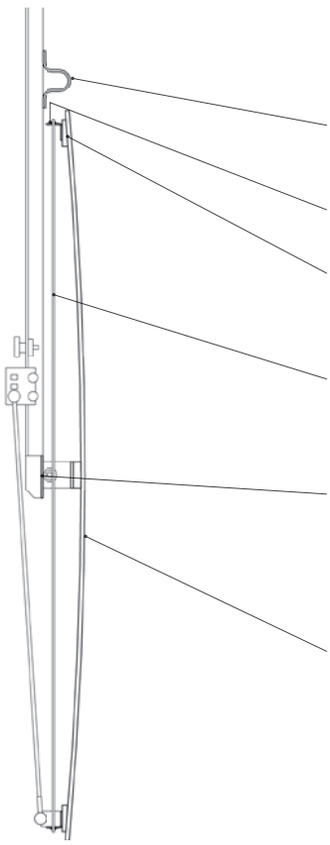


Fig. 7-217 Detail of light panels through roof perpendicular to slope

4



7.1.5 Roof-to-existing column connection detail

Each panel unit to be suspended by fixing to 50x50x3mm hot-rolled steel hollow section booms extended from the structural truss.

50x50x2mm lightweight steel angles screwed to timber blocks with 16mm long 3.2mm diameter steel roundhead woodscrews at 400mm centres.

Panel to be fixed with 25mm long steel drywall screws at 250mm centres to 2440x75x25mm pine timber strips custom-planed to fit curve.

10mm diameter high tensile steel threaded rods at 600mm centres fitted through opposite equal angles with 10mm diameter friction grip nuts according to SABS 1282 to provide stabilized tension to the curved panels.

Custom-made 50x50x2mm lightweight steel angle hinged framework constructed according to acoustic manufacturer's specifications, to be fixed to 600x75x25mm timber block (as per panel-steel angle joint), to allow the panel to swivel to correct acoustic angles for a wide variety of performances and their unique acoustic requirements.

2440x1220x12mm exterior grade meranti faced plywood complying with SANS 929 bowed along shorter direction to optimal acoustic reflection shape off-site according to acoustic manufacturer's specifications.

Fig. 7-218 Rotating acoustic panel in vertical orientation

7.1.6 Detail of adapted hangar door

5

Hot-rolled steel ball race wheel & 3mm thick cold-formed galvanized steel top track fixed to custom-made 16mm thick hot-rolled steel channel to be bolted to centre of trusses on either side with M20 hot dip galvanized steel bolts and nuts.

180x70x7mm hot-rolled steel channel top cap

125x50x20x3mm cold-formed steel lipped channel fixed between steel channel caps at max 670mm centres

102 thick Isover CavityBatt self-supporting glasswool insulation sheets fitted between channels

12.7 thick gypsum board fixed to channels with drywall screws at 200mm centres to provide insulation around hangar door structure

6 thick exterior grade slotted plywood fixed to gypsum board with drywall screws at 400 centres to contribute to sound absorbtion between theatre space and circulation space

WINDOW CONSTRUCTION
75x40x3mm cold-formed steel channel screwed to lipped channel
two 6mm thick sheets of laminated safety glass fixed into channel with 6mm double-sided adhesive tape at the side and 6x200 long pvc setting blocks along the bottom according to glass supplier.
Glass to be separated at either end with a dessicant-filled spacer according to manufacturer and finished at the ends with a silicone secondary seal.
Outer edges of glass-channel connection to be finished with a min 8mm thick silicon sealang

Pre-manufactured steel bottom rollers fixed to steel channel bottom cap to fit into 50x10mm custom-cut hot-rolled steel flat bar track cast into concrete floor slab
Upper hangar door track cast into concrete set in custom-made 7mm thick hot-rolled steel channel fixed to top of channel.

Barrel bolt

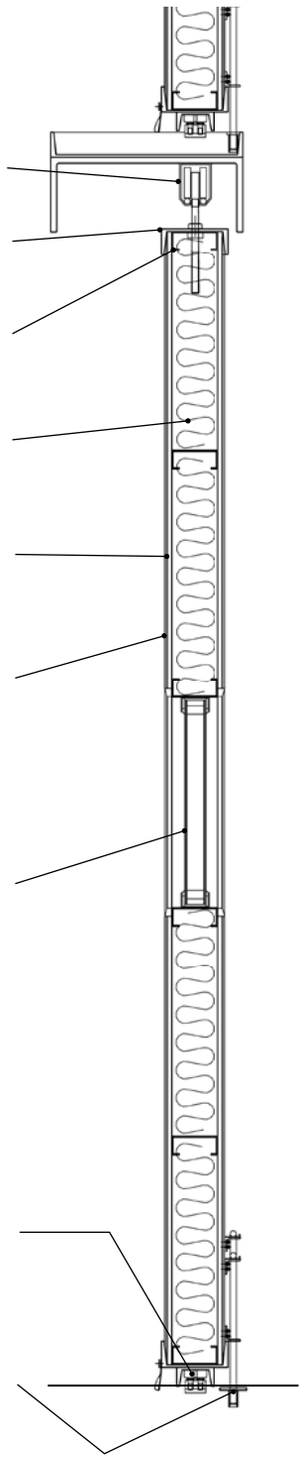


Fig. 7-219 Detail of adapted hangar door

6 **See page 133**

7.1.7 Detail of mobile retractable seating

Khanda custom-made retractable rollback seating system with automatic locking levels and patented Irwin Seating Company 120V Integral Drive System in 75x50x3 steel channel casing fixed to underside of lowest level frame.

Walkable deck formed by 16mm exterior grade meranti-faced plywood screwed to top of steel frames

Level-supporting frames built of 50x50x3mm hot-rolled steel square hollow sections welded as per seating manufacturer's specifications and offset from one another to roll side by side when stored. Top and bottom rolling connections consist of steel cable guides fitted through drilled 50x50x3mm steel equal angles welded to the frame and bottom wheel channels, and nylon rollers that prevent metal-to-metal contact, as per seating manufacturer's specifications.

50x50x3mm steel equal angles are bolted diagonally across the longer span of the frames to provide cross-bracing as per manufacturer.

75x50x3mm steel wheel channels containing lockable wheel system, welded to bottom of supporting frames.

Custom-made folding seats are fixed above walkable deck with hinged connections according to manufacturer, to 120x60x3mm steel rectangular hollow sections forming the rear riser beams.

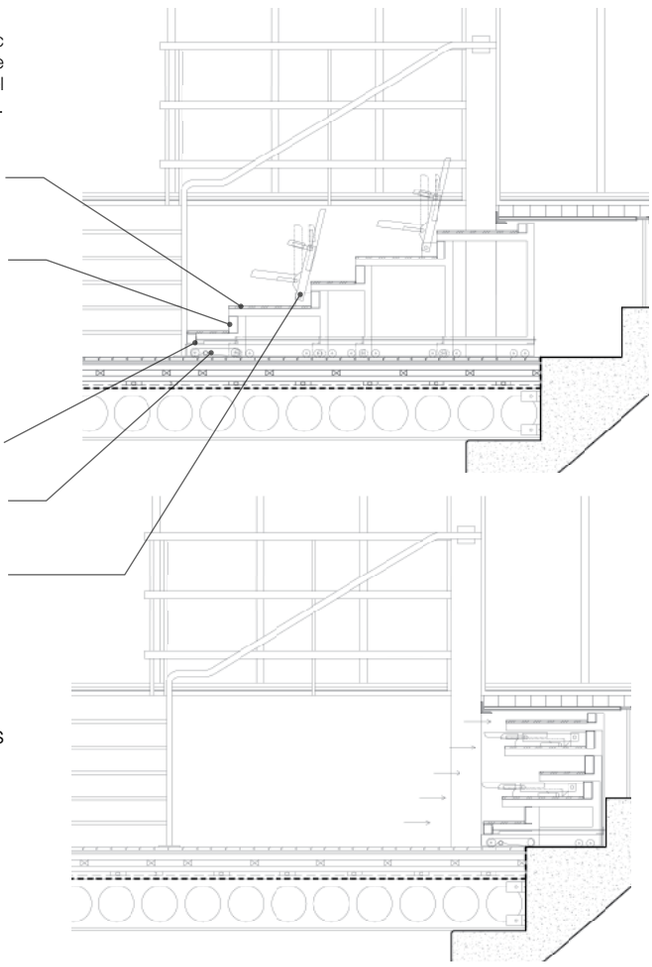


Fig. 7-220 Detail of retractable seating in two positions

7

7.1.8 Detail of mobile retractable seating

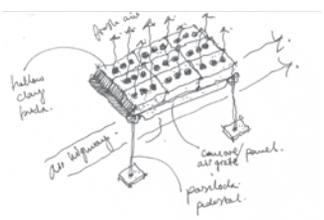


Fig. 7-222 Ventilation concept sketch: movement of fresh air through floors surrounding theatre

8

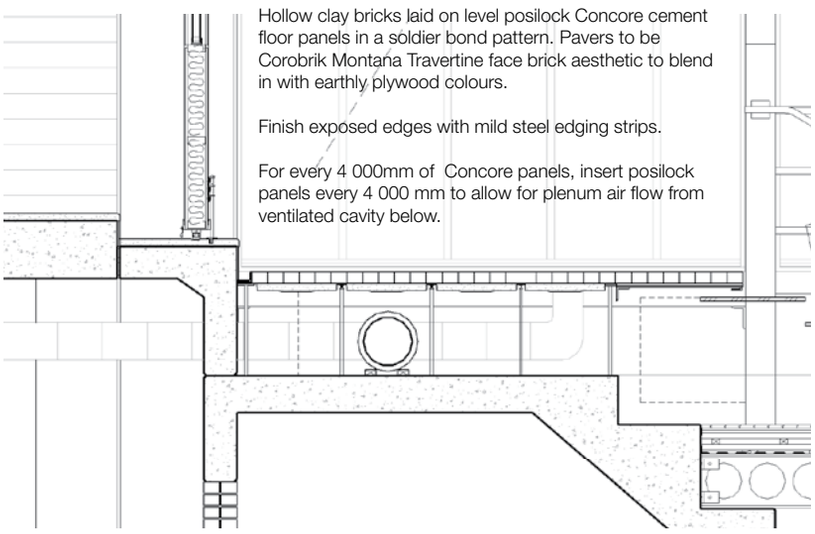


Fig. 7-221 Detail through ventilated floor system

7.1.9 Detail plan of rotating acoustic side panels

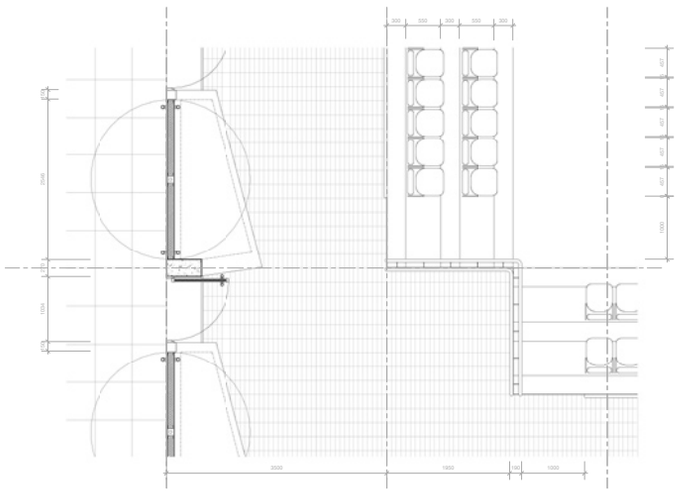


Fig. 7-223 Detail floor plan of rotating acoustic facade panels

9

7.1.10 Detail of new glass flooring

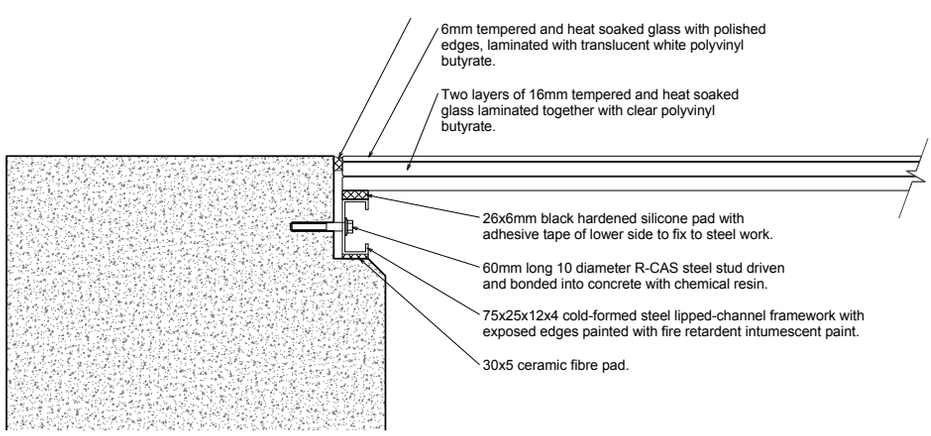


Fig. 7-224 Detail of glass floor installation

10

7.1.11 Ground Floor Plan

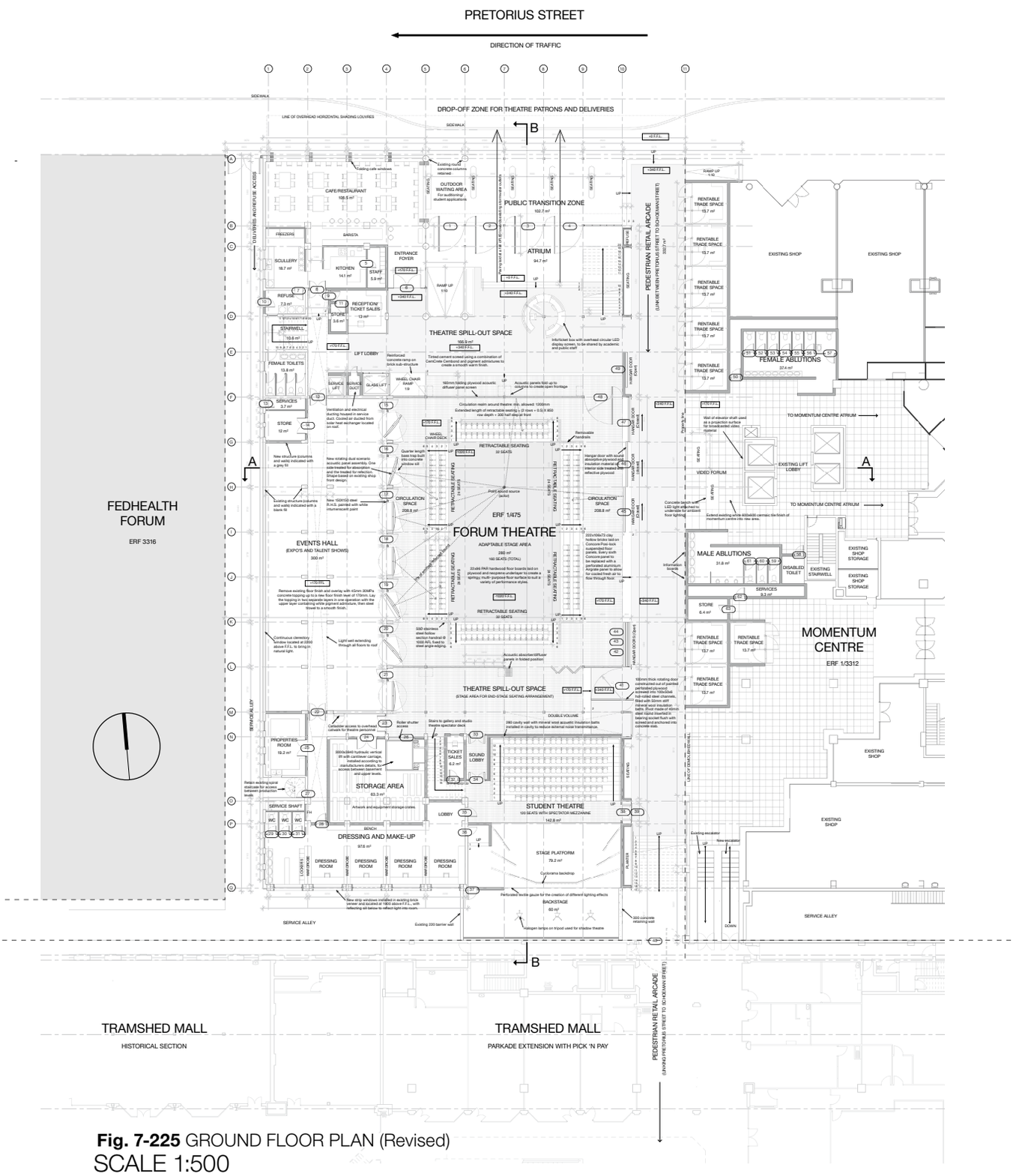


Fig. 7-225 GROUND FLOOR PLAN (Revised)
SCALE 1:500

08

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