A CITY IMAGINED

JOHANNES MATTHYSEN

study mentor johan nel prinsloo
studio master jacques laubscher
studio master arthur barker
course co-ordinator piet vosloo

Submitted in partial fulfilment of the requirements for the degree Magister In Landscape Architecture [Professional] Department of Architecture, Landscape Architecture and Interior Architecture. Faculty of Engineering, The Built Environment and Information Technology. University of Pretoria.

Pretoria, South Africa
2012

THESIS ABSTRACT
SKRIPSIE SAMEVATTING

This dissertation focuses on the re-conceptualization of Pretoria Central Business District (CBD), grounding the hypothesis within Paul Kruger Street. The author aims to provide a newfound approach to this historical connection, transforming the interpretative experience of the urban environment as a stage from where the city operates as a place of fantasy, covet, and imagination. The project will demonstrate how the inception of a Virtual Landscape can renew perceptions of the city and pave the way towards a new paradigm.

Grounding the Virtual Landscape within a real world scenario, the final phase of the dissertation aims to position this ideology of the imagined landscape within a real world context. The Virtual Landscape aims to inform the grounded design proposal, adding to the experience of place and time. The user's understanding of place cannot be separated from time.

The motivation behind the dissertation exists as a critique on the city of Pretoria, where the in situ experience of place is thin, and the experience is swiftly forgotten. The findings from the investigation of the Virtual Landscape constructed the hypothesis as a contributor to the thickening of the place that extends beyond the veneer. The research question originates from the theory of the Virtual Landscape, questioning whether this theory can be applied within contemporary landscape architecture design.

The hypothesis is introduced on five sites in Pretoria on a framework level as representations of the Virtual Landscape. One site is selected and tested against the process of the Virtual Landscape from its influences, the Virtual Landscape, representations of the Virtual Landscape and the material landscape (design proposal).

The final stage of the dissertation investigates the technical resolution of the design proposal.

Die studie fokus op die stadshernuwing gegrond in die historiese straat, Paul Kruger, te Pretoria. Deur gebruik te maak van die bestaande teorie - die Virtuele Landskap -, ondersoek die outeur die gepastheid van die teorie in 'n kontemporêre konteks. Die doel van die Virtuele Landskap beoog om die ontwerp proses te verryk, asook waarde toevoeg aan die verbruiker se ondervinding in die stad.

Die motivering agter die studie bestaan uit die dun ondevinding wat die verbruiker van die stad ondervind in Pretoria. Waar die nagedagte van die stad gou vergete is. Die ondersoek in die teorie van die Virtuele Landskap dra by tot die outeur se hipotese as 'n bydraende factor to die verryking van plek.

Die hipotese word voorgestel in die stadsraamwerk in vyf ruimtes van die stad as voorstellings van die outeur se Virtuele Landskap. Een voorstelling word verder ondersoek teen die proses van die Virtuele Landskap.

Die finale ontwerp voorstelling word dan deurgevoer tot tegniese ontwikkeling.

for
MONIQUE

JOHAN MATTHYSEN
AUDREY MATTHYSEN
JOHAN LE ROUX
LYDIA LE ROUX

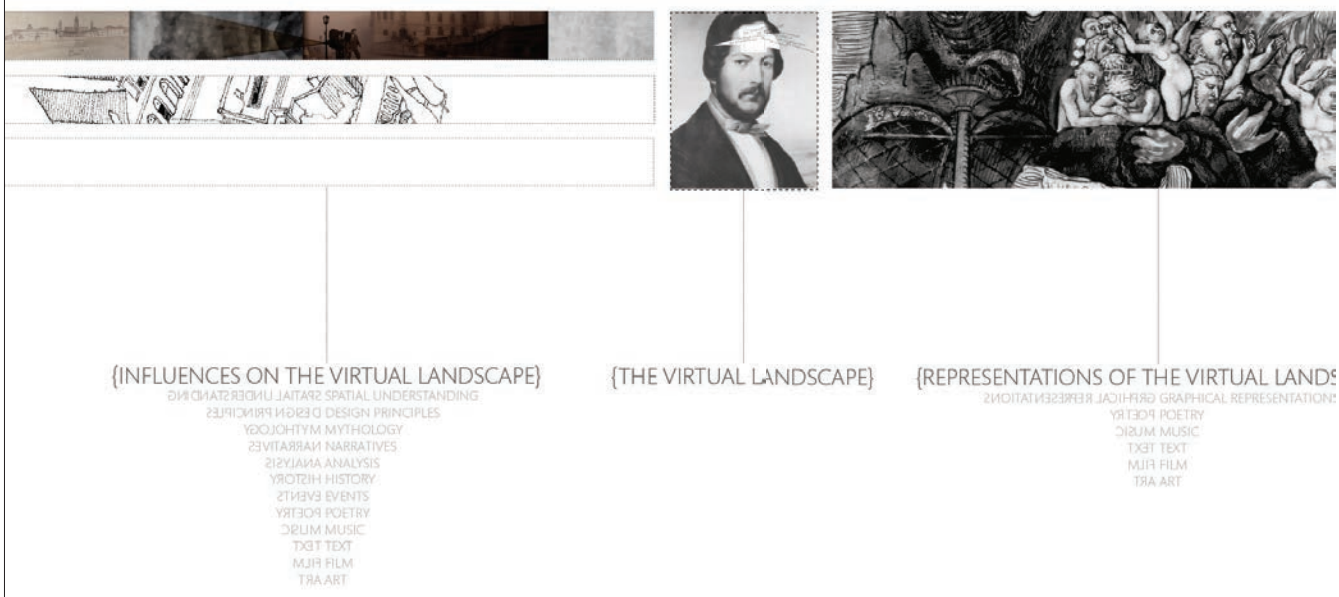
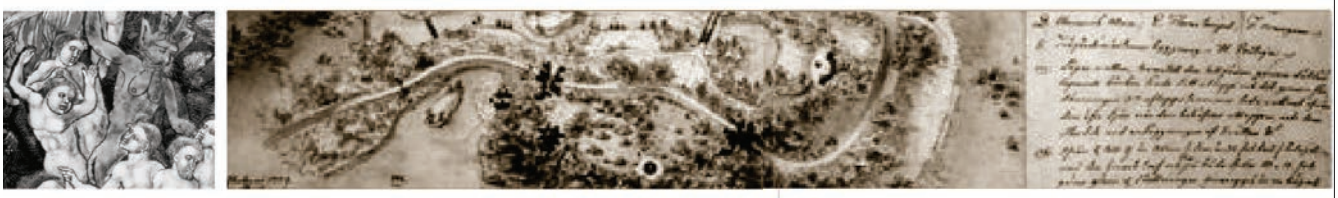


Figure 1: Diagram deconstructing the Virtual Landscape theoretical discourse (Author, 2012).



LANDSCAPE}
ENTATIONS

{MATERIAL LANDSCAPE}

INVENTORY

LIST OF ILLUSTRATIONS

Figures

LIST OF ILLUSTRATIONS

PROLOGUE

Figure 2: Spatial experiece of Johannesburg. Collage by Author (2012).

ek het gaan loop in n stad van goud, plekke ondek wat ek nog nooit aan gedink het nie, waar alles begin het, waar alles geiendig het, en nou n die gryp na n grashalm. ek het die stad geskryf, en in my 'memoirs' gebere.

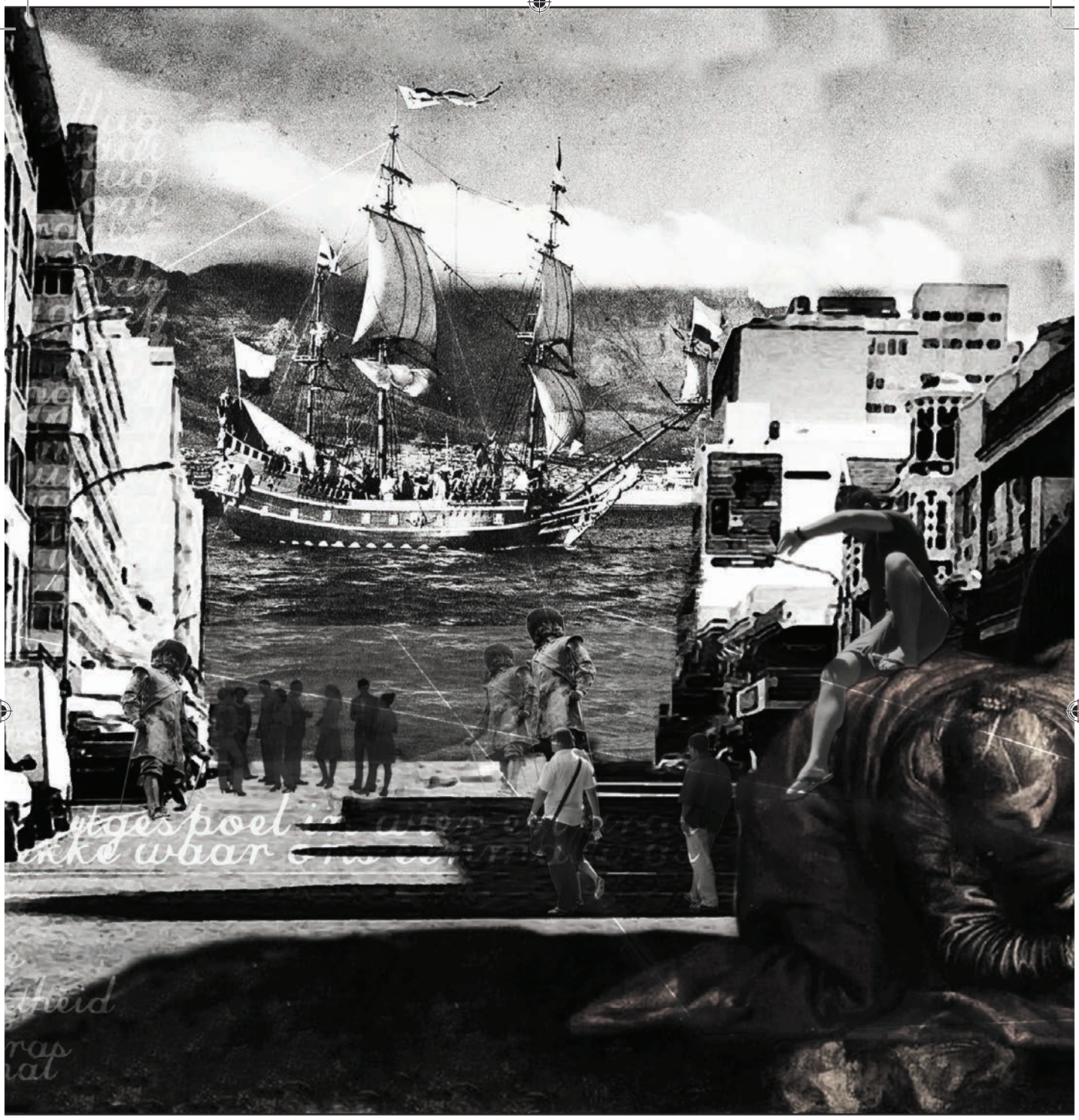


Figure 3: Spatial experiece of Cape Town. Collage by Author (2012).

ek het gaan loop in n stad van n berg, my siel het het sy plek gevind in die stad se muleu, ek het my liefde daar gaan vind, ek het gaan sit by irma, wie wens dat iemand sal kom kuier, ek het gaan swem waar Ingrid uitgespoel het, ek het gaan loop waar brytenbach gaan dink het, ek het in n park gaan le...die stad opgevou en in my sak gebere.

Figure 4: Spatial experiece of London. Collage by Author (2012).

ek het gaan loop in n stad van konings, ek was weg gevoer in n idée van die verlede, ek het die verstaan, die 'ingelese' almal opsoek na die toekoms, ek het dit aangegryp, ek het onder n beeld van dali se gedagtes gesit, 'n reproduksie 'of-course' en gekyk na die ewige stad. ek het die stad verlaat, maar sy het my in haar sak gebere

ek het gister in n stad geloop, ek het gedink aan almal wie al hier geloop het. die stad het nie. ek het gedink aan almal wie na die stad gekom het met nuwe hoop. die stad het nie. die mense vas in n daaglikse 'mêlée'. ek het gewonder . . . aan wie dink die stad.

PROLOGUE DESCRIPTION

The author reminisces of cities that shaped his ideas of place: Johannesburg, Cape Town, London. Here his thoughts would be taken on a journey far across the boundaries of their tangible representations. He continues to wonder why these cities could remind him of historical events, some embellished with grandeur and some facts insignificant to others. Imaginably, people flock to these cities because they know the stories they contain.

They understand the city; they read it, smell it and truly indulge in its existence.

Eventually the author enters a city, a vacant stage where people struggles in a confused fight. They emerged into a city that never considered them; they are displaced and lost in the city's perplexity. The author thinks more about the state of this city. A city that has not only become quiescent to the people, but which perhaps never considered him. Finally the author concludes: who is privileged enough, that this Pretoria considers worthy?

MANIFESTO

28

I imagine a city...a juxtaposition of dream and myth, filled with ambiguities, a radical city that can produce new cultural frontiers. Architecture had failed us. Our city has become a distraught fragment failing to provide adequate spatial, social and cultural needs. Public space within the city provokes vacant thoughts; only 'dictatoresque' celebratory urban pockets exist, negating the city user. Perhaps our cities have been driven only by function - a supply and demand approach. It is this approach, which refutes opportunities that artistic and imaginative normatives can contribute to the urban environments we inhabit. This dissertation aims to provide cityscapes within the public realm to be used as a platform for civic, social, cultural and utilitarian devices. The landscape intervention deliberately emphasises the notion of being in constant flux. This is set to reconnoitre how this oscillation can be evident throughout the city; reality versus the imagined, residents versus visitors and day versus night. It is this variability within urban environments that keeps us reminiscing of place long after we have encountered them.

001

INTRODUCTION

This document serves as the depository of the author's understanding throughout the design process: perhaps a visual documentation, whether through the means of text, visual abstraction or graphical representations, of his experience through his virtual world parallel to his reality. The document cannot be viewed only as process or product, but as a collaboration of his ideas, thoughts, concrete facts and intangible experiences.

For the purpose of representation, this document is constructed to form a concrete argument that will ultimately emancipate an approach within an urban laboratory, although lateral thinking was not always conducted during the process.

The author aims to present within the document the following:

The author's hypothesis: 'The Virtual Landscape as contributor to *ingruit localis experiential*' (the thickening of spatial experience). The investigation necessitates the historic narrative of the Virtual Landscape through time and in what way it has manifested itself in reality. The author aims to explore how the Virtual Landscape can be interpreted within contemporary landscape architecture.

The real world problem will deal with the Vacant City - the author's view that Pretoria lacks a diverse flavour of cultures, race and income demos applies. The author then investigates the different approaches applied to cities currently undergoing a form of 'revitalisation'. An overview of the Johannesburg revitalisation initiative will be investigated, focussing on the Braamfontein Urban Upliftment Initiative, and The Maboneng Precinct development reimagining Johannesburg.

The main goal of the first part of this dissertation is to understand city-rejuvenation, a phenomenon evident in cities all across the world, varied in scale, authority and approach. Numerous amounts of frameworks exist for the city of Pretoria, mostly driven by financial gain of developers, and always a manifestation of the urban designer's mind. Although these frameworks, the likes of Pretoria Inner City Integrated Spatial Development Framework by Capitol Consortium (1999) and the Tshwane Regional Spatial Development Framework

Figure 5: *The art of doodle*, Art Kitchen. Photograph by Talita Steyn (2012).

Figure 6: Skimgrot gathering. Photograph by Talita Steyn (2012).

Figure 7: *Up up and away*. Photograph by Talita Steyn (2012).

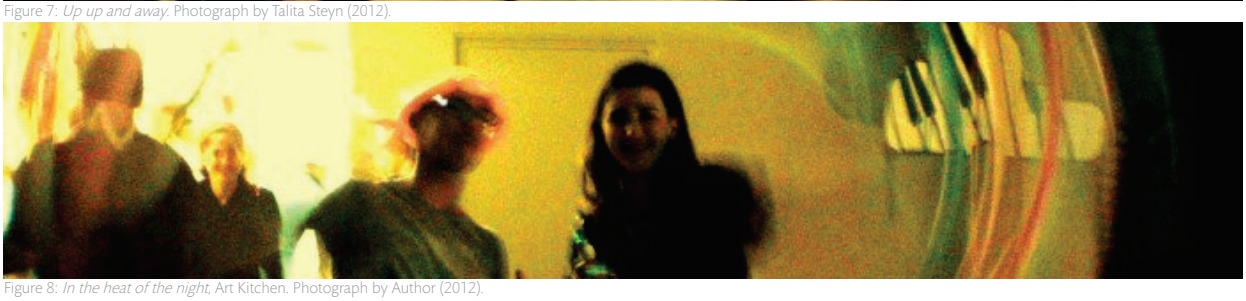


Figure 8: *In the heat of the night*, Art Kitchen. Photograph by Author (2012).

Region 3 (2012) by the City of Tshwane, are successful on an urban planning scale, no framework to the author's knowledge experiments with urban renewal on an imaginary level.

The author questions how city-rejuvenation can lead to action within our city. The truth to the statement is that, in some small way, it already exists. Impromptu events by artists, musicians and writers in the city are perhaps a forebodement of a city imagined. Small gatherings in derelict buildings and social music events on the street edge at night all contribute to the rejuvenation of Pretoria. Although the discourse aims to comply with the greater Pretoria framework compiled by the Capitol Group, it aims to build on the framework on an imaginary level. It is clear that no city can be created by only one designer. The author turns to a group of artists, scriptwriters and creative thinkers to reconceptualise the city.

The second component of the document represents an approach to ground the Virtual Landscape (the idea) within Paul Kruger Street (the reality). The author regards the city as an urban laboratory, which facilitates the experiments within social conditions and social structures.

"The desire to make people aware of their surroundings, not just the physical world, but also the psychological world we live in" (Lin 2000: 3).

The author investigated what the driver of the imagined landscape, or Virtual Landscape, can be. It is clear that Pretoria acted as a stage for numerous tangible and intangible events [This discussed in the Grounding]. These events have been lost; they have no connection to the city we know today. As part of

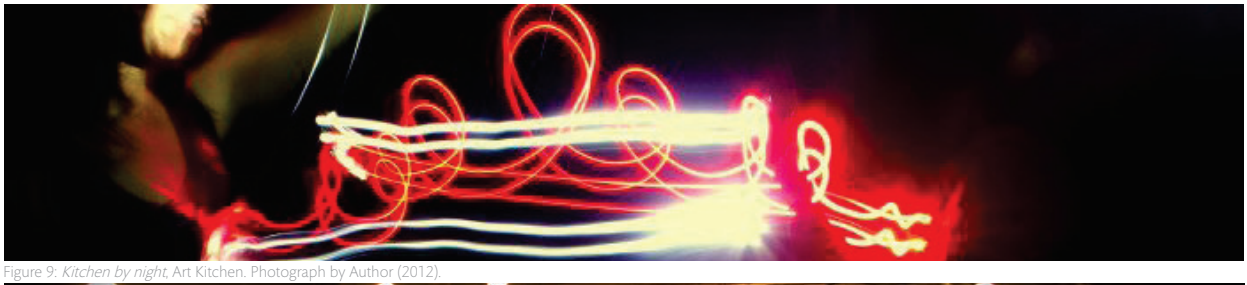


Figure 9: *Kitchen by night*, Art Kitchen. Photograph by Author (2012).

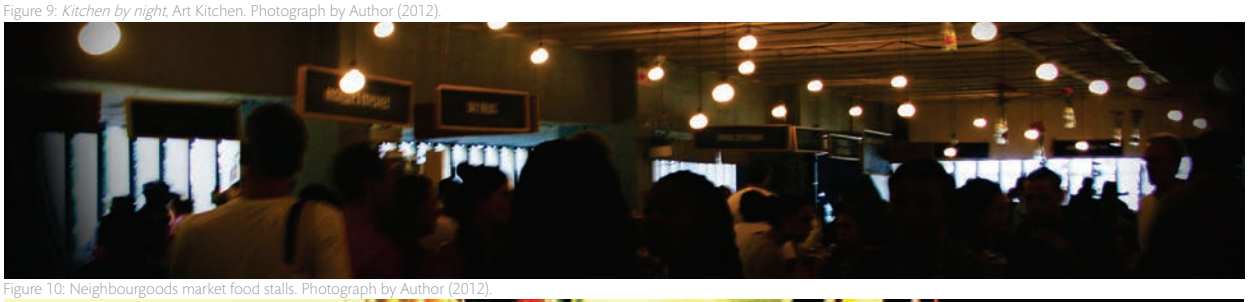


Figure 10: Neighbourgoods market food stalls. Photograph by Author (2012).

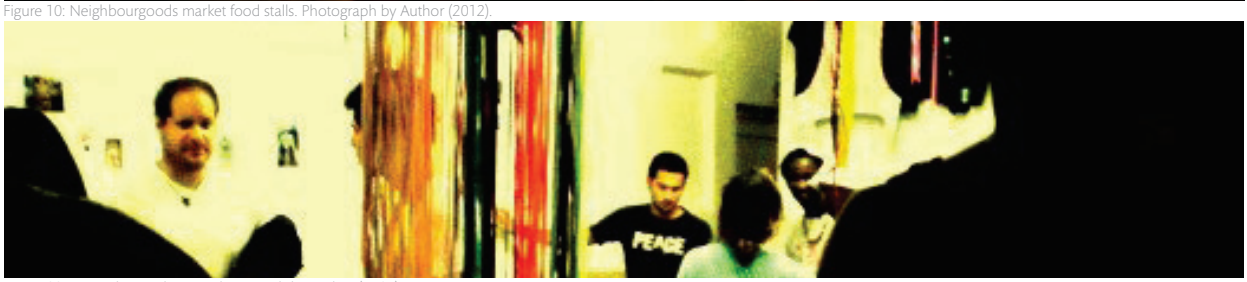


Figure 11: Art Kitchen gathering. Photograph by Author (2012)

Figure 12: Art Kitchen jazz show. Photograph by Author (2012.)

the creation of the Virtual Landscape they act as informants to the design process. But, although they are extremely significant and cannot be negated from the process, they do present their own set of problems.

The events documented only reflect one part of the city's history and is told from only one perspective. There is a clear longing for the nostalgia of the City of Pretoria. However, basing the Virtual Landscape only on the history of the city, the Virtual Landscape becomes stagnant and creates a living museum of the past.

Shifting the view from the nostalgia of the past, the author aims to create a longing for the future of the city. Susequently, this longing for the future of the city can perhaps call for action. The final stage of the dissertation aims to position this ideology of the imagined landscape within a real world context. The Virtual Landscape aims to inform the grounded design proposal, adding to the experience of place and time.

"Without the element of time, one cannot see these pieces, and since so much deals with tactile sensations and changes in height, depth, and sound, the experience of piece is not easily reduced to a single image" (Lin 2000: 03).

In summation, the need exists for the revitalisation of the city on a pedestrian scale. Although numerous frameworks of the city exist, they neglect to investigate the intentions on a visual scale, how the city user will read the city on street level and the type of user it intends to attract or provide for.

001

PROBLEM STATEMENT

THE VACANT CITY & A PUBLIC QUANDARY

THE VACANT CITY

The departure point for the problem statement stems from the need for revitalisation – to revive the city on a pedestrian scale where the user can read and understand the city from its street level.

In more than one aspect, the city of Pretoria has become a vacant city. The city today is still used despite of all its shortcomings. Sarah Nuttall describes this type of city as 'The Elusive City', where it is elevated as a place of rapacious survival, "make do", and chance encounters. The city's fabric has been described as a structure in need of radical transformation and only rarely as an expression of an aesthetic vision (Nuttall et al 2004).The populace that it catered for retreated to the outskirts of the city. Fragments of the built environment are also visible within the urban fabric of the city precinct.

"A geography of fortifications and enclosures; increasing demand for spatial and social insulation; and reliance on technologies of security, control, and surveillance. In this context, the stranger and the criminal now assume, more the ever, greater prominence in most urban imaginations. These extreme forms of fortification need to be counterbalanced by attention to other, varied responses to the city's transformation, most of which reflect the complexities of class, race, generation, and ideology" (Nuttall et al 2004: 23).

Figure 13: Paul Kruger Street on street level, Pretoria (Author 2012).

Ironically, it is the city dweller of a previous generation, blissful in a security estate in the east of Pretoria, who 'rebelled' against the idea of losing their beloved Pretoria, the changing of street names, the removal of old monuments, the erection of new monuments, the exclusion from monuments. But it is this 'rebellion' at the Sunday lunch table, the recurring discussion of what is lost, which confirms a clear longing to reconnect with the city. On the opposite side of the spectrum, the current 'residents' of the city only visit the city on a daily basis. The city becomes a vacant space after the working class disperse at night (for the purpose of this dissertation the author refers to this state as 'the vacant city' and aims to provide a design solution for this event - the nocturnal use of the city).

A PUBLIC QUANDARY

"Public space in the city must surely be more than mere token compensation or vessels for this generic activity called "recreation". Public spaces are firstly the containers of collective memory and desire, and secondly, they are the places for geographic and social imagination to extend new relationships and sets of possibility. Materiality, representation, and imagination are not separate worlds; political change through practices of place construction owes as much to the representational and symbolic realms as to material activities. And so it seems landscape urbanism is first and last an imaginative project, a speculative thickening of the world of possibilities" (Waldheim 2006: 15).

The vision should aim to not only provide landscape solely for utilitarian recreational use, but should become a catalyst which drives the process of community and urban formation. *"The debate*

is not only concerned with bringing landscape into cities, but also with the expansion of cities into surrounding landscape" (Corner. 2006). Open space holds the opportunity to bring social equity, civility, health and economic development to Pretoria. This alternative approach demands a revision of the public domain from its considered abandoned, empty and meaningless attributes into productive, active and integrated public spaces.

The inception of Landscape Urbanism as hybrid not only introduces renewed connections that redefine peoples' perception of public open space within an urban context, but an intervention that encompasses the rich cultural diversity of Pretoria. Landscape urbanism as prototype promotes cultural diversity and individualism, and demands a retrospective view of our reality; a place containing our past and perhaps a glimpse into our future.

To conclude: As the city unfolds to the city dweller, it only provides for a working stage. Pretoria not only has to aim to provide public spaces that appeal to the city dweller on a pedestrian scale, but which goes beyond the investigation of mere recreation. The city urges for its re-conceptualisation through urban renewal for its current user, and attempt to lure a wider demography to the city.

002

THE RETURN TO THE CITY
DEFINING URBAN RENEWAL

For Pretoria to be able to appeal to the current user and provide for opportunity to expand by luring a wider demography, the city needs to reconsider its current state and allow for the inception of urban renewal.

The idea of urban regeneration or renewal presents itself as numerous strategies and approaches, depending on the level of progress of the country.

For developed economies, the goal is to encourage the return of people to the city, to revitalise the urban core, to reintroduce activity in a severely competitive international and national context, and employ initiatives to advance the quality of the environment towards appropriate and much needed growth.

Urban renewal/regeneration was formalised in the USA during the 1960's, when large open abandoned areas harbouring derelict lands were spread across the USA due to the relocation of large marine activity. Urban wastelands, within the urban fabric, were reassigned by municipalities for central business activities, e.g. Boston, Baltimore and London Docklands (Priority Actions Programme 2005).

The Priority Actions Programme refers to three types of urban regeneration:
Regeneration type 1- Imposed regeneration: Addresses vacant urban wastelands.
Regeneration type 2 – Opportunistic regeneration: The private and/or public sector require land that can accommodate a large development.
Regeneration type 3 – Preventive or prospective urban regeneration: Focus on areas where the economic and social fabric has deteriorated.
(Priority Actions Programme 2005: 17)

002

GOALS OF URBAN RENEWAL
& CURRENT TRENDS

The aims or goals of urban renewal is to promote rehabilitation of multifaceted urban structures, improve the environment, as well as to enhance the urban experience of the city dweller, preserve and accentuate valuable, unique and iconic areas, and restructure economic activities within the urban fabric.

Unfortunately, most urban renewal applications within urban environments focus mostly on strategies that secure economic growth and prosperity. Examples of this type of renewal are seen in Portsmouth, (Portsmouth City Council 2012) and locally the Johannesburg Inner City Regeneration Strategy Business Plan (City of Johannesburg 2004). Aberdeen City introduces alternative urban regeneration strategies, education and infrastructure as catalysts for urban renewal (The Aberdeen City Alliance 2007).

Although the feasibility of economic securing strategies, educating the populous or upgrading of urban infrastructure cannot be contested or argued against, this type of strategy rely on economic growth to be the generator of renewal and negate the value that public open space and the urban dwellers experience can contribute to the rejuvenation of the city.

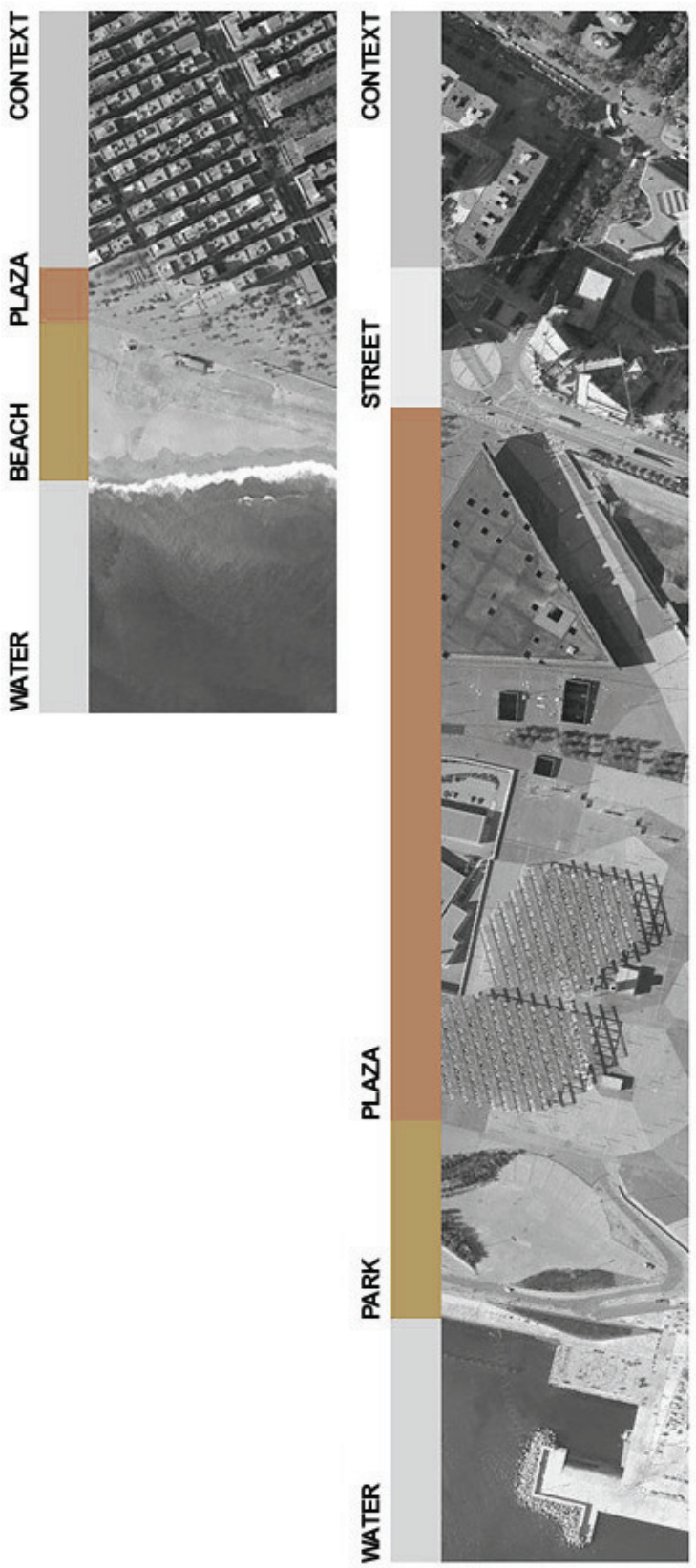


Figure 14: Distance diagram Barcelona (Rotch traveling Scholarship 2011).

Figure 15: Forum Ready Barcelong (Rotch traveling Scholarship 2011).

Figure 16: Arial Forum Barcelong (Rotch traveling Scholarship 2011).

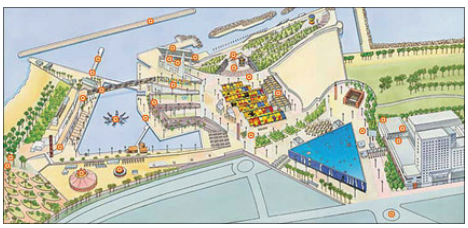


Figure 17: Forum Cartoon (Rotch traveling Scholarship 2011).

THE BARCELONA MODEL:

The urban redevelopment of Barcelona is the result of a twenty-year process that has resulted in a successful revitalized urban fabric. During the 1980's, the city government urgently started an urban renewal process to improve the urban fabric of the city.

The city's main focus was aimed at providing much needed public spaces, parks and facilities across the city. The city aimed to establish better quality urban life. Barcelona launched over 140 projects over 7 years, showing a commitment from the city government to transform the city. The projects facilitated a sense of belonging within the city (Sodupe 2004).

The 1992 Olympic Games acted as catalyst for urban regeneration. The Olympics provided the opportunity to invest public funds into the regeneration of Barcelona on a grand scale, luring the private sector to follow suite. To produce more interest in Barcelona after the 1992 Olympic Games, the city invested in The Forum - a public space that can provide for hosting a multitude of conventions, performances and exhibitions. (Rotch travelling Scholarship 2011)

The Barcelona Model is unique in its process as it inverts the 'economic strategy for urban revitalisation' by first serving the public realm as a commitment to the people by the city. This commitment by the city increased confidence within the private sector, thus regeneration through public and private capital investment resulted in an intrepid transformation of the city in a holistic manner.

Figure 18: Adaptable street edge, Juta (Playbraamfontein 2011).

Figure 19: 70 Seventy Juta Signage, Juta (Playbraamfontein 2011).

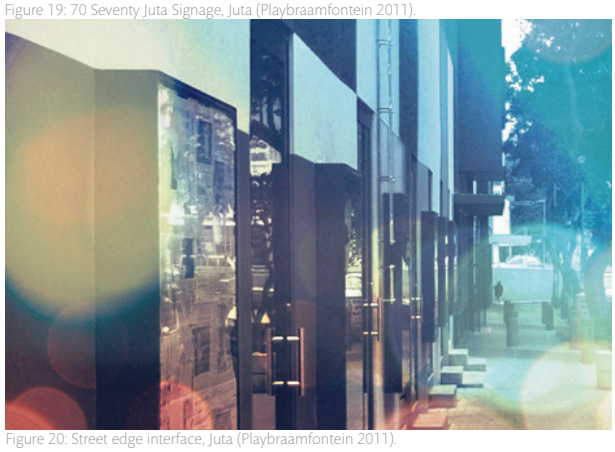


Figure 20: Street edge interface, Juta (Playbraamfontein 2011).

Figure 21: Entrance to Neighbourgoods Market, Juta. Photographed by Author (2012).

Figure 22: Co-op Signage, Juta. Photograph by Author (2012).

Figure 23: Interior courtyard, Juta. Photograph by Author (2012).

THE ISLAND / ACUPUNCTURE EFFECT:

Although the Barcelona Model proves that revitalisation through commitment from the city can be successful in urban revitalisation, the island / acupuncture effect provides a model of rejuvenation based on the imagined. Small-scale intervention becomes the catalyst for revitalisation.

A property development company, Play Lifestyle Design (Pty) Ltd, introduced a new strategy to the city of Johannesburg in Braamfontein. Adam Levy dedicated the last eight years to redeveloping the precinct where individuals with the same vision can live, work and play. The approach formally acquires buildings, thus small scale interventions, around Braamfontein's De Beer Street and reconceptualises the structures into new hybrids that unlock the potential of previously discarded buildings. The developer maximises each space to create new potential for residential, entrepreneurial and recreational use.

The vision: to generate a creative network within Braamfontein. The development not only relies on the revitalisation of the nine buildings along the street, but also their programmatic insertions.

The linear route which De Beer develops forms the spine that draws activity from the street activating Smit, Juta, De Korte, Jorrisen and Stiemens Streets. Although the project focuses on the re-conceptualisation of urban structures, perhaps some of the success can be awarded to the simple re-imagining of the street edge.

The landscape architects, Greeninc Landscape Architects, started by adding trees along De Beer Street and Johannesburg Development Agency and investing in public art along the street, thus creating a visually pleasant streetscape and providing much-needed shade, a small intervention in scale, yet unlocking an imaginative solution to the street edge. The pavement, un-programmed space, allows for street vendors and artists to utilise the space according to their individual needs. Braamfontein has become an incubator for new designers and comes alive over weekends as it hosts the Neighbourgoods Market.

Figure 24: Neighbourgoods Market open roof top, Juta (Playbraamfontein 2012)

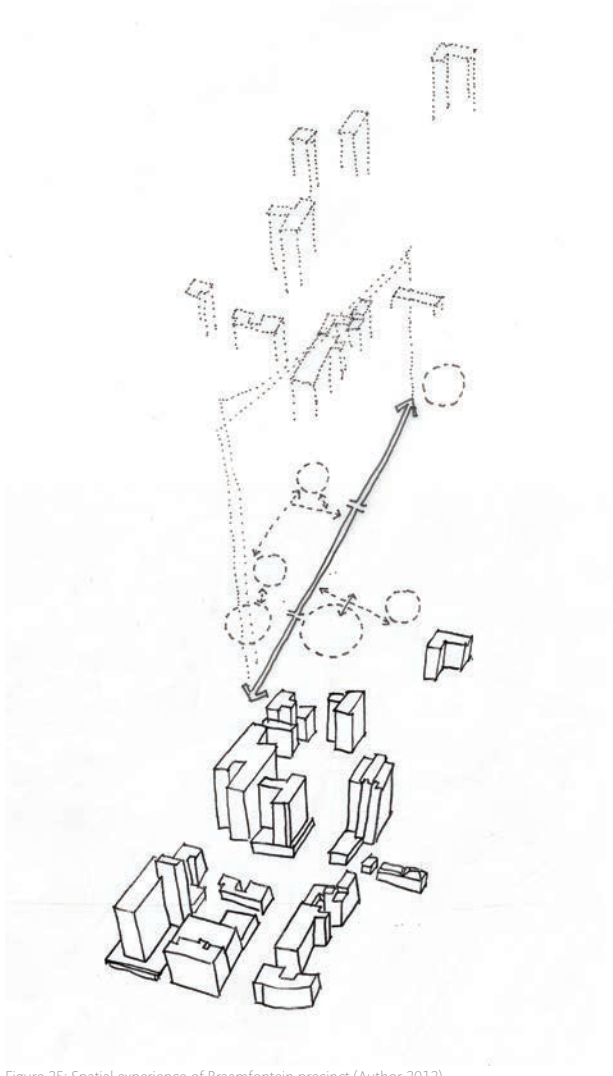


Figure 25: Spatial experience of Braamfontein precinct (Author 2012).

Figure 26: Mine exhibition gallery, Juta. Photograph by Author (2012).

Figure 27: Interior courtyard interface with design studios, Juta. Photograph by Author (2012).

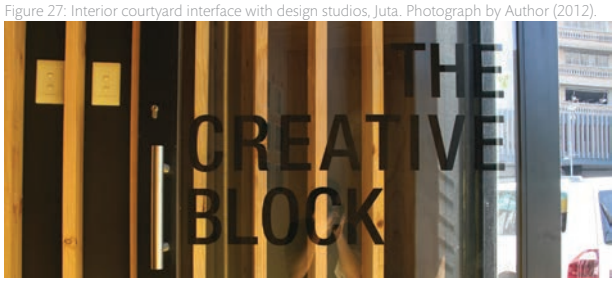


Figure 28: Juta - The Creative Block studio, Juta. Photograph by Author (2012).

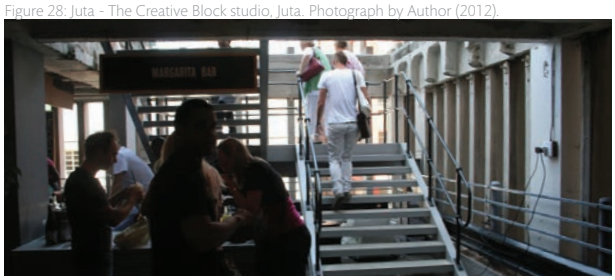


Figure 29: Access to roof at Neighbourgoods Market, Juta. Photograph by Author (2012).

Figure 30: c/o De Beer and Juta Street, Juta. Photograph by Author (2012).

Figure 31: Storefront interface with steet edge, Juta. Photograph by Author (2012).

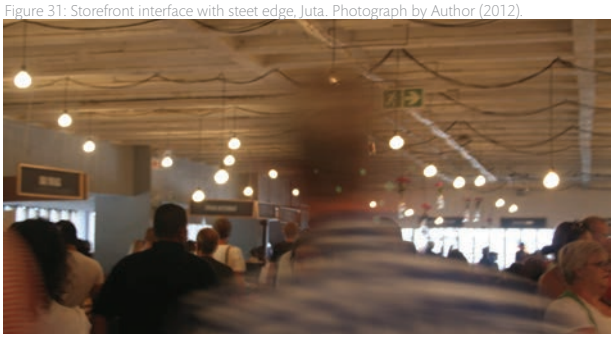


Figure 32: Juta - Neighbourgoods Market food stalls interior. (Author. 2012)

Figure 33: Exterior of Arts on Main edge condition, Maboneng. Photograph by Author (2012).

Figure 34: Signage of food stalls, Maboneng. Photograph by Author (2012).

Figure 35: Love Jozi signage, Maboneng. Photograph by Author (2012).

Figure 36: Connection to courtyard, Maboneng. Photograph by Author (2012).

Another example of this typology of development is The Maboneng Precinct founded by Jonathan Liebmann. Liebmann's vision, together with Daffonchio and Associates Architects, was to create an urban mixed-use community. The first stage of the project involved converting DF Corlett construction offices into a cutting-edge city destination. 'Arts on Main' is a small development housing artist studios, offices, retail space and galleries. It has, however, become an exclusive destination catering only to an elite few due to the high cost of products, and in smaller circles is now been referred to as '*Whites on Main*'. Nevertheless, the pilot project was such a success that the developer extended his vision to transform the entire adjacent area to create an integrated community. The project now houses the 12 Decades Hotel, numerous studio and loft apartments, a theatre and multi-use venues.

In conjunction with permanent tenants in both projects, the success of the development is also due to impromptu events in the area. Events like 'City Bytes Past Experiences', which invites people to experience Johannesburg on foot to discover prominent historical buildings within the CBD and new hotspots in and around the city. *'Alight in the living room'* creates impromptu rooftop gatherings on buildings which can accommodate events. '*The City Bloc Party*' introduces concerts in vacant areas in the city. 'Moonighting' creates vibrant night markets at Market on Main. All these impromptu events contribute to the rejuvenation of Johannesburg. Whether these events exist due to initiatives by PlayBraamfontein or Maboneng Precinct cannot be clearly stated, but these events surely contribute to city renewal.

Although urban rejuvenation occurs in both major urban scale developments, success of rejuvenation in a South African context proves to be more prosperous when an acupuncture approach is employed. As to be discussed in the following chapter, '*The Image of a City*', urban renewal cannot only be reduced to the inception of precinct developments and/or impromptu events, both evident in the city of Pretoria.

What are distinctive of each city are their unique identities, thus begging the question: could the image/identity of a city be the driving force of urban rejuvenation?

Figure 37: Chalkboard signage, Maboneng. Photograph by Author (2012)

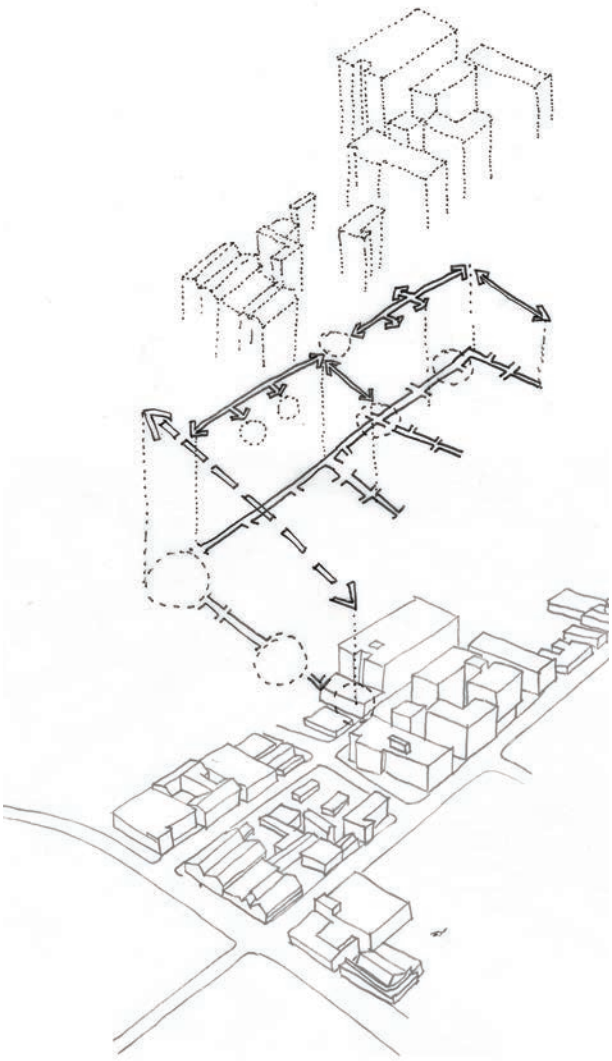


Figure 38: Spatial experience of precinct, Maboneng (Author 2012).

Figure 40: Corner Cafe at Arts on Main, Maboneng. Photograph by Author (2012)

Figure 41: Corner Cafe street edge interface, Maboneng. Photograph by Author (2012).

Figure 42: Bioscope signage, Maboneng. Photograph by Author (2012).

Figure 39: View towards artist studios, Maboneng. Photograph by Author (2012).

Figure 43: David Krut Projects print workshop, Maboneng. Photograph by Author (2012).

002

THE IMAGE OF A CITY

URBAN RENEWAL THROUGH THE IDENTITY OF THE CITY

If success of urban renewal can be assisted by small, impromptu events and island/ acupuncture development, as applied in Braamfontein and Maboneng, why is urban renewal not taking place in the city of Pretoria? Redevelopment initiatives by City Property are currently taking place across the historic city. Impromtu events like '*Die Skimgrot*' and '*Art Kitchen*' pops-up all around the city. The Author questions whether urban renewal is perhaps driven by the identity of the city.

When we consider South African cities and their identity parallel to the revitalisation currently underway within them, it becomes clear that the identity of the city is a facilitator of the image of a city. When we consider Cape Town, South Africa, the city prides itself as being cutting-edge and a frontier of South African and International Design. Recently awarded '*World Design Capital 2014*', the city is driven by innovation. Development in Woodstock is currently booming as a true inclusive mixed-use development. This initiative transformed Woodstock from an industrial area on the periphery of the city into a cultural destination. Wherever the city dweller finds him, he is reminded that the city is a '*design-de-force*' to be reckoned with. Perhaps this is due to the fact that the city dweller can enjoy the city on a pedestrian level, and the city can reveal its identity along the journey.

Johannesburg City has a distinctive identity. Due to its historical context regarding its trade - gold mining - the city is built with hard labour. This is still the urban identity of the city - a fast pace city always striving to excel. The central focus to this type of identity is work, labour and moving forward. Thus the city's identity directly influences the development within and around it. An example is the vast expansion of Sandton, from suburb to now housing the Johannesburg Stock Exchange, in only twelve years.

Figure 47: Church Square through time. Collage (Author 2012).

THE IDENTITY OF PRETORIA

The city is driven by its strong connection to its administrative and institutional identity as the capital of South Africa. A strong presence of military regime is evident with fortifications within the surrounding landscape. The first fortification program was initiated in 1880-1881 by the British artillery, constructing two fortifications: Magazine Hill and Tullichewan (Du Toit Spies 1995: 73-74). Consequently the ZAR embarked on constructing Elandspoortrand, Schanskop, Klapperkop, Wonderboompoort, Daspoortrand, Derdepoort, Kwaggasrand and Strubenkop (Ploeger 1968: 21).

The city is layered with historical events throughout time, and development always had been driven by state propaganda. From the British occupation who provided the city with fortifications through to Thabo Mbeki's African Renaissance providing Pretoria with Freedom Park. The urban/city identity of Pretoria could be the benefactor restricting the rejuvenation of the city.

The author concludes that the city needs to be reconceptualised to accommodate the urban needs of not only the current urban dweller, but also lure a greater demography to the city.

To be able to reconceptualise the city, Pretoria needs to position itself within current urban renewal strategies that aims to provide a better experience on street level. Although developments are currently underway within Pretoria, the likes of which includes the Salvokop Precinct Development, and small impromptu events which are popping up around the city, such as the previously-mentioned '*Skimgrot*' and '*Art Kitchen*', it is not having the desired impact one would expect from rejuvenation if compared to cities like Johannesburg and Cape Town. When considering Johannesburg and Cape Town, it could be due to their urban identities that fuel development if compared to the institutional identity of Pretoria.

003

THEORETICAL MANIFESTO

For the author to position himself within one framework of thinking, regarding theory in landscape architecture, is impossible. Positioning oneself in only one realm of thinking contains the designer, and restricts him to freely dwell in the abyss of the design process. It is exactly the design process that intrigues the author.

Steven Krog, in *Creative Risk Taking* (1983), invite landscape architects to create cultural symbol, moulding signal-laden forms, materials, to mould those or other forms and materials so that they are assigned new meanings evoking rich, fundamental thoughts and images, and thereby comment constructively upon society's ideas and visions (Krog 1983). But perhaps our preoccupation lies beyond the material; rather an inquest around the illusive (Shell 2008: 9). Krog continues on how we experience space, and how Descartes to Einstein established that it is never an accurate representation of reality. Thus the artist's purpose is to create an urban laboratory, where the user can explore the physical and psychological boundaries of its own perception (Krog 1983). Where designers can create space/place, where the user can encounter unknown perception and understanding (Krog 1983: 63). Perhaps Breton's Manifesto on Surrealism explains the Author's search for constructs not found in landscape architecture, the process to "*combine inside the same frame, elements not normally found together to produce illogical and startling effects*" (Pynchon 1984: 20).

The author agrees with Krog when he urges landscape architects to *"do more research and engage in more experimentation"* (Krog 1982: 63). The investigations into constructivist theory have always provided the author with a great escape into a world not dictated by realism. How the observer can create meaning through individual constructs, where the observer becomes a crucial agent, on how reality is constructed (Von Glasersfeld 1989: 162).

Taking a stance with regard to meaning in landscape architecture, for the purpose of this document, the author consulted essays by Jane Gillette, Susan Herrington and Marc Treib, compiled in *Meaning in Landscape Architecture & Gardens* (2011). Treib's *Must Landscapes Mean?* (1995) a response on Laurie Olin's *Form, Meaning, Expression* (1988) questions whether landscapes indeed should have meaning to make it relevant within contemporary landscape architecture. Treib concludes that designers cannot provide landscapes with meaning. This is due to the fact that interpretation of landscape is influenced by the user's frame of reference. But perhaps designers can prompt reactions to the landscape that "*will fall within the desired confines of happiness, gloom, joy, contemplation or delight*" (Treib 1995: 114). Jane Gillette's *Can Gardens Mean?* (2005) enforces Treib's sentiment and question whether landscape should have meaning at all if the user cannot enjoy the landscape for the pure delight they contain. For if the user does not have any reference to the meaning the landscape contains, the landscape on an intellectual level becomes redundant.

In the final essay on meaning in landscape architecture, Sunan Herrington, *Gardens can mean* (2007), Herrington expand on the cognitive definition of meaning. She expands on neurological studies which proved that even when we experience space, in this case landscape architecture, through sensory impressions, the user's emotions is directly connected to cognition and our rationale. She concludes that even if we only enjoy gardens for the delight they bring, they too have meaning.

In the Author's opinion, both essays of Gillette and Herrington makes strong arguments regarding meaning in landscape architecture/gardens. But they are both subjective views and opinions. In the case of this document and dissertation, the author agrees with Treib on the point that, only when society is homogenous, and share a collective or common system of belief and endemic symbolic systems, and above all, only when the designer/landscape architect operates unselfconsciously fully within the culture, is it possible to create unbiased landscapes/gardens with meaning.

003

DEFINING THE VIRTUAL LANDSCAPE

In order to avoid ambiguity, the author acknowledges the need to define the word '*virtual*' in the context of this dissertation. The word virtual refers to the *"invisible (virtual) construct and is experienced through the senses and in the mind"* (Prinsloo 2009: 1). The term '*Virtual Landscape*' is the construct of the imagined landscape that is presented within reality, but cannot be quantified or experienced in the material reality, although we can be made aware of the Virtual Landscape if made reference to it, and most definitely will add the user's experience: *"Among its least analyzed paradoxes is precisely its 'virtual reality' – this combination of a felt experience of both organic and inorganic material with a deliberate creation of fictive worlds into whose inventions, systems and mythological or metaphorical languages we allow ourselves to be drawn"* (Hunt 2004: 37-38).

It is important for the reader of this document to understand that the Virtual Landscape is without doubt a reality in the author's milieu. It can exist independent from the material reality, but should be accessible in a form of representation to fully understand its extent. The representation of the Virtual Landscape is not a realistic or artistic representation of the final product, but a creation independent from the product that can exist on its own. It can be presented in any form to convey the Virtual Landscape, usually represented through art, poetry and novels.

003

THE VIRTUAL LANDSCAPE HISTORY

Classism

Hellenic religious spaces were connected in a greater sacred whole, although each individual space was connected to a specific Virtual Landscape. Typically, a constructed altar within the material landscape would directly represent a deity. The user of the sacred space would not have required additional information, or representation of the Virtual Landscape, within the material landscape to understand the mythology of the deity.

Middle Ages 5th – 15th Century

Gardens during this period were preceded by text. The text and landscape cannot be seen as existing independently within the material landscape. The material landscape were direct translations of the text although it would be assumed that the user would be familiar with the text when experiencing the landscape. Prinsloo states that the value of text-landscape relationship in medieval landscapes exhibits the importance of text, as text preserve the gardens beyond their physical existence (Prinsloo 2009).

Renaissance 15th Century

Revisiting the lost Roman and Hellenic civilizations, the Renaissance as movement was driven by texts from antiquity. Considering Hypnerotomachia poliphili, assumed to be written by Franceso Colonna, the author created a series of '*gardens of delight*'. The constructed representation of the Virtual Landscape, text in this case, draws artifacts from antiquity and reconceptualise them in a new form. *"For Poliphilo is not interested in the real meaning of the symbols, he is not interested in the context in which the forms evolved, but merely displays, as Corner (1991a: 75) has said of contemporary landscape architecture, "an overly aestheticised attitude [that] displaces the power of symbolic content" (Prinsloo 2009: 162).*

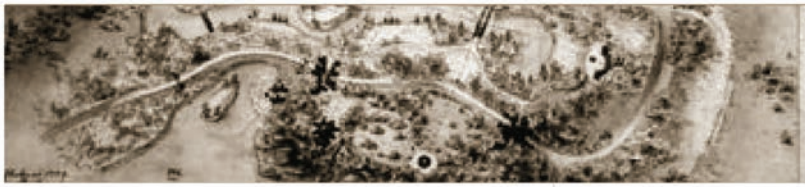
Within the Renaissance Florentine humanism was an intellectual awakening and saw themselves as the heirs of the Platonic Academy. Their physical landscapes became representations of Horace and Pliny's writings and longed for a cultured and intellectual life. The physical manifestation *" escape from reality in to a grotesque world of imaginative space where nothing any longer seems secure: the painting shave no consistent perspective; rocks grow into men or animals; Michelangelo's slaves are themselves emerging from solid stone"* (Jellicoe 2006. 156).

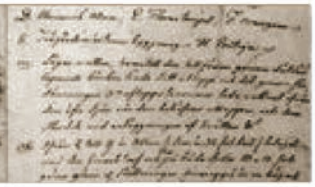
Romanticism

Representations of the Virtual Landscape within Romantic gardens were preceded by text and art. A good example of a material landscape based on representations of the Virtual Landscape is Hoare's Stourhead, England. The landscape is an assemblage of Henry Hoare's travels, art collection, readings and a mausoleum of his family. The path around the lake's intention is to evoke the similar voyage undertaken by Aeneas, his descent to the underworld. In addition to the Greek myth, the buildings and monuments celebrate the family dynasty; English, Puritan, Agrarian, Mercantile. And finally the pictorial design probably influenced by Nicolas Poussin's Aeneas at Delos.

The ideology of the Virtual Landscape, its representation and its manifestation in the landscape disappears after romanticism and replaced by modernist form follows function and the ecological approach to landscape architecture.

Figure 48: Historical process of Virtual Landcape to material landscape. Theoretical diagram (Author 2012).





LANDSCAPE}
SENTATIONS

{MATERIAL LANDSCAPE}

J}

{habitué}

Hortus conclusus soror mea, sponsa, hortus conclusus, fons signatus
A garden enclosed is my sister, my spouse; a garden enclosed, a fountain sealed up
Song of Solomon

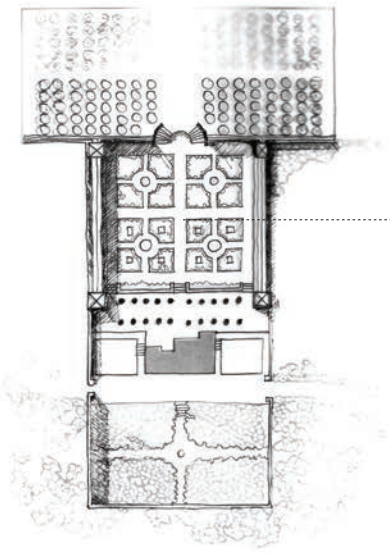


Figure 49: Reconstruction of Hortus conclusus plan (Author 2012).

THE HYPNEROTOMACHIA OF POLIPHILO, IN WHICH IT IS SHOWN THAT ALL HUMAN THINGS ARE BUT A DREAM, AND MANY OTHER THINGS WORTHY OF KNOWLEDGE AND MEMORY.

* * *
*

Figure 50: Image from Hypnerotomachia Poliphilli (Colonna 1499).

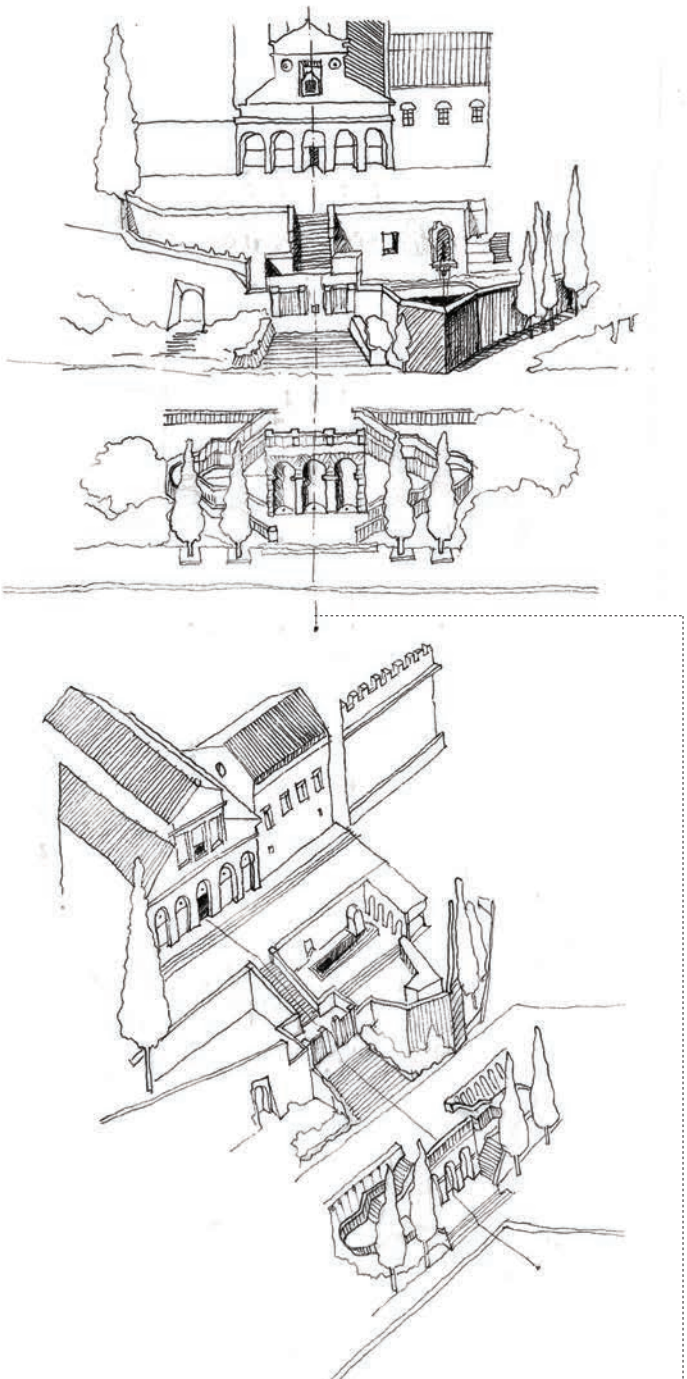


Figure 51: Axonomentric drawing of Villa Gamberaia. Image by JT Pennington (2008), edited and sketched nby Author (2012).

'sate sanguine divum,
Tros Anchisiade, facilis descensus Averno:
noctes atque dies patet atri ianua Ditis;
sed revocare gradum superasque evadere ad auras,
hoc opus, hic labor est. Pauci, quos aequus amavit
Iuppiter aut ardens evexit ad aethera virtus,
dis geniti potuere. Tenent media omnia silvae,
Cocytusque sinu labens circumvenit atro.

Figure 52: "Master of the Aeneid Ledgend: *The Decent of Aeneas into Hell* (1540)." Baltimore. Walters Art Museum 2012. Internet: http://www. http://commons.wikimedia.org/wiki/File:Master_of_the_Aeneid_Legend_-_The_Descent_of_Aeneas_into_Hell_-_Walters_44205.jpg. Access: 6 July 2012.

Figure 53: "Richard Boyle: *The Picturesque* (1725)." England. Internet: http://www.bu.edu/av/ah/fall2008/ah382/lecture03/. Access: 6 July 2012.

Figure 67: Theoretical Legend. (Author. 2012)

Figure 54: "S.Austin: *Ruins about the Taj Mahal*, Agra (1836)". Internet: http://www.columbia.edu/itc/mealac/pritchett/00routesdata/1600_1699/tajmahal/drawings/drawings.html. Access: 6 July 2012.

Other examples of the material landscapes that employ the use of the Virtual Landscape:

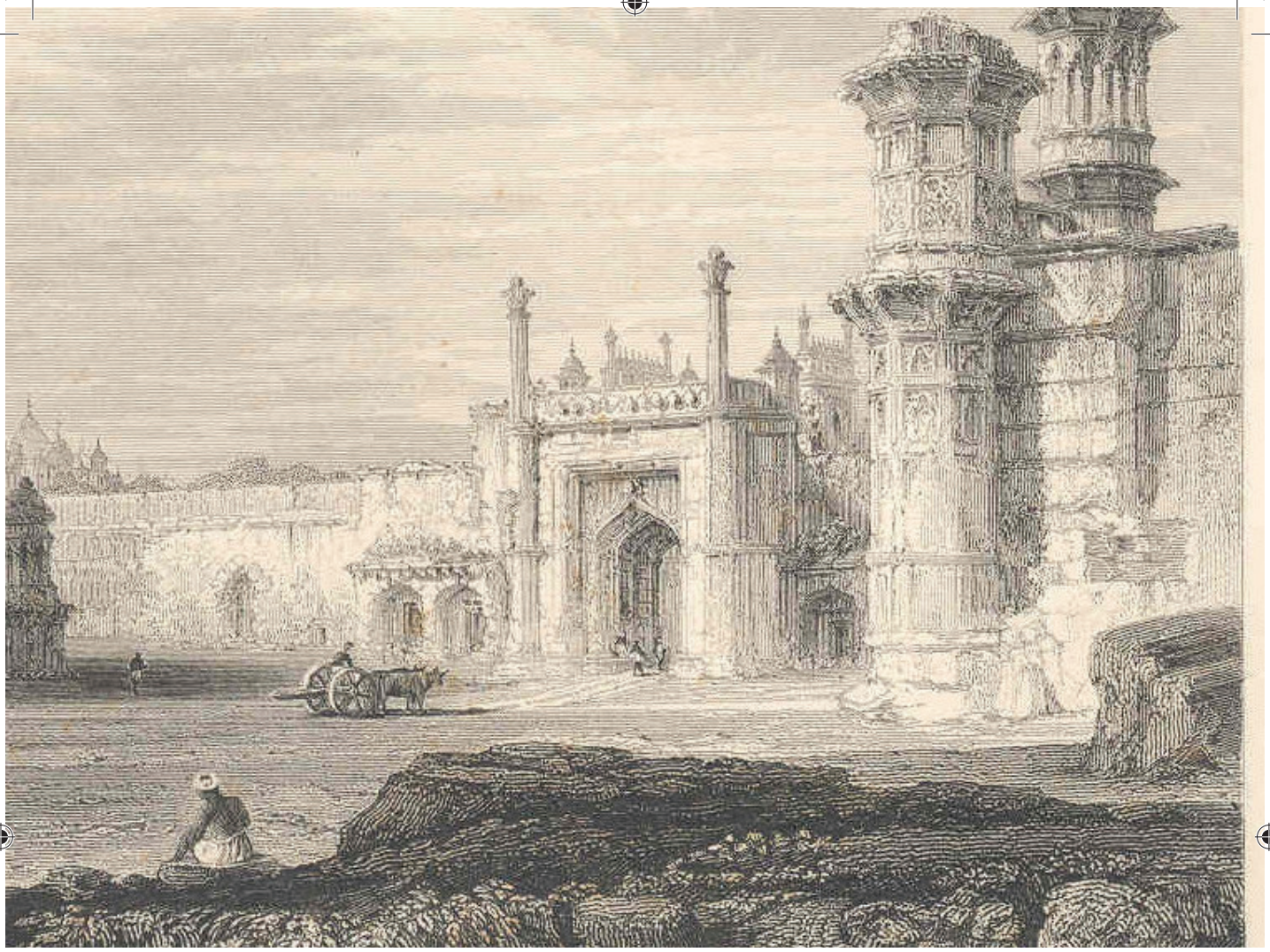
Silhouettes against the sky Landscape and art, the need for man to make his mark on the topos, can be traced back to the origin of primitive man 1500 BC. Gods and Ancestors inspired primitive art and landscapes. All artefacts are in some way or another connected to a virtual world. Regimented stones for ritual, as seen at Carnac, Brittany and perhaps the greatest work of art by the Celts 100 AD, The White Horse of Uffington on the Berkshire Downs, an artwork only in full view from the sky, that was most certainly created for the gods. These architectural spaces served primitive man's need for ritual; the artefacts their direct connection to a virtual world.

(Ritual: a series of actions or type of behaviour regularly and invariably followed by someone. Ritual not exclusive to religion.)

This phenomena not only presents itself in the Western world, it is clearly visible across countries and cultures. The Ziggurat of Ur, a monument dedicated to Nanna, the moon god, is an artificial *"Hill of Heaven"* dating back to 2250 BC. The mountain: the home of the gods, created to represent the dark underworld, the habitable earth, the heavens and the sun. Finally a more pragmatic connection to an individual's Virtual Landscape, the materialization of Mumtaz Mahal's spirit, connected to the universal paradise garden and the Jumna River at the Taj Mahal, Agra, India.

It is important to note that, within all the examples, the manifestation of the materialised Virtual Landscape, the virtual world formed part of their reality, and the artefacts an abstraction of their virtual reality. An example is the hypothesis of pratibimba, *"whereby architectural or sculptural form is given to the imagined structure of the cosmos and supernatural things or regions in order that men may have power over them through their symbols"* (Jellicoe 2006. 61).

Egyptian landscape creation was to perpetuate the garden to find the same pleasure in this life as in the afterlife. Inscribed at an



excavated garden from the XVIIIth dynasty (1502-1482 BC) in Thebes reads:*"May I wander round my pool each day for evermore; may my soul sit in the branches of the grave garden I have prepared for myself; may I refresh myself each day under my sycamore"* (Jellicoe 2006).

It is clear that these gardens were created and conceived to become their 'Virtual Landscape' on earth, their garden a place where they would roam in the afterlife. The sacred garden, a linear path for the soul to the immortal realm of death, one of progression through various spaces and levels along the linear path. It is within this example that the Virtual Landscape is not that of the afterlife, but the manifestation of the physical place a representation or Virtual Landscape of the afterlife. Thus the afterlife becomes the reality and the physical garden the Virtual Landscape.

The Stupa of Barabudur in Java, is another example of a spiritual response, as the pilgrim is taken on the journey or narrative through the life and death of the Buddha through the realm of the Void beyond form and thought. *"The sequences of this metaphysical journey are narrated in sculpture"* (Jellicoe 2006: 63).

The journey extends through five successive terraces representing the earthly world. The terraces lead to three circular terraces representative of the cosmos. The final terrace houses the supreme Buddha and completes the nine storeys of an Indian Meru mountain. A hidden basement extends to the foundations of the world.

003

THE VIRTUAL LANDSCAPE THEORY

From our own experiences, urban environments are varied in their '*identity*'. The term urban identity ought to be attributed to some kind of phenomenological account, which needs to be investigated beyond its general features and structures of the phenomenon.

Having lived in London for a part of his life, the author found the city to harbour considerable historical depth, a compilation of various layers over time. The author's ex-situ experience of London is one that reflects the history, the present and the future of the city.

What strikes the author of this city is its multiplicity. The individual can exhaust the potential of the place as the city goes beyond the potential of the individual. "*When a man is tired of London, he is tired of life; for there is in London all that life can afford*" (Boswell 1791: 84). Perhaps the most remarkable feature of London is the various ethnic cultures that can be found. It is impossible to embed oneself into the cultural milieu of the city, but one is welcome to have a taste of it. All the above are contributing factors of the London's identity.

There is an obvious difference in the experiences and, accordingly, in the qualities of the city's areas. What is clear to the author is the fact that his experience of London in-situ is perhaps the same as his experience in Johannesburg. What created this idea of the city he loves is in fact the ex-situ experience. For when one experiences London, or any city for that matter, the tangible environment has a similar spatial experience to any other city.

Haapala states that unfamiliarity in the city created the possibility of something new. "*People typically try to create familiarity and safety. This becomes clear when we think about the place that is closest to us, our home*" (Haapala 1998: 20).

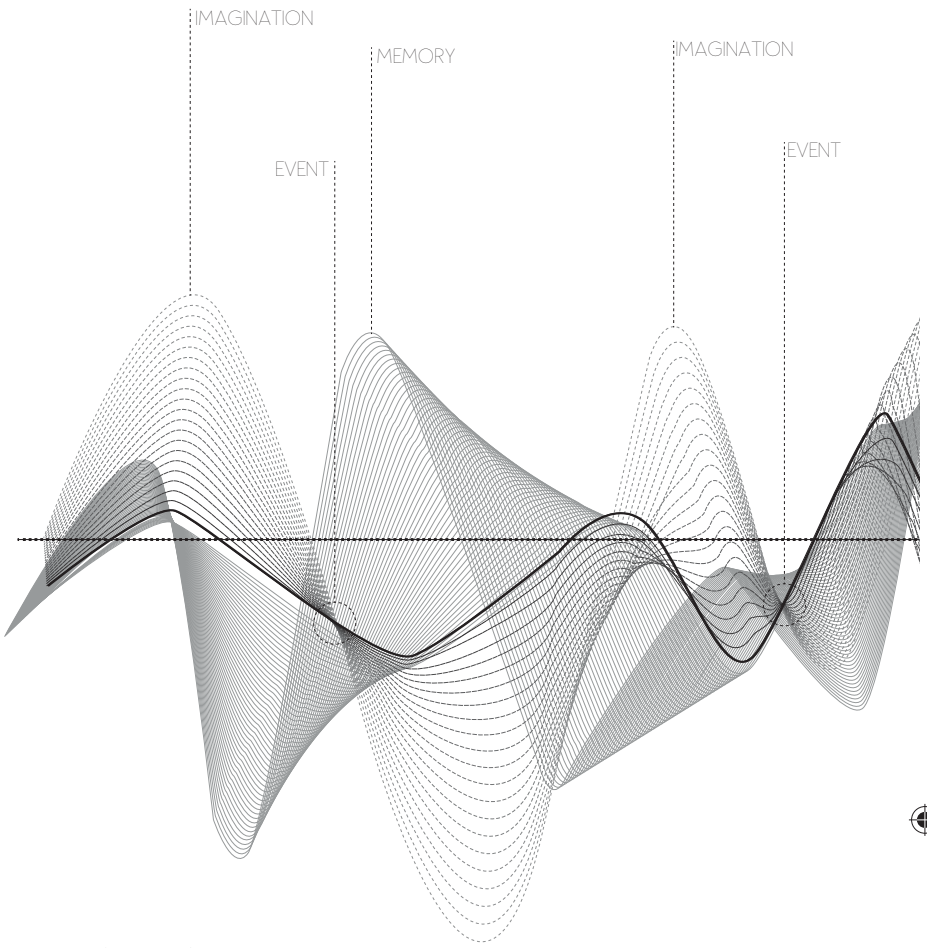


Figure 54: Experiencial diagram depicting ex situ events during an in situ journey (Author, 2012).

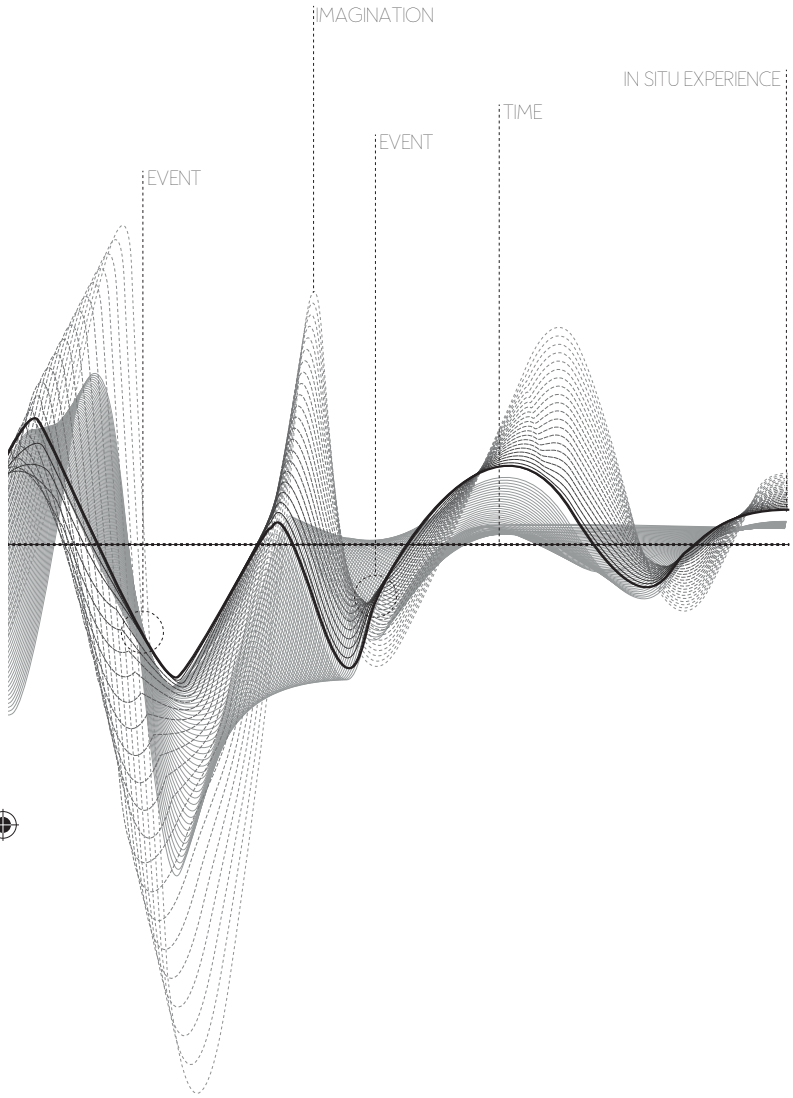
It is this unfamiliarity within our urban environments that adds to the mystery of the city.

The layers over time - past, present and future - adds the element of unfamiliarity of the city. This element contributes to one's in-situ experience. It is exactly these ex-situ layers that created his nostalgia.
We experience place/space/architecture on two different layers of time. Enric Miralles' *Continuum of Time* states that on the first layer the user experiences place in experiential time, which is directly related to the present. It is driven by the movement through space and enhanced by the sensory experience. On the second layer we experience space in referential time, where our encounters with space evoke memories (Makenzie 2011).

In order to be clear about the term ex-situ experience, I will elaborate on the term by means of Johan Prinsloo's 2009 paper, entitled I'm not there.

Prinsloo (2009: 159) investigated contemporary landscape architecture, or urban environments for that matter, and how they have become an architecture of the veneer. His critique on these contemporary spaces/places is that they only deem to suffice the need for beautification of our urban environments.

He states that *"for his experience of landscapes in the songs of the folk poets, their green fields and wandering maiden forests, the railway tracks of Woody Guthrie, the rising sun houses of New Orleans, the New York streets of Dylan and Ginsberg, the far out roads of Kerouac and Kombuis, dark woods of the dusty childrens book on the shelf, the Paris Bohemian nights from who knows where, climbing up the Alps on an*



elephant in a glass bottle, finding the skeleton keys in the rainless plains of the Meseta on the Camino de Santiago...were more enchanting than sitting on a bench looking at children play in Chicago's Millenium Park. For all those landscapes were not of mere plants and stone, but also of words not here" (Prinsloo 2009: 159).

It is the inception of the ex-situ component thickens the user's in situ experience of place.

In Prinsloo's master's dissertation, entitled *Stadskrif* (2006), he employs the use of phenomenological texts, a reaction to his understanding of the site, and responds to that experience. Prinsloo adds that the designed landscape would probably not be less successful without the text, but would certainly be different (Prinsloo 2009).

It is clear to the author that one's experience of place cannot only be written to the ex-situ experience. For we can experience places though film, poetry, literature etc. without even experiencing the place in-situ.

When we consider the Renaissance novel, *Hypnerothomachia Poliphili*, Poliphili is transported in a dream to a pagan and polytheistic world created by his subconscious in search for his beloved Polia.

As Poliphili regresses into his subconscious, he creates a series of landscapes, which draw from classical references, in which the narrative unfolds. Although he engages with myth, the landscape is not less real than our experience of places we have visited.

003

REPRESENTING THE VIRTUAL LANDSCAPE

POETRY AND PAINTING

The use of poetry and painting in early Chinese landscape design, often revealed a deep and mystical relationship between man and his environment; through painting the viewer's spirit is separated from his body to be part of a scene ethereal through the atmosphere.

"The first recorded great artificial landscape was designed by the Han Emperor Wei as and interpretation of the mystic isles, with an artificial lake presumably large enough for the islands to disappear in mist. Imaginary places in the landscape about this period were depicted by the T'ang painter Li Ssu-Hsun in such scenes as the Palace by the River" (Jellicoe 2006: 70).

Perhaps a contemporary example of representing the Virtual Landscape can be found in *Reading a Garden*, Cleveland Public Library by Maya Lin. The architect worked in collaboration with Tan Lin, a contemporary abstract language poet, that investigates the use of words to become central, and that each word is able to exist by itself. The garden aims to provide text to correspond a specific space and one's movement through it. "*What happens when sculpture and words can help to shape each other's meanings - so that words become descriptive of the spaces they inhabit and the spaces are somewhat shaped by the choice of words?"* (Lin 2000: 36). Tan Lin created a pamphlet that was not aimed to provide information, but rather a sequence of words and text that the user can read and write the landscape. The aim of the document is to serve as a starting point for the user to complete the text with his/her experience of the garden. *"The idea is to give visitors something lasting that they can take away from their visit, something that they took part in writing as well as in reading. And what they read helped them map the space they walked through, and that walking tour, in turn, helped to write a poem that completed the pamphlet"* (Lin 2000: 38).

The Virtual Landscape is not a tangible entity, and consequently cannot be experienced in-situ as it is a construct that only exists in the imagination, but we can experience representations of it in examples like *Hypnertomachia Poliphili*. The representation should fulfil on the requirement that it can exist on its own, and is not a representation of a product to be constructed. Thus contemporary representations, realistic or collage, contributing to present to clients what they can expect, do not qualify as representations of the Virtual Landscape.

003

THE VIRTUAL LANDSCAPE IN A CONTEMPORARY CONTEXT

When we consider Hellenic religious space, the *temenoi*, constructed around an important epiphany or occurrence where the god instructed the construction of an altar to mark a specific occurrence or significant event, it can be assumed that the Hellenic populous shared religion which would allow them full access to connect to the references in the space (Prinsloo sa: 1). Thus allowing them full access to the Virtual Landscape beyond the holy enclosure as they would share a common belief system and understand the influences that created the Virtual Landscape.

Considering the multiplicity of religion, belief systems, ethnic backgrounds and cultural diversity of Pretoria, and all cities for that matter, it would be impossible to create a space that would be readable to all users. This creates a problem for the validity of the Virtual Landscape in contemporary spaces. Consequently the aim is to amend the process of the Virtual landscape to be appropriated for contemporary use. How do you provide access and understanding to the influences of the Virtual Landscape and provide a response that is inclusive to all users of the space? The design process undertaken on the focus area will demonstrate the shift from a singular perspective, the Author's Virtual Landscape, to a more inclusive approach to allow the adaption of the Virtual Landscape by allowing for the continual contribution of the contributing factors of the Virtual Landscape of Pretoria.

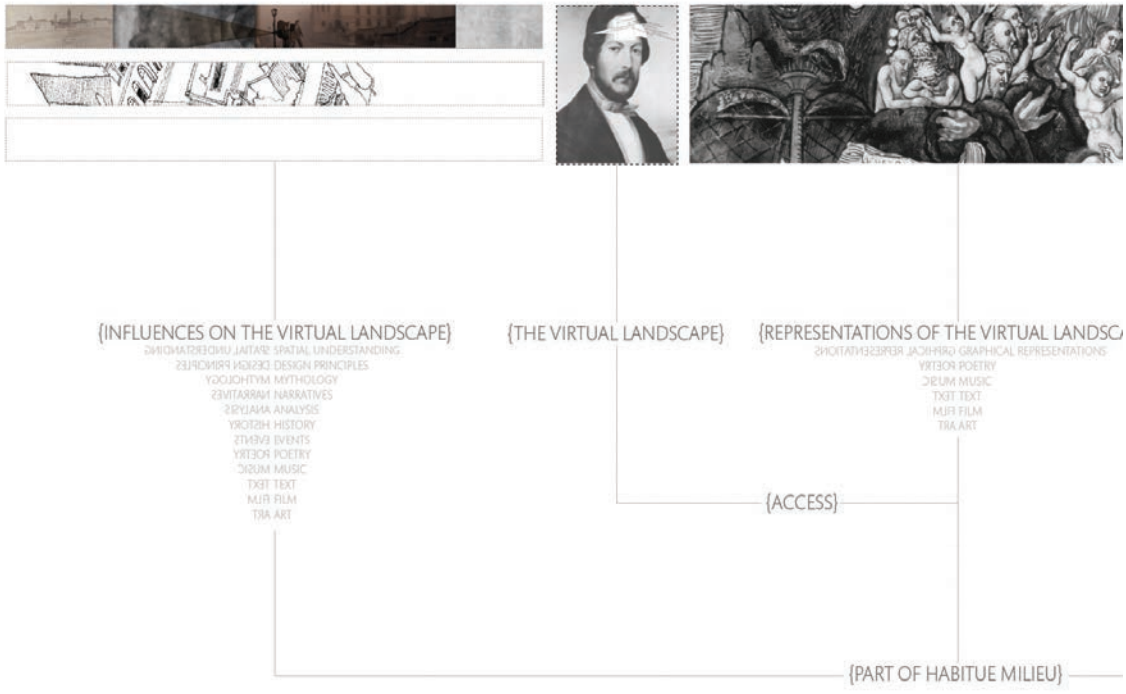


Figure 55: Diagram deconstructing the Virtual Landscape theoretical discourse (Author, 2012).

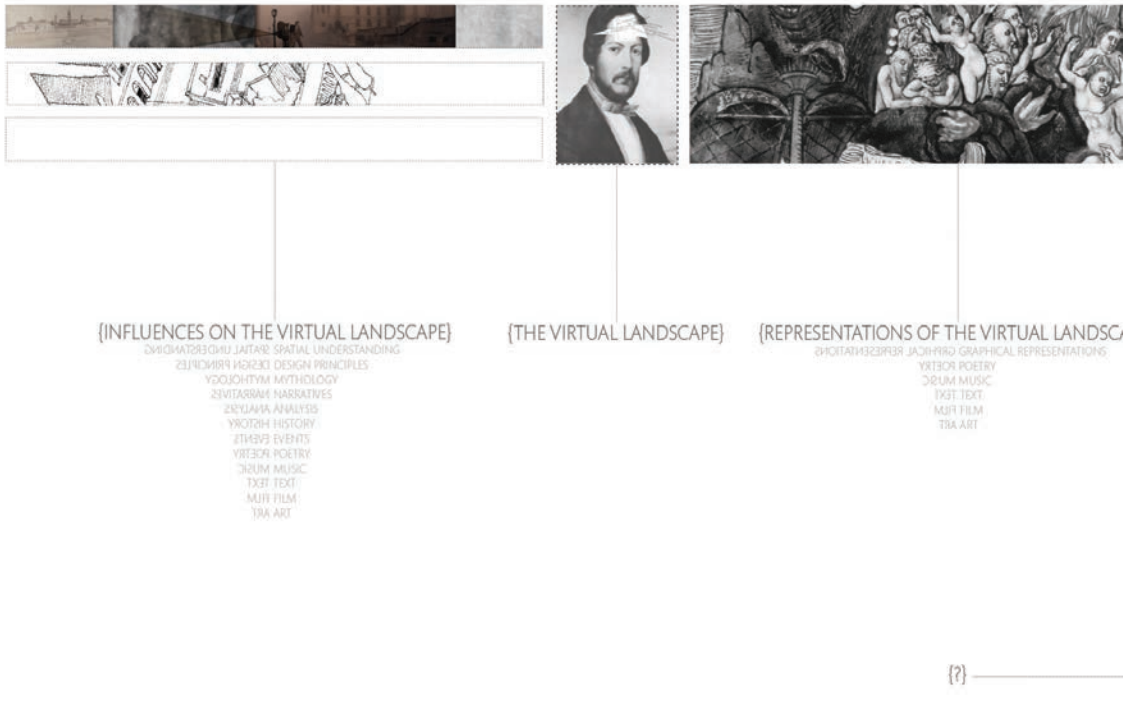


Figure 56: Diagram deconstrcuting the Virtual Landscape theoretical discouse within a contemporary context (Author, 2012).

ANDSCAPE}
ITATIONS

{MATERIAL LANDSCAPE·

{habitué}

ANDSCAPE}
ITATIONS

{MATERIAL LANDSCAPE}

{habitué}

003

HYPOTHESIS

The dissertation argues that, to escape the restriction of the tangible, the creation of a Virtual Landscape can serve as a design informant and generator and can enrich the user's experience of place and space. It is maintained that physical space can become a vessel where the user can encounter an ex-situ experience that will thicken the user's perception and connection to a meaningful place beyond the veneer; a physical place that extends within the Virtual Landscape through reality. The author seeks to generate a discussion between the user and the originator, to create a passage where the user meets history; recollections of their past and can access the envisioned future and become part of the Virtual Landscape. The author aims to determine whether the Virtual Landscape, a theoretical approach expanding over 2000 years, is appropriate within contemporary landscape architecture, and how it can be reconceptualised for the everyday user to access it.

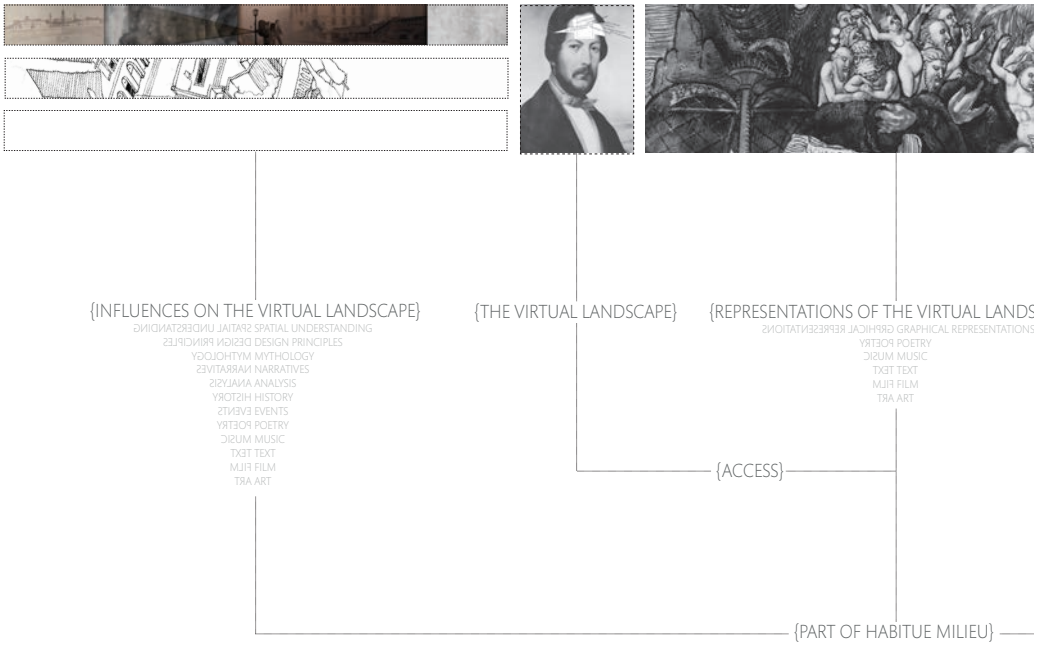


Figure 57: Diagram deconstructing the Virtual Landscape theoretical discourse (Author, 2012).

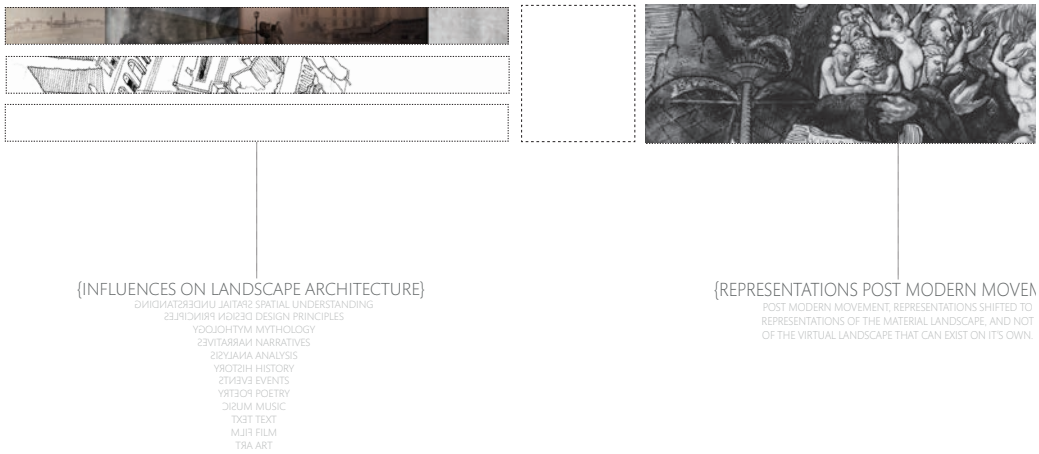


Figure 58: Diagram deconstrcuting process of landscape arcitecture post modern movement (Author, 2012).


L LANDSCAPE}
ESENTATIONS

{MATERIAL LANDSCAPE}

EU}

{habitué}


I MOVEMNET }
S SHIFTED TO
PE, AND NOT
ON IT'S OWN.

{MATERIAL LANDSCAPE}

{habitué}

004

FRAMEWORK URBAN CONTEXT

One of the informants to the Author's virtual landscape is the history of Pretoria.

The city of Pretoria was developed on an agrarian origin (Bell 1905:12). The rigid *cardo-decumanus* grid, meeting in the centre of the city on Helen Joseph Street (Church Street) and Paul Kruger Street, dictated the formal layout of the city, as we know it today. The natural boundaries contained the city on the north and south, and rivers on the east and west contained the city up to 1959 (Jordaan 1989: 26).

Paul Kruger Street, formally known as Markt/ Market Street, forms one of the most important axes in the city's Central Business District (CBD). This street connects the north of Pretoria to the south. Its importance is even more prominent in the city due to the development of the Gautrain Station at Pretoria Station linking Pretoria to the greater Gauteng and OR Thambo International Airport.

Pretoria was formalised in 1855 by Marthinus Pretorius, who named the city after his father Andries Pretorius. Pretoria is based on land redistributed of landed property. Due to its natural boundaries, the city was contained from the north and south so development naturally dispersed to the east and west. The strong north-south, east-west axis is still evident in the city structure, the *cardo-decumanus* grid (Amdrews 1999).

Paul Kruger Street, formally known as Markt Straat, was renamed to honour President Stephanus Johannes Paulus Kruger during the Voortrekker centenary celebrations in 1928 (Amdrews 1999). The street forms the north-south structure of the cardo-decamanus grid.

Today the street starts at the Pretoria Station, on the southern boundary, and runs through to the Pretoria National Zoological Gardens to the north. With the addition of the Gautrain station to Pretoria Station, the street can be viewed as the first point of entry into the city that connects Johannesburg CBD and O.R. Thambo International Airport to the city of Pretoria. The street also frames the view of Freedom Park, a museum dedicated to the people of South Africa.

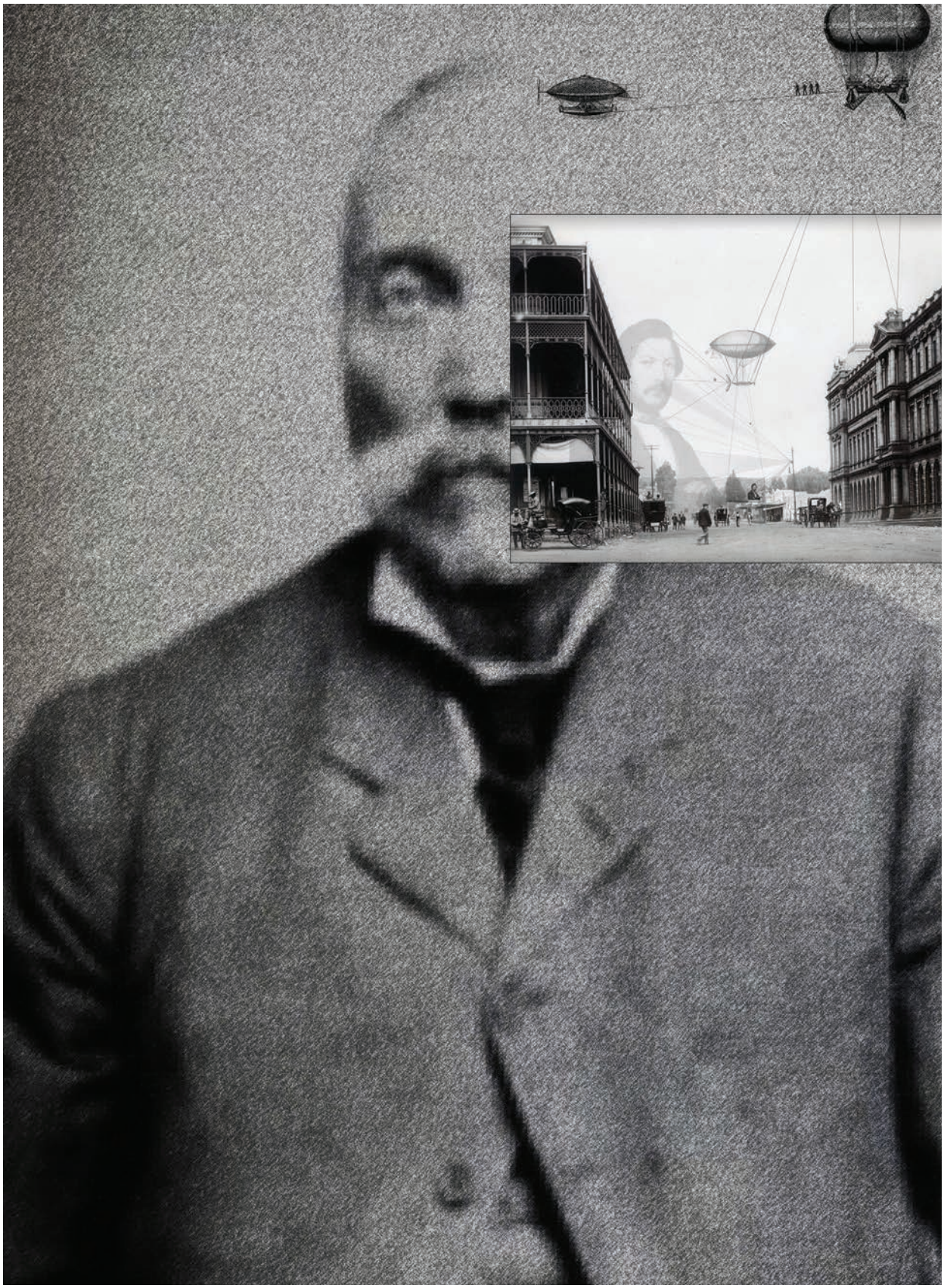


Figure 59: *Through the eye of Marthinus Wessel Pretorius.* Collage (Author, 2012).

History on Paul Kruger Street Pretoria Station to Church Square:

Standard Bank Building
Originally the site housed the Grand Hotel established by the Lys family, originally named The Presidents Hotel in 1890. John Robert Lys of Huguenot stock was one of the first English-speaking people to settle in Pretoria. He was also the founder of the first Anglican communities in Pretoria (Andrews 1999).

Corner of Paul Kruger and Pretorius Street.
The first prison of Pretoria was on the corner of Paul Kruger Street, then Markt Street, and Pretorius Street in 1865. It was built by Alexander Anderson, a builder, who was sentenced to 12 months hard labour; the crime is unfortunately not documented. Due to the fact that the '*dorp*' did not have a facility to keep the prisoner, he promised to be of good behaviour and construct the first permanent gaol in Pretoria (Andrews 1999).

Van Erkoms Building
Van Erkom established a cigar, cigarette and snuff factory on this site in 1890. After the front façade burned down in 1899, van Erkom erected a substantial block of shops and a modern factory at the back of the building. The tobacco produced in this factory went on to win a gold medal at the Brussels Exhibition and was exported all over the world (Andrews 1999).

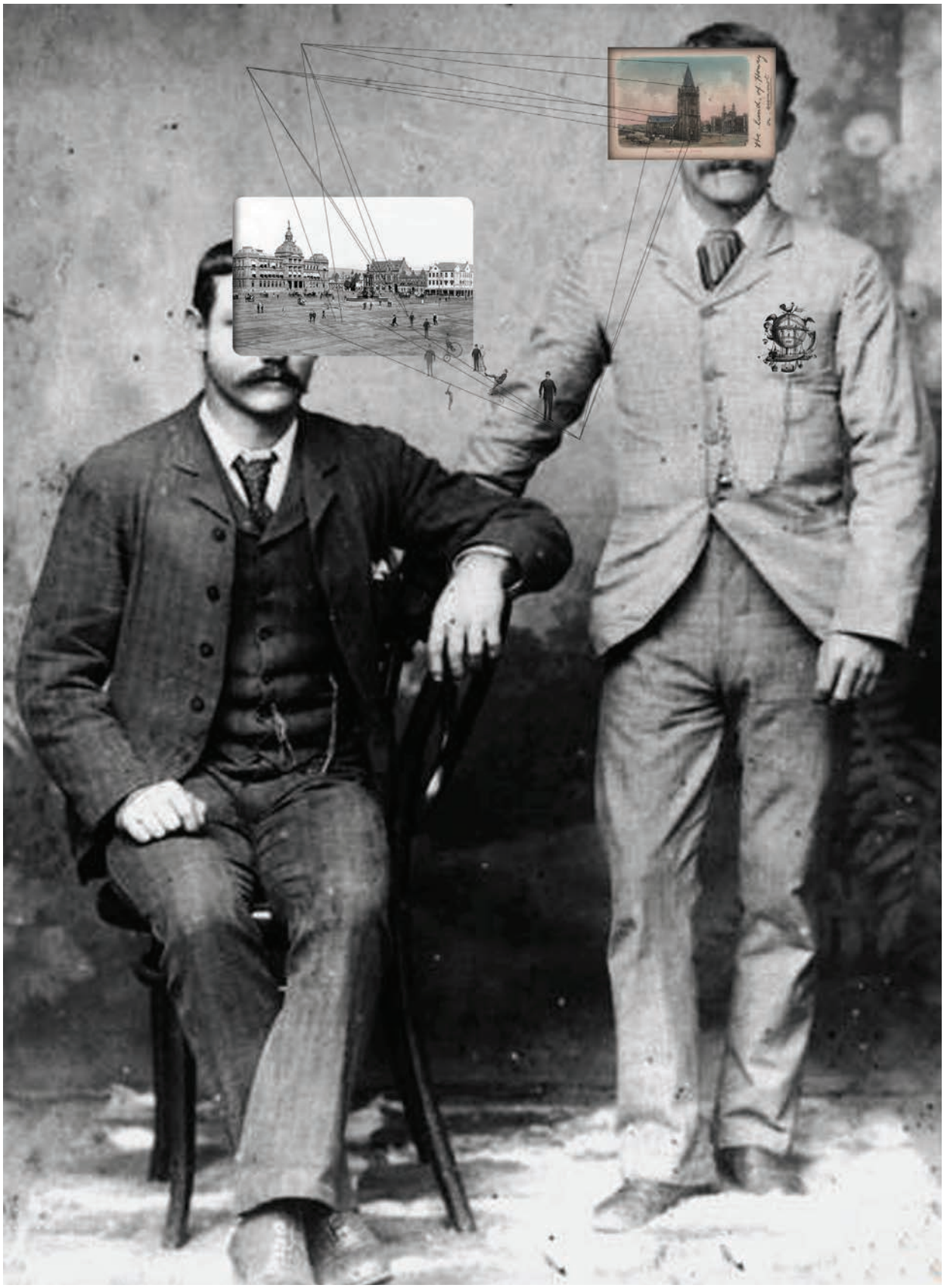


Figure 60: *A square is concieved.* Collage (Author, 2012).

Opera Arcade
The Old Opera House, designed by Mackintosh and Moffat, was officially opened on 29 February 1904. The building was later acquired by the Schlesinger organisation, the Opera House was demolished and the arcade was built in its place; only the façade of the Opera House was kept in tact (Andrews 1999).

The Volksstem Building
The Volk(s)stem building was established with the newspaper in 1873, by J.F.E. Celliers (Andrews 1999).

Home of Bras Piedada de Pereira
The north-eastern Corner of Skinner Street and Paul Kruger Street used to house the pioneer home of Bras Piedada de Pereira. He moved to Pretoria in 1867. The homestead was originally called 'Fountain Lodge', so called because of a stream that originated from the property. The Old Pretoria Society went to great lengths to preserve the building, but failed at this attempt. Norman Eaton had detailed plans of the houses drawn up to create an open-air museum of the structure. This, too, never realised (Andrews 1999).

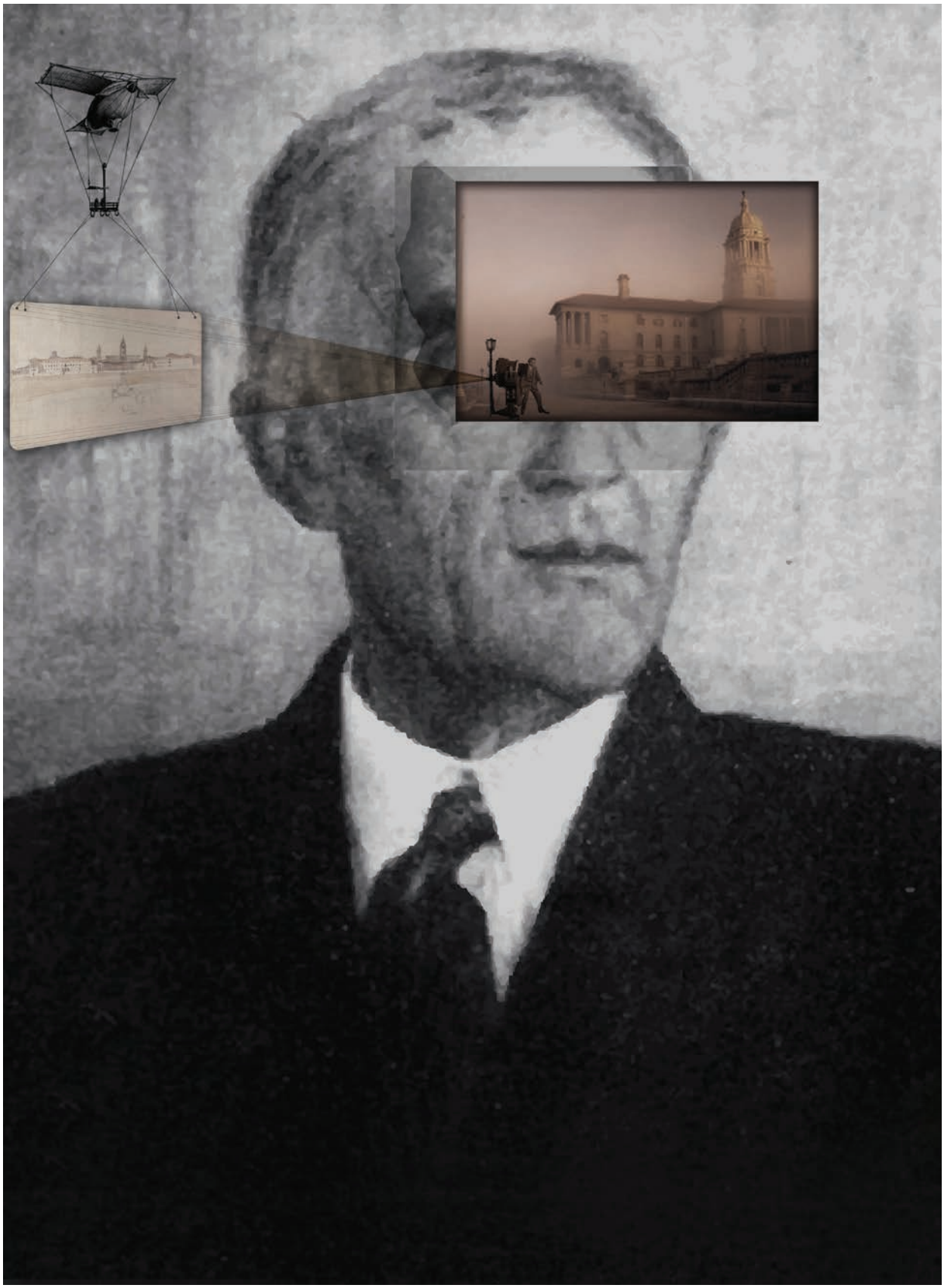


Figure 61: *Herburt Baker' s Pretoria.* Collage (Author, 2012).

Land Bank Building
The Land Bank was established in 1912. The original building was designed by De Zwaan and was completed in 1914. The corner was demolished in 1964, the present structure was designed by Johan de Ridder and officially opened on 3 June 1966 (Andrews 1999).

Transvaal Museum
In the days of the Old Republic, the site of the Transvaal Museum held the government stores which was looted by the local inhabitants with the permission of the retreating Boer government officials in 1900 who did not want the contents to fall into British hands. The erection of the 'new' museum, as it was referred to in 1910, came from the surplus funds of the Transvaal Treasury at the time of Union; it was completed in 1914. The original plan of a wing at either end was interrupted by the outbreak of the First World War, and was never completed, until commenced in 1997 (Andrews 1999).

Pretoria City Hall
The City Hall was erected on a site known as Pretorius Square. Records of the Old Pretoria (Historical) Society revealed that Maria Mundt, daughter of the family that lived at Mundtsoelen, where the Pioneer Museum at Silverton now stands, married N.J. Pretorius, Segelmeester (Admin Officer), of the Staatsartillerie, and lived on Pretorius Square (Andrews 1999).

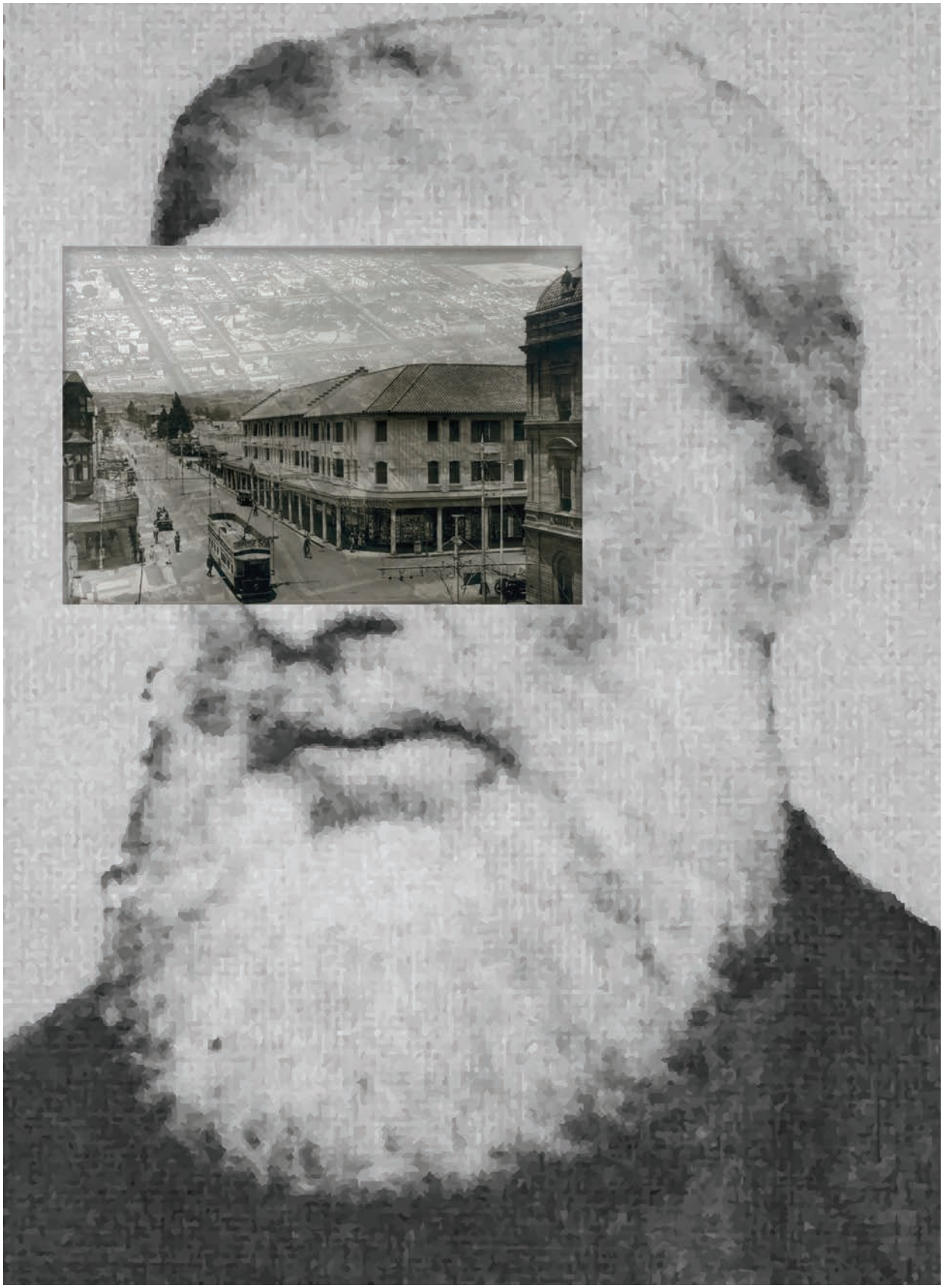


Figure 62: *The mind of a du Toit.* Collage (Author, 2012).

Fort Royal
On the south-western corner of Jacob Maree Street, now occupied by a furniture company, was the site of Fort Royal. The four Republican forts are well known to all. Schanskop and Klapperkop guarded the southern entrance to the valley, Fort Daspoortrand (Westfort) protected the western area and Fort Wonderboom stood on the hill above the wonder tree in the north (Andrews 1999).

The Victoria Hotel
The Victoria Hotel is the oldest hotel in Pretoria. The first hotel on the site was erected by Mr Hambourg, who called it the Station Hotel, which only man- aged to stay in business a short while.
Jacob Joffe, lessee of the corner site had a Hollander architect plan this present building, which was completed in 1896 and called it the Hollandia Hotel. It received its present name Victoria (after the Queen of England) when the British occupied the town in June 1900 (Andrews 1999).

The historical background of Pretoria expanded the construct of the Author's Virtual Landscape. For they reveal more insight to the construct of Pretoria as place, and allow for the secrets of the city to linger in the imagination. For the legend of Kruger coins in a cornerstone still remain long after the Author left *die Raadsaal*.

004

URBAN ANALYSIS FRAMWORK

SITE SELECTION

As the discourse focus is not focused on the development of a new framework of Pretoria, but rather to further develop the framework on an imaginative level. The author will use the *Pretoria Inner City Integrated Spatial Development Framework* by the Capitol Group as a departure point for the dissertation framework.

The framework is aimed to promote a memorable and user-centric city. *"In order to develop a successful urban form, a high level of congruence is required between the various components and elements of the city. From an urban design point of view, the principles to be followed is primarily that of a multi-functional approach towards streets and urban spaces, robust building forms, vitality through diversity, sustainable neighbourhood structures, continuity of open space and environmental management. The application of these principles is reflected in the various concepts proposed for the revitalisation of the various areas of the city and the re-developments of its future image"* (Capitol Consortium 1999: 2).

The framework sets out to define, demarcate and develop public open spaces in the city to create a more sustainable urban form. The urban form is concerned with more than one sphere of scale: regional scale, city scale and local or precinct scale.
"Lively activities are one of the key factors that contribute to a successful public real. This includes function and facilities and activities on street level. This facilitates the patterns of movement, encounter and avoidance that constitute and generate social relations in the vitality and promotes quality of life"(Capitol Consortium 1999: 12).
The main objectives of the framework are to establishing linkage and hierarchies of public space within the public realm and reinforcing linkages through continuity of natural open space.

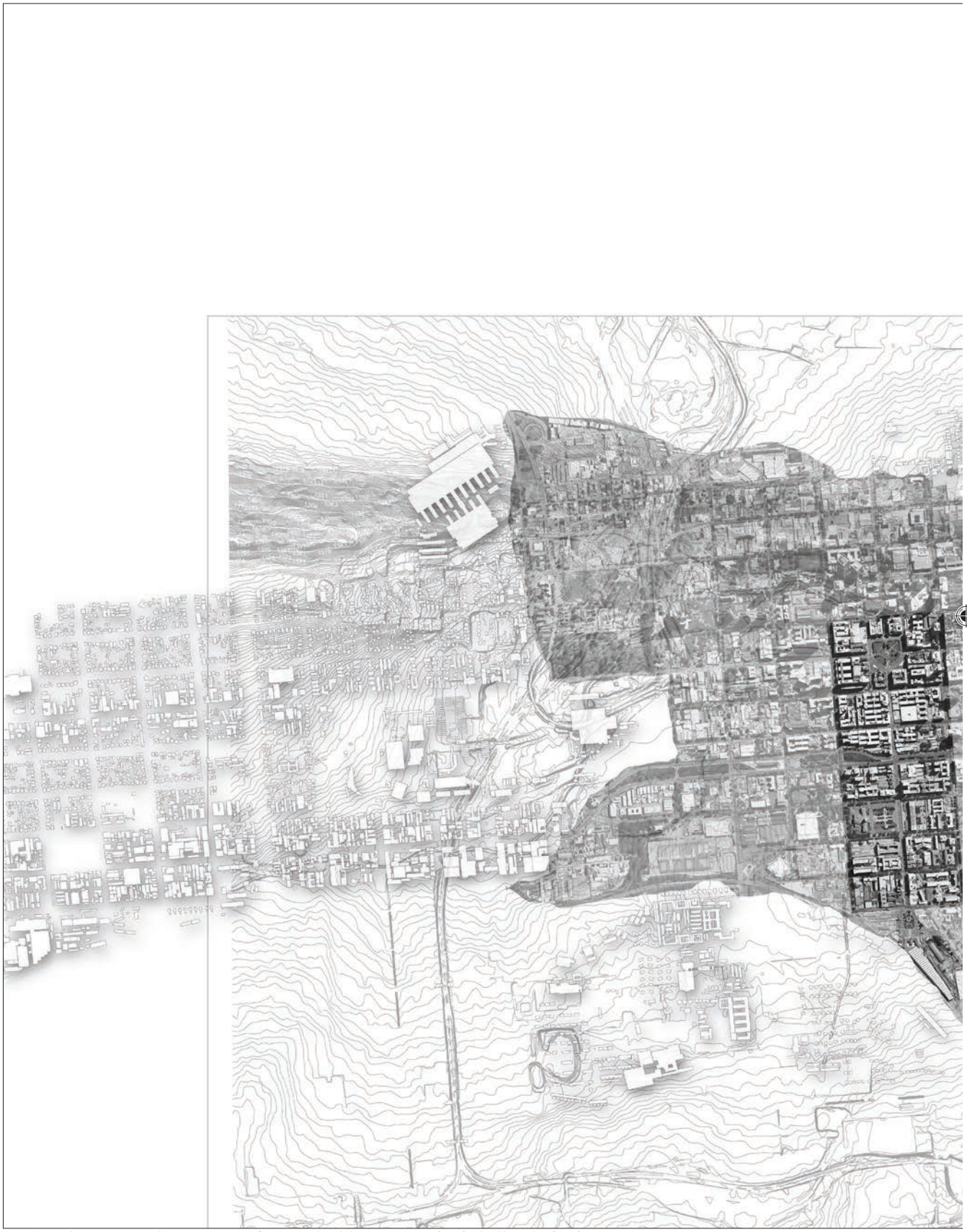
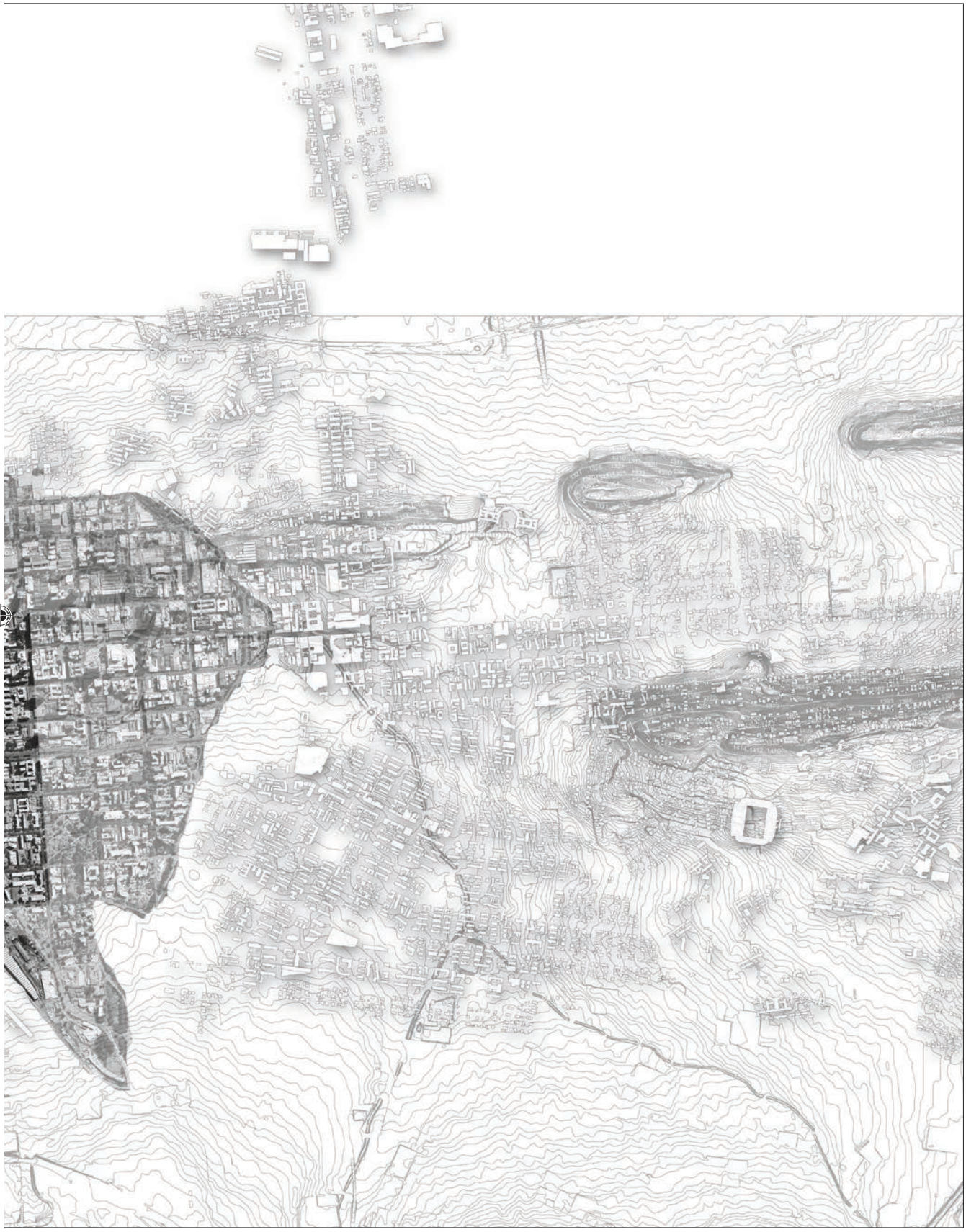


Figure 62: Study area in greater urban context. Pretoria figure ground study by Morne Pienaar, (2007), edited by Author (2012).



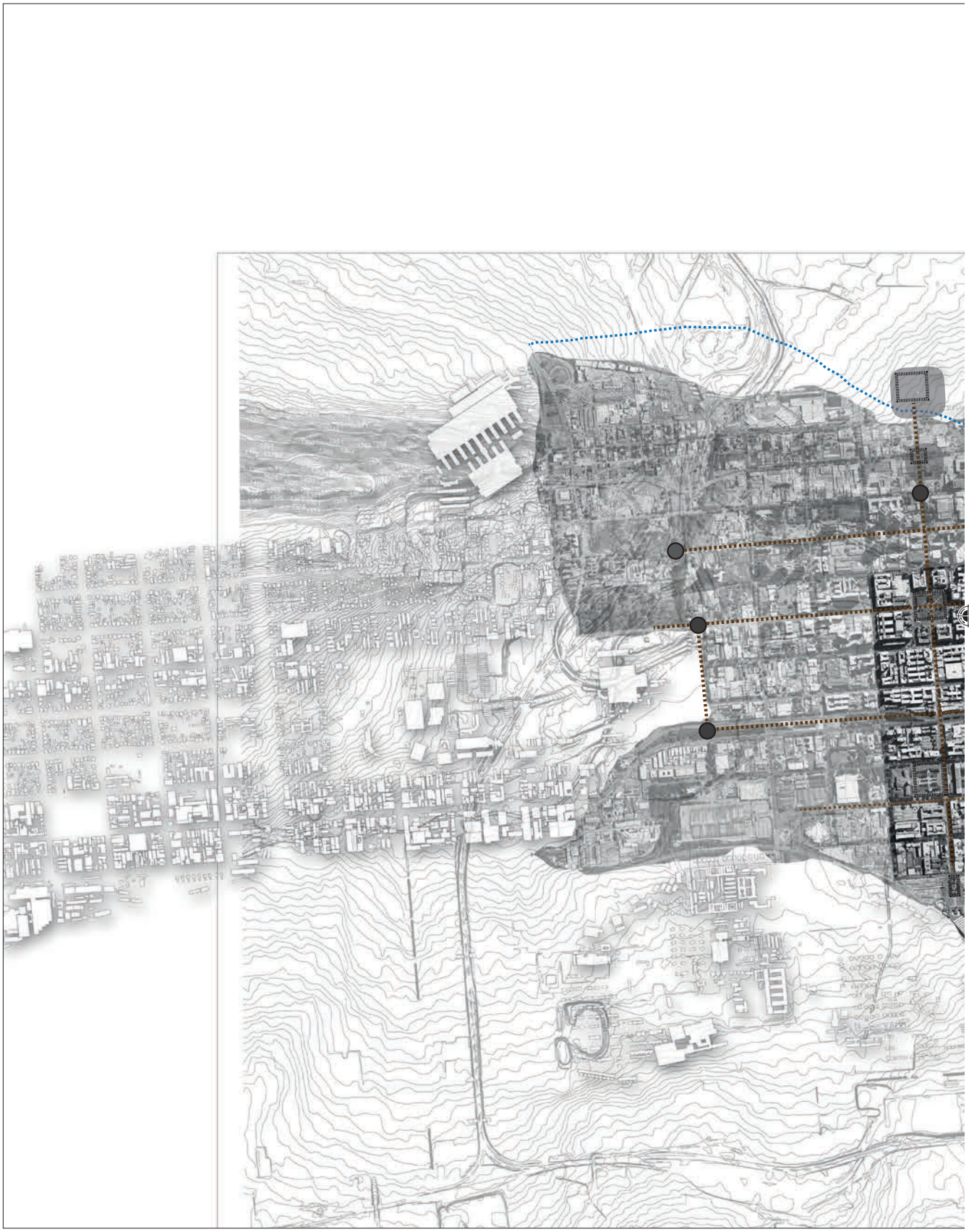


Figure 62: Study area with regards to Capitol Consortium, *Inner city integrared spatial framework development* (1999:5). Pretoria figure ground study by Morne Pienaar, (2007), edited by Author (2012).

Figure 63: Locality of Study area. Pretoria figure ground study by Morne Pienaar, (2007), edited by Author (2012).

Figure 64: Streets intersecting Paul Kruger Street. Pretoria figure ground study by Morne Pienaar, (2007), edited by Author (2012).

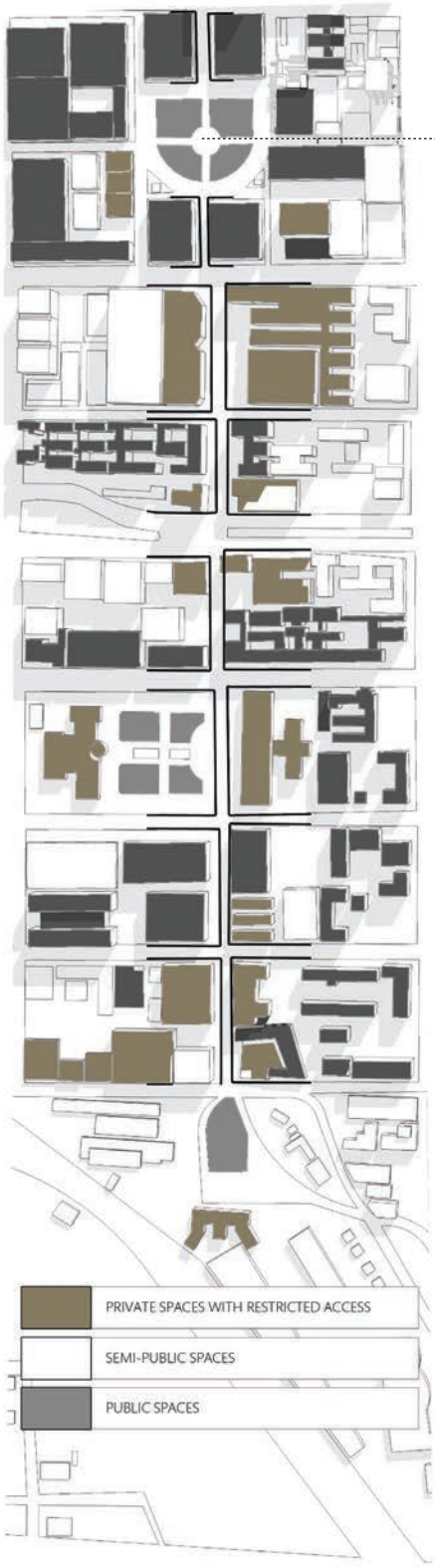


Figure 65: Street analysis of urban accessibility (Author, 2012)

Figure 66: Spatial analysis of urban accessibility (Author, 2012).

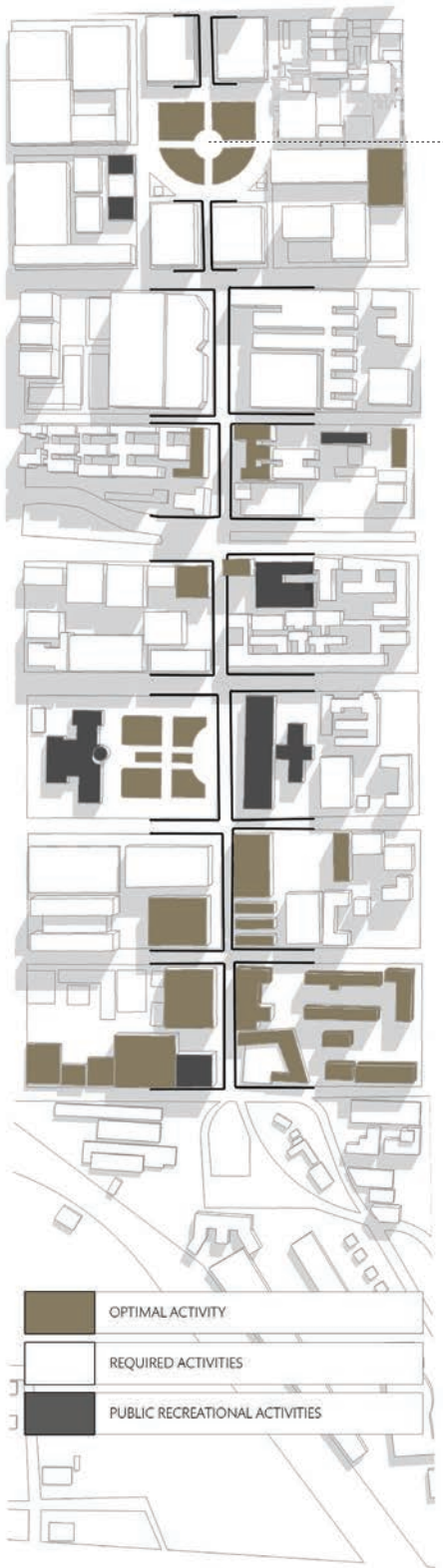


Figure 67: Street analysis of daytime activities (Author, 2012).

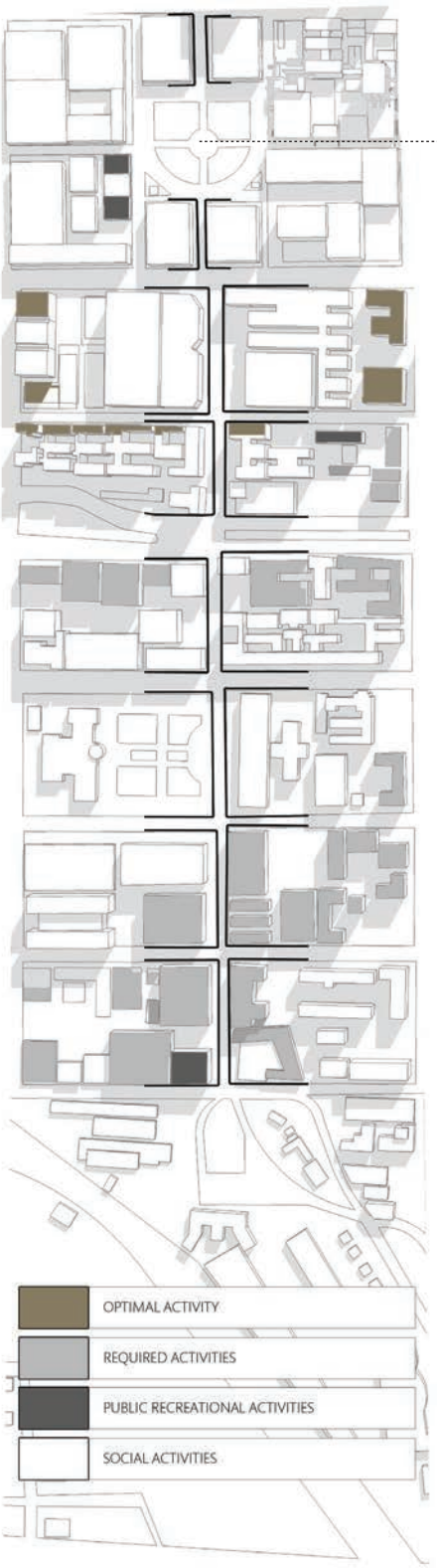


Figure 68: Street analysis of evening activities (Author, 2012).

Figure 69: Spatial analysis of urban activity (Author, 2012).

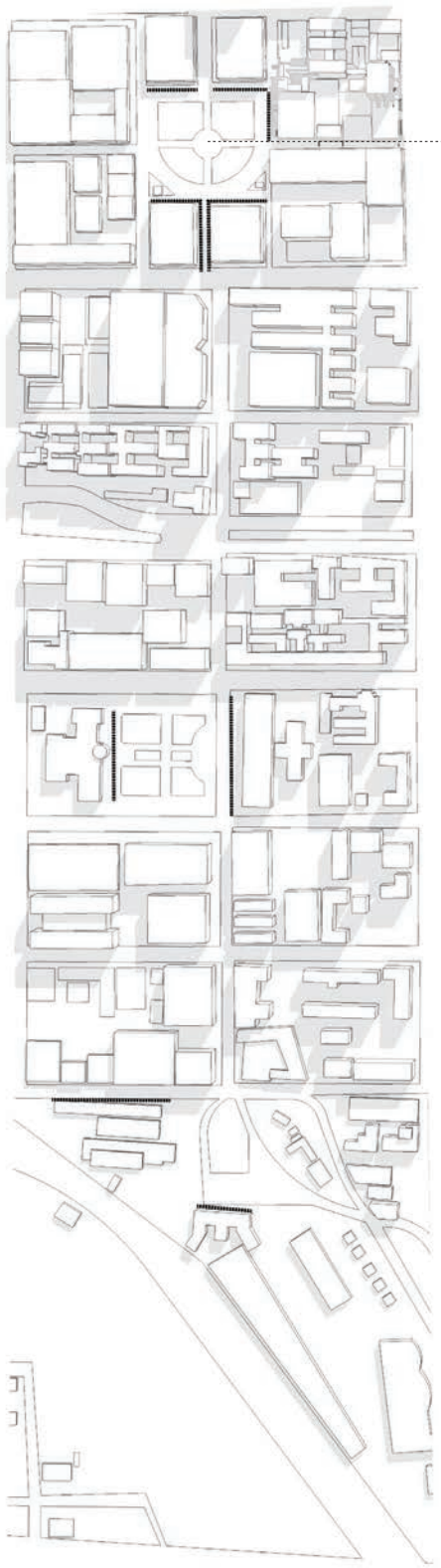


Figure 70: Street analysis textured facades (Author, 2012).

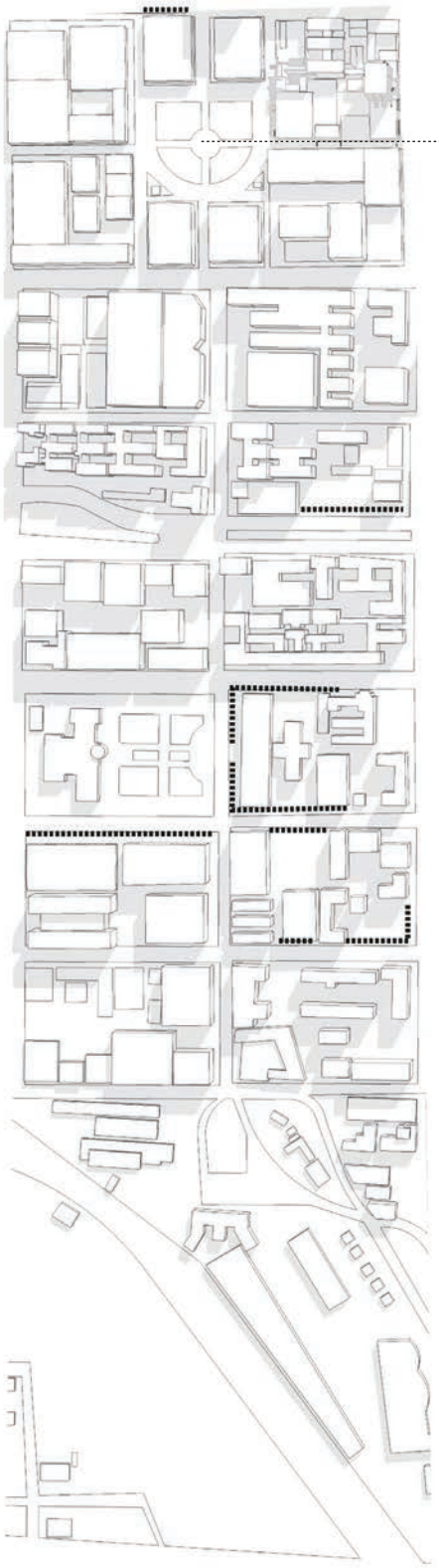


Figure 71: Street analysis of fenced buildings (Author, 2012).

Figure 72: Spatial analysis of pedestrian rate along Paul Kruger Street (Author, 2012).

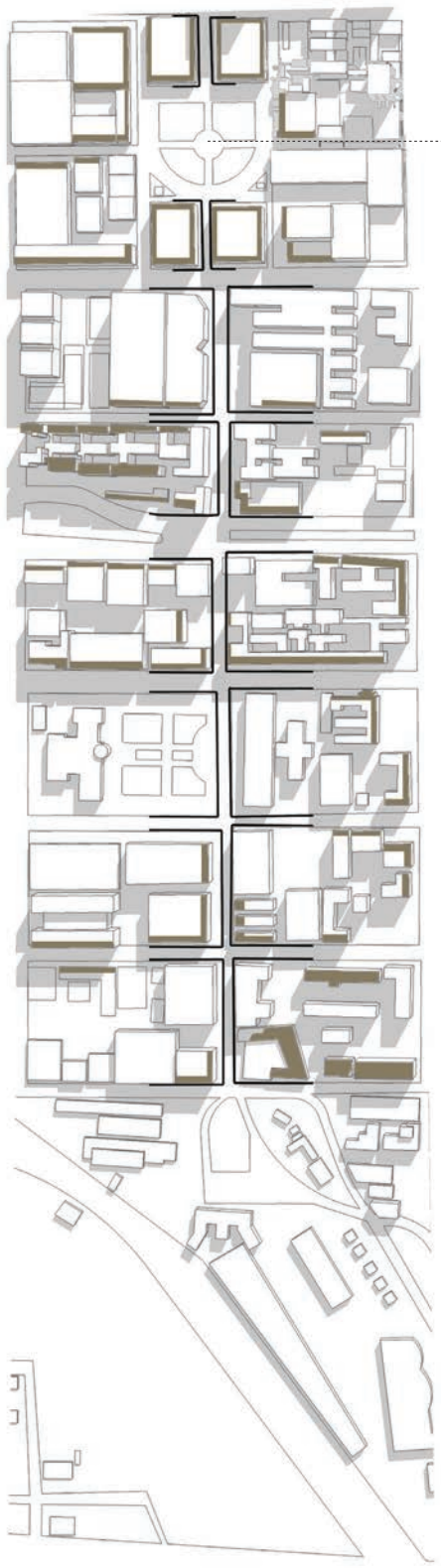


Figure 73: Street analysis of buildings that restrict pedestrian interaction (Author, 2012).

Figure 74: Street analysis buildings that open to street edge (Author, 2012).

Figure 75: Spatial analysis of commercial activity along Paul Kruger Street (Author, 2012).

Figure 76: Spatial analysis of building accessablity activity along Paul Kruger Street (Author, 2012).

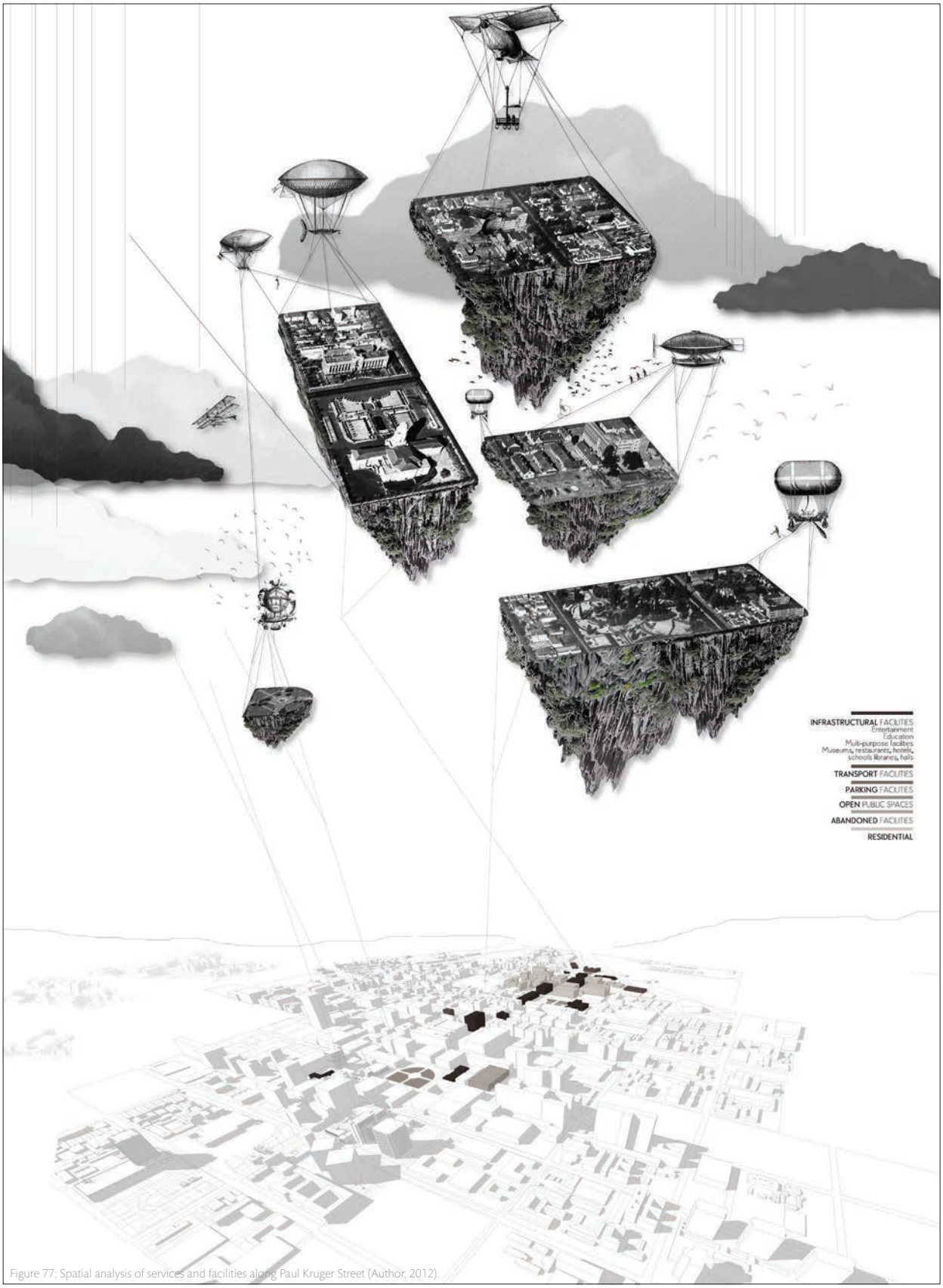


Figure 77: Spatial analysis of services and facilities along Paul Kruger Street (Author, 2012).

Figure 78: Spatial analysis of crime activity along Paul Kruger Street (Author, 2012).

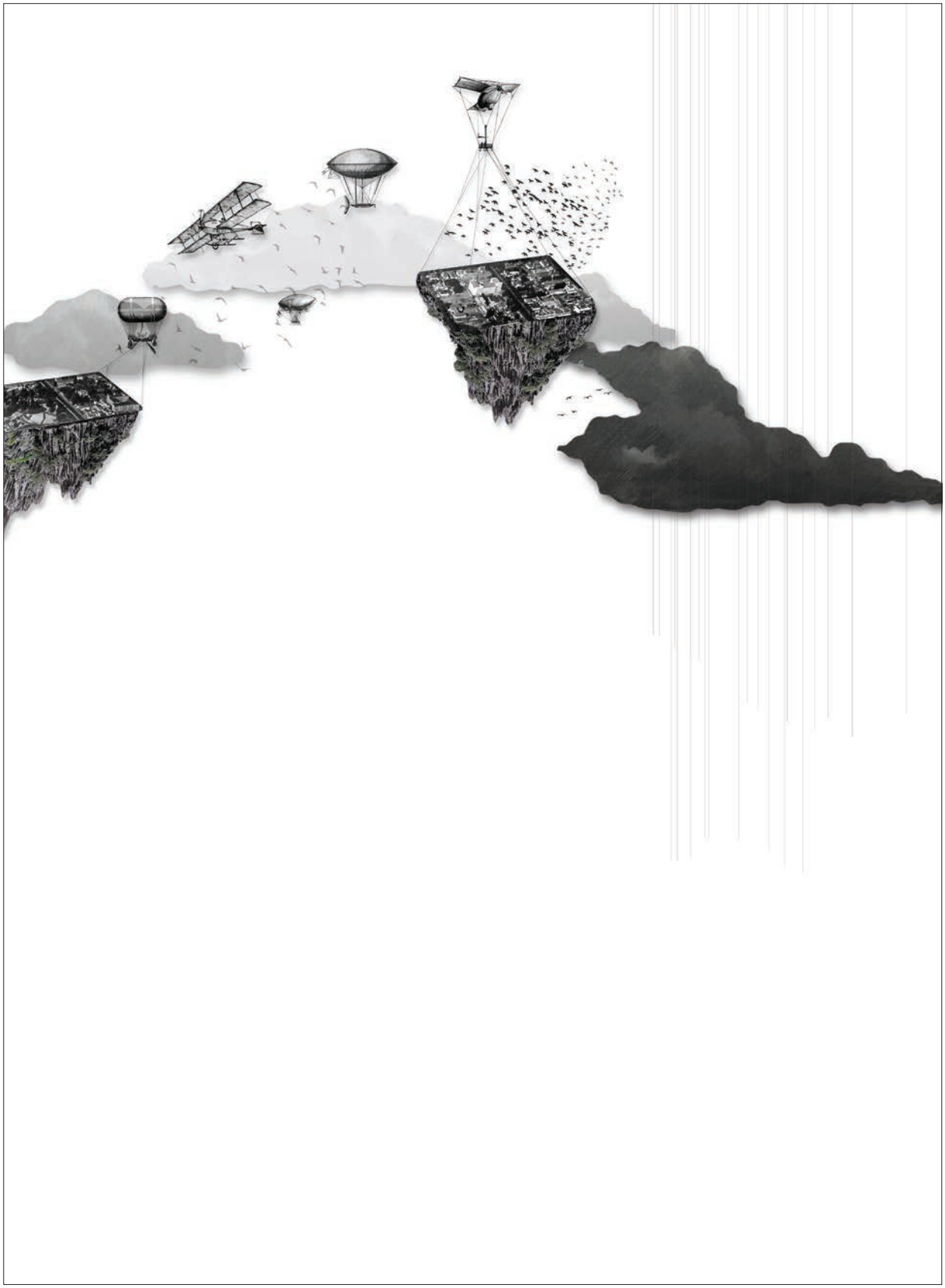


Figure 78: Spatial investigation for the pedestrianisation of Paul Kruger Street (Author, 2012).

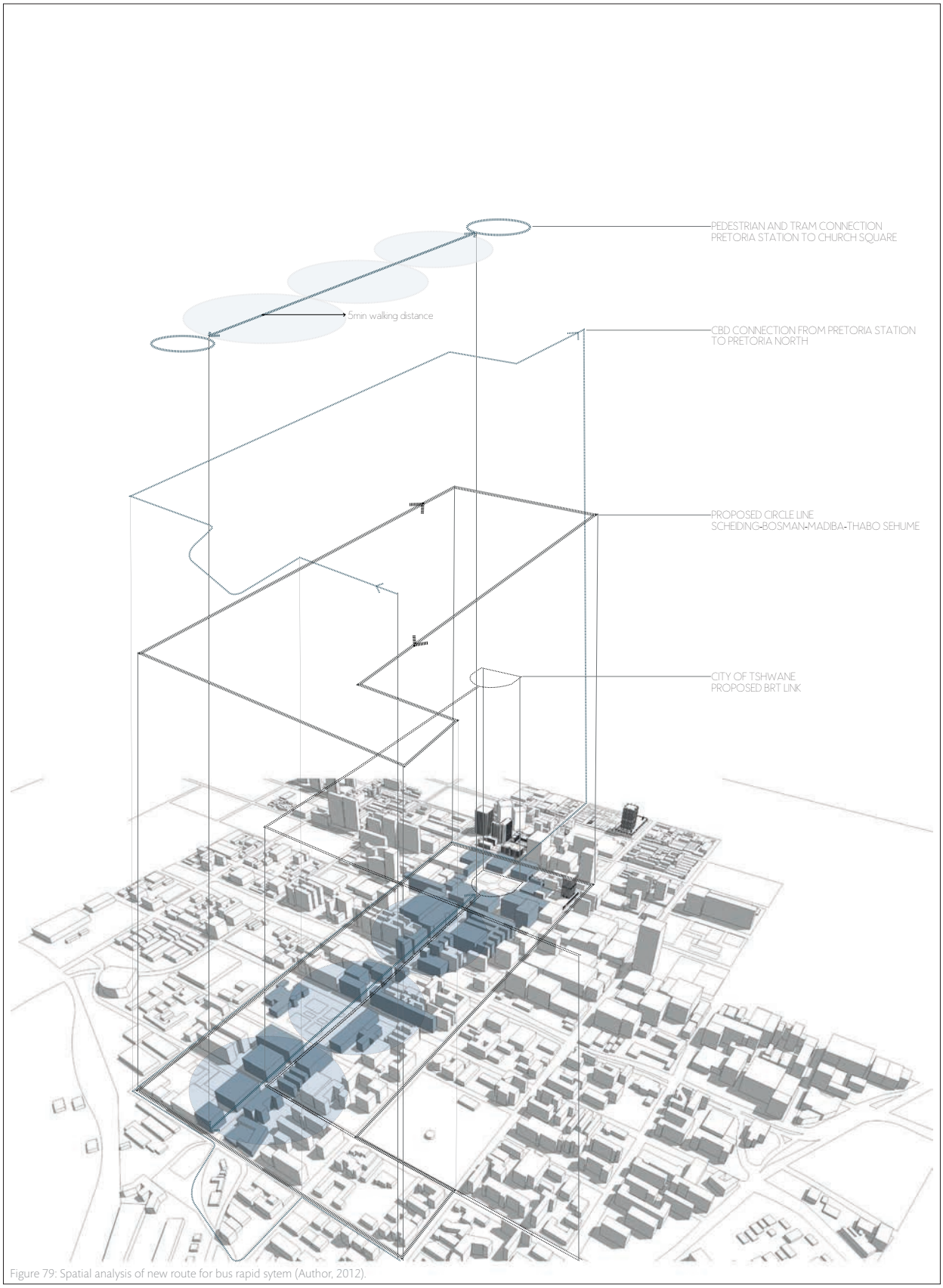


Figure 79: Spatial analysis of new route for bus rapid sytem (Author, 2012).

Figure 80: Submerged road with pedestrian link on steet level (Author, 2012).

Figure 81: Tram system with pedestrian link on street level (Author, 2012).

Figure 82: Pedestrian link on street level accomodating proposed BRT (Author, 2012).

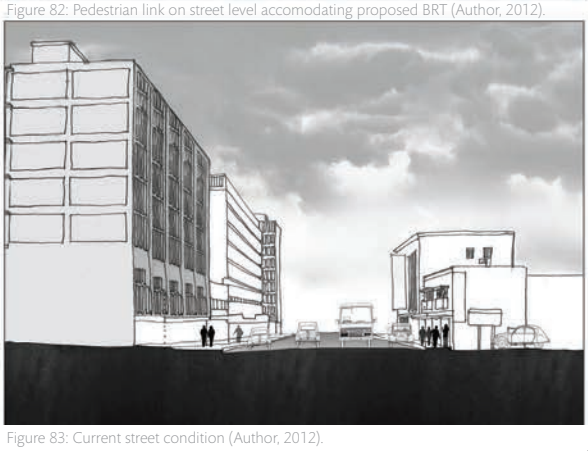


Figure 83: Current street condition (Author, 2012).

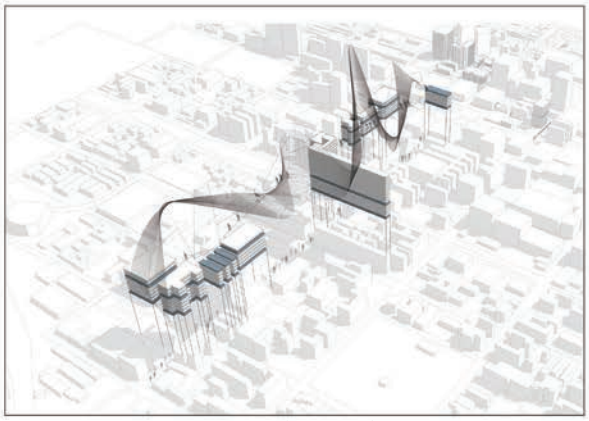


Figure 84: City activated on secondary level (Author, 2012).

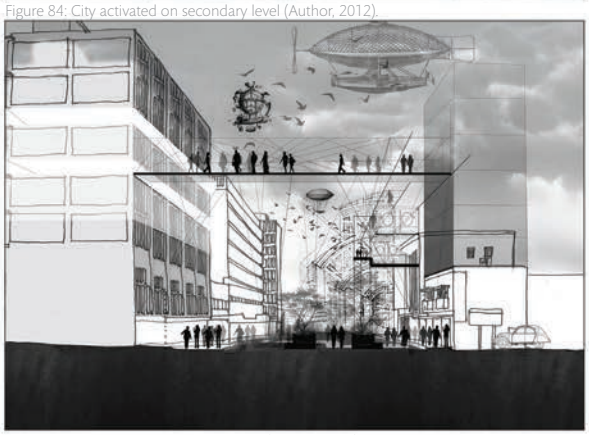


Figure 85: Buildings activated by skytram (Author, 2012).

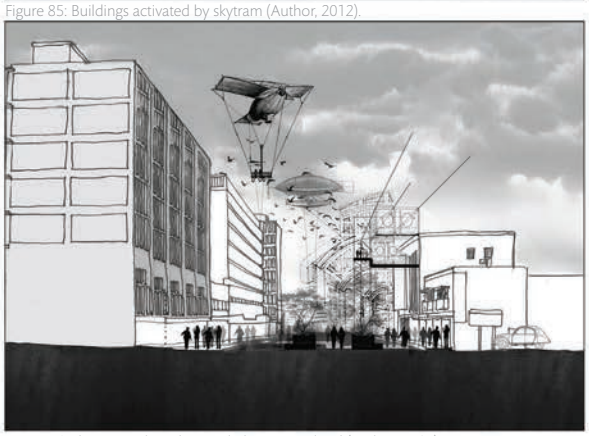


Figure 86: Skytram with pedestrian link on street level (Author, 2012).

Figure 87: Complete pedestrianisation of Paul Kruger Street (Author, 2012).

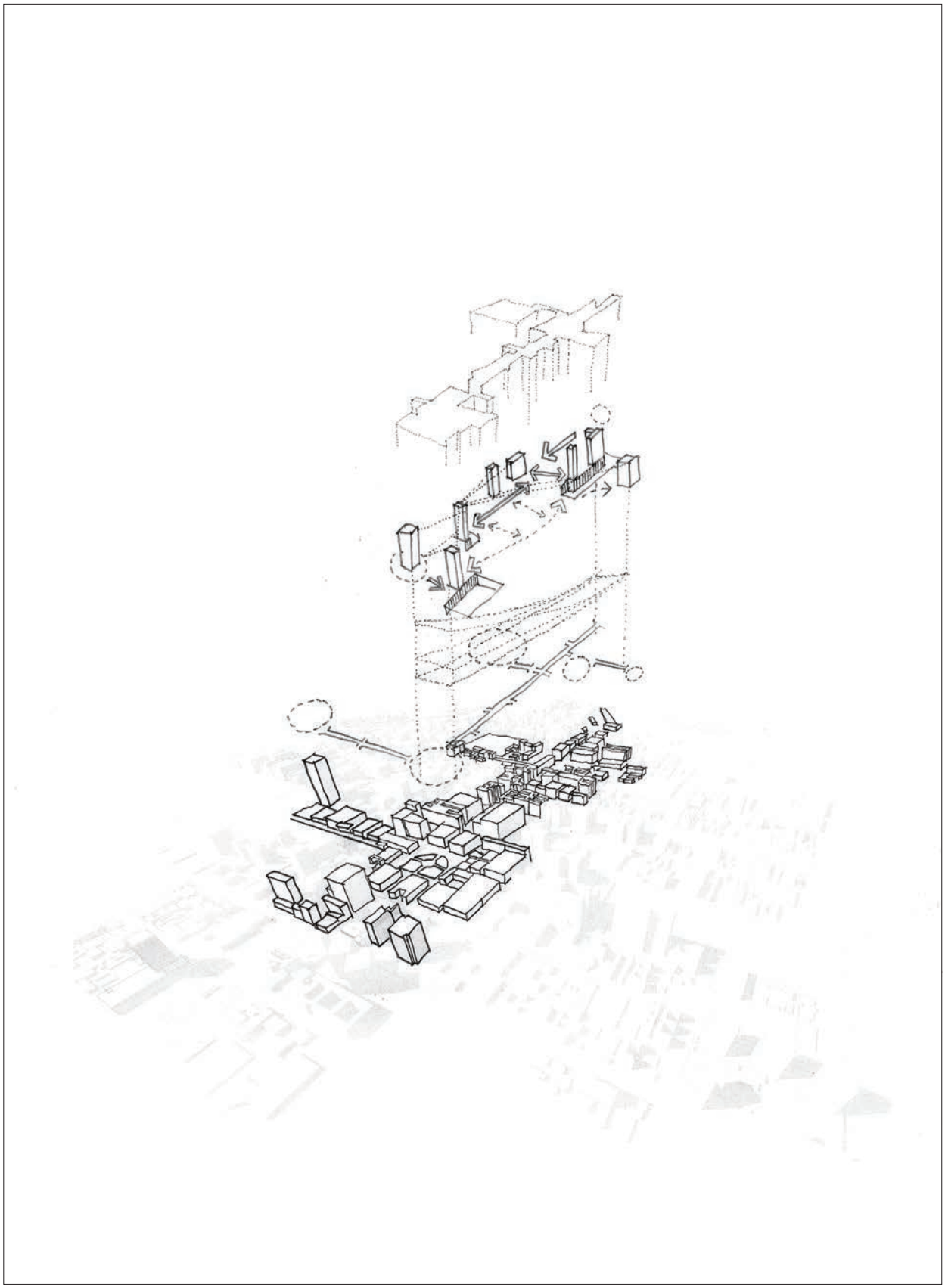


Figure 88: Spatial structure progression and posible expantion into build fabric (Author, 2012).

004

THE CITY ON AN IMAGNARY LEVEL

During the first process of '*a city imagined*', the author embarked on a journey from Rosebank Gautrain station arriving at Pretoria station. The city was investigated on foot (through analysis) and imagined (through abstract writing and imagery) to reveal to the author the contrast between how the city is read in-situ and could be experienced ex-situ in his Virtual Landscape. The framework development on an imaginary level, becomes a crucial part of the dissertation to create a city that can lure visitors to the city and experience it on street level. Rekindling a sense of excitement and love for the city. Interventions aims to provide stimulating places to visit and discover and to truly come alive at night. The selected sites intend to cater for creative individuals to contribute to the Virtual Landscape, encouraging the shift in the identity of Pretoria.

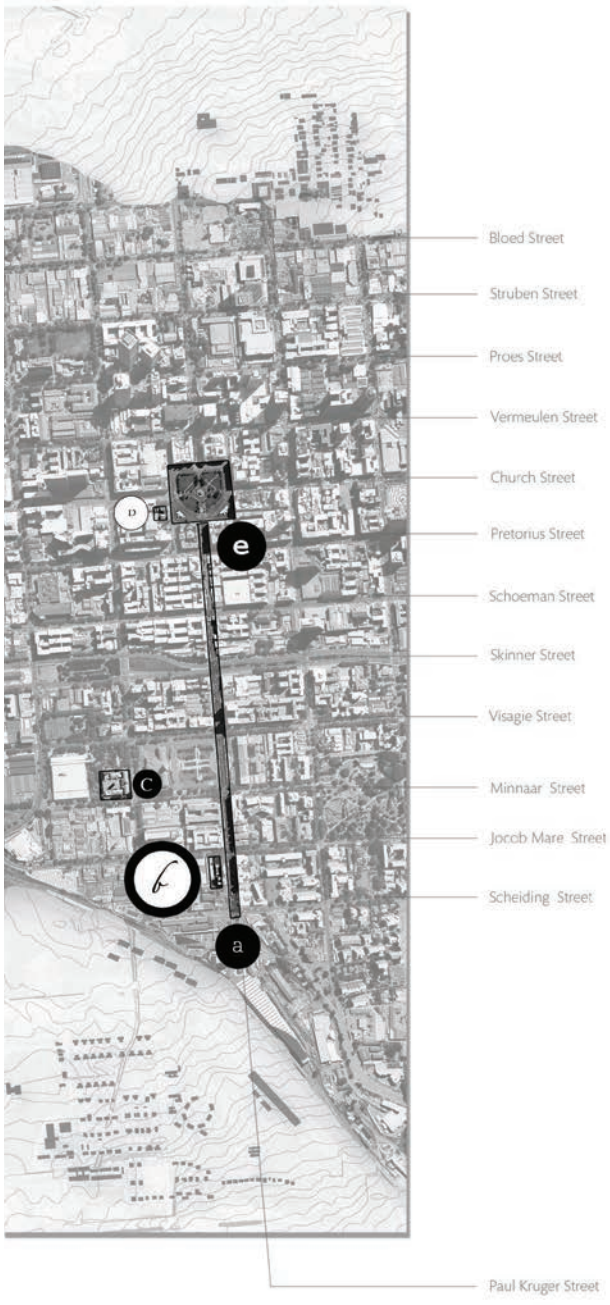


Figure 89: Sites identified with potential through the Author's virtual lanscape. Pretoria figure ground study by Morne Pienaar, (2007), edited by Author (2012).

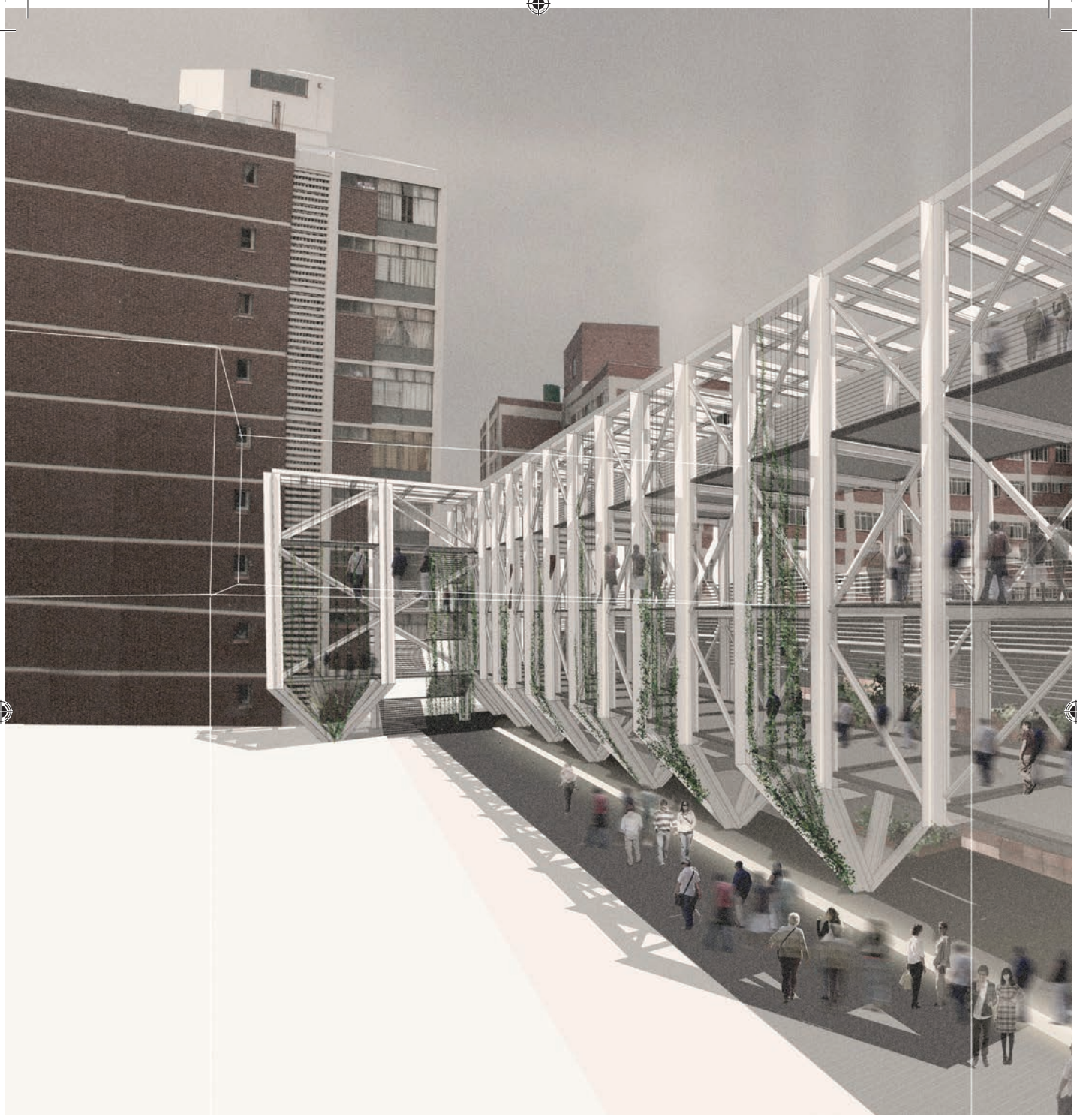


Figure 90: Author's representation of Virtual Landscape for artist studio and attached market (Author, 2012).

INBETWEEN SPACE

The site was selected due to its close proximity to the Pretoria and Gautrain stations. Due to the low rental cost, the site is ideal for young creative craft makers to occupy the space. In the Author's Virtual Landscape, an intervention punches through the existing studios into an open structure, creating market space for the exhibition of products produced by young designers. The addition is adaptable to facilitate multiple events and exhibitions, and act as a platform for artist, scriptwriters and creative thinkers to present their representations that contribute to the influences of the Virtual Landscape.

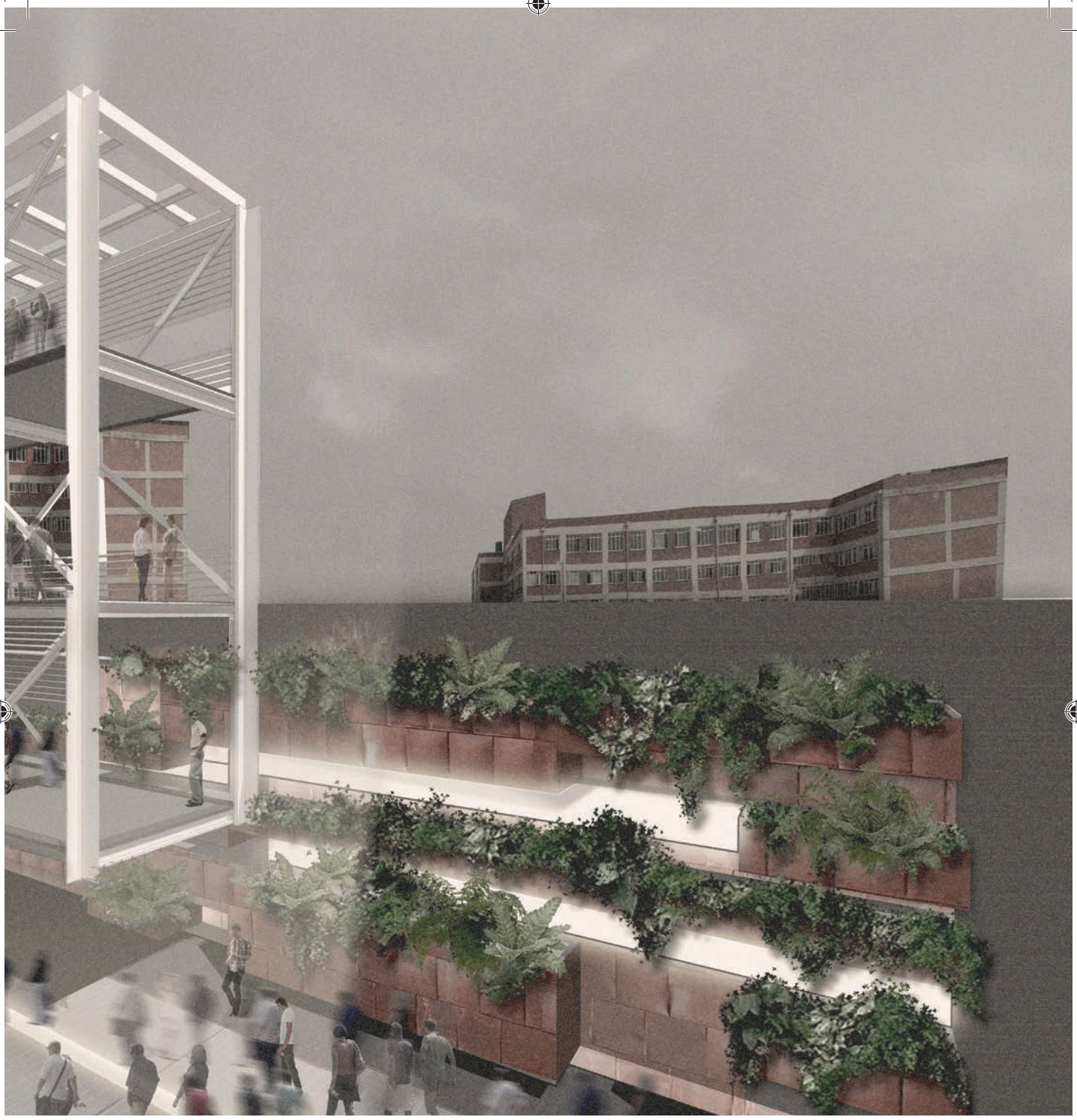


Figure 91: Author's representation of Virtual Landscape for proposed sculpture production garden at the old Pretoria fire station (Author, 2012).

OLD PRETORIA FIRE STATION

The fire station currently acts as a skill transfer facility, between exchange students and the local community. It also facilitates the quarterly event Art Kitchen. Formally the site is ideal for expansion due to the large courtyard. In the Author's construct, artisans and apprentices assembling sculptural art crowd the landscaped courtyard. Restoring the tradition of handing down skills from craftsman to novice.

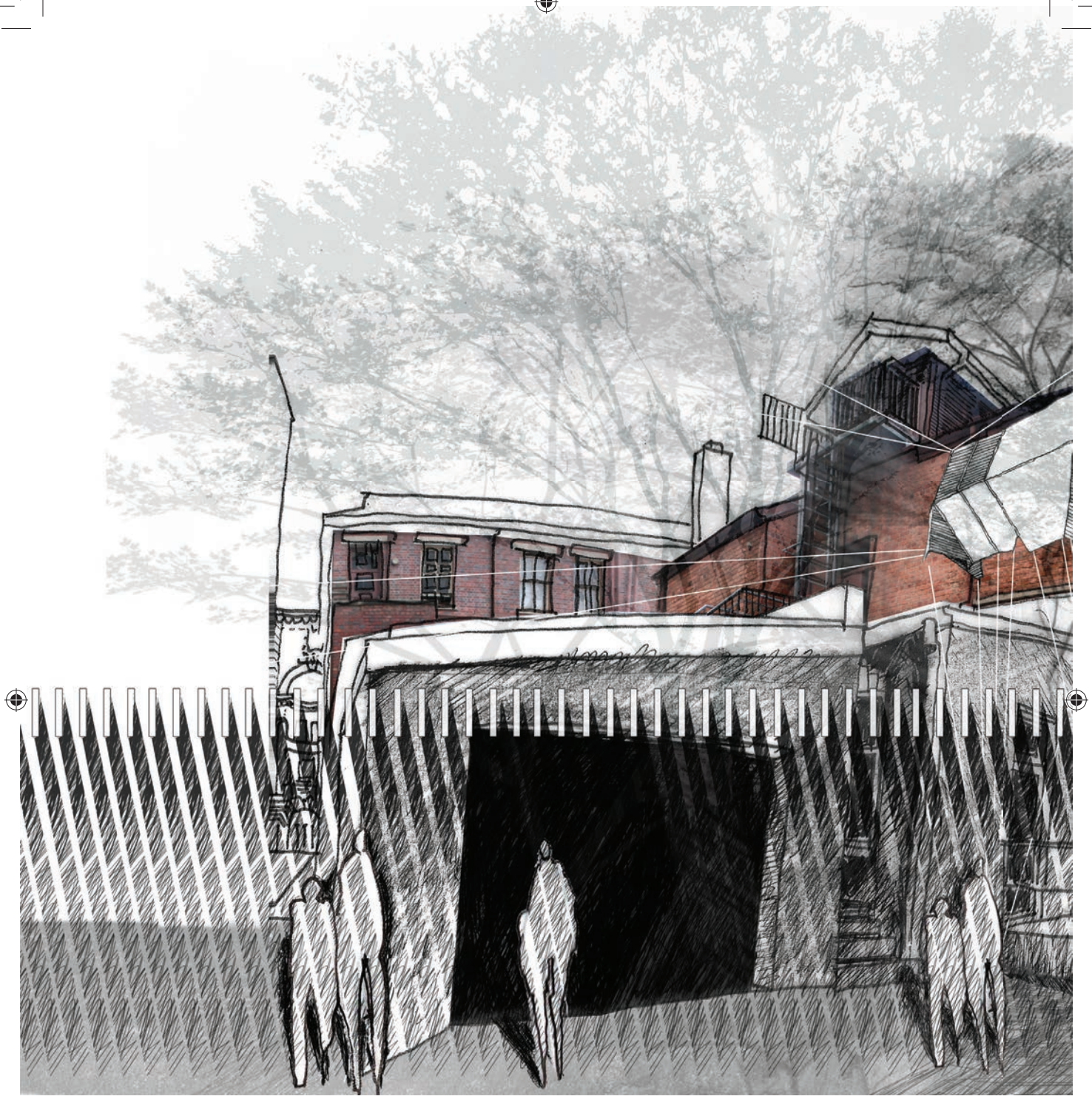
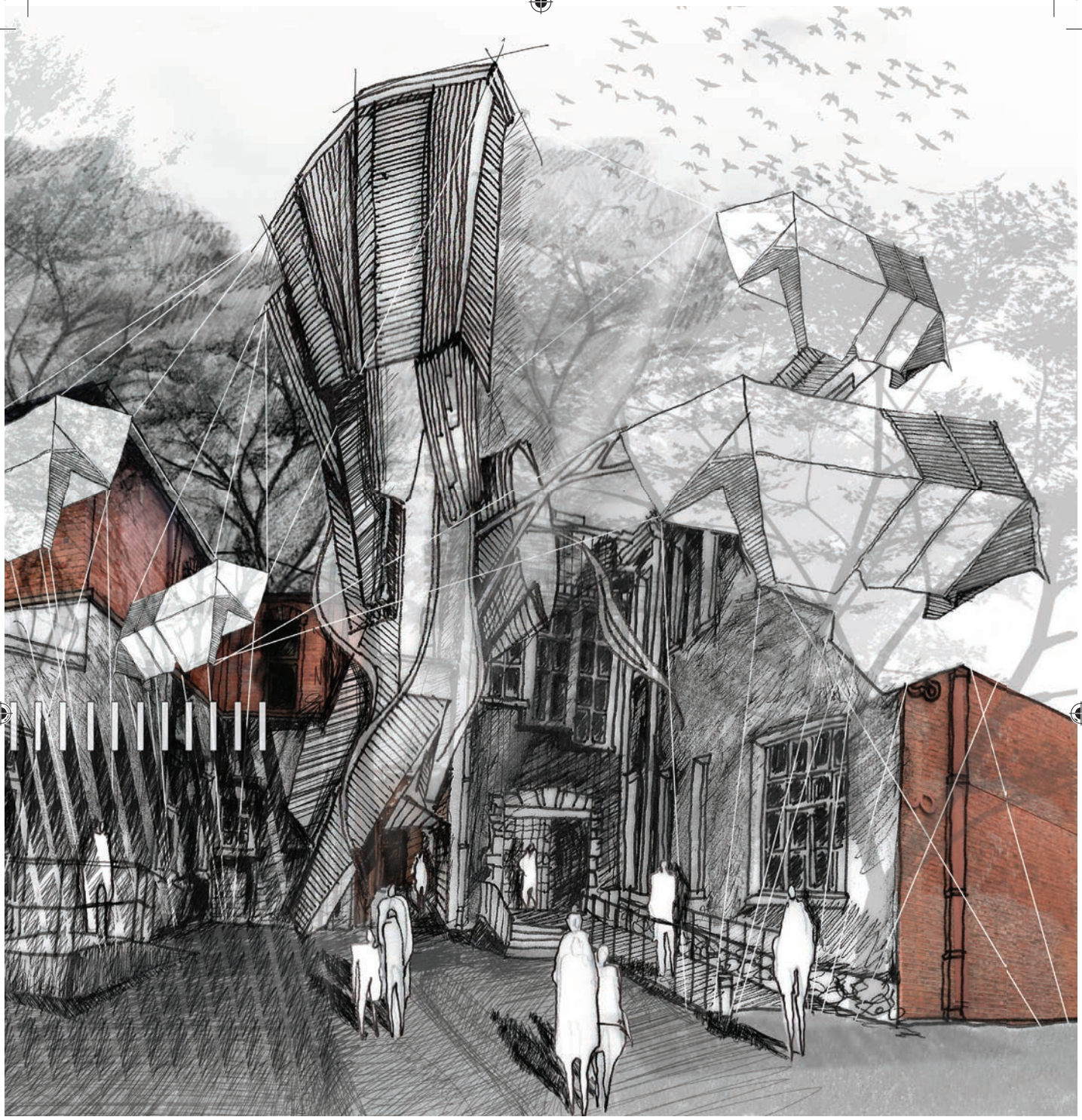


Figure 92: Author's representation of Virtual Landscape for proposed pocket theater during the day (Author, 2012).

NIGHT THEATRE

The small space, located behind the South African tourist information centre, provides an escape from the city that can facilitate intimate impromptu events for the performing arts. The Author and his lover came to the spot by chance, in their attempt to escape the bustle of the city. The structure opened like a delicate night flower, on which not even Mackintosh and Moffat could imagine, revealing a performance of Im Chambre Separee.



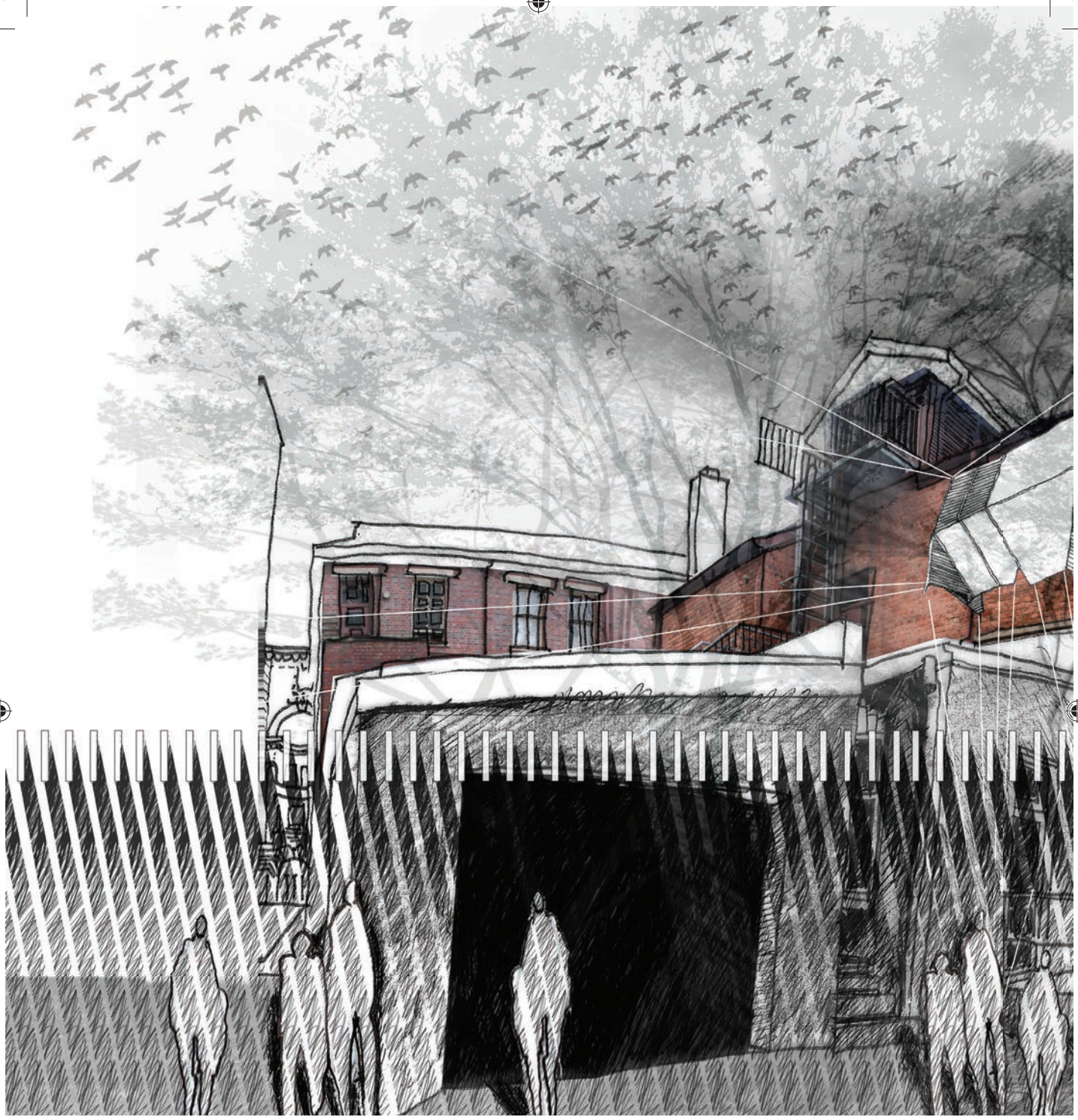
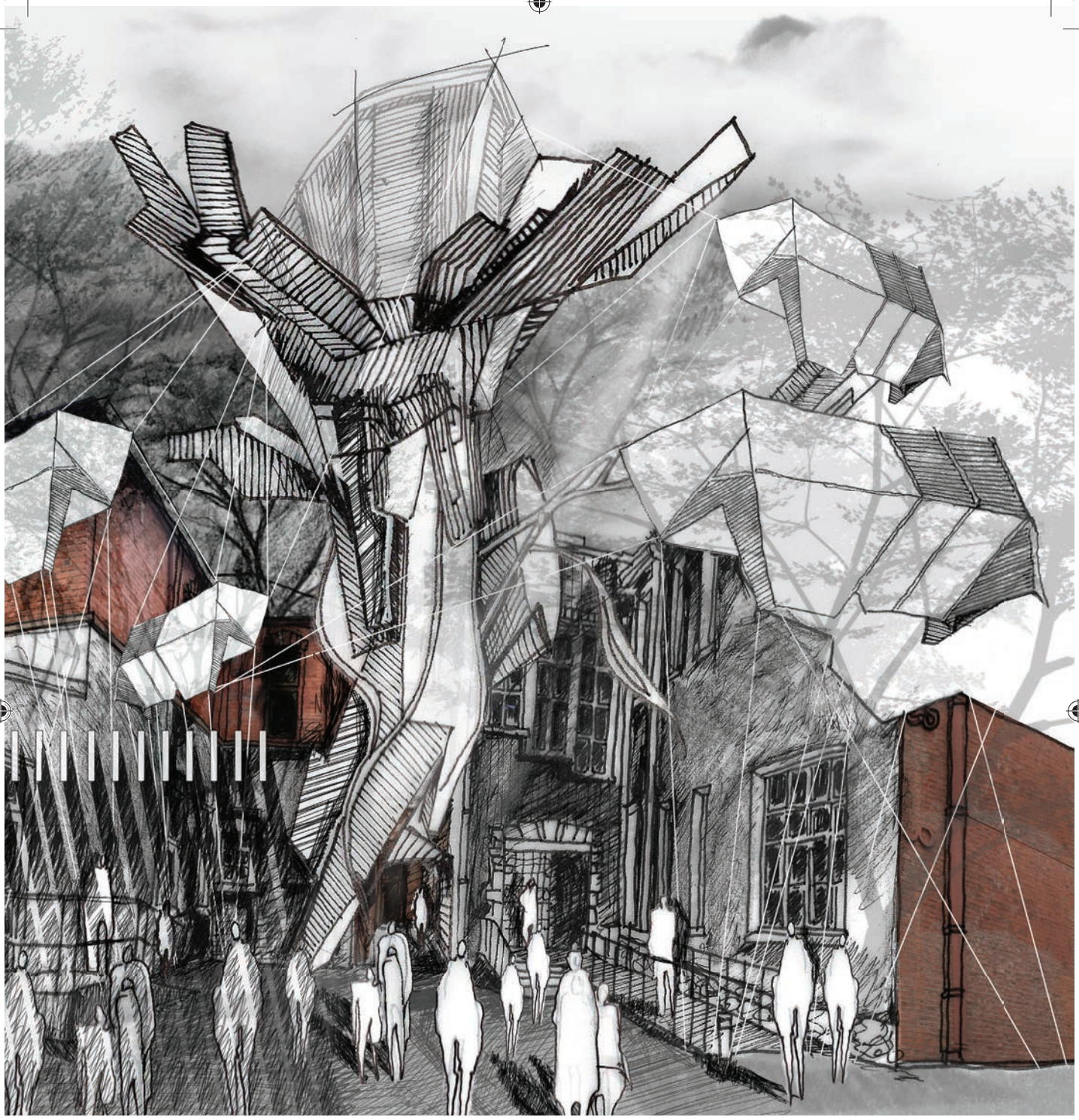


Figure 93: Author's representation of Virtual Landscape for proposed pocket theater at night (Author, 2012).



005

DESIGN DEVELOPMENT RESEARCH AREA

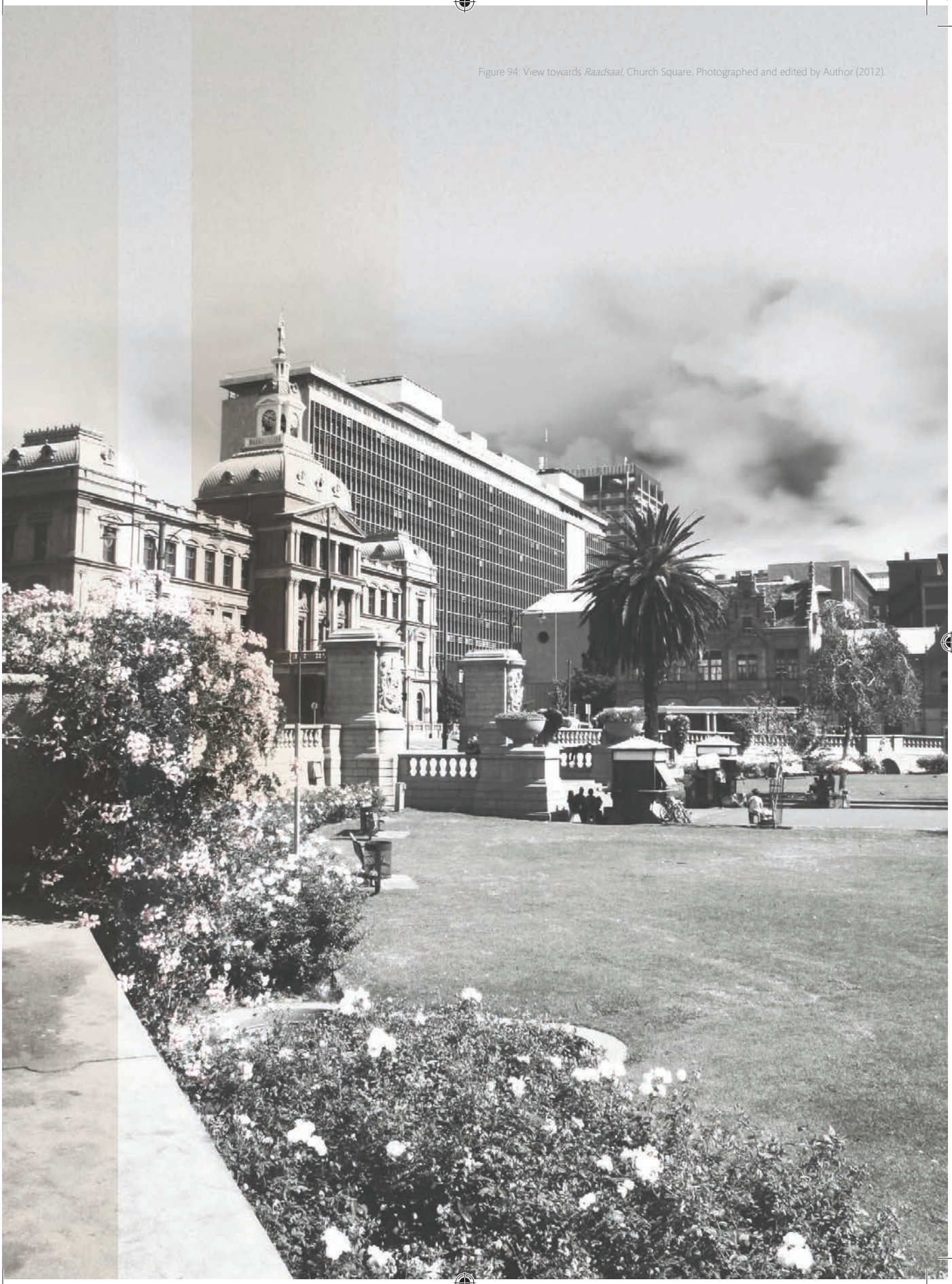


Figure 94: View towards *Raadsaal*, Church Square. Photographed and edited by Author (2012).

Figure 95: View towards Paul Kruger Statue, Church Square. Photographed and edited by Author (2012).

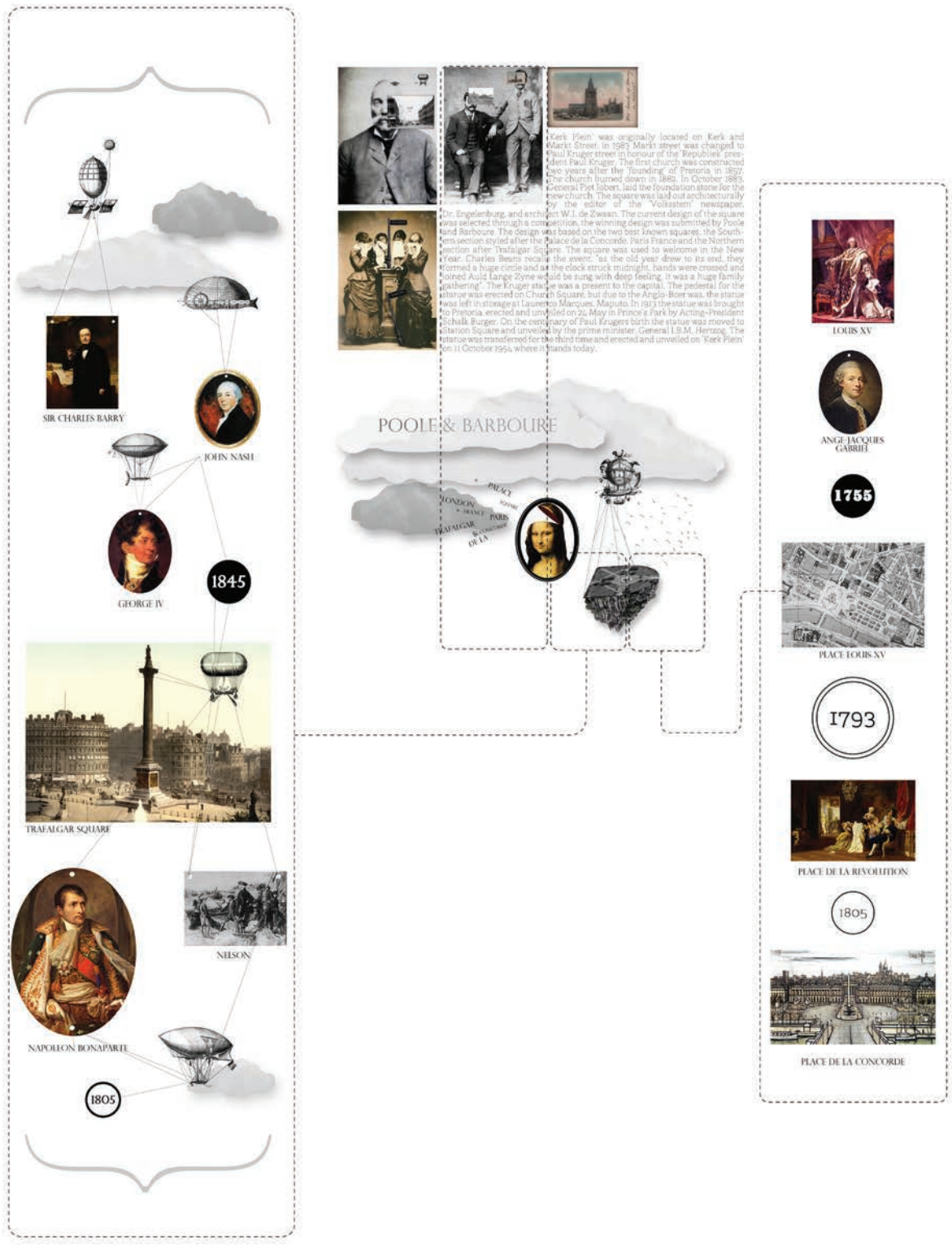


Figure 96: Design construct of Church Square (Author, 2012).

FOCUS AREA

As the dissertation progresses towards the grounding of the Virtual Landscape, this part of the study will investigate the process of the Virtual Landscape from the representation of the Author's Virtual Landscape for Church Square, to a design proposal. The choice to ground the hypothesis in Church Square does by no means imply that the design proposal should be implemented first. It was purely selected because of the challenges the site proposes. The Author is of the opinion that due to its prominence in the city, Church Square restricts the design response to be subjective only to satisfy the hypothesis. It also allows the opportunity to investigate how the process of the Virtual Landscape can be adapted for spaces of great significance and what it can contribute to enrich the user experience of Church Square.

'*Kerk Plein*' was originally located on Kerk and Markt Street. In 1983 Markt street was changed to Paul Kruger street in honour of the *'Republiek'* president Paul Kruger. The first church was constructed two years after the 'founding' of Pretoria in 1857. The church burned down in 1882. In October 1883, General Piet Joubert laid the foundation stone for the new church. The editor of the *'Volksstem'* newspaper laid out the square architecturally, Dr. Engelenburg, and architect W.J. de Zwaan. The current design of the square was selected through a competition; Poole and Barboure submitted the winning design. The design was based on the two best known squares, the southern section styled after the Palace de la Concorde, Paris, France and the northern section after Trafalgar Square. The square was used to welcome in the New Year. Charles Beans recalls the event: *"as the old year drew to its end, they formed a huge circle and as the clock struck midnight, hands were crossed and joined Auld Lange Zyne would be sung with deep feeling; it was a huge family gathering"* (Andrews 1999: 4).

The Kruger statue was a present to the capital. The pedestal for the statue was erected on Church Square, but due to the Anglo-Boer was, the statue was left in storage at Laurenco Marques, Maputo. In 1913 the statue was brought to Pretoria, erected and unveiled on 24 May in Prince's Park by Acting-President Schalk Burger. On the centenary of Paul Kruger's birth, the statue was moved to Station Square and unveiled by the Prime Minister, General J.B.M. Hertzog. The statue was transferred for the third time and erected and unveiled on '*Kerk Plein*' on 11 October 1954 where it stands today. (Andrews 1999)

005

STATEMENT OF SIGNIFICANCE

STATEMENT OF SIGNIFICANCE

Due to the heritage significance of Church Square and the surrounding buildings, the site is protected by the Pretoria development act no. 53 of 1972. The act states the following:

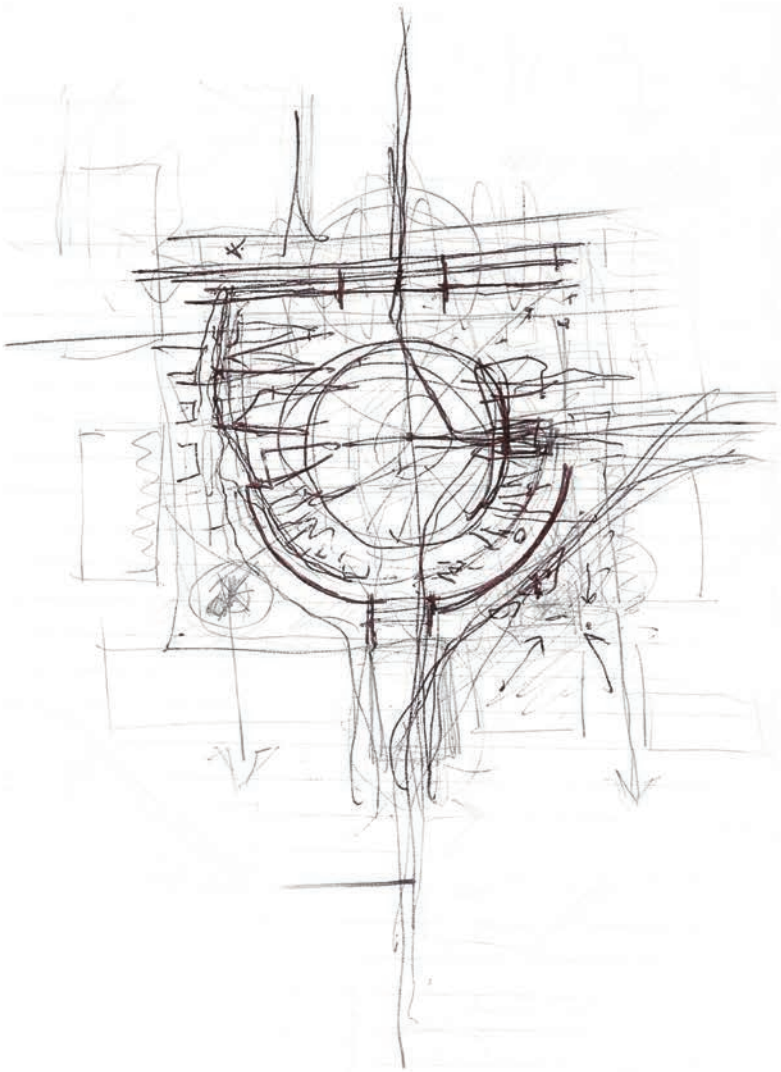
a. No alterations may be effected to the planning, layout or design of the piece of land known as Church Square, in the City of Pretoria.
b. No building or other structure on any site, or portion thereof, situated within the area to this Act, may be erected, extended, architecturally adapted or demolished without obtaining prior written approval of the Minister (Statutes of the Republic of South Africa 1996: 2).

The author agrees with the fact that the historical significance of Church Square, including the surrounding buildings, is of paramount importance to the City of Pretoria and should be protected. The question arises: to what extent and cost to the city dweller? To undertake an appropriate approach to the site, the author employs the Burra Charter Process as an appropriate sequence to a statement of significance. The square cultural significance provides a deep sense of connection to a community that lived within Pretoria CBD. It acted as a stage for civic life and surely its preservation is of great importance. Although its significance is clear as stated above, it does fall short if compared to why sites of heritage should be preserved. It lacks any tangible historical reference to the identity of the site and the current users experience. It neglects to reflect the diversity of events that took place on site. Finally, it does not take the opportunity to reveal who we are and the past that has formed us (Icomos 1999).

The interpretation of the square should allow for exploration of the significance of the site, and reveal its multi-faceted historical, social, political and artistic contexts. The current lack of all contributions of all periods lack and neglects its contemporary context and significance (Icomos 2004: 3). The new design proposal aims to align itself to the principles set out by the Icomos Charter (2004) to encourage visitors to reflect on their own perceptions of the site and their individual relationship to it, and should stimulate further interest and learning (Icomos 2004: 3).

005

DESIGN DEVELOPMENT CHURCH SQUARE REPRESENTATION



NEED

EXISTING SQUARE
Church Square is currently utilised as a park due to the shortage of public open space within the city.
If we consider the amenities provided by the square, to function as park, the square performs inadequate.

VEHICULAR CIRCULATION AREA

EXISTING SQUARE
Church Square is currently utilised as a park due to the sho public open space within the city.
If we consider the amenities provided by the square, to fun park, the square performs inadequate.

VEHICULAR CIRCULATION AREA

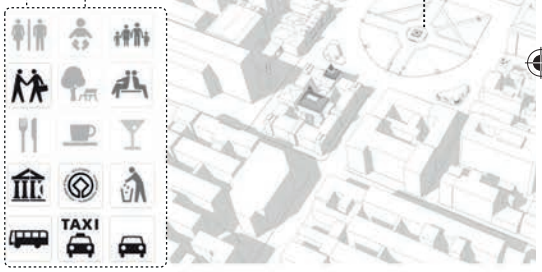
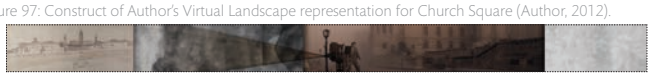


Figure 97: Construct of Author's Virtual Landscape representation for Church Square (Author, 2012).



{INFLUENCES ON THE VIRTUAL LANDSCAPE}
SPATIAL UNDERSTANDING
DESIGN PRINCIPLES
MYTHOLOGY
NARRATIVES
ANALYSIS
HISTORY
EVENTS
POETRY
MUSIC
TEXT
FILM
ART

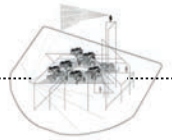
{THE VIRTUAL LANDSCAPE}

{REPRESENTATIONS OF THE VIRTUAL LAND
GRAPHICAL REPRESENTATION
POETRY
MUSIC
TEXT
FILM
ART

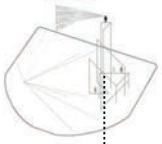
{PROCESS SUBJECTIVE TO AUTHOR'S VL}

Figure 98: Influence on Virtual Landscape process if this representation was to be materialised (Author, 2012).

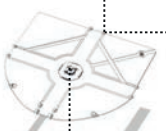
THE INCEPTION OF A PUBLIC PARK
A representation of the authors Virtual Landscape for Church Square



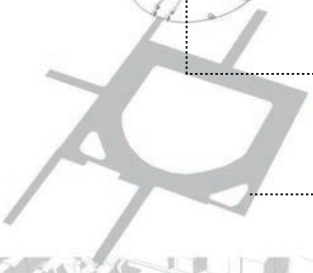
INTENTION: TO PROVIDE A PARK ABOVE THE SQUARE
Creating a vista to the city, providing a platform to view the Virtual Landscape of the author.
Provide needed open public space to the city.
Reinforce the idea of Church Square as prelude to the church.
Providing a platform for civic activity.



INTENTION: TO PROVIDE A VIEW OVER CHURCH SQUARE
Introduce the Z axis to the existing X Y axis.



EXISTING SQUARE

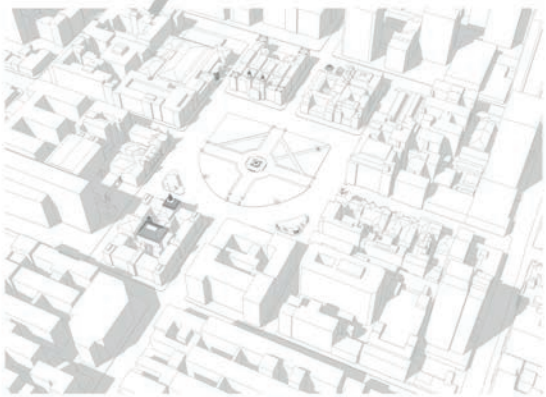


VEHICULAR CIRCULATION AREA

the shortage of

e, to function as

NEW AMENITIES INTRODUCED



. LANDSCAPE}
SENTATIONS

{MATERIAL LANDSCAPE}

{OBSERVER}

{habitué}

Figure 99: Author's representation of Virtual Landscape for Church Square (Author, 2012).

CHURCH SQUARE

In the Author's representation of his Virtual Landscape that exists for Church Square, the site on ground level reinstates the square as a prominent place in the city. The elevated park reveals views over the square and city, reinterpreting the viewing balconies of the buildings that surround the square. The park provides a wonderful resting place in the city, a place to ponder in, and a space to imagine in. The ground plane again a prelude to a significant structure. Gatherings of small groups of people collect under the park to share ideas, ideologies and opinions - a public platform for the city dweller's voice.

005

DESIGN INFORMANTS

TOWARDS THE MATERIAL LANDSCAPE

From the representation of the Author's Virtual Landscape for Church Square, valuable design informants can be deducted from the ex situ experience.

The origin of the square as prelude to the church now only exists in the name of the square. The square was never intended to act as a park, but was originally a civic space. Then current design acted as a platform for state propaganda, alienating the voice of the urban dweller. Due to the lack of spaces in the city to ponder and imagine, the square is now only utilised for recreation. The privatisation of the surrounding buildings edging the square, access to the public balconies is restricted.
As the square formally organised according to the cardo-decumanus grid, or X- and Y-axis, the opportunity exist to introduce the Z-axis.

005

FIRST DESIGN RESPONSE

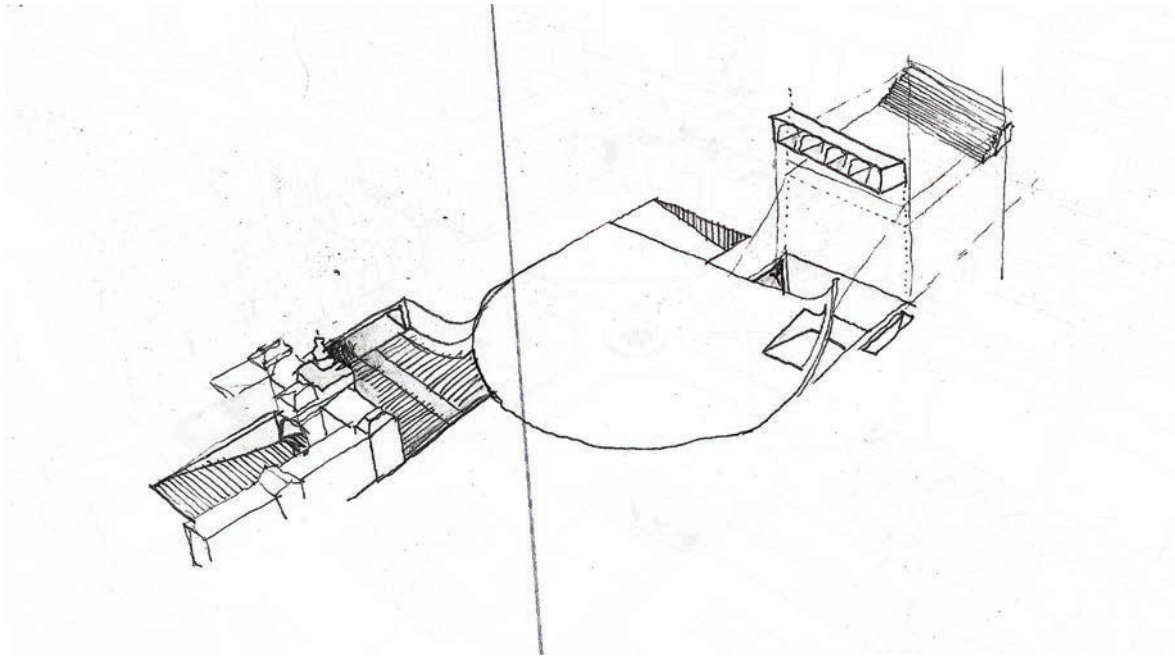
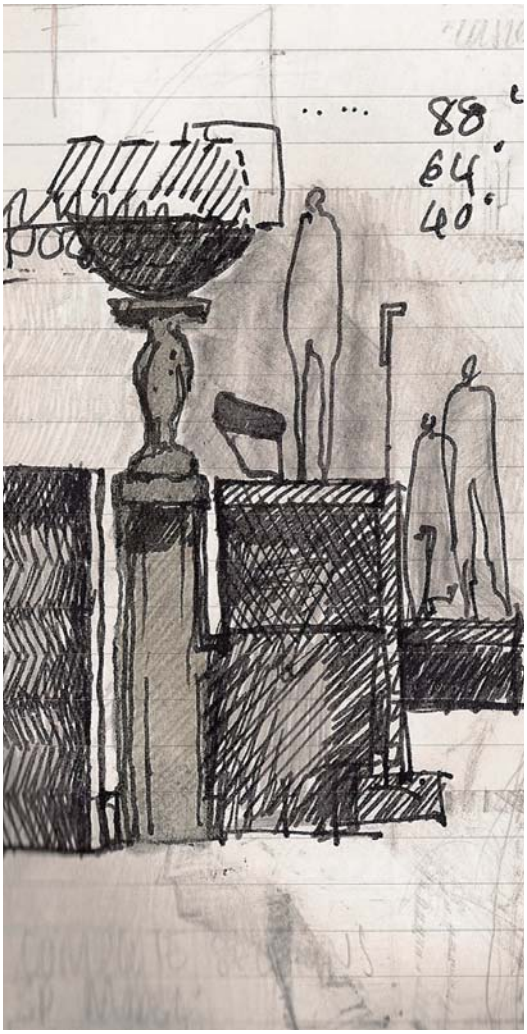


Figure 100: Conceptual drawing. Author's transition from representation to the material landscape (Author, 2012).

006

TECHNICAL INVESTIGATION



Movement

Ramps

The design aims to provide inclusive access across the site. The design aligns itself with the access guidelines provided by SANS 10400-S:2011 Edition 3, where the minimum slope is 1:12 with a maximum vertical rise of 500 mm between landings. The design optimises the ramp accessibility by adopting a 1:15 gradient on all ramps with minimum 1200 mm maximum ramp lengths of 15 meters between landings.

Steps

Stairs are used throughout the design as a vertical connection between the surface areas of the square to the submersed intimate spaces. On the northeast edge of the square, stairs are used to become an extension of the buildings, as background to the sunken garden, and access to the space. On the south-western edge of the square, stairs are used as a design element revealing the user into the space. Finally, the stairs are the connection to the underground intimate reflection space to lead the user to the viewing tower.

All steps are compliant to SANS 10400 where no step riser shall exceed 200 mm, and no tread will be less than 250 mm.

Figure 116: Conceptual drawing. Investigating unique experiences introduced by level changes in the square (Author, 2012).

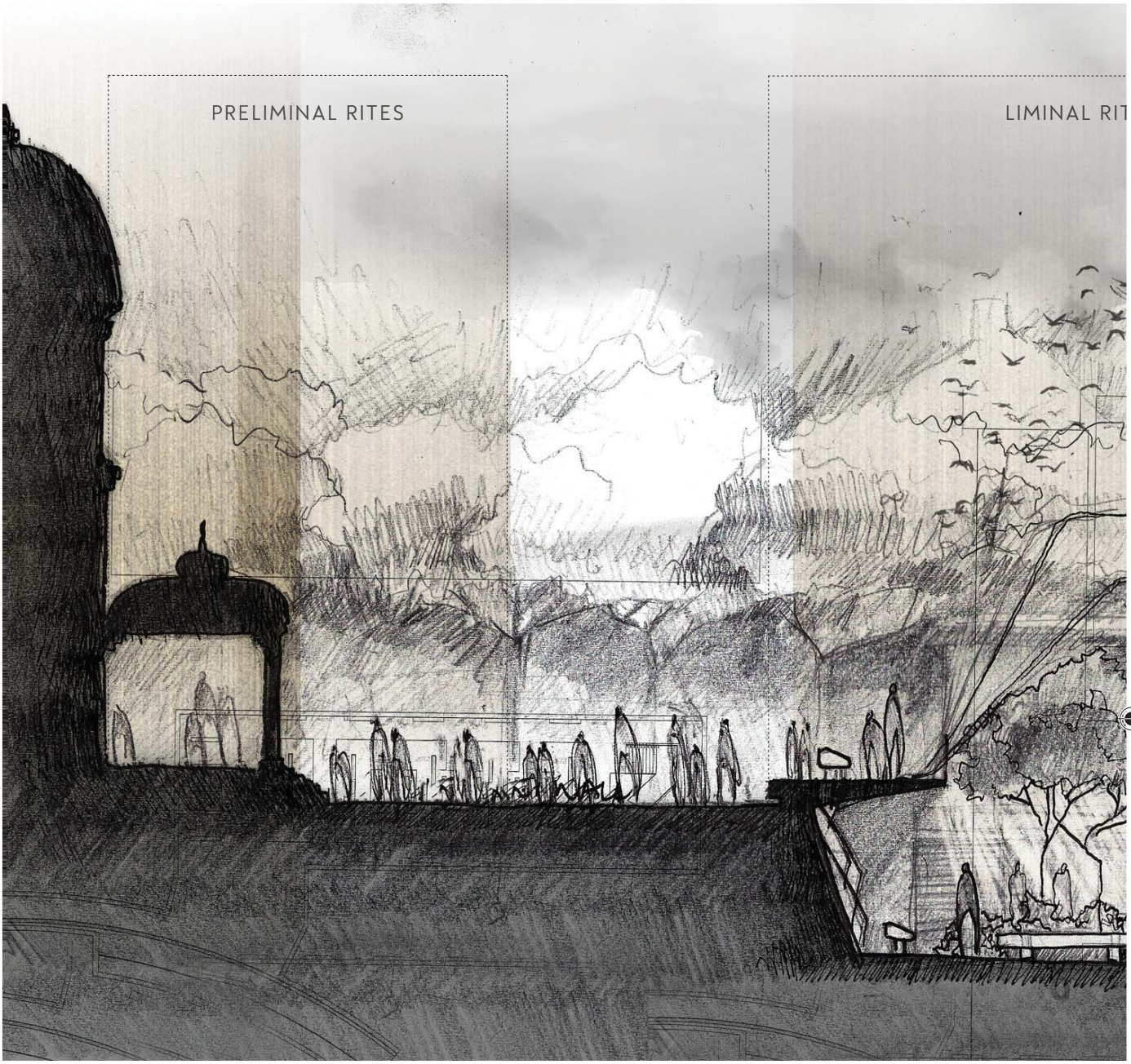


Figure 117: Conceptual drawing. Influence of liminal theory on second design response (Author, 2012).

ROUTE

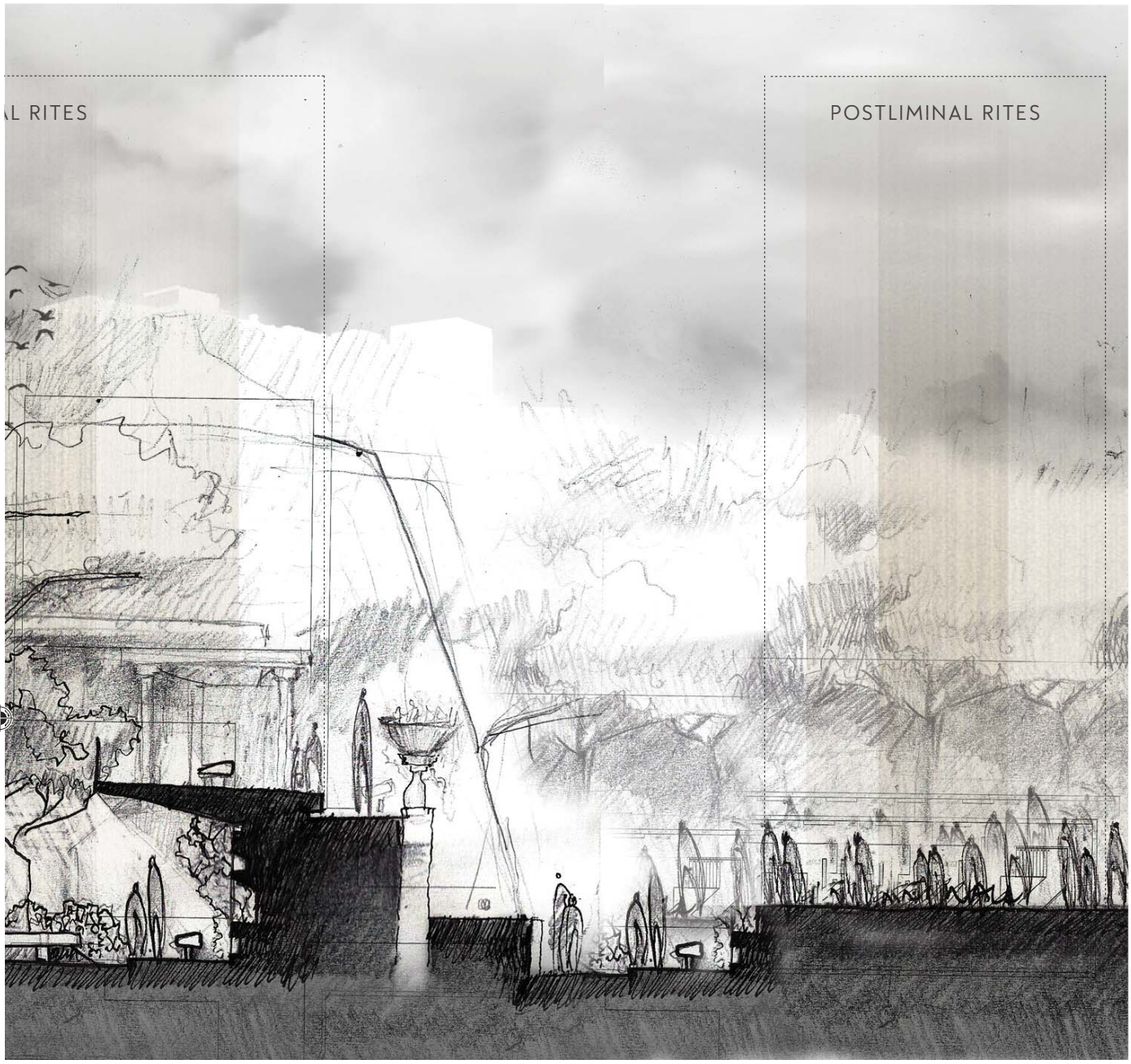
The route is set out to lead the landscape user to the newly introduced landscape spaces in the square and to increase the awareness of the virtual landscape. The route is guided, complemented by routes and ramps that lead into these spaces, enforced by material selection.

Material Selection

The induction of liminal space. Liminal space exists where boundaries dissolve, the in-between space, or transformation between phases where one is separated from one place, but not yet reincorporated within another. A marginal or transitional state, a period of ambiguity. For Gennep, *"liminal or threshold world is a space between the world of status that the person is leaving and the world of status into which the person is being inducted.* (Gennep 1977: 21).

The appropriation of liminal space in Church Square becomes relevant as liminal space is a three-fold structure:

1. Preliminal rites / rites of separation: This stage involves the leaving behind of something, or the breaking away. Breaking away from a previous practice of routine.



2. Liminal rites / transition rites: The creation of tabula rasa, of which two characteristics are essential:
a. The first rite must follow a strictly prescribed sequence where everyone knows what to do.
b. The nature of this rite allows for considerable changes to be made to the identity of the initiand.
3. Postlimial rites / rites of incorporation: The final stage introduces the initiand, this rite re-incorporated society into a new identity, as a new being.

The design process of Church Square incorporates the liminal structure:
1. Preliminal rites: The existing building around the square.
2. Liminal rites: The road reserve reconceptualised as a pedestrian edge, thus changing the identity of the space, but still using the space for movement around the square.
3. Postliminal rites: The new identity of the square, introducing the void that connects the user to the virtual landscape. (Gennep 1977)

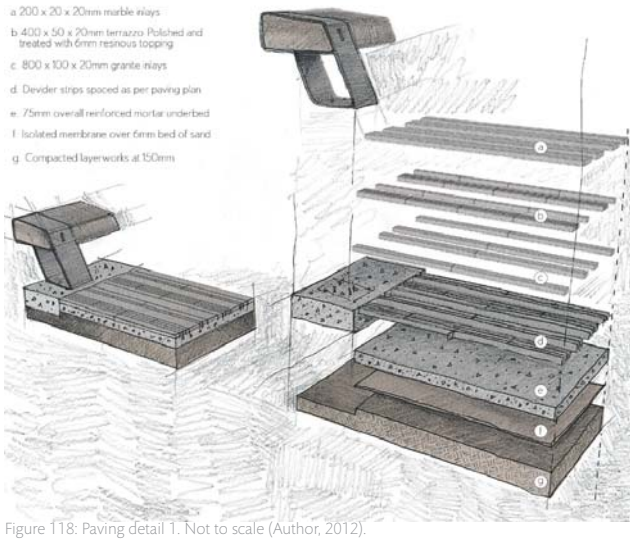


Figure 118: Paving detail 1. Not to scale (Author, 2012).

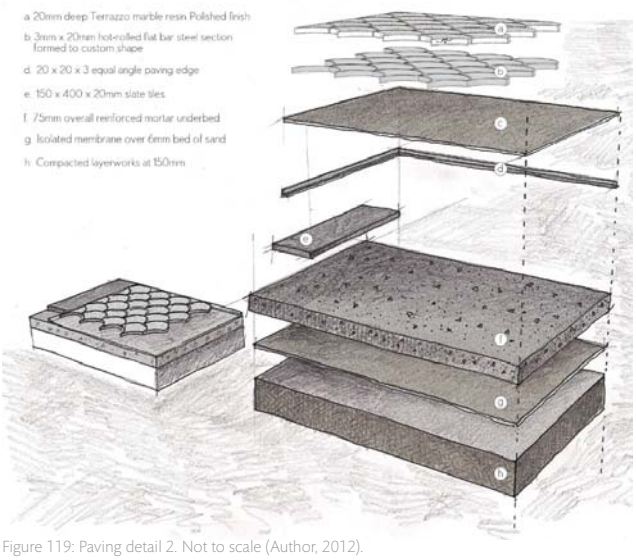


Figure 119: Paving detail 2. Not to scale (Author, 2012).

THE HORIZONTAL SURFACE PLANE

The square on street level is divided into unique parts to formally guide the user.

Between the edge of the buildings and acting as the backdrop to the stage (*the void to the virtual landscape and the habitué parc*), the buildings are provided with a generous edge of black slate. Traces of slate around the existing buildings can be seen where they are not covered by tar due to renovations around the buildings to accommodate the existing road. Where possible, slate tiles will be salvaged around the buildings and from current developments removing granite from the street edge akin to the ABSA building renovation which is currently underway in Pretoria. Slate tiles are also utilised throughout the project on the surface plane to connect elements and spaces in the square.

HABITUÉ PARC

Although an actual park could not be accommodated within the road reserve, the idea of a park is introduced on various edges. On the surface plane, the Habitué Parc is enforced by the surface treatment of Venetian terrazzo set in copper moulds edged with slate tiles, exposed fine aggregate concrete slabs and burgundy piazza pavers in herringbone pattern. Granite and marble strips edged with galvanised

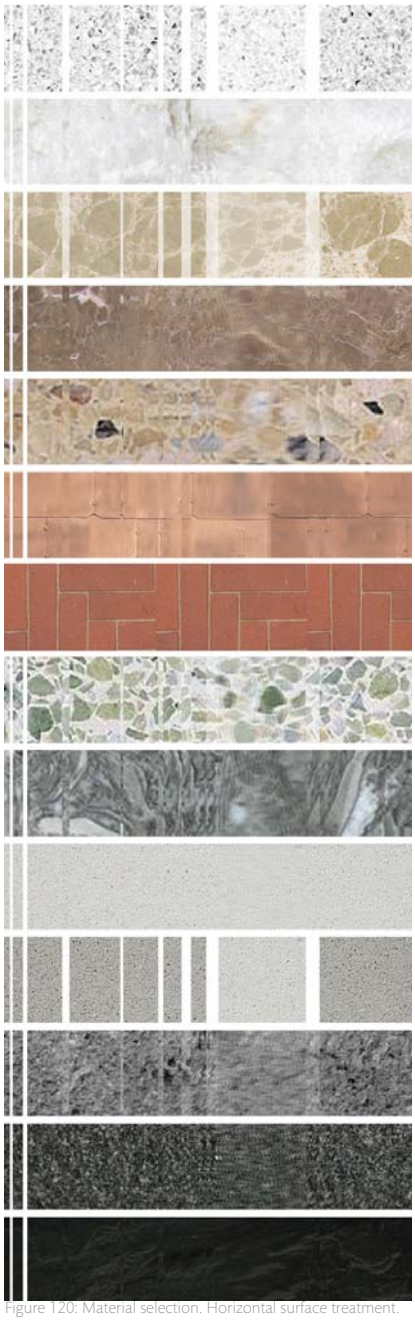


Figure 120: Material selection. Horizontal surface treatment.

Figure 111: Raadsaal clock tower. Photographed by Author (2012).

Figure 112: Raadsaal courtyard. Photographed by Author (2012).

Figure 121: Behind SA tourism. Photographed by Author (2012).

Figure 122: Church Square, view to south. Photographed by Author (2012).

steel is also used to replicate the interior foyers of the intricate flooring detail of the surrounding buildings, especially the Palace of Justice, reinforcing the idea to act as public interfaces for these buildings.

TRANSITION BETWEEN HABITUÉ PARC AND THE VOID

The transition between the two spaces is articulated using exposed fine aggregate concrete with carbon black colouring within the mixture to provide a dark grey finish to the surface. The dark finish is to complement the surrounding slate floor finish around the buildings, introducing the void and contrast the water element.

WATER ELEMENT

In order to achieve a reflective surface in the square, the water element is constructed from exposed fine aggregate quarts and glass, adhered to SANS 1200G, with 10% white titanium dioxide and ultra waterproof concrete admixture to the concrete.

Figure 123: Material selection. Vertical surface treatment.

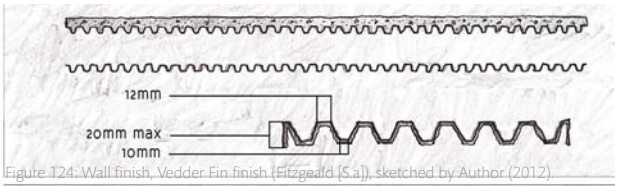


Figure 124: Wall finish, Vedder Fin finish (Fitzgeald [S.a]), sketched by Author (2012).

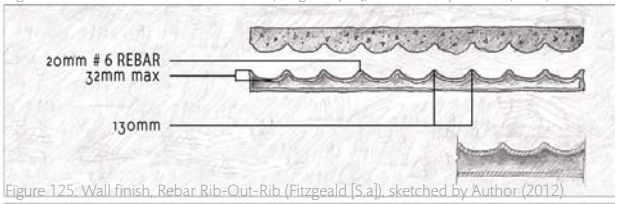


Figure 125: Wall finish, Rebar Rib-Out-Rib (Fitzgeald [S.a]), sketched by Author (2012).

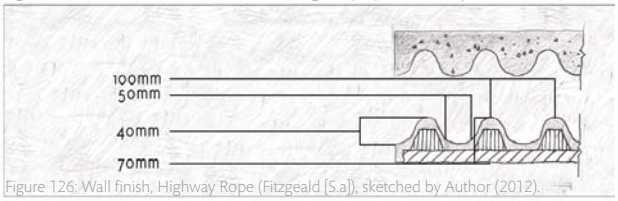


Figure 126: Wall finish, Highway Rope (Fitzgeald [S.a]), sketched by Author (2012).

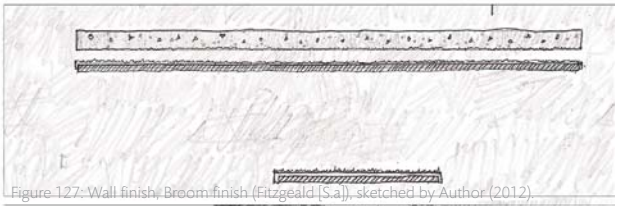


Figure 127: Wall finish, Broom finish (Fitzgeald [S.a]), sketched by Author (2012).

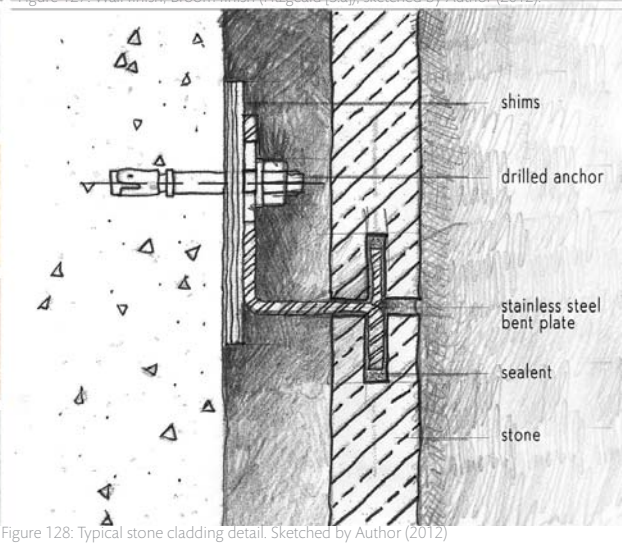


Figure 128: Typical stone cladding detail. Sketched by Author (2012)

THE VERTICAL SURFACE PLANE

The investigation into the vertical surface plane was to address and enhance both tactile the visual experience of the submerged spaces. Formally they can be categorised into distinct individual planes of experiences.

VERTICAL MORPHESIS

Textured wall finishes, utilising textured form liners, are used to provide vertical surfaces to change during the day. A surface that changes, utilising shadows casted on the vertical surfaces, allowing a visual and tactile surface for a user to interact with.

Vertical planes which include planting niches add to the adaption of the wall to a living structure that changes over time, accommodating a new experience every time a user visits the site. The planted walls become an upright extension of the Habitué Parc.

REFLECTIVE VERTICAL SURFACE

Marble cladding on vertical planes are utilised as reflective surfaces to bring natural light into the Habitué Parc and underground passageways.

Figure 129: Wall finish by Rachel Dein (2012). Photographed by Gerard Wiseman (2012).

Figure 130: Wall finish by Rachel Dein (2012). Photographed by Gerard Wiseman (2012).

Figure 131: Wall finish by Rachel Dein (2012). Photographed by Gerard Wiseman (2012).

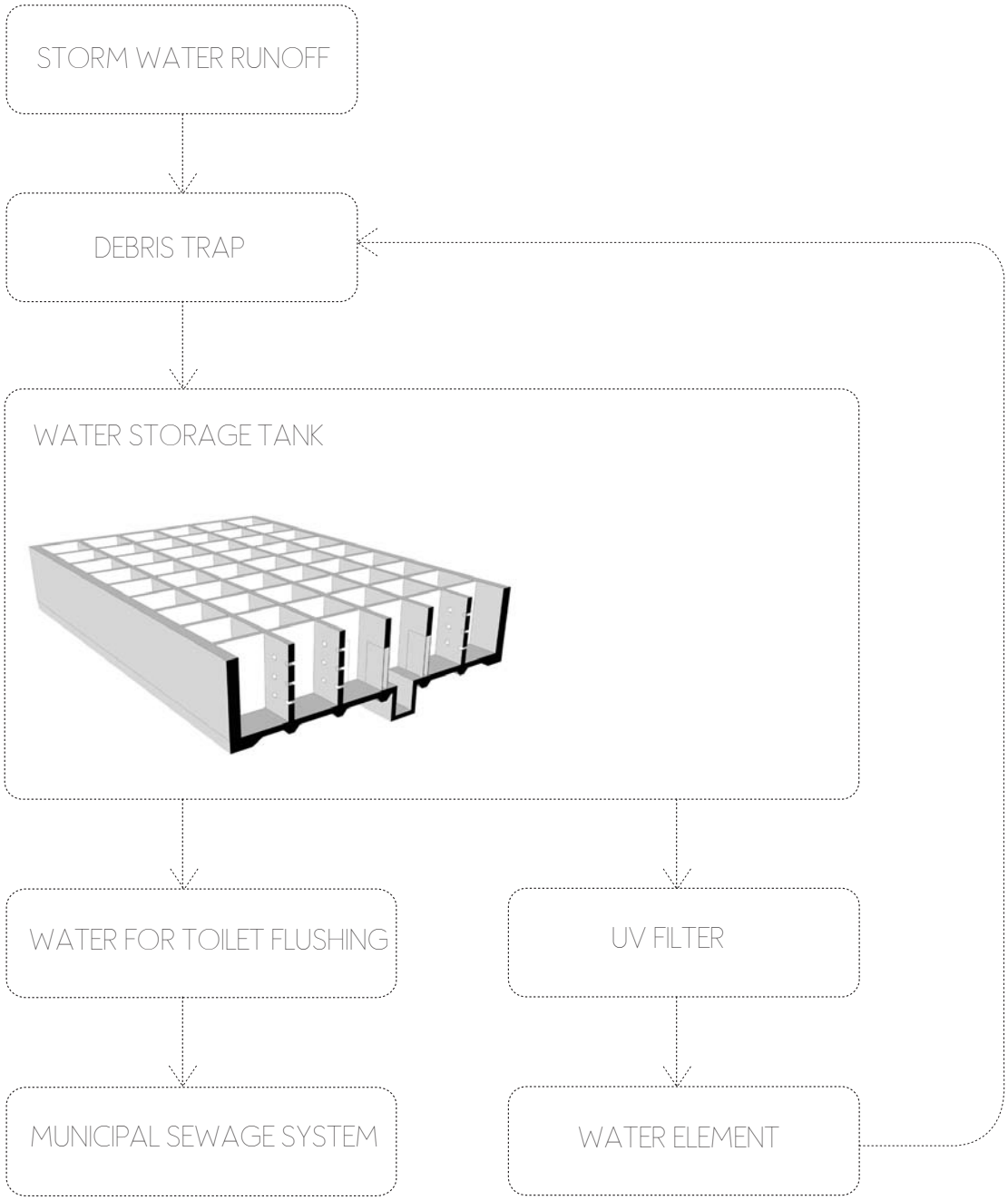


Figure 132: Water strategy diagram (Author, 2012).

SIZING WATER STORAGE TANKS

Catchment = 7354 m²
C = 0,7
Effective catchment = 5147,8 m²

Waterfeature 1 water requirements

	(section area)	4,6	m²
	(radius)	18	m
	Total	82,8	m³
	Dead Water	82,8	m³
	Total	165,6	m³
Waterfeature Evaporation Rate	Area	1595	m²
Max Water Evaporation	5mm per day	0,005	m
	Total per day	7,975	m³
	Total per month	247,225	m³

Year 1 starting with no top-up

	RAINFALL m	IN m³	EVAPORATION OUT m³	REMAINING IN TANK m³
J	0,136	**700,10**	247,23	452,87
		0,00		
F	0,075	386,09	247,23	591,73
		838,96		
M	0,082	422,12	247,23	766,62
		1013,85		
A	0,051	262,54	247,23	781,92
		1029,15		
M	0,013	66,92	247,23	601,61
		848,84		
J	0,007	36,03	247,23	390,42
		637,65		
J	0,003	15,44	247,23	158,63
		405,86		
A	0,006	30,89	247,23	-57,71
		189,52		
S	0,022	113,25	247,23	-191,69
		55,54		
O	0,071	365,49	247,23	-73,43
		173,80		
N	0,098	504,48	247,23	183,83
		431,06		
D	0,11	566,26	247,23	502,86
		750,09		

equals maximum tank size required

Year 2 starting with left over from Year 1

IN m³	EVAPORATION OUT m³	REMAINING IN TANK m³
700,10	247,23	955,73
1202,96		
386,09	247,23	1094,58
1341,81		
422,12	247,23	1269,47
1516,70		
262,54	247,23	1284,78
1532,01		
66,92	247,23	1104,47
1351,70		
36,03	247,23	893,28
1140,51		
15,44	247,23	661,49
908,72		
30,89	247,23	445,15
692,38		
113,25	247,23	311,17
558,40		
365,49	247,23	429,43
676,66		
504,48	247,23	686,69
933,92		
566,26	247,23	1005,71
1252,94		

Year 1 starting with 165,6m³ top-up and wasting excess water as year progresses

IN m³	EVAPORATION OUT m³	WASTE OUT m³	TOTAL OUT m³	REMAINING IN TANK m³
865,70	247,23	0,00	247,23	618,47
0,00				
386,09	247,23	0,00	247,23	757,33
1004,56				
422,12	247,23	0,00	247,23	932,22
1179,45				
262,54	247,23	0,00	247,23	947,52
1194,75				
66,92	247,23	0,00	247,23	767,21
1014,44				
36,03	247,23	0,00	247,23	556,02
803,25				
15,44	247,23	0,00	247,23	324,23
571,46				
30,89	247,23	0,00	247,23	107,89
355,12				
113,25	247,23	0,00	247,23	-26,09
221,14				
365,49	247,23	0,00	247,23	92,17
339,40				
504,48	247,23	0,00	180,00	416,66
596,66				
566,26	247,23	0,00	200,00	782,92
982,92				

Assume 5 days early Jan without rain: 5 days @ 3.4m³/day
equals 17m³ minimum reserve

Year 2 starting with 165,6m³ top-up and wasting excess water as year progresses

IN m³	EVAPORATION OUT m³	WASTE OUT m³	TOTAL OUT m³
1200,00	247,23	0,00	247,23
0,00			
386,09	247,23	0,00	247,23
1338,86			
422,12	247,23	0,00	247,23
1513,75			
262,54	247,23	0,00	247,23
1529,05			
66,92	247,23	0,00	247,23
1348,74			
36,03	247,23	0,00	247,23
1137,55			
15,44	247,23	0,00	247,23
905,76			
30,89	247,23	0,00	247,23
689,42			
113,25	247,23	0,00	247,23
555,44			
365,49	247,23	0,00	247,23
673,70			
504,48	247,23	0,00	180,00
930,96			
566,26	247,23	0,00	200,00
1317,22			

Assume 5 days early Jan without rain: 5 days @ 3.4m
equals 17m³ minimum reserve

Figure 133: Sizing water storage tank (Vosloo, 2012), adapted by Author (2012).

WATER STRATEGY

The aim of the project is to utilise storm water collected on site. In order to provide an adequate water storage facility, a water budget will facilitate in calculating the available water to be harvested against the water required . Water will be collected through surface runoff through grating, collecting debris that may have collected, into water channels that leads to a submersible tank. The water is then pumped by the submersible pump, through a UV filter and pumped to the water element.

From the water budget calculation table, the required size tank needs to be able to hold 1516.7 m3 of water. This will suffice the need for the water element and the excess required for the water loss due to evaporation. Excess water acquired will be stored in a submerged water storage tank on the north-eastern edge, supplementing municipalr4l water to flush the toilets located in close proximity.

Planting strategy

The planting strategy is derived from the natural surrounding area around the city of Pretoria to make awareness of different communities within the scope of the larger whole. Thus the plating design would result in larger species diversity, and encourage awareness of the natural surroundings of Pretoria.

In order to refine the planting palate, a list of specie composition of model communities is defined:

Large Trees
1. Celtis Africana
2. Harpephyllum caffrum
3. Burkea africana
4. Dombeya rotundifolia
5. Combretum molle
6. Englerophytum magalismontanum
7. Searsia leptodictya
8. Searsia lancea
9. Ficus abutilifolia
10. Euphorbia cooperI
11. Ochna pulchra

Smaller Trees
12. Ochna pretoriensis
13. Nuxia congesta
14. Dombeya pulchra
15. Lannea discolor

Tall Shrubs:
16. Asparagus cooperi
17. Asparagus laricinus
18. Olea europaea
19. Barleria albostellata
20. Asparagus suaveolens

Low shrubs:
21. Searsia magalismontana subsp. Magalismontana
22. Kalanchoe rotundifolia
23. Canthium gilfillanii

Woody Climber:
24. Sarcostemma viminale

Graminoids:
25. Xerophyta retinervis
26. Dianthus mooiensis

Geophytic Herbs:
27. Selaginella dregei
28. Pellaea calomelanos

Other:
29. Ledebouria revoluta
30. Sansevieria aethiopica
31. Senecio barbertonicus
32. Unidentified shrub

According to Mucina & Rutherford (2006), above-mentioned species are commonly found along the ridges of Gauteng. The classification of veld-types and communities rely on the presence of indicator species, which directly reveal facts about the environmental conditions of these koppies.

The above species are recorded in the following vegetation types. Although these classifications apply directly to the site, species compositions overlap and become ambiguous in some circumstances.

Class SVcb 9 Gold Reef Mountain Bushveld - Vegetation and landscape features:
"Rocky hills and ridges often east-west trending with more dense woody vegetation often on the south-facing slopes associated with distinct floristic differences (e.g. preponderance of Acacia caffra on the southern slopes). Tree cover elsewhere is variable. Tree and shrub layers are often continuous. Herbaceous layer is dominated by grasses."

Identified species named as important taxa of this class include:
4. Dombeya rotundifolia
5. Combretum molle
6. Englerophytum magalismontanum
7. Searsia leptodictya
12. Ochna pretoriensis
21. Searsia magalismontana subsp. Magalismontana
25. Xerophyta retinervis
33. Pellaea calomelanos

The absence of species like Aloe greatheadii, Protea caffra, Acacia thickets, Cussonia spicata, and many others sets this ridge apart from otherwise similar ridges in the area.

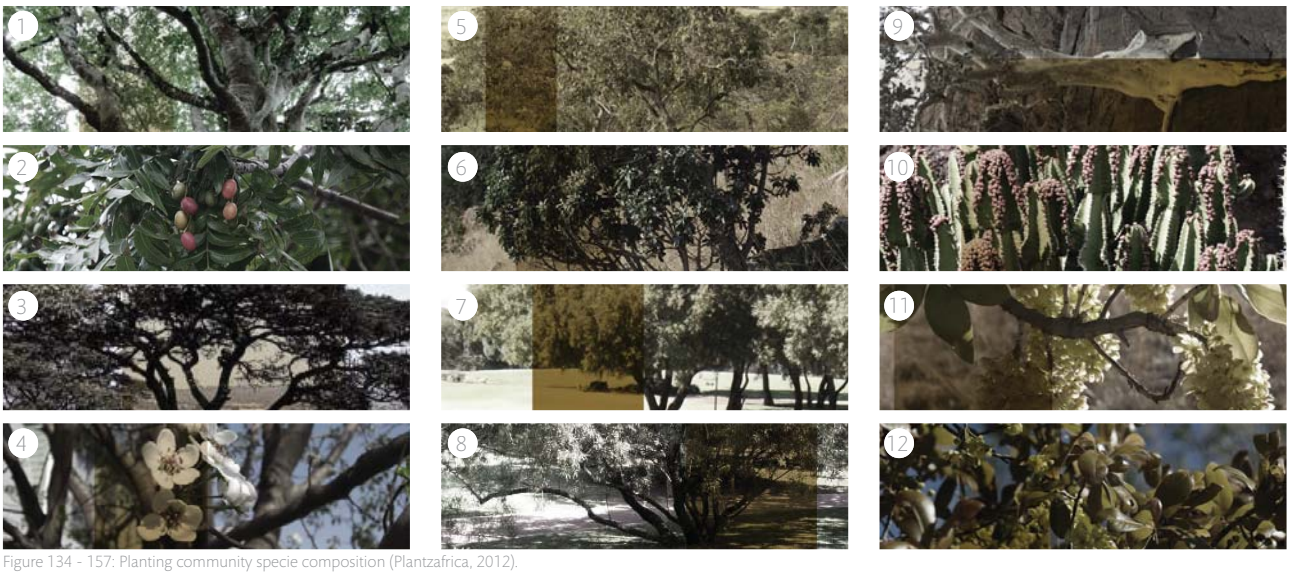


Figure 134 - 157: Planting community specie composition (Plantzafrica, 2012).

Class SVcb 10 Gauteng Shale Mountain Bushveld - Vegetation and landscape features:
"Low, broken ridges varying in steepness and with high surface rock cover vegetation is a short (3 – 6 m tall), semi-open thicket dominated by a variety of woody species including Acacia caffra, Rhus leptodictya, R. Magalismontana ... The understory is dominated by a variety of grasses..."

Identified species named as important taxa of this class include:
4. Dombeya rotundifolia
5. Combretum molle
6. Englerophytum magalismontanum
7. Searsia leptodictya
17. Asparagus laricinus
18. Olea europaea
21. Searsia magalismontana subsp. Magalismontana
22. Kalanchoe rotundifolia
25. Xerophyta retinervis
32. Selaginella dregei
33. Pellaea calomelanos

Species exist in three different instances on the investigated site. Refer Figure ii.

1.Exposed Rocky Conditions:
These species grow in very little/ shallow soil, extreme exposure to sunlight and residual heat from rocks.
Small Trees:
3. Burkea Africana (Small specimens on edges)
6. Englerophytum magalismontanum
12. Ochna pretoriensis
Low Shrubs:
21. Searsia magalismontana
Other:
22. Kalanchoe rotundifolia
32. Selaginella dregei
33. Pellaea calomelanos
35. Sansevieria aethiopica
36. Senecio barbertonicus

2.Western Woody Thicket
Medium rocky areas with slightly deeper soils. Lightly shaded positions for smaller plants.
Large Trees:
9. Ficus abutilifolia
Small trees
3. Burkea africana
4. Dombeya rotundifolia
5. Combretum molle
6. Englerophytum magalismontanum
12. Ochna pretoriensis
13. Nuxia congesta
15. Lannea discolor
Tall Shrubs:
7. Searsia leptodictya
11. Ochna pulchra
18. Olea europaea
Low Shrubs:
19. Barleria albostellata
Other:
22. Kalanchoe rotundifolia
25. Xerophyta rinervis
33. Pellaea calomelanos
35. Sansevieria aethiopica
36. Senecio barbertonicus

3.Eastern Woody Thicket
Very little surface rocks visible. Larger trees occur, thus deeper soils.

Larger Trees:
1. Celtis Africana
2. Harpephyllum caffrum
3. Burkea Africana
4. Dombeya rotundifolia
7. Searsia lancea
8. Searsia leptodictya
11. Ochna pulchra
13. Nuxia congesta
Tall Shrubs:
15. Lannea discolor
16. Asparagus cooperi
17. Asparagus laricinus
23. Canthium gilfillanii
Other:
22. Kalanchoe rotundifolia
33. Pellaea calomelanos
34. Ledebouria revoluta
35. Sansevieria aethiopica

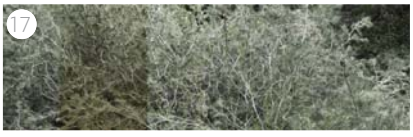
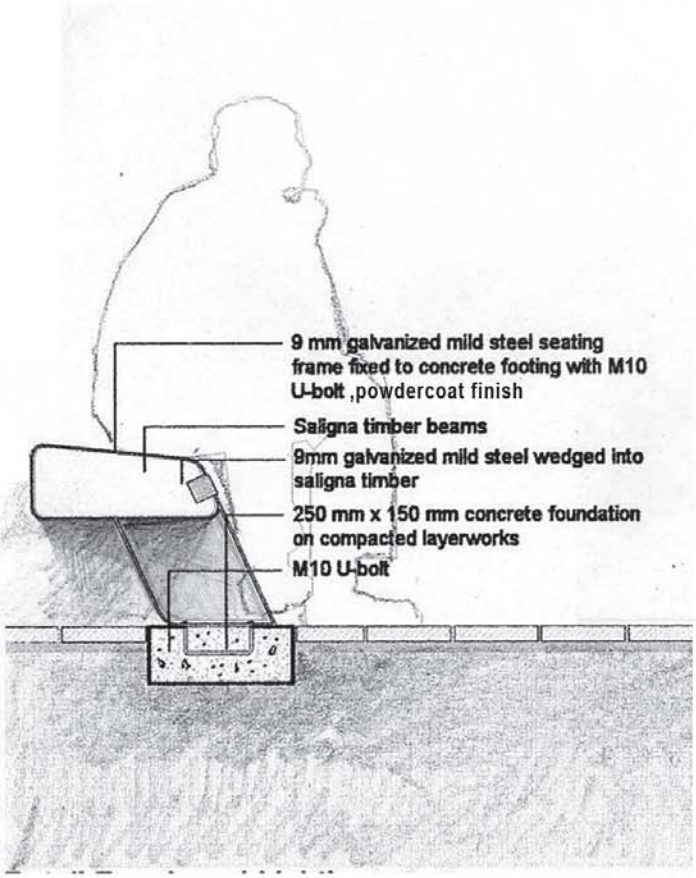
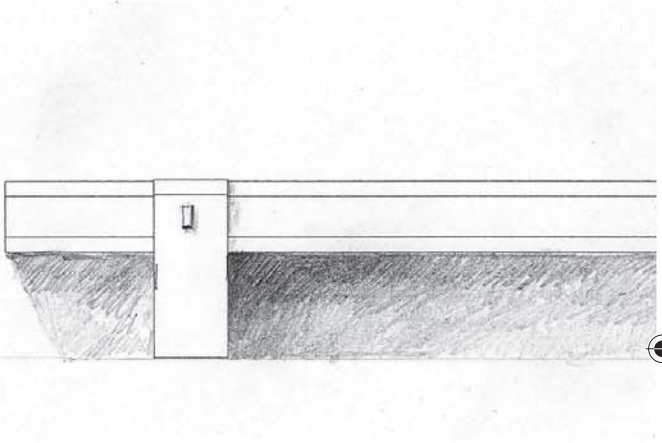


Figure 158: Concept drawing. Planting areas (Author, 2012).

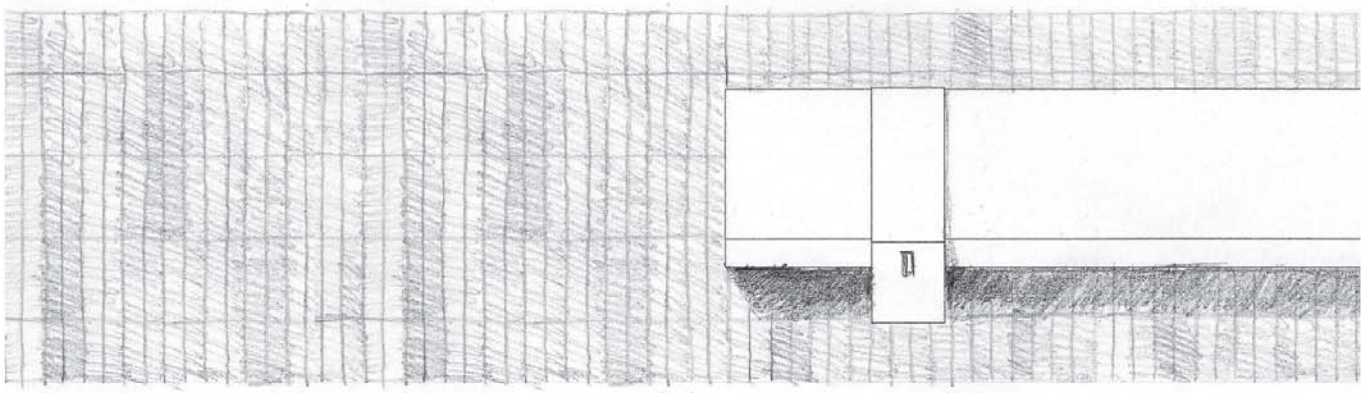
Figure 159: Concept drawing. Planting areas (Author, 2012).



Bench i section
not to scale



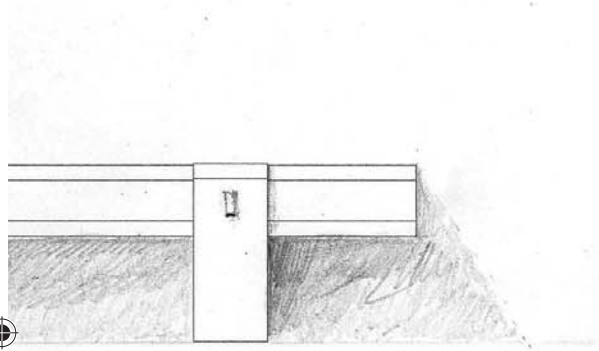
Bench i elevation
not to scale

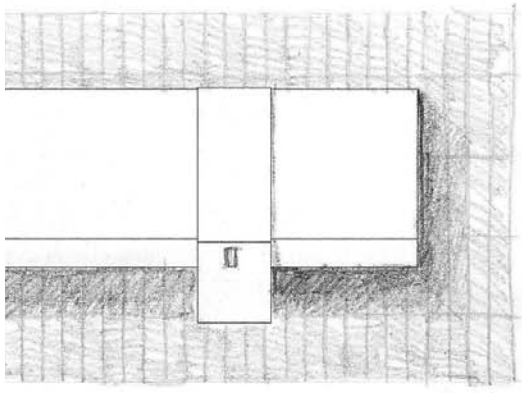


Bench i plan
not to scale

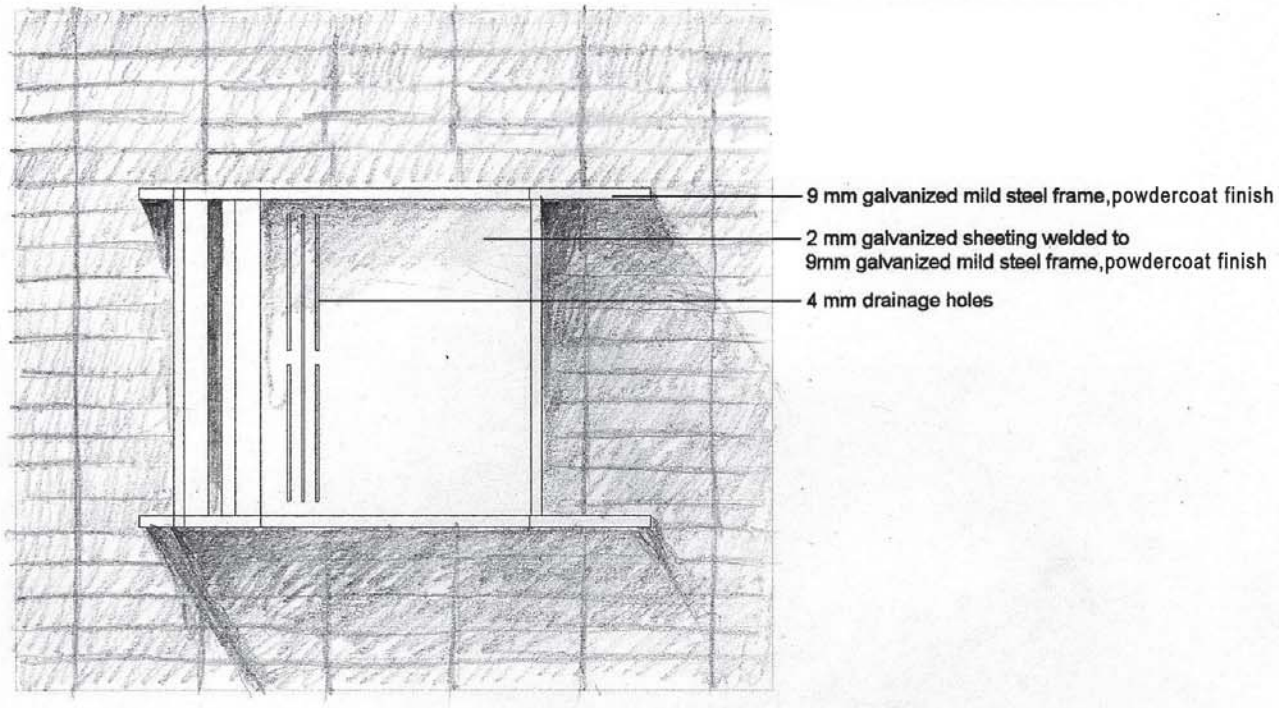
Figure 160: Street furniture. Bench (Author, 2012).

BENCH DETAIL

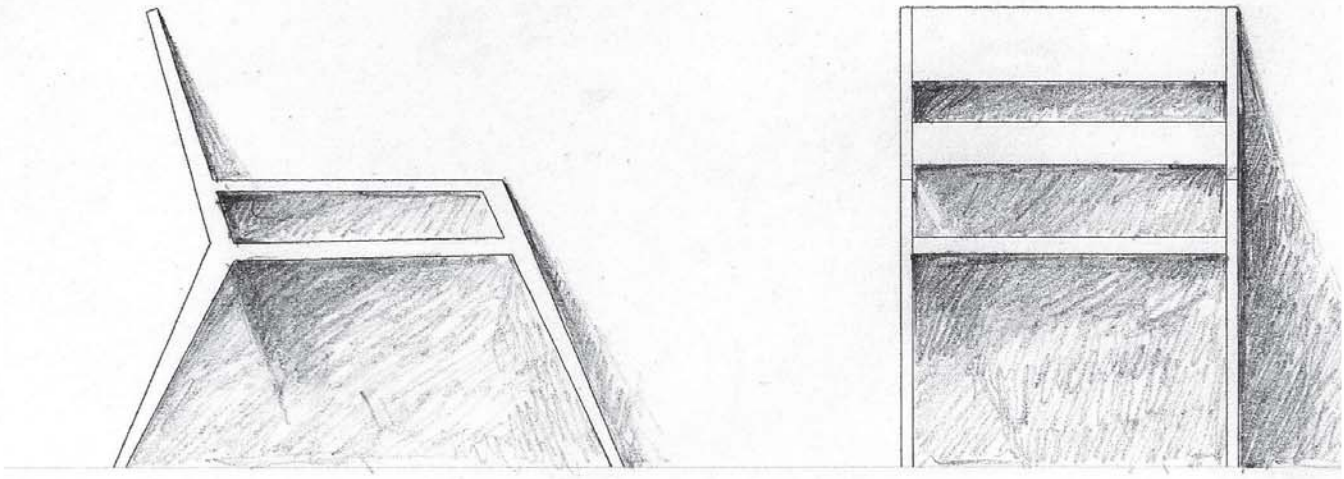




Bench i exploded view
not to scale



courtyard chair i plan
not to scale



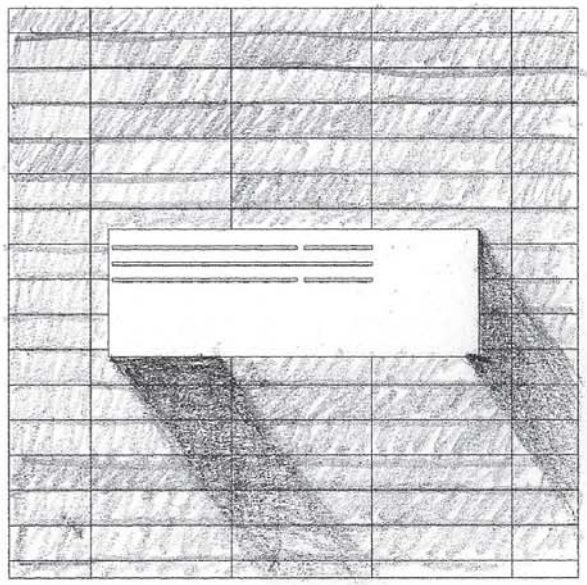
courtyard chair i side elevation
not to scale

courtyard chair i front elevation
not to scale

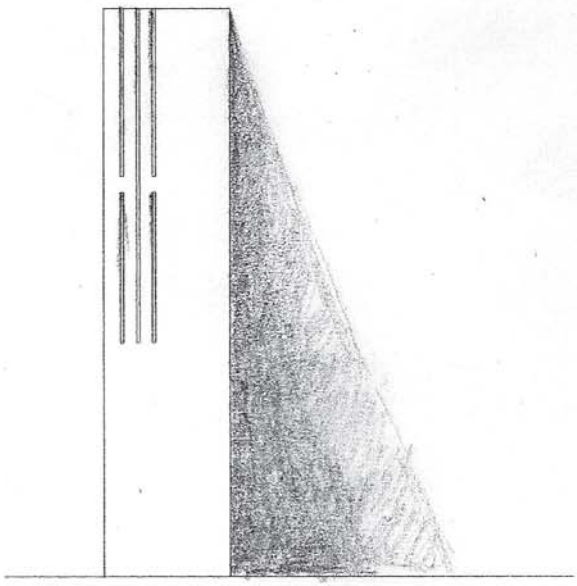
Figure 161: Street furniture. Courtyard chair (Author, 2012).

COURTYARD CHAIR DETAIL

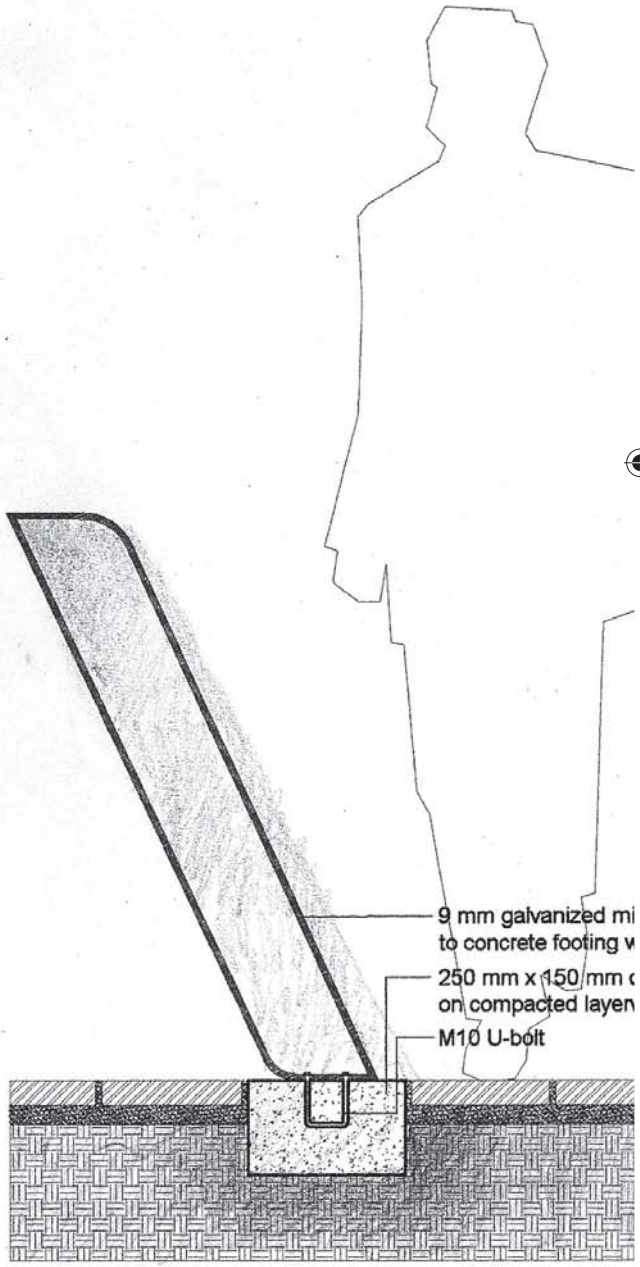
courtyard chair i 3d construction view
not to scale



bollard i plan
not to scale



bollard i elevation
not to scale

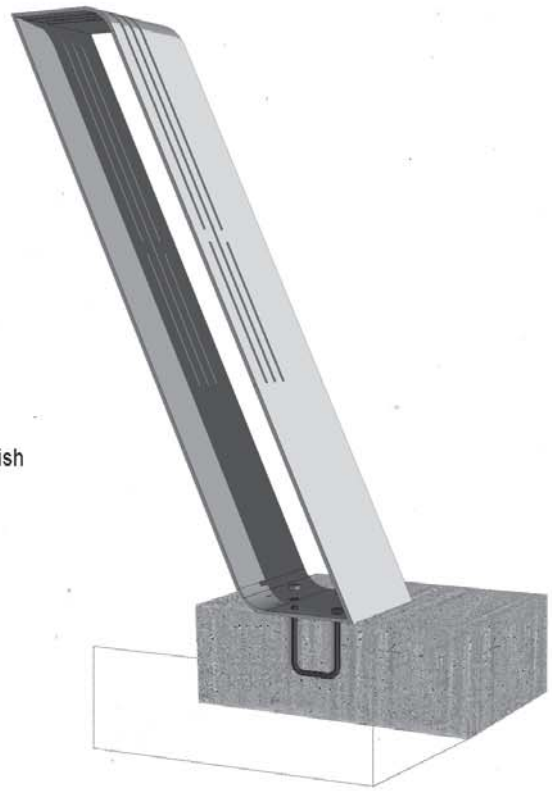


bollard i section
not to scale

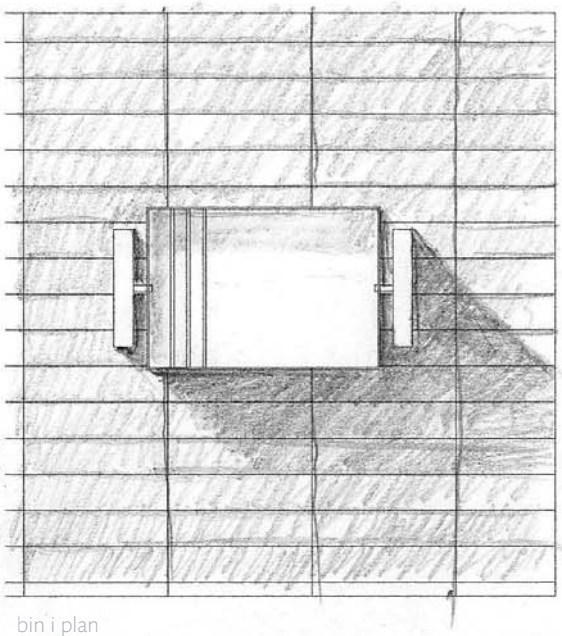
Figure 162: Street furniture. Bollard (Author, 2012).

BOLLARD DETAIL

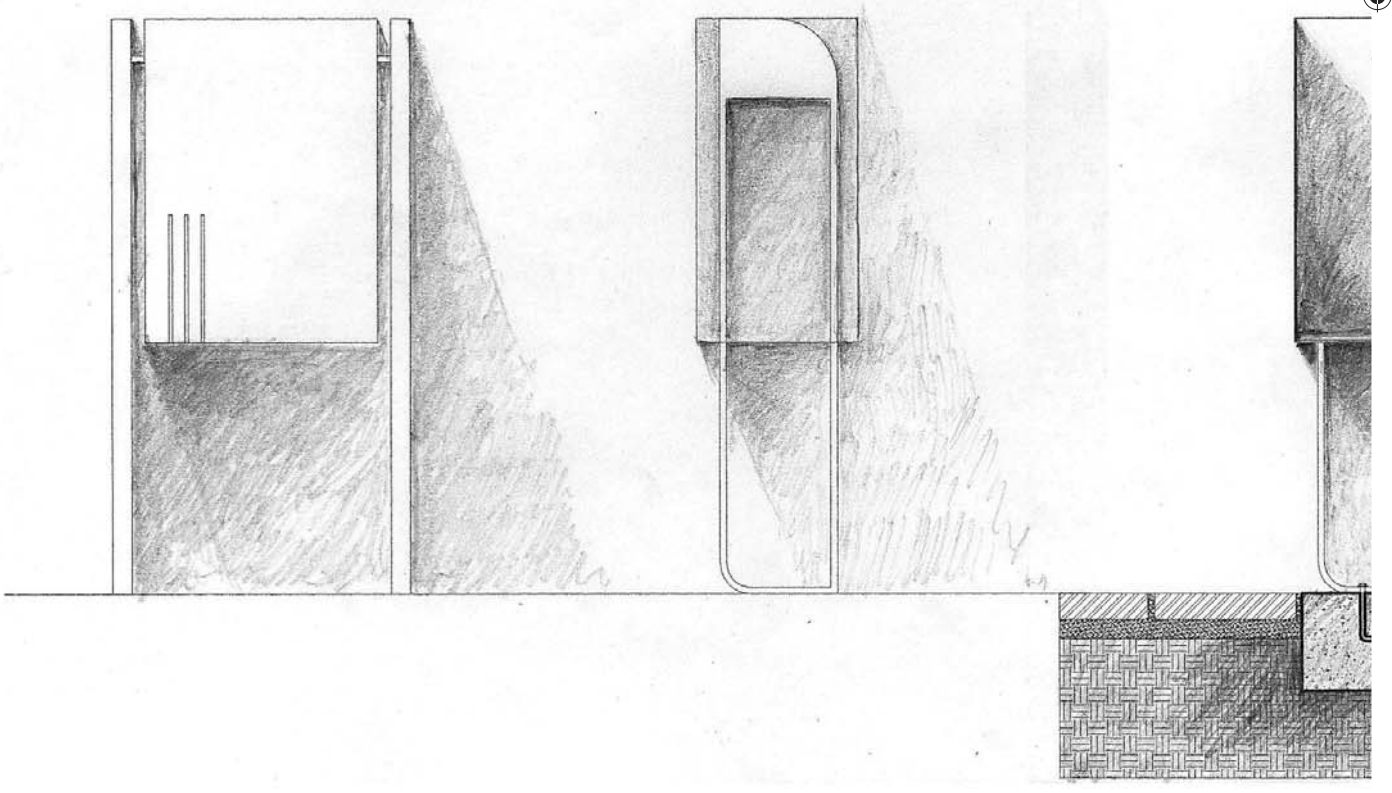
zed mild steel bollard fixed
oting with M10 U-bolt,powdercoat finish
) mm concrete foundation
l layerworks



bollard i 3d construction view
not to scale



bin i plan
not to scale



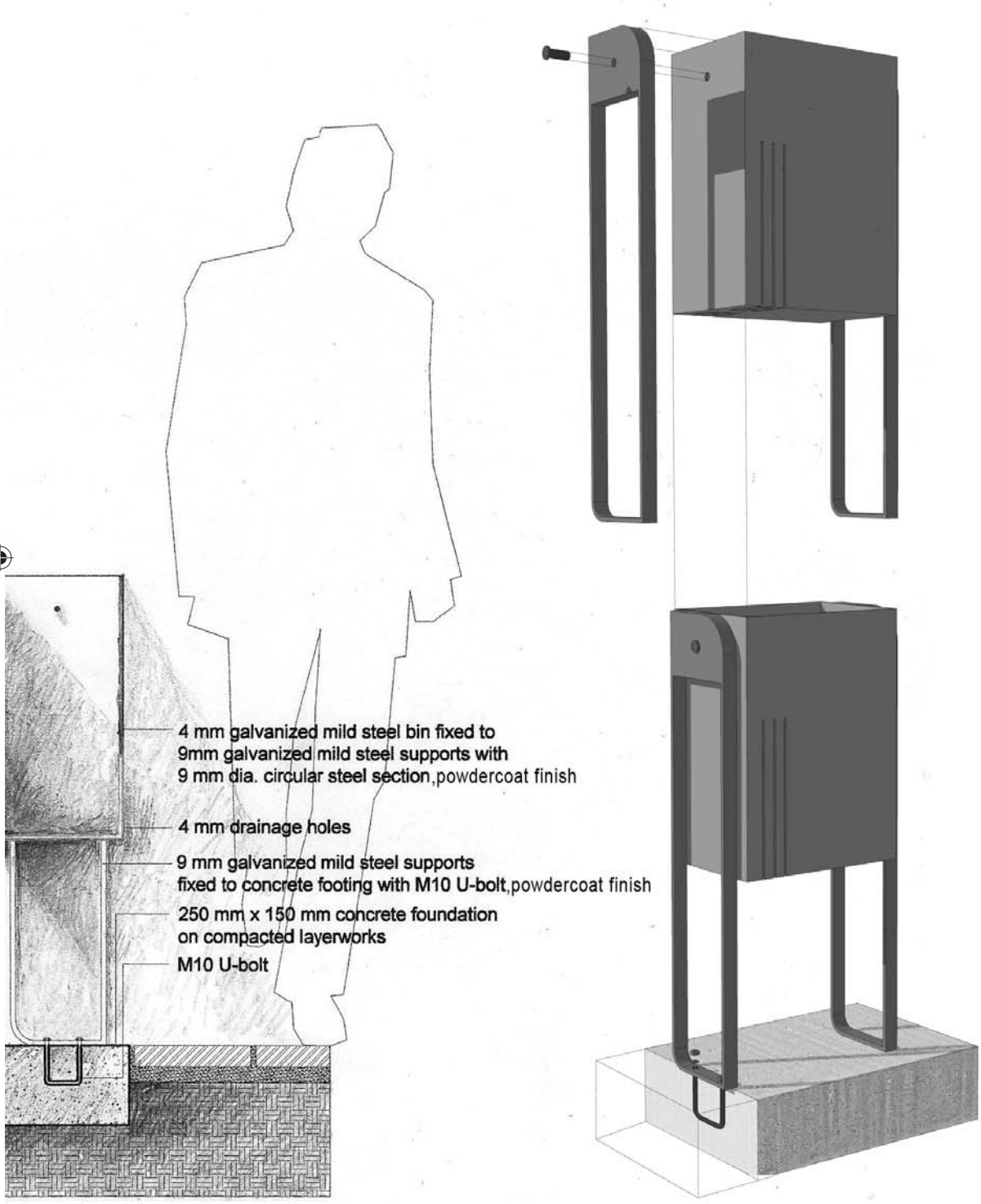
bin front i elevation
not to scale

bin front i side elevation
not to scale

Bin i section
not to scale

Figure 163: Street furniture. Bin (Author, 2012).

BIN DETAIL



bin i exploded construction view
not to scale

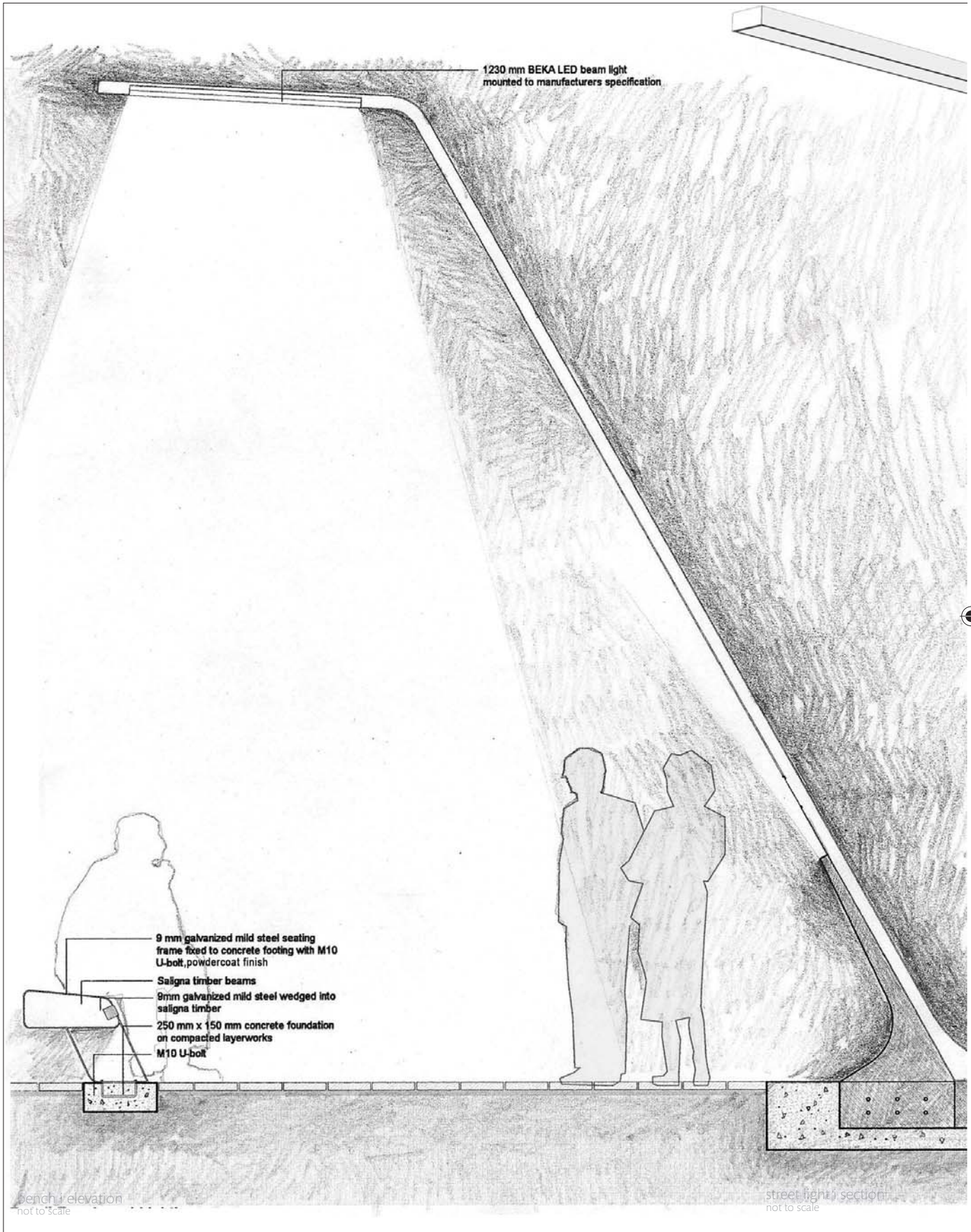
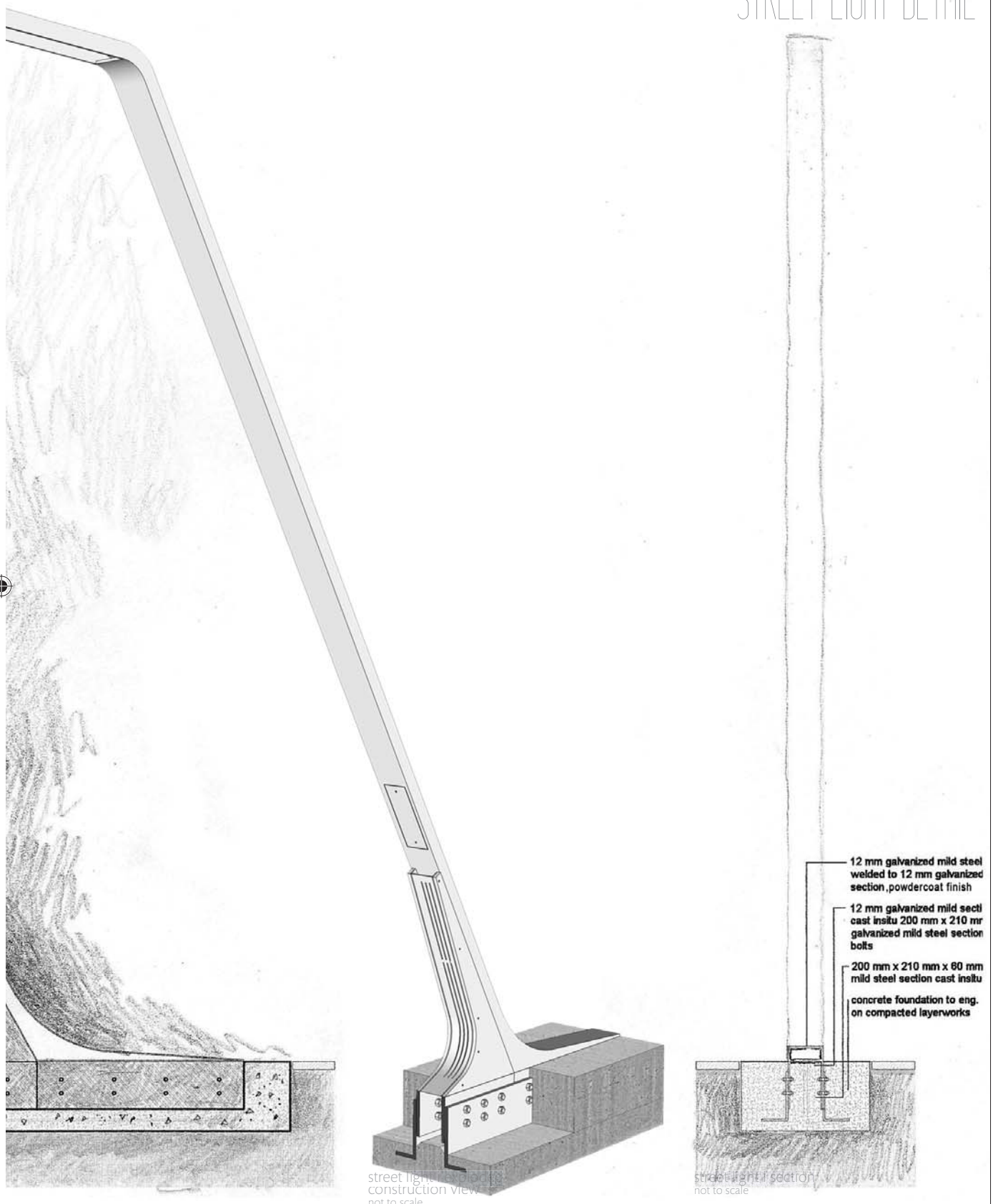


Figure 164: Street furniture. Bench and Street light (Author, 2012).

STREET LIGHT DETAIL



street light exploded construction view
not to scale

street light section
not to scale

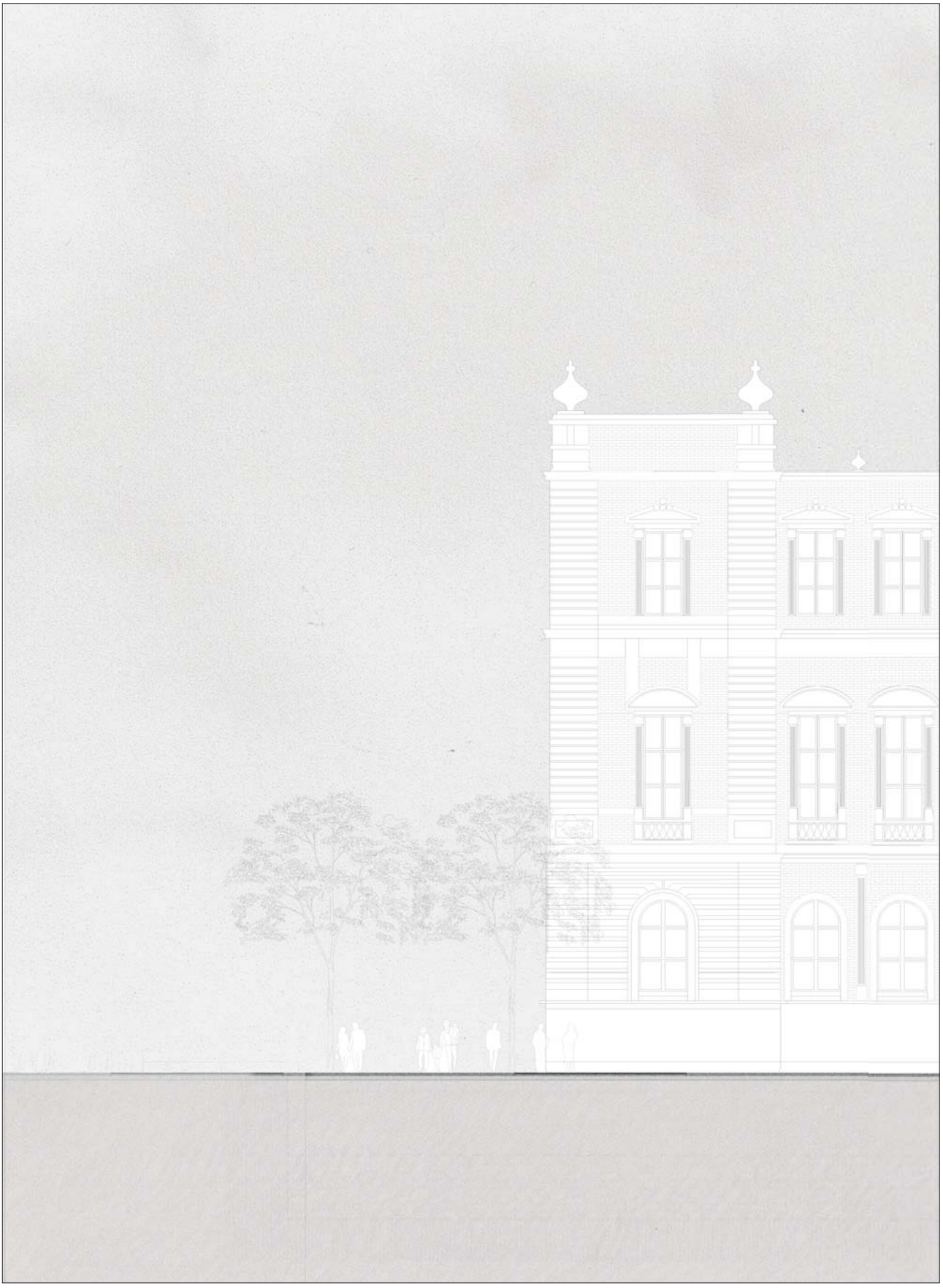
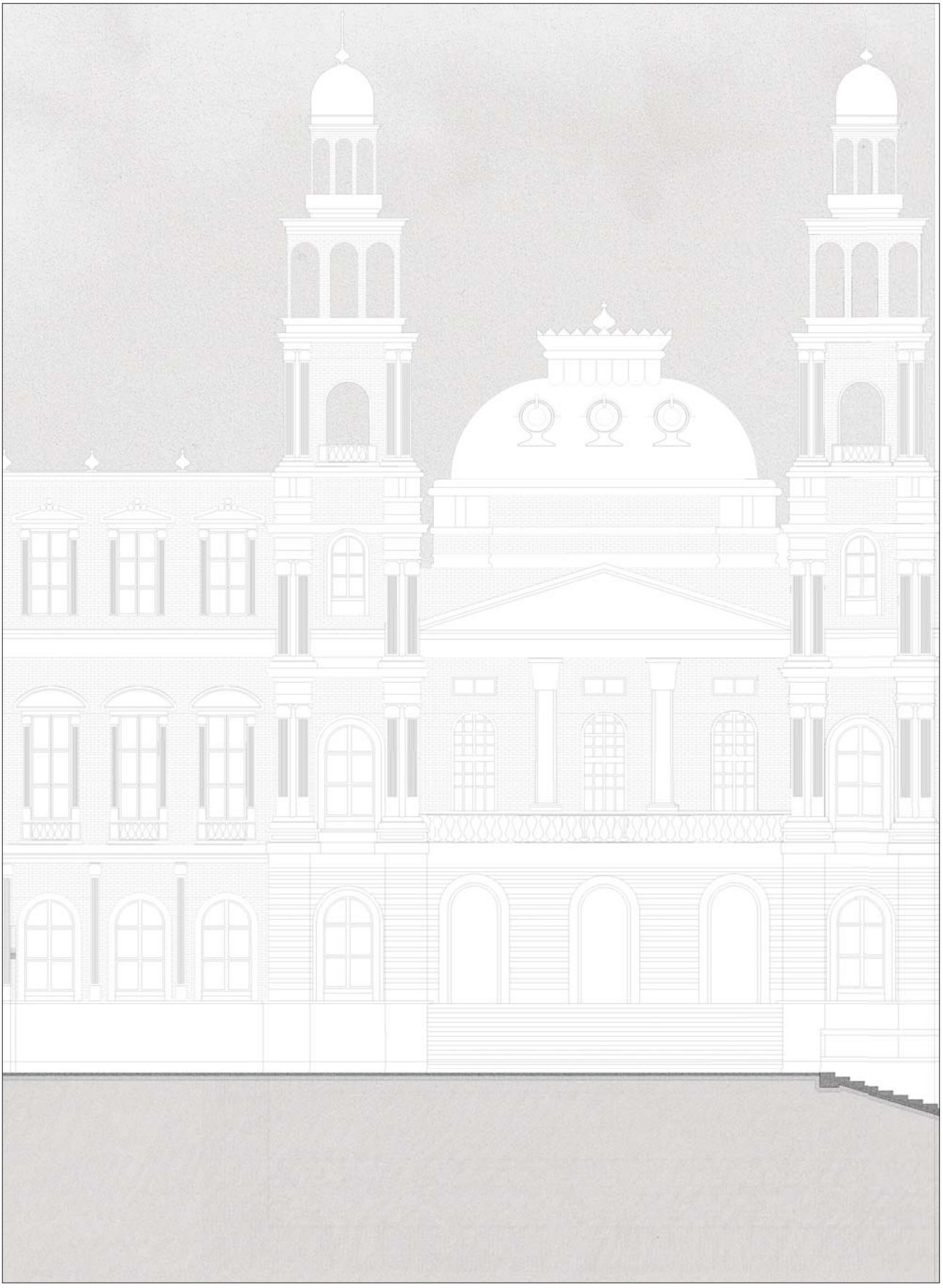
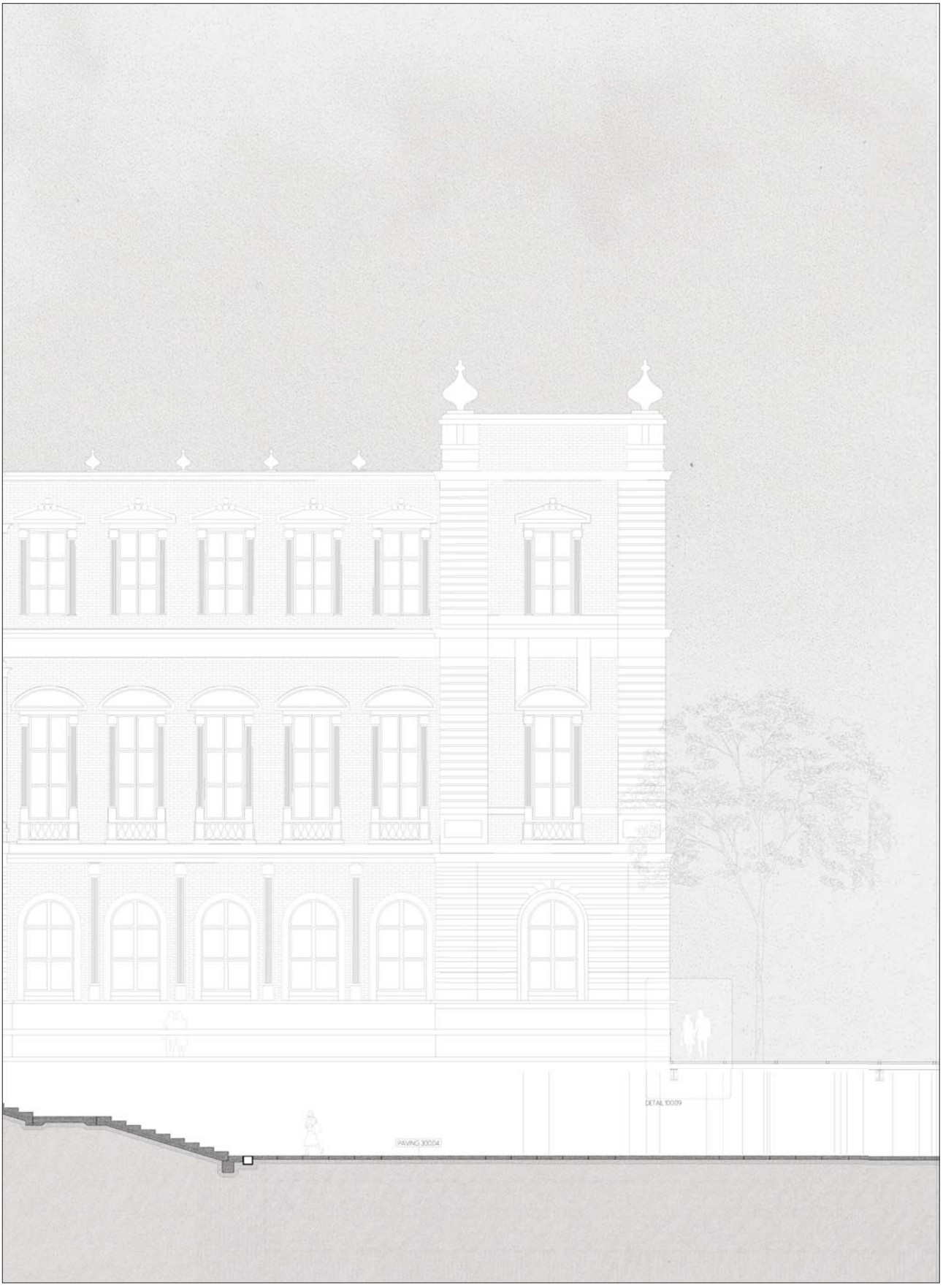
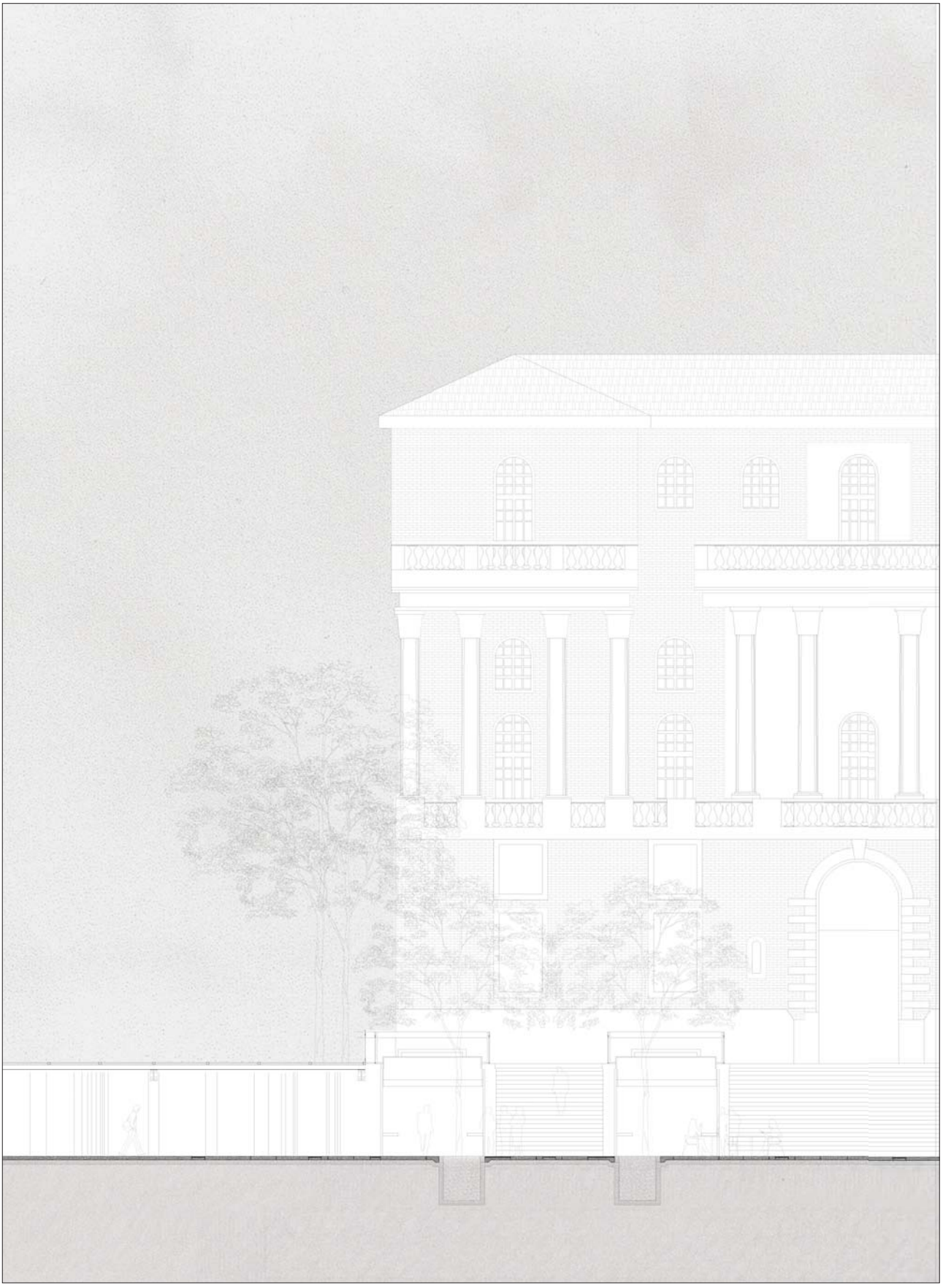
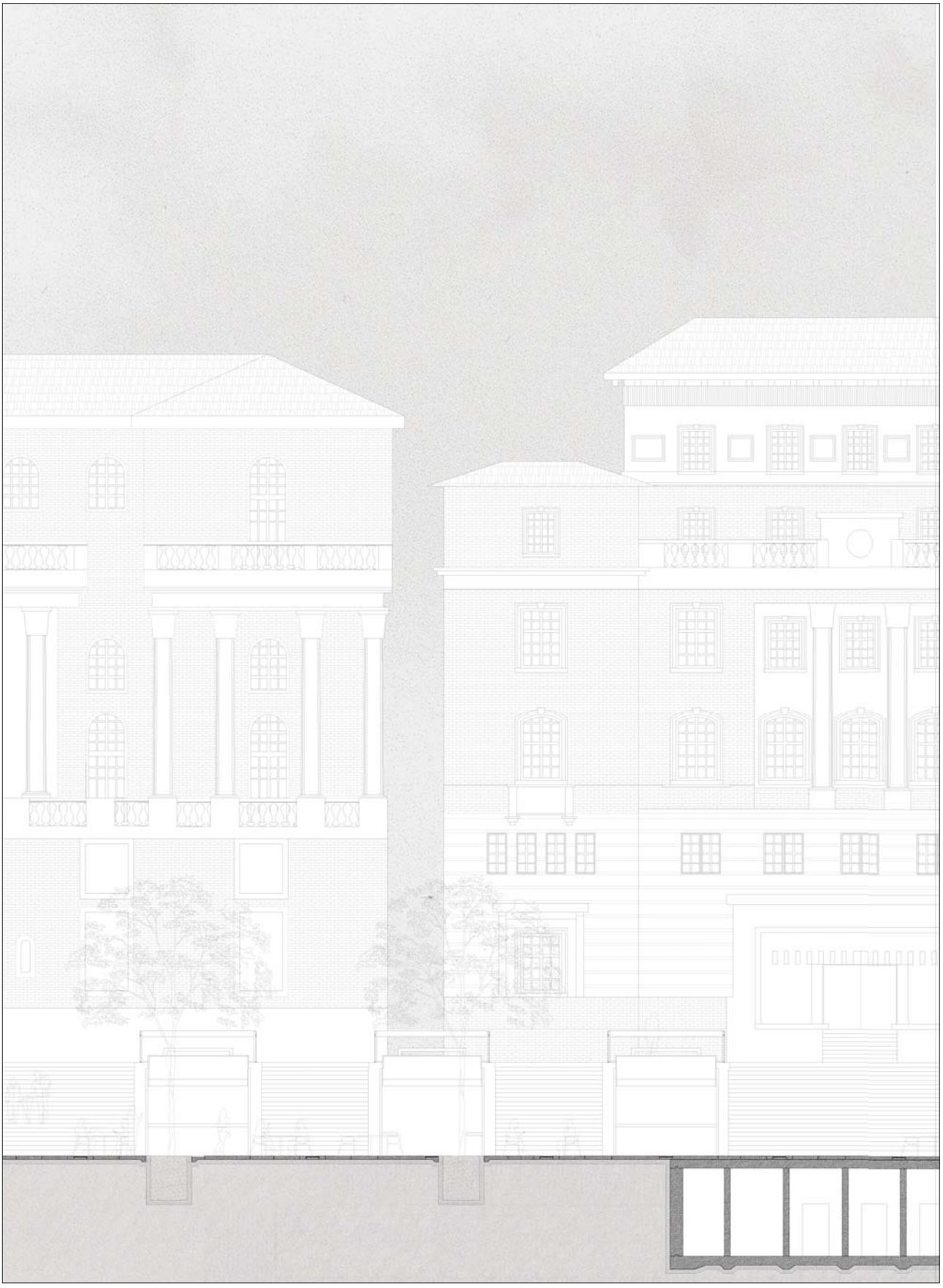


Figure 165: Section AA (Author, 2012).









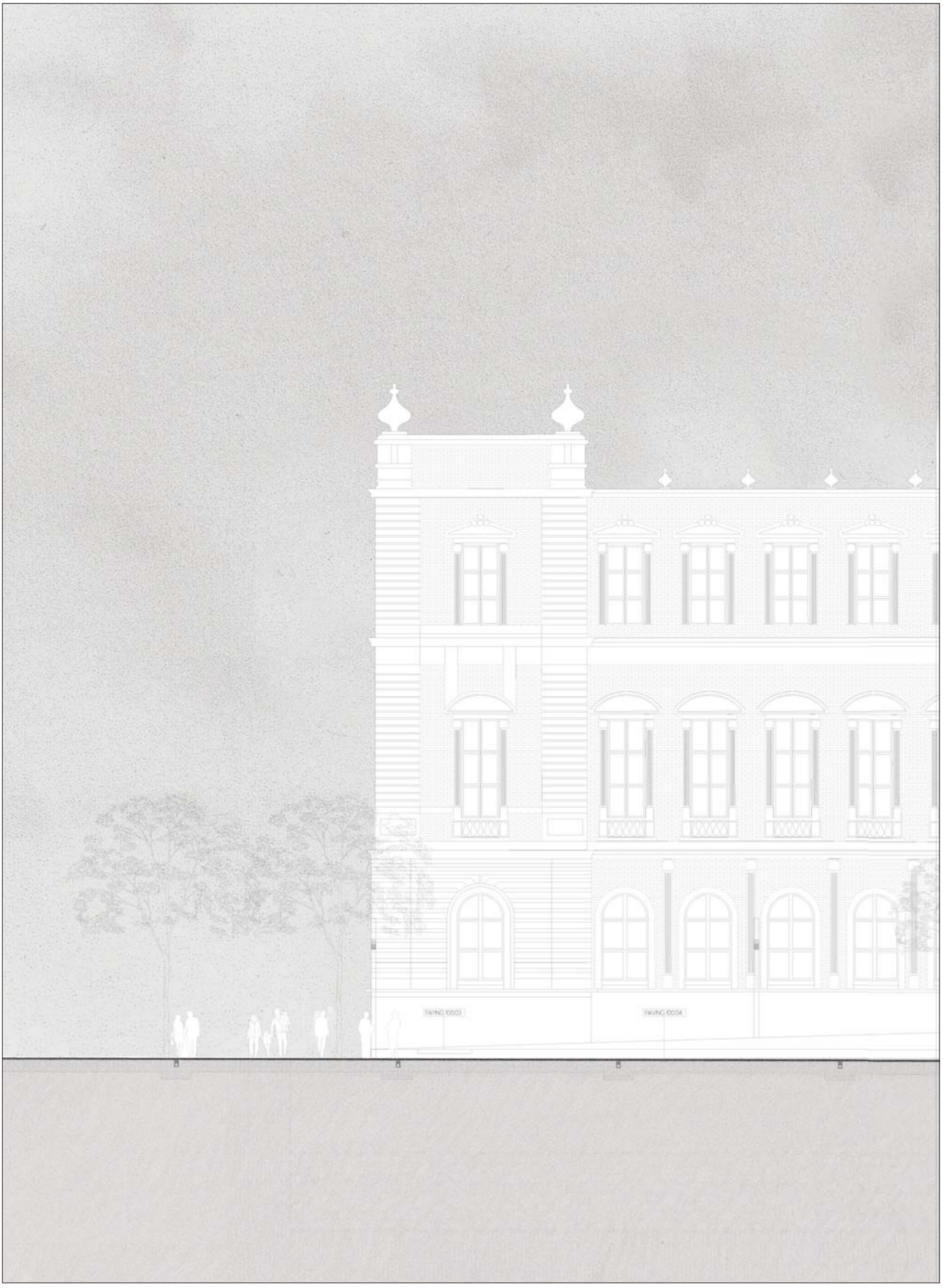
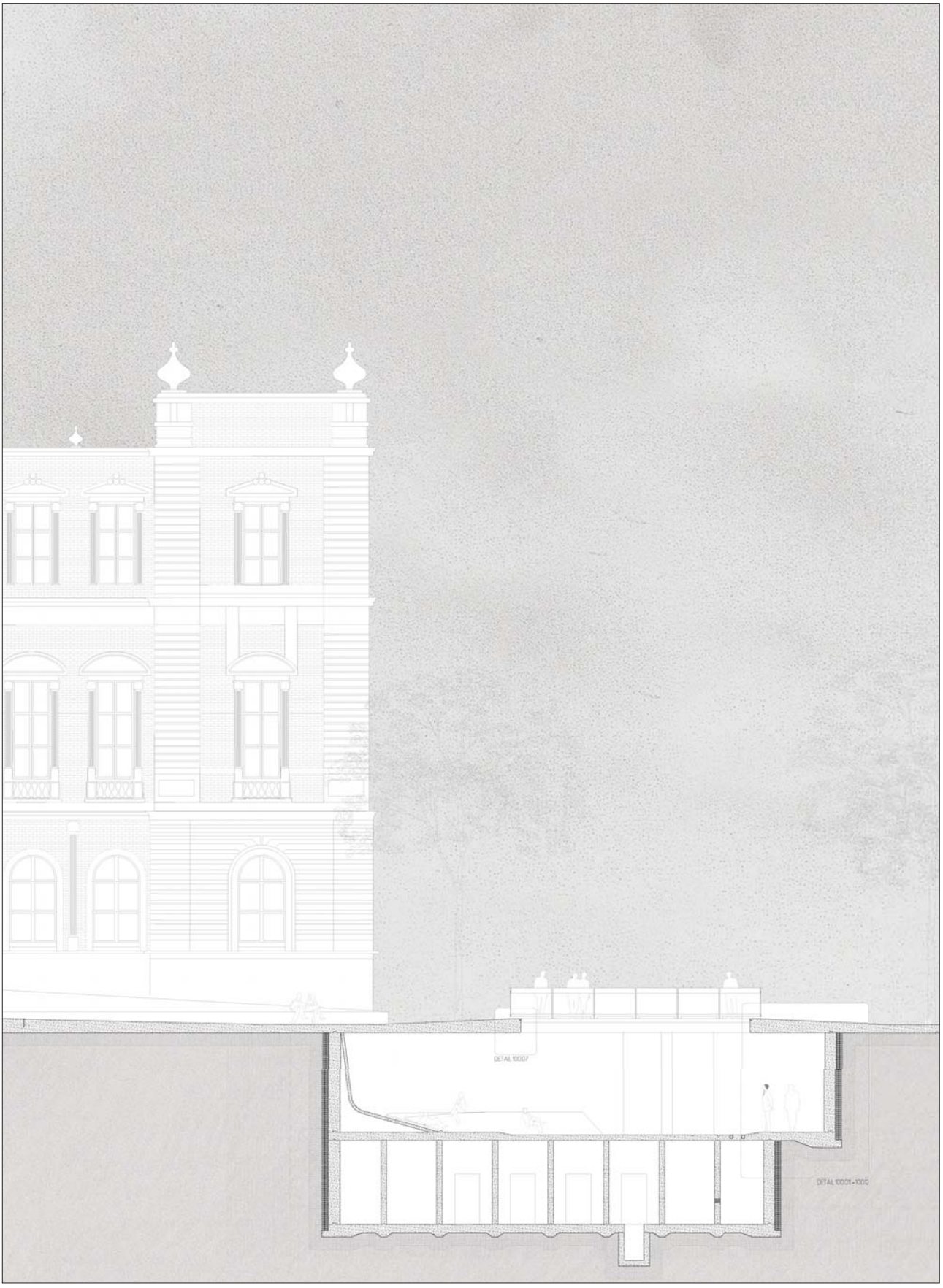
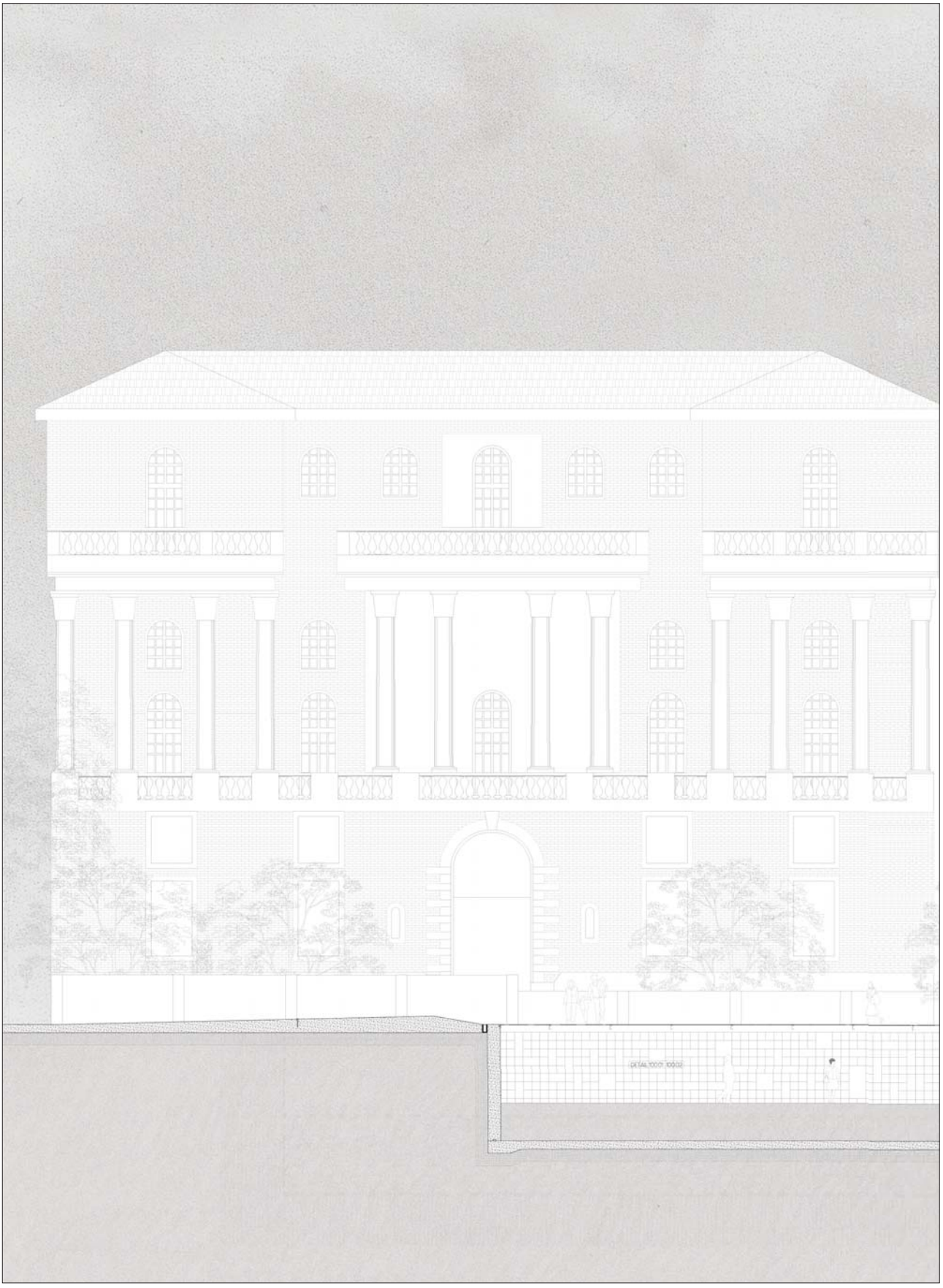


Figure 166: Section BB (Author, 2012).





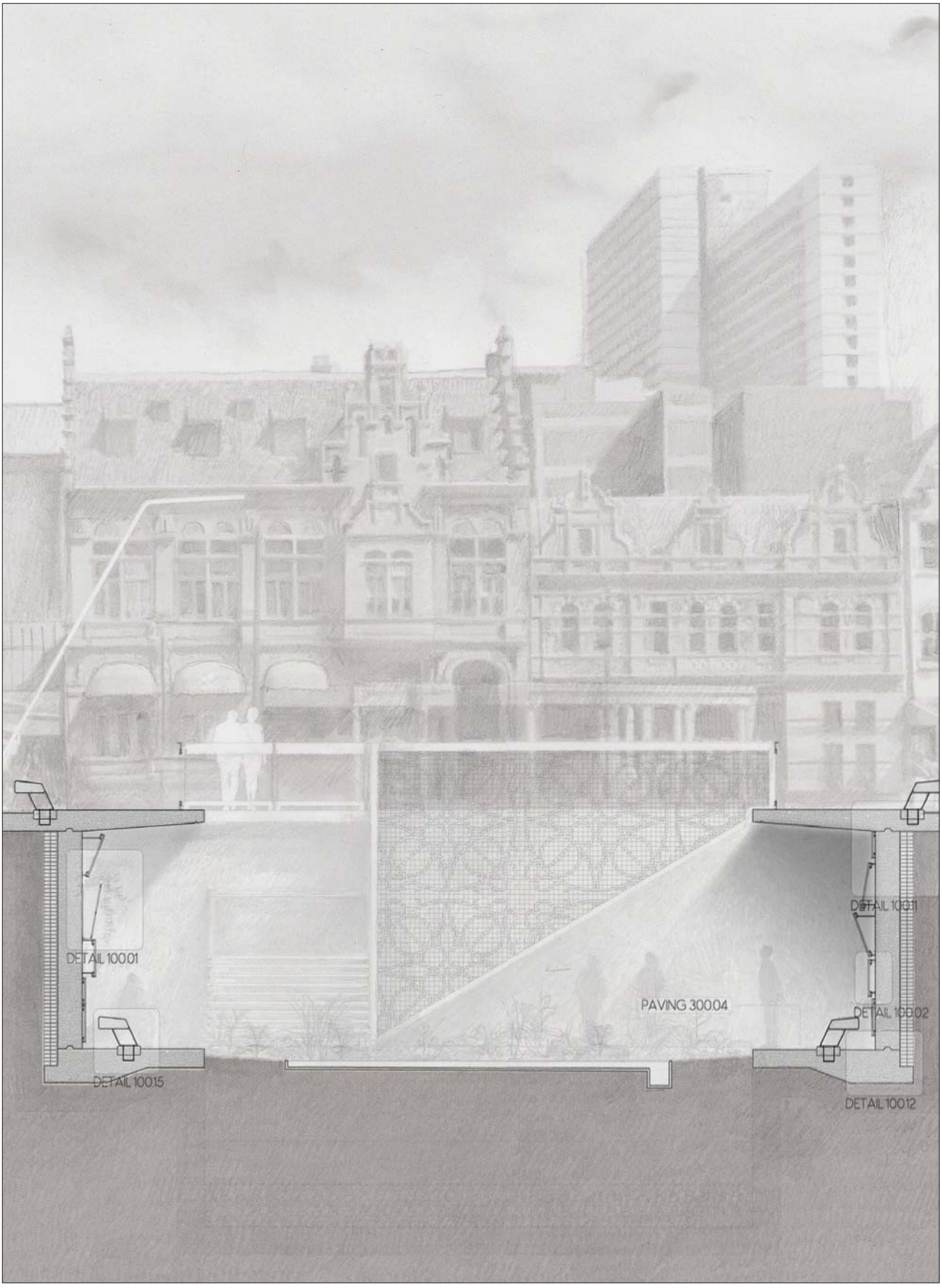
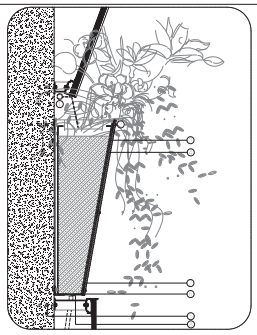
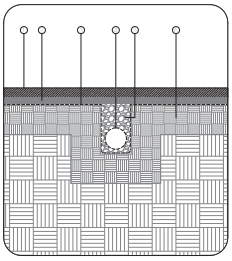


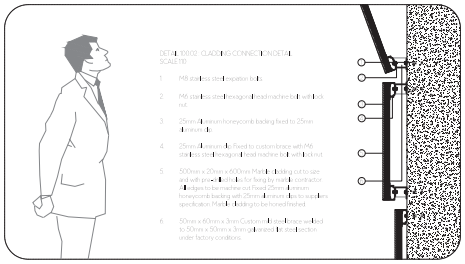
Figure 167: Section cc (Author, 2012).



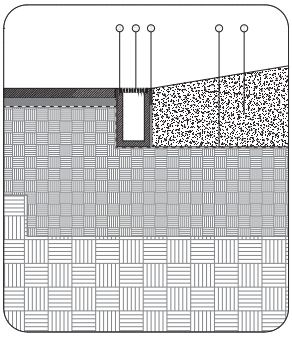
DETAIL 100.01



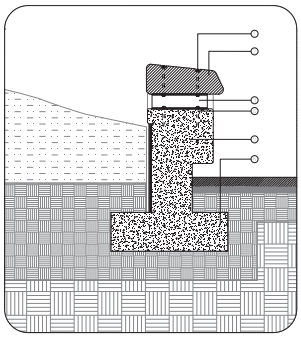
DETAIL 100.04



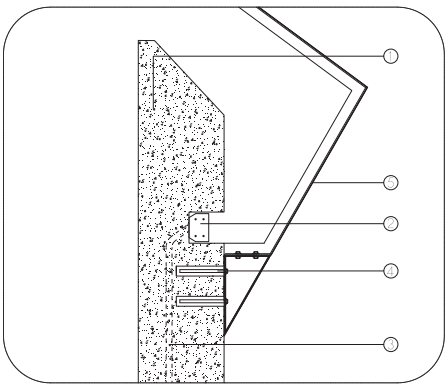
DETAIL 100.02



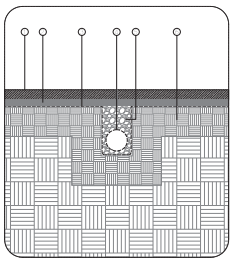
DETAIL 100.05



DETAIL 100.03



DETAIL 100.06



DETAIL 100.04

Figure 168: Design Details (Author, 2012).

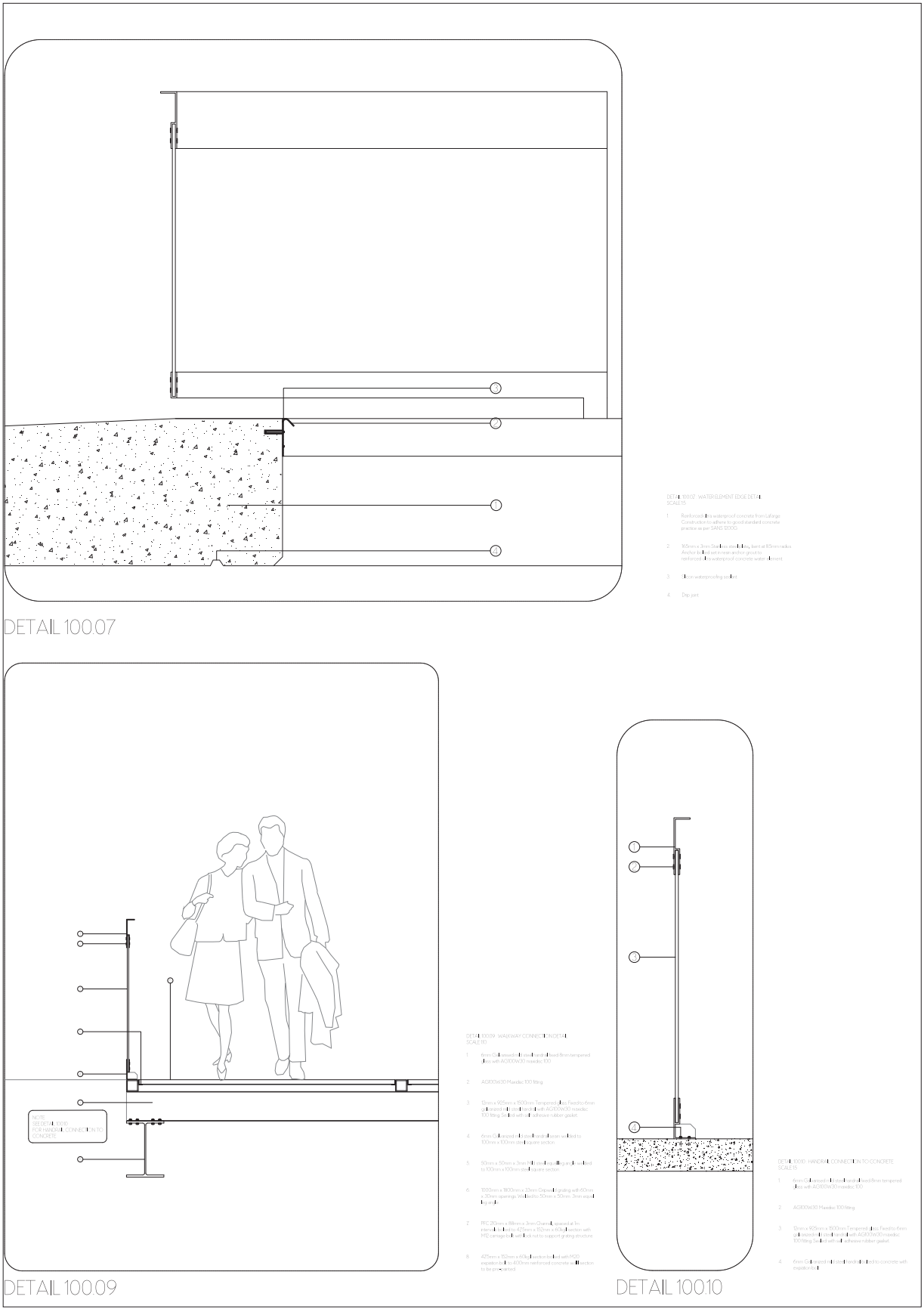


Figure 169: Design Details (Author, 2012).

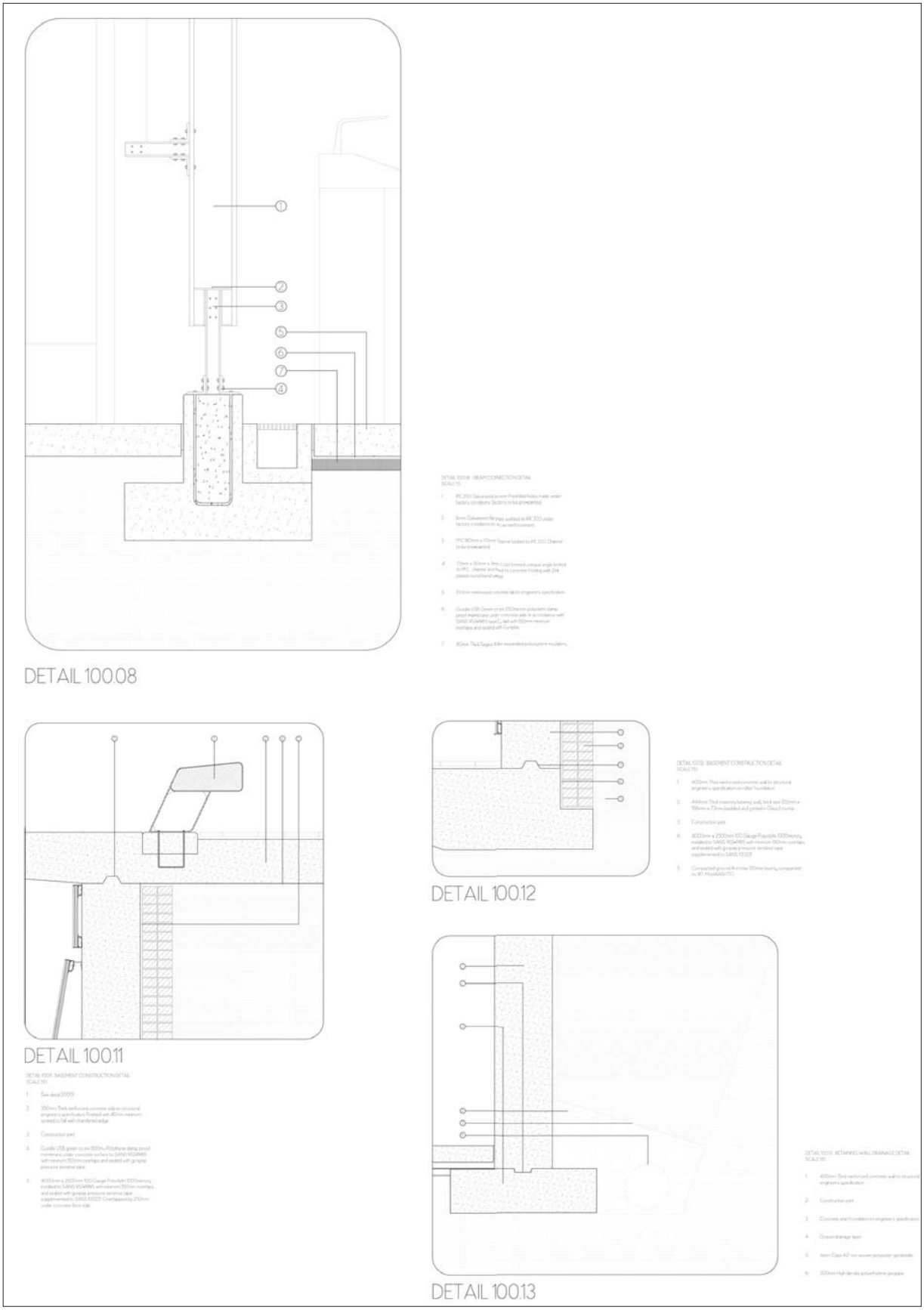


Figure 170: Design Details (Author, 2012).

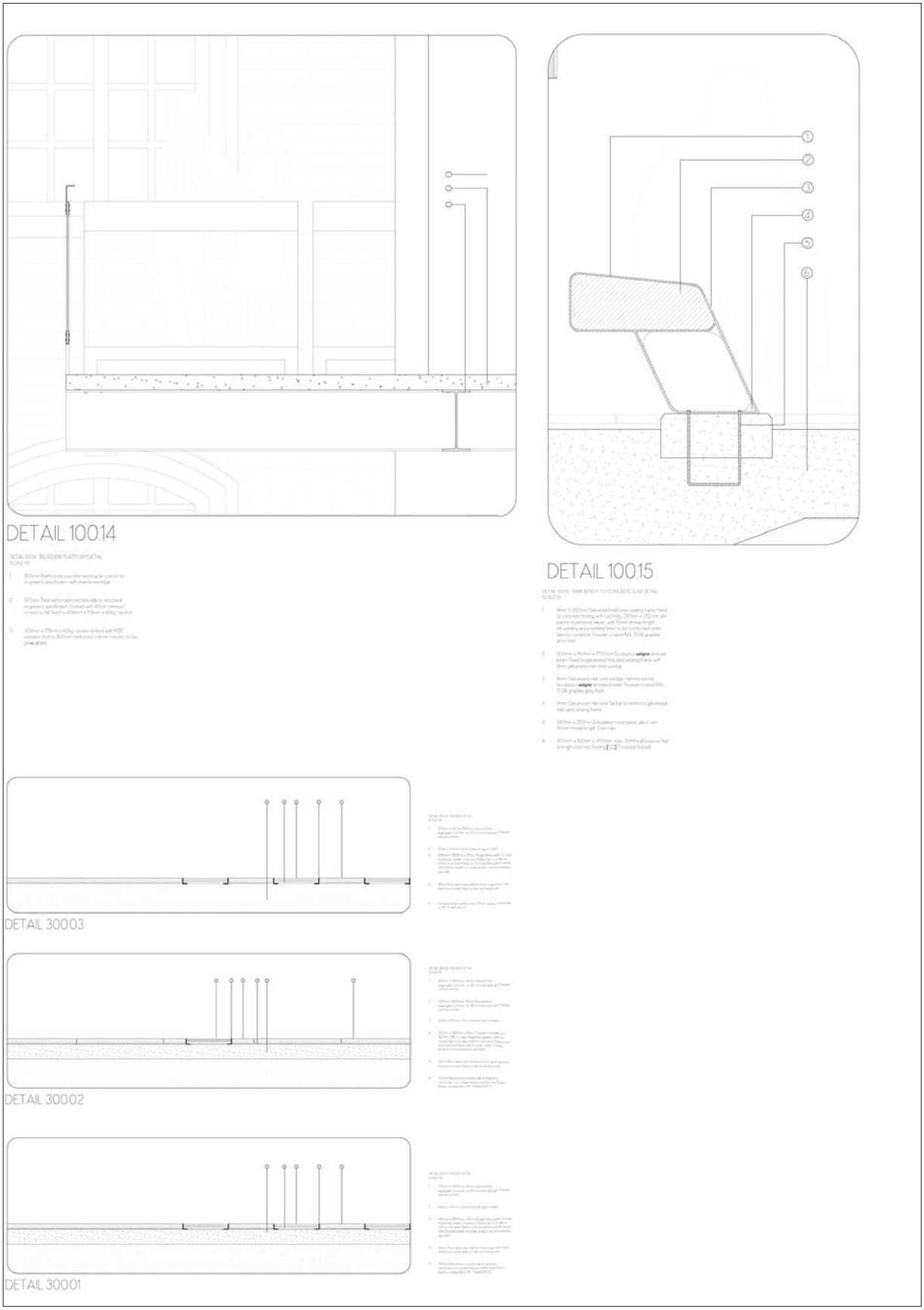


Figure 171: Design Details (Author, 2012).

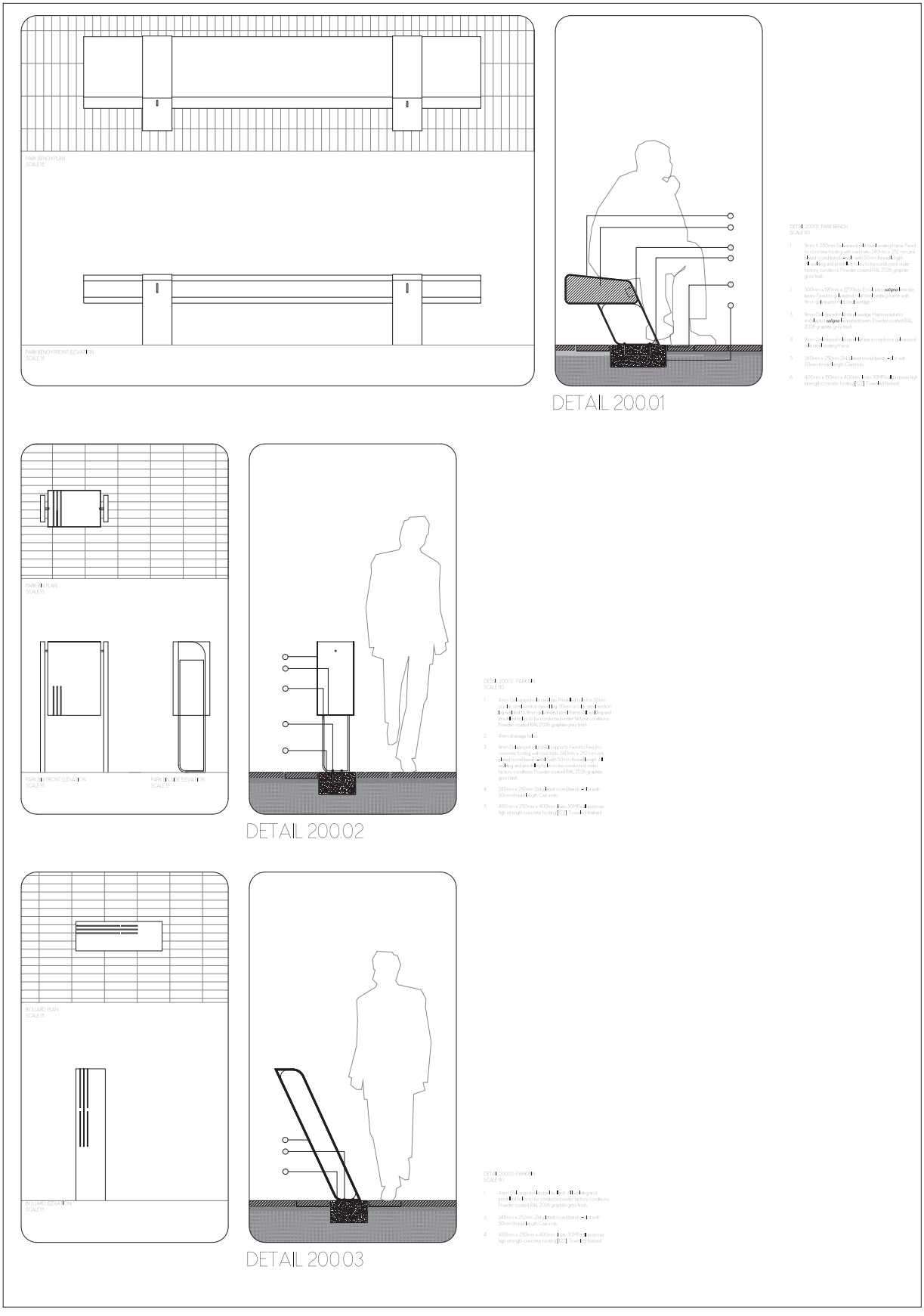


Figure 172: Design Details (Author, 2012).

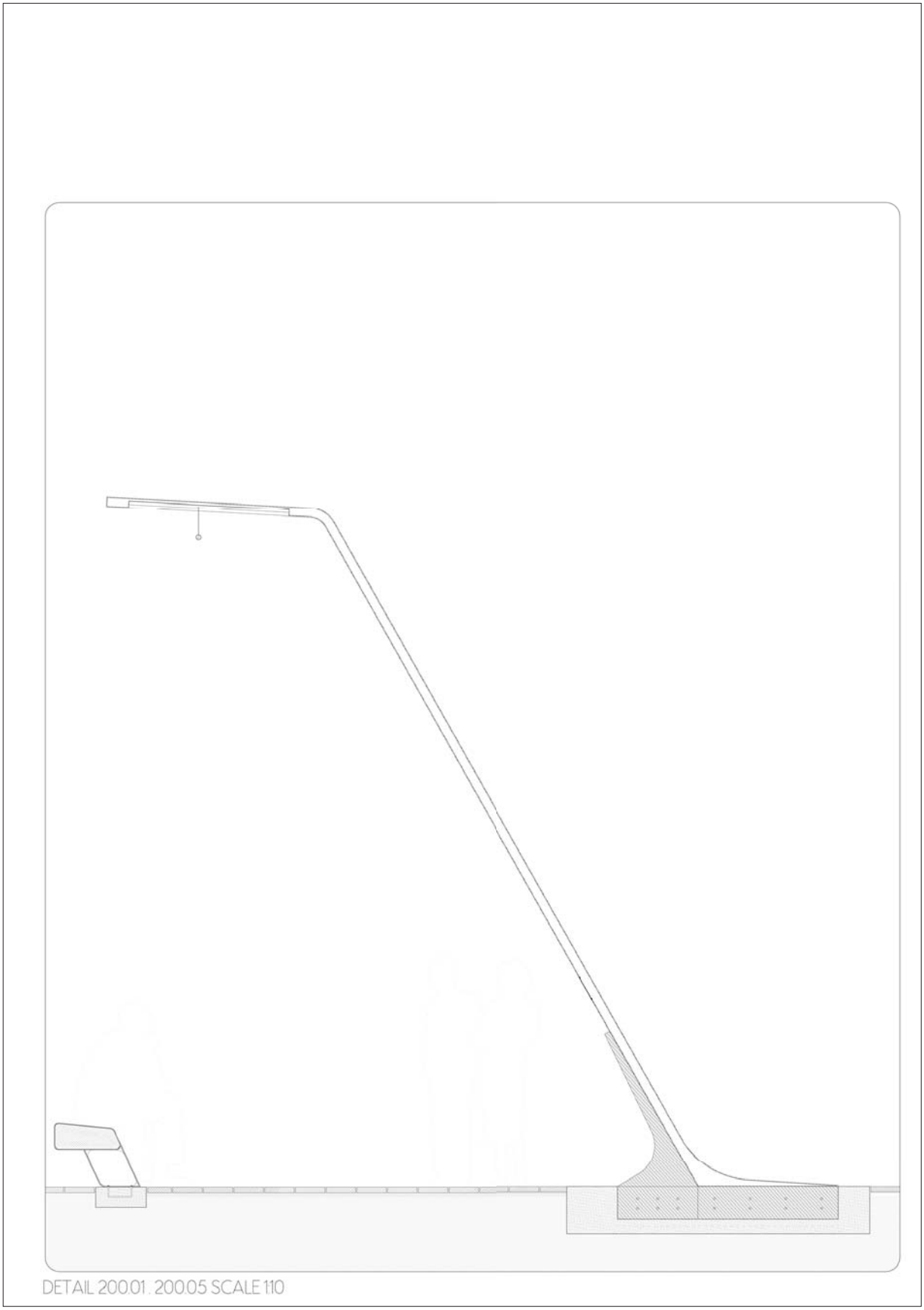


Figure 173: Design Details (Author, 2012).

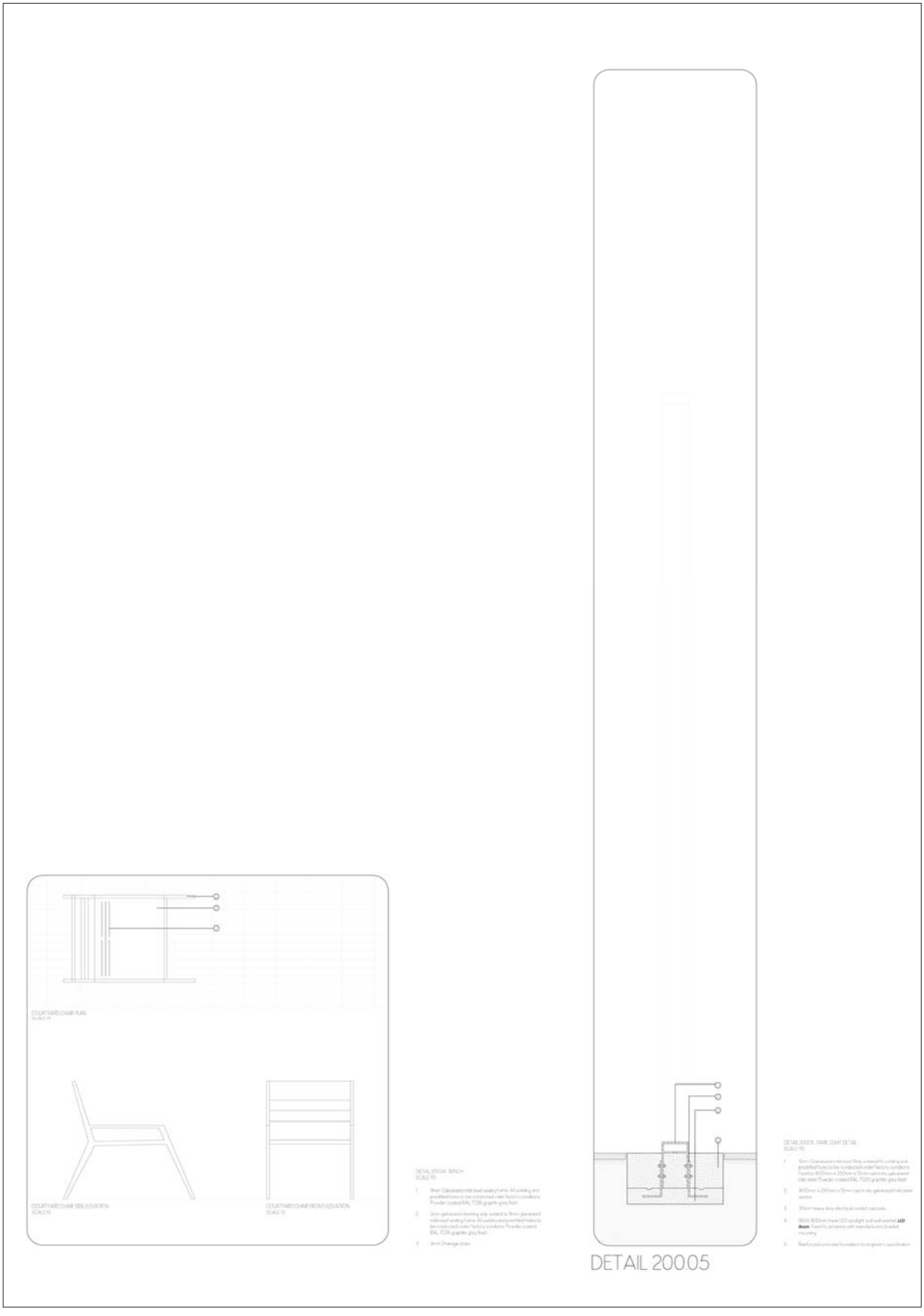


Figure 174: Design Details (Author, 2012).

007

APPENDIX

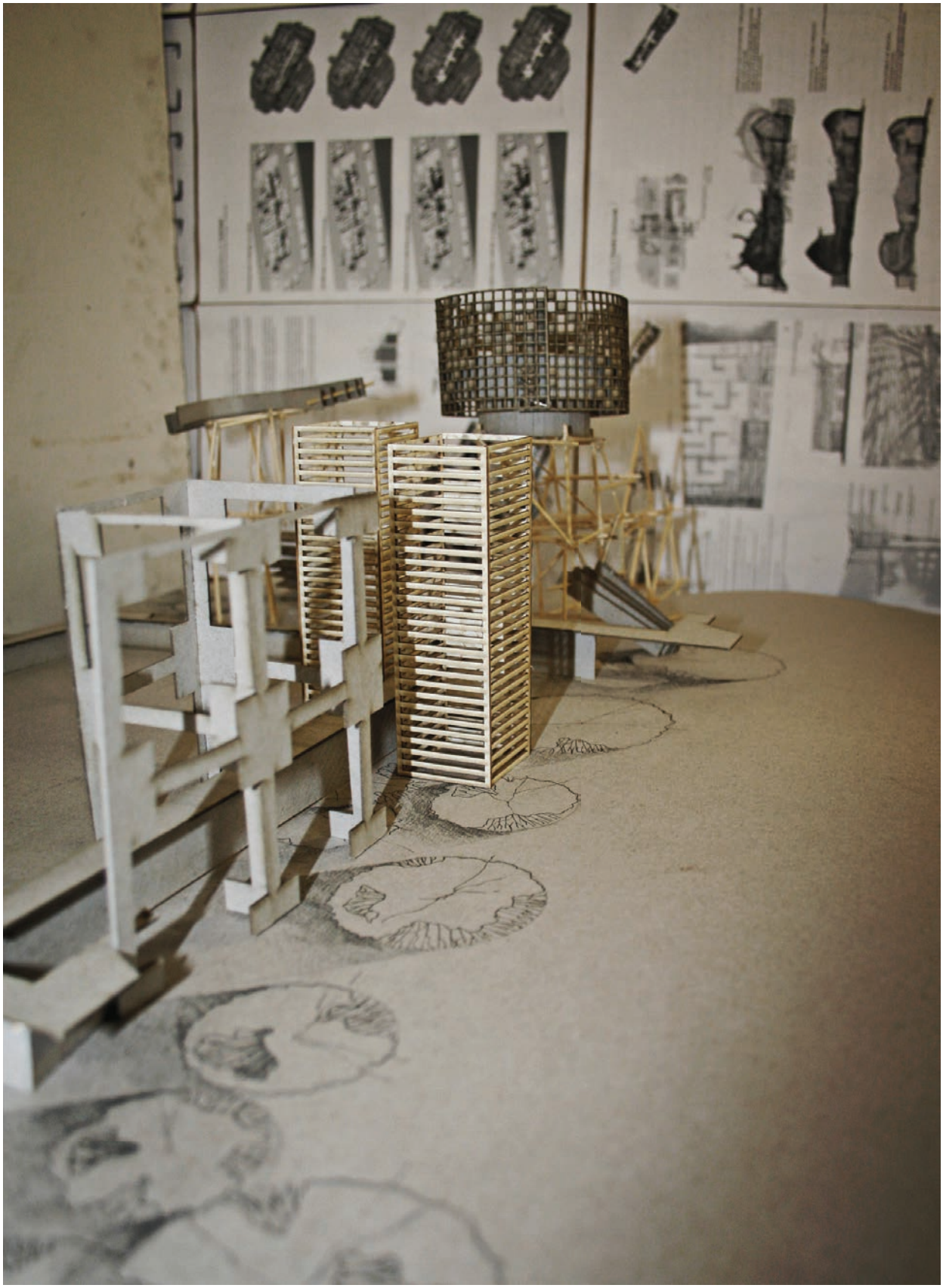


Figure 175: Concept model (Author, 2012).

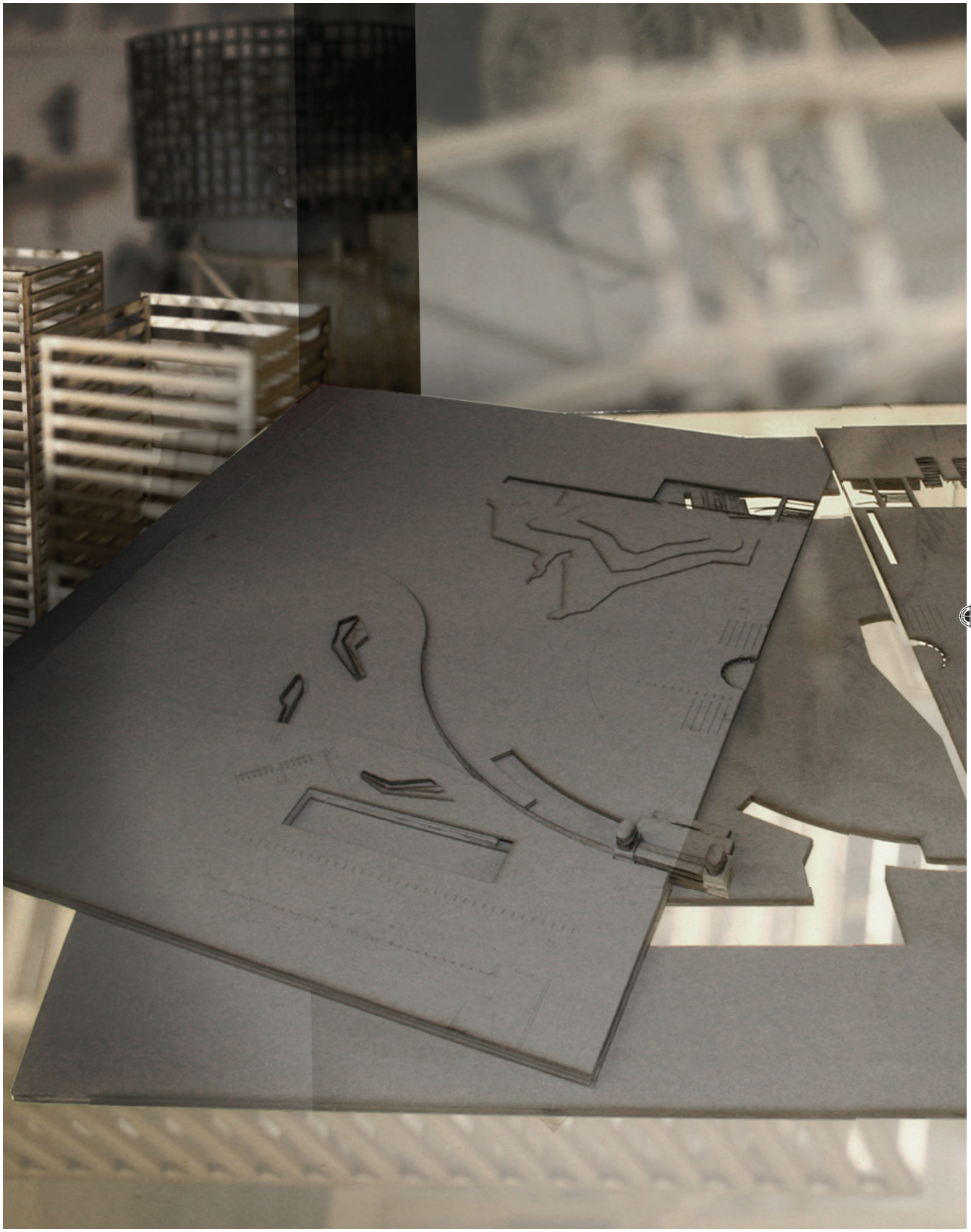


Figure 176: Design Development model (Author, 2012).

Figure 177: Design Critique. Visser, 2012).

008

BIBLIOGRAPHY

BOOKS

Bell, HTM & Lane CA 1905, A guide to the Transvaal, Barthlomew & Lawtor Printers, Johannesburg.

Boswell, J 1791, The Life of Samuel Johnson, The University of Adelaide Library, Adelaide.

Corner, J 2006, Terra Fluxus, Princeton Architectural Press, New York.

Du Toit, S 1955, Forte en verskansings om Pretoria, Pretoriana, Pretoria.

Gillette, J & Treib M (ed) 2011, Can Gardens Mean? Gardens, Meaning in Landscape Architecture, Routledge, New York.

Hapaala, A, Sarapik, V & Tuur, K (eds) 2003, Place and location III: The city as a place to dwell, Estonian Academy of Arts, Tallinn

Herrington, S & Treib M (ed) 2011, Can Gardens Mean? Gardens, Meaning in Landscape Architecture, Routledge, New York.

Hunt, JD 2004, The Afterlife of Gardens, University of Pennsylvania Press, Philadelphia.

Jellicoe, G & Jellicoe, S 1995, Landscape of Man: Shaping the Environment from Prehistory to the Present Day, 3rd edn, Thames & Hudson, UK.

Krog, S 1983, Creative Risk Taking, University of Pennsylvania Press, Philadelphia

Lin, M 2000, Boundaries, Simon & Schuster, NYC

Mucina, L & Rutherford, MC (eds) 2006, The Vegetation of South Africa, SANBI, Pretoria

Nuttal, S & Mbembe, A 2008, Johannesburg: The Elusive Metropolis, Duke University Press, Durham.

Olin, L & Treib M (ed) 2011, Form, Meaning, and Expression in Landscape Architecture, Gardens, Meaning in Landscape Architecture, Routledge, New York.

Ploeger, J & Botha hj 1968, Die Fortifikasie van Pretoria, Fort Klapperkop - Gister en Vandag. Pretoria City Press, Pretoria.

Pynchon, T 1984, Slow Learner, Back Bay Books.

Treib, M 2011, Must Landscape Mean? Approaches to Significance in Recent Landscape Archtecture, Routledge, New York.

Van Gennep, A 1977, The Rites of Passage, Routledge & Kegan Paul Ltd, London.

Waldheim, C 2006, The Landscape Urbanism Reader, Prinston Architectural Press, New York.

WEBSITES

Andrews, TE 1999, Ten Walking Tours Through Pretoria's Historical Part, Pretoria, viewed 4 August, 2012, <http://www.emagameni.co.za>.

City of Johannesburg 2004, Johannesburg Inner City Regeneration Strategy Business Plan: Johannesburg, my city, our future. Growth and development strategy 2040, viewed 17 June, 2012, <http://www.joburg.org.za>

Makenzie, S, McMurry, D & Quiros, L 2011 , Enric Miralles: Architecture of time, viewed 12 April, 2012, <http://www.quirpa.com/doc/architecture_of_time_enric_miralles.html.>.

Portsmouth City Council 2012, Shaping the future of Portsmouth City Council, viewed 7 July, 2012, <htt[://www.shapingportsmouth.co.uk>.

Priority Actions Programme 2005, Priority Actions Programme, viewed 13 June, 2012, The Costal Management Centre, <www.pap-thecoastcentre.org/>.

Rotch travelling Scholarship 2010, Parks, Promenades & Planning, viewed 17 July, 2012, <http://www.urbanwaterfront.blogspot.com>.

Smith, D 2011, Global population growth fears put to the test in Africa's expanding cities, Gaurdian News and Media Limited, viewed 17 March, 2012, http://www.guardian.co.uk/world/2011/oct/22/global-population-growth-africa-cities.

Sodupe, M 2004, Barcelona's strategy for urban renewal, Strategy and Planning. Case of Barcelona, Session 6, viewed 19 Augustus, 2012, <http://www.cdb.com.cn/meeting/english/07/e07_013.pdf>

WEBSITES

The Aberdeen City Alliance 2007, Aberdeen City Regeneration Strategy: Closing Our Gaps, Community Planning Aberdeen, viewed 17 July, 2012, <http://www.communityplanningaberdeen.org.uk>.

Von Glasersfeld, E 1989, Constructivism in Education, Pergamon Press, Oxford, viewed 2 September 2012, <http://www. vonglasersfeld.com/114/>.

MAGAZINE

Shell, B 2008, 'Protoarchitecture: Between the Analogue and the Digital', Architectural Design, vol.78, nr.4, pp. 6-11

JOURNALS

Jordaan, GJ 1989, 'Pretoria as Urbs Quandrata', Architecture SA, jun/jul, pp. 26-29

Prinsloo, JN 2009, 'I'm not there', South African Journal of Art History, vol.24, no. 1, pp. 157-169

THESIS

Prinsloo, JN 2006, 'Stadskrif', ML(Prof), University of Pretoria, Pretoria

GOVERNMENT PUBLICATIONS

Capitol consortium 1999, Pretoria inner city spatial development framework, Part 2, Vol. 4, Pretoria.

City of Tshwane 2012, Spatial Development Framework 2012: Region 3, City of Tshwane, City Planning and Development.

Statutes of the Republic of South Africa 1972, Church Square, Pretoria, Development Act no. 52 of 1972, Office of the President, n.d. Pretoria.

INSTITUTION PUBLICATIONS

Icomos 2004, Icomos Ename Charter for the interpretation of cultural heritage sites, Paris.

The Burra Charter 1999, The Australian ICOMOS Charter for places of cultural significance, Australia.

THE CITY IMAGINED

JOHANNES MATTHYSEN