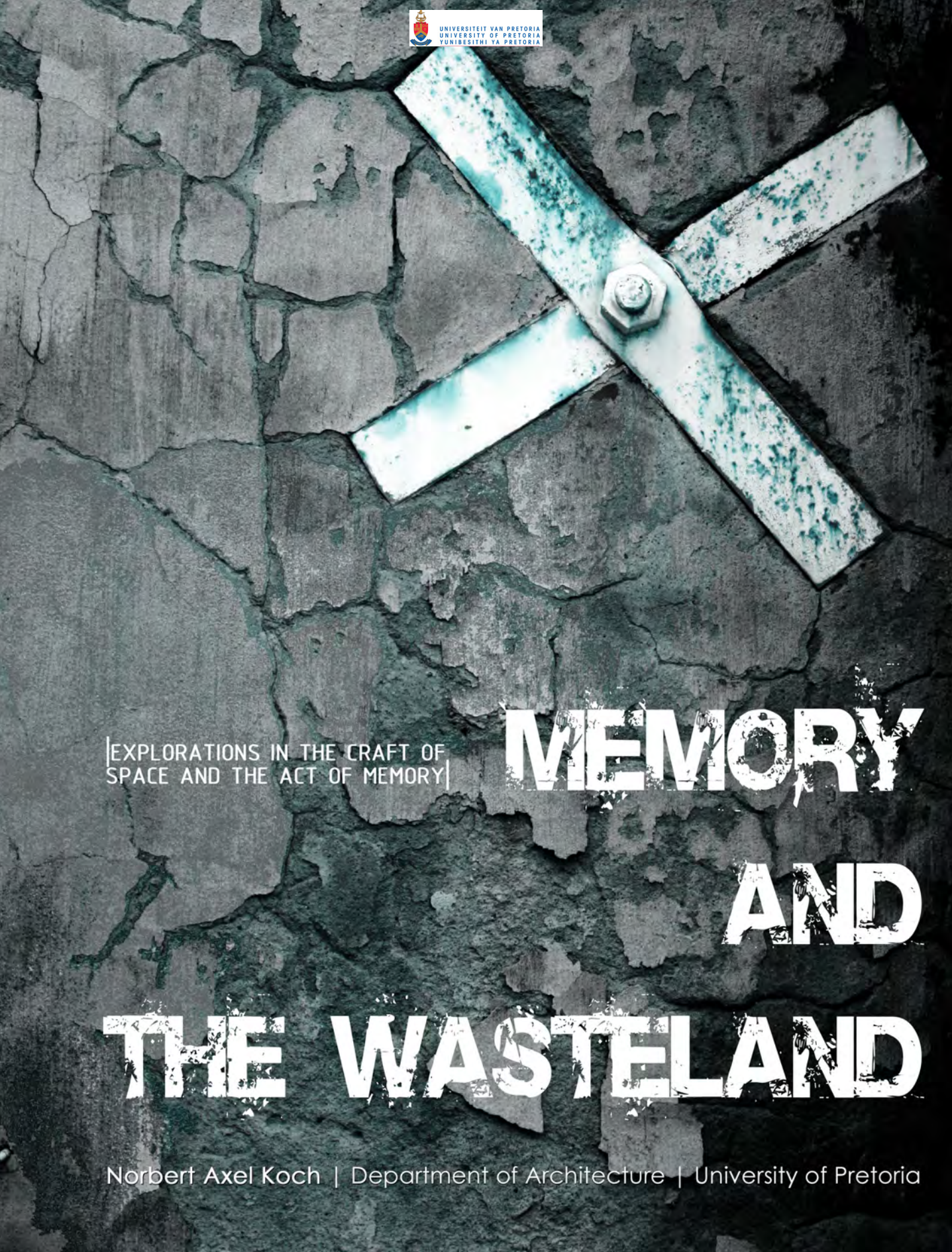

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MEMORY
AND
THE WASTELAND
Norbert Axel Koch | Department of Architecture | University of Pretoria

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Norbert Axel Koch

MEMORY AND THE WASTELAND

EXPLORATIONS IN THE CRAFT OF SPACE AND THE ACT OF MEMORY

Submitted in partial fulfilment of the requirements for the degree
Master of Architecture [Professional]
Department of Architecture
Faculty of Engineering, Built Environment and Information Technology
University of Pretoria, South Africa

Study leader: Rudolf van Rensburg
Course coordinators: Jacques Laubscher and Arthur Barker

PRETORIA 2012

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- Ms Karlien van Niekerk for the editing of the document,

- Johann Böhmer for the crit sessions and constant urge to push the limit: "*Ons gaan wen!*"

- all the other helping hands who contributed to the success of the dissertation.

PREAMBLE

This investigation is comprised of five parts. These are:

VOLUME 1 – Hard-boiled Wonderland
by Johann Böhmer, Norbert Koch, Nina Steenkamp and Lewis Wolf

VOLUME 2 – Treadmill
by Johann Böhmer

VOLUME 3 – Memory and the Wasteland
by Norbert Koch

VOLUME 4 – Mediating _ occupying the in-between
by Nina Steenkamp

VOLUME 5 – Pistons, Pin-ups and Fisticuffs
by Lewis Wolf

The aim of this study is to pursue a holistic design approach which recognises the architectural discipline as an interrelated profession in which buildings cannot be designed in isolation. This research project is an endeavour by four students to develop an urban framework. From this vantage point, each student designed their individual scheme, responding to inputs and effects of the other schemes of the group, creating a dynamic design energy.

The approach is deeply rooted in an eco-systemic doctrine responding to the past, present and future, thereby encompassing all spheres of the built environment – heritage & cultural landscapes, urbanism & human settlements – grounded in a sustainable outlook.

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To my parents Astrid and Harald

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Investigation

This dissertation was inspired by the discovery of a machine in the industrial wasteland of Pretoria West. The machine, a flour mill built in 1908, has been extended and transformed and layered through time. Symbolic of the context, it now lies silent – its core has been removed long ago. With an odour of mystery, the fate of the complex remains vague as the body of history is lost in time. Rich in textures and details, the tectonics represent the values of function and process. Mysterious, uncertain and contradictory; facts [history, memory, experienced space] and fiction [imagination] begin to blur. . .

The precinct of Pretoria West unfolds as a wasteland, static in nature and detached from civil society. Surreal in character, the condition manifests itself as a disembodied reality and reveals "a place lost in space, lost in time." It appears that "...even history does not have its place here" [Webster, 2012]. In this context – without memory and deprived of imagination – the public lives in a liminal state of existence. Engulfed in a static condition of the now, the present becomes the only reality. Without roots in the past and projections to the future, the public realm remains indifferent to both.

The proposed programmes form part of the investigation into the site's fragmented past. A natural perfumery in alliance with a glassblowing workshop is explored within the urban framework proposal of the 'Hard-boiled Wonderland'. Addressing not only the downfall of the artisan brought about by mechanised forms of production but also the static notion of dealing with remembrance, the project focuses on the inspiration of the imagination and collective memory.

The hypothesis of a new interface between the public, architecture, memory and imagination is approached through the mnemonics of the everyday. In pursuit of a resolution, the sense of olfaction takes the central role in the formation of public space that invites rituals of remembrance through ordinary daily activities and events. The project explores ways to inspire and reflect on the site's history and the memory of the civic society using a domain that leaves no trace in history – through the fleeting realm of scent. . .

MEMORY

The capacity for retaining, perpetuating, or reviving the thought of a person, object, event, or sensation of the past. It includes the recollection, remembrance, and re-assimilation of often abstract fragments of past experiences into a meaningful construct.

WASTELAND

A place, era, or aspect of life considered as lacking in spiritual, aesthetic, or other humanizing qualities. It refers to a raw, grimey, industrial area, situation, or time which is desolate, barren, or ravaged.

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Walking in a Parkland of Ecstasy, Delirium and Disjuncture

During the late 1960's, architects started to question the dogmas and doctrines of the Modernist masters. The old, the established relationships between form and function and between ornament and crime seemed to have little relevance in a world of difference, of burgeoning information technology, of cold war and of the equivalence of value in all things. Architects began to develop an architecture of disjunction, of splitting, of shards and of follies... [Spiller, 2006]

1 INTRODUCTION

THE MACHINE

The following chapter introduces the project and its aims and intentions. It provides a background to the neighbourhood to contextualise the research and design discourse. The methodology is briefly explained and problems and sub-problems are presented.

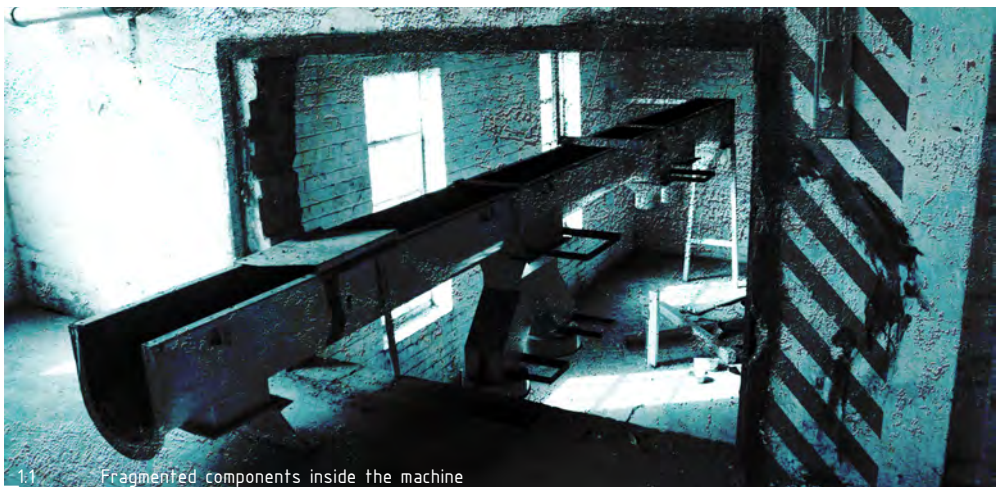
BACKGROUND

The machine | Site

The site under investigation is 145 Carl Street – an abandoned flour mill in the industrial wasteland of Pretoria West. Situated between Carl and Mitchell Street, the machine lies silent within the precinct, barely noticed by the disengaged public despite its iconic presence and vast extent. It is neither a destination, nor a thoroughfare and remains isolated in the neighbourhood.

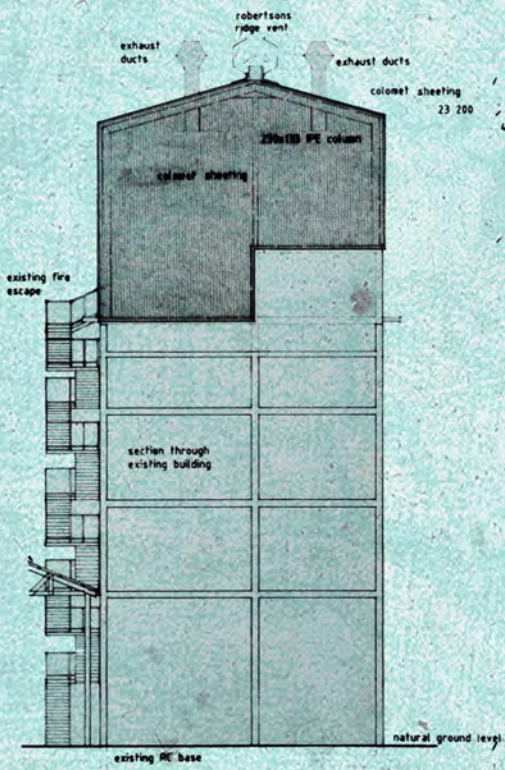
Altered and transmuted throughout its history, the machine is a layered construct of time. An imposing timber structure, five storeys tall and still largely intact today, it is set within massive brick walls more than half a metre thick. Bizarre steel assemblies cut through the timber floors which rest on heavy wooden beams. The oldest component of the machine was extended by a colossal concrete structure. Sienna face bricks cover the openings between the solid concrete columns, and industrial steel windows sieve light to the centre of the mill. Wooden floors span between the concrete beams; openings and voids indicate where precise machinery once pounded grain to flour. A slender steel structure is layered on top of the uppermost section of the reinforced concrete column and beam construction. Covered in metal sheeting, the details and tectonics lie beneath the weathering skin. As the section aged over time, rust stained the older section below.

A stench of mystery veils the machine, its body of history unclear, dubious, and fragmented. The past of the complex is vastly incomplete and even contradictory; and although the fate of the mill is unknown, it is speculated that production ceased during the late nineteen eighties or beginning of the nineteen nineties. Currently the machine lies silent and leaves itself open to a multitude of speculations and perceptions.

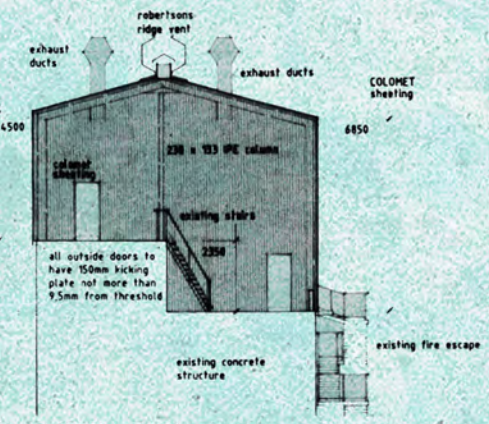


1.1 Fragmented components inside the machine

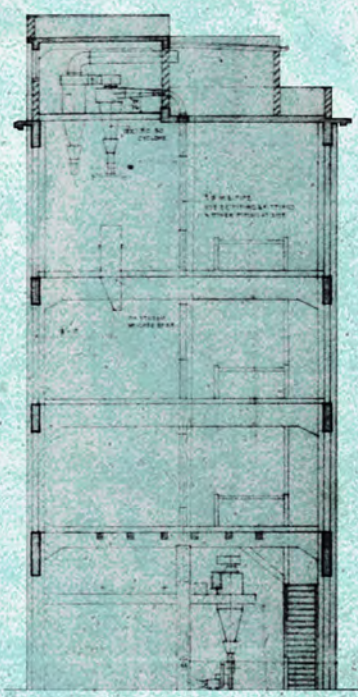
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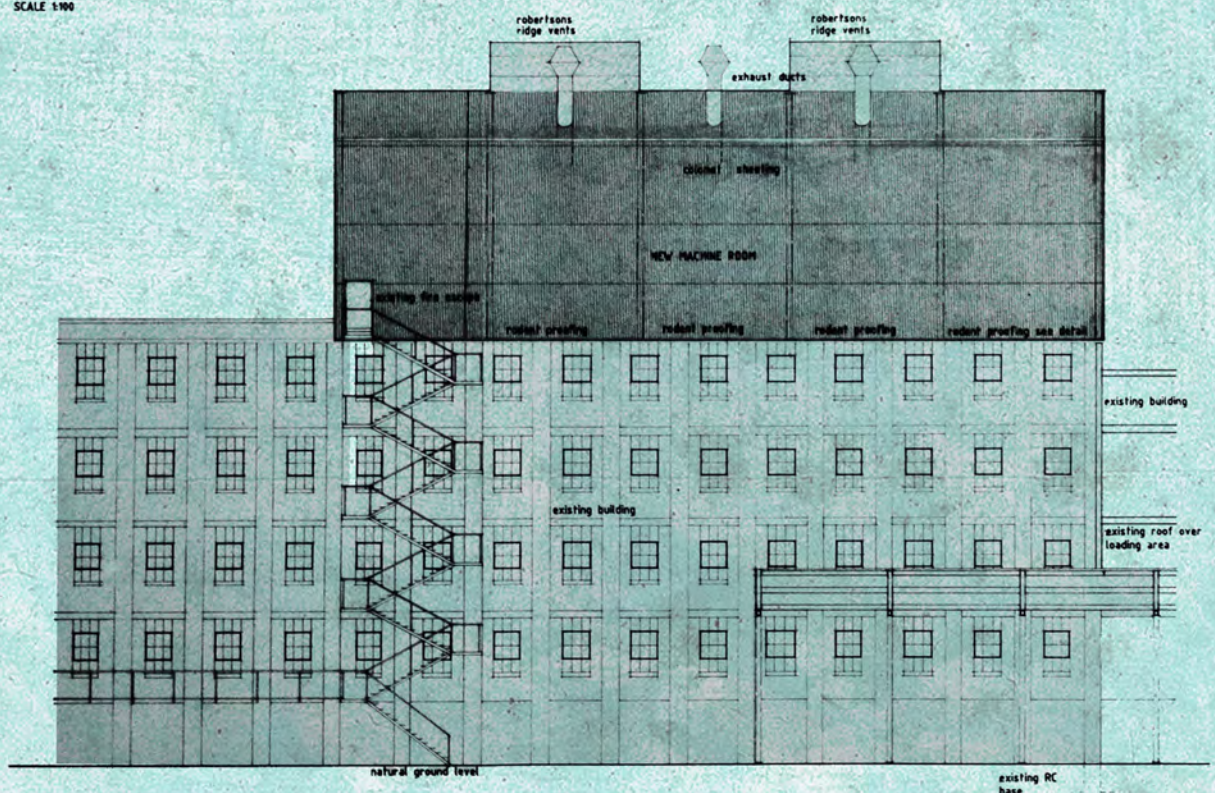


SOUTH ELEVATION
SCALE 1:100



NORTH ELEVATION
SCALE 1:100





WEST ELEVATION
SCALE 1:100



_1.3 Urban locality, Pretoria, South Africa



The wasteland | Locality

The machine on 145 Carl Street is located in the fading industrial area of the city of Pretoria. Several machines of the industrial age have lost their productive function in this landscape. They have fallen into disuse, leaving behind a harsh industrial wasteland, where structures seem foreign to the urban fabric and are burdened by stigmas, casting a negative shadow over the city.

The wasteland forms an integral part of the heritage of Pretoria and bears witness to industrial progress and production. Time leaves its traces as the fabric is in a process of natural decay. Equally, the decay of memory occurs in the continuum of time. The wasteland is static and time erodes the significance of the setting causing it to become detached from its society. Obsessed with mass-consumerism and numbed by the effects of the image, the society is unaware of its imminent demise.

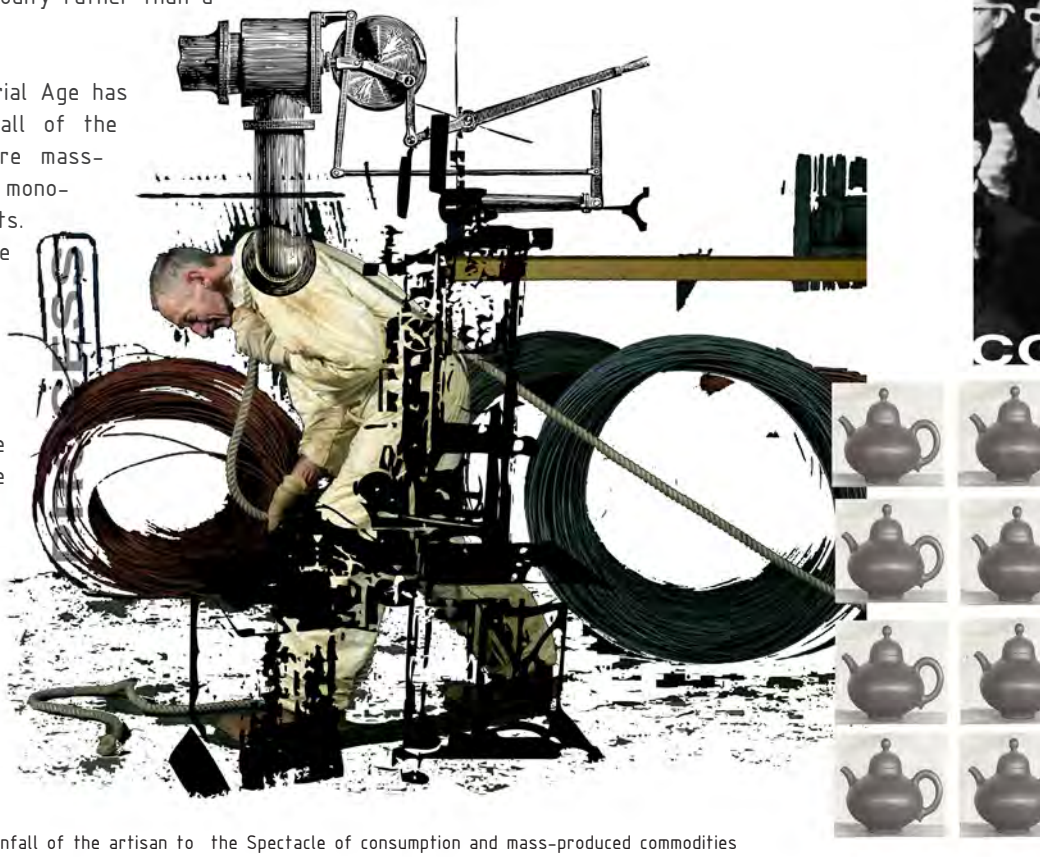
Fragmented and secluded, it remains a mnemonic environment with the capacity to record and recall memory. Spaces of the wasteland can inspire the imagination and stimulate past images and experiences. Temporarily silent, they are waiting to be discovered and explored. Located in proximity to the Central Business District (CBD) of Pretoria, the wasteland offers too many opportunities for the development of the precinct to be ignored.

THE STRUGGLE OF THE ARTISAN | PROBLEM STATEMENT

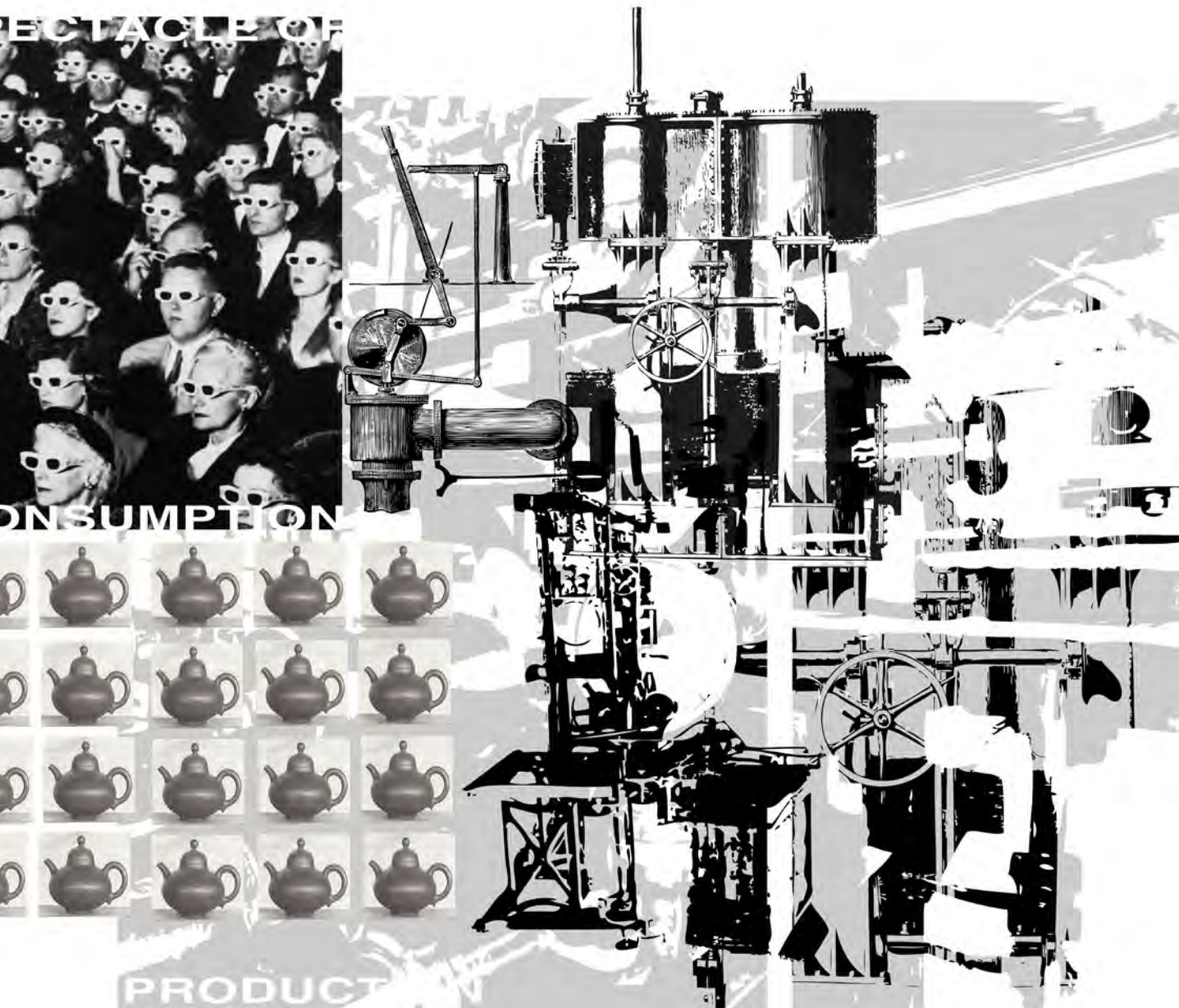
The demise of traditional industries, coupled with the new ways of distributing goods that took warehousing out of urban centres, had resulted in a Postmodern form of urban decline that left many buildings devoid of purpose and vast areas eerily abandoned. [Coates, 2012:31]

The Industrial Age brought about the demise of the traditional practices and rituals of the alchemist; and replaced them with the scientific and systematic approach of the chemist. Unlike other artisanal produced products such as wine or cheese, perfume does not enjoy the same status and is seen as a reproducible commodity rather than a unique work of art.

The rise of the Industrial Age has resulted in the downfall of the artisan. Commodities are mass-produced in static mono-functional environments. Preoccupied with the product, society has lost its connection with the process and the art of making, as automated machines replace the craftsman. The workforce still involved in the processes of manufacturing deals with fragmented bits of the manufacturing process without a conception of the whole product. The public interface once present in the workshop and studios of artisans has been destroyed by isolated, hygienic and alien environments of mass-production. Engrossed in quantity, society has lost its appreciation for quality – the quality of products, the quality of experience, the quality of architectural space, the quality of life.



_1.4 The downfall of the artisan to the Spectacle of consumption and mass-produced commodities


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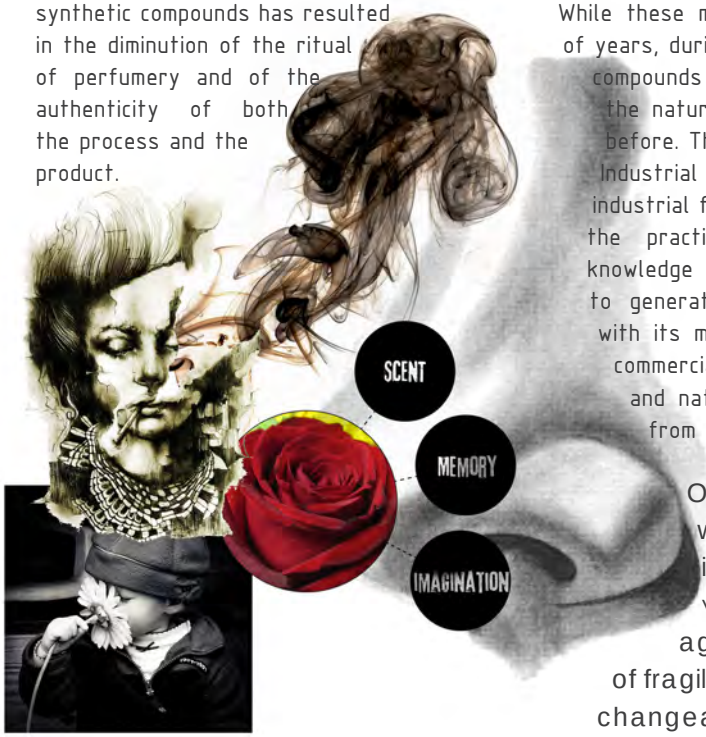


__1.5 Derelict and lifeless industrial spaces of Pretoria West

Many industrial areas are now lifeless after the inevitable end of the Industrial Age. Since the mono-functional districts become eerily abandoned with the relegation of the factory from the urban environment, factories and warehouses are open for new forms of intervention. The void in the urban fabric also prompts a sudden need for society to remember. Fuelled by a period of guilt and contemplation after war, terrorism, and struggle for freedom, the yearning for remembrance has been manifested physically in the form of monuments, memorials, museums, archives and mnemonic landscapes. A static form of dealing with remembrance, this form of memory architecture often dictates the visitor's thought and memory according to the official history. Furthermore, mostly inaccessible and placed on the periphery of urban areas, these institutions lose their cultural significance if not visited repeatedly.

The condition of present-day society has led to a disembodied reality. The demise of public imagination has been brought about by an obsession with the image and make-believe realities. Similarly, architectural space is deprived of sensory stimulation. Fragmented in time, society has lost its connection with present day reality and its history, resulting in the downfall of collective memory.

Through the course of history, the art of perfumery has been marginalised to a form of mechanised production. The invention and consequent large scale application of synthetic compounds has resulted in the diminution of the ritual of perfumery and of the authenticity of both the process and the product.



Traditional perfumery, also known as 'natural perfumery', has developed a multitude of extraction techniques over the years using aromatics derived from plants and animals. While these methods date back thousands of years, during the 18th century synthetic compounds were discovered, replacing the natural aromatics exclusively used before. This marks the beginning of the Industrial Age, bringing about extensive industrial forms of production contesting the practice of artisans and their knowledge passed on from generation to generation. The public realm along with its means of production has been commercialised and today commercial and natural perfumes differ greatly from one another:

> One clings to the body while the other transforms it. One sparkles with the virtuosity of our scientific age while the other speaks of fragility, subtlety, nuance and changeability. [Mahboubian, 2011]

_1.6 Problem and opportunity: the diminution of the sense of smell

Hallucinations of the designer | Aims

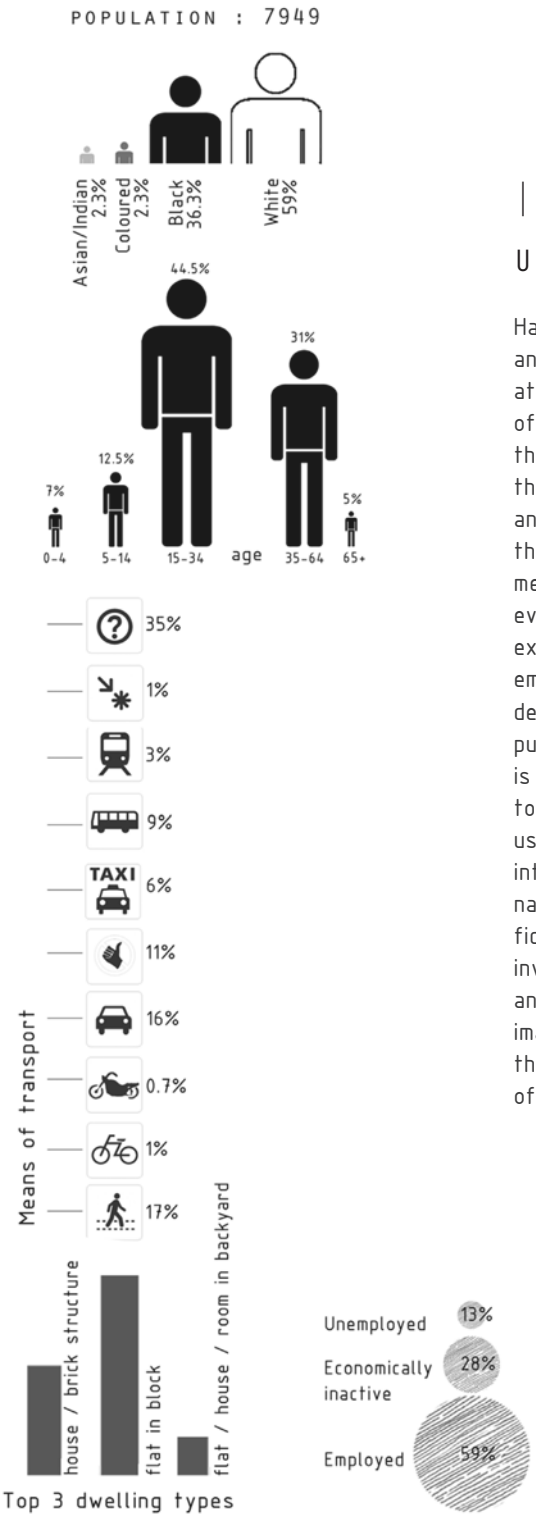
The aim of this dissertation is to reveal and celebrate spaces intrinsic to the industrial wasteland, and utilise their inherent spatial characteristics and potential to create a dynamic architectural and urban environment that ensures the sustainability of individual and collective memory.

An augmented reality is aimed for that can inspire the imagination and automate kinaesthesia in order to construct memory. Employing the potential of the sense of smell [which has the most direct neurological connection to the sense of memory [Wilson & Stevenson, 2003:243]], the dissertation aims to explore a sustainable model for the liberation of the artisan in the shadow of a post-consumer culture.
Furthermore, the intention is to provide contemporary culture with a memorial space of the everyday, where the creativity and imagination of the users can unfold freely in a ritual of remembrance through everyday use.

CONTEXT 2

INDUSTRIAL WASTELAND

The wasteland, which is understood as a disembodied reality, is the context for the project. Static in time, detached from experiences and without meaning, the public is deprived of memory and imagination, living a life of liminal existence in the now.



_2.1 Demographic Data of Pretoria West

| Hard-boiled Wonderland

Urban group framework

Hard-boiled Wonderland is a theoretical and contextual framework that is aimed at augmenting activities and occurrences of the everyday into public events. Rather than imposing itself on the context of the wasteland or superficially 'cleaning' and 'beautifying' the urban environment, the framework is rooted in physical and metaphysical observations of the everyday and truly engages with existing conditions. Particular emphasis is placed on developing and celebrating public event space that is of local significance to the everyday city user. As it develops into four intersecting narratives, facts and fiction begin to blur, inviting speculation and allowing the imagination to unfold in the public experience of the everyday.





| Clockwork

This study explores the relationships between events and time in the context. The liminal state of the milieu, celebrates all possible time frames of events, assimilating present, past and future.

_2.2 Time-Event study

Augmented events

Activities and occurrences revealed in the clockwork study are augmented into events in the context of Pretoria West. For example the locally popular board game Morabaraba is a common recreational activity during lunchtime as workers of the area gather on the side walk. The game board is carved into the ground and coins or pebbles act as pieces. For the design of Moraba Square, the game Morabaraba is celebrated and the floor surface of the square becomes the game board and stage for a public event.



_2.3 Square nightlife - People playing Morabaraba



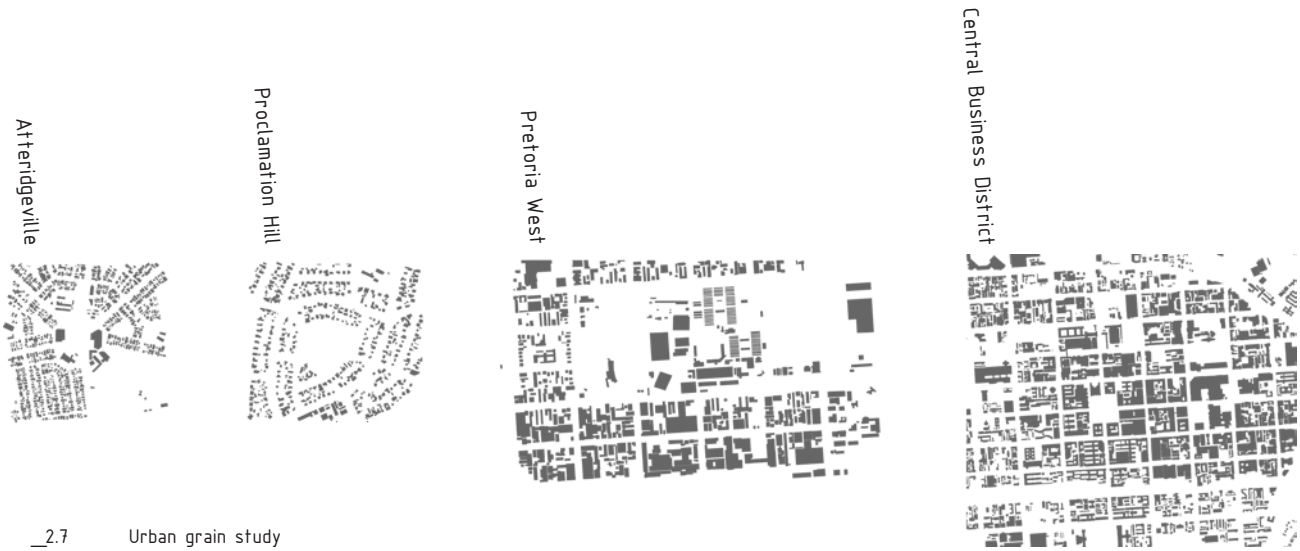
_2.4 Moraba Square



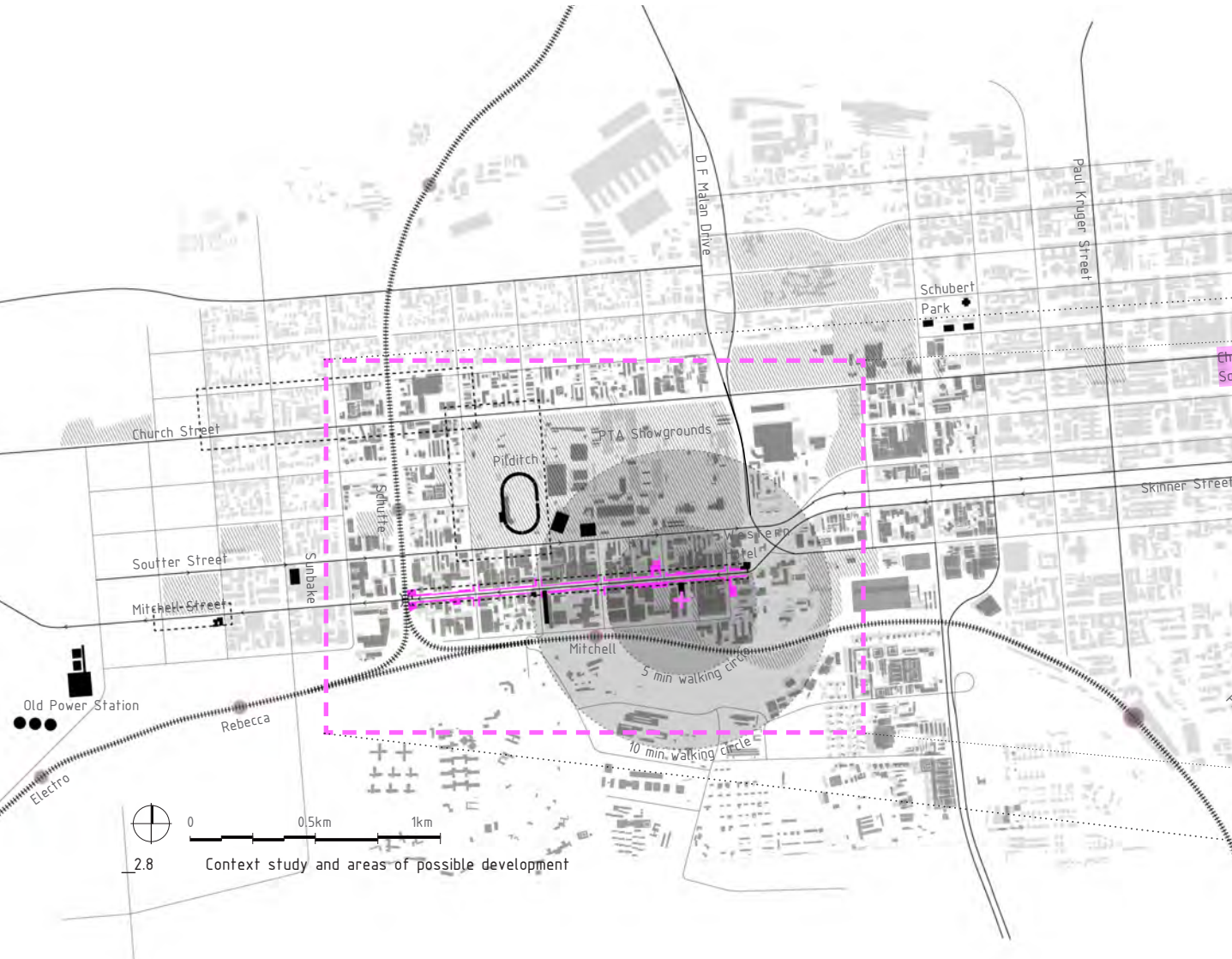
_2.5 Asylum Park



_2.6 Racecourse Promenade



_2.7 Urban grain study



_2.8 Context study and areas of possible development

Context Study

Pretoria West is characterised by a well-developed rail system which is mainly used for transport of goods. It mainly serves the industrial sector of the precinct and is limited in terms of public use. The road network is laid out for maximum efficiency.

A fair number of open space and soft spaces are prominent in the precinct. These supposedly public spaces are however mostly privatised and offer only limited accessibility to the public.

Mitchell Street has been identified as a major organisational structure within the precinct which can benefit in the hierarchical structuring of urban space linking civic centres and public green spaces.

Possible corridor development

Icon buildings

'The Mill'

Train station

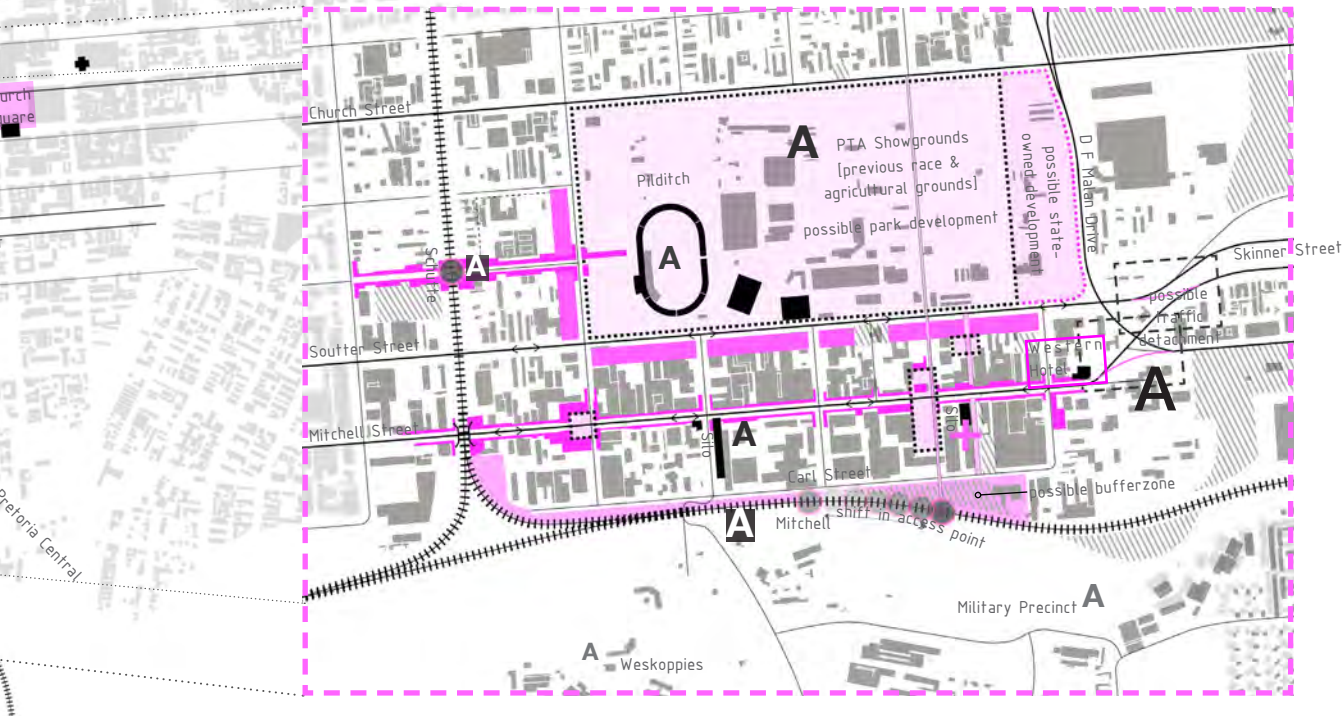
Railway line

Possible high-density housing

Possible square development

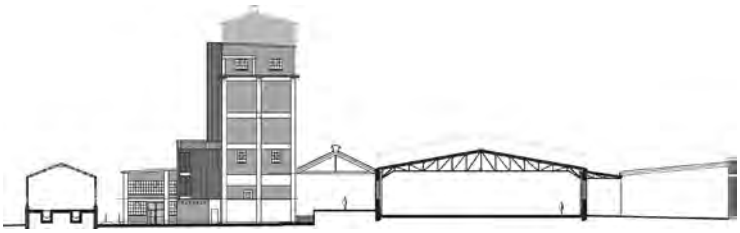
Open soft space

A Preliminary actors





South Elevation



North Elevation

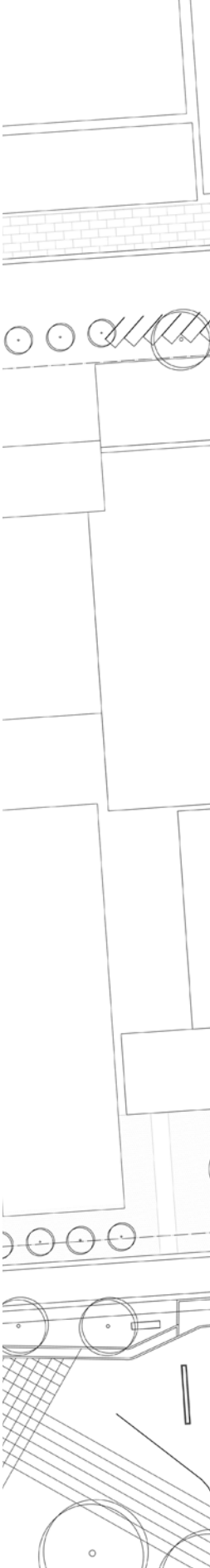


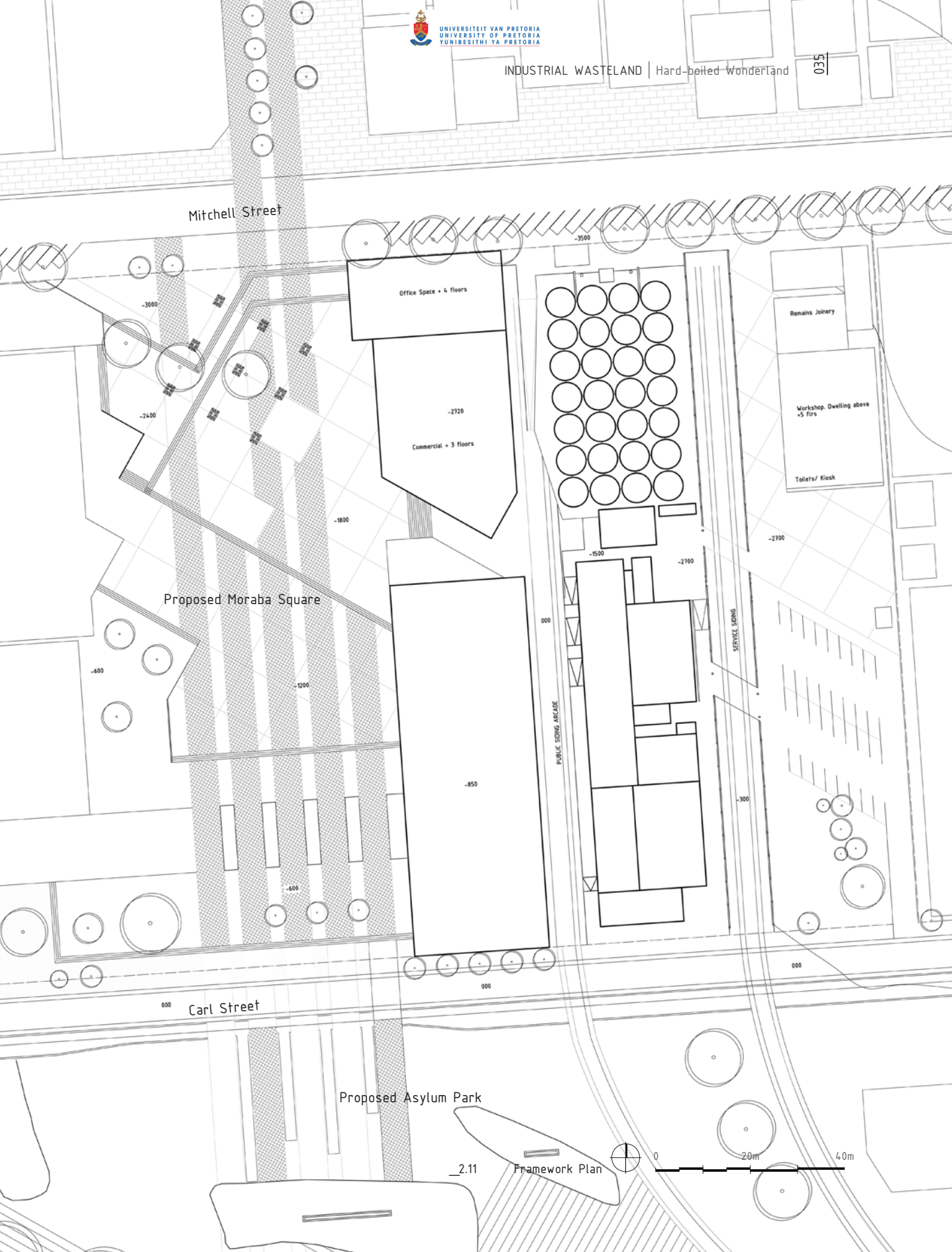
West Elevation

_2.9 Elevations of existing flour mill



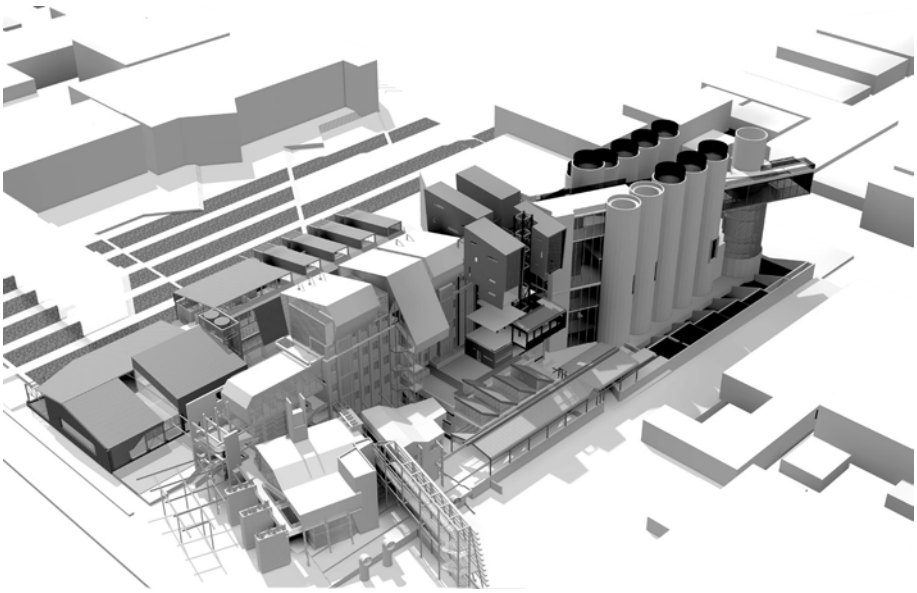
_2.10 Existing Context



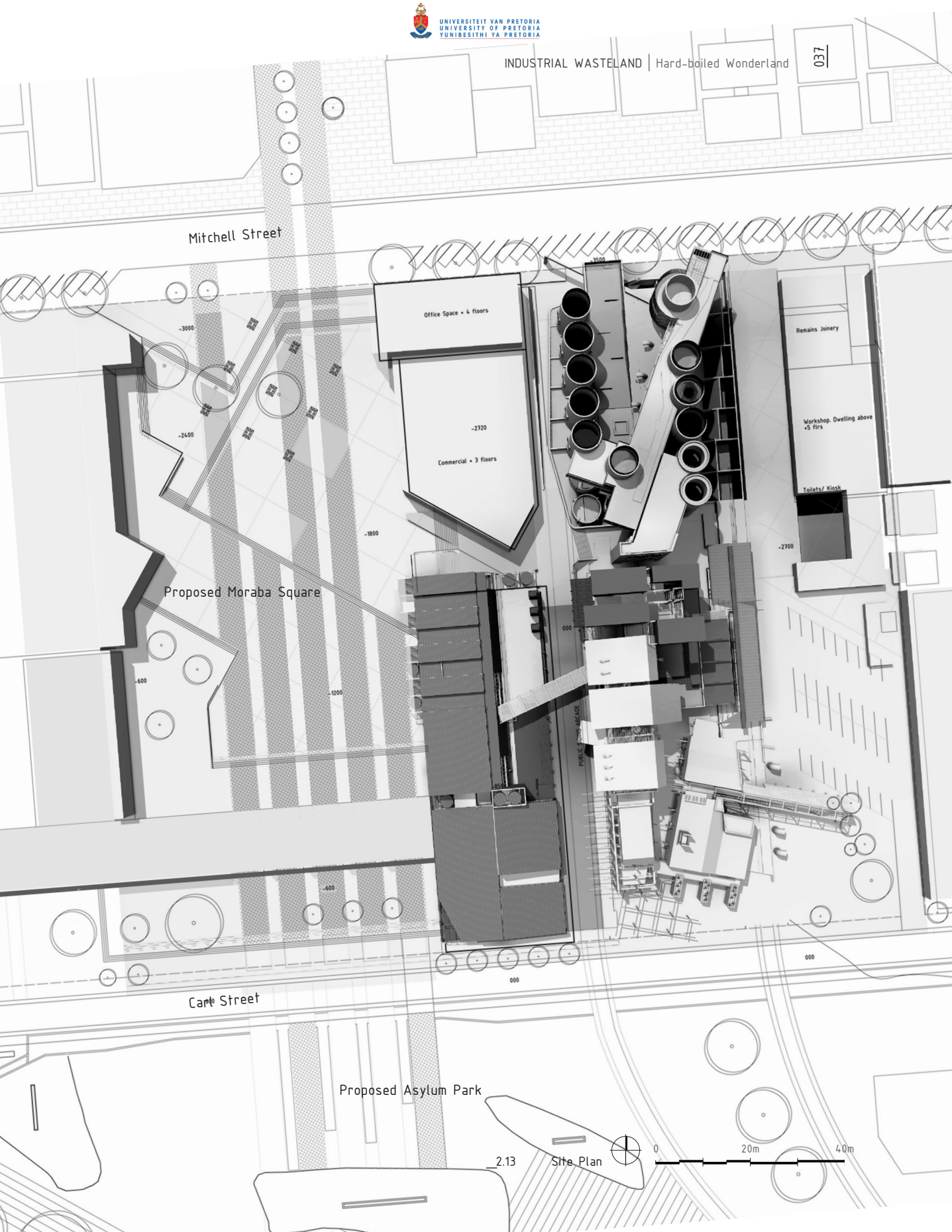


_2.11 Framework Plan

0 20m 40m



_2.12 Axonometric view of developed precinct



_2.13 Site Plan

DISEMBODIED REALITY: THE PUBLIC AND THE WASTELAND

The struggle of man against power is the struggle of memory against forgetting – Milan Kundera

The contemporary condition of reality is fragmented and disjointed. Characterised by mass-consumerism and globalization, society has become detached from real values, mediated by a false consciousness [Debord, 2006:90]. For the citizens of this society all is not well: fulfilment is attained through commodity abundance. Engulfed in a quest for excessive consumption and commodification, individuals have become detached from the collective [Debord, 2006:22]. The relationship between consumer and consumed is an objective material relation resulting from the dominant mode of production, yet it is real only in its unreality. In this Post-Modern context, architecture has been turned into a commodity and reduced to an image. As Steven Holl notes:

> Easily grasped images are the signature of today's culture of consumer architecture. Subtle experiences of perception as well as intellectual intensity are overshadowed by familiarity. A resistance to commercialism and repetition is not only necessary; it is essential to a culture of architecture. [Holl, 1993:17]

Unfixed, the precinct of Pretoria West lies as a transitional zone in-between centres of certainty, serving as a witness to industrial processes terminated long ago. The inhabitants of the surrounding area do not engage with the context, its past or its future. Disconnected from the site, these inhabitants find themselves in a mundane everydayness which has numbed any living desires. Fragmented and disjointed, it is "a place lost in space, lost in time" and it appears that "...even history does not have its place here" [Webster, 2012]. The industrial wasteland and its public are dysfunctional and unfold as a disembodied reality - static in time, detached from experiences and deprived of memory and imagination.

> The state of contemporary architecture is to a large extent declined by the general fragmentation of our culture. [Vesely, 2004:12]



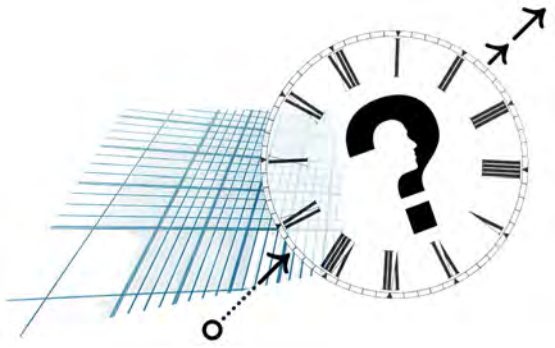
_2.14 Disjuncture

STATIC | TIME

The public lives in a liminal state of existence. Engulfed in a static condition of the now, the present becomes the only reality. The erosion of time has brought about a static reality - fixed in time and position.

> The Spectacle, considered as the reigning society's method for paralysing history and memory and for suppressing any history based on historical time, represents a false consciousness of time. [Debord, 2006:90]

The Spectacle's "false consciousness of time" paralyses history and distances the inhabitants from their collective memory, leaving them with no connection to their immediate context. Everyday activities take place without engagement with the city, its richness of character and experience. In the context of Pretoria West, commodification and ultimate erosion of time are linked to the production of commodities. The Spectacle of time assumes an irreversible nature [Yendo, 2012]. Just as irreversible, Mitchell Street



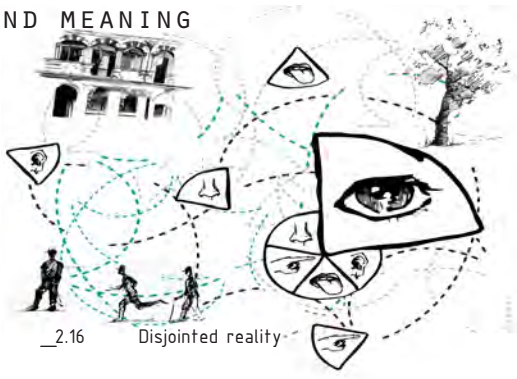
_2.15 Mono-dimensionality of time

becomes a symbolic manifestation of the citizen's one-way journey in life. In addition, the machine-made materials of today are intentionally aimed at ageless perfection and do not include the multi-dimensionality of time.

The problem of the static is not bound to the image only but also becomes an issue in architecture. Spatial experiences are detached from the human body and its movement through space. The moving of our sensations, or kinaesthetics, is neglected and becomes a mere practical act. Movement becomes a mere functional requirement for connecting different destinations. The dynamic of spatial experiences is reduced to function.

DETACHMENT | EXPERIENCE AND MEANING

Our ocularcentric culture, obsessed with the sense of vision, has resulted in the detachment of the body from our sensual and sensory experiences. Our senses are influenced and controlled as "...multi-sensory marketing manipulates experiences, feelings and desires through sounds, tactile sensations, tastes and smells. In fact, today we are colonised through all our senses"



_2.16 Disjointed reality

[Pallasmaa, 2011:20]. The image represents a superficial condition which is disconnected from context and meaning.

The consumerist attitude of society has furthermore resulted in a condition where the Spectacle of urban life is quietly consumed. A kind of 'throw-away culture' has developed in which very little is valued or has meaning. People become detached from product and process, as the labour force is distanced from the product, dealing only with fragments of the production process. Detached from any genuine values, the culture of Pretoria West has lost is sense of quality in its obsession with quantity. In this idiosyncratic quest, individuals become disconnected from the collective and above all, detached from their historic background, current context and future destination.

Similarly, architecture has been reduced to an art form of instant visual image. Evident in the flatness of surfaces, uniformity of illumination and the elimination of micro-climatic differences, users are confronted by a dull and irritating homogeneity of experience. Juhani Pallasmaa says that "our buildings have lost their opacity and depth, sensory invitation and discovery, mystery and shadow" [Pallasmaa, 2011:16].

DEPRIVATION | MEMORY AND IMAGINATION

Today, society is forcefully exposed to make-believe-realities. The image dictates human desire and forces society to live in fabricated realities. Our thoughts are directed by the image where "mental preconditioning frequently masks the realm of real intentions" [Pallasmaa, 2011:20]. Pallasmaa [2011:11] further explains that through "...our imagination we are able to grasp the multiplicity of the world of our senses... The current mass production of commodified and passivating images, that imagine on our behalf, even seems to threaten our authentic capacities of our imagination." This is substantiated by the realisation that the dictatorship of the image has brought about a certain familiarity. "Familiarity is a sign of reluctance in society to explore the unknown, to do effort to acquire it and to actually get involved in the unfamiliar" [Van Kreij, 2008]. Consequently, contemporary society is deprived of its imagination and incapable of engaging with its reality and true desires.

Along with the demise of imagination, society finds itself incapable of accessing the past. Through the commodification of time, history's significance has been lost, leaving society in limbo. Without certainty of time, people become indifferent to their present and past. The significance of being in the world is diminished as meaning seems to be derived from social context and history, wherein memory and associations are emotionally loaded. The relevance of history and access to memory has hence disappeared. Detached from the context, the public does not engage with its history. History is nevertheless part of our collective memory and needs to be incorporated into our present experiences. Awareness of the past is subsequently founded in memory, and remembering is crucial for our sense of being. However, disconnected from reality, society is unable to recall memory. As a result the present as well as the past carry little or no meaning.

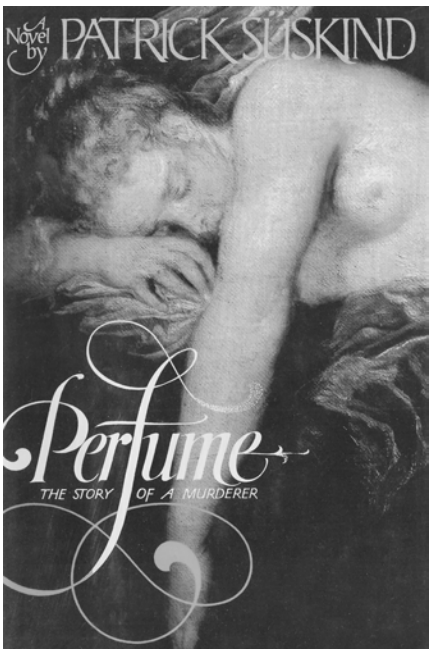


__2.17 Deprivation

PERFUME: THE STORY OF A MURDERER

Published in 1985, "Perfume: the story of a murderer" is a novel (originally published in German as *Das Parfum*) by German writer Patrick Süskind. The novel explores the power of the sense of smell and the significance and meaning of scent.

Taking place in 18th century France, the story describes the perfume apprentice Jean-Baptiste Grenouille who begins to trail and murder virgins in his search for the 'perfect scent'. Jean-Baptiste Grenouille has an extraordinary sense of smell and is able to detect odours no matter how infinitesimal they are. However, he does not have a body odour of his own. By means of his olfactory capabilities he becomes the best perfumer in the world but his nose gets him no nearer to self-identity.



_2.18 Book cover of the novel 'Perfume'

Concerned with morality, identity and social values of society, Süskind's novel has often been argued, most convincingly by Richard Gray, as a criticism on the Enlightenment. According to Gray, Süskind "points out the parallel between modernist aesthetic practices and the principles of instrumental rationality; indeed, he exposes the destructive impulse inherent in Enlightenment metaphysics by examining its operation in the domain of aesthetics" [Gray, 1993:503]. The novel expresses Enlightenment as a condition reduced to the domain of reason. Süskind uses the realm of olfaction – a sensory sphere – the impressions of which the Enlightenment attempted to suppress. Süskind comments on Enlightenment society in which love and life had become mutually exclusive:

> The cry that followed his birth, the cry with which he had brought himself to people's attention and his mother to the gallows, was not an instinctive cry for sympathy and love. That cry, emitted upon careful consideration, one might almost say upon mature consideration, was the newborn's decision against love and nevertheless for life. Under the circumstances, the latter was possible only without the former, and had the child demanded both, it would doubtless have abruptly come to a grisly end. [Süskind, 1985:24]

While all the characters in the novel follow the principle 'I smell, therefore I am', Jean-Baptiste Grenouille is odourless – questionable in his existence and personal identity. He does not smell, therefore he is not.

The common people of Paris are described as immune to the unbearable stench of the city and their homes through daily exposure [Süskind, 1985:44]. Repetitive sensory stimulation has eroded the significance and meaning of the experience itself. Furthermore, the domain of scent is described as the "documentation of what has been wiped off the slate of historical memory" which, due to its ephemeral nature, leaves no trace in history [Gray, 1993:491]. Scent consequently has no significance in the object releasing an odour, but bears meaning in the experience and emotions it provokes.

Undermining the delusions of rationality, the novel concludes when Grenouille falls critically ill as it dawns on him that he will be unable to realise the scents of his imagination.

> Grenouille's progress in the art of perfumery parallels the progression from classical to modernist art, culminating in the commodity aesthetics of the culture industry. [Gray, 1993:493]

Directed by Tom Tykwer, the novel was translated into film during 2005 and released in 2006 [Anon, 2009]. Written by Andrew Birkin, Bernd Eichinger and Tykwer, smell is suggested by visual means as the cinematographer Frank Griebe explains:

> These colors appear in the sets, costumes, props and lighting. We tried to keep it subtle; we never worked literally, suggesting that yellow represented this particular smell or red that smell. Our goal was a subtle visual enhancement of Grenouille's discoveries and passion. [Anon, 2009]

As the story unfolds and Grenouille is exposed to a larger palette of scents, the lighting becomes more dramatic and colours become more powerful. Through stark imagery and rich textures, the film conveys the dirty city and expresses the feel of smell. The film does not convey the critical depth of the social commentary of its textual origin, but the vivid cinematography is nevertheless able to put the subject of sensual deprivation into the contemporary cultural domain. To quote film critic Roger Ebert:

> It took imagination to tell it, courage to film it, thought to act it, and from the audience it requires a brave curiosity about the peculiarity of obsession. [Ebert, 2007]

REFLECTION

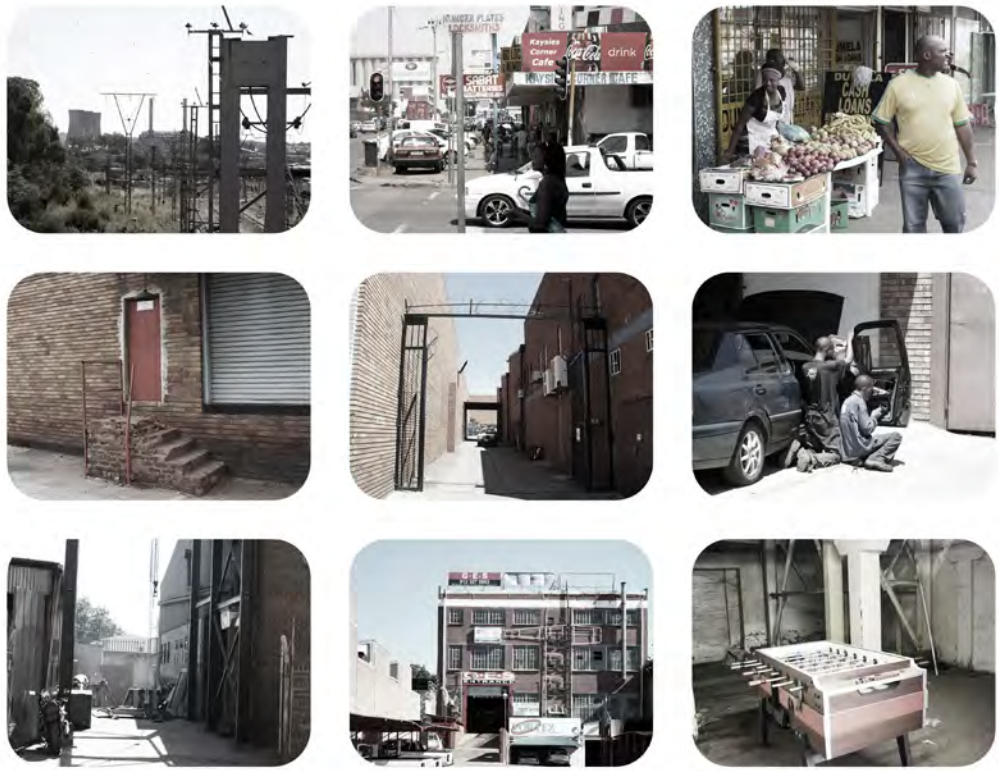
Whether or not Süskind's novel is a critical commentary of the Enlightenment, the condition described in the novel as well as the context of the Enlightenment, show a striking resemblance to the condition of the wasteland of Pretoria West. The zeitgeist of Enlightenment is characterised by Descartes's notion 'I think, therefore I am', which consequently brought about the repression of irrationality, superstition and sensuality. Similarly, Pretoria West discloses itself as an environment in which the public is obsessed with visual imagery and deprived of sensual stimulation, desire and lust. The



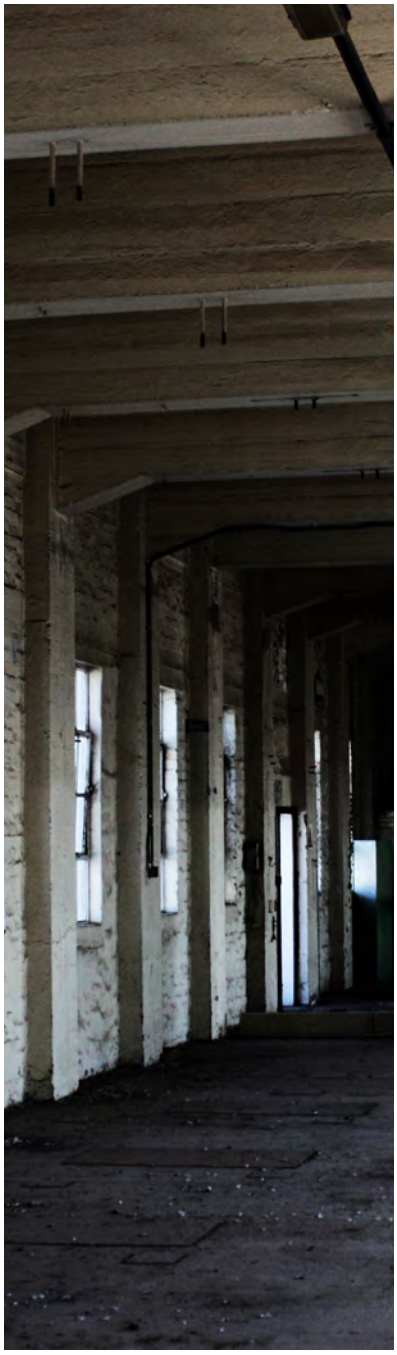
_2.19 Stills from the movie 'Perfume: the story of a murderer'

authority of the machine, mass-production and spectacle of consumption, has resulted in a society which no longer truly engages with its physical and spiritual existence.

For the purpose of this dissertation, both the novel and the film provided valuable insights into the artistry of perfumery, the powers and perceptions of the sense of smell, as well as the processes of scent extraction. Scenes are described in great visual detail, but also allude to the intangible qualities of space. The imagery of the film also inspired a specific atmosphere, gloomy spaces of the craftsmen and visual pulp of machines and contraptions of artisan perfumery.



_2.20 Stills from the wasteland of Pretoria West



_2.21 Quality of space



_2.22 Weathering: Embodied time



_2.23 Fragments of the past

| MEMORY AND THE WASTELAND | Potential of the mill and its context

Despite the fact that abandoned industrial wastelands are un-inhabited and silent, they speak of days long gone and have the power to record and recall memories. They are memory environments, places that house spaces open for authentic collective experience. Fragmented and detached, the wasteland of Pretoria West is a contemporary ruin, with the potential for enabling society to get a grip on absent and invisible aspects of memory and meaning. The spaces of the mill are haunting yet evocative and have the power to summon memory, be it real or imagined. If one can still experience, one can still remember [Curulli, 2006:39]. The abandoned mill comprises space that evokes the physical and sensate awareness of the self and the body. It stimulates the user in the way it strokes against his skin, in the way it smells and sounds, how it meets the soles of his feet and hangs above his head. It bears forth meaning and inspires memory through the experiences of space.

The wasteland also embodies the inescapable passing of time. As time weathers the building, physical aspects are eroded; stains mark the course of time and exposure to the elements, and time scratches patterns and textures into the built fabric. Although not able to capture the intangible existence of time, materials record the tangible effects of time. Not only does the mill physically record elapsed time, but it also senses the urgency of its imminent demise – the prospect of being forgotten. Slowly and persistently, time erodes the meaning and significance of its existence; the memory is lost. It cannot persevere without interference and exposure through intervention. The mill's dynamic existence needs to be embraced and to become accessible, so that new memory and meaning can unfold.
More importantly, the wasteland stimulates perception and inspires memory. Through a degree of incompleteness, first of all brought about by its physical erosion through time, the mill expresses openness for interpretation and has the potential to entice users to freely apply their imagination. Secondly, through the course of history, the machinery of the mill was removed, leaving behind spaces that witnessed human progress and production. Today, they lie silent, yet blemished by the activities that occurred within them. Filled with fragments of machines, these interior spaces insist on stimulating the imagination and suggest speculation without dictating thought or perception.

The mill's past is fragmented and mysterious. Voids of history exist and the fate of a once influential place of production is unclear. However, a fragmented past and memory stimulates invention [Curulli, 2006:35] and unburdens spaces of history. The past can be interrogated in a progressive way without being stained by history, for history has lost its relevance. The intangible remains of the past have to be composed, rearranged and layered because memory is not nostalgia, but is recollected in fragments with distortions that are meant to remind one of the truth [Crulli, 2006:39]. While the truth remains ephemeral and open for personal interpretation, it is through the engagement of the public that the spaces of the mill would regain their life and memory would become accessible. Prospects arise to explore ways that architecture can give form to new memory.

"... qualities like quiveriness and vulnerability
come to mind
when I think of creativity...
creativity requires
a sense of smell,
a palate to taste the scents
that make brilliance.
All life feeds
upon the random.
Creativity is the haute cuisine."

- Douglas Hofstadter

[Fletcher, 2001:33]

3 THEORETICAL DISCOURSE

ARTISAN MECHANICS

The concept of "Artisan mechanics" is presented as a theoretical approach to the conditions of contemporary society, and to the context of the industrial wasteland as having the potential to create an augmented reality. Inspiring the imagination and automating kinaesthesia, artisan mechanics becomes a catalyst for the construction of a collective memory.

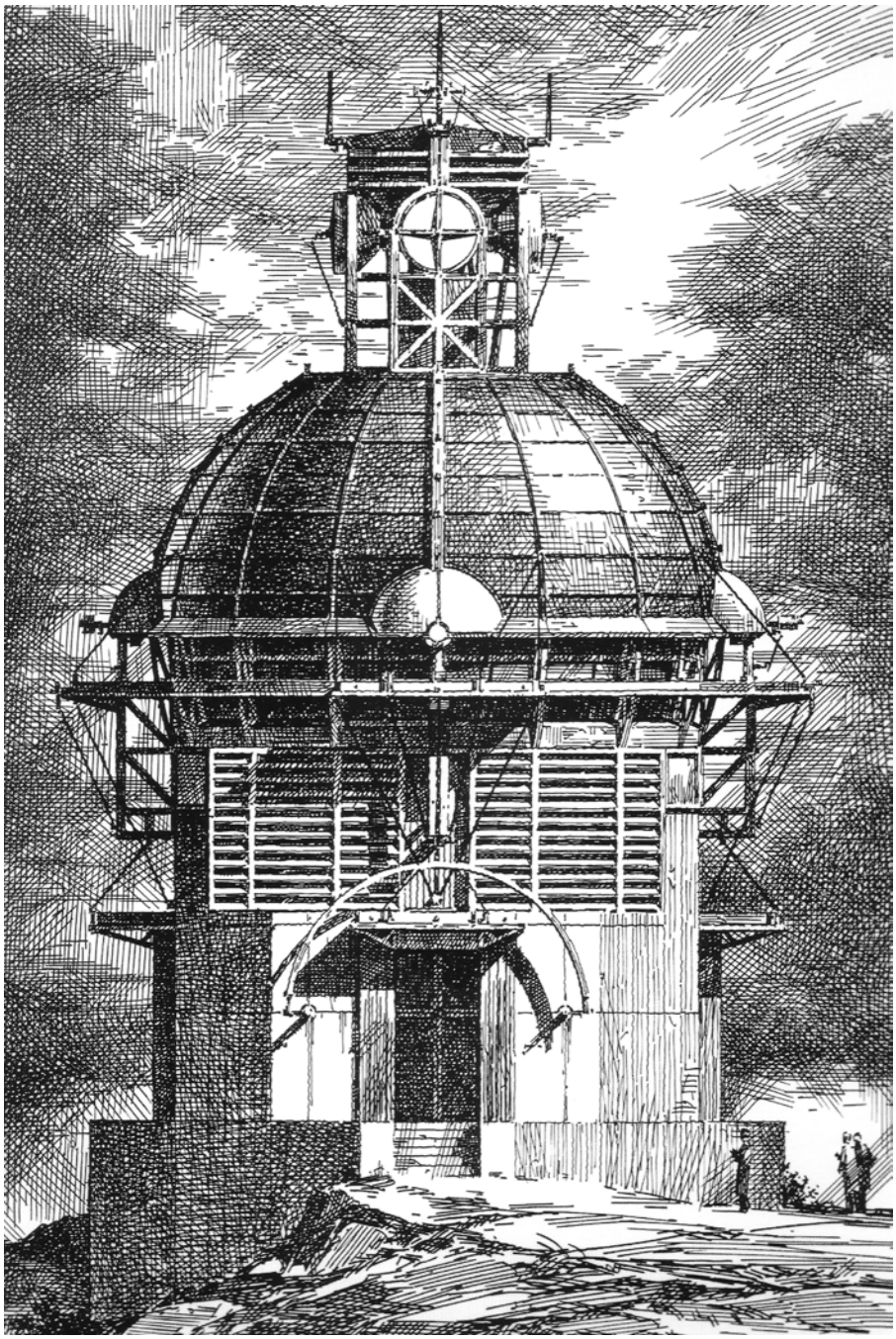
ARTISAN MECHANICS

Artisan mechanics describes an certain approach to the industrial wasteland. It demands a shift from sanitised and mechanised forms of production to the ritual of the craftsman. The emphasis vests in the poetics of making rather than the goals of consumer industry which are based on economy, efficiency, and perfection of performance. Responding to the loss of the poetics of life, it begins to explore the value of creativity or imagination in the shadow of modern technology, and investigates how architecture can be imbued with a sense of memory in the absence of an articulated public culture.

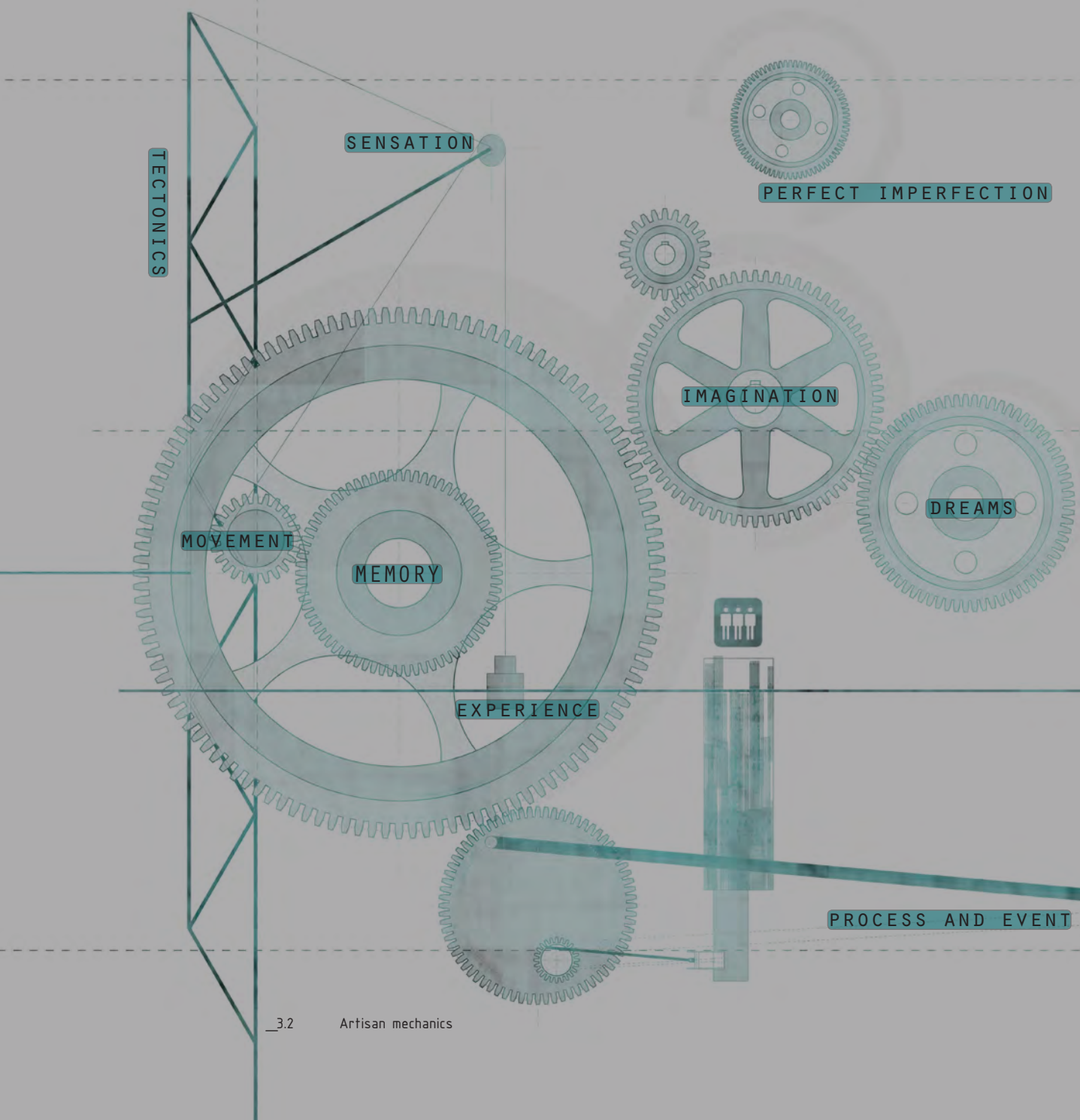
It is necessary to come to terms with the conditions of our earthbound cultural existence for a deeper understanding of the relationship between architecture and technology. In Martin Heidegger's words "... the essential reflection upon technology, and decisive coming to terms with it must happen in a realm which is on the one hand akin to the essence of technology, and on the other fundamentally different from it; ... such a realm is art" [Vesely, 2008:328]. The opportunity therefore does not only lie in the realm of art, but also in the realm of artisan mechanics. It is a metaphysical quest, without utilitarian or technical interests, that gives the architecture of mechanics its privileged position [Vesely, 2008:296].

The aspired result is an augmented reality, in which citizens can reassure themselves as part of a reality and collective memory which ultimately supports the formation of a true identity. A reality which in its essence, is comprised of spatial experiences, memory and imagination – set within a dynamic of time. From its onset, artisan mechanics would provide an appropriate framework for a new architecture that can support the construct of a true collective memory.

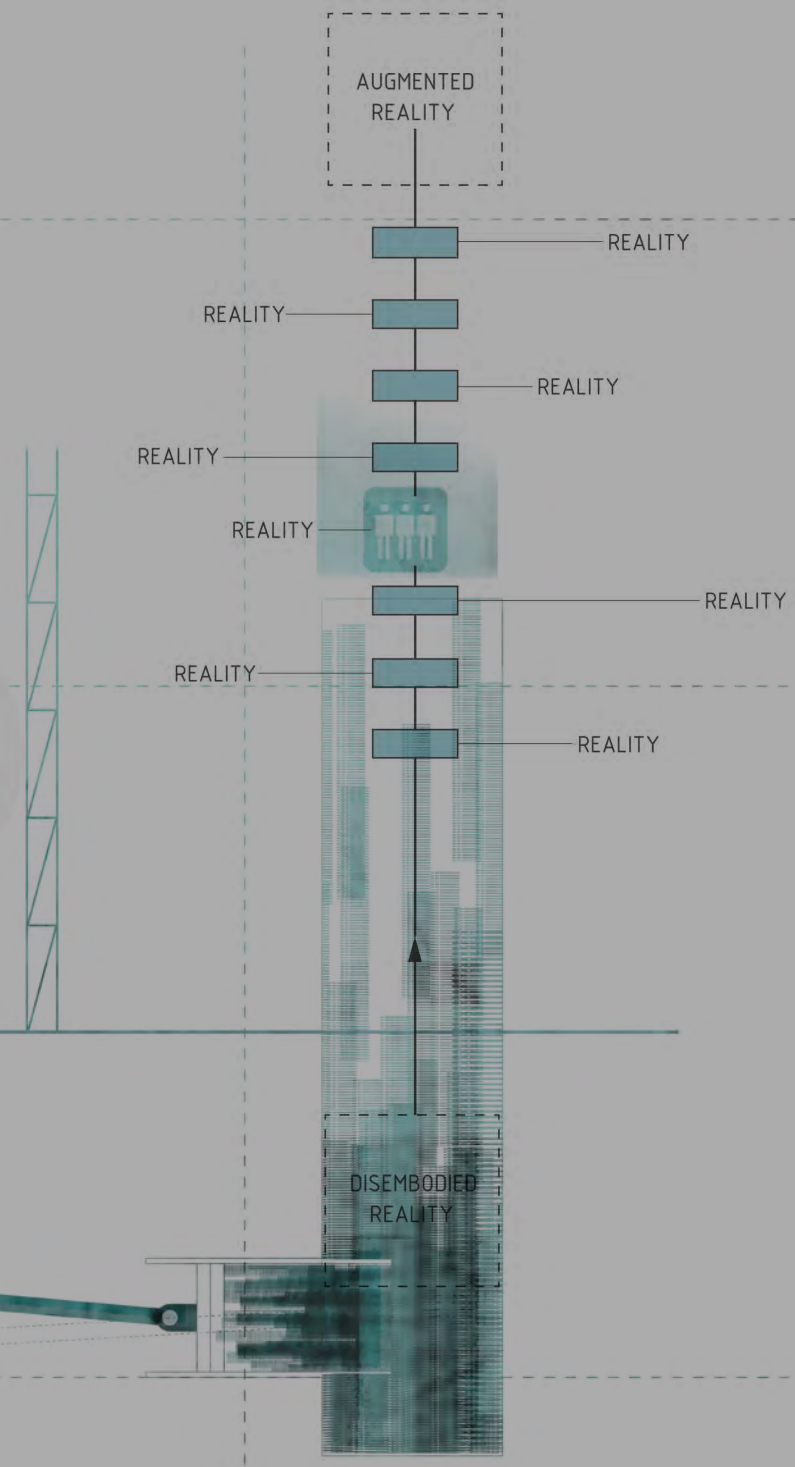
The origins of this notion can be seen in the approach of Memorial Mechanics of the early 1980's. The works of Lebbeus Woods, John Hejduk and Mike Webb embrace another dimension of human existence and act as archetypes to the approach of permeating architecture with a sense of memory [Spiller, 2006:165]. Beautiful and life enhancing, they exemplify the mediation of architecture and technology.



_3.1 Memorial Mechanics: Epicyclarium, Lebbeus Woods, 1984–5



_3.2 Artisan mechanics



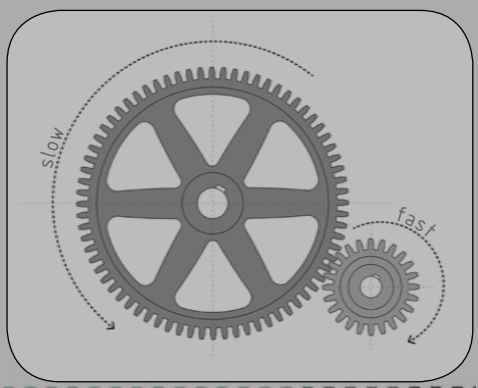
To further investigate the power of artisan mechanics, three main components were identified as the main constructs to the apparatus of artisan mechanics:

- Hallucinated mnemonics
  [memory and imagination]

- Kinaesthetics
  [movement and experience]

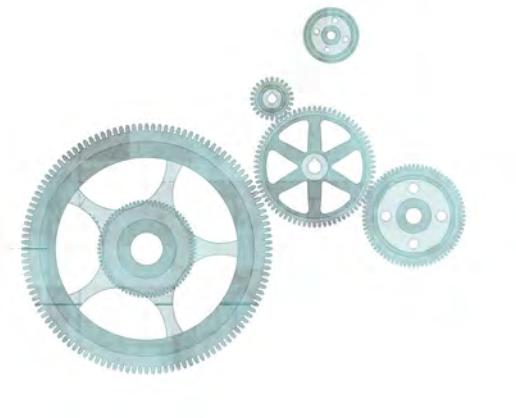
- Collaged narration
  [event and process]

The three components are located within different timescales and dynamics. This is easily described by the relation between two differently sized cogwheels. As the two wheels are set in motion, the smaller wheel will turn faster and in the opposite direction to the larger wheel. The smaller wheel becomes a representation of a more volatile and dissipating condition that usually has a short impact. The larger wheel represents a more constant, stable and solid condition, moving at a slower pace and creating a longer lasting impression.



_3.3 Cog mechanics

Hallucinated mnemonics



Hallucinated mnemonics is the culmination of imagination and memory. In its essence, it describes how the imagination becomes a means to recall and access memories. Mnemonics is defined as the art of memory, or a technique to recall memory [Porter, 2004:116]. Our perception of space is always affected by the intersection of memory and imagination.

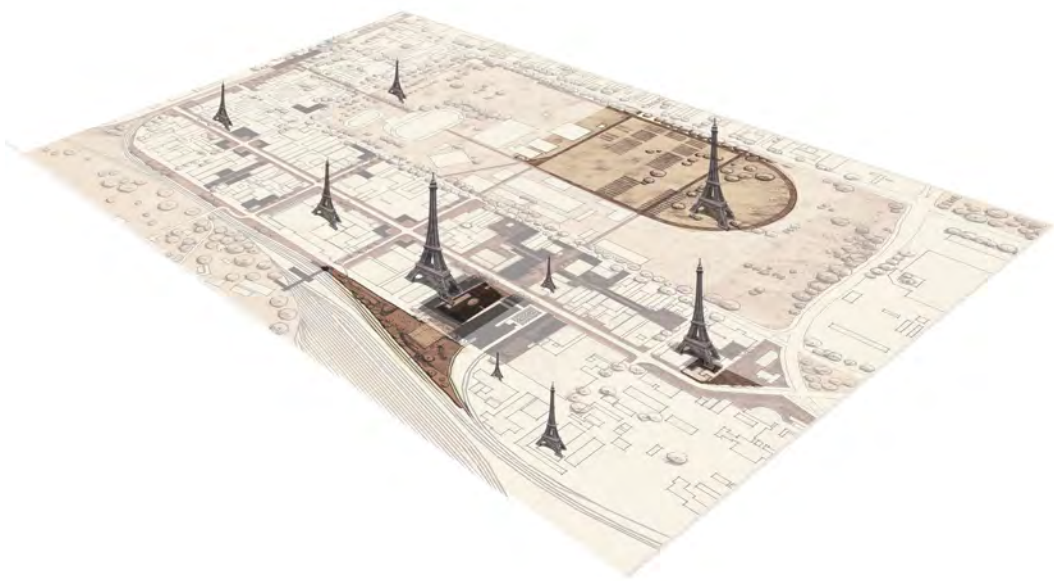
> We have an innate capacity of remembering and imagining places. Perception, memory and imagination are in constant interaction; the domain of presence fuses into the images of memory and fantasy. We keep constructing an immense city of educational remembrance, and all the cities we have visited are precincts in this metropolis of the mind. [Pallasmaa, 1996:68]

| MEMORY

> The city exists in memory, in the desire to remember, in the desire to forget, in the simultaneous construction of memory and forgetting.
> [Bunschoten, 2001:155]

Our awareness of time is rooted in memory as it is the embodiment of past objects and events. Preventing disorientation, memory forms a point of certainty in space and time, as history [residue of the past] is formed into memories of the present. Maurice Merleau-Ponty asserts that "what protects us against delirium or hallucinations are not the critical powers but the structure of our space, together with the structure of our memory" [Merleau-Ponty, 1945:291].

The Eiffel Tower in Paris acted as a mediator between architecture, technology and the cultural context and was successful in evoking a collective memory. It is an autonomous abstract structure which can be seen as a creative reconciliation within the cultural context of the city [Vesely, 2008:304]. At its completion in 1889, the tower was seen as an intrusive object, alien to the Parisian landscape; and yet only a few years later, it was hailed as the symbol of Paris. It does not only have the potential to act as an anchor point within an augmented reality, but it becomes the vehicle for the negotiation of a newly formed collective memory.



_3.4 Conceptual image exploring the mediation of context and technology

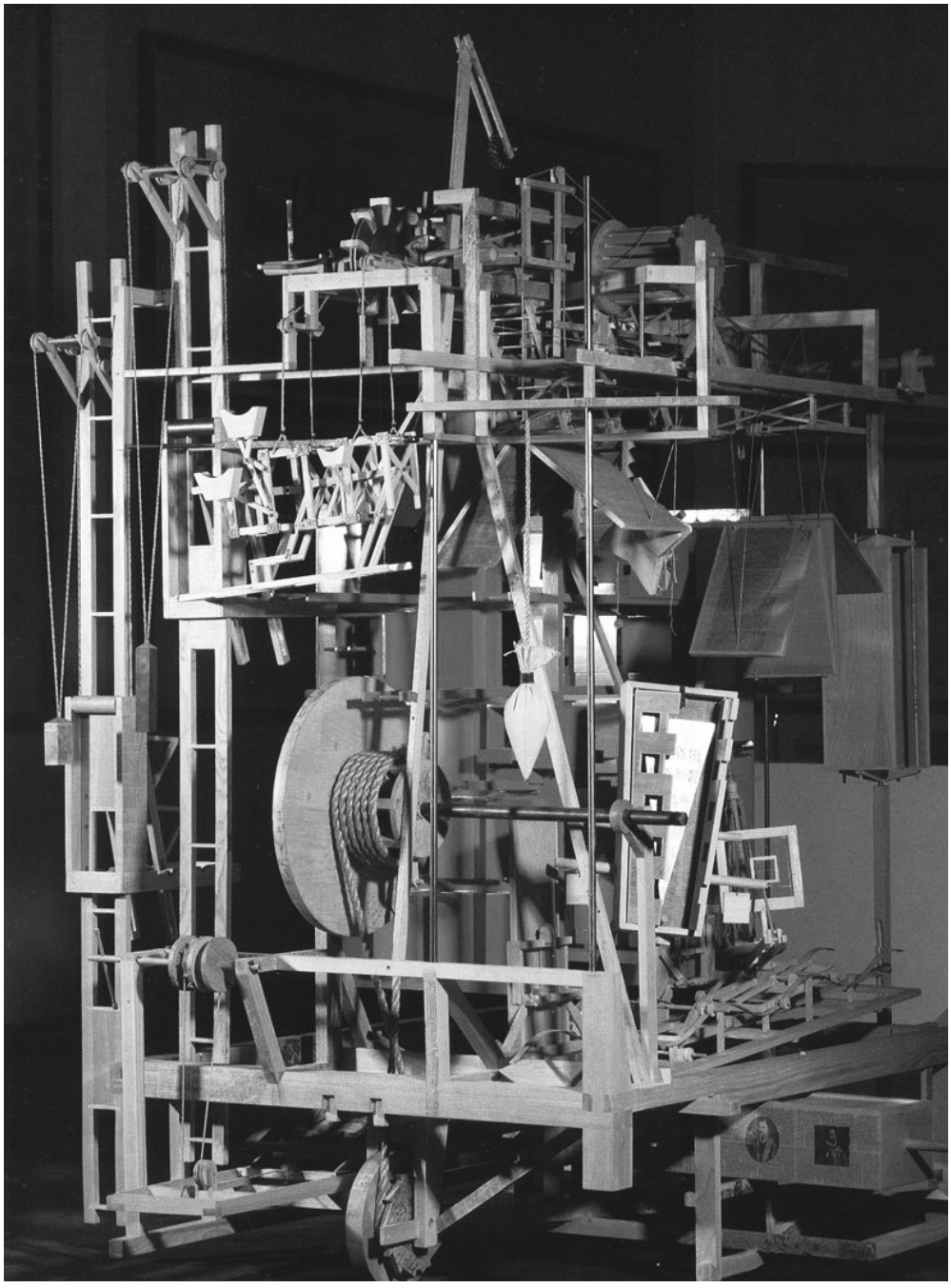


Without memory, chaos is the outlook and society currently finds itself incapable of accessing and creating memory. Paralyzed by the Spectacle, society is detached from history and lives in a continuum of the now. A collective memory is not only absent, but unable to emerge. However, Neil Spiller describes memory as having the power to overcome the effects of the Spectacle:

> If architecture is to be of any use in contemporary society, it must be much bigger than the vicissitudes of the Spectacle. If it has any importance left, it must help us remember not in a specific way, although it is often called upon to do so, but in an enigmatic, empathetic way. [Spiller, 2006:166]

Architecture has a long tradition concerning the art of memory, serving as a visual reality which acts as a mnemonic device to stabilise our experiences [Vesely, 2004:98]. Architecture entices the user to form a mix of personal and collective memory. Throughout history, language, objects and experiences have helped societies to remember. Architecture can be extended to serve as memorial architecture, acting beyond the individual to calibrate a collective memory, half factual, half imagined: "full of narrative, ghostly and sadly mnemonic – a commemorative architecture" [Spiller, 2006:167]. Thus architecture provides a formal setting in which private and public rituals of remembrance can occur.

On this notion, Dalibor Vesley notes that "... memory is – in its very essence – situational. Oral cultures understand this point well: their long narratives are remembered without writing, but always with the help of gestures, rhythm, music, or references to natural phenomena" [Vesely, 2004:100]. In that sense memory is incorporated and inscribed onto architecture through events, rituals and even daily activities - the depth of memory is influenced by the architecture and its appeal to the senses. Therefore museums, monuments and memorials become far less important than the rituals and events that take place in or around them.



_3.6 Daniel Libeskind - "Memory machine"



_3.7 "Memorial to the Murdered Jews of Europe" designed by Peter Eisenman in 2005

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| IMAGINATION

With the outset of memory comes the importance of imagination. While memory puts emphasis on the collective realm, the imagination completes the argument by adding the personal realm. The imagination is our subconscious that stands in a special relationship to everyday reality. It extends past the boundary of actual space into the realm of imaginary space by way of thoughts, dreams and daydreams.

Highlighting the importance of imagination, Juhani Pallasmaa [2011:10] explains that "... mental imagery is the crucial vehicle of perception, thought, language and memory." Imagination is thus the mediator of all our impressions to generate a cohesive understanding of our existence. It forms a coherent world – fragments are formulated into a complete image. As Dalibor Vesely notes:

> ...the world as it is given to us in our experiences is structured as an articulated series of mediations between given conditions of our existence and the possibilities of freely developing the conditions through our imagination, language, and thought.
>
> [Vesely, 2004:58]

In the contemporary post-modern condition, our imagination is corrupted. It is manipulated and controlled by static imagery. Society is confronted by the demise of its own imagination as mass-produced and computer-generated images imagine on our behalf [Pallasmaa, 2011:17]. Realms of fantasy life and daydream images become surrogate for genuine, autonomous imagination.

Pallasmaa continues his argument by the particularity of the 'free' and 'dictating' image. Dictating images manipulate the condition and direct the imagination. While 'dictating images' confine freedom and narrow down choice and individuality, free images provoke the imagination. Gaston Bachelard [1964:6] defines free images as images of presence which "...give rise to images of the memory, imagination and dream." Consequently they have the potential to emancipate, empower and inspire. The experience of the viewer at the Apartheid Museum [Gapp Architects, Mashabane Rose Architects, Britz Roodt Vernootskap and Linda Mvusi Architects, 2003], located on the outskirts of Johannesburg, is characterised by the dictating image. With a predetermined narrative, the architecture is a one-sided monologue which leaves little room for the imagination to unfold. In contrast, Peter Eisenman's "Memorial to the Murdered Jews of Europe" [holocaust memorial] in Berlin, is an example of architecture which does not impose itself on the views and imagination of the user. It engages with the viewer in an open dialogue, leaving room for personal interpretation.

The 'free image' describes an open-ended situation which requires personal involvement, where the viewer becomes the missing link required to create a comprehensive piece – "By exerting his own imagination the viewer completes the work" [Van Biljon, 2010:60]. This gives rise to an architecture of perfect imperfection. Chance and subjectivity are invited in a search



__3.8 Dictating - Apartheid Museum

for ways beyond the familiar [Van Biljon, 2010:58]. Space becomes animated by the user - through personal interaction - to establish a reciprocal condition between imagination and the material world. As such, architecture requires an open-ended stance to entice the user on a personal level.

In his discourse on High Realism, Michael Benedikt describes the idea of 'perfect imperfection' as 'emptiness'. "Architecture with emptiness is thus always unfinished: if not literally, then by the space it makes and the potential it shows. We become engaged with the intervals and open ends" [Benedikt, 1987:58]. He describes a void which is to be inhabited and completed by freely applying our imagination. Furthermore, he describes a shift in emphasis from product to process.

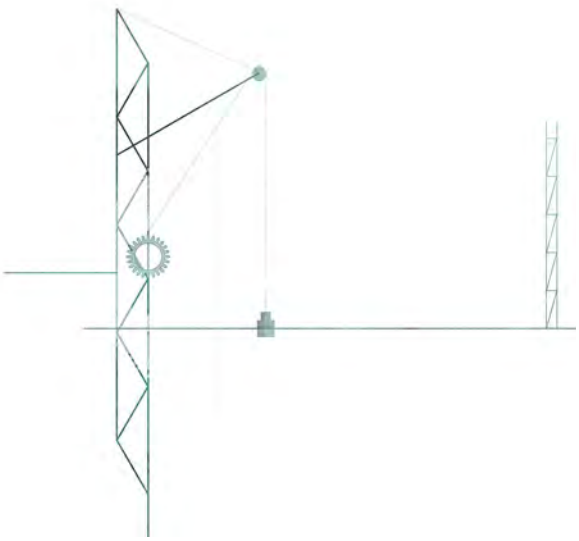
Additionally, 'the unknown' could take architecture to the realm of mystery. Through 'machined mysticism', Lebbeus Woods is capable of enticing the viewer through his clever choreography of fragments, chasms and shadowy machinery. It remains old but new, familiar but alien - half revealed, half understood, half glimpsed, half known [Spiller, 2006:170].

Permanent incompleteness leaves room for the imagination to dwell and wander freely, exploring personal ideas and individual desires [Van Biljon, 2010:60]. The desired result is an architectural expression capable of condensing phenomena of surprise into a memorable event.

Imagination is what makes our sensory experience meaningful, enabling us to interpret and make sense of it, whether from a conventional perspective or from a fresh, original, individual one. It is what makes perception more than the mere physical stimulation of sense organs. It also produces mental imagery, visual and otherwise, which is what makes it possible for us to think outside the confines of our present perceptual reality, to consider memories of the past and possibilities for the future, and to weigh alternatives against one another. Thus, imagination makes possible all our thinking about what is, what has been, and, perhaps most important, what might be.

- Nigel J.T. Thomas

KINAESTHETICS



Countering the static nature of experiences, kinaesthetics implies - movement - adding a dynamic to the reality of space. The origin of the term "kinaesthetics" is a combination of the Greek *kinein* "to move" and *aisthesis* "sensation" [Oxford English Dictionary]. Therefore kinaesthetics literally means "moving sensation". City and architecture contain too few moments of kinaesthetic stimulation and designers remain totally unaware of the possibilities to attract, stop or speed people up in the built environment.

In isolation events, movement and experiences are discontinuous and have little meaning [Tschumi, 1994b:9]. However, when united they form architectural experiences incorporating a dynamic of space by integrating a dimension of time. Emphasis lies in the sequence or progression of space which confronts movements, spaces and events [Tschumi, 1994b:10]. In "The Manhattan Transcripts", Bernhard Tschumi highlights the importance of memory, movement and time:

> The Transcripts are ... not self-contained images. They establish a memory of the preceding frame, of the course of events. Their final meaning is cumulative; it does not depend merely on a single frame (such as a façade), but on a succession of frames of spaces. [Tschumi, 1994b:11]

| EXPERIENCE

Architecture has always been an art and a science revolving around space. As such, it is deeply interrelated with human experience and perception. Accordingly, architecture should respond to the senses, filling the perception of space with feelings and emotions. Experience and meaning are the "...basis for the free play of our imagination and thought, for experimentation, invention, and creativity, as well as for evolution and critical judgement" [Vesely, 2004:64]. Experiences of space give coherence and stability to our reality:

> The structure of space has its source in the depth of culture and coincides with the overall coherence of our cultural world. Because our existence is always spatial, the nature of lived phenomenal space determines the topography, orientation, meaning, and the sanity of our existence.
>
> [Vesely, 2004:40]

Architecture however has remained limited in engaging with the reality of space and all its dimensions. This is probably due to the historic code of architecture which is grounded in geometry and the discovery of perspective. In addition, the situation has been aggravated by the obsession with the image. Merleau-Ponty [1945:340] points out that "...the illusion of seeing is therefore much less the presentation of an illusionary object than the spread and so to speak running wild of visual power which has lost any sensory counterpart."

The code of culture has resulted in the suppression of archaic sensory remnants – smell, taste and touch. It results in a narrow sense of space, negating the phenomena of perception, sense and experience. According to Pallasmaa [1996:19] "...the inhumanity of contemporary architecture and cities can be understood as the consequence of negligence of the body and the senses, and an imbalance in our sensory culture."

The deprivation of our senses has resulted in the appeal for a 'life enhancing' architecture which Gaston Bachelard [1964:6] termed "...the polyphony of the senses." It is a move away from the functional aesthetics of reduction towards a layered and multi-sensory architecture. The origins of this notion date back to Vitruvius and his three principles of *firmitas, utilitas, venustas* [commodity, firmness, delight]. It is in the principle of 'delight' that architecture responds to our spatial experience. Pallasmaa [1996:11] describes the significance of spatial experience that allows "...us to engage fully in the mental dimensions of dream, imagination and desire":

> It is evident that 'life enhancing' architecture has to address all the senses simultaneously and fuse our image of self with our experience of the world. The essential mental task of architecture is accommodation and integration. Architecture articulates the experiences of being-in-the-world and strengthens our sense of reality

> and self; it does not make us inhabit worlds of mere fabrication and fantasy.
> [Pallasmaa, 1996:11]

So far it has been established that experiences act as a platform where the imagination can unfold and as a certainty for memory to be bestowed upon. Furthermore it is important to understand that experiences are crucial to our sense of time. Therefore spatial experiences stand in a close relationship with tectonics and materials. On the significance of experience, materiality and time, Pallasmaa [1996:31] notes that "natural materials – stone, brick and wood – allow our vision to penetrate their surfaces and enable us to become convinced of the veracity of matter. Natural materials express their age and history, as well as the story of their origins and their history of human use." Enclosure, materiality and tectonics are therefore responsible for the realism of spatial experiences in time.

The authenticity of architectural experience is grounded in the tectonic language of building and the comprehensibility of the act of construction to the senses [Pallasmaa, 1996:65].

| MOVEMENT

> All the world's a stage
> And all the men and women merely players
> They have their exits and their entrances
> And one man in his time plays many parts.

[from "As You Like It" [1599] by William Shakespeare]

Architectural space is experienced through movement. It animates our experiences to complete our kinaesthetic reality. Dalibor Vesely calls this phenomenon 'communicative movement'. According to Vesely, experiences cannot exist without a dynamic of space, because "...communicative movement is neither physical, nor physiological, nor subjective; it is ontological and situational because it animates and transforms human circumstances as a whole" [Vesely, 2004:74]. Space alone or time alone will fade into a mere shadow; only in their union will their existence be preserved. This space-time conception is a mutually existential condition, as "architecture initiates, directs and organizes behavior and movement" [Pallasmaa, 1996:63].

Our experience is primarily structured by our activities, and not by visual elements. Movement becomes the dynamic in human activities which turns physical space into lived and activated space. With movement "... memory ceases to be an isolated phenomenon, structured only by time, and becomes itself a dimension of cultural continuum" [Vesely, 2004:100].

While space cannot exist without movement, it is in the decline of movement to a practical deed where architectural space has profoundly lost its appeal. Movement becomes a servant to space, rather than a spatial entity in its own right. Subject to function, its poetics is lost as it exists as the mere requirement for connecting space. Similarly, movement in modern production processes have been reduced to a function of efficiency. The creative movement of the artisan and the craftsman have been deprived by the mass-production of commodities.

To ensure the dynamic of space, movement has to be seen as integral to experience. Prominence is given to the experience of space and the movement through that space, leading to a true space-time conception which is based on the poetics of movement. To a certain extent this approach was introduced by Le Corbusier's theory of movement and space and his idea of promenade architecture. What he was essentially inducing was the connection of space through the ritual of movement to create architecture that not only gives priority to experiences but also serves to bind the intention of the architecture to the perception of the viewer - a journey through space.

Genuine movement can also cause a conflict of space, building and circulation. The Carpenter Centre by Le Corbusier acts as an example, "...with its ramp that violates the building, a genuine movement of bodies is made into an architectural solid" [Tschumi, 1994b:XXII]. It allows for the inevitable intrusions of the body into architectural space, resisting the obedience to functionalist formulas. The building demonstrates the focus on actions and their spatial effect and celebrates the movement of bodies in space.

Steven Holl proclaims that "our perambulatory experience of architecture is made up of an infinite number of perspectives projected from an infinite number of viewpoints" [Porter, 2004:119]. Movement is consequently not only functional, but architecture should also provide for the enjoyment of the experience of moving. This entails not only that function and movement be linked by activity, but also that movement can be embraced by architecture as an activity of its own and that the event can be blurred into architecture itself. This could also facilitate the creative movement of the artisan and the ritual of the craftsman, as Vesely explains:

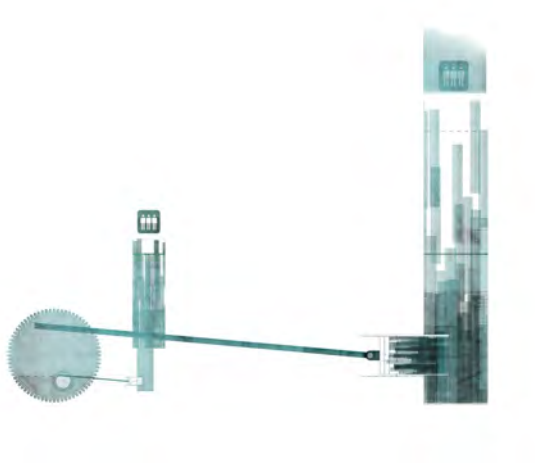
> In the activity of an artist or craftsman ...the role of movement ... is less explicit and the unity of their experience is more focused on the tactile domain. This brings to light more clearly the elementary forms of creative movement and its power to animate all around it.
> [Vesely, 2004:81]

The poetics of movement highlights the significance of the process, its activities, and how it animates the surrounding space. Movement becomes a phenomenon that unifies our senses and experiences. Besides stimulating our spatial experiences, it celebrates and animates activity, process and event.



3.9 Carpenter Centre for the Visual Arts, Le Corbusier, 1963

COLLAGED NARRATION



Collaged narration describes the fragmenting, layering and collisions of activity, process, ritual, and event. It represents a palimpsestual approach towards function and programme aimed at embracing the narration of daily civic life within the activities that occur in the urban realm and architectural space. Theatricality is invited into the city to counter the mundane everyday as well as the static function architecture has become enslaved to. As Karsten Harries [1997:365] in his book 'The Ethical Function of Architecture' concludes:

...there is a continuing need for the creation of festal places on the ground of everyday dwellings, places where individuals come together and affirm themselves as members of a community as they join in public re-enactments of the essential: celebrations of those central aspects of our life that maintain and give meaning to existence. The highest function of architecture remains what it has always been: to invite such festivals and the theatricality of the modern city. [Harries, 1997:365]

| EVENT

> Event: an incident, an occurrence; a particular item in a program. Events can encompass particular uses, singular functions or isolated activities. They include moments of passion, acts of love and the instant of death.
>
> Events have an independent existence of their own. Rarely are they purely the consequence of their surroundings. Events have their own logic, their own momentum. In literature, they belong to the category of the narrative. [Tschumi, 1994b:XXI]

Events, or some might refer 'functions', are performances which are played out on the stage of the city that involve conflict, pleasure and madness. The theatrical metaphor is used to illustrate the event's public interface. Events exist in the public realm, while rituals exist as activities often restricted to the private realm. As such, the notions of 'event' and 'ritual' imply different interfaces. In the contemporary condition, the distinction between ritual and event has been blurred and predominantly restricted to the private domain. Public space is dead, characterised not necessarily by the absence of the public but by an absence of the event.

Events have to be invited into the city and it is the responsibility of architecture to provide the spaces for these activities to happen. Architects cannot design events, but they can design the spaces to accommodate them. Arguing for a re-evaluation of the relationship between form and function; space and event, Bernard Tschumi noted that "architecture is not simply about space and form, but also about event, action, and what happens in space" [Tschumi, 1994b:7].

At the peak of the Roman Empire, the use of scent attained new heights. Wealthy Romans used scented doves to perfume the air at feasts, brushed walls in aromatics, and sprinkled floors with flower petals [Aftel, 2001:20]. These are examples of scent being manifested and celebrated as events, within the activities that occur in the city.

It furthermore becomes important to investigate current typologies of programme and explore how activities can be celebrated as events. On this notion, Tschumi stresses the need to "...question past humanist programs that strictly covered only functional requirements necessary for survival and production, and to favour those activities generally considered negative and unproductive: luxury, mourning, wars, cults; the construction of sumptuous monuments, games, spectacles, arts; perverse sexual activity" [Tschumi, 1994b:9]. Ultimately, less conservative typologies of programme should be explored and events of life should inhabit the urban environment. These events and explorations of programme give vibrancy to our existence and strengthen our sense of being by moving beyond the realm of mere function. Consequently, architecture "...should not be slave to its programme, twisting and turning to accommodate our every moment and wish..." [Benedikt, 1987:52].

There is no space without event

- Bernard Tschumi

| PROCESS

A narrative of activities or succession of events, process is similar to programme – the combination or arrangement of events. According to Tschumi, programme "is a narrative – and it must be reinterpreted, rewritten, and deconstructed by the architect" [Tschumi, 1994a:205]. Similarly, processes of production need to be questioned and decomposed to allow for processes of ritual to emerge.

To dissect programme, function and event, Tschumi has applied strategies of repetition, superimposition, distortion, dissolution, and insertion to generate a dynamic programme. Avoiding static functions, Tschumi's approach tolerates and promotes the blurring of typological boundaries. Calling for an approach of layering and collage, Tschumi argues: "If architecture is both concept and experience, space and use, structure and superficial image -- non-hierarchically -- then architecture should cease to separate these categories and instead merge them into unprecedented combinations of programs and spaces" [Tschumi, 1994a:254].

> A distinct sense of distance, resistance and tension has to be maintained in relation to programme, function and comfort. A piece of architecture should not become transparent in its utilitarian and rational motives; it has to maintain its impenetrable secret and mystery in order to ignite our imaginations and emotions.
> [Pallasmaa, 1996:62]

Form is no longer function. Functional use and spatial relationships have become transposable. Tschumi describes this as "... the complete interchangeability of form and function, the loss of traditional, canonic cause – and – effect relationships as sanctified by modernism. Function does not follow form, form does not follow function – or fiction for that matter – however, they certainly interact" [Tschumi, 1994a:254]. Questioning the relevance of form, cross-programming involves the scaling, superimposition and displacement of similar elements to agitate conditions of reciprocity and conflict. The intentional combination of building programmes that seem irrevocably incompatible produces a new archetype. Programmes and processes are overlain, modified and erased to achieve a collision of spaces and events, producing a new archetype. The interactions of functional use, actual use and spatial relationships are questioned by applying a given set of spatial configurations to a programme or form specifically not intended for.

Re-evaluation of the relationship between space and process generates new experiences of space that inspire imagination, feelings and sensations. This requires a critical understanding of "the complex relationship between spaces and their use; between the set and the script; between 'type' and 'program'; between objects and events" [Tschumi, 1994b:7]. Possibilities arise to celebrate processes as events. By applying strategies of collage, a dialogical relation between the architecture, its events and the public is established. Processes are disclosed and enter into an open dialogue with the imagination as well as the public, hence shifting the emphasis from the product to the process.

HERITAGE APPROACH

Life without memory is no life at all, just as an intelligence without the possibility of expression is not really an intelligence. Our memory is our coherence, our reason, our feeling, even our action. Without it, we are nothing – Luis Buñuel

Abandoned industrial areas, buildings and structures are loaded with memory. Rich in their experiential characteristics and spatial appeal they demand to be uncovered, translated, and responded to as they stand record to the inescapable passage of time. These sites of cultural significance are powerful in their ability to stimulate perception towards stigmatised post-industrial spaces and inspire memory.

Places of cultural significance enrich people's lives, often providing a deep and inspirational sense of connection to community and landscape, to the past and to lived experiences. They are historical records, that are important as tangible expressions of Australian identity and experience. Places of cultural significance reflect the diversity of our communities, telling us about who we are and the past that has formed us and the landscape. They are irreplaceable and precious. These places of cultural significance must be conserved for present and future generations. The Burra Charter advocates a cautious approach to change: do as much as necessary to care for the place and to make it usable, but otherwise change it as little as possible so that its cultural significance is retained.
[Burra Charter, 1999:1]

The Mill's historic narrative is fragmented and incomplete. For the local residents it should be a place of value, distinction and certainty. At the moment however it is questionable whether it has any heritage value for the contemporary public. A static culture has brought about a site without history or memory; it remains a place devoid of any form of inheritance – and consequently without cultural significance.

The Burra Charter is intended to aid the preservation and development of places of cultural significance to prevent important heritage and memory from becoming lost or forgotten. It is afraid to engage with the historic fabric at hand, advocating minimal intervention so as not to change anything and to remain static in the current condition. The Burra Charter might be appropriate in cases where a sense of historical continuity persists; however, a place devoid of cultural significance does not necessarily have no importance at all.

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_3.10 Spaces loaded with memory

As it currently exists, the site has no real significance aside from being a structure older than 60 years, which places it under the protection of the National Heritage Resources Act of 1999. It therefore becomes important to investigate the current fabric in order to uncover any significance and possibilities of inspiring memory to unravel the cultural significance it might have.

Furthermore, a place devoid of inheritance and with no significance for its present culture requires one to respond in a more abstract way, with the intention to stimulate a response from a public deprived of memory and imagination. This implies going beyond the adaptive-reuse approach of cleaning and renovating abandoned industrial sites when appropriating them for a commercial or recreative programme. Beautifying the site will not necessarily reinstate meaning. It requires one to truly engage with the heritage fabric at hand to uncover its lost meaning and potential – sometimes through drastic measures.

The current approach to heritage entails static preservation and follows the doctrine of 'do as much as is necessary with as little as possible'. The least intervention and interference is seen as the best approach and all intervention should be reversible. Thus guidelines as well as legislation are resistant to intervention and often argue that 'should change be considered' it should not reduce the cultural significance of the site. While the author agrees with the latter, it is of absolute importance that change is necessary and should not be merely an option. Static preservation in "glass boxes" should be avoided.

The necessity exists to break the temporal continuity of the present responsible for fundamental collapse of memory. Through the historic doctrine of archives, museums, monuments and repositories history is remembered on our behalf, which has brought about hopelessly forgetful modern societies. [Nora, 1989:13]. History belongs to everyone and to no one. The historic continuum therefore has to be challenged so that a collective memory can emerge. An example of this is the strictly figurative action of a commemorative minute of silence which breaks the historic continuity for a period of contemplation. It questions society's historic perception and re-enacts memory's responsibility to remember as opposed to delegating it to the archive [Nora, 1989:13].

The palimpsestual approach becomes a means to truly engage with the historic fabric and the possibility of unlocking the memory-laden, yet hidden, qualities of the built fabric of the site. It presupposes the partial erasing and constant reworking of sites and buildings over time [Porter, 2004:135]. Intervention in the historic fabric therefore might not necessarily be reversible. Prior to any intervention the site, building, structures and objects should be documented extensively. Facts, assumptions and fictions must be recorded and archived and documentation should also continue during the process of intervention. The documentation process however is not a means of remembering but ensures the possibility of reconstructing actions taken whilst dealing with architectural heritage. This approach is in opposition to current trends and a reaction to the notion that the concept of memory is dynamic due to the fact that memory is a process of constantly changing perceptions.

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> Memory is life, borne by living societies founded in its name. It remains in permanent evolution, open to the dialectic of remembering and forgetting, unconscious of its successive deformations, vulnerable to manipulation and appropriation, susceptible to being long dormant and periodically revived [Nora, 1989:8].

The process of palimpsest includes ideas of scaling, superimposition and displacement to build up layers of past, present, and future realities [Spiller, 2001:157]. Certain elements are overlain or modified while others are erased. The heritage is dismantled, exploded, augmented or multiplied in the process of truly engaging with the significance of the site. New interventions might be above, over, across or alongside previous or existing structures. Points of collision, tension and collapse occur in the confluence of old and new, leaving room for interpretation and the public imagination to unfold.

Occurrences of collision, tension and collapse become points of reference to which a new collective memory can attach itself – the point at which architecture enters the realm of mnemonics. Pierre Nora notes: "memory attaches itself to sites, whereas history attaches itself to events" [Williams, 2008]. Consequently, "memory takes root in the concrete, in spaces, gestures images and objects" [Nora, 1989:9]. Structures and buildings can be made accessible through the layering, erasing and constant reworking of architectural realities. The resulting memory culture can remember in its own way by engaging in the dialectic of remembering and forgetting. Architecture acts as a mnemonic device and the search for history becomes memory's quest.



_3.11 Palimpsest – Conceptual image of layering, scaling, substraction and superimposition

CONCEPT

The proposed intervention is constructed as a series of programmed spaces surrounded by the dynamic or critical space of the existing machine and fabric. The critical space extends into and draws impetus from the richness, diversity, and possibilities of the context.

Linked by movement, the programmed fragments are destinations along an undetermined route or labyrinth which is woven through the existing structure and historical spaces. Sensual pleasures of space collide with the pleasure of reason and the boundaries of memory and fantasy or imagination are distorted. The concept comprises five framed mechanisms:

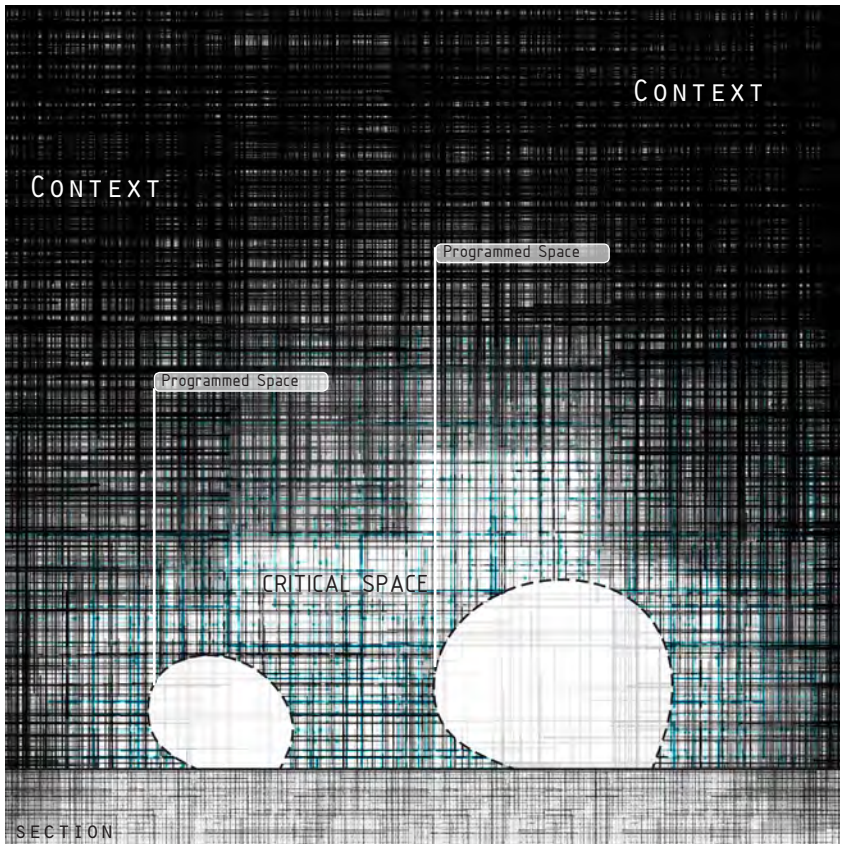
1) Physical mnemonics recognize the tangible built extents of the existing building. Time is given meaning and relevance through the weathered state of the historic rational construct.

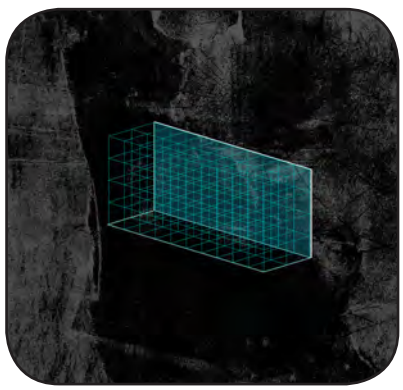
2) The fragmented volume embraces the discoveries that lie within the meaning and emotionally laden spaces and atmosphere of the mill.

3) The memory grid is the extrapolation of the underlying rational order by extending and manipulating the existing grid.

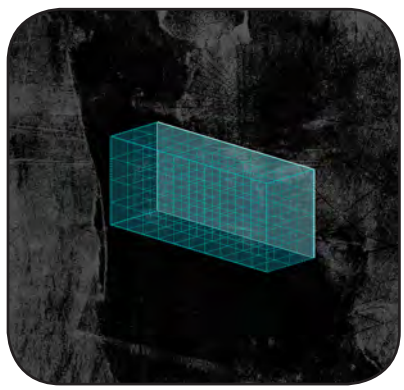
4) Programmed insertions are placed into the construct which are fixed functions and destinations within critical space.

5) The labyrinth connects the various programmed and un-programmed spaces, introducing movement, public circulation, and service routes.

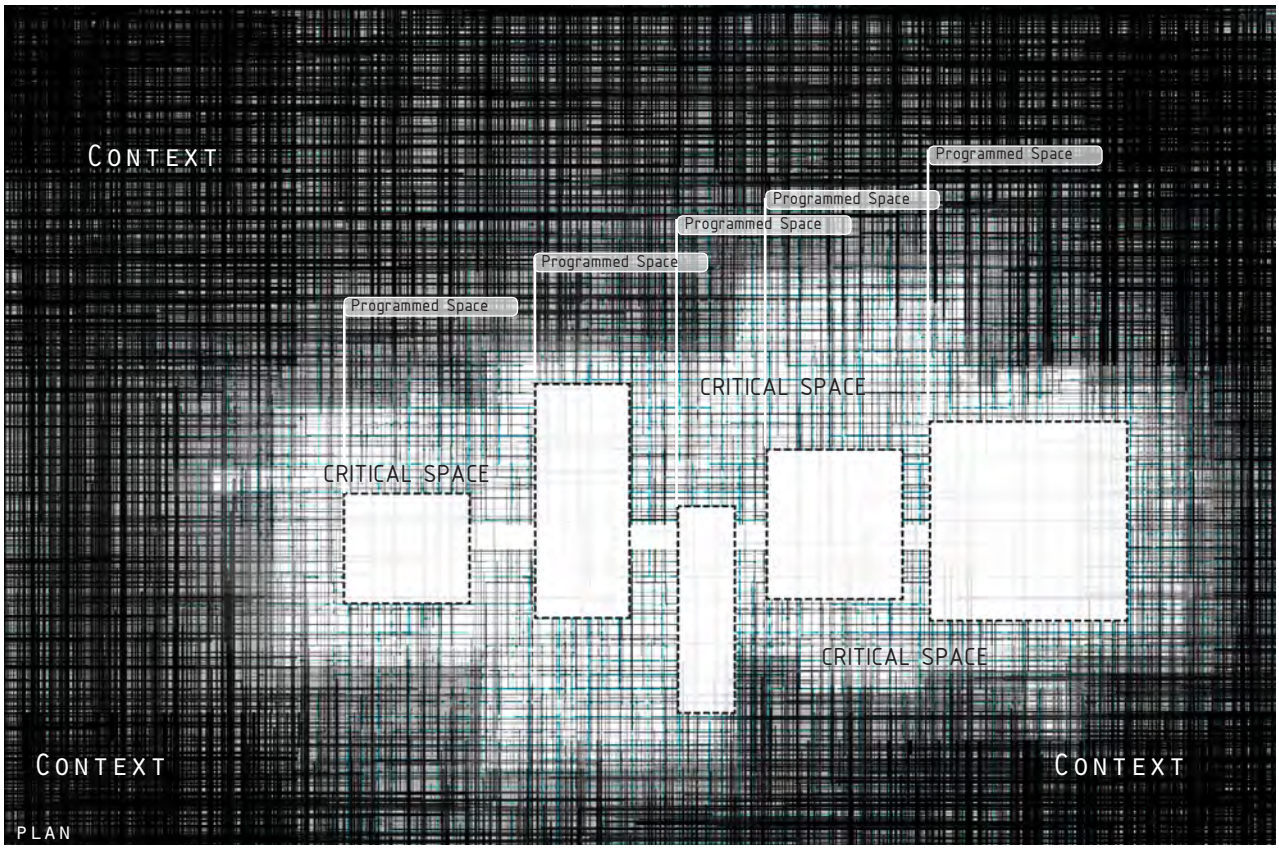


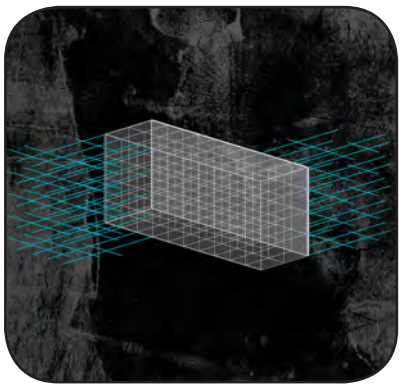


THE PHYSICAL MNEMONICS

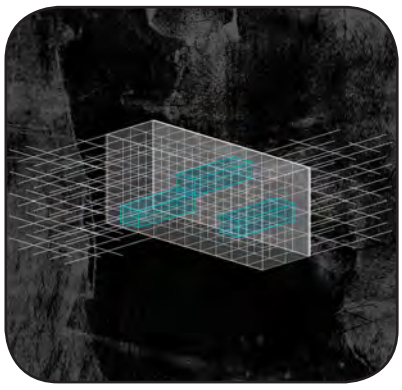


THE FRAGMENTED VOLUME

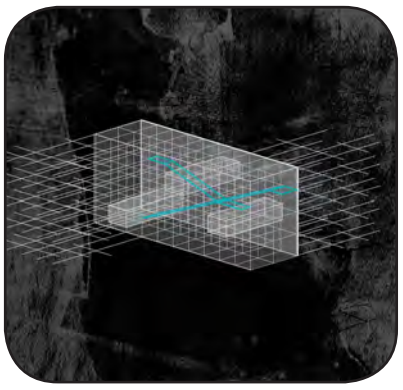




THE MEMORY GRID



THE PROGRAMMED INSERTIONS



THE LABYRINTH

_3.12 The architectural concept and concept methodology

4 PROGRAMME

PERFUME

An artisanal perfumery is proposed to the context of Pretoria West with the ancillary programme of a glassblowing workshop. Furthermore, the un-programmed space of a memorial is explored.

History of perfume

Ex Africa semper aliquid novi

[There is always something new in Africa]

- Pliny the Elder (AD 23-79)

The history of the art of making perfume has been traced back to ancient Mesopotamia and Egypt [Aftel, 2001:21]. However, some sources will say that the history of perfumery is as old as the history of humanity and even consider South Africa to be the birth place of perfumes. Recent archaeological studies have shown that South Africa can be seen as the Cradle of not only Mankind, but perfumery as well [Shutterworth, 2011].

The word "perfume" has its origins in the Latin *per fumus*, meaning "through smoke" [Oxford English Dictionary, 2005]. Perfume is used to describe scented mixtures and in its essence refers to the aromatic fumes or vapour given off by the burning of a substance, intended to produce an agreeable odour. The burning of aromatic plants in rituals of the San [or Bushmen] has been documented by J. David Lewis-Williams in his book "Images of mystery: rock art of the Drakensberg":

> The San of the Kalahari still makes the tortoise shell boxes seen in the Sehonghong painting. Kalahari Shamans say that they keep material and also invisible, supernatural substances in these boxes. The material substances include parts of plants that are believed to be imbued with supernatural potency. These plants are roasted in the coals and pounded to a powder, which is then mixed with fat. The supernatural substances are said to include urine of the lesser god and urine off a supernatural giraffe. When a Shaman dances, he drops a glowing coal into the tortoise shell in order to make "medicine smoke" (!go n/um), which wafts over the people whom he wishes to cure. The smoke caries the smell of the contents of the box and the supernatural power is in the smell. [Lewis-Williams, 2003:57]



_4.2 Himba women perfume and cleanse their bodies by burning herbs

The principal source serving as an agent of scent for physical and mental transformation is 'buchu' – a fragrant South African 'fynbos' scrub – which "has been conceived by the Khoisan as a potent force with a role in healing, in perfume use and certain rituals" [Low, 2007:333]. Other sources for fragrances which the Bushmen explored include kukumakranka-flowers, wild geranium, wild freesia and wild jasmine [Shutterworth, 2011]. Similarly, the Himba women perfume and cleanse their bodies by burning herbs. Both the San and Himba are known to use scented unguents as perfume; however it is mainly applied in a dry powder form for personal use. Also known as 'Hottentot perfume', the powder would not be directly applied to the skin, but stored in a tortoise shell that was worn as a necklace [Low, 2004:36]. The powder is a blend of natural dry plant ingredients – with no essential oils, no absolutes, no extenders, unlike the Western and contemporary practice of perfume.



_4.1 Himba woman preparing perfume

TAXONOMY OF SCENT

Each day, we breathe about 23,040 times and move around 438 cubic feet of air. It takes us about five seconds to breathe - two seconds to inhale and three seconds to exhale - and, that time, molecules of odour flood through our systems. Inhaling and exhaling, we smell odours. Smells coat us, swirl around us, enter our bodies, emanate from us. We live in a constant wash of them. Still, when we try to describe a smell, words fail us like the fabrications they are. [Ackerman, 1991:6-7]

SENSE OF SMELL | LANGUAGE

Until today, no real language has been developed to explain the experience of scent. Smell, possibly our most elusive sense, is usually only described in subjective connotations such as 'like it' or 'don't like it'. To give a certain depth to our descriptions, our impressions are usually conveyed through metaphors.

The absence of a language of smell has animated Sissel Tolaas to develop "an alphabet for the nose" [Tolaas, 2011]. By way of self-invented words, Tolaas seeks to avoid preconceived impressions of scent that have been formed by the name or label of a specific scent. The newly invented smell terms called NASALO, are aimed at defining a new dictionary for the sense of smell, resisting the classification of scent according to certain shared characteristics.

Smell becomes a part of language to form a collective understanding and means of communication. Consequently it develops as a vehicle for communicating space, memories and ideas. Without preconceived impressions, scent can describe the true olfactory experiences of architectural space.



_4.3 Nasalo - An alphabet for scent by Sissel Tolaas

FRAGRANCE NOTES | TIME

Parallel to the impressions of smell, the description of a perfume is mostly done in the form of a musical metaphor. It begins by describing the perfume according to the elements of the fragrance or notes of scent to determine the 'family' it belongs to [Poucher, 1993:55]. This describes, in simple terms, the overall impression of a perfume from first application to the last lingering hint of scent. Perfumers often speak of a fragrance's 'sillage', or the discernible trail it leaves in the air when applied, but

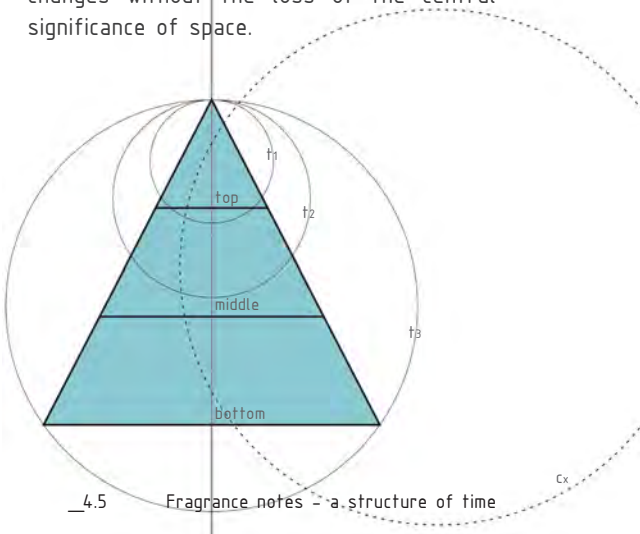
in essence it is the narrative of scent according to different time scales. These notes, according to Poucher, 1993:53, are divided into three phases:

Top / head notes
Consisting of light molecules that evaporate quickly, the notes are perceived immediately after application of the perfume. With a time scale of +- 30minutes, these elements create the first impression of the fragrance.

Middle / heart notes
Appearing as the top notes dissipate, the base notes form the heart of the perfume. Responsible for the overall theme of the perfume, these notes last several hours.

Base notes
In conjunction with the middle notes, the base notes provide the depth and solidity of a fragrance. Surfacing after 30 minutes, these molecules can last for up to 24 hours.

The fact that scent is structured and governed by different scales of time has an architectural relevance. It is never static and evolves over time around a central theme or meaning. Similarly, in architecture space and materials can be structured in time, forming a narrative that evolves and changes without the loss of the central significance of space.



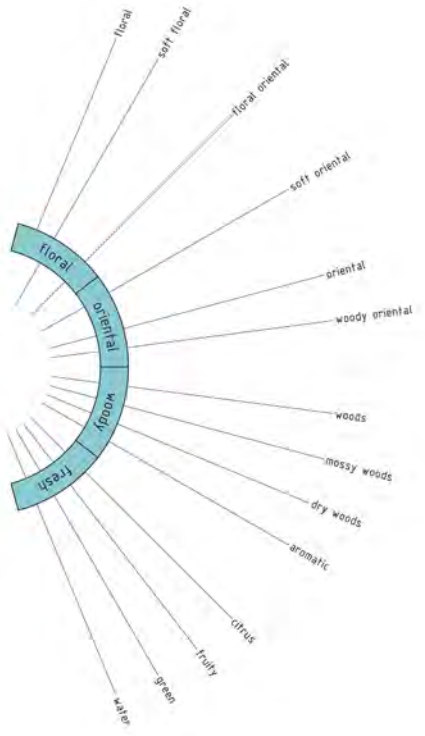
_4.5 Fragrance notes - a structure of time

HEFEE
METAN
SUUL
ZOUSH
CHEPDU
SSISJ
WIID
FIIWAA
WOULGROU
HISIS
GRAVI

FRAGRANCE WHEEL | PERCEPTION AND AFFILIATION

Developed less than 30 years ago, the Fragrance Wheel was the culmination of previous studies of odour descriptor and odour profile representations [Saunders, 2007]. Fine-tuned over recent years, it has been proven consistent in the classification and description of different scents. Classified into four categories – floral, oriental, woody and fresh – its interpretations strive to show the relationships between each individual fragrance family.

Scent, similar to architectural space, is understood on the grounds of different perceptions. While unveiling various connections and associations, it still leaves room for personal interpretation and engagement. Without dictating that perceptions be divided into distinct categories, it is acknowledged that certain perceptions might overlap, be shared or be conflicting.



_4.4 Perception and affiliation - the fragrance wheel

Take a deep breath. Close your eyes. Are you taking in those Chanel No. 5 molecules from that lady walking by? Or those grass-juice particles flying out of the lawn mower in the next-door garden? Can you smell the inimitable odour of fresh print from the volume in your hands? The pocket of air currently entering your lungs is entirely dependent on your graphical location and temporal whereabouts. What will you be breathing the next time you read this page?

Take a deep breath!

[Lim, 2002:52-53]

THE ART OF PERFUME

A composition of fragrant essences, oils and aromatic compounds, perfume is used to give the human body, as well as objects and spaces a pleasurable smell. The making of perfume is a delicate art rather than a process. Explained in musical metaphors, the art of perfumery is the skill of combining aromatic oils to form a balanced composition of a pleasurable odour. Using three types of notes – head notes, heart notes and base notes – the perfumer creates a configuration of scents in a dynamic of time. Stringing together different notes he forms accords of scent that could resemble in their simplicity, a two- or thee piece band, or in their complexity, a grand orchestra. Perfumery becomes a quest of finding the proper accords so that certain notes do not become overpowering and that strings of scent are harmoniously layered in time. Also described as a design discourse, perfume is designed in its structure and composition according to a concept. This generates the process of creation. With a deep understanding of fragrance aesthetics, the perfumer is capable of conveying abstract concepts and moods through fragrance compositions.

> ...a perfumer, however, needs more than a passably fine nose. He needs an incorruptible, hardworking organ that has been trained to smell for many decades, enabling him to decipher even the most complicated odours by composition and proportion, as well as to create new, unknown mixtures of scent. [Süskind, 1985:74]

Perfumers regard a perfume as a process rather than a finished product. As such a perfume is always a 'work in progress'. Perfumers continue to evolve the product through process, constantly tweaking and experimenting with the composition after it has been 'completed'. "Process is product in perfumery" [Mahboubian, 2011] and it becomes more relevant for perfumers to talk about the process than the final perfume.



_4.6 Victorian perfume bottle with atomizer

| PRACTICES OF EXTRACTION – the chemist vs the alchemist

Over hundreds of years, perfumers and alchemists invented and developed fragrance extraction methods of distillation, solvent extraction, expression and enfleurage to extract aromatic compounds from natural raw materials. It was only during the 19th century with the rise of the chemist that the ritual and craftsmanship of the perfumer diminished with the development of synthetic compounds. The art of the alchemist was reduced to the science of the chemist.

Natural perfumery materials – of plant or animal origin – possess both sap and mystery. While the sap is the physical aspect, or scented material itself, the mystery is the virtue, nature and essential quality of the substance [Aftel, 2001:49]. The challenge of the perfumer's art is to subdue the scent's evanescence without robbing it of its character.

It is through this 'life force' or dynamic, that natural materials distinguish themselves from the synthetic. While synthetics can approximate the qualities of natural materials, they remain without depth, without chance, without life. They cannot capture the subtlety or softness of natural odours. Working with naturals includes variability, failure and change [Mahboubian, 2011]. The practices are mysterious and unpredictable.

> The power of natural essences derive from their complex histories as well as from their ineluctable earthiness. Holding a vial of essential oil to the light and admiring its jewel-like colour, inhaling its complicated fragrance, one imagines the people and places who have known and used it, the history and rituals in which it has played a part. And perfumers, who not only experience the essences, but experiment with them, participate in ancient traditions of sorcery, medicine and alchemy. Working with distillates of some of the most evocative of nature's creations – spirits in every sense of the word – is a powerful way of transcending the everyday.
> [Aftel, 2001:51]



_4.7 Plant and animal material as sources for scents and essences

| EXPRESSION



Expression is a method of fragrant extraction that involves the squeezing and pressing of raw material to render its fragrant oils. Using fruits with skins rich in essential oils such as the citruses – lemon, lime, orange and bergamot – expression is the oldest and simplest method of deriving natural essences from plants [Aftel, 2001:51]. Originally this was done by hand and the oil was collected in a sponge. Large rollers are used today to squeeze the oils out of the peels. The oils are further separated from unwanted juices, waxes and other substances using filtration or a centrifuge.

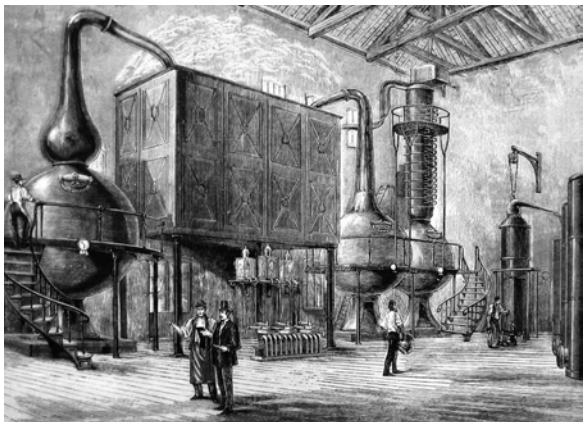
| DISTILLATION



The development of the distillation process did not only make it possible to extract high quality oils from a wider variety of plants, but also allowed for higher concentrations of alcohol, which is the perfumer's all-purpose diluent and fragrance carrier. Practiced by alchemists, they developed the process of distillation to a very sophisticated level [Aftel, 2001:52].

In direct-distillation, the material is placed with water at the bottom of the still and heated. The vapour rises into the cooler chamber of the alembic above and condenses into a liquid essence [Aftel, 2001:52]. In steam-distillation, the material is not in direct contact with water. Steam passes through the raw material, which releases its volatile fragrant essences which are then re-collected through condensation of the distilled vapour.

> And while Grenouille chopped up what was to be distilled, Baldini hectically bustled about heating a brick-lined hearth - because speed was the alpha and omega of this procedure - and placed on it a copper kettle, the bottom well covered with water ... Slowly the kettle came to a boil. And after a while, the distillate started to flow out of the moor's head's third tap into a Florentine flask that Baldini had set below it - at first hesitantly, drop by drop, then in a threadlike stream. It looked rather unimpressive to begin with, like some thin, murky soup. Bit by bit, however - especially after the first flask had been replaced with a second and set aside to settle - the brew separated into two different liquids: below, the floral or herbal fluid; above, a thick floating layer of oil. If one carefully poured off the fluid - which had only the lightest aroma - through the lower spout of the Florentine flask, the pure oil was left behind - the essence, the heavily scented principle of the plant. [Süskind, 1985:94-95]



_4.8 Artisan distillery

| ENFLEURAGE

Enfleurage is a method of extracting essences that draws on the characteristic that the volatile perfume material of flowers is soluble in fat [Aftel, 2001:53]. More than a century old, it is a technique where flower petals are laid onto glass plates covered in lard or tallow (from pork or beef respectively) and the scent is allowed to diffuse into the fat over a period of time.

In both processes, once the flowers have given off their scent, the process is repeated with a fresh supply until the fat is saturated. This substance is known as the pomade. The pomade is then dissolved in an alcohol-based solvent to render the essential oil. The intense sensuality of the process is captured in Süskind's novel:

> The souls of these noblest of blossoms [jasmine and tuberose] could not be simply ripped from them, they had to be methodically coaxed away. In a special impregnating room, the flowers were strewn on glass plates smeared with cool oil or wrapped in oil-soaked cloths; there they would die slowly in their sleep. It took three or four days for them to wither and exhale their scent into the adhering oil. Then they were carefully plucked off and new blossoms spread out. This procedure was repeated a good ten, twenty times, and it was September before the pomade had drunk its fill and the fragrant oil could be pressed from the cloths. ... in purity and verisimilitude, the quality of the jasmine paste or the *huile antique de tubereuse*

won by such a cold enfleurage exceeded that of any other product of the perfumer's art. Particularly with jasmine, it seemed as if the oiled surface were a mirror-image that radiated the sticky-sweet, erotic scent of the blossom with life-like fidelity. [Süskind, 1985:179-180]

Similarly, in hot-enfleurage the fat is heated and the plant material is stirred into the fat to extract its scent. Patrick Süskind also describes this process in his novel:

Meanwhile, in a large caldron Druot melted pork lard and beef tallow to make a creamy soup into which he pitched shovelfuls of fresh blossoms, while Grenouille constantly had to stir it all with a spatula as long as a broom. They lay on the surface for a moment, like eyes facing instant death, and lost all colour the moment the spatula pushed them down into the warm, oily embrace. And at almost the same moment they wilted and withered, and death apparently came so rapidly upon them that they had no choice but to exhale their last fragrant sighs into the very medium that drowned them; for - and Grenouille observed this with indescribable fascination - the more blossoms he stirred under into the caldron, the sweeter the scent of the oil. And it was not that the dead blossoms continued to give off scent there in the oil - no, the oil itself had appropriated the scent of the blossoms. Now and then the soup got too thick, and they had to pour it quickly through a sieve, freeing it of macerated cadavers to make room for fresh blossoms. Then they dumped and mixed and sieved some more, all day long without pause, for the procedure allowed no delays, until, as evening approached, all the piles of blossoms had passed through the caldron of oil. Then - so that nothing might be wasted - the refuse was steeped in boiling water and wrung out to the last drop in a screw press, yielding still more mildly fragrant oil. The majority of the scent, however, the soul of the sea of blossoms, had remained in the caldron, trapped and preserved in an unsightly, slowly congealing greyish white grease. [Süskind, 1985:174-175]

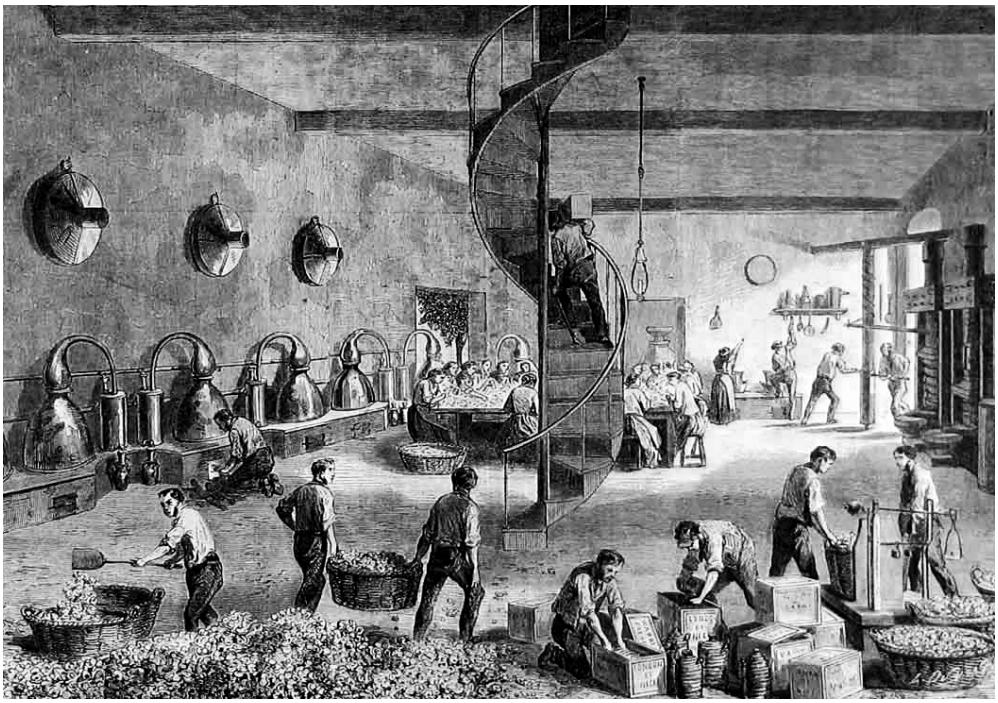
Seen as no longer viable today, enfleurage has been replaced by solvent extraction.

| SOLVENT EXTRACTION



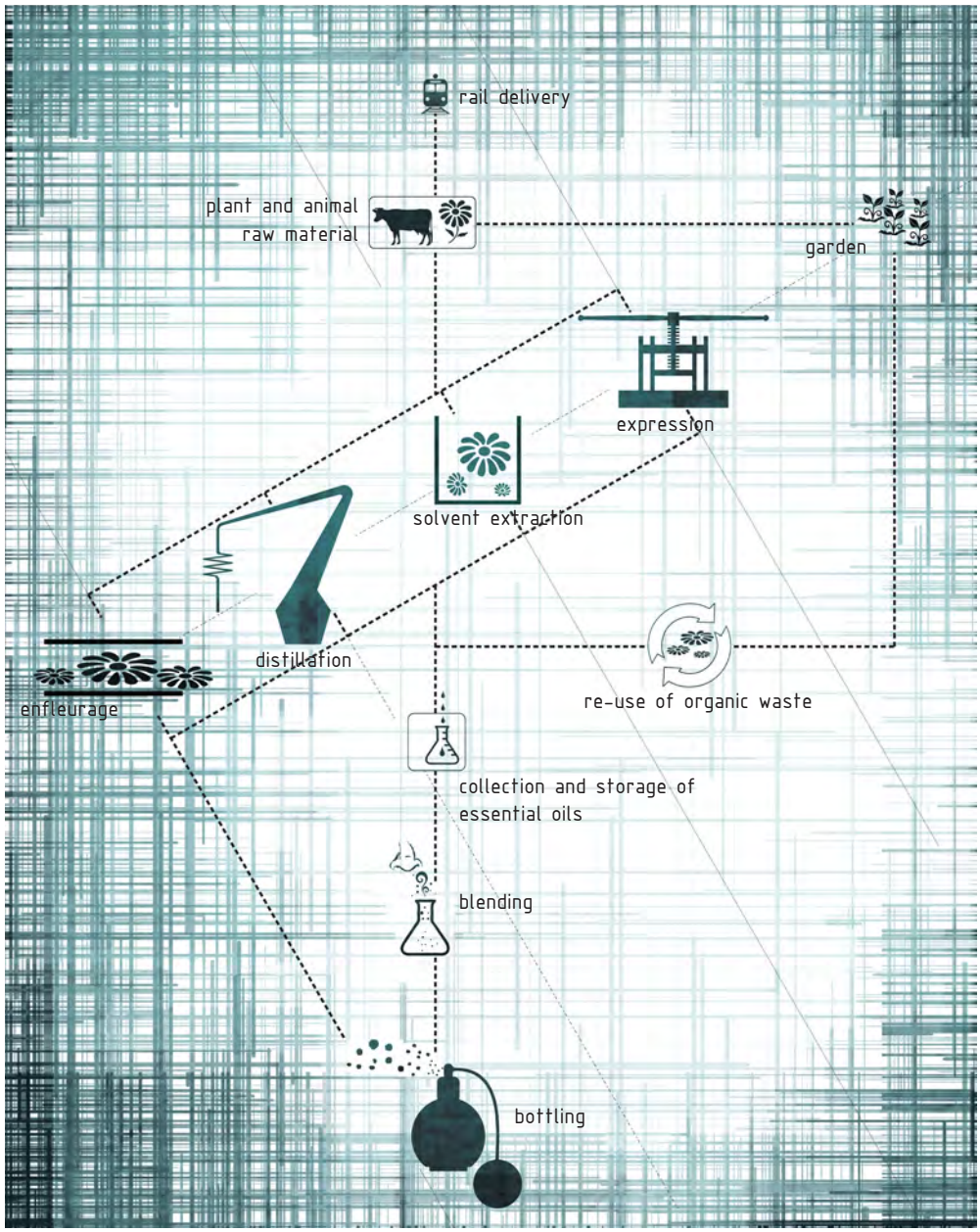
Also known as maceration, solvent extraction was developed in the 18th century and is nowadays the most commonly used technique of extracting aromatics. Raw materials are submerged into a solvent to dissolve the essential oils. All aromatics from animal sources as well as fragrant compounds of woody and fibrous materials are extracted with this technique. Likewise it is also used for scents that are too volatile for distillation or are easily denatured by heat. The product is a solid waxy paste called the concrete [Aftel, 2001: 55]. Through a lower temperature distillation process, the solvent is removed to expose the concentrated essence.

> And the pomade would be brought up again from the cellar, carefully warmed in tightly covered pots, diluted with rectified spirits, and thoroughly blended and washed with the help of a built - in stirring apparatus that Grenouille operated. Returned to the cellar, this mixture quickly cooled; the alcohol separated from the congealed oil of the pomade and could be drained off into a bottle. A kind of perfume had been produced, but one of enormous intensity, while the pomade that was left behind had lost most of its fragrance. Thus the fragrance of the blossoms had been transferred to yet another medium. But the operation was still not at an end. After carefully filtering the perfumed alcohol through gauze that retained the least little clump of oil, Druot filled a small alembic and distilled it slowly over a minimum flame. What remained in the matrass was a tiny quantity of a pale-hued liquid that Grenouille knew quite well, but had never smelled in such quality and purity either at Baldini's or Runel's: the finest oil of the blossom, its polished scent concentrated a hundred times over to a little puddle of *essence absolue*.
> [Süskind, 1985:176-177]



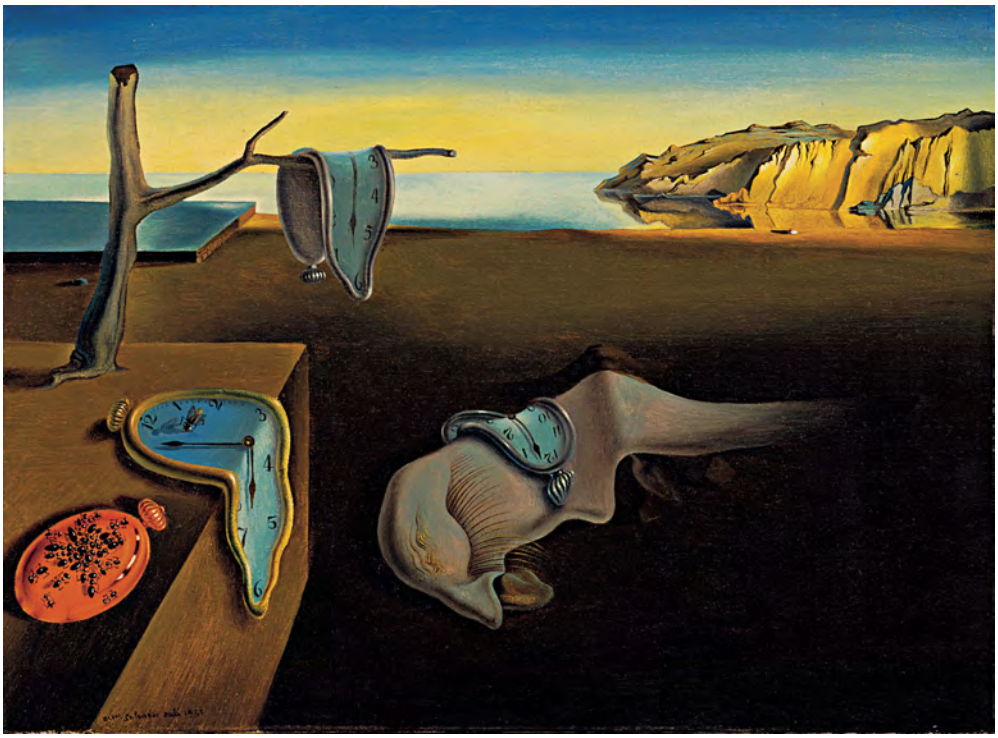
_4.9 Artisan Perfumery

In the background to the right men are busy pressing essences out of petals. To the left in the back, craftsmen are preparing flower petals for enfleurage. In front are the workers gathering flower petals into baskets, whilst a man tends the still fire and the workers on the right are packaging products.



__4.10 Perfume process

The diagrammatic depiction of the perfume process unfolds as a linear and parallel operation.



_4.11 "The Persistence of Memory", Salvador Dalí, 1931

In his Surrealist painting, 'The persistence of memory', Dalí describes the unconscious relativity of space and time and reflects on the collapse of a fixed cosmic order. Between reality and fiction – on the edge of being disturbing and arousing curiosity – the painting is open to interpretation. The imagination is free to explore the construct and meaning of dreams, perception of reality, time, space and desire.

Olfaction and Memory

> The real thing gets used up in this world. It's transient. And by the time it has been used up, the source I took it from will no longer exist... For in the meantime I will have known it and possessed it... and I will not be able to forget it, because I never forget a scent. And for the rest of my life I will feed on it in my memory...
>
> [Süskind, 1985:190–191]

Smell and memory are connected in the brain. Without smell, an ocean of past images disappears. Regarded as the sense with the most emotional effects, the nose – or olfactory sense – can recall every significant event of the past associated with the same scent. It has the power to arouse deep sensations of lust and desire, altering the experience of space. The sense of smell, and by extension perfume, has the power to evoke feelings and conjure memory, and is able to capture a moment in time, never to be recreated [Mahboubian, 2011]. Consequently, scents can anchor memories of people, places and events or can inspire the imagination, and in doing so they share common ground with architecture, as a means of experiencing space in time.

Despite the capabilities of the sense of olfaction, it is the sense that has been most neglected. "We take it for granted, because we exercise it involuntarily: as we breathe, we smell" [Aftel, 2001:13]. This is also evident in the domain of architectural space where "the scent of materials however is hardly ever present any more, being either covered by paint or compensated [for] by an artificial smell" [Van Kreij, 2008:19]. Furthermore, in our contemporary culture, scent has become commodified and wearers have become olfactory billboards. It has reversed our conception of the public and private domain to the degree that smells of the bedroom can now be found in the boardroom (and everywhere else) [Mahboubian, 2011].

Without the sense of olfaction, memory is obscure, incorporeal, and like a ghost. Even time does not alter the memory of scent, or as Walter Benjamin observes: "A scent may drown years in the odour it recalls" [Aftel, 2001:17]. Additionally, scent plays a role in anchoring the specifics of an experience in memory: "An odour can immediately evoke the details and mood of an old experience, as vividly as if no time at all had passed" [Aftel, 2001:11].

The strong persistence of scent memory makes the sense of smell extremely important to architecture of memory. For architecture to act as a mnemonic device, memory and imagination have to be triggered by sensual experiences of space. Scent plays an important role in the experience of space and the memory it recalls, or as Juhani Pallasmaa describes: "Nostrils awaken the forgotten image, and we are enticed to enter a vivid daydream" [Pallasmaa, 1996:54]. Scent is thus not only a means to access long forgotten memories but also inspires the imagination. Through scented experiences architecture of memory can act as a mnemonic device, where both memory and the imagination are at work, constructing a new memory (which can resist the effects of time) from past experiences and current perceptions.

GLASSBLOWER

THE CONTAINER

A perfume cannot exist without its container. Its volatile existence needs to be protected. The container becomes an expression of the perfume and part of its culture, often as treasured as the contents. Decorative flasks become the face of the perfume, shining in colour and sparkling with presence.

Perfume bottle designs have been around for millennia, intriguing many collectors and enthusiasts with their essences. "The perfumes themselves might have evaporated, but the forms linger and speak for the vanished contents" [Mahboubian, 2011]. Through the ages, perfume vessels have been considered a form of art and have come in a variety of materials, shapes and sizes. Still relevant today, they speak of the culture and its long evaporated contents. As works of beauty that address our senses perfume bottles have managed to transcend time.

The perfume container would have to be non-porous and protect essences from oxidation, as well as non-reactive under the corrosive action of volatile oils and alcohols [Mahboubian, 2011]. Materials available to realize these requirements include – glass, stone, glazed ceramics or metals such as stainless steel, gold and silver.

While all of the above mentioned materials have their strengths and weaknesses, for the exploration of this dissertation, the material and making of the container should embody the same qualities as that of natural perfumes. The crafting of the container should thus be considered an art, practiced by artisans, and must express the same amount of chance and possibility of failure as the art of the perfume. For this purpose, the art of glass blowing has been identified as embodying the same qualities of volatility and fragility similar to the character and making of a perfume.



__4.12 Glass perfume bottle by Jerry P. Heer

THE ART OF GLASSBLOWING

For I am older than the Pyramids yet newer than tomorrow's unborn dawn – withal the marks of time affect me not – for I am ageless and retain my lustrous beauty permanently. [from 'I am Glass', 1940 by George J. Overmeyer]

Simultaneously expressing the qualities of a solid and a liquid and sometimes considered a super-cooled liquid, glass is a mixture of sand, soda and limestone and has fascinated humanity for thousands of years. Transparent or translucent, it is a material that has not only inspired and fascinated people through its mysticism, but also drastically influenced the way buildings are thought of, conceived, made, and experienced.

Glassblowing is a technique to shape glass which implies inflating molten glass into a bubble by introducing a small amount of air to it. It is considered an art rather than a process of mass-producing a commodity. A glassblower, or glass-smith, applies his imagination to turn his ideas into artefacts. As such, he literally moulds his thoughts and ideas into physical from, improvising as he creates the work with his hands. Glass objects are described by Edward Dillon as "...graceful vessels of endless variety and form, thin and diaphanous, in which the skill of the glass blower attains its most complete expression" [Phillips, 1941:12].



_4.13 Volatility, fragility and chance: The Art of Glassblowing

| THE STORY OF GLASS

Glass is as old as the earth. Long before man was able to manufacture glass artificially, objects of natural glass were formed by volcanoes or lightning [Fox, 1982:8]. These obsidian objects were usually translucent, sometimes transparent, mostly black but sometimes green, red or brown. Easily broken into sharp pieces, 'Stone Age man' used obsidian and fashioned it into spearheads, knife blades or razors [Phillips, 1941:3].

The manufacture of glass is an art based on fire. Where and when such manufacture began is unknown but it is suspected that it was probably discovered by accident. The first glass objects were found in northern Mesopotamia in 5000BC and were probably introduced to Egypt around 4000BC [Frank, 1980:17].

Phillips [1941:7] assigns the invention of the blowpipe to a period between 300BC and 20BC. Excavated remains of a workshop producing blown vessels in the old city of Jerusalem have been dated to 40-50 BC [Frank, 1982:19] and from about 100BC, the Egyptians were known to have formed more delicate and larger glass containers by blowing down a hollow pipe into a blob of molten glass [Fox, 1980:9]. Whatever the exact date and place might be, the invention of glassblowing has truly given glimpses into the true capabilities of the material. It enabled the creation of glass articles in shapes and designs previously thought of as impossible to produce.

During the time of commercial stability in the Roman Empire, the manufacture and use of glass became more widespread [Phillips, 1941:8]. The Romans refined many techniques of glassmaking and where the first to use flat glass. Skilled glassworkers were employed from the 6th century onwards to make stained-glass windows for churches. This did not only spread the use of glass for windows, but also grew into an art of its own. The application of stained-glass windows "grew until, during the Middle Ages, no church could be considered complete without this from of decoration" [Phillips, 1941:11].

The glorious stained-glass windows became sermons in colour and glass. Depicting scenes from the Bible in an age when people where largely illiterate it became a form of communication. Consequently stained-glass windows were used for theological and didactic purposes, "...reflecting the idea of God as the source of perfect light and explaining Bible stories in simple and dramatic pictures to people who could not read" [Frank, 1980:22]. The beauty of glass lies in its design and making, but also in the imperfections – bubbles and striations and variations in refraction result in a richness not usually present in contemporary glass products.

Glass manufacturing gradually shifted to Venice. An elaborate guild system was set up in 1279 and a few years later the industry was moved to the island of Murano to protect its jealously guarded secrets. The knowledge and skills of the trade were often handed down from generation to generation, from father to son. Soon the glass craft was practised on a remarkably large scale. "On Murano the glasshouses are said to have extended for an unbroken mile with thousands of workmen toiling to make windows for churches, vast quantities of

beads, bottles, and ornamental glassware" [Phillips, 1941:12]. The gradual escape of treasured secrets brought about increased production elsewhere and by the year 1600 successful glasshouses had been set up in Britain, France, Spain, Germany, Holland and other countries [Fox, 1980:9]. Thereafter the knowledge, practice and skill spread around the world.

While the skill of glass manufacture demanded great dexterity and careful judgement by the artisan, who understood and controlled the material and process perfectly, it is the beginning of the Twentieth Century that brought about efficient mechanical processes for continuous production. Strict physical and chemical control at all stages of the process result in perfect objects that can be replicated over and over again. Although crisp and clear, the glass is lifeless and without character, as small imperfections and flaws are eradicated. The glassworker engages with fragmented bits of the process and rarely understands the craft of glass making. However, even today, higher quality objects and those with more intricate shapes are still mouth-blown.

| A NEW MEMORY - RECYCLING GLASS

Glass is virtually infinitely recyclable. For the running of the glass blowing workshop, it is proposed that recycled glass rather than virgin material be used. Molten glass will often contain impurities that have not been removed by ordinary washing techniques, which will alter the viscosity and colour of the glass. This adds a degree of chance and variance to the final glass piece, incorporating the memory of the reprocessed glass into the new glass object.

The processing of waste glass is more cost effective and uses less energy than manufacturing glass from sand, lime and soda. Waste glass can be sourced from the municipal waste sorting plant, located on Carl Street about 500 metres east of the mill site. The waste is sorted on or off site into colourless glass, green glass, and brown/amber glass. After it is washed, the different types of glass are crushed to a substance referred to as cullet, which is ready for being remelted.



_4.14 Glass cullet bin filled with crushed clear glass

| GLASSHOUSE

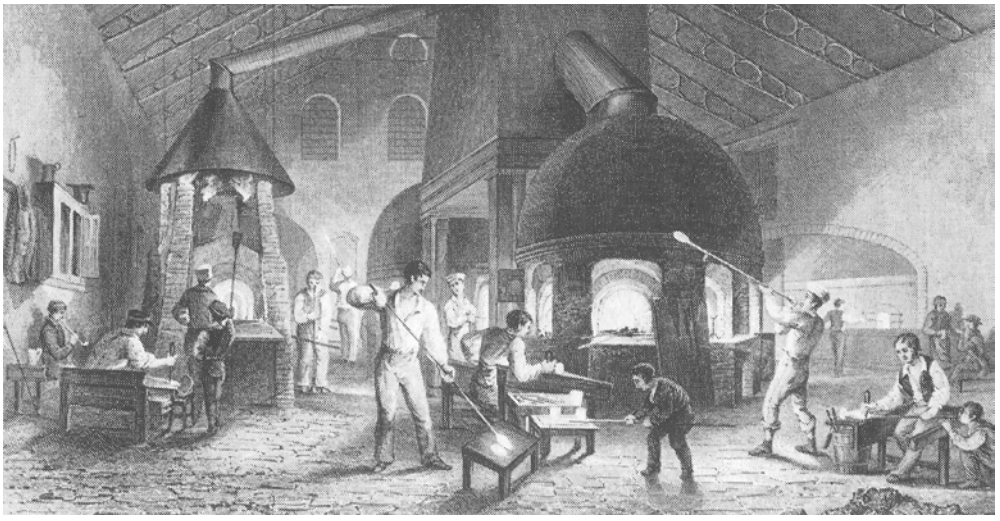
> Over everything is the rose-red glow of molten glass ... shimmering and bubbling in pots and huge furnaces, so hot that the eye cannot bear to look upon it and everything nearby is drenched in radiance. The heat looks out from every chink in the furnaces and throws eerie shadows in the background. The heat is everywhere. The shadows are heavy with it and solid. [Phillips, 1941:138]

The glasshouse is home to the activities performed by the glassblower. It denotes the scale of the workshop or studio as opposed to the inhumane scale of mass-producing glass factories and plants. It is the realm where the artisan is freely at work, shaping the raw materials into the shapes he imagines.

Glassblowing involves three furnaces. The first contains the crucible or pots in which the raw materials are placed and heated to produce molten glass at a temperature of around 1300°C. The working temperature is then reduced to 1100°C. The second furnace, called the 'glory hole', is used by the glassblower to reheat a piece between steps of working with the glass at temperatures of between 800°C and 1000°C. The third furnace is the annealing oven which has a temperature of around 450°C.

Wood is a fuel of historic interest. Furnaces of bygone days were direct-fired with wood or straw [Phillips, 1941:145]. The ashes were a source of potash, one of the ingredients for the glass mixture. As sources of wood became depleted, coal was used as the main fuel for the furnace, up until the 20th century when it was replaced by petroleum and natural gas which are less wasteful and easier to handle and control.

Pots are placed inside the furnace for melting the glass. In 18th century England,

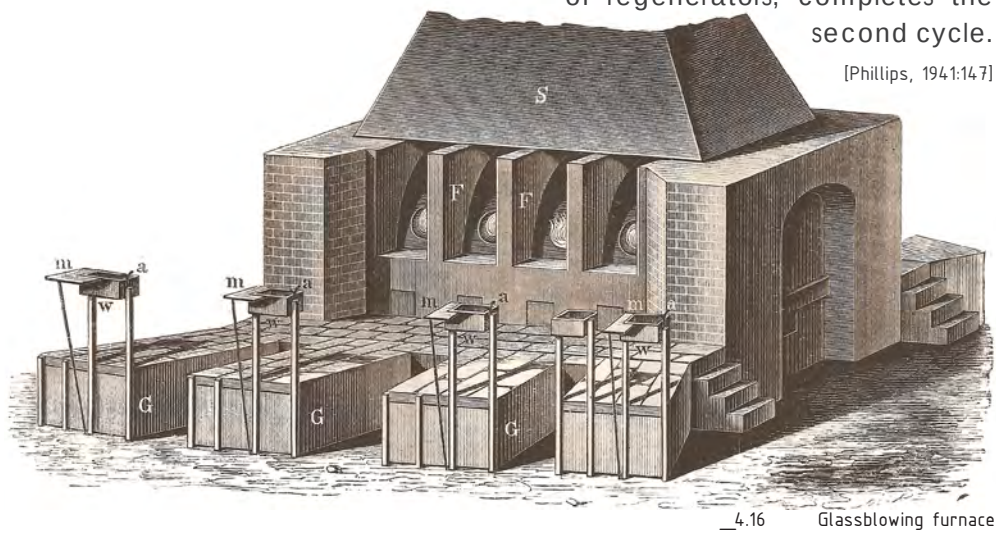


_4.15 Glasshouse in London in about 1840

the day for pot filling was Friday. The raw materials were weighed, mixed and placed into the pots. By Monday the melting process was complete and the glass was fit to work [Dodsworth, 1982:15]. The number of pots ranged from 6 to 20 and each contained a different glass composition of about 600kg of glass [Phillips, 1941:146]. The crucibles act as containers for the glass and retainers of heat. In direct contact with hot gasses and molten glass, a fireclay pot lasts about three months until the side of the furnace is dismantled and the pot replaced. The fireclay lining of the furnace itself lasts about five years after which the furnace is shut down and the lining is rebuilt [Phillips, 1941:146].

Without preheating air or gas, smaller furnaces are direct-fired and are not regenerative [Phillips, 1941:147]. Regeneration consists of the storage and subsequent use of heat by absorption from spent flames and gases. It is a measure for a more sustainable use of heat and described by Charles Phillips [1941:147] in great detail:

> The operation proceeds in two cycles. In the first the gases, having lavished of their heat on the furnace and its contents, leave the combustion chamber at temperature slightly higher than that of the interior. The hot gasses pass down through stacks of open brick-work, known as regenerators or checker chambers. Here they leave much of their heat, thus raising the temperature of the regenerator. At intervals of 20 to 30 minutes the flow of air and fuel is reversed. The air rising through the regenerators is preheated. The air and gas meet in the furnace and produce a flame intensified by preheating. This flame passes through the furnace to an outgoing port and, entering a duplicate set of regenerators, completes the second cycle.
>
> [Phillips, 1941:147]



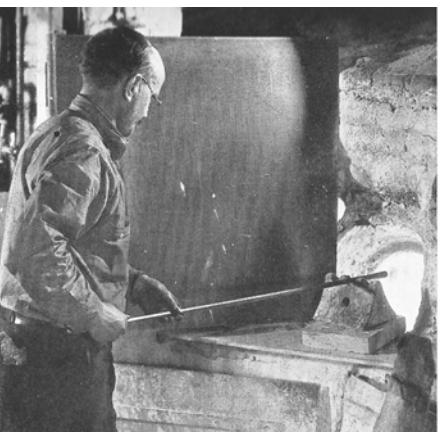
_4.16 Glassblowing furnace

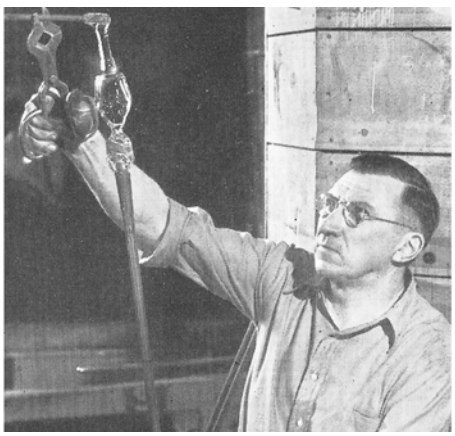
| TECHNIQUES

In the 'off-hand' or free-blowing technique, the glassblower, or glass-smith, gathers a blob of molten glass from the furnace on the end of the blow iron, a hollow rod about 1,5 metres long (Fox, 1980:14). The treacly hot glass is rolled on a metal slab to cool and strengthen the outer surface. The glass-smith then blows down the pipe and the glass expands into a hollow bubble like a balloon. By rotating and swinging back and forth this bulb of viscous glass, by rolling and otherwise manipulating it with simple tools, and by reheating it from time to time, a hollow vessel of almost any symmetrical or asymmetrical desired shape can be created before the glass cools down and hardens. This technique has remained unaltered to this day.

The process was developed to include even more complex shapes by blowing the glass into moulds. A glob of molten glass is placed on the end of the blowpipe and then inflated into a wooden or metal carved mould. In this practice, the interior of the mould as opposed to the skill of the glass-smith determines the shape and texture of the bubble. This allows for faster and simpler as well as more reliable techniques to produce blown vessels by using either single-piece or multi-piece moulds.

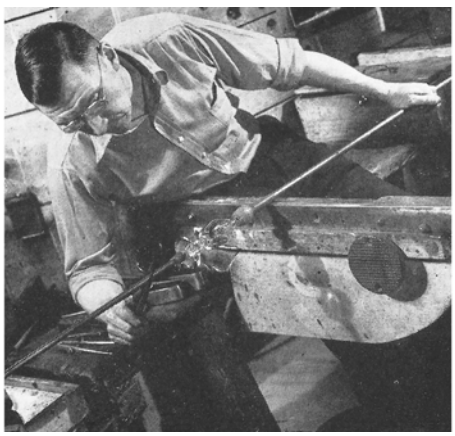
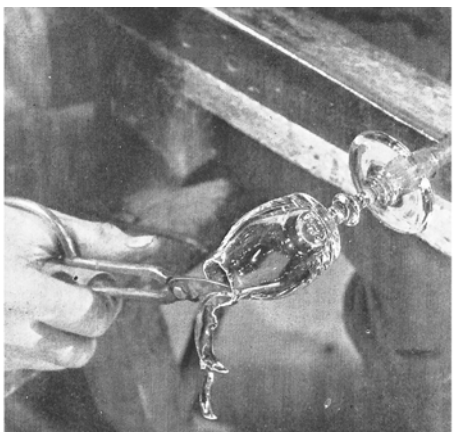
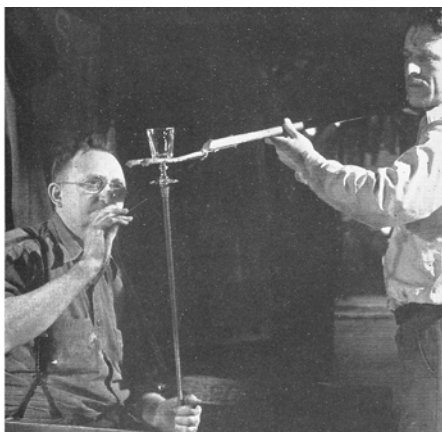
After the glassblower completes the piece, the glass is unlikely to cool down in a uniform manner from working temperature. This causes internal strains that are often so high they could result in a large





amount of breakage either in cooling or in subsequent usage [Philips, 1941:221]. These internal stresses in the glass are removed by means of 'annealing', a process already known to ancient glass civilisations. By means of an annealing kiln, the process is performed directly after the glass object has been formed, often over a time span of 6 to 60 hours [Dodsworth, 1982:15]. The article is reheated to a constant temperature and then subjected to a gradual cooling process that strengthens the glass by removing stresses that have built up during manufacture.

The resulting glass object can be further refined and shaped by techniques that do not rely on heat. Although difficult to work and impossible to correct mistakes, engraving is an old art of carving on the surface of glass with a sharp diamond point. The surface can further be altered by sandblasting or with acids that attack and dissolve the surface, etching the desired motif. The glass surface is covered in wax and the design is scratched in with a needle. Acid is then applied and can only attack the surface not covered in wax. These activities, as well as grinding and polishing are often performed in a separate space called the 'cold-shop'.

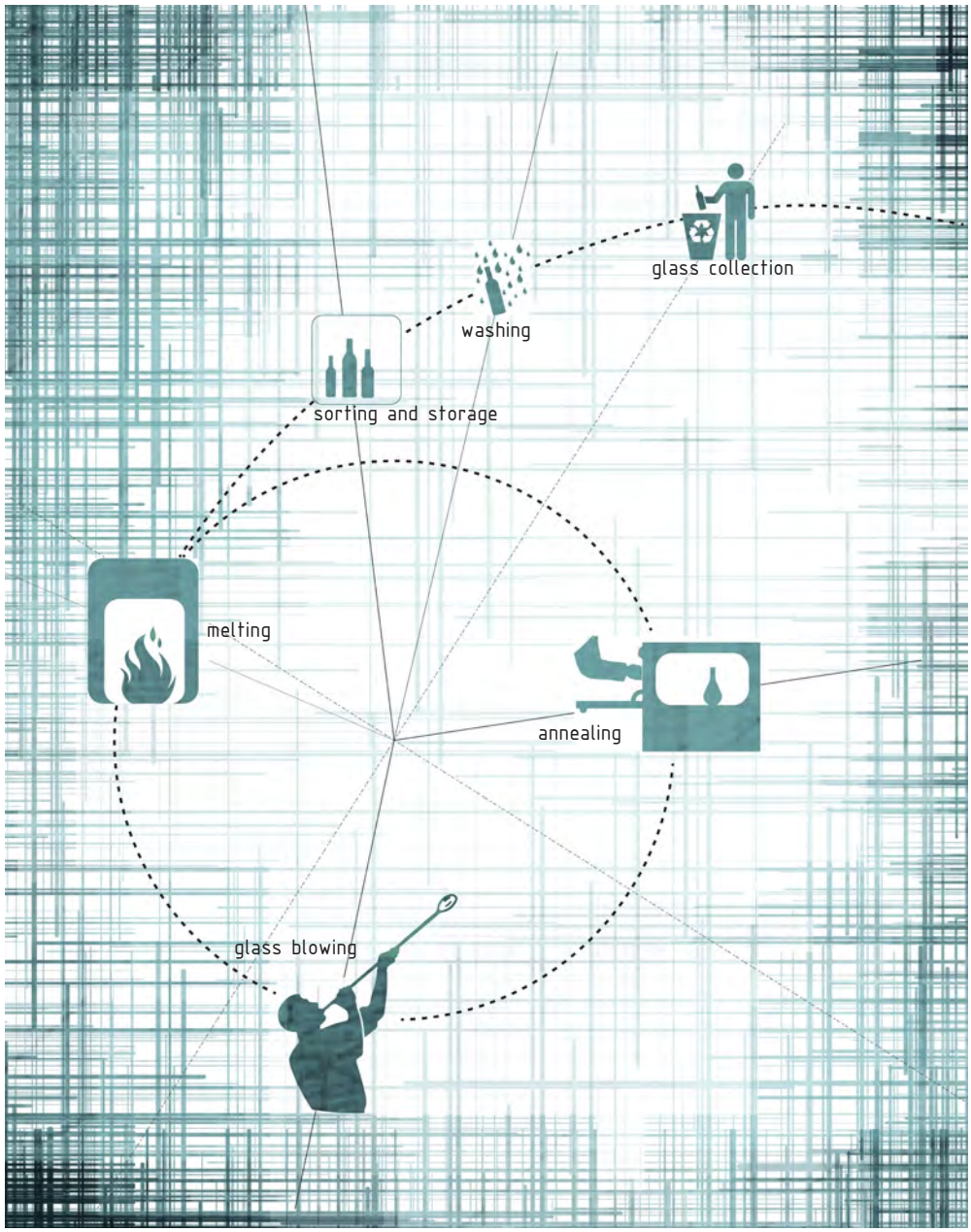




__4.17 Sequence of 'off-hand' glassblowing



_4.18 Glassmaking process of a Bohemian glasshouse of the fifteenth century

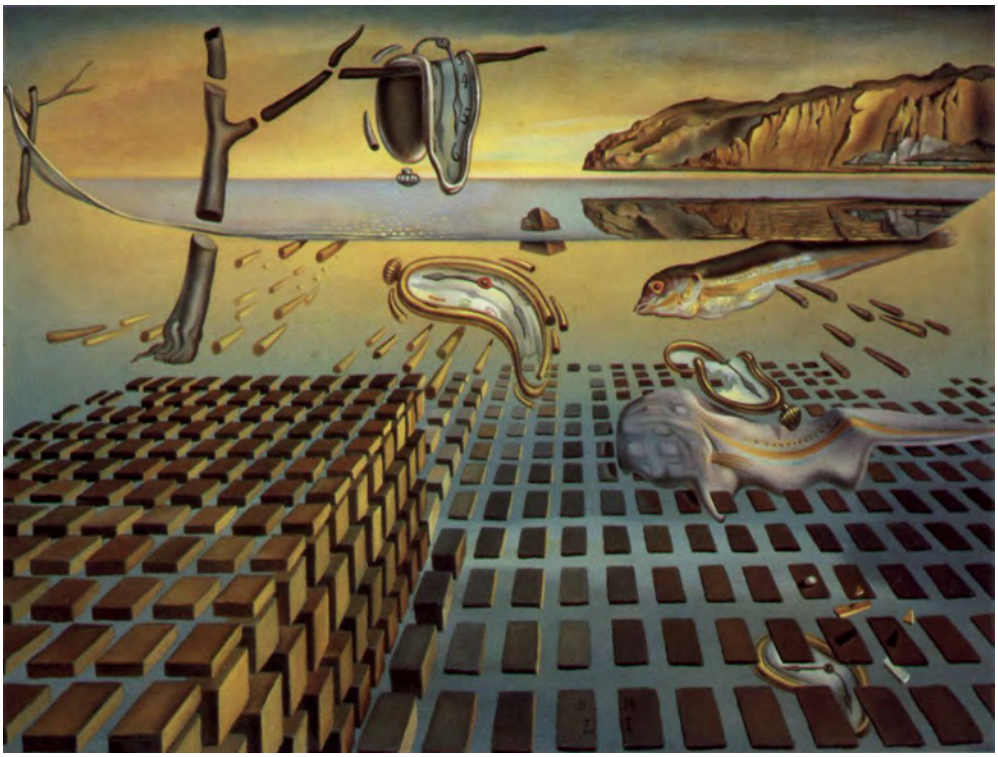
In the background a man digs sand from the hillside and fuel is carried in a basket. In front are the glassblowers gathering glass and blowing a vessel, whilst a boy tends the furnace and the worker on the left removes the vessels for annealing.



__4.19 Glassmaking process

The diagrammatic depiction of the glassmaking process unfolds circular, closed-loop operation.

UNPROGRAMMED



__4.20 "The Disintegration of the Persistence of Memory", Salvador Dalí, 1952–54

Following up on the first painting, 20 years later Dalí reflects on his earlier painting in 'The disintegration of the persistence of memory'. Full of allusions to the first painting, forces begin to dissolve elements that were previously characterised by a plasticity of time and space. Memory has nowhere now to anchor itself, and creativity gains control over the desire to control time.

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PILLARS OF MEMORY – the unprogrammed space of the memorial

> The city's dynamic nature includes the space of one's dreams and physical encounters, of birth and death, of incessant activity and movement. It creates identity: the home, the burial plot, the touchstones – the things placed in one's surroundings to ensure the reconstruction of memory, the creation of both mimetic and indicative space.
>
> [Bunschoten, 2001:24]

Memory is no longer a real part of life. A fading sense of continuity remains and we speak so much of memory because there is so little of it left [Nora, 1989:7]. Today there are sites of memory, because there are no longer real environments of memory. Modernity has resulted in the "conquest and eradication of memory by history" [Nora, 1989:8]. Humanity is incapable of accessing and forming memories or finding meaning in a time preoccupied with historical knowledge. Andreas Huyssen explains the fascination and preoccupation with memory due to the fear of forgetting:

> Our secular culture today, obsessed with memory as it is, is also somehow in the grips of fear, even a terror, of forgetting. This fear of forgetting articulates itself paradigmatically ... the more we are asked to remember in the wake of information explosion and the marketing of memory, the more we seem to be in danger of forgetting and the stronger the need to forget. At issue is the distinction between usable pasts and disposable data. My hypothesis here is that we try to counteract the fear and danger of forgetting with survival strategies of public and private memorialisation.
>
> [Williams, 2007:172]

Since the invention of pyramids and even before, architecture and the landscape of man has served as a vehicle for memory [Doordan, 2001:285]. Crucial for the formation of identity, it is with regard to past events that memory becomes a mechanism by which society is able to feel pride, pain or shame [Williams, 2007:167]. Memorials, monuments, and museums are physical manifestations of society's willingness to remember. War memorials are the prime example where sculptural pillars and monuments are the way society concretely marks places that saw destruction and loss. In honour of a past occurrence, war memorials statically freeze the meaning of an event.

While war memorials are not of real concern to the dissertation, it is important to note that this form of memory architecture is a static way of commemorating the past, more often than not catering for static history as opposed to personal and collective memory.

Society can no longer rely on memorials, museums, archives, and other institutions of recording history to remember on its behalf. History is a repetition of the past and a means for our forgetful society to organise the past, while "memory is a temporal phenomenon wherein the past constantly impinges self-consciously on the present" [Williams, 2007:179]. Memory is in perpetual evolution, changing, moulding, and reforming itself in a dynamic of time. Hence one cannot freeze or halt the past. On the difference between memory and history Pierre Nora [1989:9] writes that "...memory is by nature multiple and yet specific; collective, plural, and yet individual. History, on the other hand, belongs to everyone and to no one, whence its claim to universal authority... Memory is absolute, while history can only conceive the relative."

In the opening to his book "Memorial Museums", Paul Williams presents the idea of 'pillars of salt' set against the notion of 'pillars of stone'. According to his interpretation, pillars of salt embody the ephemeral and dissolving personal memory, whereas pillars of stone resemble our contemporary monuments and memorials, representing the permanent manifestations of hardened official histories [Williams, 2007:1]. Continuing his argument he views "...physical locations as appropriate repositories for genuine local memory and as loci that will help others gain a tangible sense of an event". Williams states that place and its atmosphere plays a major role in the conception of memory, stating that "[i]t is, arguably, a sense of place – rather than objects or images – that give form to our memories, and provides the coordinates for the imaginative reconstruction of the 'memories' of those who visited memorial sites but never knew the event first hand" [Williams, 2007:102].

While the author agrees with the general notion of Paul Williams that physical locations can act as repositories for memory, it is in the author's opinion that a definite distinction between place and space is necessary. It is rather through the experience of physical space as opposed to a specific location that memory can be recorded and recalled. Pillars of stone can therefore be seen as symbolic to place, and pillars of salt expression of space. Based on a phenomenological understanding, it is argued that space can recall the sense of an event through live sensory experiences – by impulsive qualities of sound, light, and smell. Through the intimate contact with the materiality of space users gain a tangible sense of memory. Pillars of stone [place] refer to a static and permanent organisation of meaning, referential to the significance of the past. Fixing memory to a particular site becomes problematic because place acts as a static entity, ascribing one function to any single location [Williams, 2007:103].

Pillars of salt [space] refer to an ephemeral and dynamic condition with no fixed or predetermined structure. Inscribing memory to space as opposed to place offers a personal freedom of response, interpretation and use. Space in its nature can carry a variety of meanings awarded by multiple users. Space is identified as vectors of direction in which rhythm and time are experienced [Williams, 2007:104] and thus implies the movement of people. In space, users can move freely in their own idiosyncratic way in the exploration of memory, respecting the abstract entities of the users' feelings and impressions. By practicing memory in

space as opposed to place, memory becomes an everyday narration of movement where users can construct their individual relations of intimacy and detachment. Users begin to live within memory, where gestures of the everyday manifest as rituals of repetition and timeless practice in the experiential act of memory and meaning [Nora, 1989:8]. Society can live unconsciously with a historic past, obliterating the need to create places of memory and artificially constructing heritage [Williams, 2007:162]. Pillars of salt thus become a practice of memory in space based on the narrative of movement as mnemonics of the everyday.

The notion of mnemonics of the everyday also addresses the accessibility of memory architecture. Especially in the South African context, commemorative architecture has been restricted in terms of its accessibility and placed outside the active public domain on the peripheries of the city. Upon arrival, after a trip to the southern periphery of Pretoria, visitors to Freedom Park are greeted by a considerable entrance fee before being granted access to the site of collective commemoration. While this is not the exception and can likewise be seen at the Apartheid Museum on the outskirts of Johannesburg, it underscores the need to make memory an accessible part of everyday life. This implies that sites and spaces of memory would then be visible to the public and located in proximity to civic life. This would ensure that incidents of remembrance are prompted as people move through the public domain of cities. Paul Williams [2007:5] states that while architects "...can construct the intended aesthetic purposes of memorials, it is only through being repeatedly viewed and experienced that they gain cultural significance" [Williams, 2007:5]. A sustained cultural significance is therefore possible through mnemonics of the everyday, as everyday activity does not only ensure repeated visitation but also enriches the cultural significance of the space or place.

An architecture that touches the senses, or essentially existential space, can be animated through movement to construct meaning and memory. It has also been explained that there is a difference between the social milieu of memory in the form of everyday mnemonics of space [the event or ritual of memory] and the physical sites established to preserve the memory of events. The author argues that both instances can be considered as of a memorial nature; however, a difference exists in the nature of their spaces. Physical sites established to preserve memory are intentionally programmed for memory, whereas the everyday mnemonics of space is largely unprogrammed and become appropriated for memory. Unprogrammed space provides a stage for citizens and their activities. It places emphasis on the activity as opposed to the function and can be transformed by its users. Whether designed or not, the space is full of possibility, providing opportunities for people to meet and interact in a space mouldable by its users. Unprogrammed space is open and unfixed, resembling the notions of the 'free image' as discussed previously under artisan mechanics. The space is self-organising, unstable and variable; its only constant is movement.

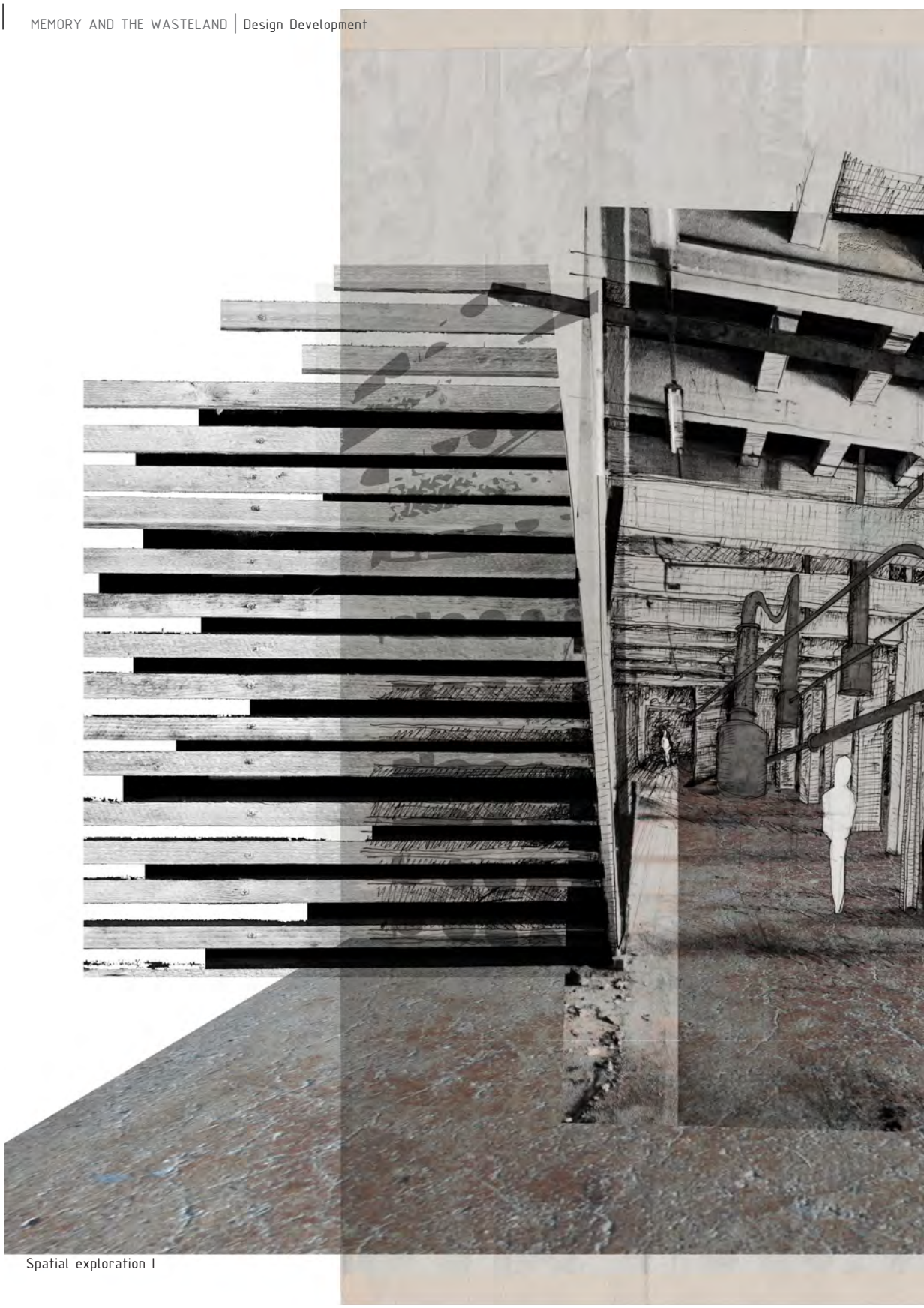
Unprogrammed space thus provides a possibility for a new typology of the memorial. It moves away from an act of viewing to an act of actively experiencing beyond the materiality of the memorial back

in time to the memory it commemorates. As James Young states: "...the aim of memorials is not to call attention to their own presence so much as to the past events because they are no longer present" [Williams, 2007:6]. The unprogrammed space of the industrial wasteland lies silent and unrestricted – waiting to be discovered and improvised upon. Once revealed and accessible to the public, the spaces of the industrial wasteland can stir memory. They develop into spaces that hold time like the mind stores memory, and through the architectural detail and the ritual that takes place within them they might continually reinforce one's sense of the whole. They do not act as a dwelling for memory but bear forth meaning in the way they trigger past sensations and emotions through the experience of space.

5 DESIGN DEVELOPMENT

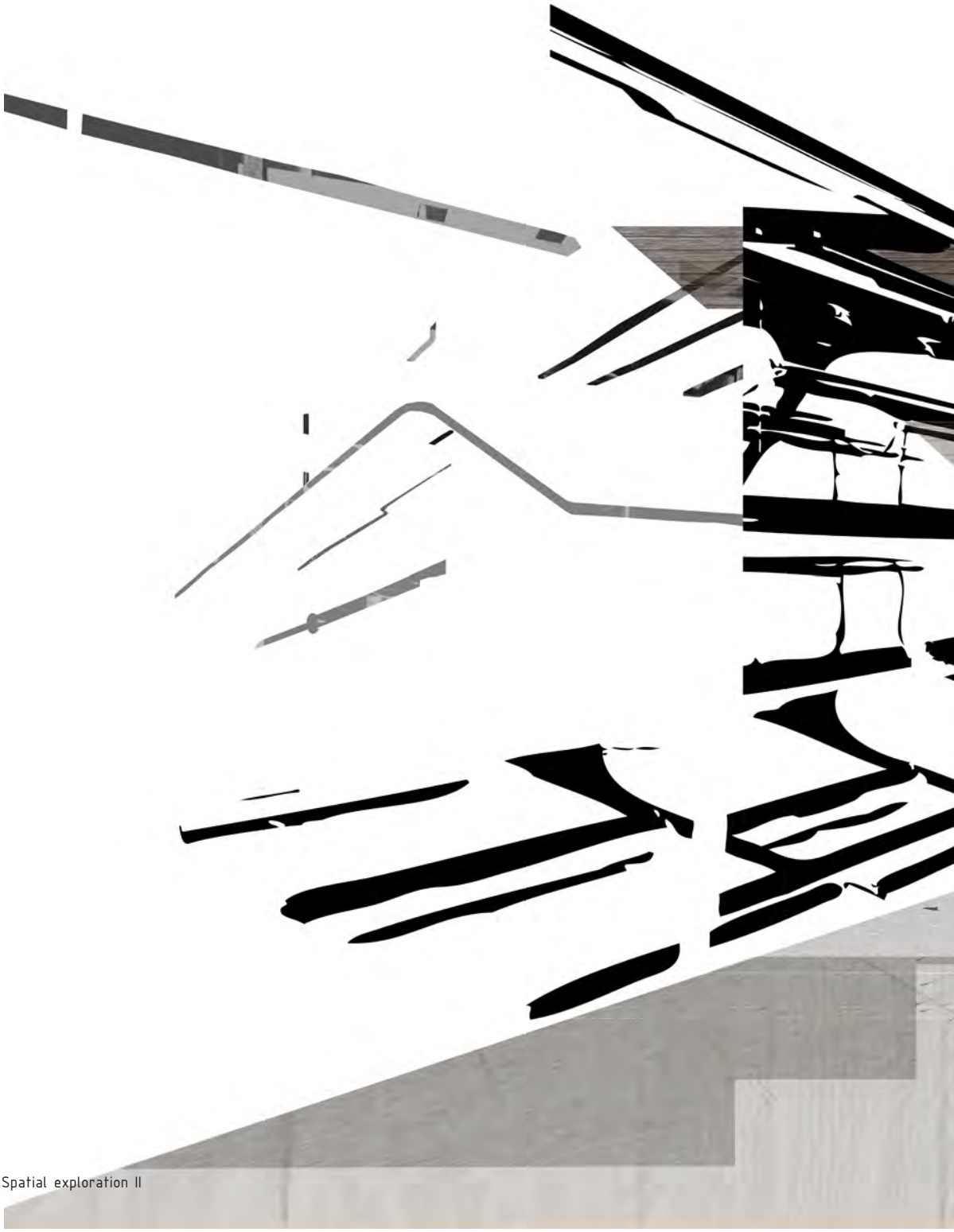
DESIGN DISCOURSE

The design unfolds into the exploration of possibilities of space, movement and tectonics. Critical developments in space, plan and section are recorded in a process of turning the conceptual idea into an architectural possibility. Through drawings and models the possibilities and implications of design-decisions are presented.

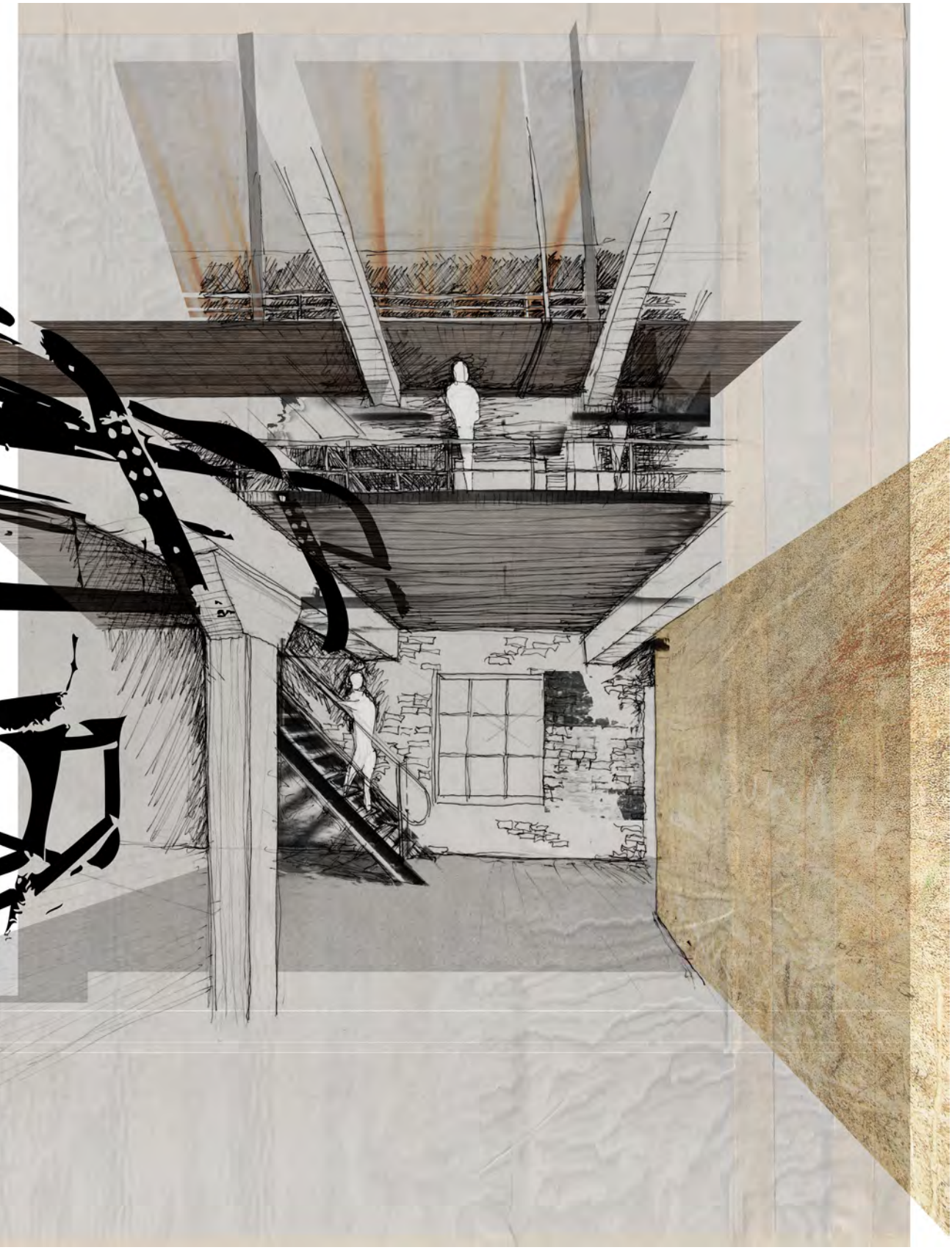


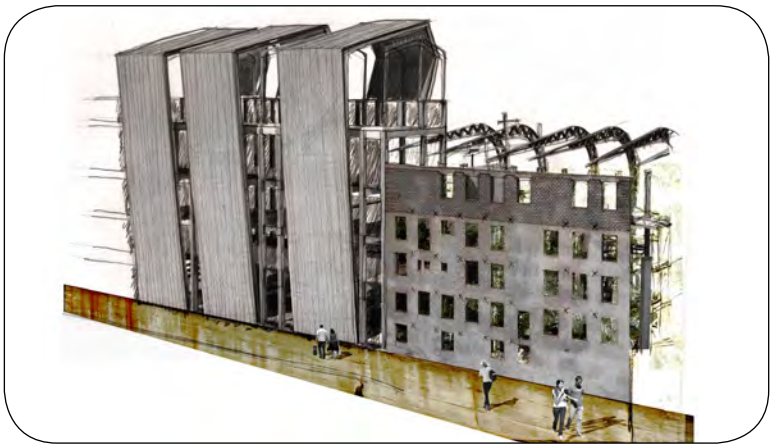
_5.1 Spatial exploration I

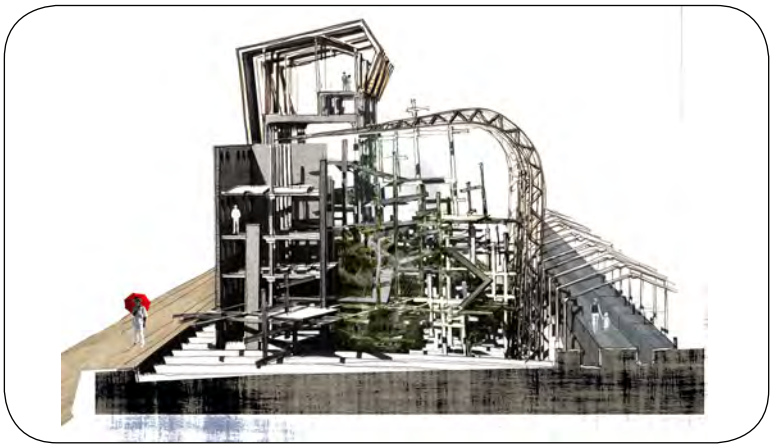


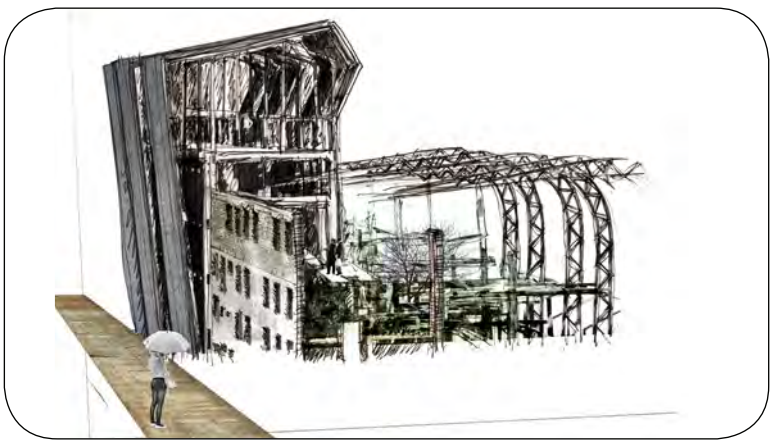


_5.2 Spatial exploration II







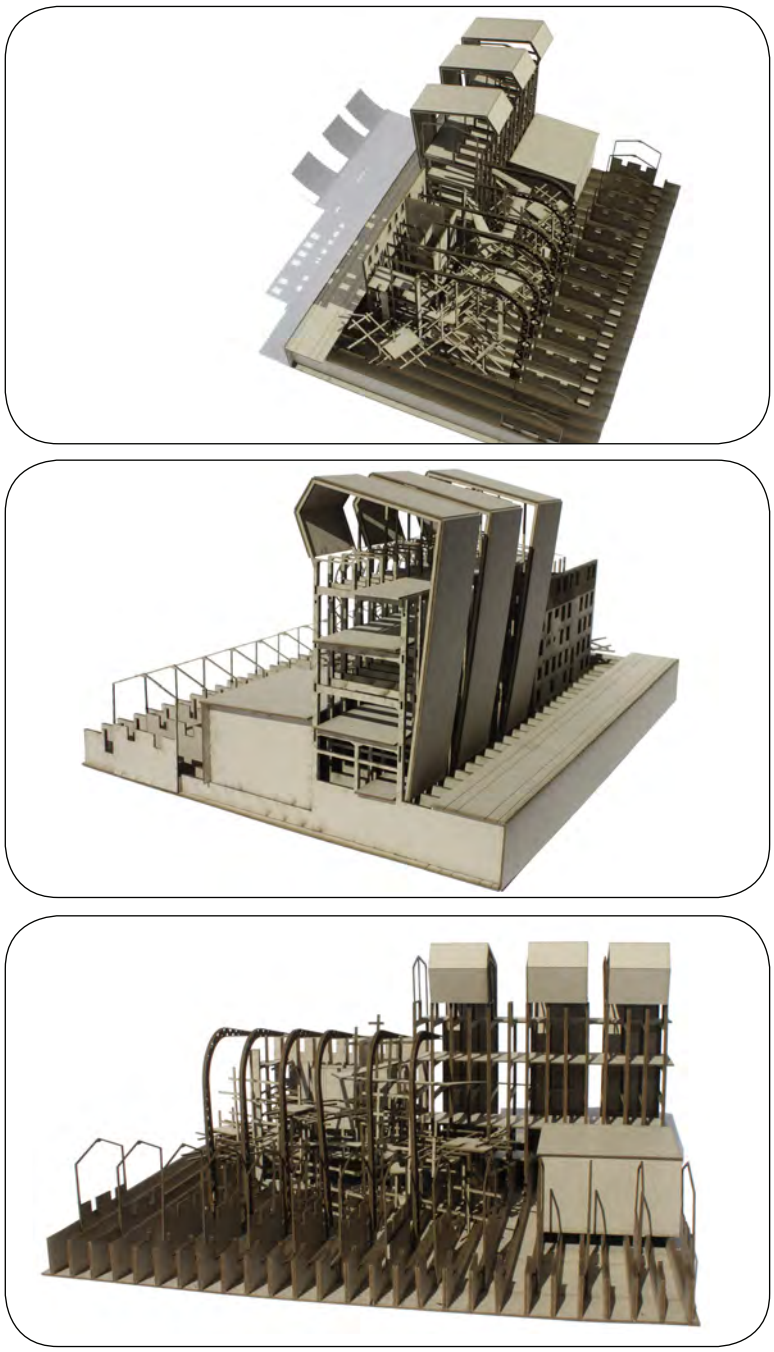


_5.3 Concept drawings

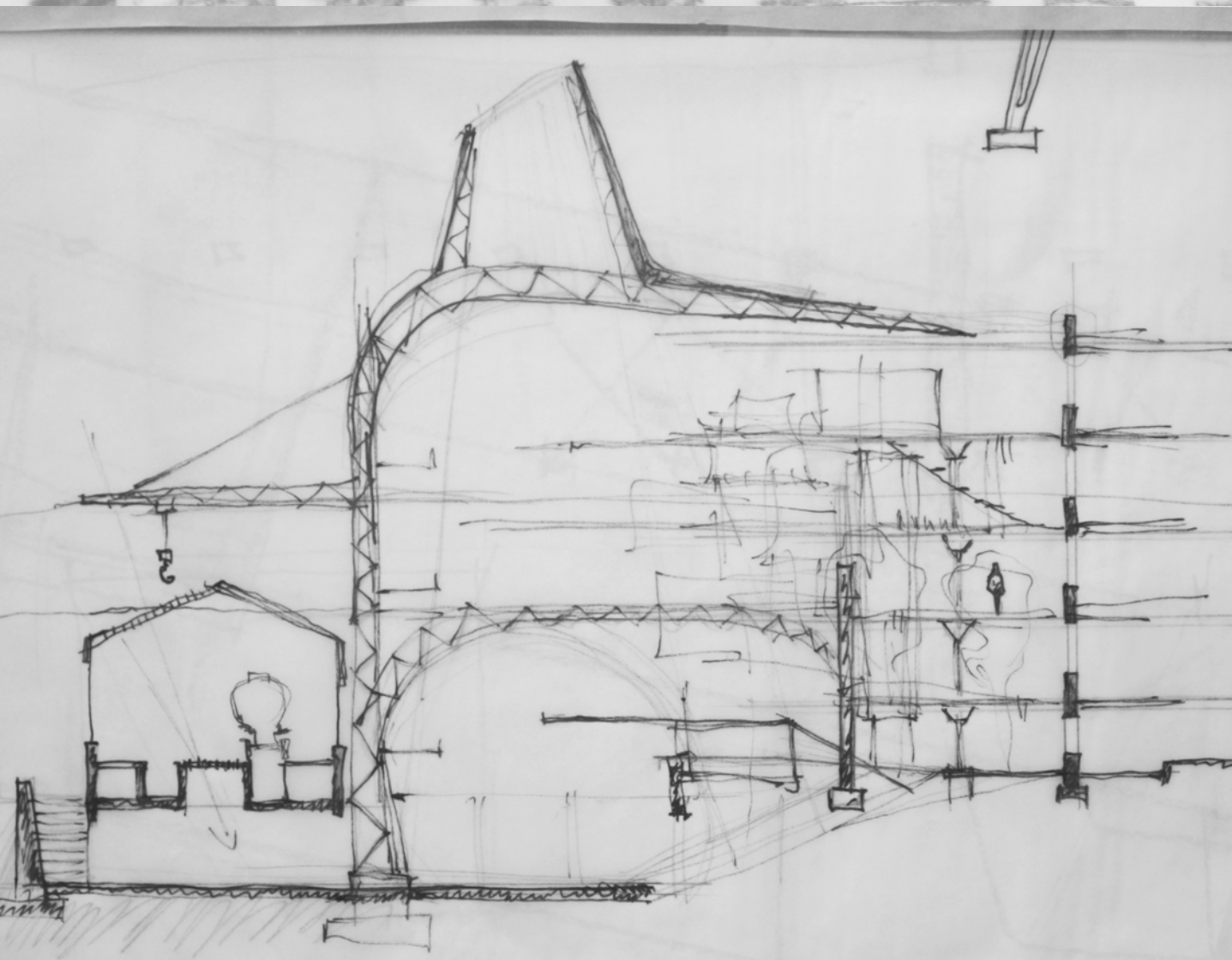
| Model fragments

To realize the intensions of the concept, it is necessary to fragment the existing building in order to expose the memory-laden spaces within the building and to ensure that new memory can be attached and built onto the existing. The historic fabric is disintegrated - achieved by addition, subtraction, manipulation, displacement and juxtaposition.

The resulting "ruin" should be read less as elements of a picturesque composition, but as the dismantled elements of order. It represents a possibility to break away from the predominance of reason. However, despite the ostensible chaos, order is still a necessary counterpart to the sensuality and pleasure of space. Sensual pleasure of space conflicts with the pleasure of order and blurs the boundary of memory and fantasy or imagination. A sequence of the senses, process and movement creates a narrative of events which begins to link the fragmented construct.



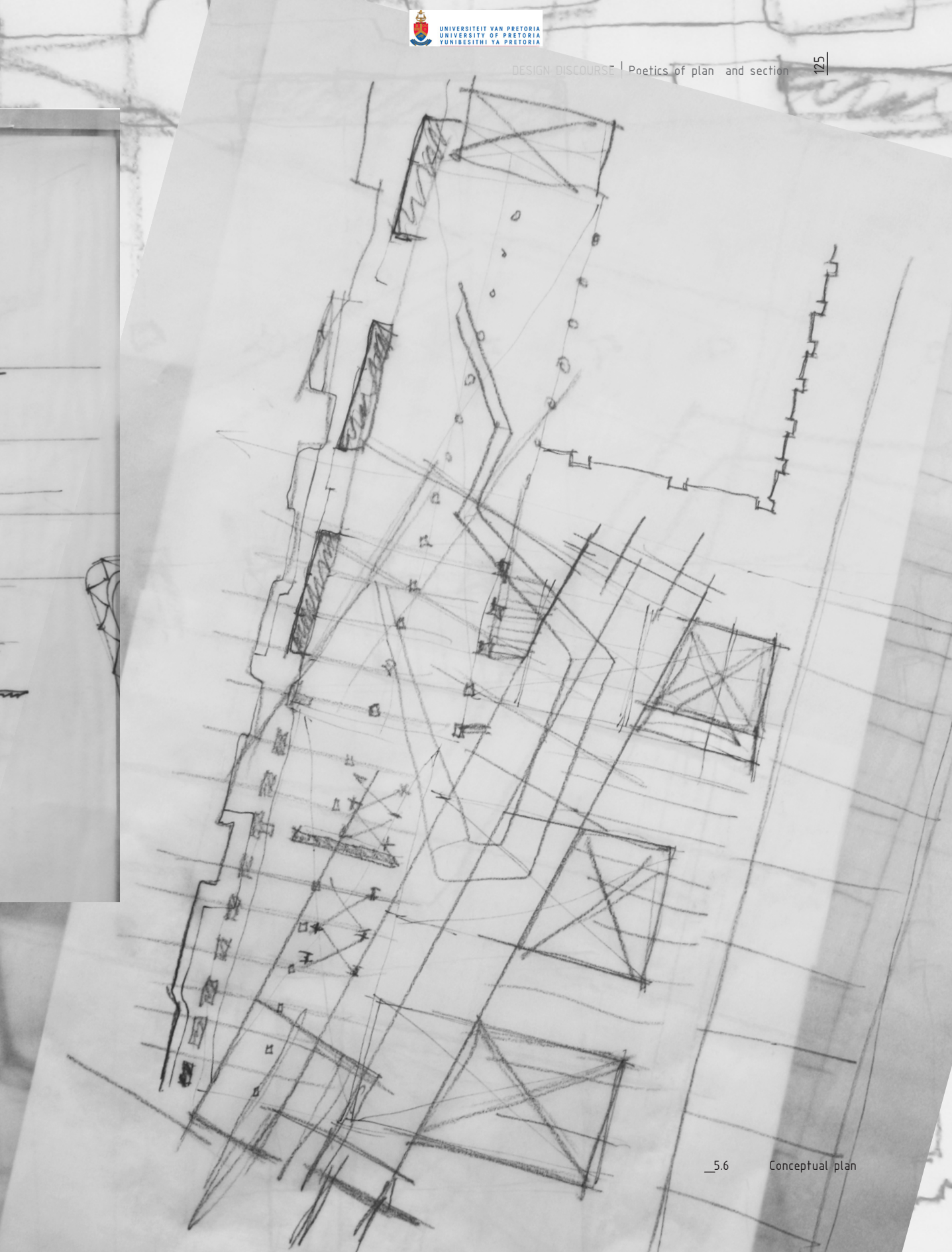
_5.4 Photographs of concept model



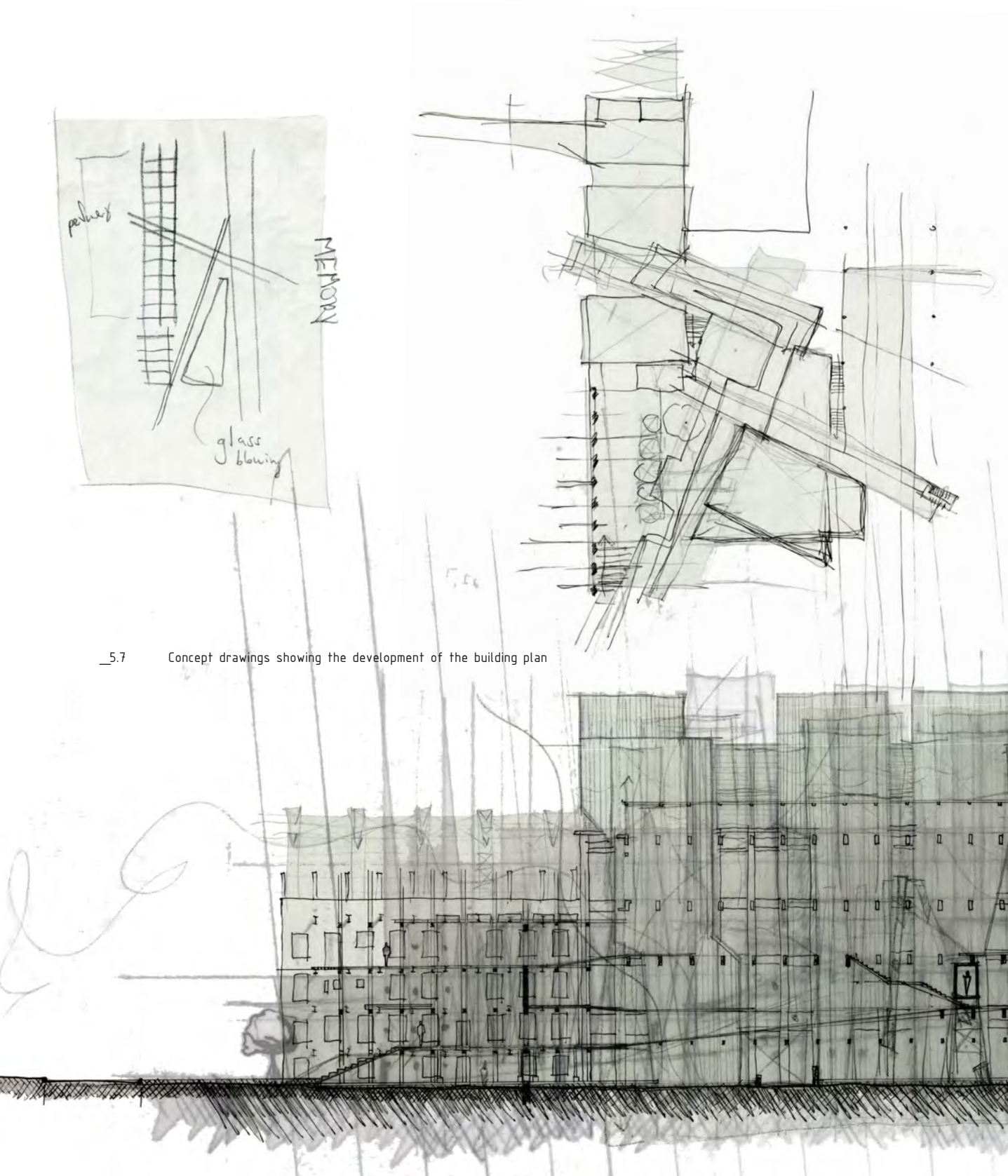
_5.5 Conceptual section

| Poetics of plan and section

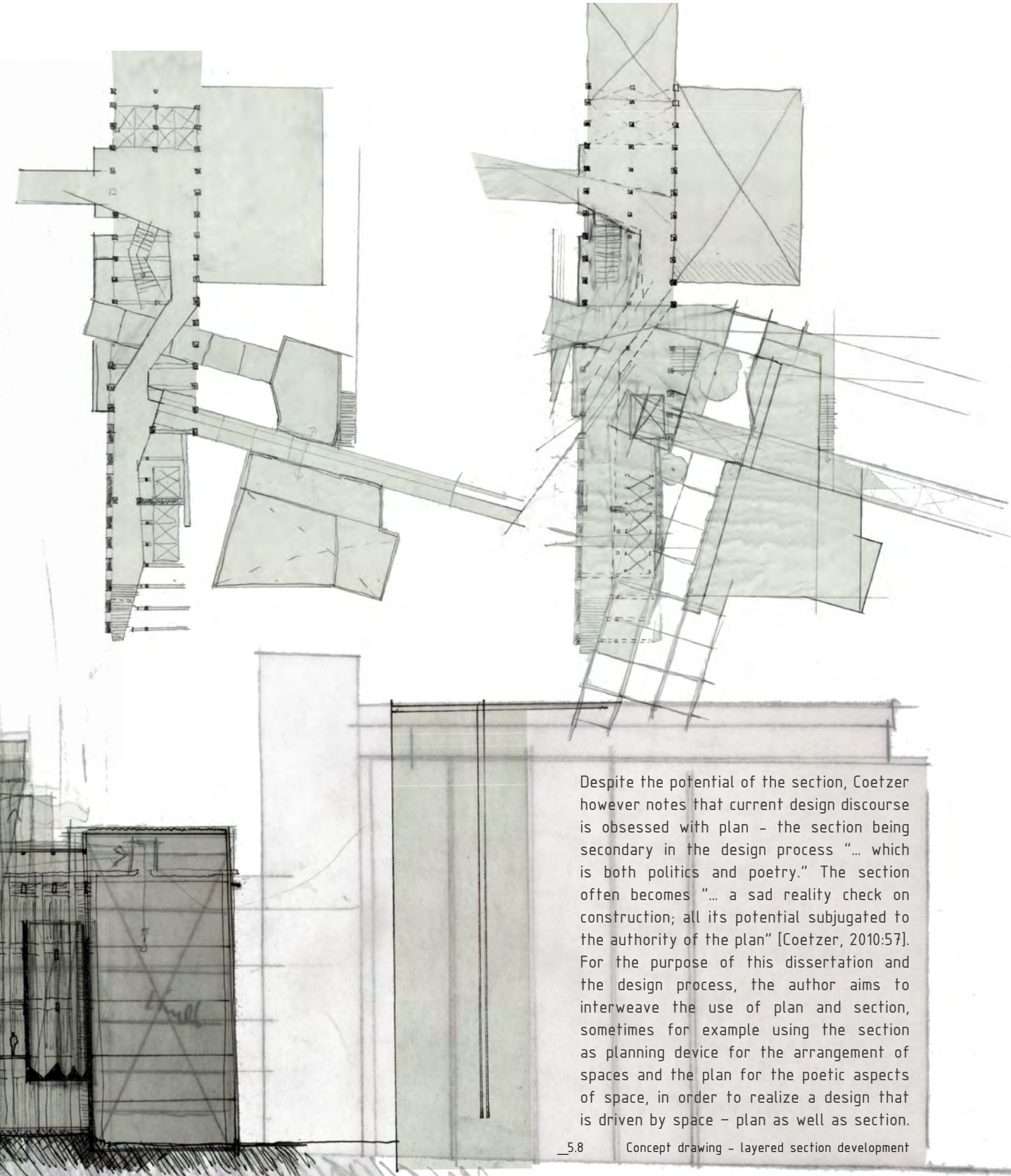
In architectural design, the plan is mostly used as tool for the organisational logic of activities, programmes and events. It acts as a rigid apparatus defining boundaries and restricting possibilities. In his article "The plan is political, the section is poetic", published in Architecture South Africa Nov/ Dec 2010, Nic Coetzer regards the plan and the section as two opposites in architectural design. While he sees the plan as emphatic and authoritarian, the section has the power to convey extraordinary qualities of space when dealing "... with ineffable things such as light and character, emotion and time" [Coetzer, 2010:57].



_5.6 Conceptual plan

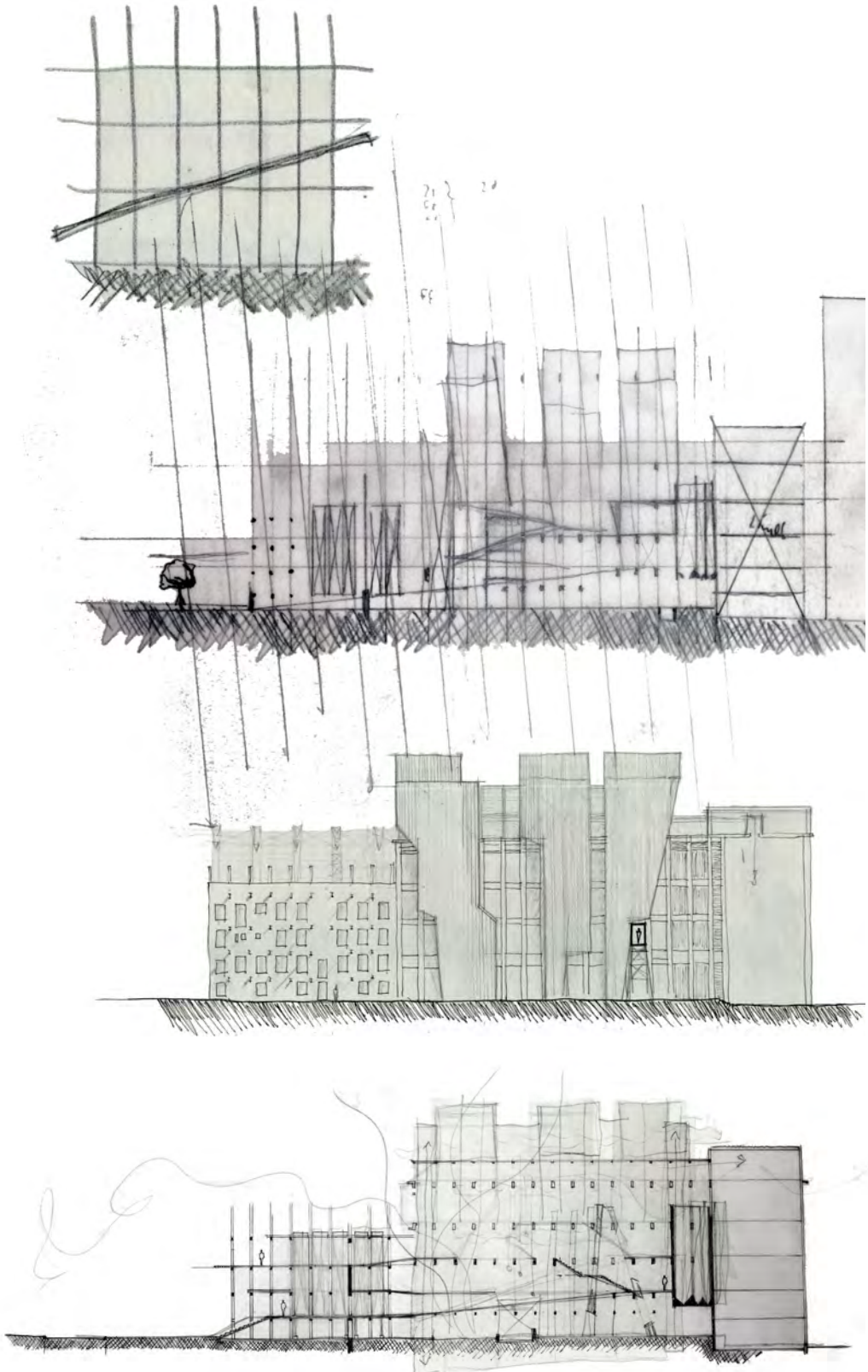


_5.7 Concept drawings showing the development of the building plan

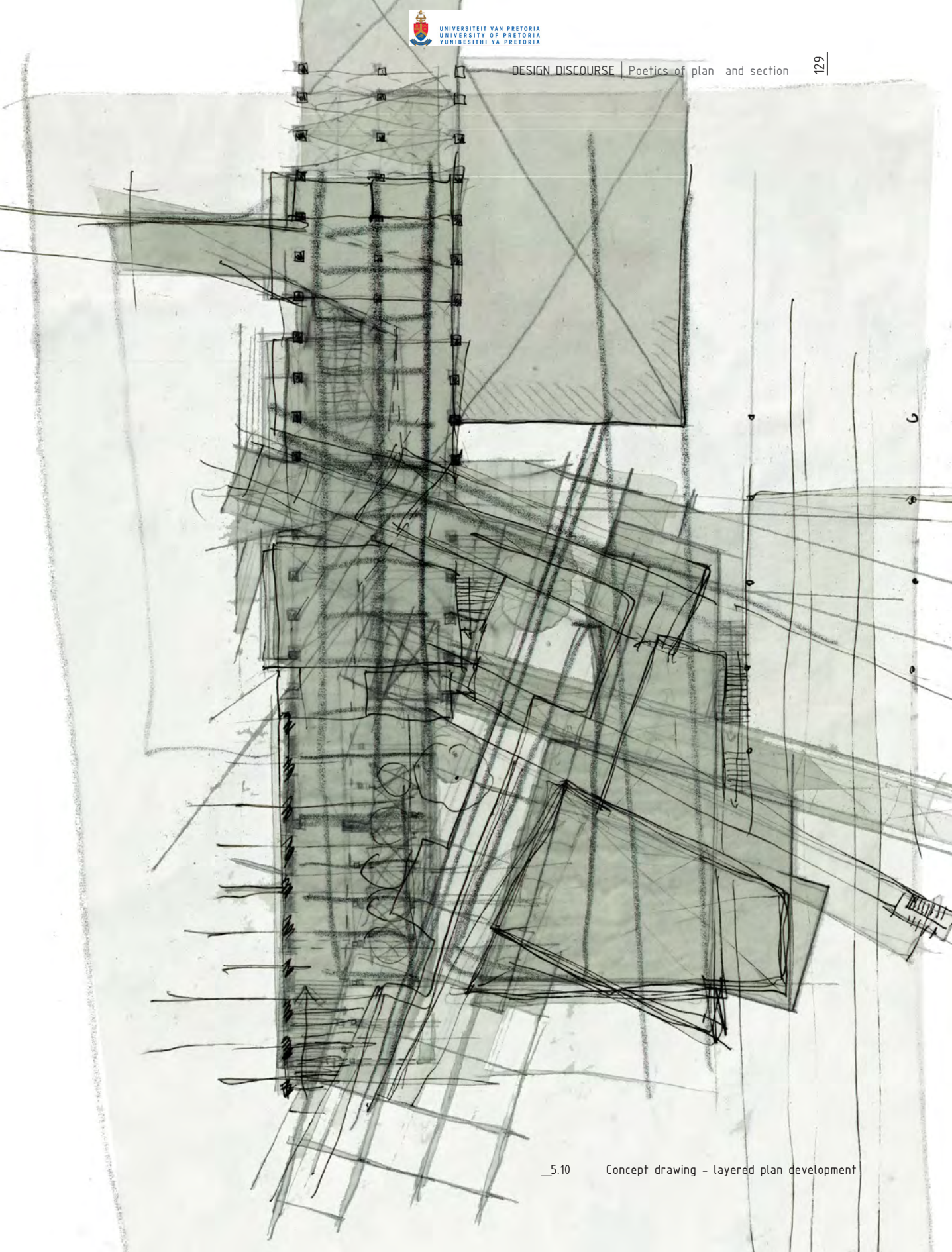


Despite the potential of the section, Coetzer however notes that current design discourse is obsessed with plan – the section being secondary in the design process "... which is both politics and poetry." The section often becomes "... a sad reality check on construction; all its potential subjugated to the authority of the plan" [Coetzer, 2010:57]. For the purpose of this dissertation and the design process, the author aims to interweave the use of plan and section, sometimes for example using the section as planning device for the arrangement of spaces and the plan for the poetic aspects of space, in order to realize a design that is driven by space – plan as well as section.

_5.8 Concept drawing – layered section development



_5.9 Concept drawings showing the development of the building section



_5.10 Concept drawing - layered plan development

THREE LAYERED COMPONENTS

The project consists of 3 primary elements:

- Perfumery
- Glassblowing workshop
- Memorial (public spaces of individual remembrance)

Situated in the wasteland of Pretoria West, the intervention challenges the relationship between the three components or programmes. The dissertation considers the imperative need for collective and individual remembering in a context that seems desolate and without meaning. Individual remembering occurs in the garden, public spaces and the work environment of the artisan, while collective remembering is encouraged through activities, events and participation. The three programmes are layered with the existing industrial machine in a pursuit of forming a new whole.

The act of layering an object in its original context perpetuates a sequence of time. It provides an opportunity to the possibility to access and reframe the context and nature of existence, making it possible to create something new. Fragments are recomposed, removed or layered to create a new composition. The glassblowing workshop, perfumery and public spaces are arranged to minimize the gap between activity, event, participation and production in order to establish a new relationship between the artisan, the public and the product.

Spaces of individual remembering are open to the public, without predetermined routes, for the individual to explore and discover. This provides a voluntary field to inspire a process of remembering. Collectively curated by the natural realm, the public and the artisan, the space is intended for the enjoyment of the both the public and the artisan, as well as the deposition, preservation, discovery and experimentation of memory. It provides a terrain for public participation and exploration on a journey through the present, yet allowing all of time – past, present and future – to surface into one experiential plane.



Perfumery



Glassblowing

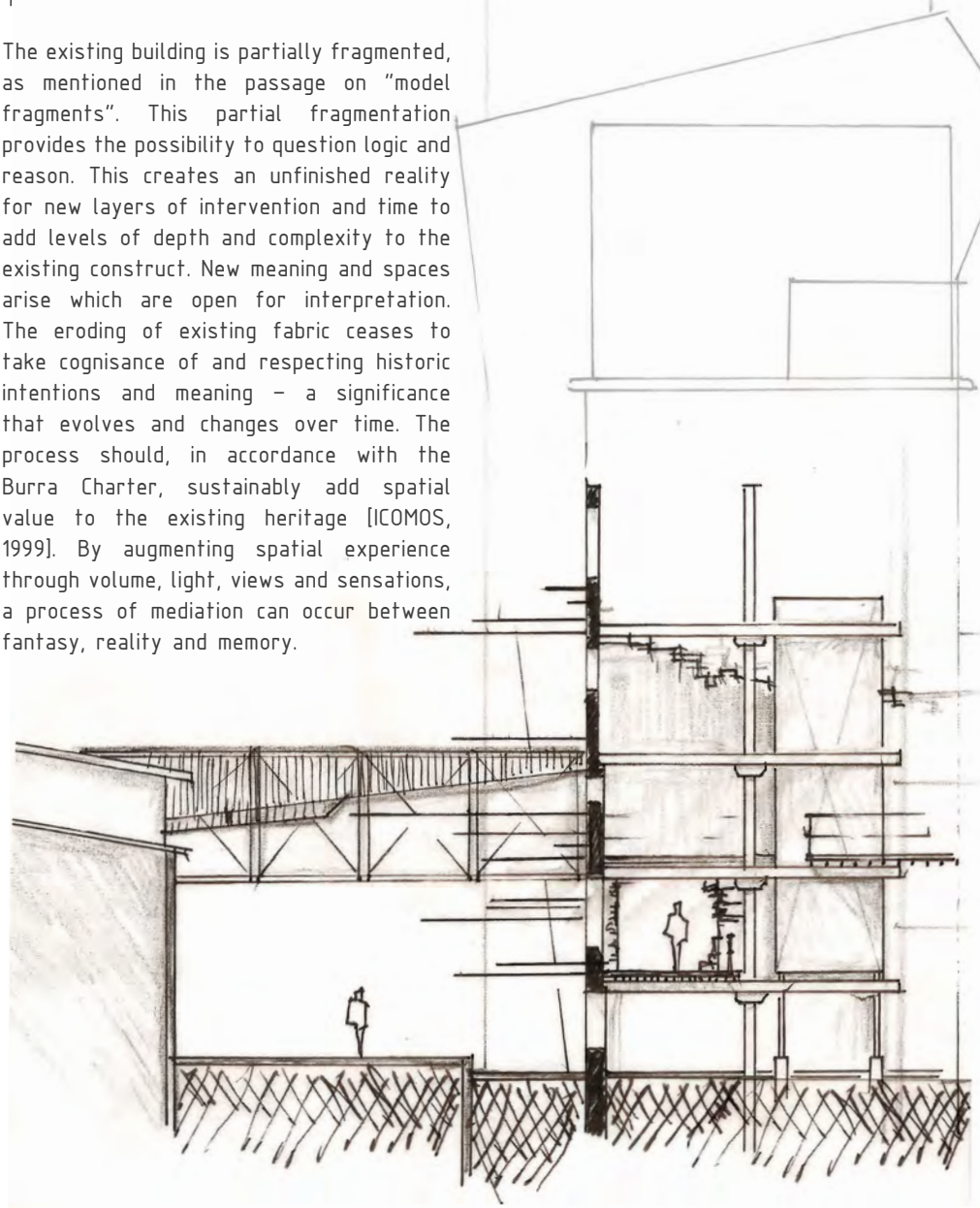


Memorial

_5.11 Three layered components

Fragments of order and layered complexity

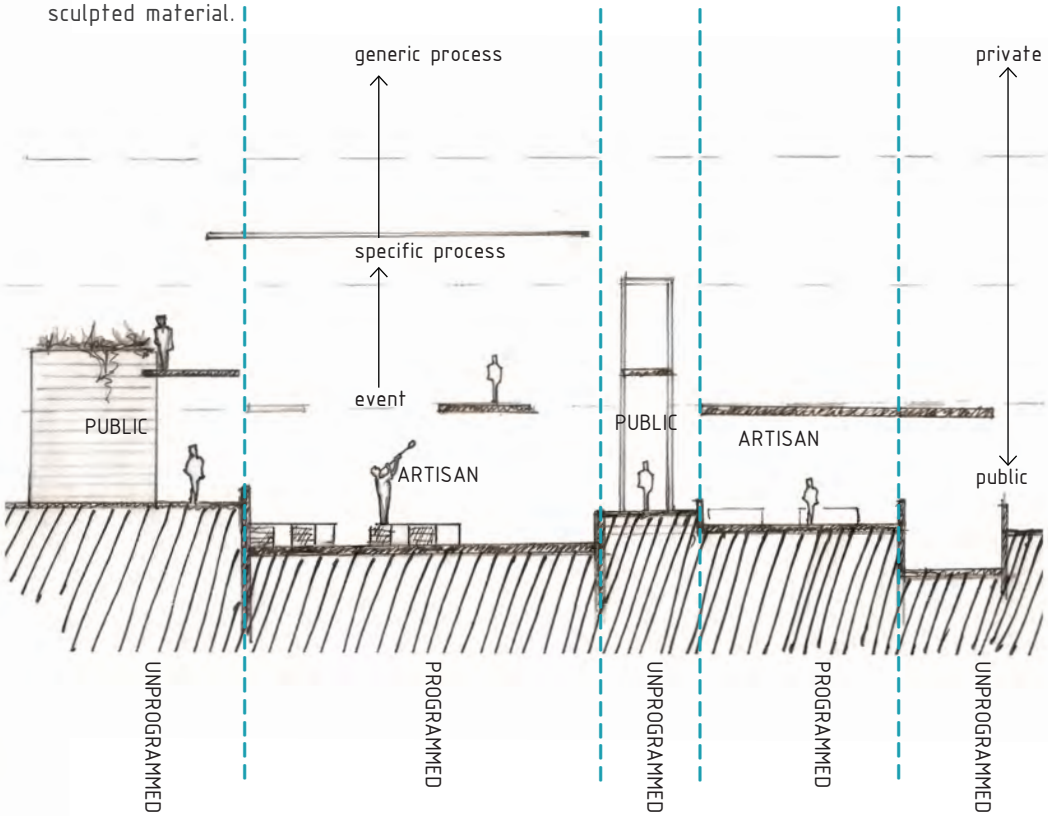
The existing building is partially fragmented, as mentioned in the passage on "model fragments". This partial fragmentation provides the possibility to question logic and reason. This creates an unfinished reality for new layers of intervention and time to add levels of depth and complexity to the existing construct. New meaning and spaces arise which are open for interpretation. The eroding of existing fabric ceases to take cognisance of and respecting historic intentions and meaning – a significance that evolves and changes over time. The process should, in accordance with the Burra Charter, sustainably add spatial value to the existing heritage [ICOMOS, 1999]. By augmenting spatial experience through volume, light, views and sensations, a process of mediation can occur between fantasy, reality and memory.



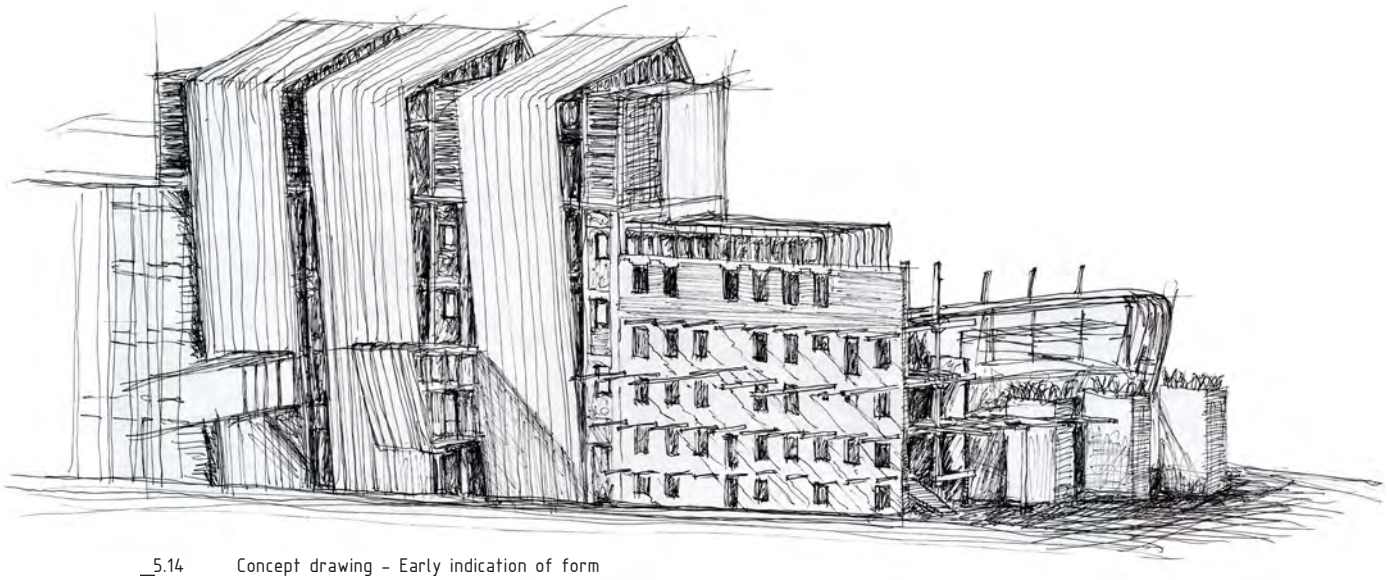
_5.12 Concept drawing - Fragmented order

| From individual to collective memory

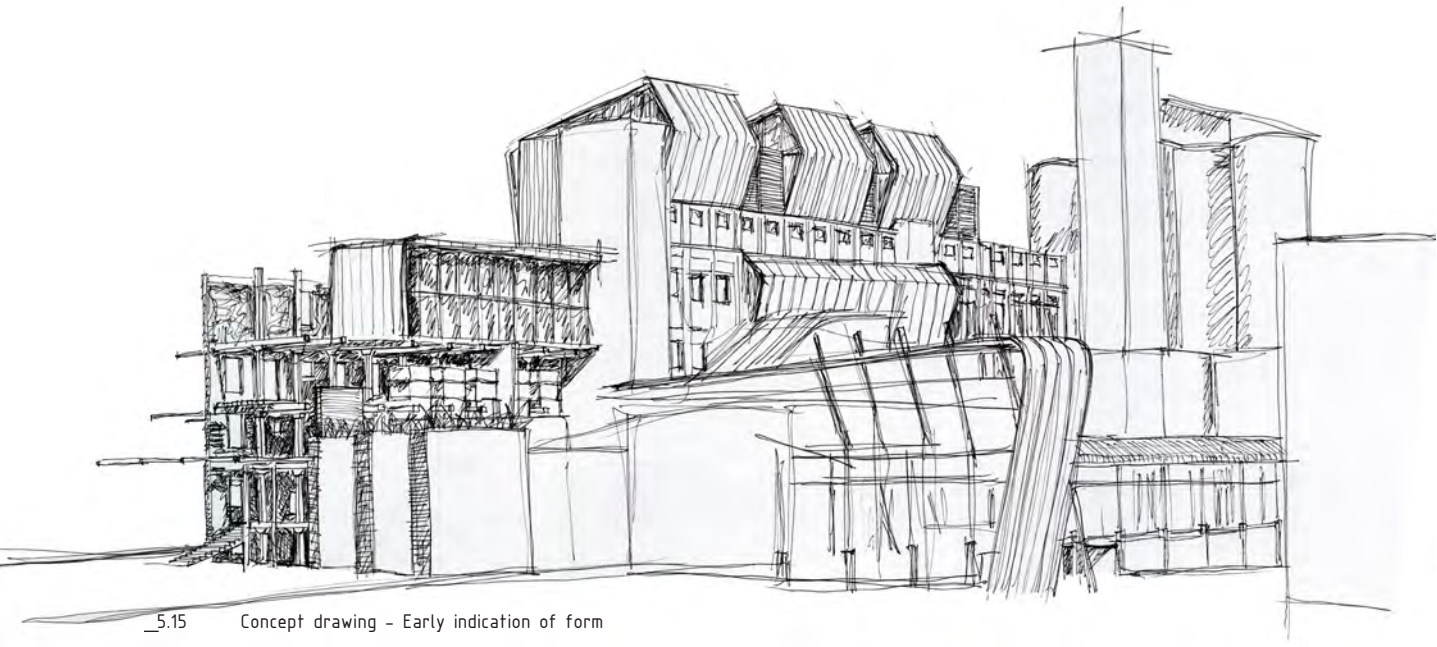
Programmed volumes that accommodate services and processes of production and creative exploration are situated in-between un-programmed public space. Edges and thresholds between public space and spaces of production strengthen the individual's role in the composition. Linked through physical and visual space, visitors gain a sense of the building's composition and the activities of the artisan, without necessarily having to enter. Consequently, the complex uses, reuses, and, most importantly, renders accessible the artisans process as well as his relationship with the sculpted material.



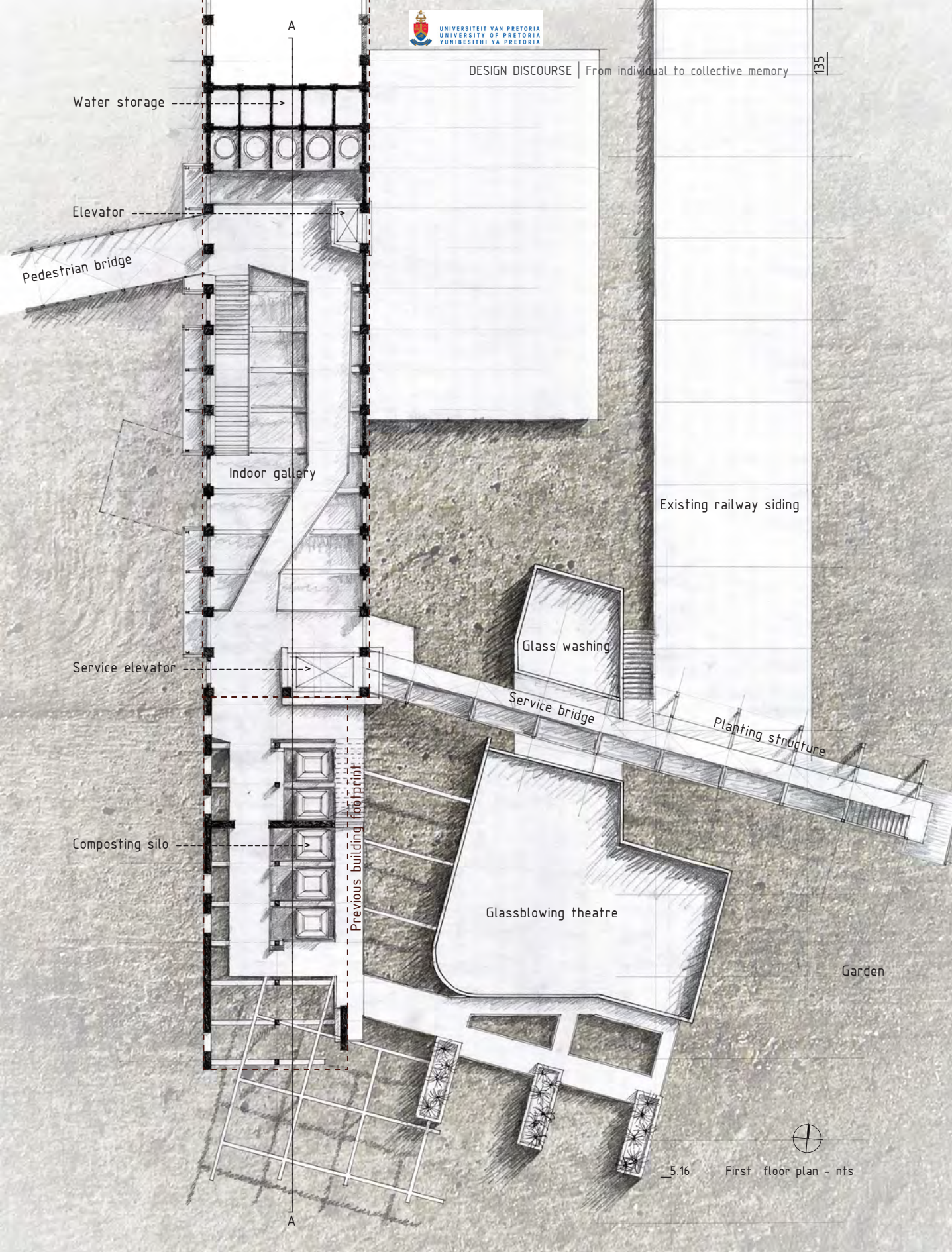
_5.13 Memory interfaces - relationship between public and private, programmed and unprogrammed



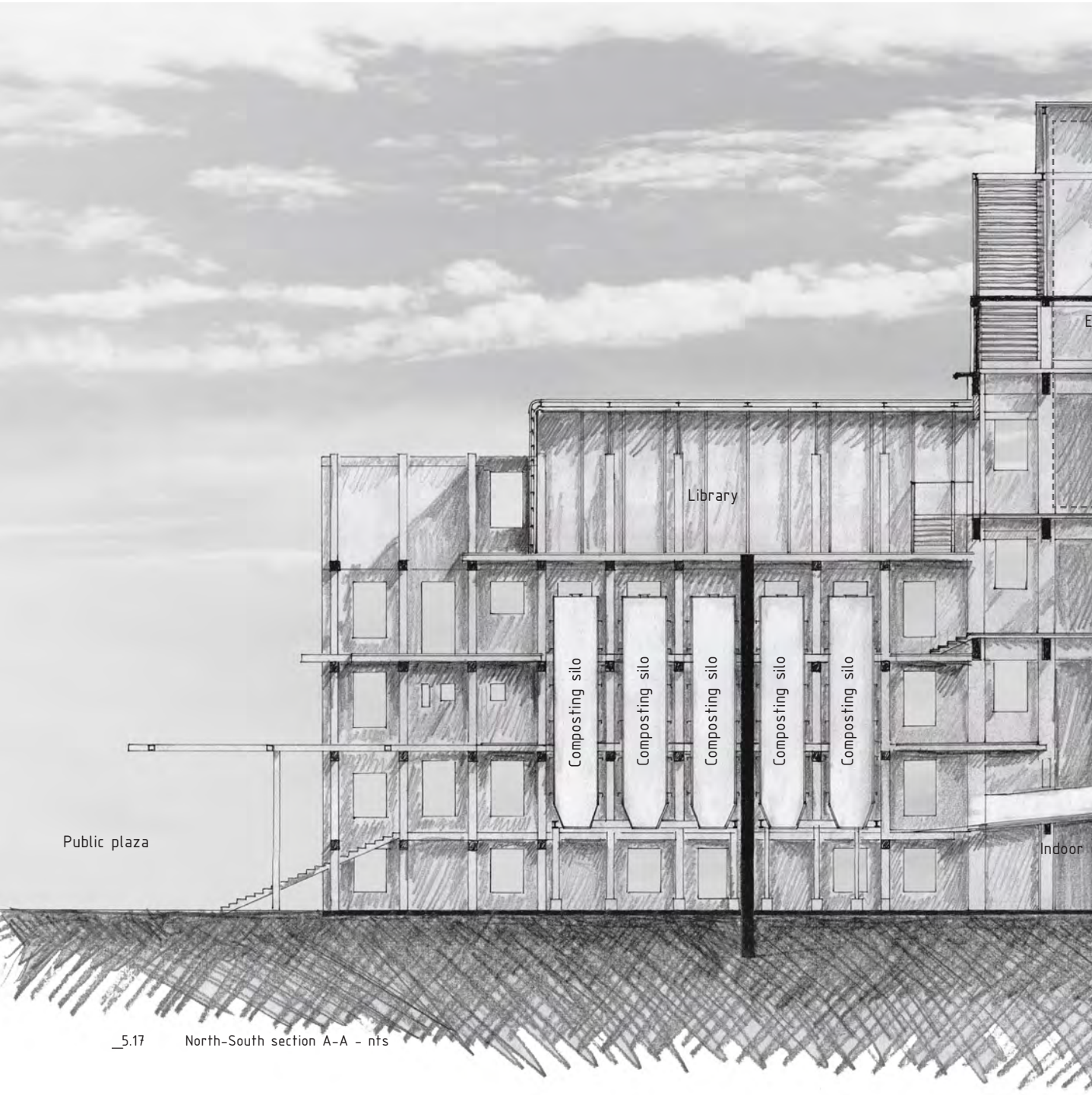
_5.14 Concept drawing - Early indication of form



_5.15 Concept drawing - Early indication of form

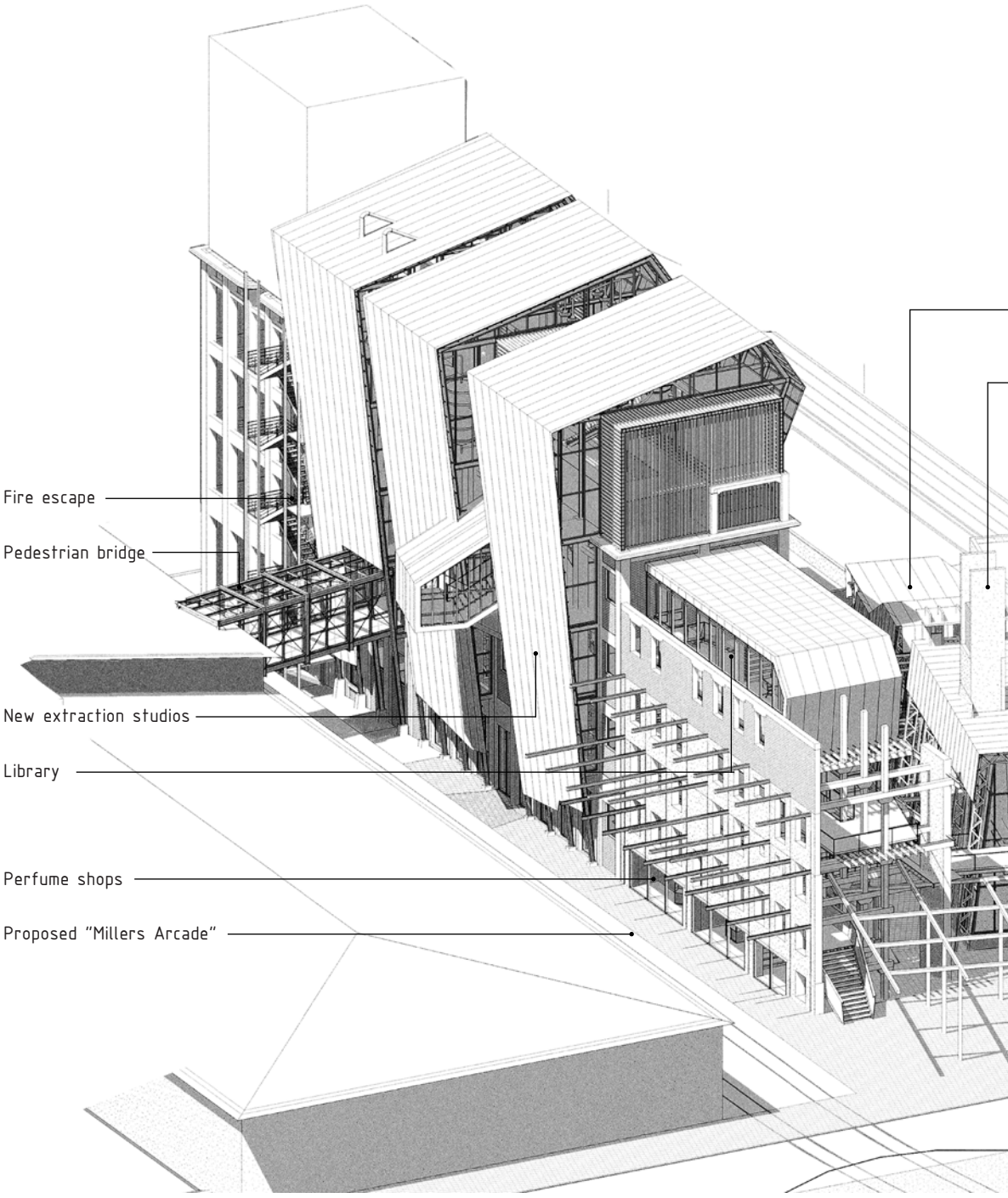


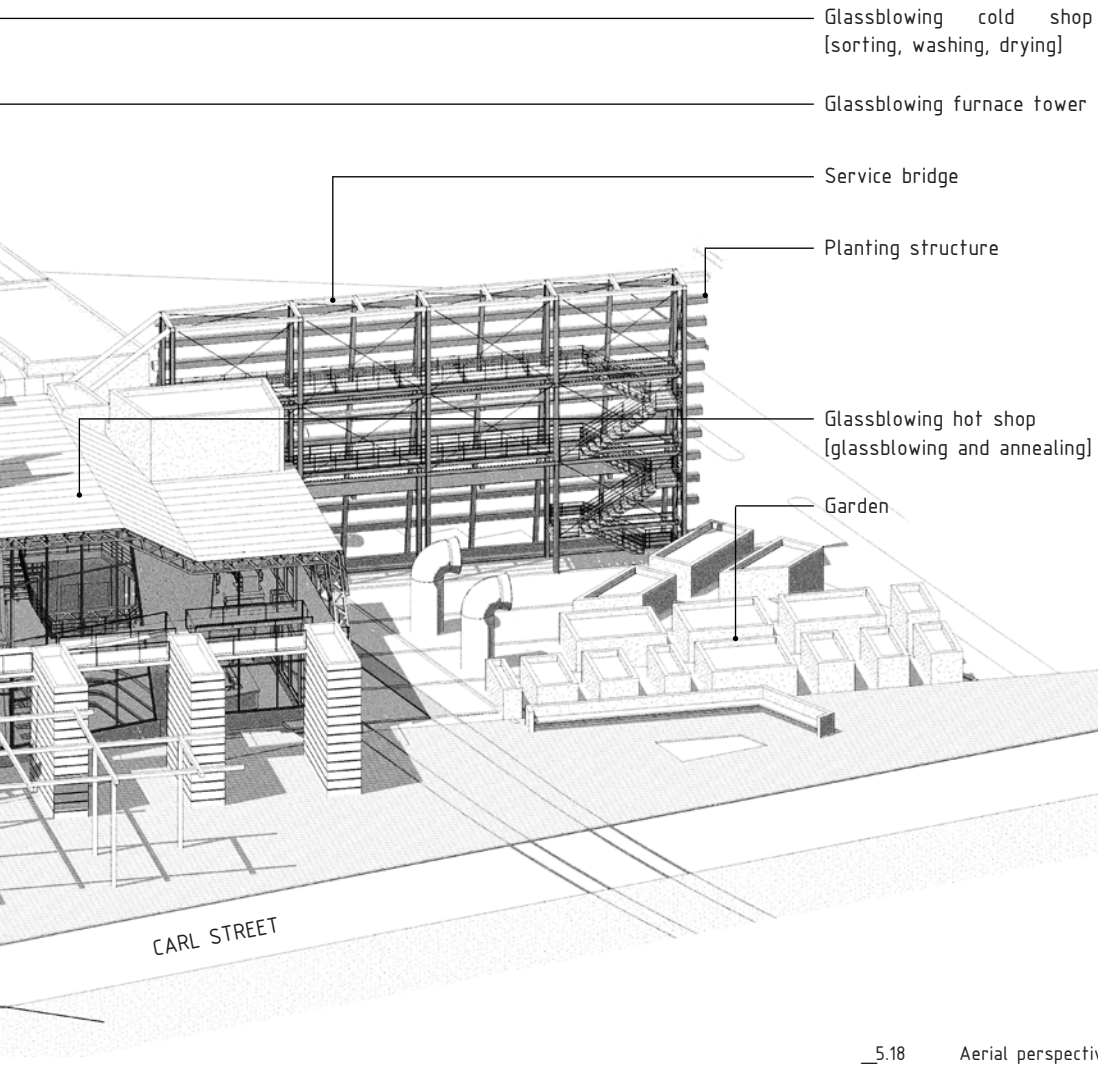
_5.16 First floor plan - nts



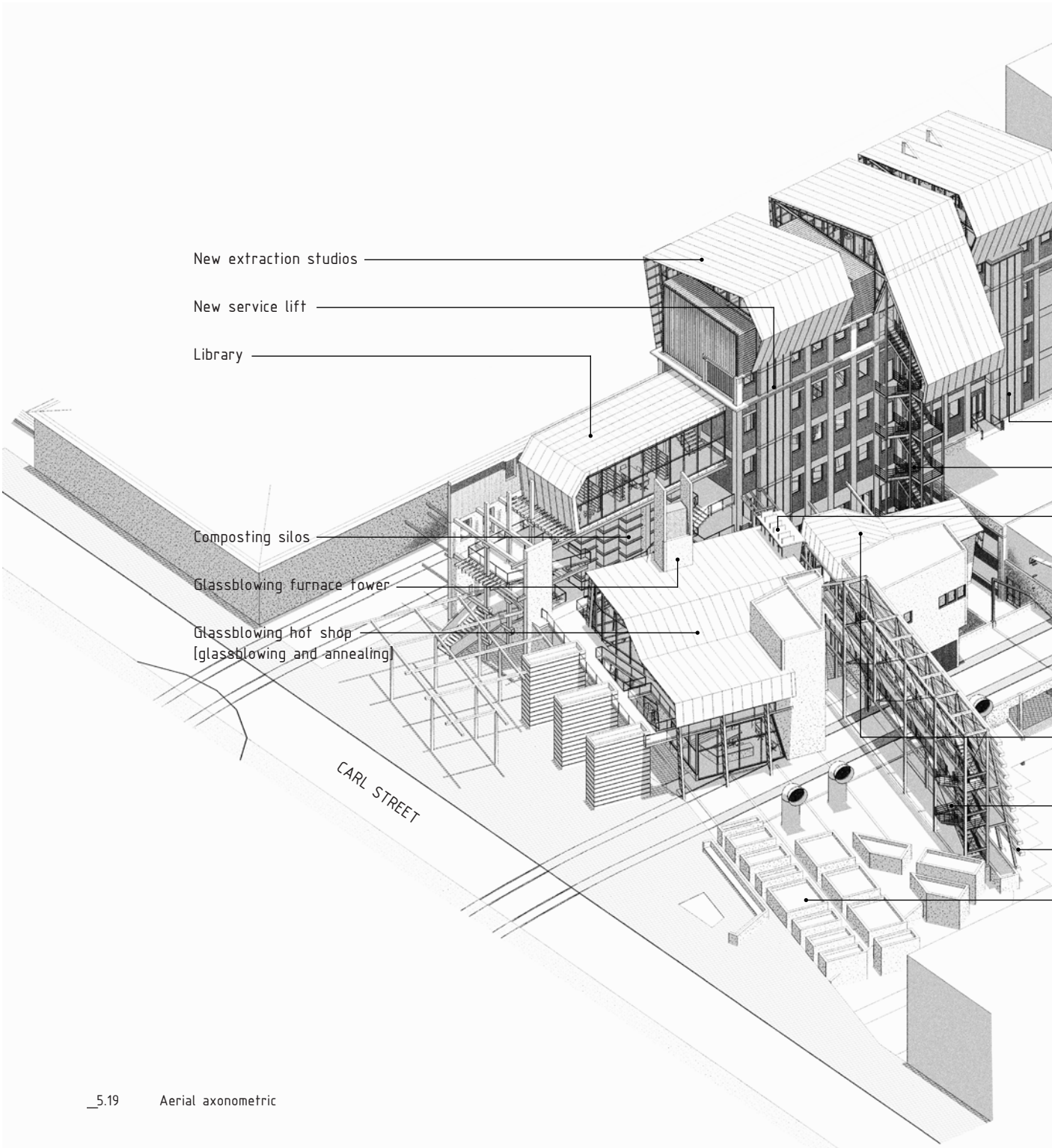
_5.17 North-South section A-A - nts


xtraction studio
Extraction studio
Extraction studio
Perfumers studio
Bottling and packaging
Water storage
Indoor gallery
gallery
Public foyer
Indoor gallery

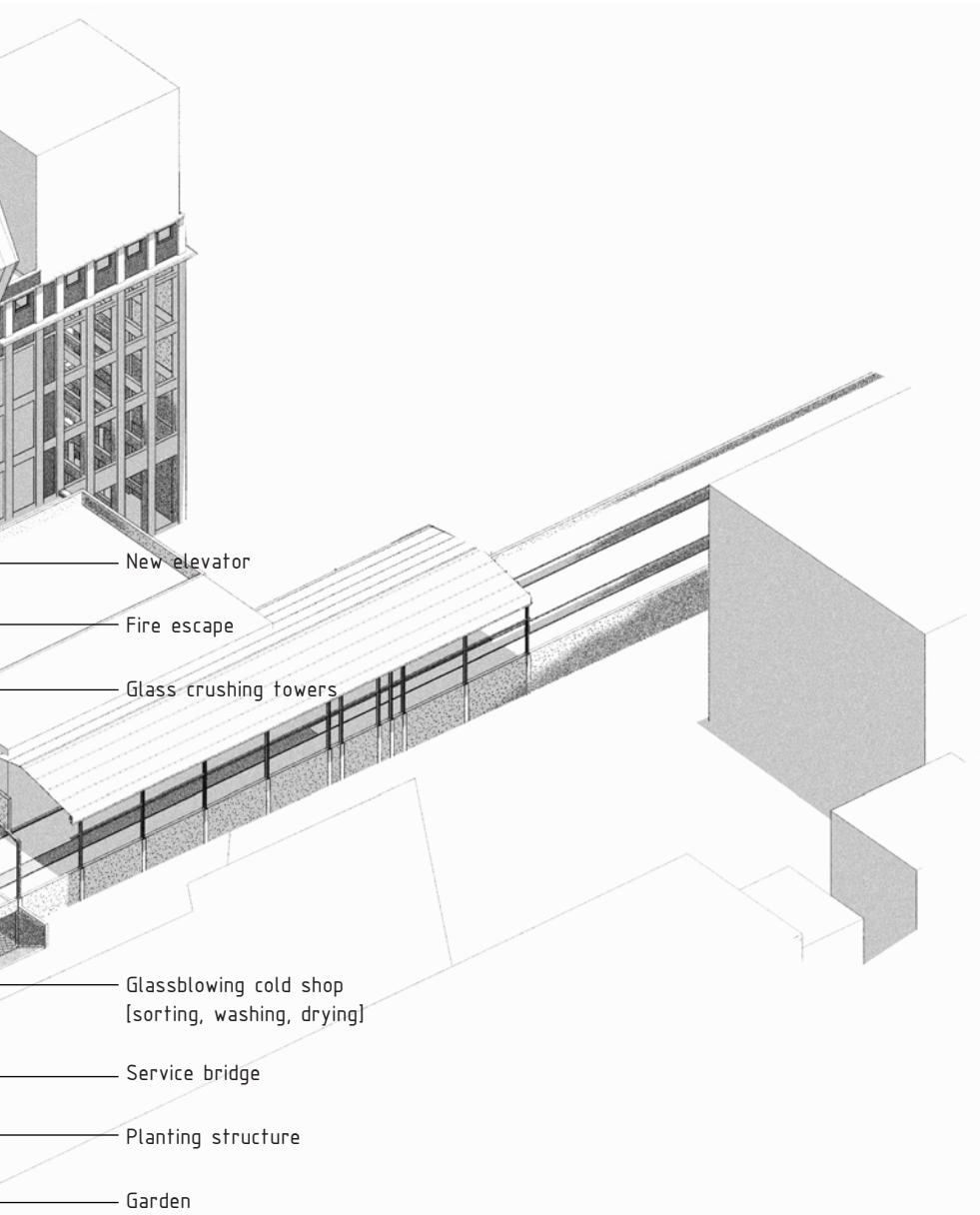

Fire escape
Pedestrian bridge
New extraction studios
Library
Perfume shops
Proposed "Millers Arcade"



_5.18 Aerial perspective looking North-East



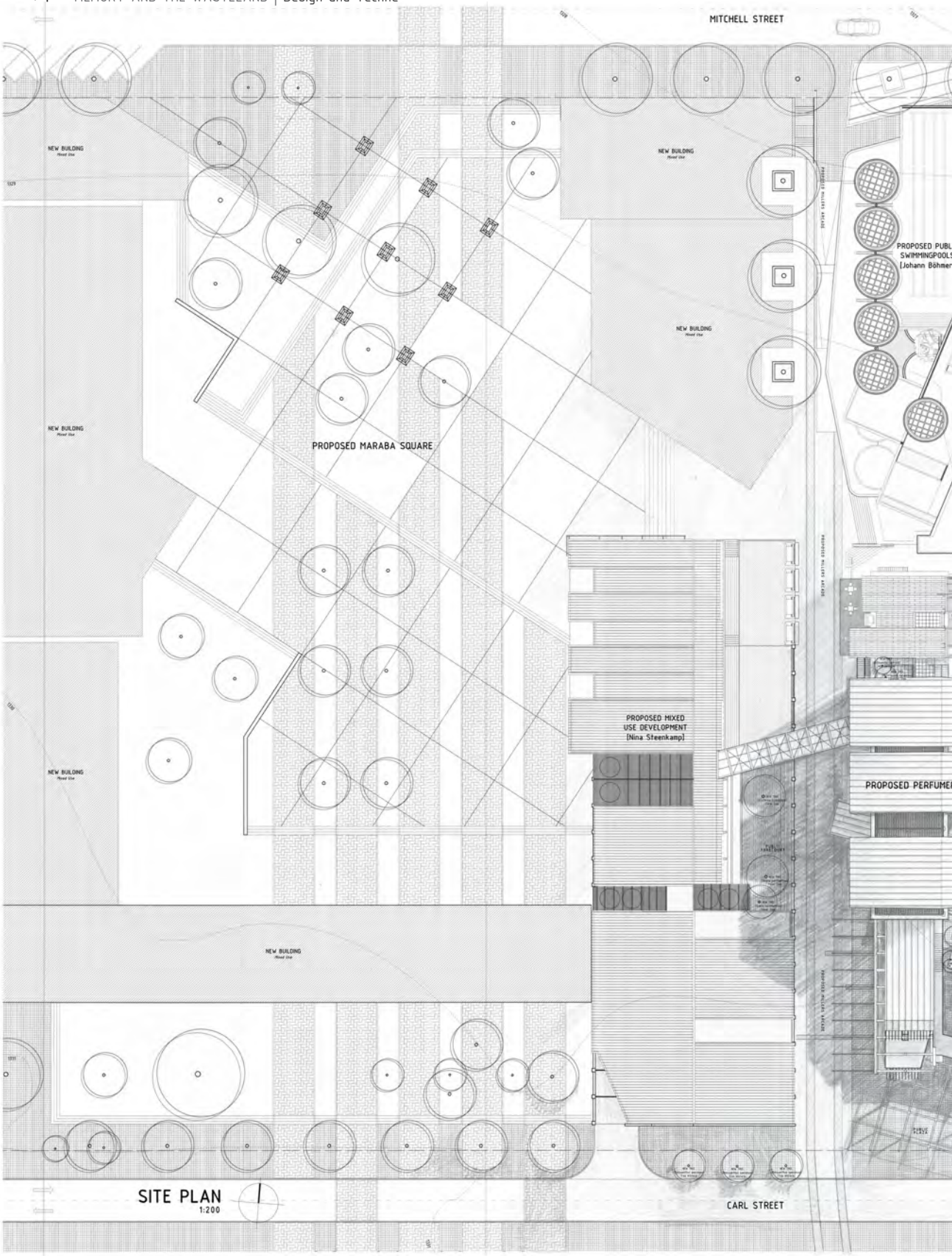
_5.19 Aerial axonometric

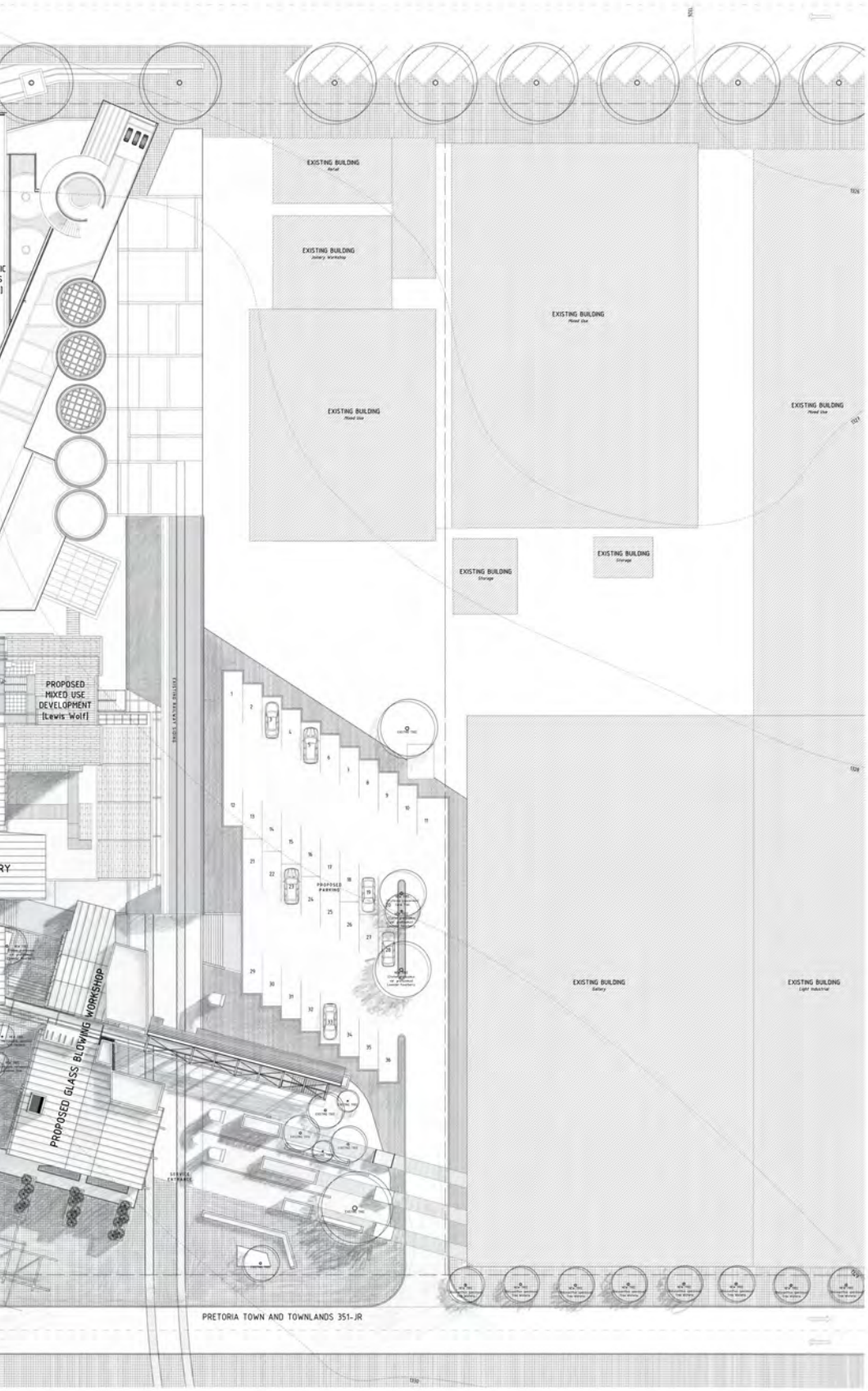

New elevator
Fire escape
Glass crushing towers
Glassblowing cold shop
(sorting, washing, drying)
Service bridge
Planting structure
Garden

6 DESIGN AND TECHNÉ

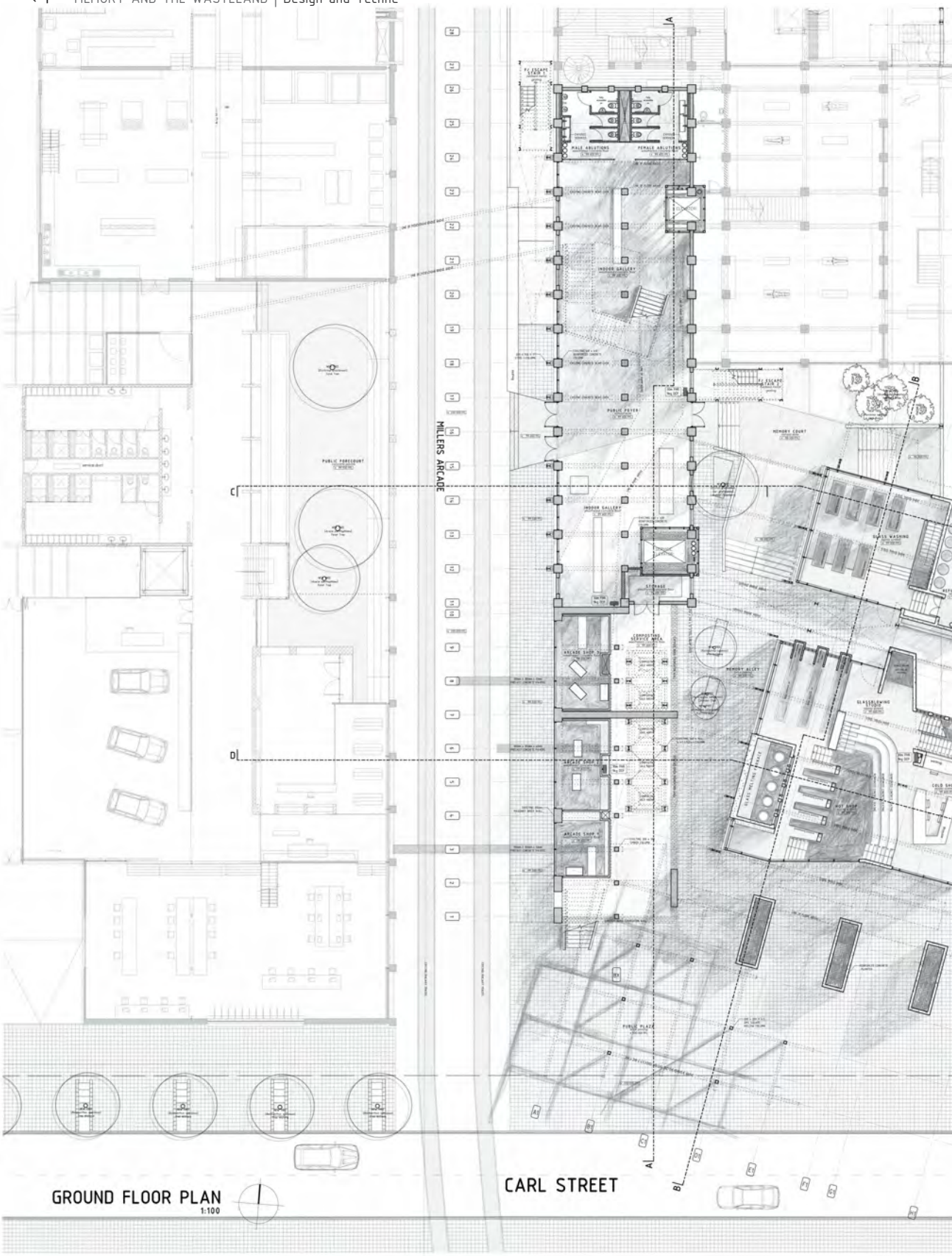
THE ART OF MAKING

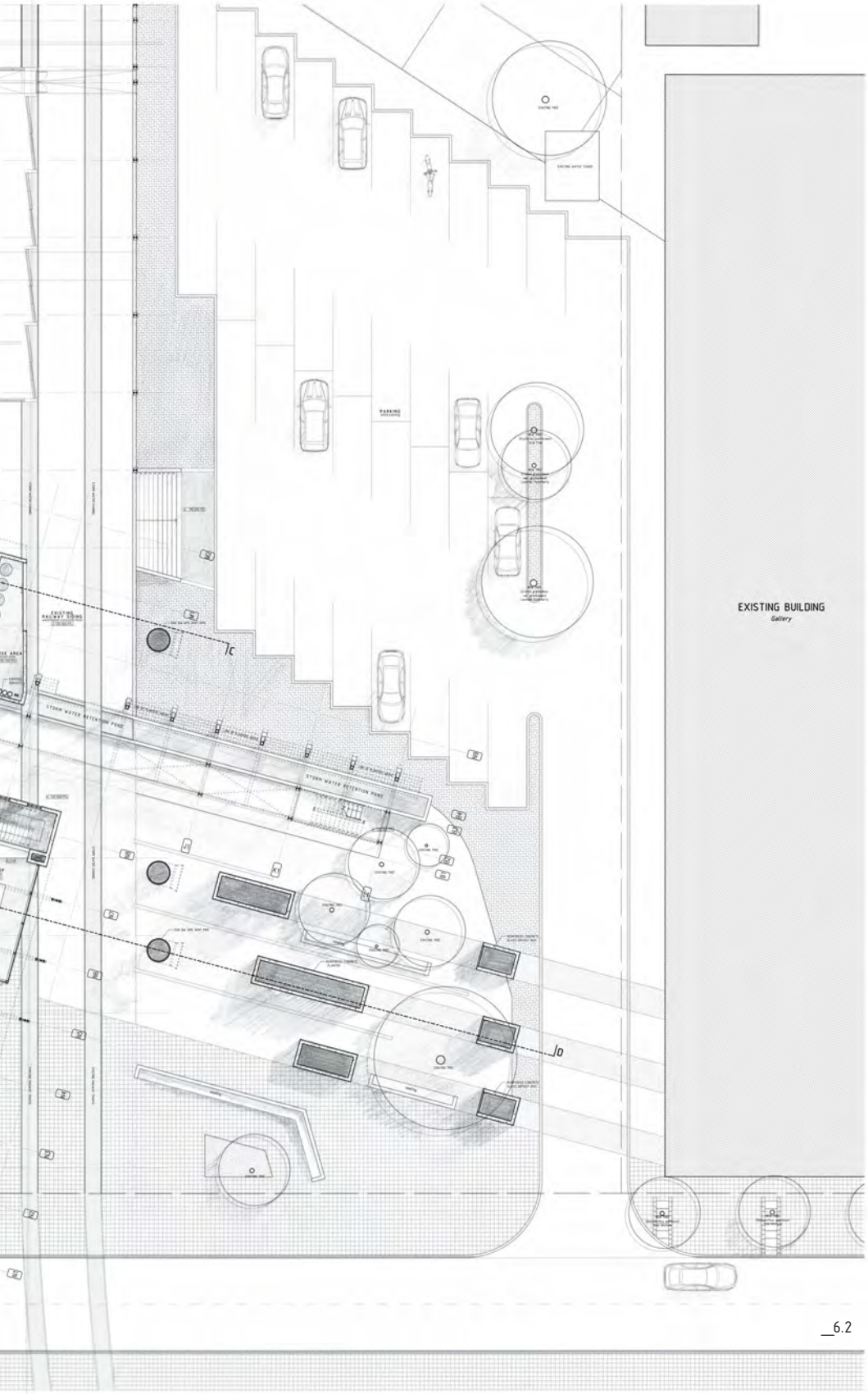
Although seen as a work in progress, the project is presented as a product and explorations on detail level are given. The art of making, as well as the sustainability of the intervention, is explored.


MITCHELL STREET
NEW BUILDING
NEW BUILDING
NEW BUILDING
NEW BUILDING
NEW BUILDING
NEW BUILDING
PROPOSED MARABA SQUARE
PROPOSED MIXED USE DEVELOPMENT [Nina Steenkamp]
PROPOSED PERFUME
CARL STREET
SITE PLAN
1:200

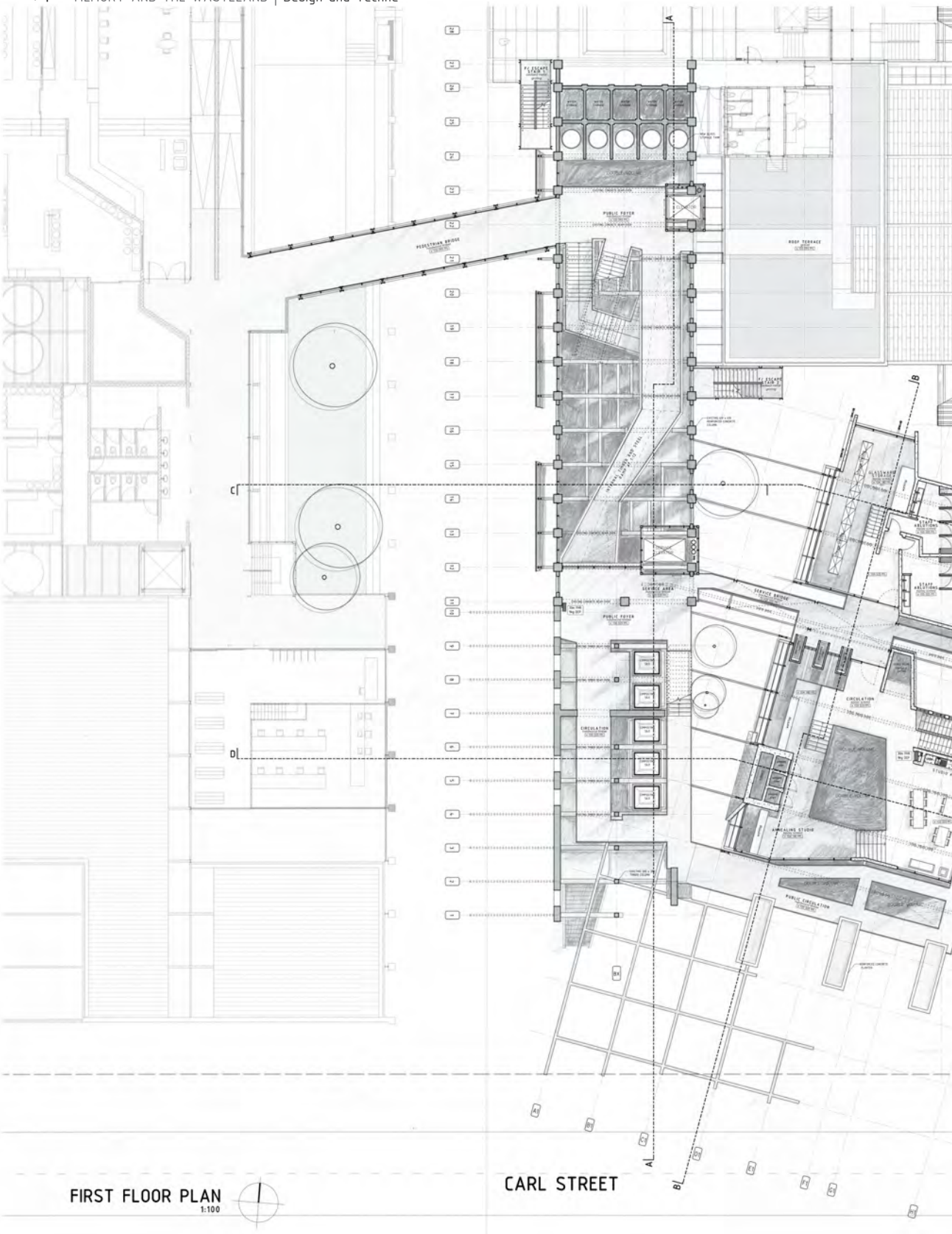


_6.1 Site Plan, nts

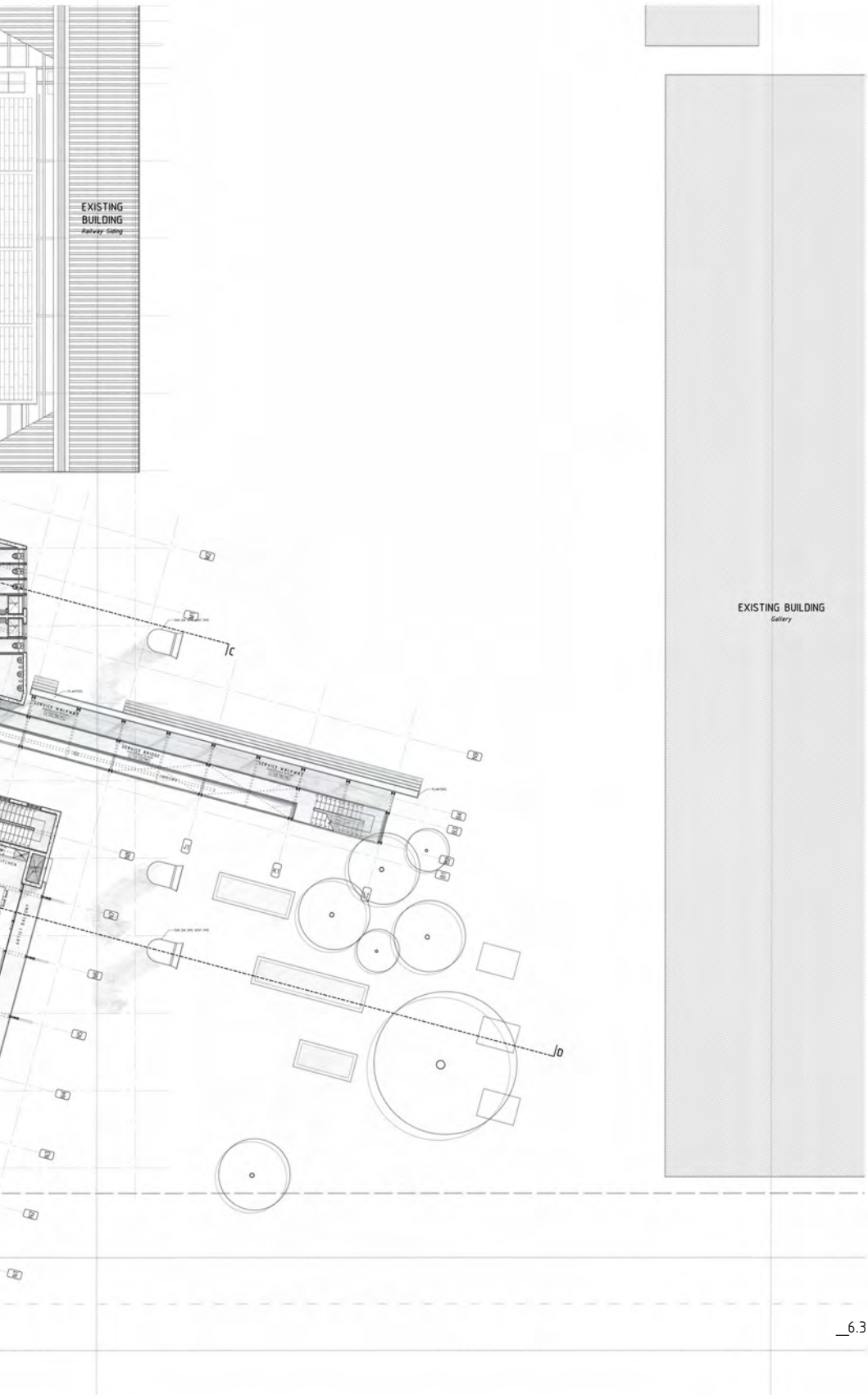

MILLERS ARCADE
CARL STREET
GROUND FLOOR PLAN
1:100



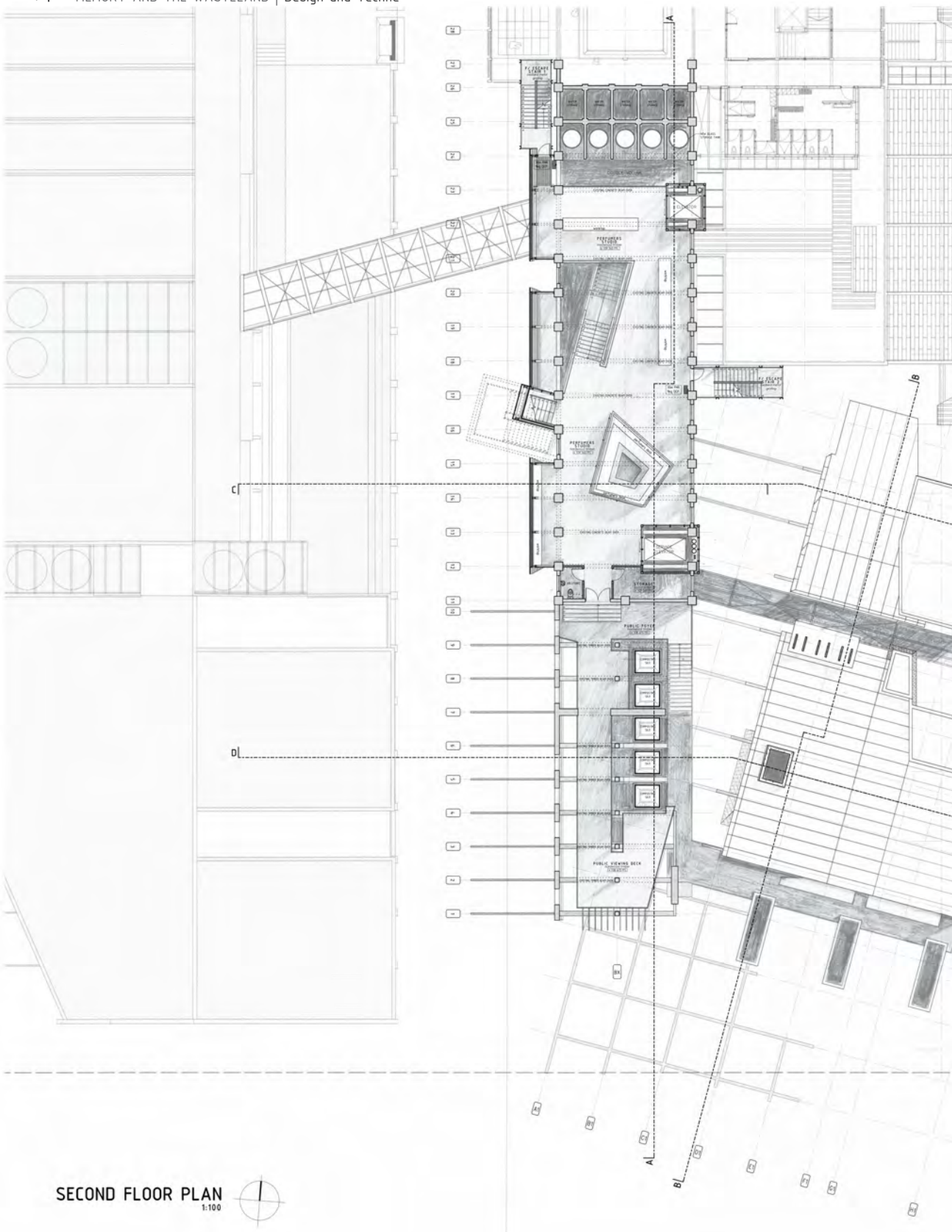
_6.2 Ground Floor Plan, nts



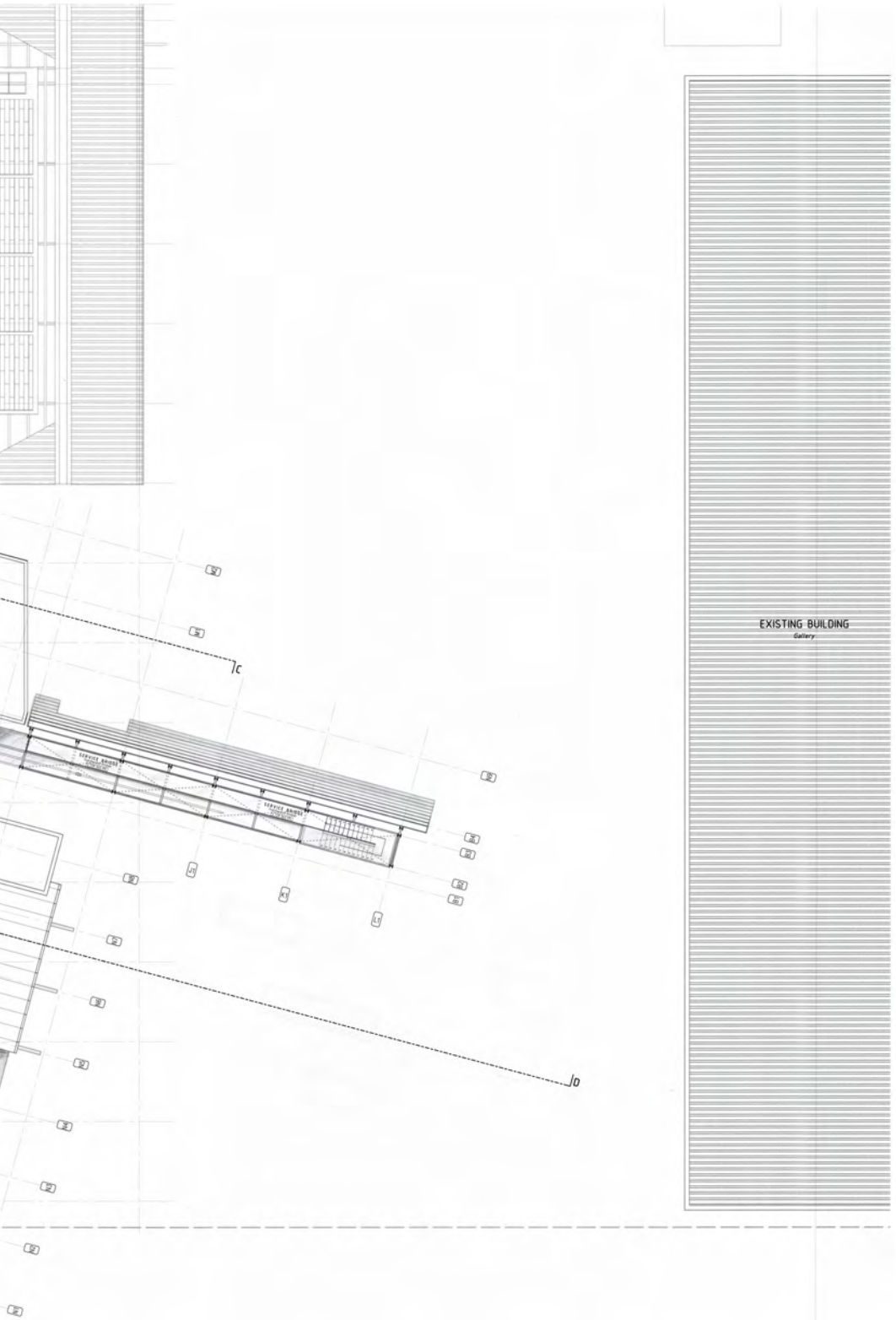
FIRST FLOOR PLAN
1:100



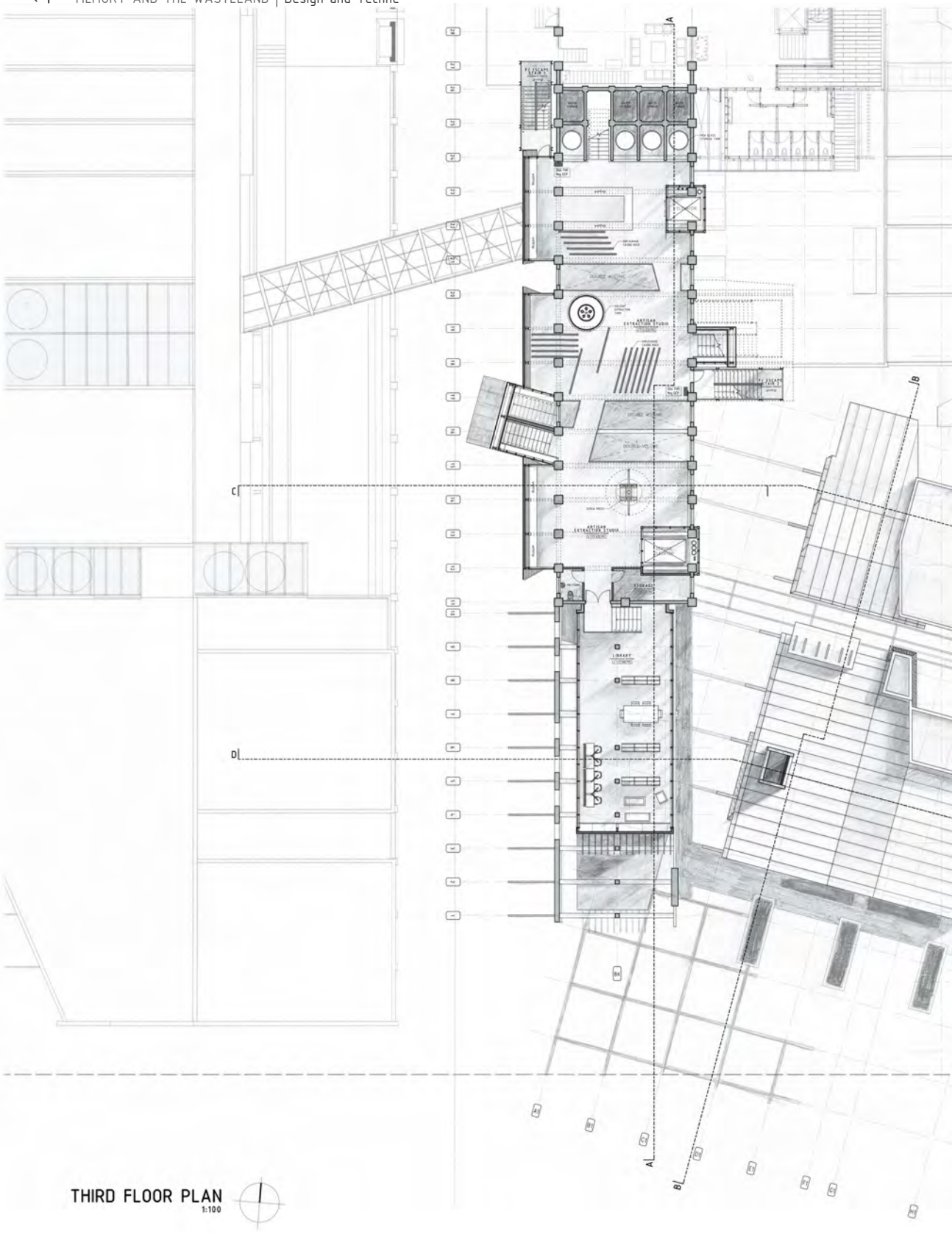
_6.3 First Floor Plan, nts



SECOND FLOOR PLAN
1:100

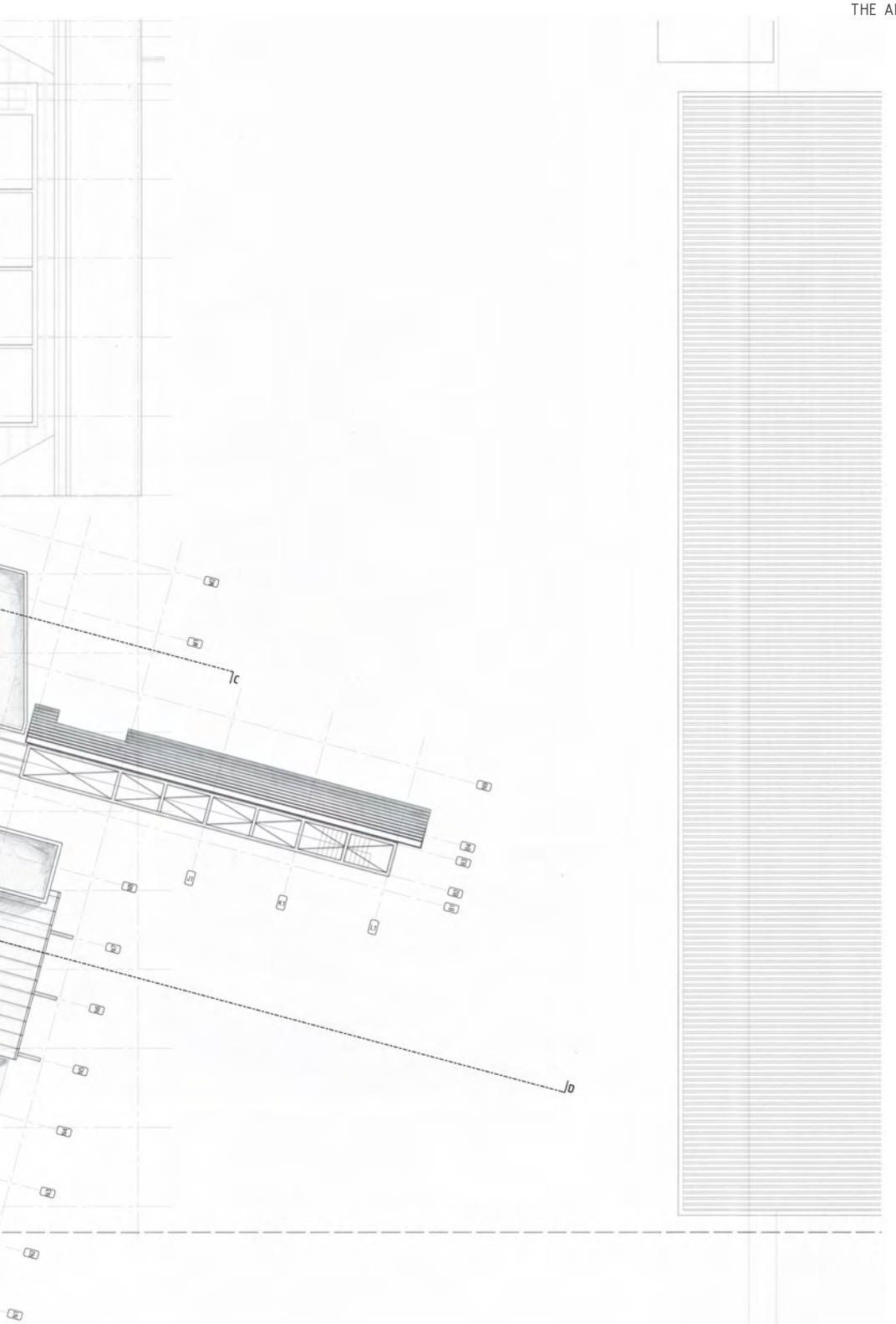


_6.4 Second Floor Plan, nts

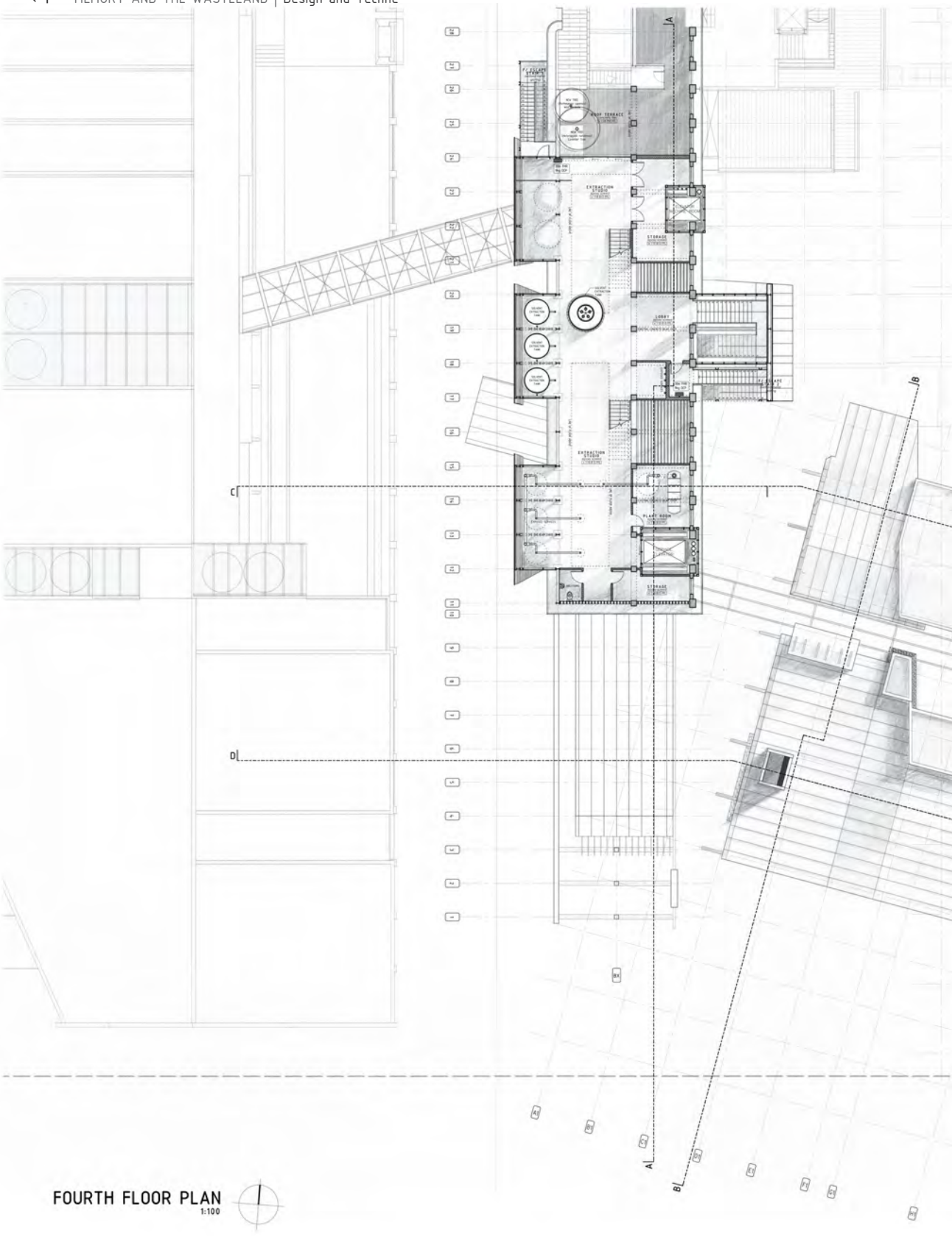


THIRD FLOOR PLAN
1:100

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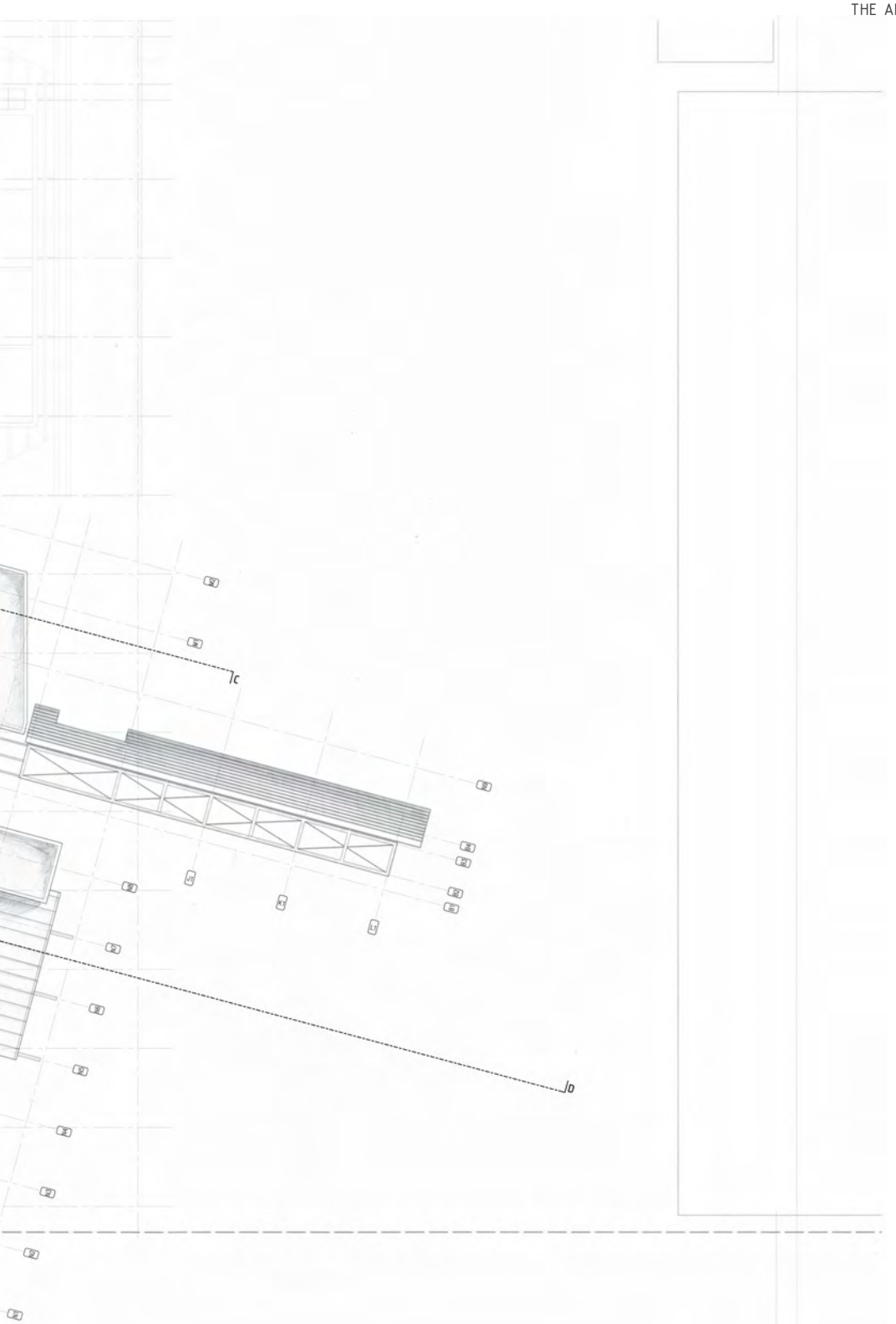


_6.5 Thrid Floor Plan, nts

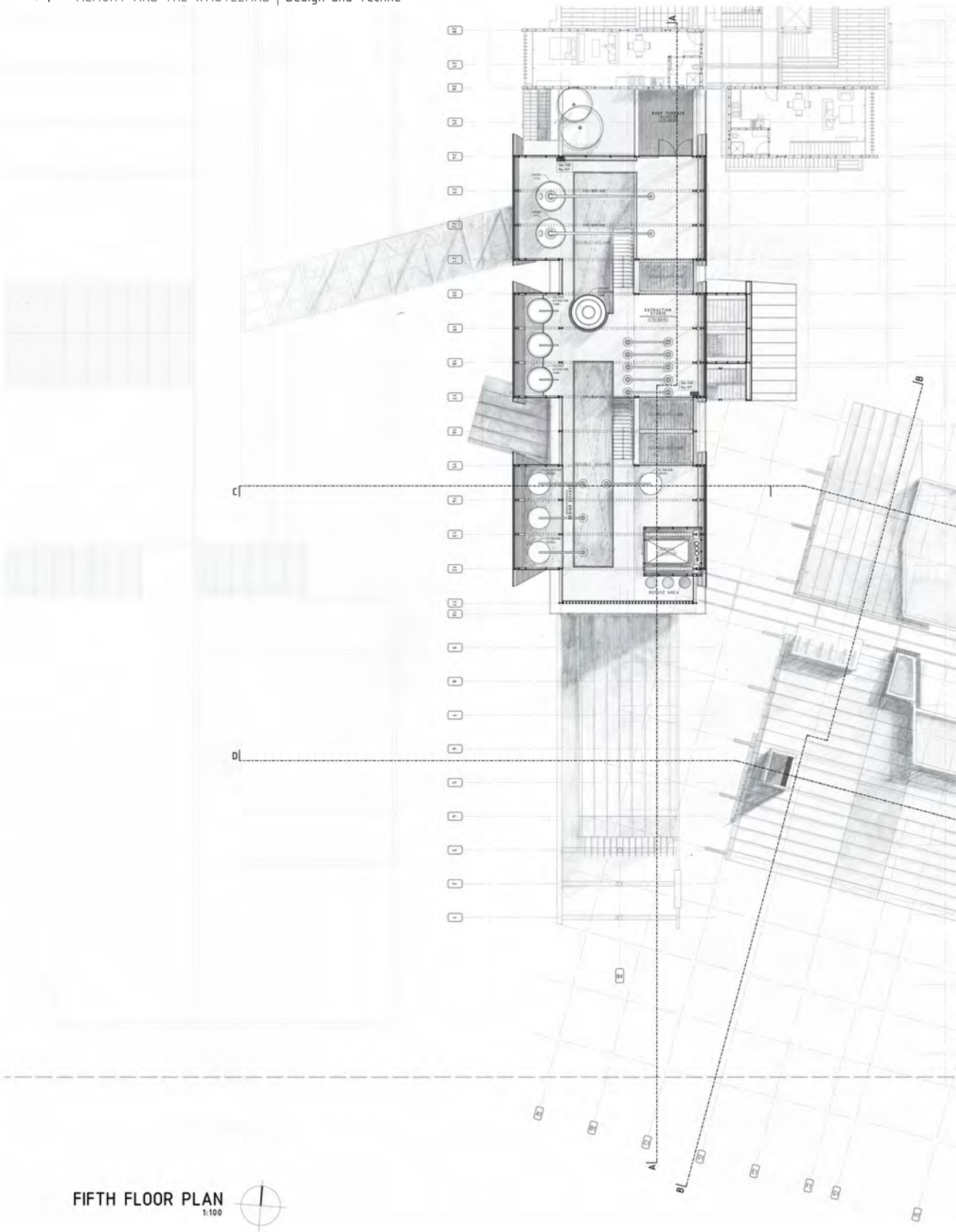


FOURTH FLOOR PLAN
1:100

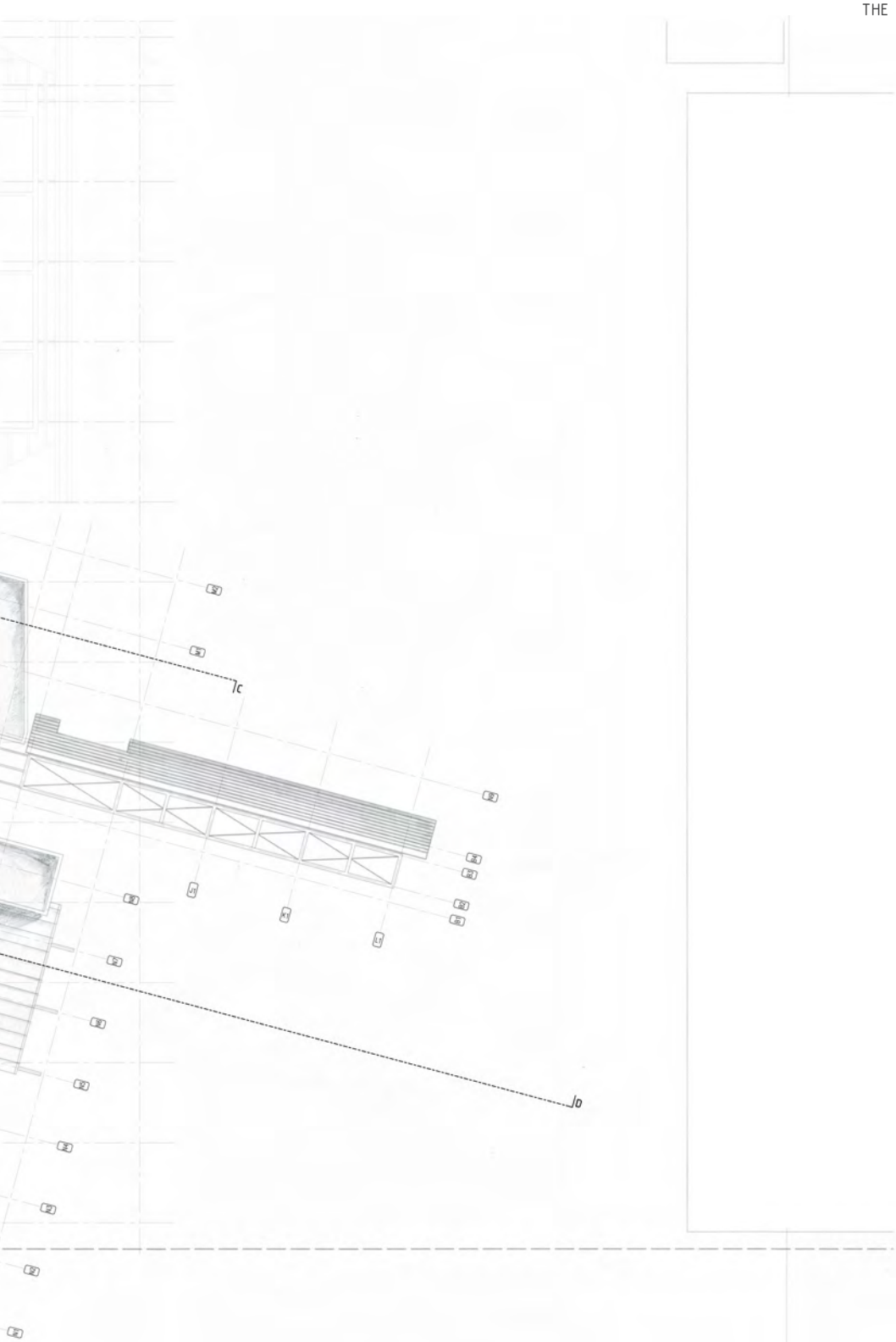
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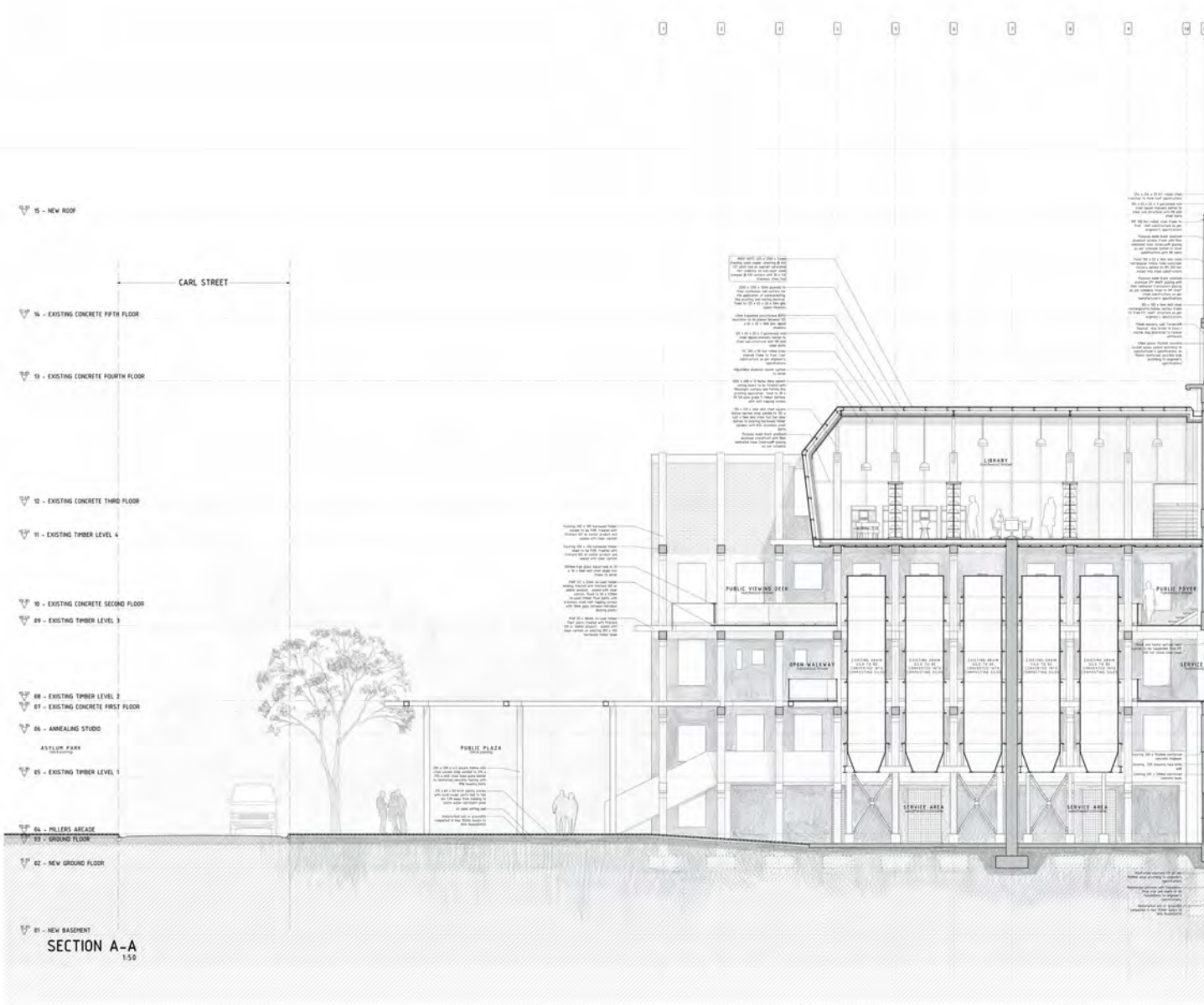
_6.6 Fourth Floor Plan, nts



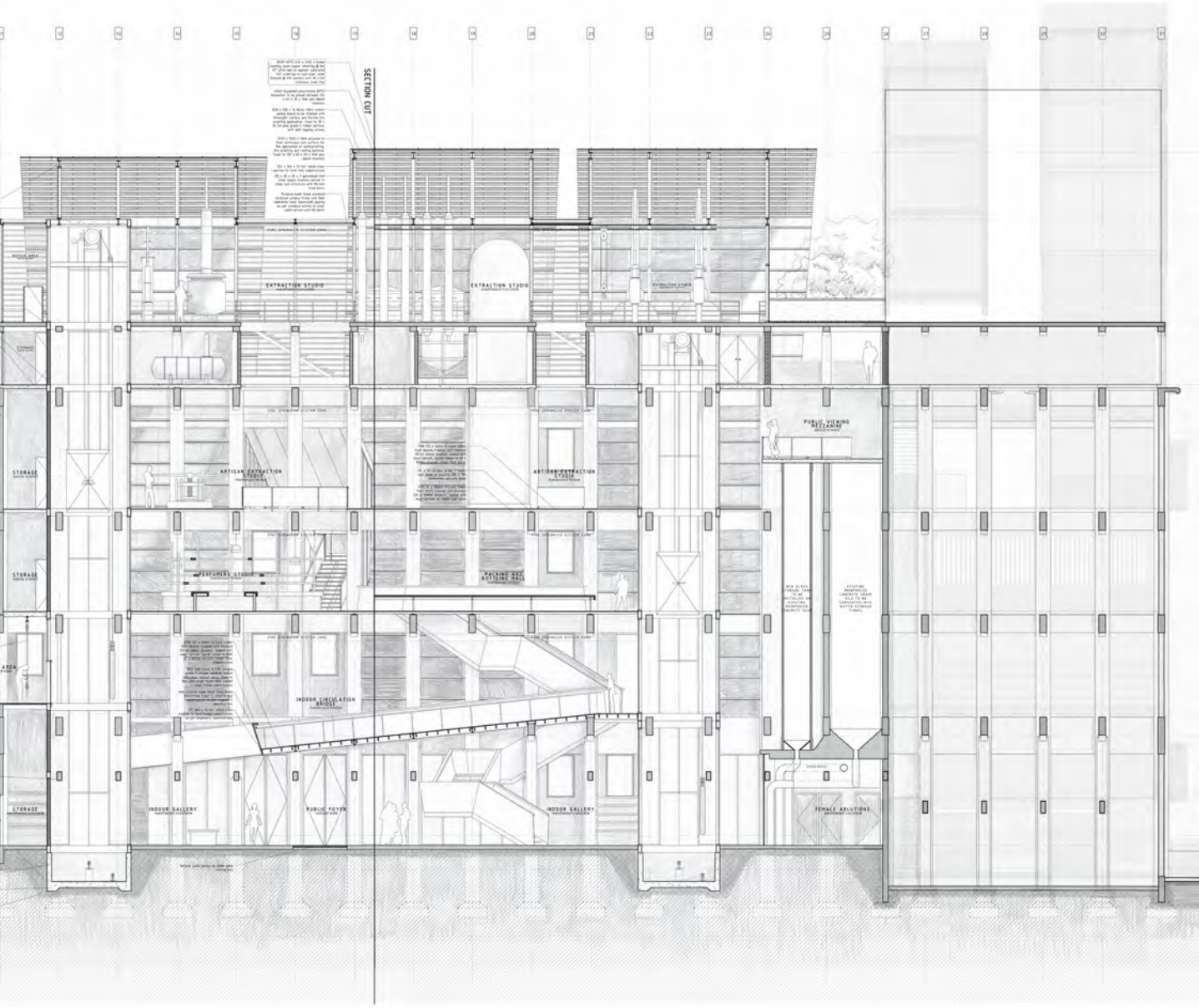
FIFTH FLOOR PLAN
1:100



_6.7 Fifth Floor Plan, nts



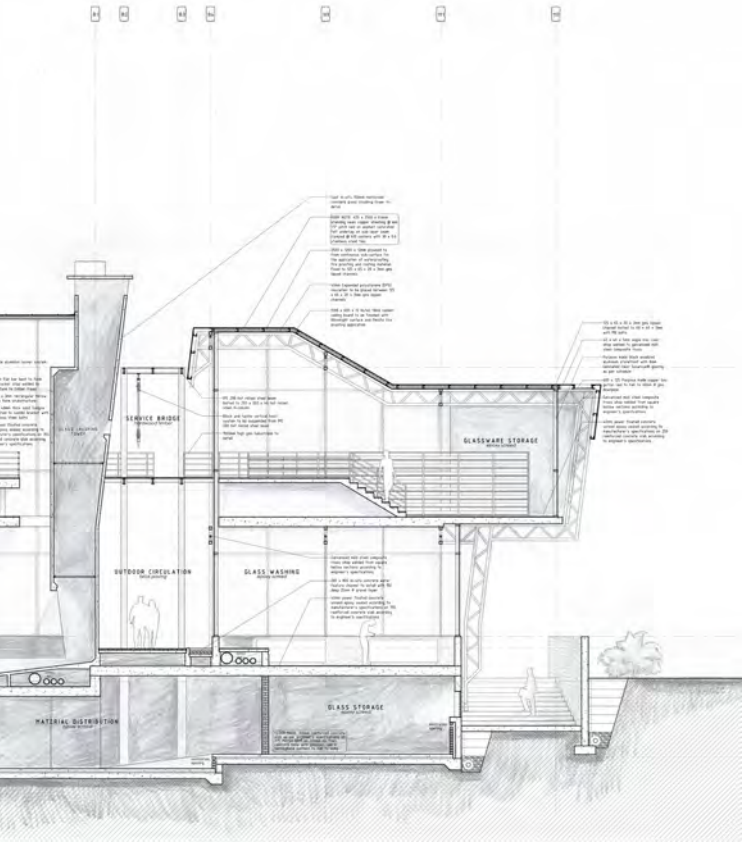
SECTION A-A
1:50



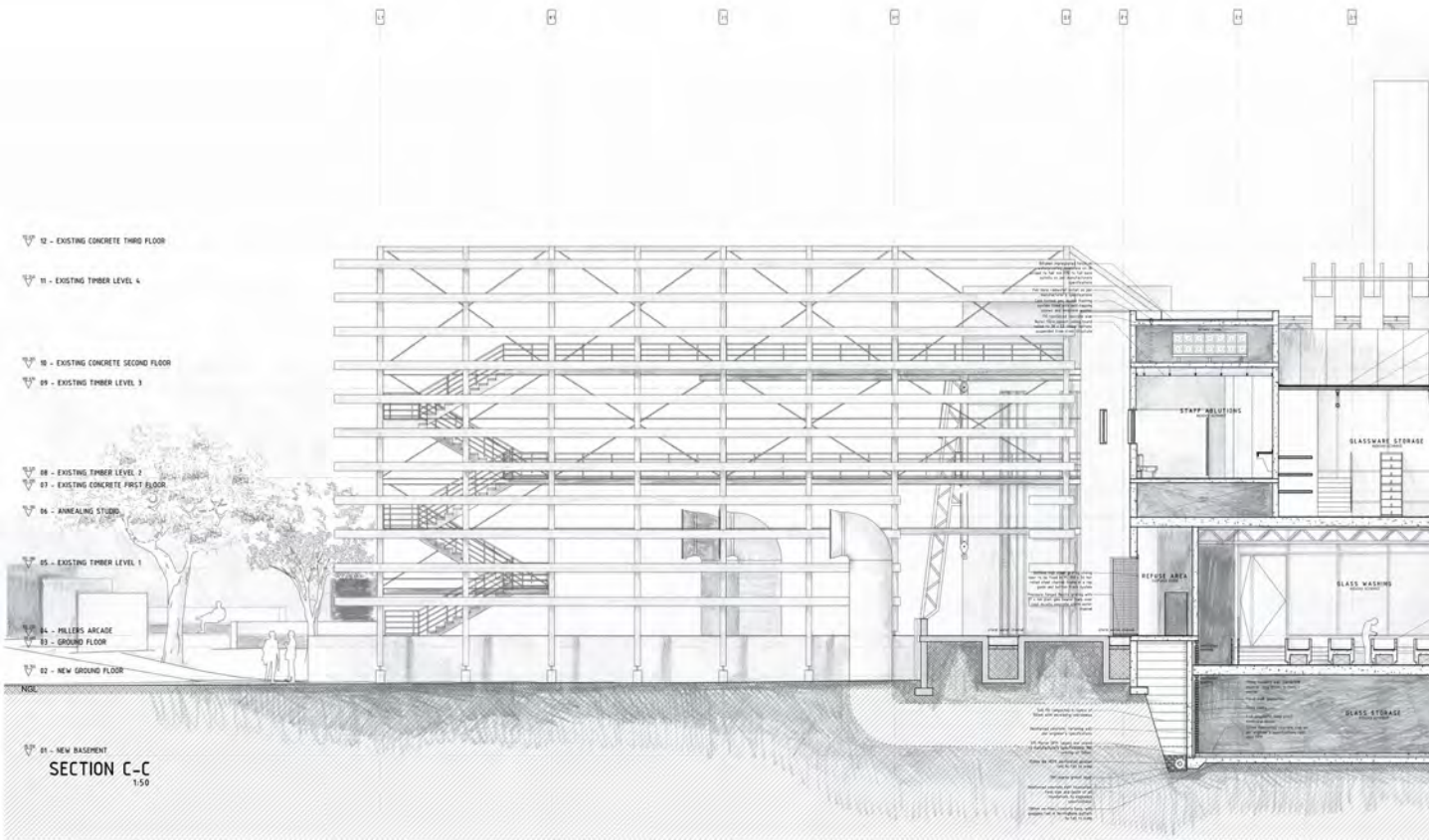
_6.8 Section A-A, nts



SECTION B-B
1:50



_6.9 Section B-B, nts

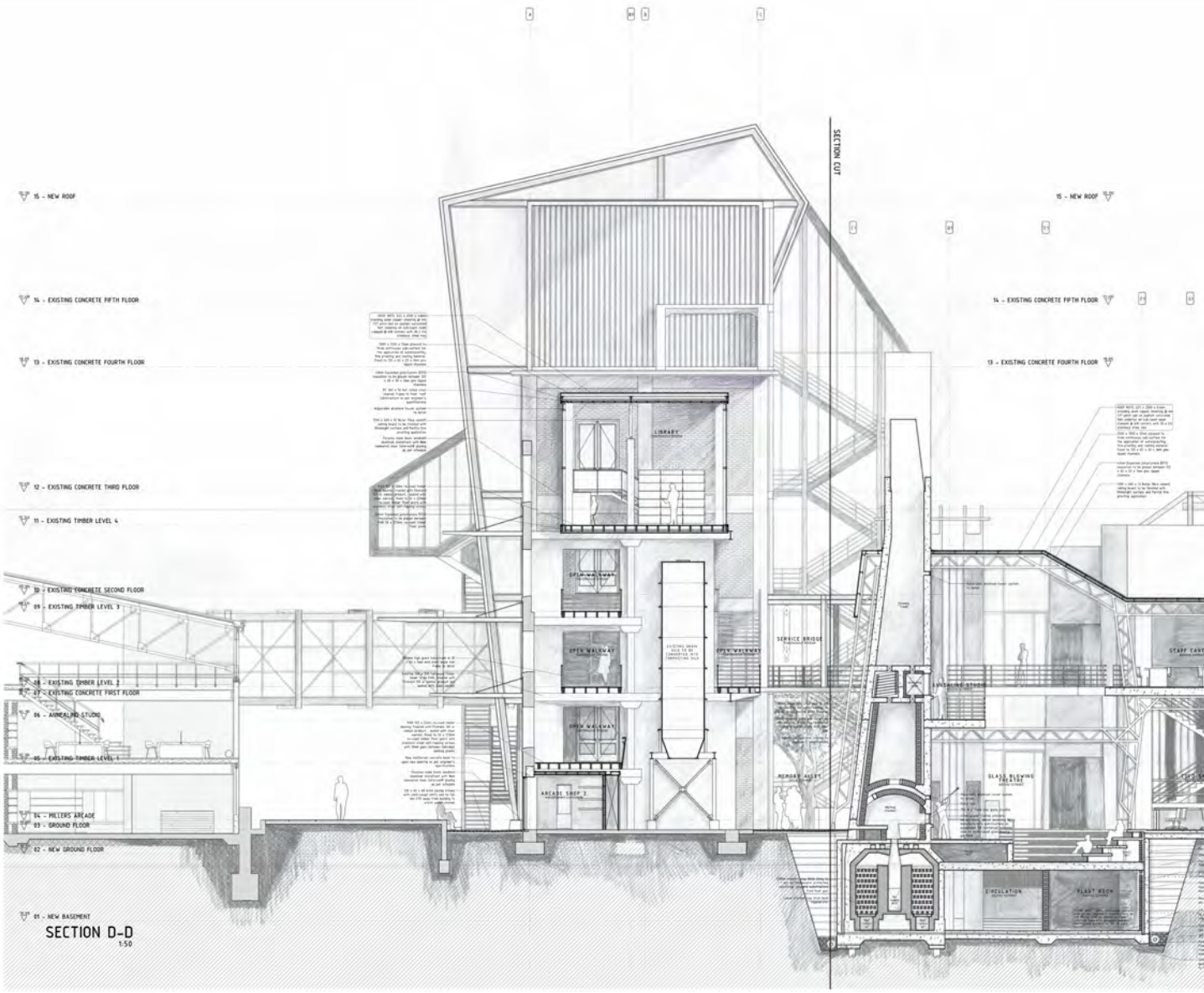


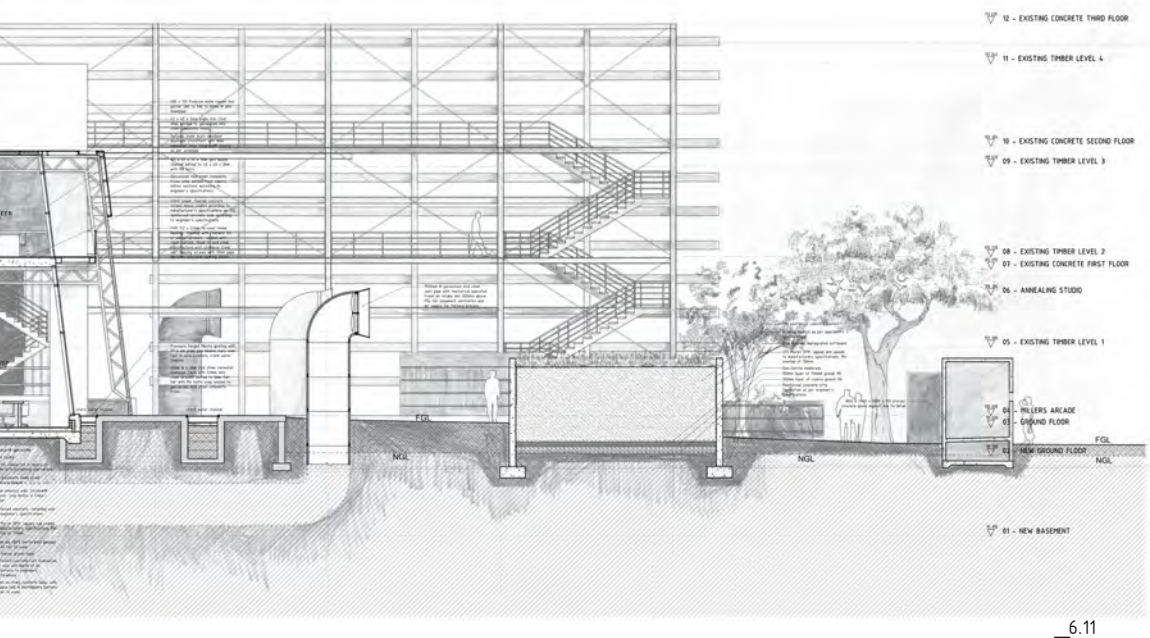
SECTION C-C
1:50

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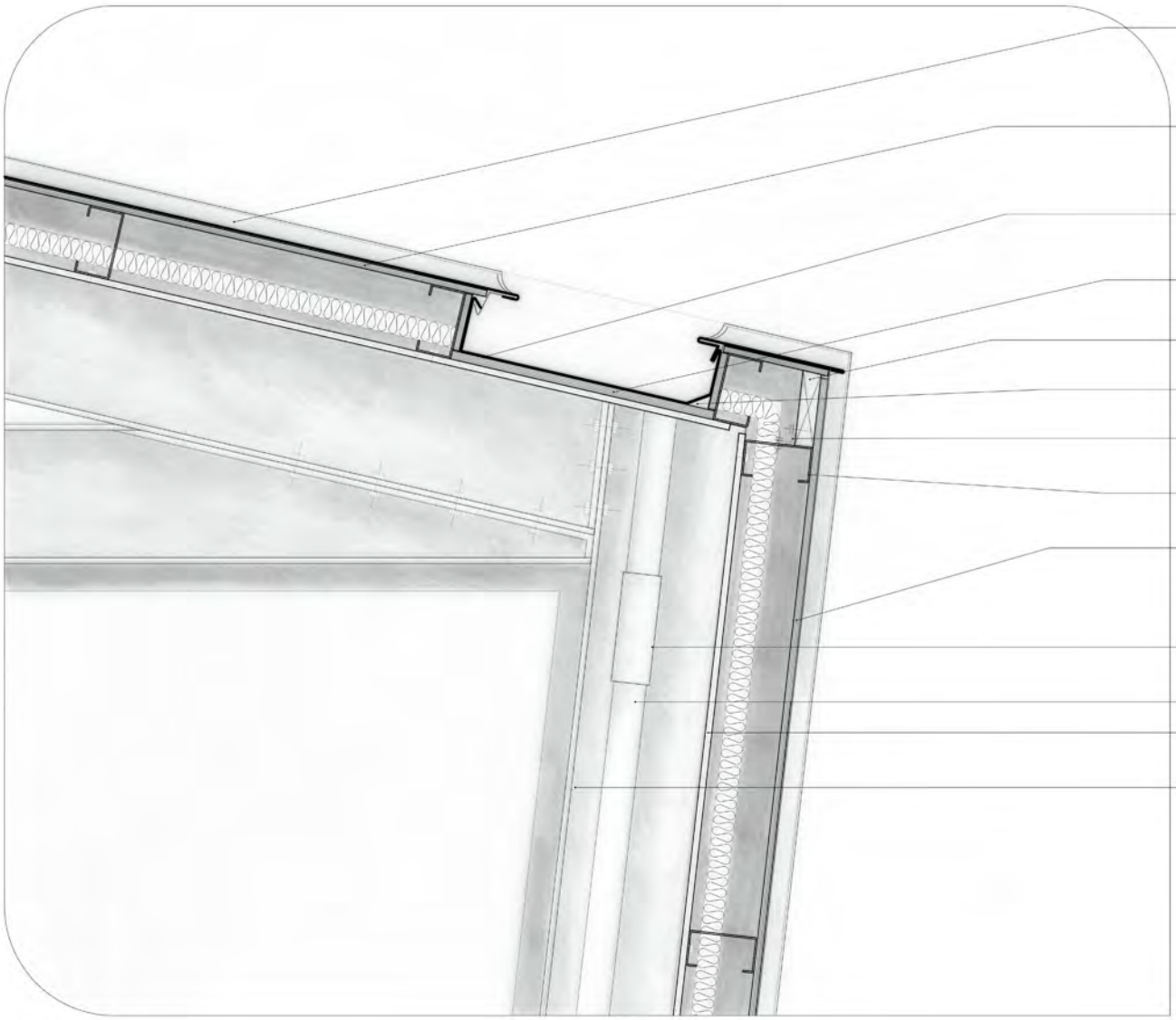


__6.10 Section C-C, nts

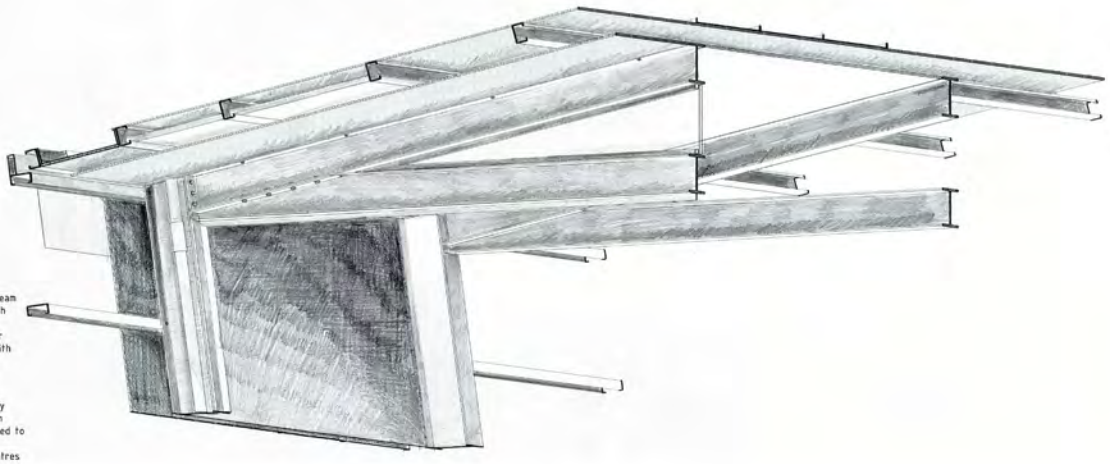

SECTION CUT
15 - NEW ROOF
14 - EXISTING CONCRETE FIFTH FLOOR
13 - EXISTING CONCRETE FOURTH FLOOR
12 - EXISTING CONCRETE THIRD FLOOR
11 - EXISTING TIMBER LEVEL 4
10 - EXISTING CONCRETE SECOND FLOOR
09 - EXISTING TIMBER LEVEL 3
08 - EXISTING TIMBER LEVEL 2
07 - EXISTING CONCRETE FIRST FLOOR
06 - ARMEALAND STUDIO
05 - EXISTING TIMBER LEVEL 1
04 - MILLERS ARCADE
03 - GROUND FLOOR
02 - NEW GROUND FLOOR
01 - NEW BASEMENT
LIBRARY
OPEN WALKWAY
SERVICE BRIDGE
MEMORY ALLEY
ARCADE SHOP 2
CIRCULATION
PLANT ROOM
SECTION D-D
1:50



_6.11 Section D-D, nts



_6.12 Detail A: Roof and gutter detail, nts



625 x 2500 x 0.6mm standing seam copper sheeting @ min 1.5° pitch laid on asphalt saturated felt underlay on plywood sub-layer seam clamped @ 610 centers with 30 x 0.6 stainless steel ties

Asphalt saturated felt underlay parallel to ridge line with 65mm sidelaps and 150mm endlaps fixed to plywood sublayer with copper roofing nails @ max 300mm centres

600 x 125 purpose made copper box gutter laid to fall to 60mm Ø gms rainwater downpipe

16mm plywood to act as gutter substructure

34 x 138 timber packer piece

34mm timber packer piece

50 x 50 x 5mm galvanized mild steel angle cleat bolted to gms lipped channel with M10 bolts

125 x 65 x 20 x 3mm galvanized mild steel lipped channels bolted to steel sub-frame with M10 bolts

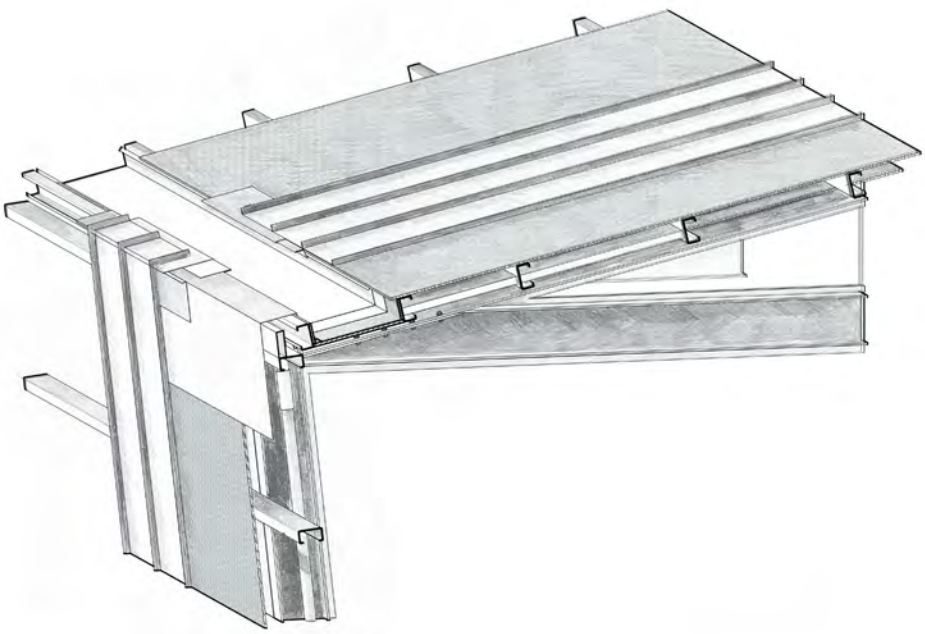
2500 x 1200 x 12mm plywood to from continuous sub-surface for the application of waterproofing, fire proofing and roofing material. Fixed to gms lipped channels with self tapping screws

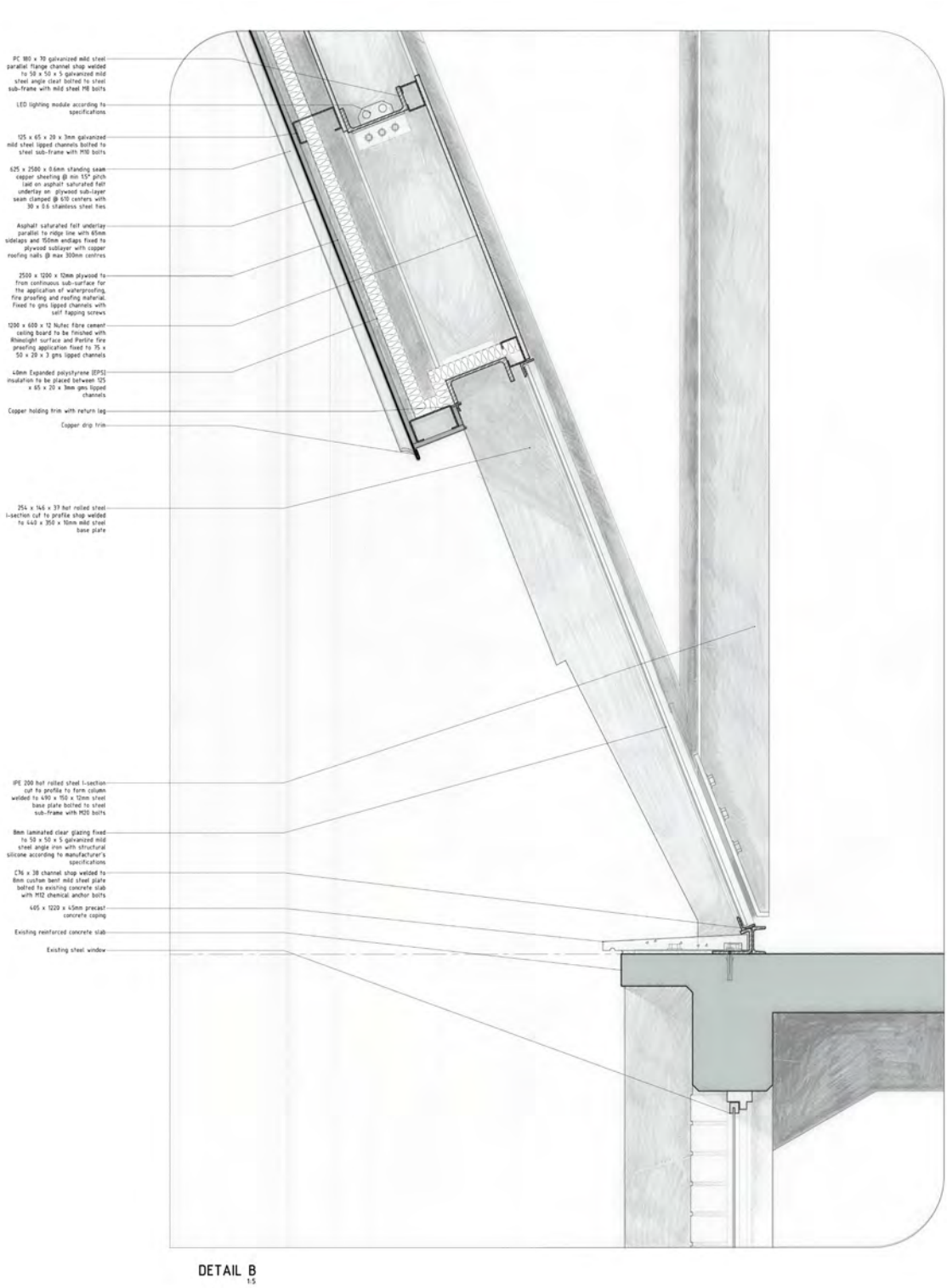
0.8 mm mild steel bracket bolted to 5mm flat bar with M6 bolts

60mm Ø x 3mm mild steel rainwater downpipe

1200 x 600 x 12 Nutec fibre cement ceiling board to be finished with Rhinolight surface and Perlite fire proofing application

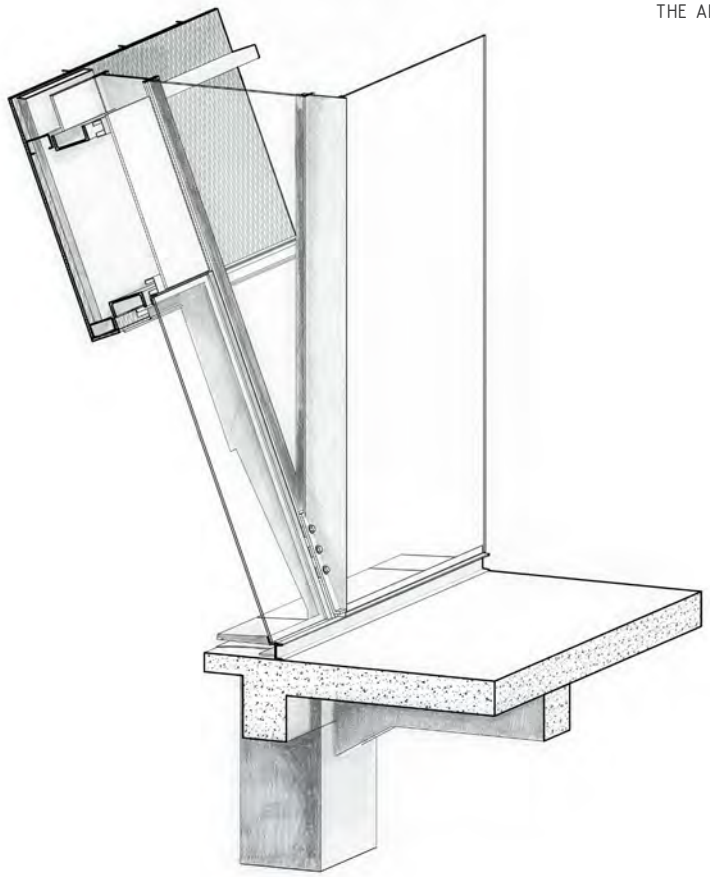
254 x 146 x 37 hot rolled steel I-section to form roof substructure



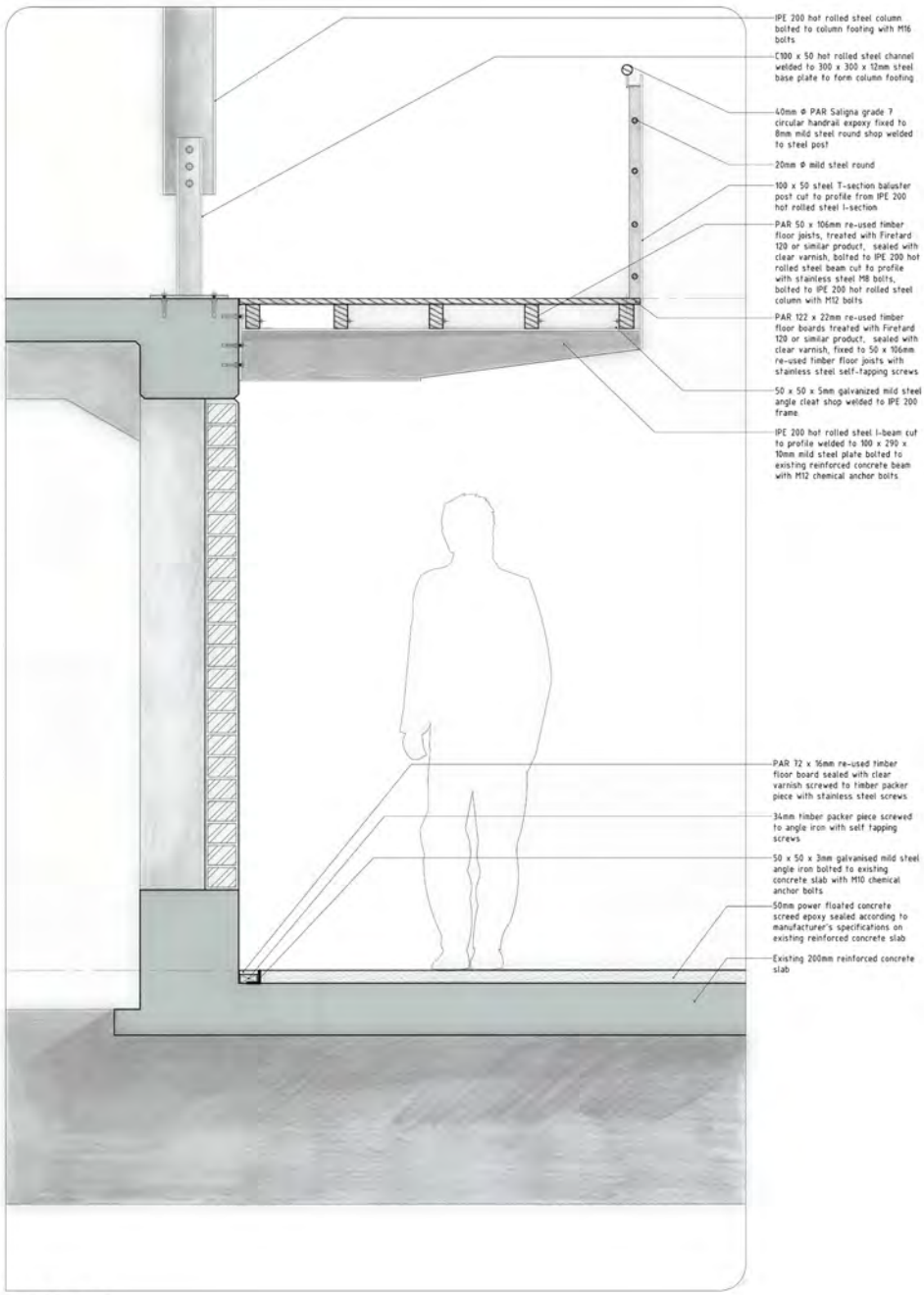


_6.13 Detail B: Perimeter connection, nts

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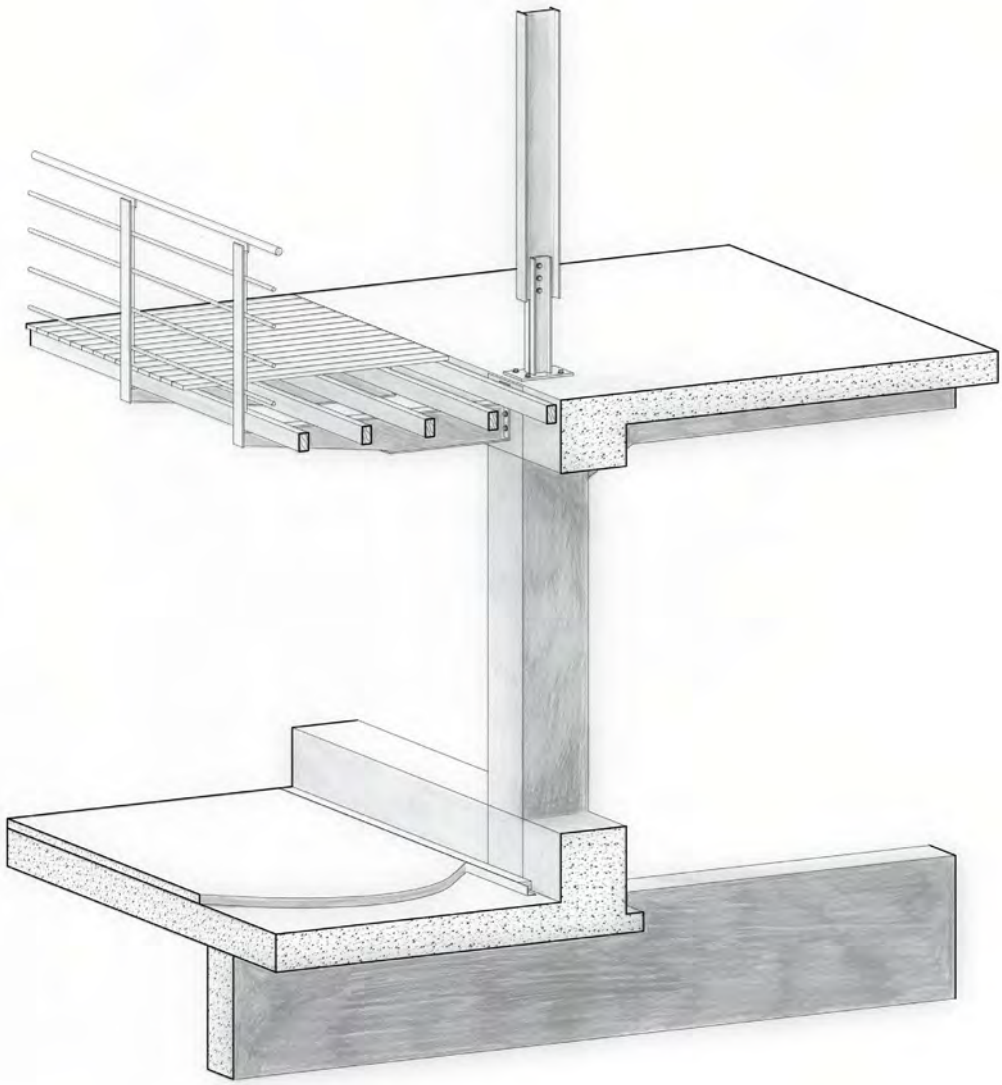


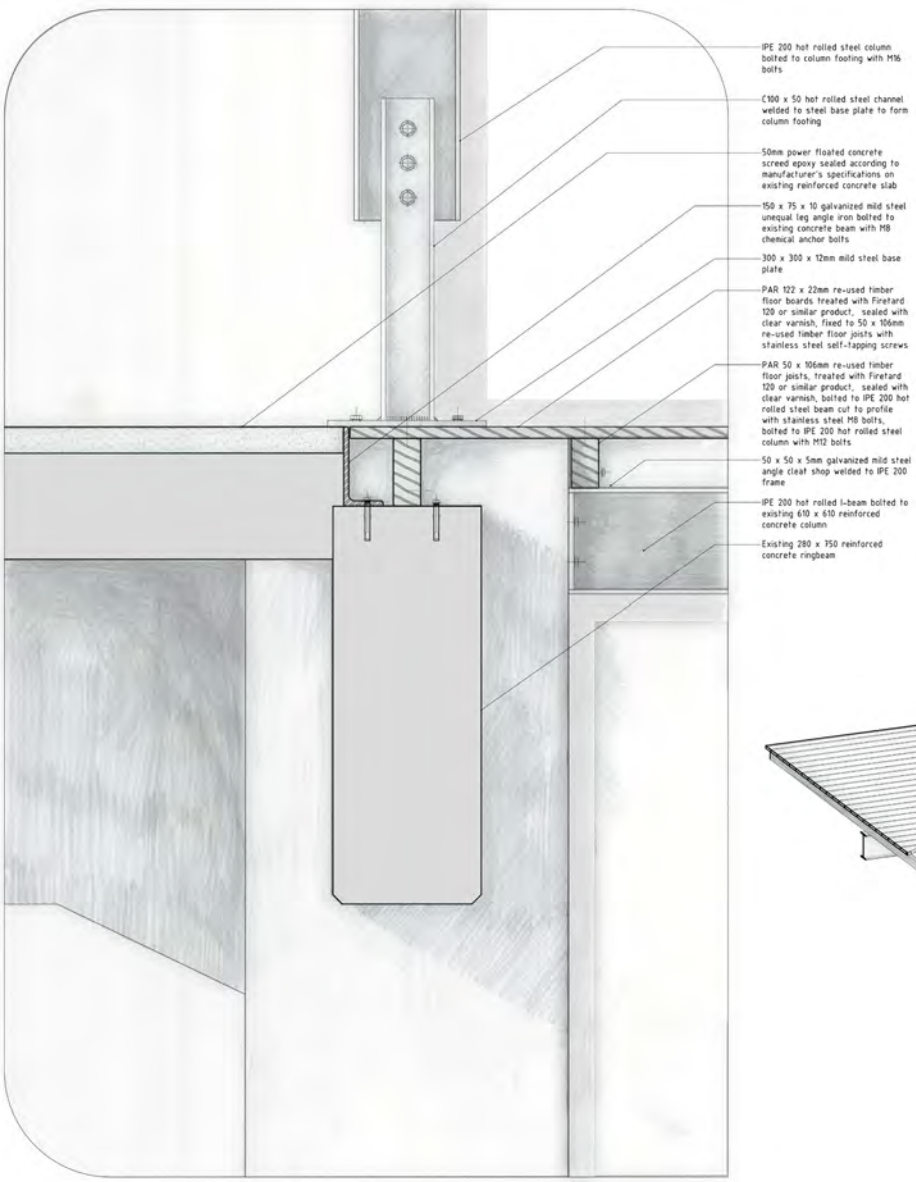


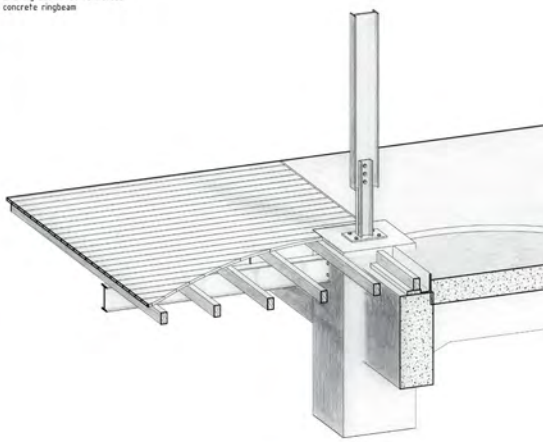


_6.14 Detail C: Floor, column and walkway detail, nts

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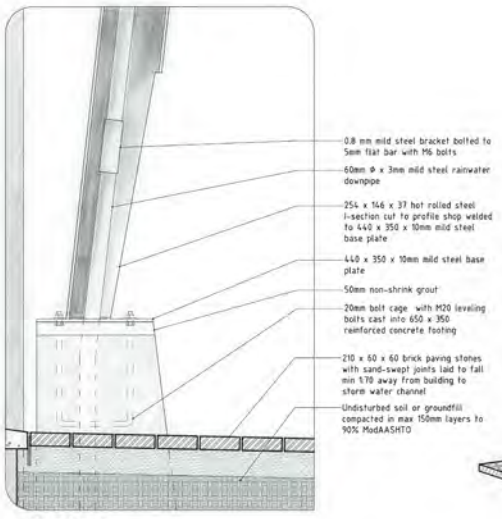




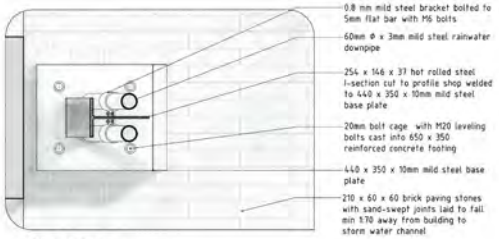


_6.15 Detail D: Column and floor connection, nts

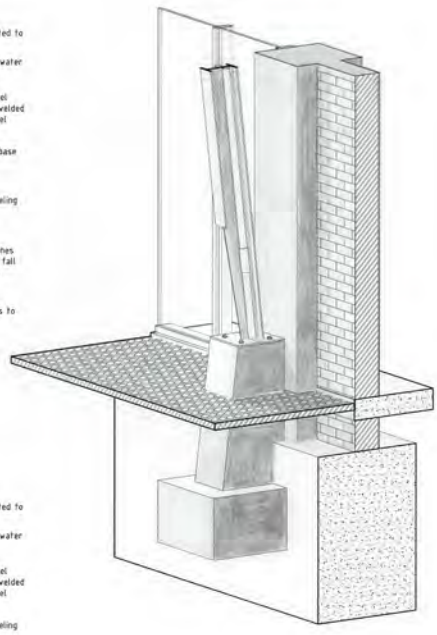




DETAIL E
1:10



DETAIL E (plan view)
1:10



_6.16 Detail D: Column and ground connection, nts

| TECHNÉ

Through the development of the concept presented on page 74 and the refinement of the technical aspects of the building, it was concluded that the building is conceptually comprised of 5 layers:

1) The existing *fragmented volume*, where architecture is to respect and celebrate the existing fabric and physical remnants as well as embrace and respond to the historic function or programme [storage, production and processing].

2) *Programmed and unprogrammed insertions* which house the activities of glass processing, perfumery and spaces of pleasure.

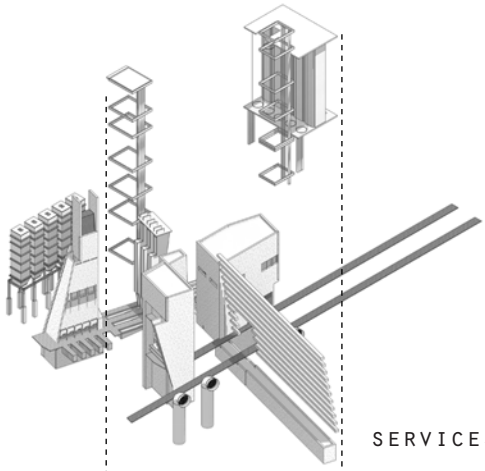
3) *Movement* and circulation, which connect different programmes and activities and allows for the pleasure of kinaesthetics and casual exploration of memory.

4) *Memory* which is responsive to the existing and is layered onto the site and interwoven with the existing. This ranges from the intangible domain of augmented activities [events] and sensory experiences of the natural realm of flora, to the physical structure and materiality of the building.

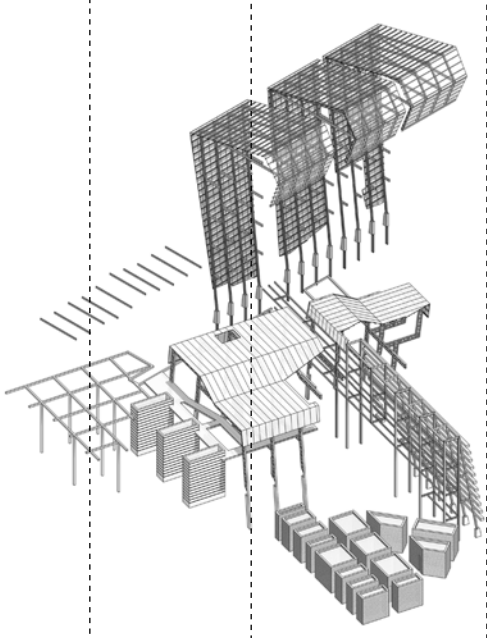
5) *Services and systems* which support new programmes and activities and control their environments.

While the fragmented volume of the mill and the proposed programmatic insertions are discussed in detail in Chapters 2 and 4, the following section will focus on the tectonics of the design concerning systems, movement and memory.

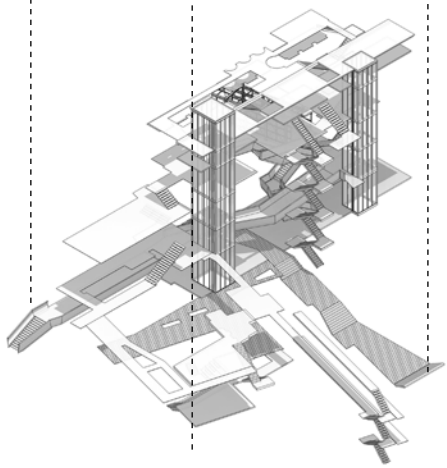
> Tectonics in an architectural sense is often referred to as the art or science of construction. By extension it becomes the study of how physical forms are put together. On a philosophical level it can be seen as a network, a phenomenon of connections, links and bonds between separate elements. Van Toorn [1993] describes tectonics as a type of domain that has the properties of a neural net: one thing can be linked to another in an infinite number of ways, resisting predefined links. Emphasis occurs at the bonds or the relationship between different objects, rather than the objects themselves. We find these tectonic expressions in a congestion of spaces, functions, programmes, voids, structures, access routes, public and private domains [Van Toorn, 1993]. ... It is a spectacle of how things are put together – people, space, structure, history.
>
> [Böhmer, Koch & Wolf, 2011]



SERVICES AND SYSTEMS



MEMORY
[flora, structure, materiality]



MOVEMENT

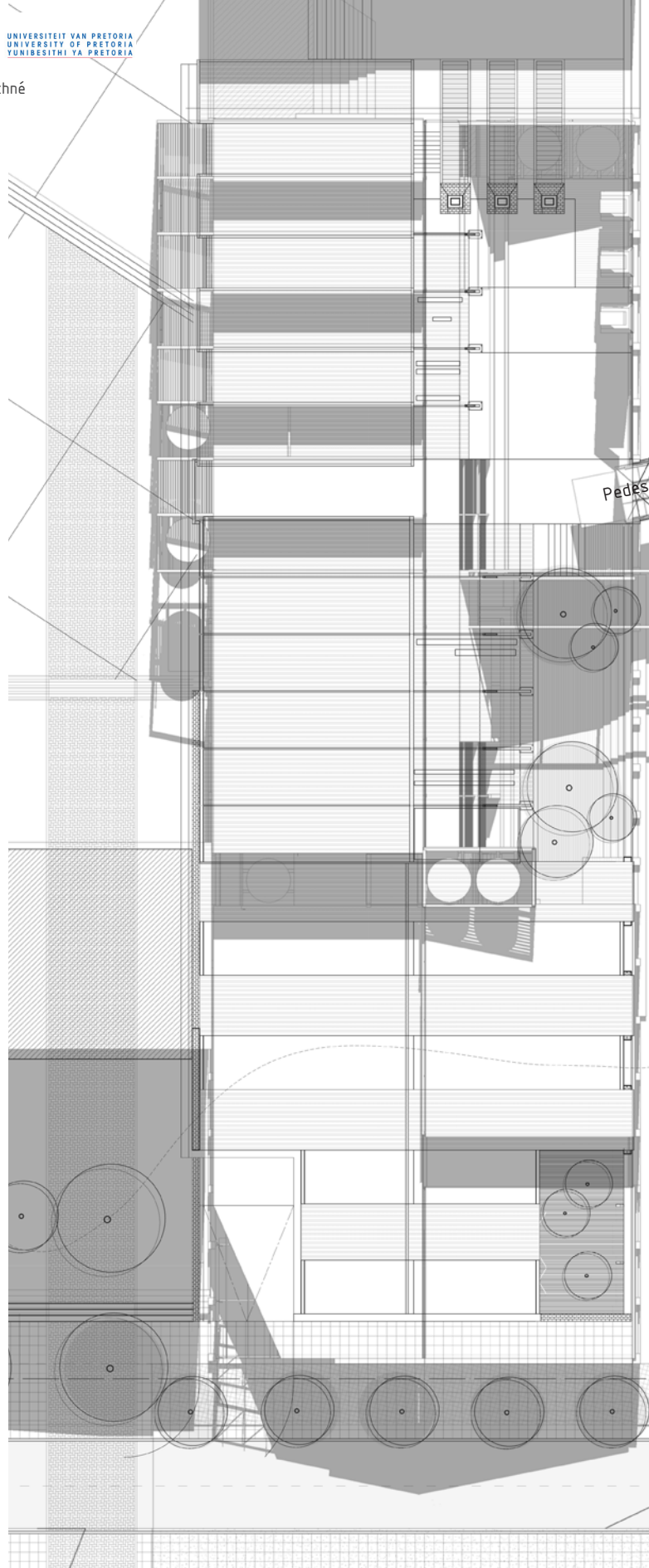
_6.17 Concept of techné

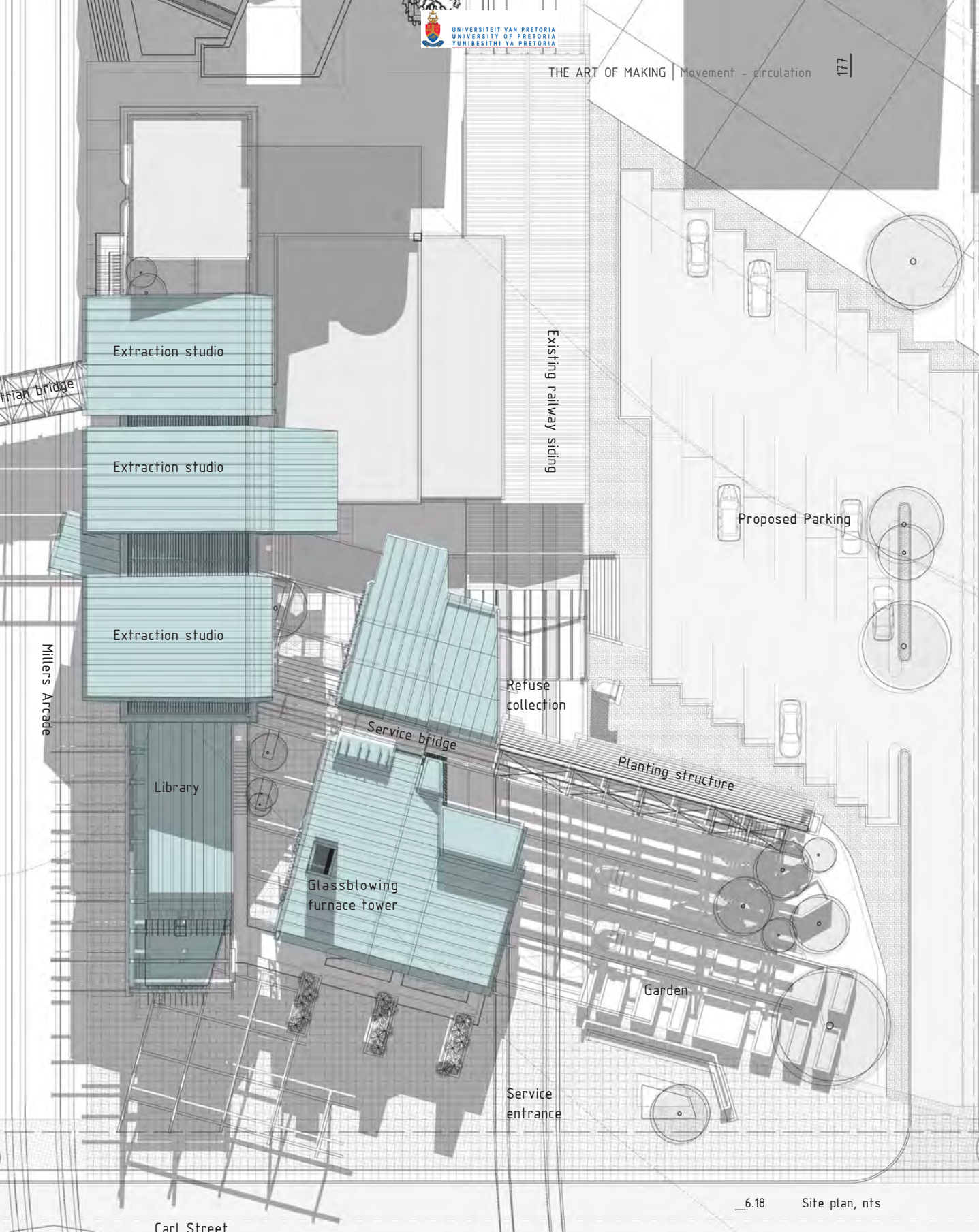
Movement - circulation

As mentioned in the theoretical discourse in Chapter 3, the project should allow for the ritual of movement to celebrate and animate activities, processes and events. By projecting an infinite number of viewpoints, architecture can provide for the enjoyment of the experience of moving. The experiential qualities and sensory experiences are heightened by routes that connect or intersect different activities and events [the sound of crushing glass, radiated heat from the furnace, steam or smoke rising from the chimney, visual distribution of materials through the site].

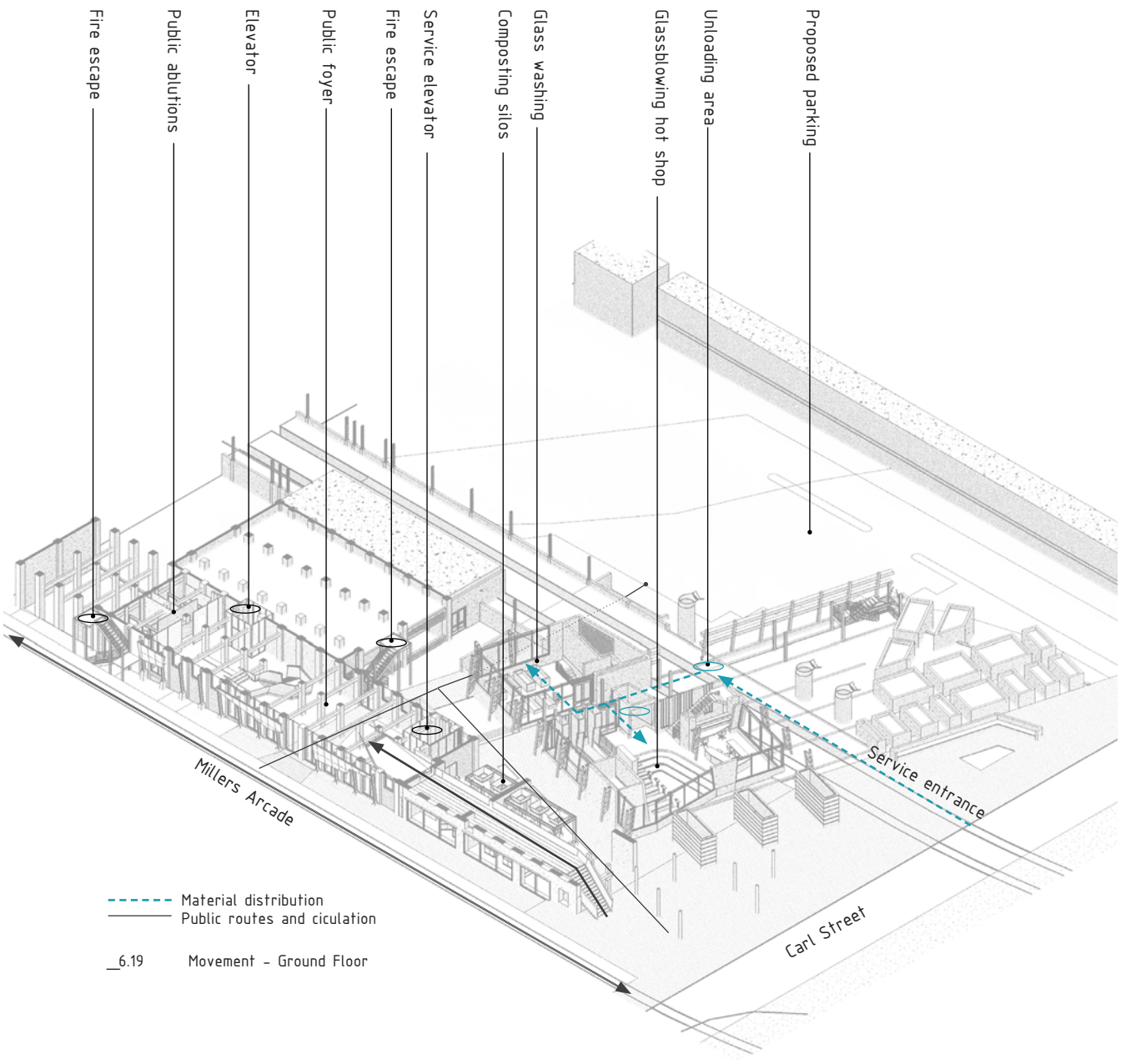
Public circulation is not reduced to a predetermined route but rather becomes a field or network, to encourage individual exploration and discovery. However, both public and private circulation is arranged to augment the experiential quality of space, as well as in accordance with safety concerns and fire regulations. Private circulation provided for the artisan and worker is integrated in the design, with private bridges, corridors and separate vertical circulation and where possible, sharing the same route or realm with the public, blurring both domains.

Historic routes and circulation are celebrated by firstly reusing the existing railway siding for the delivery and dispatch of materials and goods. Secondly, the old elevated material distribution route to the western shed is respected by providing a pedestrian bridge which links the different buildings.

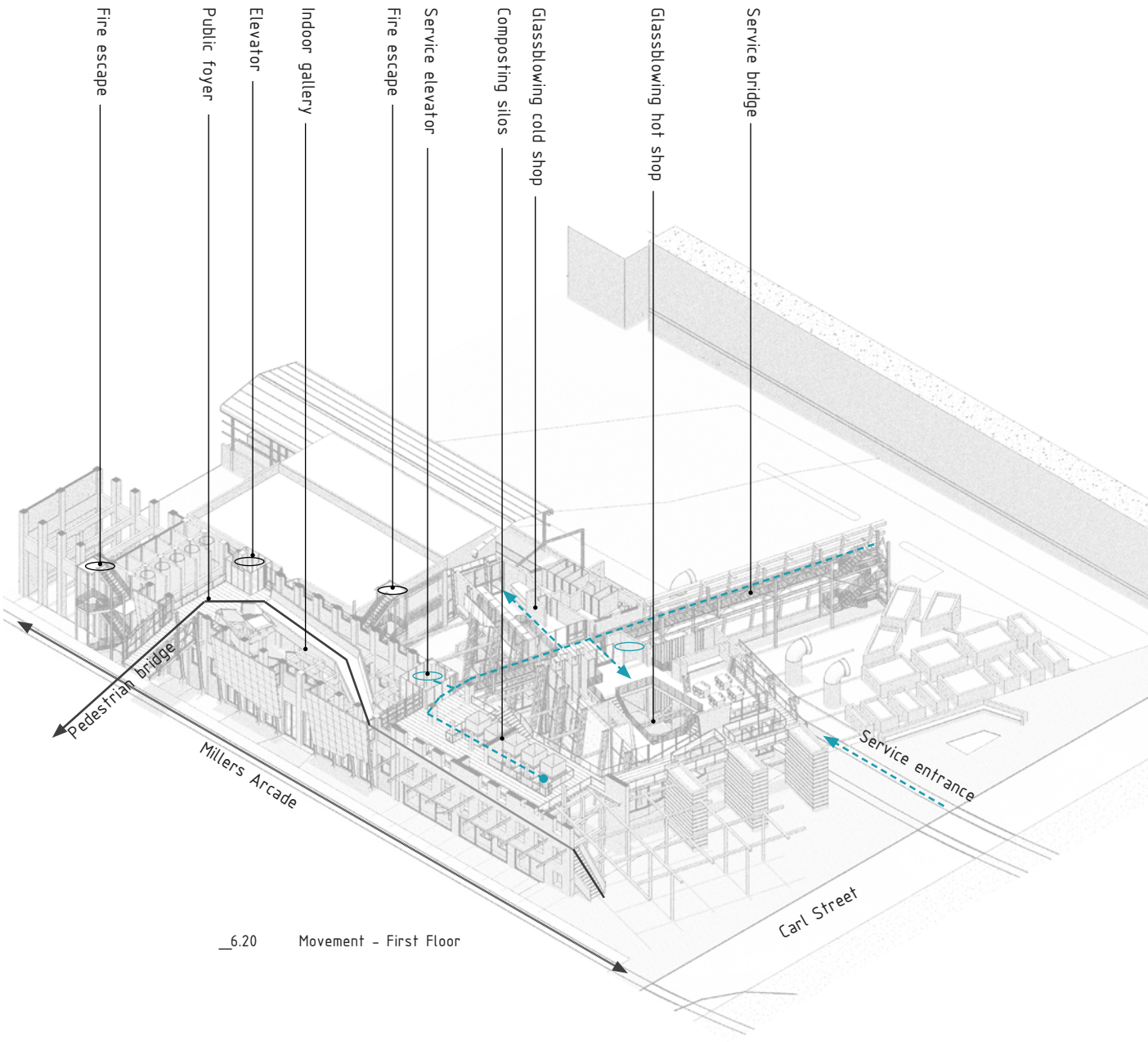




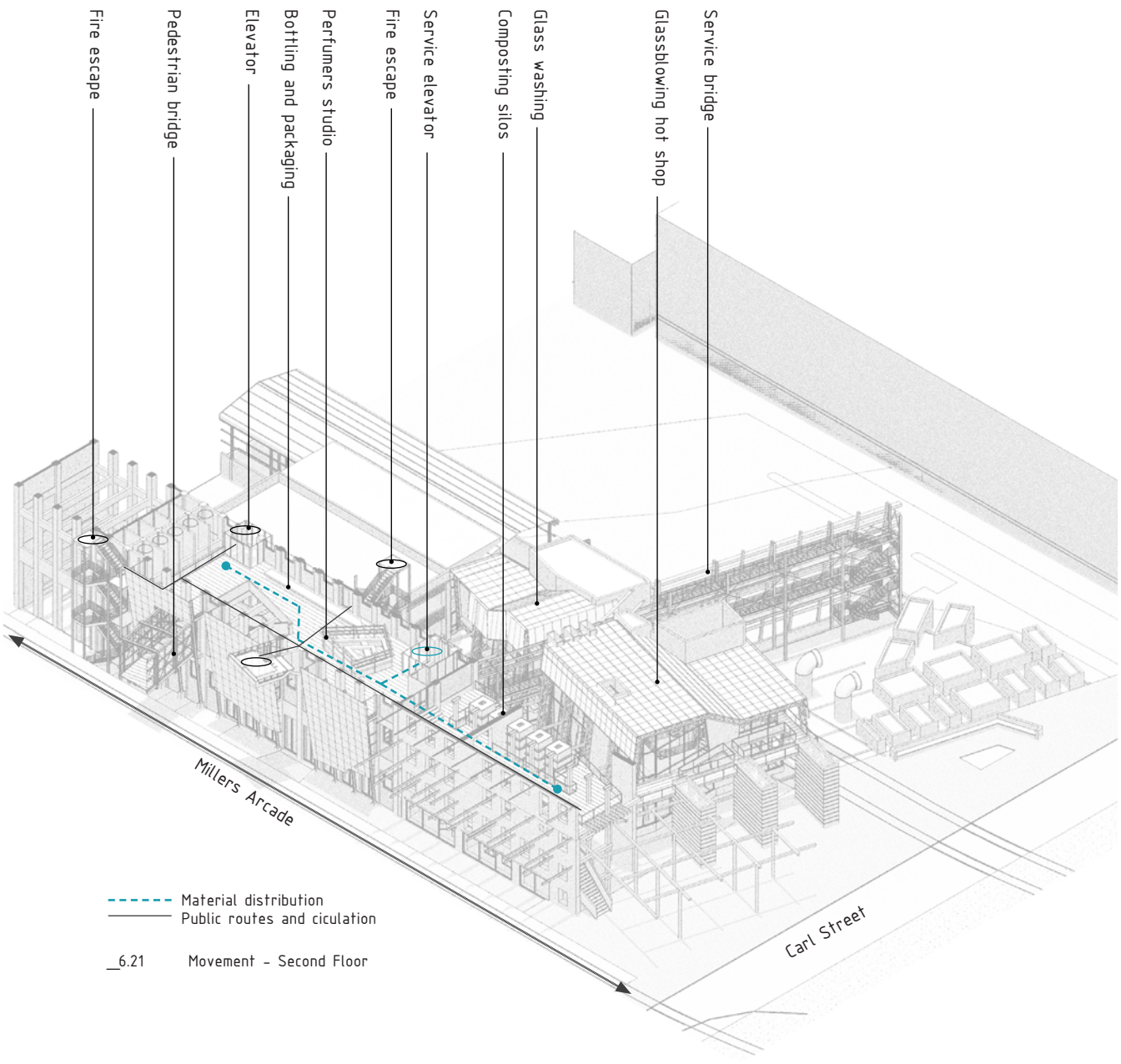
_6.18 Site plan, nts



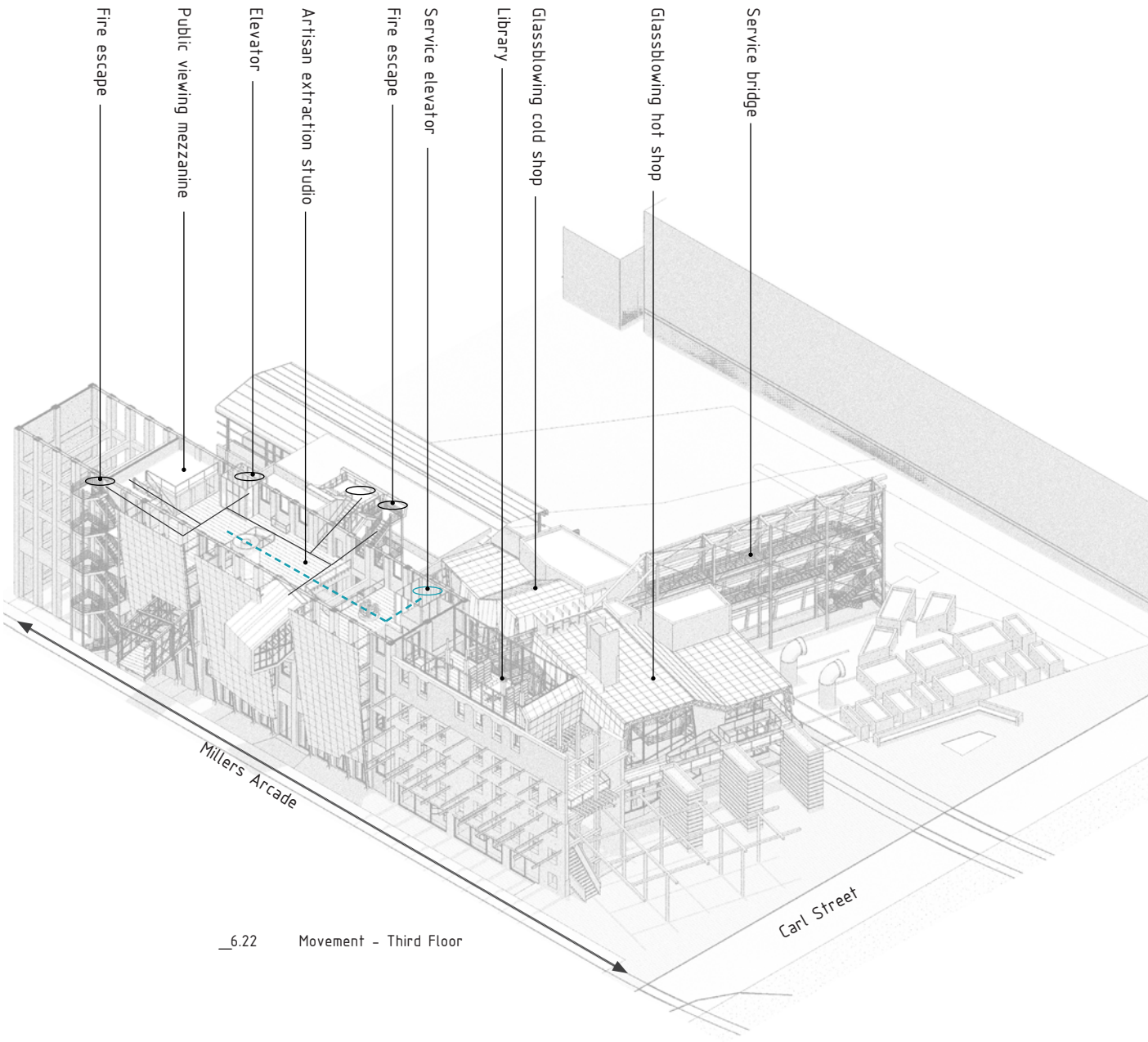
_6.19 Movement - Ground Floor



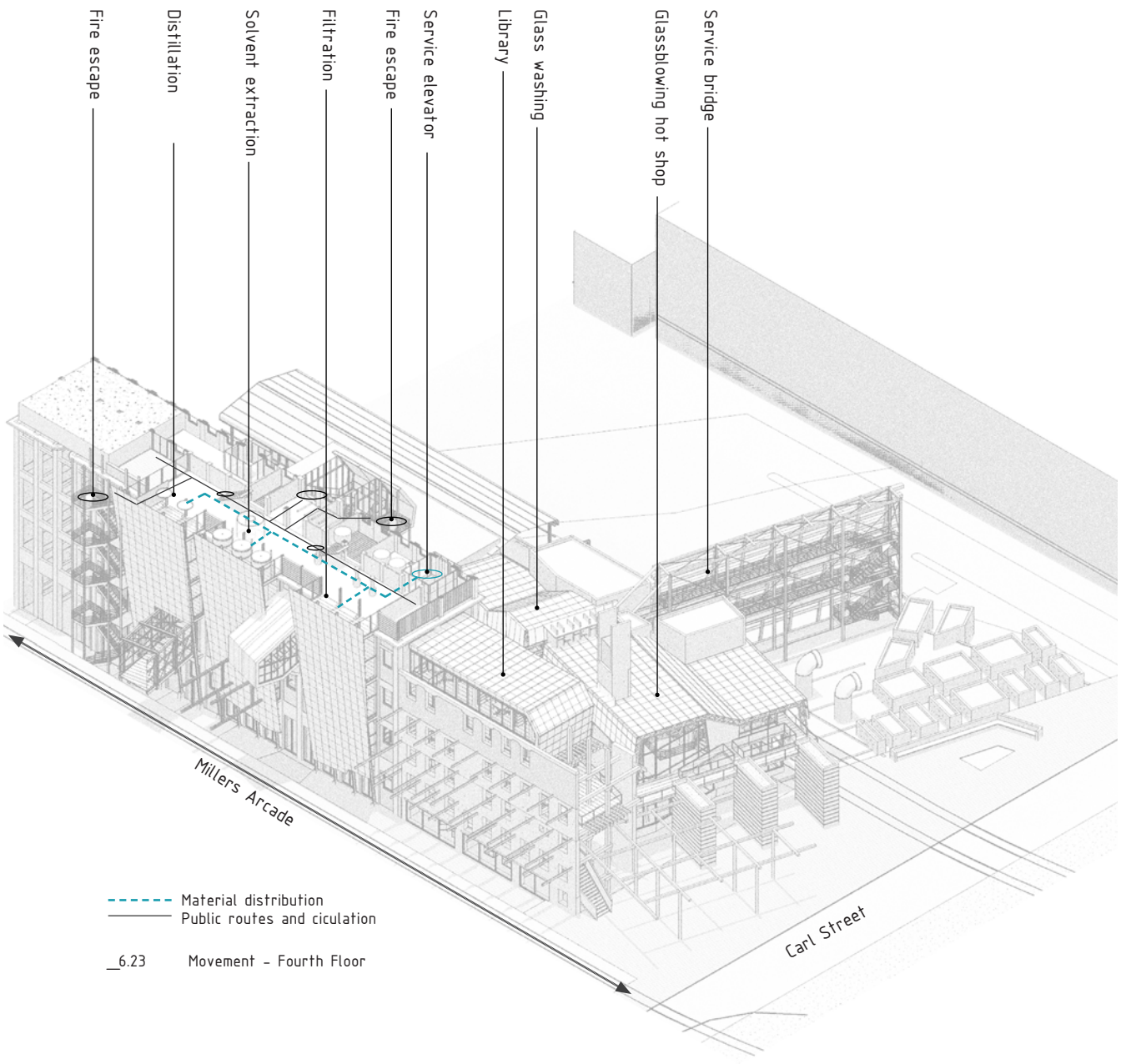
_6.20 Movement - First Floor



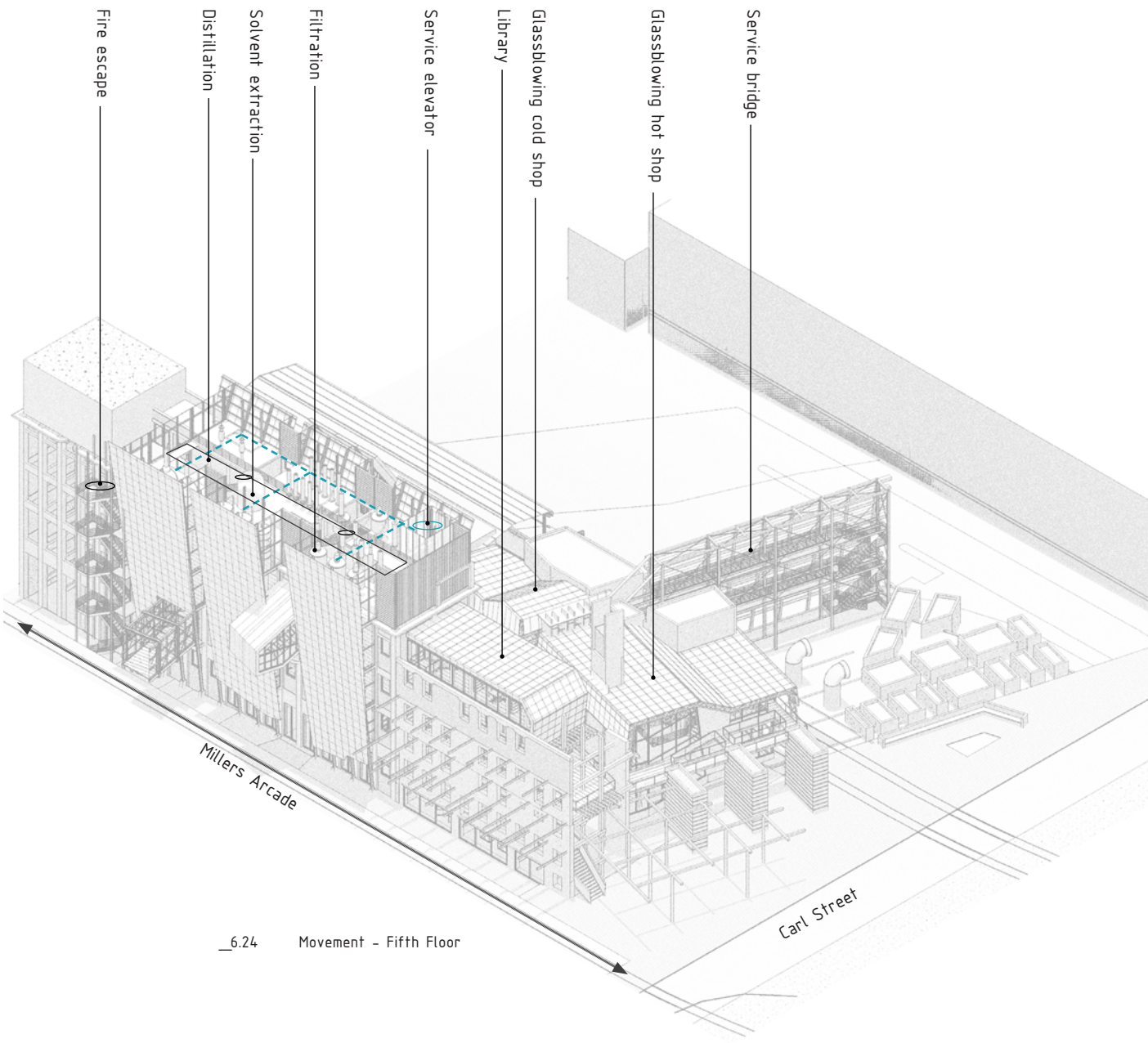
_6.21 Movement - Second Floor



_6.22 Movement - Third Floor

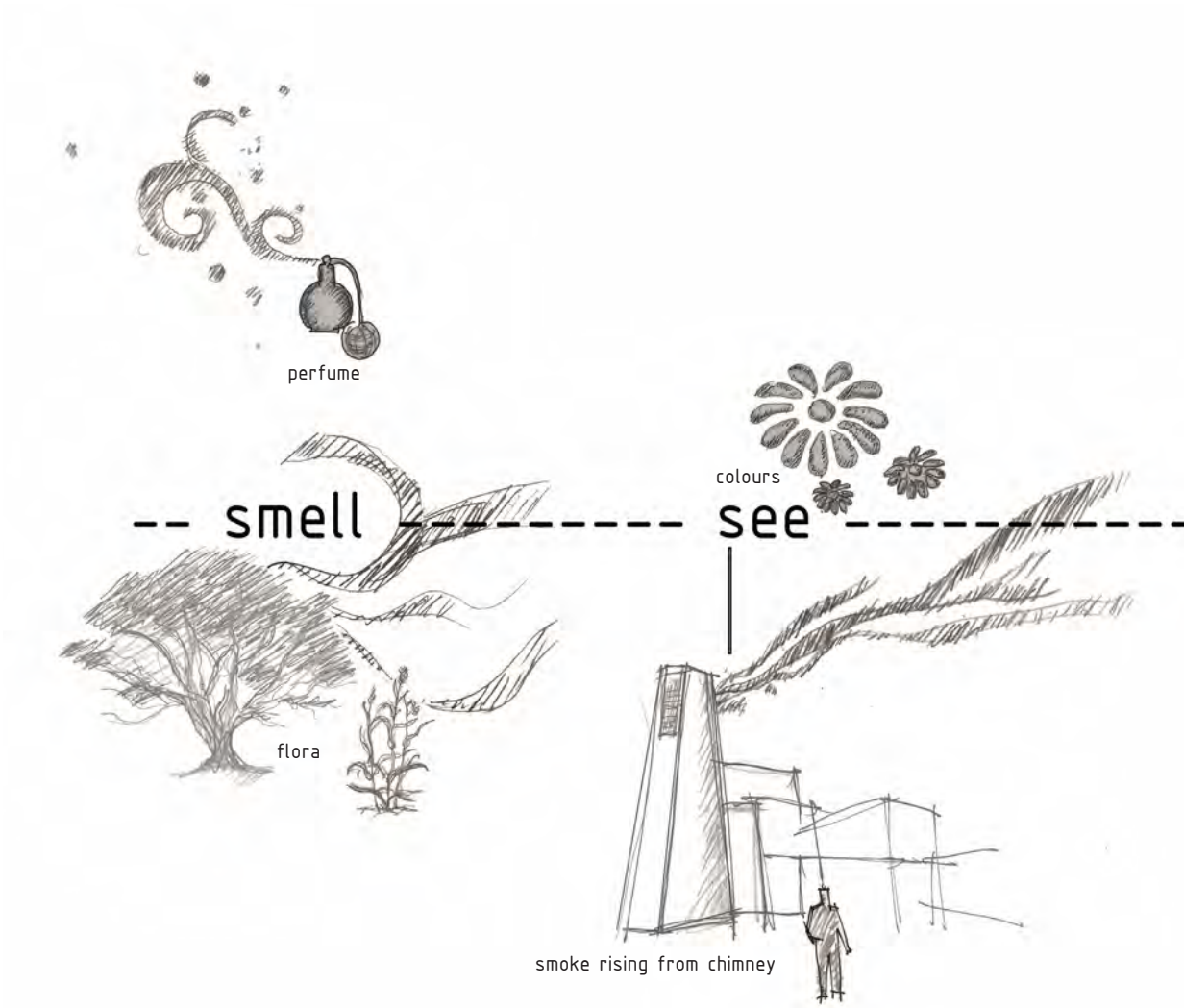


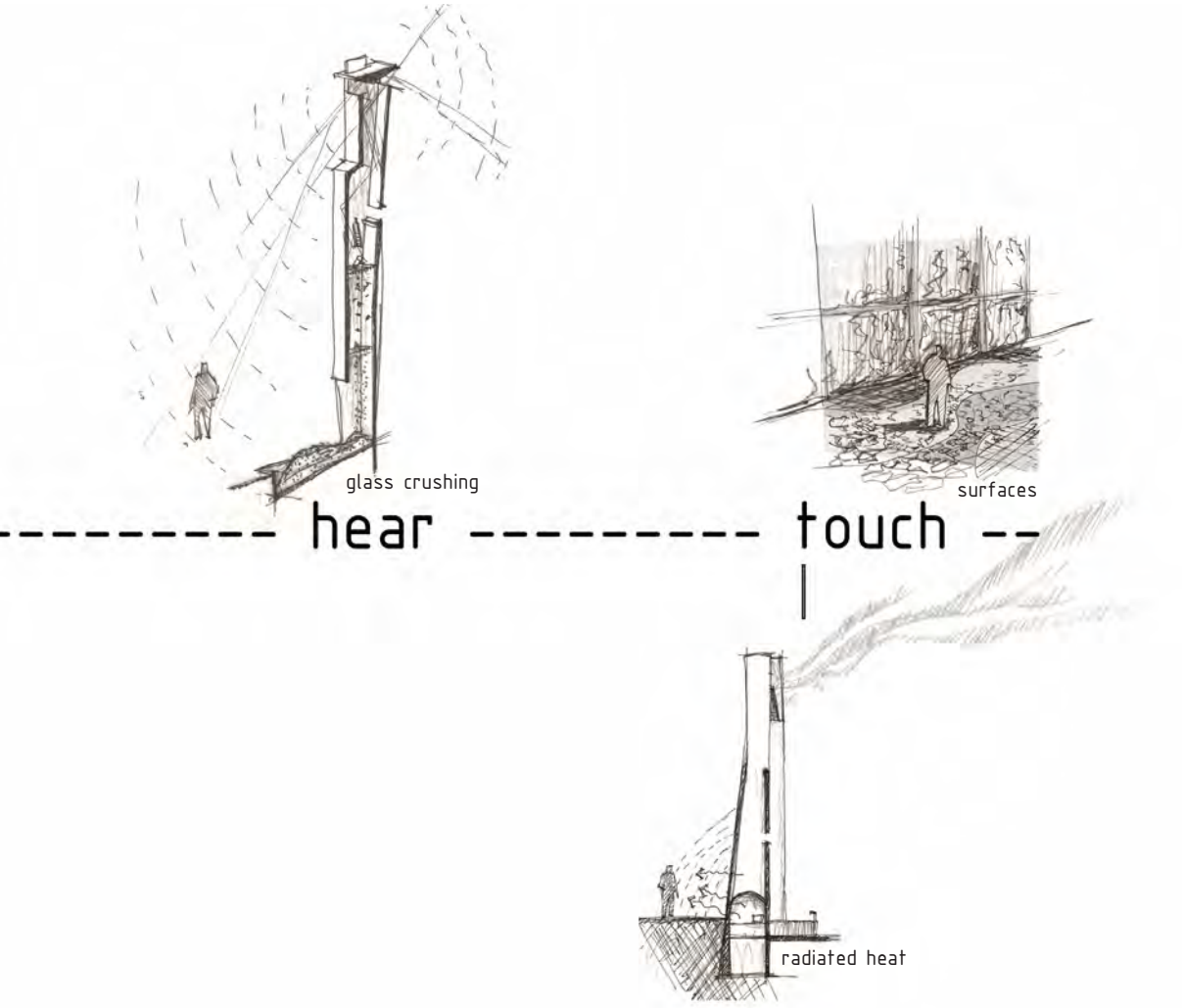
_6.23 Movement - Fourth Floor



_6.24 Movement - Fifth Floor

SEQUENCE OF THE SENSES





_6.25 Concept sketch - Sensual experience moving through space

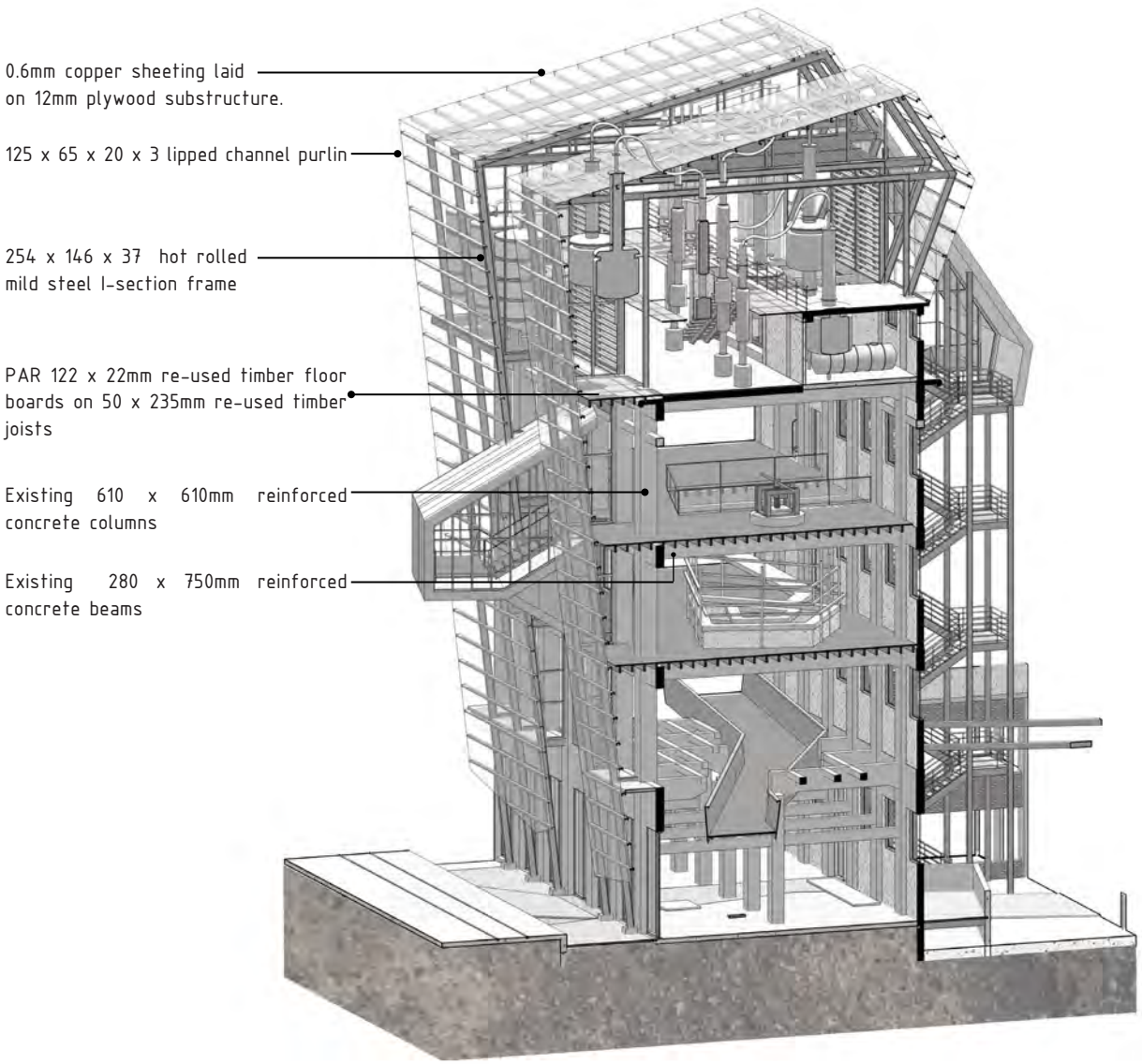
STRUCTURE

The author interprets the layered existing structural system as progressive frames in time, corresponding with the technological knowledge, ability and skill of the era of construction. The primary structure of the original mill building comprises of a timber structure (300mm x 300mm columns and 300mm wide x 330mm deep beams), set in between load-bearing brick walls more than half a meter thick. When the building was extended, a reinforced concrete structure with 610mm x 610mm square columns and 280mm wide x 750mm deep beams proved to be the most convenient solution at that specific point in time. For the most recent extensions and alterations to the mill, structural steel was used adding another layer to the structural composition. The evolution of the structural system over time also allowed for bigger openings and spans - increasing the building's transparency.

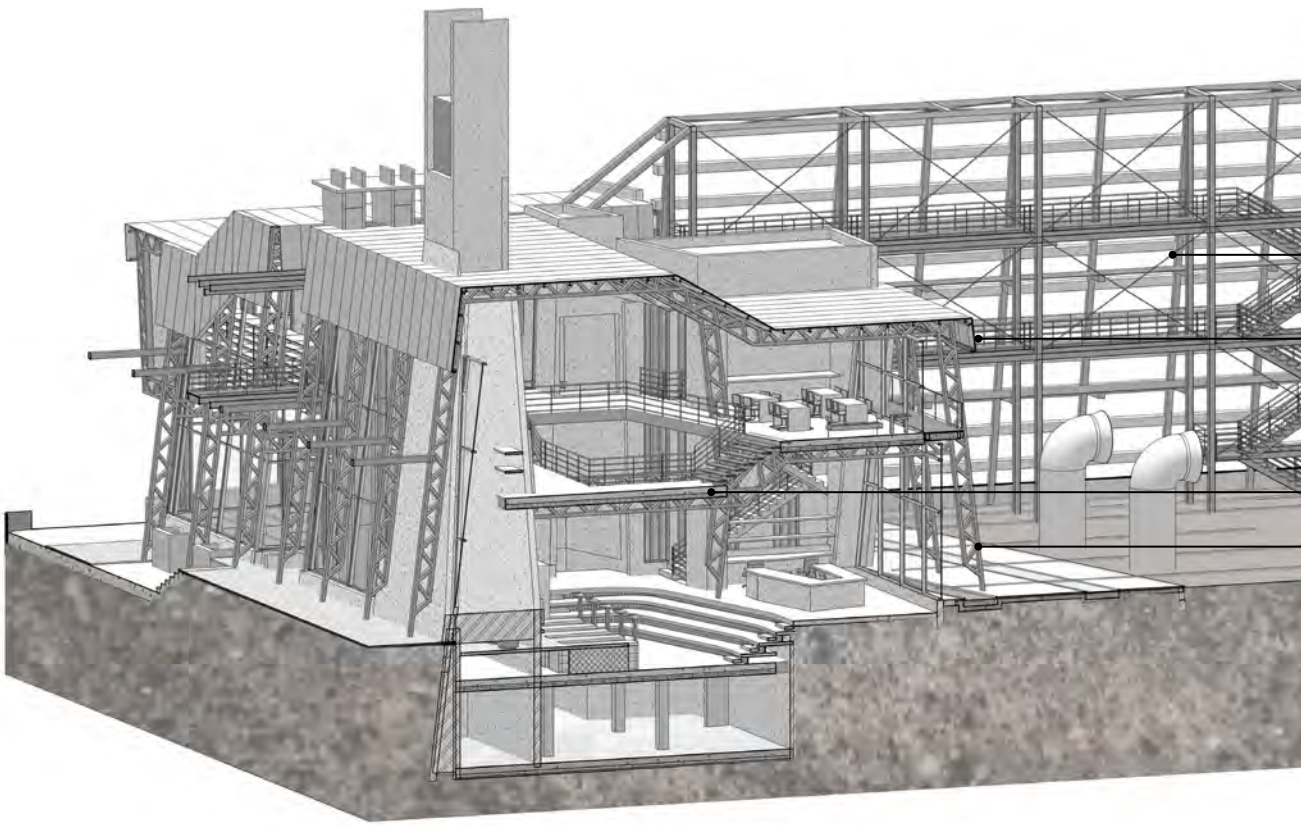
The structural system of the proposed intervention builds on the existing structural and material sequence of time. The primary structure comprises 254 x 146 x 37 kg/m and IPE 200 hot rolled steel column and beam I-sections depending on the span and loads respectively. For the glassblowing workshop, which is entirely separated from the existing building, a composite steel truss structure welded from square hollow sections is proposed. It denotes a new layer in the evolution of the structural system, allowing for even greater spans, more flexibility and maximum transparency.
For both primary structural systems, 125 x 65 x 20 x 3mm lipped channels form the secondary support structure which allows for the fixing of lighting fixtures as well as ceiling and wall panels. The lipped channels also provide a support platform for the 12mm plywood substructure of the roofing system. Fire proofing, waterproofing and roof material can be applied to the plywood substructure.



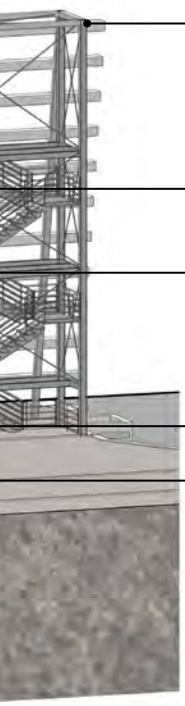
_6.26 Structural system evolution



_6.27 Structural integration of existing and new fabric



_6.28 Structural system of glassblowing studio and service bridge



IPE 200 hot rolled steel beam bolted to 203 x 203 x 46 H-column

Steel bracing

0.6mm copper sheeting laid on 12mm plywood substructure fixed to 125 x 65 x 20 x 3 mild steel lipped channels @ 450mm centres

355mm reinforced concrete slab

Galvanized mild steel composite truss shop welded from square hollow sections according to engineer's specifications

Technical Model @ scale 1:50



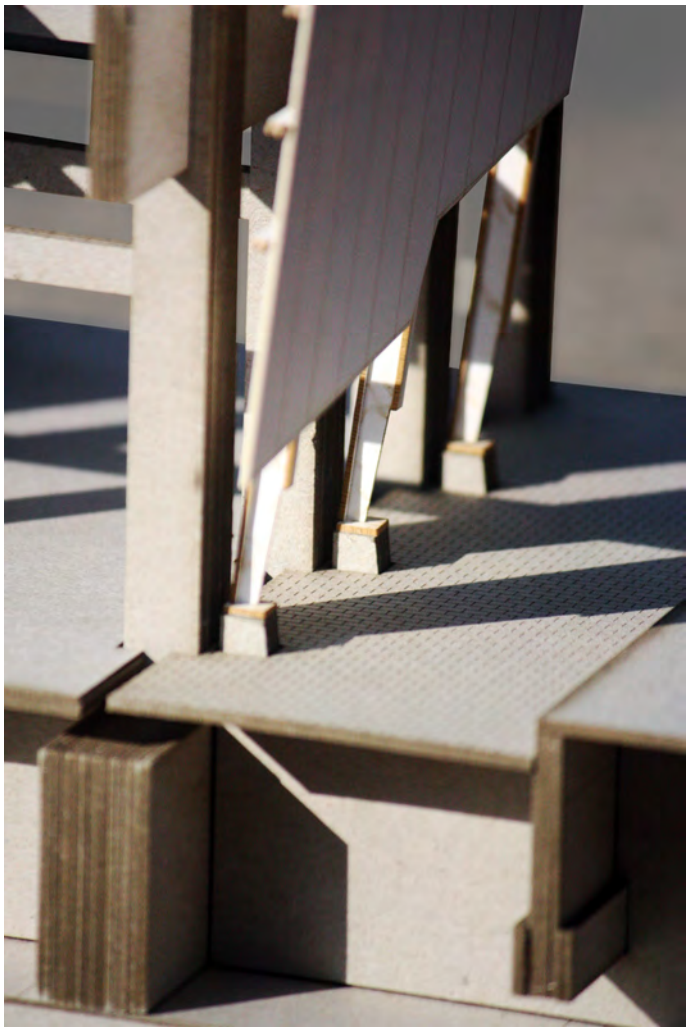

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MATERIALITY

Every discipline has a palette, a list of material resources from which their work is manifested. While there is a substantial amount of overlap with other creative practices, art practices and design disciplines, the architect's palette is surely unique in its breadth. From a technological point of view, the introduction of new tools and materials has been a constant throughout the history of architecture, and it shows no sign of slowing. At the same time, common materials are often employed in unusual ways, shifting our understanding of their possibilities and opening them up again and again in our imagination - J. Bassett

From the analysis of the structural system of the existing mill complex, it became evident that it was likewise important to study the current composition, arrangement and finishes to gain a clear understanding of the materiality of the building. Most importantly, the weathered state of building elements and surfaces contributes to the enigmatic ambience and industrial atmosphere of the mill. Consequently, all introduced materials should not compromise the unique industrial quality of the wasteland. While being partly different from the existing material palette, the materiality of the new should never be indifferent to its context. The use of contemporary materials is therefore specified for their inherent ability to capture the effects of time through ageing and, by extension embrace memory, as well as for their haptic qualities. By implementing this approach to the materiality of the building it is not only possible to celebrate the tangible fragments of the past, but also the inherent physical qualities of the present. Introduced materials become a successive layer to the existing construct, and will begin to blur and merge with the historic materiality in a continuum of time.

TIMBER

A material with a very unique character, timber has a dynamic memory of its own. It creaks and squeaks under influences of temperature and loads, and has a vast variance in its grain and texture. As this natural material weathers, it creates its own aesthetic appeal and haptic quality. The existing timber structure and floor of the mill are largely intact and constitute the most important physical heritage value of the existing structure. Partly hidden behind layers of paint, it is proposed that the timber be reused and planed to reveal its warmth and character. Where the programme allows, timber is used as floor finish to create a continuous surface through both new and existing parts of the building.

COPPER

Copper sheeting is proposed as surface finish for roofs and walls of the new intervention. Time shapes this material as much as its surroundings. The speed of weathering is specific to the place where it is used, thereby theoretically linking time and memory of the context to the architecture. Copper weathers from an earthly brown to

develop a maintenance-free turquoise-green patina. Installed by craftsmen, the brown copper surface will initially blend in with the existing red face brick and develop its own identity as it weathers to a blue-green surface, still complementing the existing face brick walls.

| Existing red face brick

The existing red face brick infill between the concrete structural elements contributes a definite identity to the existing building. Almost unaffected by the effects of time, this material remains a constant measure in the wasteland against which the effects of time can be shown. Respecting its inherent heritage value, no new face brick is used.

| Whitewashed plastered walls & Off-shutter concrete

Both surface finishes show very few signs of visible weathering as the actual materials do not erode significantly over a long period of time. However, these surfaces become blank canvases which are stained by weathering materials and blemished by activity over time. They encapsulate a record of time and activities which is specific to the place and environment in which they are located.

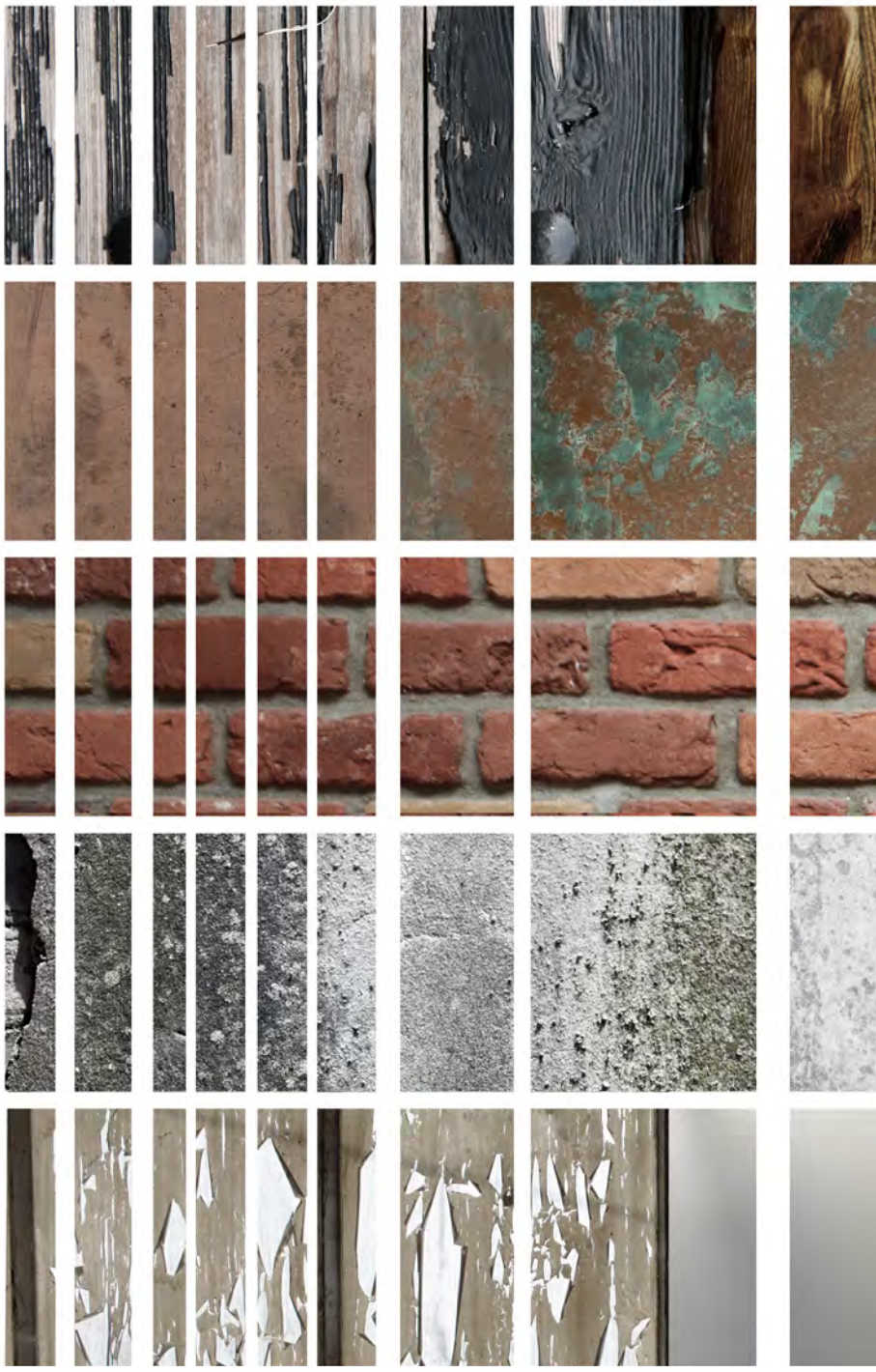
| Glass

Although glass is a material that in essence does not weather, possibilities exist to treat its surface, thereby changing levels of exposure, transparency and quality of light. While clear glass allows for maximum light transmittance and visual transparency, frosted or translucent glass alters this quality, thus encompassing the notion of time by reducing activities between planes of glass to moving silhouettes.



_6.29 Layers of time and memory - weathered surface inside the mill

PRESENT CONDITION



-- PROPOSED FINISHES ---------- ANTICIPATED WEATHERING



_6.30 Materiality and time

FLORA

Architecture is an art of space. Fragrance is the art of the immaterial with the aesthetic changes contained in a drop and released in time and in the surrounding space – Octavian Coifan

The proposed vegetation forms part of a new layer of memory that is introduced to the barren wasteland. "Living memory" is interwoven with the design of public spaces as well as the planting structure used for the cultivation of plants for investigational perfumery purposes. Plants frame public spaces and underline their experiential qualities while simultaneously acting as a resource for perfume experiments.

The plant life or "living memory" is dynamic, changing its reality and presence over time. Colours, textures, sounds and smells change according to the cyclical time of nature. The specified plants bloom at different times of the year, adding a multitude of shades and smells to the urban setting.

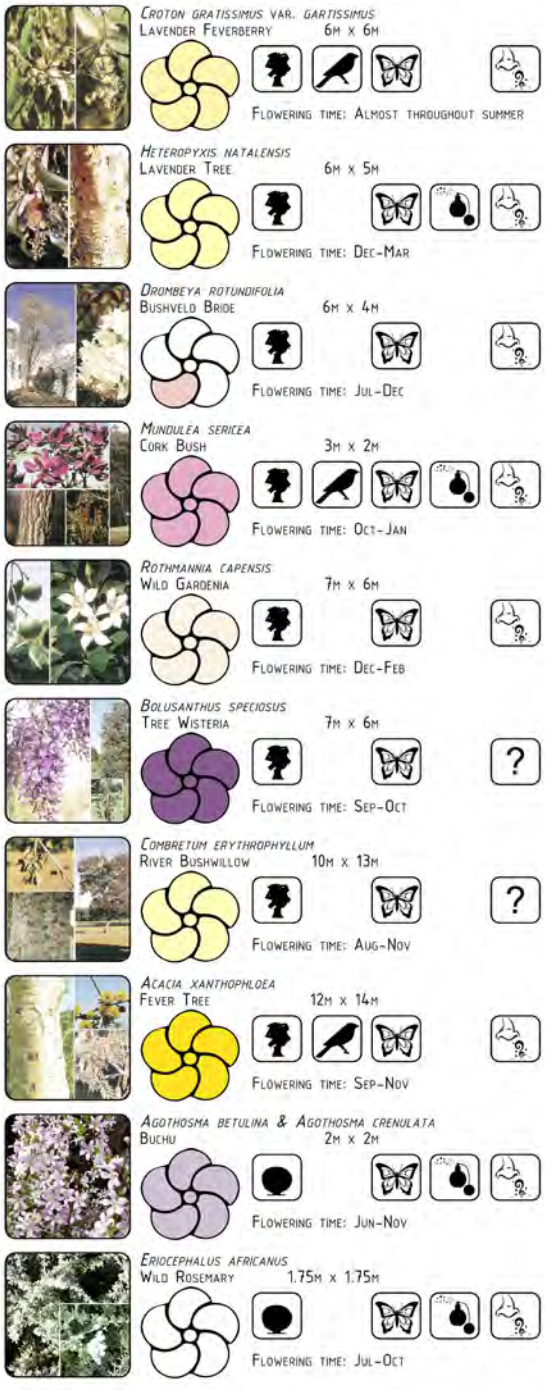
A fundamental requirement is that the plants are indigenous to South Africa. Local plants do not only require less water for irrigation, but are also accustomed to the climatic conditions of the region. This ensures that they are easily cultivated and supports the biodiversity of the plant life of the environment. Trees are essential to the definition of space, and flowering and fruiting plants attract and provide a habitat for birds and insects.

The first indigenous plants from which essences were extracted are the ones best known through traditional medicine and have traditional meaning. In traditional perfumery the common method of perfuming the body was to dry the herbs, pulverise them and either mix them with fat or to apply them as a powder. Smoke baths using herbs, bark and resins are especially common in the drier regions are still being used by the Himba and certain cultures in the Sudan [Shuttleworth, 2012].

Historically, whether or not the use of the plant was commercially viable was of lesser importance; however, this fact was still considered whilst sourcing plants for the use in perfumery. Most of the indigenous plants which have perfumery potential are currently not extracted on a commercial basis because they contain too little oil for distillation and will require different techniques of extraction. The cost involved is often prohibitively expensive [Shuttleworth, 2012]. Nevertheless, an extensive matrix of plants has been generated according to the following criteria:

- Indigenous
- Traditional, historic or current use in perfumery
- Potential perfumery use
- Flowering time and colour
- Experiential character

All information is based on Pitta Joffe's book "Creative gardening with indigenous plants – A South African guide" as well as personal communication with Sophia-Suzette Shuttleworth, a South African natural perfumer.



Tree

Shrub

Grass / Creeper

Attracts Birds

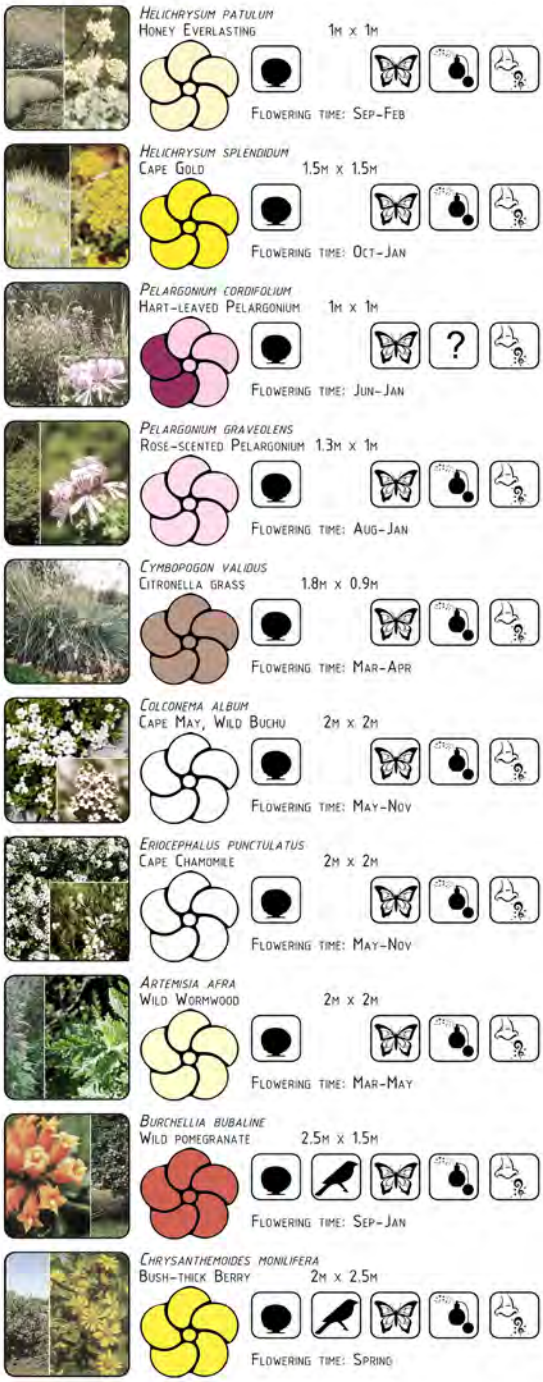
Attracts Insects

Traditional, historic or current use in perfumery

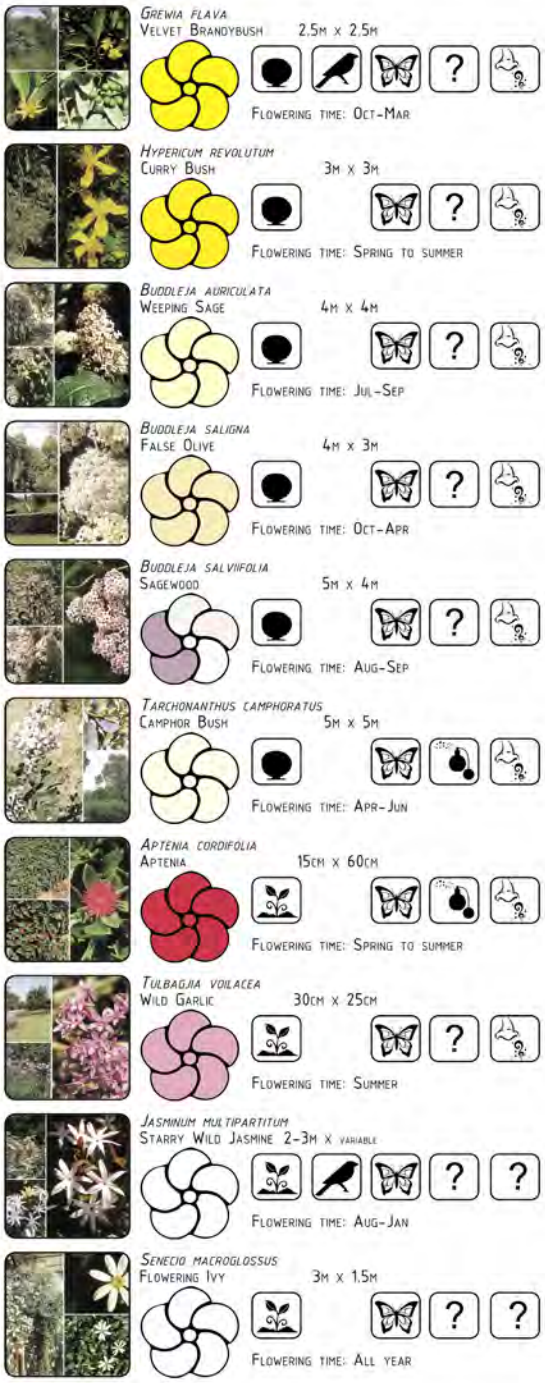
Perfumery potential

Unknown perfumery use / potential

_6.31 Flora matrix - part 1



_6.32 Flora matrix - part 2



Tree

Shrub

Grass / Creeper

Attracts Birds

Attracts Insects

Traditional, historic or current use in perfumery

Perfumery potential

Unknown perfumery use / potential

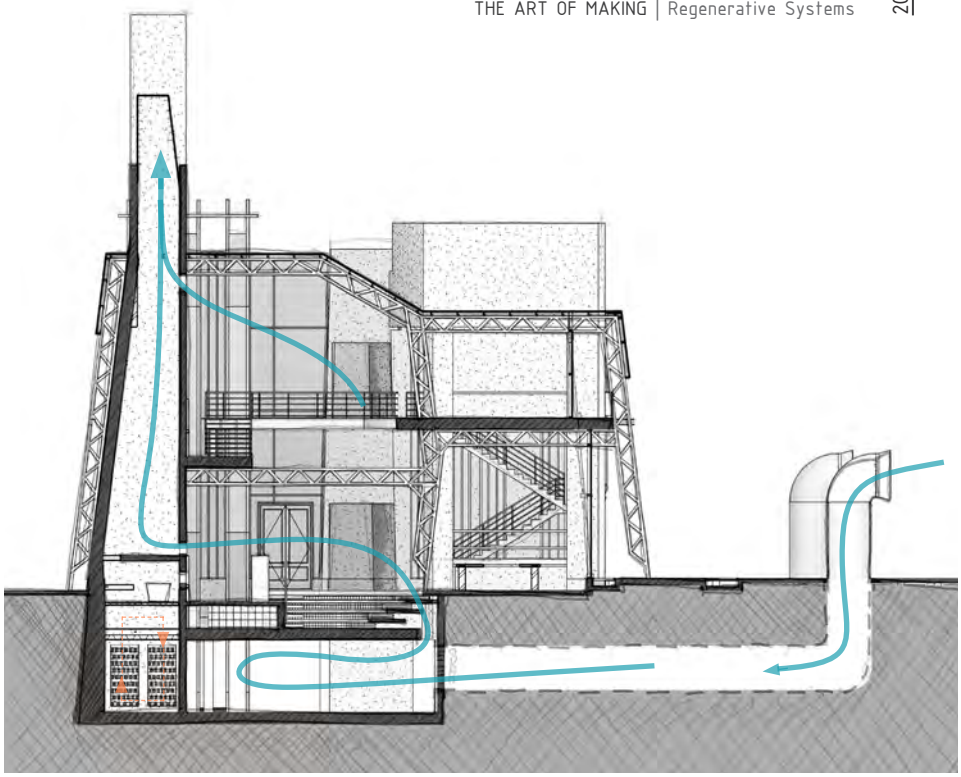
_6.33 Flora matrix - part 3

Regenerative Systems

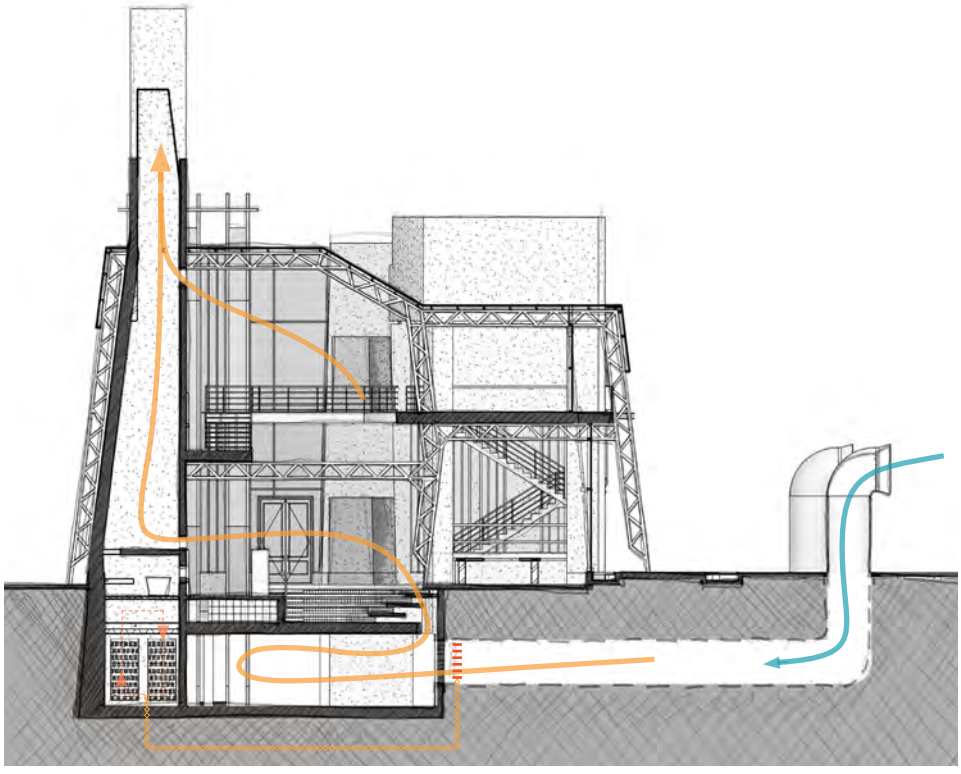
Corresponding with the intent of the dissertation to invigorate memory, the approach to sustainable systems is based on regeneration. Both introduced programmes - perfumery and glass blowing - have the potential to act as the basis on which regenerative strategies can be established. The regenerative system functions as an interrelated scheme, incorporating strategies of heat transfer, ventilation, waste management, composting, water harvesting and irrigation.

Perfumery - The main procedure of the perfumery extraction process is the processing of raw plant material into essences and essential oils. Organic waste is a large by-product which is processed on site by converting the existing five steel grain silos into composting bins. The compost can be used to fertilize the flora on site which in turn can be processed for perfumery purposes, thereby creating a closed loop operation. A storm water retention pond is situated below the main planting structure, capturing not only site run-off but also excess water from irrigation. Water accumulated in the catchment pond is pumped into the existing internal concrete silos which are appropriated as water storage tanks. Establishing a second closed loop system, this water can be used to irrigate the plant life on site. Rainwater is also harvested from roofs and treated in the cleaning facilities of the proposed swimming pools to the north of the precinct, after which it is also stored in one of the concrete silos for use by sanitary appliances.

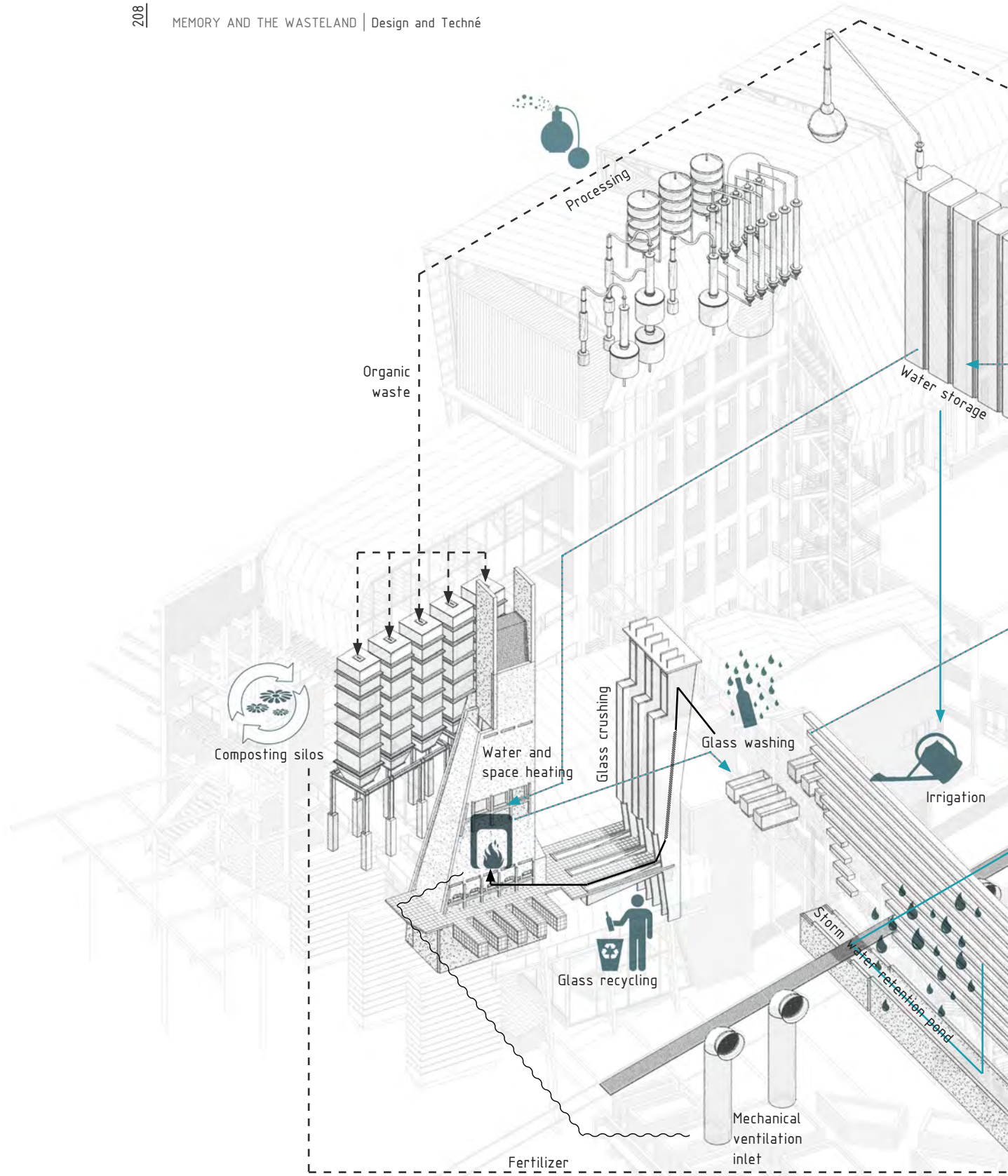
Glassblowing - Central to the glassblowing practice is the furnace which is used to generate heat. The primary recycling system incorporates the sorting, washing, drying, melting and finally shaping of glass. Waste glass is sourced at the municipal waste processing plant situated further down Carl Street as well as from deposition by the public. Heat is not only used for recycling glass, but also for heat transfer strategies. A radiator located in the chimney tower is used to heat water for the glass washing process as well as for space heating during winter. This is achieved by circulating hot water through a second radiator located at the mechanically operated basement ventilation inlet. The heat-induced updraft additionally aids in the ventilation of the building by drawing warm stale air out through the chimney tower. Adjustable louver systems control the ventilation through the chimney wall openings. To reduce the energy consumption of the glass melting process, a regenerator is incorporated into the furnace, significantly reducing the initial heat input. Pre-conditioned hot air is channelled through loose-packed clay brick regenerators, which act as heat storage. The process is reversed every 30 minutes so that pre-conditioned hot air enters the melting chamber, reducing the required heat input.

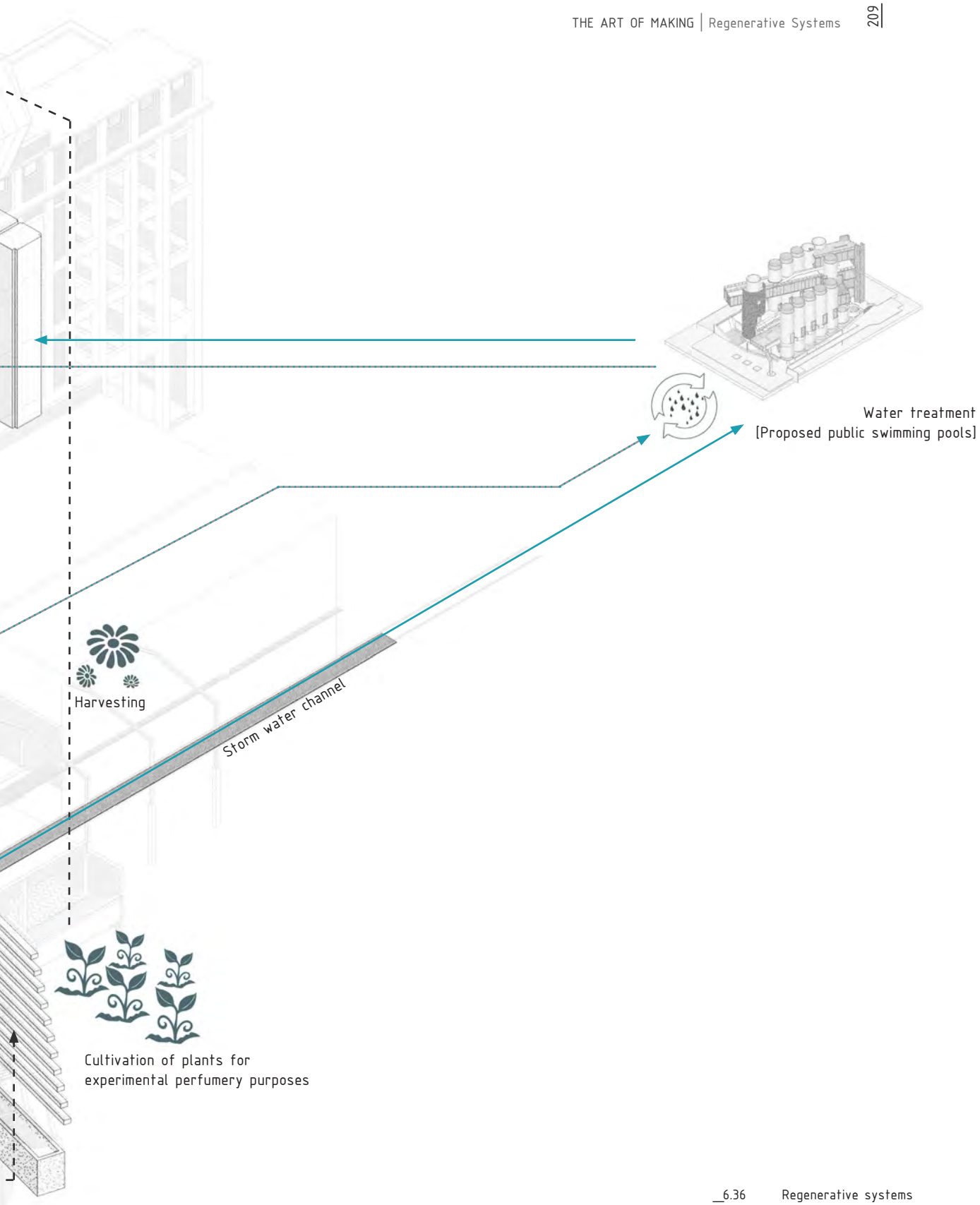


_6.35 Glassblowing studio and basement ventilation



_6.34 Space heating during winter


Processing
Organic waste
Water storage
Composting silos
Water and space heating
Glass crushing
Glass washing
Irrigation
Glass recycling
Storm water retention pond
Mechanical ventilation inlet
Fertilizer

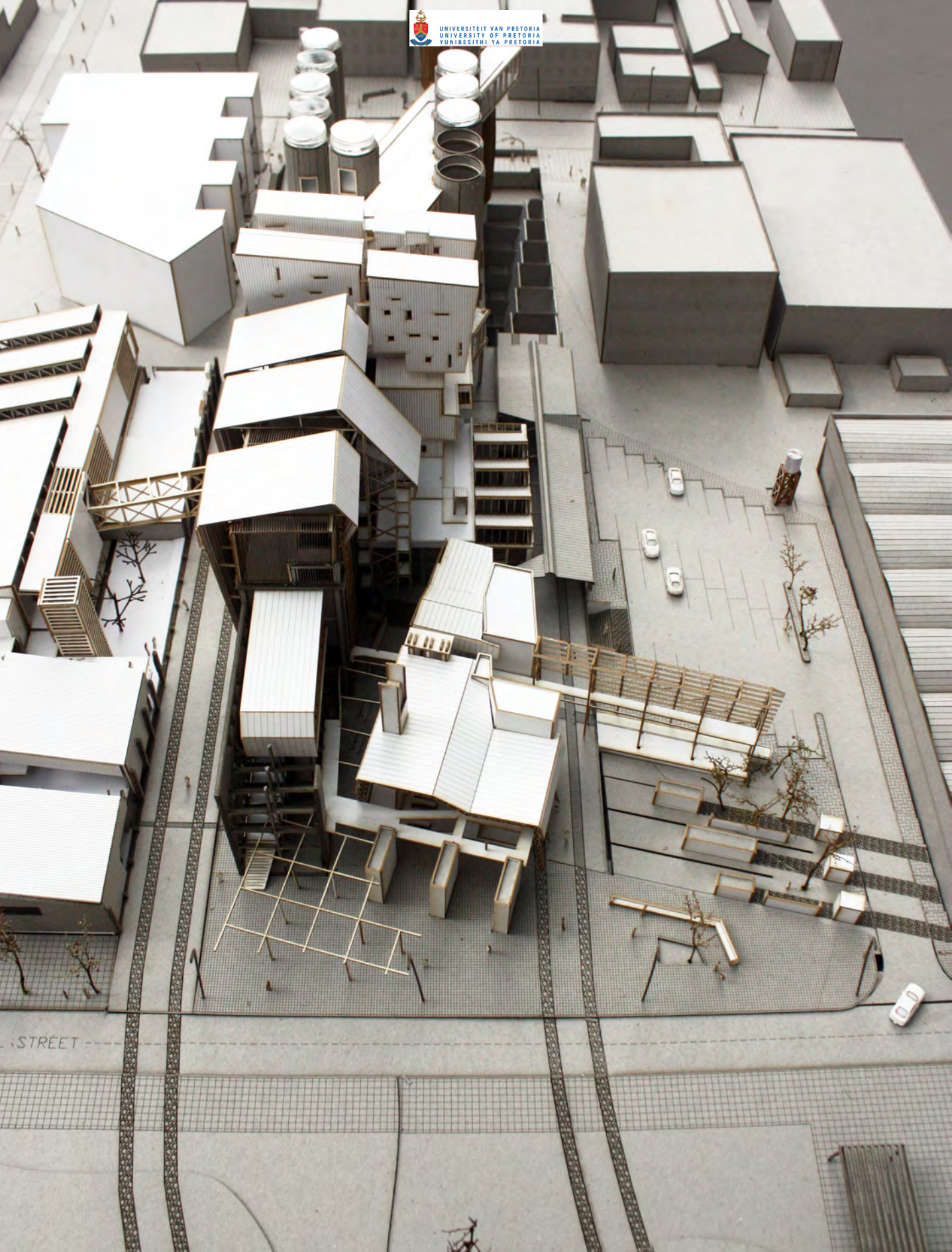

Water treatment
[Proposed public swimming pools]
Harvesting
Storm water channel
Cultivation of plants for
experimental perfumery purposes

7 CONCLUSION

MEMORY

The chapter reviews the course of events that took place during the process of compiling the dissertation. It presents a succinct critical stance towards the outcomes of the design discourse and evaluates possible points for improvement. It also discusses further possibilities of investigation.

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Reminiscence

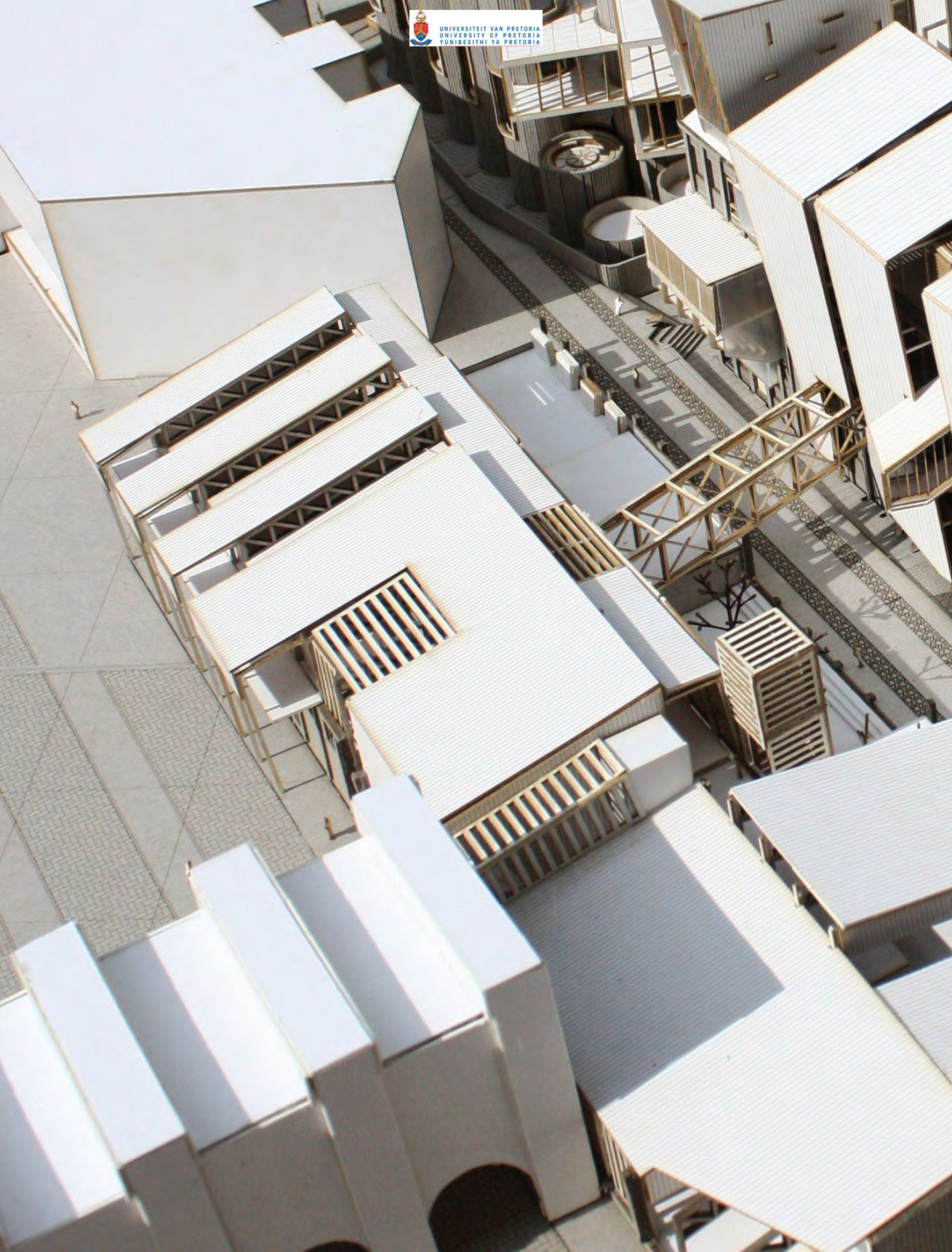
The aim of this dissertation was the inquiry of memory in the wasteland of Pretoria West, a place where fragments of the past and the realm of the artisan have come close to being forgotten due to oppressive mechanical forms of production. The site selected revealed a highly layered construct of time that has the potential to inspire public and individual memory within the urban context.

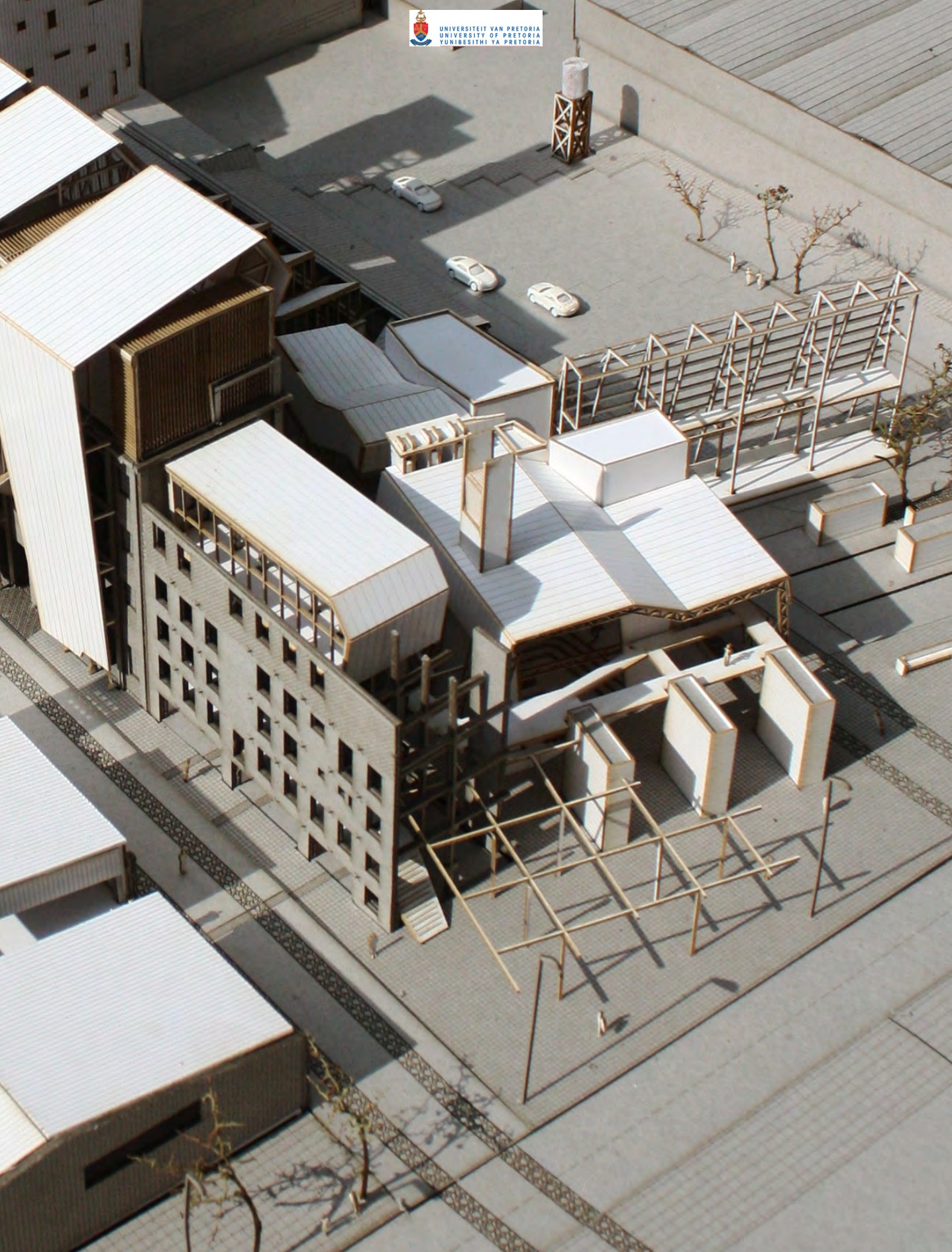
The design of the building allowed for a unique exploration of architecture with reference to memory, time, experience and imagination. It has been established that memory takes root in the concrete, in spaces, images, objects and sensations – placing emphasis on the craft of space. Consequently, the techné of the architecture bears forth meaning and inspires memory through authentic existential and experiential space.

As illustrated by the theoretical premise of Artisan Mechanics, fundamental elements of architecture and fragments of the past can be re-assimilated and layered into a meaningful ensemble. The architecture enters into an open dialectic of remembering and forgetting, thereby embracing the evolutionary nature of memory. The outcome is a highly palimpsestual assembly – convoluted in its complexity. Nevertheless, the architecture remains a work in progress, open for reinterpretation and re-evaluation in the future.

The exploration of the sense of olfaction invites rituals of remembrance through activities and augmented events of the everyday. Activated by kinaesthetics, the design becomes a novel interface between the public, the artisan, memory and imagination. It creates a new realm for the artisan in the highly evocative setting of the wasteland, inspiring creativity and fostering a collective memorial through everyday use.

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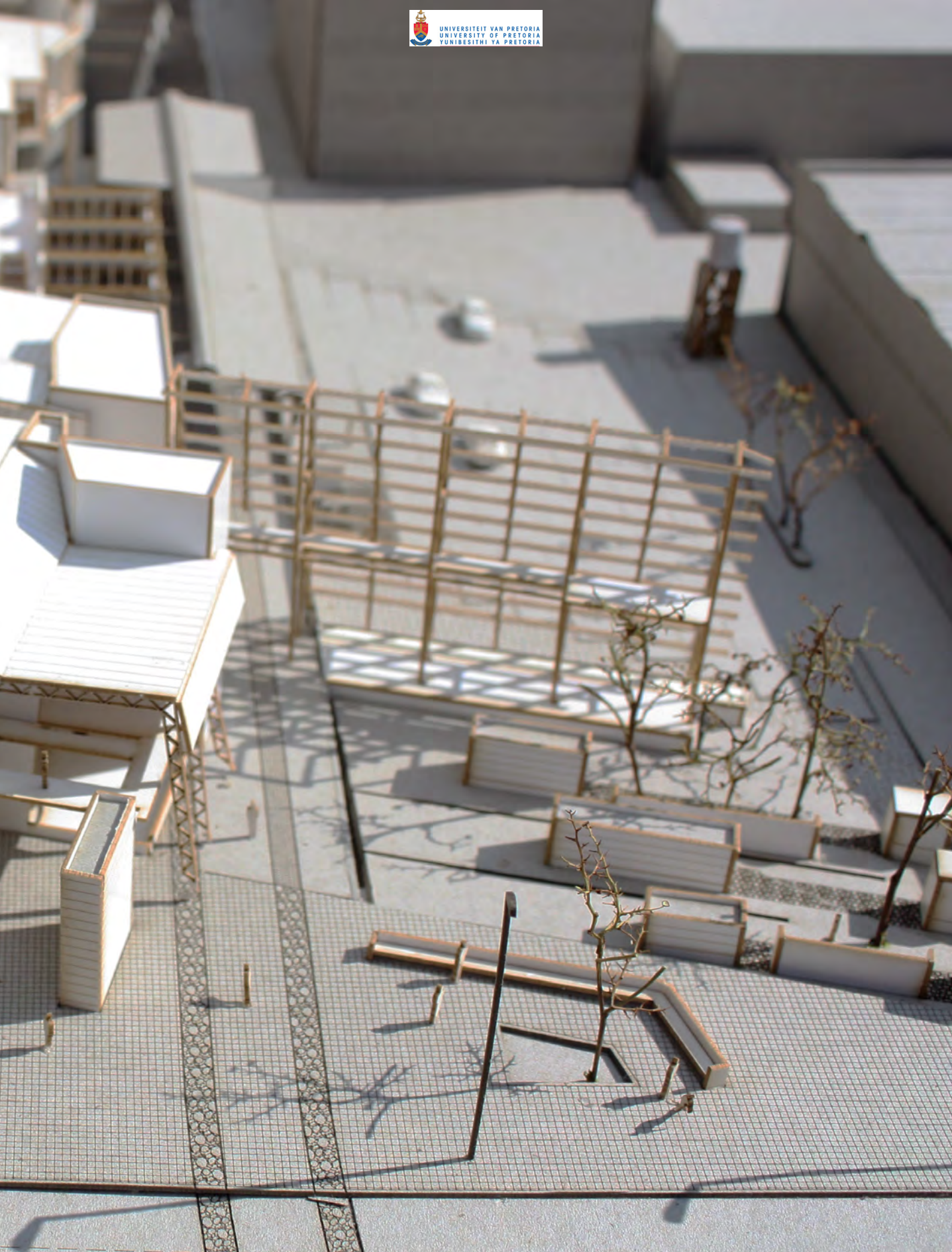



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In accordance with Regulation 4[e] of the General Regulations [G.57] for dissertations and theses, I declare that this thesis, which I hereby submit for the degree Master of Architecture [Professional] at the University of Pretoria, is my own work and has not previously been submitted by me for a degree at this or any other tertiary institution.

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

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



Norbert Koch

October 2012