REVITALISATION OF BAIXA'S HISTORIC CORE THROUGH THE CONTEXTUAL RE-INVENTION OF *RUA DE BAGAMOYO* AS A NIGHT-LIFE PRECINCT

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DEDICATIONS

To two grandmothers;

Bobbie Owen for making tertiary education possible and for her endless concern about the tonic.

To Bella Setuki for showing me how to understand without judgement.

FURTHER THANKS TO :

To Paul for providing the love and support necessary to maintain at least the appearance of sanity. Thank you for loving the unloveable.

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To the community of Slovo Park including Jhono Bennett, Isabel van Wyk and Claudia Filipe for opening my eyes to a world most people don't see.

PREFACE

To explain a normative position for this dissertation, one project changed the way in which at least one architectural student observes and understands the context of an African city. The Slovo Park project took place between July and November 2010 within an informal settlement to the south of Soweto Johannesburg and involved community based participative research, design and construction components, where students engaged with a community for the duration of the project collaborating on everything from initial mapping to detail resolution during construction.

Because of the 1:1 nature of project, the architecture needed to be accessible to everyone involved, this includes drawings, construction methods and presentations. The lessons learnt in Slovo park include that of a deeper and richer understanding of context using informal and conversational techniques of understanding rather than the colder more academic methods.

Various methods were employed in Slovo Park to great success. For the purposes of this dissertation taking place in another country with a different language a different method would need to be employed but the logic remains to understand all sides of context.

However, from the perspective of research, lessons learnt were those of using the context to inform decisions and gaining a fuller understanding of the needs of the client.

From the perspective of design it became apparent that communication to create accessible architecture was very important. Usually the simplest methods of explanation are better.

From the perspective of construction it was overwhelming that the knowledge of construction that comes from people who build their own houses surpasses architecture students, even those with many years working experience.

An extension of the contextual argument is to respect the vernacular, the vernacular of the current of the existing and of the poor. When finance is not readily available the same spatial qualities can be achieved when the choices of construction method and materiality are manipulated and the design is distilled to its simplest elements. This simplification is by no means a modernist approach to creating minimalist design but rather understanding of exactly what is needed and applying it using minimal interventions.

This technique can be applied to any design solution in the current world situation where materials and energy are valued resources being depleted.

To further investigate the validity of such a claim the intention of the dissertation is to use the principles of informal architecture and 1:1 interaction and apply it to an historical and urban context.

www.slovo-park.blogspot.com

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Abstract

This dissertation investigates the possibility of exploiting the Genius-Loci (Spirit of Place) to revitalise an urban environment in a state of decline. To establish and understand what the Genius - Loci entails Jane Wolford's contextual theory is explored and expanded upon. Additional parameters are explored namely;heritage and social theory as well as the exploration of the mathematical theory of harmonics to rationalise intangible elements of energy . The theoretical basis is then used to create a framework for the analysis of the context.

Two scales of intervention are propsed. The first is to create continuity and express the identity of the street and the second; a more detailed example of how new buildings can be implemented into a complex urban facilty.

The urban response is to consolidate existing functions within Rua De Bagamoyo (A street in the historical Baixa region of Maputo, Mozambique) as a night- life precinct through the introduction of gaming as an extension of the night- life activity.

The architectural response is to create a building that houses the new functions proposed and challenges the private-public relationships of place by extending the street into the built form and the form into the street through a series of threshold spaces that explore the notions of visual and physical access.

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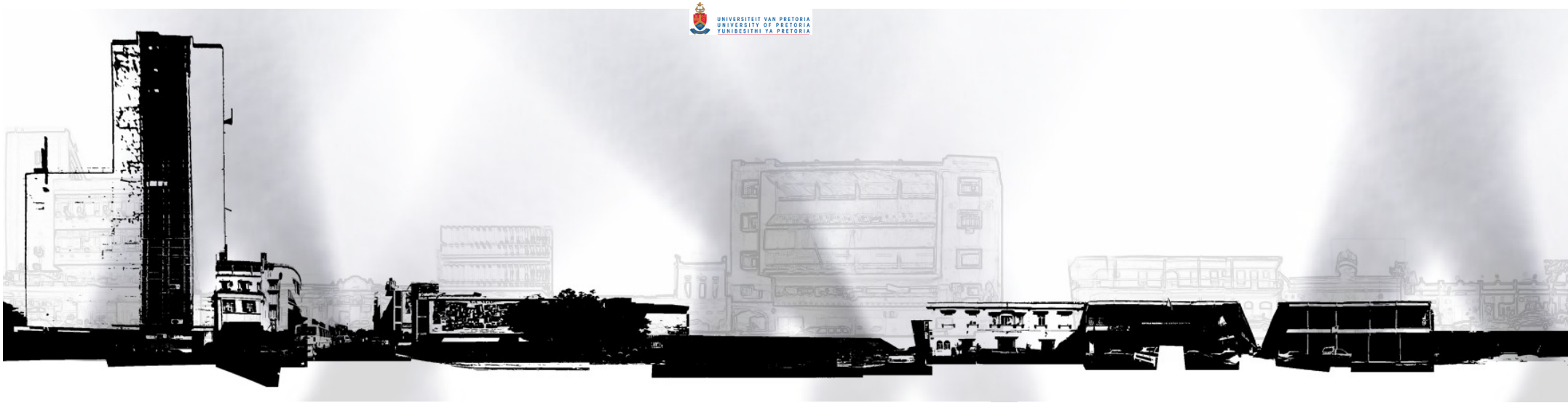


CHAPTER 1

Overview and Introduction

1.1 Introduction

All cities are in a state of flux. N. J Habraken compares the built environment to an "...organism more than an artefact." (HABRAKEN,1998:24) He states that; "The living environment can persist only through change and adaptation." but David Lowenthal describes the necessity to preserve the past. He states that; "The past is integral to our sense of identity."(LOWENTAL,1985:13) These opposing ideas create an opportunity to explore a condition which can occur in-between two ideologies. A city needs to change to survive but requires the remnants of its past for its identity.

The importance of any built heritage which may exist in cities is easily threatened by inappropriate development due to increases in economy or neglect. However, equally damaging is the threat that rigourous preservation processes have on the vibrancy in present social and cultural activities, through gentrification. A balance needs to exist within a city between the current functioning, future development and the response to historical fabric.

The debate of change versus preservation is more complex when considering post-colonial African cities. Independent African countries face the challenges of not only creating an identity that relates its to the residual local and colonial past, but balancing it with an emerging social and political climate.

Within the historical precinct of Baixa(Downtown) Maputo, this dissertation seeks to propose a possible intervention to revitalise activity, energy and vibrancy using the existing and perpetual elements of place as .

The site chosen for exploration is a single street, Rua de Bagamoyo which is found in the historical core of Baixa.

Image 1.2: Photograph showing decaying state of buildings within Baixa . Photograph by Author 2011 Rua Consiglieri Pedroso

Image 1.3 Photograph Showing Maputo Shopping, A new development within Baixa that has insensitively gentrified the area.

1.2 Theoretical Position

The elements of place are determined through the theoretical exploration of Jane Wollford in terms of her twelve points of contextualism and then expanded.

The first expansion of Wolfords theory is that of heritage and historical significance. The Burra Charter and Nara Document are used as a framework for photographic analysis of historical photographs depicting previous manifestations of place.

The photographs used are those of reknowned Mozambican photographer; Ricardo Rangel who documented the night life and prositution in mozambique during the sixties and seventies. Hls work was chosen as most of the photographs were taken in *Rua de Bagamoyo*, allowing a direct comparison.

Ricardo Rangels photographs depict activity and interaction with built fabric which is further explored in the current context using the theories of Fran Tonkiss and Bryan Lawson to grasp the relationship between the use of space and the user. Specifically how elements within the Built fabric influence human interaction.

Study of the street and social interactions shows many aspects of human activity being intangible. Mathematical harmonic theory is used rationalise the energy used and produced in the street, allowing for a solution to create balance that also allows for variation.

Image 1.4: Photograph showing vacant sections of Rua de Bagamoyo .
Photograph by Author 2011 Rua De Bagamoyo

1.3 Exploration of problem

1.3.1 Problems in the Physical Context :

With reference to the physical context ,"There are two threats to the Baixa at this time: the life history of the buildings, places and space being threatened by development and the developers feeling threatened by the preservation of history"(MABANA and LAGE, 2009: 1).

The threats proposed by Mabana and Lage are not the only problems encountered, they refer to the threats to development and potential but not to the existing problems. The buildings are not only threatened by development but also by decay and ruin.

Both economic development and urban decline have had a similar result in the built form in the way in which buildings relate to the public realm. The newer buildings, alterations weathering of buildings have resulted in a decline in the way buildings on the streetscape provide for the public user. The threshold of public and private space has become less permeable and buildings have become inconsiderate to the neighbours. Historically buildings provided shaded arcades over pavements whether they be the Victorian cast Iron balconies or modernist recesses but current development indicates how the these varying degrees of threshold and public interaction have been forgotten.

"*The outside-inside relation which is a primary aspect of concrete space implies that spaces possess a varying degree of extension and enclosure.* "(NORBERG-SCHULTZ, 1980: 19) This notion of extension is what is being lost.

1.3.2 Problems with the Social interaction of Space.

This dissertation does not only focus on the physical but also on the social and intangible and problems

exist within the social spacial relationships . Baixa has a richness and diversity of programmes but within the specific historic core of Baixa, the existing programmes do not allow for a 24 hour functionality, resulting in an inconsistent use of space and concentration of users, which creates opportunity for criminal activity.

Jan Gehl mentions the idea of the 24 hours city in his exploration of the improvements done to Melbourne from 1994 to 2004 in the publication; *Places for people. He states; "With today's more portable work practices and flexible schedules, people also want ready access to recreation on a 'just-in-time' basis – and nightlife is considered a vital component of this lifestyle and amenity mix."* (GEHL, 2004: 42)

Baixa does not have a lack of night-life but rather a lack of continuity of activity throughout, The night-life is concentrated to *Rua de Bagamoyo* but the type of night-life activity which consists of bars, striptease establishments and prostitution is in direct contrast to the day-time activities such as government offices and municipal departments and banks which close early in the afternoon, creating an in-cohesive transition of activity into evening. See fig 1.4

1.3.3 Problems with Tourism

Mabana and Lage state that: "The Baixa of Maputo has a huge historical, cultural and tourism potential, to be valued as a cultural heritage."(MABANA and LAGE, 2009: 2) Although this statement is uncontested, the result of viewing the area as a place for tourism potential lends itself to threat of gentrification and manufactured authenticity which may jeopardize the very cultural heritage mentioned.

John Urry in his book *The Tourist Gaze,* states that "Tourist spaces are organised around staged authenticity" and that "The development of the constructed tourist attraction results from how

Image 1.5: Photograph of the tourist market which has replaced the general saturday market at Praca de 25 Juhno . Photograph by author February 2011 Praca de 25 Juhno

those who are subject to the tourist gaze respond, both to protect themselves from intrusions into their lives' backstage and to take advantage of the opportunities it presents for profitable investment." (URRY, 2002) This response is evident in Maputo as the city already changes its nature on days when cruise ships from South Africa arrive, where the informal vendors, respond by selling crafts and curios rather than the general products they sell on other days, it must then be noted that permanent increase in tourism may change the nature of trade within the Baixa area completely.

1.3.4 Problems with Reputation:

Baixa is hampered by negative reputations for criminal activity and immorality, due to the prevalence of prostitution and petty crime. This is in direct contrast to the nostalgia for the night-life district of the 60's and 70's as documented by Ricardo Rangel that romanticizes the prostitution and glamour of dance shows and cabaret.

These negative connotations are borne out of the way the decline in the street has resulted in a feeling of vulnerability, and a lack of security. The area does not have the necessary elements of urban infrastructure to create a feeling of safety. This is due to:

The state of decline of the night-life activity leaves parts of the street empty after dark and this vacant urban environment creates tension and feelings of insecurity.

Poor lighting and visibility results the feeling of an unsafe environment.

Due to the increase in vacant lots and abandoned buildings, there are spacial opportunities for opportunistic crime.

Reputation being subjective does not hamper the vibrancy of the activity at night but causes persons working in the area to vacate the area as soon as

Image 1.4: Rua de Bagamoyo's Ladies of the night. Photograph by Author 2011 Rua De Bagamoyo

possible allowing for different users to inhabit the space at night, exacerbating the discontinuity of activity between work hours and night-life.

1.3.5 Real World Problem:

Currently a delicate balance exists between a diversity of activity and richness of function within Baixa, Maputo and the heritage value of existing historical buildings. Due to the urban decline and decay within the Baixa, the area is at risk of further decay and eventual loss of historical built fabric, but an equally relevant threat is that of gentrification and subsequent loss of social diversity through re-development.

1.3.6 Specific problem

Through urban decline and unconsidered development Rua de Bagamoyo has lost and is continuing to lose cultural significance to its current users. What was once considered a destination for social interaction now contains residual nostalgia within a continuous programmatic function. This decline is due to a unbalanced conflict and duality between the daytime activity and its after dark counterpart.

1.4 Aims

The aim is to create a strategic urban plan and architectural example that uses existing richness and vibrancy specific to place as the core design generators whilst allowing for economic development and financial influx to an area in a state of urban decline.

1.5 Hypothesis

Contextual analysis and engagement with place can be used as a framework to understand a specific site and identify the Genius Loci or spirit of place.

The spirit of place which is expressed by different elements of place, including the tangible and intangible aspects can be used to revitalise an urban area.

Revitalisation of an area can be achieved by identifying and celebrating what already exists through architectural intervention.

CHAPTER 2

THEORETICAL BASIS

Chapter 2 Theoretical Basis

The intention of the theoretical investigation is to determine a methodology of analyzing and intervening into a rich cultural and historically significant environment with a deeper understanding of the context, specifically focussing on the relationship of built fabric to public space.

2.1 Introduction

"A palimpsest is one such phenomenon in which simultaneous realities can exist. It is a mature document, a writing material (as a parchment or tablet) used one or more times after earlier writing had been erased made through the act of layering text. It is a collapse of linguistic hierarchy, inscribed often on parchment or vellum, with resultant qualities of transparency, collage, and visual complexity." (DILLON, 2007: 7) Because things are written, erased and re-used there are many different authors. In terms of architecture and the urban environment a city can be read as a palimpsest with many different authors, erasing, re-writing and re-inventing spaces. With this in mind any new architectural intervention will be a new layer.

No layer can be considered the final layer and each speaks of its time and the identity of place at a specific time. To determine what a new layer should be requires an understanding of the layers that are already existing in that place at the time of intervening. N.J. Habraken describes the builder as an agent of change in: *The Structure of the Ordinary(1998)*. He describes the way in which humans interact with the built environment, each generation striving for permanence and legacy, and in doing so changing the environment of the previous. (HABRAKEN, 1998).

Christopher Alexander proposes the idea; "A building cannot be a human building unless it is a complex of still smaller buildings or smaller parts which manifest its own internal social artifacts." (ALEXANDER et al., 1977: 469). If we combine the understanding of palimpsest in the context of Alexander's description of complexity, then the generator for design would be to use the layering of time and incrementality to create the smaller parts of a building or space.

An in depth exploration of what the "existing" entails, should be used to determine if new elements or smaller parts of a place should be introduced into the urban environment. This intervention, it's identity and type, is informed by the Genius Loci (Spirit of Place) created by what once existed and what today still endures.

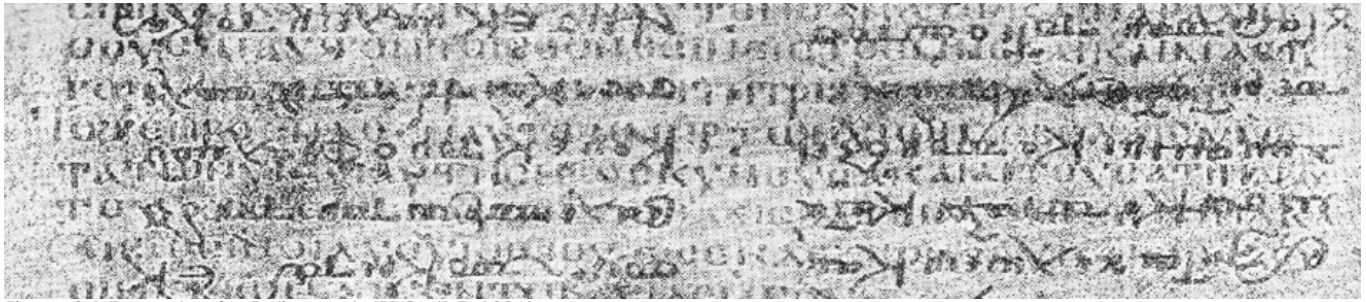


Figure 2.1 Example of a Palimpsest. (FROWDE ;1896)

Figure 2.2 Conceptual Palimpsest of Rua de Bagamoyo. Photograph by A

Author 2011 and R.Rangel 1970. (RANGEL, 2004. 35)

2.2 Spirit of place-Genius Loci

"(this) Spirit gives life to the people and places, accompanies them from birth to death and determines the character or essence." (NORBERG-SCHULTZ, 1980: 18)

Norberg Schulz in his book; *Genius Loci (1980)* describes the Genius Loci by explaining that "the genius (thus) denotes what a thing is or what it wants to be" (NORBERG-SCHULTZ, 1980: 18) and Loci meaning position. Understanding what a place wants to be can be a very deductive process and an intuitive solution or it can come from an inductive understanding of a context. For the purposes of this dissertation the context is then read through various methods of engagement to gain an understanding of the spirit of place.

In terms of a public place, this involves a collective of the public, meaning that the Genius Loci does not only reflect the sense of meaning for a select group but for a collective consciousness.

2.3 Contextualism

Refer to Section 3. 2- 3.6 for analysis and 5.2- 5.6 for urban application

Architecture has the ability to respond, and find strength in the positive nature of its response. Initially a design must respond to the needs of its user/s. Thereafter it is necessary to critically respond to the environment, which includes the socio-political parameters and the physical context .

The result of contextual response is architecture that creates and defines place within the parameters of an appropriate identity with the goal of heightening an existing identity. For the purposes of this dissertation these parameters are established through the application of theory as a framework in which to analyse the existing urban environments.

In her dissertation entitled; *Architectural contextualism in the twentieth century,* presented as part of a PhD Requirement, Jane Wolford Defines Contextualism as: "Contextual architecture is defined as architecture that creates a whole that is greater than the sum of its parts; in this paradigm allowable aspects of contextualism might relate to its ideological setting (such as the history of the site or possibly the function of the building), or its environmental setting, while remaining in the visual realm due to the human tendency to create visual linkages. " (WOLFORD, 2004: xxvii)

Published authors in the field of urban design; Matthew Carmona, Tim Heath, Taner Oc, and Steve Tiesdell state that: "Reacting both to modernist approaches and to contemporary development patterns, recent urban design has seen a new interest in the relationship between built space and urban space. This has led to attempts to organize parts so that the whole is greater than the sum of its individual buildings and developments." (CARMONA et al., 2003: 69)

Affirming the parallel nature of urban and architectural thinking Jane Wolford explores the architectural notion of contextualism. She introduces her text with a reaction to the modern methodologies of creating " dramatically different styles" and the general "disregard for past history or unique site considerations as well as its emphasis on rationality, functionality, and universality." (WOLFORD, 2004: 147)

Jane Wolford in her text was chosen because her PhD was published recently in terms of theoretical writing (2004) and her text allows for a clarity in understanding a contextual approach as it is broken down into manageable parts that are easy to understand, Her attempt was to create a clear definition of contextualism in architecture as a reaction to what she calls a "semantic confusion" with regards to contextualism in architecture.

She refers greatly to the visual appearance of the building, stating that "the essential ingredient herein posted is that of visual linkages being the differentiating factor between visually contextual architecture and other types of contextualism that may not be visually expressed." *She also boldly states that "When the visual link is not forged, then a buildings connection to its specific site or general locale is negated."*

Wolford has devised a table of twelve elements of contextual architecture based largely on the visual relationships to context. She has removed the social and intangible types of contextualism to create a clearer definition. For the purposes of this dissertation this is used as an initial starting point whereby the intangibles can be re-introduced additionally to the visual. This allows for a respect for her view of the

Figure 2.3 Contextual architecture as a method of fitting a building where it belongs. Graphic by Author

WOLFORD'S ELEMENTS OF ARCHITECTURAL CONTEXTUALISM

Contextualism in general is defined as the relationship of parts to the whole (e.g., as a puzzle piece to the entire puzzle). *Architectural Contextualism*, more specifically, refers to the harmonious relationship between individual buildings and their natural or built surroundings. Architectural contextualism is comprised of both physical features (i.e., the building's site, massing, materials, position, scale) and symbolic aspects (i.e., the building's ambiance or identity) since humans relate to both these levels of reality—material and non-material, (i.e., conceptual, spiritual). The Zeitgeist also can be embedded in the following elements related to buildings to create a contextual design:

1. SPECIFIC SITING (on the meso-scale, the geographical features of the individual site, such as its shape, amount of vegetation, or existing architectural features such as a portion of an existing building sharing the site. Site lines come into play here too).
2. GENERAL LOCALE (on the macro-level, the more global physiographic aspects of the landscape, such as entire mountains or a group of buildings in a larger context).
3. SHAPE (i.e., general outlines, including roof lines)
4. SIZE (i.e., physical dimensions of height, width, or length)
5. COLOR OF MATERIALS
6. TEXTURE OF MATERIALS
7. TYPE OF MATERIALS
8. POSITION (i.e., relative location to the whole)
9. STYLE (i.e., major motif)
10. RHYTHM OF ELEMENTS (i.e., repetition of columns, windows, or doors)
11. SCALE/ PROPORTION of building parts to each other
12. IDENTITY (i.e., ambiance or symbolic meaning)

Figure 2.4 Wolfords twelves points of contextualism (WOLFORD; 2004, 153)

visual contextualism to be paramount with the intangible to be additional to that.

2.4 Character and Essence

Character of place, according to Wolford, is determined by the visual and aesthetic qualities of a building as read by her twelve points. For the purposes of expanding on her guidelines, the historical and social essence needs to be determined.

2.5 Historical significance and heritage.

Refer to Section 3. 6 for analysis and 5.7 for urban application

The heritage value of place and cultural significance is determined using the 1999 updated Burra charter 1999 with reference the Nara Document 1994.

The Burra charter is a document developed by ICOMOS (The international council on monuments and sites) at Burra in Southern Australia in 1979. Revisions were adopted in 1981, 1988 and most recently 1999. The document is intended to act as a guideline for the conservation and management of "places of cultural significance." (ICOMOS, 1999)

The Burra charter explains that "The aim of conservation is to retain cultural significance of place" (ICOMOS, 1999). Fig.2.5 Shows the process in which the significance should be determined using all available tools to gain a clear understanding of significance. For the purposes of this dissertation these are dealt with theoretically and do not involve the physical, thus only the selected criteria are relevant.

To understand the meaning of cultural heritage , The *Nara Document on Authenticity 1994* explains that : Cultural heritage diversity exists in time and space, and demands respect for other cultures and all aspects of their belief systems. In cases where cultural values appear to be in conflict, respect for cultural diversity demands acknowledgment of the legitimacy of the cultural values of all parties. (ICOMOS, 1994).

To explore the notion of cultural heritage diversity photographic analysis of historical photographs is done to find the elements in the built form and activities that have changed and those that have an inherent perpetuity.

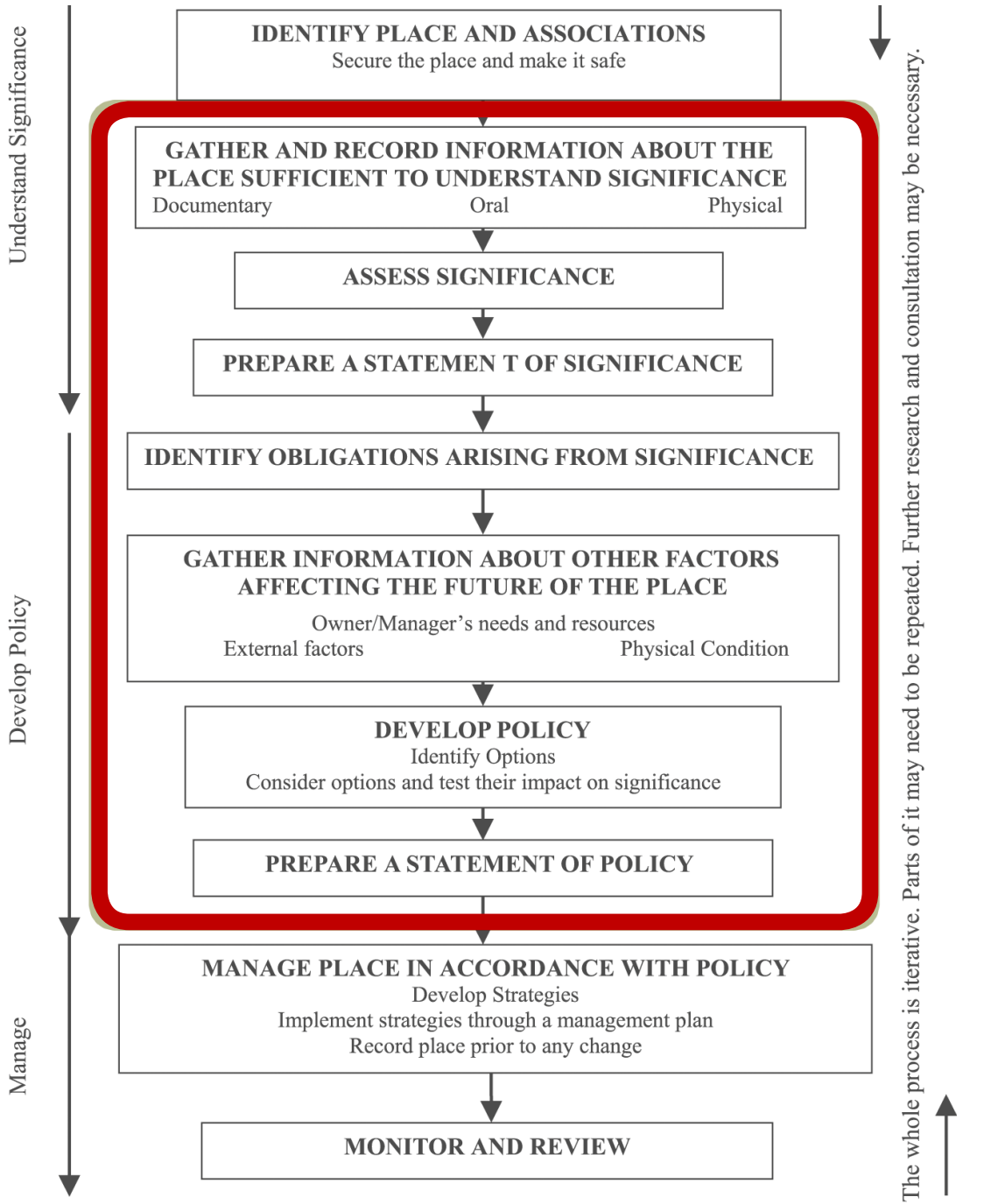


Figure 2.5 Table showing the process of using the Burra charter (ICOMOS; 1999)

Figure 2.6 Photograph showing relationship of street trade to building edge in Maputo, Photograph by Author 2011

2.6 Social understanding

Refer to Section 3.7 for analysis and section 5.8 for urban application.

Assessing the social significance and human-building interface, a mapping of users is done on the street level. The way in which a user uses, manipulates or appropriates ownership of the street is explored.

Patterson and Mammon define the idea of public spaces in the paper; *Urban space, memory and the public realm:* "The public realm is the only space in the city that provides opportunities for public interaction. It comprises the spaces outside of the private, semi-private and nowadays privatized domains. It represents the spaces and places of everyday activity for all citizens. It provides platforms for interaction, debate, contestation, dialogue and celebrations." (PATTERSON and MAMMON, 2005: 2)

Carmona et al state that; "A space and society are clearly related: it is difficult to conceive of space without social content and equally to conceive society without a spatial component."It then follows that if society is the collective, human user of space, then that collective will have a public space where there is accessibility, activity, security for that collective society. Further to that it follows that social relations have an impact on the development of space.

The idea of the societal influence on space is reinforced by Fran Tonkiss as she proposes; "Divisions of space are not simply physical facts but social products." She expands on the idea by stating; "Spatial Boundaries are formed by and reproduced by social action and also impress themselves on ways of thinking. Modes of separating and connecting spaces (borders, boundaries paths bridges) give objective form to subjective understanding of space and then serve to conduct the subject in space" (TONKISS, 2005) Bryan Lawson refers to this notion as the *Language of space*.In his book with the same title, he explained the notion in very simple examples of how people interact with their surroundings based on the spatial directions given but the environment. (LAWSON, 2001: 6)

Public space remains in control of the citizen and ownership of the space is then governmental or public, but in the presence of public space there must be the realm of private space under the ownership and control of the individual. In between these two realms exists a threshold and a division.

The street can be considered the public space, it can be "...conceived as the place where social contact between local residents can be established." (HERTZBERGER, 1991:48) The buildings interface with the street should then be understood as the threshold or division between public and private.

2.7 Harmonics

Refer to Section 3. 8 for analysis and Section 5. 9 for urban application

To understand the energy and vibrancy within the built environment, a theory is taken from the field of physics. Using the mathematical relationships that exist in nature with regards to energy as a precursor to understand an intangible quality of place.

The Law of conservation of Energy in Physics states that; "The total amount of energy within a closed system remains constant over time." A street precinct is not a closed system and therefore the energy cannot be considered constant over time.

Obviously the fluctuations can be measured but they need to be measured in comparable opportunities.

Light is a manifestation of energy that occurs in nature as a wave form. Energy is illustrated in a wave form in most of its manifestations, be it electrical, light sound.. etc.

Energy embodied in a street is not pure light but rather contains the energy of movement, economic energy, sound, force vehicular..etc Therefore the wave of energy contained in a street would not constitute a pure sinusoidal wave but rather a complex wave:

Complex waves can consist of several pure sine waves of different amplitudes and frequencies. The main sine wave is called the fundamental and has the same frequency as the complex wave. Harmonics are the other component sine wave frequencies that are in exact multiples of the fundamental frequency. (VAN ZYL, 2006: 112-113)

To break down street life energy and activity is to de-construct the complexity by means of harmonics.

The harmonics to be measured on a street would include light, sound and human activity.

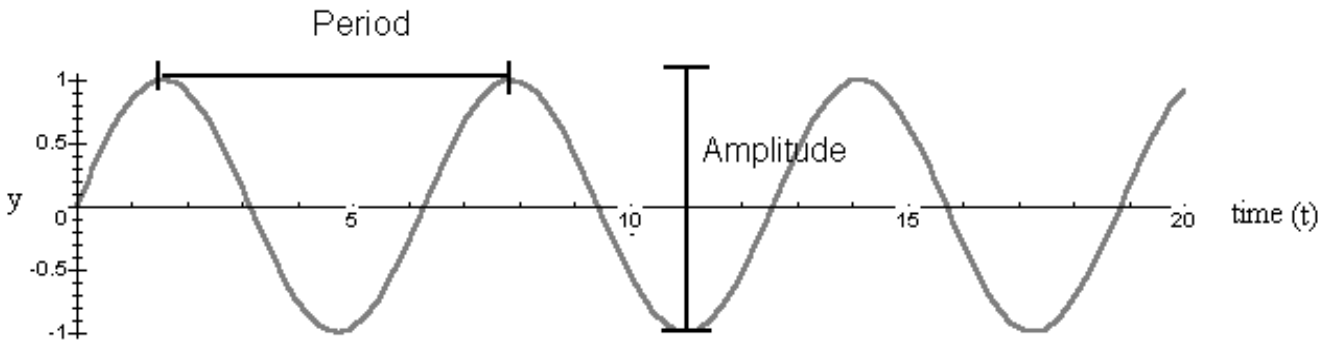


Fig 2.7 Sine wave with time on x-axis

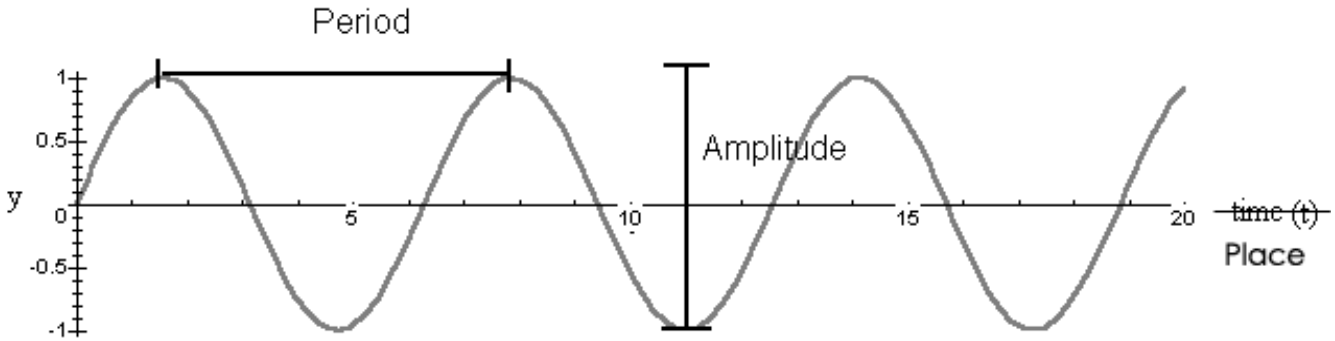


Fig 2.8 Sine wave with place replaced with time on the x-axis

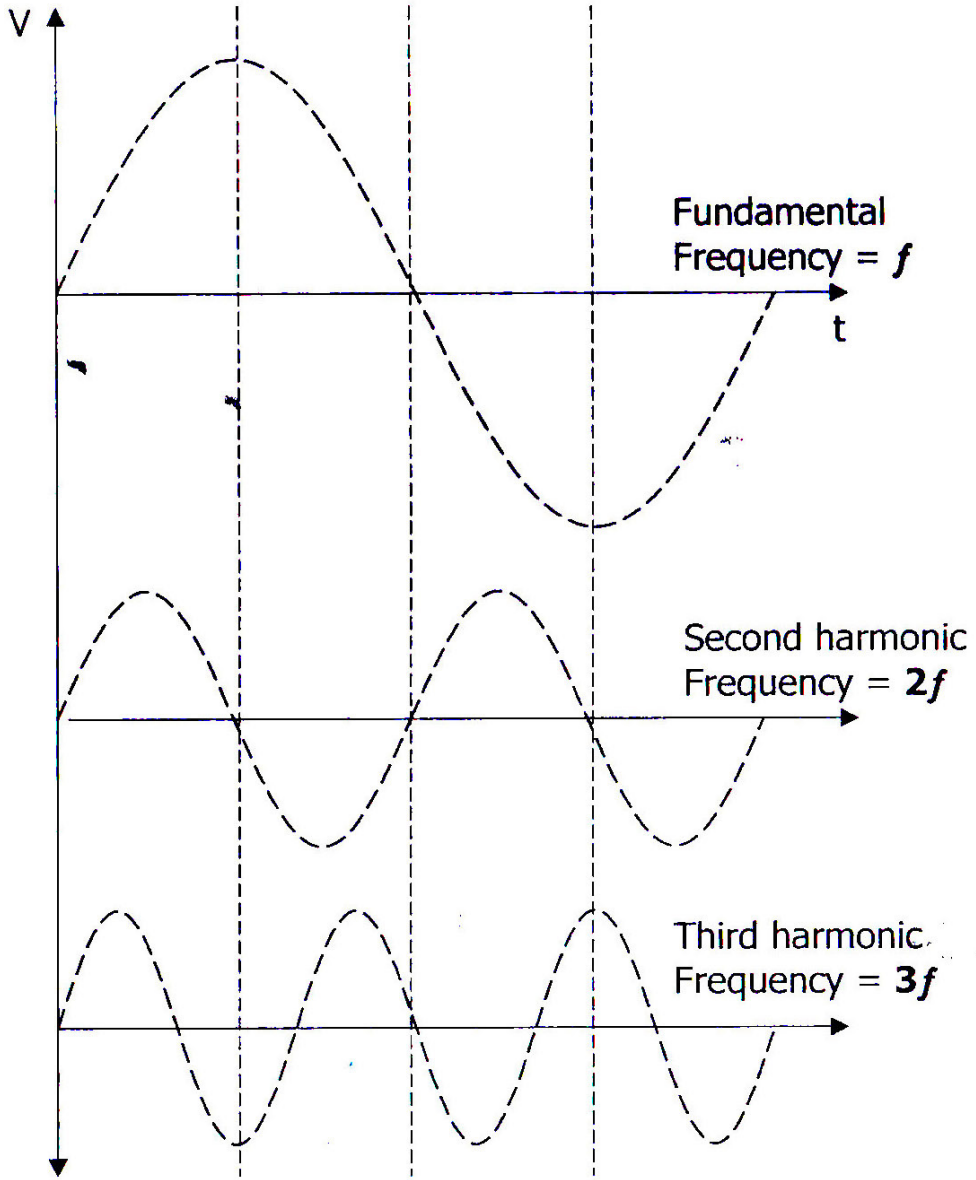


Fig 2.7 Example of how a complex wave is separeted into harmonics (VAN ZYL; 2001)

These parameters are determined by on site observations of human activity taking place in the shade during the day and in well lit areas at night.

Sound is included as it is a component of atmosphere and is a result of human activity.

Sound, light sound and activity are mapped in the form of a graphic[1] representation (meaning on a graph of Cartesian co-ordinates). These elements of energy are considered the harmonics of energy as a contributor to the atmosphere of the street.

The main fluctuation within an urban precinct or street through a 24 hour period is the change in light quality from day to night. This prescribes that the fundamental wave should be that of light within the street.

The harmonics there-of will then follow to be the human energy relationships to this fundamental.

As we have established, the constant within a street cannot be time, as the precinct is not a closed system. Place and position are however constant and will therefore be used in place of time on the x-axis.

1 The "graphic"when dealing with harmonics refers to graph of Cartesian co-ordinates

2.8. Conclusion

The guidelines put forward by the four theoretical topic inform four methods of analysis to understand the context.

Jane Wolfords techniques are applied to a formal mapping of functions, aesthetics and proportion.

The heritage significance is explored through the mapping of built form and interviews with users to determine significance done in 2010 as part of the Maputo studio.

To explore the intangible components of this heritage photographic analysis of the work of Ricardo Rangel is done to try to understand the perpetuity of a Genius loci.

The Social theory is applied to on site observations about how the users interact with the built fabric, how spaces are used and manipulated by various user who take ownership of the public.

The Harmonic analysis is done by mapping each type of energy identified by the parameters to determine a pattern or formula of the existing that can be manipulated to create continuity and balance.

CHAPTER 3

UNDERSTANDING CONTEXT

Figure 3.1 *Photograph showing Complexity in the context of Rua de Bagamoyo. Photograph by Author 2011*

Chapter 3_ Understanding Context

3.1 Introduction

Having explained the theoretical approach in the previous chapter, this section of the document deals with using the techniques stipulated to gain an understanding of the character of place. To begin with, the twelve points put forward by Wolford are used as a guideline. The order of her points and how they are presented has been re- grouped for ease of understanding. The first section deals with General Locale and Specific Siting coupled with the exploration of style[1] and function, followed by an exploration of size, shape and proportion and finally a study of the material, colour, type and texture. Thereafter the study deviates from Wolford's twelve points and expands upon her notion of identity, with an assessment of historical significance, social relationships with building fabric and concludes with an analysis of the embodied energy in the form of sound, light and human activity.

Rua de Bagamoyo is the central street through the historic centre of Baixa and following the acupunctural approach as stated in chapter, the focus of this dissertation uses this street as its focus.

1 *The word style refers in this context to a summary and grouping of similar features found in building of similar aesthetic quality, stating a specific "style" as a title for these will be invalid. Maputo has a tropical climate and as such architectural responses differ from traditional "styles".*

3.2 General Locale and Specific Siting

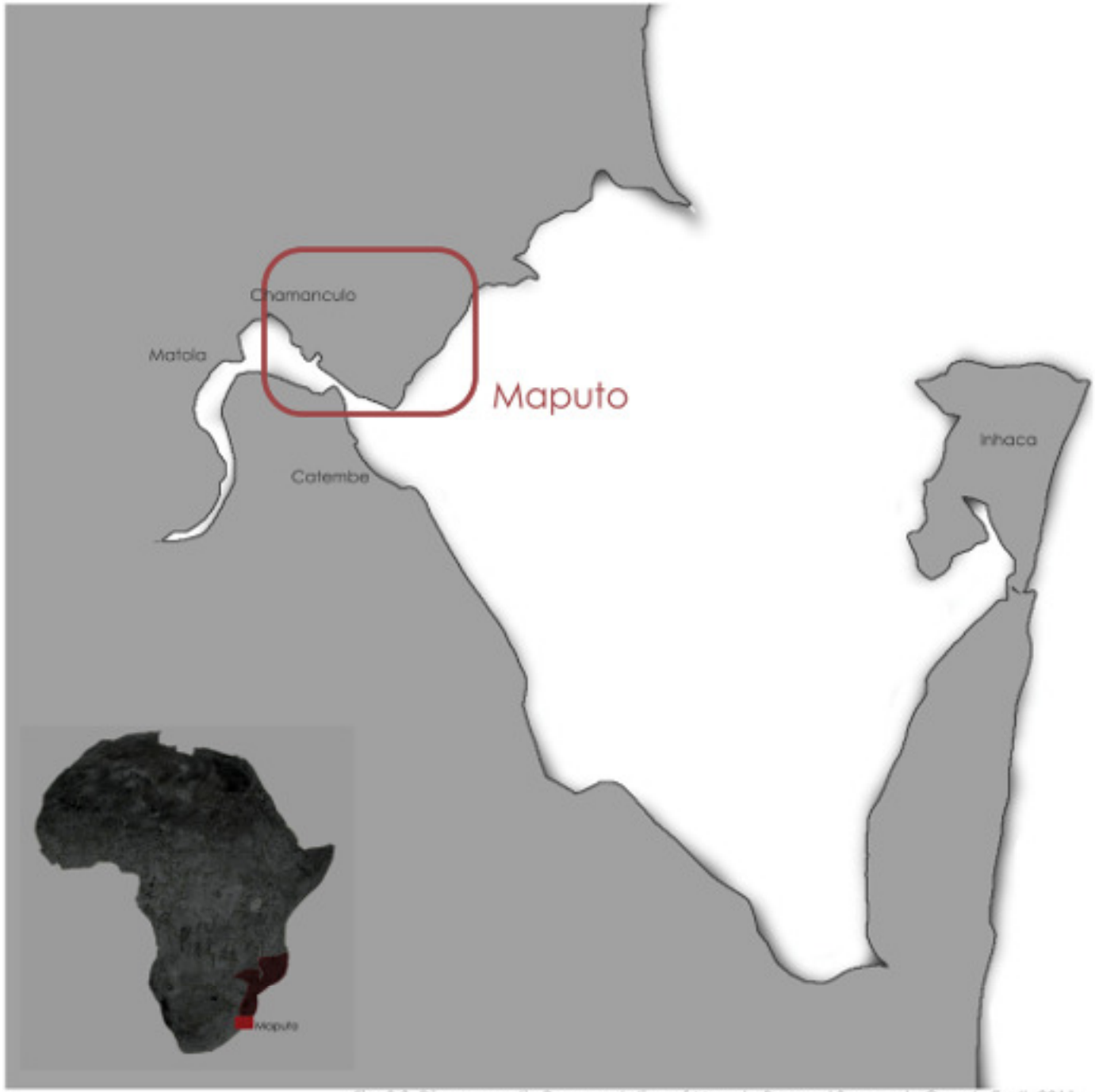
Refer to Section 2.3 for theoretical basis and Section 5.3- 5.6 for urban application.

The focus area for this dissertation is within the historic centre of Maputo, Mozambique.

3.2.1 Mozambique

To understand the Macro context of Mozambique, Paul Jenkins is used as a reference as he has worked in the urban management field in Maputo for the past twelve years and is the Director of the Centre for Environment and Human Settlements at the School of Planning and Housing in Edinburgh. He has written numerous papers and articles regarding the nature of the informal and formal within the Mozambican context with specific reference to Maputo.

Mozambique as a as sub-Saharan African country, is said to be "one of the poorest and most aid-dependant countries in world". Paul Jenkins in his *City Profile* continues by stating; "In the last 40 years Mozambique has been governed by fascist, socialist, and open market regimes, and emerged from severe under-development under colonialism to struggle for self-reliance in the immediate post-Independent era. However, due to the international effects of the Cold War, the struggle against apartheid in the immediate region, and internal civil war sustained by both these forces, compounded by severely adverse climatic conditions and enormous difficulties in state formation and nation-building, the government has become subordinated to donor agencies and obliged to implement a rigid form of structural adjustment re-aligning it with the

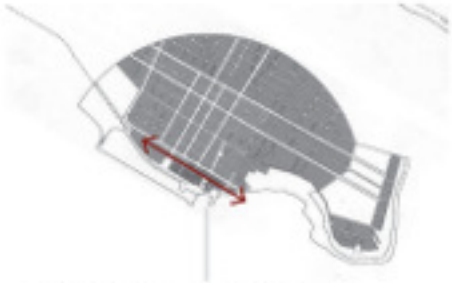


(Inset) Fig 3.2: Aerial Photograph showing Position of Maputo in the African Continent. Google Earth 2011

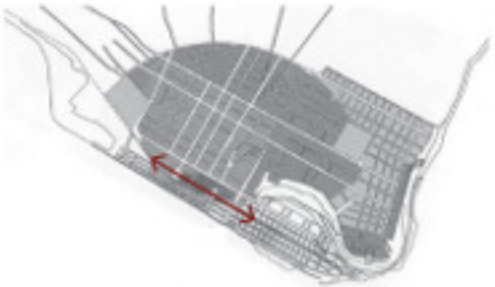
Fig 3.3: Diagrammatic Representation of Maputo Bay and Surrounds .Google Earth 2011.

1781 FORT AND TRADING SETTLEMENT ON AN ISLAND SURROUNDED BY SWAMP LAND

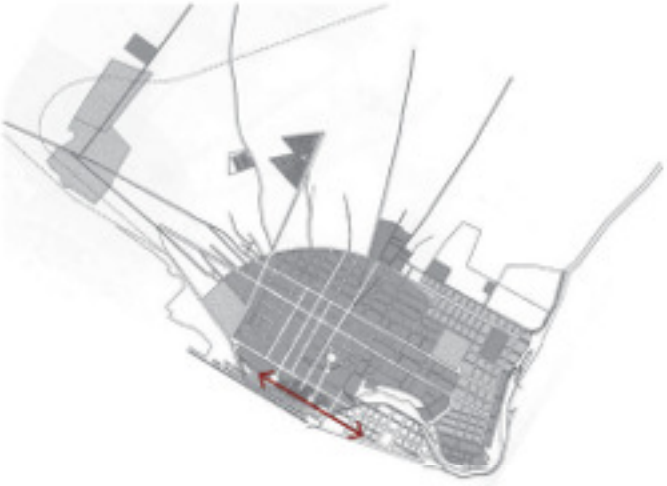
1877 FIRST PHASE OF LAND RECLAMATION LAYOUT OF REGULAR STREET GRID



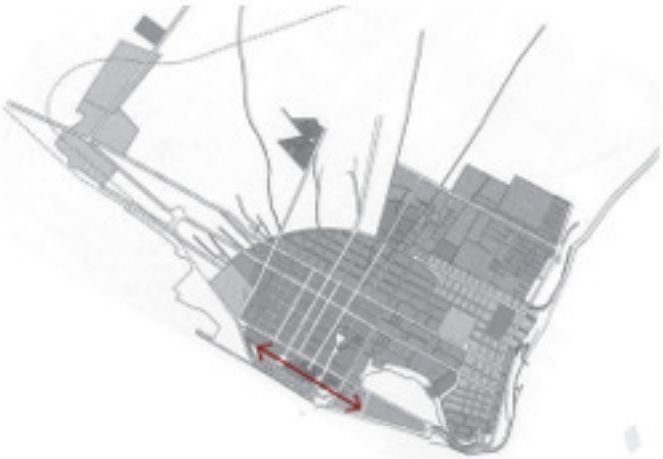
1900 SEMI-CIRCULAR DETERMINATION OF THE "CEMENT CITY"



1915 ORGANIC EXTENSION TO THE EASTERN COASTLINE PAST CITY LIMITS



1940 SECOND PHASE OF RECLAMATION NODAL DEVELOPMENT



1975 FORMAL EXTENSION NORTHWARDS CONTINUING URBAN SPRAWL.

Fig 3.4 Diagrammatic representation of the cities development . (Casson et al 2011)

capitalist economic world system. " (JENKINS, 2000: 207)

3.2.2 MAPUTO

Maputo is the capital city of Mozambique and the southernmost city, with close links to its neighbouring countries such as South Africa and Zimbabwe. Maputo holds a major trade port and has a rich and tumultuous history.

According to Jenkins there is documented history of human settlement in the area from the first century AD. Trade and colonisation began in the 17th century with the Portuguese and Dutch competing for dominance. The city was eventually established as Lourenco Marques in 1741 by the Portuguese. The city was affected by the Mfecane or Dificane within the entire Southern African Region as well as the "Great Trek" of the Boers in South Africa. The Colonial Period continued until independence in 1975 which was claimed through war and struggle. This resulted in the obvious ramifications of such battles taking place within the urban settlements, including an exodus of Portuguese settlers. The struggle in neighbouring South Africa in the 1970s and 1980s through the Apartheid Period, coupled with the continuing civil war in Mozambique, meant that migration and communication between the states was hampered.

Since the end of the civil war in 1992, trade relations between the neighbouring states has been

Fig 3.5 Aerial Photograph Showing Baixa as defined by topography and historic character within the context of Maputo. Google Earth 2010

Figure 3.6 Map Showing Rua de Bagamoyo in the context of Baixa. Google Earth July 2011.

flourishing with the implementation of the Mpumalanga, Maputo development corridor and the extension of the N4 Highway. (JENKINS, 2000)

3.2.3 Baixa

The word "Baixa" in Portuguese means "low" and refers to the low lying area of the city of Maputo as indicated on the figure. This area of the city is the oldest and is the central business and trade district for the city. Initially the city was built on an island as a defensible space, during the colonial period the land around this island was reclaimed by the Portuguese. Subsequently the area is plagued by flooding.

Fig 3.5 indicates the historical boundary of the original island which can be clearly defined by its distinctive street grids that are narrower and finer grained than the surrounding city. The district of Baixa remains the central core of the city as the major transport nodes are accessed from within this area.

Being the oldest part of the city, the municipality has created a boundary of protection for the heritage of the existing buildings

3.2.3 Rua De Bagamoyo

Rua de Bagamoyo (formerly known as *Rua de Araujo*) prior to the independence of Mozambique in 1975 is the 480m connection of the vehicular *Praca de Trabaladores* in the north west to the successful public park *Praca de 25 Junho* in the South east as indicated in Fig 9. This street is narrow: A maximum of 10m from building edge to building edge with an actual street width of six metres at its widest. The buildings around it are of a fine grained nature that contribute to a palimpsest of layering with a wealth of buildings dating from 1890 with a variety of examples including the early twenty first century. This collage of typologies presents the area as a palimpsest of architectural and historical significance.

3.3 Style

The type of buildings within *Rua de Bagamoyo* are diverse and a complexity and variation creates a large part of the aesthetic character of the place. The aesthetic is not only a formalistic concern; varied and complex , but the functions within the built fabric and on street level are just as varied.

3.3.1 Type in program

The functional diversity, although not as complete and balanced as it could be, communicates an ideal of versatile environments that allows for a myriad of activities.

Positions and concentrations of functions indicate where significant programmes can be used to activate the street. Weaknesses in the diversity of activity is also indicated.

Fig 3.7 Mapping of Formal functions contained within buildings. Drawing by Author 2011

Formal Functions

Formal[2] functions within the street during the day include government offices and banks similar to the rest of the historic Baixa, but it does not contain the same concentration of retail facilities as *Rua Consiglieri Pedroso*. This results in *Rua de Bagamoyo* being less busy and active during the day. The inverse occurs at night where *Rua de Bagamoyo* contains a larger concentration of bars, night clubs and strip-tease establishments.

Government offices and banks create increased pedestrian traffic and attract people to the Baixa, but due to their operating hours this increase in traffic is restricted to mornings and early afternoon.

Rua de Bagamoyo contains the only cultural and educational buildings in the area including a comedy theatre National school of Dance and National school of Visual Arts, as well as the Samora Machel museum. These functions are specific to *Rua de Bagamoyo* emphasising the specific quality of this particular street but the weakness lies in that the vibrant and significant functions are isolated from each other.

The night life establishments are particularly "adult" in nature. The existing bars are frequented by prostitutes and the night clubs provide striptease entertainment. This particular type of night life activity is at its most active in the late hours of the evening. Even though *Rua de Bagamoyo* is synonymous with this type of function, like the cultural activities, these functions are also isolated from each other therefore negating the ability of night life activity to activate the street.

Christopher Alexander States that " *Most of the city's activities close down at night; those that stay open won't do much for the night life of the city unless they are together.*" (ALEXANDER et al., 1977: 180) Even though the night life activities are together, as Alexander would propose the street is still not a successful night life district because there is still a lack of visual, functional and physical inter-connectedness between the activities.

The combination of offices that close early in the afternoon and night life establishments that are not busy until late at night results in a lag in street activity throughout late afternoon and early evening.

in black indicate the duality of night and day

Weakness in the street activity due to the formal functions results from the isolation of similar functions to each other and the lack of 24-hour functionality.

Formal Function influence on character of activity.

Due to the prevalence and persistence of adult centred night life activities as well as the specific occurrence of culturally significant entertainment based functions it becomes apparent that the character of the street is and should remain one of evening entertainment and recreation, that can be strengthened through the implementation of activities that create a continuity of vibrancy in space as well as in time.

2 The terms formal and informal are used primarily to describe the nature of activity with relation to the built form, formal activity is not necessarily more legal than informal but occurs within the formal structures of the street, where informality refers to the occurrences of economic activity that occur outside of the buildings.

Fig 3.8: Mapping of informal functions that occur outside of built form. Drawing by Author 2011

Informal Functions

Rua de Bagamoyo does not only contain unique functions in the formal sector but also in the informal. The formal sector directly influences the type of informal activity and the times at which they occur.

During the day there are vegetable salesmen, Tschovas[3], and prepaid airtime distributors that occur throughout Maputo. These particular functions occur in areas of high pedestrian traffic and are concentrated in the mornings and early afternoons around the busy government offices and banks.

A prevalence of vendors occurs near the entrance to *Rua de Bagamoyo* from *Praca de 24 Juhno*. There are also thriving car wash businesses.

Later in the afternoon the first signs of prostitution occur, around the existing bars and hotels in the centre of the street, protected from the busy public squares. This particular function influences other tradesmen and entrepreneurs, and therefore the mobile informal tradesmen sell specifically applicable products. There is a prevalence of beauty products, hair care items and grooming aids as well as mobile "nail parlours".

The night time activities in the formal realm include brothels and striptease nightclubs as well as a few small bars but the other existing establishments that are formally un-occupied at night also provide facilities for the sex trade. An article published in the Savana newspaper[4] notes the National school of Dance and Visual Arts as being two of the buildings used. Through observation it was noted that the warehouse offices in the northwest were more obviously used than the national schools.

"When darkness emerges, the official institutes close, the employees disperse: there begins other activity supervised by the guards that sacrifice their nights on duty"(ARAO, 2009: 1)

Other night-time informal trade includes mobile street vendors selling crisps, chewing gum and cigarettes. These vendors are usually children, taking advantage of the existing night time activity.

The informal traders that create a certain character of trade within the streets of Maputo are not only influenced by the formal but also the informal and any change in activity or programme will influence these vendors.

3 Tschova is a cart pulled by one or two persons usually containing vegetables or other good for sale.
4 Savana Newspaper is renowned for being a controversial political paper. It is distributed throughout Maputo once a week.

Day- Night Functionality

The existing Nolli Map of Rua de Bagamoyo fluctuates between night and day.

During the day spaces are more publicly accessible where as during the night the street becomes the most accessible space with few bars and entertainment venues that have a semi-private access.

Figure 3.9 Photograph showing the lack of activity in the streets at some places at night. Photograph by Author 2011

Figure 3.10 Map based on Nolli's map of Rome showing publicly accessible spaces in white and private spaces in black for daylight hours along Rua de Bagamoyo. Drawing by Author 2011

Night time Nolli

Figure 3.11 Photograph showing pedestrian activity during the day. Photograph by Author 2011

Figure 3.12 Map based on Nolli's map of Rome showing publicly accessible spaces in white and private spaces in black for the night along Rua de Bagamoyo. Drawing by Author 2011

Fig. 3.13 Mapping of Spaces of opportunity drawing by Author 2011

Spaces of opportunity

Mapping of programme indicates spaces that are vacant, unused or abandoned as areas for opportunity to intervene in the fabric of the street, without challenging or destroying the existing vibrancy. If Christopher Alexander states that; *"The homogenous and undifferentiated character of modern cities kills all variety of lifestyles and arrests the growth of individual character"* (ALEXANDER et al., 1977: 43), *these spaces for opportunity allow place for the implementation of diverse programmes to connect and allow continuity of the existing.*

3.3.2 Type in Form and Aesthetic

There is an obvious diversity, four major types can be determined as the most conducive to that character. All of these types provide a permeable threshold to the street and provided a shaded walkway on pavement level either by extending over the pavement or by providing shade by protruding structures.

3.4 Materiality

The diversity of building types extends to the materiality in texture, colour and type of material, but as with styles dominant factors can be determined.

34.1 Texture

Urban Decline and criminal activity in the street affects the nature of building texture in the following ways. The plastered and painted buildings have weathered, creating a texture of decay that gives the facades a softer aesthetic than the slick form -driven intention. Coastal climates and the corrosive nature of coastal conditions increases the weathering not only in the paint finishes but in the rusting of cast iron screens and burglar bars as well in the concrete surfaces.

Crime and the need for security has created the necessity for bars over fronts and doors. These create the atmosphere of individuality on the ground floor and street facing facades. (throw in a Stewart brand)?

3.4.2 Type

Coastal conditions dictate a prevalence of robust materials such as concrete increased by the strong influence of modernism during the colonial period. Brick and plaster is apparent in the historical facade buildings. Prefabricated cast iron structures are reminiscent of the earlier colonial era.

3.4.3 Colour

Colour in the context of Maputo is very much part of the character of place. It is apparent not only in the building painted brightly but in the variety of goods sold on the streets and in the dress of the people with the prevalence of the brightly coloured capulana or kanga.

The Historical Facade

The oldest remaining buildings retain only the front facade with new alterations occurring behind. The example as indicated in the sketch Fig used to contain a shaded colonnade which has since been closed off by the different tenants as can be seen on the photographic elevation fig .

While this used to provide for the passing pedestrian, it now creates a permeable edge with notable layers of threshold to access the interior space. This particular building contains two bars and a strip club both dealing primarily with the sex trade allowing those layers of threshold to be used as a measure of control of access.

The Cast Iron Balcony

Four buildings exist with this typology consisting of the national school of arts/, and NGO office building and Two Hotels , Hotel Central and Hotel Carlton

These buildings extend onto the street with a structure of cast iron columns and balconies permeating the edge with publicly accessible entrance to nightclubs and bars on the ground floor, in the case of the hotels. The Art school and NGO has been recently restored and the entrance has been controlled through a single entrance in the form of an inter-leading arcade.

The Concrete Fins

Concrete works in Maputo has a slenderness and refinement unique to that context, These buildings are clearly informed by the international style. There are three in Rua de Bagamoyo with varying degrees of arcade detailing. They have been adapted to respond the context climatically as they create a shaded facade and double skin structure. All of these buildings contain offices with one containing the Samora Machel Museum on Ground Floor.

National School Of Dance

The scale of this building both in the verticality of its arcade and length of the facade is a clearly dominant structure in the street. The first floor dance studios extend over the pavement level with the walkway presenting itself as a subtractive element as if it had been removed from the building mass. The ground floor contains bars and restaurants as well as the dance school entrance and contain a myriad of textures and colours on its facade.

Fig 3.14 (opposite page) Table of Materials Photographs by Author 2011

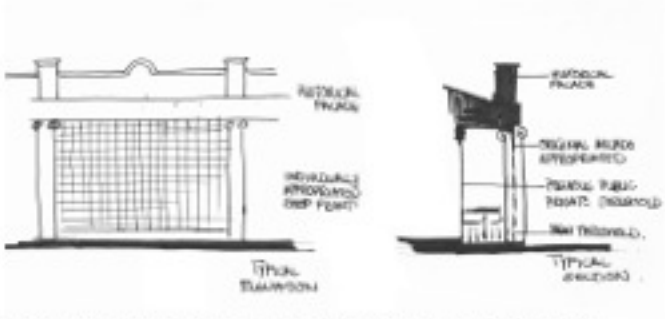


Fig 3.14 Sketch showing typical single story with historical facade

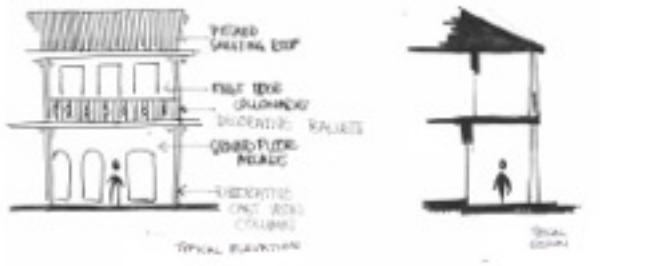


Fig 3.15 Sketch showing typical additive street arcade.

Fig 3.16 Sketch showinghowing typical shaded facades and roof terrace

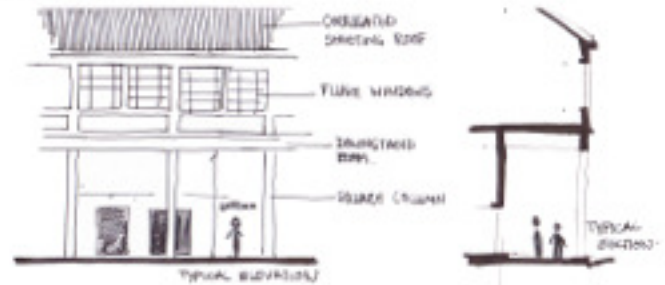


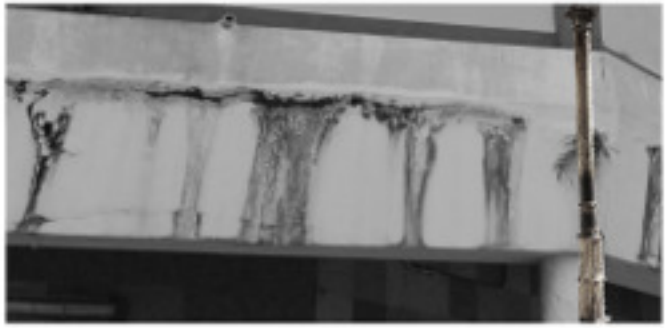
Fig 3.17 Sketch showing typical subtractive arcades


TYPE


TEXTURE


COLOUR


ESCOLA NACIONAL DE ARTES VISUAIS




HOTEL

3.5 Size, Shape and Proportion

These concepts are best illustrated through the photographic elevation which has been drawn to scale to show the complexity of scale with Rua de Bagamoyo.

It is apparent that the buildings towards the public squares are taller and larger particularly towards Praca De Trabalhdores. The complexity of scale is not restricted to the diversity in the number of floors but also in the variance of vertical scale in the floor heights themselves.

Building footprints are small in relation to the tighter street grid, giving the facade a varied articulation.

NORTH ELEVATION

SOUTH ELEVATION

Fig 3.15 Street Elevations showing Proportion, size and scale of buildings in relation to each other. Photographs and diagram by Author 2011

3.6 Historical Significance

Refer to Section 2. 5 for theoretical basis

The historical significance of Rua de Bagamoyo is contained in layers of tangible and intangible heritage. Significance is apparent in the widely available historical photographs. The availability of these indicates that the significance of the street has always been noteworthy enough to be documented at least by photographers, which would have been quite an occurrence in 1890.

3.6.1 Intangible Significance.

The photographic evidence as presented by the work of photographer Ricardo Rangel incites a poetic nostalgia, as memorialized as its previous manifestation Rua Araujo and its function of "*our nightly bread*", which is the phrase used to describe the necessity of prostitution. It is proposed that the heritage embodied in Rua de Bagamoyo is therefore significant not only in the remaining historical built fabric. This documentation of nostalgia indicates that significance is embodied in the societal responses to built form in the manifestation of consistent functions.

Ricardo Rangel's collection of photographs documents a nostalgia for a previous existence of the street, not only in photography but also in letters and poetry. This documents the collective memory of place.

"The pull of past transcends nostalgic longing for a fancifully imagined or surrogate yesteryear"(LOWENTHAL, 1985: 43)

Lowenthal questions the reality of nostalgia but notes the will to return to a state of past in his writing; The past is a foreign country. This indicates that a design intervention to return to a state of the past would most likely be unsuccessful as the realities and the collective memory would perhaps not co-incide, indicating that the strengths of memory can be used as a positive generator to create a familiarity of place, without being a re-creation.

To critically evaluate the work of Ricardo Rangel with regards to this question of reality and truth to memory results in a proposed question of significance in the realm of heritage.

Collective memory insinuates the significance of persisting function whether real or imagined. The function remains, regardless of changing legislation, politics, social and economic situations .However, it currently does not have the vibrancy or critical mass popularity to dispel negative reputations.

To understand the relationship of buildings and architecture of a previous time a photographic study of the photographs of Ricardo Rangel as compiled in the book *Pao nosso de cada noite,* translated as "Our nightly bread."

Specific notice is taken of the human interaction with the building and how the relationship between street and building is articulated and utilised.

The photographic studies of the historical photographs are then compared to current photographs by the author to compare not only the changes in street-edge relationship but also in the quality of environment.

3.6.2 Tangible Significance

Tangible significance is that, which is apparent in the built form and structure of the street. The significance of this particular region is in the atmosphere created by the urban infrastructure.

The heritage embodied within the built fabric includes not only the historical buildings but also the fine gain fabric of the existing buildings and their relationship to each other. Buildings have small footprints and the street grid within the historic Baixa is tighter with narrower streets and wider pavements than found elsewhere in the city.

Street facade photographs as indicated by fig 4.6 shows the diversity of building typologies and styles, indicating the palimpsest of incremental.

Photographic Timeline

Showing Street development

Fig. 3.16 Photographic Timeline compiled from archived photographs (RUFINO, 1929). (RANGEL 1960- 1970) aqnd Author 2011

ricardo rangel

pão nosso de cada noite

our nightly bread


1960


1965

1970


2011

Fig. 3.17 Cover page of Ricardo Rangels Photographic Collection.(RANGEL: 2004)

Figure 3.18. Steps emerging in to the illusion-world (1962). Rangel 2004

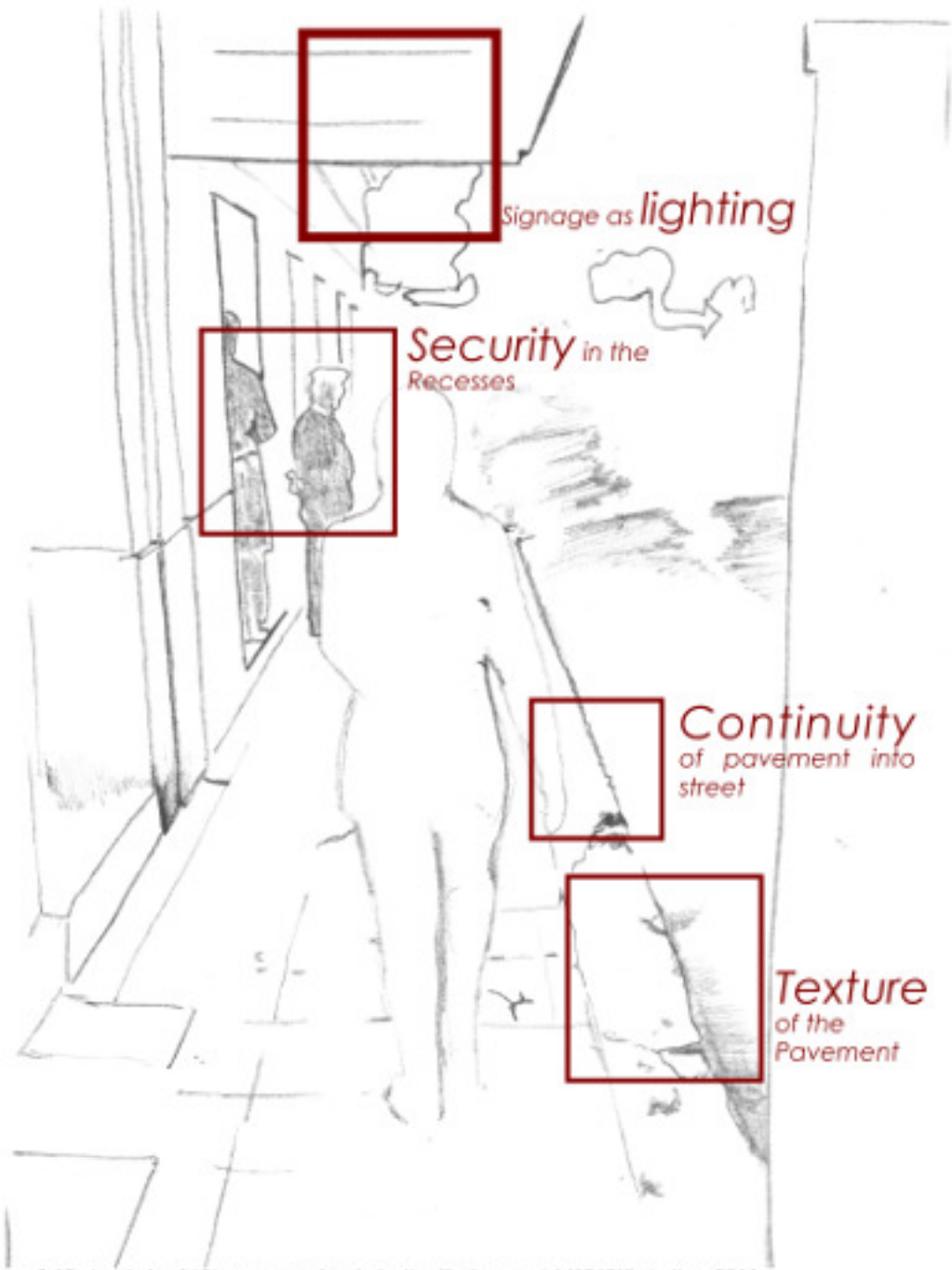


Figure 3.19. Analysis of "Steps emerging in to the illusion-world (1962)". Author 2011

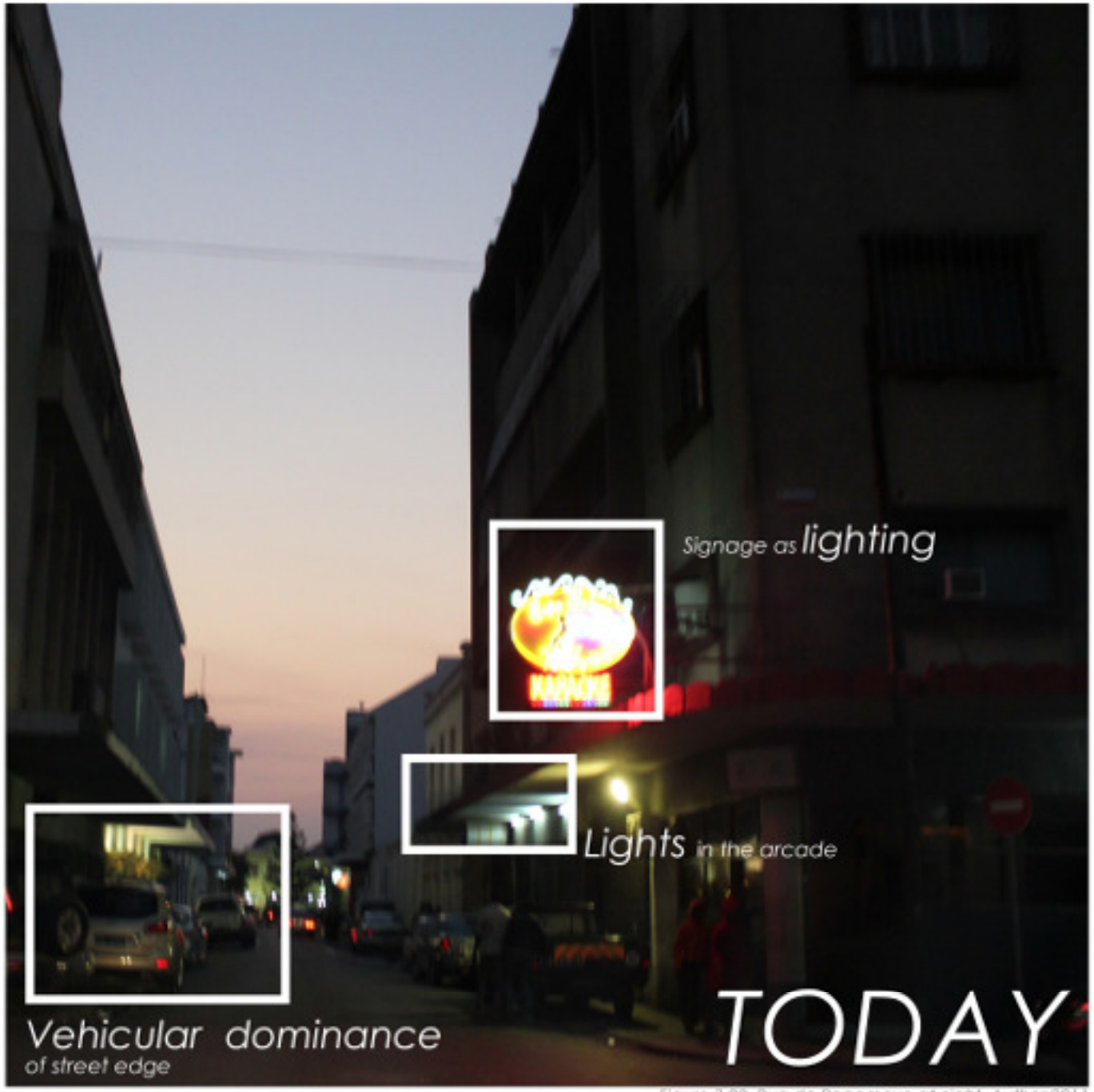


Figure 3.20. Rua de Bagamoyo at night, Author 2011

THE URBAN EDGE

The signage remains part of the lighting in the street with the inclusion of light on the underside of arcades. The major change exists in the vehicular dominance of the street as opposed to the pedestrian. Parking occurs densely along the street edge and defines the edge.

Figure 3.21 Embarking on the pleasure of the night (1969). Rangel 2004

Figure 3.22 Analysis "Embarking on the pleasure of the night". Author 2011

Figure 3.23. Hotel Central Today. Author 2017

Hotel Central

Hotel Central remains as it was but, the urban surroundings have changed due to the vehicle occupying the pedestrian space.

Figure 3.24 Rua Araujo: all embraces shine more under neon light (1970). Rangel 2004

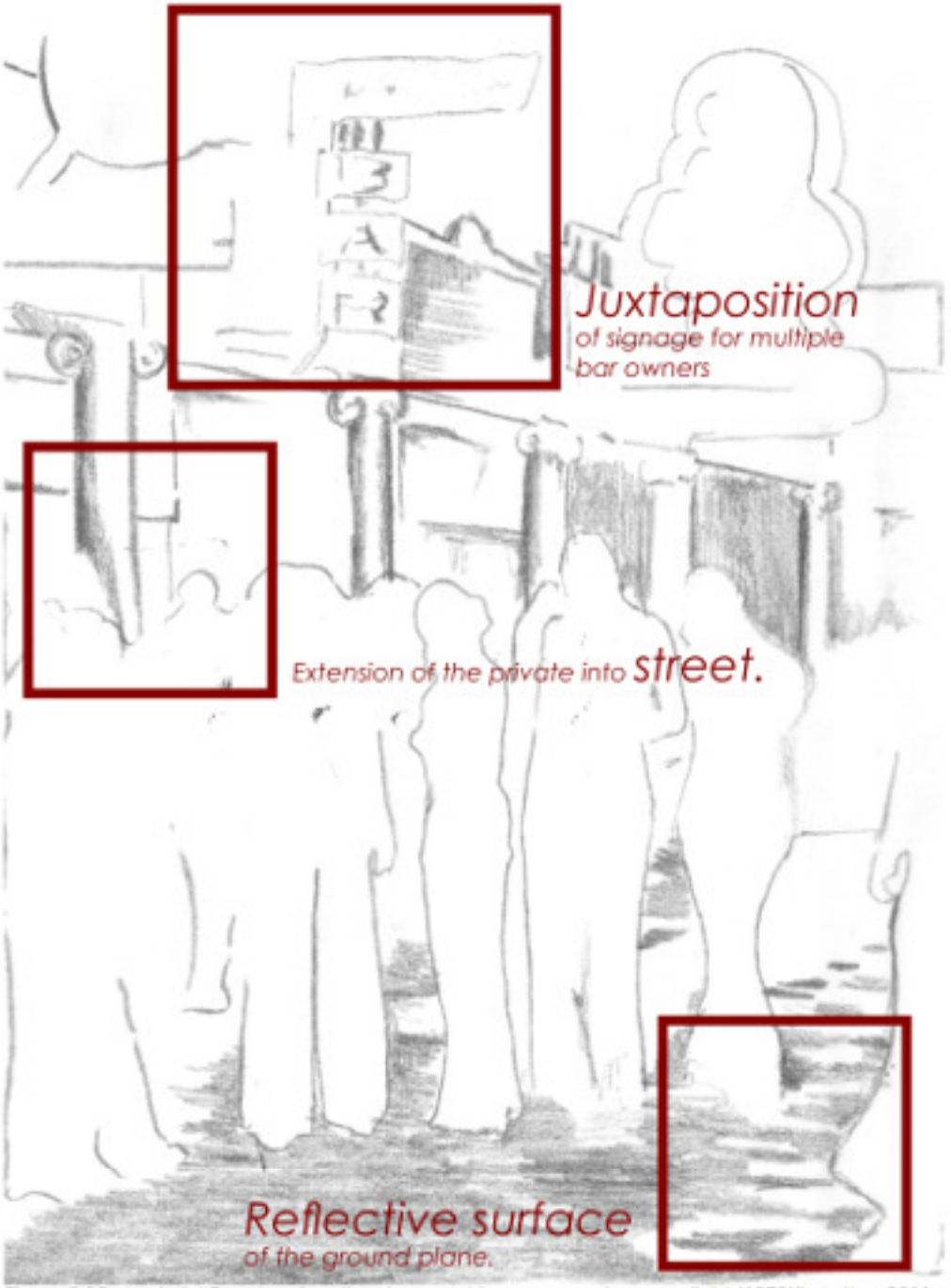


Figure 3.25. Analysis "Rua Araujo: all embraces shine more under neon light (1970)". Author 2011

Figure 3.26. Luso Today. Author 2011

Collection Spaces

Arcades have been enclsed with security screens and walls creating a controlled transition in to the private spaces.

Juxtaposition of well lit signage remains.

The dominance of the vehicle separates the street from the building acting as a barrier.

Figure 3.27. Rua de Araujo: what crazy wine am I seeking? (1970). Rangel 2004.

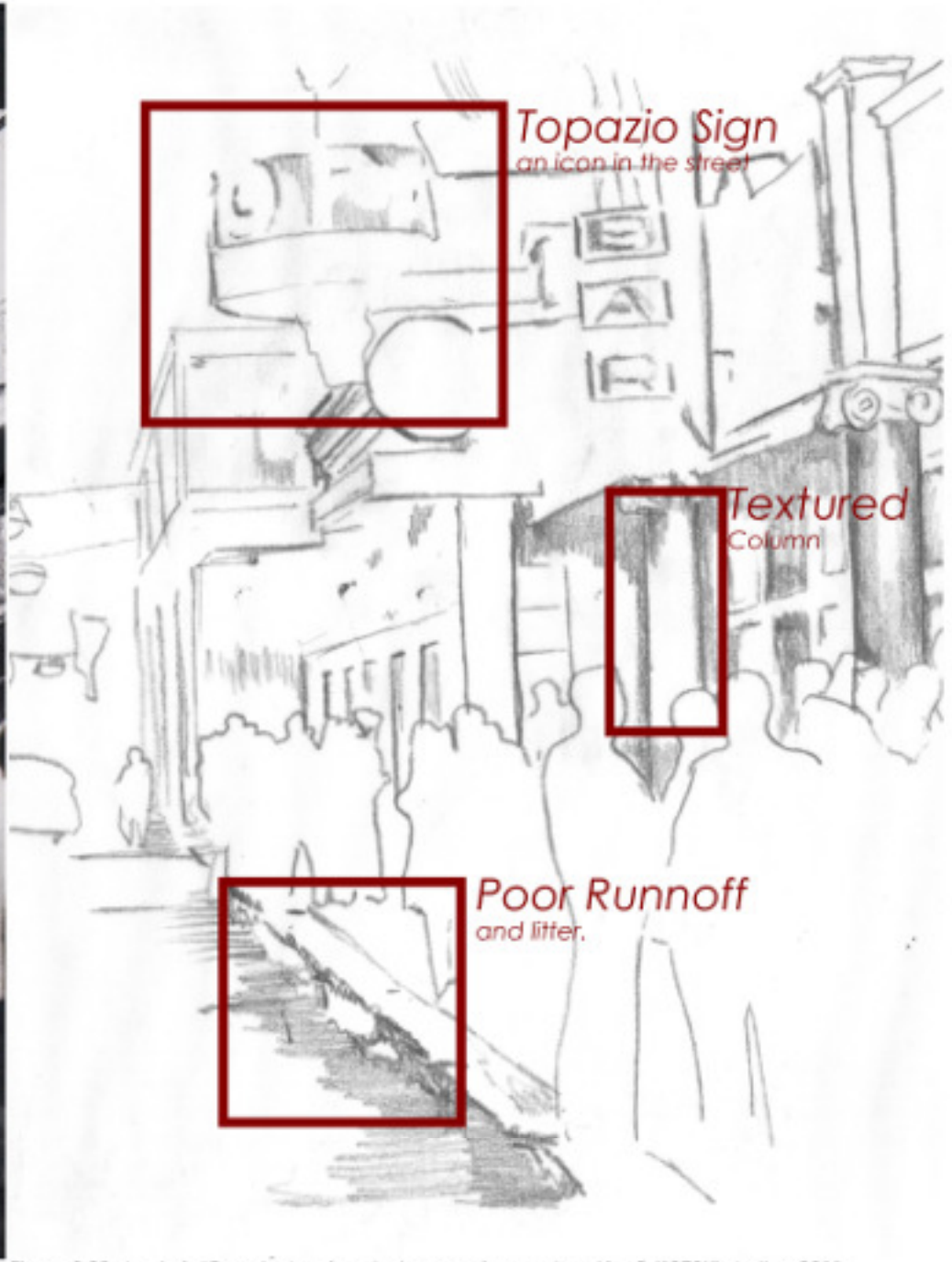


Figure 3.28. Analysis "Rua de Araujo: what crazy wine am I seeking? (1970)". Author 2011

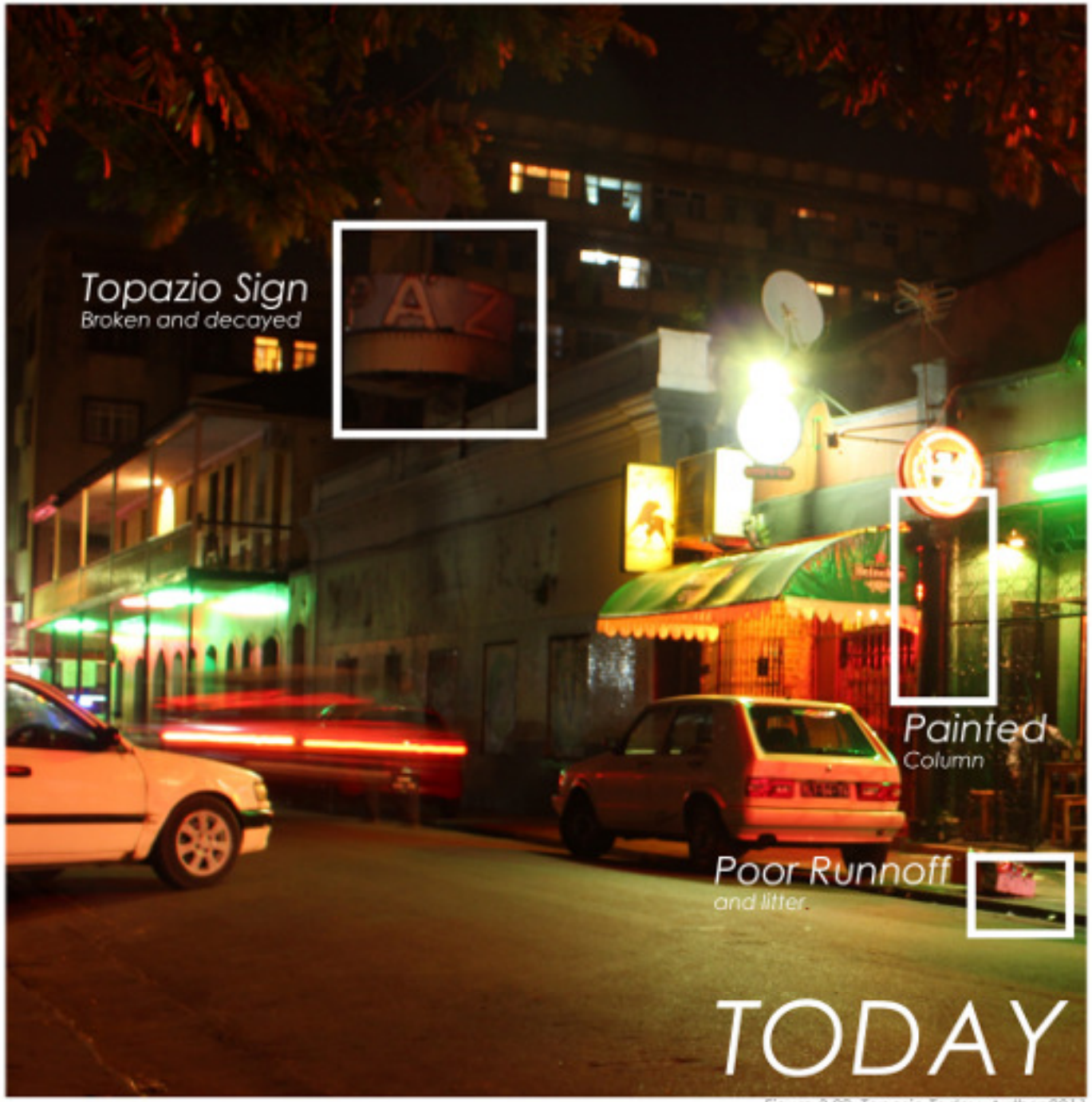


Figure 3.29. Topazio Today. Author 2017

Facade Changes

Hotal Central remains as it was but, the urban surroundings have changed due to the vehicle occupying the pedestrian space.

Figure 3.30. Euphoria of Arriving in the Rua Araujo (1969). Rangel 2004

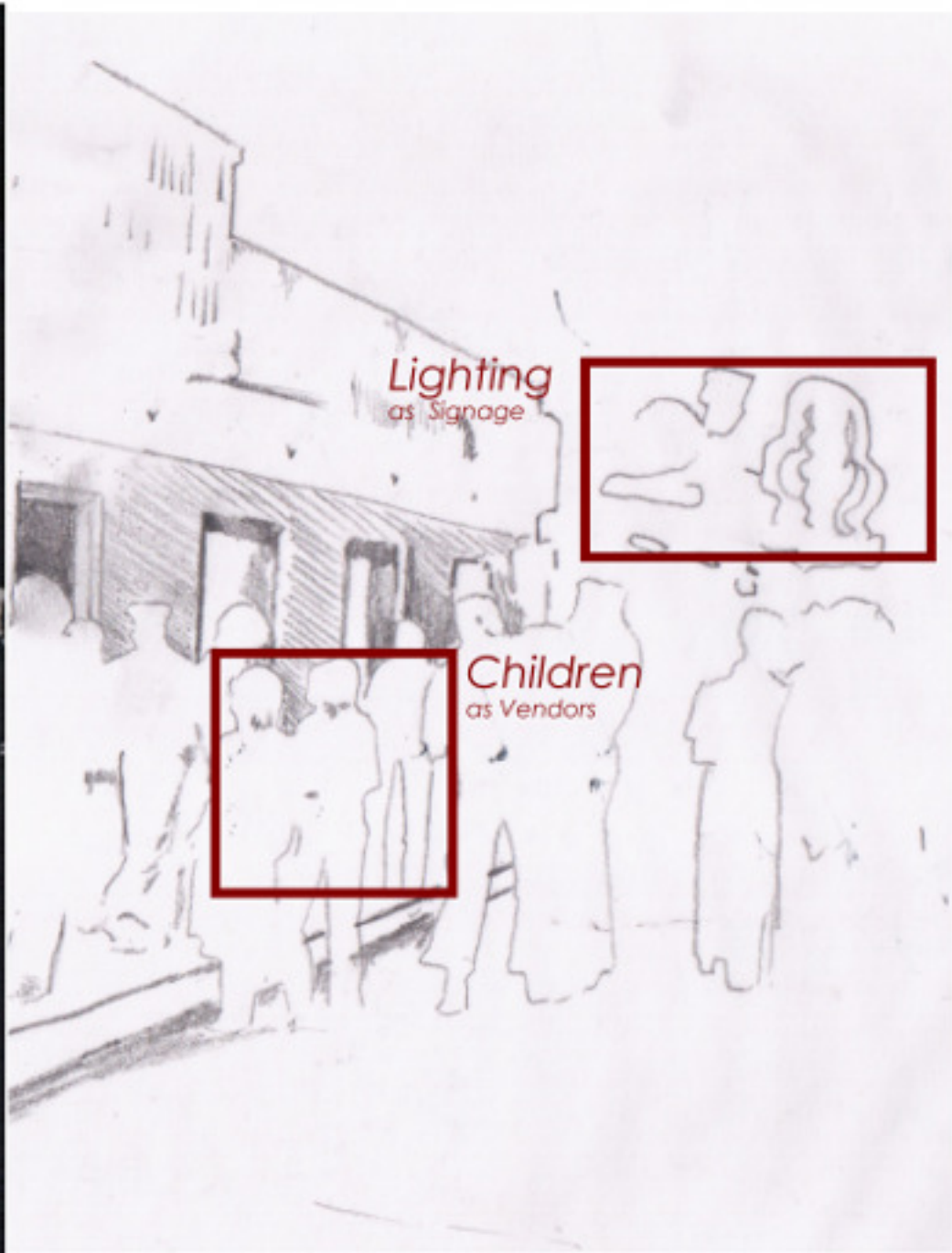


Figure 3.31. Analysis "Euphoria of Arriving in the Rua Araujo (1969)". Author 2011

Figure 3.32. Night Traders sell their wares.Photograph by Author 2017

In Between Space

Informal child vendors are more organised in 2011 and collect in groups.

Figure 3.33. Rua Araujo: who guards the entance to my desire (1974). Rangel 2004

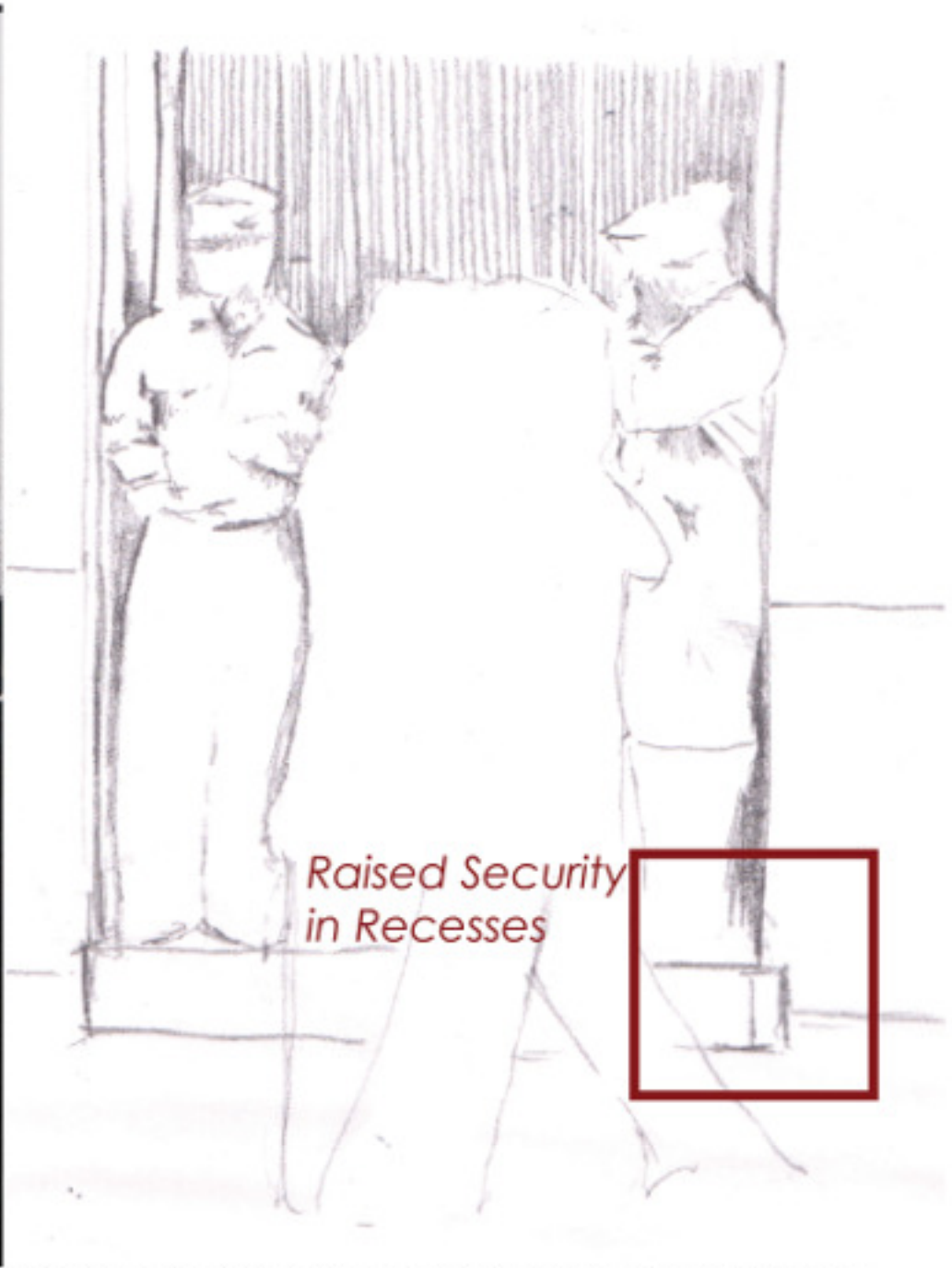


Figure 3.34. Analysis "Rua Araujo: who guards the entance to my desire (1974)". Author 2011

Figure 3.35. Shallow facade. Author 2017

Facade Depth

Where recess and entrance steps created enclosures for activity and surveillance urban decay has resulted in flattened facades thus the articulation of entrance and recess has been removed.

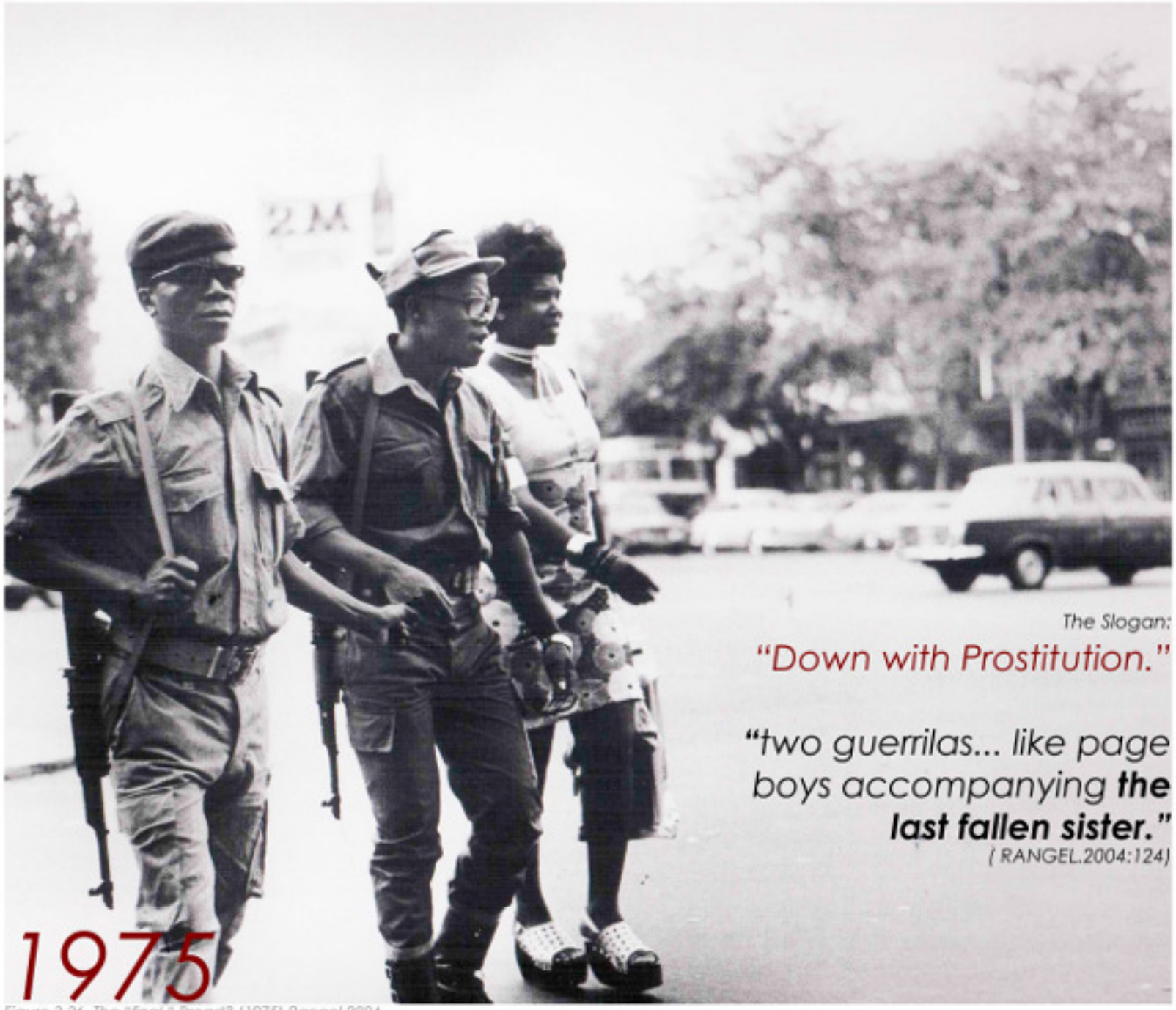


Figure 3.36. The "final " Bread? (1975).Rangel 2004

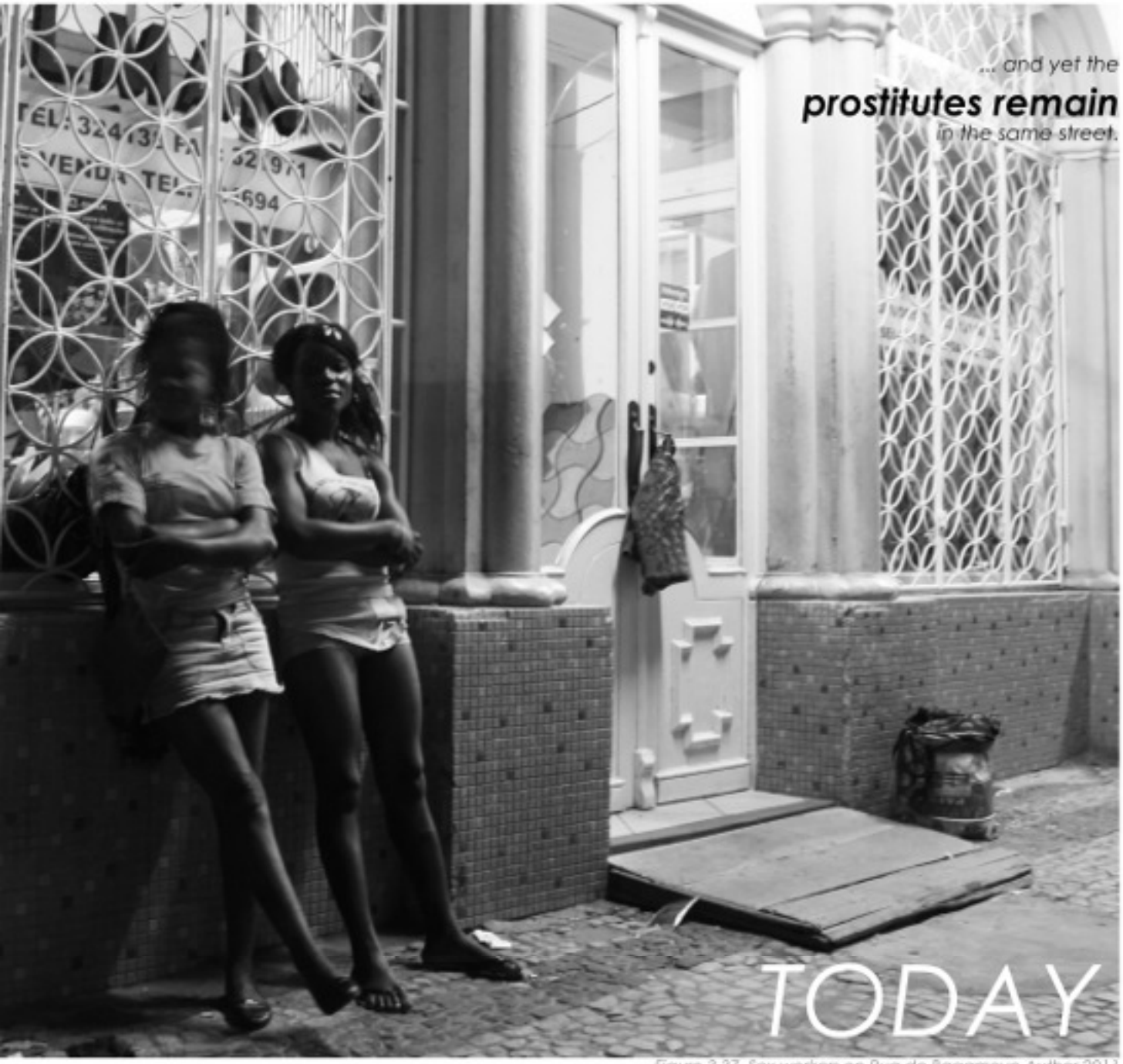


Figure 3.37. Sex workers on Rua de Bagamoyo.Author 2017

Continutity in Programme

Sex -work has been prevalent in Rua de Bagamoyo and solicitation remains as a perpetual street activity.

3.7 SOCIAL SIGNIFICANCE

Refer to section theoretical basis refer to section 2.6 and 5.7 for urban application.

To understand the existing street relationships, the ownership of street was determined based on the prevalence of a particular user as well as the permanence of their street use.

This study attempts to understand the relationship between the user and existing built fabric to understand how any specific user utilises, responds to or manipulates space. This also seeks to determine a hierarchy (if apparent)of the prevalence of ownership and controlled space within the context of *Rua de Bagamoyo*.

Particular attention is paid to the physical condition created by existing built fabric and how the nature of the architecture communicates with the user. Different types of spaces are appropriated by different users, for various reasons. The aim of this study is to determine how and why.

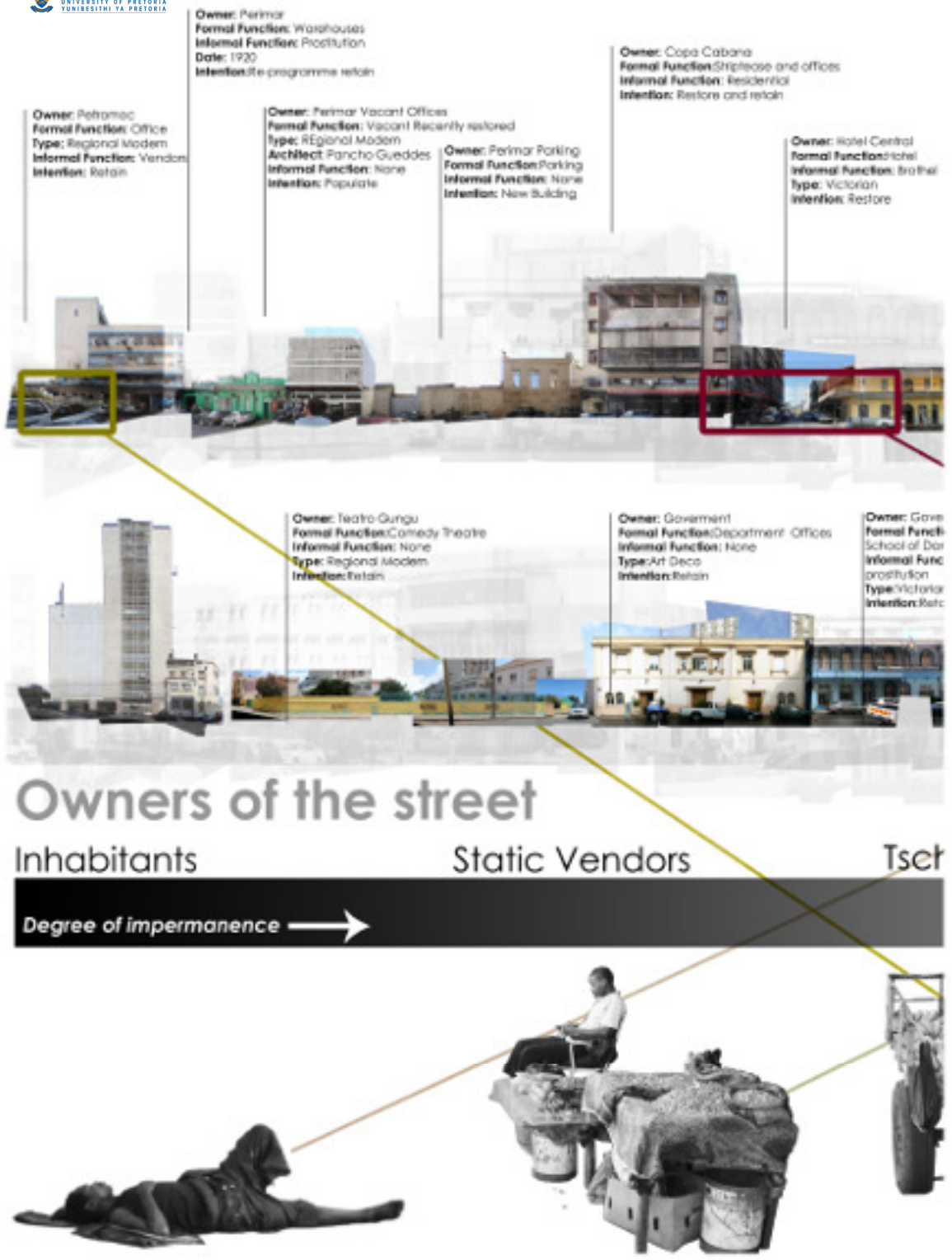


Figure 3.38 Owners of the street mapping. Photographs by Author 2011

Owner: Vacant
Formal Function: Vacant
Topasio
Informal Function: Soliciting
Prostitution
Intention: Restore and re-imagine

Owner: Various
Formal Function: bars, strip clubs and restaurants
Informal Function: Brothel
Intention: Restore and retain

Owner: Hotel
Formal Function: Hotel
Type: Victorian
Informal Function: Brothel
Intention: Restore and retain

Owner: Government
Formal Function: Parking
Informal Function: None
Intention: Create a new space

Owner: Vacant
Formal Function: Abandoned hardware stores
Informal Function: None
Intention: Demolish

Owner: Government
Formal Function: Offices
Informal Function: Vendors and trade
Intention: Retain and maintain

Formal Function: Bank And Offices
Informal Function: None
Type: Regional Modern
Intention: Retain and maintain

Owner: Standard Bank
Formal Function: Bank And Offices
Informal Function: None
Type: Regional Modern
Intention: Retain and maintain

South Elevation

Owner: Government
Formal Function: National School of Dance and Offices
Informal Function: Soliciting
prostitution
Type: Victorian
Intention: Retain

Owner: Government
Formal Function: Parking
Informal Function: Soliciting
prostitution
Intention: Create a new space

Owner: Government
Formal Function: National School of Dance
Informal Function: Ground Floor Bars and Homeless
Intention: Repair Facades

Owner: Delux Hotel
Formal Function: Hotel
Informal Function: Brothel
Intention: Repair Facades

Owner: Vacant
Formal Function: Offices
Informal Function: Residential
Type: Regional Modern
Intention: Restore and re-programme

Owner: Banco Mozambique
Formal Function: Bank Offices and Samora Machel Museum
Type: Regional Modern
Informal Function: None
Intention: Retain

Owner: CFM (National Railway)
Formal Function: Warehouses
Informal Function: Prostitution
Intention: Re-programme retain

Owner: CFM (National Railway)
Formal Function: Offices and clinic
Informal Function: None
Type: Art Deco
Intention: Retain and maintain

North Elevation

Tschovas

Vehicles

Sex Workers

Pedestrians

3.7.1 RESIDENTIAL USERS.

Rua de Bagamoyo provides place for the homeless. These users are given the greatest degree of permanence.This dissertation does not focus on the plight of the homeless, therefore concern for the condition of living is not considered, but rather and understanding of where these users sleep.

Residential space, while not formally provided for, is appropriated by the homeless that dwell in the region. Due to the climate which is hot and humid the need for shelter is from the sun and the rain and not the cold. The homeless were found on the southern side of Rua de Bagamoyo under the arcaded sections of the street. The northern side of the street is more shaded and the inhabitant is then relegated to the other side away from the business. These users usually sleep right up against the surface of a facade to appropriate a greater protected area for their body.

The choice of which side of the road is determined by the other users such as the vendors and tschovas, who appropriate the more shaded areas. Although theses users are on the southern side they do remain in the shaded areas.

Figure 3.40. Homeless women rests in a small patch of shade. Photograph by Author 2011

Figure 3.41..Women and child Sleep in a shaded area. Photograph by Author 2011

Figure 3.39.Luis, A man Sleeps on the urban surface. Photograph by Author 2011

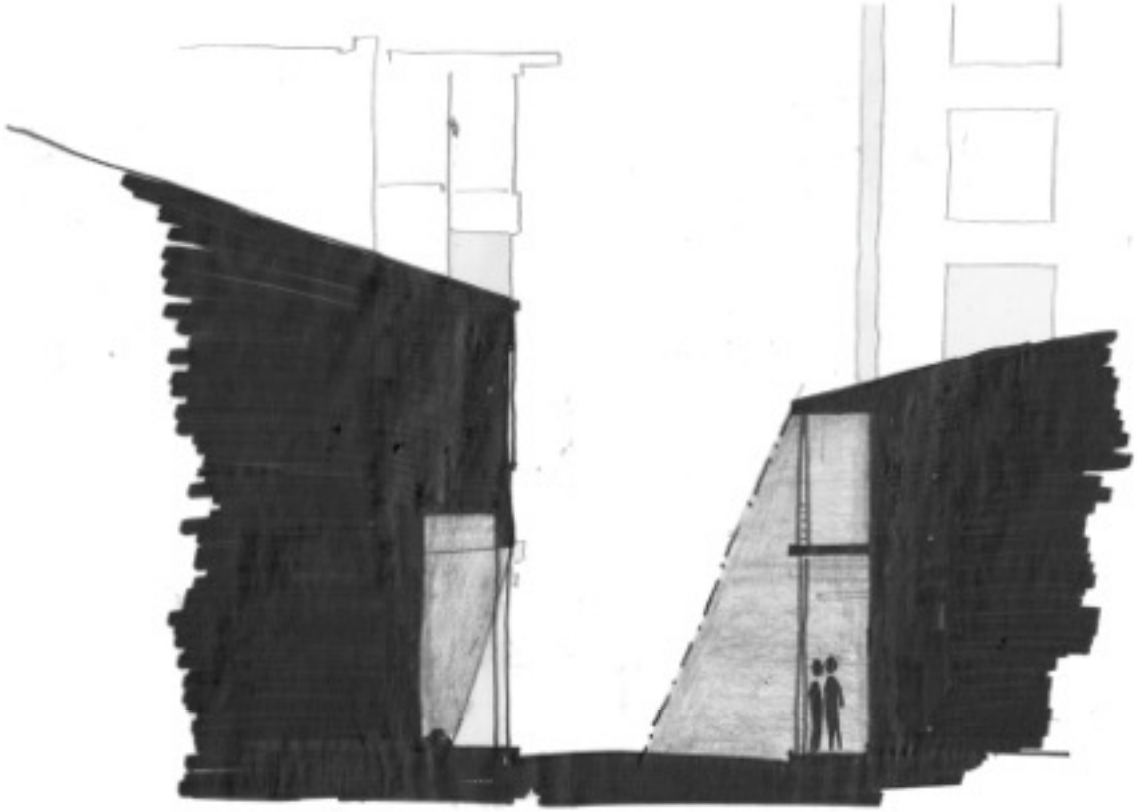


Figure 3.42. Sectional diagram showing the position of homeless in trelation to the position of shadows. Diagram by Author 2011

Figure 3.43.Photograph showing Vendors in the presence of parking on the opposite edge. Photograph by Author 2011

Figure 3.44. Vendors attracting business by creating a raised platform. Photograph by Author 2011

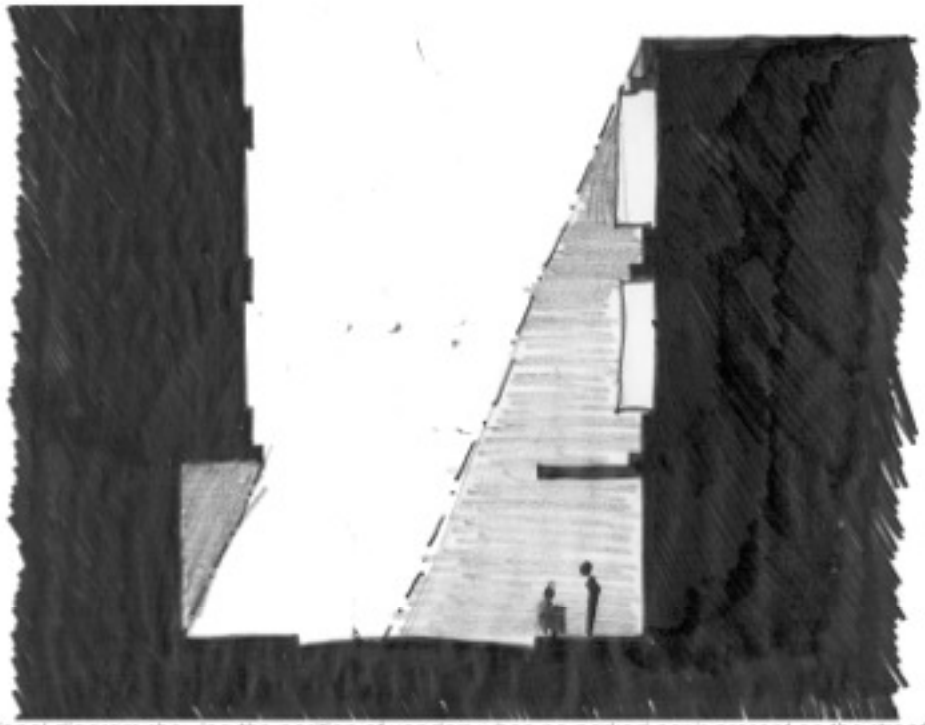


Figure 3.45. Sectional diagram showing the position of vendors when no parked car is present on the street edge. Diagram by Author 2011

3.7.2 STATIC VENDORS

The static and mobile traders are differentiated as they relate differently to the built fabric. The static vendors occupy a single space for the majority of the day. Within *Rua de Bagamoyo* these traders vary from day to night and vary based on the position of parked vehicles. During the day they sell a variety of goods predominately in the shadows of the buildings on the north side of the street in the areas of greatest shade, and closest to the public squares specifically *Praca de 25 Juhno* where there is the most pedestrian traffic due to the square, the government offices and the position of the bank. This is also the point where the pavement is at its widest. (2500mm)

Depending on the position of the vendor ownership of the sidewalk is either claimed or shared. Position of semi static vendors defines the "room" created on in the space of pavement. When a car is parked on the street edge the vendors occupy the side of the pavement on the building edge, in areas without a vehicular presence the vendors appropriate the street edge between the columns to enclose the pavement as a "room".

Figure 3.46. Street trader. Photograph by Author 2011

3.7.3 TSCHOVA TRADERS

The Tschova is a human powered cart pulled by one or two people usually used for the transport and vending of fruit and vegetables but are sometimes used for selling other items, such as beauty products or DVDs.

These tchovas are notorious for causing traffic congestion and occupying pedestrian space. The tschova is a vehicular means of transport for many of the vendors within the area allowing for the distribution of goods throughout the area to smaller distributors as well as allowing for sellers to transport larger amounts of stock. The large wheels and car tyres allow a freedom of movement on difficult terrain.

In general the tschova is used to transport goods but due the nature of its design, its height allows it to be used as a mobile table for the sale of goods.

Figure 3.48.A tchova salesmen sells bananas Photograph by Author 2011

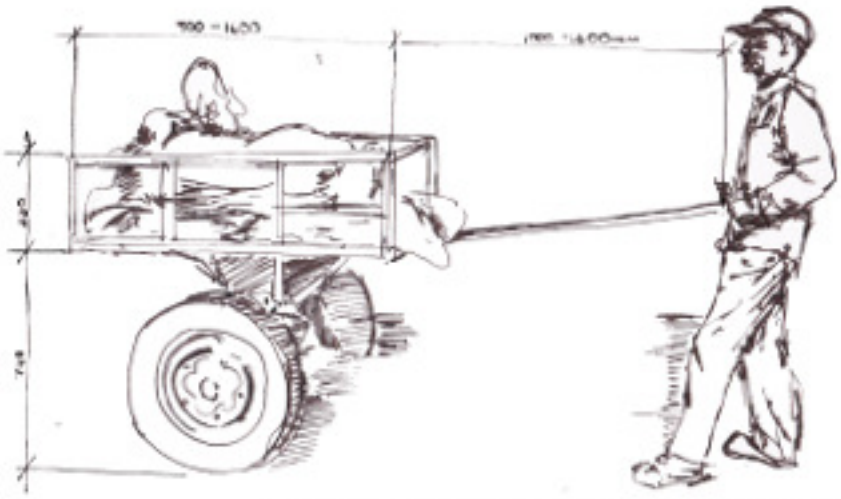


Figure 3.49. Dimensions of a tchova sketch by author 2011.

Figure 3.47.Tchova rental store, Combafente Photograph by Author 2011

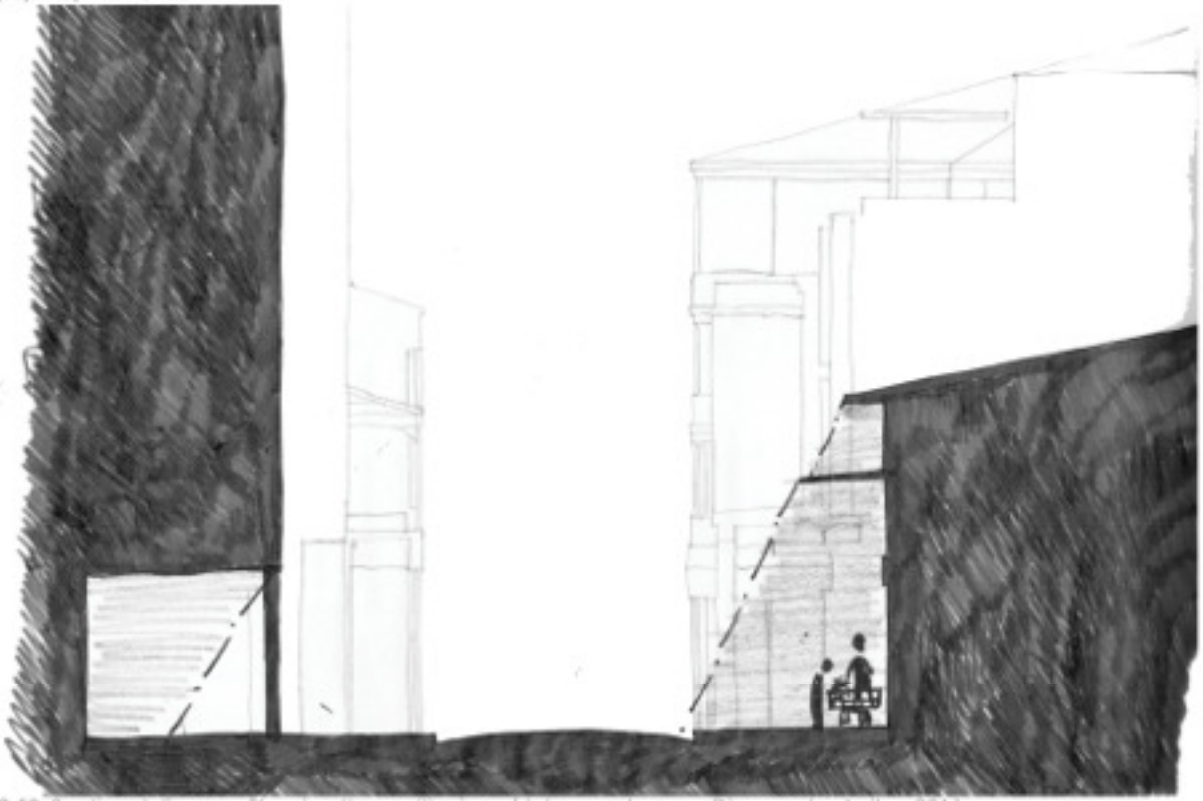


Figure 3.50 .Sectional diagram Showing the positioning of tchova salesmen. Diagram by Author 2011

Figure 3.51. Photograph showing the enclosure and domination of Rua de Bagamoyo by uncontrolled parking.

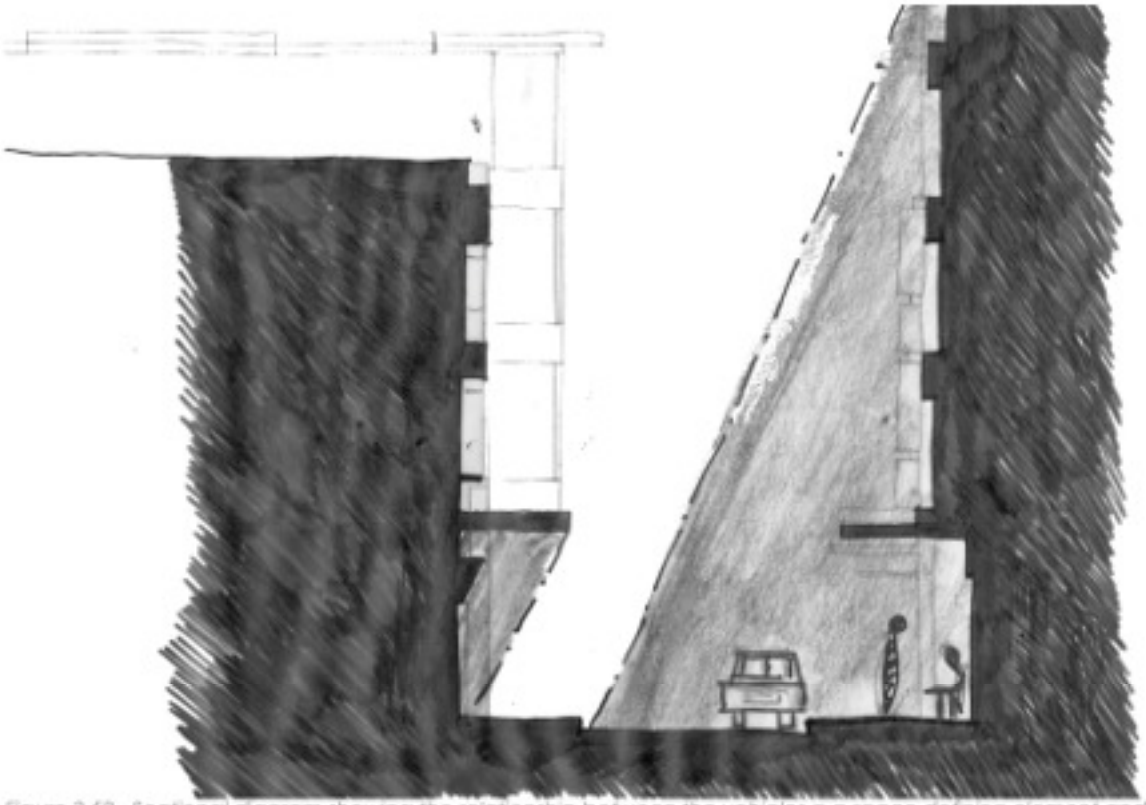


Figure 3.52.. Sectional diagram showing the relationship between the vehicles a a space defining element and the position of a vendor. Diagram by Author 2011

3.7.4 VEHICLES

There is little provision for parking within the Baixa resulting in the sidewalk and street edges being used for parking. Heavy duty vehicles are loaded at the warehouses in towards the north of the street where they are often left overnight and parking occurs throughout the street during the day. The position of a parked car becomes a solid threshold and barrier in the creation of a "room". As mentioned in the study of the static vendor, the relationship between the vendor and position of the vehicle determined how the nature of the pavement is used.

Uncontrolled parking creates an absence of pedestrian walkway on the pavements at some points. These areas the vehicle becomes a hindrance to street-life and activity by restricting pedestrian movement.

Figure 3.53. Photograph illustrating the spacial defining characters of a parked car. Photograph by Author 2011.

3.7.5 SEX WORKERS

The most prevalent evening informal vendors are the sex workers. These ladies occupy recesses in the fabric of the street. Generally they occupy the areas that are protected, in recesses in facade or in areas with a lower arcade height. Many bring chairs on the street or they sit along shop-front ledges or flood barriers. The street has a reputation for being the place where this user is most prevalent.

The ladies only occupy the recesses when they are not moving and soliciting trade. Generally they will sit and watch the passing pedestrians until they notice someone take interest, only then will they approach a potential client.

In the night clubs large mirrors on the dance floors are used to watch for potential clients. this way a lady can dance and entice a potential client and survey for interest. This ritual of solicitation becomes an indirect conversation through movement and facial expression. The nature of the city as a port city, means language is not consistent between the ladies and the potential clients, a visual and figurative communication is necessary.

To illustrate the nature of the client- sex worker engagement a study was done through observation at the Copa cabana night club on Rua de Bagamoyo at the intersection of Rua de Mesquita. Where questions were asked informally of the club owners, waiter and sex workers, from the perspective of a potential client (one of the male Eduardo Mondlane Students assisted in this endeavour)and from the perspective of a curious tourist (played by the author). This was not done in an official survey fashion due to the sensitive nature of sex-work, and the illegality of it.

The ground floor provides a bar a dance floor a few tables and two platforms for dancers. the dancers are hired by the club, they do a strip show but only to their underwear. They are professional dancers and do not engage in sex-work. The ladies that dance on the dance floor are the sex-workers they also

Figure 3.56.Photograph showing the sex- worker client interaction. Photograph by Author 2011

Figure 3.57. Photograph showing street occupation at night. Author 2011

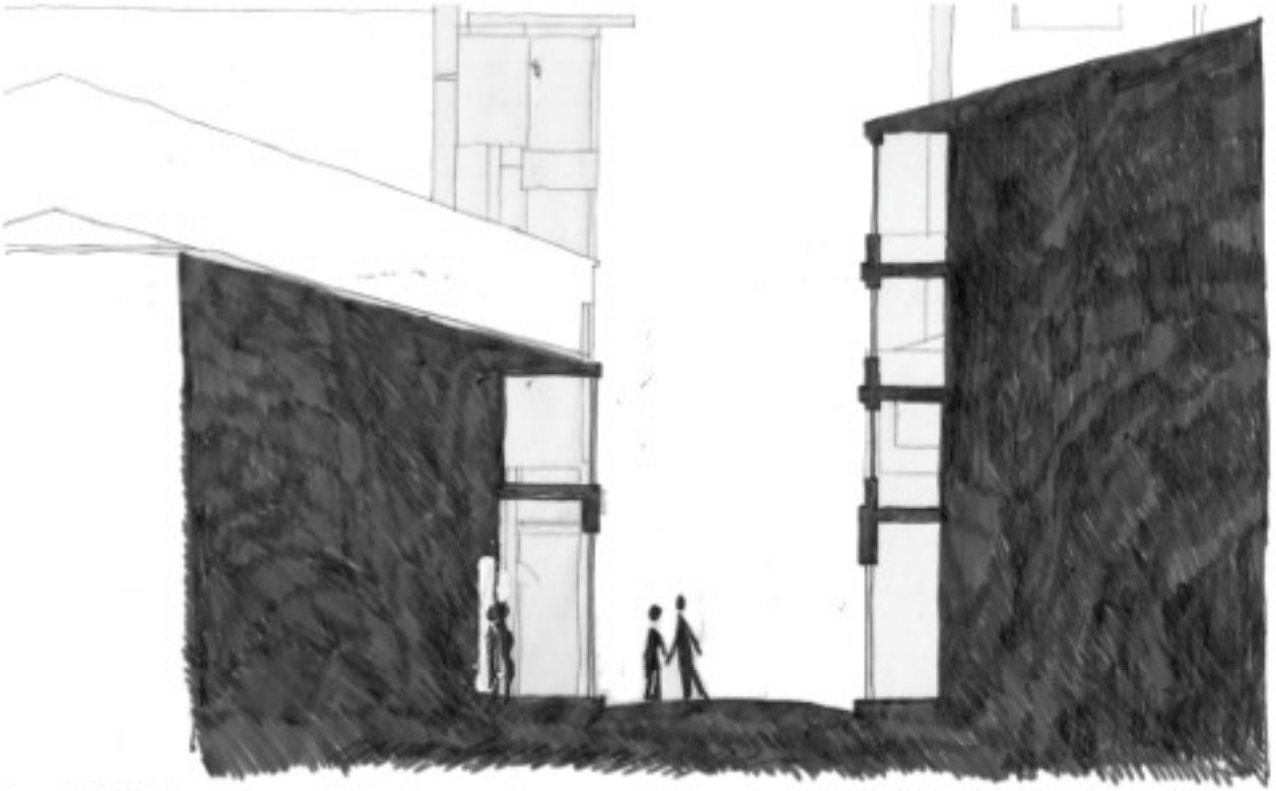


Figure 3.58. Sectional diagram showing the sex workers occupying the recesses in built fabric. Diagram by Author 2011

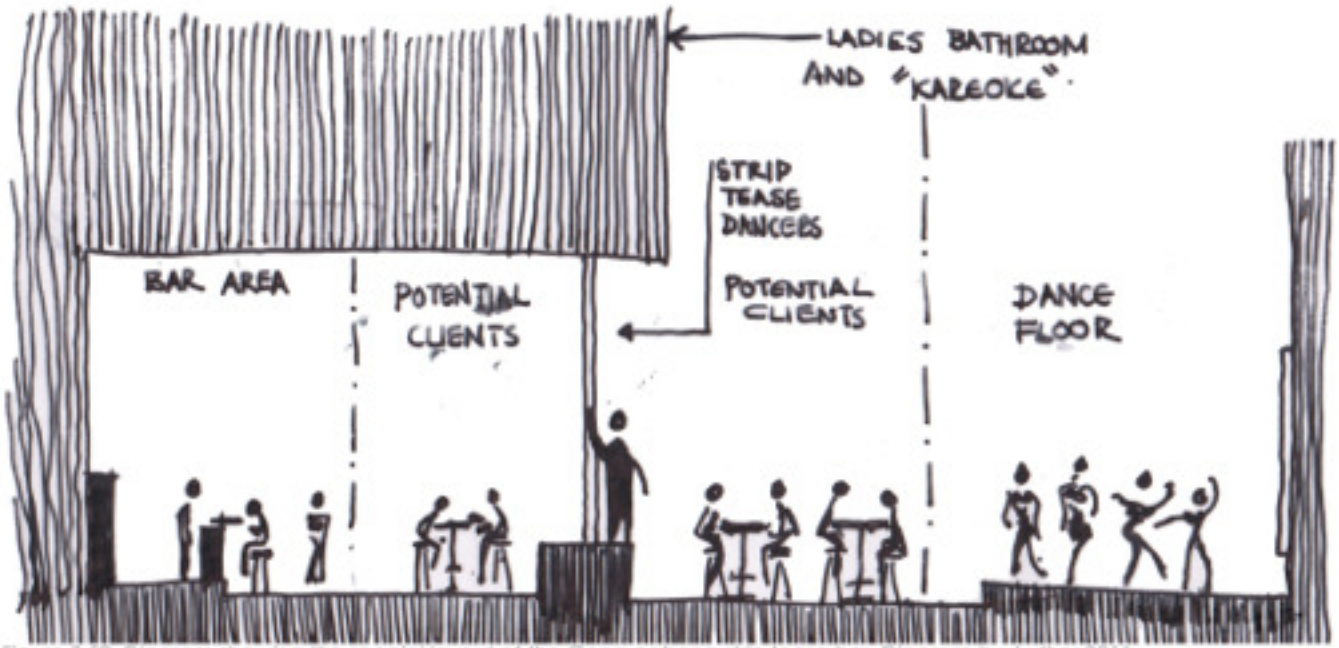


Figure 3.59..Diagram showing the spacial layout of the Copa cabana strip tease bar. Diagram by Author 2011

perform a strip show and they remove everything but in their own capacity for acquiring clientele. The club does not hire or control the movements and business activities of these ladies but does hire out a "karaoke lounge" which is situated on the first floor adjacent to the ladies bathroom. The hotels in the street provide the same service.

Through informal discussion it became apparent that the sex-workers are autonomous in their business engagements and utilise the services provided by the hotel and night- clubs but are not obligated to or managed by the owners of these establishments. It is a mutually beneficial relationship, where the street activity is renowned for the sex-trade bringing business to the night clubs. The night clubs and hotels provide support for the sex-workers.

The upper four floors of the Copa Cabana building consists of offices that have been converted to apartments for use by the dancers, waiters, bar staff and security employed by the club.

Figure 3.60. Photograph showing the position of the Copa Cabana Photograph by Author 2011

Figure 3.61. Sketch showing the sex- workers use of reflective surfaces to indirectly look for clients. Author 2011

Figure 3.62..A sex worker hiding her face from the camera. Photograph by Author 2011.

3.7.5 MOBILE VENDORS AND PEDESTRIANS

Mobile vendors sell anything from airtime to chewing gum, and move throughout the Baixa following concentrations of people. During the day they congregate in the public squares and move along the sidewalks looking for trade opportunities. In Rua de Bagamoyo they sell predominantly beauty products and airtime during the day, and at night the children sell crisps, chewing gum and cigarettes in the street. Mobile nail parlours also exists, which is a man who carries different colour nail varnish and some acetone, and does a sort of manicure and pedicure for a very small fee.

Pedestrians bring energy and vibrancy through the street, pedestrians on a pavement are in transition from one place to the next. The pedestrian takes ownership only in passing and only owns the piece beneath his feet at the moment he takes a step. Vendors and formal retail activities try to attract his attention. Areas with a higher arcade height allow for a slower moving pedestrian where lower volumes feel more crowded and people tend to move quickly through theses spaces.

Figure 3.63..Photographs showing pedestrians. Photograph by Author 2011

Figure 3.64. Mobile Nail parlours,. Photograph by Author 2011

Figure 3.65..A trader sells cooked food using mobile cooking equipment. Photograph by Author 2011

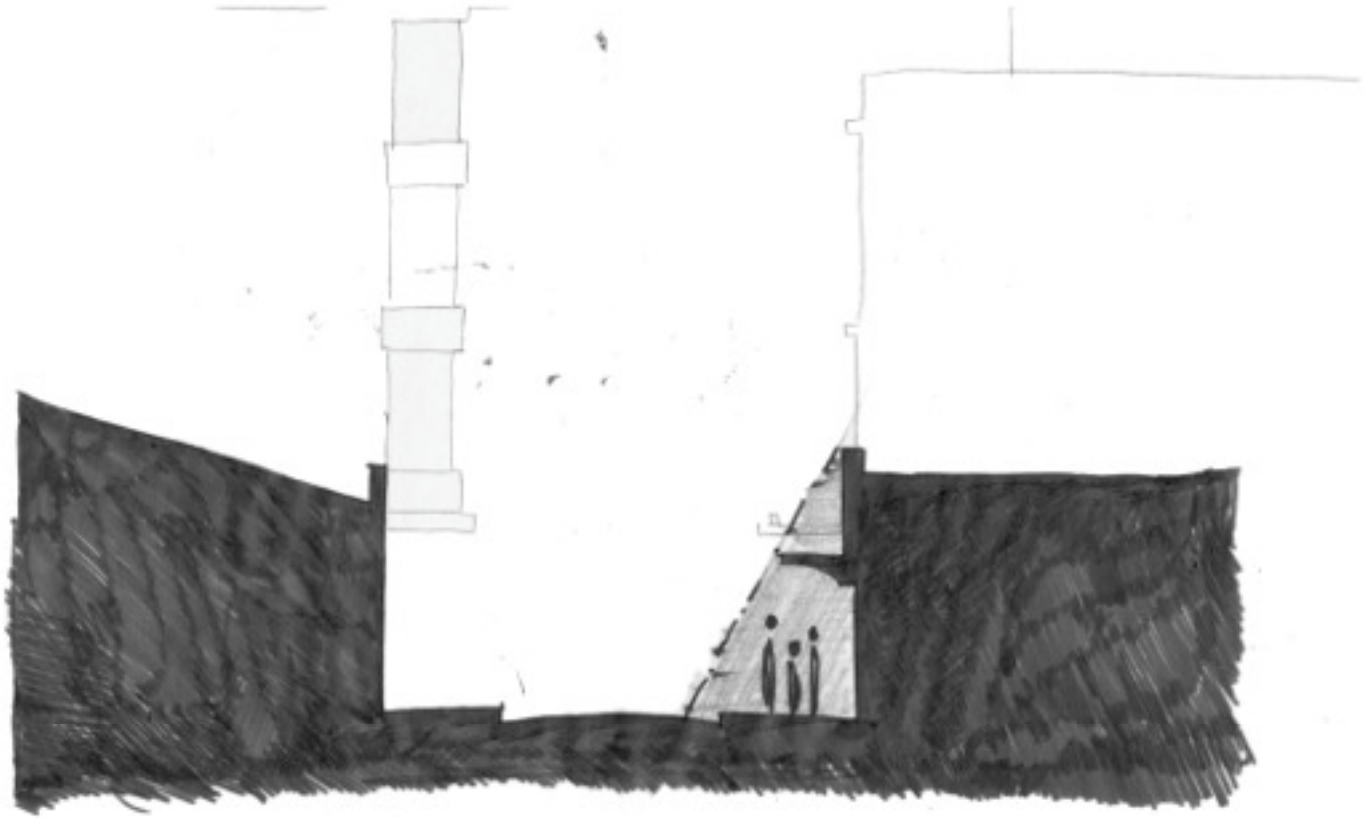
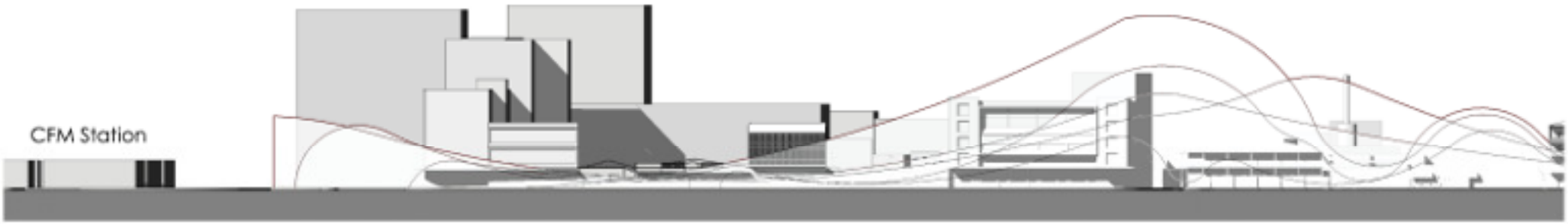


Figure 3.66. Sectional Diagram Showing pedestrians preference to walk on the northern side of the street in great building shadows..Photograph by Author 2011


CFM Station

3.8 HARMONIC ANALYSIS

For theoretical basis refer to section 2. 7 for urban application refer to section 5. 9

INTRODUCTION

Harmonic analysis was conducted in terms of light, sound and activity, these three elements then are harmonics of the complex energy contained in Rua de Bagamoyo. The harmonics are not regular multiples in space and will need to be manipulated to create equilibrium.

The energies were mapped during the day and at night to show the differences in energy and how this changes over a 24-hour period.

The highest concentrations do tend to coincide, sound being part of the way human energy is expelled and light providing a place for

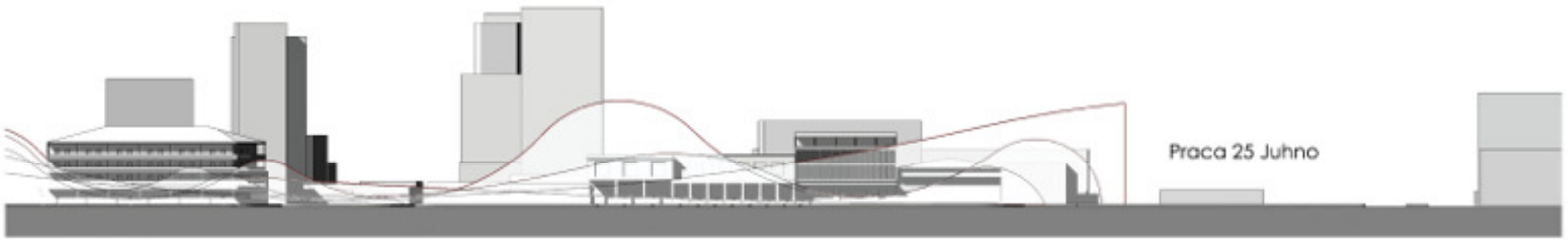


Figure 3.67..Graphic Modelling of Light, Sound and Activity harmonics. Photograph by Author 2011

Figure 3.68..Street lights suspended and attached to buildings Photograph by Author 2011

Figure 3.69..STanding street lights on poles. Photograph by Author 2011

Figure 3.70. Lights in arcades light the pavement .Photograph by Author 2011

Figure 3.71. Signage as lighting Photograph by Author 2011

congregation.

3.8.1 LIGHT

The differences between day and night light occurs not only in the abundance of natural light from the sun during the day and the lack thereof at night, but also in the manner in which light is directed and affects the urban form. How buildings respond to the sun during the day and how they provide light during the night are then key in how the city reacts to its environment socially and climatically.

DAY TIME:

The sun is a single source of light, this light is then produced external to the built form, but this source is not static as the diurnal cycle the sun moves across the sky resulting in the formation of shadows at different points in the street and which that the movement of activities and collections of people regarding the position of the shade.

Arcaded structures in the public realm benefit the public in the creation of shade.

The internal light quality of buildings then responds directly to the position of openings within the facades. The street is then more concentrated with higher percentages of full sunlight than the internal spaces of the buildings. This directly corresponds with the number of users in the buildings vs those within the street, and corresponds to the public-private relationships as indicated in the Nolli maps fig.

NIGHT TIME:

The street is lit artificially from many sources, most of which are internal to the buildings as light spills out from the openings that during the day were collecting daylight. The light is then static, there is no movement of artificial lights and in the current functioning of the street the street is more occupied and is the main publicly accessible space. The collection of people now no longer corresponds to the position of shadows

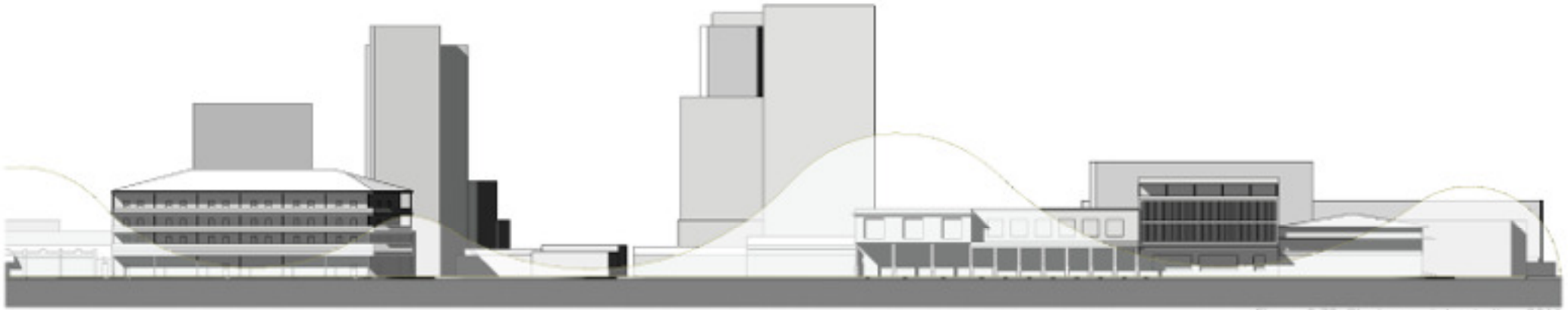


Figure 3.72. Photograph by Author 2011

Figure 3.73. View towards Mercado Central Rua de Mesquita. Showing proximity to the mosque Photograph by Author 2011

Figure 3.74 CFM train station and transport hub . Photograph by Author 2011

Figure 3.75 National School of Dance. Photograph by Author 2011

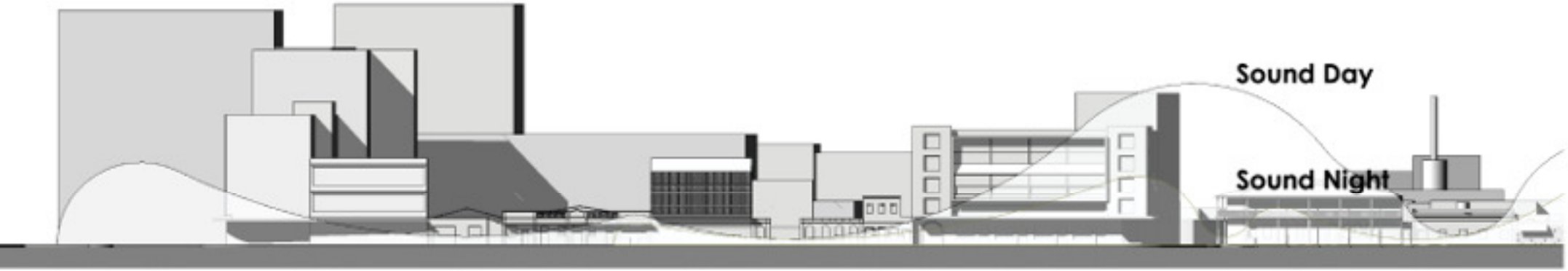


Figure 3.77 Night life activities where music is played. Photograph by Author 2011

Figure 3.76 Car washing business where music played from cellphones and radios..Photograph by Author 2011

but rather to the security of a well lit area.

Artificial lights within the arcades create the safety beneath them.

3.8.2 SOUND

The transition of sound throughout a 24-hour period in *Rua de Bagamoyo* creates an experience of place. The day starts at sunrise with the call to prayer from the mosque which can be heard across the entire Baixa, the morning atmospheric sounds increase as traffic fills the city and pedestrians and traders enter the Baixa from the various transport nodes and travelling through *Rua de Bagamoyo*. *Praca de Trabalhdores* is a large transport interchange with rail transport meeting buses and a few chapas.

Once again the change in sound is marked by the midday call to prayer. Throughout the afternoon the dance school has classes with classical music reaching the entire central part of the street, overlapping the classical, car washers ply music with their cell phones towards the east end near *Praca de 25 Juhno* into the early evening. The change is once again marked at sunset by the call to prayer. Late afternoon bars open as the sun sets playing various music. The intensity of sound increases as

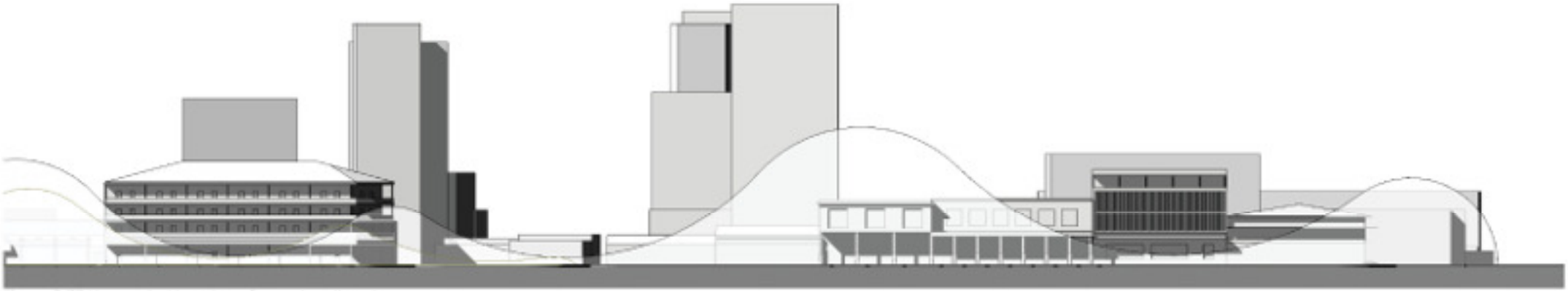


Figure 3.77 Harmonic Mapping of sound on the place.

Figure 3.78 Vendors sell food in the shade. Photograph by Author 2011

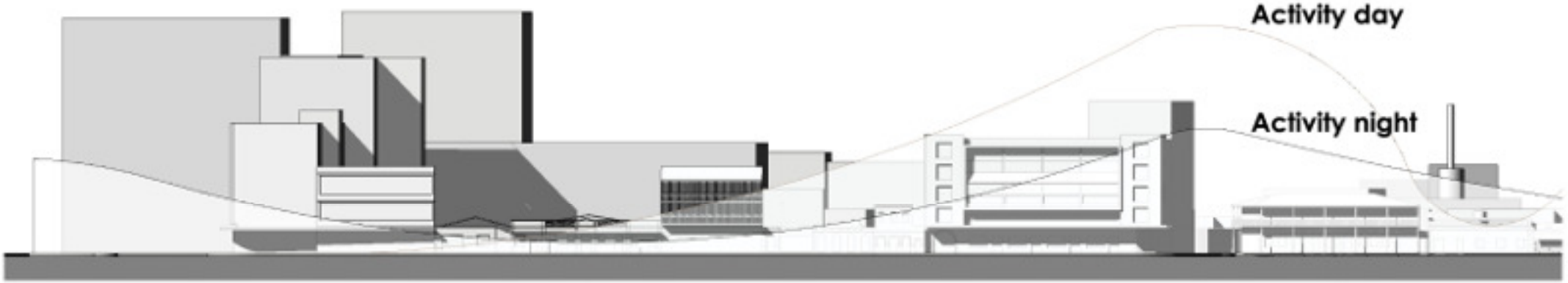


Figure 3.79 Night Vendors concentrated in well lit spaces Photograph by Author 2011

the night clubs open.

Late at night the night clubs control the sound on the street, which dies down towards the morning and as the last bar closes at around sunrise, the call to prayer is heard again, marking the new day.

3.8.3 ACTIVITY

Activity in general is determined by the programme in the buildings as well as the position of shade during the day. At night the activity is centred in well lit areas around the small pockets of active buildings. Sound and light draw the users into the centre of *Rua de Bagamoyo*. Very little activity occurs at the edges as the Pracas are vast expanses, the intimacy of street contains the activity.

Through programmatic analysis of the site it is clear that the existing functionalities that inhabit the existing built fabric are more conducive to daytime functions with small pockets of night time

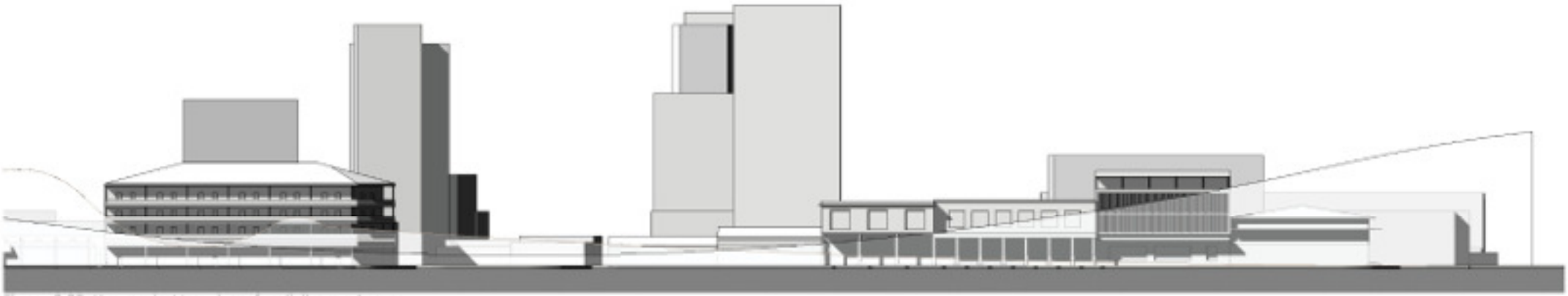


Figure 3.80 Harmonic Mapping of activity on place

activities but the most apparent factor within this environmental context is the change in light.

Generally during the day concentrations of activity happen in the shade and at night the same occurs in the light.

3 .9 CONCLUSION

Analysis of the context indicates that the energy of the existing that can be activated consists of the existing entertainment facilities, night life activities, cultural functions and the perpetuation of an adult night time character.

Weaknesses noted would be the time of the day where there are no programmes to allow continuity of activity, as well as the abundance of abandoned buildings and vacant sites that provide no positive contribution to the character of the street.

Each section of the analysis raises its own concerns and responses. The aesthetic and visual contextualism gives clues as to the type of building to be constructed in terms of form, texture and scale. The heritage and photographic analysis promotes concerns for light, building-street interface and programme.

The analysis of the users communicates the same concern for building- pavement -street interface and the harmonics indicates a method of creating equilibrium using the existing energy to revitalise the street.

CHAPTER 4

URBAN PRECEDENT STUDIES

4.1 Case Study -Night life and the street

An exploration of the relationship between street life and night life in greenside Johannesburg

"Most of the activities close down at night; those which stay open won't do much for the night life of the city unless they are together"(Alexander, 1978: 180)

A street in Greenside

A node of development and mixed-use functionality exists within the residential suburb of Greenside Johannesburg. This development is concentrated along Gleneagles Road and dissipates along Greenway . The street has always been a most retail node than the surrounding area but in recent years the place has evolved into a vibrant night life and recreational hub.

The street has grown incrementally over time and is currently a diverse nightlife promenade with a multitude of functions providing for the needs of a "typical night-out".

If a rough estimate of a typical night-out[1] is detailed on a time line an evening begins with the ritual of a communal meal that engages with a social space, involving people watching and promenade. This continues into a later group that includes social drinking and more relaxed recreational activities , this transcends into louder party behaviour and most dancing occurs later into evening. The evening then declines back into a more relaxed social drinking environment and culminates with the re-introduction of food.

Flg 4.1 Google earth Aerial Photograph showing how Gleaneagles road relates to its context.

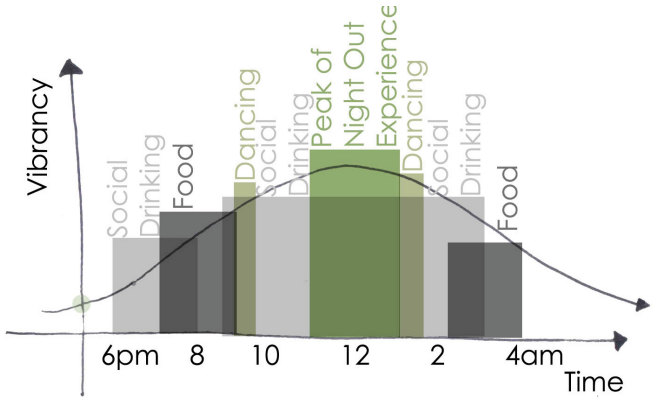


FIg 4.3 Typical night out as indicated by user that are mostly single between the ages of 18-30 but within this the timeline the users will change and different groups occupy spaces at different times.

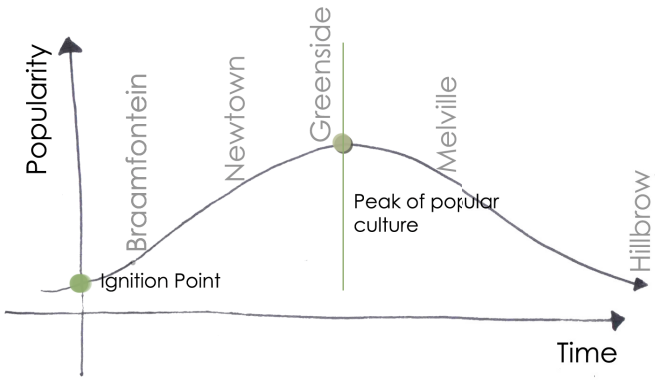


Fig 4.3 Timeline showing organic lifecycle of nightlife within the city

If a timeline of the night life within a street extrapolated onto a larger scale to determine the life-cycle of the nightlife of a street it falls into a similar pattern. If Johannesburg's active night life streets are placed onto this graph is becomes apparent that greenside is currently at its height. The challenge in understand how this organic process of popularity and destination develops is understanding the ignition point of the growth curve.

Gin restaurant owner states that it takes three establishments to create a destination street or night area. If the streets' development is mapped it is apparent that the introduction GIN a restaurant and music hall is the closest to an ignition point that can be found on the street.

Fig 4.4 Stiched Photograph of street facing facade of Gleaneagles road. Photograph by Author 2011

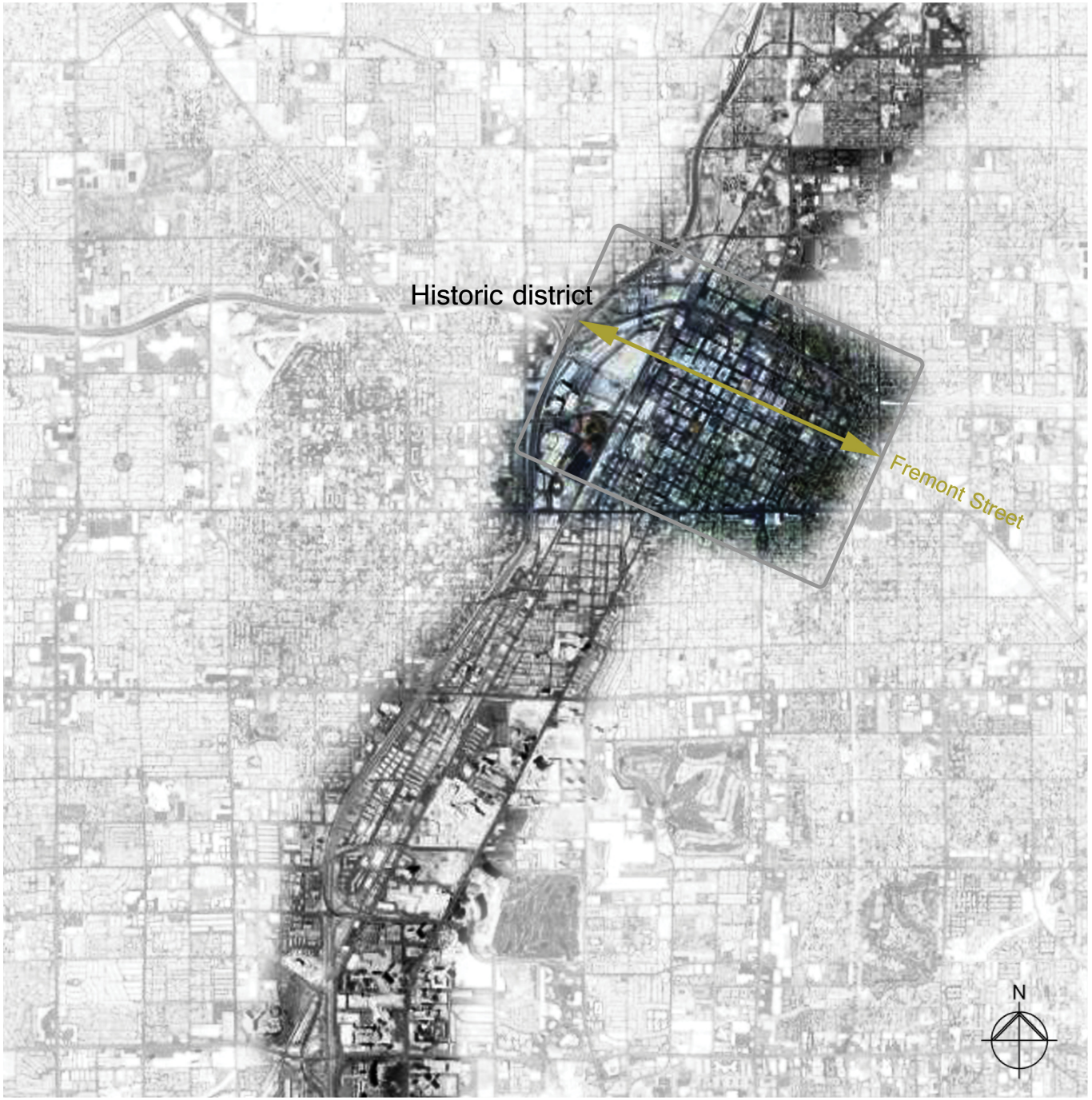


Figure 4.5 Strip Development of Las Vegas (Image Google Earth 2010)

4.2 CASE STUDY-LAS VEGAS

Gaming and the success of gaming as an urban catalyst for development can be investigated through a study of Las Vegas, Nevada in the United states of America,

Las Vegas, can be described as a commercial "Strip City" developed from one major axis that now contains a large concentration of casinos.

"*During the 1960s, a phenomenon led by Howard Hughes, occurs in Las Vegas. Corporations are building and/or buying hotel/casino properties. They have the capital necessary and the profitability makes entrance into the casino industry extremely attractive. Gambling becomes "gaming" and starts the transition into legitimate business.*" (City of Las Vegas, 2011

Robert Venturi et al in *Learning from Las Vegas: The Forgotten Symbolism of Architectural Form (1972),* provides a thorough analysis of the Strip in the 1970,s . He uses Nolli's Map of Rome as precedent for mapping private and public space (Venturi suggests that the "atmospheric qualities of Las Vegas"(VENTURI et al 1972) are not easily quantified in functional maps since the"atmosphere" is inclusive of illumination, animation and iconology.

This mapping of "atmosphere" by figure ground studies of different "components" in the system provides an architectural vocabulary describing the spaces that constitute that atmosphere that is particular to place.

Fremont Street, being one of the first streets developed in Las Vegas serves as a suitable precedent for describing how an architectural intervention was used to revitalise an historic precinct, which was falling into a state of declline. It's relevance also lies in the programme it offers.

Venturis mapping of the strip uses variuos aspects as criteria to asses, the strip development, which includes illumination, ceremonial spaces and the presence of the car as contributing to its atmosphere." (VENTURI et al 1972) "Change and Permanence of the architecture is effected by the competitive branding and signage, giving a fast paced flux, of facade treatments,interest and diversity . (VENTURI et al, 1972)

Within the context of Maputo, the elements providing degrees of fluidity and permanence can be light, the informal economy and its effects on the transitional nature of threshold space.

The "decorated shed" of signage in globalized Las Vegas can be interpreted in the context of Maputo as a series of transforming veils on the threatened permanence of historic Baixa.

Figure 4.6 3-dimensional building as a per Google Earth (2010) showing the scale of buildings along the strip

ASPHALT

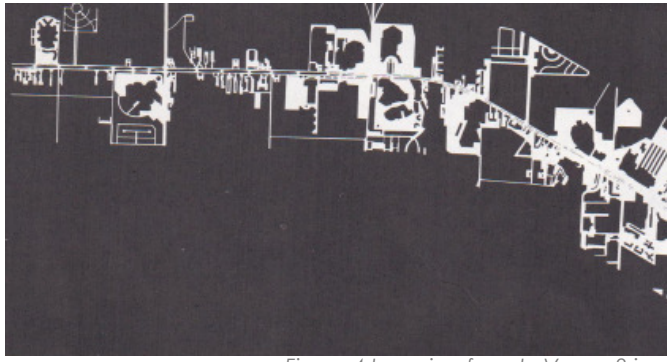


Figure 4.Learning from Ls Vegas 2.jpg

ILLUMINATION

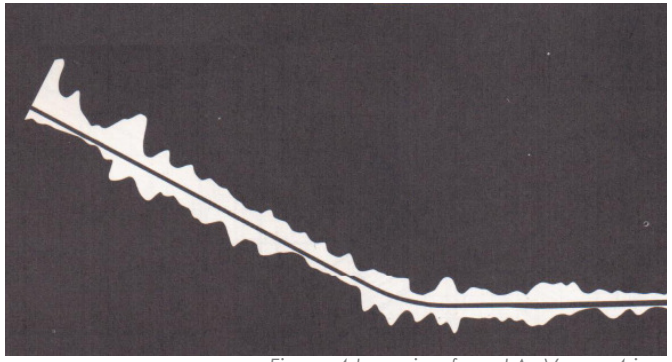


Figure 4.Learning from LAs Vegas 4.jpg

CEREMONIAL SPACE

Figure 4.Learning from Las Vegas.jpg

Figure 4.Fremont Street Street Slots.jpg

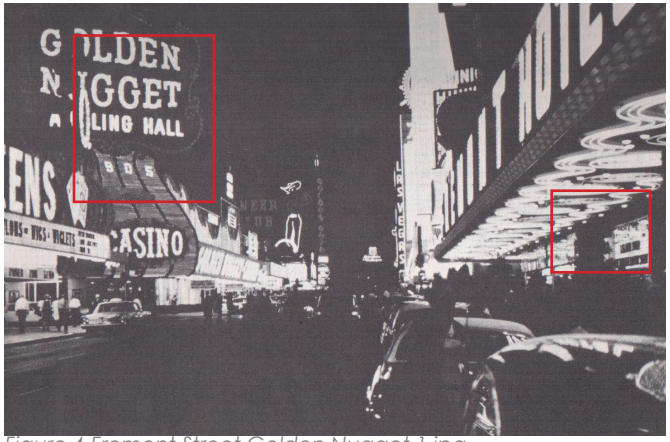


Figure 4.Fremont Street Golden Nugget 1.jpg

Figure 4.goldennugget_t466.jpg

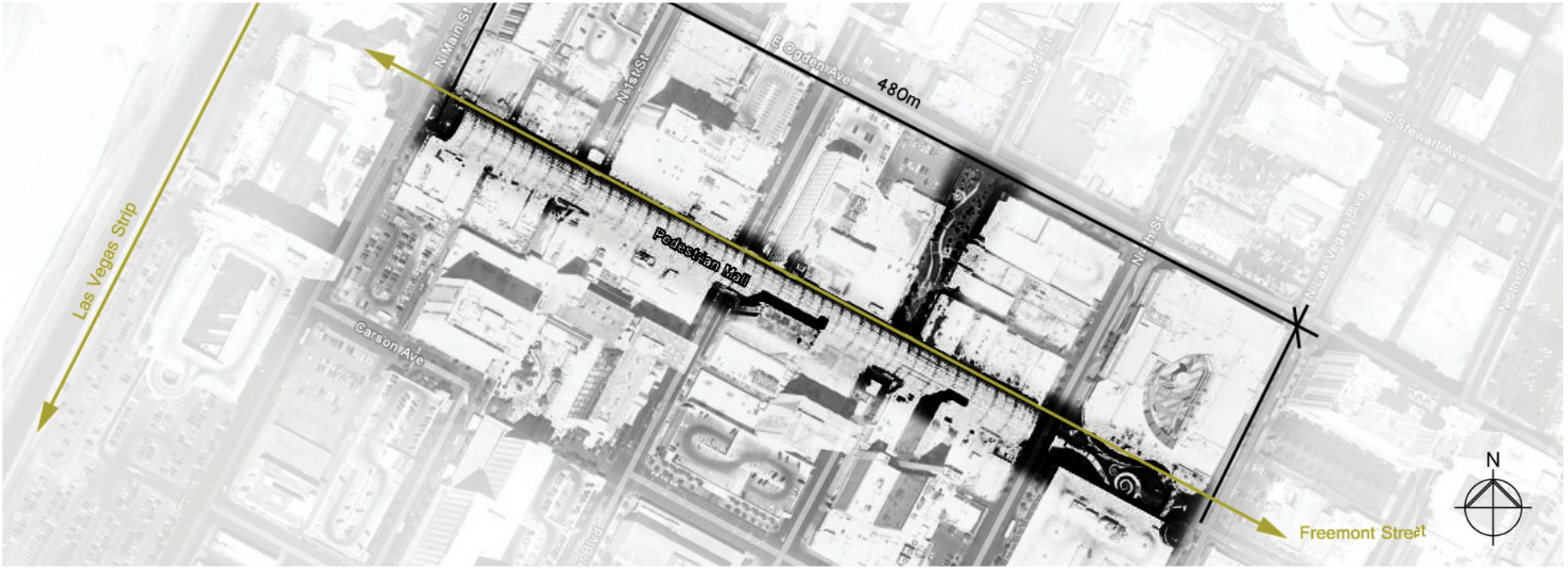


Figure 4.8 Photo- Montage of images showing the interior space of the Fremont Street Experience see Fig list for References

4.2.1 FREMONT STREET EXPERIENCE

Architect(s): The Jerde Partnership
Address: Fremont St. from Main to 4th
Year: 1995

"The Fremont Street Experience was an attempt to redevelop and rejuvenate downtown Las Vegas. The popularity of the family-oriented Strip and the aging of downtown casinos kept many visitors away. The addition of the four-block-long, 90-foot-high space frame has transformed Fremont Street into one large casino with a pedestrian mall. Concerts and other events are held at the Experience, in addition to the light show that plays hourly in the evenings. Overall, the project has been considered a success."(Fuentes, 2003)

The Fremont street experience covers approximately 480m of street with a convex roof structure used as a display screen. This acts as a gimmick to attract potential users.

Respect to heritage of the historic buildings is apparent in the way in which the new structure is supported solely on its own columns and visible spaces exist between existing and the new structure.

The structure is entirely above the existing and does not interfere with the view to the top of existing buildings and encloses all the street facades within the covered structure.

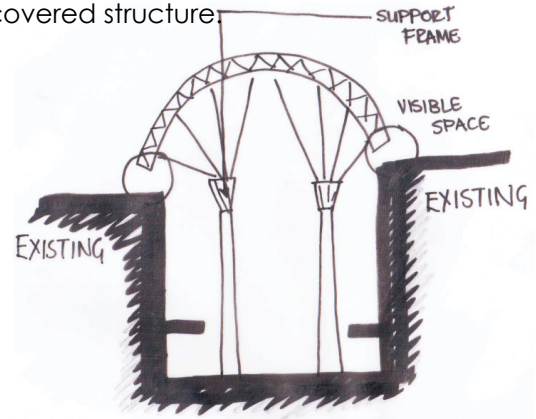


Figure 4.11 Diagram showing connections to existing.

Figure 4.9 Photograph showing Fremont street experience from east. Photograph. Feurtes (2003)

4.3 CASE STUDY_ SMALL STREET MALL, JOHANNESBURG

Spurred by similar intentions of the Fremont Street Experience, small street was converted into a pedestrian mall in the early 1990's to compete with the new enclosed shopping malls.

The street connects the Johannesburg Sun Hotel to the Carlton Centre Mall, and Office block to the south.

Small Street mall is characterized by pockets of space that fit organically against the building facade. The roof plane allows for a change in quality of space through its irregular openings and termination into a larger civic space.

The types of programmes along the street vary from culturally significant buildings, to low end thrift stores, intimate small stores and larger multi volumes with parking concealed below street level.

Within the context of the Baixa, the roof plane as a veiling element for modifying light quality, atmosphere, repetition and drama in the street experience, can be a way of highlighting or enhancing existing building fabric, within public everyday space.

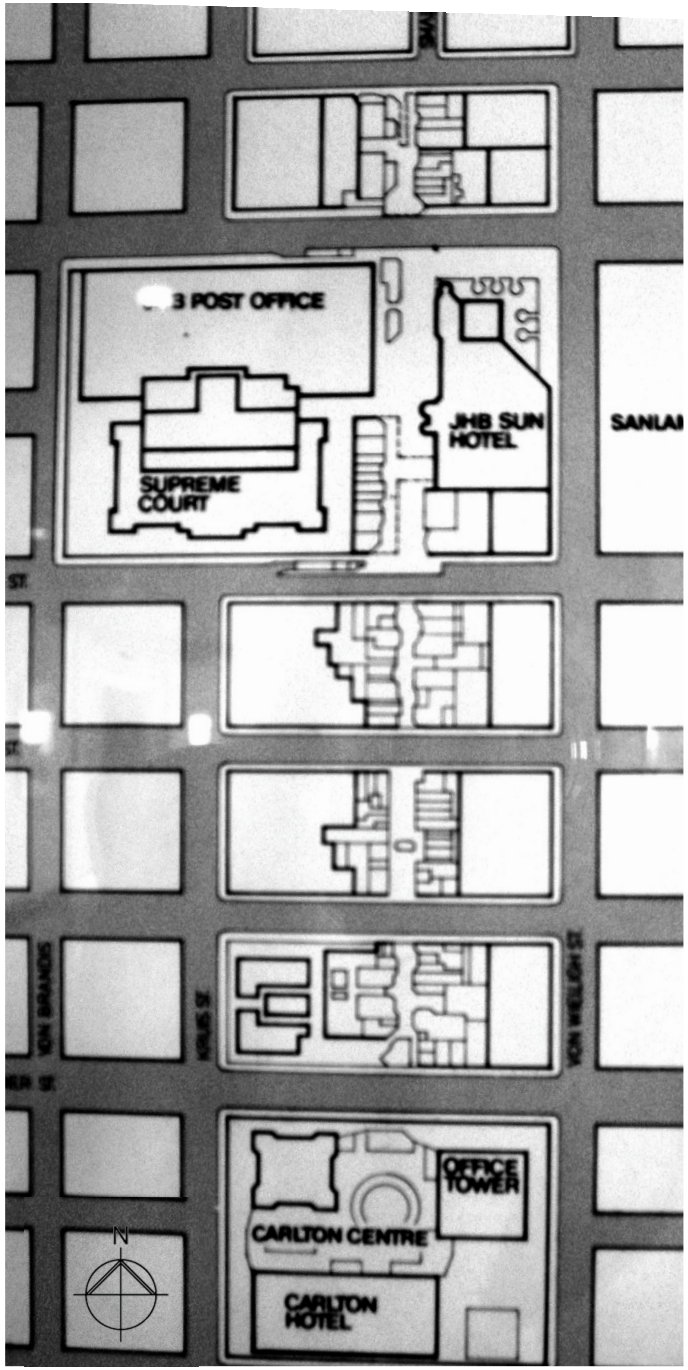


Figure 4.IMG_4115.JPG

The changing roof planes create different moods and intensity in the urban space.

Within the context of Maputo the roof plane may play a crucial role as being a sensitive intervention to *Rua de Bagamoyo* , that alters the mood of a space with little damage to the historical fabric itself.

CHAPTER 5

URBAN INTERVENTION

Chapter 5_Urban Concept.

5.1 Introduction

The breakdown of this chapter refers to chapter 3 and uses the results of the analysis to determine the decisions made.

"*...in order to do something big – to think globally and act globally – one starts with something small and one starts where it counts. Practice, then, is about making the ordinary special and the special more widely accessible – expanding the boundaries of understanding and possibility with vision and common sense*." (HAMDI, 2004: xix)

In the context of Baixa to start small and where it counts means choosing a site that would have the greatest effect on the entire area.

It seems obvious to address the area where the greatest release of positive energy can be achieved. Within Baixa this in is within the historical "old Baixa", within that area *Rua de Bagamoyo* specifically has the most negative reputations but also a wealth of heritage value, historical buildings and activity, as established in chapter three.

Conceptually an "acupunctural" approach is taken to rejuvenate this one core space and based on the precedent of Gleneagles road in Greenside, one small change can rejuvenate an entire precinct.

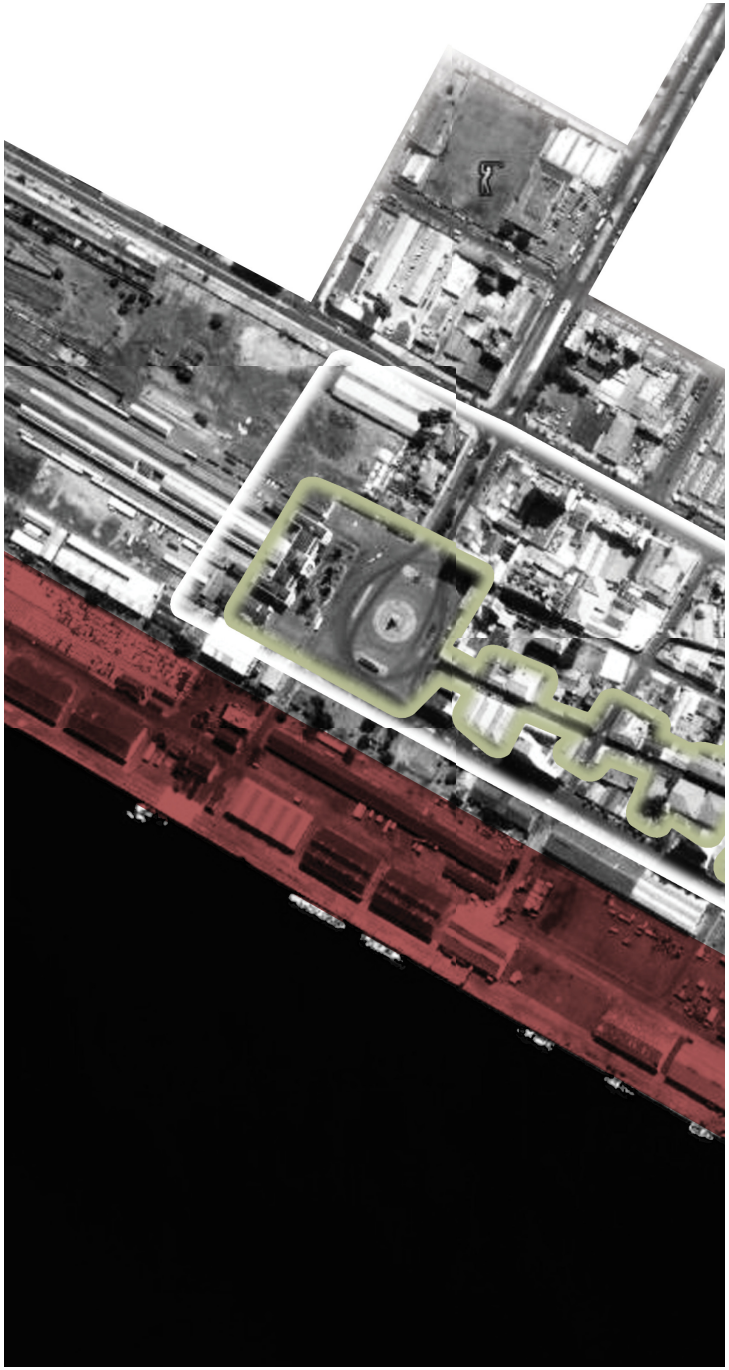


Figure 5.1 .Map Showing the position of Rua de Bagamoyo in context of the Baixa . Google Earth Image February 2011

5.2 General Locale and Specific Siting

Cities change and evolve through time responding to a myriad of changing environmental factors. In Maputo the largest changes have historically been seen through the socio-political changes within the country and currently there are two large factors influencing flux within the city, population increase being a global concern as well as the positive improvement of the Mozambican economy.

"Since peace came in 1992, the image of Mozambique has been transformed from that of an economic basket case to an African "success story."" (United Nations, 2000)

These two factors are the drivers for development and expansion of city. However this city as an African highly informal city and development will be increasingly difficult to anticipate given the nature of informality.

In chapter 3 it was established that Mozambique is still one of the poorest countries in the world, but with the opportunity and likelihood of improvement.

Financial implications can therefore not be ignored and an intervention to rejuvenate a Mozambican city should include an element of economic stimulus.

Maputo specifically is within close proximity to South Africa a much wealthier country, this relationship already fosters increased tourism since the advent of peace in Mozambique.

Being a port city, Maputo is a trade environment where many of the users are not residents, it becomes a place of exchange, transition and recreation.

5.3 Type in Programme

It has been established that there is a disjunction between day and night activity.

Jan Gehl mentions the idea of the 24 hours city in his exploration of the improvements done to Melbourne from 1994 to 2004 in the publication; *Places for people. "With today's more portable work practices and flexible schedules, people also want ready access to recreation on a 'just-in-time' basis – and nightlife is considered a vital component of this lifestyle and amenity mix."* (GEHL, 2004: 42)

To Improve the diversity and vibrancy of the street there should be less of a contrast within the variation between a day-time Nolli- map and the corresponding night-time map, as well as well as an increased public accessibility on the ground plane, allowing for an increase in the density and use of the space.

The analysis concluded that the functional vibrancy that exists within Rua de Bagamoyo is primarily that of recreation and specifically night- life entertainment. This is part of the Genius Loci of the place and can be used as a generator for rejuvenation.

5.4 Spaces of opportunity

Due to the fragmented nature of the site and the spaces defined in the analysis as areas for engagement, an acupunctural approach can be achieved in few small interventions to create continuity.

This allows for an incrementality of growth and redevelopment within a designated framework. This also allows for multiple owners and many investment opportunities.

Christopher Alexander in *A pattern language* states that; *"Most of the city's activities close down at night; those which stay open won't do much for the night life of the city unless they are together."*(ALEXANDER and al, 1977: 180)

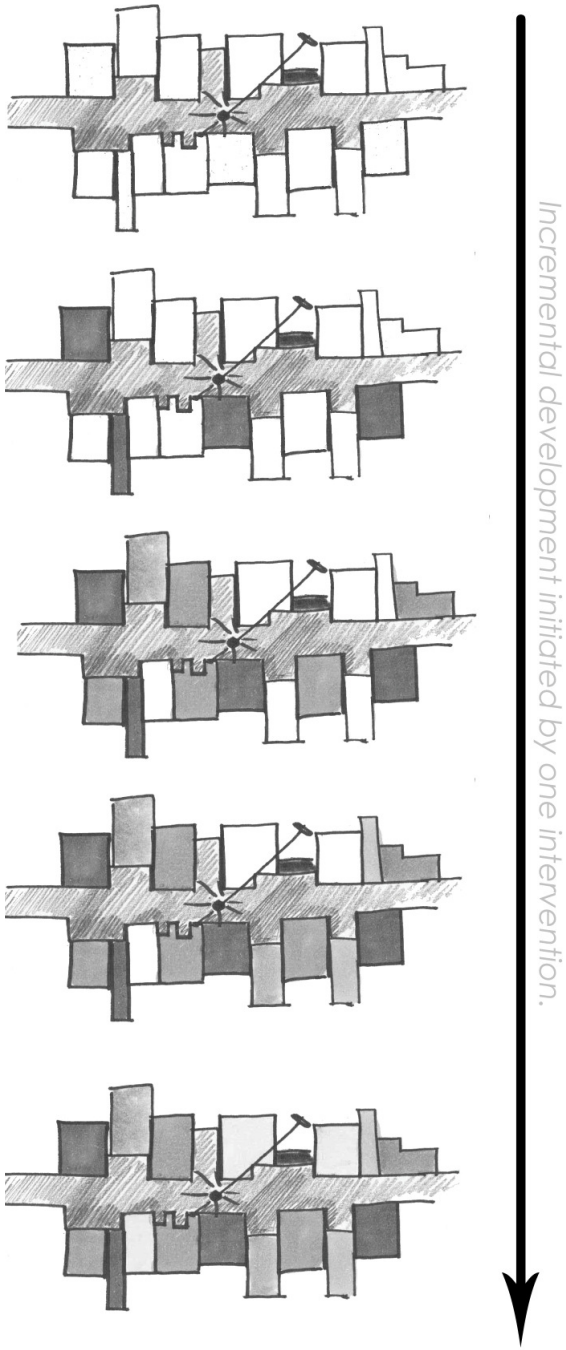


Figure 5.2 Diagram showing the concept of incrementality. Diagram by Author 2011

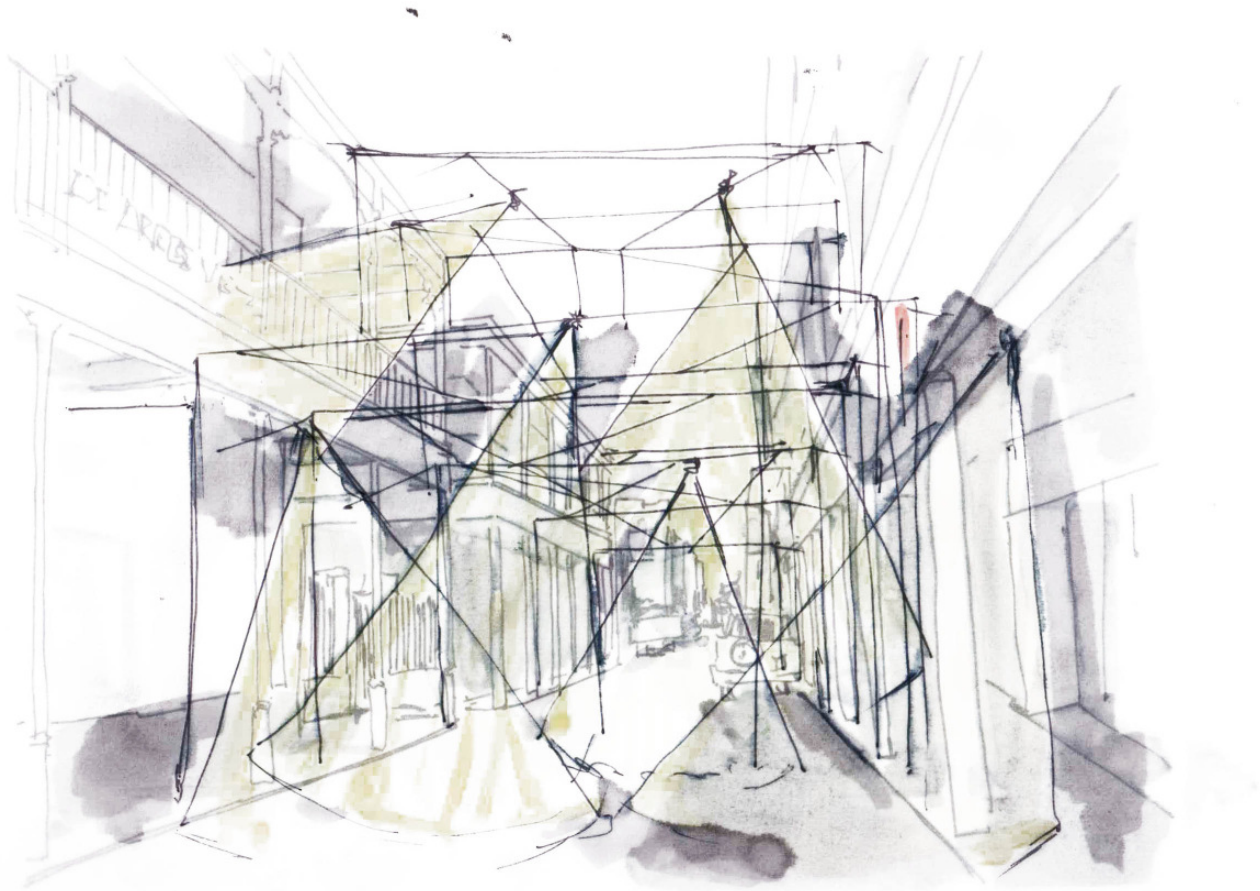


Figure 5.3 Conceptual sketch of creating atmoshere with light Sketch by Author 2011

5.5 Aesthetic

The varied aesthetic and richness of the palimpsest in the built heritage creates a vibrancy and atmospheric character, but as noted in the problem statement, there is a lack of continuity.

The challenge presented is to create continuity without the destruction of the diversity.

5.5.1 Ground Plane

The varying textures apparent in the analysis *(refer to Section 3.4.2)* add to the diversity and vibrancy of place as part of the individual buildings and extend as far as the sidewalk treatment in some cases. The road surface is currently uniform asphalt and has lost its reflective through weathering. The asphalt is not unique to the street.

To create continuity within the street a new type of paving is proposed using new materials that respond to the current materials used in the expanding Maputo metropolitan. *(Refer to Section 5.13.7)*

To create a more pedestrian environment without restricting the movement of the vehicle this treatment can be applied to the street.

"Different traffic loads can be reflected in different flooring materials and construction methods."(CARMONA et al, 2003: 159) To create a more pedestrian environment a textured paving is proposed for *Rua de Bagamoyo* which will provide a differentiation to the more vehicular roads.

5.5.2 Light

Street lighting creates a sense of safety as well as atmosphere. Due to the diversity of the street this cannot be a continuous solution and needs to be varied according to programme and the type of atmosphere needed at each point in the street. The lighting techniques should refer to the context.

"The lighting also improved residents' surveillance potential and resulting feelings of security. " (NEWMAN,1996:69)

5.5.3 Shadow

Maputo has a tropical climate, and as unified, the activity occurs during the day wherever there is shade. Light and shadow define space within the urban setting.

" A city reveals itself in the shadows that its buildings cast.."(LIBESKIND, 2004: 54)

5.6 Size, Shape and Proportion

It was determined that the character of diversity is heightened by the complexity of scale in the proportional differences in buildings.

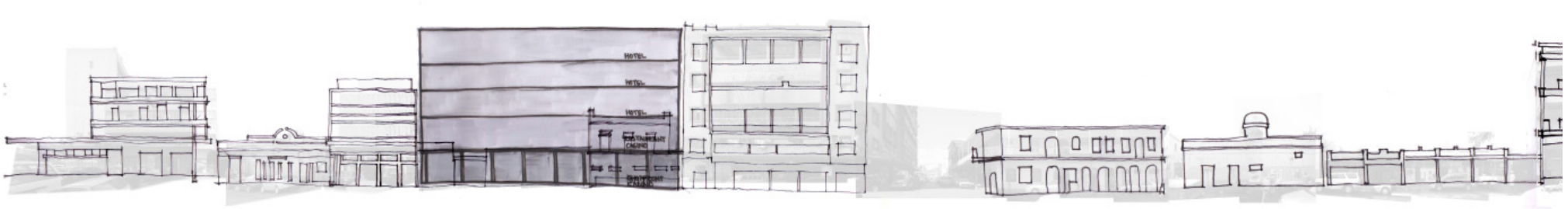
This complexity should remain and therefore no height restrictions of buildings can be allowed except that they should refer to the adjacent structures. The street facades need to be within a human scale of maximum five storeys.

5.7 Historical significance

The significance established through the photographic exploration placed a strong heritage value of the endurance of prostitution and night-life entertainment, This informs a future programme heightening this existing.

The street currently contains strip- bars, theatres, hotels, night clubs, restaurants and bars, most of which are in a state of decline. Historically a few cabaret shows existed but these have been replaced by the strip clubs, which is essentially a less romantic version of the same thing.

It is clear that the genius-loci of night life and entertainment remains but a new programme needs to be introduced as that "small change" that releases the inherent energy. For full programme requirements *(Refer to section 5.12 for requirements and 6.2 for specific application in place)*



5.8 Owners of the street

Streets, roads and spaces between buildings are an important part of the public realm,.Where streets act as arteries for pedestrian and vehicular movement they become places of exchange and transition.

Jane Jacobs describes the necessities of a successful street and introduces the ideas by mentioning strangers, this means the street needs to be legible to anyone.

"A city street equipped to handle strangers, and to make a safety asset, in itself, our of the presence of strangers, as the streets of successful city neighborhoods always do, must have three main qualities:

A clear demarcation between public and private.

There must be eyes upon the street, eyes belonging to those we might call the natural proprietors of the street. To create safety for strangers and residents.

The sidewalk must have users on it fairly continuously." (JACOBS, 1961: 349)

"The most important objective of introducing active edges along the city streets is to ensure that ground-floor facades appeal to pedestrians and contribute good lighting and levels of interest and activity." (GEHL, 2004: 9)

Both Jane Jacobs agree that ground floor activity and pedestrian traffic create sustainable street life activity and both refer to safety, Jacobs mentioning passive surveillance and Gehl speaking of lighting.

The street-building-human interface as explored in chapter 3 results in the necessity of the allowance of parking on street edges. This is also proposed by Elizabeth Burton and Lynne Mitchell in the book: *Inclusive Design, Streets for Life(2006) "On-street parking can also provide an extra barrier between pedestrians and* traffic and helps to slow the traffic down."

The importance of shade in the climatic environment as described in section 3. 7 implies that an Provision should be made for shade and light as an extension into the street as well as allowing for recesses and shadows and places for protection of the street user.

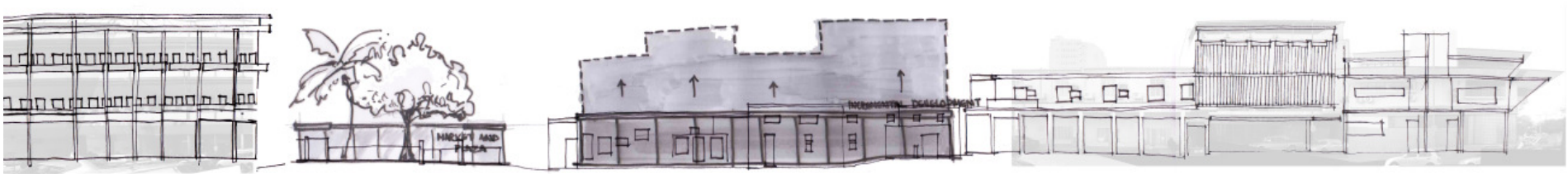


Figure 5.4 Drawing showing possible interventions as masses with the street view elevation on the southern facade. Drawing C.Filipe 2011

5.9 Harmonics

The harmonic analysis is used to inform how energy and light are controlled within Rua de Bagamoyo to create an equilibrium.

Equilibrium should not be confused with equality, Equilibrium allows things to have balance in a state of flux, where equality implies a sameness.

"*Successful Environments offer equilibrium* ." (HABRAKEN, 2000: 19)

The irregular harmonics found in the analysis should then be manipulated by the positioning of programmes that have varying degrees of energy control. This refers to light, sound and activity.

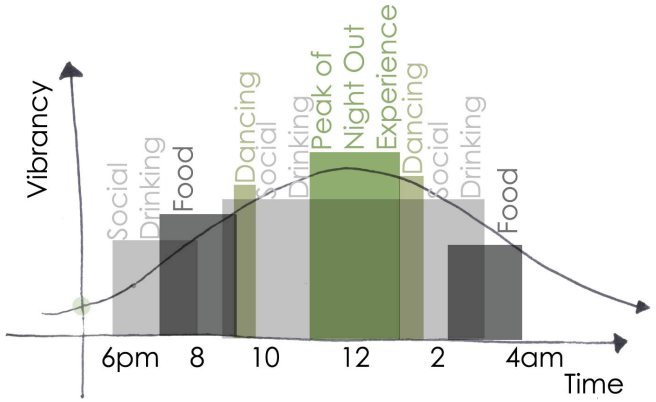


Figure 5.5 Graph showing the process of a big night out through time. Refer to Chapter 4 Greenside case study. by Author 2011

5.9.1 Energy

To understand the process of a "big night out" activities are marked on a graph in levels of vibrancy. This Graph results in a method of programming the street to create a successful activity harmonic. Although this particular harmonic relies on time on the x-axis. If the x-axis is replaced with space it provides a strategy for the implementation of programme to create a peak in activity amplitude at the centre of the street.

As per the harmonic analysis, this is how the sine curve functions in the existing with the central energy activity concentrated around the central bars.

To increase this activity we introduce a harmonic by placing additional activity nodes as a multiple of this harmonic

Mathematically, the first step is to simplify the existing curve and then to half the x- value or half the distance. This gives us a multple of the existing curve.

Secondly it must be noted that the f(x) cannot be below zero, so the curve must be inverted where it falls below the x-axis.

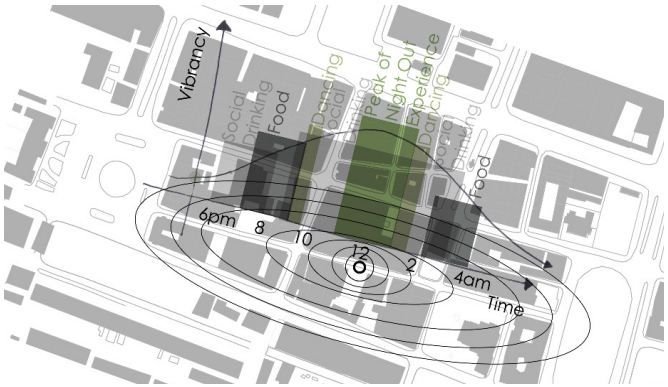
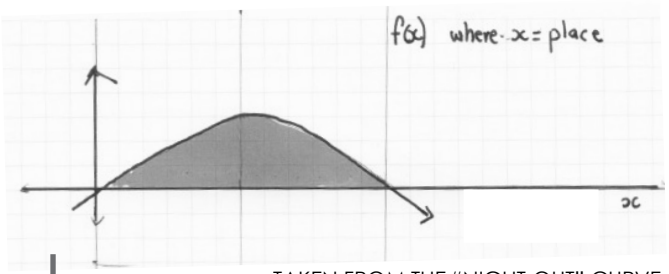


Figure 5.6 Graph showing the process of a big night out as applied to space. by Author 2011

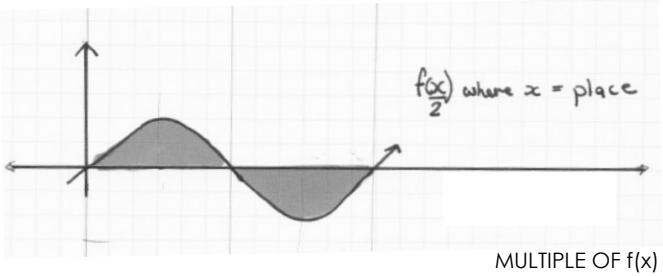
5.9.2 Application to Place

Activity is just one harmonic of the complex wave which has now been separated into two. One that follows the path of the existing curve and one that has two smaller peaks. These peaks indicate the need for an active programme to be inserted at those points. Conveniently, if this graph is applied to the plan of Rua de Bagamoyo , the new peaks align with the spaces of opportunity diagram.

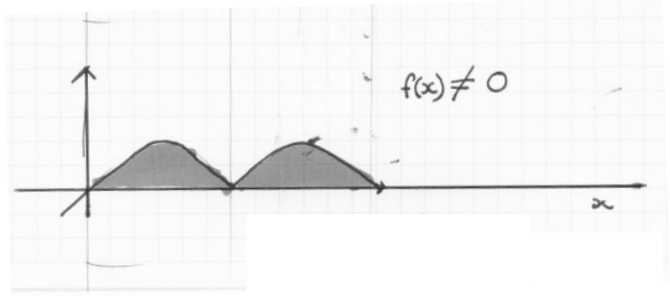
Graphically this curve is then superimposed in 3- dimensions using modelling software to indicate, activity in place.



TAKEN FROM THE "NIGHT-OUT" CURVE



MULTIPLE OF f(x)



NEW ENERGY PROPOSAL

Figure 5.7 Graphic Explanation of how the Energy wave is manipulated and how a harmonic is generated. By Author 2011

5.9.3 Increasing the amplitude

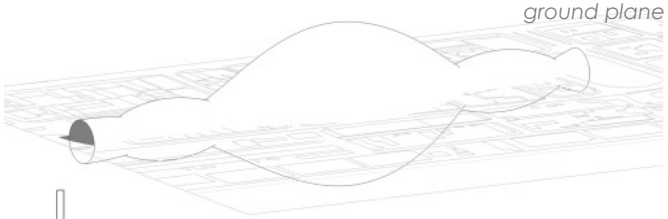
To increase the constant activity within the street, a programme must be introduced that allows for 24 hour continuity, but must not alter the character of the street. There are few functions that can be introduced that would not be in direct opposition with the occurrence of prostitution, a new programme should allow for the perpetuity of the existing night-life and adult entertainment theme.

Once a new programme is indicated at two points and the centre of the street is allocated to be the move active, a plan can be devised to control the energy and activity within the street.

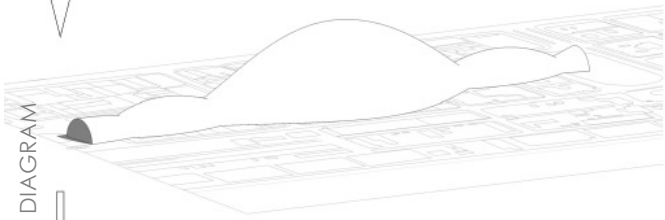
Conceptually an enclosure of the street can be manipulated either to control energy by its solidity or to allow for more energy release by perforating it. Where the perforations are the largest would be where the most energy can be released and where it is solid it where the most energy will be controlled.

DEVELOPMENT OF ENERGY DIAGRAM

Rotation of complex wave and harmonic about ground plane



Above ground contributions only due to flooding constraints



Implementing increased energy specified by spaces of opportunity map. See Section 3.3.1

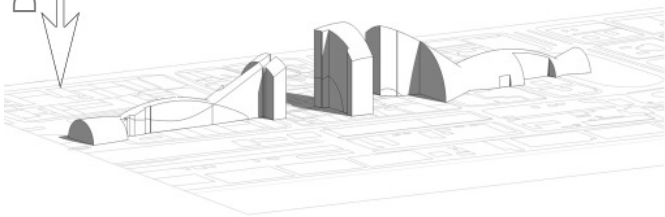


Figure 5.8 Development of energy wave in the site

5.10 Concept

To explore the development of the street as a generator for urban renewal from the perspective of architecture challenges the notion of building and architecture.

Conceptually the building that results from this dissertation will fall within the realms of street. To achieve this an understanding of what a building constitutes must be assessed.

It is then proposed that a building can be distilled into its elements that can then be reassembled in a manner effective to implement the required street to existing building interface.

Due to the organic nature of cities and changing needs and demand buildings need to be increasingly adaptable.

"Age plus adaptively is what makes a building become loved. The building learns from its occupants, and they learn from it"(BRAND, 1994: 23)

Stewart Brand unpacks the layers of building into the "six S's" and indicates by means of line weight the gradation of permanence with regards to each layer. *See fig 5.10*

When this image is applied to the street by viewing the street as an urban room, inverts the typical understanding on an indoor-outdoor relationship is inverted. It indicates that the layers of "stuff", "space plan" and "services' are now found in the public realm. Where Skin and structure form part of the street edge threshold between street and building.

The street as building interacts with the actual buildings as if they were services spaces feeding onto a room and the interaction between them occurs in a series of thresholds.

Figure 5.9 Conceptual sketch showing layers of enclosure about the street as Palimpsest and threshold derivation. By Author 2011

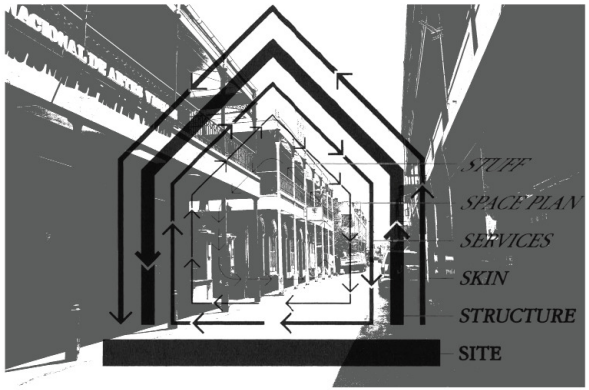
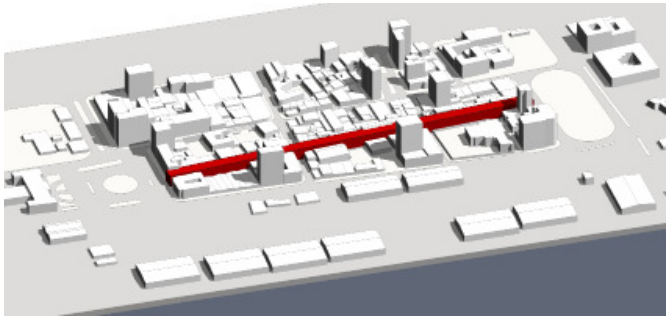
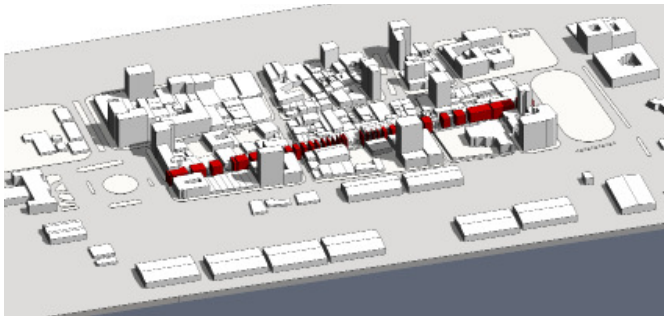


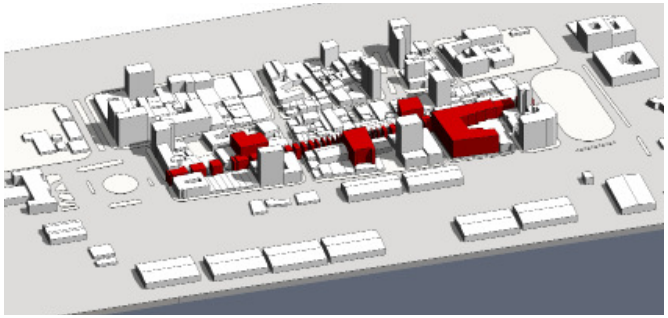
Figure 5.10 Stewart Brands "six s's" (BRAND, 1994.)



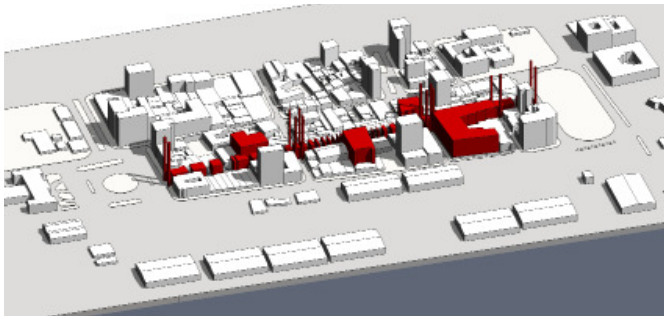
Enclosure and continuity of a street



Identification of density of enclosure



Expansion of contributing programme



Position of key verticals as visual cues

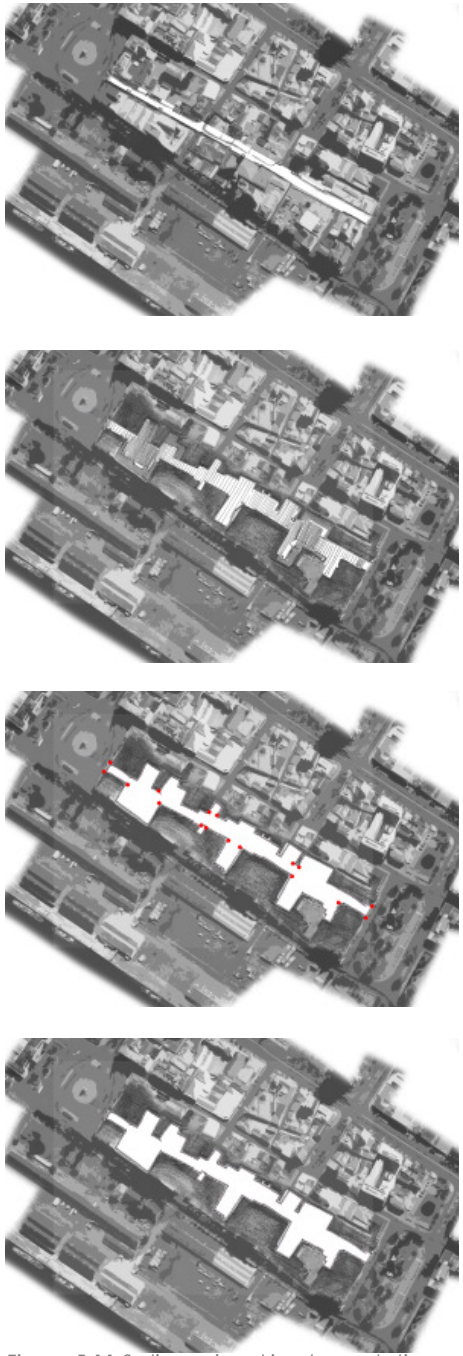


Figure 5.11 3-dimensional implementation of the concept on Rua de Bagamoyo.

5.11 Development of a solution

Using the parameters expressed an urban intervention is proposed, developed and distilled into a framework of guidelines informing the subsequent architecture.

From the initial study of the enclosure of street, the idea was extrapolated into a form fig that responded literally to the peaks of heritage significance of the buildings, having a roof raised above the very significant examples and pulled to the ground plane where the relevance of a building to the character was questioned. Permeablity and control of light was determined by the energy harmonic as previously discussed, with a solid control over areas that were to be controlled with regards to light and completely un covered in areas where a freedom of energy would be considered.

The remaining structure would have varying degrees of light permeability.

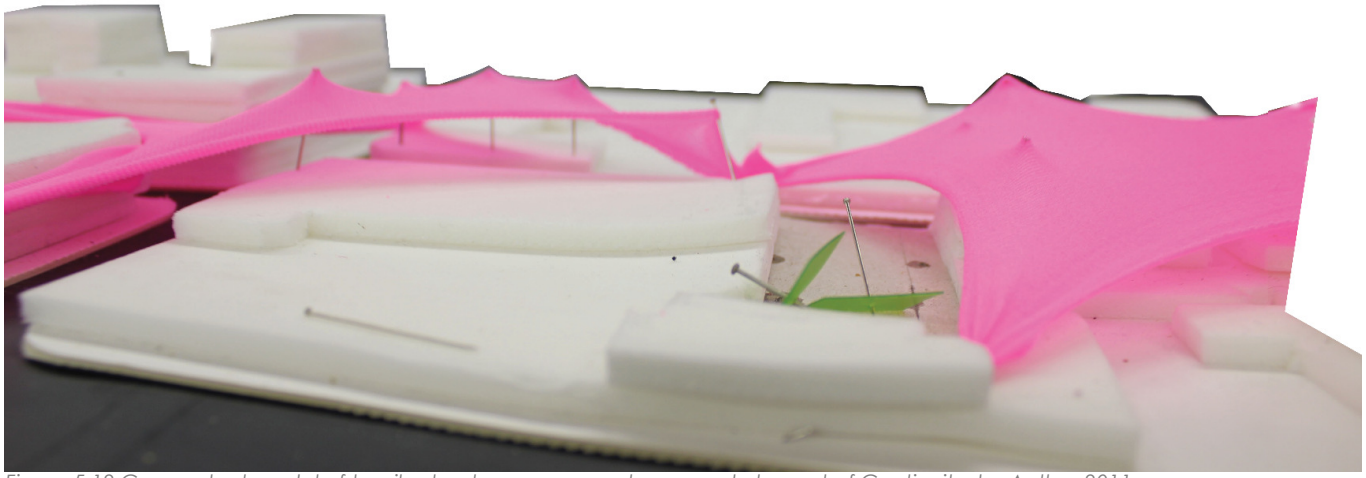
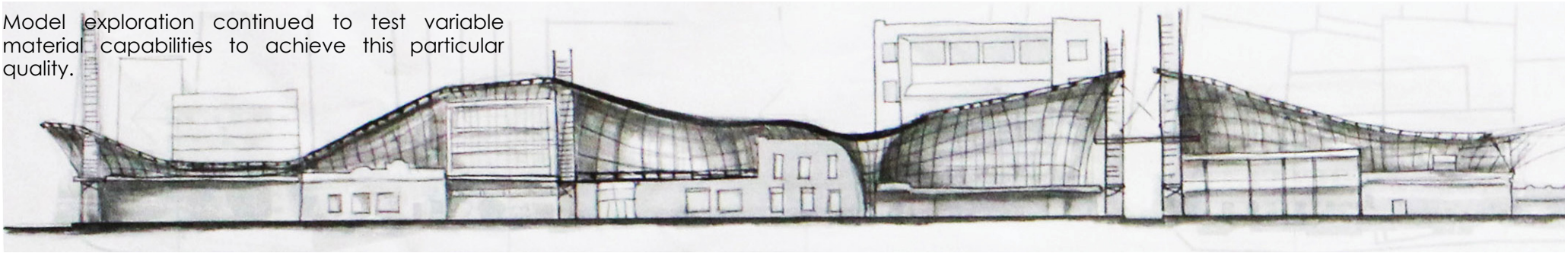
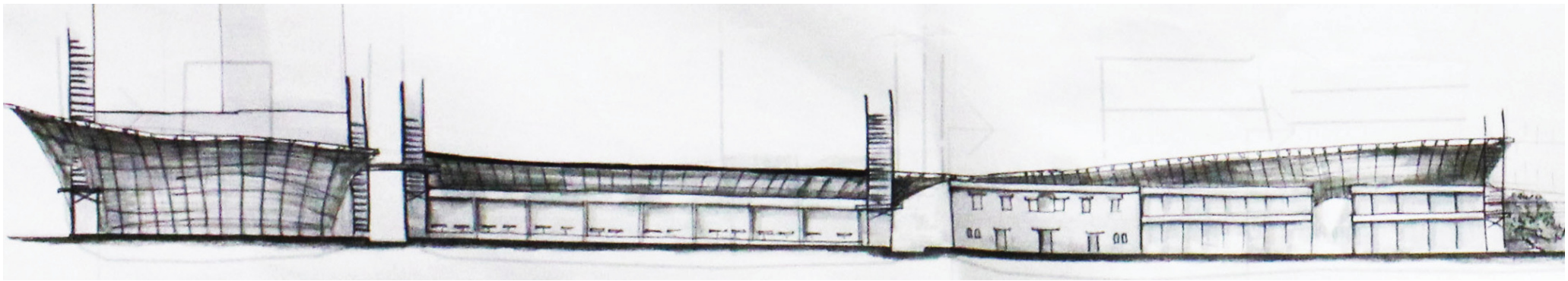


Figure 5.12 Conceptual model of tensile structures as an enclosure and element of Continuity. by Author 2011

Model exploration continued to test variable material capabilities to achieve this particular quality.





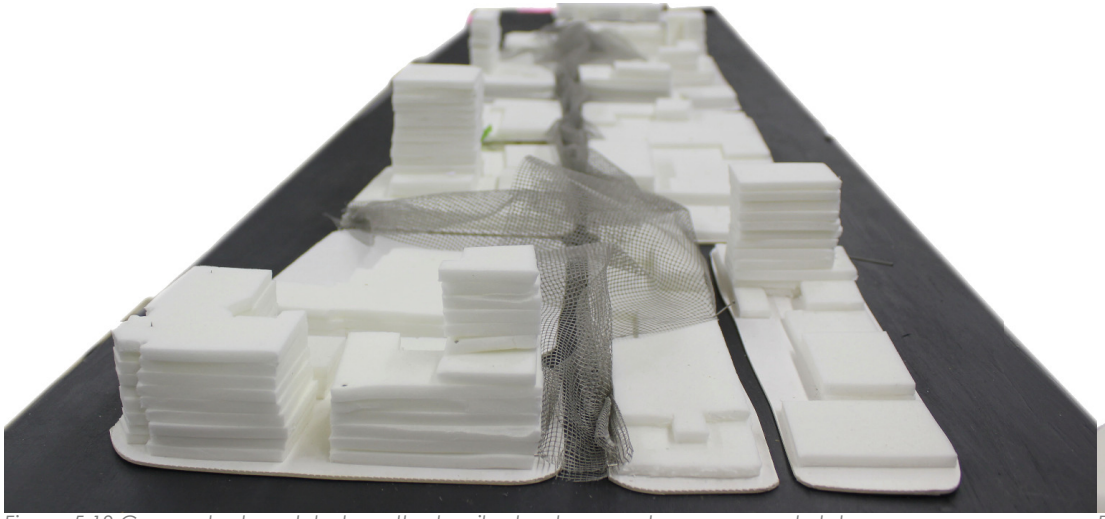


Figure 5.13 Conceptual model where the tensile structure can be seen as a skeleton

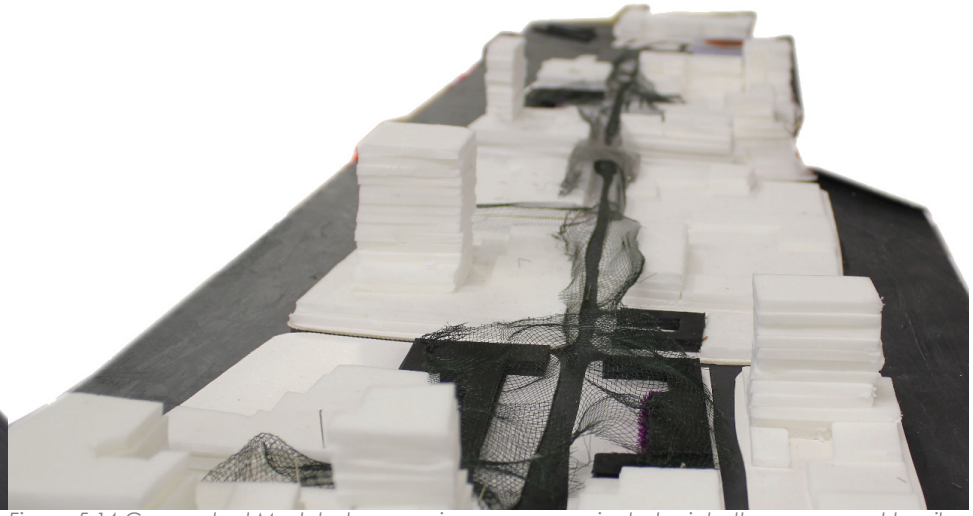


Figure 5.14 Conceptual Model where service spaces are includes into the space and tensile structure creats ca uniform enclosure below.

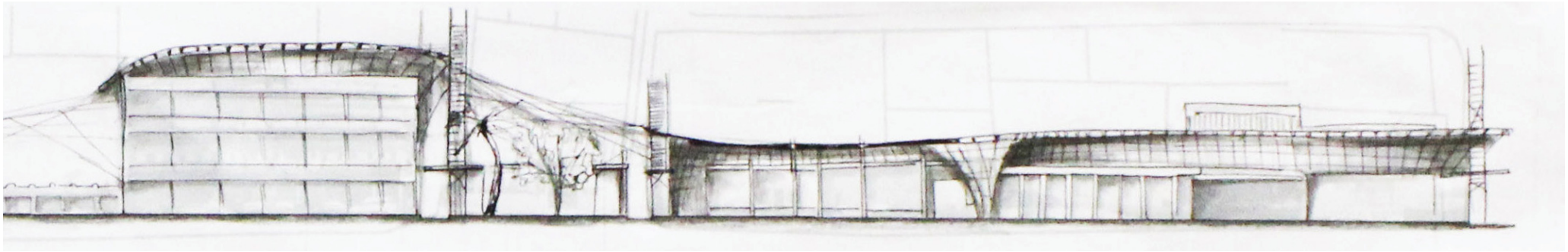


Figure 5.15 Conceptual Section Showing South Facade of Rua de Bagamoyo where the form volume is generated by heritage value and the permeabilty of the structure is generated by the propsed and existing functions below. Drawing by Author 2011

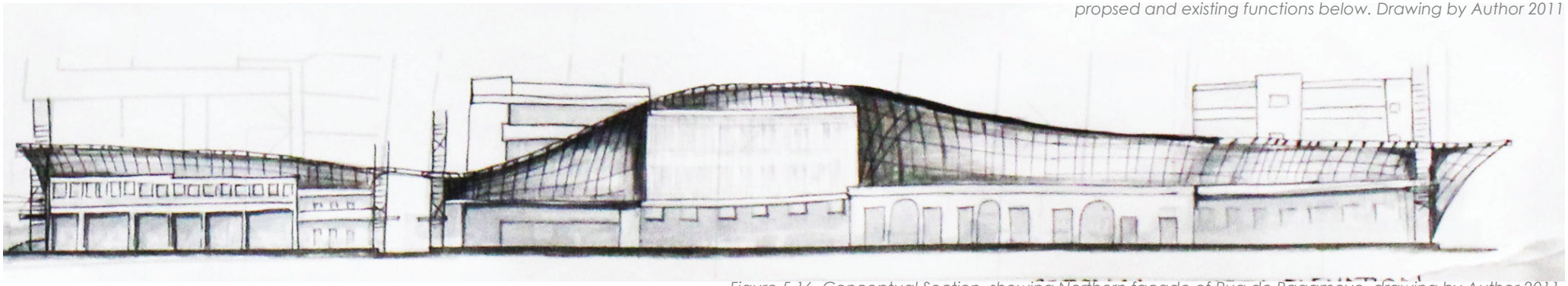


Figure 5.16 Conceptual Section showing Northern facade of Rua de Bagamoyo drawing by Author 2011.

5.12 Programme

As established the programme should:

- Create economic stimulus in the area.
- Create a 24-hour continuity of activity
- Express the genius- loci of night life and entertainment
- Allow for a continuity within the precinct
- Not hinder the sex-workers as they are part of the heritage, as established by their inherent perpetuity of space usage within *Rua De Bagamoyo (Refer to Section 3.6)*

5.12.1 INTRODUCTION TO GAMING

Gaming as a new program is considered due to its appropriateness as a night-life function that can benefit the surrounding night-life enterprises by becoming a anchor destination as part of a greater precinct.

The purposes of this dissertation is to explore the existing and create an architectural intervention that would best suit the context.

The possibilities of other programmes exists that could fit into the night-life entertainment ethos, although most of these are already in existence in Rua de Bagamoyo, and basic deductive response, is that if that function exists and has not rejuvenated the area, another version of the same thing will not either.

5.12. 2 CONFORMING TO URBAN CONCEPT REQUIREMENTS

In the previous chapter, requirements were stipulated for the introduction of a new programme. The following points explore how gaming and casino development respond to these criteria.

ECONOMIC STIMULUS

Due to the increase in development within Baixa, older smaller buildings on valuable land are at risk, if these buildings generate enough income without having to be heavily renovated or expanded or rebuilt, they are less at risk of being developed. This principle is noted in the historic core of New Orleans.

Terance J. Rephann from Office of Institutional Research in Cumberland USA , in his research paper entitled “Casino Gambling as an Economic Development Strategy”attempted to establish the benefits of gaming as an urban regeneration strategy by studying case studies and comparing the effects of casino interventions.

He attempted to understand where the economic stimulus actually aided the surrounding communities by measuring per capita income, before and after a casino precinct was built in the area.

His findings were not all as conclusive as the first. The increase in other industries was inconclusive, as it could have been attributed to other factors. His findings do, however, indicate that industry does not decline further.

He also indicates that provision for skills training within surrounding communities is important so as to ensure employment benefits are accessed buy the local labour.

"It is an attractive development strategy for economically lagging counties." (REPHANN, 1997: 176)

In a more local example Karen Lee compiled a report for the casino advisory panel assessing the possible positive and negative effects of casino development in South Africa.

"On this basis, establishing a strong image or identity could help to re-brand the tourism sector as well as the host area as a whole to attract more tourists to visit the area. The re-branding exercise could also serve as part of the regeneration benefits casino developments bring to the host area." (LEE, 2006: 22)

CREATE 24-HOUR FUNCTIONALITY.

Casinos are generally known for their night time activity in the gaming halls themselves although designs are created to allow for the 24 hour continuity of these spaces. Casinos are specifically controlled in terms of daylight to keep the gamers unaware of the time of day. In Rua de Bagamoyo the times when the streets are empty are in the early afternoon and the early hours of the morning as the clubs close down. A casino intentionally stays open and attempts to keep evening patrons through the morning. The early afternoon is then dealt with at the food court and restaurants and increased activities in the drivers, as well as gaming.

EXPRESS THE GENIUS-LOCI

It has been determined that the genius -loci of Rua de Bagamoyo is expressed by the night-life activities, the lights and the entertainment that is perpetual regardless of political change. Gaming is then the missing piece of the metaphorical functional puzzle that can complete the street as a precinct. *Refer to Fig 2.3*

ALLOW FOR CONTINUITY

A Casino Precinct allows for a collective of buildings to be protected as one precinct, and relate to one larger entertainment ideal. Continuity will be addressed by the urban interventions.

RELATIONSHIPS TO SEX WORKERS

Gambling and the sex trade are mutually exclusive, many references state that prostitution is a perceived result of casino development both Lee and Rephann refer to it as a negative impact of casino development. In the case of Rua de Bagamoyo, the prostitution is already there.

An increase of users to the area, whether tourists or local, will bring increased opportunity for all the street

traders including the sex-workers. An increase in wealthier patrons provides the possibility of wealthier clientele.

It is not the place of the architect to judge the inherent morality of a place, only to respond to the existing and provide for a client. The client for this dissertation would be the casino developer. The prevalence of prostitution can be considered beneficial to the developer, as it acts as an additional driver bringing clientele to the area.

5.12.3 PRECEDENT

To re-invent a Casino precinct, an understanding of the typical is required. Similar typologies exist in casino design to that of shopping mall design, in that the precinct is enclosed and secured. The same reactions to the enclave typology can then be applied to casino design, but this typology needs to be understood.

The reasons for enclosure and restricted access are simple and obvious, casinos deal with large amounts of money and specifically cash, security is then a large concern.

Maputo's gambling law is relatively new, as it was only legalised in 1994 with a very restricted set of requirements. The legislation has been amended with a new bill in June 2010 in attempt to increase tourism.

This is an opposite response to the South- African legislation which legalised gambling in 1996 and revised stricter controls in 2004.

(WORLD CASINO DIRECTORY STAFF;, 2011)

Figure 5.17.Aerial Photograph of Montecasino (Google earth September 2011) overlaid by the store directory. www.montecasino.com

MONTECASINO, SOUTH AFRICA

Architects: Bental Associates International and Dougal Design Location: Fourways, Gauteng Year: 2000

Montecasino in Fourways, Gauteng has been intensely criticized by the South African architectural community as the paramount example of escapist architecture in South Africa and the pinnacle of the "Tuscan" period in South African architectural history.

Regardless of the architectural critique, the precinct is very successful and has expanded in subsequent extensions one in a new "piazza and the addition of the teatro"

Quote from Matt Steinglass' article in the October 2002 Metropolis magazine sums up the precinct succinctly and explains the success.

"Montecasino imposes nothing on anyone. It is completely, exuberantly fake. And, as in Las Vegas, it is this fakeness that ensures its egalitarian popularity. Blacks and whites feel equally at home in this reassuringly bogus Tuscany. The price of democracy, it would seem, is inauthenticity." (STEINGLASS, 2002)

The plan shows the clear enclosure of the precinct with secure entrances, the gaming activity takes place in the centre with almost all access moving past it. (To capture attention.)

The main entrance comes from the parking structure.

All services occur below ground allowing ease of access throughout the space.

EMPERORS PALACE, SOUTH AFRICA

Architects: Boorgertman and Partners
Location: Ekurhuleni, Gauteng

Similarly to Monte casino Emperors Palace has a themed architecture of a classical nature, creating a sense of grandeur.

The planning is very similar to Montecasino with a central gaming facility and sub-terrain services. Except for a small section of the previously retail area.

According to Heleen Grimshel from Boorgertman and partners, the retail facilities were not profitable and were converted into gaming rooms. These are small intimate rooms consisting of slots and machines with small individual bars. The intimate spaces have been very successful and provide more income than the large casino floor and are second in profitability only to the privé.

Figure 5.17 Photograph of small gaming spaces off a larger passage. Photograph byAuthor 2011.

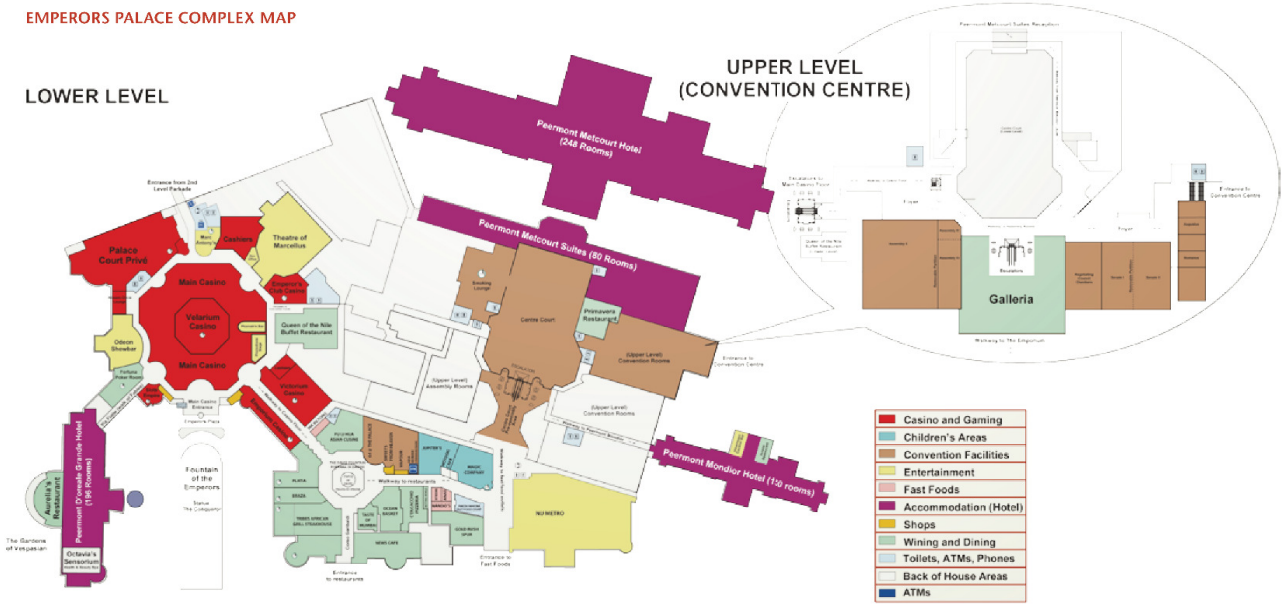


Figure 5.18 Emporers palace map. www.piermontglobal.com

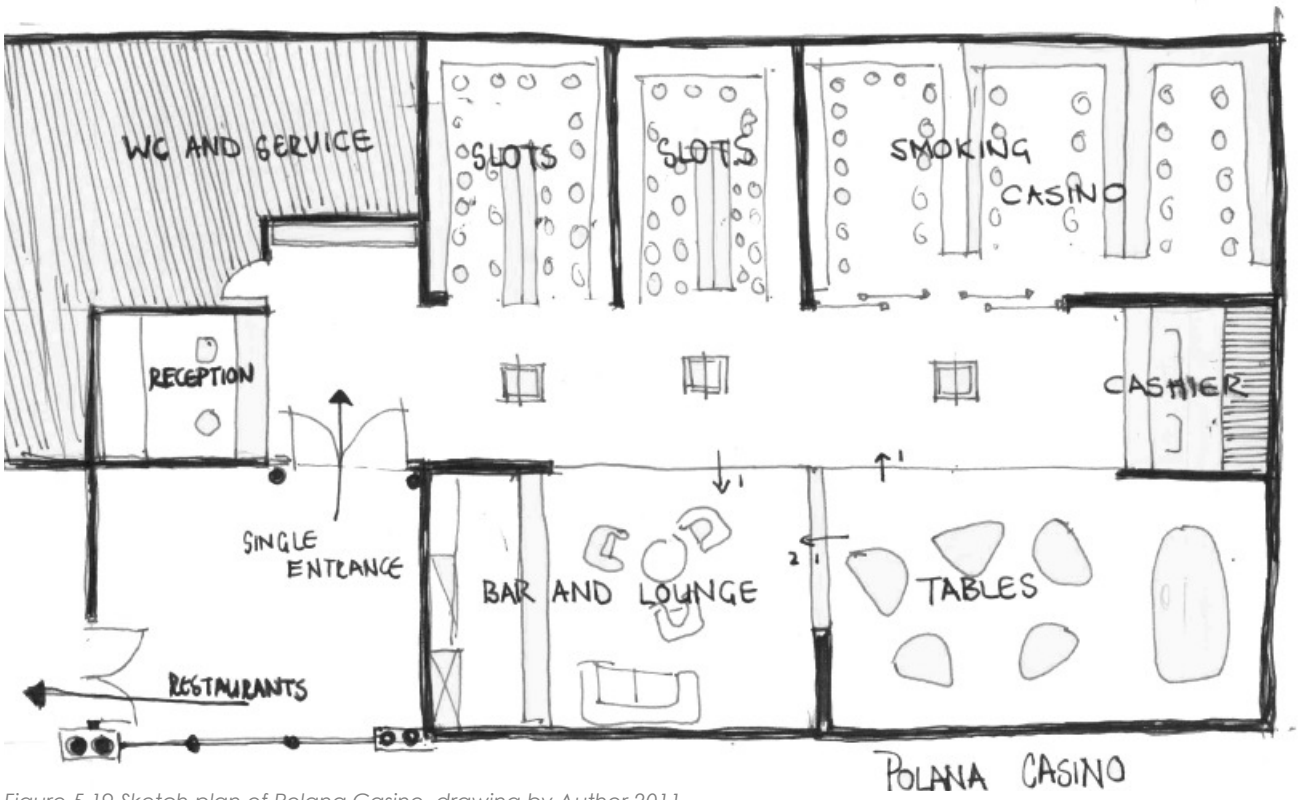


Figure 5.19 Sketch plan of Polana Casino. drawing by Author 2011

POLANA CASINO, MOZAMBIQUE

Architects: Stauch Vorster
Location: Sommerschield, Maputo
Year: 2006

The Polana casino is a small rather unsuccessful casino found off the premises of the Polana hotel. The games are very expensive and the security is overwhelming, creating an uneasy feeling. An entrance fee is paid to access this casino which removes a large part of the population from the facilities.

All the games are charged in American dollars. This only allows for high-rollers to play, and according the local gamers who were informally interviewed, it is better to drive to South Africa or Swaziland for gambling as the South African Casinos cater for a larger demographic.

The spaces are uncomfortable and awkward, too much provision for non-gaming recreation is provided in a bar and lounge, where emperors palace and Montecasino provide nowhere to sit in the gaming areas other than at machines or tables.

All materials were imported.

Figure 5.20 Photograph showing security at the polana casino and the inaccessibilty by pedestrian, Photograph by author 2011

5.12.4 FRIEDMAN CASINO DESIGN PRINCIPLES

Bill Friedman Author of; Designing Casinos to Dominate the Competition has devised a simple set of Guidelines for casino design based on case studies conducted on the financial success of Casinos in Las Vegas from research conducted over a twenty year period.

To simply summarise the most prevalent points mentioned were:

Friedman Casino Design Principles TM :

1. A physically segmented casino beats an open barn.

2. Casino equipment immediately inside casino entrances

beats vacant raised entrance landings and empty lobbies.

3. Short lines of sight beats extensive visible depth.

4. The maze layout beats long, wide, straight passageways and aisles.

5. A compact and congested gambling equipment layout beats a vacant and spacious floor layout.

6. An organized gambling equipment layout with focal

points of interest beats a floor layout that lacks a sense of organization.

7. Segregated sit down facilities beat contiguous ones.

8. Low ceilings beat high ceilings.

9. The gambling equipment as the décor beats impressive

and memorable decorations.

10. Standard décor beats interior casino themes.

11. Pathways emphasizing the gambling equipment beat the yellow brick road.

12. Visitor perception beats Reality.

13. Multiple interior settings and gambling ambiances beat a single atmosphere throughout.

(FRIEDMAN, 2002)

These principles all lead to the creation of intimate spaces without long sight lines, and oppose the modernist approach to materiality. These principles relate strongly to Venturi's account of Las Vegas.

5.13 Introduction to an urban plan

Once gaming is considered as an additional programme to be added to the area, Rua de Bagamoyo can be considered a Casino Precinct. This means that in terms of the larger precedent studies of how gaming works seen in chapter 6 Rua de Bagamoyo as a street will act the entire precinct.

The drivers[1] are already in place: A theatre, bars, night clubs with smaller(strip) shows, a museum and three hotels can already be found in the street. The introduction of a gaming function will then be mutually beneficial to precinct, bringing clientele to the other activities, and the existing activities will be supportive of the gaming function, as in a traditional casino. Because each of these functions is currently autonomous and unrelated, the way in which the precinct is designed must refer to each function as a separate entity.

1 *Drivers are non gaming function that act as a draw card to the casino precinct*


Praca de Trabalhdores
Permar offices
Permar warehouse
Vacant office
Vacant site
Copa cabana strip club
Railway offices
Clinic
Bakwena warehouses
Samora machel museum
Vacant offices
Rua de Mesquita
Hotel Central
Topazio
Bars and Lusc
strip club
Delux hotel
Dance School
Vacant Site
NGO office
Rua de Bugamoyo
Rua de Inhamingha
N

Figure 5.21 Map showing existing functions. Google Earth February 2011 editted by Author 2011

5.13.1 Existing

The existing having been explored in chapter three shows the existing functions and how they relate to each other. *Fig 5.21* shows where the main entrances to the night-life specific functions occur as well as where these can be found.

Owner: Petromoc
Formal Function: Office
Type; Regional Modern
Informal Function: Vendors
Intention: Retain

Owner: Perimar
Formal Function: Warehouses
Informal Function: Prostitution
Date: 1920
Intention: Re-programme retain

Owner: Perimar Vacant Offices
Formal Function: Vacant Recently restored
Type; REgional Modern
Architect: Pancho Gueddes
Informal Function: None
Intention: Populate

Owner: Perimar Parking
Formal Function: Parking
Informal Function: None
Intention: New Building

Owner: Copa Cabana
Formal Function: Striptease and offices
Informal Function: Residential
Intention: Restore and retain

Owner: Hotel Central
Formal Function: Hotel
Informal Function: Brothel
Type: Victorian
Intention: Restore

Owner: Vacant
Formal Function: Vacant Topazio
Informal Function: Soliciting Prostitution
Intention: Restore and re-imagine

Owner: Various
Formal Function: Bars, strip clubs and restaurants
Informal Function: Brothel
Intention: Restore and retain

Owner: Teatro Gungu
Formal Function: Comedy Theatre
Informal Function: None
Type: Regional Modern
Intention: Retain

Owner: Goverment
Formal Function: Department Offices
Informal Function: None
Type: Art Deco
Intention: Retain

Owner: Goverment
Formal Function: National School of Dance and Offices
Informal Function: Soliciting prostitution
Type: Victorian
Intention: Retain

Owner: Goverment
Formal Function: Parking
Informal Function: Soliciting prostitution
Intention: Create a new space

Figure 5.22 Photographic Elevations with overlaid from on site interviews. Photograph by Author Documents (Maputo Workshop, 2010)

Owner: Hotel
Formal Function: Hotel
Type: Victorian
Informal Function: Brothel
Intention: Restore and retain

Owner: Goverment
Formal Function: Parking
Informal Function: None
Intention: Create a new space

Owner: Vacant
Formal Function: Abandoned hardware stores
Informal Function: None
Intention: Demolish

Owner: Government
Formal Function: Offices
Informal Function: Vendors and trade
Intention: Retain and maintain

Owner: Standard Bank
Formal Function: Bank And Offices
Informal Function: None
Type: Regional Modern
Intention: Retain and maintain

Owner: Standard Bank
Formal Function: Bank And Offic
Informal Function: None
Type: Regional Modern
Intention: Retain and maintain

RUA DE BAGAMOYO SOUTH FACADE

Owner: Goverment
Formal Function: National School of Dance
Informal Function: Ground Floor Bars and Homeless
Intention: Repair Facades

Owner: Delux Hotel
Formal Function: Hotel
Informal Function: Brothel
Intention: Repair Facades

Owner: Vacant
Formal Function: Offices
Informal Function: Residential
Type: Regional Modern
Intention: Restore and re-programme

Owner: Banco Mozambique
Formal Function: Bank Offices and Samora Machel Museum
Type: Regional Modern
Informal Function: None
Intention: Retain

Owner: Cfm(National Railway)
Formal Function: Warehouses
Informal Function: Prostitution
Date: 1920
Intention: Re-programme retain

Owner: Cfm(National Railway)
Formal Function: Offices and clini
Informal Function: None
Type: Art Deco
Intention: Retain and maintain

RUA DE BAGAMOYO NORTH FACADE

5.13.2 ACCESS

The two public squares, Praca de Trabalhdores and Praca 25 September will act as the main entrances to the site as they do currently, being successfully utilized spaces they are used throughout the day and frequently on weekends. Rua de Mesquita connects North eastwards towards the market and Chapa[1] station and is a frequently used route, this will act as a secondary entrance.

Rua de Travessa is a narrower (4m) alley way and will be used as service access.

1 Chapa is the Mozambican version of a South-African Mini-bus taxi.

Figure 5.23 Plan Showing position of public entrances to the precinct.

Figure 5.24 Sketch showing conceptual Entrance lighting and signage at Praca de Trabalhodores.

Figure 5.25 Conceptual sketch of entrance from Praca de 25 Junho

Figure 5.26 Conceptual sketch showing entrance from Rua de Mesquita

Figure 5.27 Plan showing positions of services areas.

Figure 5.28 Photographs of existing alleys to be used as service entrances. Photographs by Author

5.13.3 Service areas

Due to the nature of old Baixa with its many small streets and small building footprints, streets can be allocated as service passages with the inclusion of additional access areas.

5.13.4 Allocation of parking

Although the plan does not remove any existing formal parking spaces, many of the informal parking areas are to be re-used, therefore parking should be provided for. Additional parking has been provided for within the greater urban framework of the area.

Figure 5.29 Plan showing areas for allocated parking.

Figure 5.30 Photograph showing uncontrolled parking. Photograph by Author 2011

Figure 5.31 Conceptual parking lot , with controlled access taking layering of structure into the design.

Figure 5.32 PLan showing the introduction of new functions to complete the precinct..

Figure 5.33 Photograph showing the types of transport vehicles creating damage in the narrow streets.Photograph J.BENNETT 2010

5.13.5 Reprogramming of existing buildings

Within the Baixa rail and sea faring cargo has been replaced largely with motorized transport specifically from South Africa. Interviews were carried out with Mr George Pentopolous- July 2011 interviewed at his place of business, the owner of an import company housed in the warehouses to the north west of *Rua de Bagamoyo*. He indicated that his company and the surrounding companies were using trucks to transport good from South Africa because the port was too expensive and the goods were mostly coming from Johannesburg and Nelspruit which are not coastal cities, as well as the rail line being unreliable.

Unfortunately in the context of old Baixa the roads are narrow (6m) and worn and heavy duty vehicles cause severe damage to the tarred surface. Not only are the trucks damaging the infrastructure the scale of a truck within the context makes it difficult for normal vehicular traffic and creates congestion in the narrow streets. Five warehouses are to be re-programmed: Four on the south of *Rua de Bagamoyo* and one on the North, The four on the south are part of a continuous facade and are re-programmed as a gaming floor. The one on the north which has already has its street facade appropriated by one bar will be re-programmed as a restaurant area, these buildings are of the "historical facade model" all indicated in the analysis chapter. The facades must therefore be maintained.

To the south east there are three abandoned hardware stores to be converted to a gaming floor, these buildings have already been renovated to a point where the only remaining historical elements are two rusted columns on the pavement. These will be demolished and new structures built.

An informal parking area existing north of the theatre facing onto *Rua de Bagamoyo* with a blind wall and palisade fence, this area will act as the site for the food court of the casino precinct.

5.13.6 Open spaces

Two open spaces existing within the street both containing large trees, these areas are allocated for courtyard outdoor functions. The central area as a spill out event space for the existing bars adjacent to it and the small south eastern plot is allocated as an outdoor ATM bank and what would be the public telephone area in a standard casino.

The choice of programme for these spaces is determined by the harmonic analysis. Where the open square for events is situated at the energy peak and therefore requires the least amount of control of light and sound and is directly opposite the existing bars and Luso striptease and may act as a spill out space for larger events.

The smaller Atm bank and pay phone area is in close proximity to the gaming and fulfills the function of a public service area as found in existing Casinos. It is altered to be a more contextual in response as pay phones in Maputo are a rarity but prepaid airtime or credito for cellular phones is abundant.

Figure 5.35 Plan showing position of open spaces to be created as public spaces.

Figure5.36 Conceptual sketch of open space designed to celebrate the existing trees

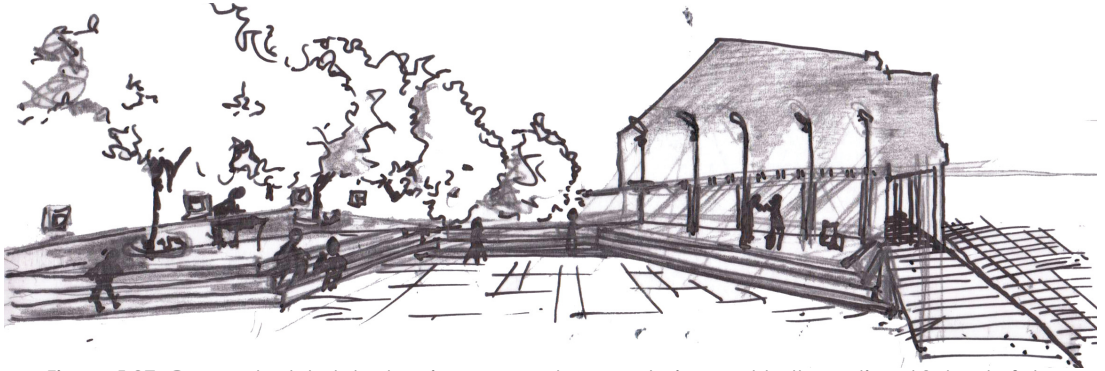


Figure 5.37 Conceptual sketch showing an event space design next to the national School of dance.

Figure 5.38 Example of existing portguese stone paving found across the city. Photograph C.DEACON 2011

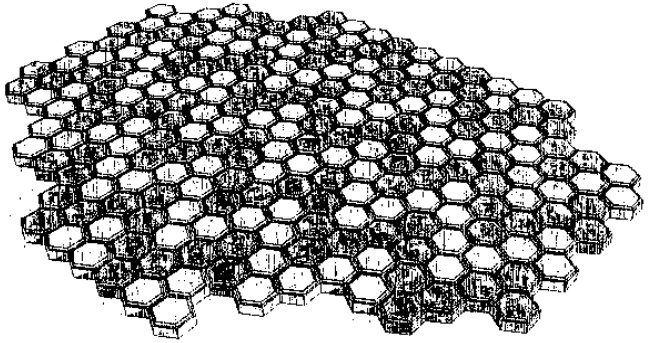


Figure 5.39 Diagram showing possible patterns using hexagonal concrete pavers.

5.13.7 Ground Treatment

As indicated by the conceptual urban development chapter, a continuity is required to have the street act as a visually harmonious precinct. The street is then re-surfaced as a pedestrian treatment reminiscent of the Portuguese stone paving found elsewhere in the city. Original Portuguese stone paving would not be authentic to the time, and in general it has not been as robust as necessary, but the texture and nature of detail should be retained with a newer material.

This will be achieved with hexagonal concrete pavers that can be manufactured on site. Concrete blocks are made, using different coloured aggregate to create the variations to create patterns.

Concrete pavers are created using the same press machine as concrete block construction allowing the same benefits of using that material ie: Social economic stimulus, on site production, local knowledge and expertise availability.

See Chapter 8

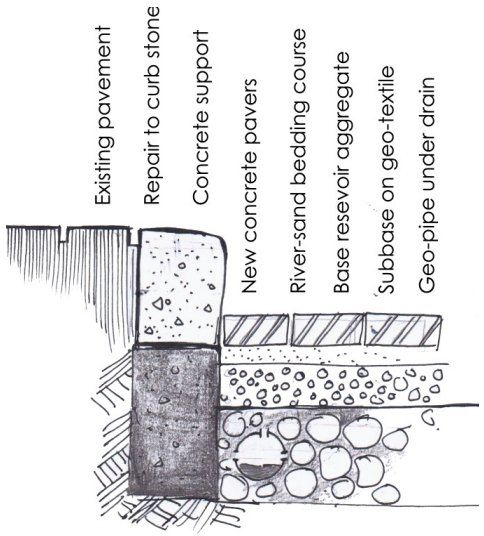


Figure 5.40 Conceptual detail of new roof surface taking into account flooding and poor storm water infrastructure.

5.13.8 Dealing with the facade.

Areas identified are re-instated with a shading structure to create the continuity of the arcade which is allocated in accordance with the urban concept .

Shading structures are connected to existing and new buildings depending on the typology.

Only the historical facades and new buildings will require shading as the other typologies have existing shading structures.

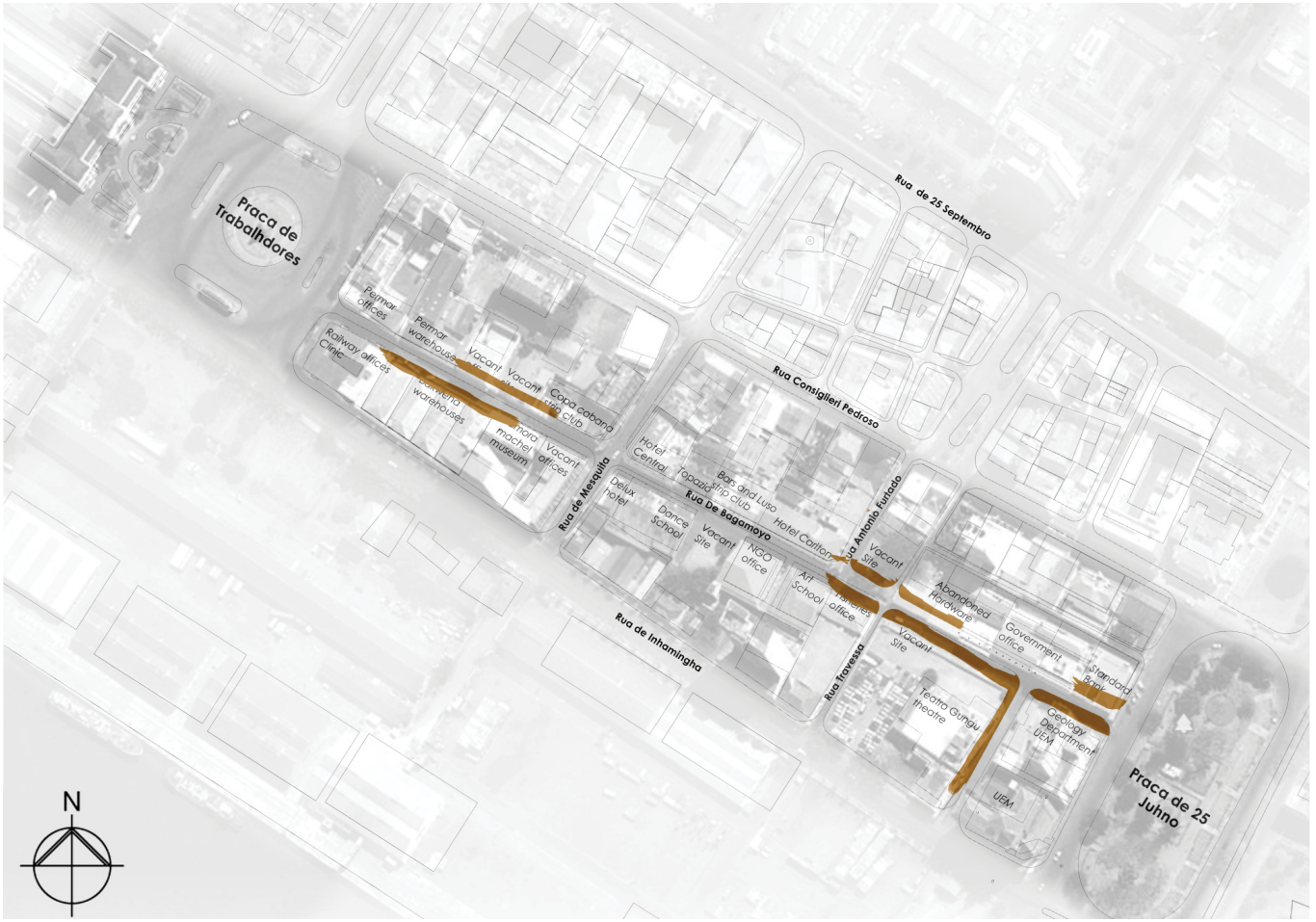


Figure 5.41 plan showing positions of additive shading structures

Figure5.42 3-dimensional indication of additive shade structures

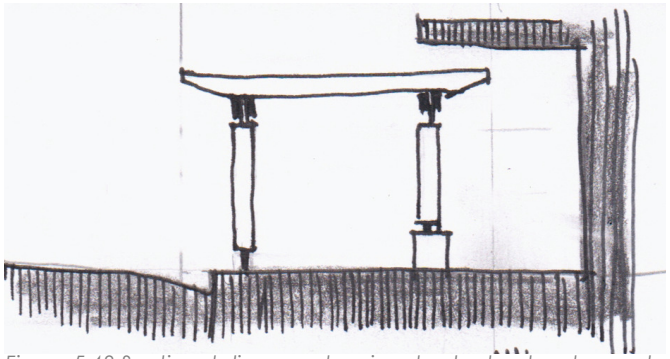


Figure 5.43 Sectional diagram showing shade structure layered on the horizontal plane.

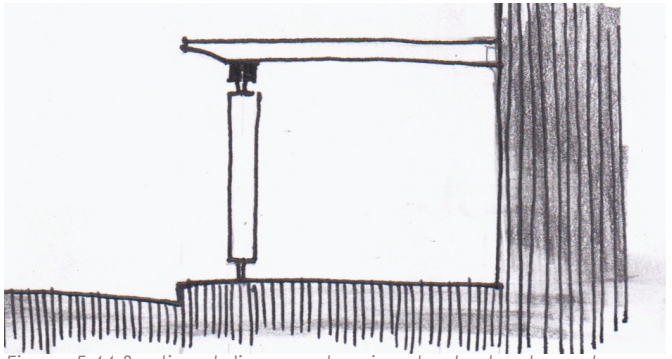


Figure 5.44 Sectional diagram showing shade structure when attached to non-heritage building

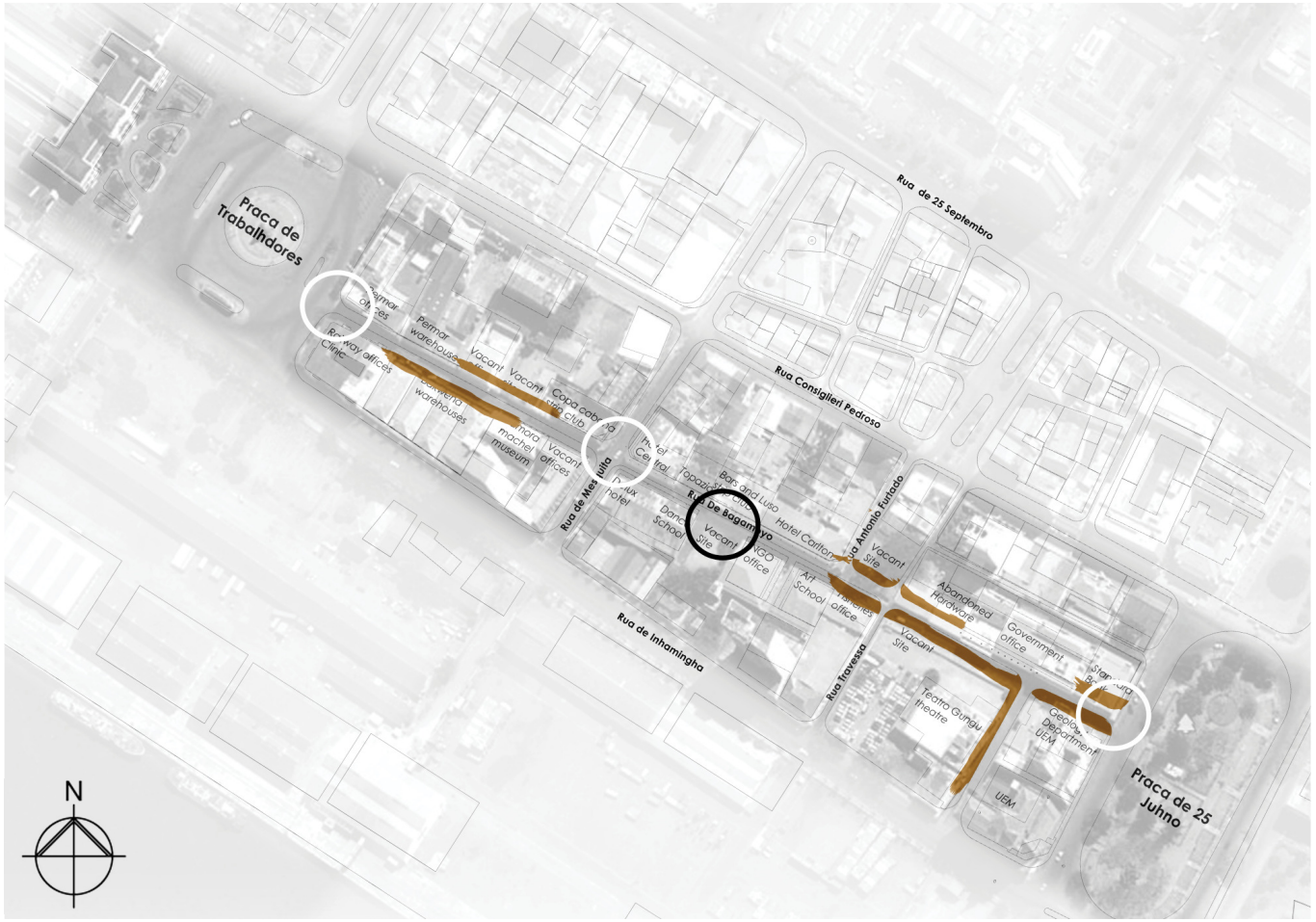


Figure 5.45 Plan showing positions of shading structures and new light and entrances

5.13.9 Light

Shadows are created during the day but at night the street has a quality that needs control of lighting for its various programmes.

The lighting strategy follows the same harmonic reaction as the shade, based on the perforation of enclosure.

At the entrance points lighting comes from the signage and entrance strategy as indicated in the previous figures... this is marked by the white circles.

Lights are incorporated into the shading screens as per the detail design. In the central area of most energy, lighting occurs as per open space design.

The insertion of street lights occurs throughout the street. These must be controllable by the users and owners of the night life establishments to allow for a control of atmosphere.

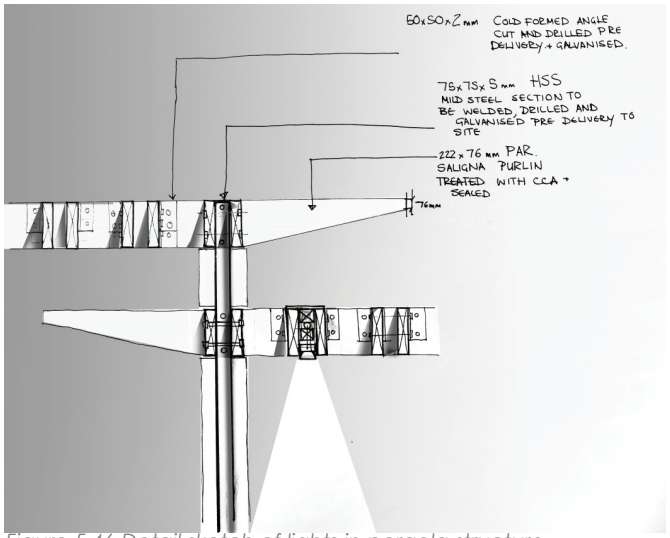


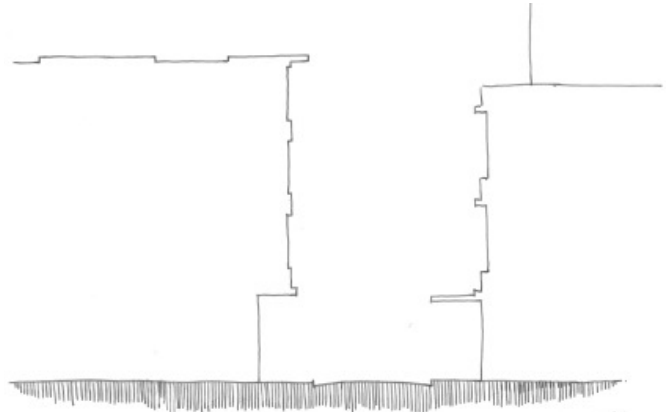
Figure 5.46 Detail sketch of lights in pergola structure

Figure 5.47 Photograph showing Rua de Bagamoyo at twilight Photograph by Author 2011

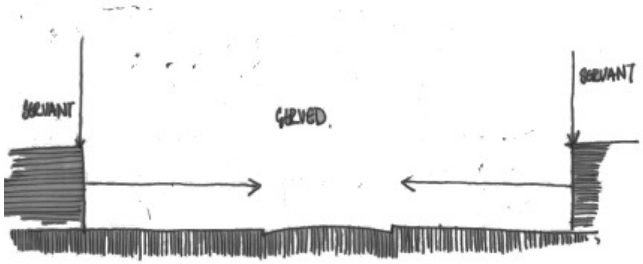
Figure 5.48 Photograph of conceptual model showing servant spaces and public spaces

Figure 5.49 Photograph showing existing threshold treatement,. Photograph by Author 2011

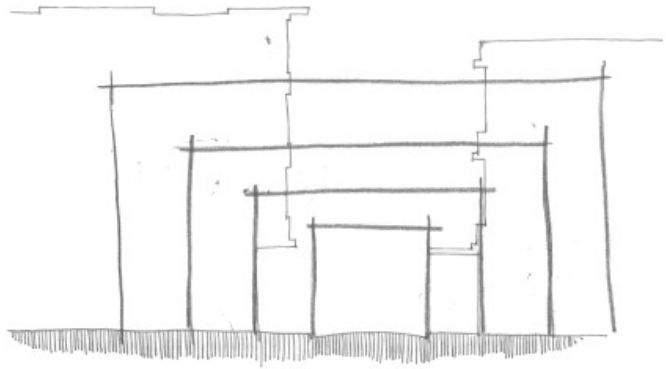
EXISTING



SERVED AND SERVANT SPACES



THRESHOLD



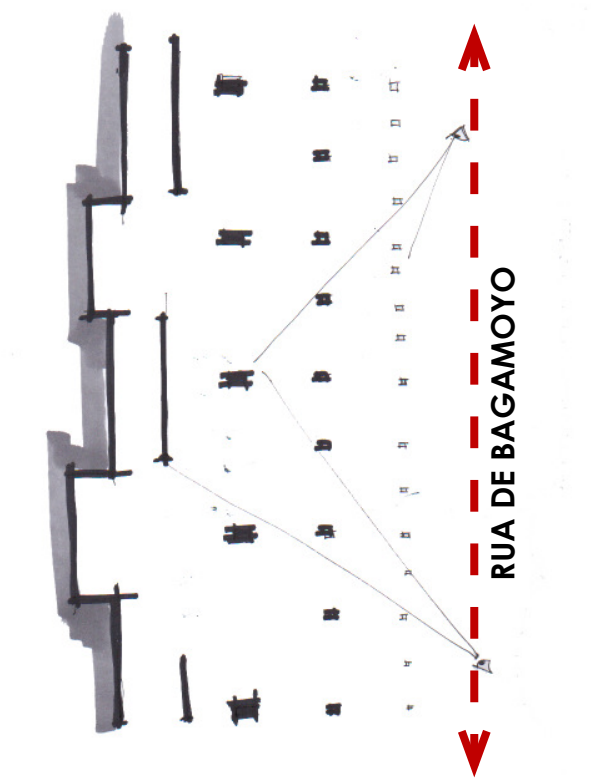


Figure 5.50 Diagram showing transition of thresholds and obscured sightlines

THRESHOLD ON GROUND FLOOR

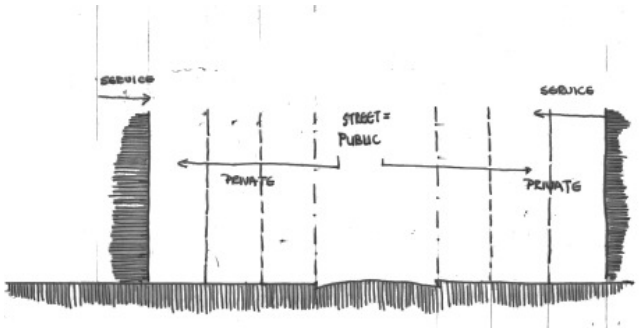


Figure 5.51 Photograph showing a policeman and a prostitute talking in the recess of a window. Photograph by Author 2011

THRESHOLD AND CONTRADICTION

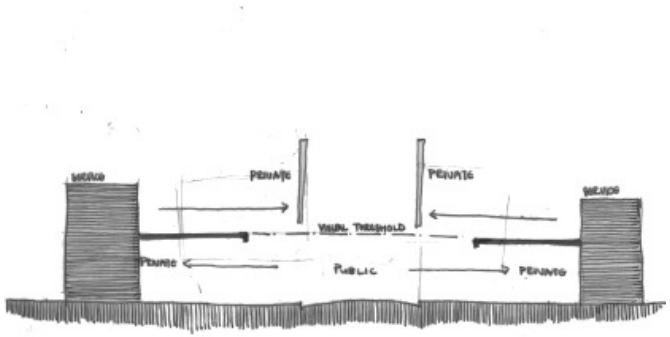


Figure 5.52 Diagrammatic sketch development into a parti

5.13.10 New buildings

Due to the conceptual implementation of thresholds in relation to the street, the new buildings are required to act as service spaces to the street as the served space, in the same way that the existing buildings service the street, but the threshold between served and serviced space are separated into gradients.

The served spaces are then articulated through the indication of threshold of transition, marking changes in experience, security, feelings of public to private spaces.

The movement of services and that of the public into the space move in opposite directions on the ground floor level.

With the introduction of additional floors the horizontal plane at first floor level becomes the next threshold in the gradients of transition, allowing the first floor street facade to be the most private of spaces.

Just as a prostitute creates allure and mystery by revealing a small amount of her underwear, the facade at this point creates a contradiction of visual access to the most private of spaces.

This visual access must be obscured by the horizontal plane creating a veiled occupancy.

5.15 Urban Plan

The new Scheme for an Entertainment Precinct then contains the new functions, the continuing elements and the service spaces with a designated nature of threshold interpretation.

Figure 5.53 plan showing gradients of public- private relationships

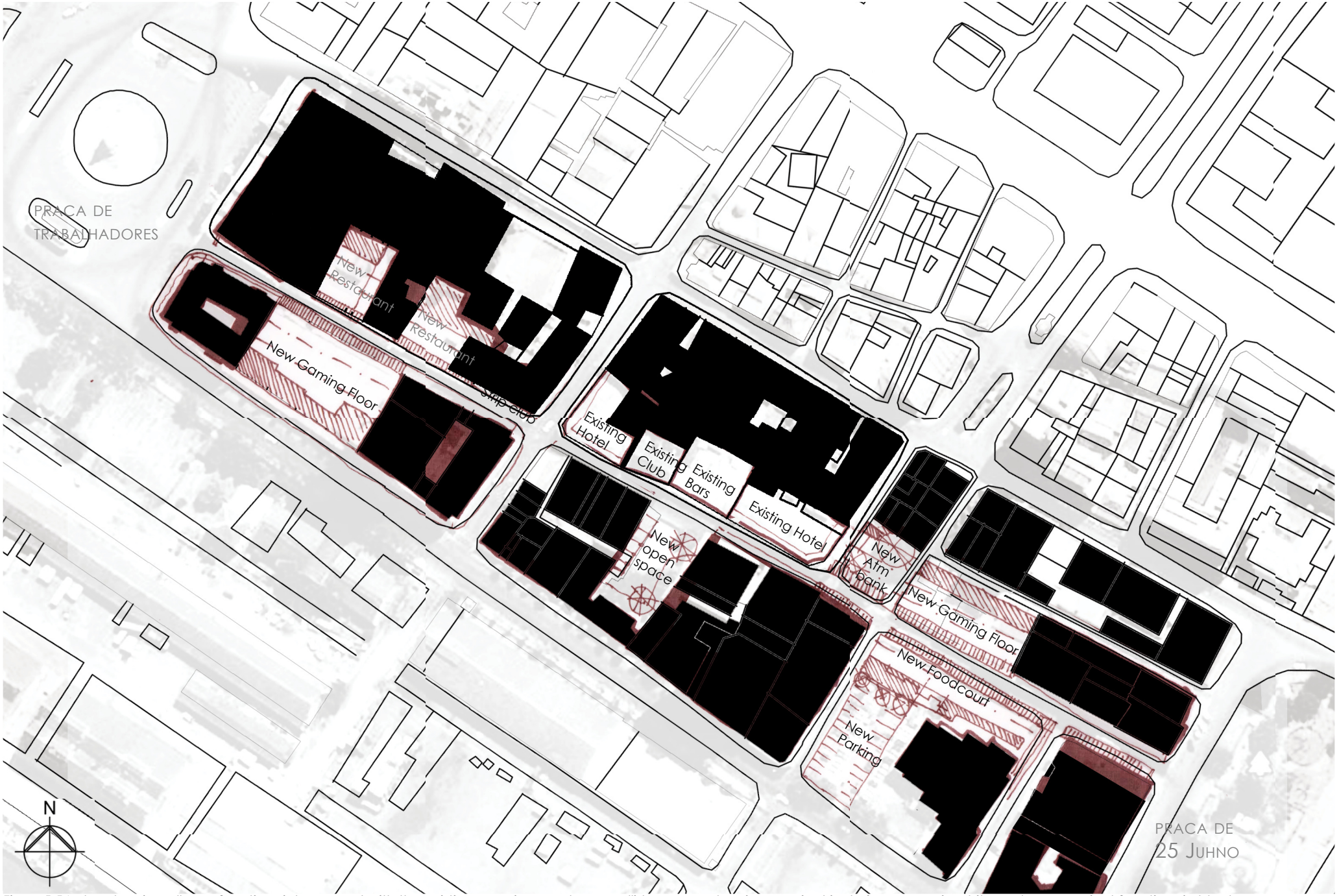


Figure5.54 plan showing all new functions interspersed with the existing.superimposed on a nolli-type map showing precinct inclusive spaces in white and non-precinct functions in black.

CHAPTER 6

Architectural Design Development

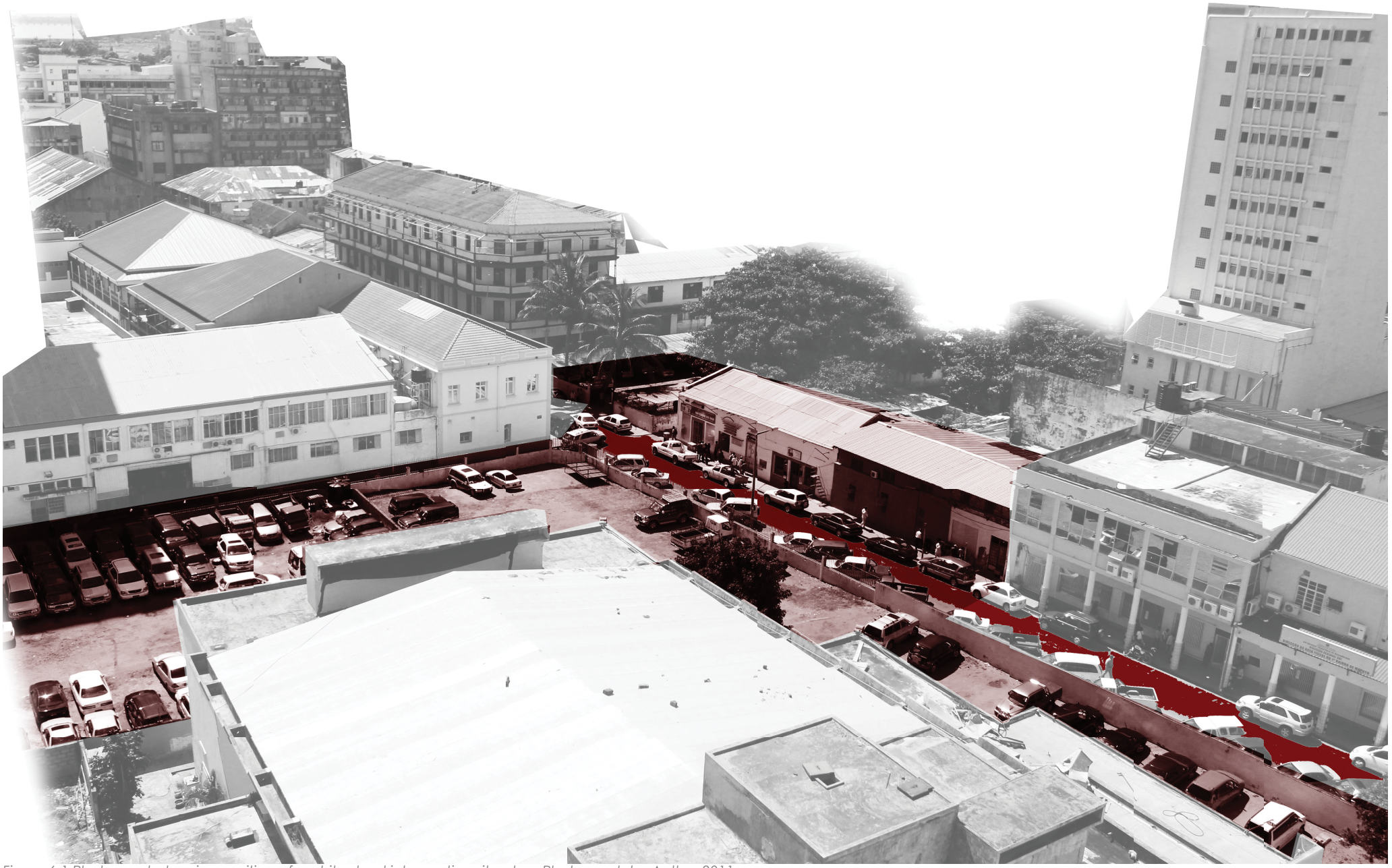


Figure 6.1 Photograph showing position of architectural intervention site plan. Photograph by Author 2011

Figure 6.2 Plan showing layout of new intervention

Chapter 6 Design Development

6.1 Introduction.

As an architectural intervention a portion of the street is resolved using the prescribed criteria set out by the urban investigation.*[Refer to 2.5]*

The open site around the theatre is identified including the two abandoned hardware stores and the open site on the opposite site of the street. This area allows for the exploration both of the casino typology as well as that of a food court as per the urban layout.

It is necessary to investigate both sides of the street and how the relationship across the public interface can be achieved and what quality should be created.

6.2 Programme

As indicated in the urban plan this area is designated for a Gaming facility and food court. A food court in terms of the Maputo context would not be the traditional food court as imagined in the precedent like Montecasino or Emperors palace but should relate more to how food is served in the existing.

6.2.1 Museu Market Precedent

The Museu (Museum) market in Maputo has the components of a food court, small restaurant eateries as well as bulk alcohol stalls in the market. This creates a vibrant night life area, where there is the formal place-making and solid threshold of the stalls, coupled with the eateries spilling out into the street .

This particular market is marked by two towers of beer crates at its entrance. Bulk alcohol products are sold in this market as well as general goods, but out of the three major markets in Maputo, Mercado Museu specializes in the sale of alcoholic products and cartons of cigarettes, While Mercade Central is primarily a fresh produce market, Mercado focusses on bottled carbonated cold drinks and clothing.

Uniquely the Museu market also has an entertainment component of food service and bars, so the market becomes a destination at night.

Lessons to be learnt from this precedent are that the more permanent bulk alcohol stores are situated at the furthermost site from the street. However, where public street edge interaction occurs smaller stalls distribute goods in smaller quantities. Some vendors are no more than a man with a cool box.

The small stalls create an interest and an articulated street edge that, coupled with the spill-out of tables, creates a vibrant night time activity space. Although this area is not a late night entertainment space, activity does continue until around 10pm on a Friday or Saturday.

Figure 6.3 Map showing positions of large markets within baixa andd surrounding areas.(Google earth 2011)

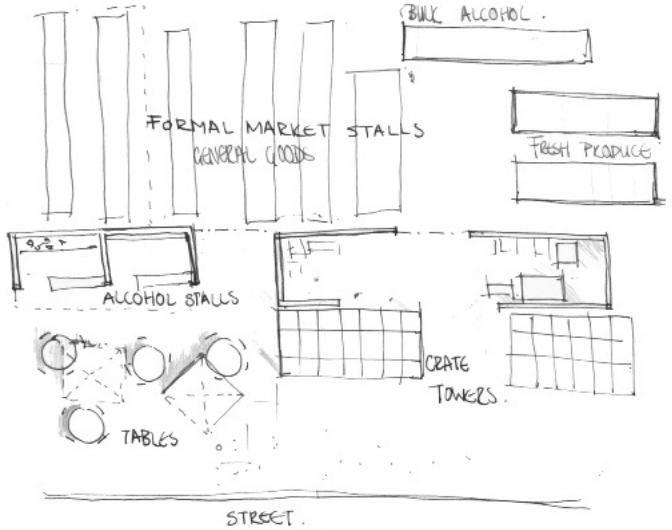


Figure 6.4 Sketchplan of market layout diagram by Author 2011

Figure 6.5 Photograph of the alcohol section . Photograph by M BOHEEMAN 2011

Figure 6.6 Stacks of crates mark the entrance to the market . Photograph .M. BOHEEMAN 2011

Figure 6.7 Food stalls and alcohol stalls use tables and chairs to spill out into the street. Photograph M. BOHEEMAN, 2011

Figure 6.8 The market becomes a recreational space. Photograph M. BOHEEMAN 2011

6.2.2 Informal Food sales on street level

On-site observation made it apparent that food sales by street traders occupies a large portion of that informal economy.

During the day pão (bread) and badjia (a variety of small deep fried items such as potatoes, vegetables... etc) are sold across the Baixa region as well as a myriad of other items. Similar vending occurs late in the evening.

With reference to the harmonic analysis of night-time activity [section 2.5], the visibility of food vendors and frequency of sales on Rua de Bagmoyo coincides with the Graph of a Night Out. Street edges become animated by small fires cooking chicken and selling bread.

An informal interview conducted on Saturday, the 25 June 2011 at 22:00 with Carlos Chuale, an informal vendor,suggested that "night life" provided an environment very conducive to entrepreneurial opportunities in the informal sector. The vendors fill a gap in the market where late-night restaurants or take aways are not catered for within the Baixia. [section 2.6_ formal functions]

" People get drunk and then they are hungry, this makes a good business for me."Carlos Chuale, Informal Vendor, Sat 25th June 2011, Rua de Bagamoyo.

Figure 6.9 Sales woman selling beer and cold drinks. Photograph by Author 2011

Figure 6.10 Sales women sells hot food with a moibile kitchen. Photograph by Author 2011

Figure 6.11 Food sales occurs in the shade. Photograph by Author 2011

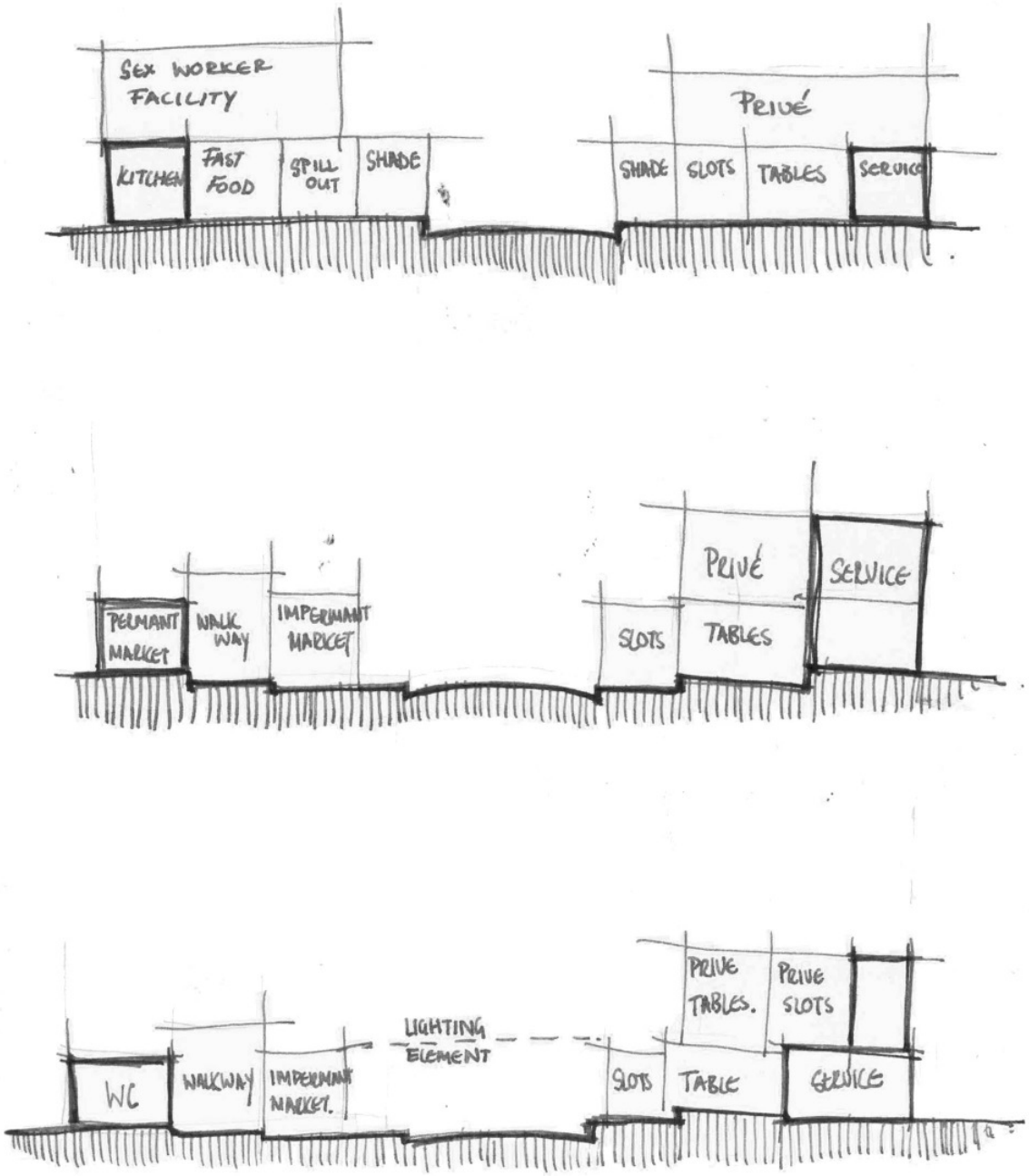


Figure 6.12 Parti development with the inclusion of functions.

6.2.3 Application of programme to a parti

Learning from the existing, a similar informal vending typology can be applied to a new intervention, while still catering to the need for a more formal fast food establishment for the comfort of tourists.

The different types of food and drink service providers should exist simultaneously (both formal and informal). This can be achieved architecturally by applying the concept of threshold. Degrees of permanence and formality can be determined by gradients of threshold spaces between them, setting up a framework for determining relationships between the formal and informal. See Fig 6.12 Food service applied to Parti.

The same logic prevails when applied to the casino structure .In Venturi's typological study of Las Vegas (Venturi et al 1972) and the architecture of it's casinos, patterns of table and slot position suggest a similar gradient. Where the tables should be a more protected private environment and the slots and machines more public due to the nature of machines.

Slot machines are more secure than tables as the can be secured to the ground and act similarly to a public ATM.

Public facilities such as bathrooms are necessary around a food service area and can be considered part of the servant spaces.

The first floor areas determined by the framework to be areas of private-public contradiction are then the most private of functions. To the south a changing and preparation space for the sex-workers and to the north, the privé section of the gaming space.

6.3 Sectional development_ Parti- Party

The concepts of harmonics of energy requires the spaces to create atmosphere in terms of light, sound and activity. Through a series of conceptual sections an understanding of how feeling should be created is determined using mediums that can express direct and reflective light as a means of creating that atmosphere

Using atmosphere as a generator informs how form and volume can be created in section .

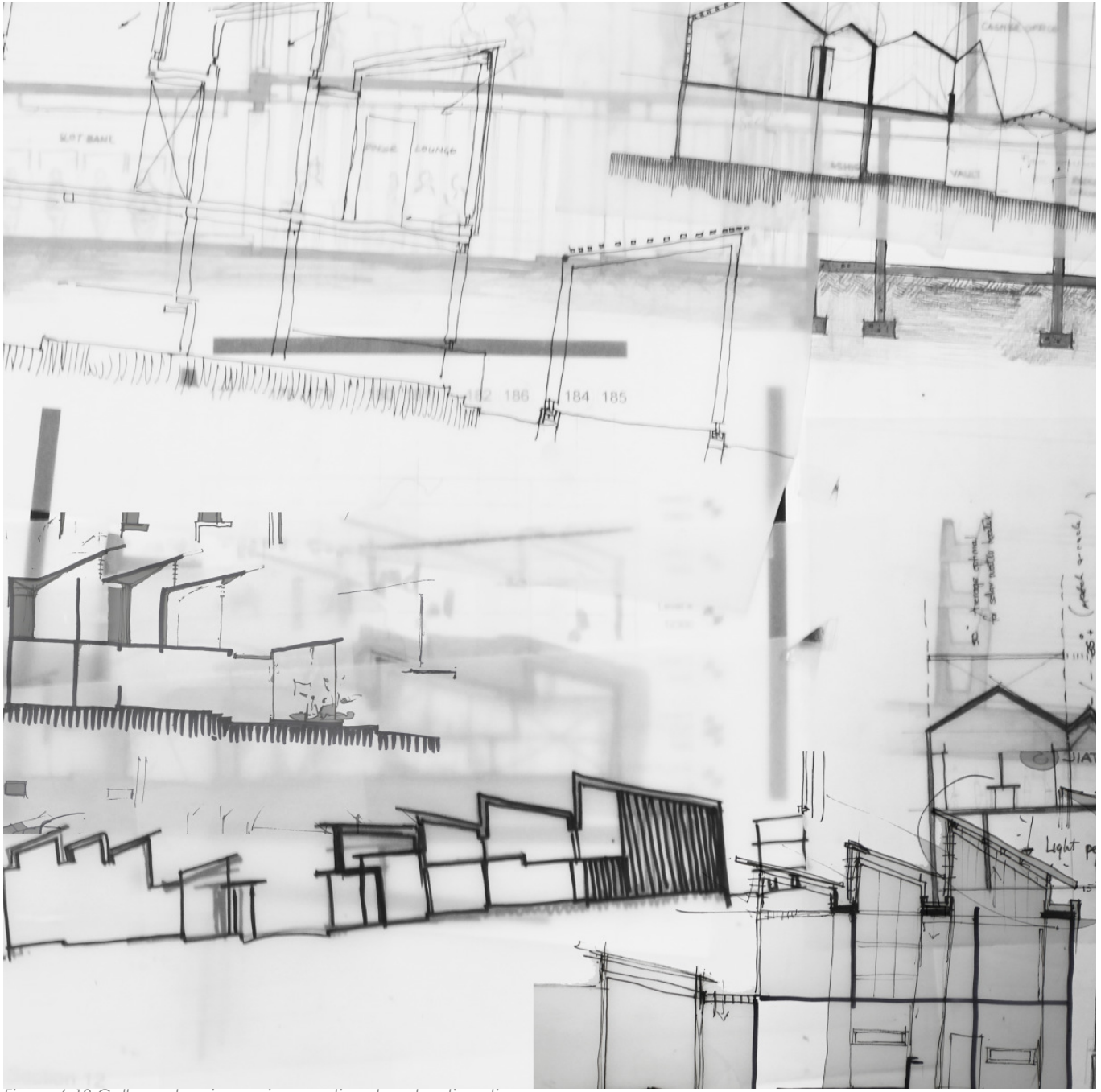


Figure 6.12 Collage showing various sectional explorationations.

6.3.1 The Atmosphere of Rua de Bagamoyo

Atmosphere, according to Zumthor is an aesthetic quality (Zumthor 2006).He defines architectural atmosphere as, "this singular density and mood, this feeling of presence, well-being, harmony, beauty... under whose spell I experience what I otherwise would not experience in precisely this way.(Zumthor 2006)

Figure 6.13 Initial attempt at showing a duality between masculine and feminine spaces as stereotomic and techtonic expressions.

The atmosphere of *Rua de Bagamoyo* is largely attributed to its different day-night activities, where the private is displayed in the public and the public introverted to private space.

Dependent on time it is either exposed or veiled by the architecture of the everyday, in a spectacle made dramatic by the changing light quality :piercing, projecting, reflecting, filtering and transformed by built form.

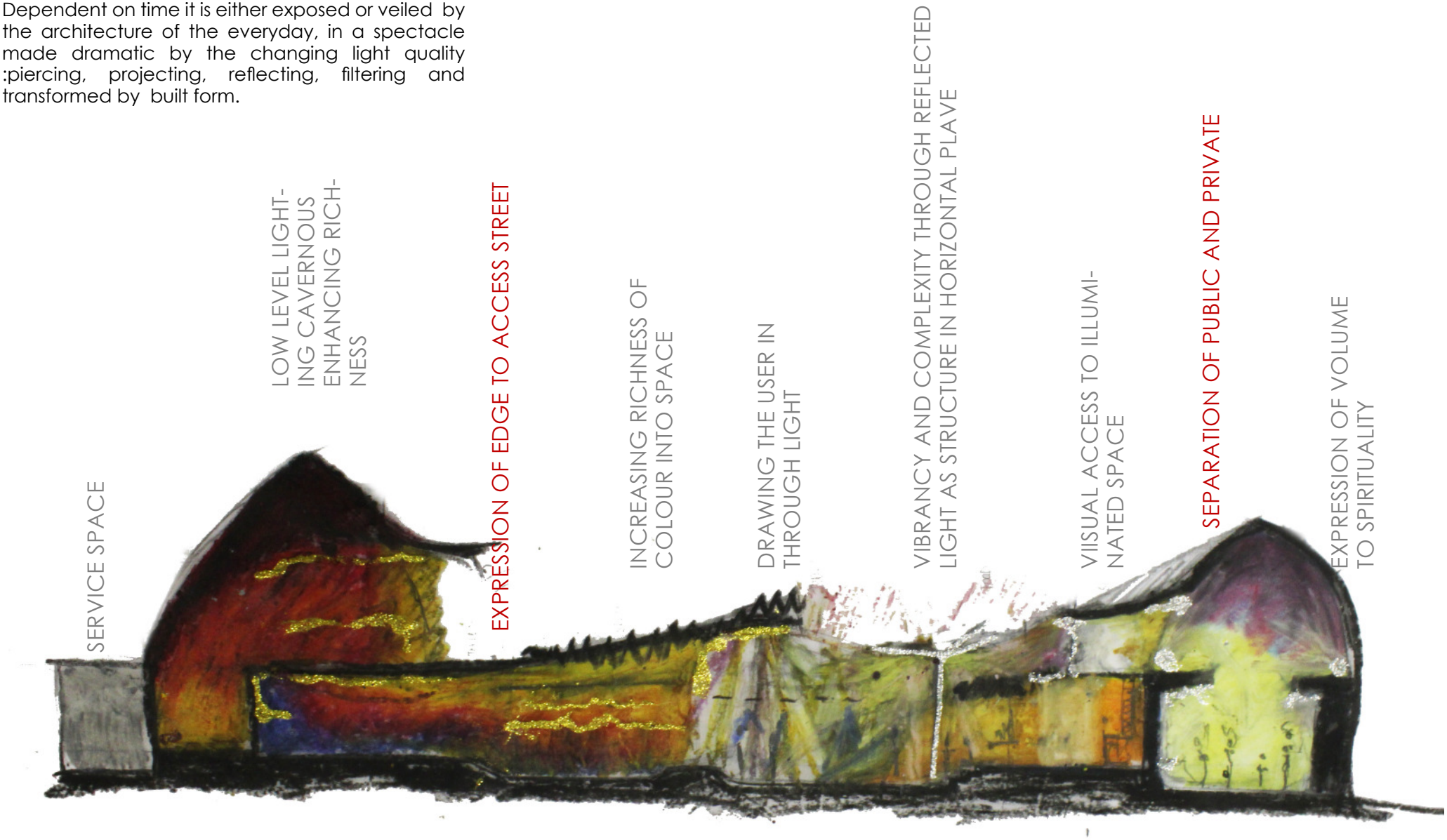


Figure 6.14 Expression of concept into a form exploring light as a method of creating atmosphere.

SIMPLIFICATION OF FORM
TO NEGATE UNNECESSARY
VOLUME

RESTRICTION OF ACCESS TO STREET

VOLUME REACTION TO
BARRIERS AND DEFINITE
THRESHOLD

EXPRESSIVE CONTINUITY
FROM STREET INTO GAMING
SPACE

EXPLORATION OF DIRECT
REFLECTED LIGHT

INTRODUCTION OF OPPOS-
ING LIGHT THRESHOLD

EXTRUSION OF PRIVATE TO
CONTRAST THE ENCLOSURE

ALLOWANCE FOR SERVICE SPACES

Figure 6.15 Simplicatin of form based on where light reaches. Further expression of the street as a vibrant place with the introduction of the mask and veil through

REGULARIZATION OF FORM TO ALLOW FOR PV CELLS

ARTICULATION OF ROOF PLANE TO ALLOW FOR NATURAL LIGHT

INTRODUCTION OF LAYERING ON HORIZONTAL PLANE

CONTINUATION OF ENCLOSURE

EXPRESSION OF STREET EDGE THROUGH INTRODUCTION OF SHADE

CELEBRATION OF NATURAL LIGHT AND ACCESS TO STREET

Figure 6. 15 Further simplification to allow for photovoltaics on the north and the introduction of natural light to the tectonic spaces.

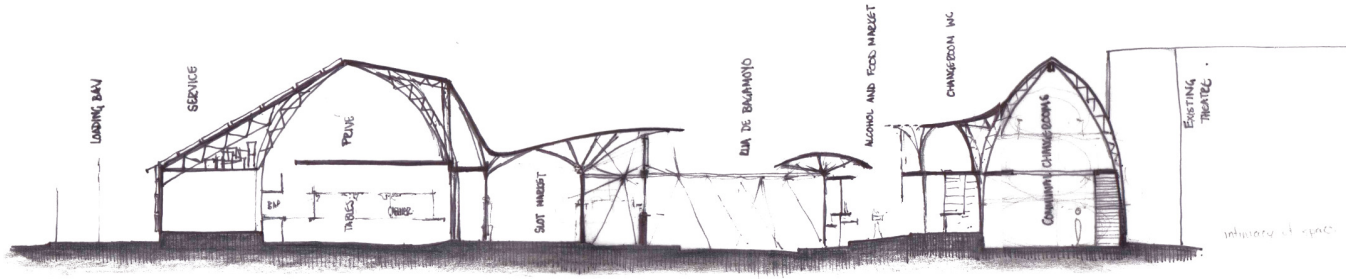


Figure 6.16 Section showing a building solution as a direct response to the conceptual development

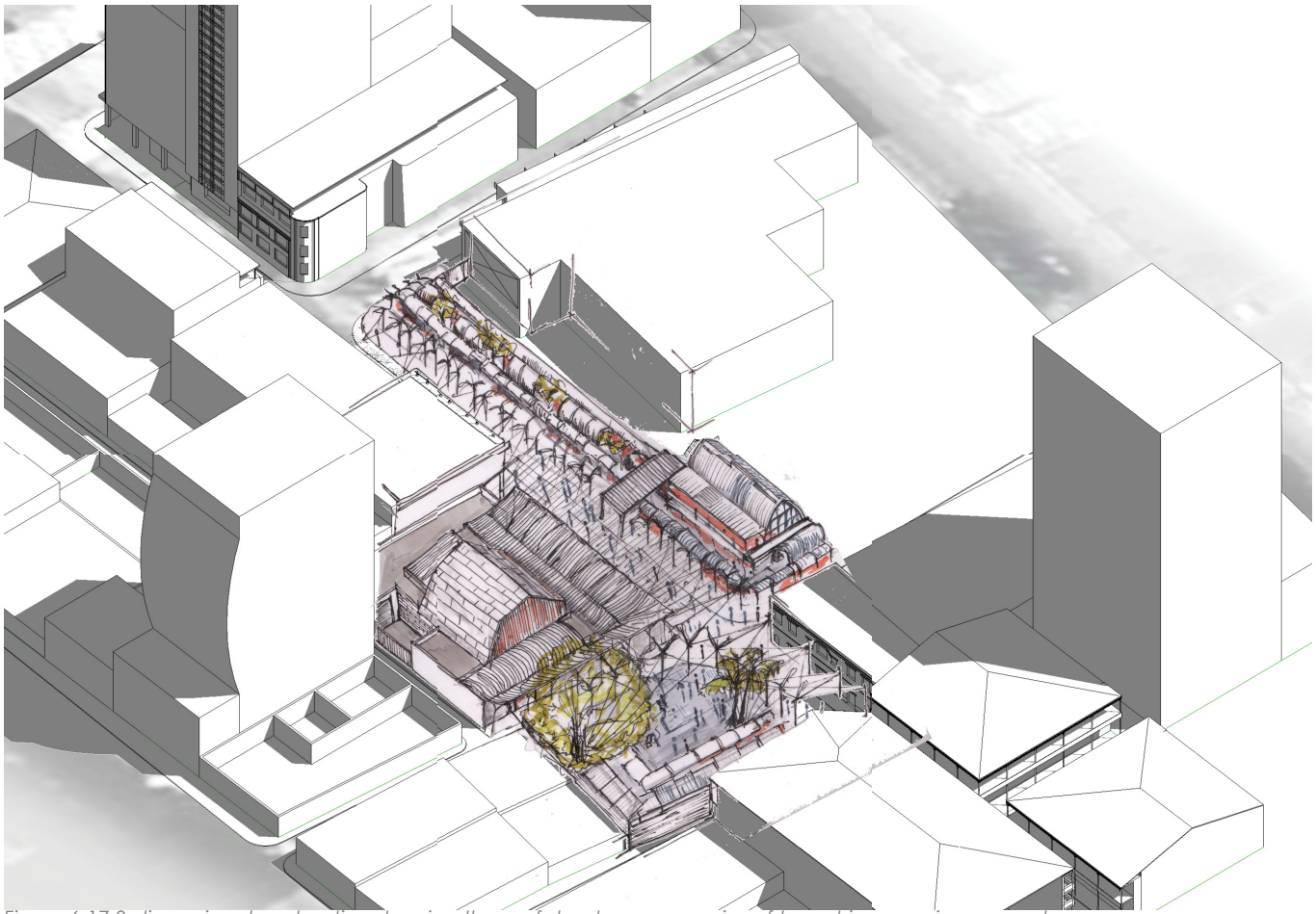


Figure 6.17 3-dimensional exploration showing the roof structures as a series of tapestries weaving an enclosure.

6.3.2 Direct form translation

Using the atmospheric response as a direct form generator creates a complex section of various different construction typologies to create the different volumes necessary. The plane of roof structure is then separated into two skins, that of direct light and that of reflective light, based on the concept derived from the prostitutes method of dressing to show glimpses of her underwear in a veil type architecture.

6.3.3 *Triangulation*

To simply the form and create continuity as well as attempting to simply the construction triangulation of the form to create a planar translation was attempted.

While this approach creates a sculptural object in the space and responds to the energy and atmosphere beneath it, it does not conform to the aesthetic of the street and does not relate to the visual context.

Although the form looks interesting it feels un-justified and to a point it is an unfounded approach.

This approach was a necessary exercise and while it does create a continuity between both sides of the street, more than the first approach the continuity with the rest of street is lost.

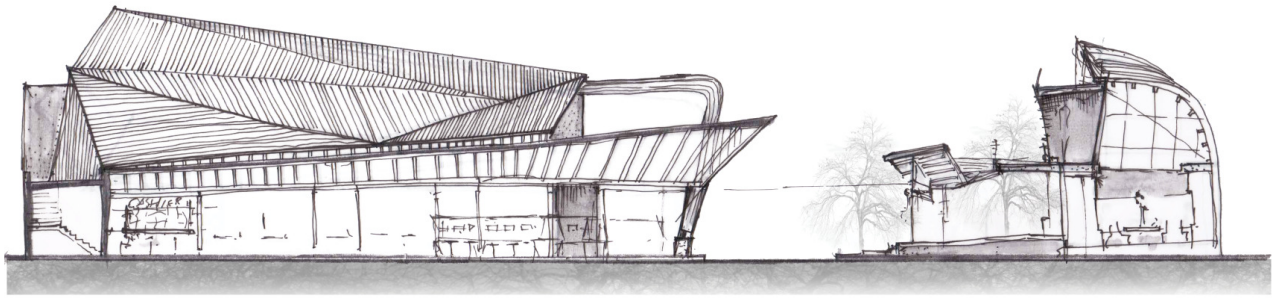


Figure 6.18 Section showing simplification of form through triangulation

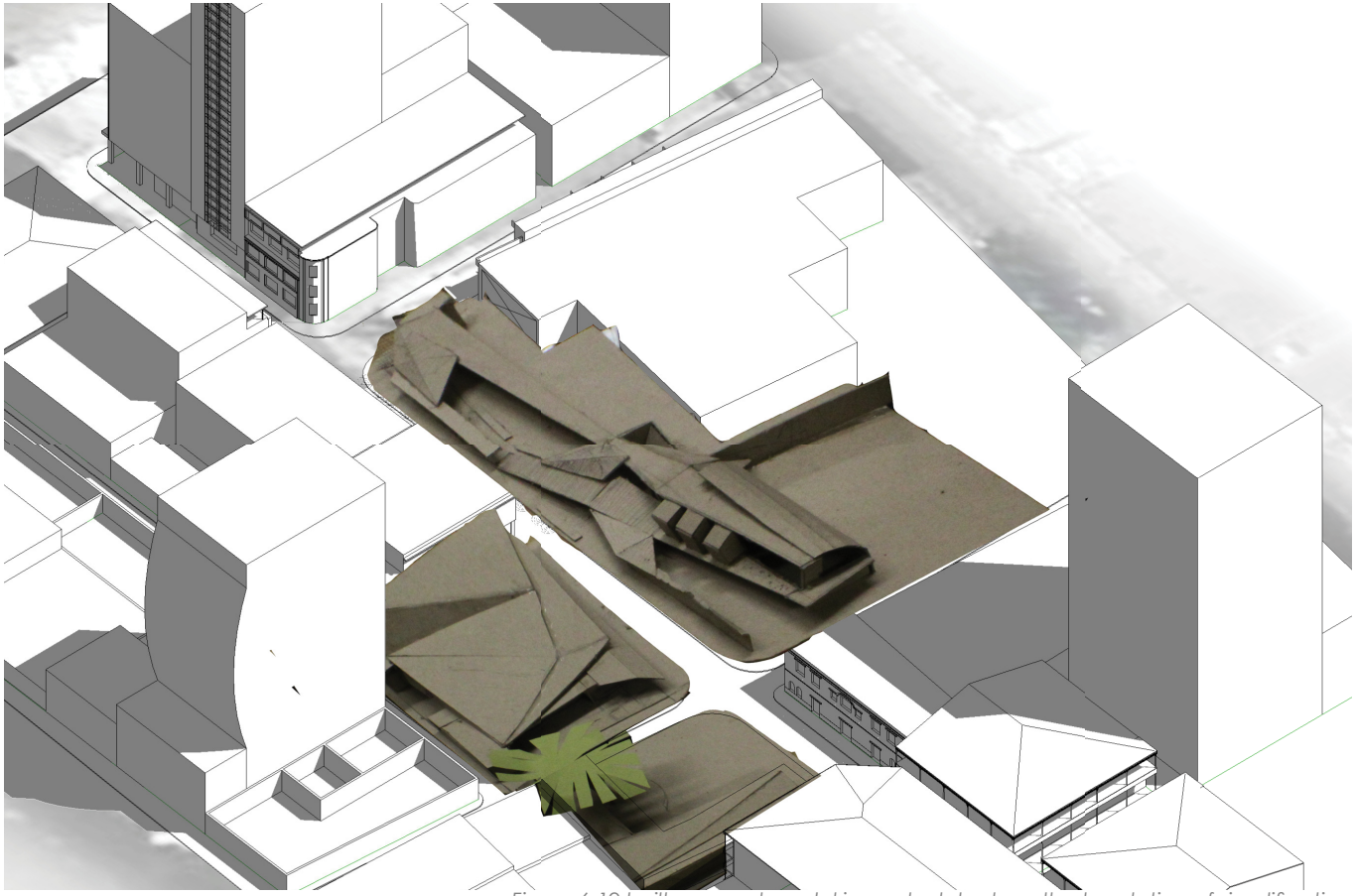


Figure 6.19 built concept model in context to show the translation of simplification

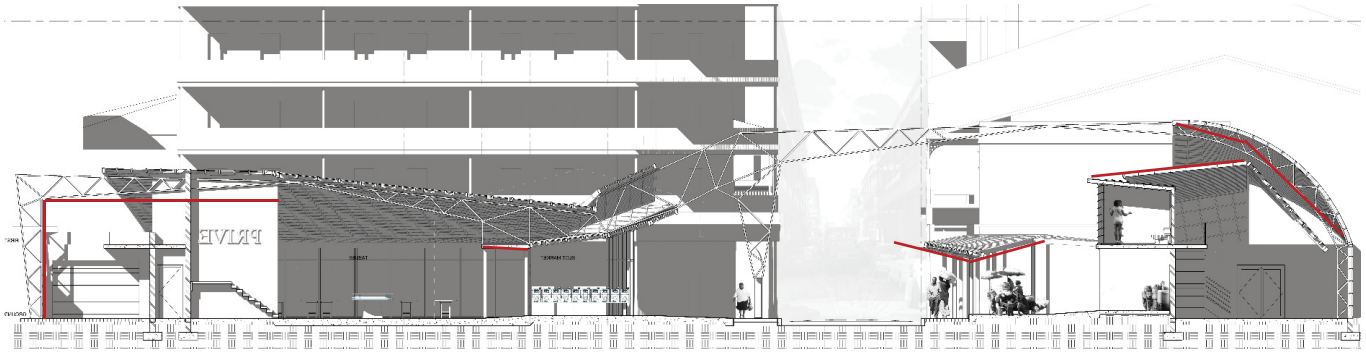


Figure 6.20 Section showing the re-introduction of a continous element spanning across the street

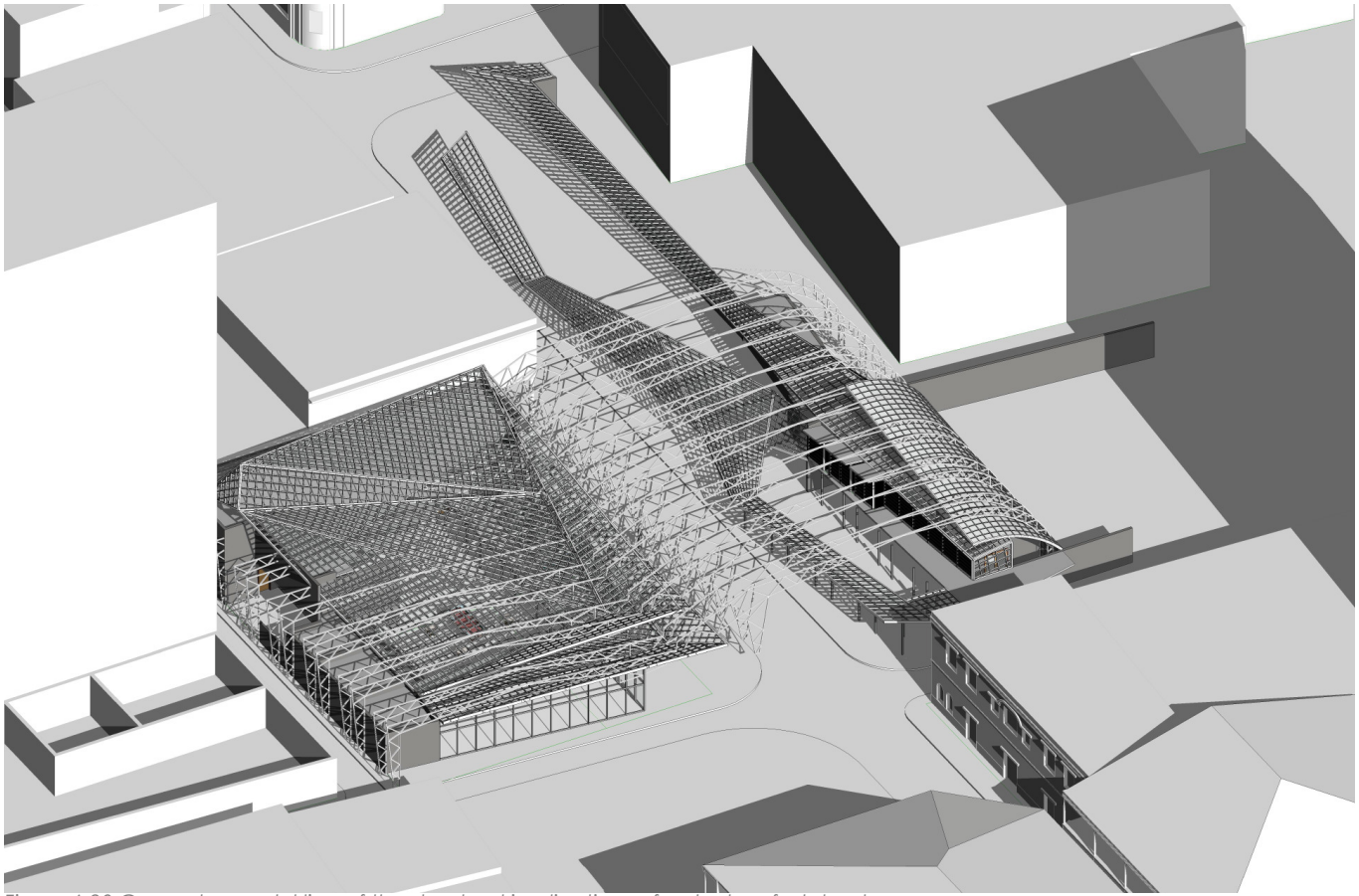


Figure 6.20 Computer model;ling of the structural implications of a dual roofed structure.

6.3.4 Continuity

The triangulated response, whilst valuable in its reaction to light and volume and the contextual harmonic, does not represent the continuity required to create a unified precinct.

An attempt to re-instate the continuity that was not achieved in the triangulated version involves a simplification of the roof skins and a more obvious separation between them. The first skin is then triangulated for structural reasons and the form becomes angular and the curved response to atmosphere simplified.

The second skin then becomes an element of continuity and light filtration. That stretches across both sides o the street enveloping the energy based on the need for control as this point as stipulated in the urban design lighting layout.

While this response responds both to the harmonic and the continuity it does not relate to Jane Wolford principles of visual contextualism and the form is foreign to the context.

To construct such a structure in the Mozambican context would also be increasingly difficult, as the material required would need to be imported and the labour would have to be trained.

6.3.5 *Simplification*

Further distillation of the idea is then required to have a simpler construction method, more visually contextual response without losing the atmosphere and continuity.

Firstly a series of sectional explorations were done using various forms and roof plane shapes, thereafter logic prevailed and the parti was considered as a possible form generator.

This method allows the atmosphere to be determine by volume and light and not by shape. The continuity is created through smaller connections and due to the aesthetic continuity, where the contextual relations to texture, rhythm and scale are valued.

Figure 6.21 Section showing roof as a method of creating implied continuity

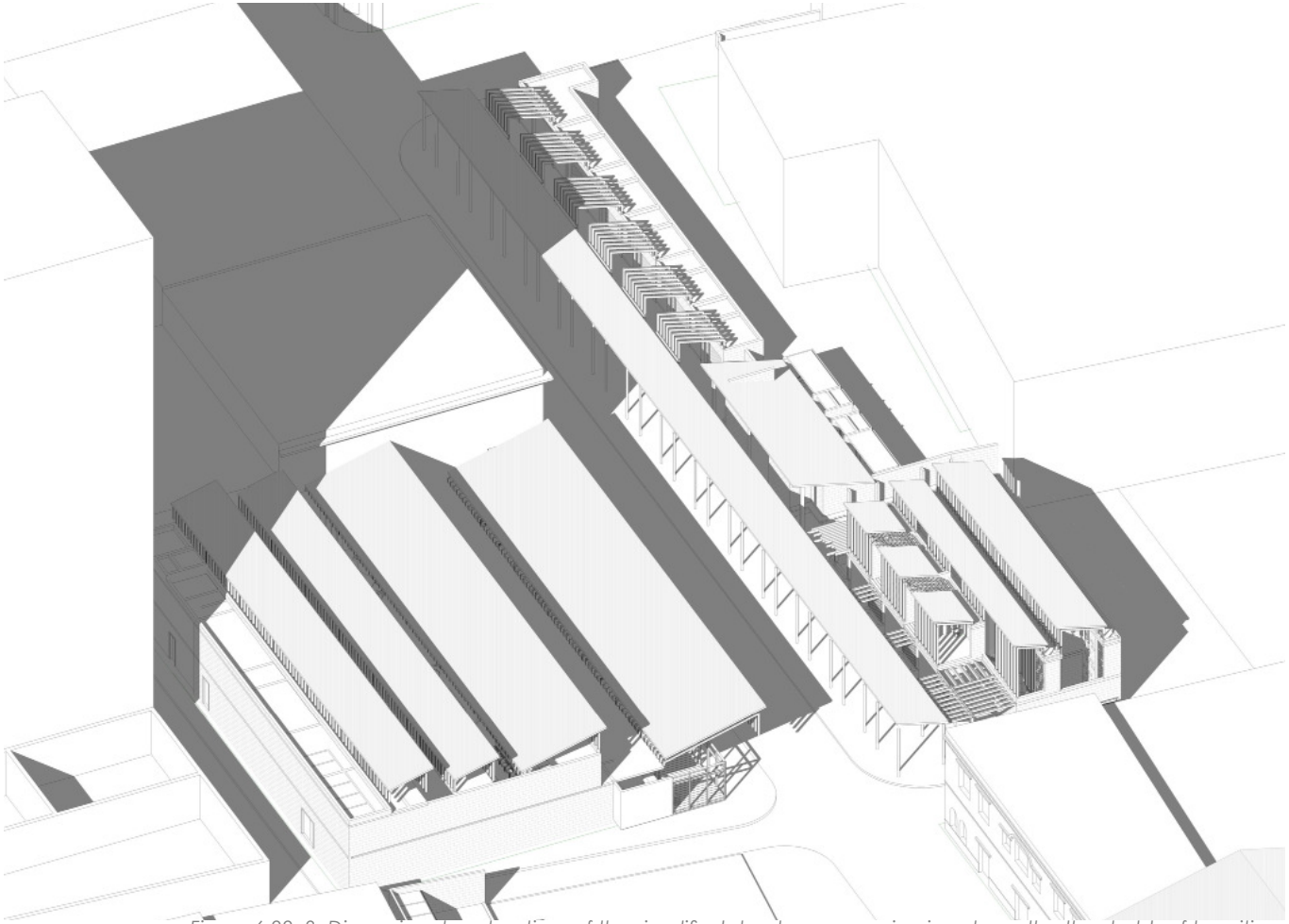


Figure 6.22 3- Dimensional exploration of the simplified structure expression in volume the thresholds of transition.

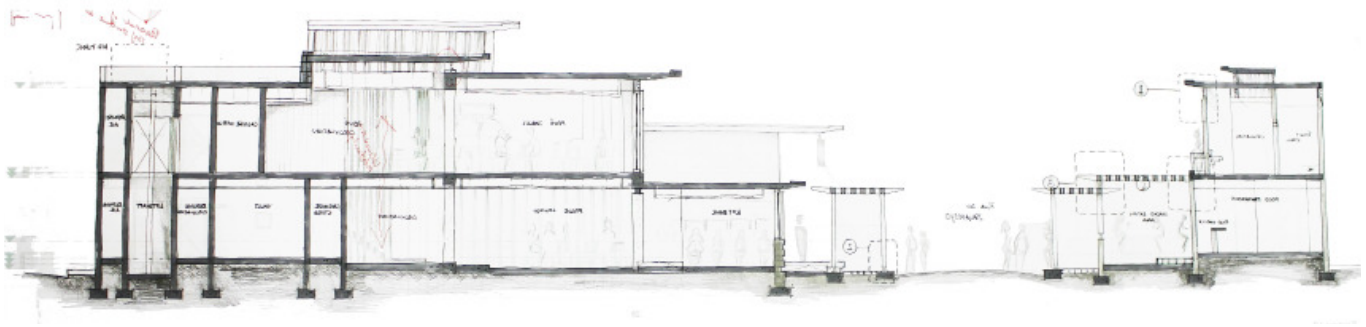
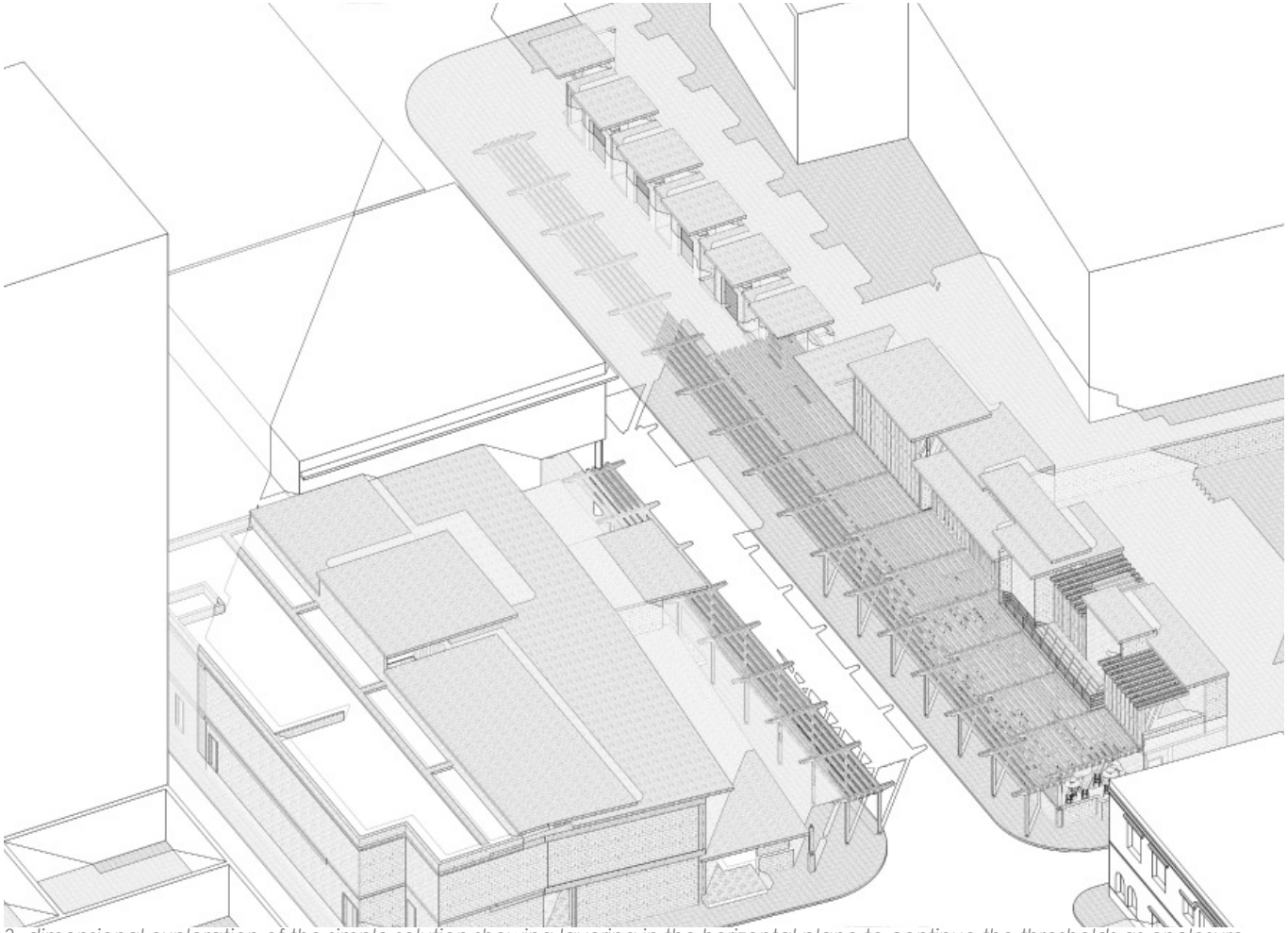


Figure 6.23 Section showing an even further simplification expressing the continuity by the tapering of the soffit.



3- dimensional exploration of the simple solution showing layering in the horizontal plane to continue the thresholds as enclosure.

6.3.6 *Expression of the palimpsest*

Having the simplified spatial volumes that express the threshold in the vertical, the last thing lacking is then the layers of the veil. To achieve this, the angle of the roof plane is simplified down into a horizontal plane, allowing for a layering of light filtration and shadow creation.

Spatial qualities are created simply by the volume and vertical scale and the method of dealing with light. Transition through thresholds is dealt with by the density of column size and spacing, Rhythm is created through the repetition of the columns and the transition from street to service space is dealt with in the way lightness of structure transitions into the solid and continuous.

CHAPTER 7

Architectural Design

Chapter 7 Architectural Intervention

7.1 Introduction

Having determined a specific site and appropriate architectural language, functional planning is required to fulfill the programmatic criteria as well as allowing for the thresholds of transition and public-private gradients.

The urban plan has already determined how the served and servant spaces interact, and where service entrances to the precinct should be situated. The urban plan therefore influences the positions of functions within a detailed design.

The conceptual development determines the atmosphere that should be created and the design development of volumetric exploration determines the form and the junctions between different volumetric considerations are dealt with in terms of the exploration of threshold.

Herman Hertzberger in his text *Lessons for students in Architecture;* defines a threshold as "*the key to the transition and connection between areas of divergent territorial claims and, as a place in its own right, it constitutes essentially, the spatial condition for the meeting and dialogue between areas of different orders." He describes the notion of being within a secure place of the private whilst interacting with the public space and contributes the duality created to " the spatial quality of the threshold in its own right, a place where two worlds overlap.* (HERTZBERGER, 1991: 32)

Precedent studies such as that of *Emperors Palace* and *Monte Casino*[1] have informed the layouts and inner workings of the public service space of the gaming facility.[2]

The functioning of the southern building containing

Figure 7.1 Photograph showing how thresholds are occuppied and articulated through screeing in the existing. Photograph by Author 2011

1 See Section 5.12.3 Precedent studies

2 Images and direct reference to the layouts of existing casino service spaces cannot be directly referenced in this document due to security concerns and confidentiality agreements.

Figure 7.2 Site plan showing area of focus including surrounding structures

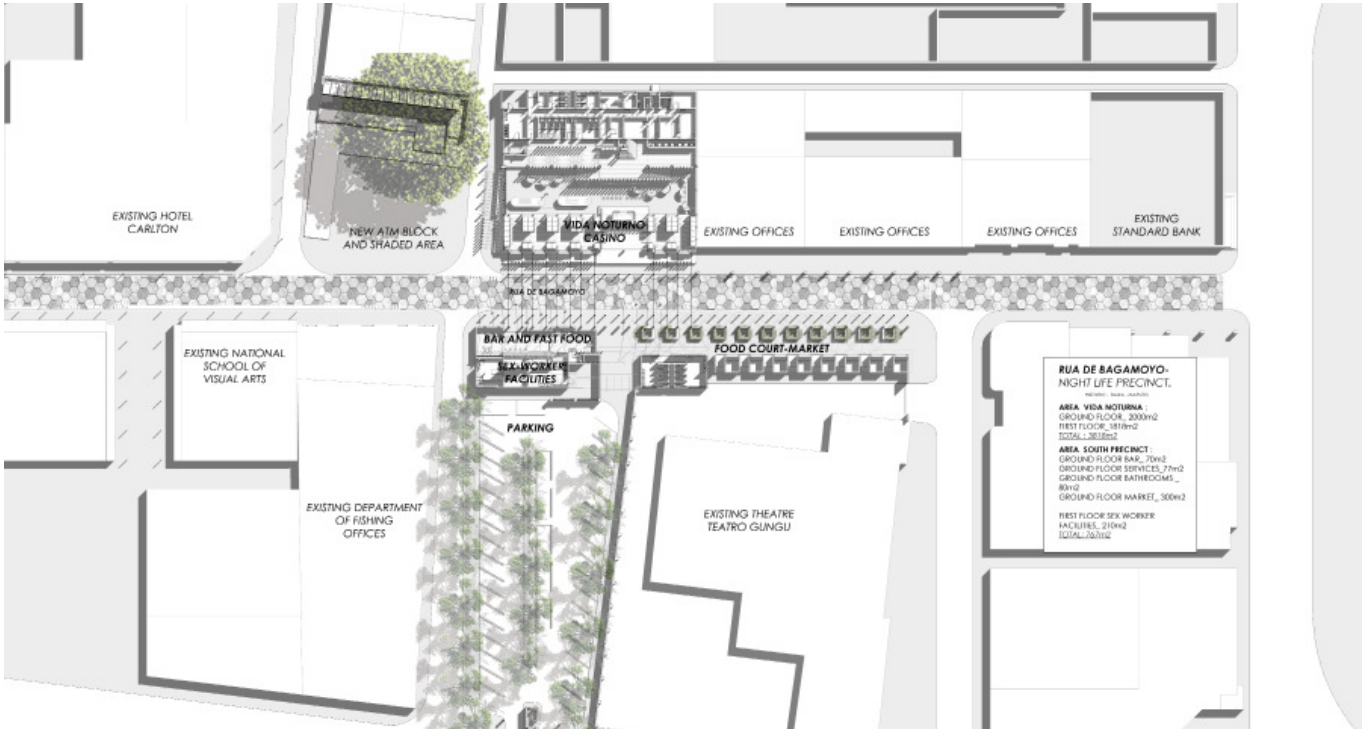


Figure 7.3 Site plan showing interventions and their relationship to the street.

the food services, market and bathroom facilities is determined through an exploration of contextual food services as well as an intuitive understanding of a space that allows for the preparation for sex work.

7.2 Definitions for this chapter:

The gaming industry has certain jargon terms to describe functions specific to this industry.

Redline - A jargon term used to describes the areas of a casino service space secured and allocated for the movement, processing and storage of money.

Man trap- A jargon term describing an entrance consisting of two or more doors where only one can be opened at any one time, creating a secured access.

Soft count- The counting of chips.

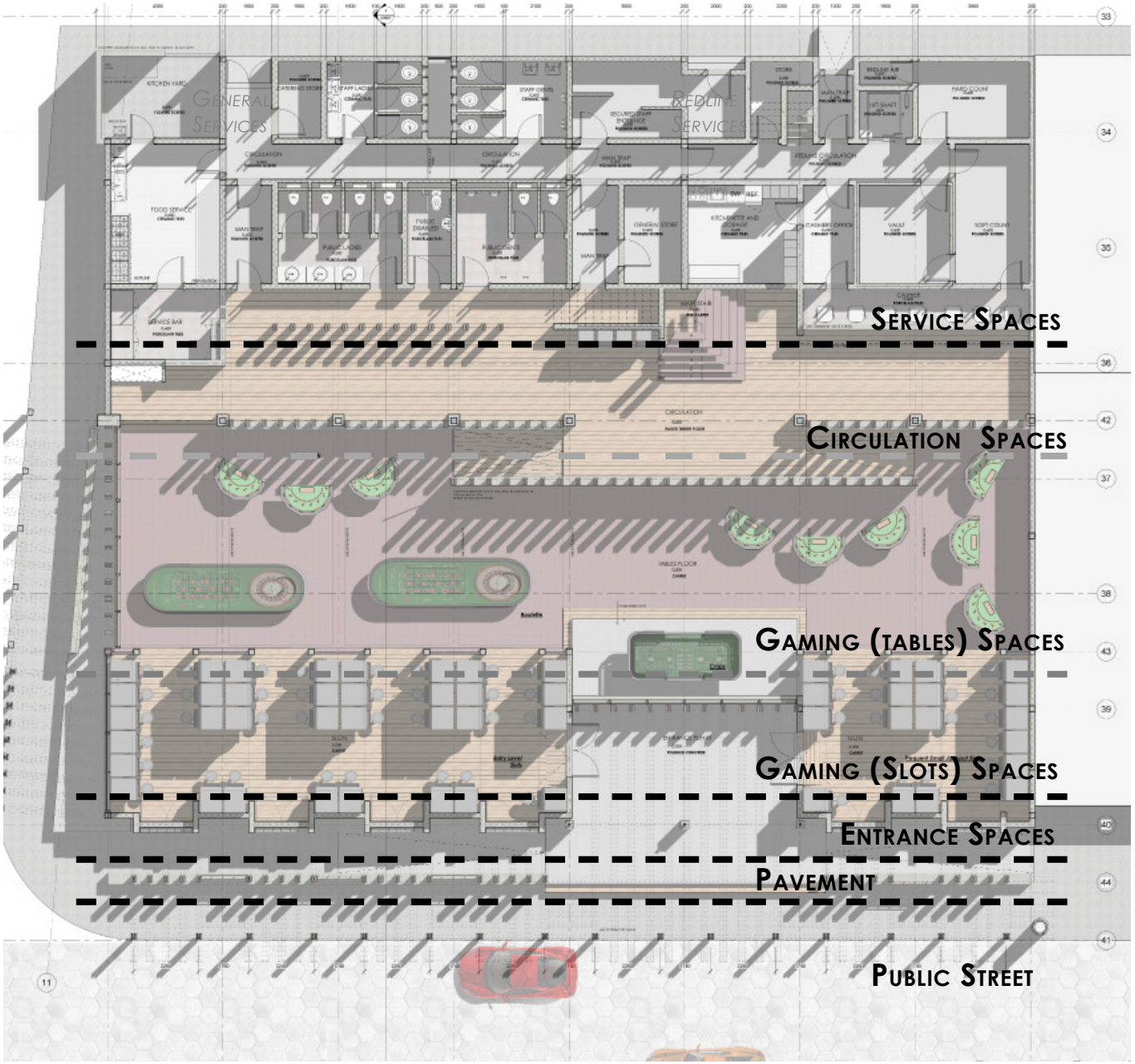
Hard count- The counting of money in the form of cash.

Prive- Private space within a gaming environment consisting of high stakes games and expensive slot machines. Usually the most elaborately decorated providing for the "high rollers" or "whales".

High Roller- A gambler who places high bets

Whale- Sought-after casino clientele known for the large sums spend on gaming.

Figure 7.4 .South Elevation.of the gaming space.



7.3 The planning a gaming space.

The gaming space consists of three major spatial differentiations in terms of the public-private relationship. The service spaces consisting of *redline* services areas and general service spaces, and the gaming floor itself being primarily public. Conceptually the public gaming floor is articulated to allow for a gradient of public/private relationships as it can be considered private space when compared to the street. Referring to Hertzberger's notion of threshold as place and not a demarcation or line, it follows that the public component of the gaming floor may act as a threshold or series thereof.

Further divisions of thresholds occur within the public gaming floor itself as the transition exists between slot machines as a densely articulated space in the tables which are planned in terms of the difficulty level of the games the thirdly the circulation space that acts as a transition into the services spaces.

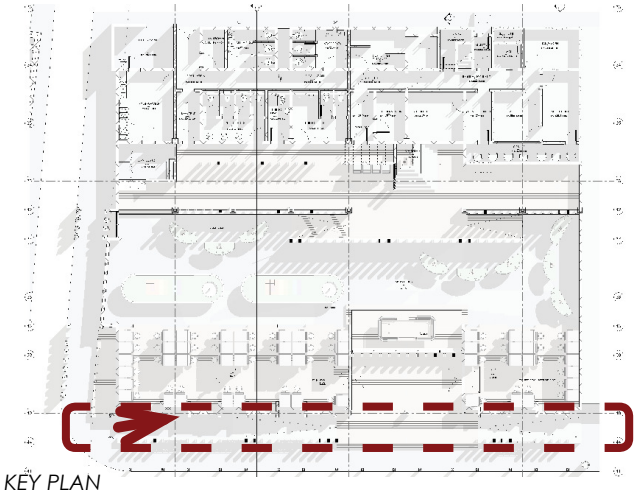
Figure 7.5 Plan of the gaming space showing various layers of public and private relationships through transition.

7.3.1 PUBLIC SPACES AND STREET INTERFACE

The planning of the gaming space as a series of thresholds requires that the spaces are bounded by permeable and interactive interfaces between them, allowing for physical connection at points and for only a visual connection at others as well as the allowance of indirect visual access that creates intrigue by the partial visual access or veiled visual access to the spaces.

The first layer of transition is that of an access ramp that captures pedestrians from the pavement. The screening and veil that occurs serves a dual purpose as a decorative handrail and as a climatic shading screen, placed vertically to control sunlight from the east and west in the early mornings and late afternoons. These ramps capture pedestrians from both sides of the entrance leading to a raised entrance. The entrance is raised to protect from the possibly of flooding in the "low lying" Baixa. This raised platform then acts as a stage in the street and a position for security personnel and hosts to welcome patrons.

A low wall placed between the public pavement and the ramp to act as a base for the railings and in informal urban surface to be used as seating tor a sales platform. *Refer to Section 3.7 analysis*



KEY PLAN

Figure 7.6 Sketch showing interaction between street -pavement and entrance ramp.

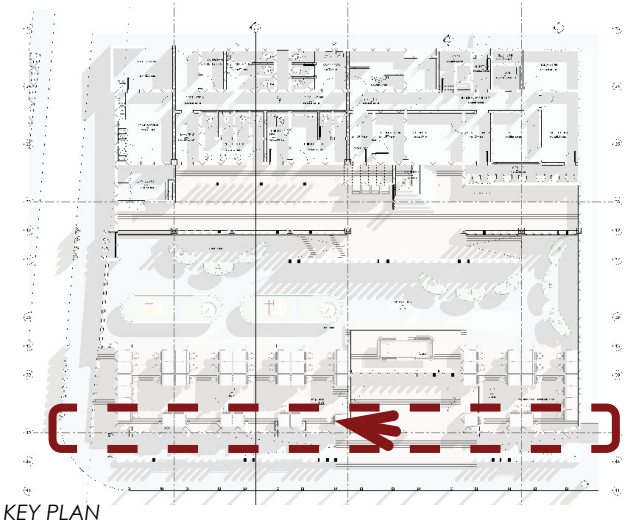
Figure 7.7 Sketch showing ramp and interirr interaction with allowance for reflection and views into the interior space.

7.3.2 Inside Outside relationship

The second layer occurs at the interface of inside and outside.

The street edge between *Rua de Bagamoyo* and the internal space becomes the primary threshold that is then articulated to relate to the users both inside and outside of the barrier. This threshold has the security requirement with regards to access control and visibility, but is required to be an inviting and manipulative space that attempts to draw in a user.

This threshold allows for visual access into the gaming facility as well as reflective surfaces for the sex workers to use to indirectly view for clientele see *section 3.7*. The wall is articulated to create alcoves for signage and users to appropriate.

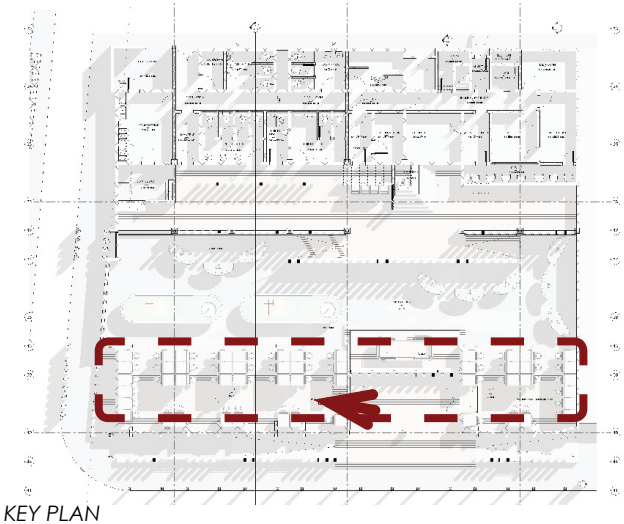


KEY PLAN

7.3.3 Gaming Space

The first function of the gaming facility is proposed to be slot machines as they are the most secure type of gaming equipment, there can be a less secure threshold between them and the street. A visual accessibility is introduced to allow the user to feel as though they may gamble from the street. The machines themselves are scaled such that they are space defining elements and can be used to enclose and manipulate space.

Access to the slot areas is from a central platform two stairs above street level forcing users to move through the slots to access the rest of the space. The noise created by the machines and the sound of others playing as well as the low volume of this space create the mood for the encounter with the next stage of transition. This entrance drops through an ramp down into a lower space. The sunken floor and contained volume attempt to create an intimate space which is emphasized through the placement of machines in smaller alcoves.



KEY PLAN

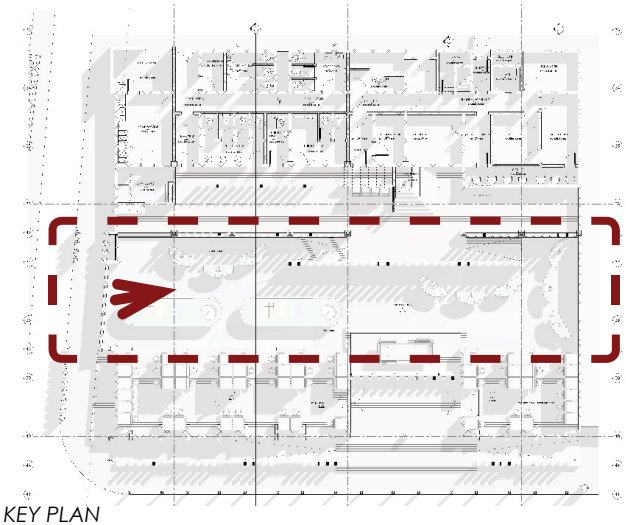
Figure 7.8 Sketch showing initial interior space (slots)

Figure7.9 Sketch showing tables floor and screen circulation space.

7.3.4 Entry level gaming to high stakes tables

The transition from slots into tables does not consist in a change in level to emphasize the ease of movement into a larger risk gaming situation, the volume increases which a ceiling step and the barrier between the spaces is articulate through a series of screens creating the intrigue of a veiled effect as well as many entrances into the space. The user moves directly from the machines to be met by the horizontal barrier of a roulette table enticing them to play. The passage to walk around these tables is narrow creating a difficulty in continuance and urges the user to pause at this point and interact with the game.

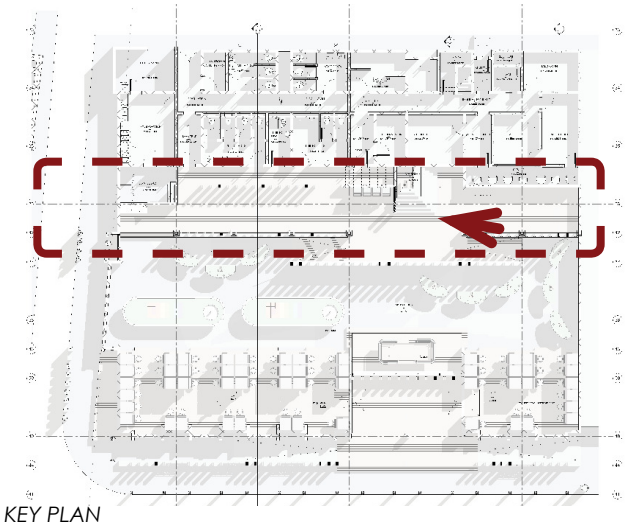
Once seated the user may view the other more complicated games such as black jack and craps and is enticed to continue through this visual relationship. The same ideology to applied to the black jack tables that distract the user while reaching the ramp into the circulation space.



KEY PLAN

7.3.5 Floor to circulation

To draw the user into the *prive* (first floor) a screened double volume space is placed at the stair case which is proposed as a grand stair rising into a decadent volume creating interest with the screened and filtered light from above. The immediate permeation of the barrier between the gaming tables and the circulation space is screened using ceiling height, decorative screens obscuring the views between the spaces with a similar method of transition upwards by means of ramp to give the feeling of reaching a" higher place".



KEY PLAN

Figure 7.10 Sketch showing the circulation space and prive entrance.

7.3.6 Service spaces

The service spaces are situated to the north of the site due to the parameters provided by the urban layout. These spaces on ground floor are not accessible to the public and can then be considered the most private of spaces on this level and require an interface to the public realm.

The service spaces are controlled by two sets of criteria: general service and redline areas. General service areas contain bar and food preparation facilities, staff facilities and storage where redline services require spaces for counting, and storage of money and chips in the form a vault. "Redline" areas and general services have different requirements of staff and therefore the passage between the two spaces must be controlled, this is achieved by implementation of a *man trap*.

The vault itself is the most secured area and is surrounded by a double layer of concrete walling, the cavity between the two skins of concrete is then utilized for the other redline services that require only one skin of concrete a security measure such as the counting and cashier.

Washrooms are also housed within the service spaces. Two sets are required, one set within the secured area for staff and one set providing for the public. Proportions, finishes and sanitary ware fittings of the washrooms differ due to the requirement variations it is necessary to provide luxurious facilities to the public, but a more modest approach is acceptable for the staff.

The interface between the service areas and the gaming floor is then articulated through the implementation of "mantraps" into the redline areas, an two interactive interfaces in the bar and cashier. The cashier is a secured interface containing a screened interaction, where the bar which does not access the redline areas is an open interface. The interface between the washroom is then a screened but accessible transition.

7.4 Prive space

The *privé* as the most exclusive and private of gaming spaces needs to have an atmosphere of elitism, the place needs to urge people to spend larger amounts and place higher bets. Placing it on the first floor makes it physically and psychologically higher. Visual access is veiled from both the ground floor and from the street.

7.4.1 Service Spaces

From the service space and the circulation area on the ground floor, two staircases and service elevator are the methods of vertical circulation. The same disjunction occurs in the proportion and treatments of these circulation elements as with the washrooms in that the public elements are larger and more elaborately finished while the service areas are purely functional. Within the first floor service spaces there is provision for the vertical access of redline functions, office functions and a surveillance office where closed-circuit television cameras are monitored. Storage is important specifically to the first floor where smaller spaces are articulated allowing for a changing of games creating a need for tables storage. Data storage is as important as physical storage and contained within the redline secured area al the data store and server is contained.

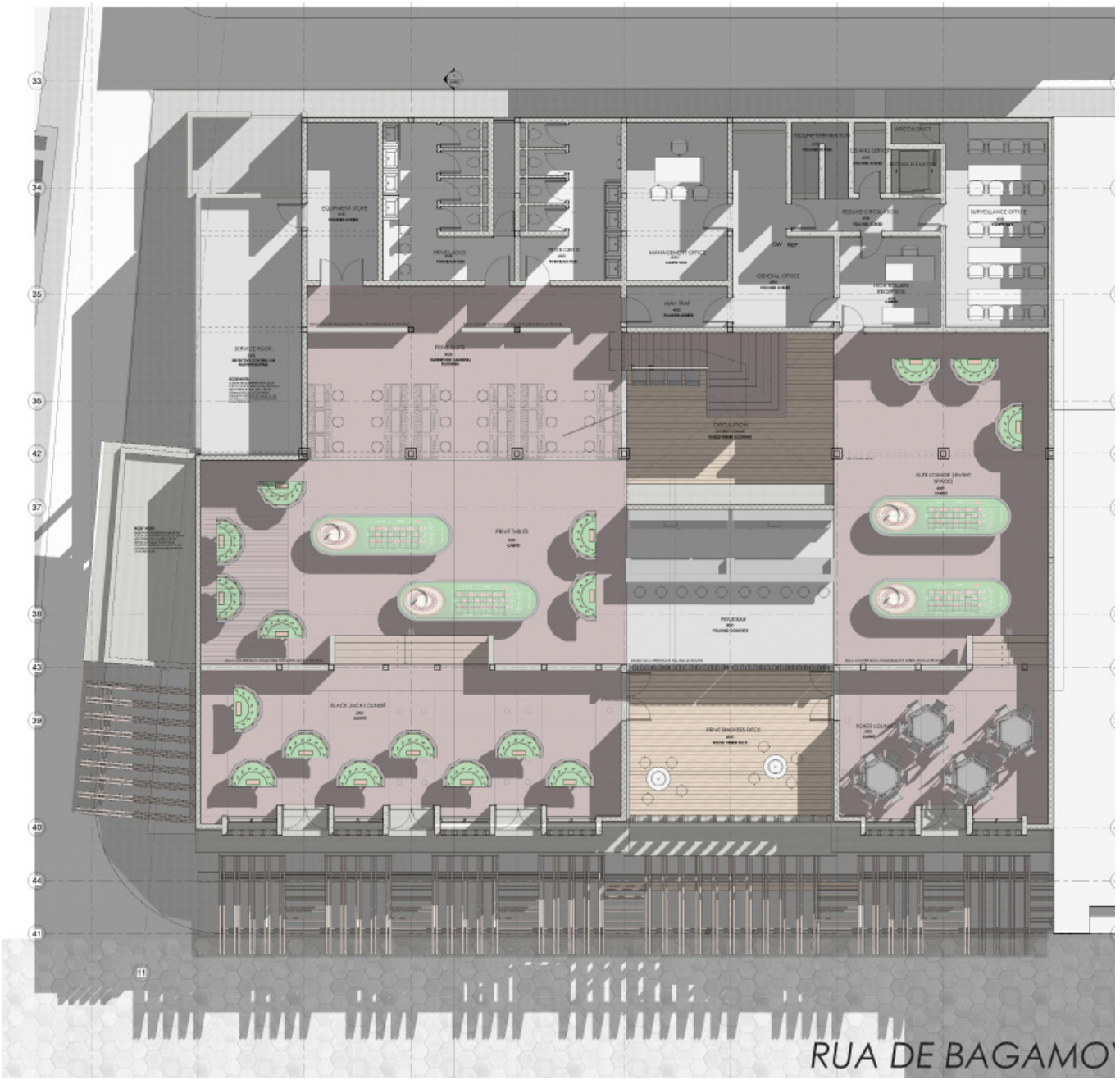
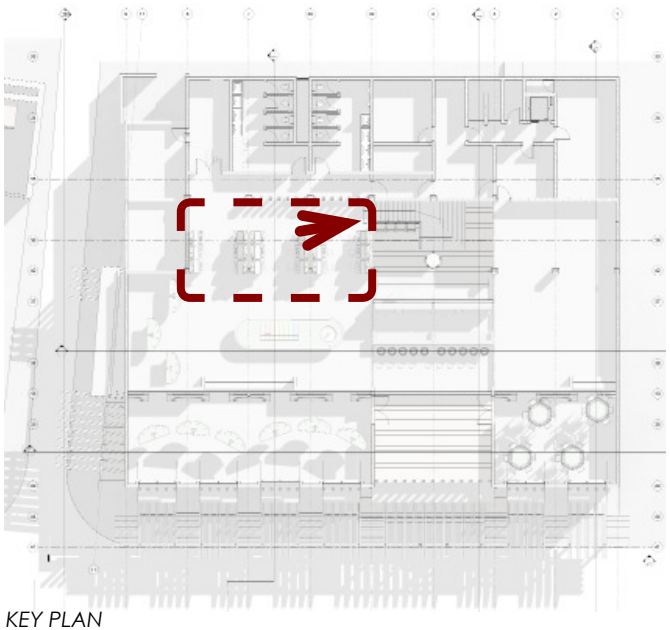


Figure 7.12 First floor plan of gaming facilty Showing services and prive.

Figure 7.11 Sketch showing interaction of circulation to Prive slots

7.4.2 Circulation

As the public stair acts as the habitable threshold between two horizontal planes, it becomes a space for transition. Light and screens are used to create an atmospheric change as the user moves through the horizontal barrier. The arrival into the *prive* space is met with a permeable screen to the service areas to the north (right side of a user) with the *prive* slots to their left. The transition between circulation and services spaces has the same responses as on the ground floor but due to the movement into slots the permeation on the Southern side remains more open, this is achieved through larger openings and negating a change in level between slots and circulation space. The screens only create a barrier at the initial arrival at the top of the stair but as a user moves along the route the permeations become more visually permeable.

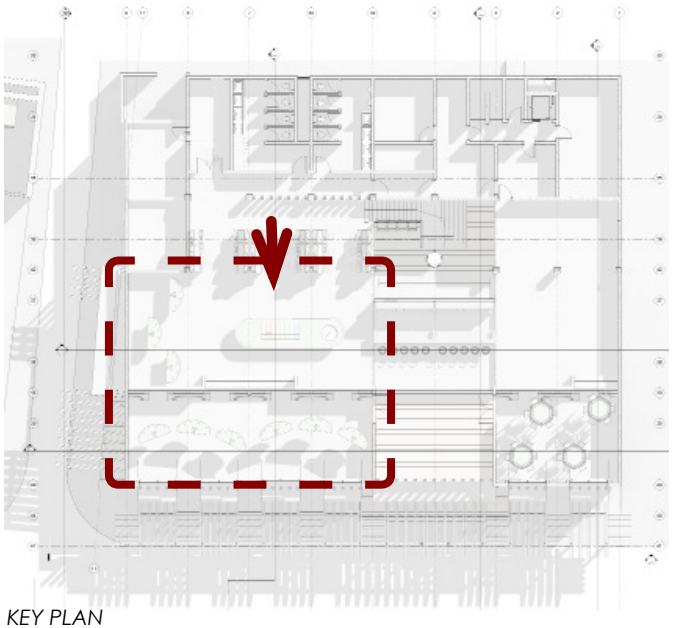


KEY PLAN

7.4.3 Slots and tables

The same methodology employed in creating the transition to gaming tables is used as the ground floor where the user is drawn through the machines to the more expensive table games.

The ceiling level is dropped as access to the tables floor once again creating more intimacy within the space. Once again the initial game available is a roulette table with the black jack being the next space of arrival. The tables floor allows for transition in an east-west direction, allowing for a private enclosed space on the western most side of the building directly adjacent to the neighboring building. To access this enclosed tables floor, A bar pit is proposed with a lower floor level as a space to rest in-between games, negating the need of users to leave the *prive* space.



KEY PLAN

Figure 7.11 Entrance to table through the slots as an articulation of threshold

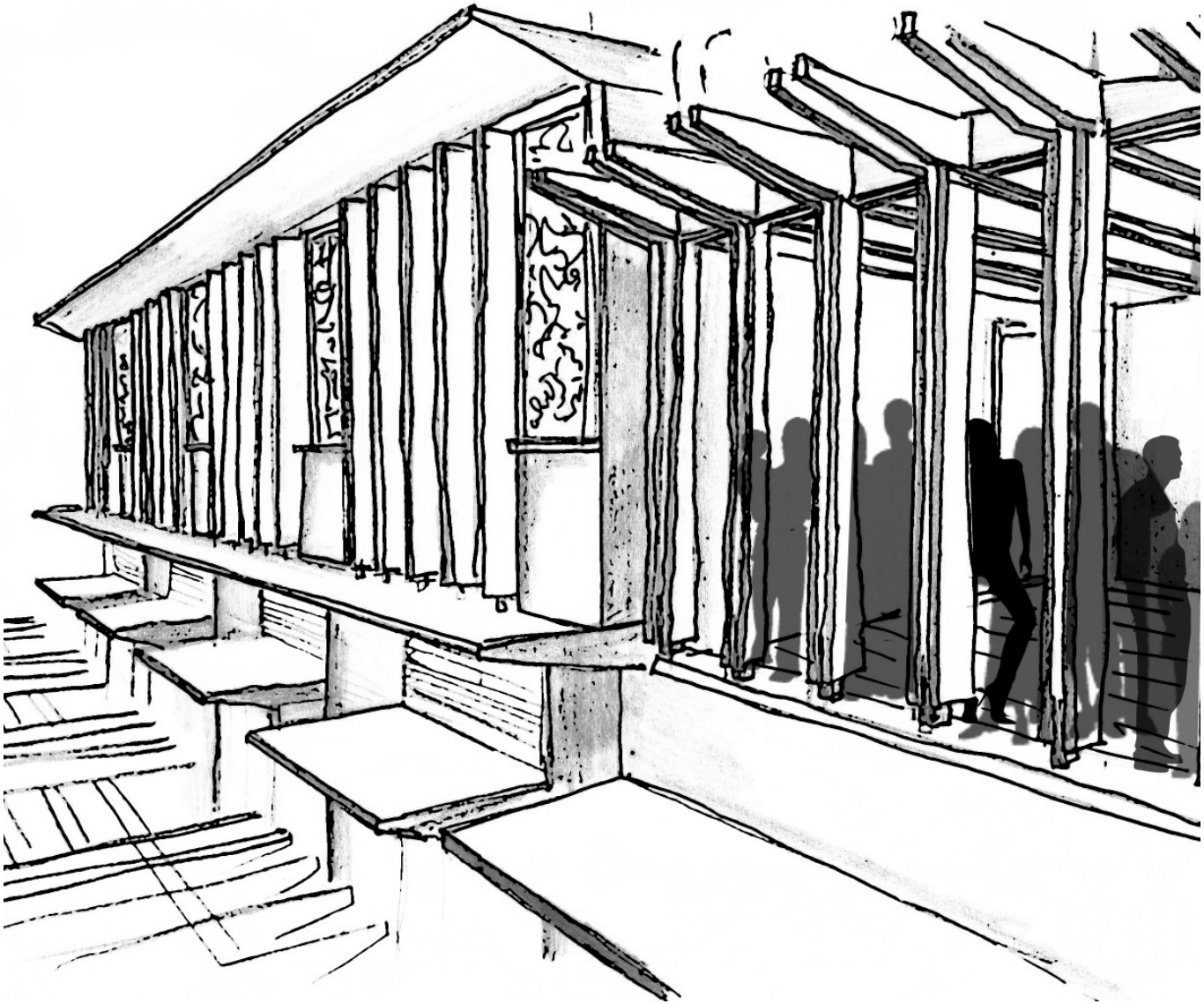


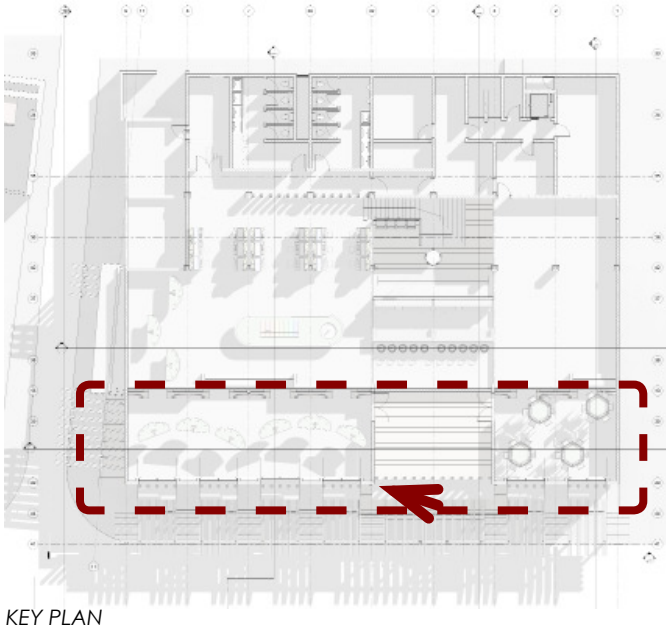
Figure 7.12 First floor street interaction Screening elements exist on horizontal an vertical planes.

7.4.4 First floor relationship to the street

The same methodology employed in creating the transition to gaming tables is used as the ground floor where the user is drawn through the machines to the more expensive table games.

The *privé* space, being considered the most private and exclusive of the public spaces is a contradictory play on the public-private relationship which occurs at the southern most facade. Allowing the space to be visually accessible to street allows for the viewer to see down into the street space while the view upwards from the public is obscured through the lighting in the street.

The spaces created for tables at this edge are enclosed in the form of raised private rooms creating the feeling of elevation contrasted by the low ceiling and small intimate volume which is the accessible to the outside through a veiled screening. These rooms are separated from each other by an open outside deck which emphasizes the line of entrance below and allows for greater street interaction.



KEY PLAN

7.5 Food Court

The South side of *Rua de Bagamoyo* within the confines of the identified site is allocated as the food court and public facilities to the greater night life precinct. As part of those public facilities provision for the sex workers is provided not in the form of a formal brothel or even as a place for the sex act but rather as a facility for preparation. It also provides the threshold of transition into *Rua de Bagamoyo* from the new parking area provided for on the urban plan.

Figure 7.13 Photograph indicating method of appropriating space employed in the existing.

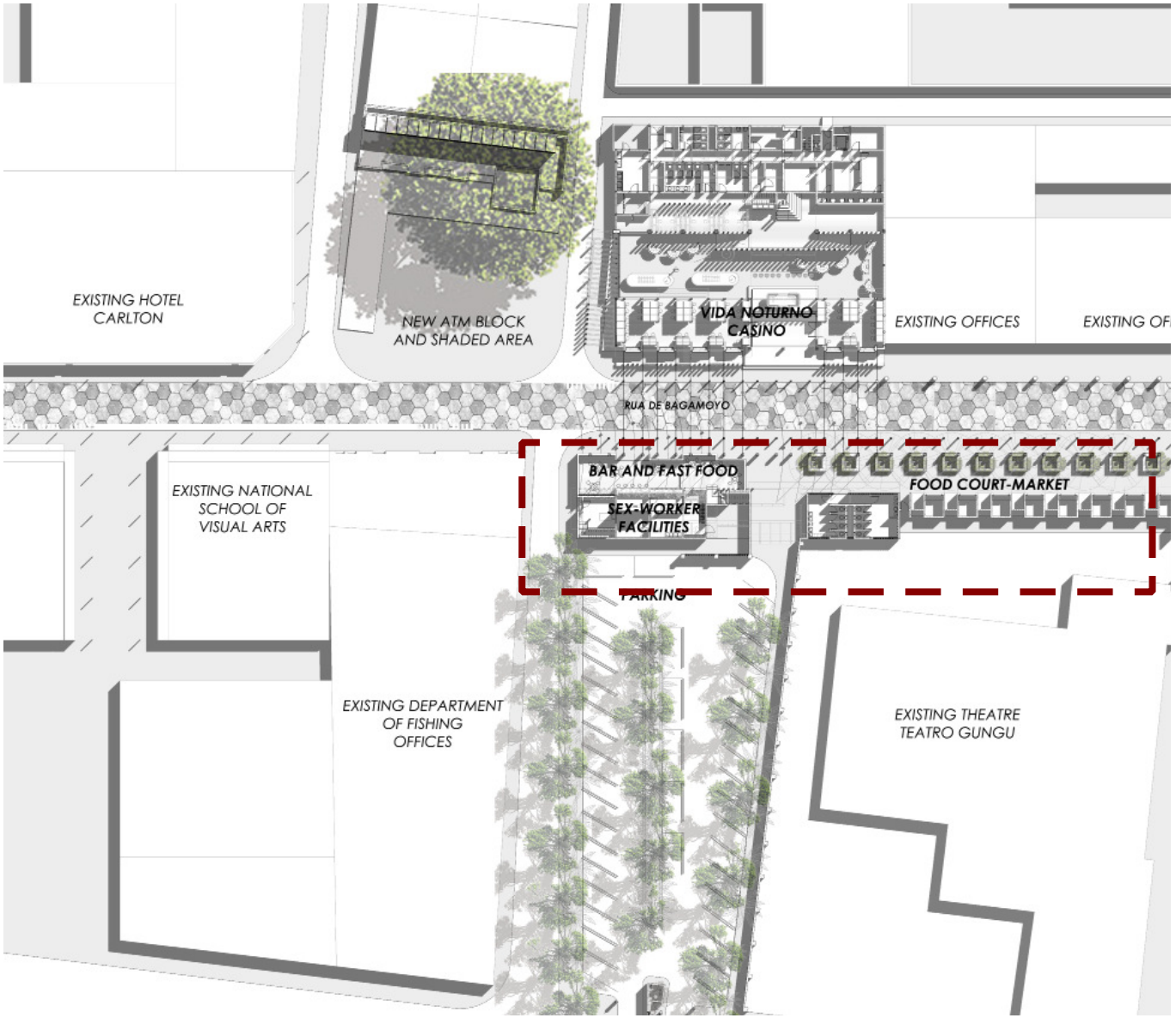
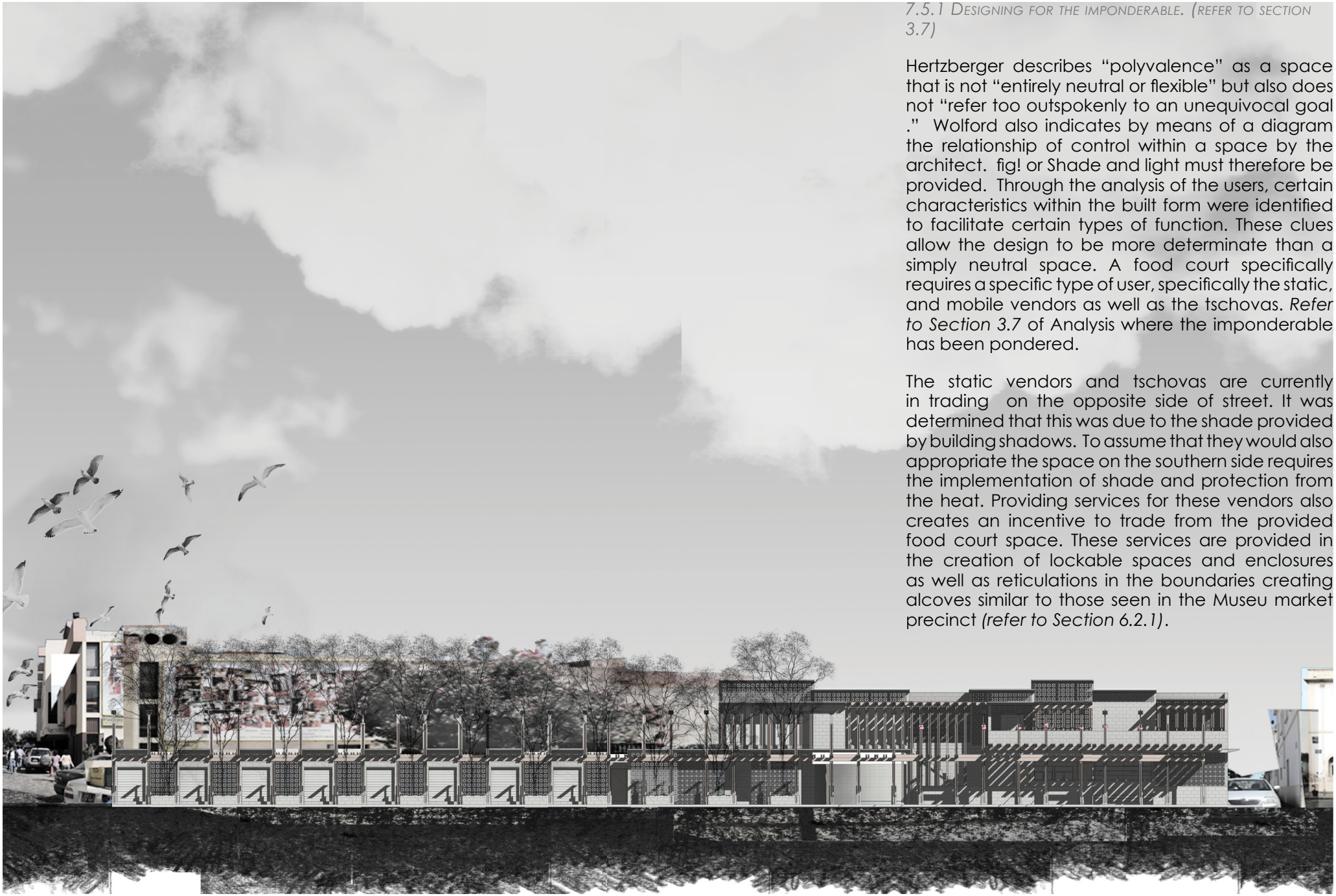


Figure 7.14 Site plan indicating position of "food court" market and food service spaces.



7.5.1 Designing for the imponderable. (refer to section 3.7)

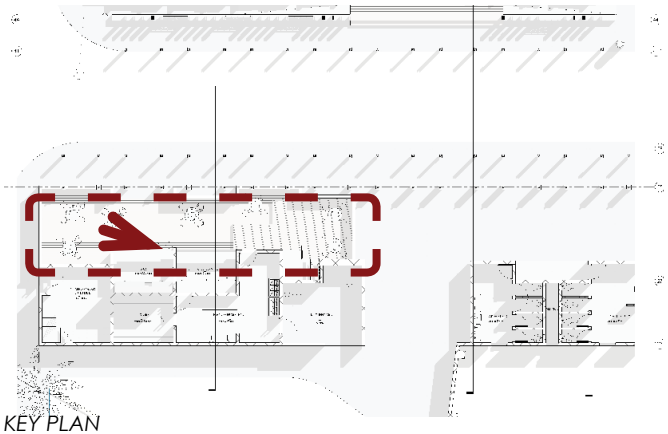
Hertzberger describes "polyvalence" as a space that is not "entirely neutral or flexible" but also does not "refer too outspokenly to an unequivocal goal ." Wolford also indicates by means of a diagram the relationship of control within a space by the architect. fig! or Shade and light must therefore be provided. Through the analysis of the users, certain characteristics within the built form were identified to facilitate certain types of function. These clues allow the design to be more determinate than a simply neutral space. A food court specifically requires a specific type of user, specifically the static, and mobile vendors as well as the tschovas. *Refer to Section 3.7* of Analysis where the imponderable has been pondered.

The static vendors and tschovas are currently in trading on the opposite side of street. It was determined that this was due to the shade provided by building shadows. To assume that they would also appropriate the space on the southern side requires the implementation of shade and protection from the heat. Providing services for these vendors also creates an incentive to trade from the provided food court space. These services are provided in the creation of lockable spaces and enclosures as well as reticulations in the boundaries creating alcoves similar to those seen in the Museu market precinct *(refer to Section 6.2.1)*.

Figure 7.15 North Elevation of market and sex-worker facilities.

7.5.2 Provide safety and comfort for tourists

Part of the food court is designed for a more form food court service in the form of a take-out and bar this is provided for the tourist as a place of safety and comfort. It is designed based on the perspective of a typical south Africa franchised take away food service which is intrinsically the same as an American or European version of the same thing, but is then distorted in that the actual eating space or served space remains within the public realm.



KEY PLAN

Figure 7.16 Sketch showing "tourist friendly" bar and food outlet.

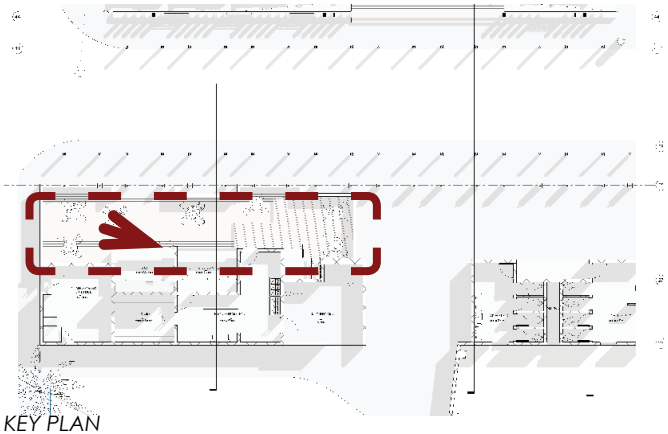
Figure 7.17 An actress prepares for perform at the wits theatre. Photograph by Author 2003

7.6 Facilities for sex workers

The creation of a space for sex workers is inspired by the interaction with the ladies bathroom in the Copa Cabana striptease bar as well as theatrical change room design. (See section 3.7.5) The intention is to create a space in which the sex workers may prepare for their profession through a series of thresholds that run in parallel with the transitions in psyche that allow for a retention of self. In simple terms it allows the women who has found herself in a position of sex work to use the space to transform herself into the role of prostitute.

Integrating the notion of a theatrical change room allows the women to act as prostitutes once in costume without allowing the acts performed to become a reflection of the individual but rather of a collective "cast".

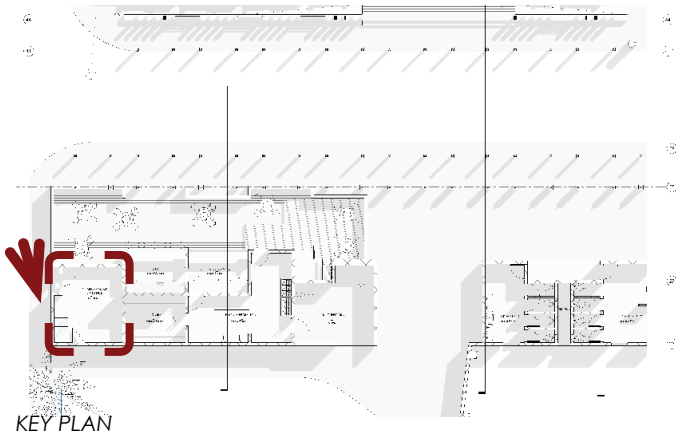
The majority of facilities provided for the sex workers is situated on the first floor to create the contradiction between the hierarchy of the casino space placing *prive* users (the wealthy and extravagant) at the highest point and the achieving a similar hierarchy but granting the highest point of surveillance to the sex- workers.



KEY PLAN

7.6.1 Hidden entrance

The entrance to these facilities occurs on ground floor hidden within the food court market structures. The Door itself is simple and unremarkable and should be treated as service door. There is no hierarchy on main entrance applied as it should be a threshold only to those who know of its presence and should not communicate with the public realm. The entrance is recessed into the structure to emphasis the privacy and inaccessibility to the public.



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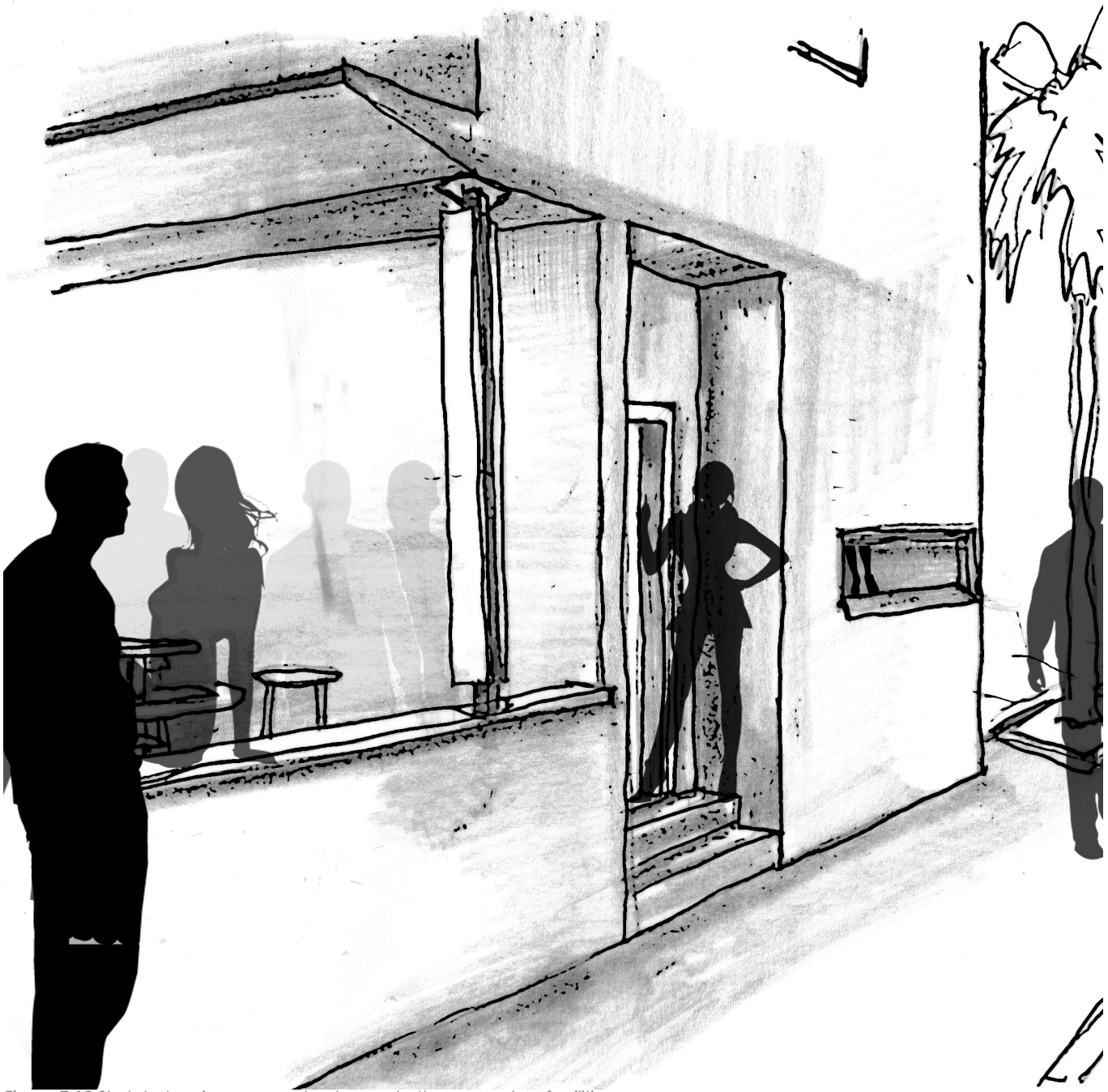
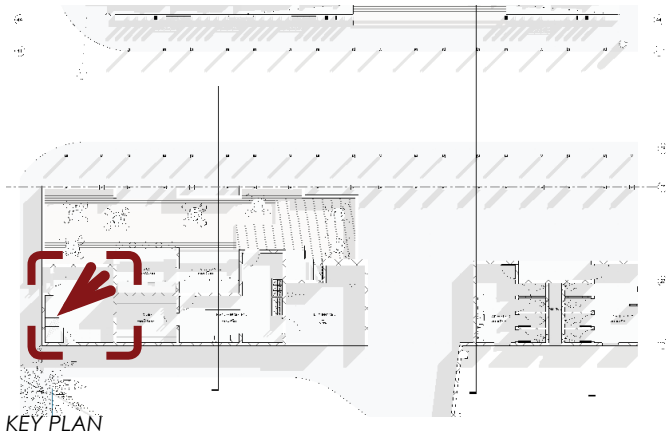


Figure 7.18 Sketch showing recessed entrance to the sex worker facilities

Figure 7.19 Sketch showing entrance lobby and private stair

7.6.2 *Security and acceptance*

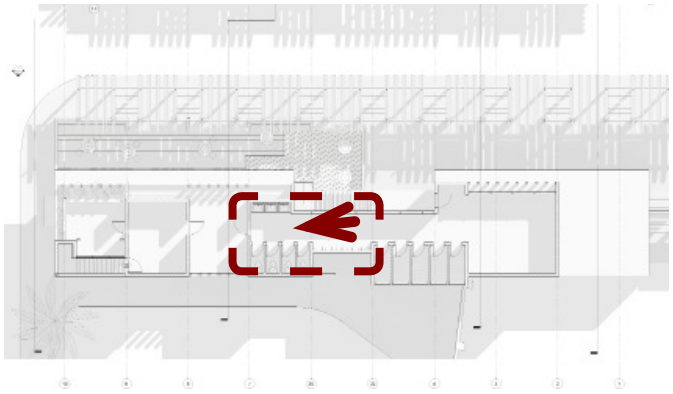
The initial space is an entrance lobby with provision for a waiting space and security desk, this allows for a control of access but also the first stage of transformation as the sex worker enters from a public space where she could be any person at a food market and transitions into a space where she is accepted as one of the many ladies of the night. This space leads into a staircase to the first floor, reticulations on the ground floor facade allow for glimpses through small windows into the space, but never large enough to determine a view of what occurs inside.



KEY PLAN

7.6.3 Transition through the mundane

Up to this point there has been no built reference to sex work as a profession or even to change room facilities. The first threshold on the first floor transitions through the laundry facilities. This is provided to allow the sex workers to leave their "costumes" in the space and enter and exit into the "real world" in their personal clothing. This allows them to keep at least one element of the sex trade out of their personal lives, whilst allowing the transition into the changing space to be slowed through elements of the everyday. The transition between the bathrooms and the laundry facility is separated by an open courtyard for the practical purposes of drying clothes, but to allow access to the public realm through an outside inside connection, a visual connection allowing the sex workers to asses the audience and clientele. It could be likened to the peaking through the curtain prior to a performance.



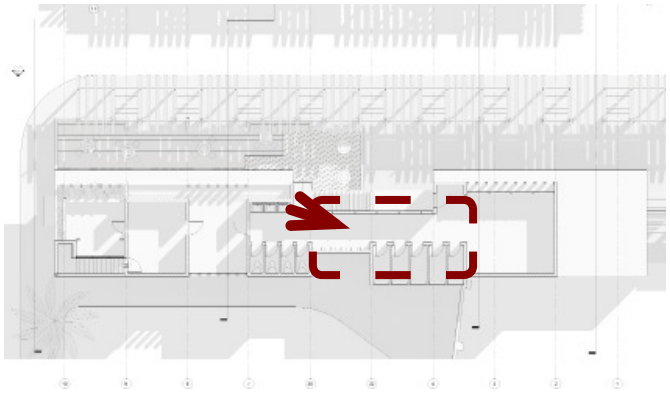
KEY PLAN

Figure 7.20 Sketch showing transition through the courtyard and outside access to the street.

Figure 7.21 Sketch showing the reflective surfaces of window and mirror leading into the communal changing space

7.6.4 Elegance in the everyday

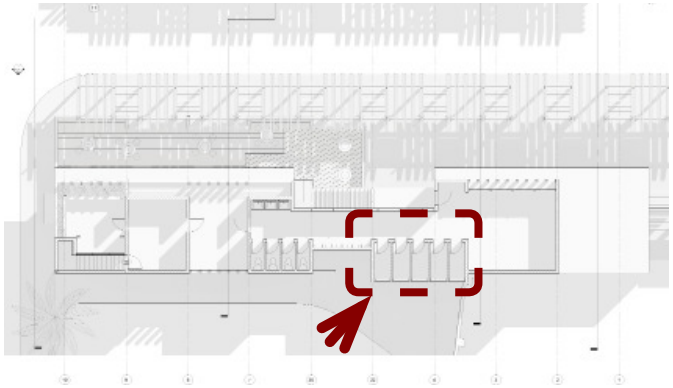
The layout of the bathroom space is such that the initial entrance involves simple functional provision for toilets and wash hand basins similar to an everyday public bathroom facility. The transition continues into the shower spaces which are screened from the street by a Double volume balustrade in front of the second stair as well as a frosted glass curtain wall allow obscured glimpses of silhouettes into the space creating intrigue and voyeuristic quality to an inaccessible space. The transition occurs between the bathroom and showers past an elongated basin and mirror allowing for a last glance of the reflection of the women as herself and provision for the washing of faces.



KEY PLAN

7.6.5 Celebration of the shower

The showers themselves are individual cubicles screened with shading devices and frosted glazing. This creates an allowance for the preparation of the body. A step is provided for shaving of legs and the volume is reduced to create an intimacy of individuality. This place is where the women will discard the clothes of the everyday and be confronted with the privacy and connection to their own body. From the outside this shower block protrudes southwards as an entrance marker to the street from the new parking area forming part of the signage creating once again a contradiction in the public to private relationships. These showers are not completely sealed as it important that the sound from the changing space transcends the barrier into the shower space to allow the anticipation for the next stage.



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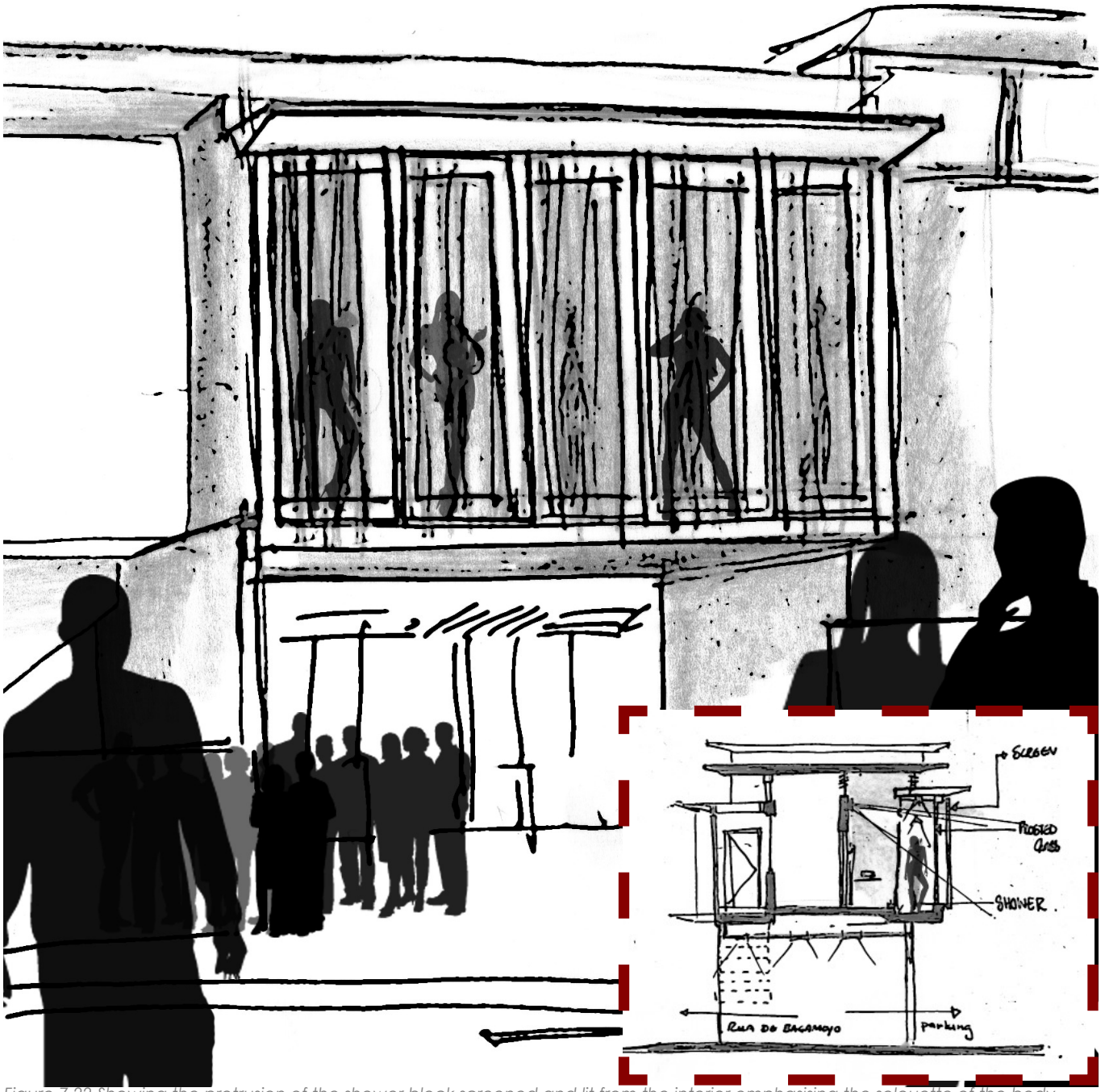
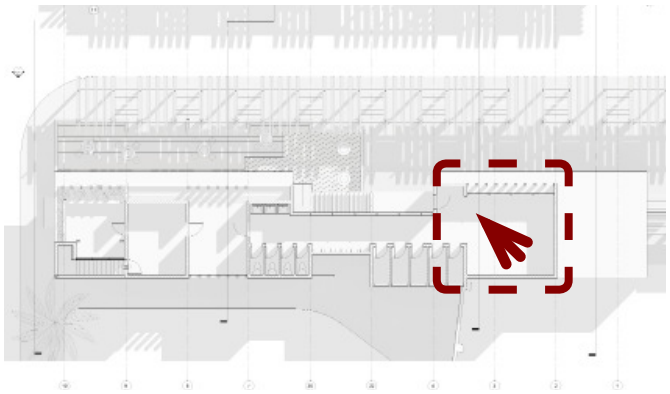


Figure 7.22 Showing the protrusion of the shower block screened and lit from the interior emphasising the solouette of the body.

Figure 7.23 Sketch showing the final make up check space and exit towards the street.

7.6.6 Collective Transition

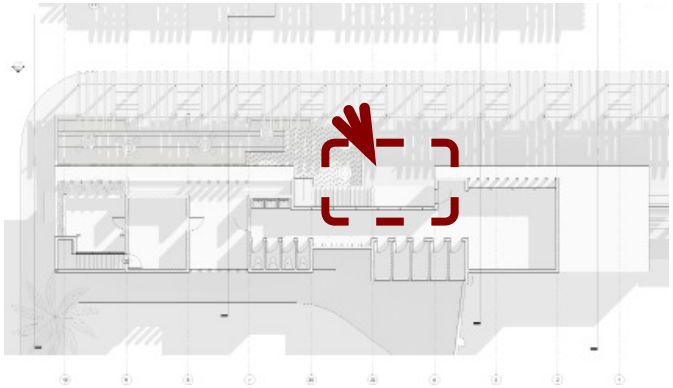
Providing a changing facility for the collective as a communal spaces allows for the theatrical change room ideology to be captured. This is a space for transforming as a group into the ladies of the night, this space should be lit as though it becomes a celebration of congregation of women, it allows for the glamour described in Ricardo Rangel's photography *(refer to Section 3.6)*. This celebration of space is created by raising the volume and allowing for top light windows and lighting that is reflected off a light coloured ceiling. In this change room lockable cupboards are provided which can be rented to the sex workers to create an income to pay for cleaning, maintenance and other everyday expenses.



KEY PLAN

7.6.7 Final make- up check

The re-entry into the public realm occurs down a larger and more public stair into the security of the bar space. This stair is screened using a double volume balustrade obscuring view, allowing for a dramatic entry for the glamorous ladies of the night to enter the street as the pass the screened area emerging on a landing in full view of the street. Two levels of security exist on the stair, a security gate on the stair landing as well as a lockable door at the top of the stair to prevent clientele from entering the private space.



KEY PLAN

Figure 7.24 Sketch showing the final make up check spaceand exit towards the street.

The atmosphere created within the various thresholds identified requires a technical resolution that communicates the layers of transition as well as the feelings within that space within a contextual framework.

Figure 7.25 Rendering showing the Gambling Facility entrance.

Figure 7.26 Section through both sides of the street

SECTION A-A
SCALE 1:20

CHAPTER 8

TECHNICAL INVESTIGATION

Chapter 8 Technical Investigation

8.1 Introduction

Designing in Maputo requires an understanding of the general building practices and available materials and techniques used in the vernacular sustainability. This has not been the focus of this dissertation but is inherent in the contextual approach as illustrated by John Norton's principles of sustainable design. .

Sustainable architecture is summarised into nine points by John Norton in his article for the Aga Khan Development network published in the *Habitat Debate*:

- *makes substantial use of locally available materials and local means of transport;*
- *uses resources that are available in sufficient quantity to satisfy a general demand and not damage the environment;*
- *does not depend on equipment that is not easily available;*
- *uses skills that can be realistically developed in the community;*
- *can be afforded within the local socio-economic context;*
- *produces a durable result;*
- *responds to and resists the effects of the local climate;*
- *provides flexibility to adapt to local habits and needs;*
- *can be replicated by the local community.* (NORTON, 1999: 60)

To achieve these targets as identified by Norton, the contextual understanding as identified in Chapter 3 is utilized as well as further exploration into the existing skills, materials and climate. This is done by exploration of the informal vernacular in the surrounding areas of Maputo. The majority of the contemporary vernacular architecture within the Maputo metropolitan would be classified as informal, but when observed it becomes apparent that although the built fabric is classified as informal, through photographic analysis it becomes apparent that the structures are not impermanent in their methods of construction and do have a distinct typology.

For the purposes of a contextually based design, current building techniques and availability of materials and skills must be considered.

The structural system of the design is based within the concept following the same threshold experience as proposed in the design with an attempt to continue the design ethos into the detail resolution.

Indoor environment quality is created by responding to the needs specific to the spaces and making informed decisions based on available climatic data. This topic includes that of ventilation , lighting and thermal comfort.

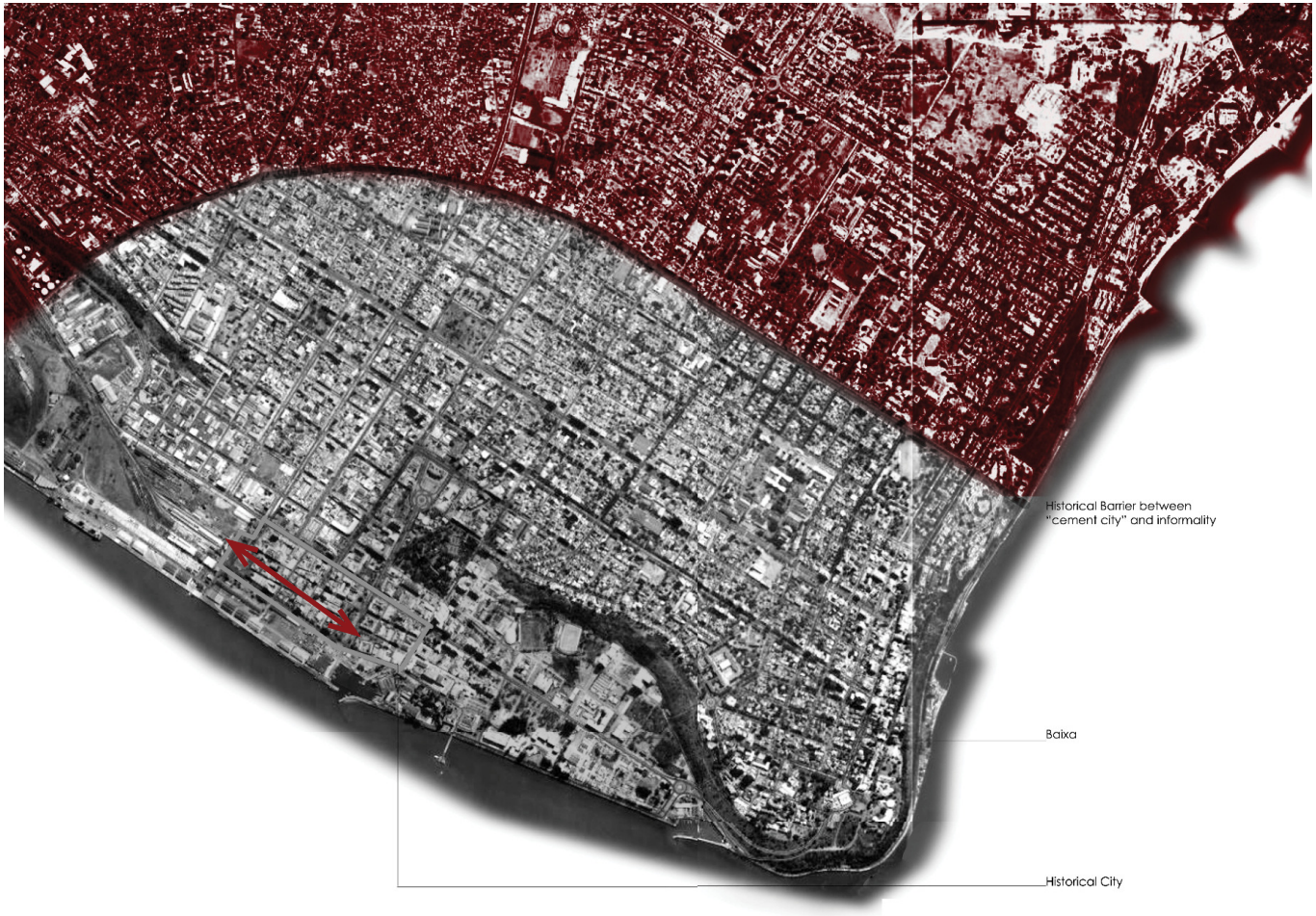


Figure 8.1 Map showing the extent of the historical boder between "cement city" and the informal settlements

8.2 Construction Precedent -

8.2.1 Combatentes

A site visit was taken to the outskirts of the cement city in Maputo, to observe the informal residential areas to gain an understanding of locally available materials in June 2011. It became apparent that the majority of structures were constructed using, concrete, concrete block masonry and corrugated sheeting, with various types of screens and shading devices.

Concrete frame construction.

The available concrete blocks are not considered structurally sufficient and thus there is a vernacular response by creating a concrete frame structure. The construction method is to create a reinforced concrete frame and then to use the concrete blocks as infill. This is sometimes plastered but is not a rule.

Figure 8.2 Photograph showing concrete masonry and concrete frame construction. Photograph by Author 2011

Concrete blocks.

The concrete blocks are built as precast bricks in various modules. While these bricks are available from retail enterprises, they can be constructed on site using sand removed during excavation. Small businesses exist within the informal areas creating these blocks and can be supported by a larger building project within the city.

Figure 8.3 Photograph showing a concrete block manufacuring within a houses yard. Photograph by Author 2011

Narrow edge- Cast in Situ concrete

The cast in- situ concrete seems much thinner than the South African counterpart. From the images it become apparent that the methods of casting allows a very narrow edge and fairly neat shuttering as per the local skill.

Figure 8.4 Photograph showing a man standing on a thin concrete edge. Photograph by Author 2011

Concrete Screens

It is not only steel screens used as ventilation and decoration but also decorative precast concrete air bricks of various designs. The concrete blocks would be more robust in terms of corrosion but create a heavier typology of skin.

Figure 8.5 Photograph showing Concrete air clocks as ventilation and decoration.Photograph by Author 2011

Figure 8.6 Photograph showing concrete frame construction with concrete block infill and steel screens as burgular bars and security doors. Photograph by Author 2011

Screens

Security and ventilation are both concerns within the informal areas and throughout the city. Welded steel burglar bars and security doors are apparent within Combatentes. Although the corrosive coastal climate would cause welded steel to rust, the local technical expertise can create beautiful and unique screen elements that are used throughout the city. The decision taken for this dissertation is that all structural steel should be galvanized to protect against corrosion from the coastal climate, but for the decorative, security and screening purposes welded and painted elements respond more elegantly to the context. Because they are not structural, they can be easily replaced if the corrosion compromises their function.

8.2.2 Red Location Museum of Struggle

Architect(s):Noero Wolff

Location: Nelson Mandela Bay

Year : 2006

The main entrance to the red location museum is dealt with by the articulation of the horizontal plane. The solid concrete extends over a timber pergola built using planed timber members in the horizontal plane resting on columns comprising of four pole elements. The effect created is that of layered transition.

The connection method employed on the horizontal members is that of steel brackets. These reflective surfaces create a glittering effect when the sun shines directly on them . The tectonic solution of the pergola with bracketed construction and separated detail of vertical to horizontal as well as floor to column joint is contrasted by the continuous of the concrete structure which meets the ground and soffit without a visible joint.

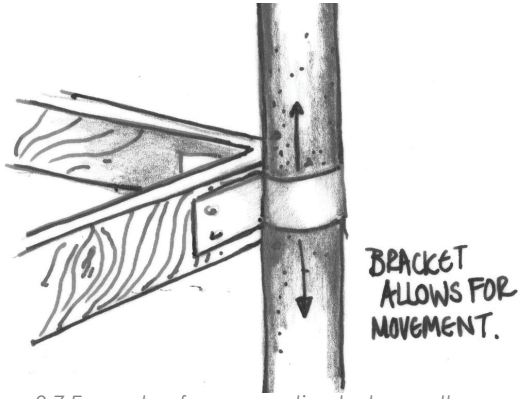


Figure 8.7 Example of a connection between the timber and concrete. Sketch by Author 2011

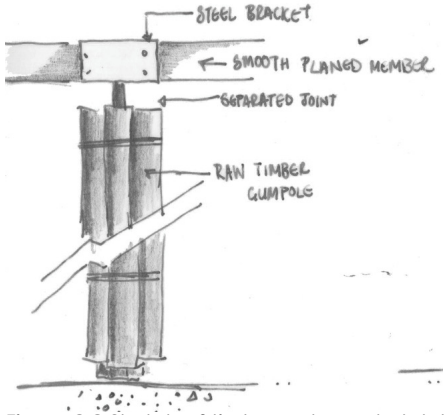


Figure 8.8 Sketch of timber column sketch by Author 2011

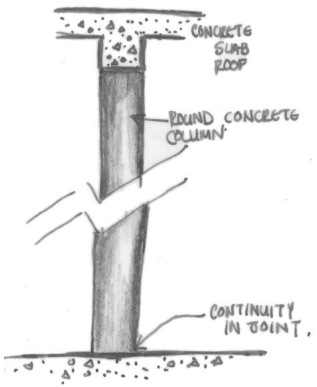


Figure 8.9 Sketch of concrete column and its connection to the ground and roof. Sketch by Author 2011

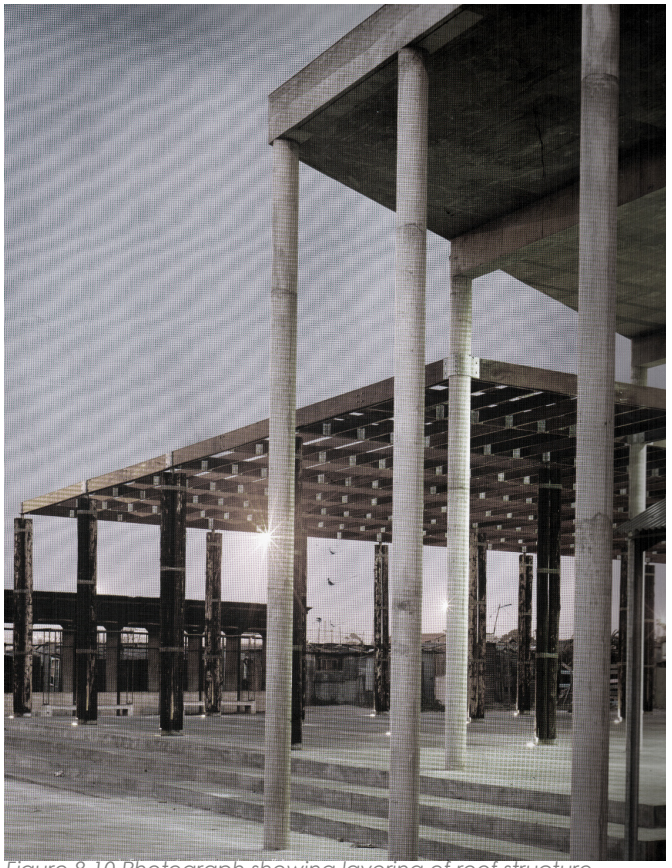


Figure 8.10 Photograph showing layering of roof structure. (DECKLER et al, 2006; 44)

Figure 8.11 Photograph showing roof extensiona and underlay (DECKLER et al, 2006; 43)

Figure 8.10 Collage showing materials to be used. By Author 2011

8. 3 Materiality

The choice of materials had been based on the contextual analysis not only of *Rua de Bagamoyo* but also in the existing vernacular surrounding the formal city. The contextual approach allows locally available materials to be specified with certainty that local labour will have had experience in the construction techniques standard to these materials. The Major structure will therefore be constructed using Cast in-situ concrete with masonry infill. The Roof Structure has been determine to be a flat structure with tapering edge will also be cast in situ. Additional materials for structure include galvanized steel sections to support timber elements.

Many types of timber are available in Mozambique but the sustainability of available timber products vary in value. Illegal logging in Mozambique presents many concerns due to its environmental impact. A search was conducted in September 2011 through the Forest Stewardship Council (FSC) to find a certified timber supplier. It was found that an FSC office exists in the city of Beira but no certified products were found.

The department of Forestry in Mozambique states; "Due to unregistered production, the present extraction rate of the most valuable Mozambican timber species may be between two and four times its sustainable potential. Further research is needed to forecast the impact of this overexploitation on future supply." (Gatto, 2003: 2) A table of production found in the same document shows the Maputo Province as having the lowest production of timber in the country.

Mpumalanga province in South Africa borders Mozambique and contains two of the sustainably certified Forests in South Africa. Having searched the FSC database, three timber suppliers were identified within the province. Although South Africa and Mozambique are different countries and the political boundaries prevent these materials from being considered local, but based on the proximity to the site, the timber grown in

Mpumalanga is essentially more local than that from either Zambezia province or Beira.

Having made the decision to specify South African timber, South African timber standards and sizes can be used as well as the treatment techniques that occur prior to installation, such as copper-chrome-arsenic (CCA)Treatment.

Figure 8.11 Map showing proximity to Mpumalanga and other Mozambican provinces. Adapted from Google maps 2011

Province	Area of productive forest (FP, ha)	Potential for sustainable extraction, m^3/year	Annual harvest potential per hectare of FP (m^3/ha·year)
Maputo	488,213	3,503	0.007
Gaza	1,437,162	13,141	0.009
Inhambane	1,752,026	20,790	0.012
Sofala	2,168,358	93,573	0.043
Manica	1,046,734	21,369	0.020
Tete	1,135,698	28,898	0.025
Zambézia	3,074,324	88,014	0.029
Nampula	1,822,636	54,410	0.030
Cabo Delgado	2,958,895	67,592	0.023
Niassa	3,851,351	108,946	0.028
Mozambique	19,735,397	500,236	0.025

Source: adapted from SAKET 1994

Figure 8.11 Table of timber production per province in Mozambique. (Gatto, 2003: 2)

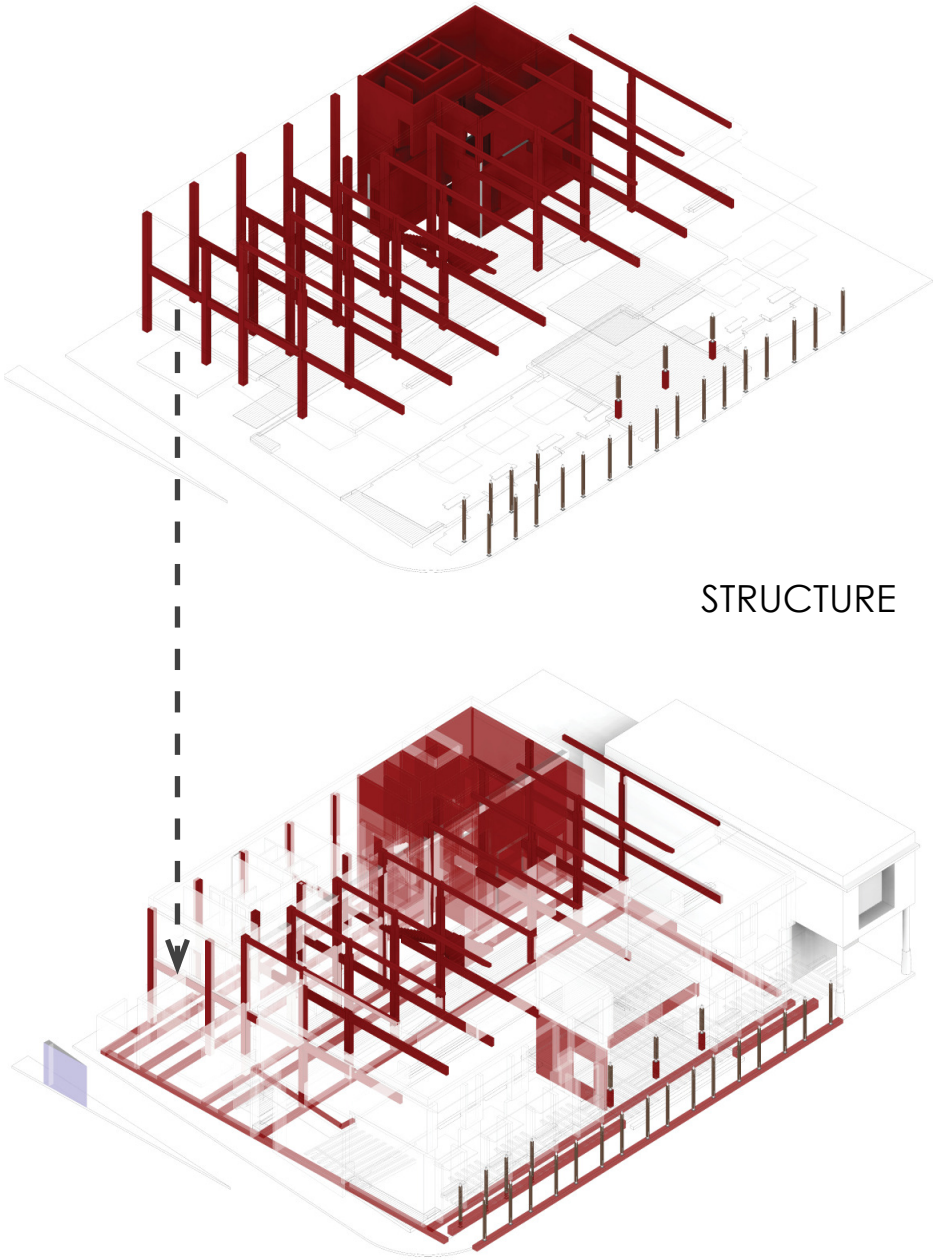


Figure 8.12 Diagrammatic 3- D view of structure and skin

8. 4 Structure

Based on the vernacular precedent, the structure is that of a concrete frame and using a concrete block masonry infill. Due to the concept of transition and layers of habitable threshold, the nature of the structural elements should alter in transition with the atmosphere of the space to compliment the transition.

The columns and structure includes the re-inforced concrete "redline" service core housing the ducting and redline circulation spaces.

8.4.1 Columns

The concept plan shows how smaller and more slender vertical elements placed closer together create a restriction of visual access while retaining a lighter feeling environment. As the elements are spaced further apart they become heavier they need to be to retain the structural integrity as well as the visual transition from the lighter more populated street to the heavier and more enclosed services spaces. The public private relationship through a series of thresholds manifests on plan by having the lightest smallest members closest to the street to create a visual barrier as a user approaches as the user is closest and views the building obliquely the lightness of elements becomes apparent. Following the transition from public to private the columns become heavier and further apart finally resulting in walls.

As the transition from street into private space occurs so the visual obscuring and veiling is reduced so the user experiences a heightening feeling of discovery as each layer is passed.

In a sectional exploration of the structure, the transition from the lightest element (timber column resting on a steel member with visual disjunction between planes) to the most solid (walls continuing directly into slab) occurs in various layers so one distinction between such as in Red Location (Refer to 8.2.2) would not be sufficient the heavier them is extended upwards from the ground plane in the various layers of transition.

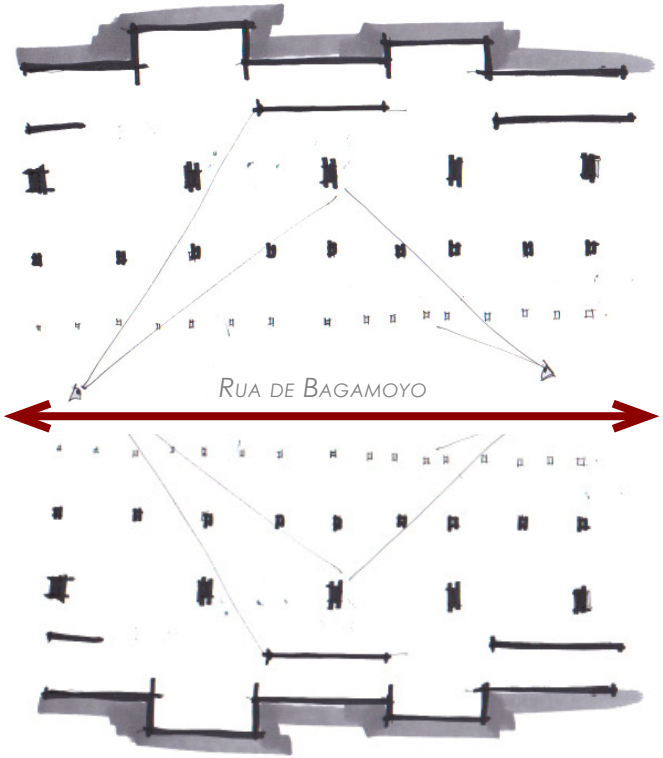


Figure 8.13 Diagrammatic plan showing transitional nature of column structure

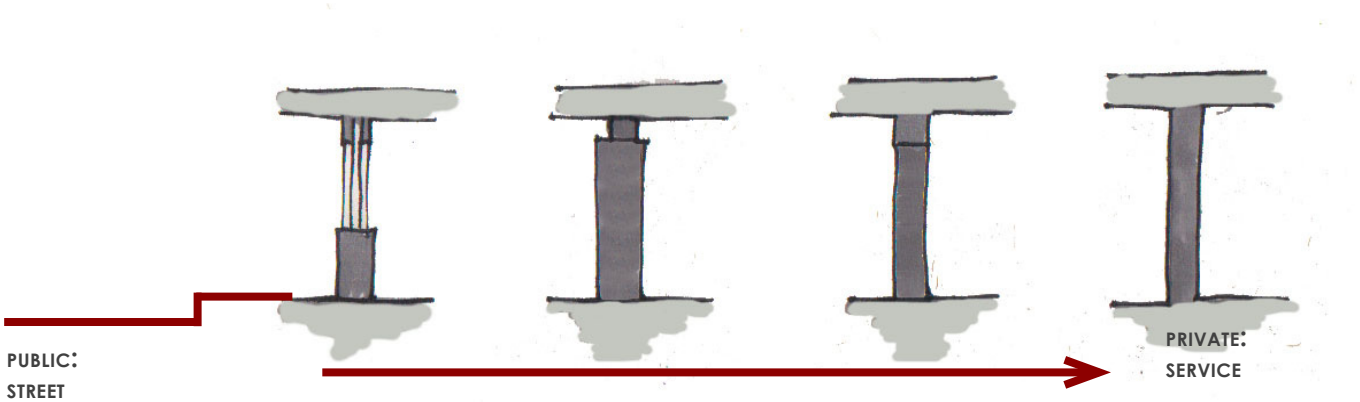


Figure 8.14 Sectional diagram showing progression of column into the private

Figure 8.15 Section through gaming facility showing pppposition of transitonal columns and threshold barriers.

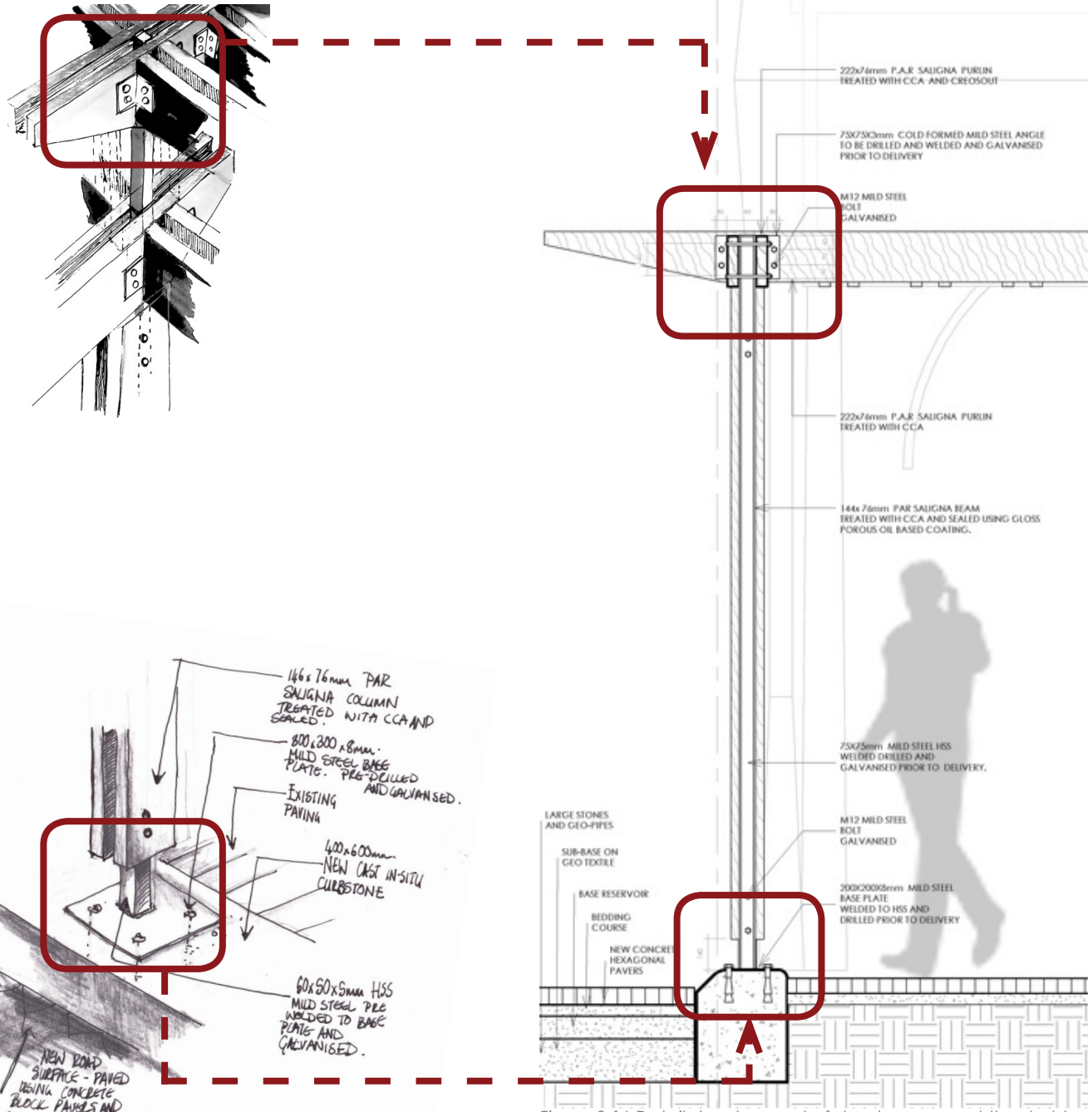


Figure 8.16 Detail development of street- pavement threshold

Street to Pavement Thresholds

The first Column and transitional point occurs at the junction between street and pavement This junction on the ground plane is celebrated by raising the structure onto a steel section as the column becomes the support for a pergola shading structure. The slenderness of timber is due to the conceptual diagram creating numerous lighter elements.

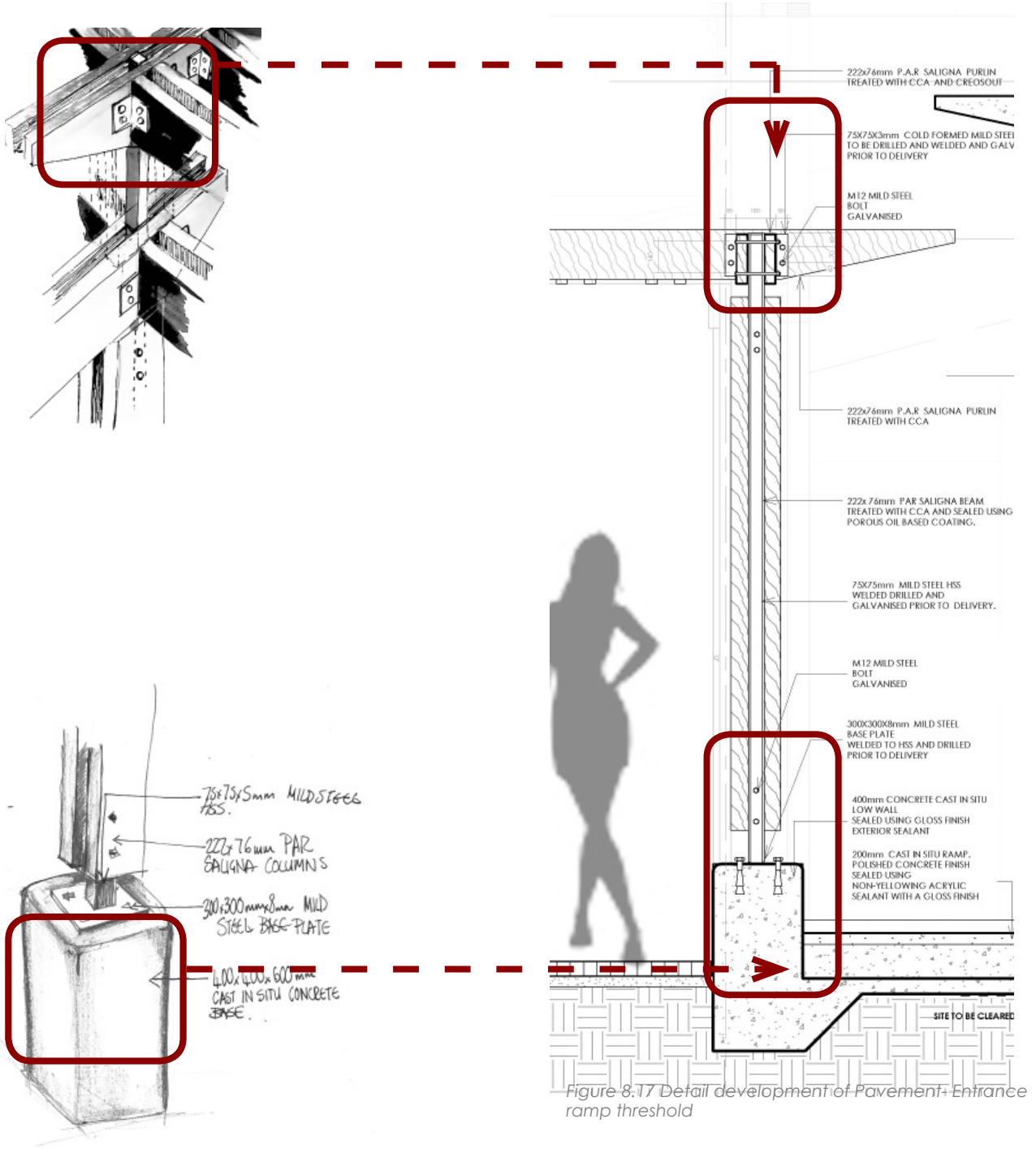


Figure 8.17 Detail development of Pavement- Entrance ramp threshold

Pavement to Ramp

As the columns become more solid from the ground upwards the low wall acts as a base for the columns on the other side of the pergola structure. The connection to the ground is still celebrated only it is not the ground connection but that of a low wall base.

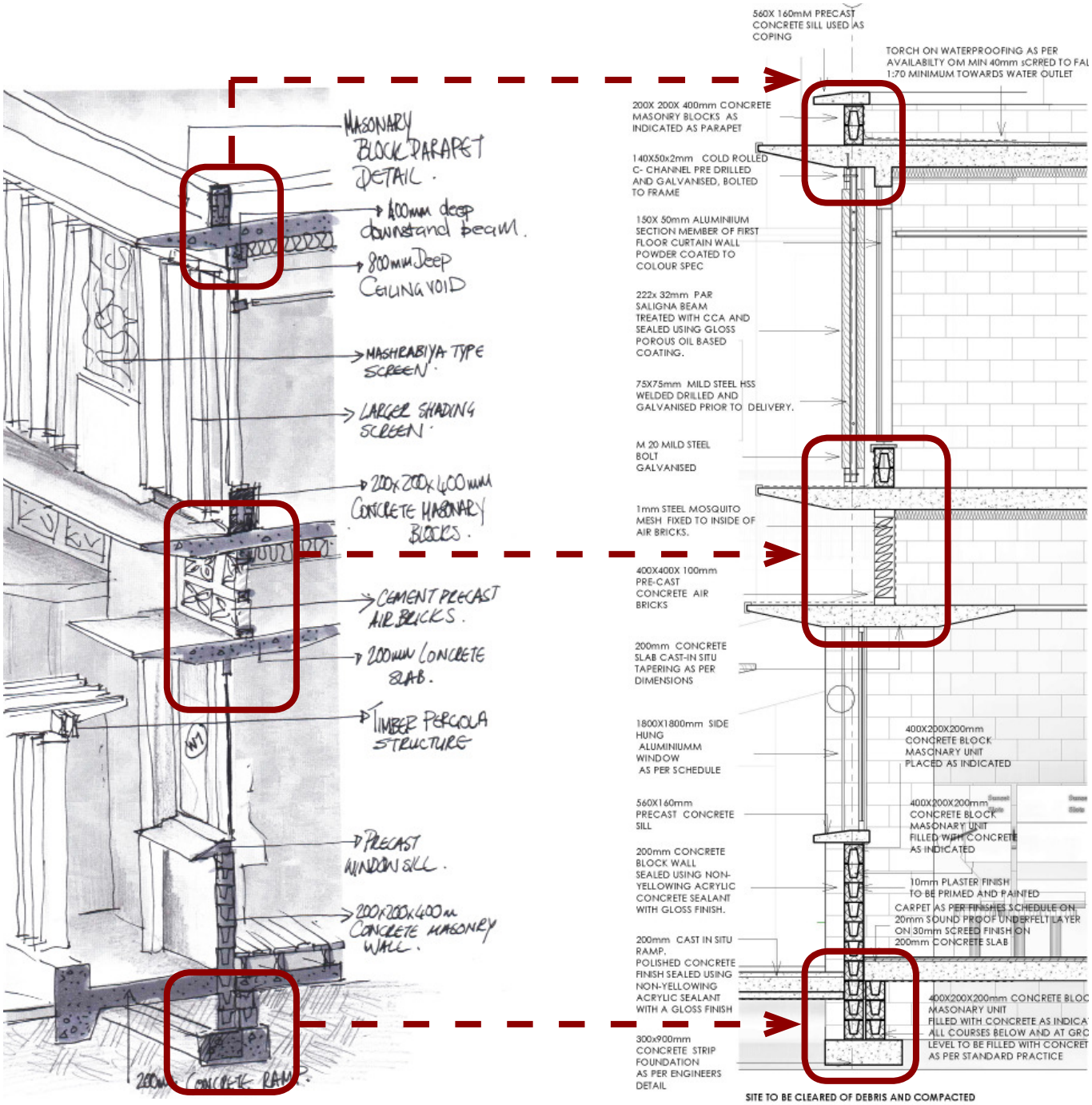


Figure 8.18 Detail Development of inside-outside boundary

INSIDE- OUTSIDE

The permeation of the line between the inside and outside is dealt with in layers of screening, shading and solid, Visual access is required into the space but also the reflective quality of glazing as a relationship to the outside.

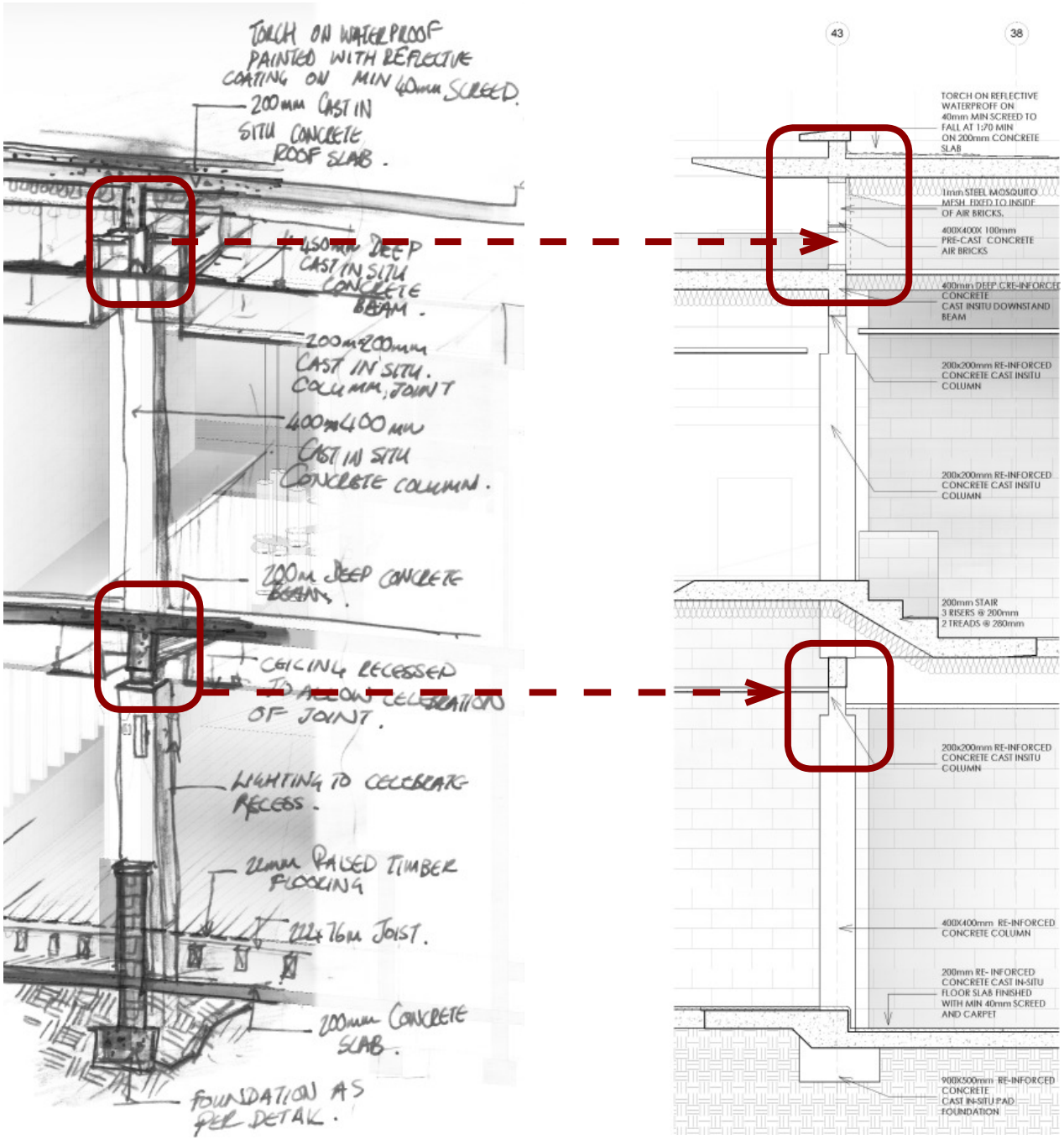


Figure 8.19 Detail development of the solid concrete columns as threshold between interior spaces

Continuity of column

The internal columns that meet the ground plane with no visible joint employ the technique of recessing the top section of the column to celebrate the transition from vertical to horizontal. This is expressed by the cutting back of the ceiling and the implementation of up-lighters to highlight the recess.

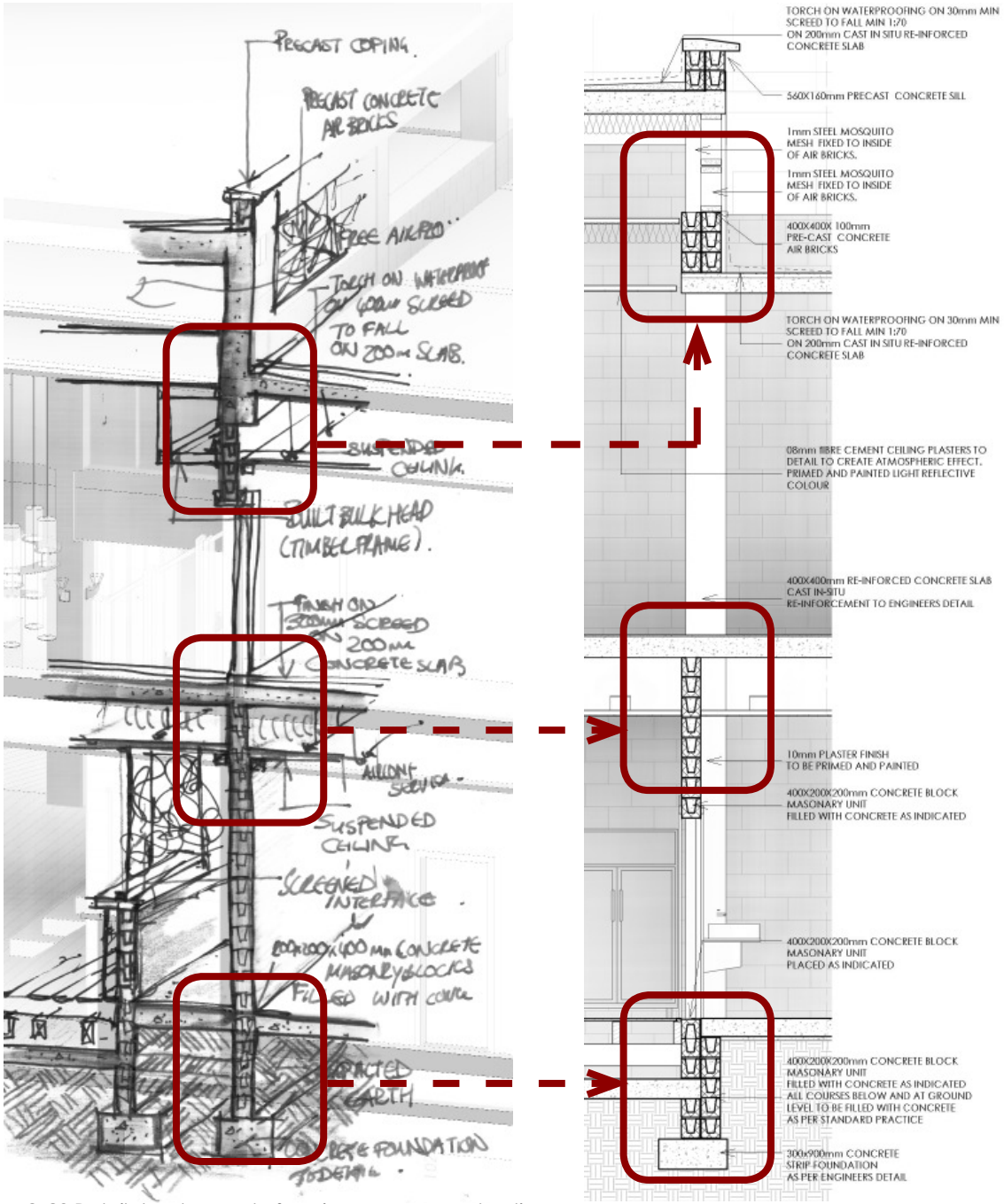


Figure 8. 20 Detail development of services spaces construction.

Service Space

The service space has a direct relationship to the vernacular and is constructed purely of concrete framing and masonry block infill. The walls within their concrete frames act as structure and the need for columns is negated.

Conceptually the wall is the most continuous of the junctions as it has the ability to extend itself along the barrier line it creates.

8.4.2 Beams

Most of the beams within the casino structure will be hidden by the ceiling but those running perpendicular to the street will be the deeper beams as they have a shorter span and will therefore carry most of the load. The connection of beam to column as described in the previous section will need to be celebrated and visually accessible. This is achieved by the stripping away of the ceiling at the junction to create a shadow line void as well as the placing of up-lighters on the column to highlight this connection.

The beams running perpendicular to the street taper as they reach their culmination on the street side creating a feeling of lightness and elevation with the implied continuation of the line to enclose the street as a room.

8.4.3 Foundations

Most of the land around the historic Baixa is reclaimed land but for the historic core. As *Rua de Bagamoyo* is one of the original streets, it falls within the original solid land. The new intervention has a maximum of two storeys at anyone point therefore negating the need for pile foundations. It is proposed that a simple strip footing should be sufficient but this will require reinforcement for the walls. The columns will require a deeper pad foundation

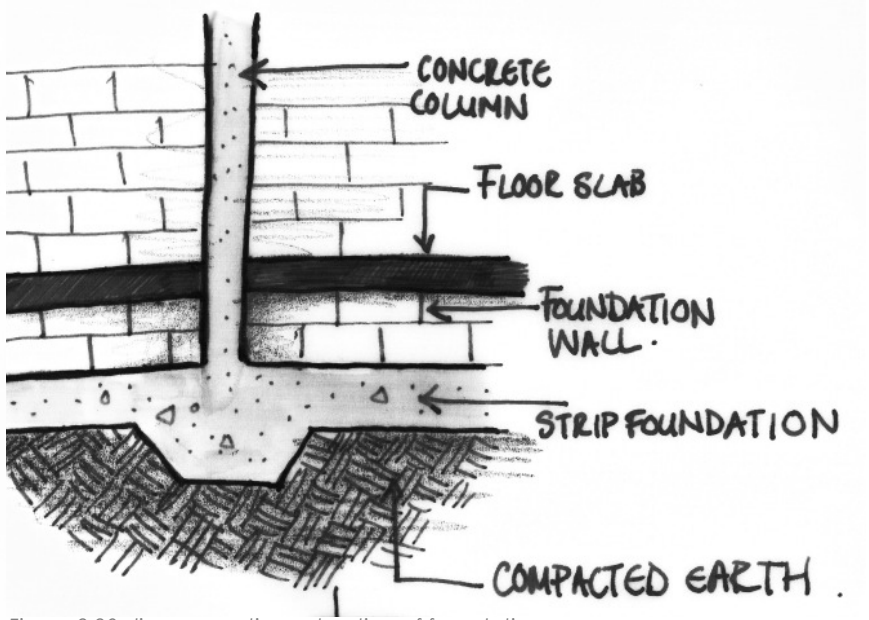


Figure 8.20 diagrammatic exploration of foundation

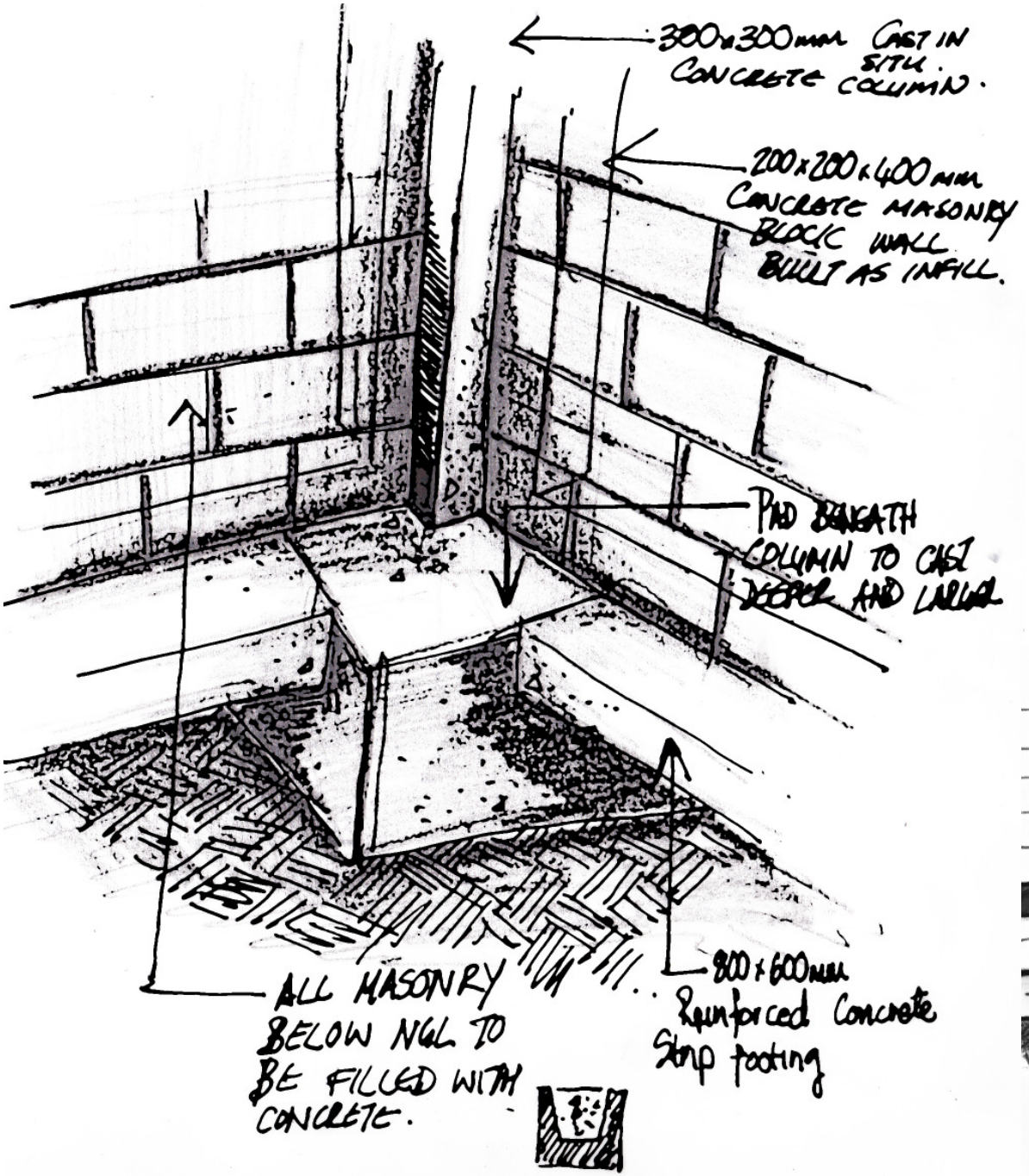


Figure 8.21 3-Dimensional sketch to show thickness of foundation beneath columns

8.5 Skin

Where the thresholds are demarcated on plan, a simple wall of concrete blocks is too heavy a response to signify a veiled visual access and transition. They are therefore only used for the enclosure and service spaces. Therefore screens are used for spatial definition. Learning from the existing heritage and the prevalence of the sex workers , the complexity of privacy in the profession calls for an exploration of privacy and how this is achieved.

Precedents in Islamic architecture were considered such as the "mashrabiya" screens. The mashrabiya is a screen found usually on the first or second floor of secular and residential buildings.

"Mashrabiyas were veils drawn against the outside world and behind their cool shield of latticework those inside did recline in shaded privacy while gazing out at the tumult of the streets below. And yes, they were also a haven for women whose need for privacy in older cultures did give rise to the exotic, if exaggerated, legends of the hidden harem." (FEENY, 1974)

From the beginning the mashrabiya developed into an eminently practical architectural feature that for centuries served, at one and the same time, as window, curtain, air conditioner and refrigerator. (FEENY, 1974: 32)

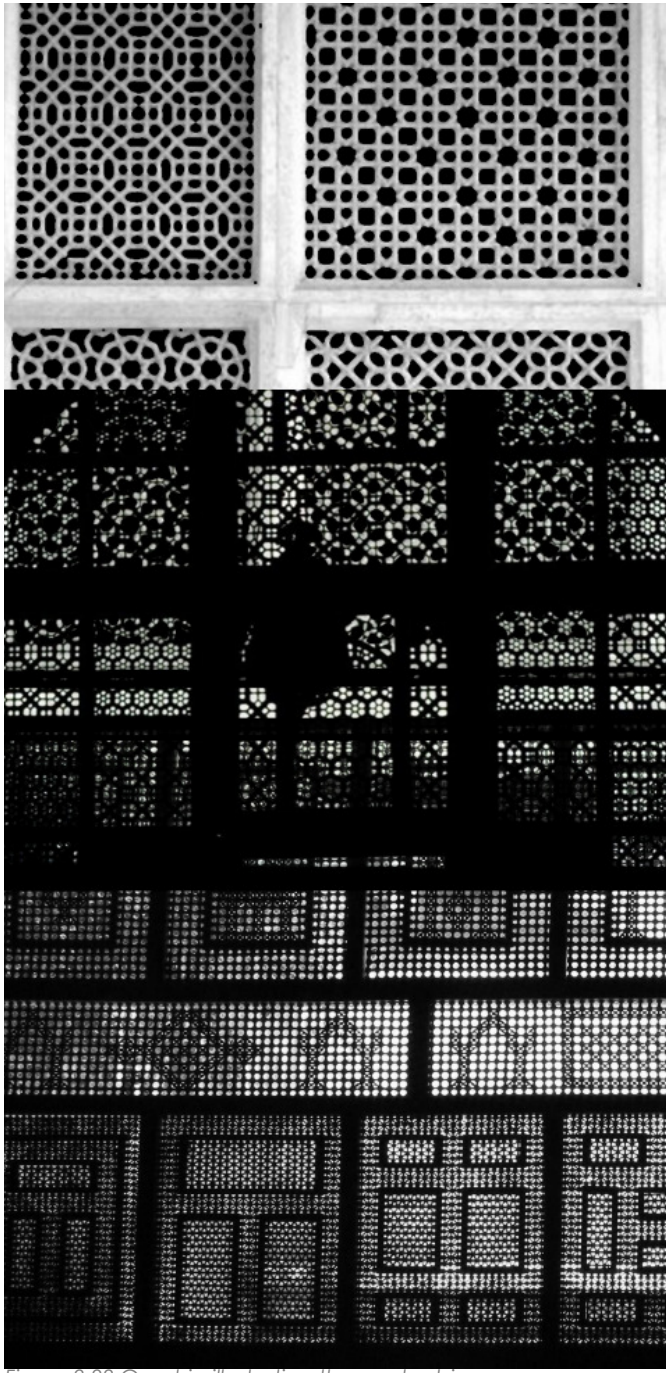


Figure 8.22 Graphic illustrating the mashrabiya

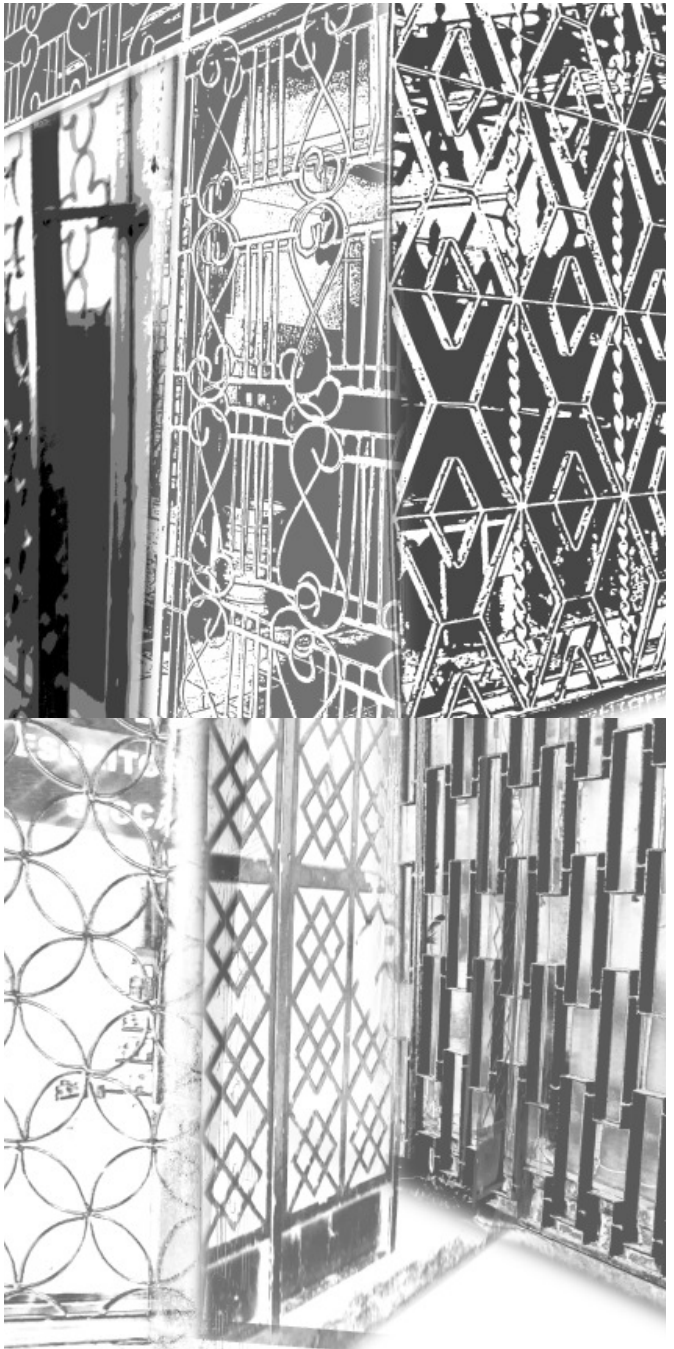


Figure 8.23 Collage of decorative screens and burgular bars found within Rua de Bagamoyo

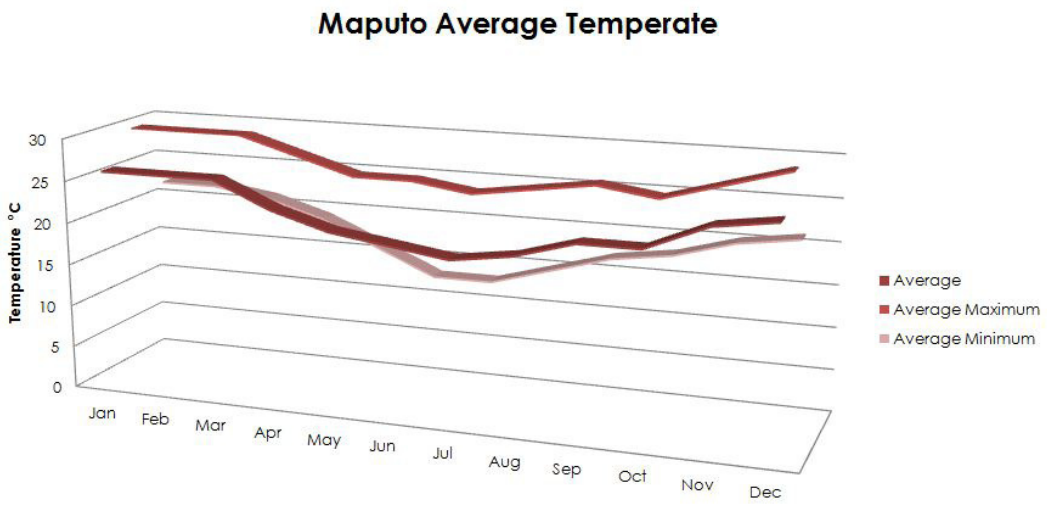


Figure 8.24 Maputo average temperatures graph. Generated by Author

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Relative Humidity PM	66	65	67	63	61	57	59	60	63	66	67	66
Relative Humidity AM	72	73	75	72	71	70	71	68	65	65	67	69

Figure 8.25 Humidity table image by B. SNOW 2011

8.6 Service Systems

8.6.1 Thermal Comfort and ventilation

The nature of the three major programmes in the space require different requirements for thermal comfort and ventilation. Where the Sex- workers facilities can be naturally ventilated and may have an allowance for varied temperatures, the gaming spaces need to have a very controlled thermal system, allowing the proprietor to create a constant temperature within the space for a twenty four hour period. Climatic data for Maputo shows that the average temperatures and maximum temperatures are above the general comfort levels. To create a comfortable and controlled temperature within the casino space it becomes necessary to cool the air, and control the ventilation rates within the space. The market environment is almost completely open therefore cooling is achieved by shading alone.

The maximum temperatures during summer coupled with the high humidity rates create uncomfortable spaces in general and almost unbearable conditions for tourists who are not used to such a climate. The spaces within the gaming space should therefore reduce humidity and temperature. The psychometric charts indicate a specific comfortable temperature and humidity based on the climatic data specific to Maputo. This is determined at between 23- 25 degrees Celsius allowing for the variance within the spaces.

The monthly averages in temperature show very little variance in temperature as the climate allows for warm to hot conditions throughout the year. The table showing humidity values gives indication of the possibilty of uncomfortable space.

Artificially ventilated spaces are required to allow for the control of thermal comfort and ventilation required. Provision is made for a plant facility, maintenance access and large ceiling voids (600-800mm) are allowed for HVAC ducting and piping of fresh air. HVAC is notorious for energy usage and load placed on the electrical grid, but for this type of controlled environment is the most feasible solution.

Different types of HVAC systems exist and some are more environmentally responsible, than others the type identified for this particular building is the absorption chiller. Evaporative coolers were explored as a possibility but were rejected due to the high humidity in Maputo. Geo- thermal techniques were also noted, but would require a large amount of earthworks in a historical area with very small building footprints and narrow streets.

"Absorption Chillers, while an active design solution, have a fairly low environmental impact when compared to other refrigeration devices. Absorption chillers produce a refrigeration effect through use of a heat source, as opposed to the more commonly encountered compressor- driven machines that use electric power to generate a cooling effect." (KWOK and GRONDZIK, 2007: 175)

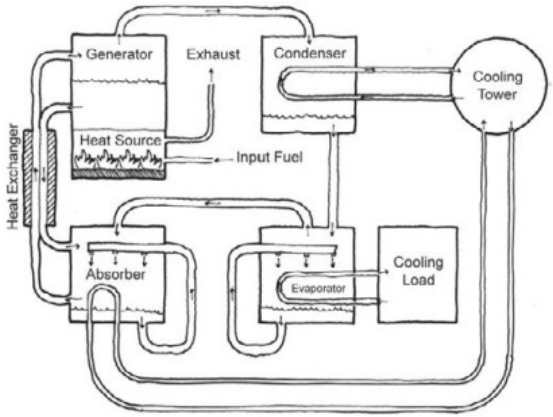


Figure 8.26 Diagram showing the workings of an absorption chiller. (KWOK and GRONDZIK, 2007:76)

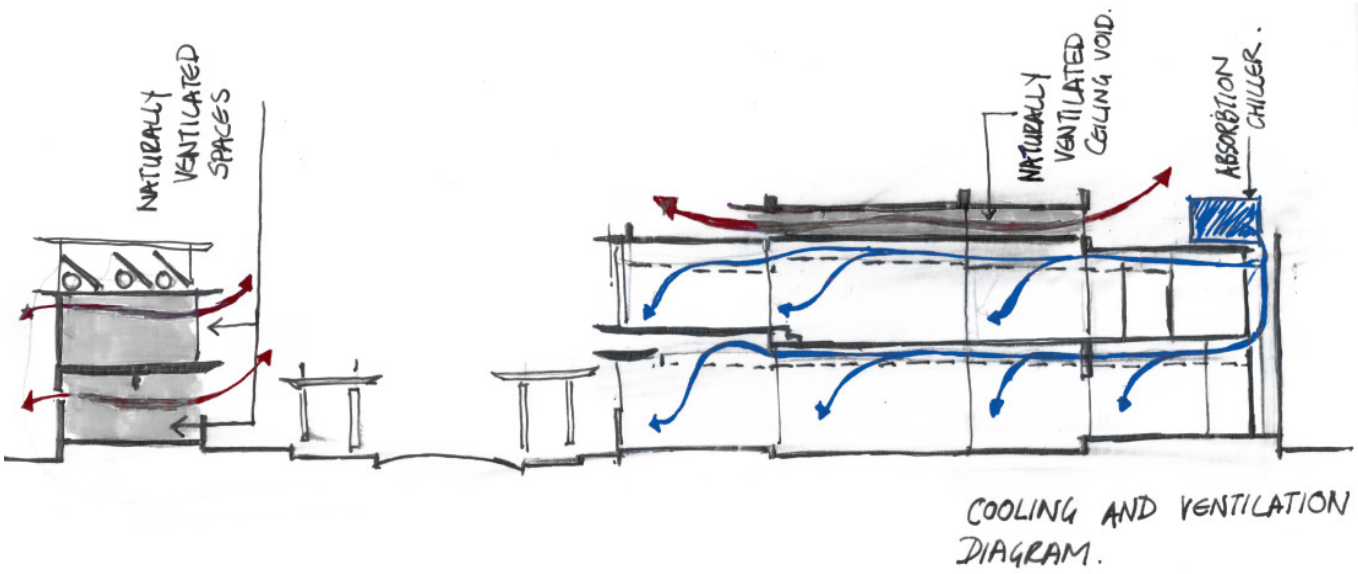


Figure 8.27 Diagrammatic section showing HVAC system

PASSIVE ASSISTANCE

To reduce the load on the air-conditioning and ventilation systems. Insulation, shading and allowing for passive cooling in the roof is proposed. The largest and most exposed roof slab is raised with an air tight ceiling below. This void is insulated from the rest of the building and is opened on two sides , North and South allowing the coastal on-shore and off-shore winds to ventilate the space, removing the heat load of the thermal mass created by a concrete slab roof.

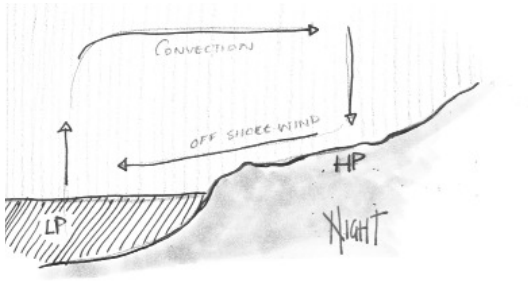


Figure 8.28 Sea breeze diagram at night.

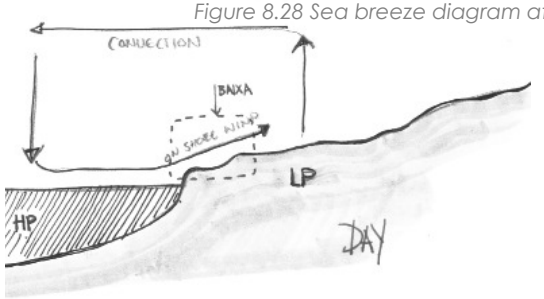


Figure 8.29 Sea breeze diagram at day.

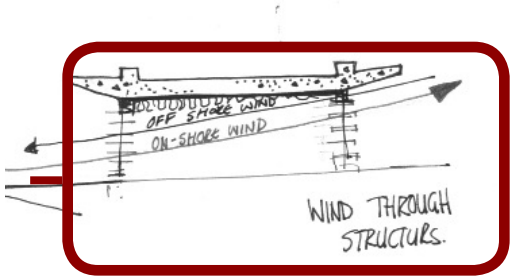


Figure 8.30 Diagrammatic section showing raised roof slab.

Figure 8.31 Section Showing air movement space to allow sea breezes to cool the thermal mass of the roof slab.

8.6.2 Lighting

The creation of uniformity within the gaming space in terms of lighting is a symbolic and conceptual response to the existing duality between night and day as mentioned in the problem statement. The uniformity created is intended to create a constant lighting level over time but still allow for the variance in place.

This means the level of illumination should be constant for a 24 hour period as is required by a gaming space so as to allow the patrons to lose track of time.

Conceptually this constant level of the lighting within the space allows for the continuity required to create a 24 hour precinct.

This is achieved by screening the light in to the space and filtering the levels of illumination during the day, but connecting day-night switches to the artificial lights to allow them to match the lux levels.

Because of the diurnal pattern and the movement of the sun in the sky, the pattern created by the shadows created by the shading screening on openings will move around the spaces and surfaces.

Allowance for movement of atmospheric lights on timers to recreate the patterns over the night hours must be installed.

Task lighting is also provided to specifically light table games.

As indicated in the conceptual sections in Chapter six*(refer to section 6.3)* differences in direct and reflected light create different effect and enhance spaces in different manners. Casino equipment, signage and actual lights create the direct light and the light coloured and reflective surfaces reflect that. To create the richness and cavernous feeling required in the gaming, the finishes are considered according to this concept. By using darker timber with a red stain (only saligna is used because it is the most accessible renewable hardwood available therefore a stain is required to achieve colour variances) for the floor surface this colour absorbs light, but the sealant should be reflective to enhance the richness and glamour of the space. Rich and dark carpets are also specified for the table spaces, the carpets not only absorb light but also the sound.

Slots and circulation spaces are finished with timber flooring which is a hard surface allowing for some light reflection but also the sound of pedestrian movement on the floors is used to enhance the vibrancy and complexity, where the intimacy of the table spaces is enhanced by the sound absorption capacity of carpets.

The ceilings and lighting elements are placed in such a manner that task lighting is direct but all other light is either screened and obscured or reflected off other surfaces.

8.6.3 WATER

Four shower facilities are provided in the sex- workers facilities as there is no specific time for the use of the facilities it is difficult to determine how long and how much hot water would be required. At an estimation of twenty women, that places a load of 5 showers per unit. The green building handbook estimates one shower at 40 l per use. (GIBBARD, 2009: 127) That means a requirement of 8000 litres of warm water per day . Storage of such large amounts of water in geysers would be expensive and not feasible resulting in the last showers being cold. The water temperature does not have to be constantly hot and during summer cooler water would be acceptable.

A constant water heating system is then required that heats the water as it passes into the shower, similarly to a direct- fired gas heater. Image direct fired gas heater.

Having employed a large and expensive HVAC system in the Gaming across the street the waste heat generated is then used to supplement the heating of the water which is then run in an insulated pipe beneath the street prior to the installation of the new surface. Solar water heaters then receive the pre-warmed water which will heat it further. The water then moves on into the four 200l storage geysers that will account for only 25% of the required warm water, but even if the weather is not conducive to heating, it will still be warmer, due to the waste heat from the absorption chillers waste.

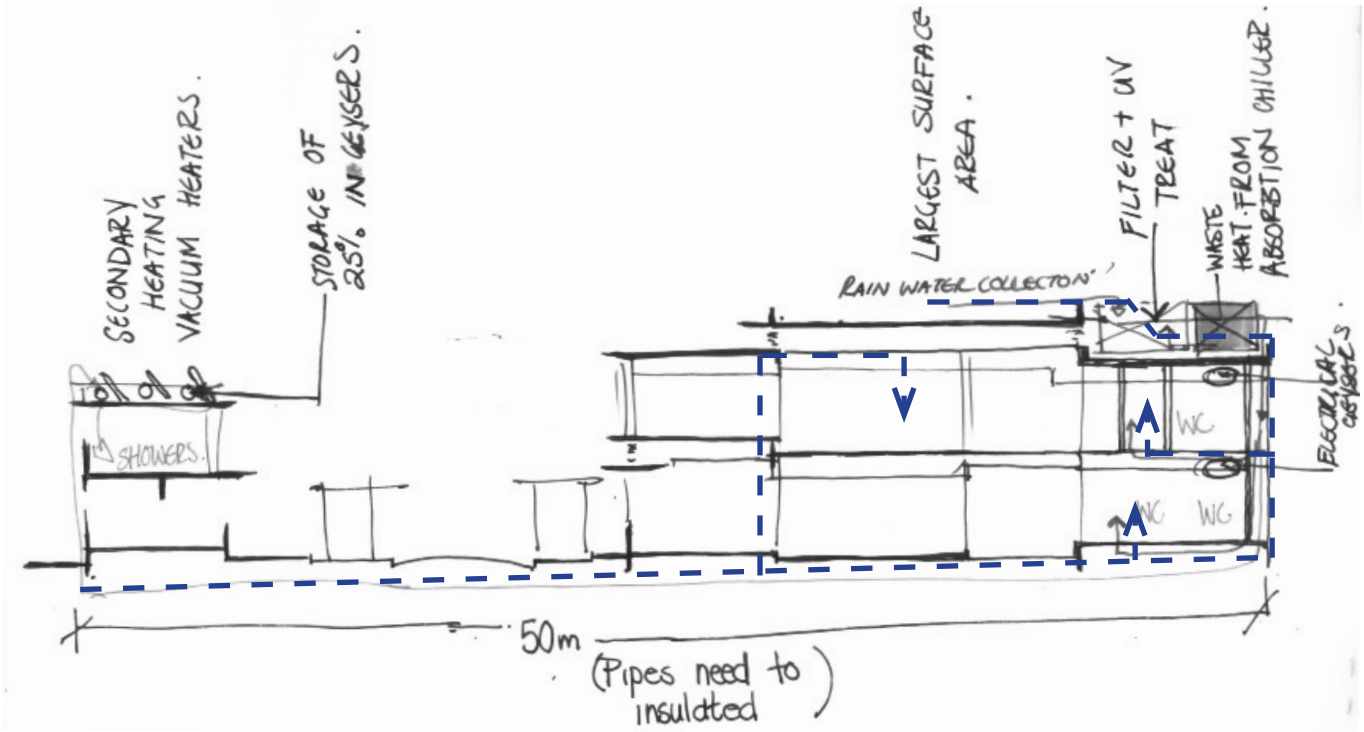


Figure 8.32 Sectional diagram showing movement of water

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AND CERTIFICATE OF ORIGINALITY

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FULL NAMES OF STUDENT: Jacqueline Jean Casson

STUDENT NUMBER: 10252585

TOPIC OF WORK: Assignment 04 as submitted as part of submission for the qualification of March [prof].

In- between- formality: A sensitive approach to street life regeneration in the Baixa of Maputo

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2. I declare that this CHAPTER 1 OF THESIS (eg essay, report, project, assignment, dissertation, thesis, etc) is my own original work. Where other people's work has been used (either from a printed source,

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3. I have not used work previously produced by another student or any other person to hand in as my own.

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SIGNATURE .....
.....

1

Urban Precedent Studies

1.1 Urban Frame work Model

All six students using the Baixa as a lab for exploration Collaborated to build a 1:1000 site model to give greater understanding of context to the examiners both internal and external.

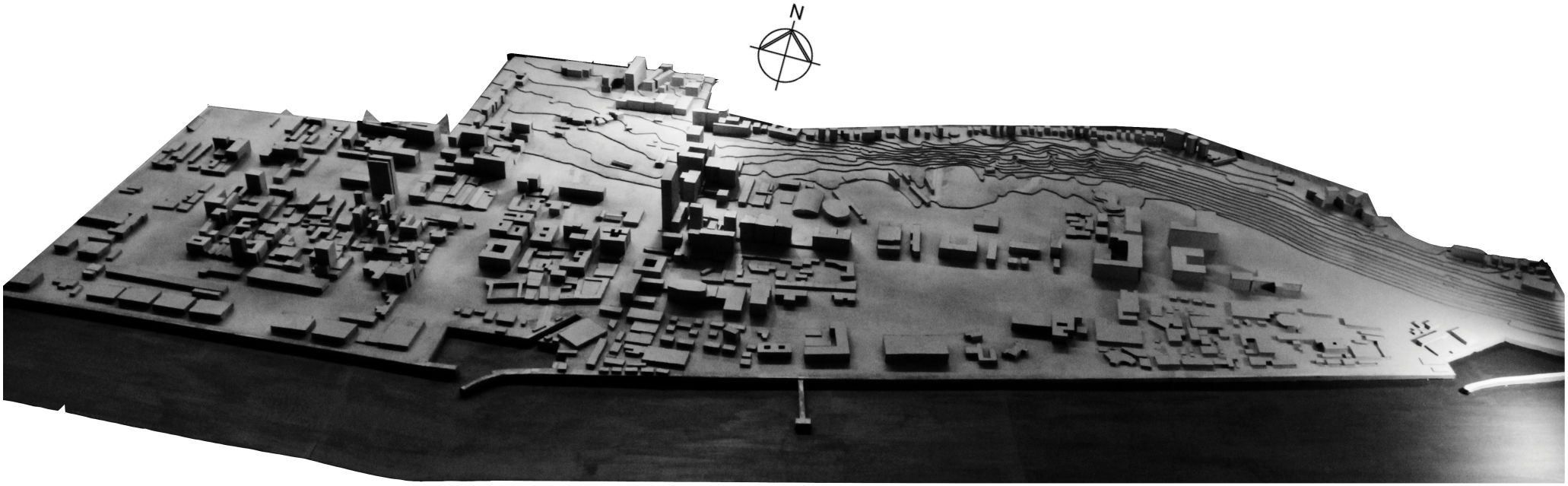
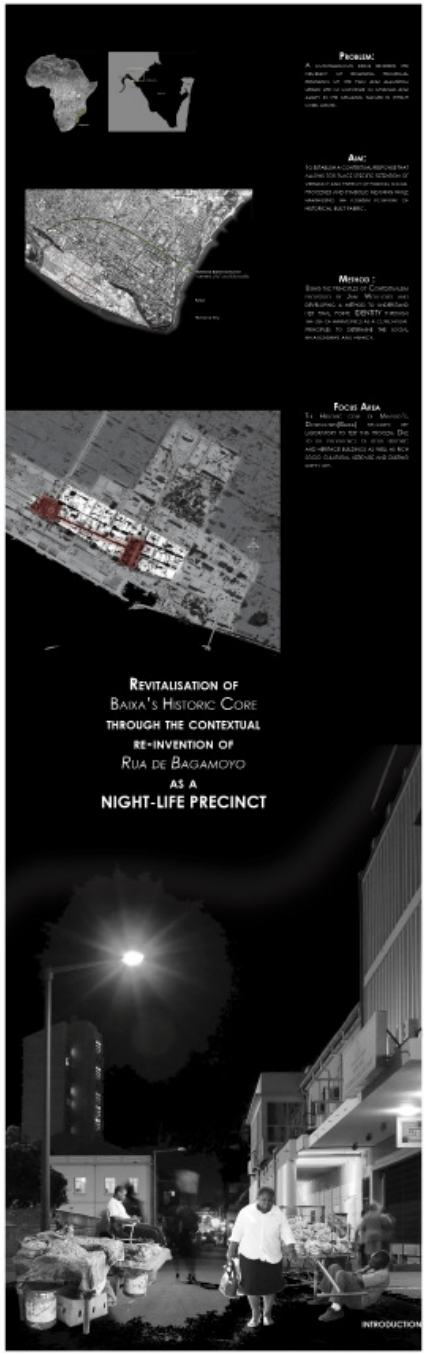
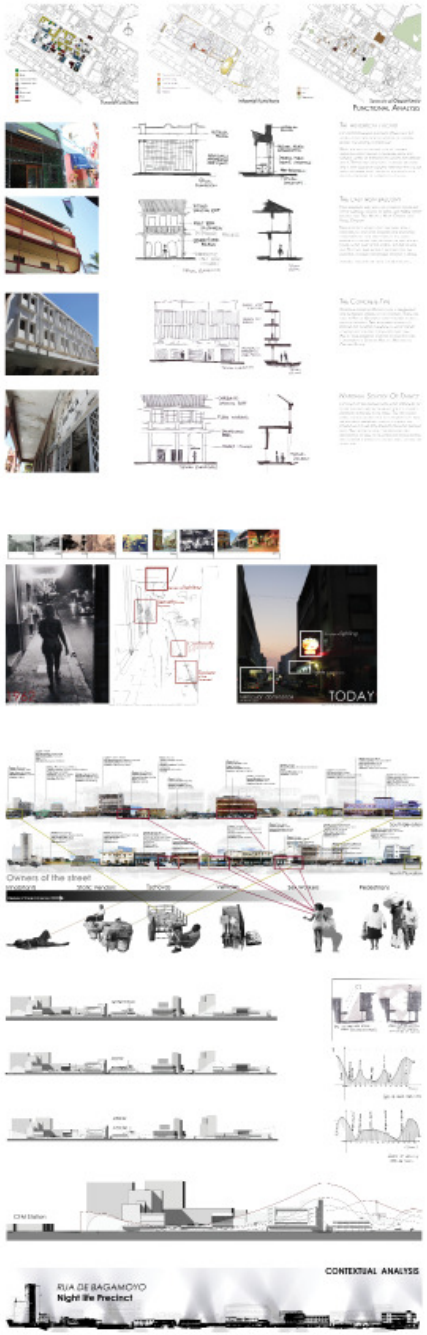


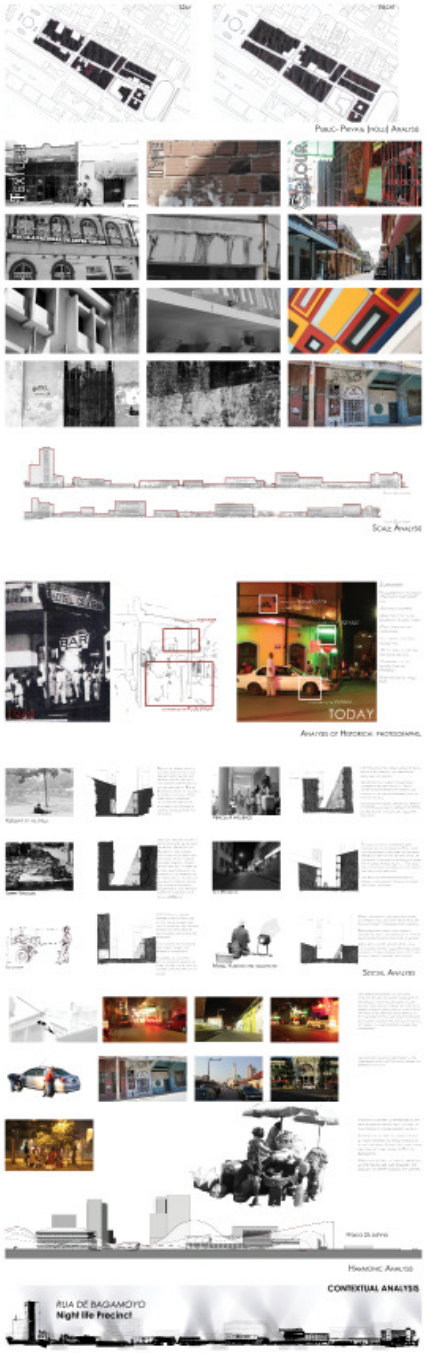
Figure A1 Photograph of Urban Model Photograph by Author Model by: J.Casson, C. Deacon, P. Devenish, J. Hart, W. Oosthuysen and B, Snow

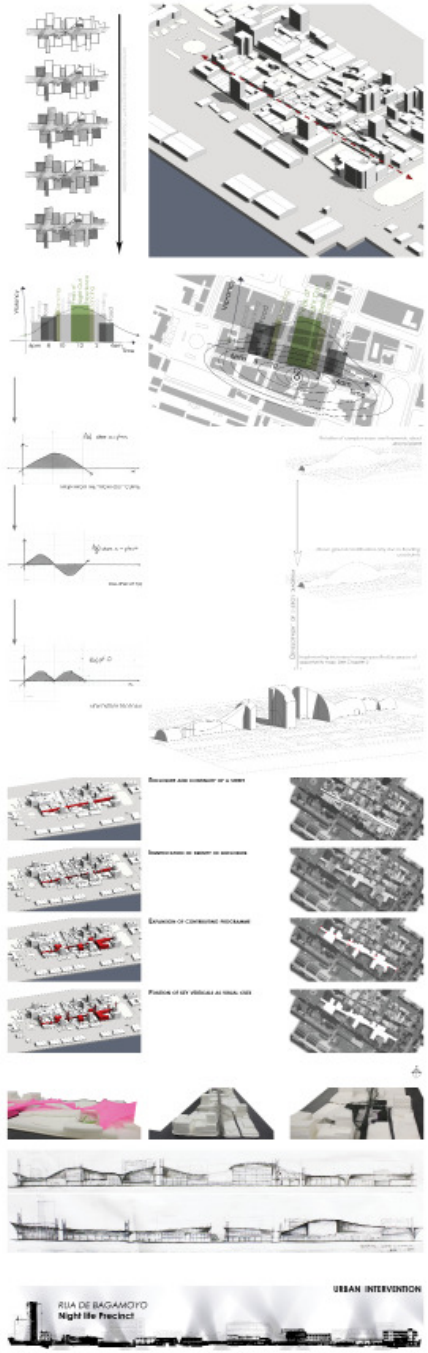
1.2 Final Presentation Drawings

The posters printed at 841x 1800mm were presented with additional renderings and a large 1:200 model showing all of Rua de Bagamoyo including two 1:100 Elevations presented with respective sounds


PROBLEM:
AIM:
METHOD :
FOCUS AREA
REVITALISATION OF
BAIXA'S HISTORIC CORE
THROUGH THE CONTEXTUAL
RE-INVENTION OF
RUA DE BAGAMOYO
AS A
NIGHT-LIFE PRECINCT
INTRODUCTION

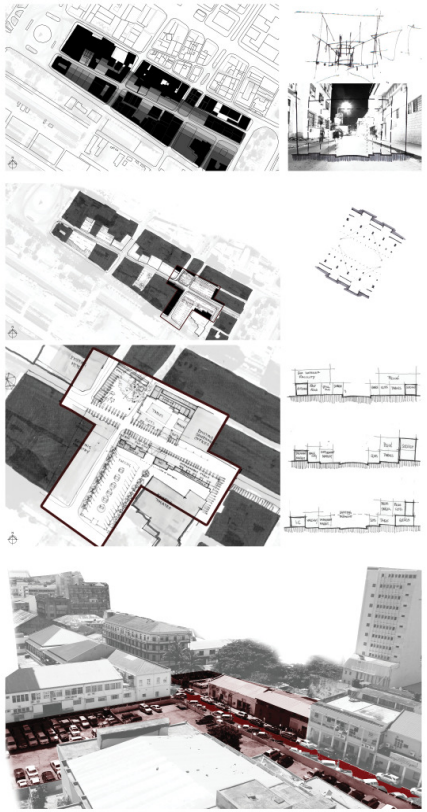

FUNCTIONAL ANALYSIS
TODAY
Owners of the street
CONTEXTUAL ANALYSIS
RUA DE BAGAMOYO
Night life Precinct


PUBLIC- PRIVATE [HOLE] ANALYSIS
SCALE ANALYSIS
TODAY
ANALYSIS OF HISTORICAL PHOTOGRAPHS
SPATIAL ANALYSIS
HARMONIC ANALYSIS
CONTEXTUAL ANALYSIS
RUA DE BAGAMOYO
Night life Precinct


URBAN INTERVENTION
RUA DE BAGAMOYO
Night life Precinct

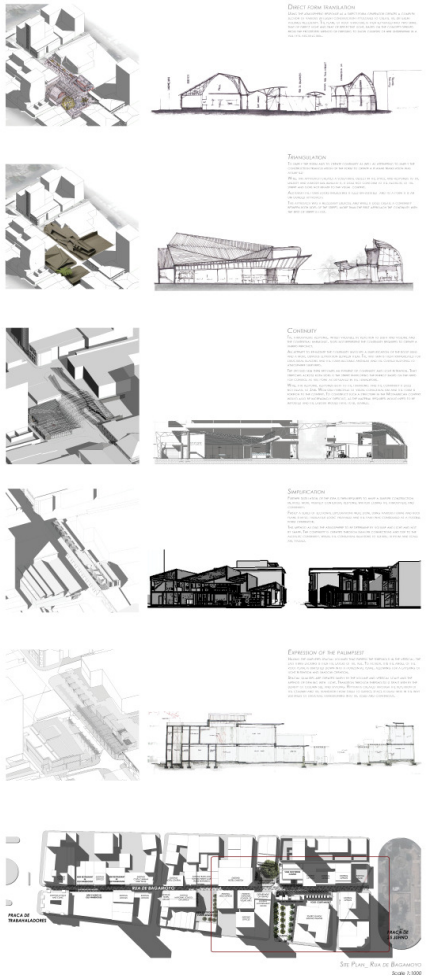
URBAN INTERVENTION

RUA DE BAGAMOYO
Night life Precinct



CONCEPTUAL DEVELOPMENT

RUA DE BAGAMOYO
Night life Precinct



DESIGN DEVELOPMENT

RUA DE BAGAMOYO
Night life Precinct

ARCHITECTURAL INTERVENTION

RUA DE BAGAMOYO
Night life Precinct

Figure A-2 Final posters

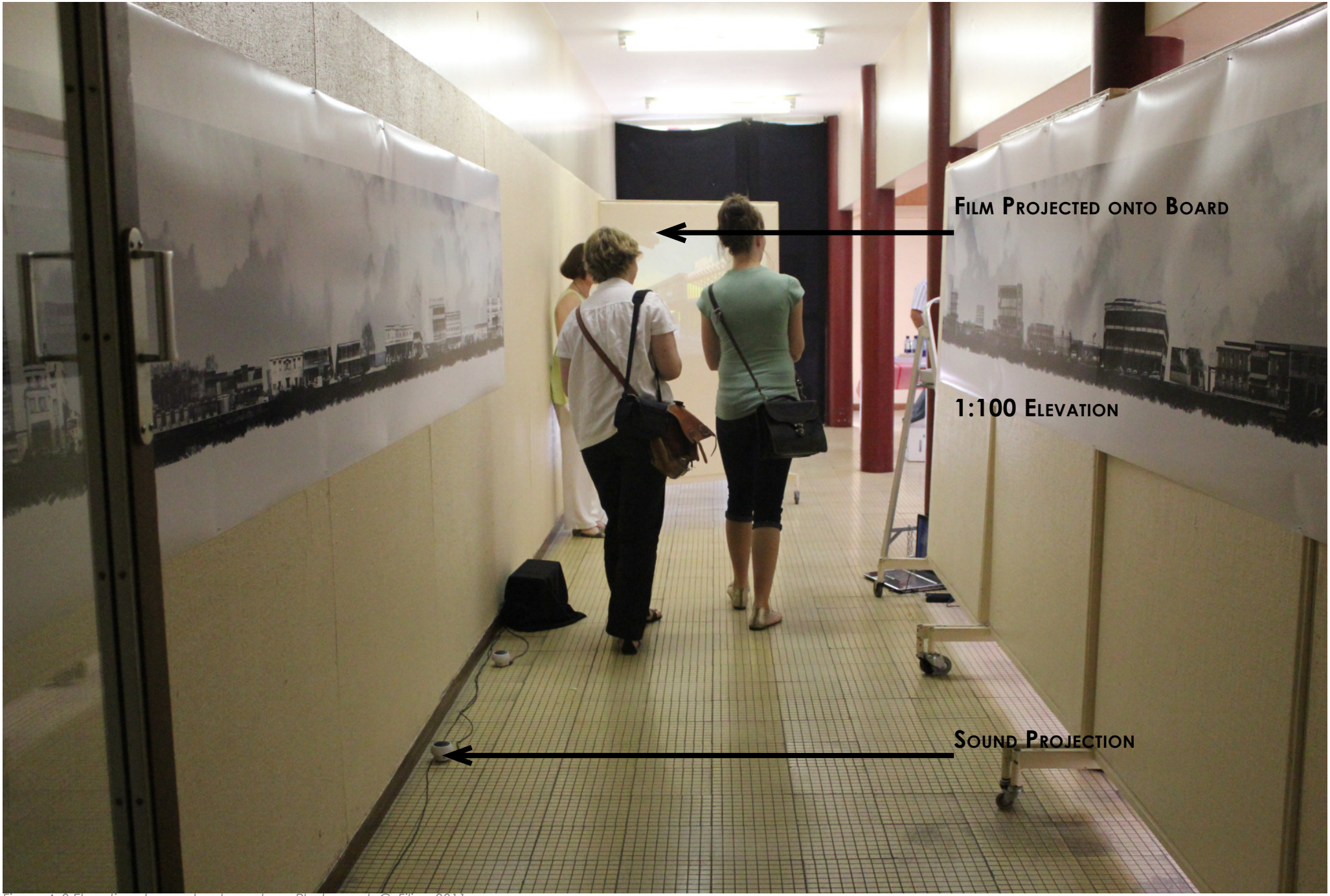


Figure A-3 Elevations to create atmosphere Photograph C. Filipe 2011

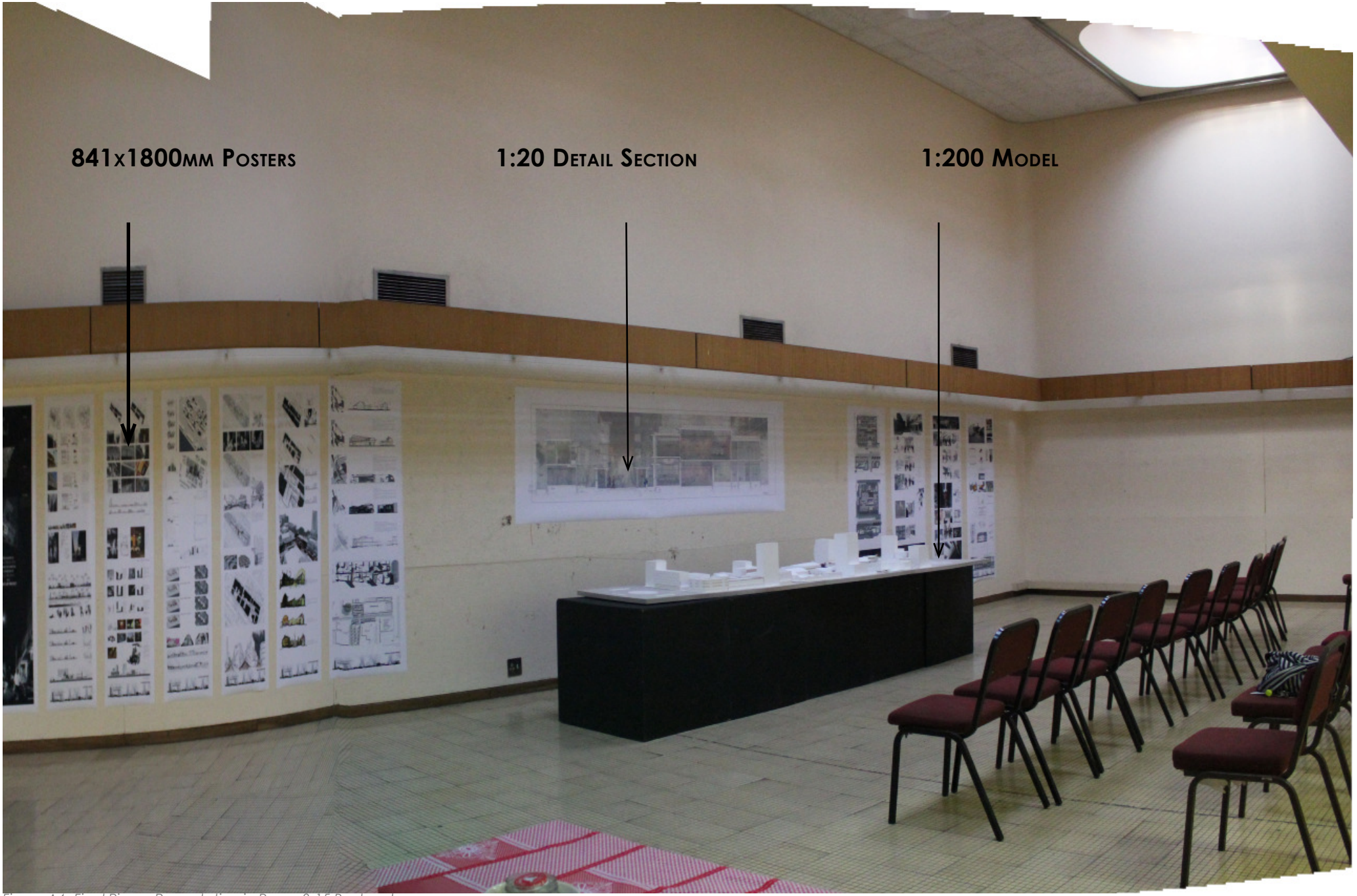


Figure A4- Final Pin-up Presentation in Room 3-15 Boukunde

Figure A.6 - Photographs of Detail in 1:200 Model