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edge dialogue

reactivating dialogue between the building edges and the public space in an arcade

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make sure that you treat the edge of the building as a "thing",

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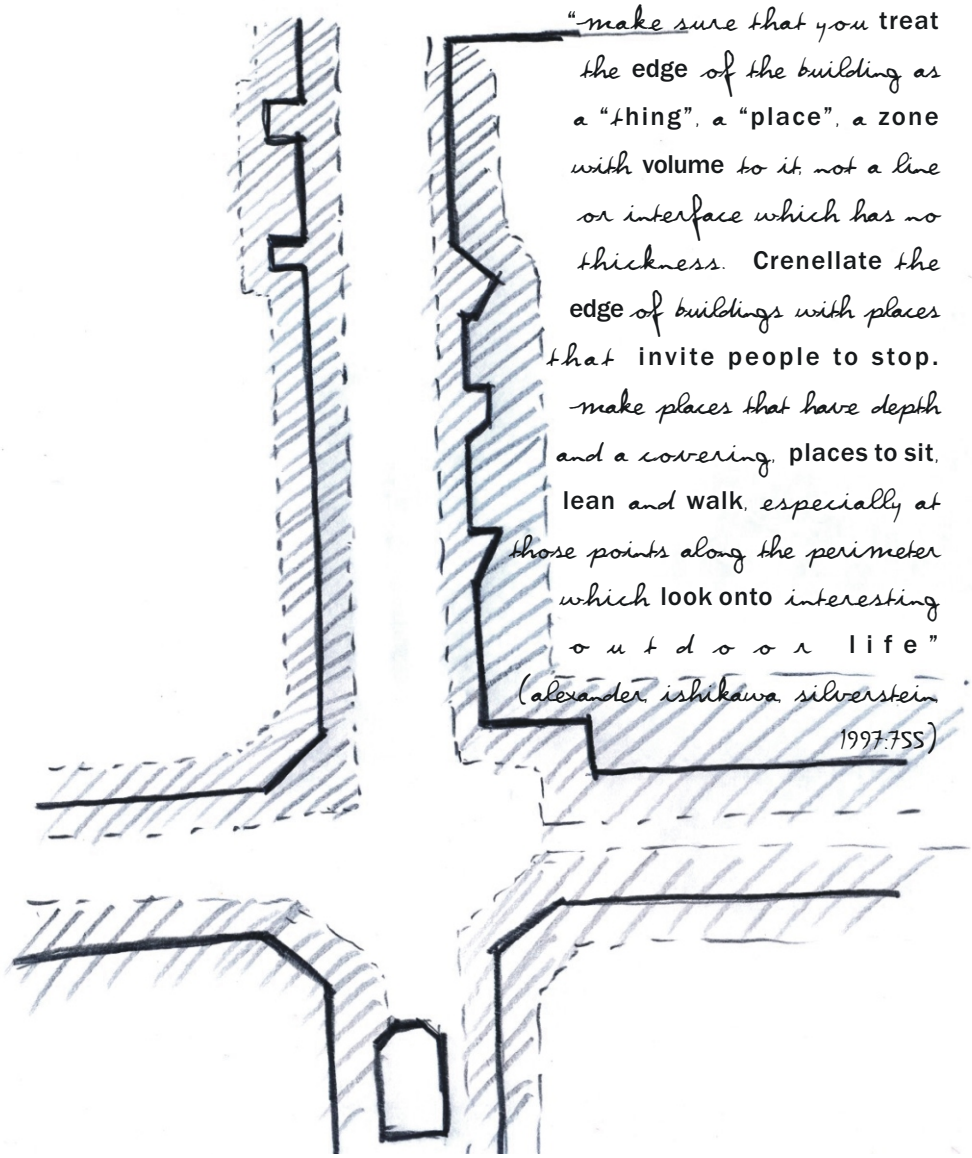

"make sure that you treat the edge of the building as a "thing", a "place", a zone with volume to it, not a line or interface which has no thickness. Crenellate the edge of buildings with places that invite people to stop. make places that have depth and a covering, places to sit, lean and walk, especially at those points along the perimeter which look onto interesting outdoor life"
(alexander, ishikawa, silverstein 1997:755)

has no thickness to it Crenellate the edge of buildings with place

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abstract

The focus of this thesis will be the active dialogue between the visual storefront/building edge and the adjacent public space. The study will investigate how the design of the visual storefront edge influences the city dweller's experience of the public spaces around it. The treatment of this edge can re-establish a sense of place, previously lost, and if the edge has a strong sense of identity, it can help to orientate the dweller within the urban fabric. This treatment also functions the other way around. A public space that satisfies the city dweller's social needs and in which the dweller feels comfortable can make them more aware of the edges surrounding them.

David Adjaye (Moore 2004:6) states that good shops give you the desire to be in them. His approach is all about the building's engagement with the public realm and creating a civic space where the passer-by can wander and explore.

"A boundary is not that at which something stops, but as the Greeks recognized, the boundary is that from which something begins its presencing" (Heidegger as cited by Norberg-Schulz 1980:13)

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fig 7.69 Osram Tungsten Halogen. Internet: http://www.osram.co.za. Access: 16 September 2009.
fig 7.70 LUMILUX SPLIT HE. Internet: http://www.osram.co.za. Access: 16 September 2009.
fig 7.71 Display case with LUMILUX SPLIT HE. Internet: http://www.osram.co.za. Access: 16 September 2009.
fig 7.72 LUMILUX SPLIT FM. Internet: http://www.osram.co.za. Access: 16 September 2009.
fig 7.73 Section showing lighting
fig 7.74 LUMILUX T8. Internet: http://www.osram.co.za. Access: 16 September 2009.
fig 7.75 Lighting effect of ceiling, PAUL SMITH store, Milan, Italy, 2001, Hanisch, R. 2006. p.59.
fig 7.76 3Form varia line, used throughout design
fig 7.77 3Form counter with lighting behind, KKE Architects Inc., Minnesota, USA. Internet: http://www.3form.eu/Browse-portfolio.php?name=Masa+Restaurant&instid=285&page=5&limit=50&sort=newest. Access: 10 October 2009.
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glossary

ACTIVE EDGE: edges that are not closed up, there is a strong visual connection between interior and exterior.

BUILDING EDGE: boundary between public and private; the edge of a space. The building edge divides the interior private space from the exterior public space.

EDGE: when the word 'edge' is used in this document it refers to the building edge as well as storefront.

EDGE EFFECT: the preferred areas for staying are found to be along the edges of spaces, this effect is called the 'edge effect' by the sociologist Derk de Jong.

LESS ACTIVE EDGE: an edge where there is a weak visual connection between the interior and exterior, for instance small window openings instead of a large, clear glass front. There is greater opportunity for staying along this edge.

LINGER: to delay or prolong departure; to spend a long time doing something.

SEMI-PRIVATE POINT: a point from which dwellers can watch the surrounding activity but are hidden so they do not feel as if they too are being watched.

SOCIAL SPOT: points where city dwellers socially interact with each other.

STAYING: to remain in a place or condition; to reside temporarily.

STAYING ZONE: points where people prefer to stay.

STOREFRONT: the building edge of a retail store, where it is advantageous to have a large space adjacent to the public realm for the display of goods.

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01

introduction

Interior architecture realm
Overview and Context
Methodology
Assessment criteria
Experiment
Design Intention

interior architecture realm

> Interior architects are not just concerned with the design of surface and appearance - the ephemeral, frail and convertible - but through their work they control shape, space, services and identity to reflect the needs and innumerable faces of twenty-first century society (Hudson 2007:7).

While architectural projects unfold over an extended period of time and are more concerned with the experience of the building within a wider city context, interior architecture affects our lives on a more intimate level. The spaces we inhabit are physically close to us; they shape our lives and are capable of determining behaviour patterns. The realm of interior architecture lends itself more to adapting to the spirit of the time and experimentation with materials and ideas, because of the shorter life span of its projects (Hudson 2007:6).

The building's edge, which divides interior space from the exterior public space, is often treated as a separate entity. The architect punctures walls with large windows that define the storefront. The interior architect designs the layout and shop fitting of the interior space, while the exterior public space is the responsibility of the urban designer. As a result, little consideration is often given to the potential dialogue between the building's edge and the adjacent public space, which could establish a connection between exterior and interior.

overview and context

> *The front by Steven Holl with artist Vito Acconci is noticeably different from the traditional shop fronts and art galleries in nearby Soho: its experimental design forges a powerful link between public space, the sidewalk and street, and the private space represented by the narrow inner triangle of the art gallery.*
> ***Conceived in this way, the façade is both an element of urban cohesion, an extension of the road into the interior, and an expansion of the interior into the street.***
> *-Abitare 334, November 1994*
> *(www.stevenholl.com/project-detail.php?id=24&worldmap=true)*

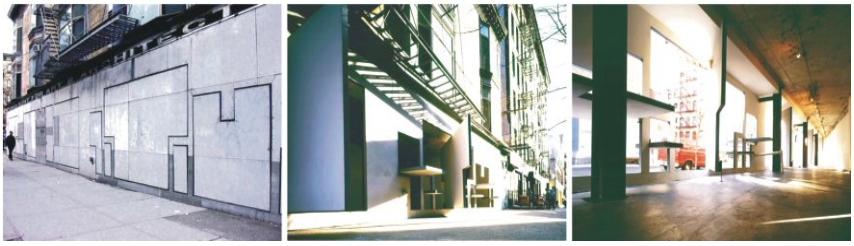

FIGURE 1.1 Storefront for Art and Architecture, New York

This thesis is concerned with the arcades that proliferate within Pretoria's old Central Business District (CBD) and the dialogue between the building's edge and the adjacent public space. The influence of the design of the storefront, which forms the building's edge, on one's experience of the arcade is investigated. These arcades are currently largely under-utilised, having lost much of their former sense of place; as a result they are mostly used as thoroughfares, and are no longer destinations in which to escape and linger. However, judicious re-design of these edges could re-establish what has been lost.

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Conversely, a public space that satisfies engenders a sense of place can make them more aware of the building edges around them. Herein lies the potential for increased commercial activity. Van der Westhuizen (2005:18) states, "Public spaces are increasingly being seen simply as opportunities for consumerism." While consumerism alone is not enough to satisfy our basic needs, if commercial activity within a space is lacking and no other significant activity occurs in the adjacent public space, the sense of place is lost. The objective of this thesis is to investigate which design features are required to reactivate the building's edge and its adjacent public space in an arcade, thereby increasing the commercial activity and re-establishing a sense of place.

Arcades are characterised by the integration of commercial activity into pedestrian-orientated public space. Arcades inject the city with an element of surprise and discovery, providing places of escape from the hustle and bustle of city streets. Here the city dweller is able to enjoy a moment's re-orientation and repose.

"Arcades run along the building, where it meets the public world; they are open to the public"
(Alexander et al. 1977:582).

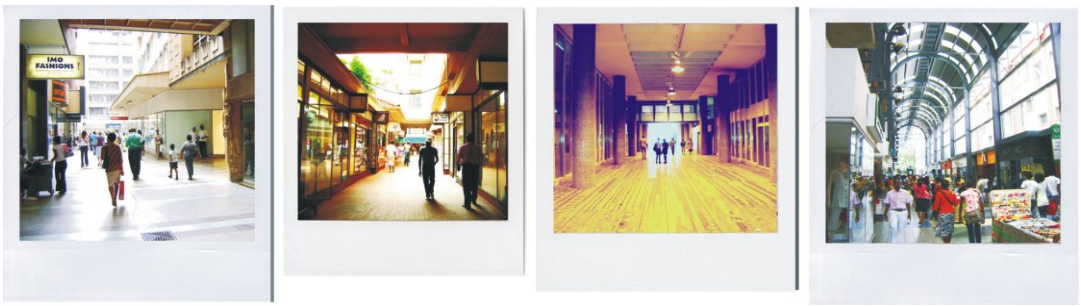

FIGURE 1.2 Arcades within Pretoria's Inner City

A definition of arcade is given by Geist (1983:3):

> *The root is passus, the Latin word for step, conveying the element of movement, of passage through a space. It has numerous meanings in common linguistic usage: street, roadway, thoroughfare, alley, transit, crossing, part of a book or musical composition, measured gait of a horse, or, in French, the sense of passage de la vie. All these meanings, either spatial or temporal in emphasis, have one element in common: they express transition, threshold, passing, measured distance, or disappearance. Something occurs, comes to pass; movement becomes an event.*

The arcade is a form of promenade. Alexander et al. (1977:169) define the promenade as a place where people go to stroll up and down, to meet friends, and to stare at others and let others stare at them.

Thoroughfares and arcades are the public spaces in between the city fabric where people linger about and socially interact with each other. Bruhn (1991:325) states that anthropologists, sociologists and psychologists all concur that man is a social being who requires interaction with people throughout his life. Some sociologists even doubt whether the individual, considered apart from a social group, possesses significance.

Social interaction acts as a point of reference that helps us to make sense of our experiences. Therefore public space must be designed, to stimulate interaction, in such a way that people want to use the space and to use it for long periods.

However, in Pretoria's urban fabric so many public spaces have become quiet and under-utilised, because they do not provide opportunities to linger. Their edges are strips of blank walls.

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"Popular z[illegible] the facades (edges) in a space or in the transitional zone between one space and the next" (Gehl 1987:151).

Sociologist Derk de Jonge (in Gehl 1987:151) describes the incident of what he terms the edge effect in a study he undertook of preferred areas for 'staying' in an urban environment. It was found that, owing to a need to survey one's surroundings without feeling too exposed, the city dweller establishes 'staying zones' along the borders or edges of spaces.

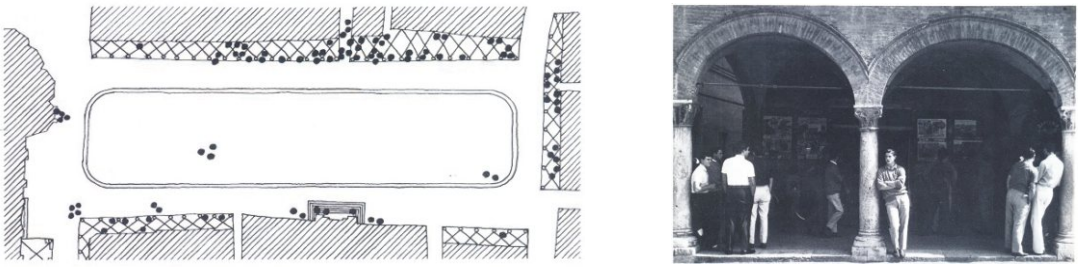

FIGURE 1.3 Survey of the city square, Ascoli Piceno, Italy: Indicating that people tend to congregate along the edges

Many of the arcades in Pretoria are at some point open to the sky (fig 1.2). Through observation it becomes evident that people tend to move faster through spaces that are enclosed, while they linger around edges and spaces that are open to the sky. This lends a specific character to the arcade, "an enclosed space, which is lit from above and therefore offers a strange experience of being inside and outside at the same time" (Norberg-Schulz 1980:59).

Norberg-Schulz speaks about openings in a wall as one of the "main determinants of architectural character". Small openings in the edge create a definite feeling of enclosure and interiority, but when the wall is a framework filled with large surfaces of glass it 'de-materializes' the edge and an interaction between exterior and interior is established (Norberg-Schulz 1980:67).

In playing around with window openings and half-open walls, the interior architect is trying on different masks, seducing the passer-by to linger and explore beyond the edge.

By mapping and studying the arcade and thoroughfare spaces in Pretoria, the study will aim to produce material that indicates what people expect from these public spaces - in terms of lingering qualities and possible staying zones - and how the surrounding edges should interact with these spaces.

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Geist (1983:5) states that the arcade "a[illegible] glass fronts". While this is true of Pretoria's arcades, in front of the glass storefronts one also finds informal telephone stands and hawkers selling fruit and sweets (fig 1.4). Within a typical European arcade (fig 1.5), stores open up and interior shop activity can spill out into the public arcade space, but one doesn't see hawkers sitting around selling their products. Thus, the European notion of arcade needs to be re-defined within a South African urban context.

Walking through the arcades and thoroughfares in Pretoria, one is constantly confronted with signs that state NO PUBLIC TOILETS. It is not enough to only address the social needs of the urban city dweller, physical needs also need to be attended to in order to heighten the potential for lingering in a space.

FIGURE 1.4 Street vendors, informal telephone stands and NO PUBLIC TOILETS signs within arcades

FIGURE 1.5, 1.6, 1.7, 1.8
1.5 Galeries Saint-Hubert, Brussels, Belgium
1.6 Kalverstraat, Amsterdam, Holland
1.7 Galleria Vittorio Emanuele, Milan, Italy
1.8 Passage du grand carf, Paris, France

The following arcades and thoroughfares within Pretoria will be mapped and studied (Chapter 3):

1__CENTRAL STREET linking with Pretorius Street

2__NOORDVAAL ARCADE linking Vermeulen Street with Church Square

3__THOROUGHFARE linking Church Square with Andries Street

4__BURLINGTON ARCADE

5__PRESIDENT ARCADE linking Schoeman Street with Pretorius Street

6__THOROUGHFARE between State Theatre and Sammy Marks

7__POLLEYS ARCADE linking Schoeman Street with Pretorius Street

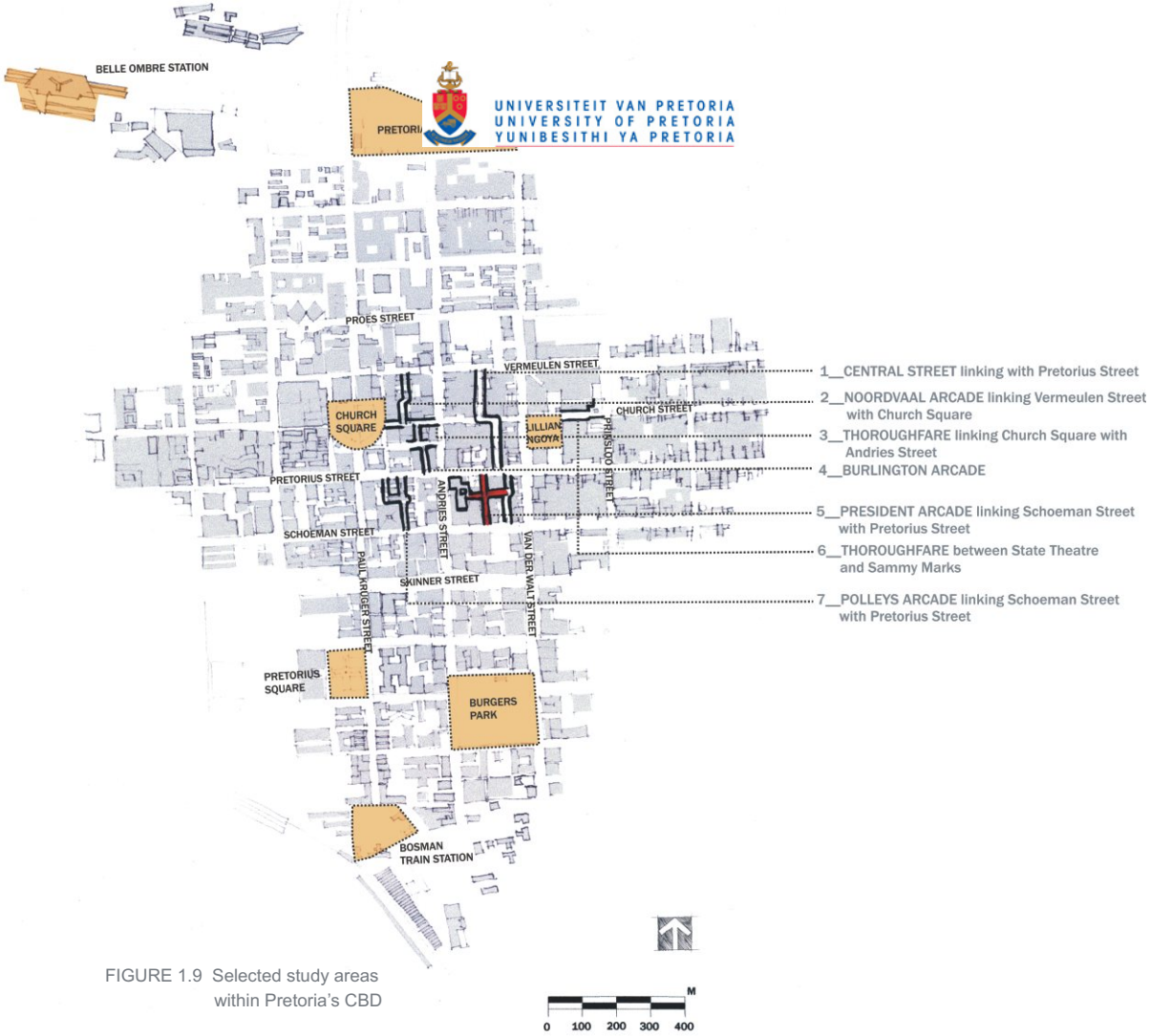


FIGURE 1.9 Selected study areas within Pretoria's CBD

FIGURE 1.10 Views of selected study areas

methodology

Background for research is established through a literature review. Criteria derived from the literature are used to critically assess the selected sites. Assessment is conducted through observations, mapping pedestrian movement and informal interviews with people who frequent these spaces. Thereafter, an experiment with a musician is conducted. Recommendations are then made in the form of a handbook that provides design guidelines which can be applied to revitalise the arcade by encouraging 'edge dialogue'. Finally, through design exploration possible solutions to the design intention, as outlined by the design guidelines, will be investigated (see Chapter 6).

ASSESSMENT CRITERIA, for analysis:

- Has the need for social public space been addressed?
- Do the edge and public space create staying zones?
- Do the edge and public space provide opportunity for people to linger, watch and be watched?
- Is there an overload of information and are people able to orientate themselves in the space?
- Does the space have a visual connection to the sky and how do people respond to it?
- Do the building's edges contain elements of seduction? Do they entice people to look beyond the edge?
- What type of events take place in the store interiors and in the arcade?
- Have basic physical needs been addressed?
- How does the shopping mall experience differ from the more open shopping arcade and can parallels be drawn? (Chapter 6)

EXPERIMENT, as culmination of analysis:

Kwaito music booming from oversized speakers in front of shops is a common feature in the arcades and thoroughfares. People move past quickly, ignoring the music, which thereby hinders opportunities for staying zones. The experiment requires a musician to perform in President Arcade, in front of an inactive clothing storefront. The clarinet player will perform classical and jazz compositions on a weekday, during the busiest period from 11:30am and 1:30pm. He will move slowly up and down the arcade space and, for a period of time, will rest against the inactive storefront while performing. The aim is to observe if the city dweller responds to the element of surprise created by live classical and jazz music in this context and whether this seduces the passer-by to stop and linger or even to pause. A secondary purpose of the experiment is to observe, map and compare the lingering points of people while the musician is performing with that when there is no musician present.

The retail industry is one of constant change, while the needs of people within public space remain relatively the same. The Edge Handbook (see Chapter 4) will illustrate long-term and short-term guidelines to be implemented by interior architects who deal with these flexible spaces.

President Arcade is chosen as the site for deeper investigation. This particular arcade connects Pretorius and Schoeman street, both of which experience heavy pedestrian and vehicular traffic. Geist (1983:4) states that an arcade can only thrive if it connects two streets that are heavily frequented. While President Arcade exhibits the continual movement of people through it, it lacks a sense of place and people do not linger. Dialogue between the building edges and public space has diminished, and the result is an under-utilised space and a lost commercial opportunity.

FIGURE 1.11, 1.12
1.11 View of inactive Identity storefront edge in President arcade
1.12 Interior view of the edges in President arcade

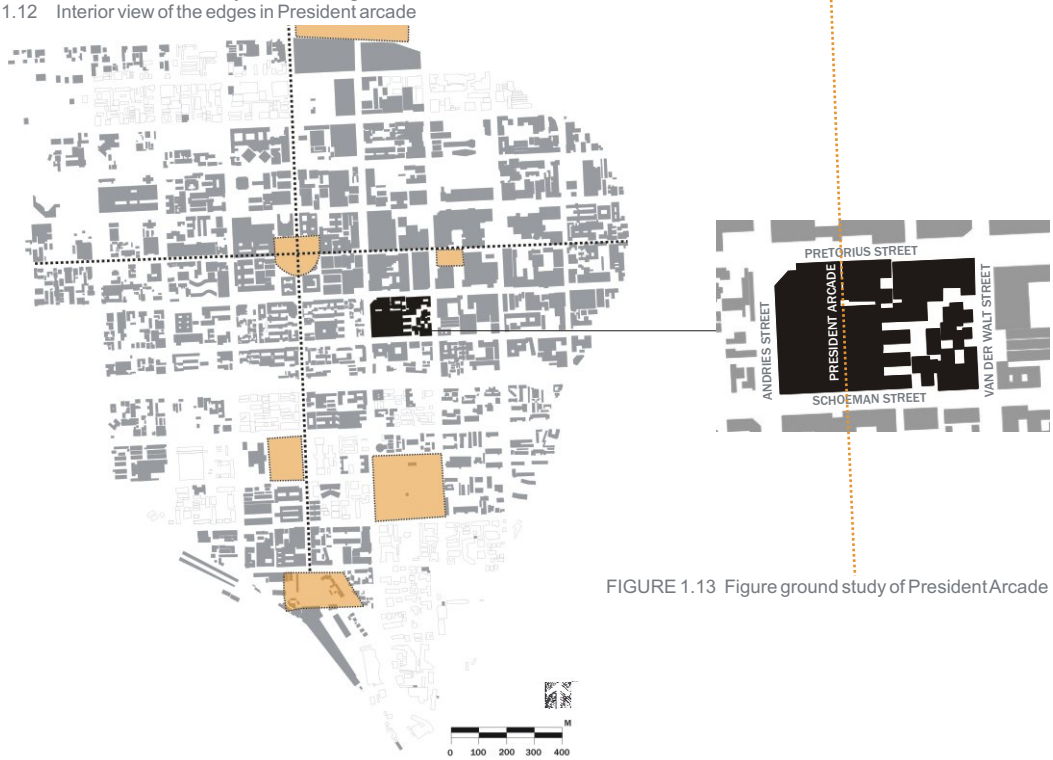


FIGURE 1.13 Figure ground study of President Arcade

A detailed design (chapters 6, 7) will be proposed for President Arcade, following the guidelines set out in the Edge Handbook (Chapter 4).

When these guidelines are followed and the elements implemented, the space will become more than just a thoroughfare - it will become a destination in itself.

02

rationale

The need for public space
The Edge Effect
Lingering
To watch and be watched
Overload, orientation and sense of place
Connection to the sky
Element of seduction
Space and events

the need for public space

FIGURE 2.1, 2.2, 2.3, 2.4

"In addition to the close proximity of different franchises, the arcade also offers an undisturbed situation for window shopping and a variety of additional amusements and attractions. The arcade becomes a social center" (Geist 1983:39).

Open public spaces between buildings give people the opportunity to interact with others in a relaxing and undemanding way. These spaces should be educative: places where society's inner contradictions and its economic, racial and ethnic realities can be displayed and expressed.

In today's society, the mass media inform citizens on a daily basis about world events and about their larger environments, but to learn about their immediate circumstances people need interaction with others. They need to see and hear other people so that they can explore new ideas and be inspired to action.

Gehl (1987:19-24) states that over time, with industrialisation and the segregation of various daily functions - work, home, entertainment - cities may suffer loss of continuous social activity and progress from living cities to lifeless cities. As buildings such as extensive shopping malls in which indoor social public space is created are developed, there is a loss of human activity in and around outside public spaces within cities.

"As much as we may deny or refuse it, shopping has become one of the only means by which we experience public activity"(Koolhaas, Boeri, Kwinter, Fabricius, Obrist & Tazi 2000:149).

Shopping malls have replaced the parks and squares that were traditionally the home of free speech…..The economic lifeblood once found downtown has moved to suburban shopping centers, which have substantially displaced the downtown business districts as the centers of commercial and social activity….The predominant characteristic of the normal use of these properties is its all-inclusiveness.

*Found at these malls are most of the uses and activities citizens engage in outside their homes….*Within and without the enclosures are not only stores of every kind and size, but large open spaces available to roam, to sit down and to talk.

New Jersey Supreme Court Chief Justice Robert N. Wilentz (1994). From a ruling declaring the shopping mall a form of public space.

(Koolhaas et al. 2000:154)

Pretoria's CBD has experienced this phenomenon and even though people might come to the CBD for work and not necessarily to shop, they still make use of the arcades and thoroughfares that facilitate pedestrian movement through the city. So these spaces are filled with continuous pedestrian movement. On observing activity in Pretoria's arcades, it becomes evident that people tend to linger in spaces where there is an opportunity to interact with other people.

FIGURE 2.5 Lijnbahn, Rotterdam, Holland
Café chairs face the street

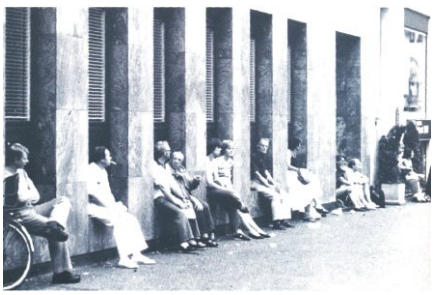
The notion that 'people go where people are' is supported by examples of street or sidewalk cafés in European cities where tables are placed along the café edge, facing the street, which allows patrons to enjoy their food, one another and those passing by. Another example of this notion is a study that was conducted in which street painters attracted huge crowds, but once the painters had left pedestrians walked past the paintings without hesitation (Gehl 1987:25-31).

the edge effect

> "It is important, naturally, to be able to stand in public spaces, but the key word is staying. When one stops to wait for something or somebody, to enjoy the surroundings, or to see what is going on, the problem of finding a good place to stand arises" (Gehl 1987:149).

People need to stop, stay, linger and interact with other people and their environment. The preferred zones for these activities are the edges of the specific spaces people find themselves in.

The genius locus of a place is determined by the treatment of its edges. Various points of 'interaction' should be provided along the edge so as to activate the spaces both on the inside and the outside, thereby preventing a loss of social activity (Alexander et al. 1977:497 & Gehl 1987:153).



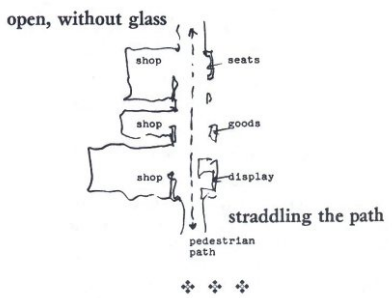


FIGURE 2.6, 2.7, 2.8
2.6, 2.7 Niches creates staying zones
2.8 Shops with large sliding glass panels

Public space and its edges are interconnected: the interior extends into the exterior and the exterior into the interior. Large expanses of window that can slide open create possible staying zones. It is at these points that people may stop to look, step inside and ask questions (Alexander et al 1977:581). Thus, the edge becomes a realm between two realms, activating dialogue between interior and exterior.

linger *v* delay or prolong departure; spend a long time doing something (Collins English Dictionary 1998)

Human beings experience and relate to details, surfaces and architectural spaces in much the same way as we relate to other human beings. We instinctively crave physical and biological connection to the world and we require sensory feedback from the environment to maintain our general sense of wellbeing. (Salingaros & Masden 2006:59, 62)

Therefore people need time to experience and to linger in their surroundings. Life takes place on foot and, as such, all meaningful social activities, intense experiences and conversations need to take place in spaces where people can sit, walk, lie or stand (Gehl 1987:71-74).

A study done by architectural students from the University of Melbourne in 1978 showed that there is a direct link between open space quality and street life. By increasing the amount of public seating by 100 per cent on a pedestrian street in Melbourne, there was an 88 per cent increase in seated activities (Gehl 1987:36). Thus, favourable conditions for lingering are required in order for interaction to take place in public spaces. Edges need to be lined with seats, staying zones and points for watching, displaying, exhibiting and interacting. To achieve this, building edges need to open up, moving into the exterior space and drawing the interior out and people into the interior.

FIGURE 2.9, 2.10
2.9 Seating in public spaces
2.10 Lost opportunity for seating in President Arcade

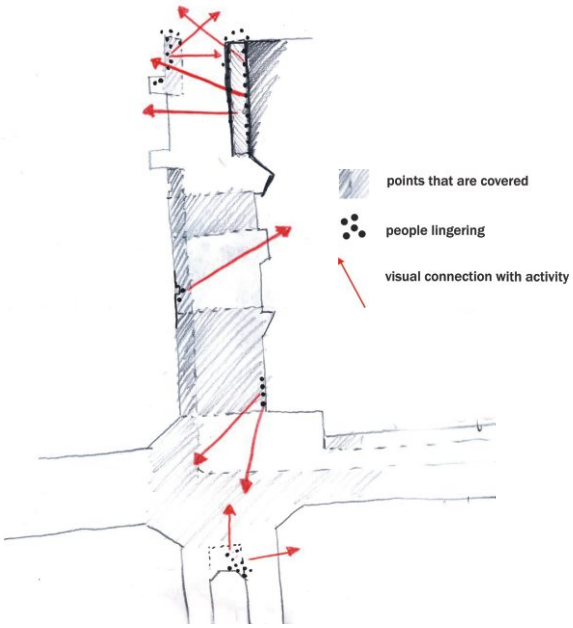


FIGURE 2.11, 2.12
2.11 Diagram illustrating the concentration of pedestrian movement in and around President Arcade
2.12 Diagram indicating the places in arcade where people linger

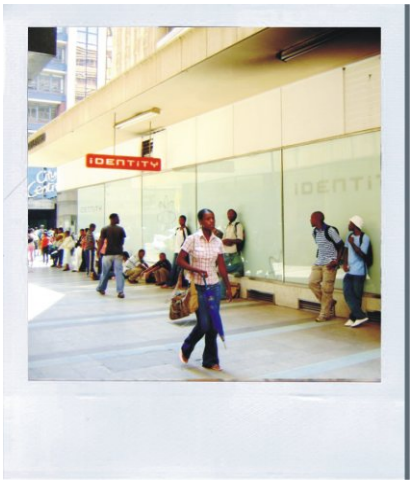


FIGURE 2.13

Arcades provide a type of street environment where the urban dweller is able to both promenade and watch while being protected from the movement of other pedestrians (Fyfe 1998:837). When we enter the public spaces and streets of the city, we watch and take note of other people and the buildings and spaces that surround us, while at the same time we ourselves are watched by others.

The storefront and building edge, which project into a surrounding arcade, provide a place where we can linger and enjoy this voyeuristic pastime. This can only happen if there is an active dialogue between the edge and surrounding space, otherwise the dweller will move along quickly.

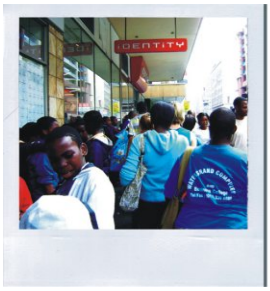
overload, orientation and sense of place

> "The sight of action is an incentive for action. When people can see into spaces from the street their world is enlarged and made richer, there is more understanding; and there is possibility for communication, learning" (Alexander et al. 1977:774).

If an individual experiences an overload of contact and information, it can lead to superficial social relations, disorientation and a withdrawal from many settings (Baum & Vallins 1977:5).

When an arcade is lined with blank walls people tend to move faster through the space, losing their sense of place and becoming disconnected from activity inside the edge. When an opening in a blank wall is created, it establishes a visual axis and an integration of interior and exterior. At this point, according to Norberg-Schulz (1980:5, 58), true dwelling occurs, because one is able to orientate oneself within the space and to experience the place as meaningful.

Instead of waiting in the busy street, where there is an overload of information and pedestrian movement and no real social interaction can take place, school children 'escape' into President Arcade, where they lean against the storefront edge, socialise and play while waiting for their buses.



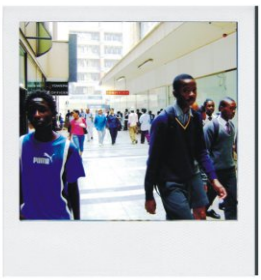


FIGURE 2.14, 2.15, 2.16
2.14 Pedestrian movement in Pretorius street
2.15 Children hanging out in President Arcade

Alexander et al. (1977:527) argue that daylight plays an important role in the maintenance of the body's circadian rhythms. An awareness of the progression of light through the day is needed for the body to maintain a relationship to nature.

Within the city people tend to hang around edges and spaces not only where there are opportunities to linger in the form of seating and niches, but also where there is a connection to the sky and where man can linger in his natural relationship to the environment.

element of seduction

> "Architecture is no different. It constantly plays the seducer. Its disguises are numerous: facades, arcades, even architectural concepts become the artifacts of seduction. Yet by its very presence, it says that, **in the background, there is something else**" (Tschumi 1996:90, 91).

Blank walls create a two-dimensional space and the dweller moves quickly through it, experiencing no pleasure from this disconnection. The storefront falls within the realm of interior architecture. It has a shorter lifespan than permanent architectural structures and can take on different masks over a period of time. The storefront is the point where the public realm connects with the interior realm and should contain elements of seduction. By playing around with different sized window openings and half-open walls, the interior architect is creating a boundary while seducing the dweller to look beyond it by forming a connection between them and the surrounding space.

FIGURE 2.17 The Wonder Room Project, Selfridges, London

Tschumi (1983:7, 148) argues that architecture is not neutral: it cannot be reduced to simply a language of forms and style, and one cannot dissociate the language of walls and a space from the actions and events that take place within and around it.

The edge 'speaks' to the city dweller and the city dweller 'responds', but if the edge is blank there will be no dialogue and the dweller will not linger, leaving the space empty. No event will take place. The interior architect needs to consider the space and events beyond the boundary of the interior space.

03

context analysis

Urban context
Group framework
Analysis of selected arcades and thoroughfares
Detail analysis of President arcade
Outcome

urban context

FIGURE 3.1 World map indicating position of Africa, South Africa

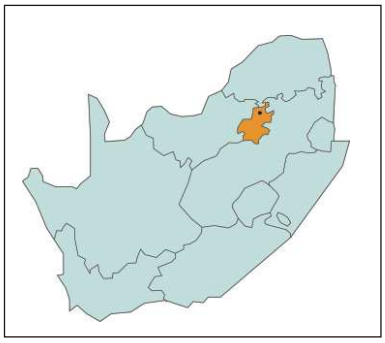


FIGURE 3.2 Map of South Africa indicating Gauteng, Pretoria

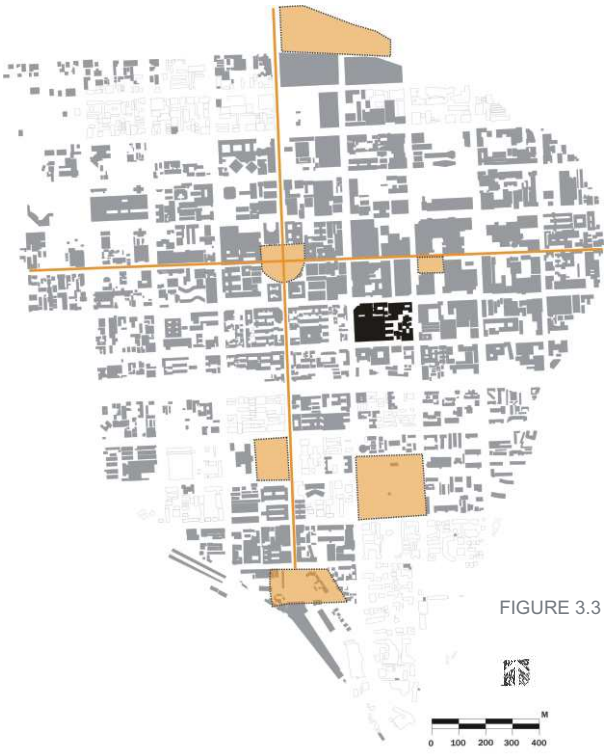


FIGURE 3.3 Figure ground study of Pretoria CBD

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Pretoria's inner city still reflects the char blacks were located in areas like Mamelodi and Atteridgeville that are situated along the edges of the city. This meant that people had to travel long distances to reach job opportunities and other economic activities.

This pattern still continues today. A great number of people who enter the inner city are dependent on public transport and so there is an ever-growing, continuous movement of pedestrians through the city.

FIGURE 3.4 Main pedestrian movement throughout Pretoria CBD

City blocks in Pretoria are twice as long as in Johannesburg, meaning that pedestrians need to traverse longer distances, along north and south connecting routes. This movement is facilitated by a system of arcades, which form mid-block pathways, thereby increasing the permeability of the inner city (Bothma 2003:14). The arcades also serve to increase the ratio of storefront to sidewalk. Originally most properties in the CBD were longitudinally orientated, but this arrangement resulted in insufficient frontage for shops.

The Integrated Spatial Developm ed by the Capitol Consortium in Pretoria and aims to understand the current condition of the inner city by providing a set of guidelines.

> *One of the key factors that contributes to the successful use of a city is the extent to which the public realm is activated by lively activities, functions and facilities at street level, and the quality, safety and cleanliness of the street. This facilitates the patterns of movement, encounter and avoidance that constitute and generate social relations in the city, and promotes quality of life.*
> *(Capitol Consortium 1999:3)*

The following principles suggested by the ISDF for implementation in Pretoria's inner city are relevant to the framework and intervention proposed in this document:

- Reinforce and develop clarity of the city structure by strengthening the linkage between the open public space system and the arcades that connect with it, guiding the dweller through the city and providing opportunity to stay.
- Enhance and acknowledge the cultural plurality of South Africa by facilitating diverse cultural activities, taking into account such aspects as informal trade.
- Create an awareness of the environment by designing spaces with layouts that dwellers find easy to understand, with adequate lighting and clear sightlines that enable them to know what is around and ahead of them.
- Create an environment in which people are not isolated and where they have the ability to see through the surrounding spaces.
- Enhance the visual clarity of the pedestrian networks, orientating the dweller within the city fabric.
- Create diverse and visually stimulating pedestrian zones.

(Capitol Consortium 1999, p.5-11)

FIGURE 3.5 Existing open public space
The Integrated Spatial Development Framework (ISDF)

Existing open public spaces are scattered throughout the city. The framework proposes new open spaces that interlink with the existing spaces and arcades to form a public space network that is pedestrian orientated.

The group framework proposal focuses on the orientation of the urban city dweller within Pretoria CBD. The framework proposes three main street spines that will be identifiable by selected colours and materials (see Appendix C).

"People look for order, security and a sense of completeness in their immediate spatial experiences; on the other hand, they look for mystery, challenge, and stimulation" (Goldsteen & Elliott 2004:136).

Group framework principles:

- react to existing arcades
- relate to specific character of the street
- maintain a primary orientation towards the street, unveiling elements of surprise
- facilitate high activity around open spaces
- create interactive facades at street level
- intersect movement spines with pause areas

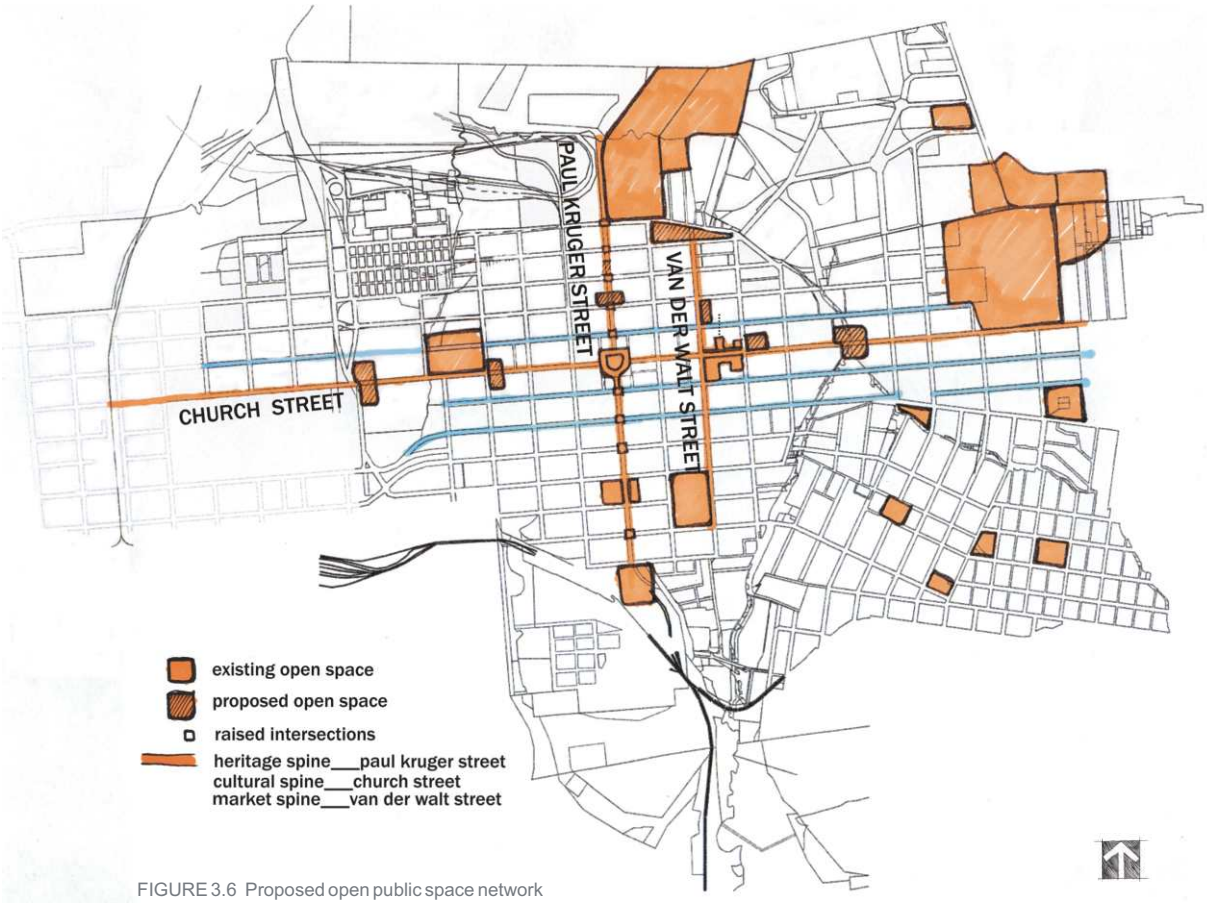

FIGURE 3.6 Proposed open public space network

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City dwellers occupy the inner city for most of the day. As they move through the city, the arcades and thoroughfares become public points where people socialise, interact, eat or simply linger, whether they are waiting for someone or watching life unfold in front of them.

FIGURE 3.7 ARCADE_PUBLIC SPACE Network

ASSESSMENT CRITERIA, for analysis:

- Has the need for social public space been addressed?
- Do the edge and public space create staying zones?
- Do the edge and public space provide opportunity for people to linger, watch and be watched?
- Is there an overload of information and are people able to orientate themselves in the space?
- Does the space have a visual connection to the sky and how do people respond to this?
- Do the building's edges contain elements of seduction? Do they entice people to look beyond the edge?
- What types of events take place in the store interiors and in the arcade?
- Have basic physical needs been addressed?
- The interviewing of people as to what they expect from public spaces.

NEED FOR SOCIAL PUBLIC SPACE

Has the need for social public space been addressed?

Women sit in front of hair salons on plastic chairs with posters of different hairstyles displayed behind them, trying to lure passers-by into the salon. These points become social points, as many women passing by stop and chat.

However, because there is no seating and many cars enter this pedestrian space people tend to move quickly through it.

LINGER WATCH BE WATCHED

Do the edge and public space provide opportunity for people to linger and watch and be watched?

The only point where people seem to linger is at the start of Central Street, in front of a jewellery store. The storefront is filled with merchandise that doesn't allow one to see into the shop. When lingering at this point one's back is covered and one can safely look out onto the surrounding streets.

EDGE EFFECT_ STAYING ZONES

Do the edge and public space create staying zones?

There are no opportunities for staying.

There are many flagpoles that are obstructions to pedestrians because of where they are positioned.

INFORMATION ORIENTATION

Is there an overload of information or are pedestrians able to orientate themselves within the space?

The space is extremely busy and the mix of pedestrian and vehicular traffic obstructs the dweller's clear visual connection with the other end of the arcade.

PHYSICAL NEEDS

Are the physical needs of man addressed (through facilities such as public toilets and public phones)?

There are no public toilets or public phones.

CONNECTION TO THE SKY

Does the space have a visual connection to the sky and how does the user respond to this?

The space is completely open and the women sitting on the plastic chairs in front of the hair salons appear to enjoy the warmth of the sun on their skins.

ELEMENTS OF SEDUCTION

Do the edges/storefronts contain elements of seduction? Do they entice the dweller to look beyond the edge?

There are no elements of seduction evident within this street or in the storefronts. The storefronts are too full with merchandise and the passer-by is bombarded by their wares.

SPACE AND EVENTS

What type of events takes place within the space?

There is heavy pedestrian movement and it is evident that the space functions more as a thoroughfare than a destination. It is also very dirty and, although it should be a pedestrian-orientated space, many cars are parked within it.

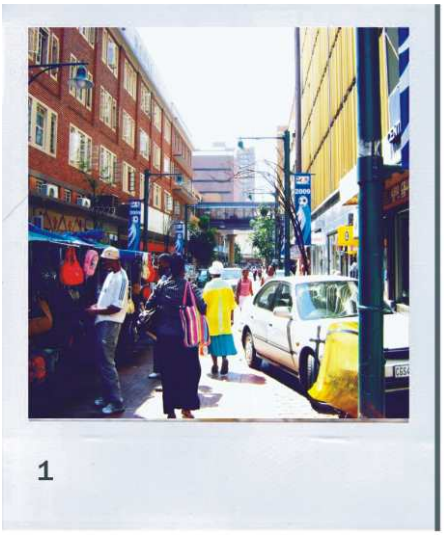

FIGURE 3.8, 3.9
3.8 Diagrammatic illustration of the layout and movement within Central street
3.9 View of Central street

NOORDVAAL ARCADE linking vermeulen street with church street

NEED FOR SOCIAL PUBLIC SPACE

Has the need for social public space been addressed?

There are no social points or places to sit down and interact.

The restaurants do not open up onto the arcade.

LINGER WATCH BE WATCHED

Do the edge and public space provide opportunity for people to linger and watch and be watched?

The only point where people can stop, recline against the wall and linger looks out onto empty shops. So there is nothing to watch and no one to be watched by. Nobody lingers in this space.

EDGE EFFECT_ STAYING ZONES

Do the edge and public space create staying zones?

Staying zones could have been set up at the point where a number of storefronts that face each other are closed up. However, the space looks out onto no activity and is covered with a roof that makes it dark and desolate.

There are niches projecting out into the arcade that people could sit against, but they look out onto closed store doors that are filled with stock and block the view into the surrounding stores.

INFORMATION ORIENTATION

Is there an overload of information or are pedestrians able to orientate themselves within the space?

The dweller feels disconnected and lost while moving through the space, because the arcade bends at one point, breaking the visual connection with the other side.

PHYSICAL NEEDS

Are the physical needs of man addressed (through facilities such as public toilets and public phones)?

There are no public phones or public toilets.

CONNECTION TO THE SKY

Does the space have a visual connection to the sky and how does the user respond to this?

There is a visual connection with the sky at one point in the arcade, but because this is where the arcade bends and flows into dead ends, the dweller feels lost and trapped by walls.

Most of the arcade is covered with a roof that has no skylights, resulting in a space that is dark, desolate and empty, and has no public life.

ELEMENTS OF SEDUCTION

Do the edges/storefronts contain elements of seduction? Do they entice the dweller to look beyond the edge?

The storefronts, which are typical (flat, continuous, clear glass window) are either closed up or too cluttered with merchandise to be attractive.

The retail shops at the corners of the arcade have folding doors and entrances that open up into Church Square thoroughfare and not into the arcade. Although there are doors that can open up into the arcade, they too are closed up, missing an opportunity to draw pedestrians into the arcade.

SPACE AND EVENTS

What type of events takes place within the space?

No events take place here.

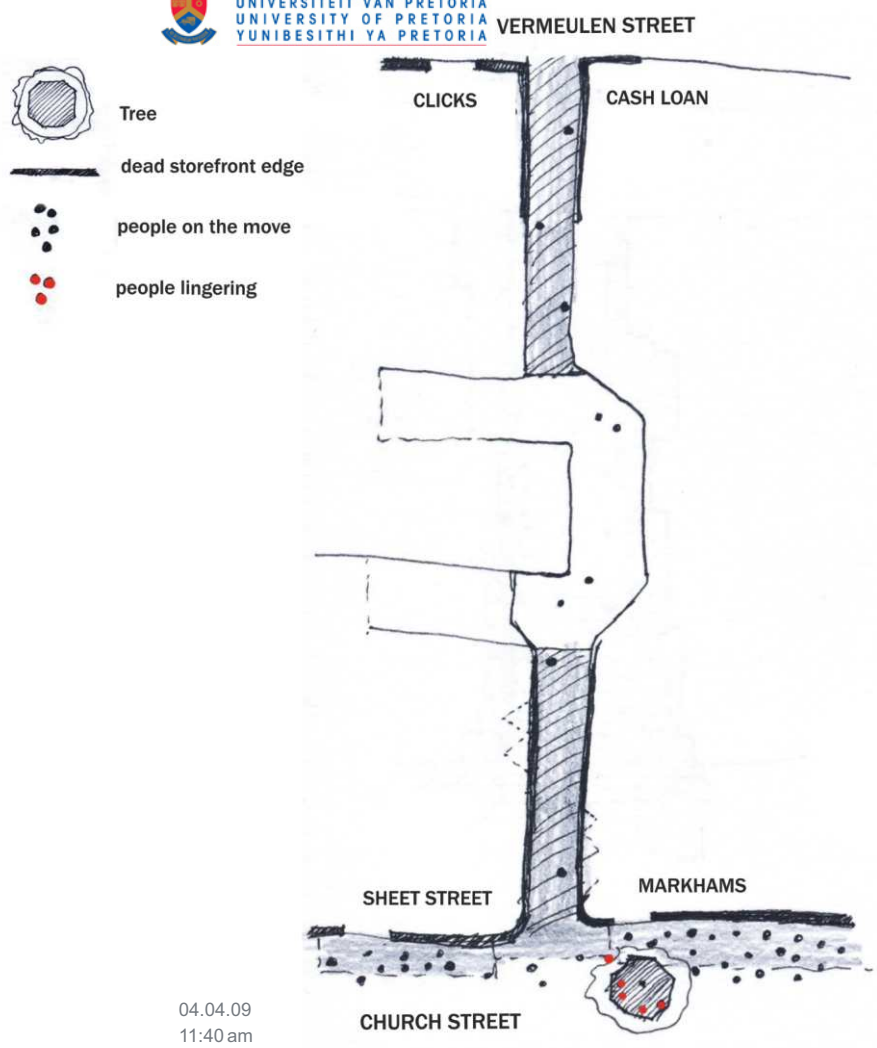

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FIGURE 3.10, 3.11
3.10 Diagrammatic illustration of the layout and movement within Noordvaal arcade
3.11 View of Noordvaal arcade

NEED FOR SOCIAL PUBLIC SPACE

Has the need for social public space been addressed?

There are four seating spots along the edge of the space. The main social spot is the seating point in front of Burlington Arcade, which allows dwellers a 360° view of the space. Because the storefronts at this point are empty, it is quieter and removed from high commercial activity. There are only retail shops in this area and no restaurants that open up into the space with tables and chairs outside. People move quickly through this space.

LINGER WATCH BE WATCHED

Do the edge and public space provide opportunity for people to linger and watch and be watched?

The seating spots are located within the pedestrian promenade. Sitting down at one of these spots, it seems as though the dweller is right in the middle of the street activity and not at a point where one can watch and be watched.

EDGE EFFECT_ STAYING ZONES

Do the edge and public space create staying zones?

There are no functional staying zones along the storefront edges. People linger at the beginning of the thoroughfare where there is a strip of blank wall, but only because this spot overlooks an area that is busy with activity.

People move along the edges, where they form smaller promenades. Very few people move in the centre, where it is much quieter and more removed from high levels of pedestrian traffic.

INFORMATION ORIENTATION

Is there an overload of information or are pedestrians able to orientate themselves within the space?

There is a strong visual connection with Church Square, so pedestrians know where they are within the city fabric. This sense is enhanced by the fact that the only signage is found up against the storefronts and does not project into the surrounding space.

PHYSICAL NEEDS

Are the physical needs of man addressed (through facilities such as public toilets and public phones)?

There are no public toilets near by.

Although there are public phones, no one uses them because they are located in the midst of high pedestrian movement.

CONNECTION TO THE SKY

Does the space have a visual connection to the sky and how does the user respond to this?

The thoroughfare is completely open to the sky, with trees along its edges.

ELEMENTS OF SEDUCTION

Do the edges/storefronts contain elements of seduction? Do they entice the dweller to look beyond the edge?

The space contains art deco storefronts with clear open window displays which are, however, cluttered with merchandise. This overload of visual information, combined with the fact that one can see everything that is happening within the shops, means that passers-by do not notice anything in particular and simply move past without being lured inside.

SPACE AND EVENTS

What type of events takes place within the space?

The space is an important thoroughfare that connects two main streets. It is not a destination in itself, because there are no opportunities for staying and to linger.

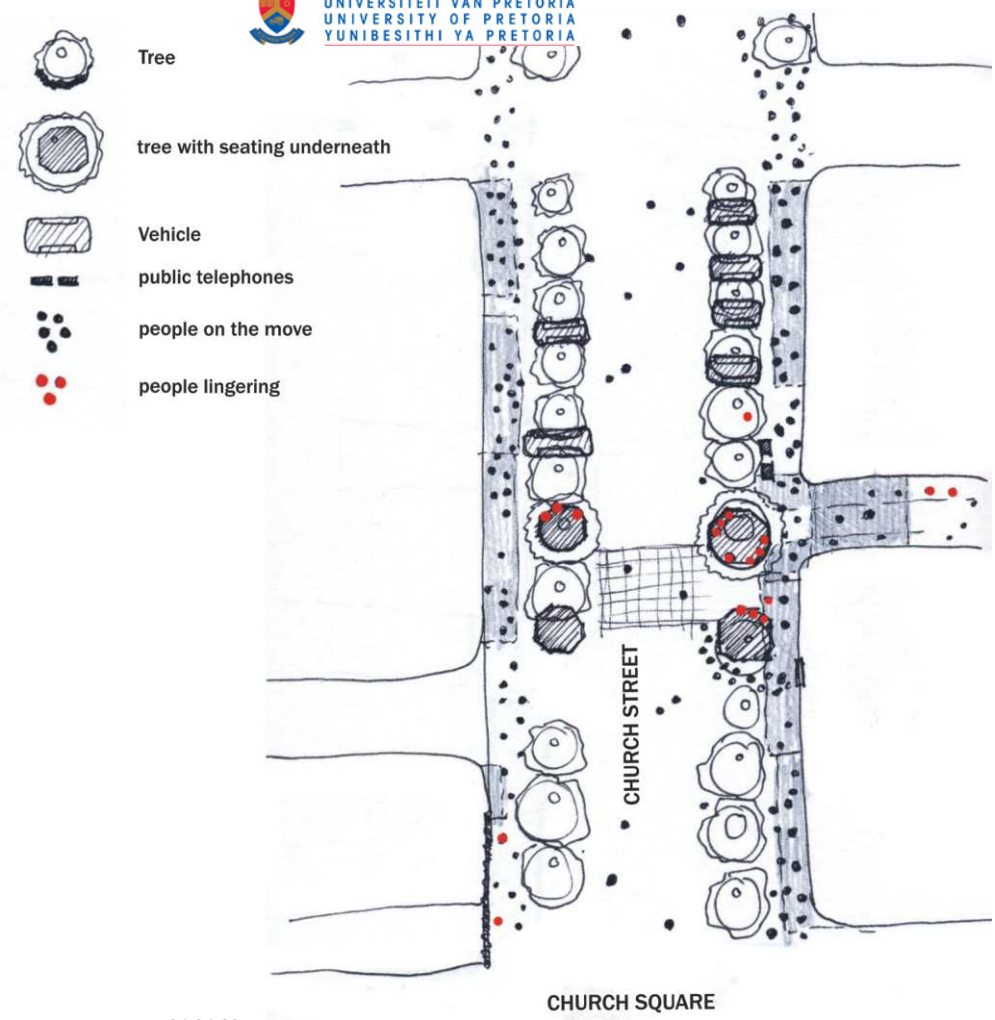

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FIGURE 3.12, 3.13
3.12 Diagrammatic illustration of the layout and movement within the thoroughfare
3.13 View of the thoroughfare

NEED FOR SOCIAL PUBLIC SPACE

Has the need for social public space been addressed?

Although there are no established social points, people have created their own. For example, many people gather at seats that have been placed within the arcade in front of a jazz music shop.

LINGER WATCH BE WATCHED

Do the edge and public space provide opportunity for people to linger and watch and be watched?

Many of the stores are empty, so there is not much to watch. The only point where dwellers can linger and watch and be watched is at the start of the arcade at a barbershop, which although it faces an empty storefront, is positioned at the corner of the arcade, allowing the dweller to look out onto the busy Church Street thoroughfare.

EDGE EFFECT_ STAYING ZONES

Do the edge and public space create staying zones?

Many of the storefronts are built at a higher level than the ground and open up with sliding glass panels. When people sit at these points, it appears as though they are sitting inside the shop. The shop activity and arcade activity thus becomes blurred.

The storefront edges are visually stimulating as they are each built on alternating levels, giving the impression of change and creating niches that the dweller can lie against and watch their surroundings. However, because so many of the shops are empty, nobody makes use of this space.

INFORMATION ORIENTATION

Is there an overload of information or are pedestrians able to orientate themselves within the space?

Signage projects into the arcade, but appears to have been designed as part of the edge. Because there is no visual connection with the other side from inside the arcade, dwellers might feel lost if they do not know where they are going.

PHYSICAL NEEDS

Are the physical needs of man addressed (through facilities such as public toilets and public phones)?

There are no public toilets. There are public phones close by in the Church Square thoroughfare, but because they are placed in the middle of high pedestrian traffic, few people use them.

CONNECTION TO THE SKY

Does the space have a visual connection to the sky and how does the user respond to this?

The arcade has a pattern of closed and open areas, which means that one can see the light even when one can't see the sky. This strong relationship with sunlight maintains a relationship with nature that ensures the dweller feels less isolated even though there is no direct visual connection between one point of the arcade and the other.

ELEMENTS OF SEDUCTION

Do the edges/storefronts contain elements of seduction? Do they entice the dweller to look beyond the edge?

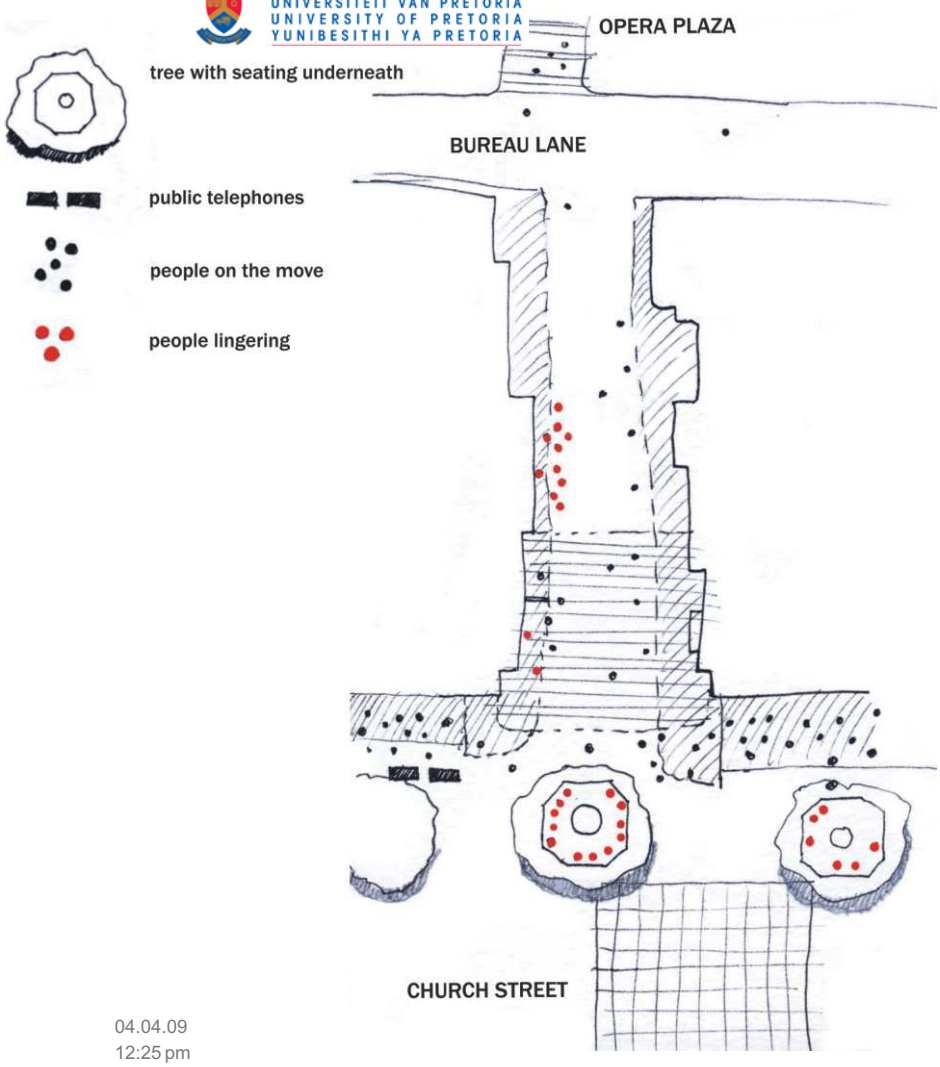
The storefront edges create an interesting element of seduction. Because there is not one flat surface, the dweller is lured forward to discover what is beyond the next level change, even though the stores are all fronted by clear glass that enable one to see everything inside.

SPACE AND EVENTS

What type of events takes place within the space?

A popular social spot has been created in front of the jazz music shop, which opens into the arcade and blurs the boundaries between the two spaces. Music from the shop draws people into the arcade and creates a point where one can relax and linger, thereby determining the character of the whole arcade. Passers-by stop to sit on chairs set up outside the store and listen to CDs on earphones.

Another social spot which blurs the distinction between storefront and arcade is the barbershop. Because it opens up into the arcade, it feels as though the barber is cutting hair in the public space. Positioned at the entrance to the arcade, the barbershop appears to be a very active and lively corner shop which draws people in.



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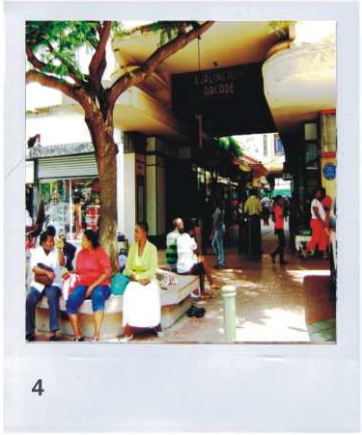


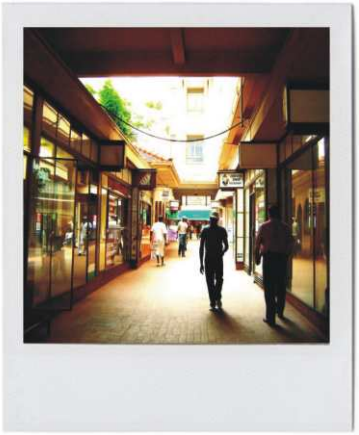


FIGURE 3.14, 3.15, 3.16
3.14 Diagrammatic illustration of the layout and movement within Burlington arcade
3.15, 3.16 Views of Burlington arcade

NEED FOR SOCIAL PUBLIC SPACE

Has the need for social public space been addressed?

There is no formal seating within the thoroughfare, but people create social spots where there are informal opportunities to sit down such as the bases of flagpoles. Many people also sit on the structural elements of the State Theatre, which are partly hidden away from the public eye indicating that these people prefer to be in public but at a private social point.

Seating is provided near some of the trees along the perimeter of the thoroughfare.

LINGER WATCH BE WATCHED

Do the edge and public space provide opportunity for people to linger and watch and be watched?

Where people sit on the structural elements of the State Theatre, they face the opposite storefronts and watch the people passing by, who are focused and move quickly without looking left or right. This space becomes a stage to be viewed by people lingering around the State Theatre.

The storefronts create a flat surface of clear glass that does not lure the passer-by to linger longer, while the edge of the State Theatre, which is free from commercial activity, offers the opportunity to be in public yet private.

EDGE EFFECT_ STAYING ZONES

Do the edge and public space create staying zones?

There is no opportunity for staying zones along the edge of the storefronts. People move along quickly and seem very focused.

INFORMATION ORIENTATION

Is there an overload of information or are pedestrians able to orientate themselves within the space?

There is a strong visual connection from one point of the space to the next that allows dwellers a clear visual field in which to orientate themselves. The only signage is on the storefronts' facades and there are no elements sticking out into the sidewalk. The dweller walks past quickly without being lured to look or stop.

PHYSICAL NEEDS

Are the physical needs of man addressed (through facilities such as public toilets and public phones)?

There is no litter in sight, due to the presence of a street cleaner and a number of dustbins.

There are no public toilet facilities close by. There are phone facilities at the beginning of the thoroughfare, which form a social point.

CONNECTION TO THE SKY

Does the space have a visual connection to the sky and how does the user respond to this?

The thoroughfare is completely open to the sky, with trees along the edges. Most people sit under the trees where it is shaded but not completely covered. Very few people linger underneath the theatre overhang.

ELEMENTS OF SEDUCTION

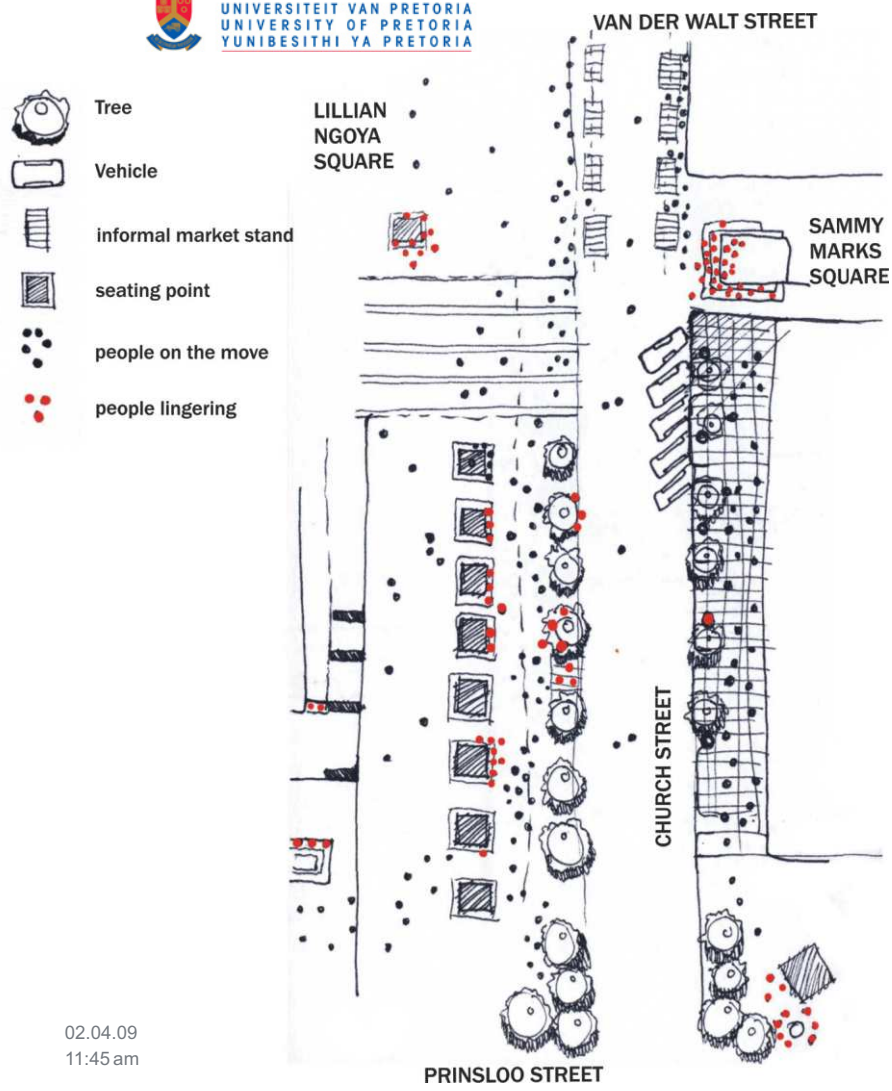
Do the edges/storefronts contain elements of seduction? Do they entice the dweller to look beyond the edge?

The art deco storefronts have clear, open window displays which create one flat continuous front and allow the pedestrian to see everything that happens inside. There are no elements of seduction and very few people enter the shops.

SPACE AND EVENTS

What type of events takes place within the space?

The space is an important thoroughfare that connects two main streets. The arcade is not a destination in itself, because there are no opportunities for staying and to linger.



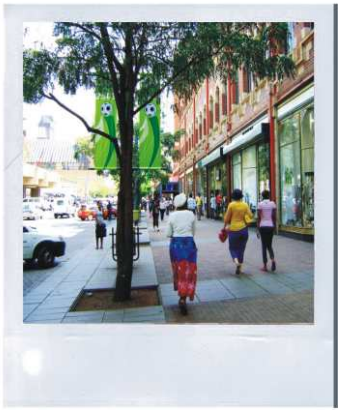


FIGURE 3.17, 3.18, 3.19
3.17 Diagrammatic illustration of the layout and movement within the thoroughfare
3.18, 3.19 Views of the thoroughfare

NEED FOR SOCIAL PUBLIC SPACE

Has the need for social public space been addressed?

There is no formal seating within the arcade. Instead people gather at the entrances of the arcade where there are established social points next to shops. At one end of the arcade people gather to eat around a woman informally selling cooked food. The arcade houses the offices of the SAPS and a restaurant that has few clientele. It is desolate and empty, and is seen only as a thoroughfare from the one street to the next.

LINGER WATCH BE WATCHED

Do the edge and public space provide opportunity for people to linger and watch and be watched?

The arcade is wide and dark with no activity within it that would encourage people to linger. All the edges are closed up (cardboard, furniture or blinds), disconnecting the interior spaces from the surrounding arcade space, so people move through the arcade without stopping and lingering around.

EDGE EFFECT_STAYING ZONES

Do the edge and public space create staying zones?

There are no opportunities for staying.

The only opportunity to sit down is at the restaurant, which is located in the middle of the arcade but is hidden from pedestrian movement so customers can't sit and watch the activity in the arcade. All the edges are non-active and the arcade is lined on both sides with one continuous flat surface.

INFORMATION ORIENTATION

Is there an overload of information or are pedestrians able to orientate themselves within the space?

On entering the arcade the pedestrian is able to see right through to the other end, providing a strong visual connection with the surrounding city. The only signage is that of the SAPS as there are no other shops or businesses in the arcade. Pedestrians need to know where they are going when passing through the arcade.

PHYSICAL NEEDS

Are the physical needs of man addressed (through facilities such as public toilets and public phones)?

There are no public toilets or public phones.

CONNECTION TO THE SKY

Does the space have a visual connection to the sky and how does the user respond to this?

The arcade has a roof and so there is no visual connection to the sky. The only connection to the outside is the direct visual link with the other end of the arcade and so, when moving through the space, one feels disconnected from the environment. The arcade has a gloomy atmosphere, because it is so wide with non-active edges and no light entering from above.

ELEMENTS OF SEDUCTION

Do the edges/storefronts contain elements of seduction? Do they entice the dweller to look beyond the edge?

The edges are non-active and the SAPS occupies the surrounding spaces, which the dweller is not permitted to view. A staircase in the middle of the arcade leads up to a higher level and seduces the dweller to see what is to be found above when entering the arcade from Pretorius Street.

SPACE AND EVENTS

What type of events takes place within the space?

The space is empty, except for the SAPS and the occasional passer-by who needs to cross through the arcade to reach a destination on the other side, and so no events take place here.

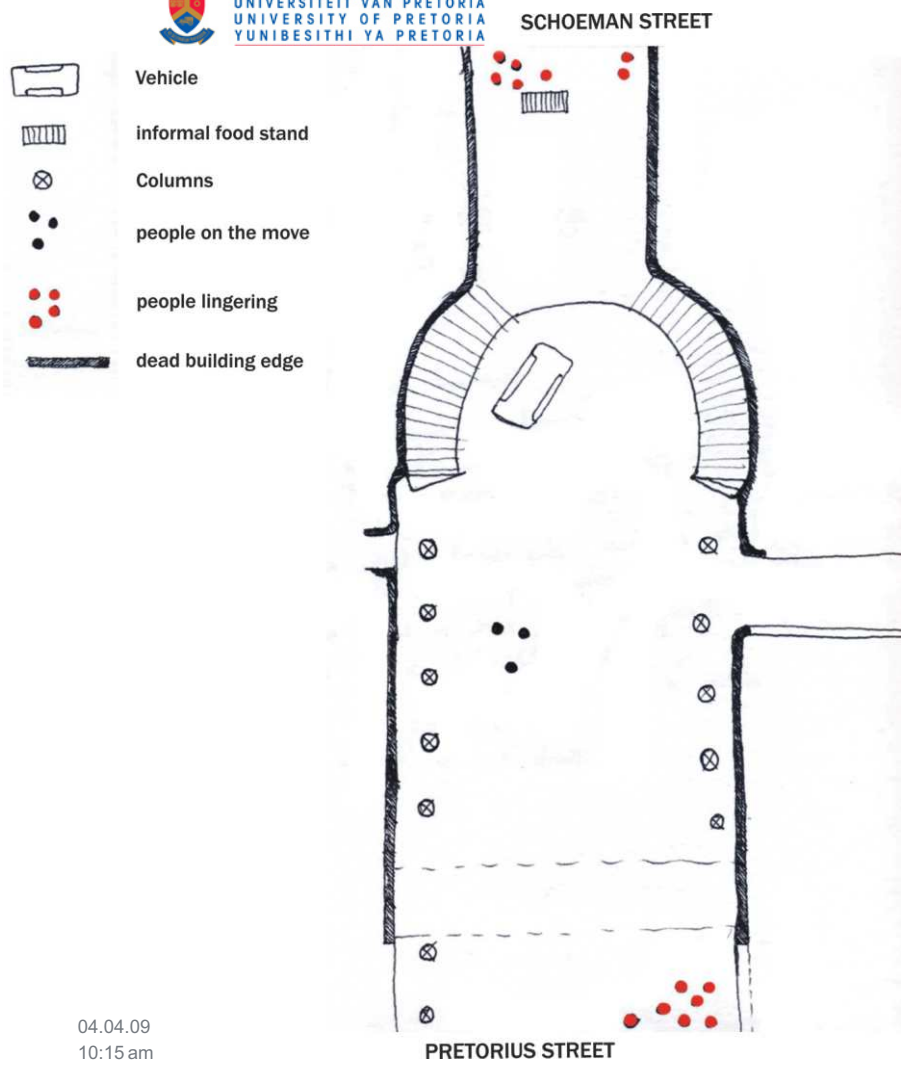


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FIGURE 3.20, 3.21
3.20 Diagrammatic illustration of the layout and movement within Polleys arcade
3.21 View of Polleys arcade

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FIGURE 3.22 Streetscape of Pretorius street that links in with President arcade

FIGURE 3.23, 3.24
3.23 Interior east elevation of President arcade
3.24 Interior west elevation of President arcade

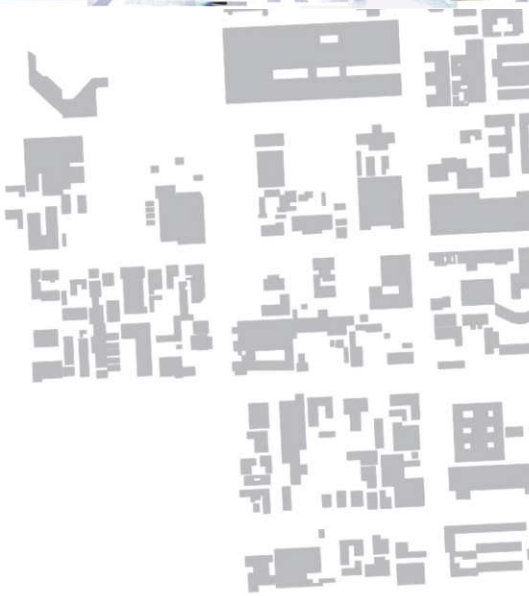

FIGURE 3.25 Figure ground study of city block that President arcade runs through

FIGURE 3.26 Existing materials used throughout President arcade

Coca-Cola

GOLDEXCHANGE
BULLS
FLAME GRILLED

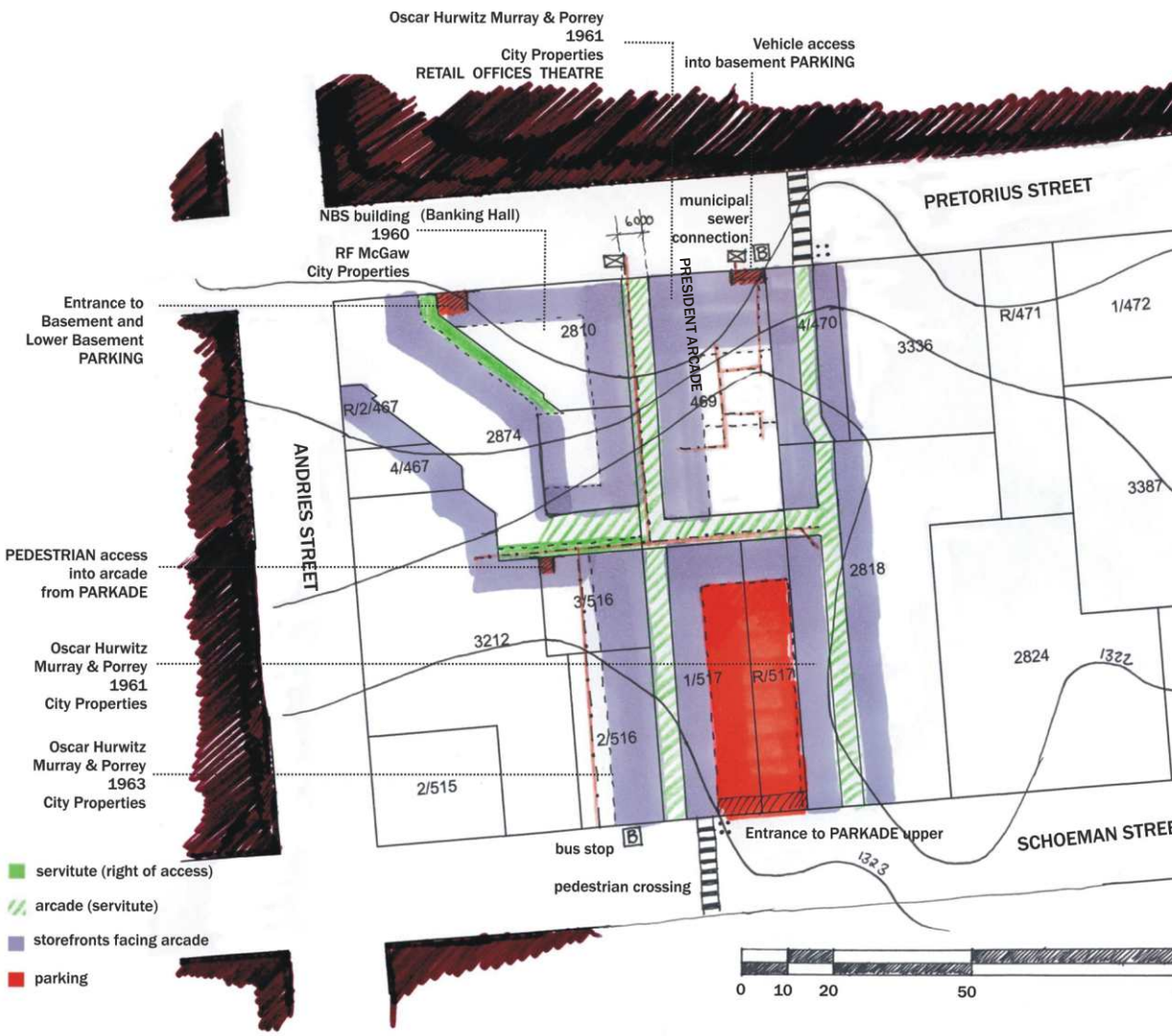

FIGURE 3.28 Diagrammatic analysis of sites forming President arcade

Pretoria has a temperate climat 29°C during summer and 20°C during winter, and a minimum temperature of 9°C that seldom falls below 0°C, making it an ideal setting for public spaces that open to the sky. It is also a sunny city, as the duration of bright sunshine exceeds 80 per cent of the possible in winter and 60 per cent of the possible during summer. On average Pretoria experiences 50 to 89 rainy days during the rainy season between November and March, which peaks in January, and its thunderstorms often features heavy rainfall. The city is fairly wind still (Bothma 2003:32-33).

President Arcade is surrounded by tall buildings and is for most part open to the sky. The edges should not only provide staying zones, but also spaces to hide away in and socially interact when the weather changes. The arcade incorporates a play between covered and open areas along the building edges that cater for the seasonal changes. People can feel the sun on their skin during winter and still have shelter when there is a rain shower.

There are a number of colleges and schools in and around President Arcade and many of the students and children wait around in President Arcade during their lunch breaks and free time. Although they recline against the non-active storefronts, there are no real opportunities to create staying zones where they can linger along the edges.

UNION EHGWAWU
BUILDING SUPERVISOR
MICROZONE **DRIVING SCHOOL**
STYLE ALTERATIONS

STEP UP LOAN LADDER
CASINO **TRAINING ACADEMY**
SECURITY **TRAINING COLLEGE**
PERFUME SHOPPE

BROKERS & PROPERTY FINANCE
REVENUE AFFAIRS
NURSING COLLEGE

WORKERS UNION
DSDC COLLEGE
ATTORNEYS
NEW DAWN COLLEGE
FINANCIAL ADMINISTRATORS
COLLEGE OF BUSINESS
ACADEMY FOR MATHS AND SCIENCE
SARWHU
CRECHE

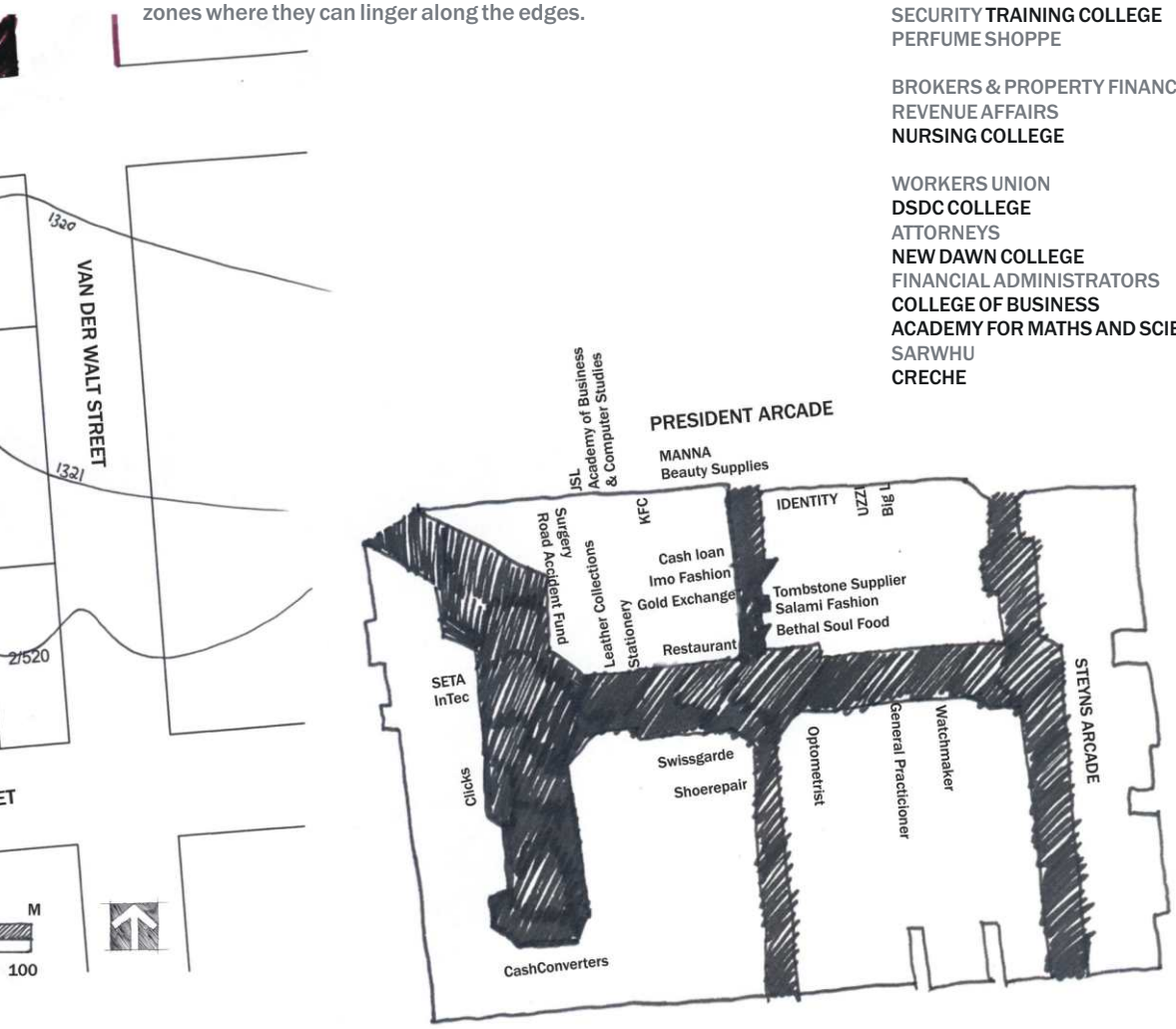

FIGURE 3.29 Businesses and colleges in and around President arcade

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The following observations were made b ian movement, interviewing people and conducting an experiment w President Arcade.

THE NEED FOR SOCIAL PUBLIC SPACE

Has the need for social public space been addressed?

There is no formal seating within the arcade and limited opportunity for the creation of staying zones. People tend to linger at points where there is already established activity.

- PEOPLE GO WHERE PEOPLE ARE
  There is a street vendor around whom the schoolchildren gather during lunch time to socialise.
- Bethal Soulfood
  Schoolchildren sit in front of the restaurant on the ground or gather around the point where people use the street vendor's telephones.

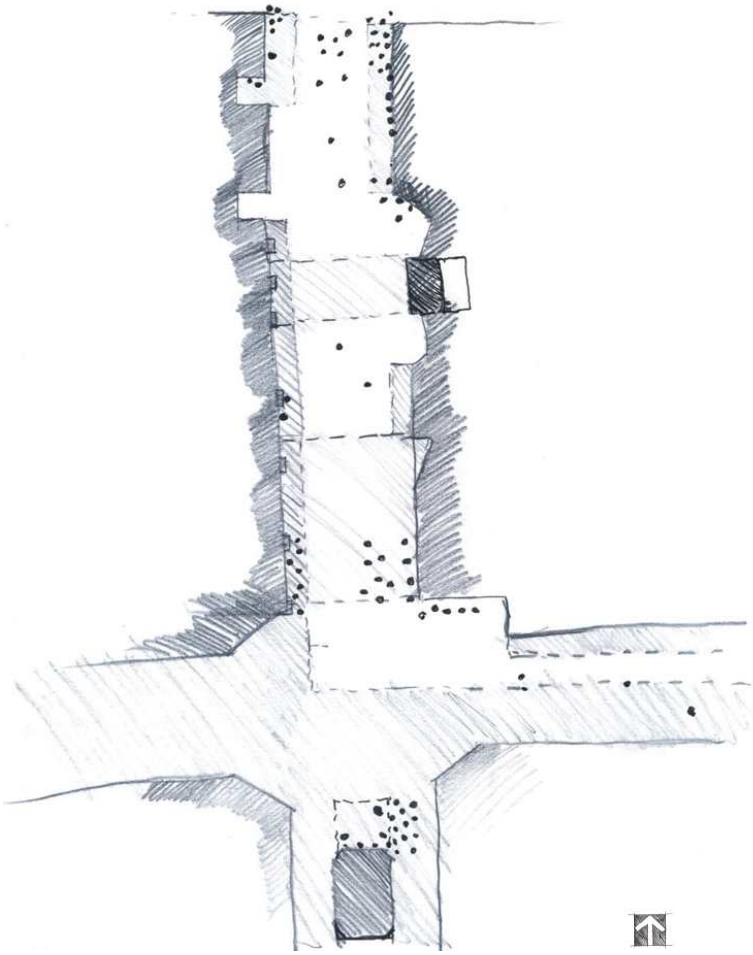

FIGURE 3.30, 3.31, 3.32

3.30 Diagram indicating the social public points within and around President arcade, 24 March 2009, 11:45am
3.31 Children gathering around street vendor
3.32 Children in front of restaurant

> "The sight of action is an incentive for action. When people can see into spaces from the street their world is enlarged and made richer, there is more understanding; and there is possibility for communication, learning" (Alexander et al. 1977:774).

In President Arcade people linger at the disused storefront of a clothing outlet called Identity. This staying point faces an active storefront, allowing dwellers to look into the activity of the shop while watching the movement along Pretorius Street. This pattern repeats itself throughout the arcade, as people linger at points where their backs are covered and they face an active storefront. This notion that the sight of action is an incentive for action is further confirmed on observing that people do not linger at points where two empty storefronts face each other, arguably because they feel too exposed here and because there is nothing to watch.

At the point where President Arcade links up with Steyn Arcade to the east, both edges are closed up/non-active and there is no visual connection with the interiors. Although this is an important connection point, people stay away or quicken their pace as they move through it. The space has become desolate, with a homeless man making it his living area.

FIGURE 3.33, 3.34
3.33 Diagram illustrating the concentration of pedestrian movement in and around President Arcade
3.34 Diagram indicating the places in arcade where people linger, 24 March 2009 at 11:50am.

EDGE EFFECT___STAYING ZONES

Do the edge and public space create opportunity for staying zones?

Opportunities for staying zones in President Arcade are limited. There is a niche along one of the edges, but as it looks onto an interior space where there is currently no activity, it is not used as a staying zone. Only one eatery, at the south end of the arcade, has used the opportunity to open into the arcade, creating the atmosphere of a street café. It provides seating outside the edge, in the midst of activity, and draws the most customers. The shops directly opposite benefit from the continuous movement of people.

FIGURE 3.35, 3.36

3.35 Restaurant seating flowing into the arcade, attracting people to the stores opposite it

3.36 Niche along the edge of President arcade

Is there an overload of information or are pedestrians able to orientate themselves within the space?

There is a high level of pedestrian movement within Pretorius Street and people prefer to wait for the buses inside the arcade space rather than in the street. The signage along the arcade is controlled until the midpoint, where the dweller is confronted with an overload of signage. But, because there is a very strong visual connection from the one side of the arcade to the other, dwellers are able to orientate themselves within the city fabric and do not feel disconnected.

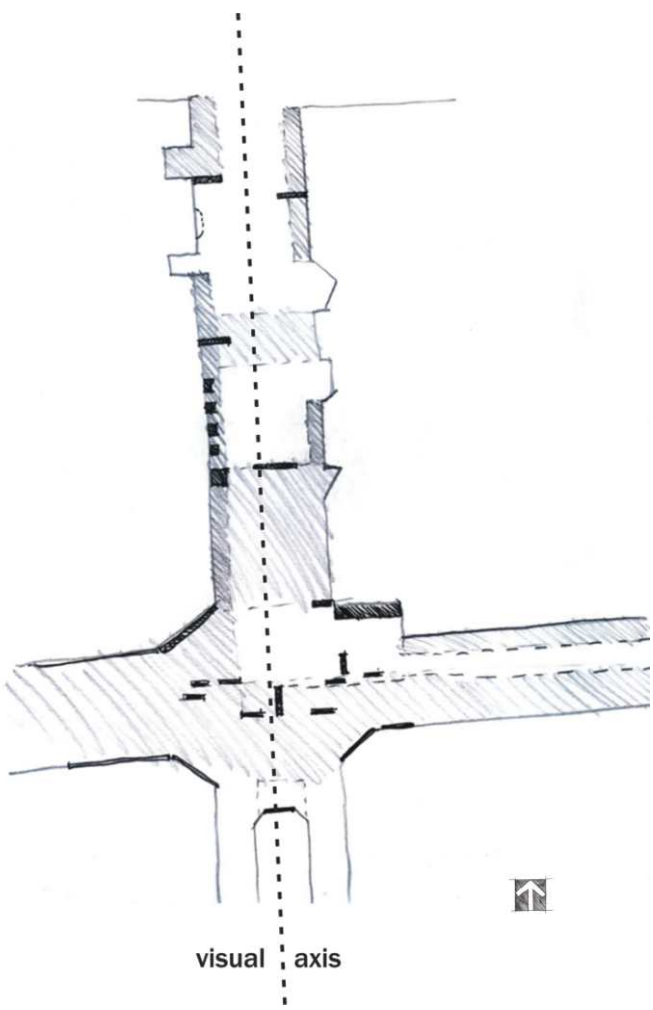

FIGURE 3.37, 3.38, 3.39

3.37 Diagram indicating the signage/orientation within and around President arcade

3.38 Signage along the edges of the arcade

3.39 Signage at midpoint

PHYSICAL NEEDS

Are the physical needs of man addressed (through facilities such as public toilets and public phones)?

There are no public toilets in the arcade, which can limit the time spent lingering, as the city dweller will have to move when they require these facilities.

While public phones (see figure 3.24) are available, people prefer to make use of the informal telephone stands located along the arcade. When asked why, their response is that the public phones are usually out of order or their coins get stuck inside and they lose their money. They prefer the informal stands because they are more reliable and they are removed from heavy pedestrian movement and form an active social point.

FIGURE 3.40 Informal telephone stand, removed from pedestrian movement

CONNECTION TO THE SKY

Does the space have a visual connection to the sky and how does the user respond to this?

There is a pattern of covered and open areas throughout the space and people linger at the points along the edge of the arcade where it is open to the sky but where cover is provided by means of a narrow cantilevered slab along the edge perimeter. At the points where the arcade is completely covered dwellers can still see light coming through, thus maintaining their relationship to nature.

The interior of the closed-up Identity store at the beginning of the arcade is completely cut off from the outside, allowing only a limited amount of natural light to fall into it.

FIGURE 3.41 View showing pattern of open and covered areas

ELEMENTS OF SEDUCTION

Do the edges/storefronts contain elements of seduction? Do they entice the dweller to look beyond the edge?

The storefronts are articulated as a continuous surface of glass (see figure 3.23 & 3.24). Some window fronts have been closed up while in others the displays are chaotic, making it difficult to notice any one thing in particular. The window displays fail to lure the passer-by into the shop, who continues past without even slowing down.

Where the arcade terminates in Pretorius Street, the shop entrances are located on the street. However, if the entrances were relocated inside the arcade, people would have to enter the arcade to access the shops and may subsequently be drawn deeper into the space.

SPACE AND EVENTS

What types of events take place within the space?

The activities taking place inside the shop interiors are disconnected from those taking place in the exterior space of the arcade. Passers-by cannot see into the shops and eateries. None of the shops have storefronts that open up to display merchandise in the arcade space. Neither do the eateries open up into the arcade, so patrons seated inside are unable to watch activity outside while passers-by are not enticed by sights and smells of food.

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Dwellers made the following comments about President Arcade as a social public space:

- President Arcade is a prominent thoroughfare for the city dweller, because it provides pedestrian access through a city block in order to reach Bosman Street station.
- There is a lack of opportunity for staying zones.
- Safety is an issue because of the strips of closed-up storefronts that break the visual link with the surrounding spaces. Not only does the pedestrian feel disconnected from the surrounding spaces, but schoolchildren are often mugged where nobody can see them.
- City dwellers consider arcade spaces as social points within the city fabric. However, President Arcade loses its value as a social space because there are no points in which to linger and stay.
- Although people want to look out onto activity while they are lingering and having lunch, restaurant windows do not open up into the surrounding arcade.
- The entrances of the corner stores should be moved into the arcade from their locations along the busy pedestrian street.
- Schoolchildren recline against the long strips of blank storefronts, making the area dirty. This behaviour cannot be monitored, as the storefronts are blocked off from the surrounding spaces.
- People only visit the stores in this arcade if they can't find what they are looking for somewhere else, because there is no opportunity to linger. This indicates that both commercial activity and public social space need to be present in order to activate the full potential of a place.
- Because many schoolchildren and students visit President Arcade, a bookshop (rather than a shop selling tombstones) would be more practical. The activities and functions of adjacent spaces need to compliment each other and to activate the dialogue between the inside spaces and their surrounds.

FIGURE 3.42

PUBLIC OPINION how do you experience this space?
why are you here?
What do you expect from a public space?

FIGURE 3.43, 3.44
3.43 Diagram indicating the points where people linger within President arcade
3.44 Diagram indicating the points where people linger when MUSICIAN was performing within President arcade

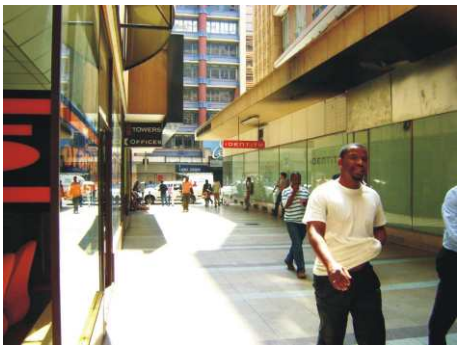


FIGURE 3.45, 3.46
3.45 View of clarinet player lying against inactive Identity storefront while performing
3.46 View of activity within President arcade while musician is performing

design aim

Kwaito music booming from oversized speakers in front of shops is a common feature in the arcades and thoroughfares. People move past quickly, ignoring the music, which thereby hinders opportunities for staying zones. The experiment required a musician to perform in President Arcade, in front of an inactive clothing storefront. The clarinet player performed classical and jazz compositions on a weekday, during the busiest period from 11:30am and 1:30pm. He moved slowly up and down the arcade space and, for a period of time, rested against the inactive storefront while performing. The aim was to observe if the city dweller responds to the element of surprise created by live classical and jazz music in this context and whether this seduces the passer-by to stop and linger or even to pause. A secondary purpose of the experiment was to observe, map and compare the lingering points of people while the musician was performing with that when there was no musician present.

response

Documenting the event was a difficult task. The moment people noticed that they were being photographed they moved on quickly.

Usually people loiter around the closed-up Identity storefront. But when the musician positioned himself here, all except two people moved over to the edge opposite to watch him. They did not recline against the clear open shop-fronts as is typical, but chose to stand within a niche formed by the entrance to the top building. Most people moving through the arcade paused to watch the musician, fascinated by an event that is out of place in the CBD.

conclusion

The experiment highlights that man's desire to watch and to be watched is limited and that dwellers want to survey their environments without being monitored. Provision should be made for public and semi-private points along the edges that give dwellers a choice regarding the level of exposure and social activity they want to engage in. The creation of these lingering points and staying zones are affected by what happens along a building's edge. People prefer to be directly opposite an active edge with their backs 'protected' by a less active edge.

The design of storefront edges should also incorporate elements of surprise and seduction to make the passer-by take notice and explore beyond the edge.

outcome

The design aim - through the above process of analysing the different arcades and thoroughfares, engaging in the detail analysis of President Arcade, interviewing the public and conducting the experiment - is to establish a document that will provide guidelines for the interior architect and developer as to which elements need to be implemented in order to establish an active dialogue between the building edge and the immediate public space.

The outcome of the above-mentioned process is discussed in the following chapter in the form of a guideline document that provides long-term and short-term guidelines.

04

edge handbook - guideline document

Overview

Long-term guidelines

Short-term guidelines

overview

The following chapter is presented as a separate guideline document that will form the basis of the design proposal for President arcade.

Long-term guidelines

Human beings' needs within public space and the urban fabric remain relatively the same. The long-term guidelines address these needs by listing which design aspects need to be present along the edges in arcades or thoroughfares that contain a mix of commercial activity, such as shops and restaurants, and public space.

Short-term guidelines

The retail industry is one of constant change. Store owners need to keep track of the current market and design trends in order to attract customers and maximise their businesses. The short-term guidelines aim to address those aspects that directly influence the passer-by's experience of the storefront and the surrounding public space. By following these guidelines the dialogue between interior and exterior is activated.

> "we must discover and master all elements that may be of use to us when designing a store window as this allow us to create spaces, which, despite being reduced in size, have their own character, and represent what is on offer inside" (Paredes 2007:8).

ACTIVE EDGE: edges that are not closed up, there is a strong visual connection between interior and exterior.

BUILDING EDGE: boundary between public and private; the edge of a space. The building edge divides the interior private space from the exterior public space.

EDGE: when the word 'edge' is used in this document it refers to the building edge as well as storefront.

EDGE EFFECT: the preferred areas for staying are found to be along the edges of spaces, this effect is called the 'edge effect' by the sociologist Derk de Jong.

LESS ACTIVE EDGE: an edge where there is a weak visual connection between the interior and exterior, for instance small window openings instead of a large, clear glass front. There is greater opportunity for staying along this edge.

LINGER: to delay or prolong departure; to spend a long time doing something.

SEMI-PRIVATE POINT: a point from which dwellers can watch the surrounding activity but are hidden so they do not feel as if they too are being watched.

SOCIAL SPOT: points where city dwellers socially interact with each other.

STAYING: to remain in a place or condition; to reside temporarily.

STAYING ZONE: points where people prefer to stay.

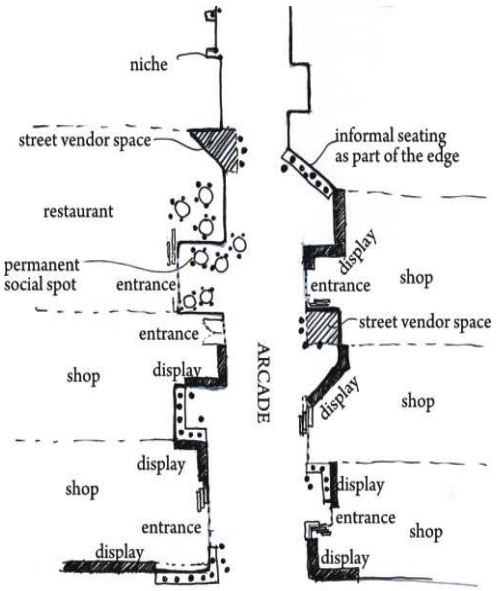
STOREFRONT: the building edge of a retail store, where it is advantageous to have a large space adjacent to the public realm for the display of goods.

Collins English Dictionary, New Edition. Managing Editor: Sheila Ferguson. 1998. Glasgow: Harper Collins Publishers.

PORTER, T. 2004. Archispeak: An illustrated guide to architectural terms. New York: Spon Press.

need for social public space

- PEOPLE CREATE SOCIAL SPOTS WHERE THERE IS OPPORTUNITY TO SIT DOWN.
  Social public space does not have to be formally organized with actual seats. **CREATE A PLAY IN THE SURFACE OF THE EDGES WITH NICHES** where people can create their own social spots.
- PEOPLE GO WHERE PEOPLE ARE.
  People tend to move towards established social points in a space. **CREATE A PATTERN OF PERMANENT SOCIAL POINTS,** such as restaurants, that are woven in between storefronts. Ensure that the restaurants open up and look out onto the surrounding space, so that passers-by take notice of the storefronts when they are drawn to the social point.
- **PLACE STREET VENDORS IN BETWEEN STORES AND NOT ALL TOGETHER AT ONE POINT.**

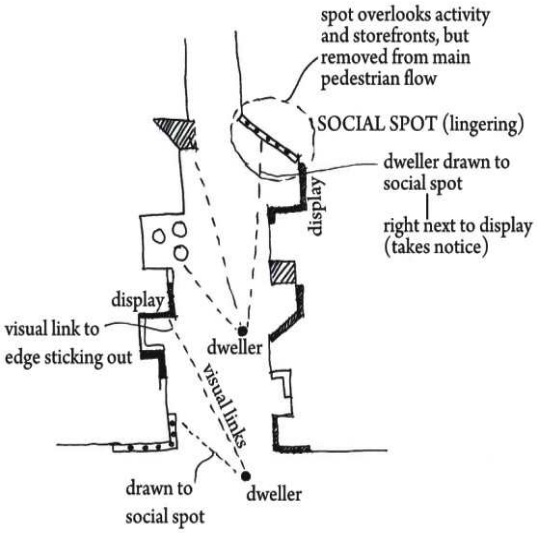


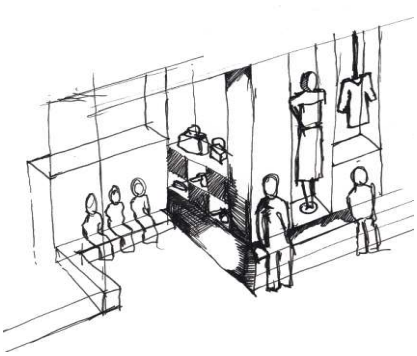
www.archdaily.com/14261/sheila-c-johnson-design-center-lyn-rice-architects/

In today's society mass media informs us on a daily basis about world events and our environment on a bigger scale, but to learn about our immediate circumstances we need interaction with other people. We need to see and hear other people so that we can get new ideas and be inspired for action.

edge effect staying zones

- ENSURE THAT STAYING ZONES ARE WITHIN THE VISUAL FIELD OF THE DWELLER. **CREATE ELEMENTS THAT STICK OUT FROM THE EDGES** and entice passers-by to stay.
- **CREATE STAYING ZONES THAT OVERLOOK COMMERCIAL ACTIVITY BUT ARE A BIT REMOVED FROM IT.**
- **ELEVATE STOREFRONTS FROM THE GROUND TO DRAW ATTENTION** to merchandise, as well as to create opportunity for staying zones - people can lie against the elevated storefront.

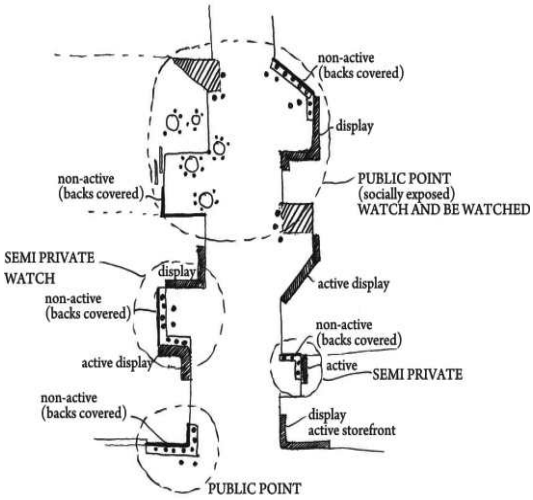




The genius locus of a place is determined by the treatment of its edges and should have various points of "interaction" along its route in order to activate the spaces on the inside as well as the outside of the edge and to prevent the spaces from becoming desolate and empty (Alexander et al. 1977:497 & Gehl 1987:153).

linger watch be watched

- **CREATE A PATTERN OF ACTIVE AND LESS ACTIVE EDGES OPPOSITE EACH OTHER.** People linger where they can sit and look out onto some activity, such as an active storefront, but where their backs are 'protected', to some extent.
- **PROVIDE PUBLIC AND SEMI-PRIVATE STAYING POINTS,** as some dwellers prefer to watch and not to be watched.
- **CONSIDER THE VISUAL FIELD OF THE CITY DWELLER IN ORDER TO LURE THE DWELLER TO LINGER.**



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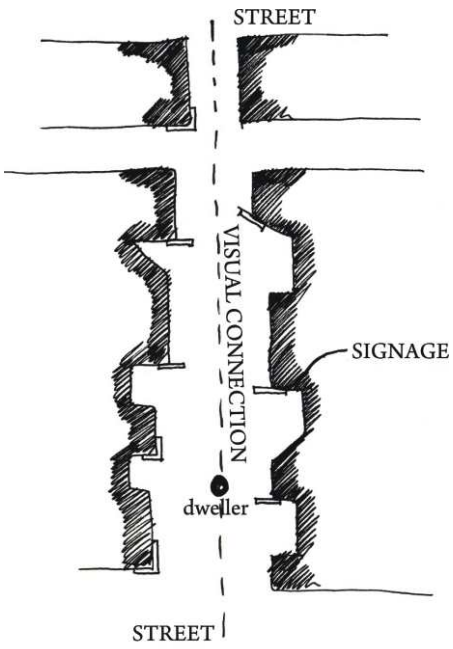
People need time to experience their surroundings they need to linger. When entering the public spaces and streets of the city, dwellers watch and take note of other people and the surrounding buildings and spaces, while also being watched.

information orientation

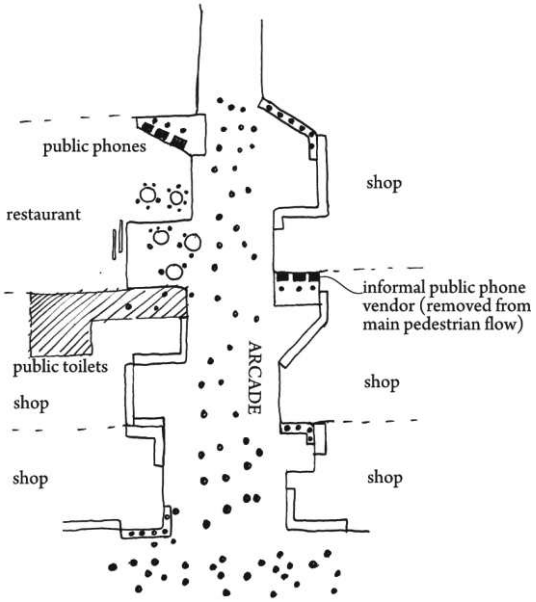
- **ENSURE THAT THERE IS A STRONG VISUAL CONNECTION FROM ONE POINT OF THE SPACE TO THE OTHER** so that dwellers have a clear visual field and can orientate themselves within the broader city context.
- **DESIGN SIGNAGE AS PART OF THE EDGE** with points sticking out into the surrounding space to lure the passer-by to stop and take notice. Signage must form an enticing pattern and must not create an overload of information that will cause the dweller to move past without noticing anything in particular. Shop owners must be prevented from hanging signage at whim.



"The sight of action is an incentive for action. When people can see into spaces from the street their world is enlarged and made richer, there is more understanding; and there is possibility for communication, learning" (Alexander et al. 1977:774).

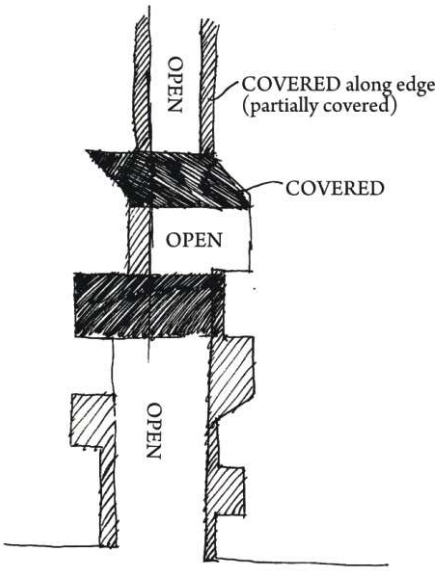
physical needs

- **PEOPLE LINGER LONGER IN SPACES THAT ADDRESS THEIR PHYSICAL NEEDS** as well as social needs. Provide facilities such as public toilets.
- **PUBLIC PHONES NEED TO BE ESTABLISHED AT POINTS THAT ARE REMOVED FROM HIGH PEDESTRIAN FLOW. ALSO MAKE PROVISION FOR INFORMAL PHONE VENDORS,** because in a South African context the person on the street prefers to make use of these facilities.



connection to the sky

- **CREATE INTERPLAY BETWEEN COVERED AND OPEN AREAS.** People prefer to linger at spots that are partially covered, but from which they can still see the sky, keeping their relationship with the environment alive.
- **CONSIDER THE AMOUNT OF DAYLIGHT THAT FLOWS INTO THE INTERIOR SPACE OF A STORE.** When people can see natural light flowing inwards, they feel less isolated from the outside.

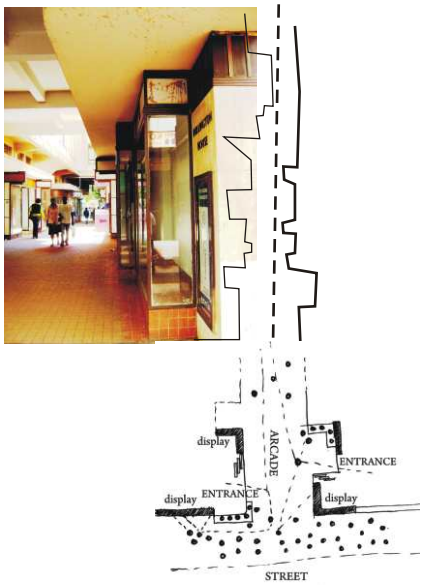


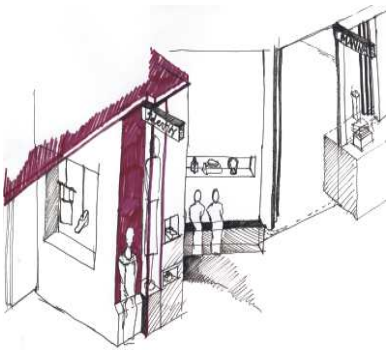
www.stevenholl.com

Alexander et al. (197:527) argue that there is a body of knowledge and research material that shows that man needs daylight. It plays an important role in the maintenance of the body's circadian rhythms and the human body needs to follow the change of light through the day in order to maintain its relationship to nature.

elements of seduction

- **CREATE STOREFRONT EDGES WITH ALTERNATING LEVELS** as an interesting element of seduction that will lure the dweller forward to discover what is behind the next level.
- STOREFRONTS SHOULD ALLOW THE PASSER-BY TO VIEW INTO THE STORE WITHOUT SEEING EVERYTHING AT ONCE. **CREATE A PATTERN OF OPEN AND CLOSED EDGES** that lure the dweller to look beyond them.
- **CREATE DIFFERENT SIZED OPENINGS IN STOREFRONTS FACING THE STREET** so that there is opportunity to draw attention to specific merchandise.
- **ENSURE THAT STORE ENTRANCES ARE LOCATED ON THE INTERIOR OF ARCADE SPACES** and are removed from high pedestrian traffic so as to draw people into the space from the street.





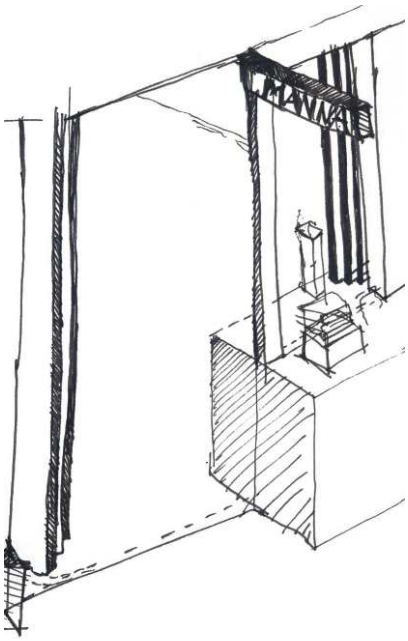
www.hollein.com

www.klein-dytham.com/project/interior/selfridges/1

The storefront is the point that connects the public realm and the interior realm. As such it should contain elements of seduction. By playing around with different sized window openings and half-open walls, the interior architect is creating a boundary while seducing the dweller to look beyond it by forming a connection between them and the surrounding space.

space and events

- CREATE OPPORTUNITY FOR EVENTS HAPPENING INSIDE STORES TO FLOW TO THE OUTSIDE SPACE. **CREATE POINTS IN THE EDGE THAT CAN COMPLETELY OPEN UP** so that the boundary between inside and outside is blurred.
- **POSITION THESE STORES AT THE CORNERS OF THOROUGHFARES TO LURE PEOPLE INTO THE SPACE.**



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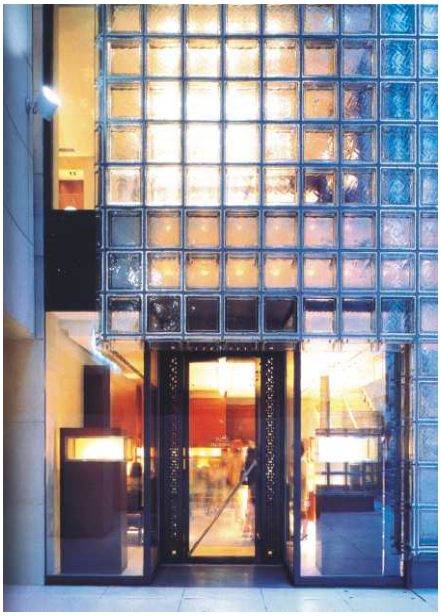
The edge 'speaks' to the dweller and the dweller 'speaks' back, but if the edge is inactive no dialogue can occur and the space will become derelict. No event will take place. The interior architect needs to consider the space and events beyond the boundary of the interior space.

game of seduction

- The choice of which store the dweller enters depends almost entirely on what is on offer in the display window. **TREAT THE STOREFRONT AS A STAGE** FROM WHICH TO CATCH AND KEEP THE ATTENTION OF PASSERS-BY, ENTICING THEM TO ENTER.
- The store window is not just a display, it has a life of its own, "offering a glimpse of what lies inside without being excessively explicit" (Paredes 2007:104). STOREFRONTS SHOULD ALLOW THE PASSER-BY TO VIEW INTO THE STORE, BUT NOT TO SEE EVERYTHING AT ONCE. **CREATE A PATTERN OF OPEN AND CLOSED SURFACES WITHIN THE STOREFRONT** that lure the dweller to look beyond the edge.
- **CREATE DIFFERENT LEVELS AND DISPLAY UNITS IN THE STOREFRONT** so that there is opportunity to draw attention to specific products that will give the customer a taste of what can be found inside and seduce them to enter. Avoid a cluttered, full storefront that will only confuse the passer-by.



Paredes 2007:31

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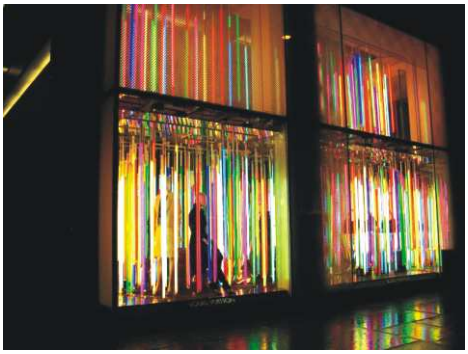


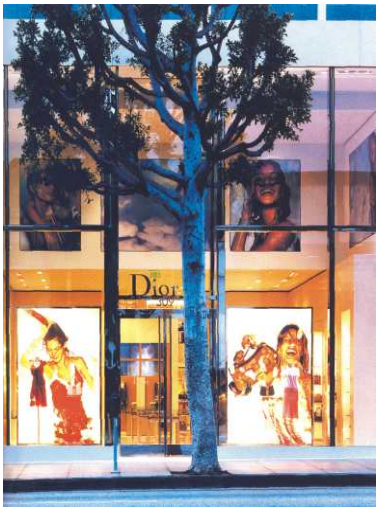
//www.orianafox.com/installation/angle1_storefront.jpg

//farm4.static.flickr.com/3155/2534569257_3c36b3a9ef_o.jpg

"Seduction is an art, and it does not depend on what we have but what we do"(Paredes 2007:138).

openings

- CONSIDER THE OPENINGS PROVIDED BY A PARTICULAR STOREFRONT AND DESIGN THE DISPLAY ACCORDINGLY.
- A CONTINUOUS CLEAR GLASS FRONT FORMS A VISUAL CONNECTION BETWEEN STREET AND STORE. It connects fantasy with the reality of the street. SEE GAME OF SEDUCTION.
- A COMBINATION OF CLEAR AND OPAQUE GLASS AND THE USE OF SMALL OPENINGS CREATE A MYSTERIOUS ATMOSPHERE (Paredes 2007:170). There is opportunity to draw attention to a specific product and to lure the passer-by to explore beyond this edge, because the entire interior is not exposed and can't be viewed from the street.



Paredes 2007:99

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//jsa-3i.co.uk/inspire-puma.jpg

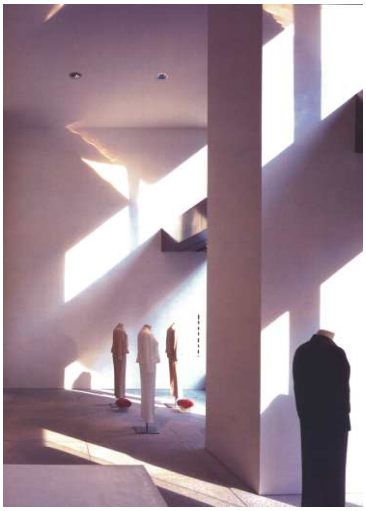
//www.hongkonghustle.com/wpcontent/louisVuitton_Central.jpg

Small openings in a storefront/building edge create a definite feeling of enclosure and interiority, but when the wall is a framework filled with large surfaces of glass it 'de-materializes' the edge and establishes an interaction between exterior and interior (Norberg-Schulz 1980:67).

By playing around with window openings and half-open walls, the interior architect is trying on different masks, seducing the passer-by to linger and explore beyond the edge.

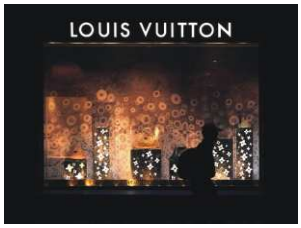
natural and artificial light

- **THE WAY LIGHTING IS HANDLED WITHIN THE STOREFRONT WILL DETERMINE THE ATMOSPHERE** of the product and of the lifestyle presented to the passer-by in the street.
- **CONSIDER THE AMOUNT OF NATURAL LIGHT THAT ENTERS A STORE WINDOW.** For instance, when a minimal amount of natural light enters a store window and the display area has a dark ceiling, the effect is gloomy.
- **ARTIFICIAL LIGHTING MUST BE USED AS A TOOL THAT CAN SET THE TONE OF THE DISPLAY AREA.** This tone filters into the atmosphere of the surrounding public space and will determine whether the passer-by will take notice, linger and, in the end, enter.



Hudson 2007:217

Hudson 2007:113



http://farm4.static.flickr.com/3236/2496412581_8e59ea21cd.jpg?v=0

Paredes 2007:133

colour and materials

- **COLOUR HAS A PERSONALITY** and must be used to communicate to the passer-by what type of experience they can expect beyond the storefront edge.
- **MONOCHROMATIC** colours will create a serene and harmonious display and atmosphere (Paredes 2007:156).
- **CONTRASTING** colours can create a shocking effect that catches attention quickly (Paredes 2007:156).
- **EVERY MATERIAL CHOSEN TO BE USED AS WITHIN THE STOREFRONT SHOULD HAVE A RELATIONSHIP WITH THE PRODUCT BEING SOLD.**

//www.alenahennessy.com/images/news/mlnews.jpg

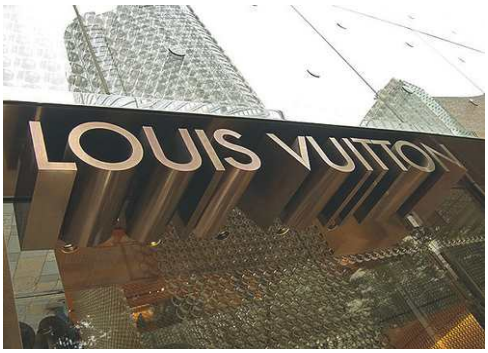
Paredes 2007:123

//hypebeast.com/image/2008 /07/mini-colette-store-2.jpg

branding

- **BRANDING IS MORE THAN JUST THE LOGO OF A PRODUCT, IT IS A LIFESTYLE THAT IS BEING SOLD.**
- **THE WAY THE STOREFRONT IS BRANDED PLAYS A ROLE IN THE BRANDING OF THE SURROUNDING PUBLIC SPACE.** Consider the experience of the surrounding public space and how the branding of a particular storefront can enhance this experience and strengthen the dialogue between interior and exterior.

www.dailydooh.com/wp-content/uploads/2008/01/hilscreencarnabyst4.gif



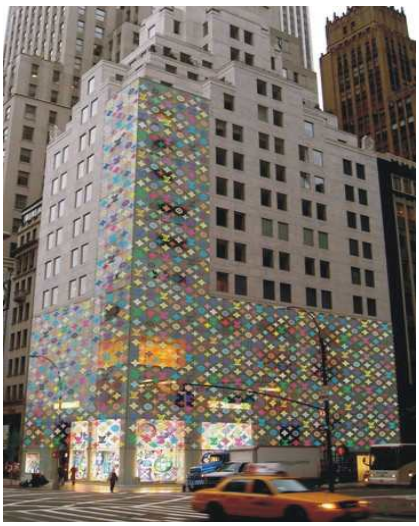
www.flickr.com/photos/metropol2/123624523/

"If a consumer thinks about you and your products when they think about a core personal interest or desire, then that makes you part of their lifestyle!" (www.edery.org/2006/06/lifestylebrands).

storefront vs architecture

- **THE DESIGN OF THE STOREFRONT IN RELATION TO THE LANGUAGE OF THE SURROUNDING ARCHITECTURE SETS THE TONE FOR WHAT HAPPENS BEYOND THE EDGE.** Think about the target market and what type of passer-by needs to be seduced and attracted by the storefront edge.
- If the storefront follows the line and style of the surrounding architecture, a feeling of stability and continuity is created that will install a sense of wellbeing in the passer-by (Paredes 2007:162).
- Breaking away from the language of the surrounding architecture by designing a contrasting storefront will create an unreal atmosphere and a fantasy world that takes the dweller away from their everyday life (Paredes 2007:164).

www.e-architect.co.uk/new_york/jpgs/new_york_louis_vuitton_amcrmar07_09.jpg



www.hypebeast.com/image/2008/11/louis-vuitton-5th-store-takashi-murakami-2.jpg

Paredes 2007:162

05

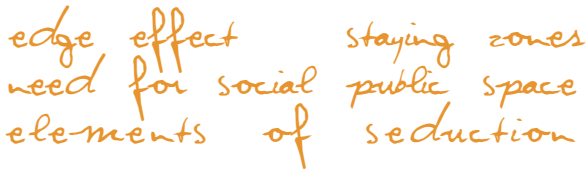
design precedent studies

Guideline precedents

Inspiration precedents

guideline precedents

The following precedent studies are grouped and discussed in relation to specific guidelines (see Edge handbook Chapter 4) that are addressed within the design of each precedent.



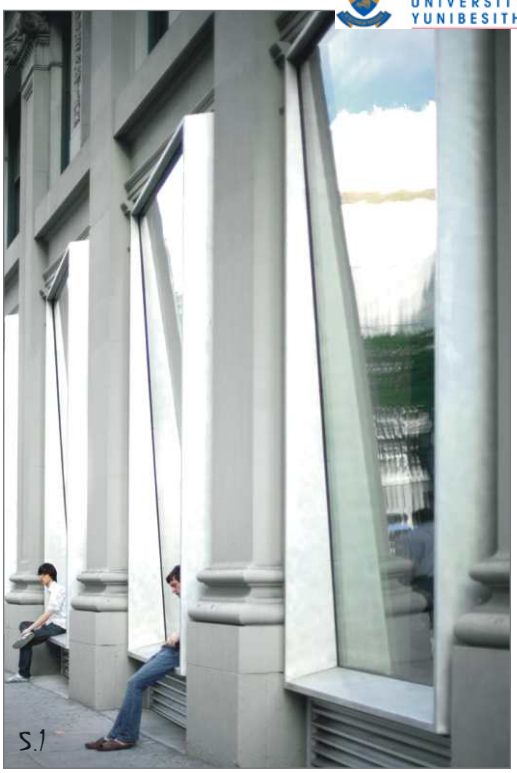
SHEILA C. JOHNSON DESIGN CENTER
LYN RICE ARCHITECTS
NEW YORK CITY, USA, 2008

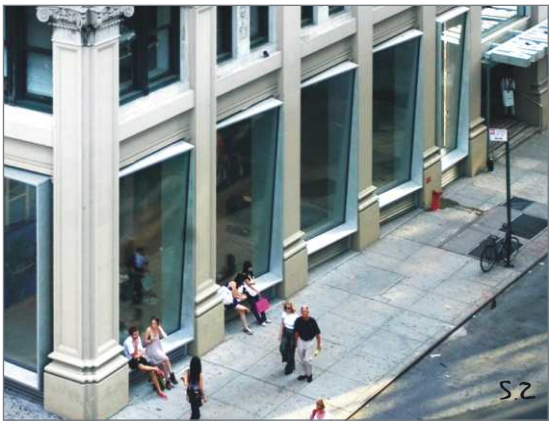
The Sheila C. Johnson Design Center established a new campus nexus for Parsons The New School for Design in New York, by uniting and re-organising the street-level spaces of the school's four buildings around a new urban quad.

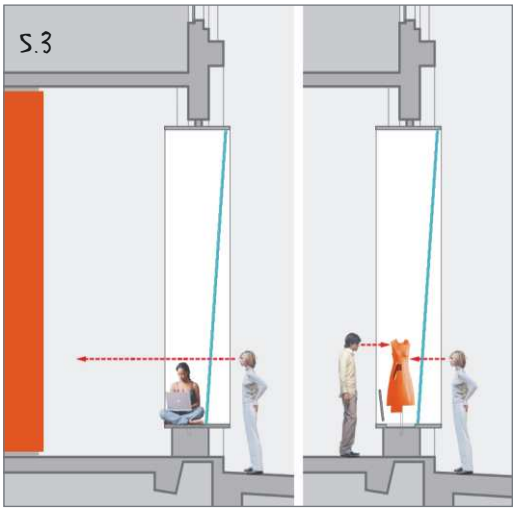
The street façade of the Design Center acts as an urban threshold that draws together the school's programmes and the surrounding Greenwich Village context (http://www.archdaily.com).
This effect is achieved by blurring the boundary between exterior and interior through a series of large-panel, deep-set, aluminium-framed windows that are rotated in plan towards the exterior and tilted out in section to allow expanded views to and from the street.

The window sills are lowered, creating opportunity for staying zones by forming interior/exterior seating along the street façade perimeter. This continuous window lounge creates a thin study/social zone for students and doubles up as an exhibition area for the display of student work (http://www.archdaily.com).

The design of the centre's façade establishes an active social perimeter that draws the passer-by in while seducing the passer-by through the display of student work to explore beyond the edge.







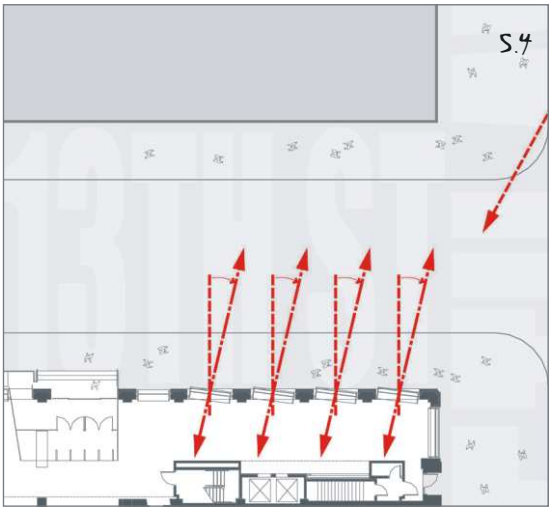


FIGURE 5.1 Side view of interior/exterior seating bay
5.2 Top view of interior/exterior seating facade
5.3 Section through facade
5.4 Plan indicating expanded views onto street
5.5 Front view of facade

TRUTEC BUILDING
BARKOW LEIBINGER ARCHITECTS
SEOUL, SOUTH KOREA, 2006

The Trutec office building in Seoul's Digital Media City is strategically located between the city centre and the airport. The building's street façade consists of a large-format frame construction that is filled with hundreds of highly reflective angled glass panes that are at once transparent and translucent, reflecting Seoul's disparate urbanity (http://www.detail.de).

This duality results in a seductive façade which encourages the passer-by to explore an edge that constantly changes level and that creates a kaleidoscopic effect by reflecting images of the sky and built context.

The frame construction at the bottom of the façade tilts towards the interior of the building, but nowhere along its length does it tilt towards the exterior, whereby it could have been utilised to form staying zones along the street façade for the city dweller.

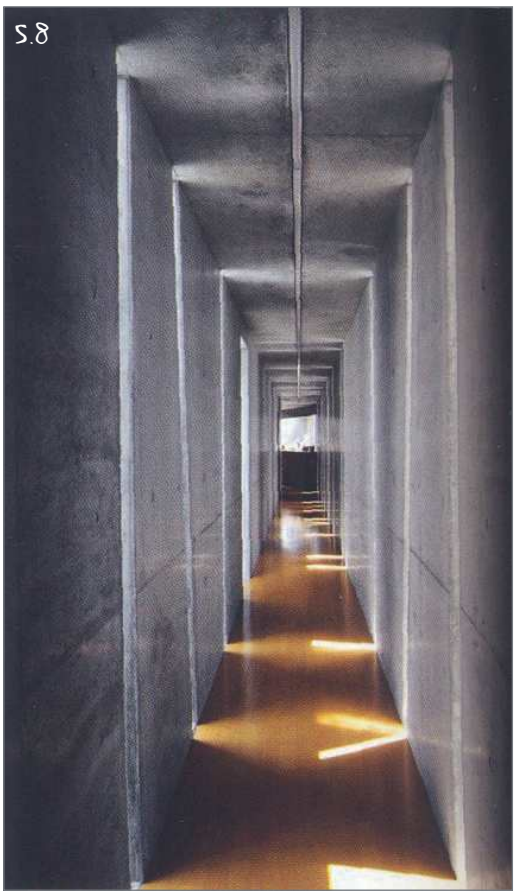
FIGURE 5.6 View of street facade
5.7 3d section through frame construction tilting towards the interior

SLIT HOUSE
EASTERN DESIGN
SHIGA PREFECTURE, JAPAN, 2004

This unusual house is situated on a long and narrow site and features 60 slits and no windows along 105 metres of wall length. The slits along the edge screen the interior from view from the outside, but bring light into the house (Jodidio 2006:146).

Because these narrow, vertically orientated slits are very different from traditional window openings, the effect of the natural light that enters on the interior space is unique. The patterns formed on the interior walls and floor make one aware of the light and establish a stronger connection with the outside.

This precedent shows that the view and experience on either side of the edge can be altered through the design of specific openings; and that the amount and shape of light that enters through openings plays a role in determining the atmosphere of the interior space.



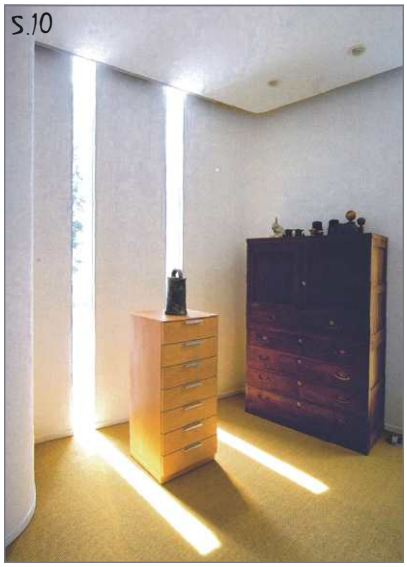


FIGURE 5.8, 5.9, 5.10 Interior views indicating the light effect created by slits openings

STOREFRONT FOR ART AND ARCHITECTURE
STEVEN HOLL & VITO ACCONCI
NEW YORK CITY, USA, 1992

The Storefront for Art and Architecture is a non-profit organisation that acts as a public forum for the advancement of architecture, art and design. Exhibitions, events and talks that are intended to generate dialogue take place in a gallery that is situated on the corner of Kenmare Street and 7th Avenue in New York. It forms a distinct intersection between Chinatown, Little Italy and SOHO, drawing a diverse audience (www.stevenholl.com).

The gallery space is very limited and narrow and therefore the façade is utilised, through a series of hinged panels, as part of the exhibition space. A puzzle-like configuration is created by the arrangement of hinged panels and when the panels are locked in open position, the edge dissolves and interior events can flow out onto the sidewalk (www.stevenholl.com).

The panels are used as display units and project into the street zone, seducing people towards the interior event. This precedent illustrates how the design of the edge can form a strong link between the public life of the street and the private interior space of a building.

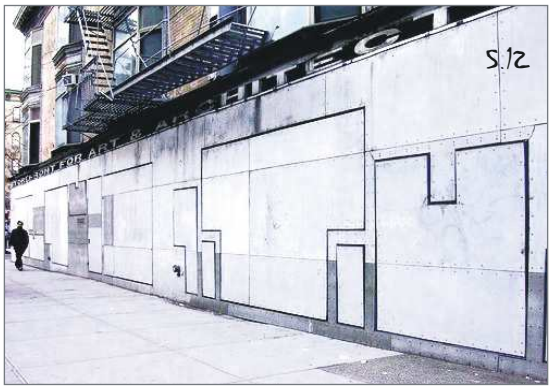


FIGURE 5.11, 5.12 View of facade - panels open/closed
5.13 Interior event flowing out onto sidewalk
5.14 Side view of panels

BURLINGTON ARCADE
GORDON ELLIS
PRETORIA, SOUTH AFRICA, 1934

Burlington Arcade is located on the ground floor of Burlington House in Church Street, Pretoria, and the main entrance to the building is via the arcade (Le Roux 1990:84). The architecture of the building showcases a combination of art deco, art nouveau and modernism; of which the art deco style features particularly strongly in the designs of the storefronts that line the arcade on both sides.

The storefront edges along Burlington Arcade create an interesting element of seduction as they are each built on alternating levels. Because there is not one flat surface, the passer-by is lured forward to discover what is beyond the next level change. The play of alternating levels also creates niches that the passer-by can recline against and watch their surroundings.

Many of the storefronts are built at a higher level than the ground and open up with sliding glass panels, so that the interior shop activity can flow out into the public arcade space, blurring the distinction between storefront and arcade.

These points become popular social spots for the passer-by. One such social spot is the barbershop that opens up completely so that it feels as though the barber is cutting hair in the public space. People are drawn towards this active point and they sit along the higher level of the shop, socialising with the barber and his clients.

FIGURE 5.15, 5.16, 5.17 Views of alternating edge levels in arcade
5.18 View of barbershop

LOUIS VUITTON
JUN AOKI & ASSOCIATES
TOKYO, JAPAN, 2003

The Louis Vuitton store in Roppongi Hills in Tokyo makes a strong brand statement without using any of the brand's traditional logos. Aoki & Associates designed a glass façade using over 20,000 glass tubes that projects fragmented parts of the interior outwards while at the same time reflecting the surrounding buildings and public space. The countless reflections and refractions from the interior form an understated image of the name of the store along the exterior façade (Hanisch 2006:22).

The circular motif of the glass tubes creates an effect that echoes the patterns stamped on the brand's products (http://images.businessweek.com) and showcases how branding can become part of the architectural structure of a store's edge.

On a subconscious level the brand makes a strong connection with the everyday life of the passer-by by intertwining the name of the store with the reflection of the surrounding public space that the dweller finds their self in.

FIGURE 5.19 View of storefront
5.20 Effect of storefront in the evening
5.21 Detail view of circular glass tubes

LOUIS VUITTON
JUN AOKI & ASSOCIATES
MANHATTAN, NEW YORK, USA, 2004

The Louis Vuitton store on 5th Avenue in Midtown Manhattan, New York, is located in a 1930s art deco building (http://www.galinsky.com). Aoki has transformed the exterior of the building into a contemporary luxury through a milk white glass layer that covers the existing façade, creating a dream-like setting and ensuring that the storefront is noticeable from a distance.

The solid milk white ceramic coating on the inner surface of the glass gradually becomes a checkerboard pattern in front of the window openings, creating a transition from opacity to transparency (http://www.galinsky.com).

People passing by are lured closer by this storefront that is in stark contrast with the existing architecture.

FIGURE 5.22, 5.23, 5.24 Views of storefront

The window displays of Louis Vuitton stores around the globe are an excellent precedent to illustrate how elements of seduction can be implemented in order to lure the passer-by into a store.

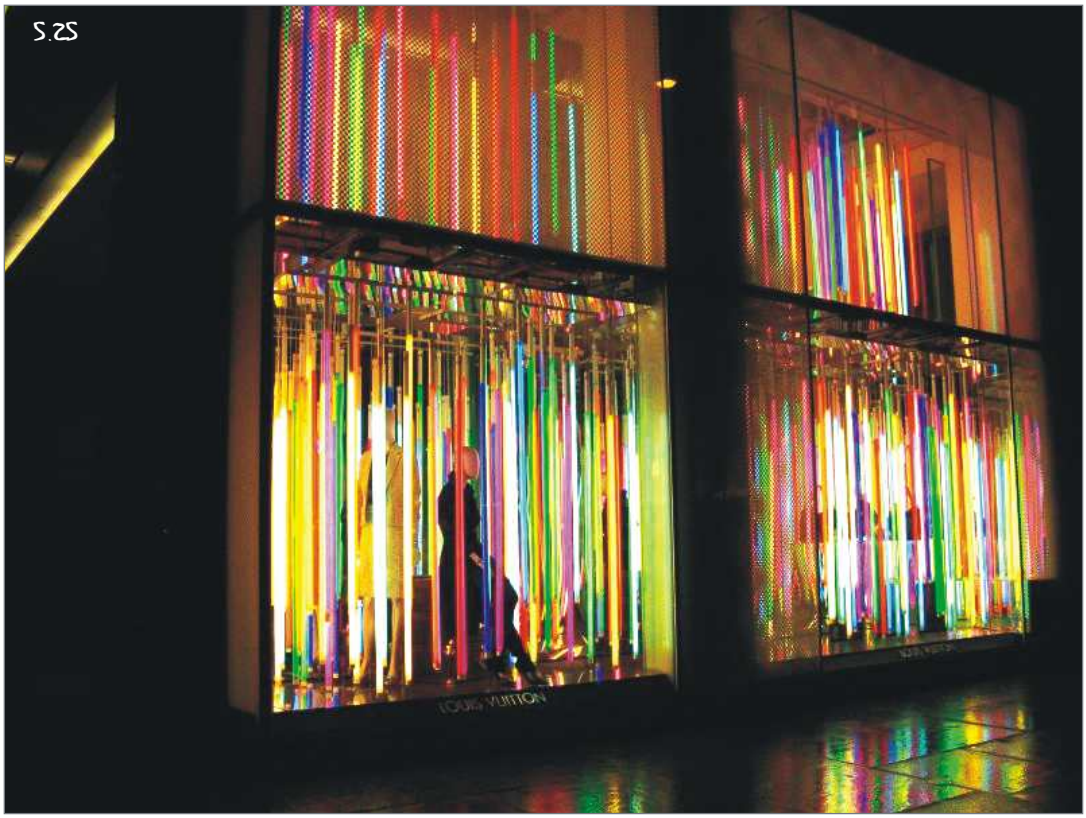
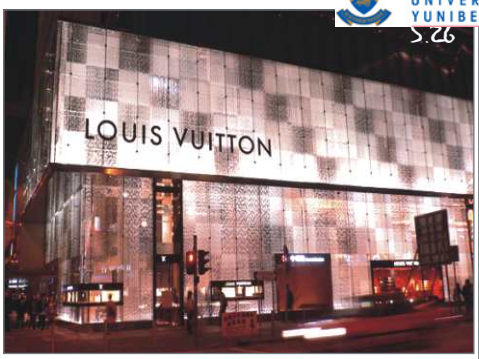


FIGURE 5.25 View of window display with multi-coloured fluorescent tube lights

The multi-coloured fluorescent tube lights that are suspended from the window display's ceiling create a striking effect. At first glance, the passer-by notices the lights and can't help but be lured closer in order to discover what can be found beyond the lights' perimeter. Upon closer inspection, a handbag or mannequin begins to appear, giving you a taste of what can be expected inside the store.



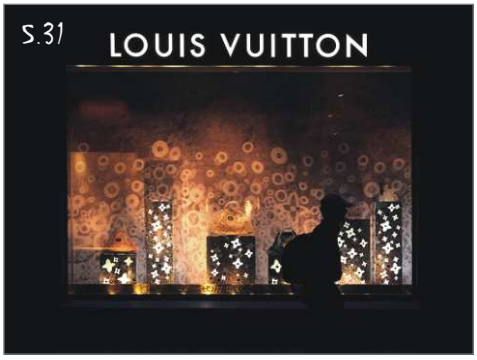


FIGURE 5.26 - 5.36 A selection of Louis Vuitton window displays

The following precedents inspired design ideas that were incorporated in the proposal.

Interactive displays could be used as a branding tool that determines whether the passer-by will enter the specific store. While the potential customer actively explores the edge, he will be given a taste of the products and lifestyle being sold inside the store.

FIGURE 5.37 Interactive display panel, Bloomberg ICE, Toshio Iwai, Tokyo, Japan, 2002
5.38 Castro interactive booth, Israeli fashion conference, 2008

The design of different sizes and shapes of window openings creates a play of light within an interior and will provide opportunity for an interesting display of merchandise aimed at seducing the passer-by to explore beyond the storefront edge.

FIGURE 5.39 Engelhorn department store, Blocher Blocher Partners, Mannheim, Germany, 2007
5.40 Body house, Monolab architects, Rotterdam, Holland, 2003
5.41 Prada epicenter, Herzog & De Meuron, Tokyo, Japan, 2003

The design (fig 5.42) is successful in keeping the window display interesting, while providing the interior spaces with a high level of privacy and giving the passer-by a glimpse of the movement on the other side of the edge. This principle will be implemented along the windows of tenants that require privacy, like the doctor and dentist in the arcade.

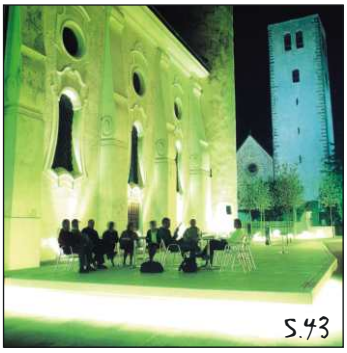
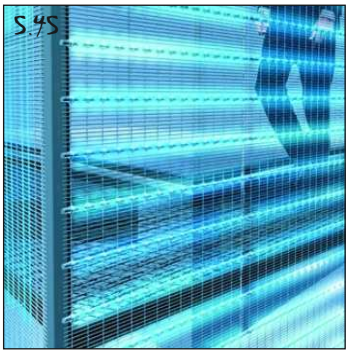


FIGURE 5.42 Heidi house, Klein Dytham architecture, Tokyo, Japan, 2005
5.43 Fuzi pedestrian zone, AWG, San Candido, Italy, 2002

Horizontal slat construction (fig. 5.44) used in conjunction with edge seating at selected points along the edge will establish points that are semi-private, but that still maintain visual connections with the surrounding space.

A small platform incorporated as part of the edge along the arcade could be used by various shop tenants for different purposes performances, book launches and the display of sale items, for example. Raising the platform from the ground and installing lighting at the bottom will create a focal point during performances at night (fig. 5.43).

FIGURE 5.44 W Hotel, Yabu Pushelberg, Times Square, New York, 2001



LED strips mounted on architectural woven wire mesh (Illumesh), projecting light onto the mesh surface, create a dynamic lighting colour wash. Illumesh provides 60-90% transparency, ensuring that the passer-by will be visually connected to the surrounding interior spaces while also lighting the arcade during the evening.

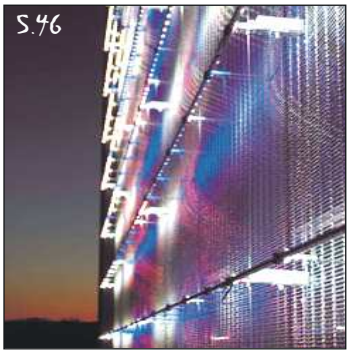


FIGURE 5.45, 5.46 GKD metal mesh - Illumesh

Incorporating reflective surfaces at selected points throughout the arcade, as an element of seduction, will make the passer-by more aware of the surrounding edges and draw attention to specific display windows.

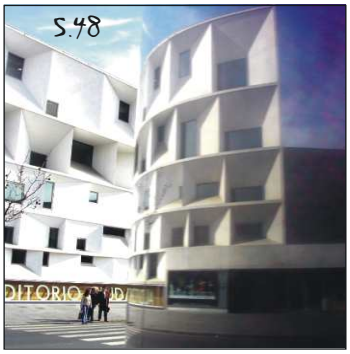


FIGURE 5.47 Mameg + Maison Martin Margiela, Johnston Marklee & Associates, California, USA, 2007
5.48 City of Leon auditorium, Mansilla & Tunon architects, Leon, Spain, 2002

A glass viewing box, situated on the first floor of a building at midpoint along the arcade and projecting into the surrounding space, will act as a drawing point that lures the passer-by deeper into the arcade without obstructing the visual axis of the arcade.

FIGURE 5.49 Glass balcony at Sears Tower, Chicago, USA
5.50 La Purificadora Hotel, Legorreta & Legorreta, Puebla, Mexico, 2007

Perforated metal sheets with lights at the back create a subtle lighting effect that can be used to guide dwellers at night while simultaneously making them aware of the edges surrounding them.

FIGURE 5.51 XVI Chilean Architecture Biennale, Assadi + Pulido, Santiago, Chile, 2008
5.52 Mount Fuji architects studio, Masahiro Harada & MAO, Tokyo, Japan, 2006

06

design discourse

Client framework

Proposed intervention at President Arcade

EDGE DESIGN SCHEDULE

Trade off

Shopping mall vs. Arcade

Storefront guidelines in South Africa

Design development

Relevance of Edge handbook to a different design style

client framework

6.1

main client and investor

6.2; 6.3

project partner and investor

6.4

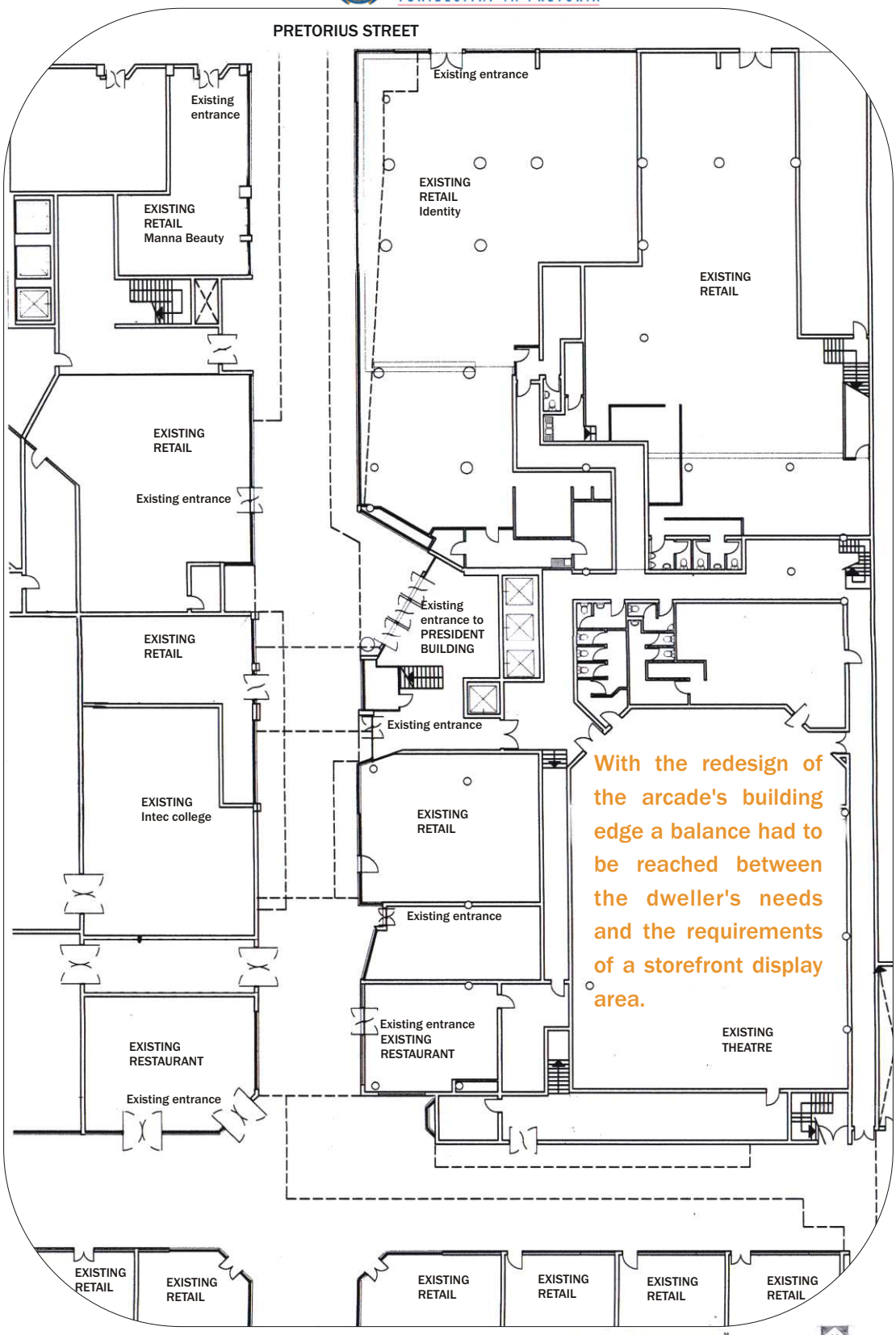
tshwane urban development zone

City Property currently owns President Arcade and the adjacent buildings. The company aims to change the nature of the Pretoria CBD by providing quality spaces for living and working. City Property is the pioneer behind upgrading redundant and derelict office blocks in the CBD to create secure and desirable residential units, which also offer retail developments at street level (http://www.cityproperty.co.za).

Investors of properties in the Pretoria CBD benefit through the Tshwane Urban Development Zone (UDZ) initiative. City Property will receive a 20% tax deduction in the first income-earning year and an annual depreciation of 20% over four years for upgrading President Arcade (http://www.tshwane.gov.za/udz.cfm).

City Property, together with the Small Enterprise Development Agency (SEDA) of the Department of Trade and Industry (DTI), funds the research and development of the Edge handbook.
Architects and designers appointed on projects can obtain the Edge handbook, with guidelines for reactivating the edges from City Property, while retail tenants can make use of the short-term guidelines.

SEDA supports the development of small businesses in South Africa. The agency aims to initiate a national entrepreneurship drive and to expand the education and training for small business owners (http://www.seda.org.za). The short-term guidelines can be used to educate retail owners as to how to promote and advertise their products in the storefront edge.



With the redesign of the arcade's building edge a balance had to be reached between the dweller's needs and the requirements of a storefront display area.

FIGURE 6.5 Existing condition

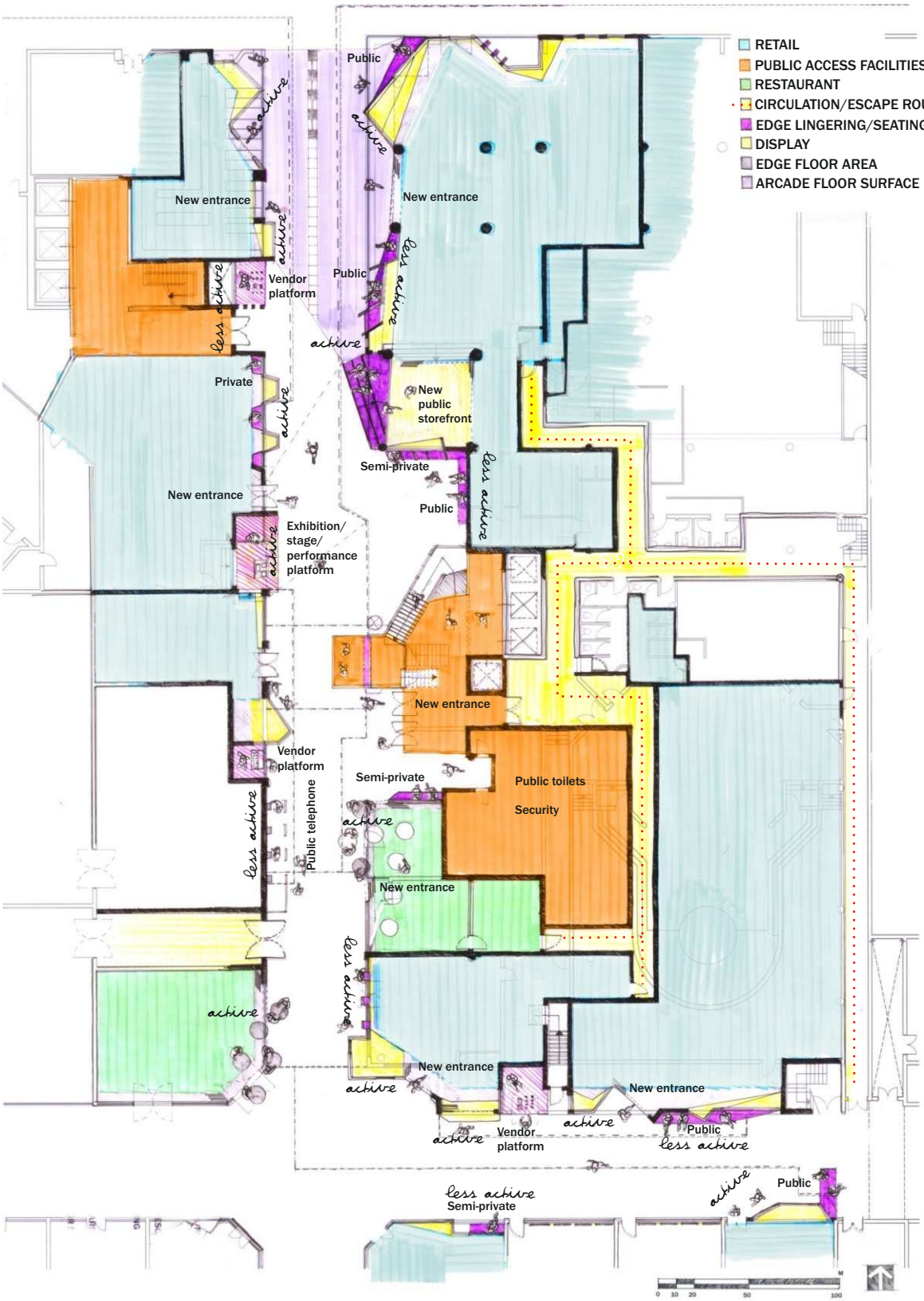


FIGURE 6.6 Conceptual development

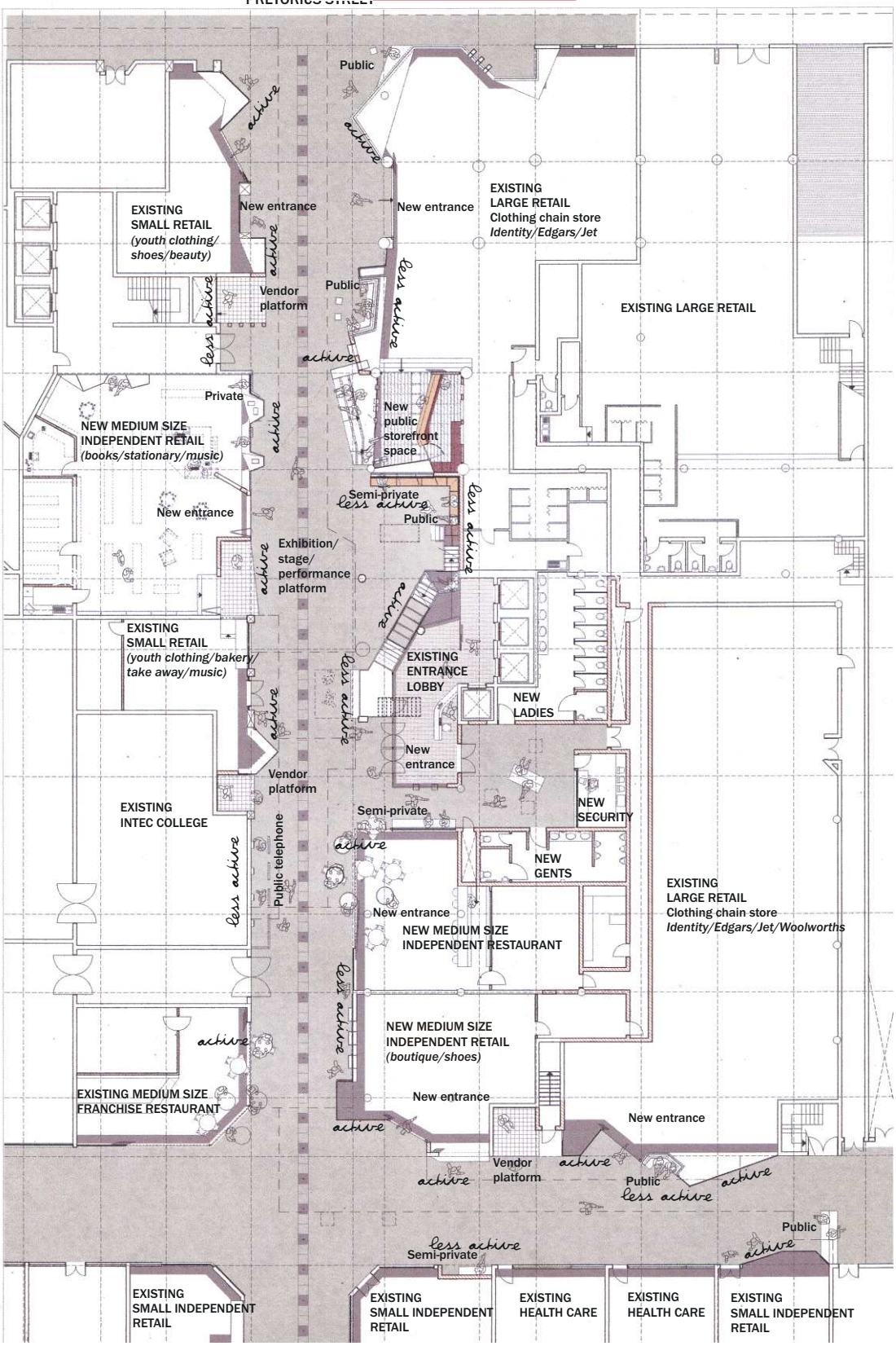


FIGURE 6.7 Ground floor

- The entrances to the corner stores are moved from Pretorius Street to the interior of the arcade, luring people deeper into the space.

- A new public storefront space and restaurants are woven in between the retail spaces in order to establish permanent social points.

- New public toilet facilities, which are easily accessible to the dweller, are provided and the public phones are screened off to provide a higher level of privacy to the user.

- A security office, with a direct visual connection to the arcade, is located in the midst of the public facilities. Security cameras installed in the retail spaces and arcade can be monitored from here.

- Within all the retail spaces an interior floor area along the storefront edge - ranging between 500 and 1000 mm, depending on the edge design - will be finished off in a material and colour that match the exterior arcade floor finish. This area is rentable floor area, but by means of the finish it is visually considered EDGE FLOOR AREA and thereby establishes a strong connection between interior and exterior.

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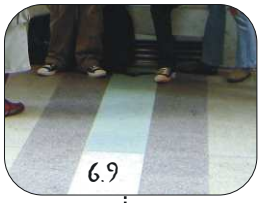
FIGURE 6.8 View down arcade in front public phones
6.9 Arcade floor tiles
6.10 New edge floor area finish flowcrete colour magnolia



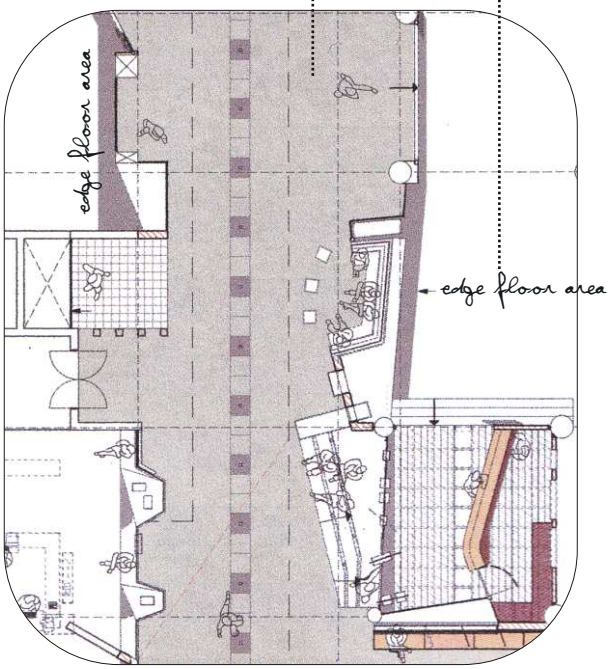


FIGURE 6.11 Detail of ground floor indicating the EDGE FLOOR AREA

6.12

- Seating is designed as part of the building edge/storefront display area and a pattern of active and less active edges opposite each other, is established.

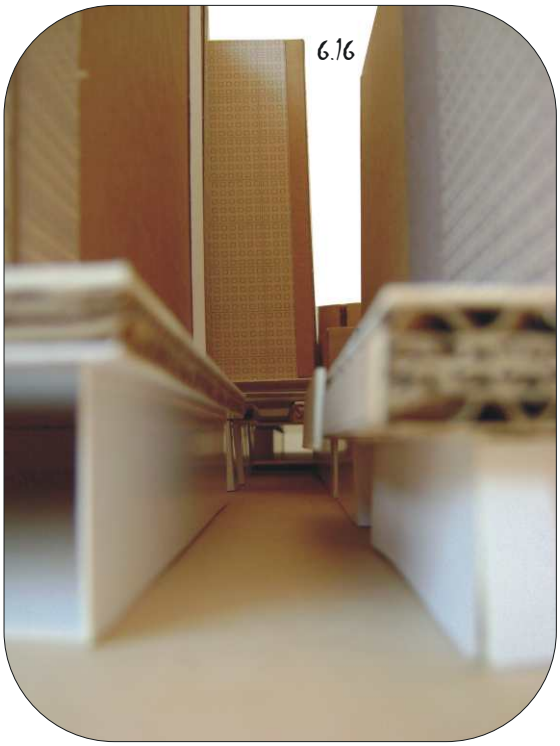
- Public and semi-private areas are created so that the dweller can choose the level of social exposure.

6.13

- The redesigned storefront edge uses alternating levels to create an element of seduction, thereby directing attention to specific display points along the edge.

FIGURE 6.12 View of edge seating / display area
6.13 View of semi-private seating inside a store, along the building edge
6.14 Public and semi-private seating areas along edge

FIGURE 6.15 View down arcade with alternating levels
6.16 Model indicating existing edge
6.17 Model indicating new edge with alternating levels



- Areas for street vendors are designed as part of the edge and woven in between the retail spaces. The street vendor platforms will be raised from the arcade floor to provide space for lighting along the bottom edge, supplemented by an Illumesh backdrop. Vendor platforms that are unoccupied in the evening therefore create extra, well-lit lingering space for the night-time city dweller. The Illumesh backdrop provides advertising opportunity.

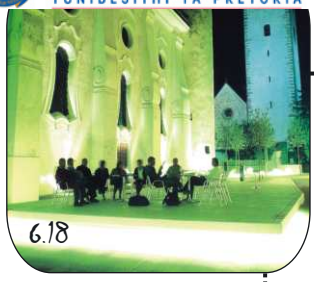
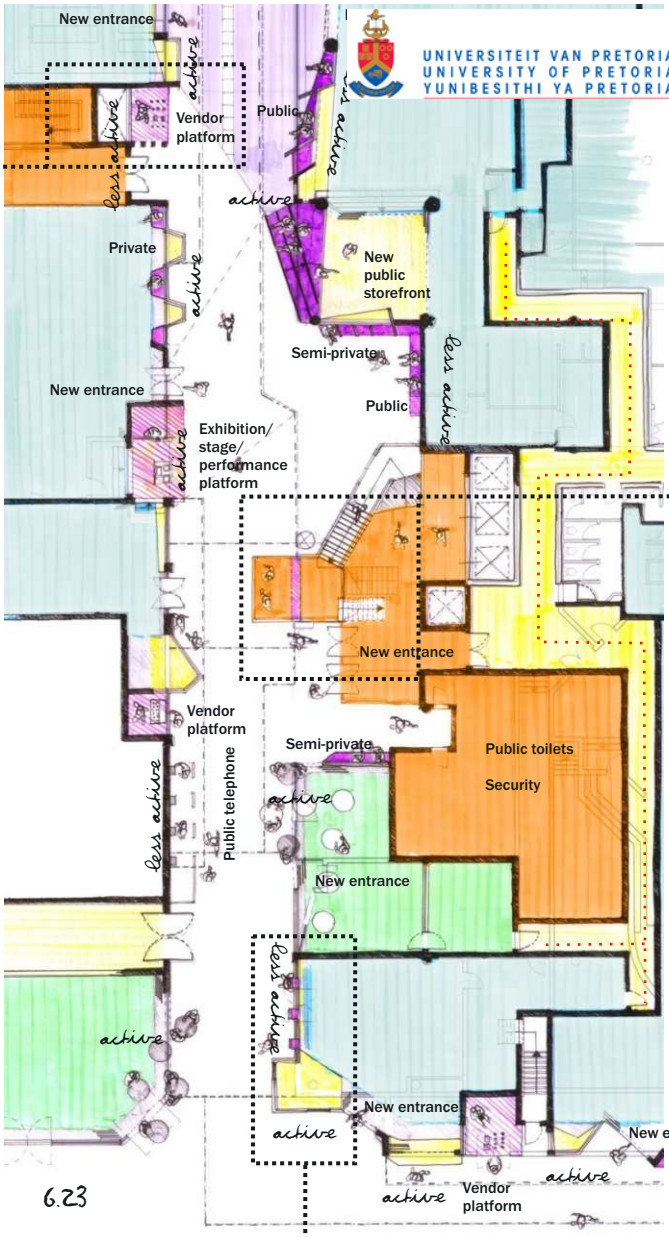


FIGURE 6.18 Fuzi pedestrian zone, Italy
6.19 GKD metal mesh - Illumesh
6.20 View of street vendor platform
6.21 City of Leon auditorium, Spain
6.22 Heidi house, Japan



- A glass-viewing box, which can be accessed from the lobby of the President building, projects into the arcade. This acts as an element of seduction at midpoint along the arcade and the clear glass skin ensures that the visual axis of the arcade is maintained.

FIGURE 6.23 Concept - ground floor
6.24 Interactive display panel, Japan
6.25 View down arcade with interactive panels along storefront edge
6.26 La Purificadora Hotel, Mexico
6.27 View of glass-viewing box

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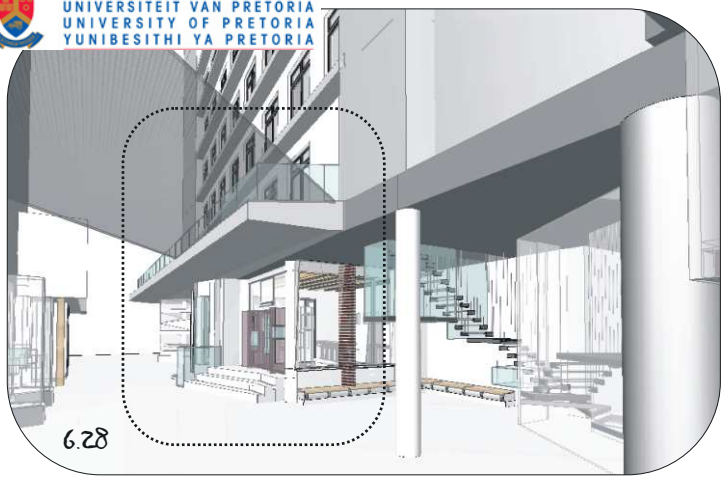
- On the first floor a viewing platform along the overhang edge provides the city dweller with an interesting lingering space and an opportunity to take in the surrounding city scape and arcade below. The wire mesh covering that spans from edge overhang to overhang allows natural light to pass through and prevents the dweller below from being completely exposed to the viewer on the platform.



- The short-term guidelines are implemented in the new public storefront space and the adjacent public area, designed in detail from layout to finishes such as lighting and material choice. The storefront's edge consists of rotating panels - with display boxes of various sizes - that allow events to flow out. The space can be hired by the retail tenants for various events and are located directly opposite the performance/exhibition/sale platform. Public (figure 6.29) and semi-private (figure 6.31) seating spaces and an adjustable advertising panel, which can be changed to advertise the current event/sale/performance, are designed as part of the storefront edge.

FIGURE 6.28 View of platform on first floor, along overhang edge
6.29 View of public storefront with rotating panels

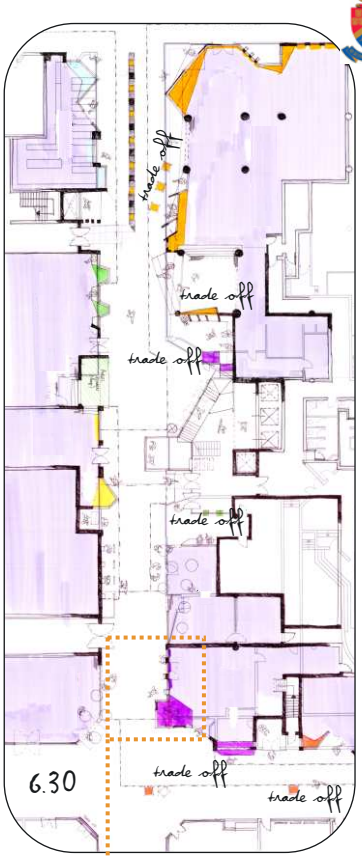


FIGURE 6.30 Concept development of trade off
6.31 Trade off areas in President Arcade
6.32 Prada flagship store, SoHo, New York

trade-off

The design proposal includes opportunities for trade-off. A potential retail tenant may argue that the seating along the storefront edge reduces the display area of a desired store. The tenant can then be provided with a trade-off display box situated at another point in the arcade, away from the specific storefront, such as underneath a staircase or a display box suspended from the roof overhang. Passers-by and potential customers are thus exposed to the product long before having reached the particular storefront. Dwellers who may not necessarily have passed by the specific store, but have been exposed to the product through the trade-off display box, are thus lured to the store.

The redesign of the edge using alternating levels creates display points that project into the arcade. The potential loss of display area created by possible staying zones at one point along the tenant's storefront edge is offset by improved product exposure afforded by a display area at another point along the edge, where the display area is projected into the visual field of the passer-by.

Trade-off display boxes and points are incorporated throughout the arcade and can be alternated between the tenants depending on the tenant situation at the time.

The dynamic and scale of an inner city arcade is very different from that of a shopping mall. Bentel Abramson (interviewed on 20 August 2009) of Bentel Associates International, an architecture firm that specialises in the design of shopping malls, states that the design of a shopping mall focuses on affording the tenant as much clear storefront area as possible. Seating along the storefront edge is not implemented, as this will reduce the clear display area. The passer-by must either enter or move on to the next store, and opportunity to sit down and relax is provided for in a central food/entertainment court. Shopping mall visitors mainly seek shopping or entertainment opportunities and do not necessarily consider the mall their main form of social public space.

In contrast, inner city arcades and thoroughfares are the main social public spaces available to the city dweller. During the day President Arcade is filled with city dwellers who do not necessarily come for shopping, for example students who pass through on their way to colleges located in the areas above the retail stores, office workers from surrounding office blocks strolling around during breaks or dwellers waiting for busses. These city dwellers do not have any other nearby public spaces at their disposal and because there is no opportunity for lingering, they recline against the storefronts. In order to disguise this sight, retail tenants close up storefront spaces that face the arcade. Current retail tenants therefore lose out on display area and the city dweller is not provided with staying zones.

Through mapping and observing the different arcades and thoroughfares in the inner city, it became evident that people want a variety of activities to observe and a choice in the level of exposure they are subject to. Some people want to look at interesting storefronts, while others want to observe the busy street life; some people want to be in the midst of social activity, while others want a spot that is more private. Therefore a single social space in the middle of the arcade will not suffice and a variety of staying zones should rather be incorporated along the edge.

The reality of the inner city and the economic retail ideal as seen in shopping malls are therefore conflicting ideas and the challenge lies in redesigning the edge in such a way that both the city dweller and the retail tenant will benefit from it.

According to Abramson there are no set guidelines for storefronts in South Africa. The architects and client usually set up a manual with regulations and guidelines for the interior retail and storefront design together. In most cases the retail tenant appoints an interior architect and a professional window-dresser who are independent of the development's professional team.

FIGURE 6.33 - 6.36 City dwellers in President Arcade

FIGURE 6.37 - 6.40 Conceptual development of different patterns along President Arcade's edge

Different patterns of active and less active edges, and public and semi-private lingering points, were conceptually tested. The location of restaurants, public facilities and vendor platforms were influenced by the layout pattern.

The alternating storefront levels and display areas that projected into the arcade determined the shape of staying zones along the edge.

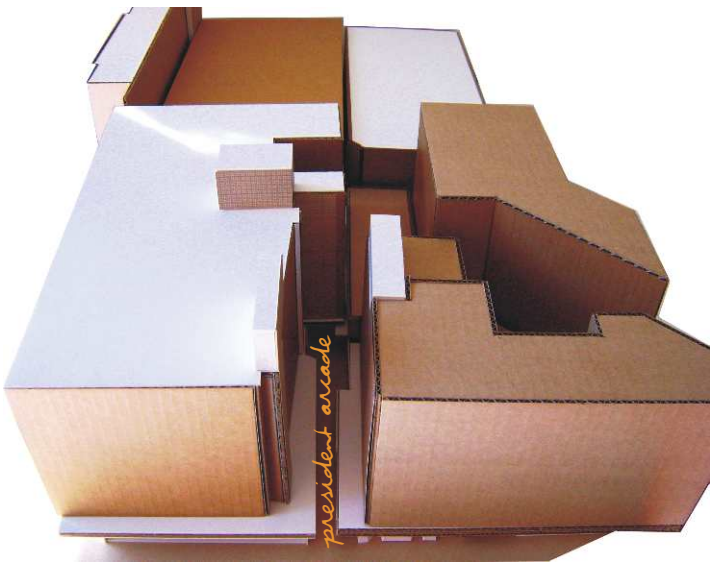
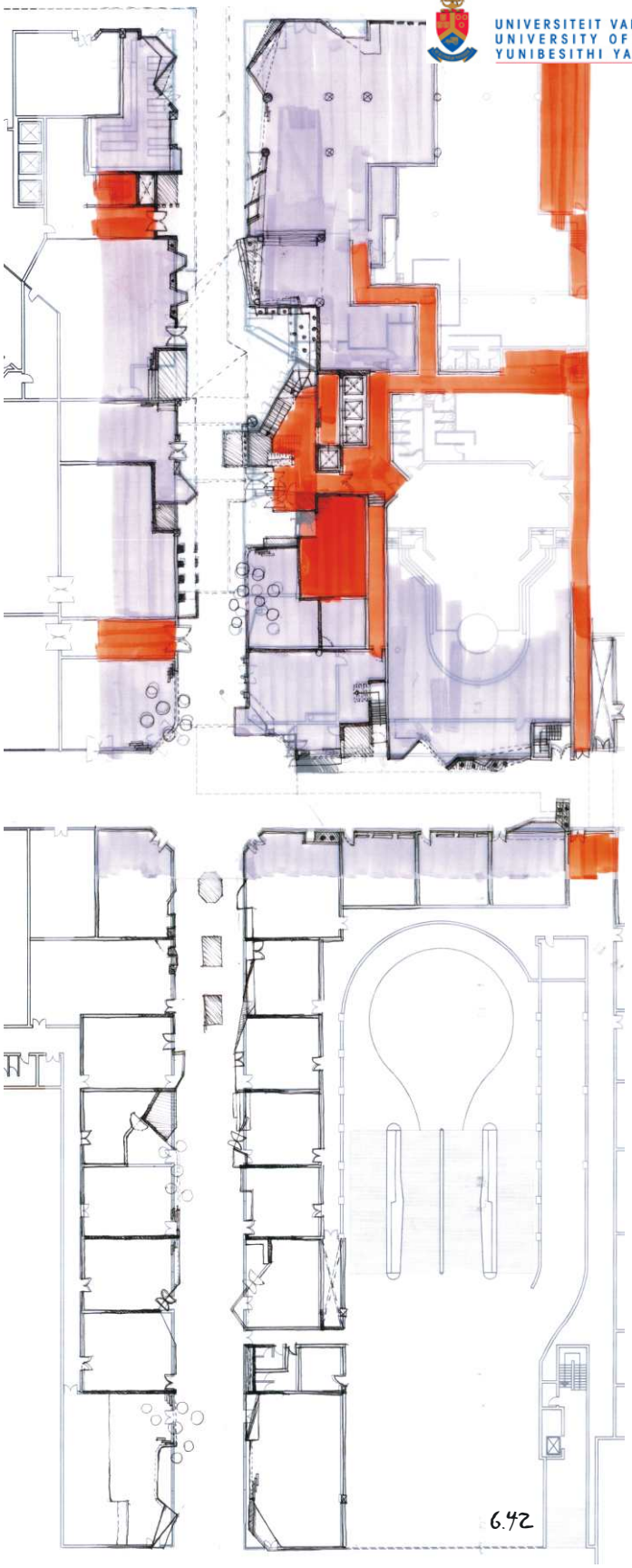


FIGURE 6.41 Model of President Arcade and surrounding buildings



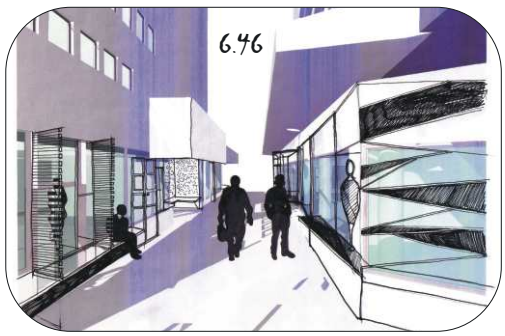
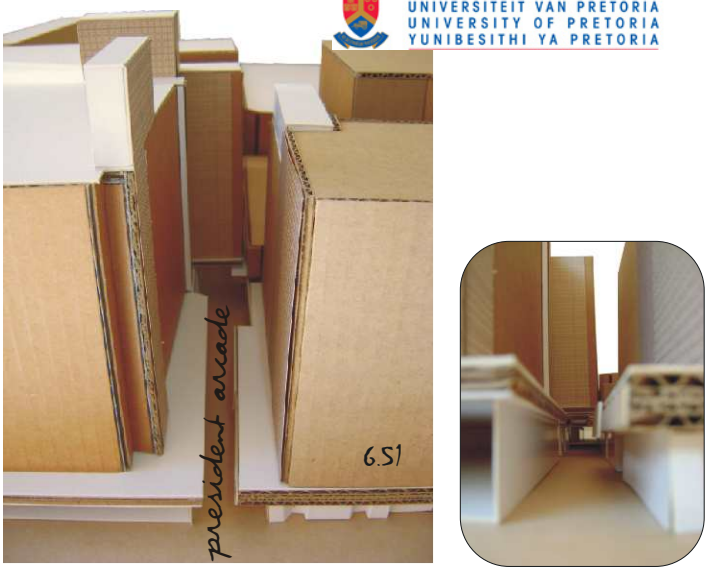


FIGURE 6.42 Conceptual development of President Arcade's edge



The redesign of the edge with alternating levels visually opens up the arcade. In perspective it seems much wider even though the building edge was not moved back.

This gives the city dweller a sense of openness upon entering the arcade space and the visual connection with the other end of the arcade is strengthened through the perspective illusion.

FIGURE 6.51 Model showing existing arcade condition

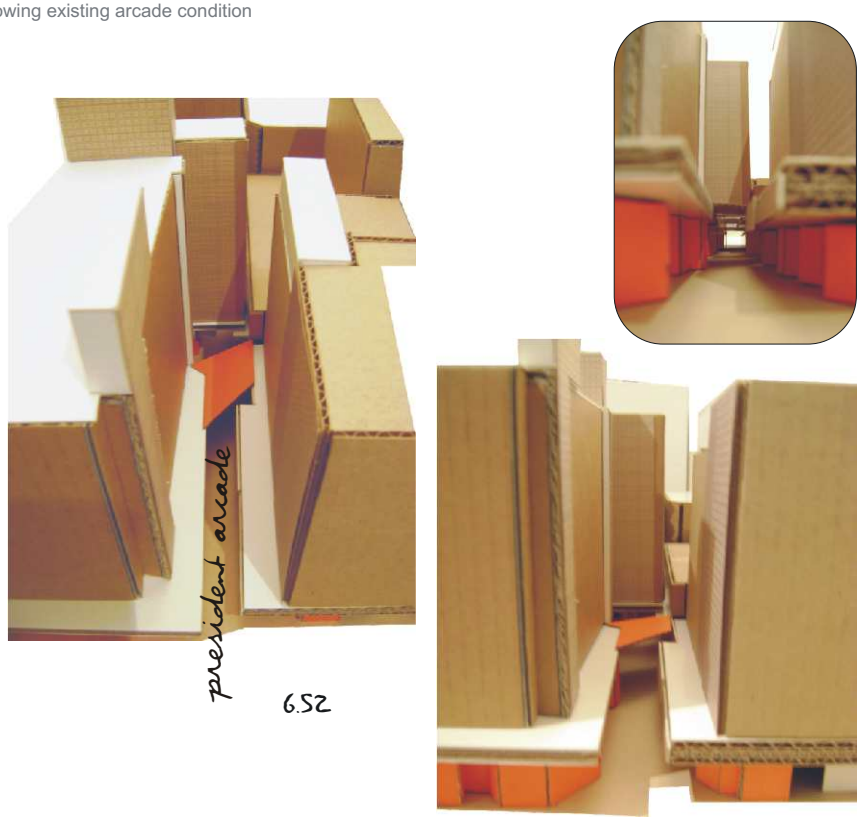


FIGURE 6.52 Model showing new design intervention

FIGURE 6.43 - 6.50 Views along President Arcade

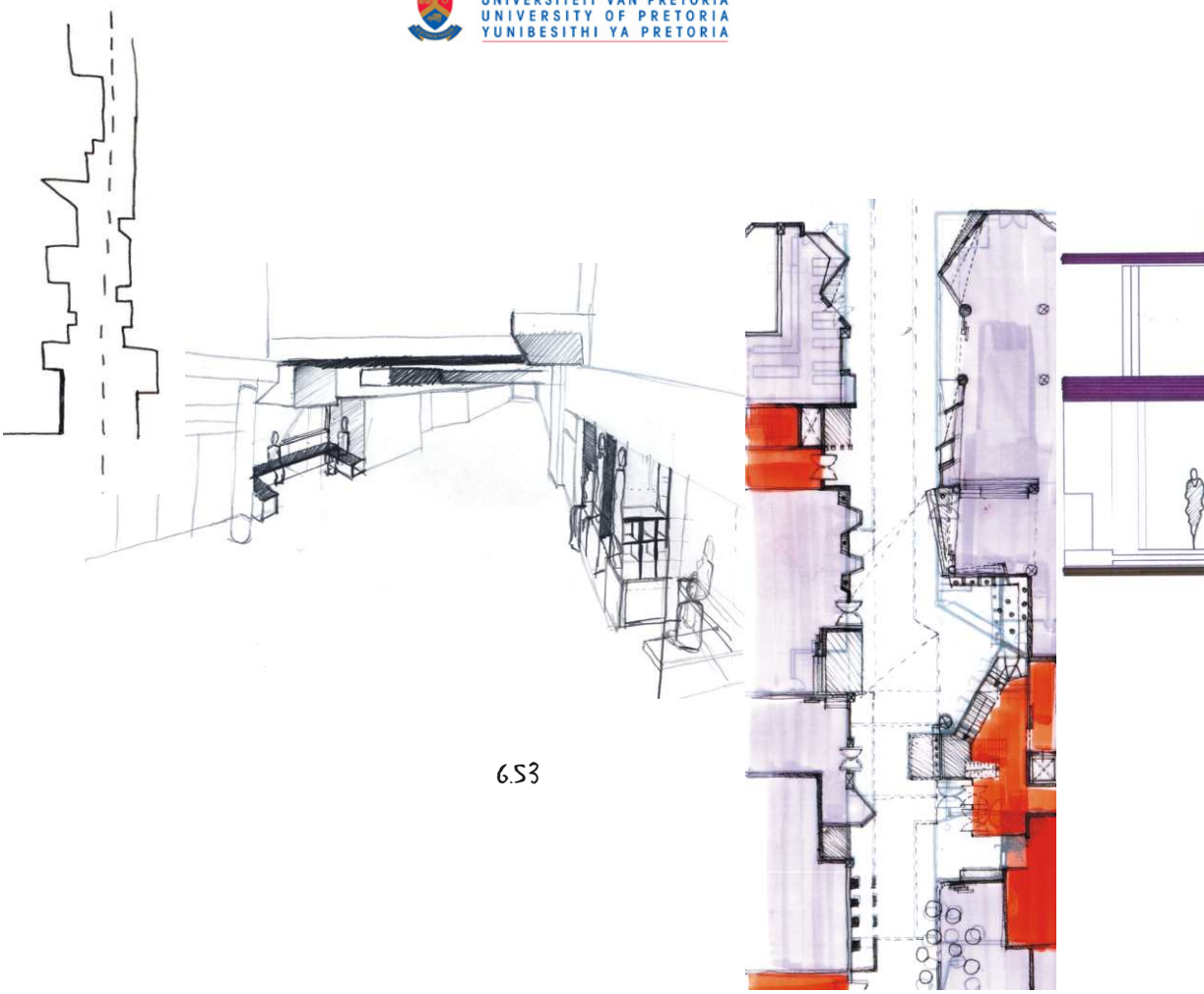
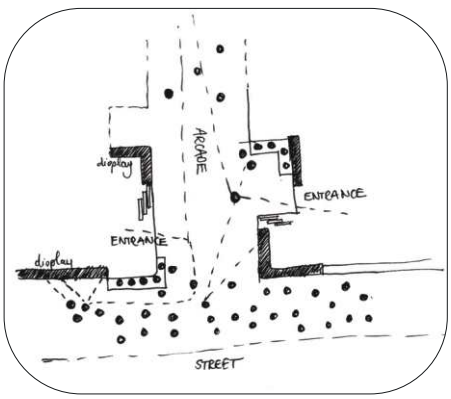
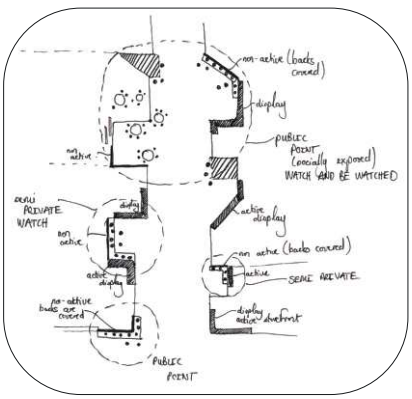
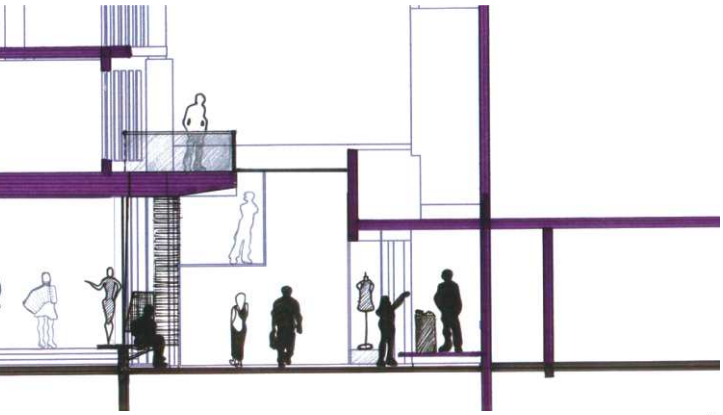
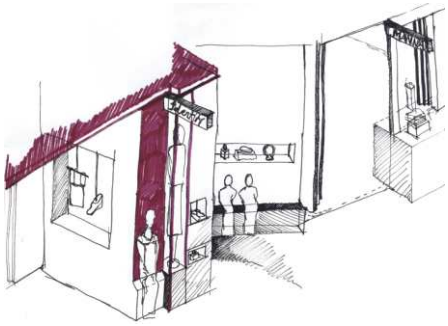


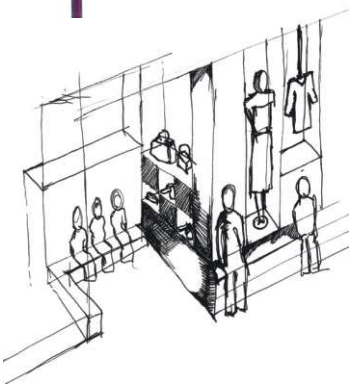
FIGURE 6.53 Conceptual sketches of guideline and edge development



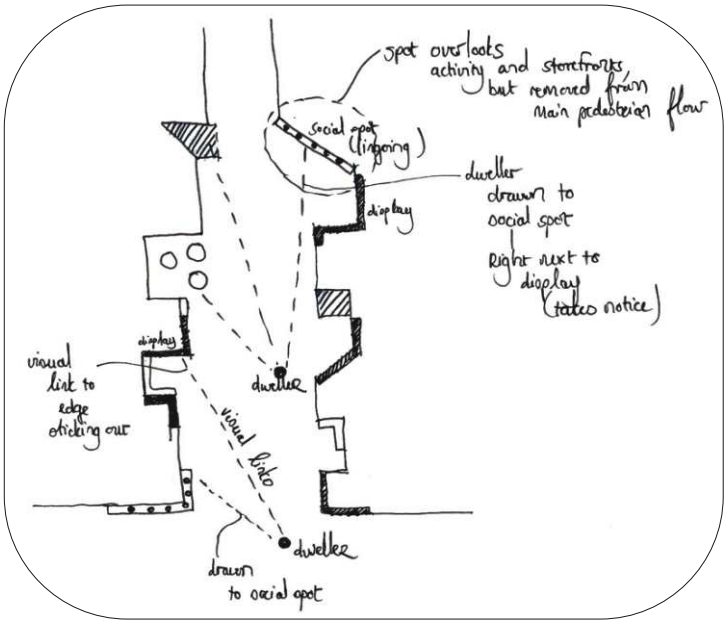








The impact of the alternating levels on the visual field of the dweller had to be considered to ensure that elements of seduction were created without obstructing the visual axis through the arcade.



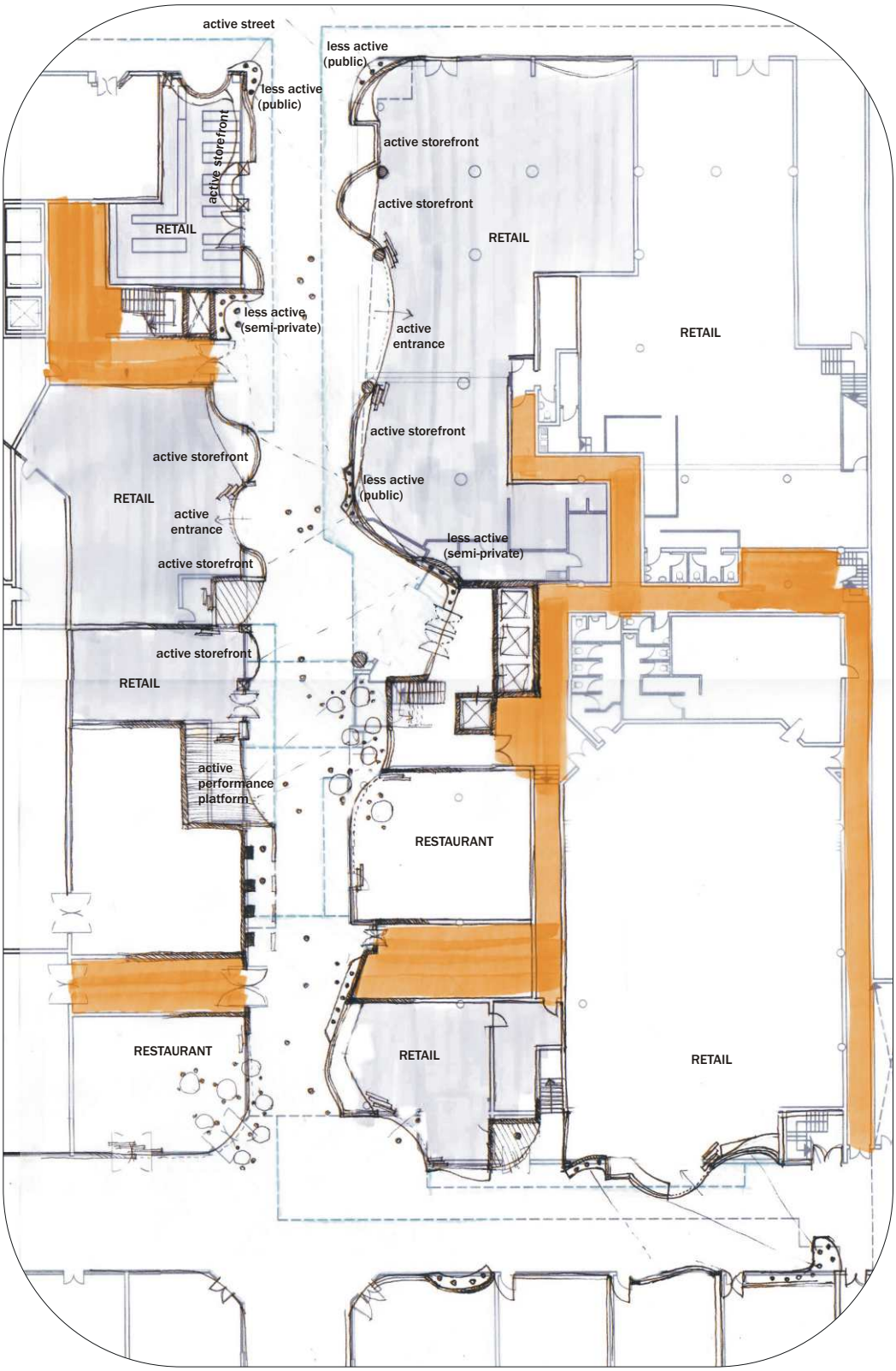


FIGURE 6.54 Conceptual sketch of a different design style implemented on President Arcade's edge

The design style implemented on President Arcade is a combination of straight and angled lines that form an edge with alternating levels. The guidelines, as set out in Edge handbook, can also be applied to a different design style as shown in figure 6.52.

For instance, the guideline *linger_watch_be watched* indicates that a pattern of active and less active edges opposite each other should be created. This pattern can be interpreted into various forms and styles as long as the principle - ensuring that dwellers' can linger at a point where their backs are covered to some extent (less active edge), while watching out onto an activity or active storefront (active edge) - remains the same.

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07

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technical investigation

Material and colour palette
Seating/display areas
Storefronts and display boxes
Public arcade and edge
Circulation
Fire
Public toilets
Detailed investigation of public storefront
- Services
- Lighting
- Natural ventilation
- Acoustics

Material investigation

material and colour palette

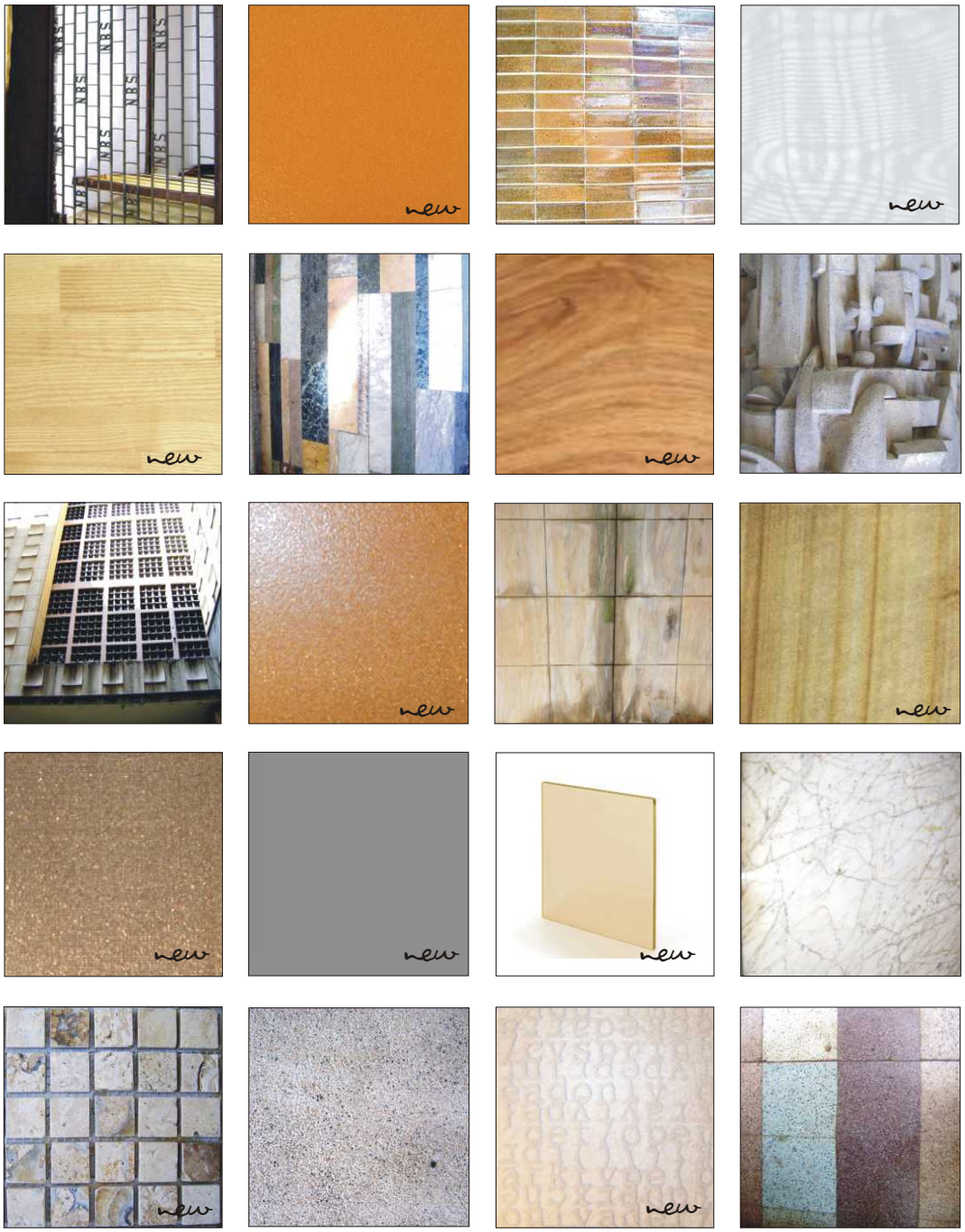
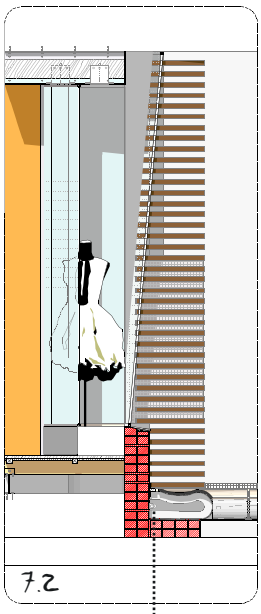


FIGURE 7.1 Palette of existing and new materials

seating/display areas



Kiaat timber slat Screening panels, and also used at the back of edge seating to form a shadowline

FIGURE 7.2 Section through edge seating/display area
7.3 View of edge seating/display area

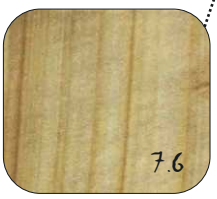
Mosaic mix
50 x 50 mm
Tile Africa

Used as a border, to finish off edge seating at the top.

Exterior fluorescent Tube light, 8 Watt LUMILUX BRIK EL as per Osram

Luminous flux: 970 lumens
Lifespan: 20 000h

3 FORM Varia seating, formed through heat bending
Product: Pure colour
Colour: Sable
Gauge: 25 mm



Mint tinted sandstone tile
300 x 300 mm
as per Tile Africa

Used for exterior storefront window sills, situated above exterior edge seating.

Perforated metal sheet cover, with customised pattern
Gauge: 2 mm

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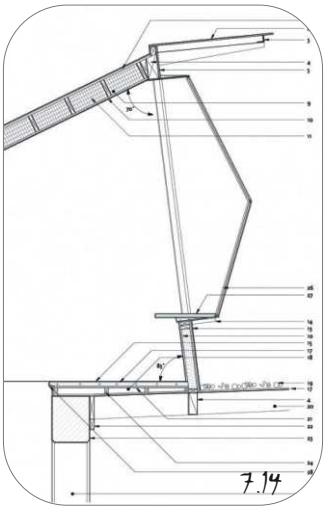
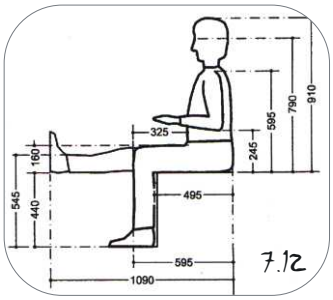
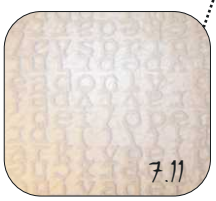
3 FORM Varia
Display box
Product: Pure colour
Colour: Mango
Gauge: 5 mm

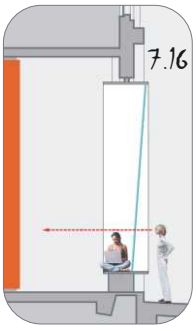


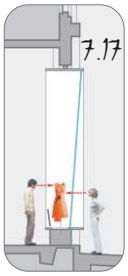




3 FORM Varia
Seating panel
Product: Courier
Letter graphic
Gauge: 5 mm

FIGURE 7.10 Section through edge seating/display area at medium size independent retail (bookshop)
7.12 'normal distribution of human in sitting position
7.14 Section through facade, Tehama Grasshopper
7.15 Tehama Grasshopper, USA, 2007
7.16, 7.17 Section through facade of Sheila C. Johnson Design center





The materials and colours chosen for the permanent edge seating/display area compliment the natural textures and colours of the existing material palette of the arcade (fig 7.1). This creates a neutral backdrop for the temporary storefront displays. The displays, which usually consist of a variety of colours, materials and textures, thus come to the foreground to visually seduce the passer-by.

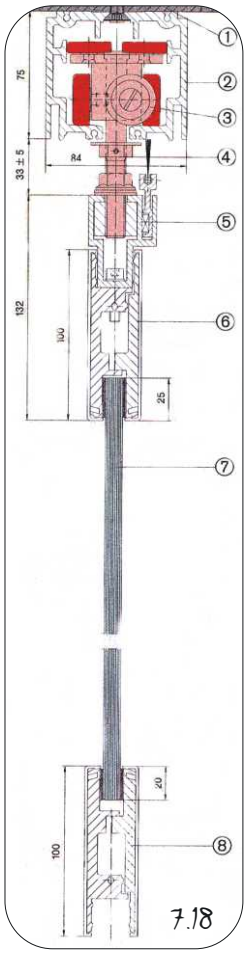
3 Form Varia is a translucent ecoresin panel that will be slightly shaped to suit the human form, through heat bending. The 3 Form panels and perforated metal allow artificial light through. Evening dwellers are thus drawn to these staying zones and then seduced by the interlinking display areas.

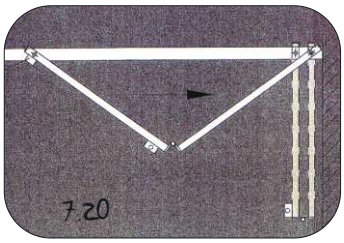
storefronts and display boxes

DORMA sliding storefronts and swing doors are used for the retail stores and public entrances in the arcade. The glass panels run on a track system and the various stacking configurations available make the DORMA system an ideal choice for an arcade edge with alternating levels.

The following DORMA systems are used:
DORMA FSW
DORMA ACROS SYSTEM
DORMA HSW-G 150

(http://www.dorma.com)





Typical installation

DORMA HSW-G sliding shopfront systems are made up of the following components:

- Track ② for direct bolting to a steel girder ① or similar on the ceiling
- top ⑥ and bottom ⑧ rails composed of base rail, clip-on covers and end caps, which are clamped onto the toughened glass panels ⑦
- rollers ③, carriers ④, and carrier profiles ⑤ which ensure that the panels slide easily with minimum effort
- stacking areas, in which the sliding panels are neatly and compactly stacked when the shopfront is opened.

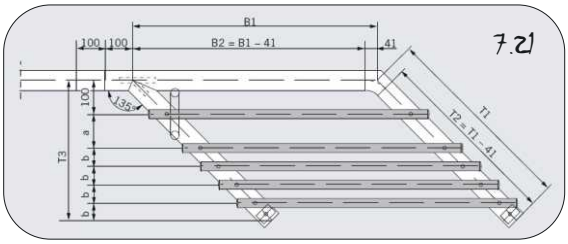
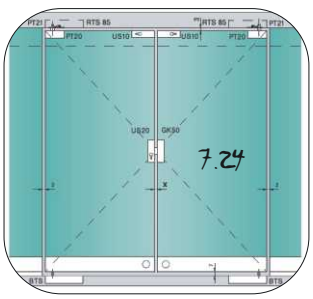


FIGURE 7.18 Section through DORMA HSW-G 150
7.19 DORMA HSW-G 150
7.20 Plan of DORMA FSW
7.21 Plan of DORMA HSW-G 150
7.22 DORMA SYSTEM
7.23 DORMA ACROS top connector
7.24 DORMA ACROS elevation



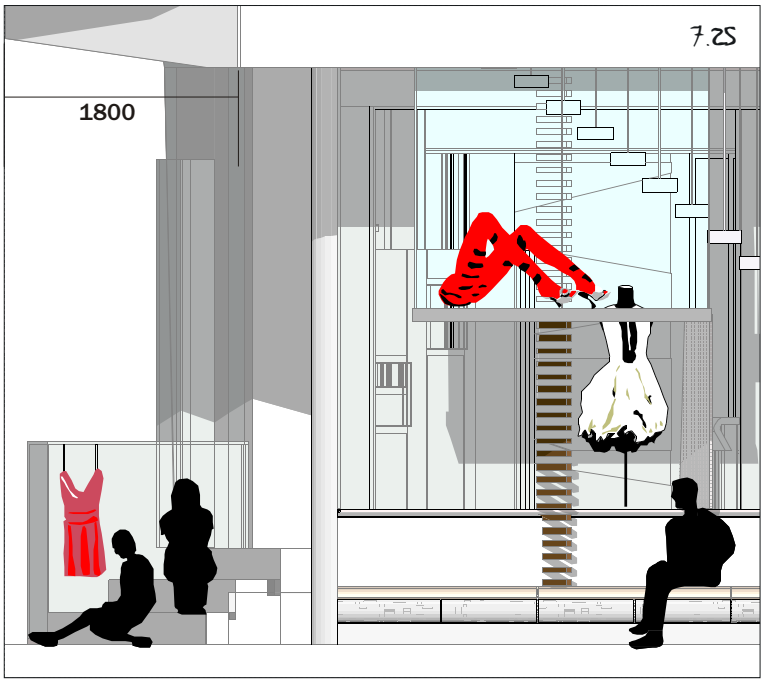
The following Smartglass glazing products, with specifications as shown, are used in the design:

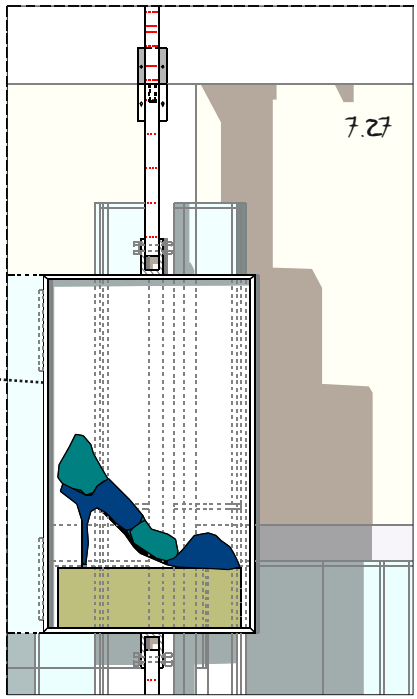
Storefront windows and sliding doors - Intruderprufe Low E
7.38 mm HPR laminated safety glass
UV elimination: 99%
Visible light transmission: 82
Noise control rating: 34 dB
Maximum size: 3300 x 2440 mm

Glass display boxes - 6.76 mm HPR laminated safety glass
UV elimination: 95%
Visible light transmission: 90
Noise control rating: 34 dB
Maximum size: 3210 x 2440 mm

(http://www,smartglass.co.za)

The 1800 mm overhang above the ground floor storefronts greatly reduces the amount of direct sunlight to the area. Intruderprufe Low E safety glass offers superior thermal insulation, retaining more heat in winter and blocking it out in summer. It is a clear glass that maximises light transmission, while blocking harmful UV radiation. Intruderprufe not only makes it significantly more difficult for criminals to intrude or break through a storefront but also blocks noise.





The glass display boxes are constructed by means of UV bonding. Glass panels are glued together using a UV curing adhesive, which is cured by either a UV light or a UV activator. The joints are stronger than glass itself and this frameless construction method allows for a high-end retail look.

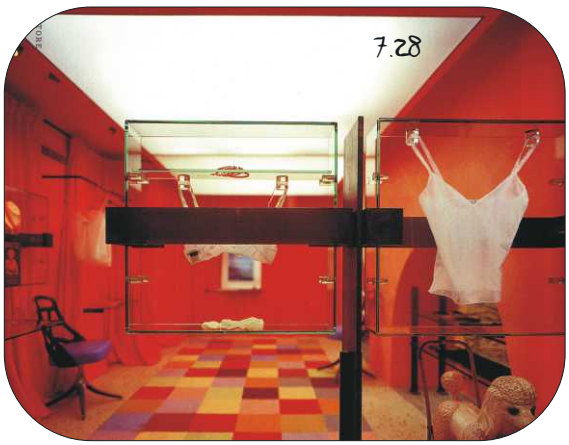


FIGURE 7.25 Elevation of storefront and display boxes
7.26 View of storefront and display box
7.27 Section through rotating panel with display box
7.28 View of glass display boxes, PAUL SMITH store, Milan, Italy, 2001

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NEW ARCADE FLOOR FINISH
Flowcrete Flowtex HT epoxy screed
Colour: Mid Grey 280

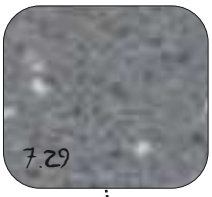
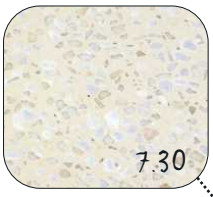
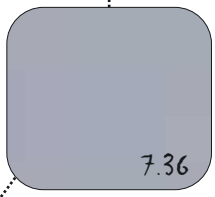


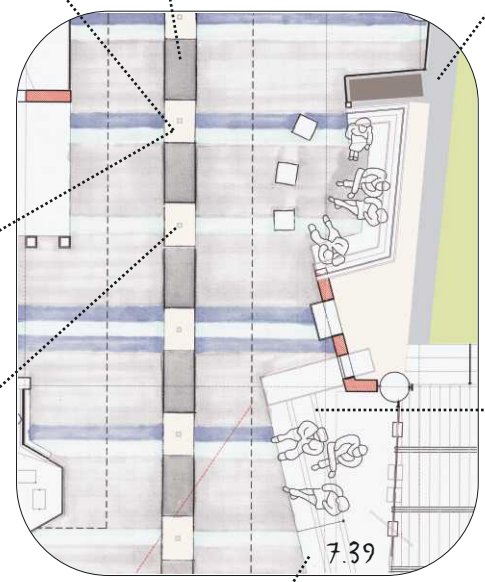
FIGURE 7.31 Flowcrete Peran STB floor finish
7.34 Section through brick seating
7.37 Flowcrete SL resin floor finish
7.38 View of existing arcade floor finish
7.39 Arcade floor finish design



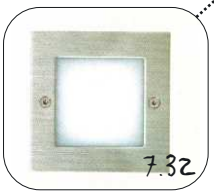
NEW ARCADE FLOOR FINISH
Flowcrete Peran STB
Colour: Cream 7700



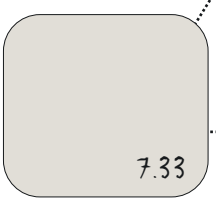
EDGE FLOOR AREA
Flowcrete
Peran SL resin
Colour: Mid Grey 280



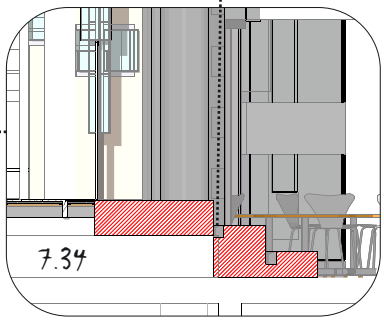
50 Watt
110 x 112 mm
ground light
LS520 - Radiant lighting



105 x 95 X 90 mm
footlight
KJ35A-Radiant lighting



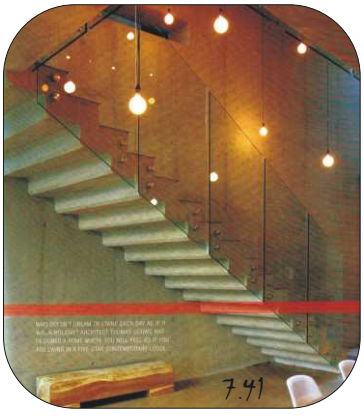
EXTERIOR BRICK SEATING
Flowcrete Peran WW resin
Colour: Silver grey 204



circulation

Redesigning the edge with alternating levels did not reduce the width of the arcade, which ensures comfortable circulation through the arcade space. In order to accommodate a public seating area along the edge opposite the performance platform and to prevent obstruction of pedestrian circulation through the arcade, the existing building edge was set back.

The new staircase in the entrance lobby of President building links up with the existing stairs. It is constructed out of a galvanised steel channel framework with smoked laminated safety glass and perforated metal treads. The staircase faces the public arcade and acts as an element of seduction. Dwellers lingering at the opposite edge seating can sit and watch this celebration of movement.



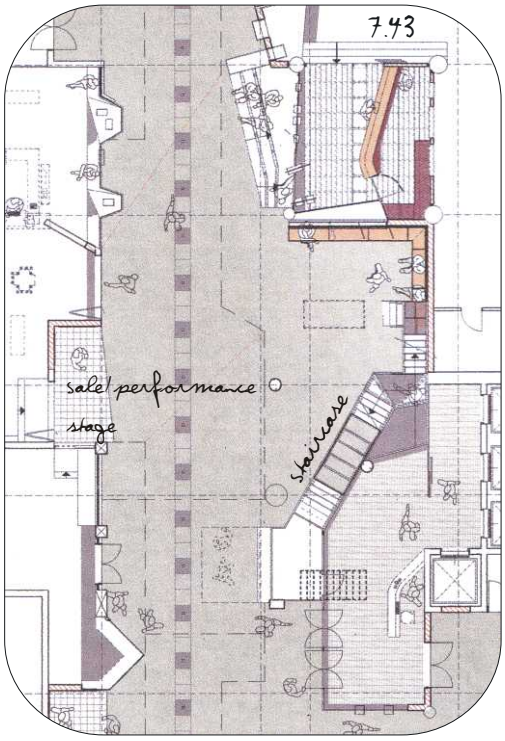


FIGURE 7.40 Staircase with floating treads fixed to a supporting glass panel
7.41 Staircase at Lodge House, Thomas Gouws, Johannesburg, 2009.
7.42 DNA stair, Studio P-H-A, Prague, 2008.
7.43 Plan indicating position of staircase

fire

The existing retail stores in the arcade have direct access (i.e. no more than 45 m away from any given point in the store) to the open public arcade, as well as access to a fire escape route at the back. The new retail stores, restaurants and public facilities have access to a 1100 mm wide, unobstructed fire escape which links with the existing fire escape route. The fire escape doors of the retail stores and restaurants open in the direction of movement without obstructing circulation.

According to SABS 0400 part TT16.2 a building of more than three floors must have access to two separate escape routes that both include an emergency route. The buildings above the arcade have easy access to the ground floor escape route as well as to two separate fire escape routes, which exit into the ground floor arcade. The new walls of the escape route will, according to SABS 0400 part TT19.1, have a fire rating of 120 minutes.

According to SABS 0400 part TT45.1 the lift lobby in the existing entrance lobby of President building should be able to be closed off in the event of a fire. The enclosed wall is constructed with SCHOTT PYRAN S fire resistant glass. It is a toughened borosilicate glass with a fire rating of up to an hour, exceeding the minimum fire resistance of 30 minutes as required by SABS 0400 part TT45.1.

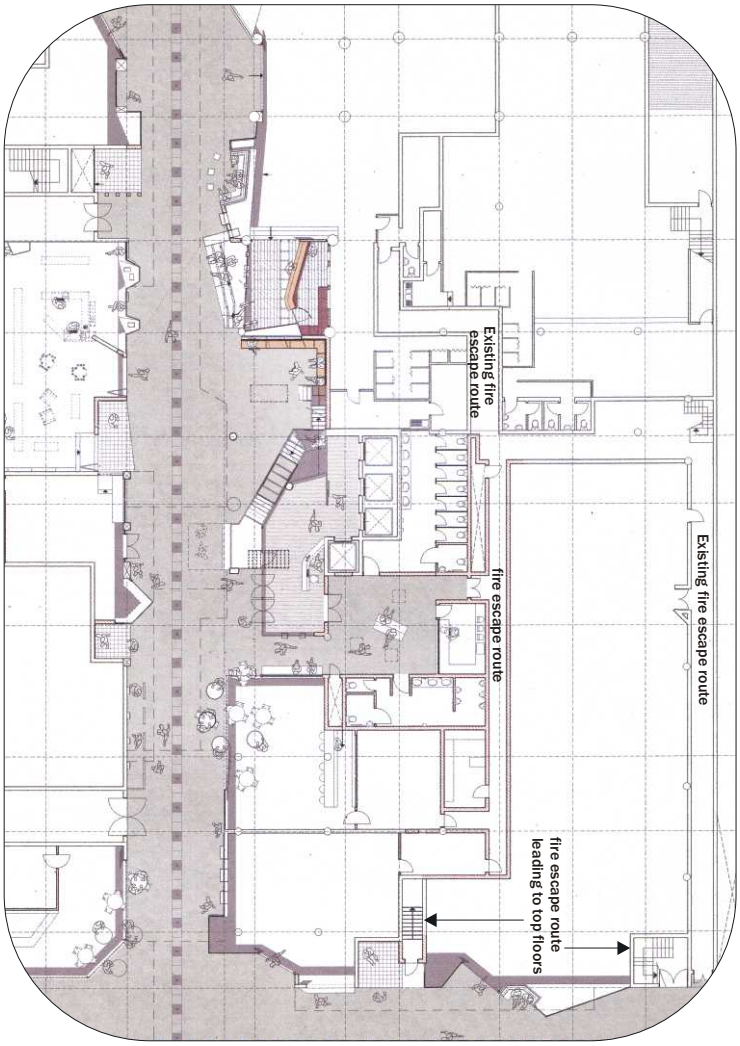


FIGURE 7.44 Plan indicating fire escape routes

public toilets

The public toilet facilities are centrally located and can easily be accessed from the arcade. Ladies' and gents' facilities can be accessed from a central waiting space where trade-off display boxes are suspended from the ceiling. In accordance with SABS 0400 part PP13, the number of sanitary fittings were determined as follows:

Restaurants are classified as an A1 occupancy class, allowing 1 person/m².
Retail stores are classified as an F1 (stores exceeding 250 m²) and F2 (stores smaller than 250m²) occupancy class, both classes allowing 1 person/10 m².

Total retail area - 1379 m²	1379/10 m² =	137.9
Total restaurant area - 189.4 m²	189.4/1 m² =	189.4
Total population		328
Retail staff (10% of total population)		30
328/2 (for ladies' and gents' facilities)		164
30/2 (retail staff)		15

The total number of sanitary fittings as per table 6 and 7 of SABS 0400 part PP13 are:
Gents' facility - 2 toilets, 5 urinals and 3 hand washbasins
Ladies' facility - 8 toilets and 5 hand washbasins

In both the ladies' and gents' facilities, one toilet cubicle caters for disabled visitors.

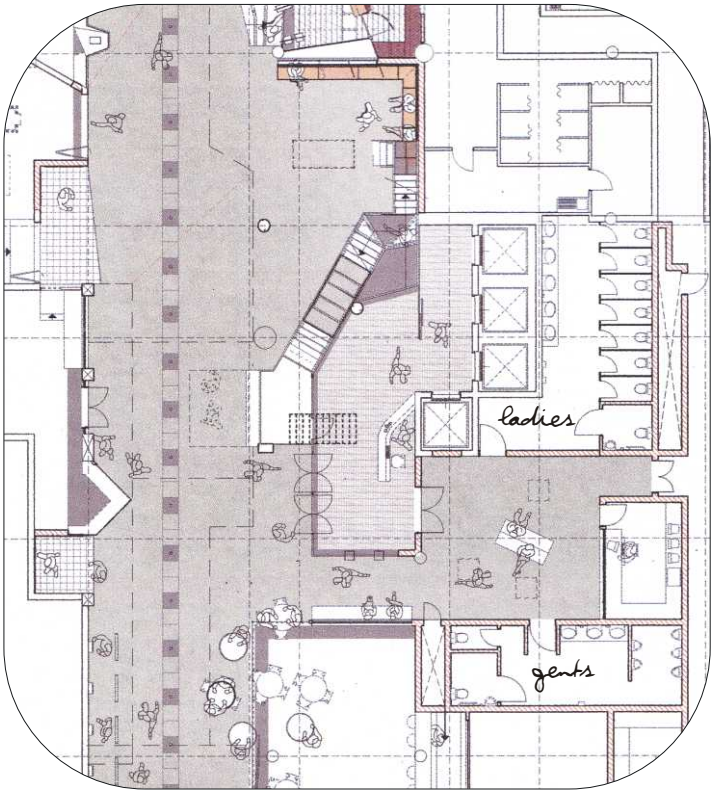
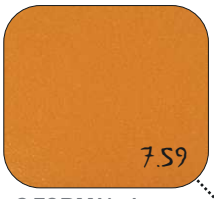


FIGURE 7.45 Plan indicating public toilets

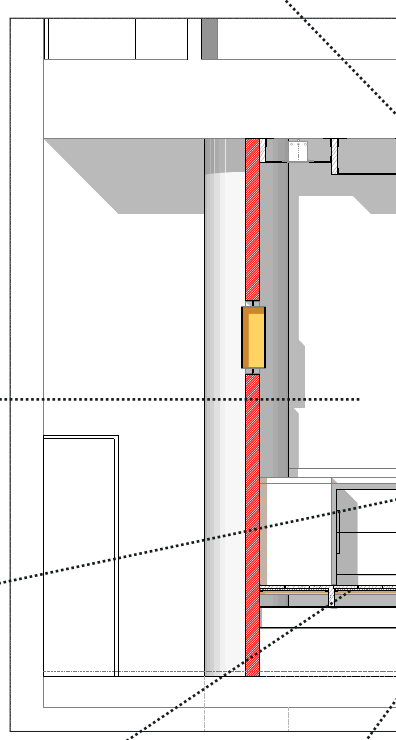
detailed investigation of public storefront

The materials and finishes of the public storefront space were chosen to compliment the existing material palette, in order to be visually considered as part of the public arcade despite being a contained retail space. With a central countertop and a small service counter, equipped with a small fridge and power points, at the back, the space can accommodate various type of events. The service counter is screened off by means of a translucent ecoresin opening panel. Snacks and drinks can be served from here during a performance or exhibition, or it can serve as the sales counter during a book launch.



3 FORM Varia
Opening panel
Product: Pure colour
Colour: Mango
Gauge: 19 mm

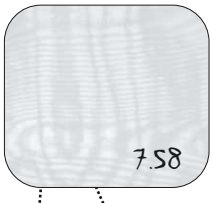
Wall finish -
Cemcrete Cemwash
Colour: White



3 FORM Chroma
countertop
Colour:
Smoke grey
Gauge: 50 mm

20 mm thick
ECO-FIBRE
Acoustic board

3 FORM Varia panels
Colour: Alu Bronze
Gauge: 10 mm
19 mm



3 FORM Varia
Ceiling panels
Product: Aero
Colour: White
Gauge: 5 mm

Wall panel
Gauge: 19 mm

300 mm deep
S.A. Pine rafter
Finish: Plascon
whitewash

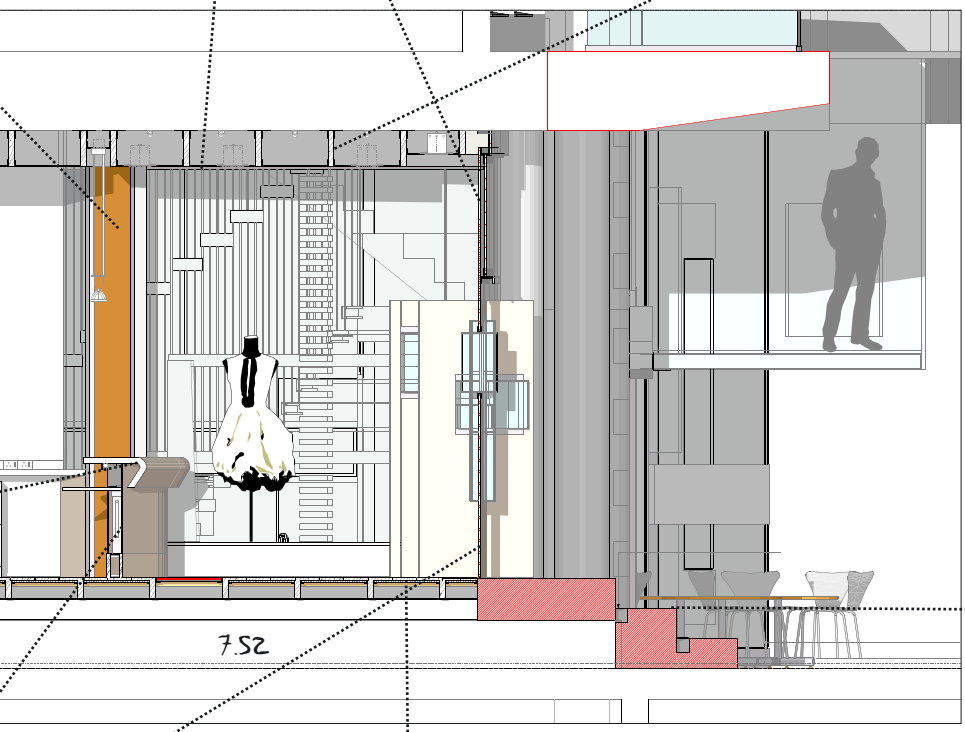
Timber rafter sizes:
Span = L
Depth = d
L/d = 15-20
Span of rafter = 5860 mm

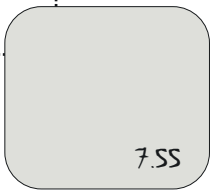
5860/d = 15
d = 235

5860/d = 20
d = 293

Rafter depth between
235 - 300 mm

Chosen depth: 300 mm





Brick seating
Finish -
Flowcrete
Peran WW resin
Colour:
Silver grey 204

Timber flooring:
20 mm thick Ash
timber floor planks
as per Kahrs

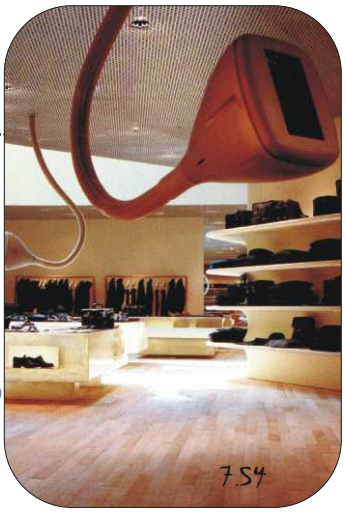


FIGURE 7.46 Merci, Marie-France Cohen, Paris, 2009
7.49 Millcreek hotel, Utah, 2008.
7.52 Section through public storefront
7.54 Prada epicenter, Herzog & De Meuron, Tokyo, 2003.
7.56 Stairs finished off with Flowcrete Peran

SERVICES

A raised timber floor is installed to level the storefront space with the exterior brick seating and also to accommodate electrical services. The suspended ceiling, constructed from wooden rafters and translucent ecoresin panels, accommodates the recessed light fittings and electrical wiring.

LIGHTING (see Appendix B)

The minimum required illuminance level for a retail space is 500 lux for merchandise display windows and 300 lux for general retail areas. The type and number of light fittings were chosen to supply the required illuminance levels at different areas in the space and can accommodate energy-saving light bulbs. The lifespan of light bulbs is important, because the large existing overhang reduces the amount of natural light that enters the space. The lights will probably be turned on for most part of the day and evening, while the downlights in the display window will be turned on permanently.

The allowed lighting power density for a retail space varies between 15-24 W/m², while 35-39 W/m² is allowed for fine merchandise display. The lighting power density for the public storefront space is 19.1 W/m² and the general illuminance level is 370 lux (See Appendix B for lighting study).

NATURAL VENTILATION

Owing to the combination of a 1800 mm overhang, low emissivity glass and rotating panels that open entirely into the arcade, mechanical ventilation is unnecessary for the 30 m² space. The storefront space is linked to the northern corner retail store by means of a glass sliding storefront, encouraging cross-ventilation through the space.

ACOUSTICS

When inside, the sounds from the exterior public space makes the user aware of the surrounding edges and spaces, which is important in this case. However, the incoming sound should not be overpowering and the use of Intruderprufe safety glass reduces the noise level more than normal safety glass does. ECO-FIBRE acoustic panels are installed underneath the raised timber floor to absorb noise when the public storefront is filled with people during an exhibition or book launch.

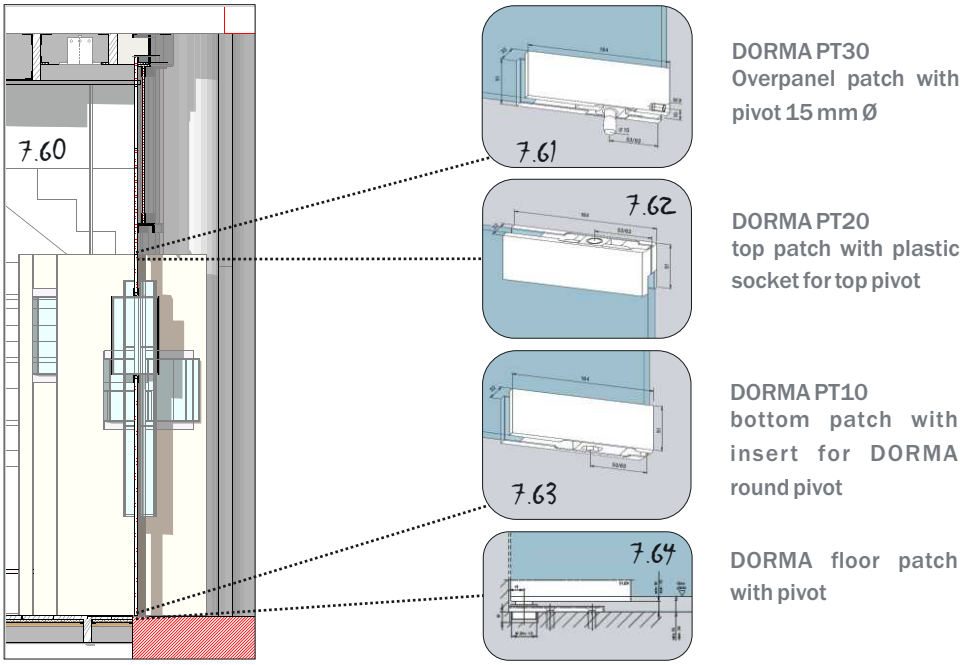
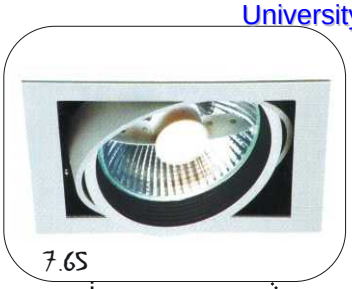
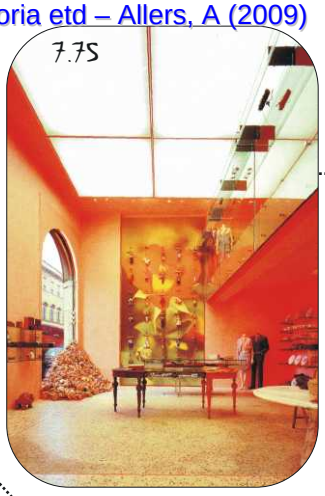


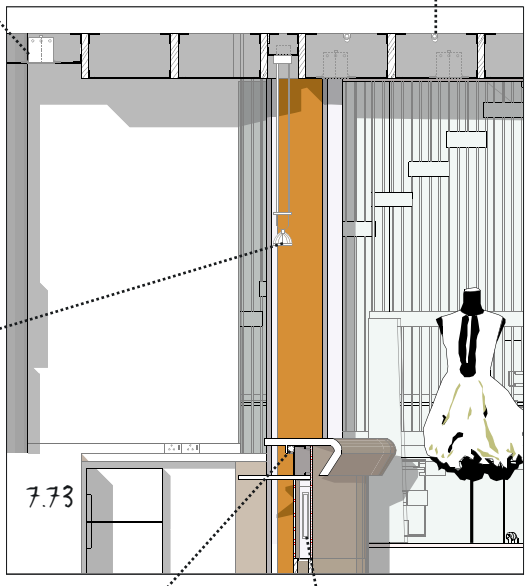
FIGURE 7.60 Section through rotating panel

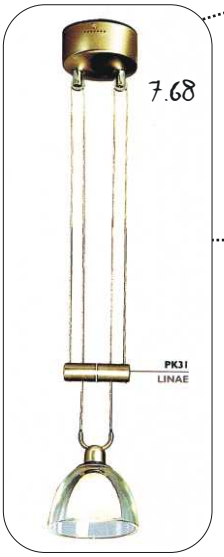




1200 x 26 mm Ø
OSRAM
32 Watt Lumilux
T8 Energysaver
tubular fluorescent
ceiling light in
KA14 light fitting -
Radiant lighting

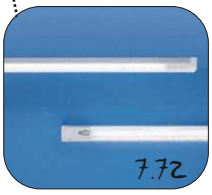
142 x 110 mm
Downlights
Finish: Satin
silver
BK26 & BK01 -
Radiant lighting
with 35 Watt
OSRAM
Metal halide
Powerball
HCI-R111
Light bulb





130 x 1200 mm Pendant
Finish: Satin chrome
PK31 - Radiant lighting
with 35 Watt OSRAM
Tungsten halogen light
bulb

610 x 23 x 28 mm
Fluorescent tube
light
14 Watt OSRAM
LUMILUX SPLIT HE



382 x 27 x 20 mm
Fluorescent tube
light
8 Watt OSRAM
LUMILUX SPLIT FM

FIGURE 7.67 Display window with metal Halide
7.71 Display case with LUMILUX SPLIT HE
7.73 Section showing lighting
7.75 Lighting effect of ceiling, PAUL SMITH store, Milan, Italy, 2001

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3FORM VARIA line

FIGURE 7.76 3Form varia line, used throughout design

FIGURE 7.77 3Form varia counter with lighting behind, KKE Architects Inc., Minnesota, USA
7.78 3Form varia bar counter, Healthways HQ, Franklin
7.79 3Form varia sliding panel
7.80 3Form varia ceiling panels, HSBC, Chicago

TRANSLUCENT ECORESIN PANELS

Non-toxic
High levels of reclaimed material
Recyclable
No harmful chemicals used in manufacturing

3Form Varia is a diverse material that allows the designer to custom-select the colour, pattern, texture, interlayer and finish. The material is made of an ecoresin of which 40% is recyclable. It has 40 times the impact strength of glass and are available with UV stabilization for outstanding exterior performance.

Gauges: 2, 3, 5, 6, 10, 13, 19, 25 mm
Panel sizes: 1220 x 2440 mm
1220 x 3050 mm

FASTENING AND BENDING

HEAT BENDING

Varia ecoresin panels can easily be shaped in various forms with a heat bending process.

MECHANICAL FASTENING

Varia can be fabricated into attractive joints with mechanical fasteners. Standard nuts, bolts, machine screws and tools that are used for machining plastics, wood or metal can be used to cut and fasten Varia panels.

BONDING

3Form specifies the use of Weld-on adhesives and clear 3M VHB tape to adhere Varia panels to a variety of non-plastic substrates like concrete, fibreglass, metal, wood or drywall.

www.3form.eu

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3FORM CHROMA line

FIGURE 7.81 3Form chroma, Smoke grey
7.82 3Form chroma bar counter, Revolution lounge, Las Vegas

CAST POLYMETHYL METHACRYLATE (PMMA) RESIN

3Form Chroma® is a bold solid surface that is saturated with patented colour infusion technology and delivers unrivalled light transmission. It is a stable material that is engineered to be resurfaced and re-coloured again and again, preventing the material from entering the waste stream

Gauges: 12, 25, 50 mm
Panel sizes: 1220 x 2440 mm

FASTENING AND BENDING
HEAT BENDING
Chroma panels can easily be shaped to accommodate radius curves with a heat bending process.

MECHANICAL FASTENING
Chroma can be fabricated into attractive joints with mechanical fasteners. Mechanical fastening is recommended.
To be done by specialist.

BONDING
3Form specifies the use of Weld-on adhesives and clear 3M VHB tape to adhere Chroma panels to a variety of non-plastic substrates like concrete, fibreglass, metal, wood or drywall.

www.3form.eu

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FLOWCRETE

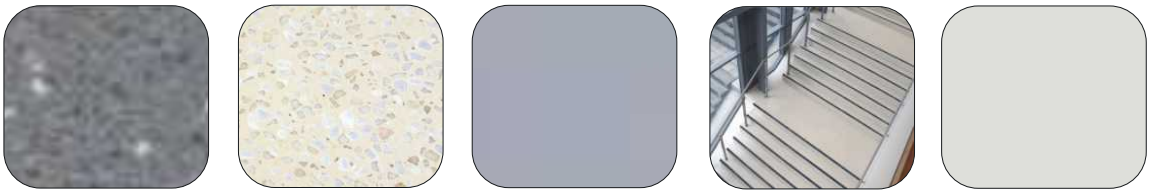


FIGURE 7.83 Flowcrete floor finish line, used throughout design

FLOWTEX HT (arcade) is a hardwearing epoxy screed that is used in areas that are subject to heavy traffic and impact. It is available with a gloss or matt seal and is easy to clean. Flowtex has a life expectancy of up to 10 years and the seamless surface reduces the need for repairs, maintenance and cleaning.

- ☐ quick set strength development to over 70 MPa
- ☐ high abrasion and impact resistance
- ☐ very good chemical resistance
- ☐ slip resistant

PERAN STB (arcade) is a hardwearing, decorative resin that consists of colour stable quartz granules encapsulated in a clear resin binder. It is an ideal floor finish for areas that are subject to heavy traffic and impact.

- ☐ high scratch resistance
- ☐ easy to clean and maintain
- ☐ excellent wear and impact resistance
- ☐ abrasion and chemical resistant

PERAN SL (edge floor area) and WW (brick seating) is a smooth gloss self-smoothing resin that is used in areas that are subject to intensive traffic like shops, department stores and restaurants.

- ☐ attractive floor finish, available in a variety of colours
- ☐ easy to clean and maintain
- ☐ hardwearing and chemical resistant
- ☐ slip and abrasion resistant

www.flowcretesa.co.za

University of Pretoria etd – Allers, A (2009)

ECO-FIBRE ACOUSTIC BOARD

FIGURE 7.84 Eco-fibre acoustic board

An eco-friendly mineralised fir wood-wool cement bonded panel with excellent acoustic and thermal properties that is made in South Africa. The panel consists of natural products, therefore there is no risk of pollution at the production or implementation stage.

Uses: Concrete casting insulation; flooring insulation; roofing insulation; internal and external facings; the facing of fire resistant walls; the facing of wooden, metal, etc. structures; acoustic insulation between floors and adjacent rooms; sound-absorbing, false ceilings.

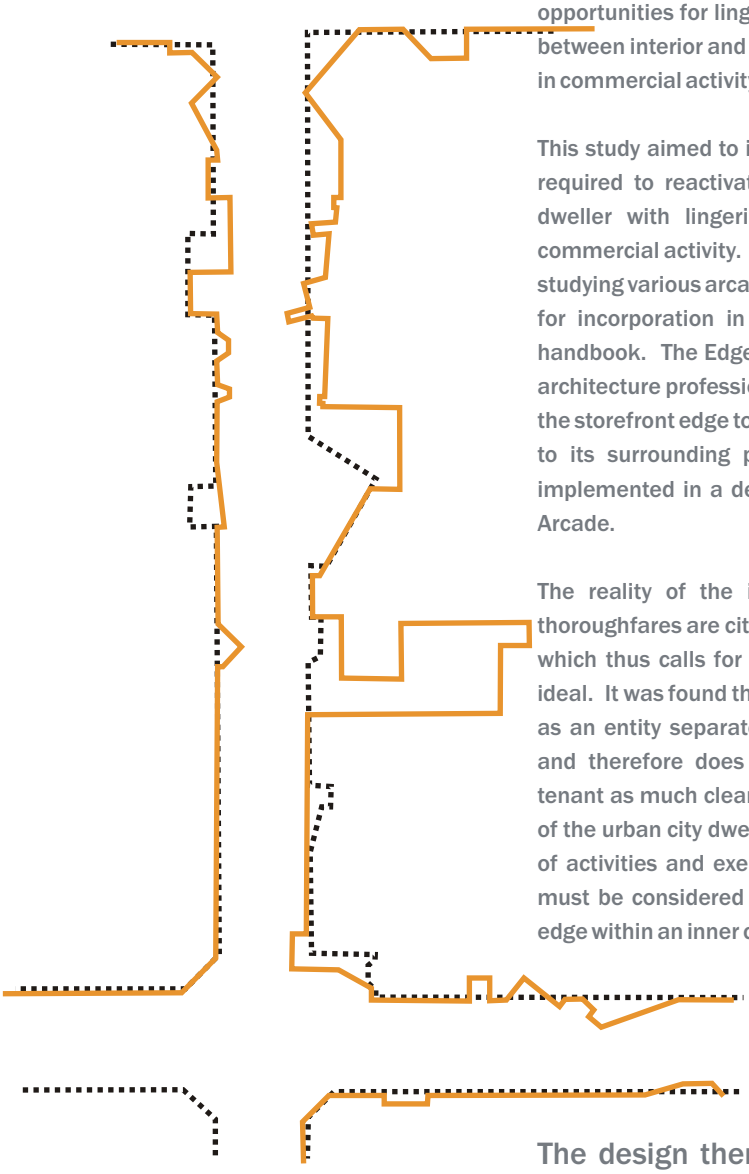
Lengths: 1200 to 2400 mm
Width: 600 mm
Thickness: 20 to a max of 50 mm

- ☐ fire resistant class 1(B1)
- ☐ releases no toxic gasses and fumes in the event of a fire
- ☐ unlimited lifespan
- ☐ eco-bio compatible

www.genesisacoustics.co.za

University of Pretoria etd – Allers, A (2009)

CONCLUSION



Pretoria's inner city arcades are the public spaces of the city. However, the current design of most of the defining edges of the arcades prevents these spaces from reaching their full potential. The edges present very few opportunities for lingering and in most cases the dialogue between interior and exterior has died down, causing a loss in commercial activity.

This study aimed to investigate which design features are required to reactivate the edge in order to present the dweller with lingering opportunities and increase the commercial activity. Insights gained through mapping and studying various arcades and thoroughfares were reworked for incorporation in a guideline document called Edge handbook. The Edge handbook contributes to the interior architecture profession by providing guidelines for bringing the storefront edge to its full potential when seen in relation to its surrounding public space. The guidelines were implemented in a detailed design proposal for President Arcade.

The reality of the inner city is that the arcades and thoroughfares are city dwellers' main form of public space, which thus calls for a redefinition of the economic retail ideal. It was found that the storefront edge cannot be seen as an entity separate from the surrounding public space and therefore does not justify merely giving the retail tenant as much clear display area as possible. The needs of the urban city dweller - for example, to observe a variety of activities and exert a choice in the level of exposure - must be considered and used to guide the design of the edge within an inner city arcade.

The design therefore cannot focus only on the public arcade space or the storefront edge, but it is the dialogue between the two that will determine if the space becomes a destination for the city dweller, rather than just another thoroughfare.

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appendix

Edge handbook a
Lighting study b
Group framework c
Exam presentation d

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lighting study

The following study is compiled to determine the energy efficiency of the lights used for the public storefront space. The overall LPD (lighting power density) and illuminance level of the space will be calculated and compared with the allowed LPD and required illuminance levels for retail spaces.

Luminous flux: radiant power emitted from source evaluated in terms of its visual effect, measured in lumens
Illuminance: amount of luminous flux falling on unit area of surface, measured in Lux. The illuminance level of an area is determined as follow:
Lumens/m^2 = lux
Lighting power density (LPD): the total wattage of the lights within a space divided by the total area of the space = LPD.

The Green Building Council of South Africa (GBCSA) is currently developing a Green Star rating tool for retail environments (http://www.gbcsa.co.za).

The Environmental management department of the City of Johannesburg has compiled design guidelines for energy efficient buildings in Johannesburg. According to these guidelines the allowed LPD for a class occupancy F1 (large shops) is 24 W/m^2 and for F2 (small shops) 20 W/m^2 (http://www.joburg.org.za).

The following international rating systems and guidelines were used to determine the allowed LPD for retail spaces:

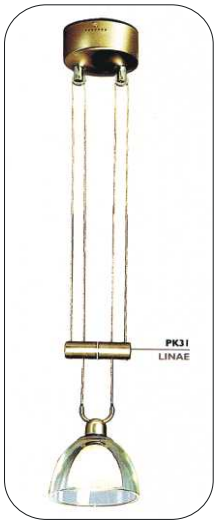
- ☐ Vermont 2005 guidelines for energy efficient commercial construction (http://www.publicservice.vermont.gov)
- ☐ The commercial lighting program by NYSERDA (New York State energy research and development authority) (http://www.nyserda.org)
- ☐ International Energy Conservation Code 2006 (http://anybas.com)

According to the Vermont 2005 guidelines the allowed LPD for general retail areas are 17 W/m^2 and for fine merchandise display 39 W/m^2. The commercial lighting program by NYSERDA allows 19 W/m^2 for general merchandise areas and 35 W/m^2 for areas that require accent lighting like display windows. 15 W/m^2 for general retail and 39 W/m^2 for display windows are allowed according to the International Energy Conservation Code 2006.

The LPD allowance is much higher for retail environments in South Africa than in most other countries. In general South Africa is exposed to a high level of bright sunshine and especially in cities like Johannesburg and Pretoria, where the duration of bright sunshine exceeds 80 per cent of the possible in winter and 60 per cent during summer (Bothma 2003:32-33).

So for the purpose of this study 19 W/m^2 for general retail areas and 39 W/m^2 for fine merchandise display are used for the allowed LPD.

According to SABS 0114-1 part 16.5, the minimum required illuminance levels for shops are 300 lux and in areas where clothing inspection (fine merchandise display) takes place 500 lux.

		TOTAL
	142 x 110 mm downlights Finish: Satin silver BK26 & BK01 - Radiant lighting with 35 Watt OSRAM Metal halide powerball HCI-R111 light bulb Life span: 12 000 hours Luminous flux: 1705 lumen Colour temperature: 3000K Colour rendering: 81 Beam angle: 40°	9
	1200 x 26 mm Ø OSRAM 32 Watt Lumilux T8 Energysaver tubular fluorescent ceiling light in KA14 light fitting as per Radiant lighting Life span: 15 000 hours Luminous flux: 2880 lumen Colour rendering: 80-89	4
	130 x 1200 mm Pendant Finish: Satin chrome PK31 - Radiant lighting with 35 Watt OSRAM Tungsten halogen light bulb Life span: 4000 hours Luminous flux: 860 lumen Colour temperature: 3000K Colour rendering: 100	3
	FIXED INSIDE COUNTERTOP 382 x 27 x 20 mm Fluorescent tube light 8 Watt OSRAM LUMILUX SPLIT FM Life span: average of 15000 hours Luminous flux: 970 lumen	3
	COUNTERTOP STRIP LIGHT 610 x 23 x 28 mm Fluorescent tube light 14 Watt OSRAM LUMILUX SPLIT HE Life span: average of 15000 hours	2

CALCULATIONS

ILLUMINANCE

INITIAL ILLUMINANCE (E) = total luminous flux x utilisation factor (UF) / total area

MAINTAINED ILLUMINANCE (E_{av}) = E x maintenance factor (MF)

Utilisation factor (UF): UF is proportion of luminous flux of light sources which falls on horizontal working plane in an interior and depends on the room index (RI) and reflectance values of room surfaces.

Maintenance factor (MF): MF is proportion of initial illuminance to which illuminance falls mid-way between cleaning and relamping periods. MF can be taken:

for interiors maintained in average state of cleanliness - 0.8
for interiors kept in specially clean condition - 0.9
interiors allowed to become dirtier than average - 0.7

WIDTH OF PUBLIC STOREFRONT: 6.205 m
HEIGHT ABOVE HORIZONTAL WORKING PLANE: 2.420 m
TOTAL AREA OF PUBLIC STOREFRONT: 30.0 m²

RI = W/2H
= 6.205 m/2(2.420 m)
= 6.205 m/4.840 m
= 1.28

The finishes of the public storefront are done in light colours, so the reflectance values are taken as follow: ceilings - 0.7, walls - 0.5, floor - 0.2.
According to table A3.2 (table takes RI and reflectance values into account) the UF = 0.38. The MF of the public storefront is taken as 0.9.
(Bean 2004:284-289)

3 DOWNLIGHTS IN FRONT OF ROTATING PANELS WITH DISPLAY BOXES
Area that lights project onto: 3.0 m²
Luminous flux of area: 3 x 1705 lumen = 5115 lumen
Illuminance level of area: 5115 lumen/3.0 m² = 1705 lux

3 DOWNLIGHTS AT THE BACK OF STOREFRONT
Area that lights project onto: 3.0 m²
Luminous flux of area: 3 x 1705 lumen = 5115 lumen
Illuminance level of area: 5115 lumen/3.0 m² = 1705 lux

3 PENDANT LIGHTS ABOVE COUNTERTOP
Area of countertop: 2.8 m²
Luminous flux of area: 3 x 860 lumen = 2580 lumen
Illuminance level of area: 2580 lumen/2.8 m² = 920 lux

3 DOWNLIGHTS IN DISPLAY WINDOW
Area of display window: 2.4 m²
Luminous flux of area: 3 x 1705 lumen = 5115 lumen
Illuminance level of area: 5115 lumen/2.4 m² = 2130 lux

4 FLUORESCENT CEILING LIGHTS
Area that lights cover: 18.8 m²
Luminous flux: 4 x 2880 lumen = 11520 lumen
Illuminance level of area: 11520 lumen/18.8 m² = 610 lux

3 FLUORESCENT LIGHTS FIXED INSIDE COUNTERTOP
Area of countertop 2.8 m²
Luminous flux: 3 x 970 lumen = 2910 lumen
Illuminance level: 2910 lumen/2.8 m² = 1040 lux

THE GENERAL ILLUMINANCE LEVEL ACHIEVED IN THE PUBLIC STOREFRONT:
(the lumen of the countertop strip lights are not included, as these are only turned on when needed)
5115 lumen
5115 lumen
2580 lumen
5115 lumen
11520 lumen
2910 lumen
32 355 lumen

INITIAL ILLUMINANCE (E) = (luminous flux x UF) / total area
= (32 355 lumen x 0.38)/30 m²
= 410 lux

MAINTAINED ILLUMINANCE (Eav) = E x maintenance factor (MF)
= 410 lux x 0.9
= **370 lux** (minimum required 300 lux)

LIGHTING POWER DENSITY

TOTAL AREA OF PUBLIC STOREFRONT: 30.0 m²

3 DOWNLIGHTS IN FRONT OF ROTATING PANELS WITH DISPLAY BOXES
Area that lights project onto: 3.0 m²
Total wattage of area: 3 x 35 Watt = 105 Watt
LPD of area: 105 Watt/3.0 m² = 35 Watt/m²

3 DOWNLIGHTS AT THE BACK OF STOREFRONT
Area that lights project onto: 3.0 m²
Total wattage of area: 3 x 35 Watt = 105 Watt
LPD of area: 105 Watt/3.0 m² = 35 Watt/m²

3 PENDANT LIGHTS ABOVE COUNTERTOP
Area of countertop: 2.8 m²
Total wattage of area: 3 x 35 Watt = 105 Watt
LPD of area: 105 Watt/2.8 m² = 37.5 Watt/m²

3 DOWNLIGHTS IN DISPLAY WINDOW
Area of display window: 2.4 m²
Total wattage of area: 3 x 35 Watt = 105 Watt
LPD of area: 105 Watt/2.4 m² = 44 Watt/m²

4 FLUORESCENT CEILING LIGHTS
Area that lights cover: 18.8 m²
Total wattage of area: 4 x 32 Watt = 128 Watt
LPD of area: 128 Watt/18.8 m² = 6.8 Watt/m²

3 FLUORESCENT LIGHTS FIXED INSIDE COUNTERTOP
Area of countertop 2.8 m²
Total wattage of area: 3 x 8 Watt = 24 Watt
LPD of area: 24 Watt/2.8 m² = 8.5 Watt/m²

TOTAL LPD OF PUBLIC STOREFRONT:
9 downlights x 35 Watt = 315 Watt
3 pendant lights x 35 Watt = 105 Watt
4 fluorescent ceiling lights x 32 Watt = 128 Watt
3 fluorescent countertop lights x 8 Watt = 24 Watt

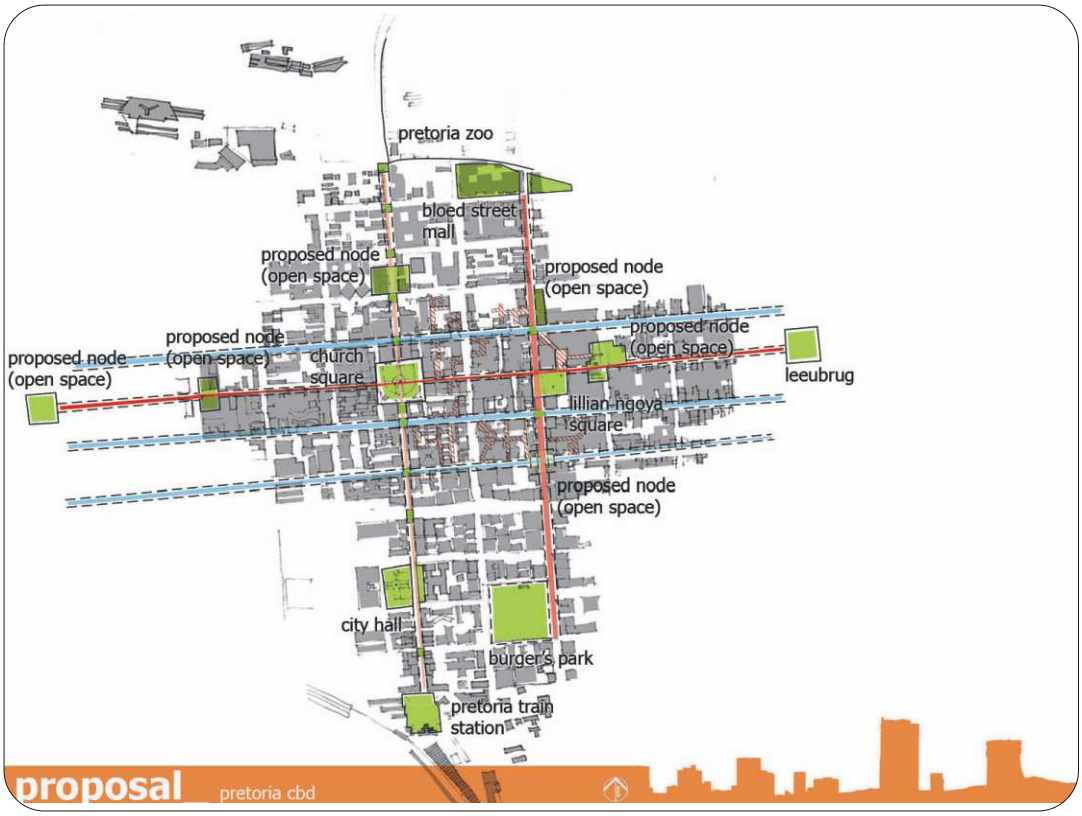
Total wattage of storefront = 572 Watt

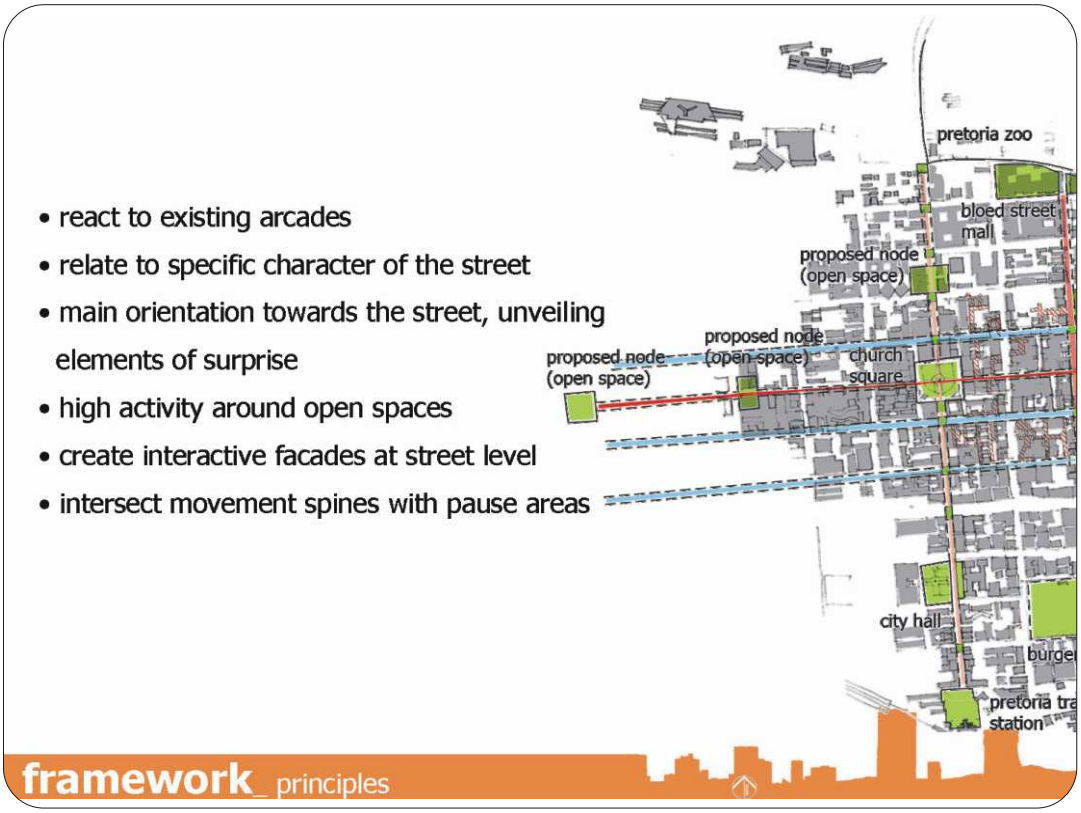
LPD: 572 Watt/30.0 m² = **19.1 Watt/m²** (LPD allowed 19 Watt/m²)

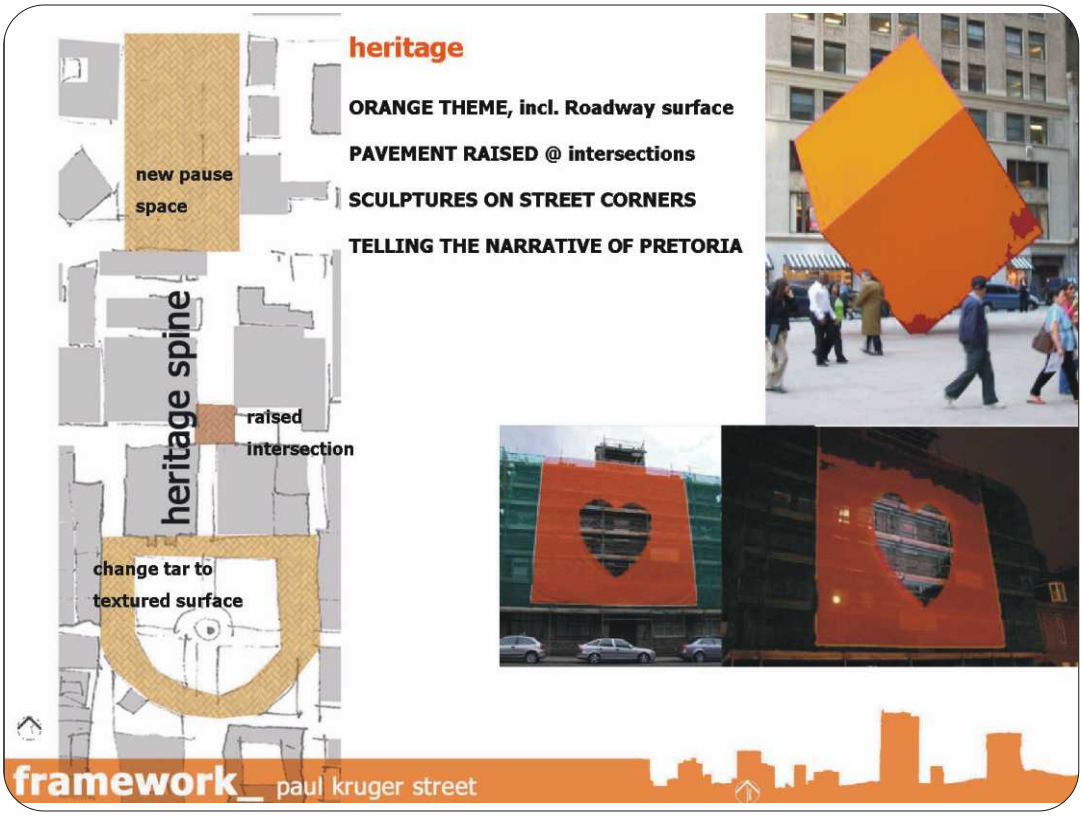
"...people look for order, security and a sense of completeness in their immediate spatial experiences; on the other hand, they look for mystery, challenge, and stimulation."

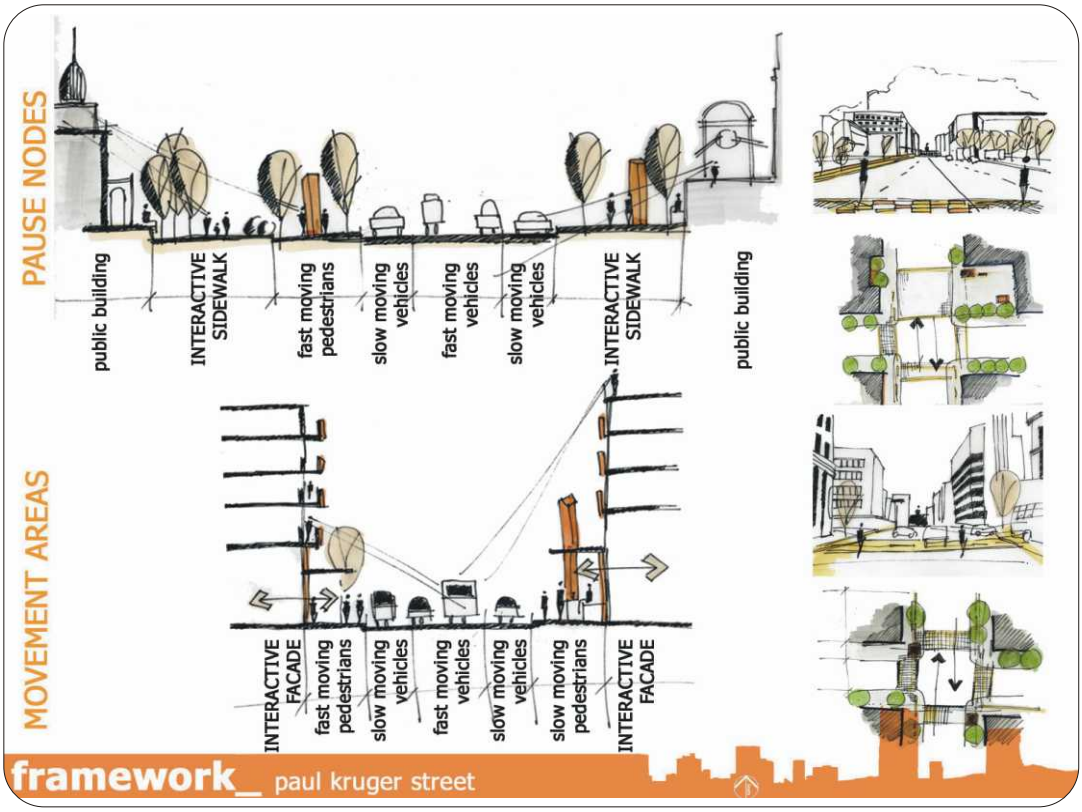
Goldsteen, J.B. & Ellliott, C.D. 2004: 136.

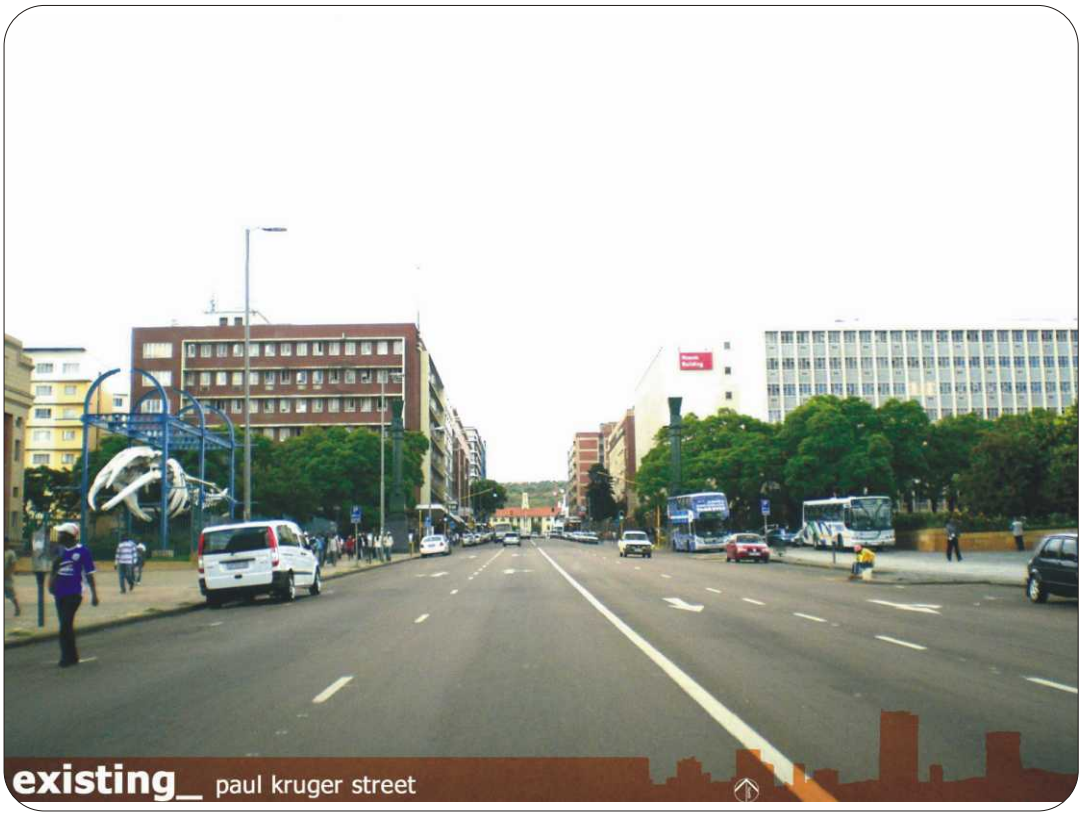
cbd problems

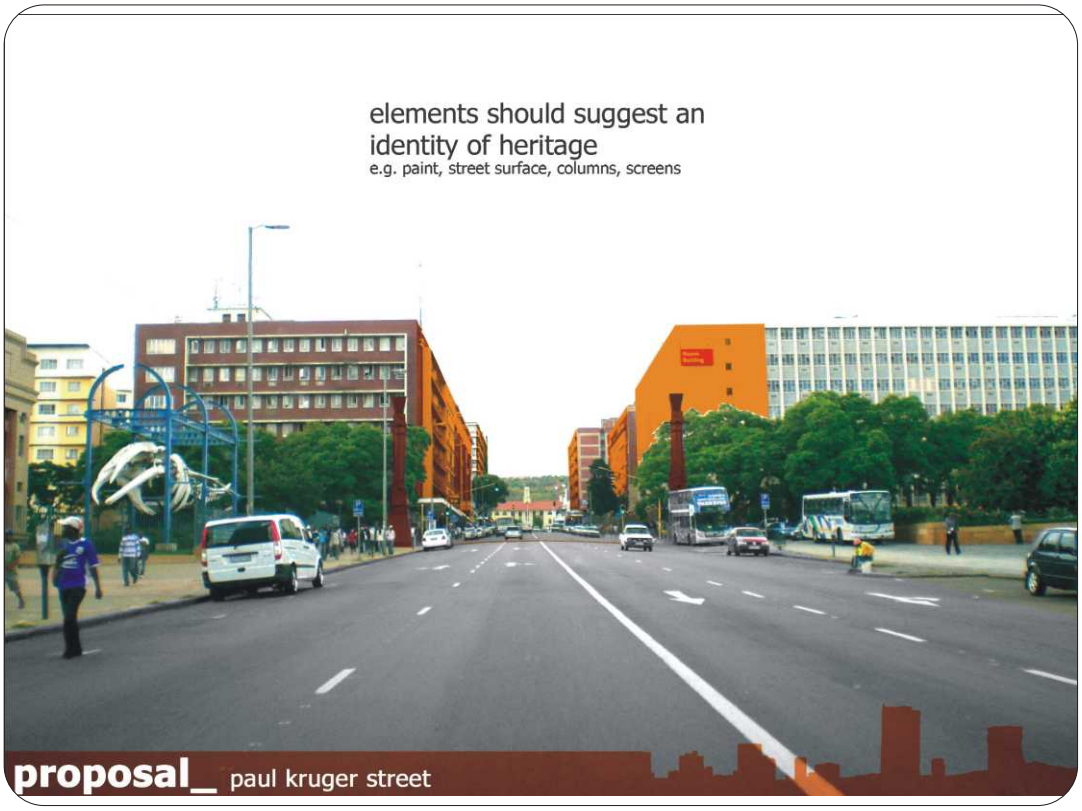

pretoria zoo
bloed street mall
proposed node (open space)
proposed node (open space)
proposed node (open space)
proposed node (open space)
proposed node (open space)
church square
leeubrug
lillian ngoya square
proposed node (open space)
city hall
burger's park
pretoria train station
proposal
pretoria cbd

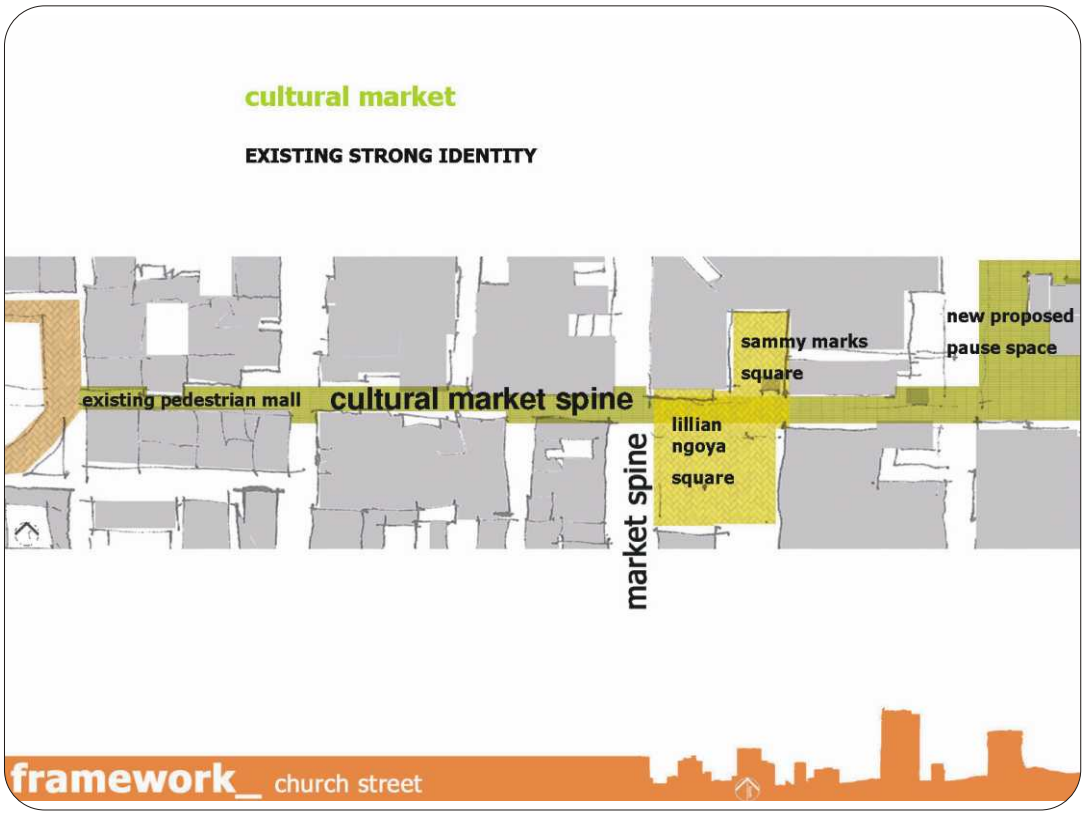

• react to existing arcades
• relate to specific character of the street
• main orientation towards the street, unveiling elements of surprise
• high activity around open spaces
• create interactive facades at street level
• intersect movement spines with pause areas
pretoria zoo
bloed street mall
proposed node (open space)
proposed node (open space)
proposed node (open space)
church square
city hall
framework_ principles

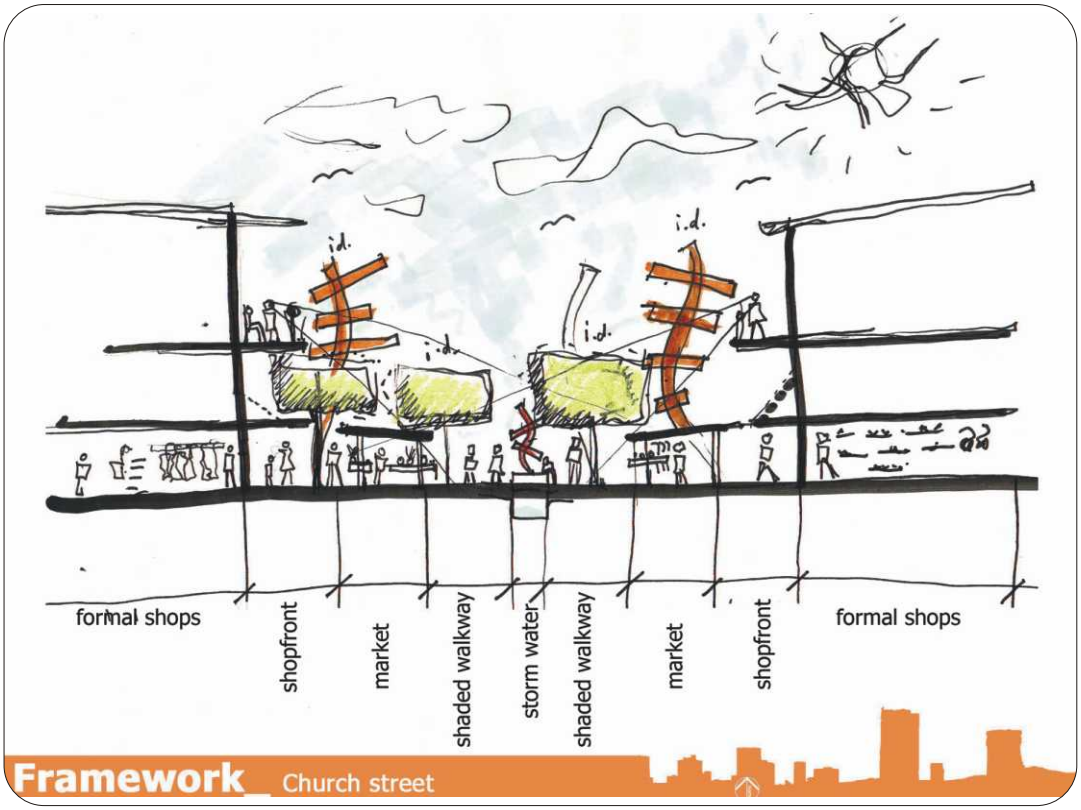

heritage
ORANGE THEME, incl. Roadway surface
PAVEMENT RAISED @ intersections
SCULPTURES ON STREET CORNERS
TELLING THE NARRATIVE OF PRETORIA
new pause space
heritage spine
raised intersection
change tar to textured surface
framework_ paul kruger street


PAUSE NODES
public building
INTERACTIVE SIDEWALK
fast moving pedestrians
slow moving vehicles
fast moving vehicles
slow moving vehicles
INTERACTIVE SIDEWALK
public building
MOVEMENT AREAS
INTERACTIVE FACADE
fast moving pedestrians
slow moving vehicles
fast moving vehicles
slow moving vehicles
slow moving pedestrians
INTERACTIVE FACADE
framework_ paul kruger street

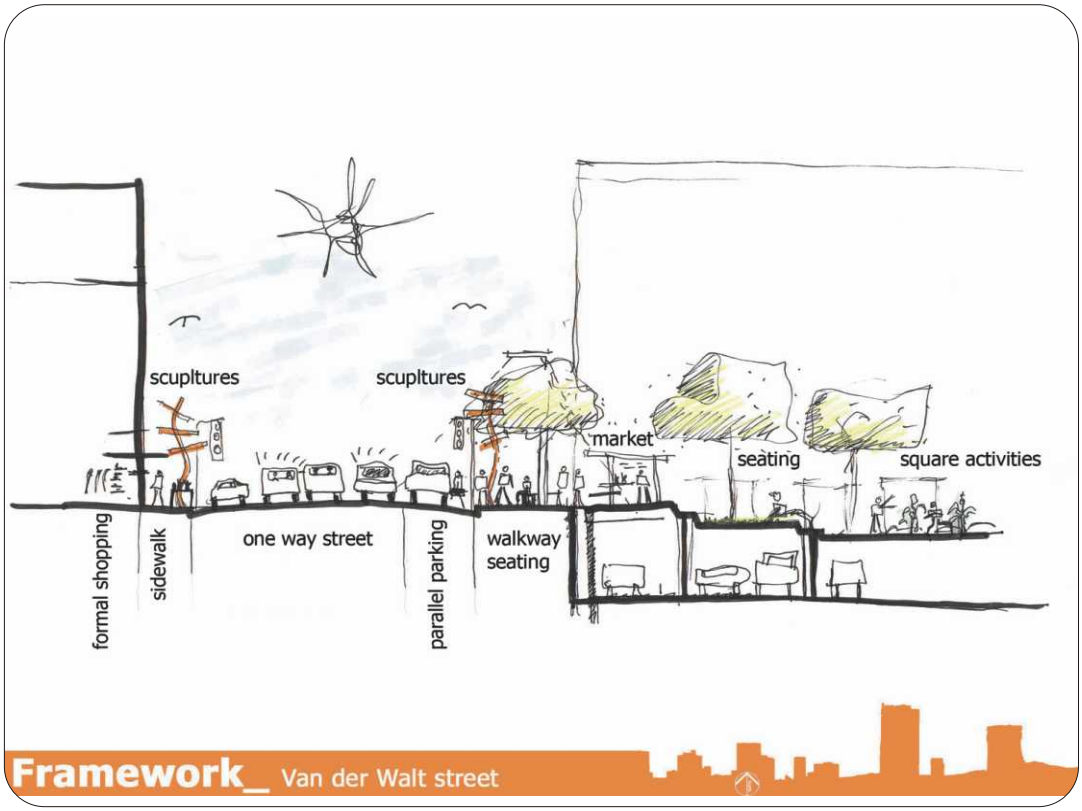

existing_ paul kruger street

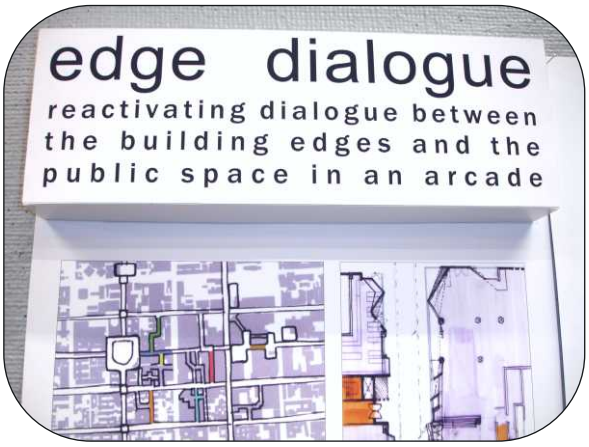

elements should suggest an
identity of heritage
e.g. paint, street surface, columns, screens
proposal_ paul kruger street


cultural market
EXISTING STRONG IDENTITY
existing pedestrian mall
cultural market spine
market spine
sammy marks
square
lillian
ngoya
square
new proposed
pause space
framework_ church street


formal shops
shopfront
market
shaded walkway
storm water
shaded walkway
market
shopfront
formal shops
Framework_ Church street

market
YELLOW THEME, incl. Sidewalk Surface
PAVEMENT RAISED @ intersections
new pause space
raised intersections
market spine
sammy marks square
lillian ngoya square
vienna, austria
las ramblas, barcelona
framework_ van der walt street


sculptures
sculptures
market
seating
square activities
formal shopping
sidewalk
one way street
parallel parking
walkway seating
Framework_ Van der Walt street


edge dialogue
reactivating dialogue between
the building edges and the
public space in an arcade

you treat the edge
as a "thing" a "place"
ne be it not a line
ich has no thickness
of buildings with
people to stop. make
depth and a covering
walk, especially at
the perimeter
teresting outdoor life"

move
arcades and
ome public

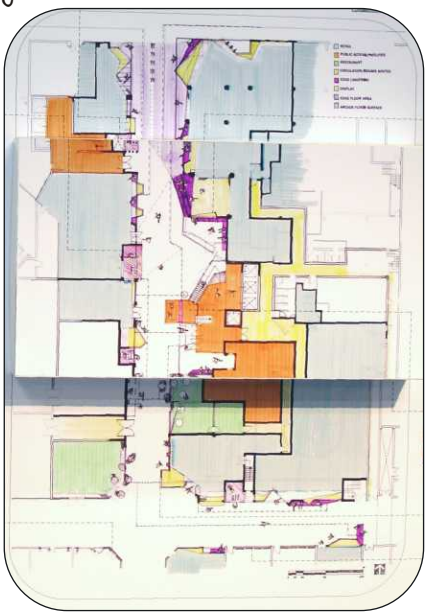
thickness

linger watch and be watched elements of seduction

need for social public space

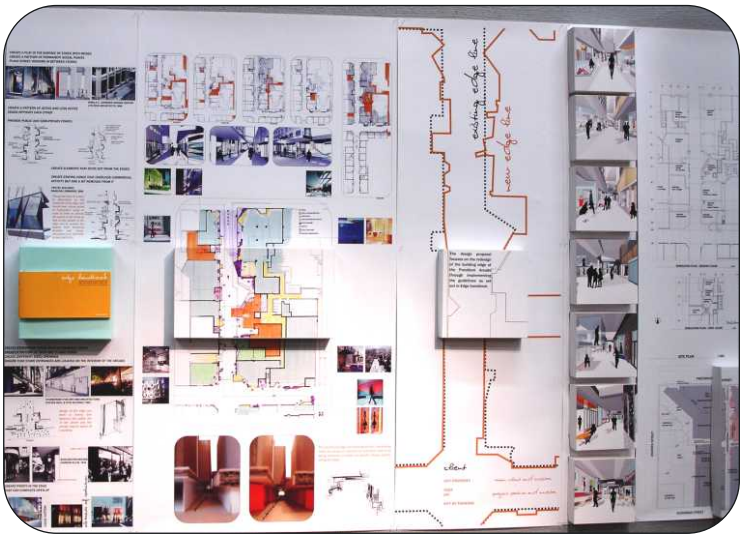
edge effect

physical needs staying zones visual connection



WEST ELEVATION
SOUTH ELEVATION
EAST ELEVATION
With the redesign of the arcade's building edge a balance had to be reached between the dweller's needs and the requirements of a storefront display area.
KEYPLAN
display area
made-off

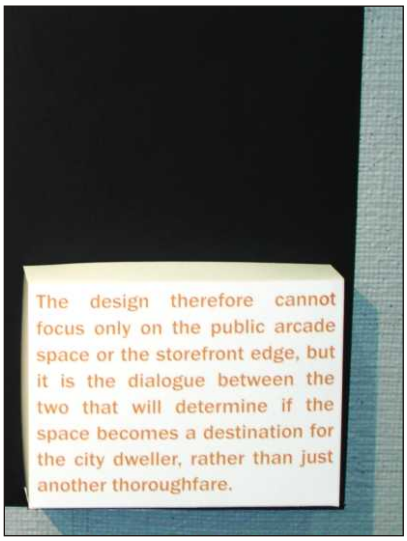
dialogue
reactivating dialogue between the building edges and the public space in an arcade
active edge
building edge
less active


existing edge line
new edge line

president arcade
outcome
The design aim - through the above process of analysing the different arcades and thoroughfares, engaging in the detail analysis of President Arcade, interviewing the public and conducting the experiment - is to establish a document that will provide guidelines for the interior architect and developer as to which elements need to be implemented in order to establish an active dialogue between the building edge and the immediate public space.

colour and material palette

TRUTEC BUILDING
BARKOW LEIBINGER, 2006
The genius locus of a place is determined by the treatment of its edges and should have various points of "interaction" along its route in order to activate the spaces on the inside as well as the outside of the edge and to prevent the spaces from becoming desolate and empty. (Alexander et al. 1977:497 & Gehl 1987:153)
edge handbook
CREATE STOREFRONT EDGES WITH ALTERNATING LEVELS
CREATE A PATTERN OF OPEN AND CLOSED EDGES
CREATE DIFFERENT SIZED OPENINGS
ENSURE THAT STORE ENTRANCES ARE LOCATED ON THE INTERIOR OF THE ARCADE


The design therefore cannot focus only on the public arcade space or the storefront edge, but it is the dialogue between the two that will determine if the space becomes a destination for the city dweller, rather than just another thoroughfare.

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INTERVIEWS

ABRAMSON, B - Head architect and founder of Bentel Associates International. Personal interview regarding shopping mall vs. arcade (20 August 2009).

CLOETE, C - Professor at the Department of Construction Economics, University of Pretoria, lectures courses in shopping centre management. Personal interview regarding retail management in South Africa (10 April 2009).

POTGIETER, H - Architect and founder of Helene Potgieter Architects. Personal interview regarding shopping mall design (21 April 2009).

VON GEYSO, C - Structural engineer. Consultation regarding detail construction design (27 August & 16 September 2009).

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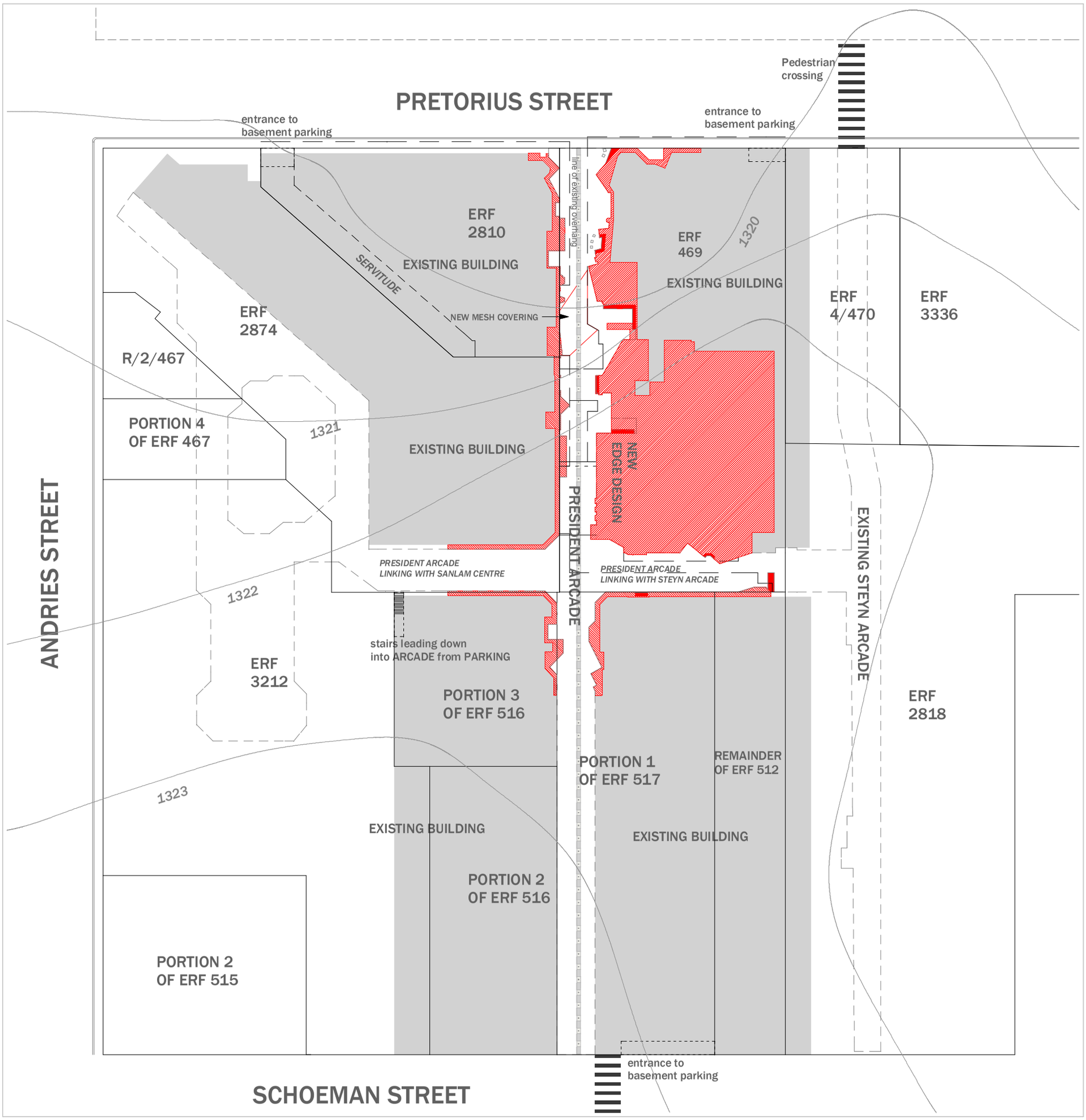
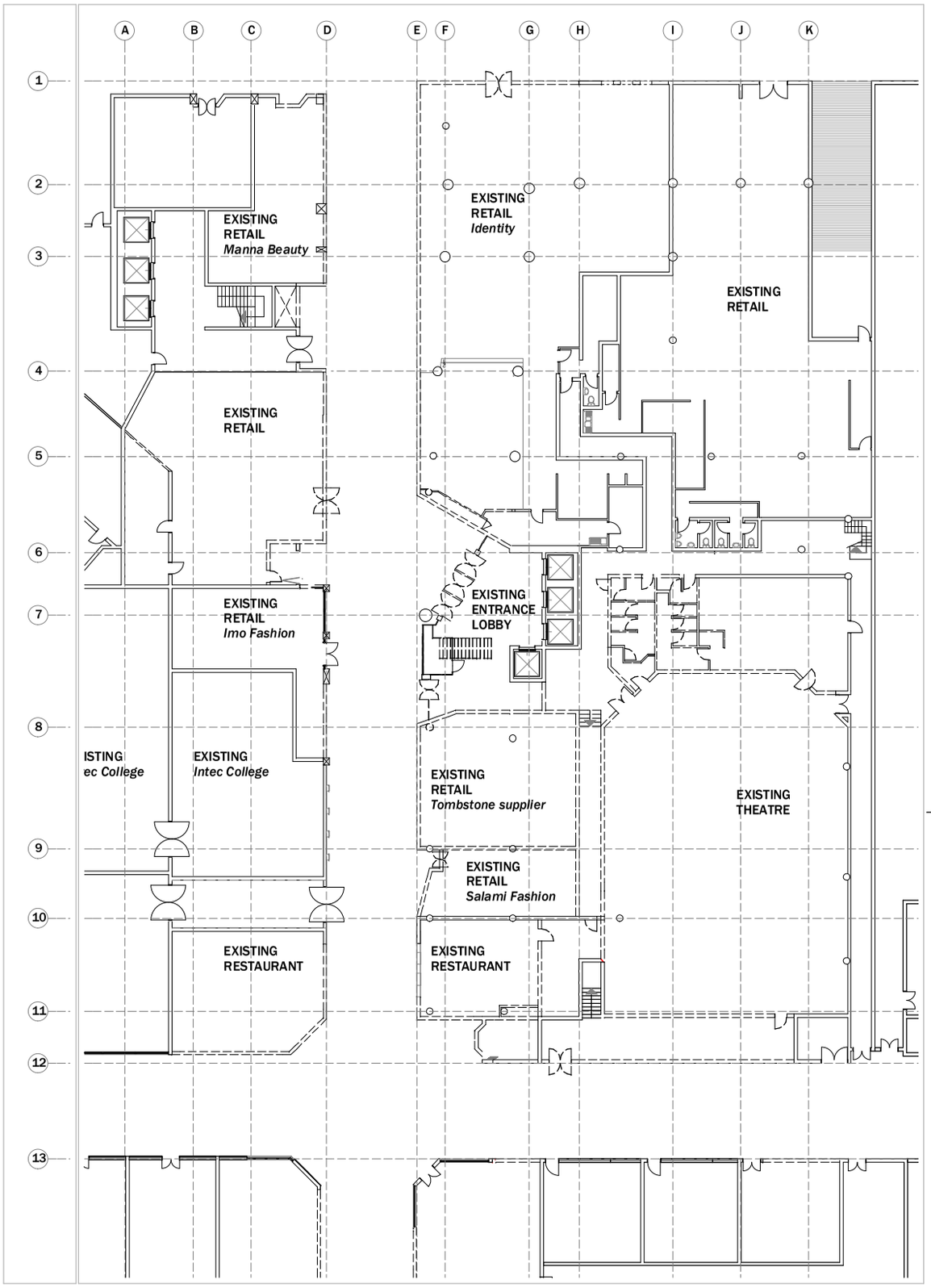
technical drawings

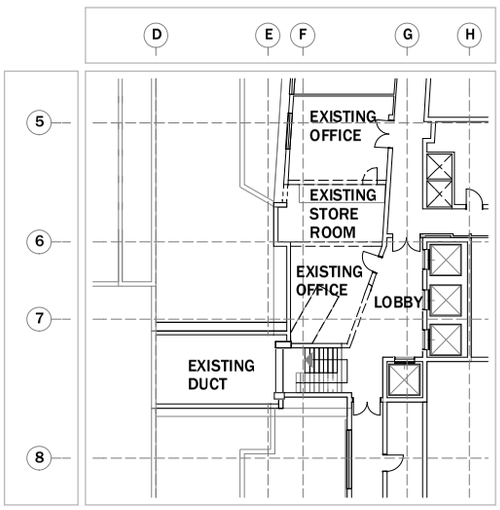


SITE PLAN 1:500

1m 5m 20m
2m 10m 50m



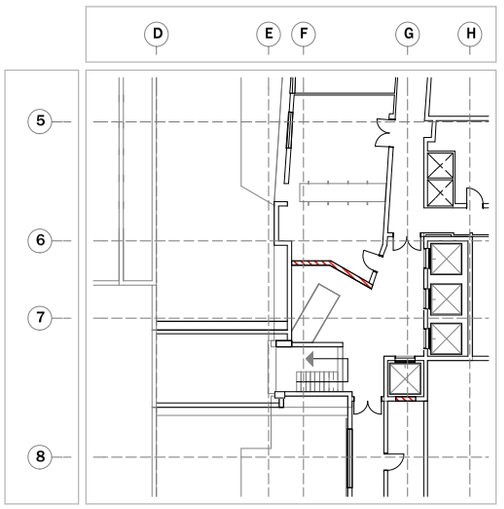
DEMOLITION PLAN - GROUND FLOOR 1:200



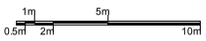
DEMOLITION PLAN - FIRST FLOOR 1:200

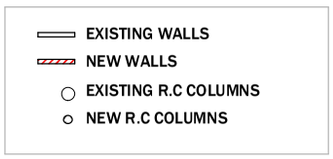
EXISTING WALLS
WALLS TO BE DEMOLISHED
EXISTING R.C COLUMNS
COLUMNS TO BE DEMOLISHED

WET BRICKWORK PLAN - GROUND FLOOR 1:200

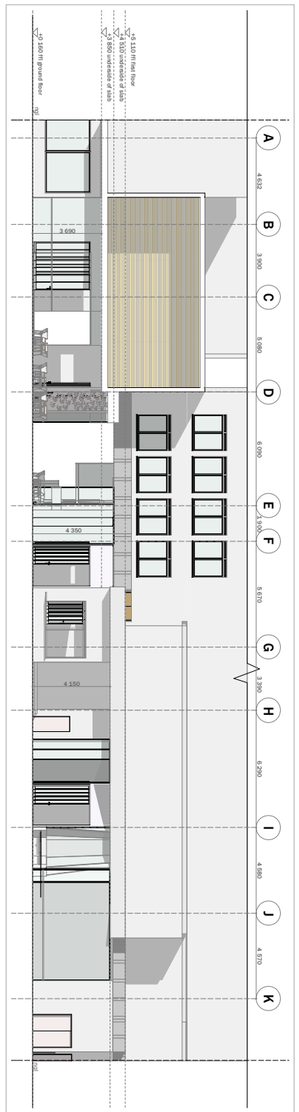


WET BRICKWORK PLAN - FIRST FLOOR 1:200

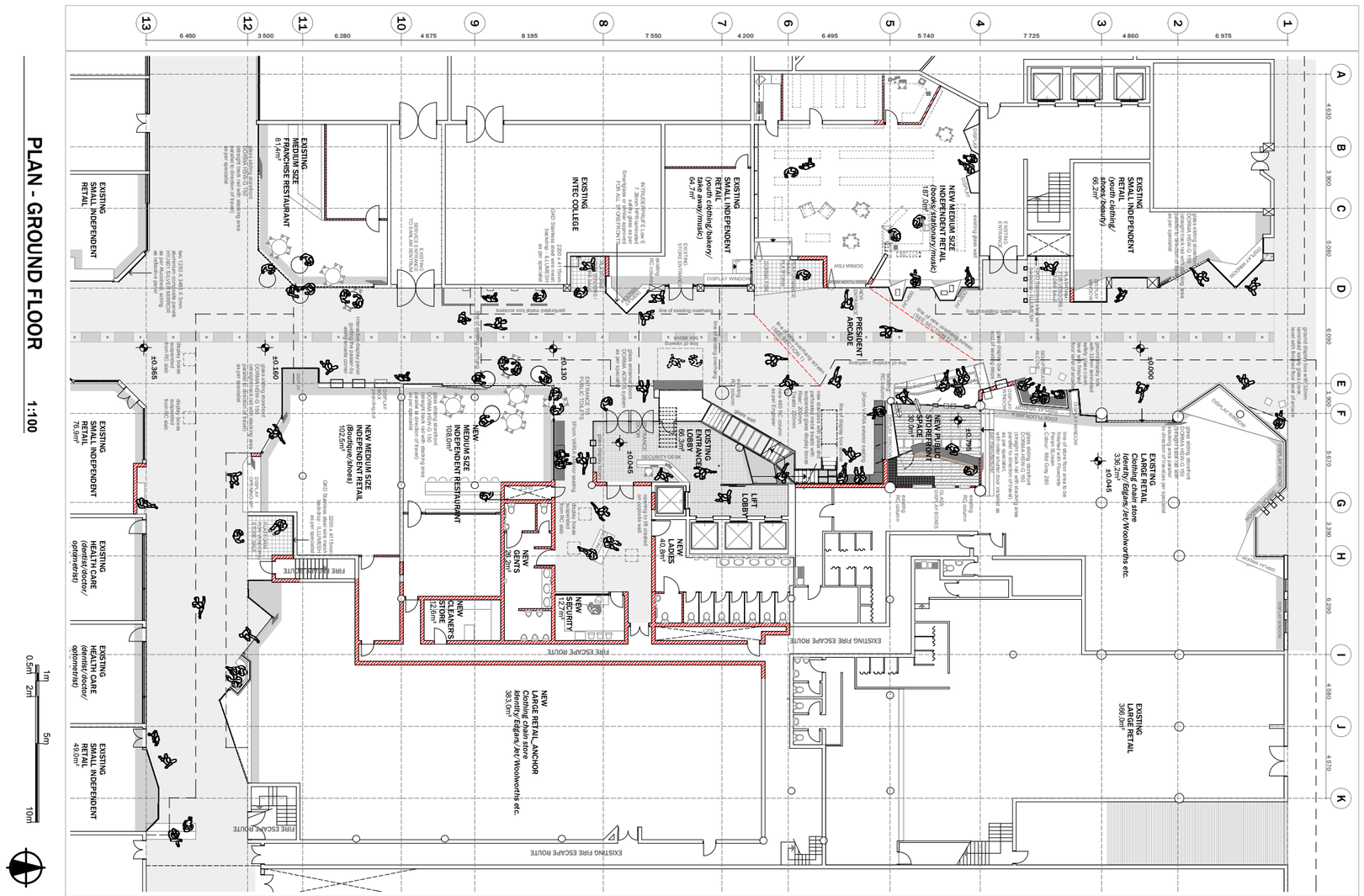




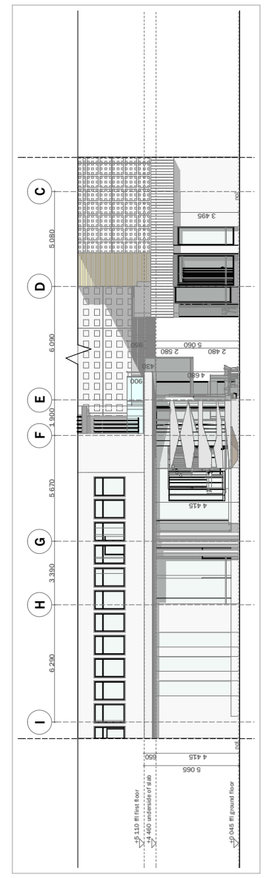
WEST ELEV 1:100



SOUTH ELEVATION 1:100

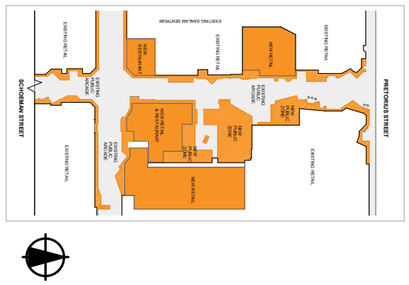


PLAN - GROUND FLOOR 1:100

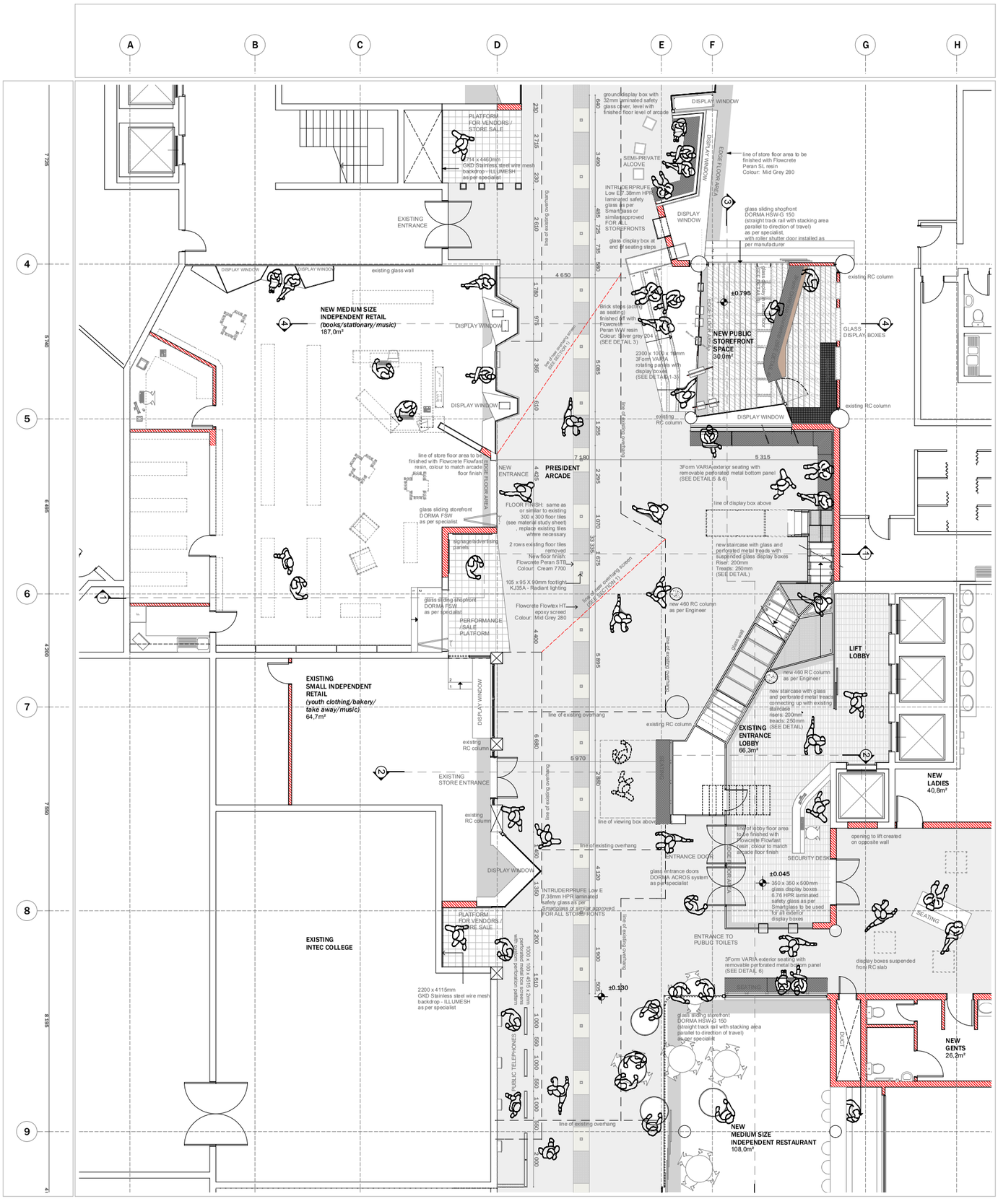


NORTH ELEVATION 1:100

EAST ELEVATION 1:100

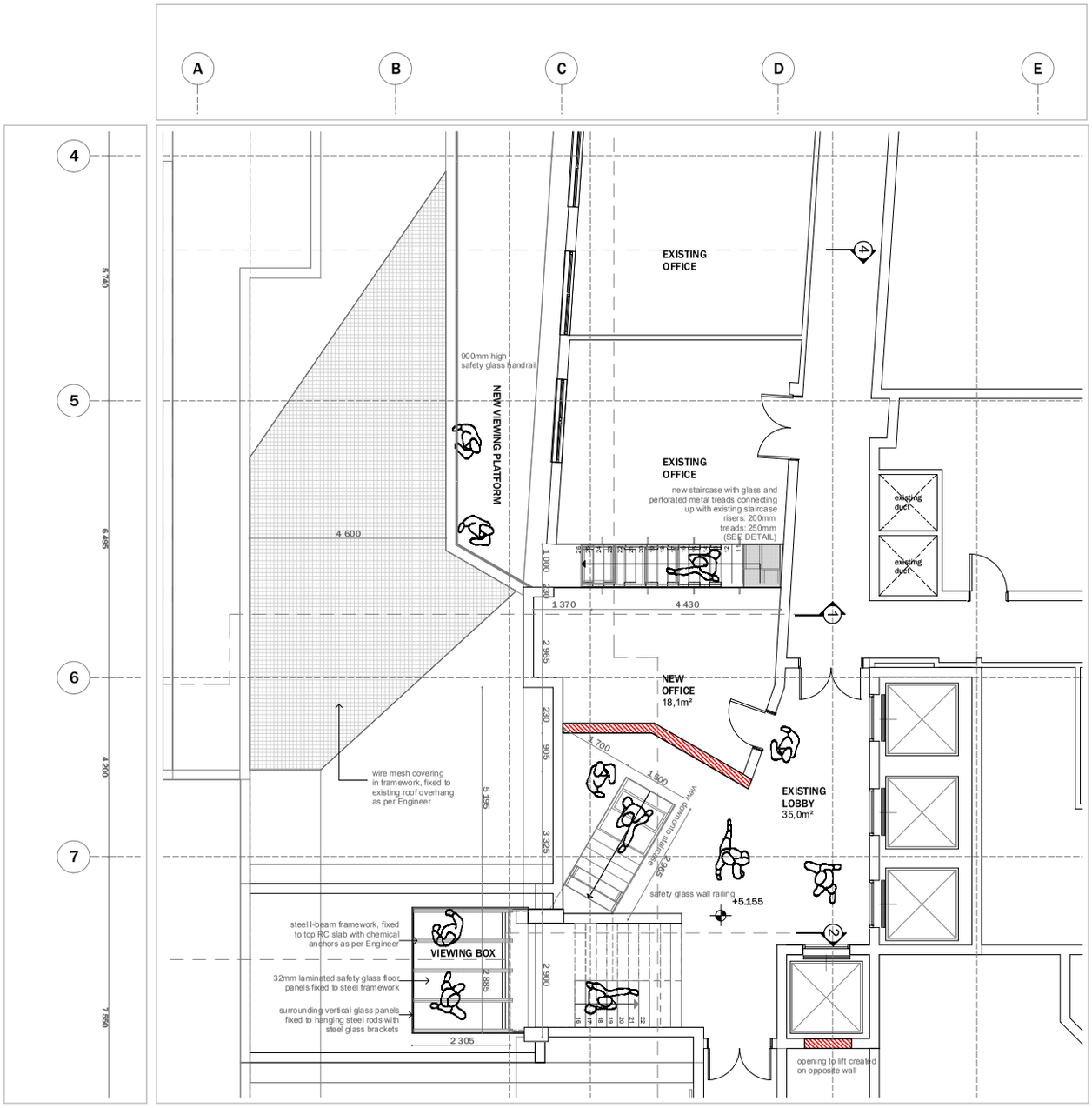


KEYPLAN



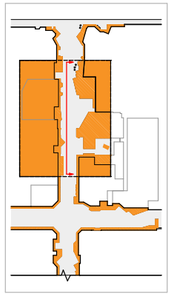
PLAN - GROUND FLOOR 1:50

KEYPLAN



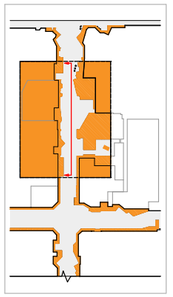
PLAN - FIRST FLOOR 1:50

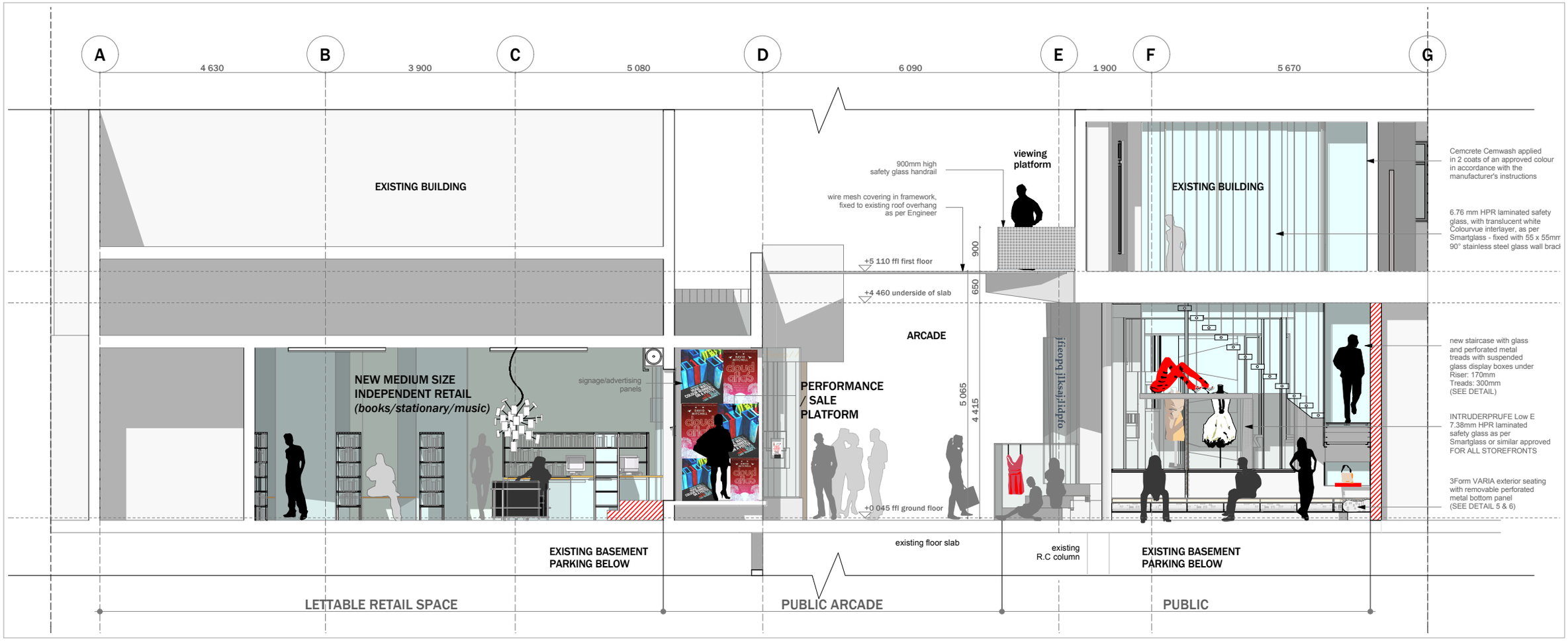
EAST ELEVATION 1:50



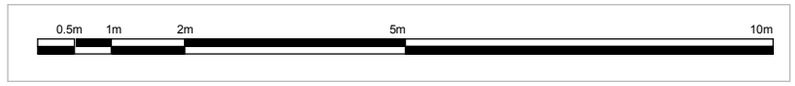
WEST ELEVATION 1:50

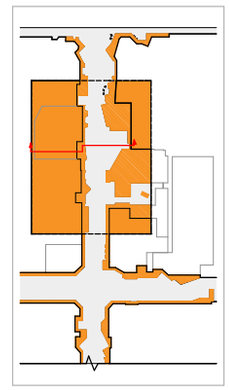
0.5m 1m 2m 5m 10m

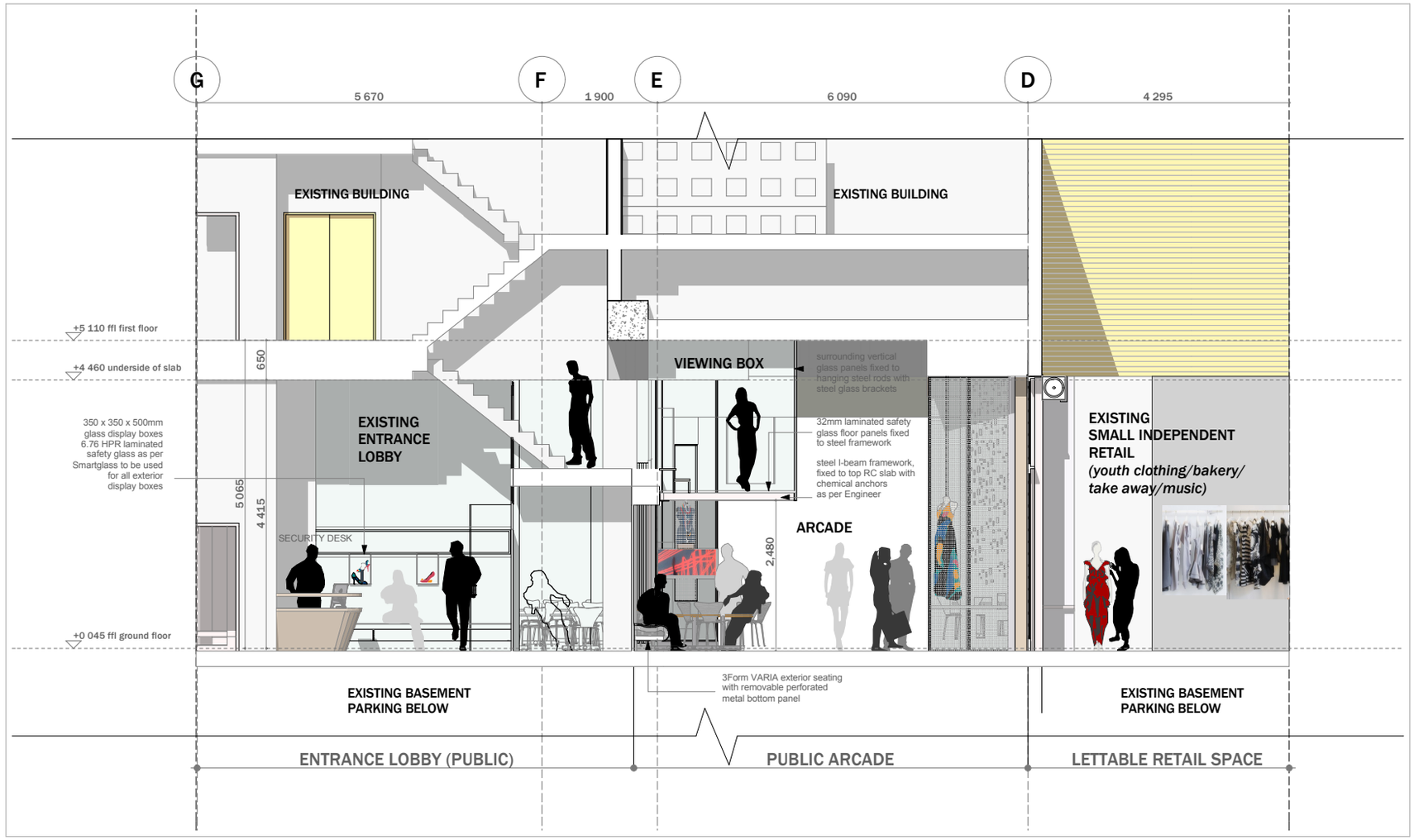




SECTION 1 1:50







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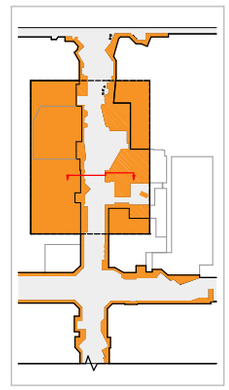

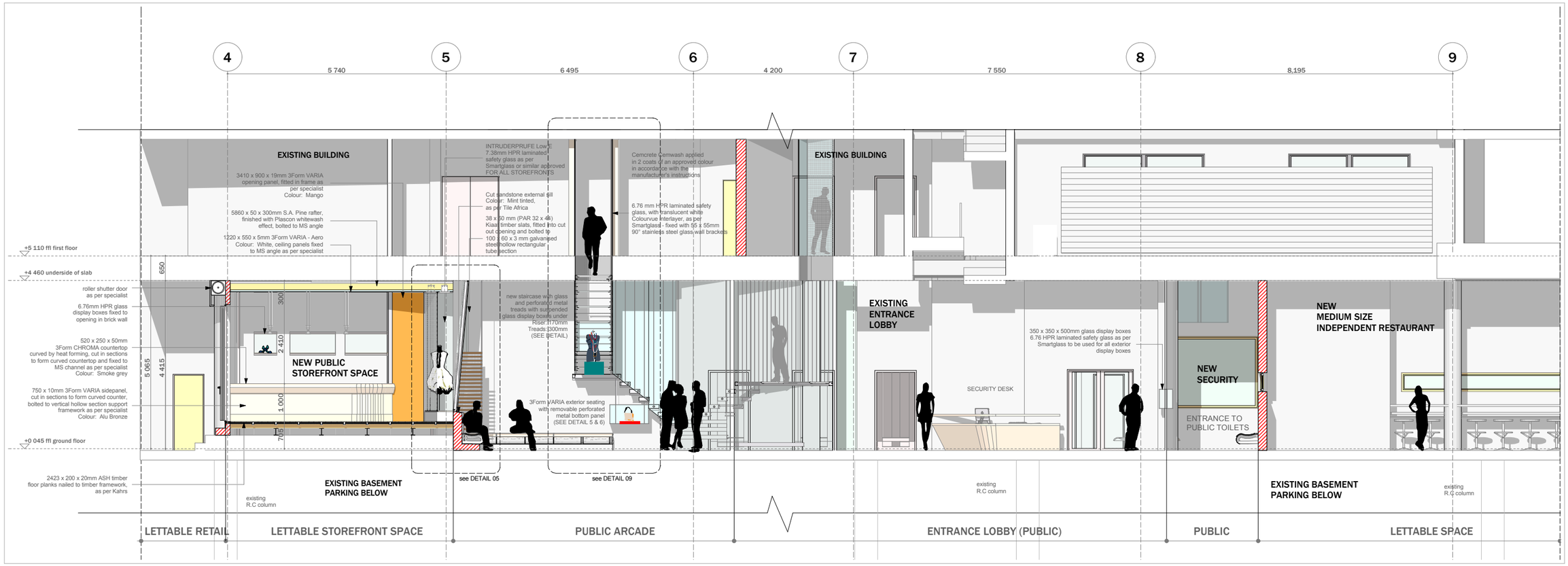

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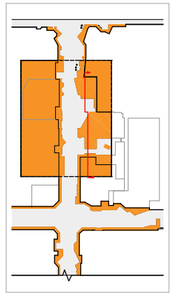

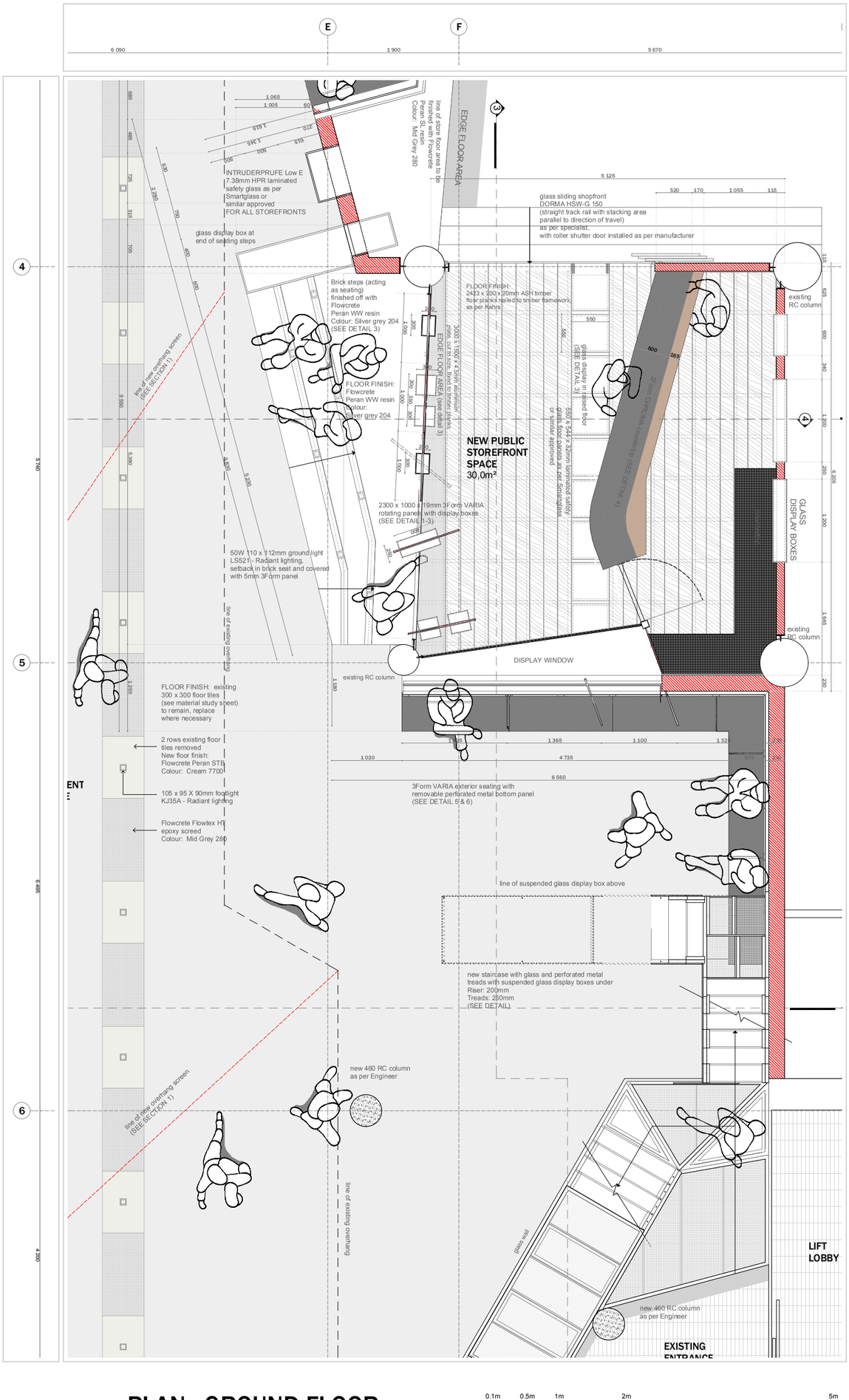

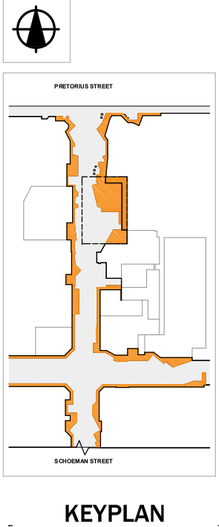

KEYPLAN

PLAN - GROUND FLOOR 1:20

0.1m 0.5m 1m 2m 5m

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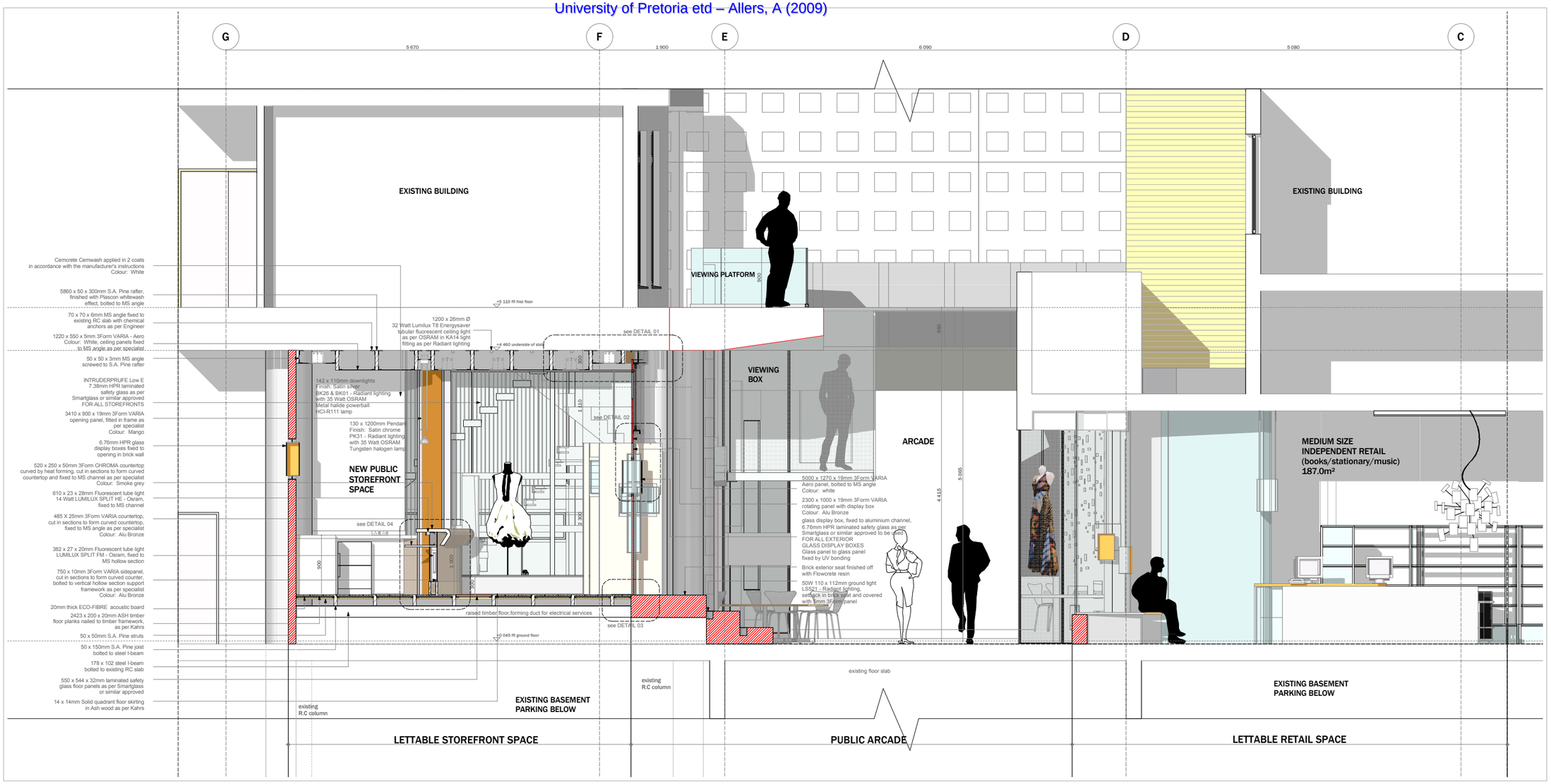
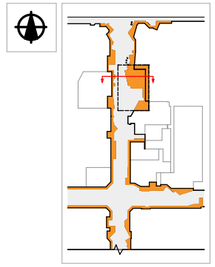
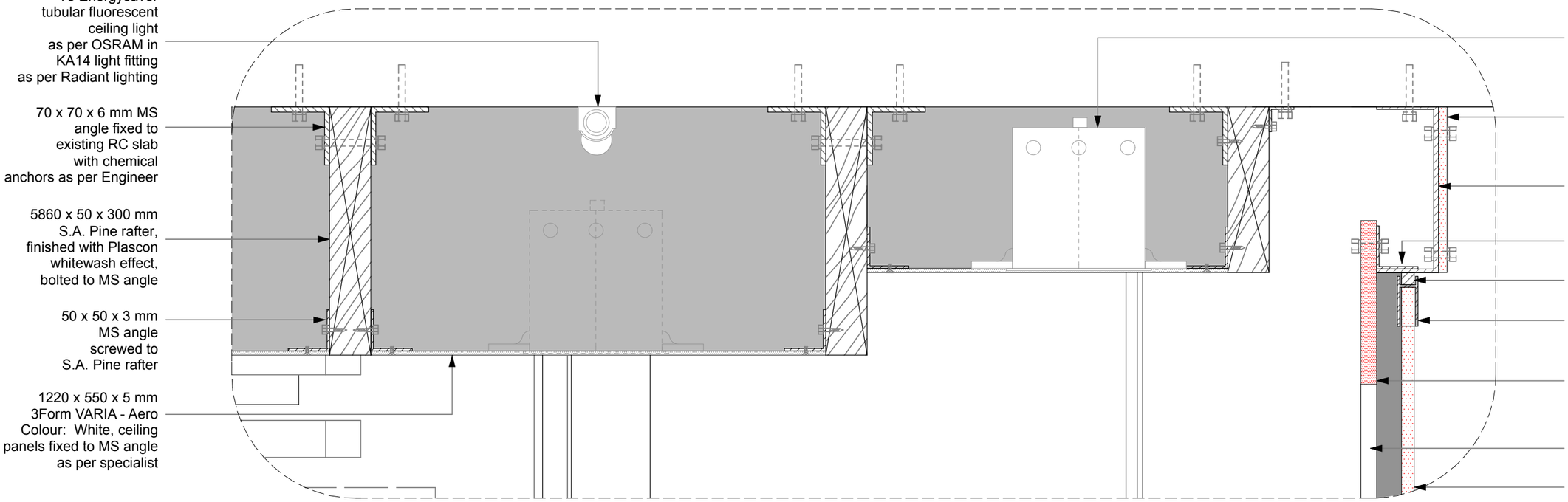


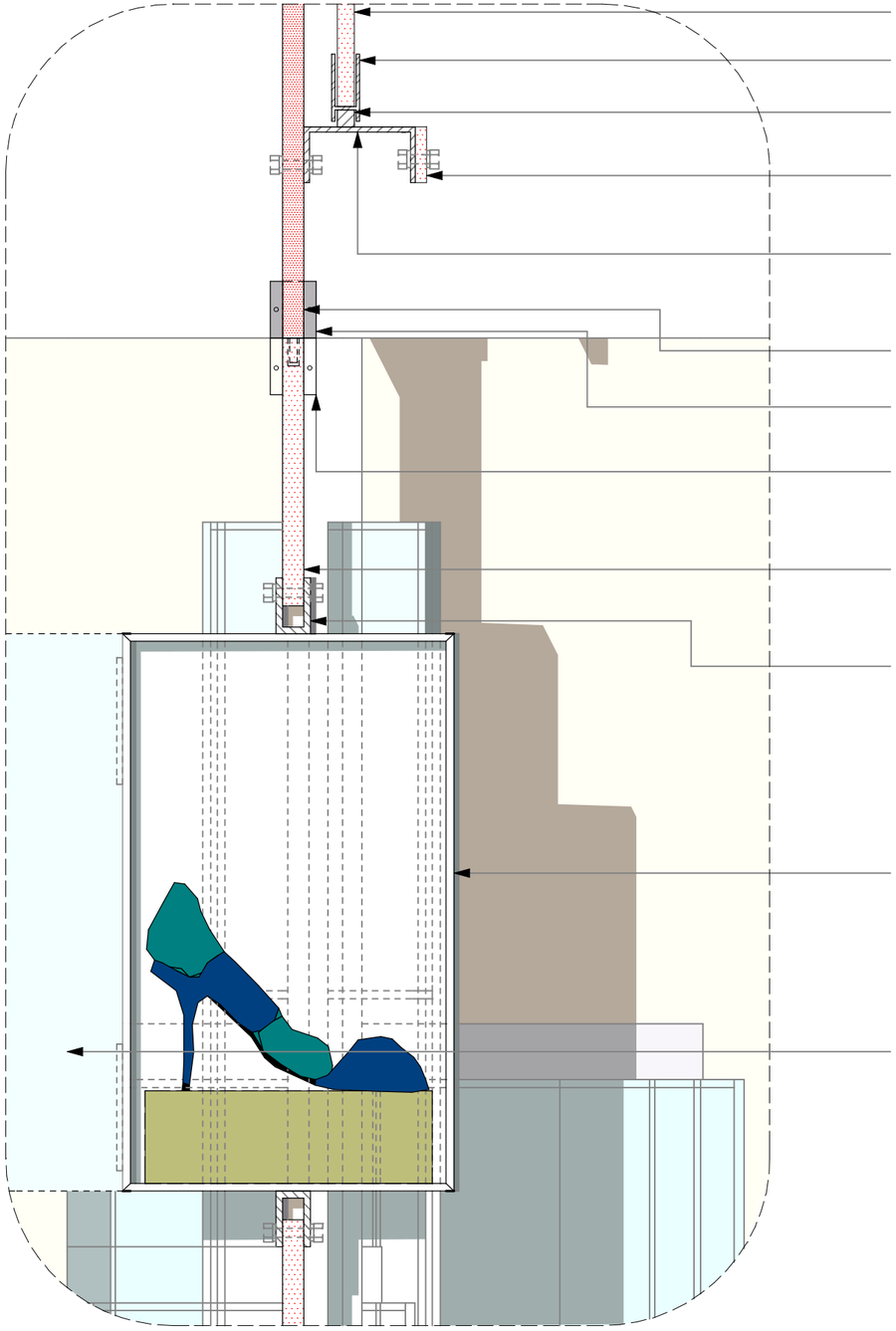
SECTION 4 1:20

0.1m 0.5m 1m 2m 5m




1200 x 26 mm Ø
32 Watt Lumilux
T8 Energysaver
tubular fluorescent
ceiling light
as per OSRAM in
KA14 light fitting
as per Radiant lighting
70 x 70 x 6 mm MS
angle fixed to
existing RC slab
with chemical
anchors as per Engineer
5860 x 50 x 300 mm
S.A. Pine rafter,
finished with Plascon
whitewash effect,
bolted to MS angle
50 x 50 x 3 mm
MS angle
screwed to
S.A. Pine rafter
1220 x 550 x 5 mm
3Form VARIA - Aero
Colour: White, ceiling
panels fixed to MS angle
as per specialist
142 x 110 mm downlights
Finish: Satin silver
BK26 & BK01 - Radiant lightir
with 35 Watt OSRAM
Metal halide powerball
HCI-R111 lamp
5000 x 200 x 10 mm
3Form VARIA Aero panel
bolted to MS channel
Colour: white
5000 x 200 x 75 mm
MS channel fixed to existing
RC slab with chemical
anchors as per Engineer
50 x 50 x 3 mm MS angle
welded to MS channel
steel guide
sliding frame for signage/
advertising panel
5000 x 1270 x 19 mm
3Form VARIA Aero panel,
bolted to MS angle
Colour: white
1000 x 400 mm lighting
opening cut out
sliding signage/
advertising panel

DETAIL 01 1:5



sliding signage/advertising panel

sliding frame for signage/
advertising panel

steel guide

1500 x 50 x 10 mm 3Form VARIA Aero panel
bolted to MS channel
Colour: white

100 x 50 mm MS channel bolted
to 19 mm 3Form VARIA panel

5000 x 1270 x 19 mm 3Form VARIA
Aero panel, bolted to MS angle
Colour: white

DORMA PT 30 overpanel patch with
pivot 15mm Ø, fixed at centerline of panel

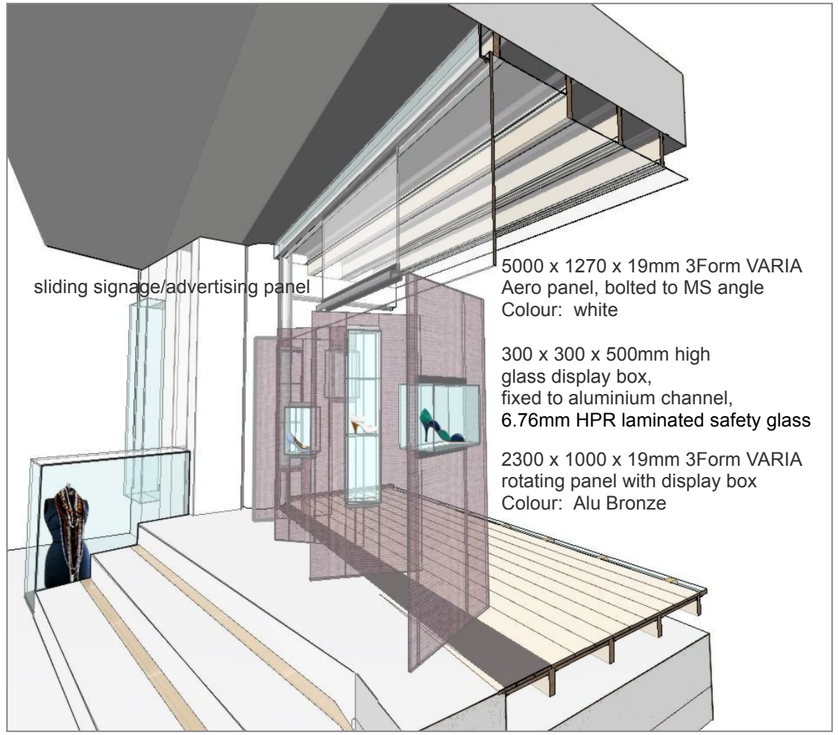
DORMA PT 20 top patch
with plastic socket for top pivot,
fixed at centerline of rotating panel
(GK 20 with US 10 corner lock to be fitted)

2300 x 1000 x 19 mm 3Form VARIA
rotating panel with display box
Colour: Alu Bronze

300 x 30 x 50 mm aluminium channel profile,
bolted to 3Form rotating panel

300 x 300 x 500 mm high glass display box,
fixed to aluminium channel,
6.76mm HPR laminated
safety glass as per
Smartglass or similar approved to be used
FOR ALL EXTERIOR GLASS DISPLAY BOXES
Glass panel to glass panel fixed by UV bonding

Hinged back opening panel with
locking hardware as per specialist



DETAIL 02 1:5

2423 x 200 x 20mm ASH timber floor planks nailed to timber framework, as per Kahrs

25 x 25 x 3mm MS angle screwed to S.A. Pine joist, acoustic board placed on top

20mm thick ECO-FIBRE acoustic board

50 x 50mm S.A. Pine struts

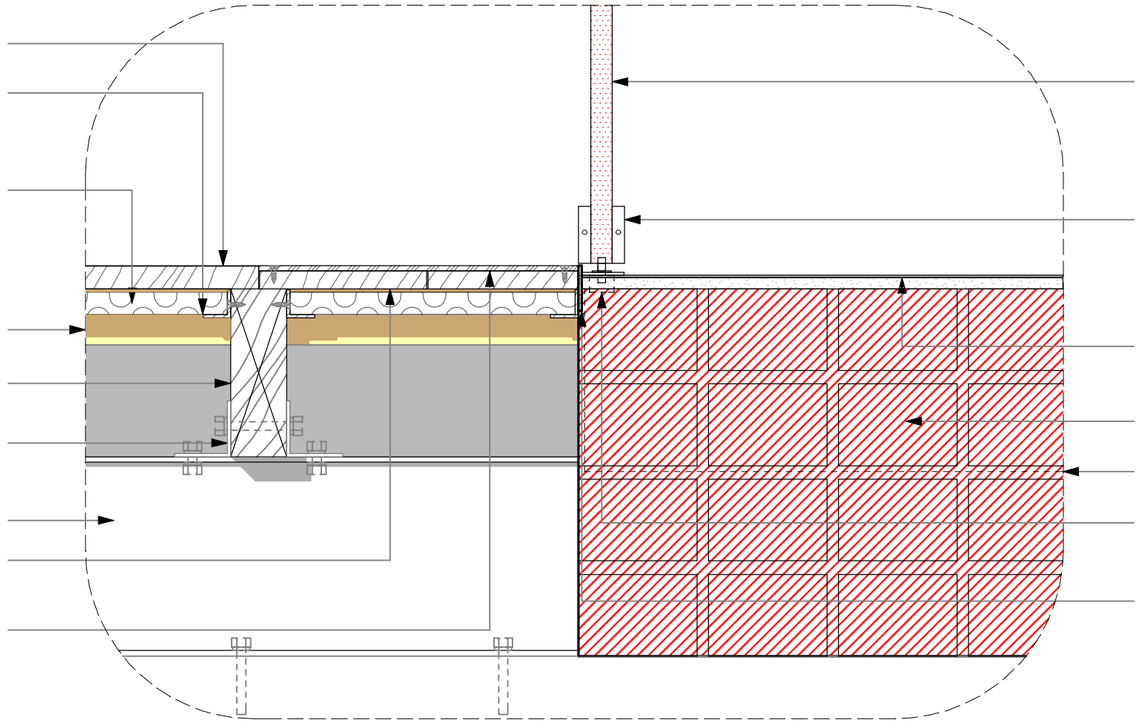
50 x 150mm S.A. Pine joist bolted to steel I-beam

50 x 50 x 3mm MS angle bolted to I-beam and S.A. Pine joist

178 x 102 steel I-beam bolted to existing RC slab

16 x 100 timber plank fixed to timber floor structure

3000 x 1500 x 4.5mm aluminium plate, cut to size, fixed to timber planks



2300 x 1000 x 19 mm 3Form VARIA rotating panel with display box
Colour: Alu Bronze

DORMA PT10 bottom patch with insert for round pivot, fixed at centerline of rotating panel
(GK 20 with US 10 corner lock to be fitted)

Flowcrete Peran WW resin
Colour: Silver grey 204

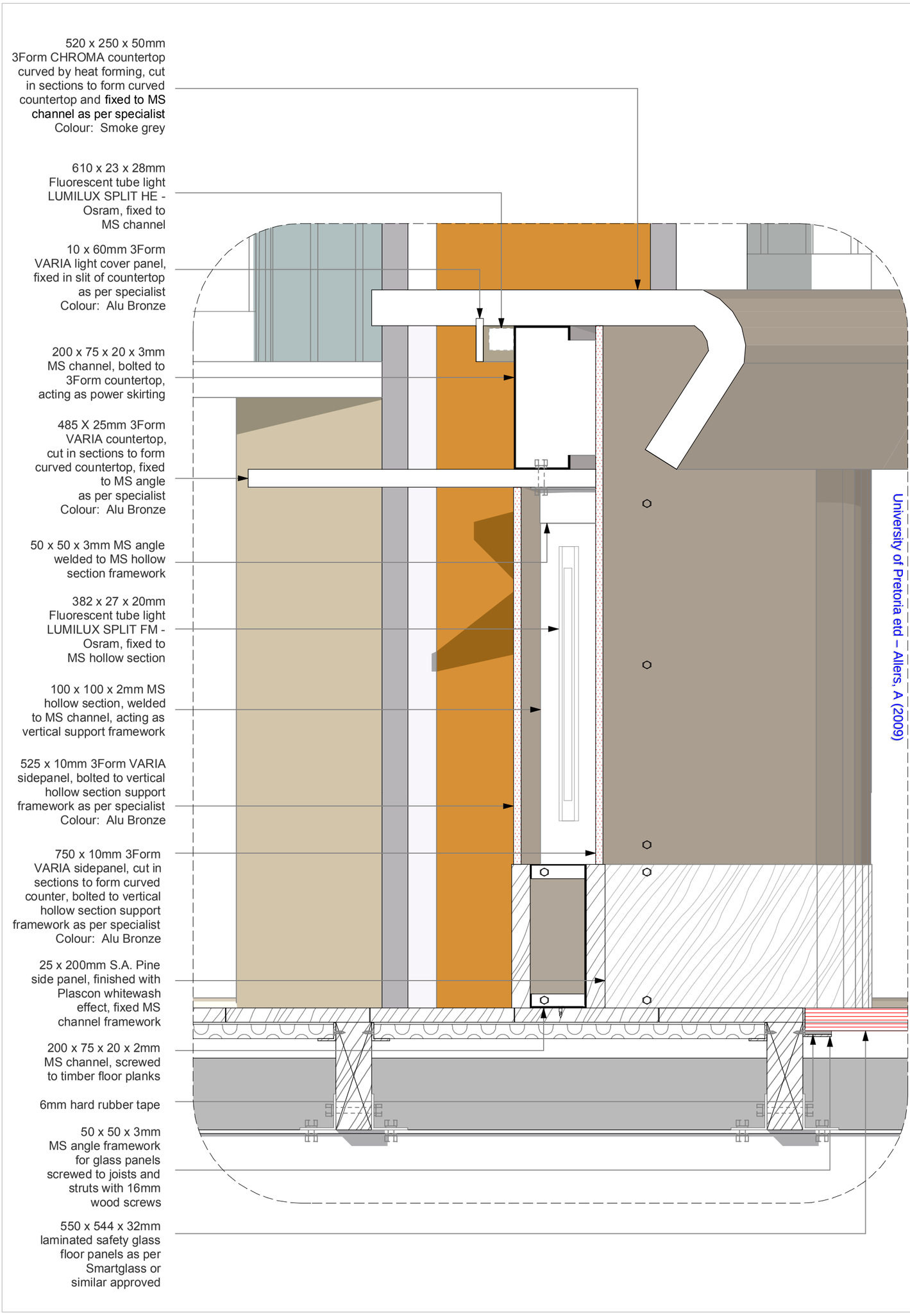
Brick exterior seat finished off with Flowcrete resin

dpm

floor patch with 14mm Ø pivot

3mm aluminium strip

DETAIL 03 1:5


520 x 250 x 50mm 3Form CHROMA countertop curved by heat forming, cut in sections to form curved countertop and fixed to MS channel as per specialist Colour: Smoke grey
610 x 23 x 28mm Fluorescent tube light LUMILUX SPLIT HE - Osram, fixed to MS channel
10 x 60mm 3Form VARIA light cover panel, fixed in slit of countertop as per specialist Colour: Alu Bronze
200 x 75 x 20 x 3mm MS channel, bolted to 3Form countertop, acting as power skirting
485 X 25mm 3Form VARIA countertop, cut in sections to form curved countertop, fixed to MS angle as per specialist Colour: Alu Bronze
50 x 50 x 3mm MS angle welded to MS hollow section framework
382 x 27 x 20mm Fluorescent tube light LUMILUX SPLIT FM - Osram, fixed to MS hollow section
100 x 100 x 2mm MS hollow section, welded to MS channel, acting as vertical support framework
525 x 10mm 3Form VARIA sidepanel, bolted to vertical hollow section support framework as per specialist Colour: Alu Bronze
750 x 10mm 3Form VARIA sidepanel, cut in sections to form curved counter, bolted to vertical hollow section support framework as per specialist Colour: Alu Bronze
25 x 200mm S.A. Pine side panel, finished with Plascon whitewash effect, fixed MS channel framework
200 x 75 x 20 x 2mm MS channel, screwed to timber floor planks
6mm hard rubber tape
50 x 50 x 3mm MS angle framework for glass panels screwed to joists and struts with 16mm wood screws
550 x 544 x 32mm laminated safety glass floor panels as per Smartglass or similar approved
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DETAIL 04 1:5

70 x 70 x 6mm MS angle fixed to existing RC slab with chemical anchors as per Engineer

5860 x 50 x 300mm S.A. Pine rafter, finished with Plascon whitewash effect, bolted to MS angle

50 x 50 x 3mm MS angle screwed to S.A. Pine rafter

1220 x 550 x 5mm 3Form VARIA - Aero
Colour: White, ceiling panels fixed to MS angle as per specialist

142 x 110mm downlights
Finish: Satin silver
BK26 & BK01 - Radiant lighting with 35 Watt OSRAM Metal halide powerball HCI-R111 lamp

INTRUDERPRUFE Low E 7.38mm HPR laminated safety glass as per Smartglass or similar approved FOR ALL STOREFRONTS

10 mm Ø stainless steel hanger fixed to 20 x 45 mm Kiaat timber slat with nut and washer and to underside of existing RC slab with chemical anchor as per Engineer

3410 x 900 x 19mm 3Form VARIA opening panel, fitted in frame as per specialist, Colour: Mango

38 x 50 mm (PAR 32 x 44)Kiaat timber slats, fitted into cut out opening and bolted to 100 x 60 x 3 mm galvanised steel hollow rectangular tube section, acting as division screen between seating niches

Cut sandstone external sill
Colour: Mint tinted, as per Tile Africa

Cemcrete Cemwash applied in 2 coats of an approved colour in accordance with the manufacturer's instructions

2423 x 200 x 20mm ASH timber floor planks nailed to timber framework, as per Kahrs

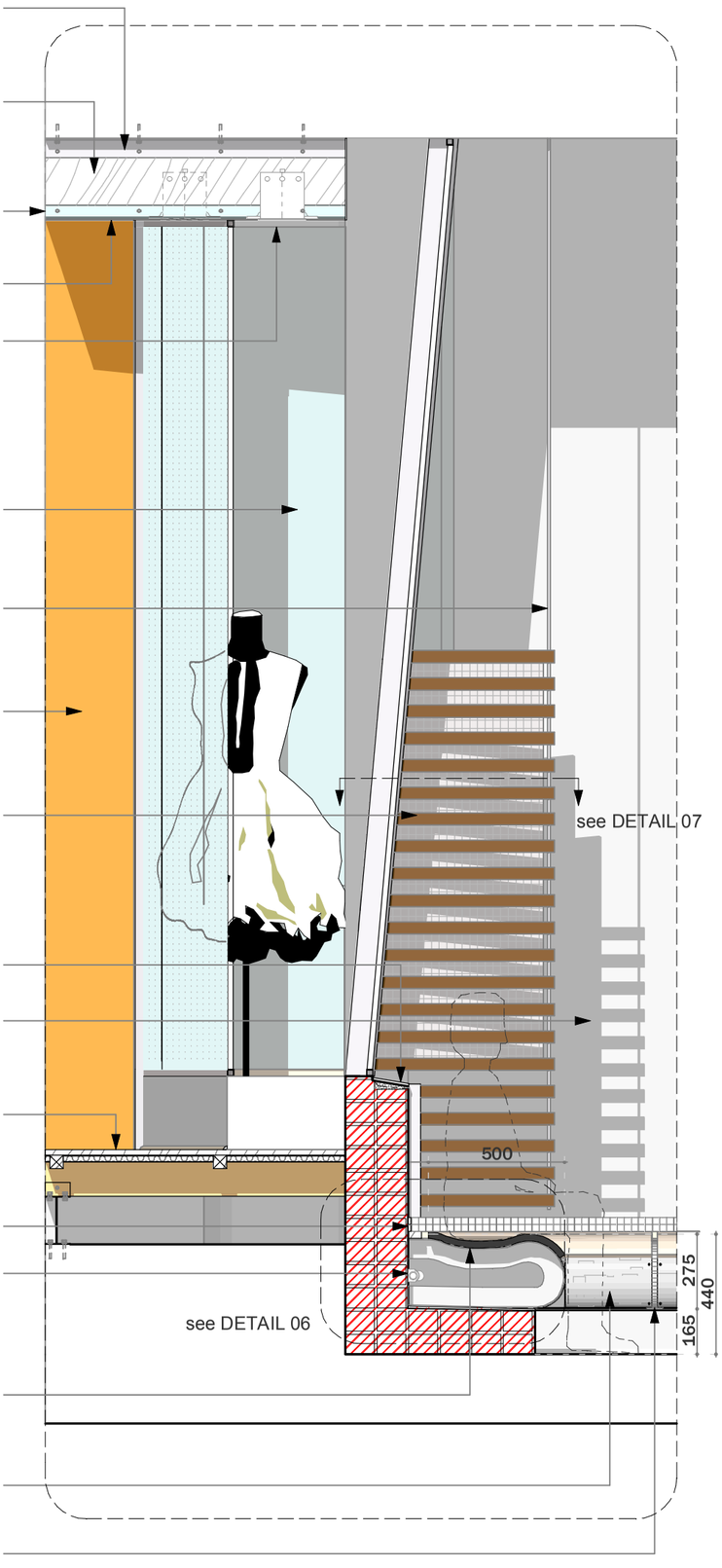
25 x 25mm Mosaic mix border, 2 rows high, as per Tile Africa

260 x 58 x 42mm Fluorescent tube light, LUMILUX BRIK EL - Osram

1440 x 500 x 25mm 3Form VARIA exterior seat, curved by heat forming and fixed to MS angle with Weld-on 45, as per specialist
Colour: Sable

690 x 180 x 2mm removable perforated metal sheet with White epoxy powder coating, fixed to MS angle with round head allen key bolt

10mm gap between seating panels, small holes drilled into MS angle at top for draining water and fluids



DETAIL 05 1:20

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1440 x 500 x 25mm 3Form VARIA exterior seat, curved by heat forming and fixed to MS angle with Weld-on 45, as per specialist
Colour: Sable

25 x 25mm Mosaic mix border, 2 rows high, as per Tile Africa

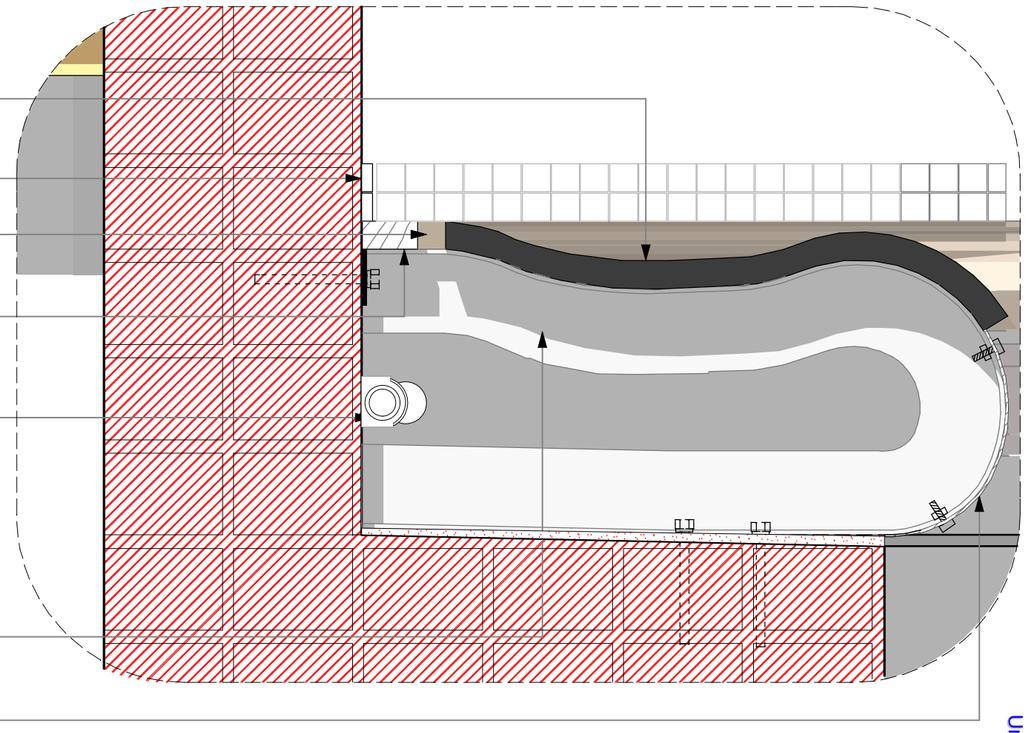
shadowline

mm (PAR 32 x 44) Kiaat timber into cut out opening and bolted
)0 x 60 x 3 mm galvanised steel hollow rectangular tube section

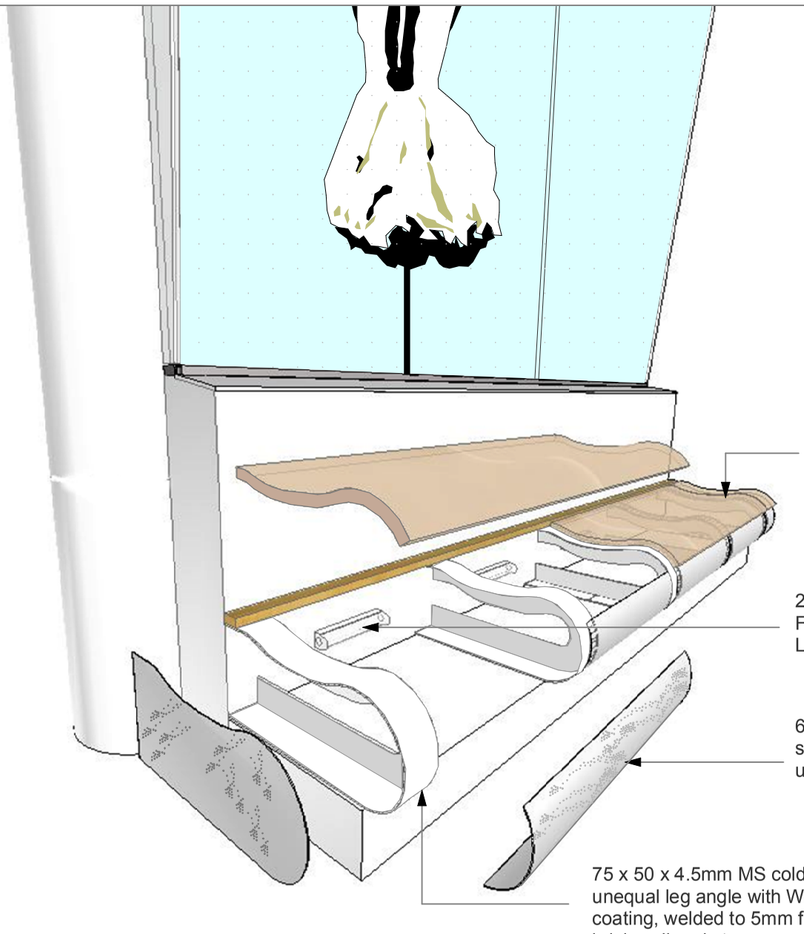
260 x 58 x 42mm Fluorescent tube light, LUMILUX BRIK EL - Osram

75 x 50 x 4.5mm MS cold formed unequal leg angle with White epoxy powder coating, welded to 5mm flat bar bolted to brick wall and step

690 x 180 x 2mm removable perforated metal sheet with White epoxy powder coating, fixed to MS unequal angle with round head allen keybolt



DETAIL 06 1:5



1440 x 500 x 25mm 3Form VARIA exterior seat, curved by heat forming and fixed to MS angle with Weld-on 45, as per specialist
Colour: Sable

260 x 58 x 42mm Fluorescent tube light, LUMILUX BRIK EL - Osram

690 x 180 x 2mm removable perforated metal sheet with White epoxy powder coating, fixed to MS unequal angle with round head allen keybolt

75 x 50 x 4.5mm MS cold formed unequal leg angle with White epoxy powder coating, welded to 5mm flat bar bolted to brick wall and step

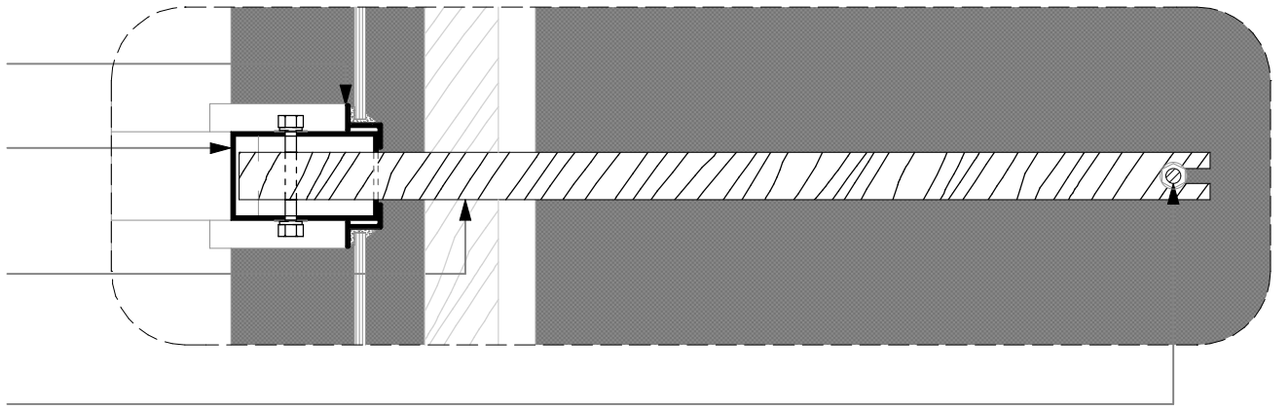
University of Pretoria etd – Allers, A (2009)

Galvanised steel window section, welded to 100 x 60 x 3 mm galvanised steel hollow rectangular tube section

100 X 60 X 3 mm Galvanised steel hollow rectangular tube section with cut out openings for 20 x 45 mm Kiaat timber slats

38 x 50 mm (PAR 32 x 44) Kiaat timber slats, fitted into cut out opening and bolted to 100 x 60 x 3 mm galvanised steel hollow rectangular tube section

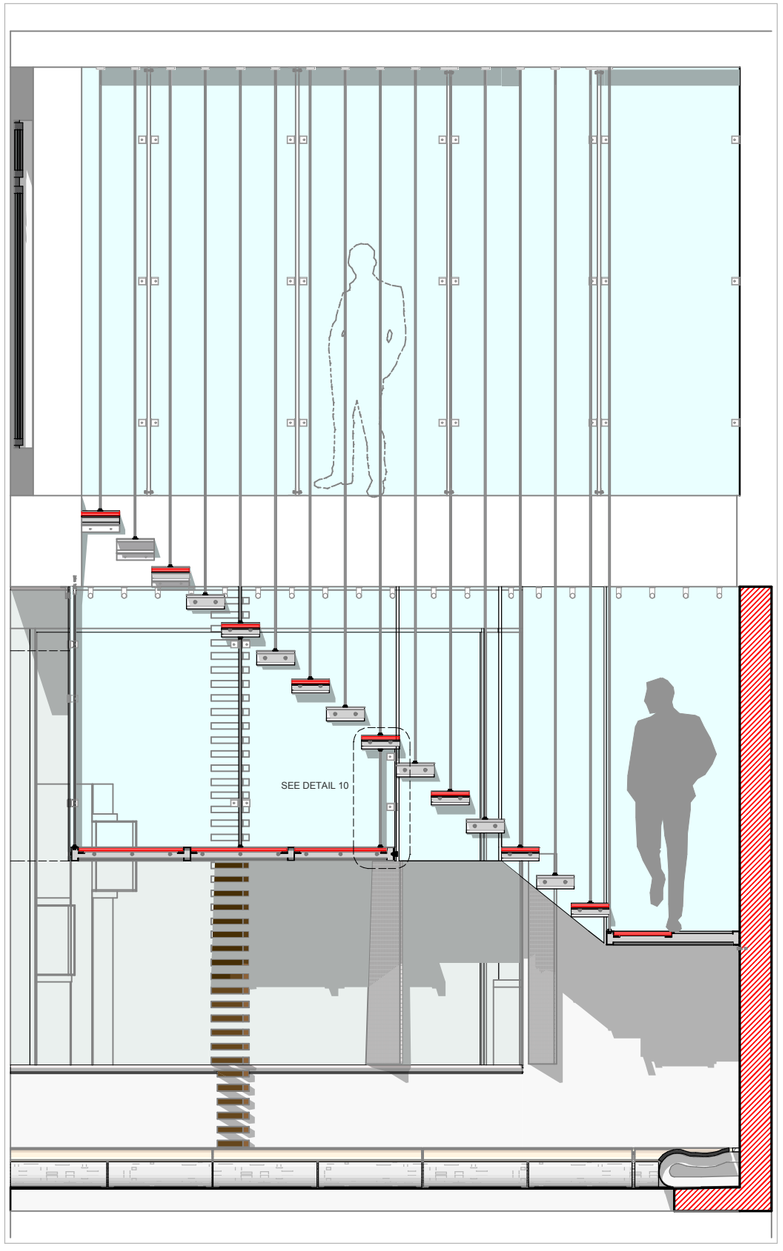
10 mm Ø stainless steel hanger fixed to 20 x 45 mm Kiaat timber slat with nut and washer and to underside of existing RC slab with chemical anchor as per Engineer



Note:
- Kiaat timber to be from FSC certified source or recycled Kiaat to be used.
- Kiaat to be lightly sanded and oiled with a woodseal that penetrates the timber.

DETAIL 07 1:5

University of Pretoria etd – Allers, A (2009)



STAINLESS STEEL 90°
GLASS TO GLASS CLAMP

STAINLESS STEEL 180°
GLASS TO GLASS CLAMP

32 mm smoked laminated safety glass tread, fixed to galvanised steel frame with 6 mm hard rubber tape

6 mm hard rubber tape

100 x 50 x 20 x 3 mm galvanised steel channel fixed to 10 mm Armourplate toughened safety glass panel as per Smartglass, with stainless steel button head single point fixing

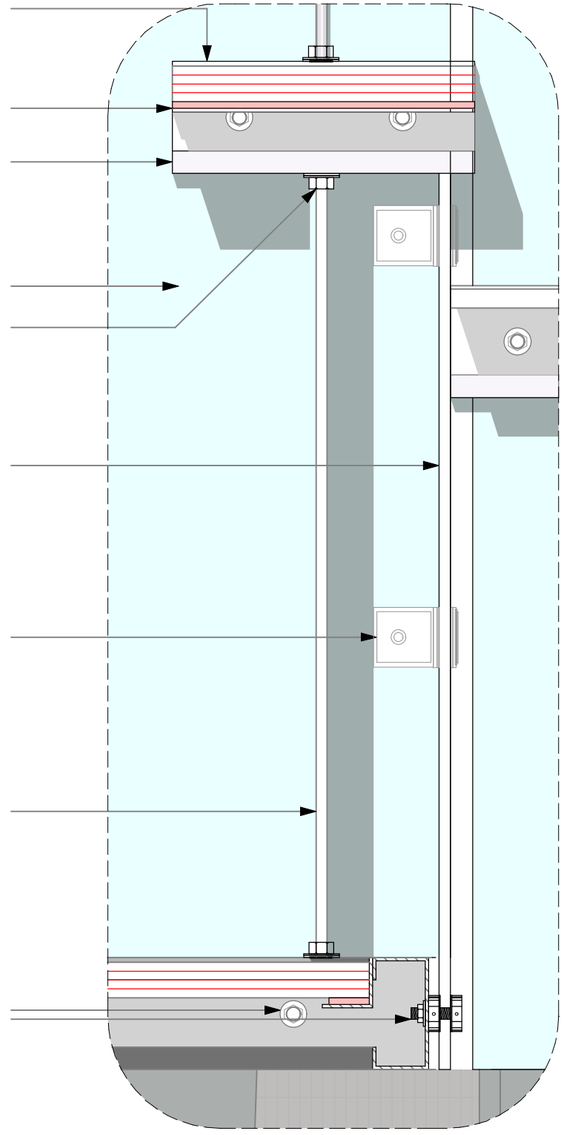
Display box suspended underneath staircase: galvanised steel channel framework with 10 mm Armourplate toughened safety glass panels, suspended from 100 x 50 x 20 x 3 mm galvanised steel channel of treads above

10mm Armourplate toughened safety glass back panel of suspended display box, connected to side glass panel with stainless steel 90° glass to glass clamp, as per specialist

Stainless steel 90° glass to glass clamp

16 mm Ø stainless steel hanger with threaded end, fixed to 100 x 50 x 20 x 3 mm galvanised steel channel with nut and washer

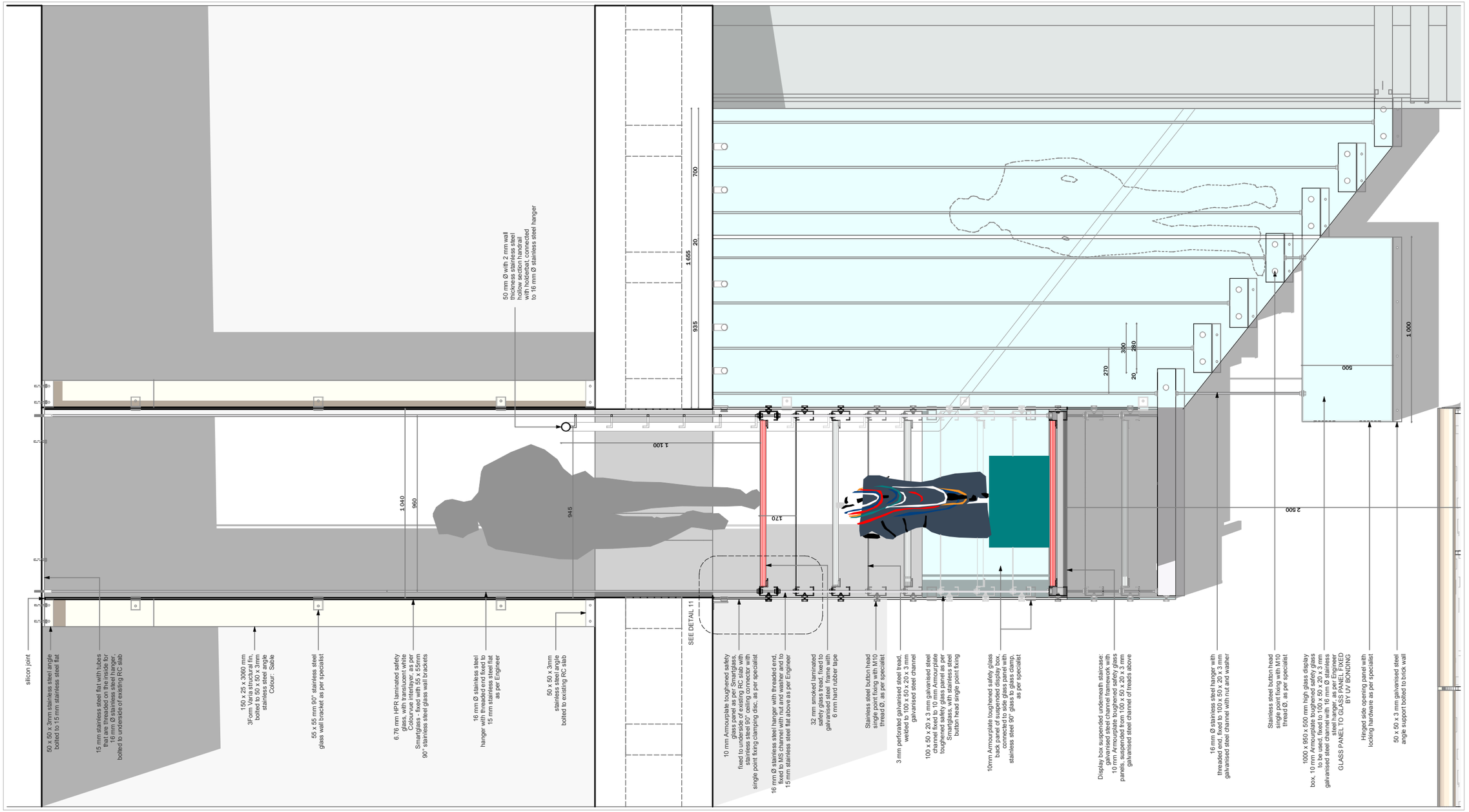
Stainless steel button head single point fixing with M10 thread Ø, as per specialist



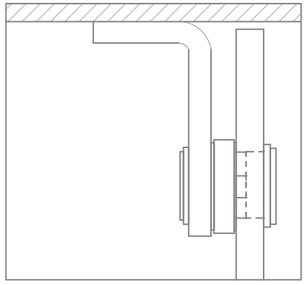
DETAIL 08 - Detail section through display box 1:20

DETAIL 10 1:5

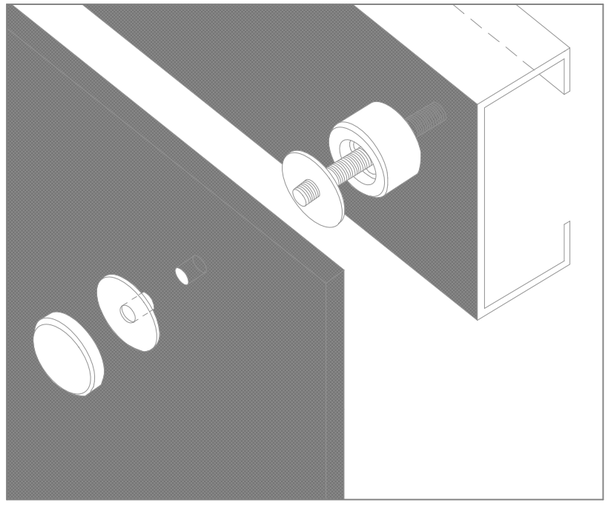
0.1m 0.5m 1m 2m 5m



DETAIL 09 - Detail section of staircase with display box 1:20



STAINLESS STEEL 90° CEILING CONNECTOR
WITH SINGLE POINT FIXING CLAMPING DISC



STAINLESS STEEL BUTTON HEAD
SINGLE POINT FIXING

10 mm Armourplate toughened safety glass panel as per Smartglass, fixed to underside of existing RC slab with stainless steel 90° ceiling connector with single point fixing clamping disc, as per specialist

90° stainless steel ceiling connector with single point fixing clamping disc

16 mm Ø stainless steel hanger with threaded end, fixed to MS channel with nut and washer and to 15 mm stainless steel flat above as per Engineer

32 mm smoked laminated safety glass tread, fixed to galvanised steel frame with 6 mm hard rubber tape

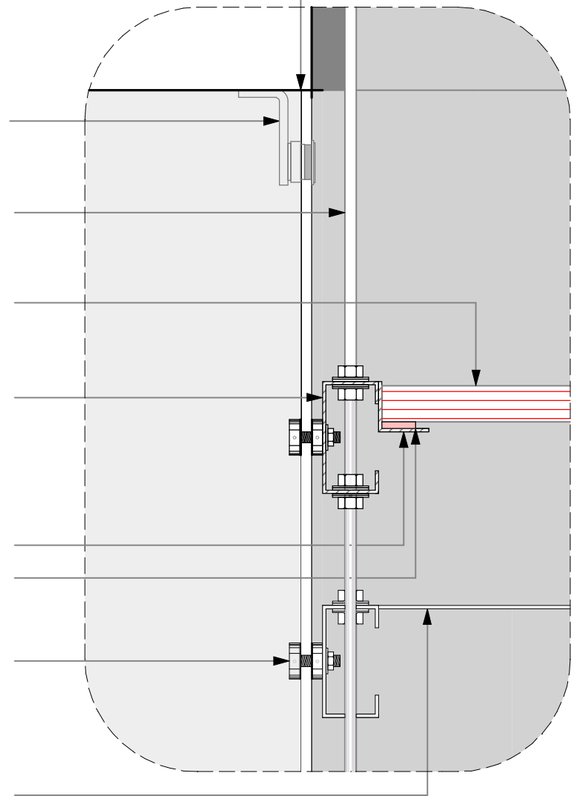
100 x 50 x 20 x 3 mm galvanised steel channel fixed to 10 mm Armourplate toughened safety glass panel as per Smartglass, with stainless steel button head single point fixing

40 x 40 x 3 mm MS angle, welded to MS channel

6 mm hard rubber tape

Stainless steel button head single point fixing with M10 thread Ø, as per specialist

3 mm perforated galvanised steel tread, welded to 100 x 50 x 20 x 3 mm galvanised steel channel



DETAIL 11

1:5