



To our parents,  
and theirs.



VOLUME IV:  
**AT JEPPE**

fostering an approach toward placemaking in the  
South African metropolis through the metamorphosis  
of a place of gathering.

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Submitted in partial fulfilment of the requirements for the degree of  
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Heritage & Cultural Landscapes

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## PREAMBLE

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This is a six-part investigation. It is comprised of the urban mapping, landscape intervention, and four architectural interventions. These are:

- VOLUME I:** Jeppeshtown: A Prospect Ritual  
by Muhammad Dawjee, Albert Smuts,  
Kristen Steynberg, Gert van der Merwe  
and Charldon Wilken
- VOLUME II:** Landscape Laboratory  
by Charldon Wilken
- VOLUME III:** Jeppeshtown: Fragrance Factory  
by Gert van der Merwe
- VOLUME IV:** **At Jeppe**  
by Muhammad Dawjee
- VOLUME V:** Construction Upon Experience  
by Albert Smuts
- VOLUME VI:** Private Rituals, Public Selves  
by Kristen Steynberg

## APPROACH

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The aim of this investigation is to explore a multi-disciplinary approach to intervention in an existing urban landscape which would enable a more integrated approach to the design, as well as a holistic understanding of the possible connections between urban spaces. The urban vision is a joint undertaking, followed by the landscape project, which forms the base on which the four architectural projects are situated.

Due to the nature of this urban landscape, the approach includes all realms of the built environment: sustainable design; urbanism and urban settlements; and heritage and cultural landscapes.

This specific project *Volume IV: At Jeppe* focuses on the integration of heritage and cultural landscapes through the metamorphosis of a place for gathering.

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“The real ‘award’ will be when design speaks to the lowest common (human) denominator.”

Dr. Finzi Saidi

Saidi, F., Landscape architect.  
2014. Personal interview, 7  
August, Durban.

*Figure A.1. Life at the margin,  
Zandspruit, Johannesburg,  
(Author 2014).*

## PREFACE

### abstract

This dissertation investigates the transformative possibilities inherent in a contemporary urban artefact in Jeppestown, a significant historical suburb dating back to the settlement of early prospectors who sought a precious yellow metal beneath the red earth of a treeless veld.

On this veld today stands the City of Johannesburg.

The Johannesburg metropolis is scarred by the intersection of differences between those who have inhabited its streets. It has endured these differences and become a part of them through the multiple generations of its lifetime. Jeppestown or *Jeppie* to its residents, endures today with latent markings of apartheid as a transitional industrial buffer area west of the Johannesburg Central Business District (CBD). Jeppie exists today as a piece of this narrative and is one of the longest threads in the chronology of the habitation of the greater Johannesburg city.

Imminent threats of gentrification and signs of poorly considered urban renewal schemes aimed at the transformation of public space in Jeppie provoke the following questions: What is the potential role of Jeppie within the greater metropolis? And how could the transformation of urban form in this context, through the act of design, begin to transform its potential value,

meaning and significance as a place of belonging and becoming – to both those who currently inhabit it and the greater population of the fluctuating metropolis that surrounds it?

The proposed intervention is situated in the vicinity of Jeppie market and train station. It forms a part of an investigative framework of architectural and landscape interventions along a regenerative urban spine that connects the station square to Gilfillan Park (Jeppie Park). The objective of the framework is defined as the conditional amplification of extant rituals, negotiated territories and lives & deaths through the introduction of responsive and constructive spatial interventions and the reconciliation of these with the existing fabric.

Jeppestown is the subject of this inquiry and intervention, yet its post-apartheid predisposition in the urban context is not exclusive. The intention of the study through design is to postulate and identify a manner of working within the means of the architectural discipline, that itself is aligned with the endeavour of fostering an approach toward place making in the contemporary South African metropolis.

This text serves as a record of events that have unfolded through the thoughts, actions and adopted processes for the design and investigation of a transformative urban artefact manifested as a social club in Jeppestown, Johannesburg.

- 
- A** GROUNDED THEORY  
provoking the african city
  - B** HISTORICAL STUDY  
jeppe in johannesburg
  - C** CONTEXTUAL DESIGN  
a becoming morphology
  - D** AT JEPPE  
a social club
  - E** CONDITIONAL AMPLIFICATION  
reconciliation by construction

*Figure A.2. Dissertation outline (Author 2014).*

The dissertation investigation and proposed intervention are informed and guided by the following facets:

A. An interpretation and narrative of grounded theoretical informants centred around and related to contemporary speculative discourse, provoking the disciplines of architecture and urbanism in the African city.

B. A historical study of the genesis of Jeppetown within the context of Johannesburg, and the identification of significant events that have contributed to the development of its current social character and urban form.

C. Contextual studies of ritual, typological and ecological values identify how these intersect on the particular site. These are mapped as a series of morphological rubrics that provide an insight into the current morphology of the selected site within its context.

D. An introduction of a new programme that intersects with and provokes the identified morphological tendencies on and around the site. The social club accommodates spaces necessary for public engagement with the site and provocation of place and meaning through their collective access to urban space. It is also related to a historical narrative of inclusive public engagement with the City of Johannesburg, as illustrated through historical readings of the Bantu Men's Social Centre.

The proposed centre accommodates a canteen, a library, a community meeting chamber and an auditorium.

E. The site is a factor of the premise of the conditional amplification of public space along John Page Drive, as identified in the framework (Dawjee, Smuts, Steynberg, Van Der Merwe, & Wilken 2014). It is surrounded by significant heritage structures and is a critical point for reconciling the values of this fabric through the establishment of a series of constructive spaces that would amplify the experience of the everyday social encounters of the community of Jeppetown. ■



## INTRODUCTION

The South African landscape is characterised by a series of socio-spatial realities that have evolved throughout its history by the hand of agents - from the habitation of indigenous peoples to colonial throughputs and simultaneous vernacular genesis. This evolution collectively culminates in the diverse spaces of meaning & representation that collectively manifest within cities of post, post-Apartheid South Africa.

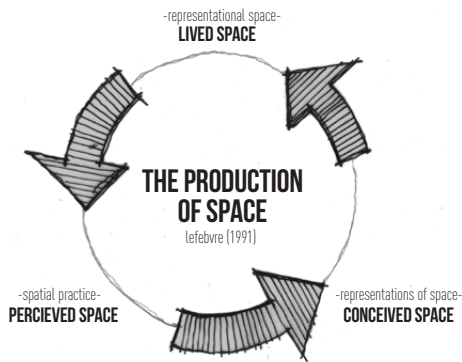


The resultant spatial complexity thereof potentially paralyses the reading of moments within this landscape, and an ability to access the understanding required to act as an agent of its metamorphosis is often not achieved. Designed urban space in this context is devoid of meaning and dislocated from potentialities for new ways of appropriation by its subjects\* through their practices of everyday life.

\*Lefebvre (1996: 188), as cited by Borden, Kerr, Rendell & Pivaro (2002: 46), use the term subject to suggest a body of social construction not akin to the marginal user or inhabitant. The idea of activity is not a question of localising in a pre-existing space, need or function, but rather of spatializing a social activity linked to the whole by producing an appropriate space.

This introductory statement is the departure point for a critical inquiry into the making of place in our landscape as recorded through the investigation, design and development of a contemporary social centre in the City of Johannesburg. It informs and is reciprocally informed by a narrative of theoretical, contextual and conceptual informants that establish the basis for the body of a postulatory design intervention, and the subsequent theoretical reflection thereof undertaken intermittently throughout the course.

*Figure A.3. Dislocated public space, Mary Fitzgerald Square, Newtown, Johannesburg, (Author 2014).*



The aforementioned narrative informants can be summarised as follows:

A. Theoretical informants - selected literature and case studies are categorically identified under one of the following narrative sub-headings: 1. Dystopia & fluites – imagining the African citiness of Johannesburg; 2. Layers of a landscape – morphological roots & stems; and 3. Mutations – conceptions of space in the African city.



B. Contextual informants – these are primarily based upon the intentions identified in the investigative framework for Jeppestown. The intentions are reinforced in this particular investigation through a reading of the development of Jeppe and its context as a historical text. This is done by using generational studies of ritual and place influences by its public and the significant historical events that have collectively shifted, and continue to shift, its characteristic morphology.



C. Conceptual informants – these indicate possibilities for synthesis of the theoretical and contextual informants. They conceptually structure the investigation of the intervention and move beyond the analysis and understanding of the prior informants and toward their analogical design interpretation. The conceptual informants begin to articulate the commentary of the intervention on the introductory statement.

The reciprocity of the aforementioned statement and the selected informants is paramount to the development of the outcome of the dissertation as a text, narrating the investigation of new possibilities for the making of more appropriate places for people in the landscape. The investigation, from the outset, is therefore not intended to illustrate a singular conclusive intervention that merely solves the issues identified in the introductory statement. The dissertation is, however, structured and intended to comment on the discourse and discipline, and illustrates one particular possibility for transformation in a landscape that is in the interminable process of revealing itself to its people.

*Figure A.4. The Production of Space (Lefebvre 1991) as a tool for understanding productive urban space, (Author 2014).*

*Figure A.5. Johannesburg - underneath the image, (Author 2014).*

*Figure A.6. Narrative intersections - looking through a theoretical lens, (Author 2014).*



## research intentions

The research intentions are posited as a series of statements that relate to issues informed by the contents of the introductory statement and the selected narrative informants.

### main intent

place making in the contemporary south african metropolis

Making places in the urban environment could potentially resonate with a holistic understanding of the greater urban landscape and its morphology.

### urban issue

reading the potentials of the morphology

Contemporary urban life could holistically become facilitated by an architecture of place in the City of Johannesburg.

Recent architectural efforts for urban metamorphosis in Jeppestown are ungrounded by the potentials of the surrounding urban morphology.

### architectural issue

informing metamorphosis

Public architectural typologies within this landscape should exercise their potential agency for *informing* a metamorphosis of the existing morphology and new ways of appropriation by its subjects.

*Figure A.7. Locating the self within the city, (Author 2014).*

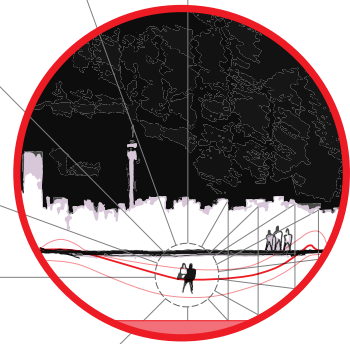
*Figure A.8. Establishing a network of articulated places, (Author 2014).*

*Figure A.9. The metamorphosis typology, (Author 2014).*

### main intent

place making by curating  
the morphology of the landscape

Place is made by creating an urban space  
architectural mechanism that interfaces  
with the greater morphology.



### urban intent

scripting a contemporary metamorphosis  
of the metropolis

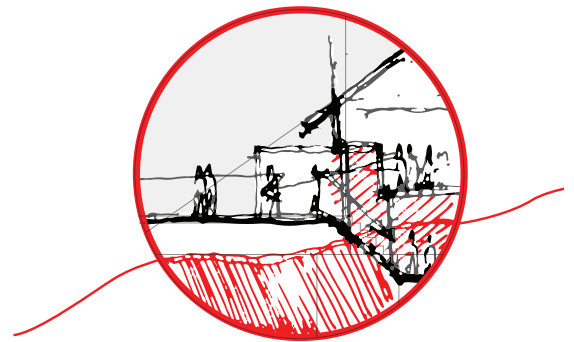
Unpacking relationships between place  
as a space of enabling modality and the  
morphology of the landscape to anticipate  
future metamorphoses.



### architectural intent

forming a space of enabling modality

An enabling space is opened through  
intervention based on a reading of  
the morphology that establishes new  
directions for future metamorphosis of  
the urban landscape.



## main intent

place making by curating  
the morphology of the landscape

*Morphology* is defined as the study of the changing structure of an architectural formation in response to different conditions such as time/function or relationship of form to extant typologies. Morphological research therefore deals with the basic structure of a building or urban footprint by reductive mapping (Bowkett & Porter, 2004: 100).

An extension of this definition for the purposes of this dissertation is that the morphology of a place is not only independently related to the analysis of an architectural formation, but rather exists as a result of a relational intersection of embedded typological, ritual and ecological values observed and interpreted in a particular context. A current reading of these intersections, based on observations of people and ritual activity on site, is represented as illustrative rubrics of this morphology – subjective impressions of an evolving overall morphology of place in Jeppestown.

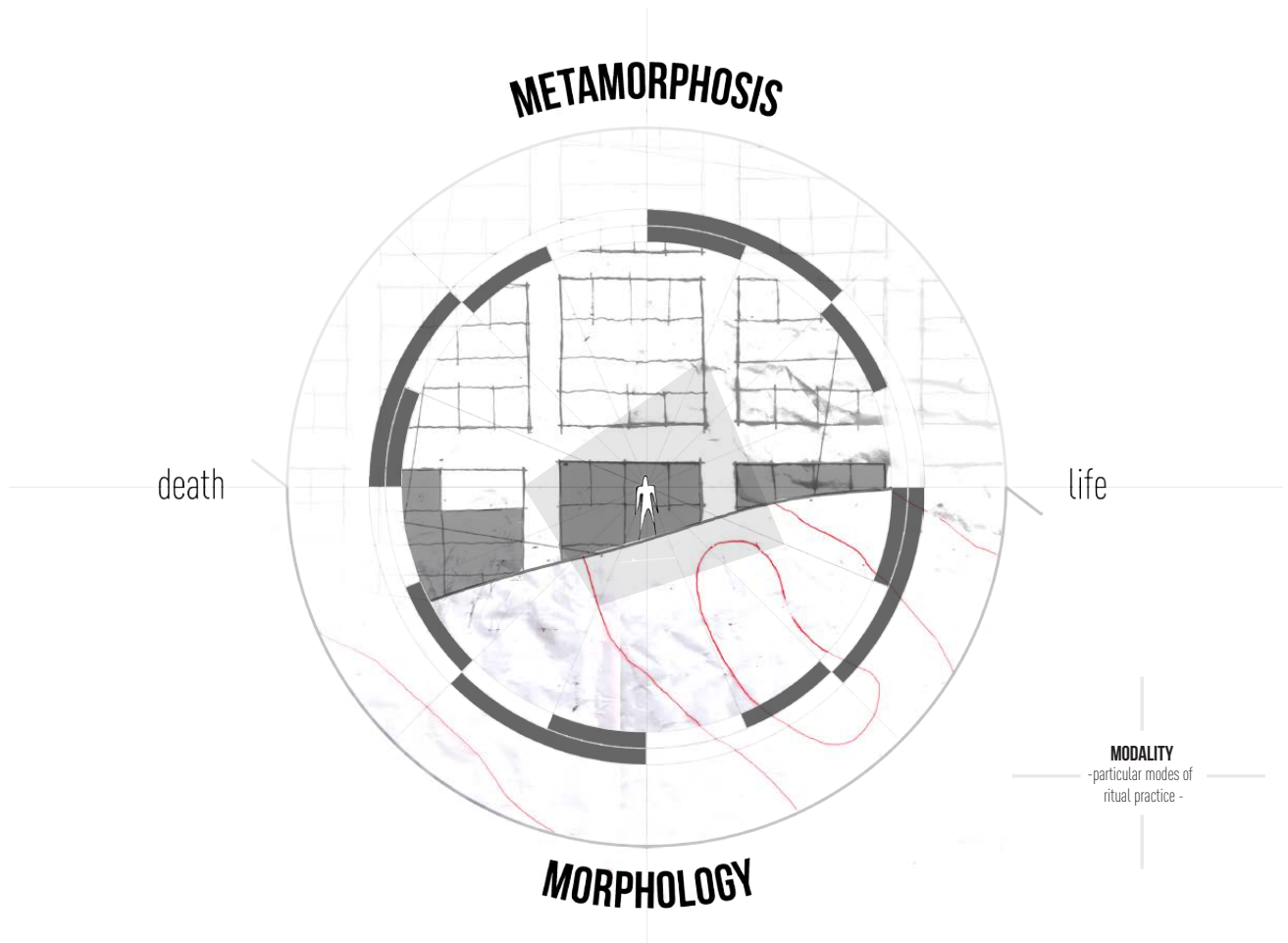
This understanding of morphology invites a parallel exploration of the notion of the city as locus, defined by Rossi *et al.* (1982: 103) as a relationship between a certain specific location and the buildings therein which is at once both singular and universal.

This notion is augmented by and related to the engagement of citizens in the life of the city when considered in conjunction with the following statement:

“One can say that the city itself is the collective memory of its people, and like memory it is associated with objects and places. The city is the locus of the collective memory. This relationship between the locus and the citizenry then becomes the city’s predominant image, both of architecture and of landscape, and as certain artefacts become a part of its memory, new ones emerge. In this entirely positive sense great ideas flow through the history of the city and give shape to it” (Rossi *et al.* 1982: 130).

This investigation intentionally engages an integrated understanding of the described notions of morphology and locus. Drawn morphological rubrics (illustrated tendencies of the morphology of the particular site) are micro-representations of a locus of collective memory permeating the specific context of Jeppestown.

The main intention of the dissertation is informed by a notion of cities existing as embedded entities within the landscape of their origin, and that any change to this fabric acts in the context of its entirety. This conception, when considered with a spatial design bias, lends itself to an inquiry into the physical making of cities and an understanding of their morphology.



The issue that this addresses is that the act of making places in the urban environment could resonate with a holistic understanding of the greater urban landscape and the particular characteristics of its infinitely evolving morphology.

A supposition is that this selectively curatorial approach could facilitate a better degree of engagement with the city by its subjects: enabling their inherent ability to read its text and write their own being into its narrative, its morphology, and the locus of a collective memory.

*Figure A.10. Main intent - place making by curating the morphology of the landscape, (Author 2014).*

## urban intent

scripting a contemporary  
metamorphosis of the metropolis

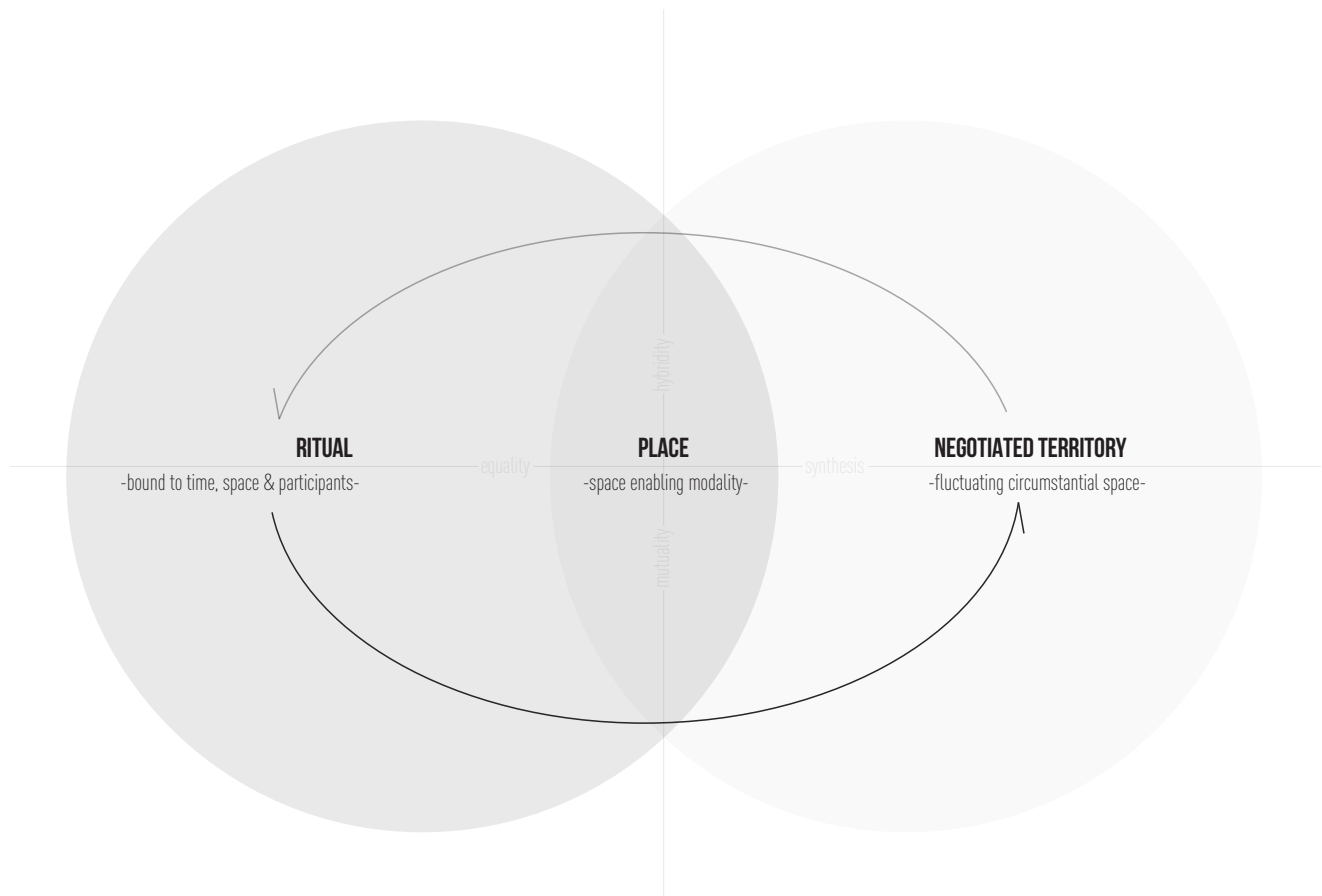
The mapping of Jeppestown and the intentions of the investigative framework as framed by the following lenses: rituals, negotiated territories, and lives & deaths, resonate with the urban intention of this particular investigation and intervention.

The concept of *place* in Jeppe is, on the one hand, conceptually seated between the ritual spaces of the everyday which are bound to a consistency of time, space and participants, and on the other hand to the negotiated territories of the public realm. These which are fluctuating circumstantial spaces not bound to time and specific participants, but are lived out through chance encounters and choices in the daily lives of those who inhabit and commute through these spaces. An example of a ritual occurrence in Jeppe would be the daily commute of an employee who uses the train and engages in a daily encounter with a newspaper trader, who himself is a ritualistic subject of the space for the purposes of his business. A related series of negotiated territories might be the spaces used by the commuter as he pauses and reads the newspaper intermittently throughout the rest of his journey, perhaps searching for the final score of a football game or scanning the classifieds for a sale. Place for the people of Jeppe fluctuates between these two poles and it is this conceptual area that is interrogated through the investigation.

It is posited that the conception of an appropriate place in this context can be described as one of an enabling modality. This relates to an amplification of extant rituals and the promotion of negotiated territories as mapped and described in the investigative framework.

Modality is defined by The Compact Oxford English Dictionary (2006) as a particular mode in which something exists or is experienced or expressed (The Compact Oxford ... 2006, sv 'modality').

This definition is conceptually extended when applied to the modes of any particular ritual interaction by an individual subject. These interactions are posited as either perceptive, receptive, expressive or indifferent. They are not mutually exclusive. A ritual interaction between subjects can therefore be composed of many modes that sequentially follow one after another. It is the conceptual amplification of these modes of ritual interaction between individuals participating in urban life that forms the basis of an enabling space that itself enables the development of place – the desired outcome of this contemporary metamorphosis within the metropolis.



The issue that this intention seeks to address is that contemporary urban life could holistically become facilitated by implementing architectures of place in the City of Johannesburg. Recent architectural efforts for urban metamorphosis and transformation in Jeppestown are not grounded in the potentials of the surrounding urban morphology and do not create enough opportunity for public engagement with the city.

The investigation addresses this issue which will be substantiated and detailed in the contextual study (Chapter 2 – *In Jeppestown, and Jeppestown In*).

Figure A.11. Urban intent  
- scripting a contemporary  
metamorphosis of the  
metropolis, (Author 2014).

## architectural intent

forming a space of an enabling modality

Rossi *et al.* (1982: 118) refer to a notion of the urban artefact as a constituent rather than a continuation of urban form and state that, in order to resolve a part of the city in a complete way, this constituent should be interpreted fully by determining all relationships that can be established with respect to any existing artefacts. An approach suggested by Rossi *et al.* (1982: 118) is that the formulation of a building - in which the architectural dynamic prevails fundamentally in the form - responds to the nature of urban artefacts as they really are. The forms therefore go beyond the functions that they are intended to serve and themselves craft new possibilities for appropriation and meaning in the urban context.

Upon the initial encounter with Jeppestown and its intersection of a priori architectural interests (that form the basis of the articulation of the introductory statement and its related informants), the following question is garnered: How can a new manifestation of an urban artefact in this context, through its own physical existence as an act of metamorphosis of place, add value to the lives of the people that negotiate its limits? The conception of an enabling space, with a biased perspective toward observed and experienced rituals (and their modes of interaction - as aforementioned), suggests that in this particular context such a manifestation should inform the creation of a space that better enables these modes of ritual interaction between one human being and another.

This can be achieved through the manner in which the metamorphosis interacts with the extant urban landscape and the latent possibilities that it currently allows for its subjects. The new insertion therefore emerges from an interpretation based on the reading of the current morphology and establishes new directions that might inform future metamorphoses.

This addresses the issue of whether public architectural typologies within loci of our current landscape can and should exercise their agency for informing a metamorphosis of an existing morphology, and thus create and activate possibilities for new ways of appropriation by its subjects.

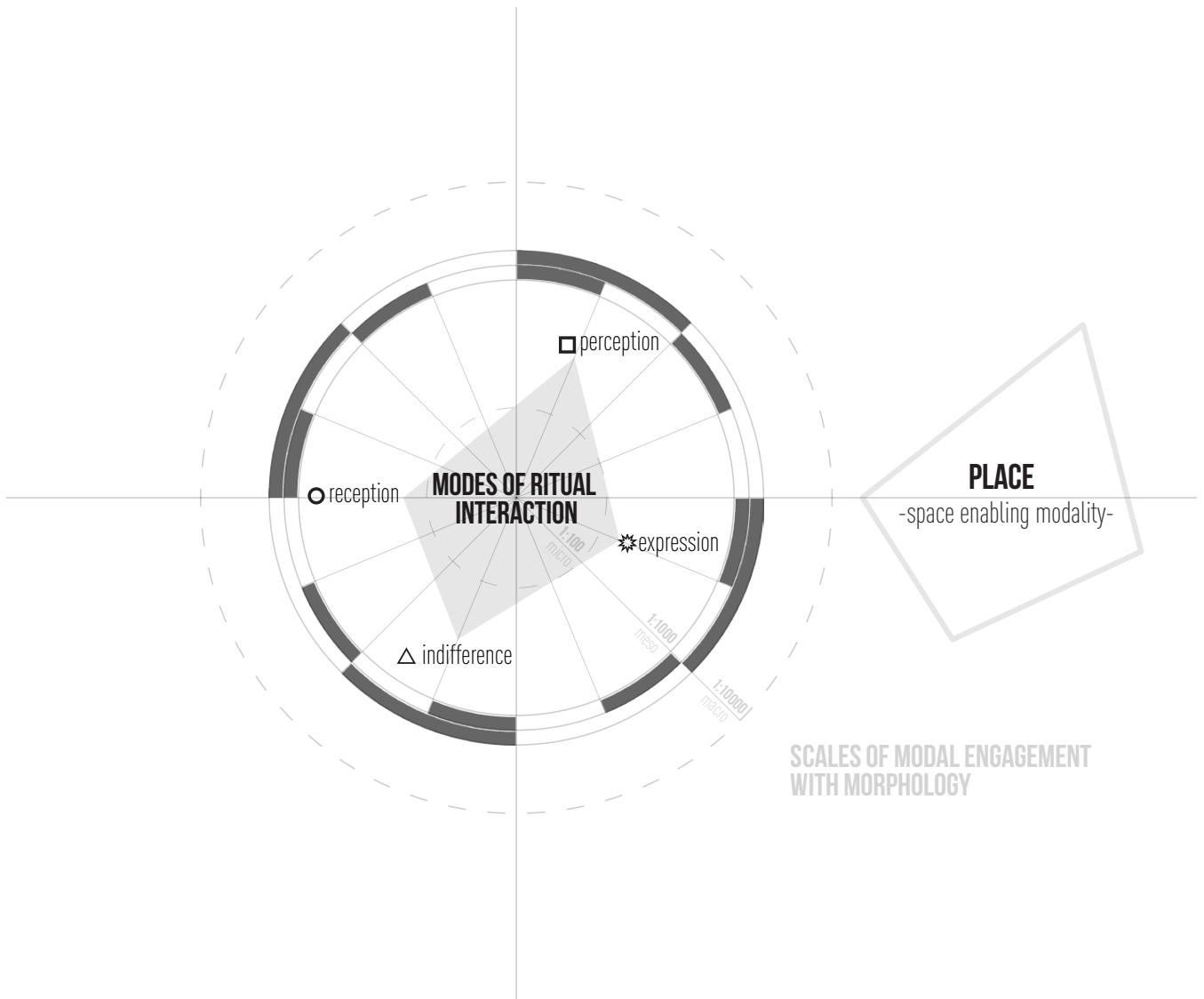


Figure A.12.  
Architectural intent -  
diagram of potential  
morphology-mode  
relationships,  
(Author 2014).



## methodology

1. A critical reading and mapping of Jeppestown entailing desktop studies of current news, urban framework proposals and literature, together with on-site groundwork mapping as detailed in the investigative framework.
2. The development of an urban vision proposal as illustrated in the investigative framework. This projects the architectural and landscape proposals 10 to 20 years into the future of Jeppestown in the context of the developing City of Johannesburg, and creates departure points for the remainder of the investigation.
3. Additional on-site research through photographic analysis and informal discussions with local community members set baseline information for understanding the context. The focus here includes: extant fabric (form, condition & appropriation) and a general understanding of the array of users of the site and their associated networks.
4. The formulation of a general introductory statement and associated categories of related informants. Furthermore, issues derived from the introductory statement and associated theoretical departure points are fleshed out to arrive at the general, urban and architectural intent statements that then serve to guide the remainder of the investigation.
5. Limitations and delimitations of the study are identified and listed in terms of the pragmatic objectives of the design investigation within the framework of the academic dissertation.
6. The substantiation of theoretical, contextual and conceptual informants is done through the study of pertinent literature. This methodological outline of the desktop study is loosely based on the typology of a 'grounded theory' framework – in this instance the author works through the material on many levels and at times simultaneously to extract emerging concepts from parallel thoughts and ideas linked to the general research intentions of the investigation. Qualitative analyses of pertinent case studies form a part of this outline.
7. A historical study of material focusing on the habitation and community of Jeppestown (and Johannesburg city), conducted at the University of Witwatersrand *Historical Papers Research Platform*, serves to ground the intervention in time. The resultant narrative is a qualitative interpretation of the genesis and evolution of Johannesburg and Jeppestown, substantiated primarily through newspaper clippings and photographs

8. The design investigation as the synthesis of studied material and the reflection thereof constitutes an experimental and qualitative component of the research conducted by means of hand drawings, models, photographs and intermittent precedent studies. This projective outline is largely subjective and is intended to be a process driven by intuition and the reflection thereupon that sequentially allows the formulation of (what may conventionally be considered) a design response.

As noted by Frampton (1996: 21), a fallacy of the architectural thesis is that it is supposed to validate a supposition derived from research; however, an enormous gap exists between the descriptive level of research and the postulative synthetic character of the project. Frampton (1996: 21) questions the misinterpretation of architecture as an applied science. This methodological outline deliberately situates the investigation of an intervention within this discourse.

9. The technical investigation is an extended arm of the aforementioned point and a similar methodology is applicable, becoming however more specific and grounded in addressing the manifested intentions of the design project and their practical considerations in the context.

10. A significant component of the dissertation – due to the inevitable blurring of research and analysis informants that cross pollinate and infect the final design – is the reflective discussion on the sequential development of the initial intent and its manifestations through its physical unpacking (design). This ties the narrative into a series of concluding remarks and suggestions for future investigations.

The final outcome arrives at a theoretical methodology (a manifesto derived from this manifestation) for the practice of public place making in the City of Johannesburg and by extension - the South African Metropolis.

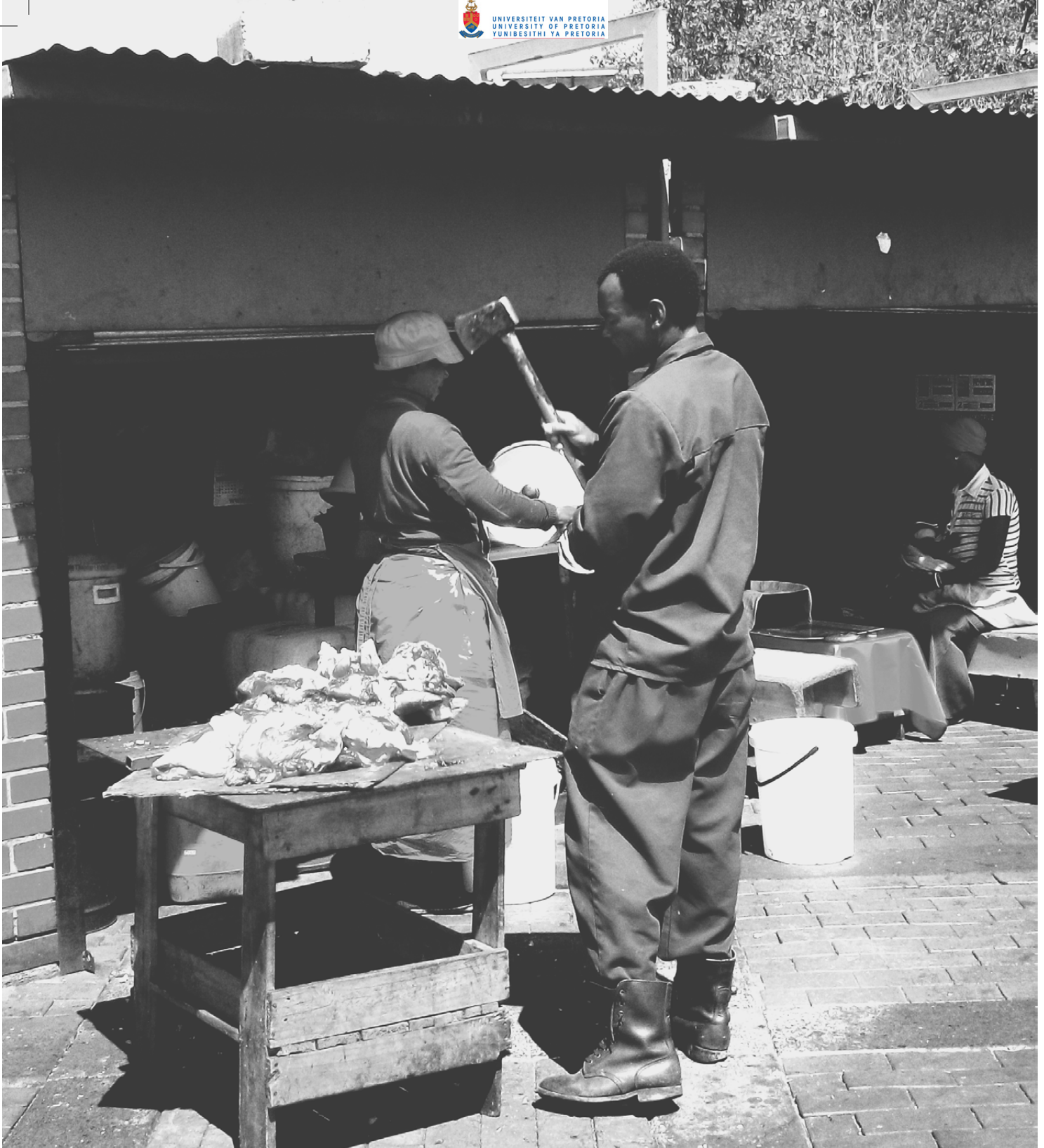
## limitations

1. The singular synthesis of research and design based largely (although guided and informed by peers and mentors) on the personal experiences and manner of the author.
2. The nature of speculation and theoretical design investigations (on paper) means that the real world validation of established concepts is unrealistic and mostly impossible.
3. Considering the number of aspects derived from the introductory statement that require research, study and internalisation for critical and intuitive application through the design investigation – time becomes a factor potentially limiting the depth of the dissertation.

## delimitations

1. The exclusion of quantitative ground research and mapping for the identification of community specificities due to limitations of time. Such information is available through independent studies and census data.
2. The investigation is seated upon questioning and investigating the extended possibilities of place making through architectural form and is framed by recent and contemporary mainstream methods of architectural production. This dissertation will not be addressing issues of incremental practice and alternative architecture for developing communities.
3. The selection of the programme is a reasonably appropriate vehicle for the design investigation of the statements of intent. The dissertation excludes an extended investigation into progressive or experimental programs for the specific context. In this regard, the selection of the programme is deliberately secondary to the architecture and its making.
4. Due to time limitations and the intent of the investigation, the detailed study of cultural particulars and specificity of their inner workings are excluded.

The intervention addresses an abstract conception of a fundamental human quality of life based on a subjective experience of the site. This quality is intrinsic to any locus and not bound to race, gender, culture or class. It stems from a belief in the capacity of design as a form-making process to augment a fundamental quality of life by opening up a space wherein a diverse community can serve itself. ■



*Figure 1.1. Station market  
- John Page Drive  
(Author 2014).*

# 01

## NARRATIVES FOR UNDERSTANDING

theoretical informants

An unpacking of selected theoretical informants  
that create a canvas for the design investigation.

### 1.1. **DYSTOPIA & FLUITES**

imagining the African citiness of Johannesburg

### 1.2. **LAYERS OF A LANDSCAPE**

morphological roots & stems

### 1.3. **MUTATIONS**

conceptions of space in the African city

### **case study 01**

Johannesburg Metro Mall, Newtown, Johannesburg

### **case study 02**

Baragwanath Transport Interchange & Traders  
Market, Baragwanath, Soweto

### **case study 03**

Walter Sisulu Square of Dedication, Kiptown,  
Soweto

### **case study 04**

Warwick Junction Project, Warwick  
(Brooke Street Central Market), Durban

## 1.1. DYSTOPIA & FLUITES

### imagining the African citiness of Johannesburg

The deterministic and absolutist utopia is a figment of poor imaginations. Its packaged hierarchy and hygienicised aesthetic is no longer visionary but has become falsely ambitious. The utopia exists only through its renderings of the past and, although valuable as an ideal – leading its seekers from somewhere ahead – the relentless pursuit of its purist outcomes somewhat neglects the complex realities that the homogenised aesthetic of its representation tends to ignore. Human beings, collectively, do not work that way.

However, it is acknowledged, as noted by Prakash (2010), that even if we do not always realise it, visibility is integral to our knowledge and practice; and it is thus that the image of the city imperceptibly becomes the imagined space in which we live. This phenomenon illustrates an intersection of urban place making approaches where the anticipated image of the utopia meets the reality of a lived bodily experience. It is at this intersection that the threshold to rethinking and re-imagining the making of the future African city is located.

Nurse (2013: 3) states that Stephen Hobbs's\* view on the dystopia indicates abundance rather than oppression, informing spatial topographies that evolve and adapt at intersections of difference, complexity, opportunism and irony. Similarly, Simone (2009: 7) states

that a place showing its wears and tears, memories, and what people have done to it is a place that is open to engagements of all kinds, and that this has been the way that most African residents have been able to be mobile – and therefore enabled. This apparent disorder of the current morphology of the African (and particularly the South African) city and its emergent spatial and architectural qualities is yet to be unpacked and represented through the practice of place making.

Mbembé & Nuttall (2004: 353) use the term 'fluites' to define conceptual ruptures in discourse, which may begin to open up new ways of thinking about the contemporary city. With this in mind, this investigation entails a study aimed at the identification of such ruptures within contemporary spatial discourse (through case study) and the identification of current manifestations within the landscape (as interpretations of the site condition in the contextual study).

Fluites (within the context of this dissertation) are posited to exist at the intersection of social, spatial and economic differences to which innovative spatial discourse and practice should apply. These spatial conditions that emerge from a critical reading of the landscape are not intended for simply re-imagining the making of the African city comparatively with Western thought and precedent (albeit difficult to achieve due to embedded personal and academic encounters). They are rather intended to stimulate innovative hybrid imaginings of the city, derived from its inherent values, and the subsequent creative spatial mutations of a form of practice that accompanies its unique identity.

\*Stephen Hobbs is an artist and urbanist who has since 1994 focused primarily on the City of Johannesburg as a tool for understanding the complexities, contradictions and potentialities inherent in the relationships between people and the built environment. His latest body of work, titled *Be careful in the working radius* [2013], can be viewed at [www.davidkrut.com](http://www.davidkrut.com).

And in doing so, they foster an understanding and a sense of belonging and place through the relationship of the site's identity to its local geographical and global context.

Massey (1995: 182-92), as quoted by Murray (2011: 44), notes that identity is always constructed of social relations not only intrinsic to the local itself but linked to other places – to the geographical beyond, the world beyond the particular site itself.



*Figure 1.2. Narrative intersections - looking through a theoretical lens (Author 2014).*



## 1.2. LAYERS OF A LANDSCAPE

### morphological roots & stems

Simone (2009: 7) notes that within cities of the Global South, physical and social architectures have a certain kind of compatibility, and that both appear incomplete where the lines dividing construction and ruination are ambiguous. In light of this, it can be noted that the development of African space takes on a morphological nature that is by no means definite but rather in a constant state of multi-faceted dynamism.

Simone (2009: 7) elaborates upon this – with specific reference to the economic modalities within such spaces – that their collaborations, calibrations and interdependencies are so intertwined that conventional tools of regeneration, agglomeration and regulation would likely disrupt their functioning altogether. It can be noted that this absence of categorization leads to a plurality of local economies, that results in an urban heterogeneity of highly opportunistic “manoeuvres and tensions balanced upon a dynamic egalitarianism that no one individually has the power to define or measure” (Simone 2009: 8-9). The demonstration of such intersections is reiterated by Simone (2009: 9) as a key for understanding the relations and forces acting upon the city.

Within this cacophony of social, economic and largely political moves, the empowerment of the individual and collective subject through the measures available to the built environment (and in this particular case architecture) is difficult if not impossible to achieve.

Purcell (2002: 102), as quoted by Jansen van Veuren (2008: 115), argues for an understanding of a ‘right to the city’ which focuses on the rights of urban inhabitants to be involved in the processes that shape the spaces in which they live out their lives: “Under the right to the city, membership in the community of enfranchised people is not an accident of nationality or ethnicity or birth; rather it is earned by living out the routines of everyday life in the space of the city”. This phenomenon informs and directs the current investigation toward an understanding of such routines within the context of Jeppestown, and their spatial manifestations through the social activities of its subjects.

This informs the intention to investigate the possibility of forming a space of an enabling modality through the intervention - wherein richness, depth and potential are introduced by the spatial articulation of extant and introduced rituals.

The subjects who act upon their 'right to the city' form a significant social layer of this landscape and ultimately inform their own metamorphosis. Architecture is suggested as forming a part of this process wherein the spatial mechanism serves the subject as an instrument for negotiating the limits and layers of the landscape. An architectural event is the primary metamorphosis that sets the scene for possibilities for future metamorphoses of the landscape by its subjects.

The morphological nature of the African city posited above informs an inquiry into the genesis and evolution of the particular morphology of Jeppestown in the context of Johannesburg city. It questions whether a contemporary (primary) metamorphosis of this reading of intersections could over time manifest in the creation of a place appropriate for its people.



*Figure 1.3. Johannesburg -  
underneath the image  
(Author 2014).*

### 1.3. MUTATIONS

#### conceptions of space in the African city

The notion of absolute space, as influenced by characteristics of the utopian model and its subversive influence on the current spatial conditions of the African city, are investigated through a layered application of theoretical notions discussed below.

Van Rensburg & Da Costa (2008: 45) propose the contestation of a fixed interpretation of space, advocating for a reinterpretation of spatial understanding (that inevitably influences the way spaces are made). Massey (2005), as quoted by Van Rensburg and Da Costa (2008: 45), proposes the following for achieving such: The recognition of space as a product of interrelations; the understanding of space as a sphere that allows for the existence of multiplicity; and to acknowledge space as always in a state of incompleteness and being made. These suggestions complement the fostering of an alternative perspective on a conception of space within our context.

This perpetual state of becoming, as a critical characteristic of space, is illustrated through the evolutionary historical and a contemporary reading of mutating spatial conditions in Jeppestown. Lefebvre (1991: 101-2) describes space as a historical production that is simultaneously the medium and the outcome of social being. Space is considered as a social reproduction, for each epoch produces its own (mutated)

understandings and experiences.

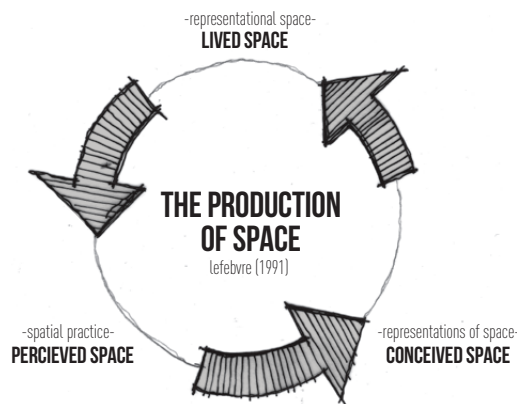
*The Production of Space* by Lefebvre (1991), and its intersection with the aforementioned theory, becomes a critical text for unpacking an alternative way of understanding to inform an act of architectural metamorphosis within the African city through design.

In *The Production of Space*, Lefebvre (1991) primarily articulates the following concepts: perceived space, illustrated through spatial practices; conceived space, illustrated through representations of space; and lived space, also known as the representational space. These form the basis for unpacking the selected case studies through drawing and photographic analysis. The sites selected for study are post-apartheid projects that, by nature of their location and subjects, were likely intended as new transformative manifestations of public place for the Republic of South Africa.

*Figure 1.4. The Production of Space (1991) as a tool for understanding productive urban space - facing page - (Author 2014).*

They are the following: Johannesburg Metro Mall, Newtown, Johannesburg, by Urban Solutions Architects & Urban Designers, 2003<sup>1</sup>; Walter Sisulu Square of Dedication, Kliptown, Soweto, by StudioMAS, 2005<sup>1</sup>; Baragwanath Transport Interchange & Traders' Market, Baragwanath, Soweto, by Urban Solutions Architects & Urban Designers, 2006<sup>2</sup>; and the Warwick Junction Project (specifically the Brooke Street Central Market), Warwick, Durban, 1996<sup>3</sup>, by City Architects.

Criteria for their assessment, based on subjective observation and interpretation, is derived from the concepts of *strategy and tactics* proposed by De Certeau (1988). From this text, *strategies* can be understood as measures or limits instituted by structures of power as producers, i.e. government or a capitalist agency. *Tactics*, however, are the measures employed by individuals who are consumers and actors - constantly negotiating their own agendas and free will through the implemented strategies.



The selected case studies are therefore firstly analysed and understood through the terminology established in the production of space, and secondly in terms of their actual value to people. This cumulative assessment of each project is concluded as either: *a productive space* illustrating characteristics of strategy that through its spatial articulation accommodates and complements observed tactics; or *an unproductive space* that in contrast illustrates a hostility between implemented strategies and negotiating tactics.

<sup>1</sup>Deckler, T., Graupner, A. & Rasmuss, H. 2006. *Contemporary South African architecture in a landscape of transition*. Johannesburg: Double Storey.

<sup>2</sup>Betsky, A. 2006. *Accessible City*. *Architecture*, 95(7): 42-5.

<sup>3</sup>Dobson, R. & Lees, J. 2008. *Intuitive process(es): towards responsive urban architecture*. *Architecture South Africa*, 1(2): 20-4.

## conceived space

Lefebvre (1991: 38) cites this as the dominant space in society, and it is a result of the diagrammatic abstraction (drawing) of spaces existing and to be. This is the space with the most influence on society, as those operating in this mode are most empowered, through the measures of their trade, to control and intervene in the structures impacting on the daily practices of others. This definition is interpreted and analysed as the parti and intention of designers, illustrated through the drawings of the studied projects.

## perceived space

“The spatial practice of a society secretes that society’s space; it propounds and presupposes it; in a dialectical interrelated action; it produces it slowly and surely as it masters and appropriates it.” (Lefebvre 1991: 38). For the study of the making of contemporary public places the practical application of this definition is understood as the factored accommodation of the architectural project in terms of a conventional programme as well as the spontaneous informal uses that these functional considerations promote through their articulation in the building.

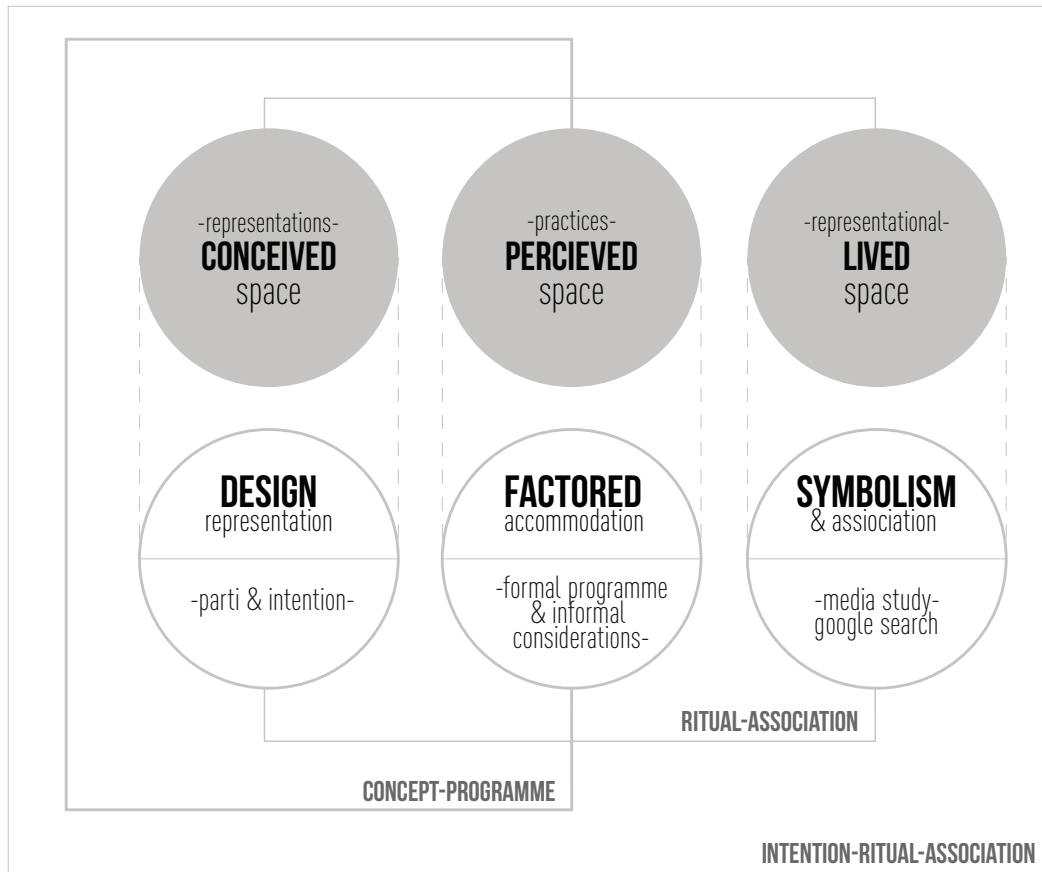
## lived space

Lived space pertains to the symbolic aspects of a spatial experience – space as directly lived through its associated images and symbols – indicative of and influencing the space of its inhabitants and subjects. Lefebvre (1991: 42) describes this space as alive – it speaks – and its only products are symbolic works.

A media study using the “*advanced search*” capabilities of Google ([www.google.com](http://www.google.com)) created possibilities for understanding the extent of this lived space within contemporary society on a platform that is representative of both a local and a global symbolic space. Search terms were limited to the project name and the time period from its conception up until the time of this study (March 2014). The number of search results returned over the time period specified were then posited to give an indication of the extent of this lived space in each project.

The application of each of these categories within the context of each project forms a foundational understanding of their exercised potential as productive spaces within our landscape, and constitutes the first part of the study.

The second part qualitatively concludes, through the perspectives established in the first part, whether or not current manifestations of these places constitute productive or unproductive spaces. This is intuitively studied using photographs and hand-traced line drawings focusing on the intersection of the manifested form of the project with the subjects of the space and their activities.



⊕ -productive space-

⊖ -counter productive space-

**STRATEGY & TACTICS**

Figure 1.5. Diagram - the Production of space - case study model (Author 2014).

## case study 01

### Johannesburg Metro Mall, Newtown, Johannesburg – Urban Solutions Architects & Urban Designers

Johannesburg Metro Mall was conceived as part of an urban renewal program over a wasteland in the inner city (Deckler, Graupner & Rasmuss 2006: 60). The conceived space represented by the parti diagram (figure 1.8) illustrates an urban edge acting as a threshold between the place of the city street and the transient space of moving buses and taxis within. The articulation of its edge and the degree if its accommodation is a thresholding device that becomes a place marker within the urban context. This perimeter block typology announces a gateway to the CBD for the commuter and an exit point for the street dweller.

The perceived space exists at an intersection of users and the variation of degrees of permanence related to time and use. This is illustrated by the programmatic accommodation of the bilaterally activated building edge (figure 1.7), with daily trading uses along the public edge and the layered internal taxi rank and bus terminus. This collectively contributes to a multivalent spatial transition linking the place of the city to its transitory gateway.

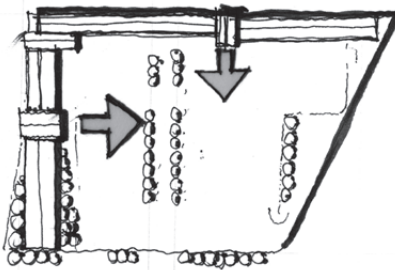
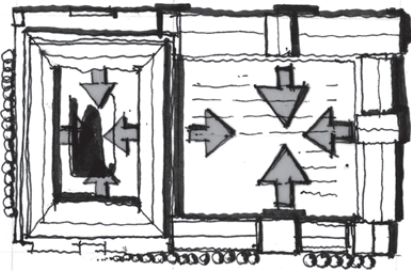
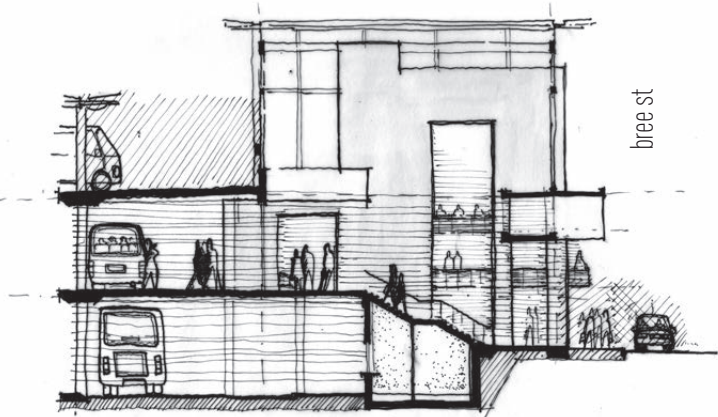
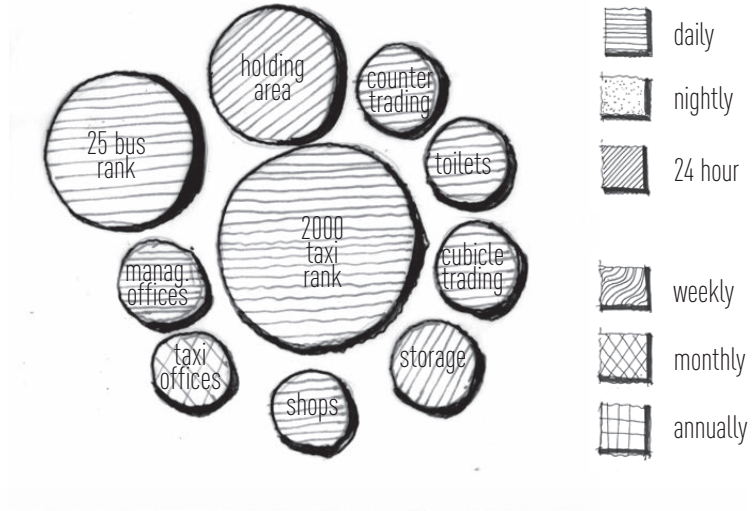


Figure 1.6. Perceived space – JMM, (Author 2014).

Figure 1.7. Conceived space, section – JMM, (Author 2014).

Figure 1.8. Conceived space, plan – JMM, (Author 2014).

The building is a successful physical symbolic marker of the everyday commuter experience from distant lands into the city, as articulated through the entrance towers which stand proudly as beacons to this precinct of the inner city. The building contributes values to its representational space that are strengthened by the evidence of personalisation and appropriation of the individual trader stalls. However, in the media analysis the representational space almost disappears, yielding a representational extent of 3.25 (480 results over 147 months) for the search terms “johannesburg AND metro mall”.





Figure 1.9 illustrating the tracing of the entrance stair interior of one of the towers, indicates an overly expressed volume that becomes a blank space. This is possibly a measure of transition – clearing the palate before progressing into the internal trading corridors. However, it is indicative of negative strategy and tactics, because it fails to accommodate possible civic uses for a public stair of this kind in the urban environment, as a place for seating, loitering, eating and gathering. The overbearing heaviness of the brick-clad volume reinforces the directional nature of this deep threshold and compounds the character of its blankness. This statement entrance perhaps becomes too suddenly silent in the interior and might have been more enabling to its subjects as a gradual modulation of public urban activity from beyond the building to within.



Figure 1.10 traces the external urban expression of the entrances as towers with their embracing extended concrete canopies. These invite the urban subject to pause beneath their shade - at an interstitial space created between the street and the building. The towers, by virtue of their scale and steady monumentality, are landmarking devices aiding and enabling the subject in improvising their daily urban navigation. This is a measure of positive strategy and tactics.

*Figure 1.9. Entrance stair interior, JMM, (Author 2014).*

*Figure 1.10. External entrance towers, JMM, (Author 2014).*



Figure 1.11 shows the articulation of the indoor market, capturing an intimacy of scale bathed in consistent natural and artificial light. This funnel for a passing trade market plays on the impulses of the passing commuter and harnesses the seductive qualities of the traders' presence and their items. The space is beneficial to both the trader and the daily experience of the commuter, and is therefore indicative of positive strategy and tactics.

*Figure 1.11. Indoor market, JMM, (Author 2014).*

*Figure 1.12. Taxi rank, JMM, (Author 2014).*



Figure 1.12 traces the taxi rank area as a motif contrasting with the passing trade market. This space is an open parkade straddled by the pedestrian-fed collonaded corridors. Its thresholds are once again sudden and not accommodating of possibilities for overlapping uses associated with the practices of the taxi industry. For instance, taxi-conductors loitering and calling for passengers, shouting their intended destination, and the views and experiences associated with sitting in a taxi, sometimes for up to 20 minutes, waiting to depart, provide their own set of trade opportunities. This is therefore a negative articulation of strategy and indifferent to potential tactics.

From the analysis and discussion, it can be concluded that Johannesburg Metro Mall is a productive space that successfully creates intersections with its context and is overall complementary of tactics through the articulation of its architectural strategies. It is an authentic experience contributor to enabling spaces within Johannesburg city.

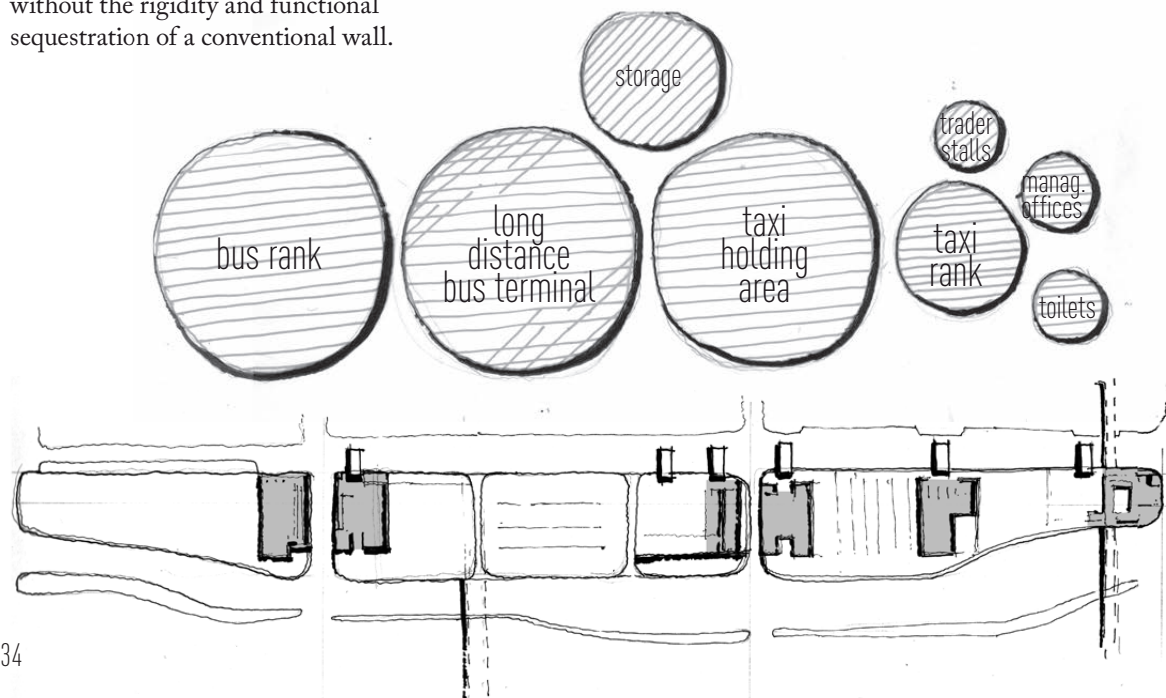
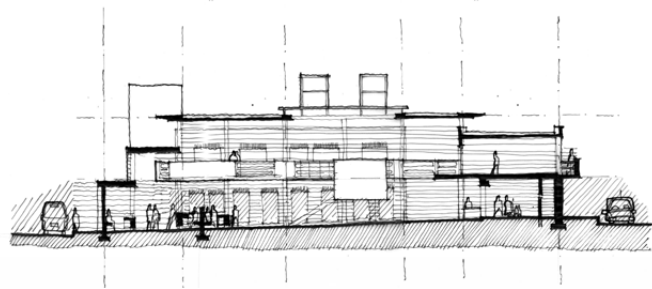
## case study 02

### Baragwanath Transport Interchange & Traders' Market, Baragwanath, Soweto – Urban Solutions Architects & Urban Designers

Baragwanath Transport Interchange was conceived as a concrete arcade forming a structural spine of sculpturally formed parts that bind variations of space and requirements together into one public commuter facility (figure 1.15).

The perceived space of the spine almost emerges from the adjacent streets, inserting accommodations for commuter practices that complement each other across the section (figure 1.13). The typical practice-power relationships remain unchallenged with the traders' market situated beneath the market offices. The sculpted concrete façade contributes to the legibility of a framework of places for various practices within this modulated landscape and assists in commuter orientation and navigation. Swells and larger volumes, of the varying concrete canopy across the length of the spine, define market clusters without the rigidity and functional sequestration of a conventional wall.

The search terms “baragwanath transport interchange (minus) hospital” yield a representational extent of 2.61 – 259 results over 99 months. The project bears the symbolic potential of a landmark through its landscape modulation as a stereotomic sculptural form. Its associative and representational value as a place is complemented by the nearby Baragwanath hospital which, together with the transport facility, exponentially increases the significance of the precinct as an enabling civic space.



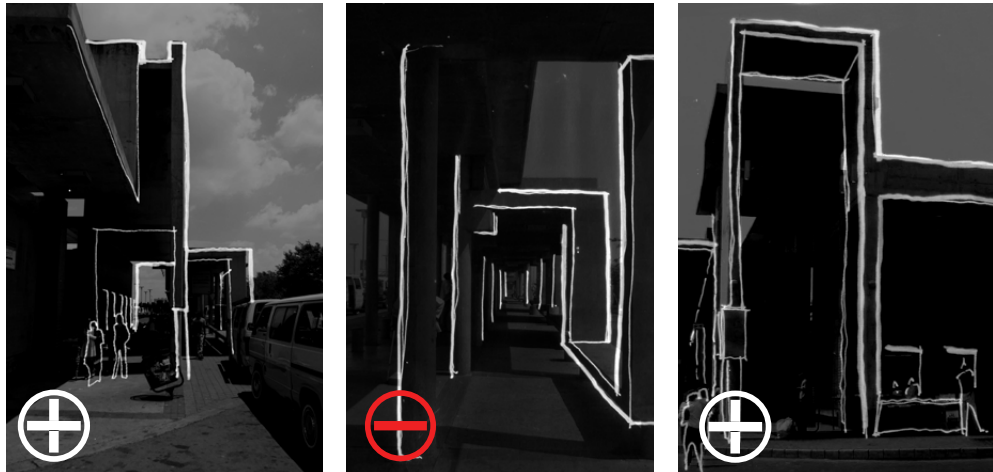


Figure 1.16 illustrates the intersection of the taxi rank edge with the traders' market, creating an intimacy necessary to allow for waiting commuters and trade to complement one another. This is a measure of positive strategy and tactics.

Figure 1.17 traces the overbearing continuity of the corridor edge as an extension of the concrete colonnade. Extended moments of this structure as illustrated here, can dehumanise and create deserted islands of static architecture, inappropriate and likely unsafe for the passing commuter. This is a measure of negative strategy and tactics.

Figure 1.18, as a positive illustration of strategy and tactics, illustrates the intersection of practices allowed for at the entrances to the arcade. The modulation of folding concrete elements becomes an expression of volumes at the entrances that are extroverted and welcome the subject into the site. The canopy and differences in scale create pockets where the passer-by, loiterer and trader intersect – a moment of everydayness celebrated at a grand civic scale.

It can be concluded that Baragwanath Transport Interchange is a productive space. It is not particularly innovative in its intersections between everyday practices, but the grandeur of its civic character and articulation as a landscape insertion creates a degree of respect for the livelihood and journey of the traveller moving through the landscape. This strategy qualifies Baragwanath Transport Interchange as an enabling productive space within the landscape.

Figure 1.13. Conceived space, section - BTF - facing page, (Author 2014).

Figure 1.14. Perceived space - BTF, facing page, (Author 2014).

Figure 1.15. Conceived space, plan - BTF - facing page, (Author 2014).

Figure 1.16. Taxi rank edge - BTF, (Author 2014).

Figure 1.17. Continuity of the corridor edge - BTF, (Author 2014).

Figure 1.18. Arcade entrances - BTF, (Author 2014).

## case study 03

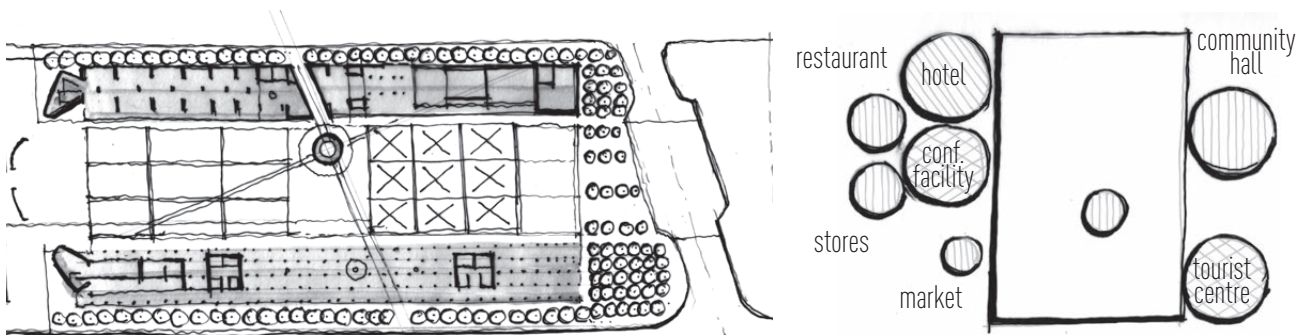
### Walter Sisulu Square of Dedication, Kliptown, Soweto – StudioMAS

The Walter Sisulu Square of Dedication (WSSD) was conceived as two multi-storey block edges straddling an expansive square landscaped toward a focal point of a conical object – the museum tower. This memorialises and commemorates the origin and signing of the Freedom Charter. The project is delineated rigidly and is classical in plan form, driven primarily by an  $x - y$  grid and an offset, intersecting grid of pathways directed toward the tower.

The perceived space accommodates a market, stores, tourist centre, hotel and community hall in flanking blocks within introverted arcades, which speak to neither the breakaway space of the square nor the adjacent intensity of the community streets. Practices struggle to cross pollinate and complement one another, due to the delineation of activities and the 60 metre island that separates the buildings. There is no intersection of any interstitial & subsidiary nodes besides the introverted and contemplative museum space. The market is not a continuation of the landscape of its context,

but rather an internalised, almost mall-like environment that withdraws traders and consumers from the potentials of urban engagement and prevents them from contributing to the extant character of the historical landscape. Traders have in some instances relocated their livelihoods back to the street edge – possibly to allow their own engagement with passing customers – rather than utilising the dictated engagement beneath the shade of the internalised blocks.

Despite the shortcomings of the project for its people, illustrated through the analysis of the conceived and perceived space, the media study yields a representational extent of 5.91 (799 results over 135 months). This can be attributed to the significance of the event that the project is intended to memorialise and the accompanying tourist interest and marketing. Although these facets do contribute to its national and global symbolic value, the project isolates and alienates the subjects of its immediate context. It does not fully realise potentials for enabling the local community to appropriate and influence the making of this representational space through their own spatial practices.



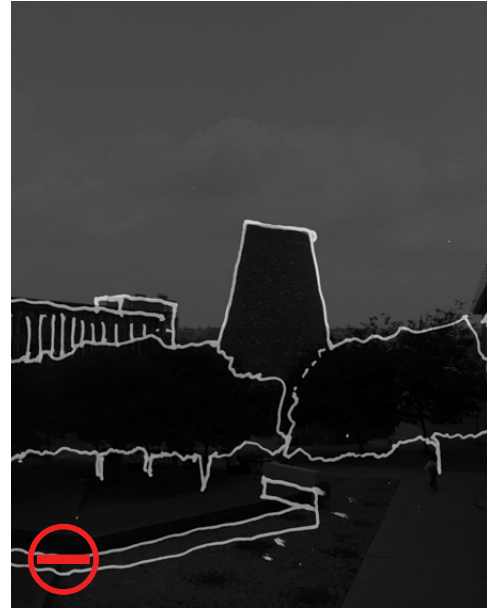


Figure 1.21 is a tracing of the relocated street market with one of the flanking buildings in the background. This is indicative of the inability of the implemented architectural strategies to accommodate this aspect of public life, and embrace its character and practice as a part of the landscape that was intervened upon. This is a measure of negative strategy and tactics.

Figure 1.22 shows the square threshold at an adjacent main road as a monumental articulation of a gateway onto the island. An overbearing scale and lack of complexity in the articulation of a long, almost monolithic concrete stair fails to tease and seduce the tactical engagement of the landscape dweller and to provoke any form of engagement. This too is a measure of negative strategy and tactics.

Figure 1.23 is a tracing of a perspective of the internal square space, and illustrates the volume of an unwelcoming space that is significantly overbearing when considered with the contrasting scale of streets in the surrounding context. The softening trees and landscaped benches fail to create a comfortable environment for exploitation by its subjects as places of safe rest, study or gathering. This internal otherness produced by the expansive square in the landscape can do no more than formally frame the intended hierarchical significance of the introverted museum tower. It is a formal measure of negative strategy and tactics.

Figure 1.19. *Conceived space, plan - WSSD - facing page, (Author 2014).*

Figure 1.20. *Perceived space - WSSD - facing page, (Author 2014).*

Figure 1.21. *Relocated street market - WSSD, (Author 2014).*

Figure 1.22. *Square threshold - WSSD, (Author 2014).*

Figure 1.23. *Internal square perspective - WSSD, (Author 2014).*

This project is labelled as an unproductive space for the context of Kliptown, as it focuses on one politically symbolic aspect of its heritage, yet fails to accommodate and complement the tactics of local residents who might have already established a place of belonging for themselves in this landscape before the insertion of the WSSD.

## case study 04

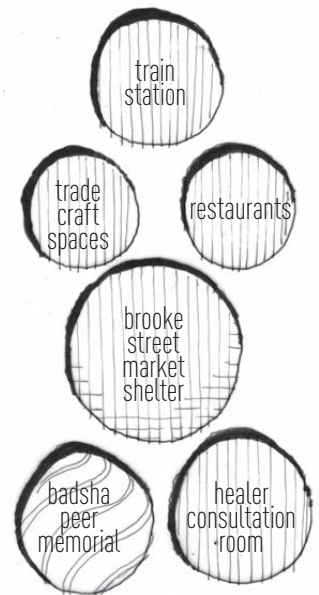
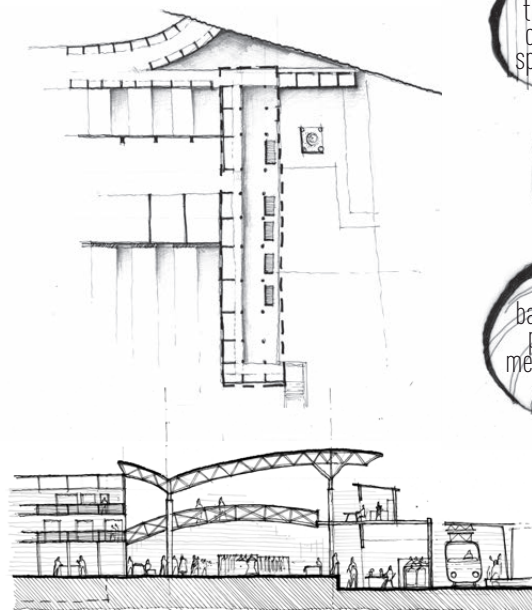
### Warwick Junction Project, Warwick (Brooke Street Central Market), Durban – City Architects

The Brooke Street Central Market shelter at Warwick Junction is a multivalent corridor that stitches Berea train station to the edge of the cemetery, and allows negotiation of the intersection between various interested community users and transient commuters. The overarching steel roof, dancing on its delicate lattice of trusses and tree-like columns, encapsulates a negotiated public space – sheltering it from the elements and creating pockets of intersecting practices along the station’s edge.

A wide range of programmatic accommodations contributes value to the multiplicity of the perceived spaces seamlessly blended together underneath the steel roof. This structure knits seemingly contrasting uses into its seam, using variance expressed through subtle measures of scale and threshold. The central market street is straddled by spaces accommodating consulting rooms for traditional healers, with a bridge link to the adjacent muti market. Craft workshops for tailoring and dressmaking create the activated edge of the other side of the street, supporting the dominant clothing trade at the market. Restaurant spaces on an upper concourse that protrudes into the space are removed, yet still form part of this magnificent play of aural and visual energy underneath the canopy. The sheltered street is also the site of an annual festival for the memorial of Badsha Peer, a revered Islamic figure, whose memorial in the cemetery is directly accessible from the street.

The representational extent of this space is 4.74 (1040 results over 219 months) and is second highest to that of the WSSD. It represents an intersection and celebration of public everydayness and deeply seated religious and cultural significances.

The Brooke Street Central Market as a component of the Warwick Junction Project is a productive space, qualified by its multivalent character that celebrates a diversity of community interests and becomes an expression of their intersection and negotiation. It is simultaneously an intersection of past, present and future narratives of livelihoods in this place of Warwick Junction. It is successful due to its clear and humane articulation and for the fact that it remains open to future metamorphosis through the daily practices and negotiation of its subjects.



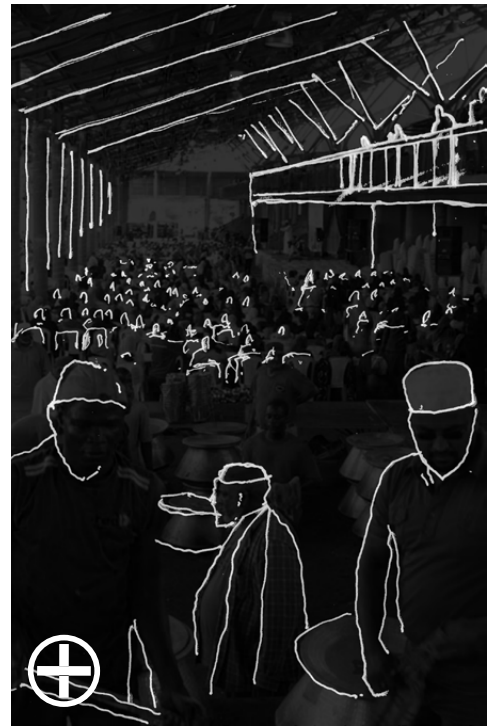


Figure 1.27 illustrates the canopy dancing lightly above and tapering down to the a human scale at its edges, cradling the clothing market, and creating a volume that celebrates the energy of spontaneity associated with this space and simultaneously sheltering its subjects from the elements. This is a measure of positive strategy and tactics.

Figure 1.28 depicts the use of the market during the Badsha Peer memorial ceremony as an equally celebrated practice within this volume. The intersecting restaurant concourse level allows non-participants to observe the proceedings and for restaurants to feed off the energy of this annual celebration. This too is a measure of positive strategy and tactics that complement each other daily and annually.

Figure 1.29 illustrates a tracing of the restaurant concourse level as a link between adjacent markets, taxi routes and the station concourse. It provides a space of passive engagement with the grandeur of the shelter volume, and a series of opportunities for contemplative pauses along its balustrade from where patrons have views overlooking the cemetery. This is a complementary space for dining and rest and is illustrative of the overall positive strategy and tactics employed in this project.

Figure 1.24. *Conceived space, plan - WJ - facing page, (Author, 2014).*

Figure 1.25. *Perceived space - WJ - facing page, (Author, 2014).*

Figure 1.26. *Conceived space, section - WJ - facing page, (Author, 2014).*

Figure 1.27. *Brooke Street canopy - WJ, (Author, 2014).*

Figure 1.28. *Badsha Peer memorial ceremony - WJ, (Author, 2014).*

Figure 1.29. *Restaurant concourse level - WJ, (Author, 2014).*



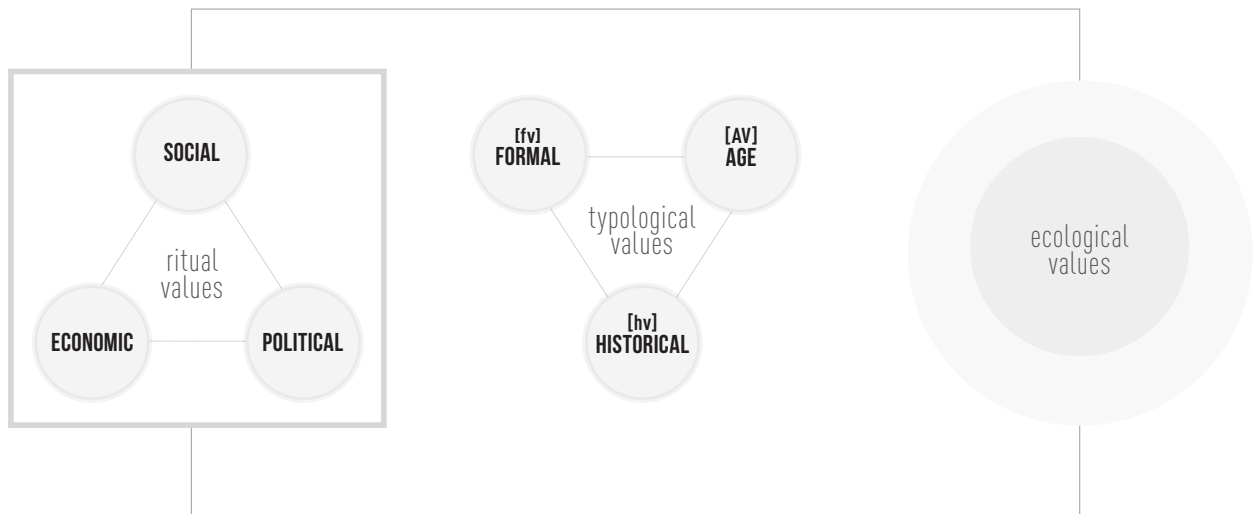
The case studies as analysed and discussed above serve to create a framework of applicable theoretical understanding that, through assimilation, guides an investigation and interpretation through an act of architectural metamorphosis within the African city through this dissertation. The following shortcomings of the study are to be noted: Similarities of the selected projects as civic places of transport and trade limits the breadth of possible design applications for a future project that might serve an entirely different purpose in the urban context; and secondly, the validity of the media study as conducted is also questionable when considered in the context of South Africa as a developing country of which the online presence – as a manifestation of public symbolic (representational) space – may not be an accurate representation of the occupants who use the studied spaces on a daily basis.

Contemporary theoretical discourse regarding the conceptions of space, as studied above, is suggested to be at a critical turning point in time - particularly when considering the evidence of recent architectural work dotting the South African urban (& peri-urban) landscape that is still ignorant of this fact.

The theoretical underpinnings of these informants therefore lie at the intersection of readings that begin to illustrate new conceptual understandings of space and the design (or not-to-design) thereof. It is therefore posited that a new model emerges from this juncture, leading toward a theoretical framework that is suggestive of a new approach toward spatial design within the African city, as illustrated through the dissertation investigation. ■



a collective memory  
“the city as locus”  
- A.Rossi



## THE MORPHOLOGY

represented as morphological rubrics

Figure 2.1. diagram illustrating network of values for unpacking the morphology, (Author 2014).

# 02

## IN JEPPESTOWN, AND JEPPESTOWN IN contextual informants

The context situates the theoretical inputs within an interpretation of space and time.

- 2.1. **PLACE IS A NARRATIVE**  
a historical study of Jeppestown
- 2.2. **AS TOLD BY TYPOLOGY**  
evolutionary manifestations of place
- 2.3. **READING RITUAL**  
social potential  
economic potential  
political potential
- 2.4. **READING TYPOLOGY TODAY**  
formal potential  
hierarchies of significance
- 2.5. **READING ECOLOGY**
- 2.6. **A BECOMING MORPHOLOGY**  
as interpreted through morphological rubrics
- 2.7. **AT JEPPE IN ITS GREATER CONTEXT**
- 2.8. **STATEMENT OF HERITAGE SIGNIFICANCE**
- 2.9. **AN APPLICATION OF THE HERITAGE CHARTERS**
- 2.10. **INVESTIGATIVE FRAMEWORK STRATEGY**  
a prospect ritual
- 2.11. **SOCIAL PROSPECTING**  
a future strategy

The context of the project breathes life into the theoretical informants. Pertinent to this grounding is an understanding of the extant place of Jeppestown being a result of its evolution and influences over the generations of its being. Place is recorded in the specific present, encased between the layers of its fabric and trapped in the authentic material of a locus. Gregotti (1996: 68) writes that the notion of belonging embodies an interest in the continuity found in the history of the architectural discipline and the idea of place both as identity and as impure material.

As described by Rossi *et al.* (1982: 118), the notion of an urban artefact as a constituent rather than a continuation of urban form posits a potential outcome for this contextual investigation. This outcome can become interpreted fully to resolve a part of the city in a complete way by determining all relationships that can be established as existing with respect to any artefact. Rossi *et al.* (1982: 120) describe the Roman forum as an urban artefact, and consider its structure a sum of values that include memory itself – a meeting space that did not lose its inherent character despite changes in ritual interactions. Its relationship to human interaction was inherent to its form within the urban environment. It is a part of the city that exemplifies the whole.

It is posited that, unlike the Roman forum, Johannesburg as a place of living is founded on a clearer rationalised town planning intent based on a working population having access to mineral resources. In this sense public space in Johannesburg is of a residual nature. A place of survival for human beings is left over from that which was not of greater value for the extraction of its gold content.

With an increasing interest in *place* as a foundation for the investigation, morphology, typology, principles of settlement, geography and history lay the groundwork against which a contemporary urban insertion can become validated.

The historical generations derived from the investigative framework and modified for this dissertation are:

- generation 1 – conception, 1886
- generation 2 – formative years, 1902
- generation 3 – blind commitments and torn relations, 1961
- generation 4 – establishing personality, 1994
- generation 5 – future prospecting, 2014

“The desired reprieve will only be realised if the project becomes above all a silent modification of the specific present” (Gregotti 1996: 73).

## 2.1. PLACE IS A NARRATIVE

### a historical study of Jeppestown

Jeppestown is a resultant territory. It was birthed through the struggles of a splurge of prospectors and miners seeking to extract the riches of the Earth gifted along the reef. Its energy is an offset from this excitement and relentless greed that sparkled across the landscape – calling people from a distant land to participate in its availability. This mining belt, scarred and stitched by the heaps of mine waste that distort the horizon, still strangles the physical expansion of Johannesburg city to the south. It is a significant edge between the vertical urban landscape and a dormant, inverted mining landscape.

Neither in, nor above, nor beneath its soil – but silently watching from the eastern edge of Johannesburg city - lies Jeppestown. Its placement and population is, and has since its inception been, a victim of circumstance. The Ford and Jeppe Estate Company originally sought gold under its clay, but were forced to reconsider its investment when all they had found were defunct pyrites commonly known as ‘fool’s gold’. Place is a narrative, a history of manifestations that are almost never linear or sequential. This is a reading of collective historical manifestations of place, looking at the interaction of rituals amongst its inhabitants. Ritual categories of habitation, education, spirituality, trade, farming, commuting and recreation are plotted onto a timeline and categorically interpreted through significant events that have together informed the developing character of Jeppestown (figure 2.2).

*Figure 2.2. Historical narrative timeline- next page, (Author 2014).*



## JEPPESTOWN 1886

“a suburb for men of a limited purse”

### ○ RITUAL - PLACE : KEY INFLUENCES

**1886: Ford & Jeppe Estate Company founded Jeppestown**

**Splurge of Natal hopefuls: Adjacent Meyer's/Natal Camp around the Natal Spruit**

The Wolhuthers  
Sir Julius Jeppe  
Mr William McCleod  
Mr Malherbe - *the butcher*  
C.G. Oosthuizen

Alexander William McIntyre - *Diggers committee*  
Julius Jeppe Sr.  
George Edward Fawcst  
John George Auret - *Jeppe surveyor*  
Carl Jeppe  
H. Griffin  
The Wolhuthers

**1895: Jeppestown racial occupancy classes as lease agreements**

*Coloured persons permitted only as domestic workers.*

Camp fever - Typhus

100 000 bantu population on mine compounds.

10000 european population.

**“BUILD, BUILD, BUILD.”**



158 houses on Jeppe “high ground”

1890: Fairview fire station

### INHABITATION ○

### EDUCATION ○

1890 - St. Michaels for Boys & Girls  
1888 - St. Mary's School  
1888: Jeppe High School for Boys  
1888: Jeppe High School for Girls

### SPIRITUALITY ○

**1887: St. Mary's Church**

1906: NG Kerk  
1904: Jeppe Synagogue  
1951: G Kerk  
1911: Baptist Church

### TRADE ○

Artisans & shopkeepers

Import of resources for refinement  
Coal from Boksburg to Jeppestown coalyard

### FARMING ○

Localised camp livestock

Jhb Market abattoir

**Commuter influenced trade at compulsory rail stop**

### COMMUTING ○

Horse drawn trams



**Imported sustenance via railway**

Electric trams

### RECREATION ○

1886: Natal inspired horse racing initiative near Gilfillan Park site.

1886: Fillis's Circus - circular corrugated iron building with seating for 800 people. Public meetings, prize fights, concerts.

1887: First theatre - Theatre royal, barnlike structure.

1887: Second theatre - Australian operatic company, prefabricated iron theatre at corner of Commissioner & Eloff.

**1888: Gilfillan Park at Wolhuter's original house & tennis court - bandstand & holiday concerts**

**1888 - Wanderers Club as a recreational anchor**  
Working men's pubs & bars on corner sites  
Sunday evening concerts, cricket, soccer & hockey

**1888: Jeppestown Oval - gardens**

**1888 - Rand Club established in Johannesburg**

1889: First public library in Johannesburg  
**1890: First suburban public library - Jeppe**

1889: The Globe Theatre - Vaudeville

1891: Standard Theatre  
1893: The Gaiety theatre - Kort street  
1898: Empire Palace of Varieties - Motion picture projection

“the arid & treeless waste of the Witwatersrand”

B.J. Wentzel

GENERATION I  
conception - 1886

"Trade is on all sides brisk and the unemployed have disappeared from the streets."

Robert Richards

**Ironwork mostly a memory**

THE fast-vanishing ornamental ironwork used in many elegant buildings of Old Jo'burg is today sought by nostalgic people with a penchant for the past. There are not many such buildings left, but one on which it was beautifully used is Parktown Convent.

1965: Jeppestown South urban renewal housing scheme

Slum dwelling in non-residential area of Jeppestown: *corrugated shack dwellings*

**1990: Overcrowding & poor upkeep from landlords.**



**1994: Insurgent inhabitation of abandoned buildings**

**2014: Prospecting developers**

Canalised Natal spruit



**City Town Planning scheme: Non - Residential Jeppestown South & Lineal business rights**

Higher technology industry demands

Clothing stores  
Tailors  
Furniture  
Auto industry

Mosque  
Madrassah

Driving schools

Private micro schools & FET colleges

**Gilfillan Park Sunday church congregations**

**2005: Jozi Mall Mosque**

**2008: Jeppe station precinct & meat market**

**2005: Jozi Mall retail centre**

"Ag this is the place for me, Jannissburg  
Where the likerish lights always shine,  
And the ricky-tickey trams run by Jeppe  
And the mine hooters tells me the time."

Anon

TRAMS ARE RIPPED AS LAST TRIP ENDS  
**Johannesburg once had street malls— as a pleasure**

Taxis introduced

Gautrain link

**Rand Tram railway to Natal**



1938: Norman's Grill  
Billiard rooms

**1896: Grand Station Hotel, Mr Robinson - to quench thirst of miners from nearby Wolhuth, City & Suburban, Meyer & Charlton Mine**

Boxing: prize fighting & betting

**1971: Forced closure of Bantu Men's Social Centre**

**Gilfillan (Jeppe) Park: resting, exercise, eating, performing & viewing Maskandi**



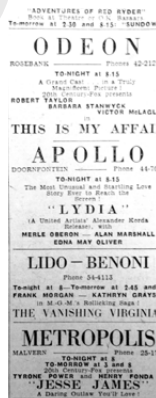
After work soccer practice, local soccer leagues & Sunday games

**1924: Bantu Men's Social Centre**

**1935: Johannesburg Public Library**  
**1946: Wanderers Club demolished**

Municipal music in parks, theaters & city hall - Mr. Cornell

**PUBLIC LIBRARIES WHERE JOHANNESBURG FAILS**



**GENERATION II**  
formative years - 1902

Non-Europeans  
Develop Reading Habit

**ROLE OF PUBLIC LIBRARY IN EDUCATION**

**GENERATION III**  
blind commitments & torn relations - 1961

**GENERATION IV**  
establishing personality - 1994

**GENERATION V**  
future prospecting - 2014



## 1. local urbanisation, 1886-1910

Jeppeshtown is a community site for the settling of a splurge of hopeful Natal miners and prospectors, who migrate from their first landing camp around the aptly named the Natal-spruit, 1.5km to the West of Jeppe (Greggor 2007). Its streets are named after prominent members of its first community. They are of European descent, and a minute population compared to the influx of an indigenous workforce housed in nearby mine hostels who also hail from Natal. Jeppeshtown is initially white, but its inhabitants are bound to their supposed others by a common human desire for a livelihood, opportunistically expressed in the availability of work on the mines underneath this landscape of the Witwatersrand.

Spiritual manifestations of place in the form of St. Mary's Church (1886) are the gateway for a becoming community. In 1894 Jeppeshtown establishes a permanent access link to the greater landscape, to the origin of many of its inhabitants, by means of a railway line – connecting Durban to the Witwatersrand via the pivotal Jeppeshtown stop. This stop is compulsory for all trains, a deal struck in exchange for the land allotted by Sir Julius Jeppe for the intersecting line. The stop is the first suburban train station in Johannesburg and is a secondary input into the becoming landscape, bringing along with it trade, commerce and a centre for social engagement and encounter (Greggor 2007: 26).

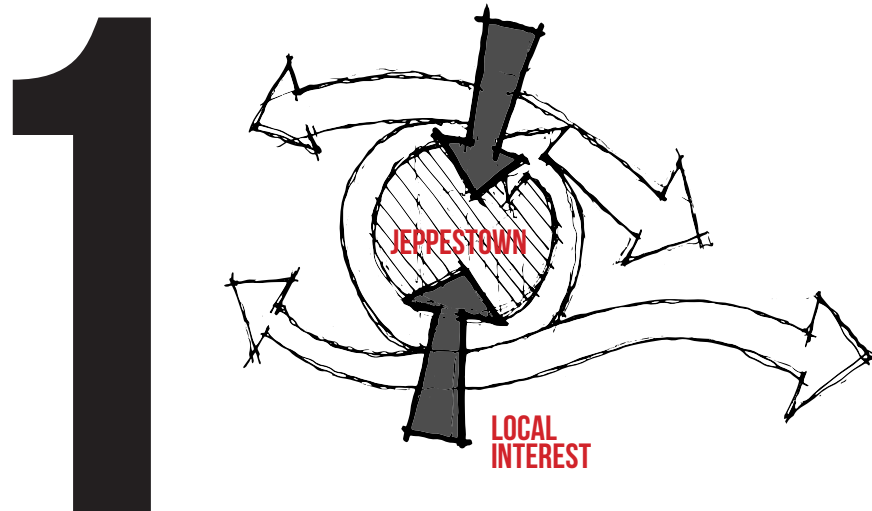
The station at the level crossing over the market square is an urban centre of economic and social activity. Places of recreational interest feed off its energy and create their own ritual manifestations. The watering hole at the Grand Station Hotel (1896), like many other corner sites for passing the time in early Johannesburg, presents activities such as boxing, prize fighting and betting for the entertainment desired by both residents and nearby mine workers.

This place is, however, not without its political subtext and emergent characteristics of the segregation of identities and belonging. This is seen in both the fabric of its Cartesian layout and constructed symbols of value and meaning.

Nightingale (2012: 278) writes that the exclusivity of land development in early Johannesburg was maintained through prescribing expensive amenities, and forbidding the subdivision of lots to avoid tenements and slums. Canteens and unauthorised restaurants were also prohibited. In 1895 racial occupancy clauses in lease agreements stated that “the lessee” shall not allow coloured persons other than domestic servants to dwell on the stand (Nightingale 2012: 279). However, companies such as the Ford & Jeppe Estate Company who authored such clauses had no real interest in enforcing them.

*Figure 2.3. Local urbanisation forces, (Author 2014).*

Jeppestown becomes a place for intermingling and improvisation. Its official tenants take advantage of the space allotted to large stands. Unofficial bars and backyard dwellings sprout. Black and white doesn't matter to most as much as it does to some. With the burden of enforcing laws of exclusivity and image resting solely on the shoulders of the already relegated lessee (Nightingale 2012: 279), Jeppe becomes a place for collective survival and livelihood for most – and for some, just another slum.



## LOCAL URBANISATION

- 1910

## 2. apartheid control, 1948 -1994

Trams are ripped from the streets as Jeppe descends into an apparent nothingness. This signifies the end of an era and heralds the beginnings of an age of technological advancement. It is disguised as progress and its main tool for hygienically dissecting the humane order of the landscape is the motor car.

Jeppe for the most part is still characterised by its informal aesthetic. It is sprinkled with families housed in corrugated shack dwellings, but its proximity to the rapidly modernising inner city of Johannesburg is most certainly seen with disfavour.

The optimistic energy introduced by the train line that intersects Jeppe market square is sunken, force-fed into the belly of the landscape – creating a good buffer between what will remain as a hygienicised Jeppetown East (with its pristine examples of Victorian architecture and steel lattice work), and a new place for technological prowess and dominance over the now cleaned slate of Jeppetown West.

The City Town Planning Scheme of 1946 strategically dictated that all areas west of the railway line be zoned for non-residential purposes, and lineal business rights became entrenched along Jules, Main, Commissioner and Madison Streets.

Public life is relegated to the edges of massive concrete industrial blocks that reinforce the monotony of an overbearing city grid. For the Apartheid movement, this is a manageable buffer zone between hostel inhabitants to the South and pristine suburbia to the North, and for maintaining the ‘cleanliness’ of the new city.

Little can be said about the social possibilities for the subjects of the landscape during this period. The harsh environment and accompanying pass laws didn’t intend for anyone to collectively belong here. A parallel culling by the state of vibrant public life is witnessed in the 1971 forced closure of the Bantu Men’s Social Centre at 1 Eloff Street, which was a hub for the cross pollination of social and political thought in the inner city. And whilst the skyline took on a new image of torrential utopia in Johannesburg, its streets were dying.

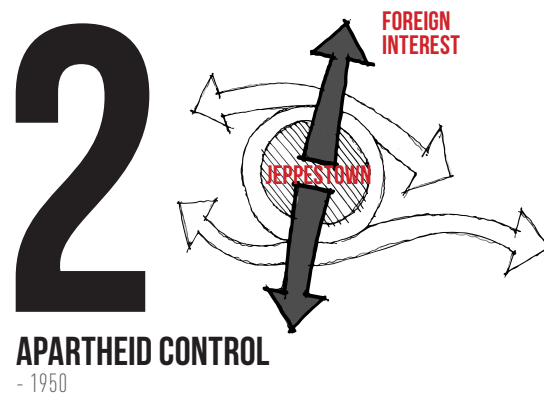


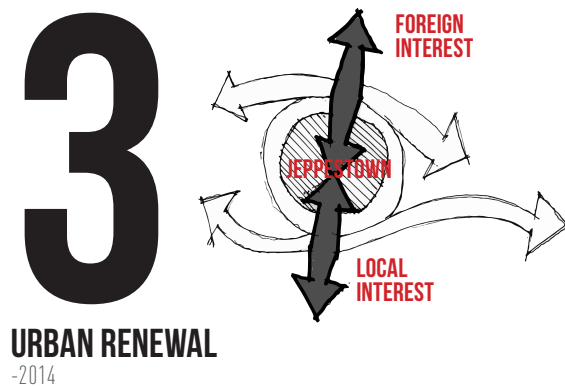
Figure 2.4. Apartheid control forces, (Author 2014).

### 3. urban renewal, 2014

It is twenty years after the end of this tearing transformation of the landscape. Jeppetown West is scarred by uncertainty and those who've managed to stick it out have mastered the art of getting by. A 3rd generation Indian shop owner tells his story over lunch after our chance encounter at Jumma Salaah (the Friday formal prayer). His grandfather set up on McIntyre Street and it was a place alive with possibility. He himself was once a practicing optometrist in Jeppetown but returned to run the shop after his father's passing. And despite the struggles and conflicts that he encountered along his path (that he carries so gracefully) he is hopeful for the future of Jeppetown and believes wholeheartedly in the capacity of the community. He describes his passion for Jeppe as inspired by his father and believes in the possibilities offered if local community interests were to meet the interests of private developers and the government.<sup>1</sup>

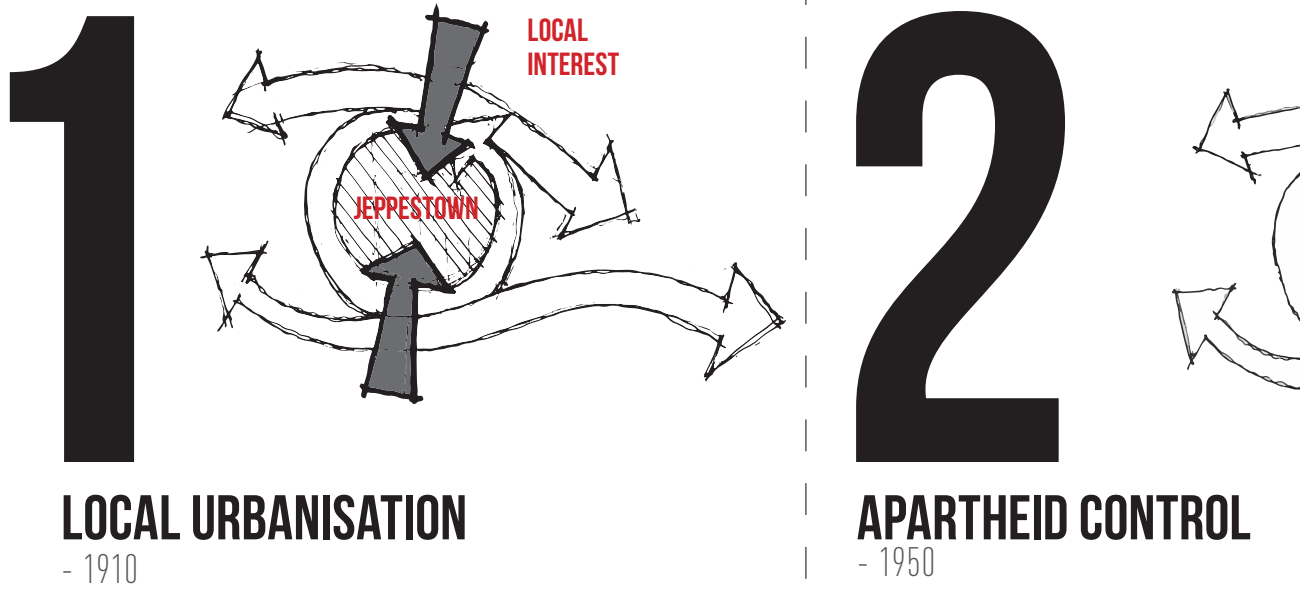
Walking through the area, passing vignettes behind the smoke-stained windows of seemingly dilapidated industrial buildings tell the story of Jeppe. A child runs out the door, another follows... a mother hangs up clothes on an open rooftop. This is a community of resistance; this is their Jeppe as much as it wants to belong to anyone else. A visitor like myself is warned away with a stare. I do not invade this distinctly sensitive space.

Their public places manifest as they live them. Learning at a school, reciting at the mosque, eating at the station precinct and meat market, enjoying a joint and *chilling-out* with friends on the station stairs, texting on a sidewalk, basking in the sunlight whilst watching a football game, or listening to a sermon on a Sunday in Gilfillan (Jeppe) Park. The park is a pool of open green space in this hill of rigid blocks. It is strewn with the markings of passers-by on a daily commute over its lawn – moving to and fro from their internalised homes toward the public access point of Jeppe Station. This community today might look different, but they too, like their preceding settlers, appropriate Gilfillan Park regularly for recreation and spiritual gatherings (Sticky Situations 2012).



<sup>1</sup> Dajee, A., Store owner, City Hall Outfitters. 2014. Personal interview, 21 February, Johannesburg.

Figure 2.5. Urban renewal forces, (Author 2014).



**1**  
**LOCAL URBANISATION**  
- 1910

**2**  
**APARTHEID CONTROL**  
- 1950

○  
**Local  
Genesis**

critical change  
jeppe for industry

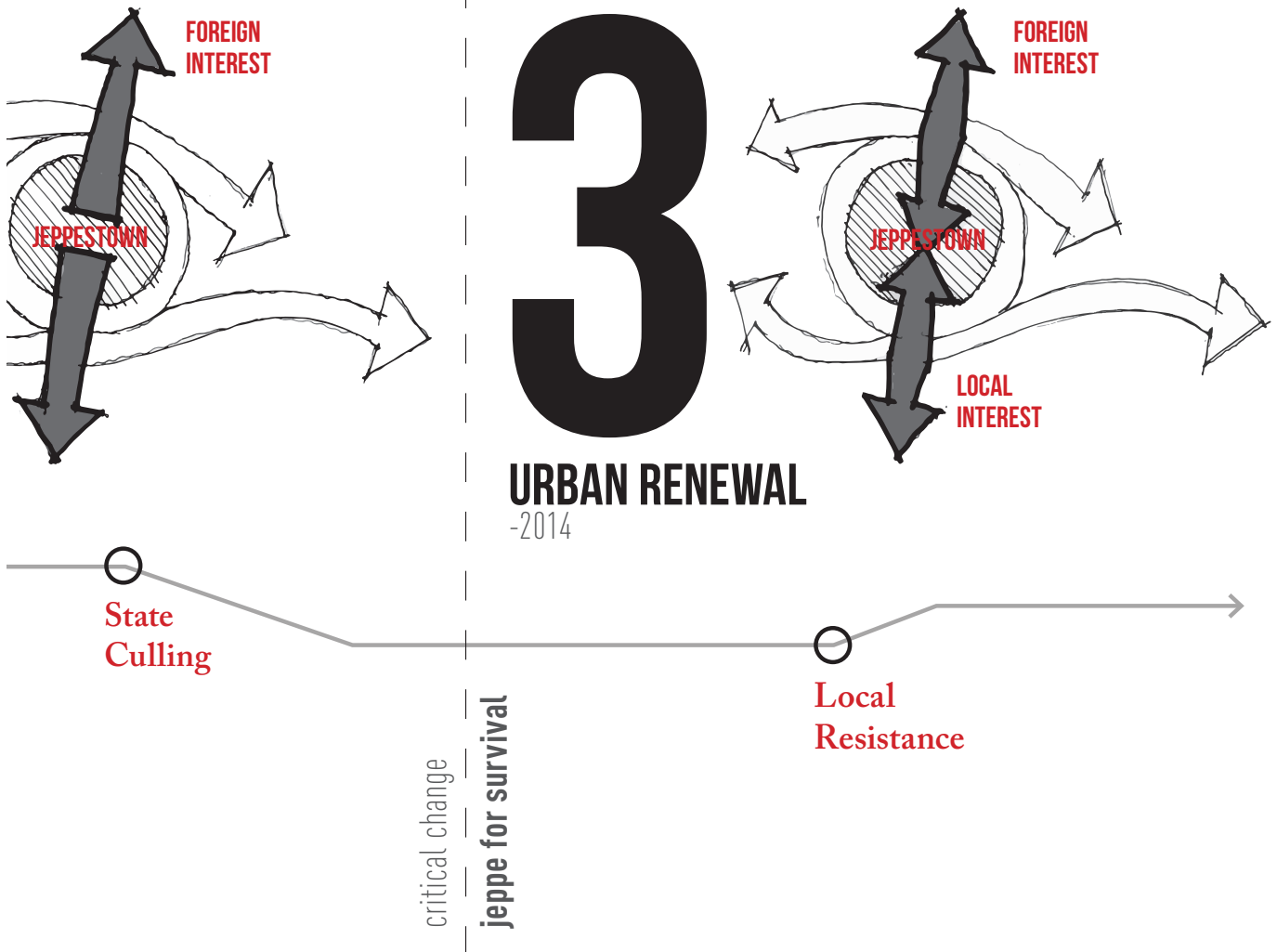


Figure 2.6. Sequence of significant events, (Author 2014).

## 2.1. AS TOLD BY TYPOLOGY

### evolutionary manifestations of place

Surviving manifestations of urban typology in Jeppestown indicate and communicate ideals of urban life. Physical material resilience and urban form, too, display characteristics of a resistance and will to survive. The changing character of the ritual appropriation of the built environment over the generations that Jeppe has existed, illustrates both a constant influence on a developing community, and the influence of a developing community on the making of places through the articulated spaces of these structures.

The term “typology” derives from the Greek *typos* meaning model, matrix or mould. Typology refers to the distillation of building types and forms as prototypes of function and efficacy. Type is the idea of an element which ought itself to serve as a rule for the model (Bowkett & Porter 2004: 158).

This description is adapted for the purposes of the study and creates a basis for understanding typology as a facet of an evolving morphology. It is in constant dialogue with public and private urban rituals that collectively facilitate its form, significance and meaning for the everyday subject. In this dialogue, type has elements which are static and consistent (primarily siting, scale, form and orientation), and elements which are dynamic and changing (transparency, accessibility and permeability), over the course of its lifetime as a modulating component of the city.



**pre-1886**  
tented camp



**1886-1902**  
tin village



**1902-1947**  
burned clay  
brick town



**1947-2014**  
concrete &  
infill blocks



*Figure 2.7. Jeppestown evolution of form and typology - facing page, (Author 2014).*

*Figure 2.8. Grand Station Hotel, Corner Madison Street & John Page Drive, (Dawjee et al. 2014).*



## generation 1

conception, 1886

A 70 x 70m grid dictated the rules of settlement. In its early days the community probably lived a lifestyle influenced by the campsite that was there previously. Not much more was happening here than habitation, trade where possible, and farming for sustenance. At the intersection of Madison and Marshall Streets the formal authority is reinforced by the corner type of the Osbourne Pharmacy. Passengers boarded the horse-drawn trams into town at this significant intersection. The verticality of its corner pediment signifies a local gateway into the city and a place of access to civic amenities.

## generation 2

formative years, 1902

The railway line brings with it new rituals of trade and the commute. The hotel receives its foreign guests at the edge of this market precinct. And despite a break in the grid by the curve of the rail and the energy that it brings with it, the first significant civic space anchor, the Grand Station Hotel, reinforces the prior Cartesian grid imposed onto the landscape. Its edge along Main Street is deep and forgiving – with balconies for public gathering and recreation.

## generation 3

blind commitments and  
torn relations, 1961

The intersecting railway line becomes embedded in a void within the landscape, reinforcing a tension between its own character and the surrounding grid. A new station is inserted as an object that floats between the two and at the centre of the previous public square. Its formal language speaks of modernist progress and it is to be an icon of change in the heart of Jeppestown. Shifting zoning policies disrupt an intricate landscape of dwellings and replace them with massive industrial domino blocks that objectify space, swallow diversity and shout monotony.

## generation 4

establishing personality, 1994

Jeppie has become a deliberate non-place for the segregating machine. Its character starts displaying characteristics of new-found opportunism at the fall of its political control. The character of Jeppie is still largely industrial, and abandoned building projects such as the derelict post-modern object occupying the selected site indicates a place of uncertainty that lacks any recognition of an urban character and scale. Through this confusion of inserted fabric, new potentialities are exploited by a resurfacing public. They are readily inhabiting their landscape.

## generation 5

future prospecting, 2014

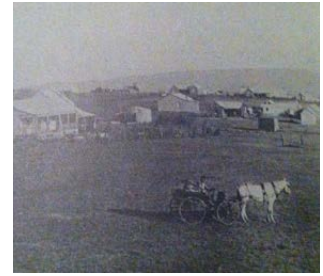
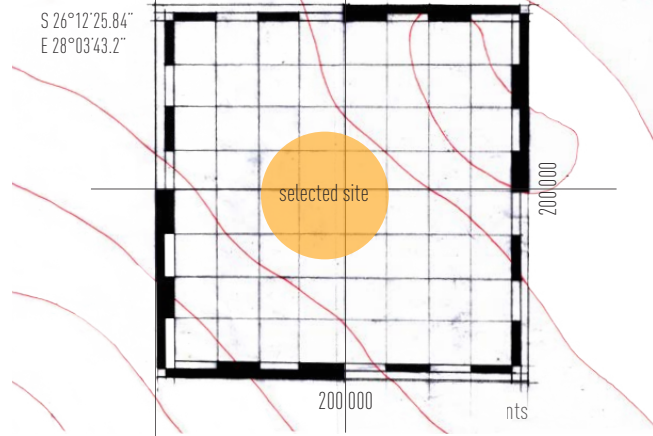
This place does not develop solely through the collective action of its public. There is governmental recognition of its activities, and some efforts for creating meaning and value through the insertion of new fabric are aimed at facilitating trader activities around the station and creating a unifying identity for the precinct. The Jeppie Station and Meat Market renewal project was possibly (from its graphic language similarities to other City of Johannesburg urban renewal projects) instituted by the city around the early 2000s. Its most valuable contribution to the becoming morphology is the facilitation of movement edges around isolated sites adjacent to John Page Drive and the sunken train lines. This is achieved through a series of shallow, adjoining market stalls that house traders who provide products and services (notably, outdoor restaurants and eating spaces) to a passing and waiting public.

*Figure 2.9. Generational study - ritual vs. typological place influences - following page, (Author 2014).*

S 26°12'25.84"  
E 28°03'43.2"

**JEPPESTOWN**  
morphology pre-1886

**PLACE**  
space of enabling modality

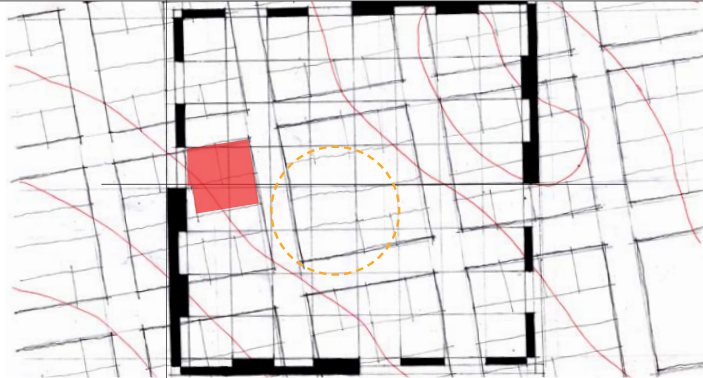


- expression
- reception
- perception
- indifference

**MODES OF RITUAL INTERACTION**

**METAMORPHOSIS 1**

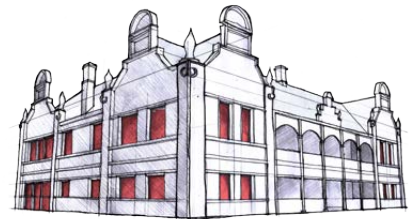
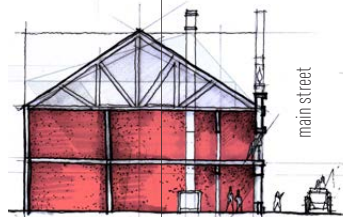
**GENERATION I**  
conception -1886  
60 x 60m grid established  
primary civic functions  
school, library,  
market plain, horse  
trams



- INHABITATION** appropriation 'home'
- mutual grid
- TRADE** craft/entrepreneurship economy
- receiving in exchange
- FARMING** trade sustenance
- byproducts



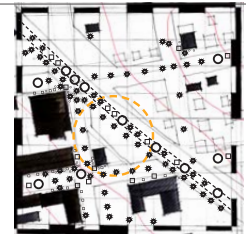
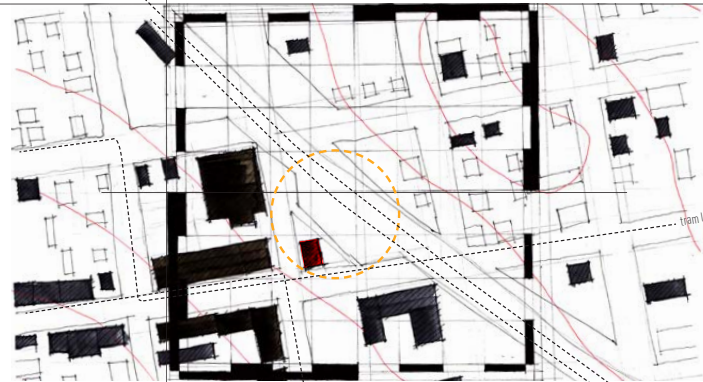
**CIVIC SPACE ANCHOR**  
grand station hotel



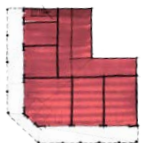
corner madison & main street

**METAMORPHOSIS 2**

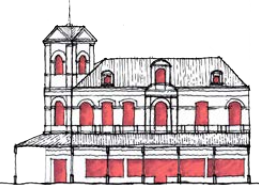
**GENERATION II**  
formative years -1902  
motor vehicle  
introduced  
electric tram lines  
rand tram line &  
station at market  
plain



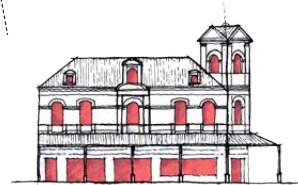
- COMMUTING** movement returning
- leaving
- TRADE** craft/services sustaining livelihood
- exchange with passing people
- RECREATION** personalities & associations
- cultural exchange
- SPIRITUALITY** gratitude subservience
- silence



**CORNER TYPE**  
osbourne pharmacy



south elevation - marshall street



west elevation - madison street



corner of madison & marshall street

reinforced grid intersection  
by sunken railway line

re zoning of western Jeppestown to medium industrial

beginning of insurgent inhabitation of western Jeppestown

between grid and intersecting railway line  
- negotiating edges and leftover spaces

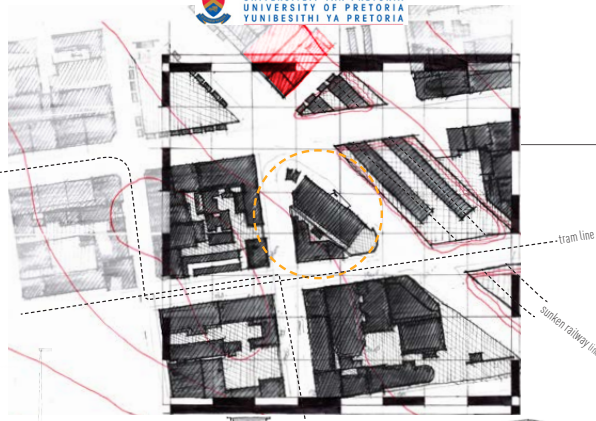
### GENERATION III

blind commitments & torn relations - 1961

new railway & station complex sunken railway line rezoning of western Jeppestown to medium industrial area



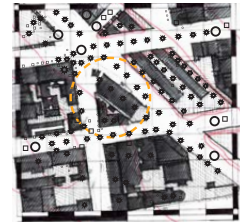
**URBAN OBJECT**  
jepe station



west elevation - john page drive

station at centre of public space

west elevation - john page drive



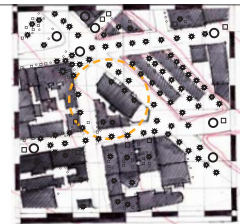
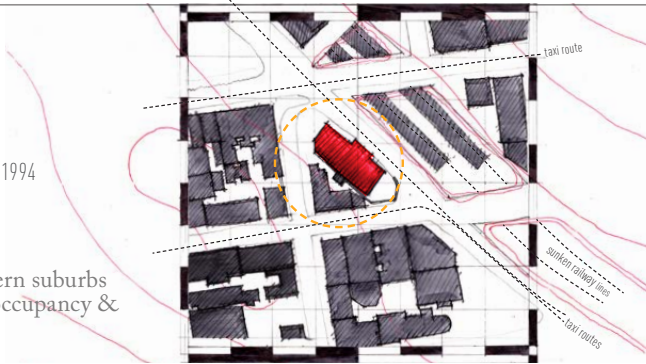
- PRODUCTION** \* skills & product □ economic growth
- raw material □ movement □ retiring/arriving
- COMMUTING** ○ leaving □ sustaining livelihood
- TRADE** \* competition □ exchange with passing people
- RECREATION** \* personalities & associations □ cultural exchange □ participation

### METAMORPHOSIS 4

### GENERATION IV

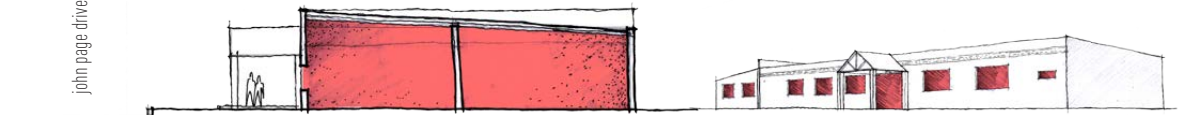
establishing personality - 1994

trams removed taxis introduced emigration to northern suburbs industrial building occupancy & habitation



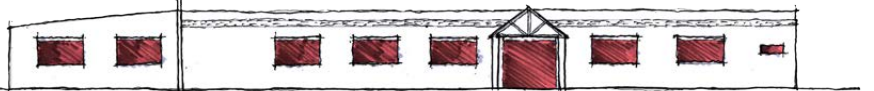
- PRODUCTION** \* skills & product □ economic growth
- raw material □ movement □ retiring/arriving
- COMMUTING** ○ leaving □ sustaining livelihood
- TRADE** \* entrepreneurship □ exchange with passing people
- RECREATION** \* personalities & associations □ cultural exchange □ participation
- INHABITATION** \* appropriation □ survival territory

john page drive



corner of john page & madison street

**OBJECT ON A PLOT**  
site building



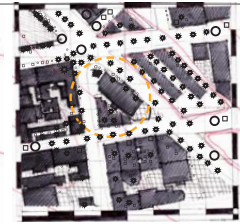
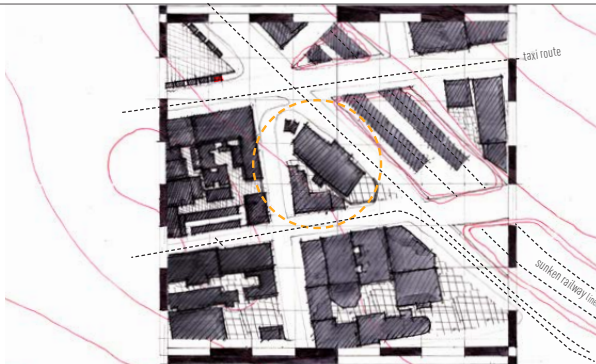
north elevation - john page drive

### METAMORPHOSIS 5

### GENERATION V

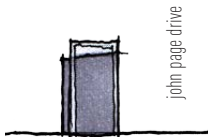
future prospecting - 2014

station precinct regeneration market & taxi rank



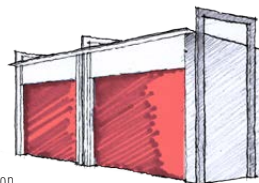
- PRODUCTION** \* skills & product □ economic growth
- raw material □ movement □ retiring/arriving
- COMMUTING** ○ leaving □ sustaining livelihood
- TRADE** \* entrepreneurship □ exchange with passing people
- RECREATION** \* personalities & associations □ cultural exchange □ participation
- INHABITATION** \* appropriation □ survival territory
- SPIRITUALITY** \* gratitude □ subservience □ silence

john page drive



**MOVEMENT EDGE**  
market stall

3d market edge articulation facing toward streets



street view - john page drive

## 2.3. READING RITUAL

Jepe today is characterised by the intersection of local and foreign political, economic and social interests. It is a remaining slice of seemingly uninhabited land in close proximity to the inner city. To the prospecting property developer, Jepestown is akin to an untapped gold reserve. Local inhabitants are often innocent victims of escalating rentals (by illegal landlords) and evictions (Reid 2014) by property owners jumping at the capitalist potential of this reserve. The local community of Jepestown West can easily become marginalised with, once again, their livelihoods and homes substituted for more palatable modern ideals influenced by globalised trends of gentrification and urban encroachment. In *We Been Here!*, influential film-maker Spike Lee comments on gentrification in Brooklyn as akin to Columbus coming in and killing off the Native Americans (Coscarelli 2014).

In light of these internal conflicts - marginalised local resistance and the possibility that private influences on state capacity could result in government 'pulling the drip' on the community of Jepe - the becoming place of Jepestown and the capacity of its community is read at the micro scale as a series of social, economic and political potentials that form the basis of significant ritual values.

### social potential

Informal site walks and conversations with local business people and prospecting developers, as well as information gathered from the film *Jepe on a Friday* by Walsh and Lalloo (2013), informed the categorical reading of networks of local (residing in Jepestown) and external (residing elsewhere in the city) subjects currently inhabiting Jepestown West. These are listed in terms of their degrees of civic engagement, where the highest displays characteristics of strong civic and community interest due the dependence of their livelihood on the place. The lowest degree displays the inverse due to a livelihood that is stratified across the metropolis.



subject 1: local retailer  
**[highest degree of civic engagement]**

The local retailer lives nearby and runs a barber shop that he and his brother own. They don't need much space and the cover provided by the 'hole in the wall' on the site is sufficient for their day-to-day operations. The blaring music and the intimacy of the shop is definitely authentic to their marketing strategy.



subject 2: foreign retailer  
**[high degree of civic engagement]**

A corner grocer with day-to-day supplies. The trading counter at the door is the place of exchange. Airtime is being loaded, cigarettes being lit. His shop is 'open till late' and is a source of light and safety at night.



subject 3: local market trader  
**[high degree of civic engagement]**

Fresh produce is procured from delivery bakkies that come by each morning. She buys enough basic fruits and vegetables for each day. The excess is stored in the stall that costs R70 per month to rent from the City. Her livelihood is limited by the daylight. It is dark and scary at night.

Figure 2.10. Local retailer,  
(Author 2014).

Figure 2.11. Foreign retailer,  
(Author 2014).

Figure 2.12. Local market trader,  
(Author 2014).

subject 4: foreign market trader  
[low degree of civic engagement]

The newspaper stand opens early and provides a point of access to changing information on a daily basis. He paints this corner with the news there is a sense of his constant presence rendered by the patina of paper and glue strewn across his stall and its surrounding surfaces. He presents an external presence in Jeppe.



subject 5: city commuter  
[lowest degree of civic engagement]

This passer-through arrives in the precinct at 07:00 and catches a taxi from the corner at the Grand Station Hotel into town. He will pass by again at 17:30 and possibly pick something up from the traders as he hurries to catch a train (that isn't always on time) back home to the East Rand.



subject 6: jeppe dweller  
[high degree of civic engagement]

The dweller is an opportunist who has mastered the negotiation of the streets of Jeppe. The dweller is employed by the street and is dedicated to capitalising on its potentials. His character paints the occupation of corners, sidewalks and vacant streets. The dweller stitches narratives of Jeppe together as he weaves his own livelihood out of their adjacencies. He lives nearby and against all odds, he gets by.



Figure 2.13. Foreign market trader (Author 2014).

Figure 2.14. City commuter (Author 2014).

Figure 2.15. Jeppe dweller (Author 2014).



subject 7: local resident  
[highest degree of civic engagement]

The Grand Station Hotel is home, and work is in the city. The local resident has settled in Jeppe and maintains interests in the greater metropolis. She has access to resources and work across the borders. She is invested in the community through the lives and well-being of her children who attend school in Jeppestown.



subject 8: foreign resident  
[low degree of civic engagement]

A traveller to Jeppestown. The foreign resident rarely carts himself into Jeppestown. On the odd occasion that he does it is most likely for the purposes of servicing a vehicle, using the services of a specific industrial trade (such as shop fitting or furniture upholstery). He does not usually stay for extended periods of the day, but sometimes his visit does call for it.

Figure 2.16. Local resident (Author 2014).

Figure 2.17. Foreign resident (Author 2014).

Figure 2.18. Social potential study, John Page Drive – following page, (Author 2014).



**LOCAL - JEPPESTOWN**  
**FOREIGN - JHB METROPOLIS**



selected site



**S8: FOREIGN  
RESIDENT**  
traveller



**S5: CITY  
COMMUTER**  
taxi & train  
user



**S7: LOCAL  
RESIDENT**  
grand station  
hotel



**S4: FOREIGN  
MARKET TRADER**  
newspaper stand

**S2: FOREIGN  
RETAILER**  
corner grocer



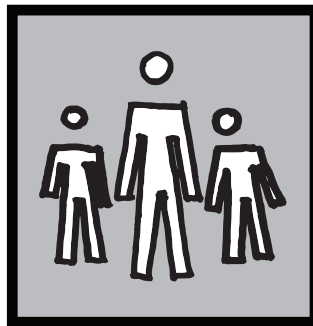
**S3: LOCAL  
MARKET  
TRADER**  
fresh produce  
stall



The subjects listed above are posited to operate primarily within the following network categories:

## family network

Composed largely of local subjects engaging with a degree of family livelihood, residency and education in Jeppestown.



## trade network

Composed of local and external subjects reliant on trade possibilities based on proximity to the inner city and a communal access point of commuters travelling to and from the East Rand.



## commuter network

Composed largely of external subjects accessing Johannesburg (South) and Jeppe primarily from the East Rand.

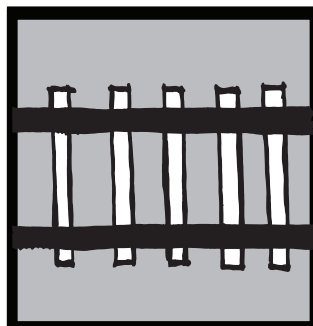


Figure 2.19. Family network, (Author 2014).

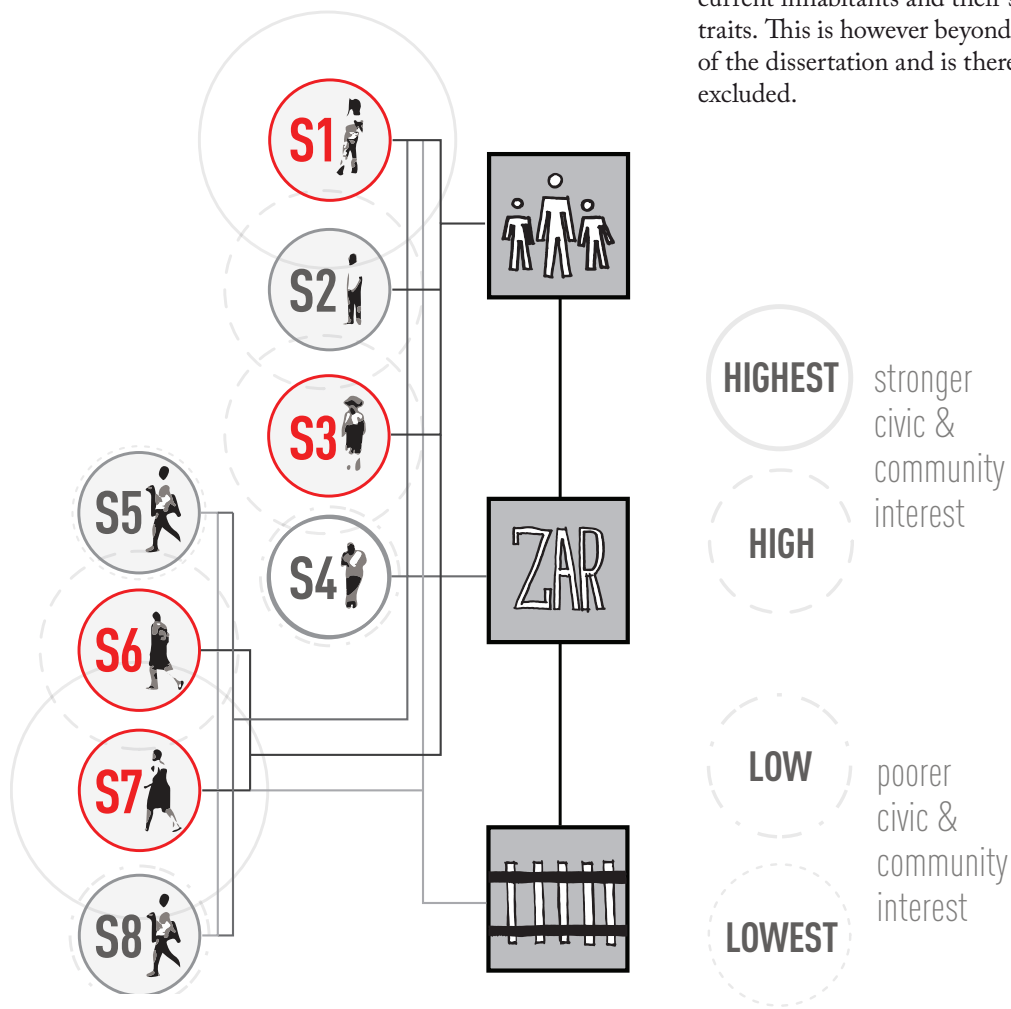
Figure 2.20. Trade network, (Author 2014).

Figure 2.21. Commuter network, (Author 2014).

Figure 2.22. Site subjects & associated network relationships - facing page, (Author 2014).

The described site subjects and the play of their interactions across the territory of Jeppestown, as unpacked through the associated family, trade and commuter networks, are constantly in dialogue with a collective memory that is authentic to the place of Jeppestown.

These subjects and networks are but an interpretation of the ethnographic qualities of the community reliant on Jeppestown. This interpretation merely scratches the surface of the community social potential present in Jeppestown. An ethnographic study would be required to attain a deeper understanding of the current inhabitants and their specific traits. This is however beyond the scope of the dissertation and is therefore excluded.



## economic potential

Significant facets of economic potential at play within Jeppestown are identified as either: prospecting city developers such as Propertyuity (Pty) Ltd – responsible for the encroaching private investment precinct of Maboneng; *municipal agencies* such as the City of Johannesburg Metropolitan Municipality and the Johannesburg Development Agency; *commuter market resilience* created by the adjacency to the station; and *collective local capacity* reflected in business forums, multi-generational businesses, Christian and Islamic religious societies, and mutually beneficial trades in current industrial businesses.



Figure 2.23. Economic potentials diagram, (Author 2014).

## political potential

Movements and initiatives that potentially impact and influence the ritual possibilities for the inhabitants of Jeppestown are:

The Johannesburg Growth Development Strategy 2040 (City of Johannesburg, 2014) – its primary objectives are resilience, sustainability and liveability through economic growth, governance, human and social development and environment and services.

The City of Johannesburg *Corridors of Freedom* initiative (South Africa: 2013) seeks to transform apartheid settlement patterns along segregated corridors. The mining belt (of which Jeppestown is a component) is identified as a medium-term targeted area for implementation in 2016, in an effort to densify the city, decrease transport costs and make better places for people.

The intersection of social, economic and political potentials illustrates the current ritual values of Jeppestown that, in conjunction with typological and ecological values, creates a picture of the current state of its morphology.

### DEMOCRATIC SPACEMAKING

through collective engagement



### FREEDOM CORRIDORS

- 2016 mining belt - stitching together the city



### JOBURG GROWTH DEVELOPMENT STRATEGY 2040

economic growth, governance, human and social development, environment and services  
= resilience - sustainability - liveability



### JOHANNESBURG CITY PARKS

public open space management



### SPORT FOR CHANGE YOUTH DEVELOPMENT THROUGH FOOTBALL



sport & recreation

Department:  
Sport and Recreation South Africa  
REPUBLIC OF SOUTH AFRICA

### HISTORICAL MIGRANT WORKER INKATHA FREEDOM PARTY ALLEGIANCE

wolhuthel hostel



### HERITAGE PROMOTION CULTURAL DEVELOPMENT SOCIAL COHESION PERFORMING ARTS



arts and culture

Department:  
Arts and Culture  
REPUBLIC OF SOUTH AFRICA

### STATE HOUSING DEVELOPMENT

provision of basic services to all



human settlements

Department:  
Human Settlements  
REPUBLIC OF SOUTH AFRICA

Figure 2.24. Political potentials diagram, (Author 2014).

## 2.4. READING TYPOLOGY TODAY

In Jeppetown, formal typological values of the extant fabric on and adjacent to the site are contributed by structures that date back to Generation 1 (1886) – the Osbourne Pharmacy (and adjacent Victorian house), and Generation 2 (1902) – the Grand Station Hotel. These may be defined as unintentional monuments. Their creators did not as a rule intend to leave evidence of cultural life to future generations and thus they stand in contrast to deliberate monuments (Riegl 1982: 72).

The typological significance of the Osbourne Pharmacy (and the adjacent abandoned Victorian house), the Grand Station Hotel and Jeppe Station can be understood in terms of their contributing formal, historical and age values.

Historical value is a physical manifestation of a historical narrative of societal (& artistic) development (Riegl 1982: 75); historically valuable structures therefore indicate a progression of aesthetic and formal tendencies over time. Historical values tie the notion of progress to place.

The historical value of the corner typology of the Osbourne Pharmacy is significant for its stylistic references to the culture of early prospecting settlers in Johannesburg. Its Victorian references illustrated by the slender columns hugging the sidewalk speak of the British influences prevalent during its conception (figure 2.30) and the value and emphasis placed on civic life by its creators.

The Grand Station Hotel is somewhat more massive and dominant upon the landscape. Its segmental pedimented gables, corner resillits and (currently removed) urns make stylistic reference to similar structures instituted by the Department of Public Works, under the leadership of architect Sytze Wierda when the Zuid-Afrikaansche Republiek was in office at the dawn of the 20th century (figure 2.29). An archive photograph depicts the then face-brick hotel behind the first Nederlandsche Zuid-Afrikaansche Spoorweg-Maatschappij (NZASM) train station, at the level crossing over the market square of Jeppetown (figure 2.26). It is a cultural artefact of significant historical value that communicates the identity and ideals of the *zeitgeist* of its origin. Jeppe Station is also historically significant as an urban object. The primary geometry of its composition, stratified horizontally by strip windows, represents the ideals and character of its modernist *zeitgeist*.

*Figure 2.25. Site axonometric - typological values, facing page (Author 2014).*

Age value reveals itself at first glance in a monument's outmoded appearance. It reveals imperfection and a lack of completeness, and stands in contrast with newly created works (Riegl 1982: 72). Age value has an advantage over other ideal values of an artefact, as it addresses everyone without exception and rests upon the notion that every person can distinguish between the old and the new (Riegl 1982: 74). The Osbourne Pharmacy and its adjacent abandoned Victorian house communicate

facets of age value through the patina of finishes applied to the surfaces of their steel columns, gutters and roofs. The structures, although well-kept, are visibly outmoded in the context.

As an artefact the Grand Station Hotel is less significantly aged, due to a complete change in the character of its façade which is now plastered and painted. There are minor references to its age value, such as the incomplete signage hanging off the Eastern façade (figure 2.31).

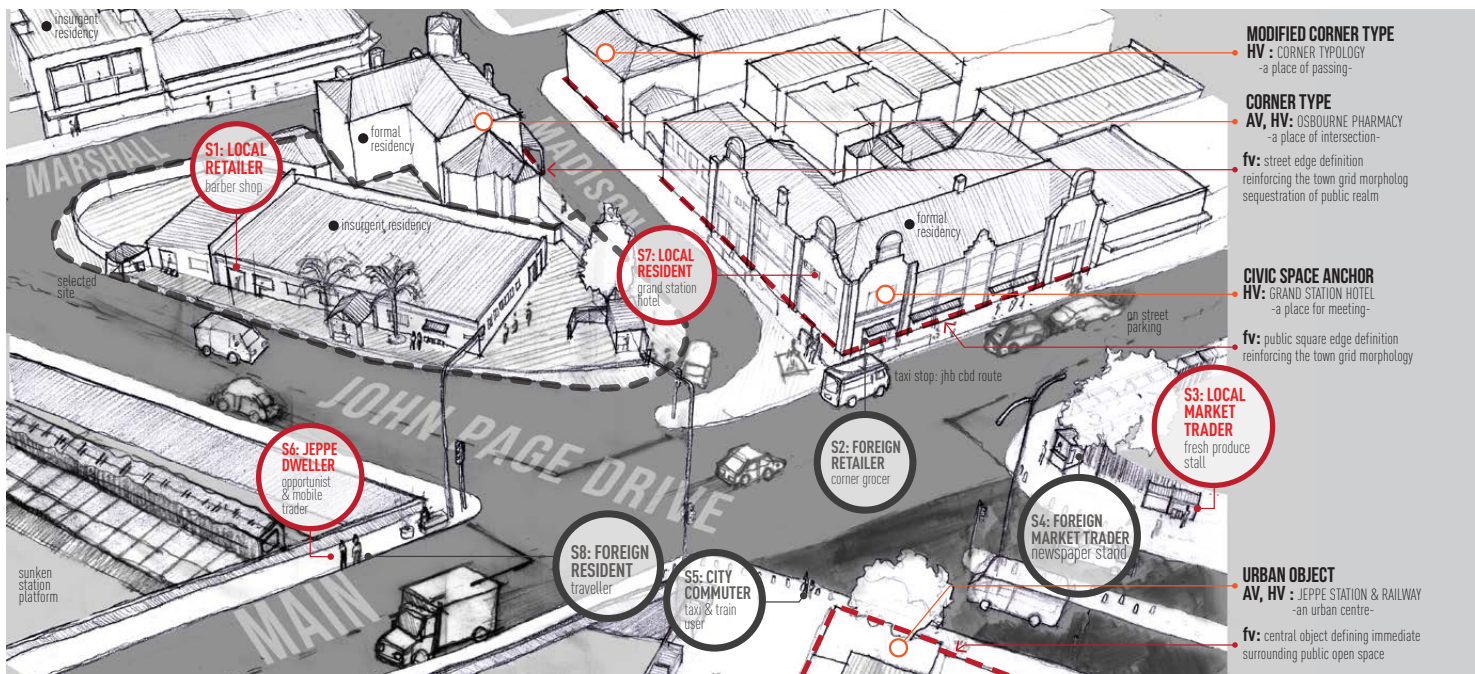






Figure 2.26. Nederlandsche Zuid-Afrikaansche Spoorweg-Maatschappij (NZASM) train station, (Barnett n.d.).

Figure 2.27. Jeppe station - East elevation, (Author 2014).

Figure 2.28. Grand station hotel - North elevation, (Author 2014).

Figure 2.29. Government printing works, Pretoria (Author 2014).

Figure 2.30. Osbourne Pharmacy - South elevation, (Author 2014).

Figure 2.31. Grand Station Hotel - East elevation, (Author 2014).

Formal values are interpreted within the context for their contribution as physical components of the current urban form. The Osbourne Pharmacy reinforces the initial city grid and the relegation of the public to its edges. Subjects are however accommodated at this edge underneath the shade of a canopy. Its edge is defined where its slender columns meet the pavement (figure 2.30).

The Grand Station Hotel similarly reinforces the formal constraints of the inner city grid and defines the public realm. Its edges consist of deep shop fronts that open onto a slender pavement. Initially its deep stoep provided a place of rest for the public; however, now that this space has been taken over by businesses, the public is again at the edge. The new shop openings are shaded by makeshift awnings (figure 2.22).

The most significant formal value of Jeppe Station is characterised by its massive exterior (in dialogue with the Grand Station Hotel) that becomes an urban landmark in the town centre, reinforced by the dominance of its concrete towers (figure 2.21).

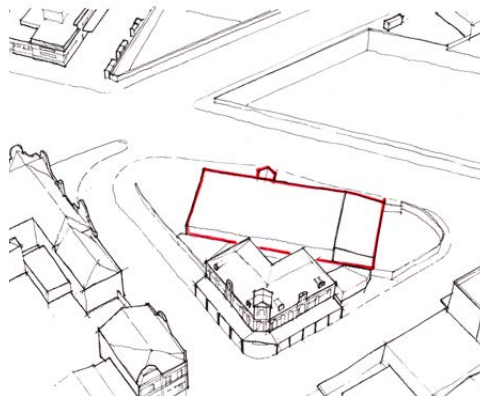
From the reading of the typological significance given above it is noted that an urban metamorphosis should strike a harmonious relationship between the aged characteristics that stand in contrast with newer structures, and the values that reveal its original state of creation and original intention – those values of the structure that require adequate protection and conservation. In this sense the intervention mediates values, treading lightly upon extant fabric to maintain the significance of the elements that have aged well and are historic, and their formal significance within the composition of the urban form. Overall, the analysed typologies illustrate positive potentials for human civic engagement in an overwhelmingly broad grained urban fabric.

## formal potential

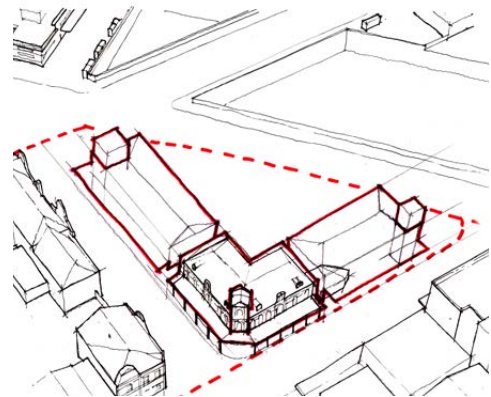
Formal potentials that can be read as constraints and opportunities are illustrated as abstracted diagrammatic studies that focus primarily on the current significances of urban form and typology of the becoming morphology. These studies further ground the possibilities for how the new fabric can and should touch the existing built urban landscape.

## 1. discontinuity vs. interaction

The current Generation IV site building has caused a discontinuation of the formal urban potential of corner types. Its removal would create possibilities for interactions between the Generation I corner type, the Generation II civic space anchor, and the intersecting city/railway grid. These intersections create clues for future urban form dialogues.



discontinuation of extant formal urban potential of corner types by generation IV - object on a plot.



interaction between generation I - corner type, generation II civic space anchor & intersecting city/railway grid creates clues for future urban dialogue.

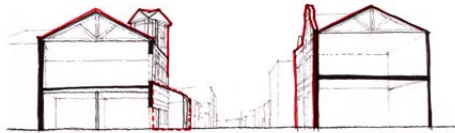
Figure 2.32. Discontinuity vs. Interaction, (Author 2014).

## 2. neglect vs. inclusion

The current condition neglects the significance of hierarchical urban forms of the historic vernacular landscape and creates dissonant compositional relationships with later types. Two-storey historical mixed-use hybrid types create the potential for establishing a continuity of activated edges that would speak to the datum of a historically significant urban scale.



neglected significance of hierarchical urban form of historic vernacular landscape & dissonant compositional relationship of later types.

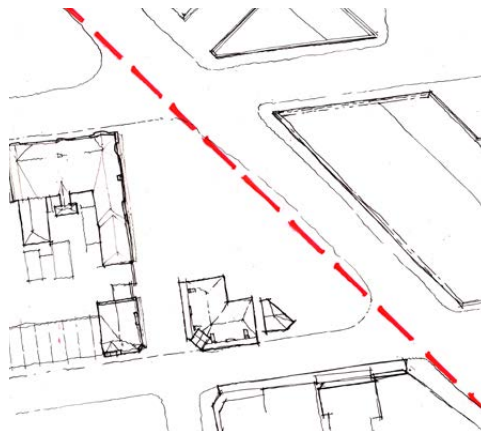


vertical mixed use hybrid layering of residential and commercial/service spaces. establishing a continuity of activated edges and a relationship to significant historical scale datum.

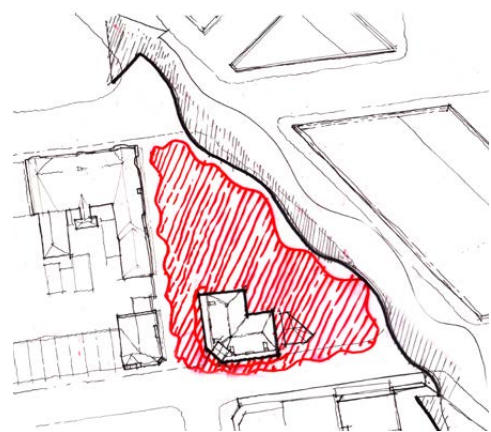
*Figure 2.33. Neglect vs. Inclusion, (Author 2014).*

### 3. division vs. conclusion

The contrapuntal intersection of John Page Drive and the adjacent railway line divides the urban form and creates a difficult abutment to sequences of urban navigation from East to West (and vice versa). This intersecting line and its accompanying pedestrian movement and activity along John Page Drive creates a boundary termination and concludes a grouping of historically significant buildings on the regenerative spine.



contrapuntal intersection of John Page Drive and railway line creates difficult abutment to sequence of urban navigation..

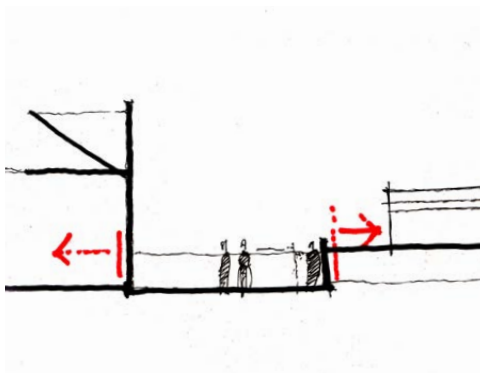


pedestrian movement & activity along John Page Drive creates a boundary termination to a grouping of historically significant buildings..

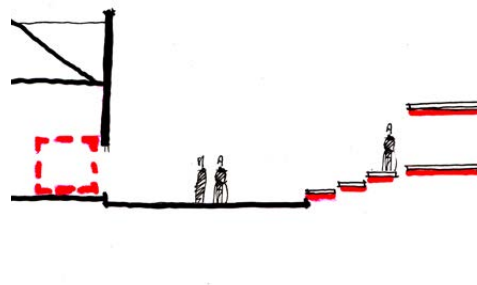
Figure 2.34. Division vs. Conclusion, (Author 2014).

## 4. introverted vs. receptive

Introverted conditions of blank, inactive edges along Madison Street present opportunities for the softening and deepening of edges as transitional spaces along an active pedestrian route.



introverted condition of blank inactive edges along madison street.



softening and deepening of edges as transitional spaces for a pedestrianised madison street.

## hierarchies of significance

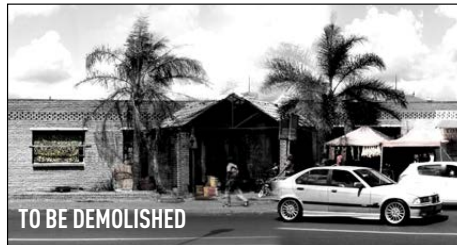
The significance of fabric adjacent to the chosen site is hierarchically listed from having little meaning (where fabric can be demolished) to having high meaning (where fabric should be conserved).



## A – generation IV:

object on a plot –  
the building on the chosen site

Introverted conditions of blank, inactive edges along Madison Street present opportunities for the softening and deepening of edges as transitional spaces along an active pedestrian route.



**A.** GENERATION IV  
site building  
object on a plot

social and economic ritual value as trade and production along a movement edge

## B – generation I:

modified corner typology –  
jeppestown musallah/jozi mall

This building is to be retained. It offers the values of its programme as a mixed-use commercial/spiritual civic anchor to the urban condition. It makes stylistic references to Generation I buildings in its roof and gable treatment. It is a formal complement to the Grand Station Hotel and the Osbourne Pharmacy.



**B.** GENERATION I  
jeppestown musallah/jozi mall  
modified corner typology

2014

mixed use commercial/spiritual civic anchor.  
stylistic references to generation 1 settlement in treatment of roof and gables.  
formal complement to grand station hotel and osbourne pharmacy.

Figure 2.36. Generation IV – site building, (Author 2014).

Figure 2.37. Generation I – Jeppestown Musallah/Jozi Mall, (Author 2014).

## C – generation III:

civic space anchor –  
grand station hotel

This landmark offers the age values of a weathered roof, signage (and typography), and historical values of the ZAR urban narrative and the inclusivity of what used to be its public stoep. In 2014 it is an iconographic signifier of Jeppestown. Its active edges mark it as a destination for trade and public gatherings. This building is to be retained and modified.



**C.** GENERATION II  
grand station hotel  
civic space anchor

### AGE VALUE

weathered roof,  
aged signage and  
typography.

### HISTORICAL VALUE

ZAR urban narrative  
the public stoep.

### 2014

iconographic signifier of Jeppe active commercial  
edges create a trading and public gathering  
destination.

Figure 2.38. Generation II – Grand Station Hotel, (Author 2014).

Figure 2.39. Generation I – Osbourne pharmacy, (Author 2014).

## D – generation I:

corner type –  
osbourne pharmacy

Age values illustrated by the patina of wall finishes, corrugated roofing and cast iron columns and lattice work are contributed by this structure. It is historically valuable for the way in which it influences and reinforces the settler grid through its Victorian stylistic orders. Its urban value as a corner typology gives clues for future urban growth patterns that are in dialogue with urban territories demarcated through form. It is a mixed-use typology that is significant and should be retained and modified.



**D.** GENERATION I  
osbourne pharmacy  
corner type

### AGE VALUE

patina of wall finishes,  
corrugated roofing &  
columns.

### HISTORICAL VALUE

stylistic victorian  
influence reinforces  
grid of settler  
urbanism.

### 2014

urban value as a corner typology giving clues  
for future urban growth as in dialogue with the  
demarcated urban territories through form.  
mixed-use typology.

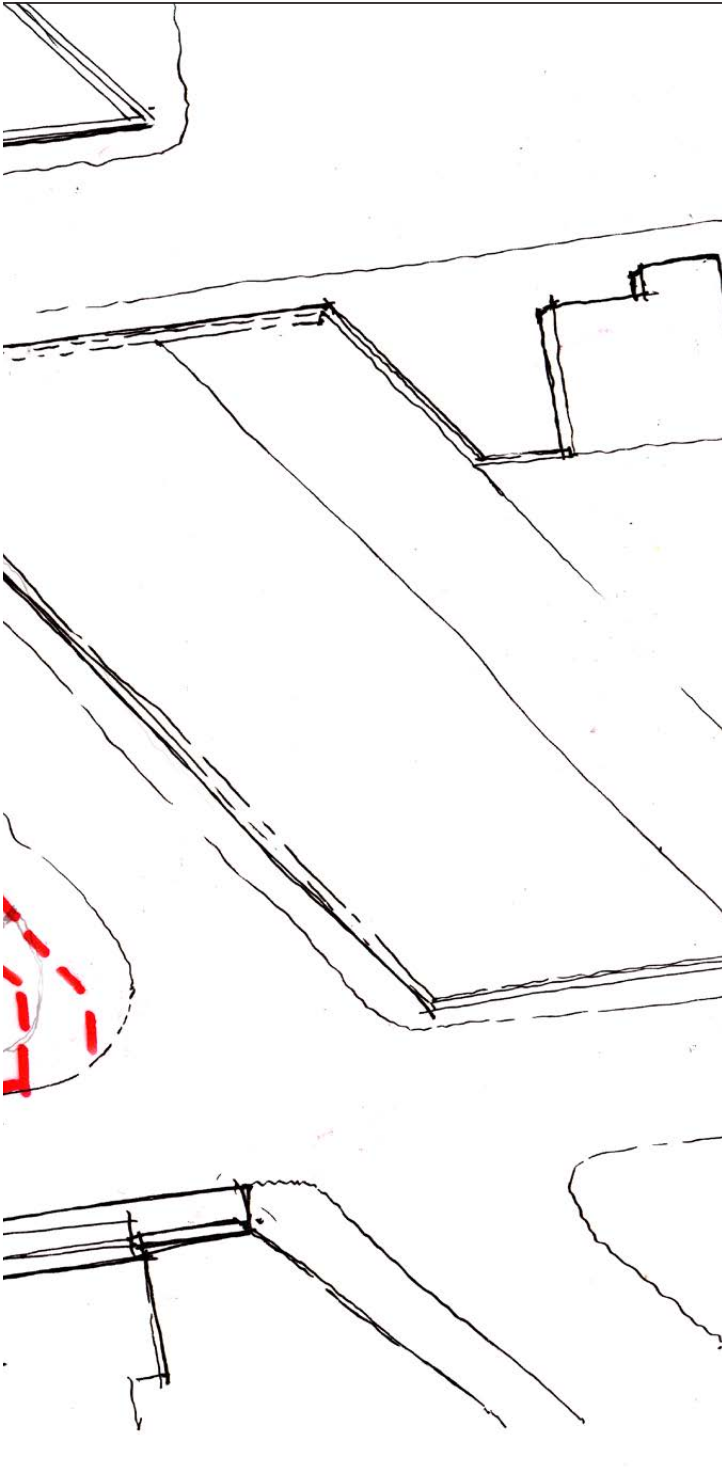
**LITTLE MEANING**  
demolish

**A.** **B.** **C.** retain and modify **D.**



## HIGH MEANING

preserve



From the above readings the following can be posited:

Generation I - Corner Typology: Osbourne Pharmacy is a significant component of a historically becoming urban form. A contemporary continuation thereof can inform the relationship of a new insertion on the site with a historical landscape.

This new insertion can potentially become a complementary metamorphosis, constructed of modified infill blocks, that completes urban form connections to the new regenerative urban spine – becoming a transformative urban component that speaks to both the historical and the new urban landscape.

*Figure 2.40. Sequence of significant events, (Author 2014).*

## 2.5. READING ECOLOGY

The third component of the morphological understanding of the site is a reading of the ecological potentials offered by the landscape of the urban territory. These are the following:

The topographical edge offered to Jeppestown West, manifested as the trench of the 1946 railway excavation, is a transitional landscape marker;

Rainwater made available by the abundance of hard surfaces and rooftops flows across the site from Jeppe Station towards Jeppe Park; Organic and abiotic wastes from the market and adjacent businesses; and Industrial wastes, metals and oils from the greater Jeppestown West area.

This is a general overview of possible avenues for grounding the intervention within its ecological context. It is additionally noted from observations of the site that the haptic presence of the ecological landscape is suppressed by the urban fabric and (with the exception of Jeppe Park) its relationship to the community is largely non-existent.

The productive landscape is a key component of the spinal development within which this intervention is seated. Ecological components for consideration are proposed within a productive landscape strategy as described in *Volume 1: Jeppestown - A Prospect Ritual* (Dawjee et al. 2014: 88) and further detailed as a master plan development in *Volume 2: Landscape laboratory - Infrastructure and public space in the urban environment* (Wilken 2014: 120-135).

This productive landscape comprises of:

1. A sustainable public transport network;
2. A water harvesting and management strategy;

and

3. Vegetation & a reproductive strategy.

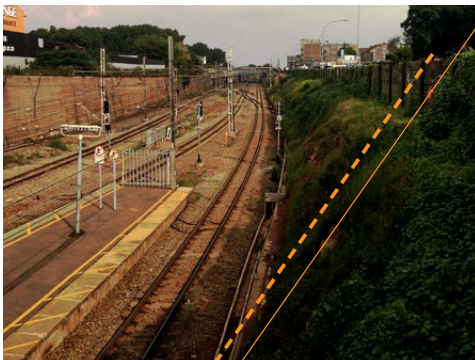


Figure 2.41. Railway trench, (Author 2014).

Figure 2.42. Hard surfaces & rooftops, (Author 2014).

Figure 2.43. Jeppe recycler - organic & abiotic wastes, (Author 2014).

“The context always forms an indirect material for ensuring an architecture of place. But what the architecture of modification can offer is a description of the movement toward these unattainable values, rather than acceptance of their final dissolution into contextual decoration” (Gregotti 1996: 73).

## 2.6. A BECOMING MORPHOLOGY

### evolutionary manifestations of place

The becoming morphology (singular) is read as a relational intersection of embedded typological, ritual and ecological values observed and interpreted within a particular context.

A current reading of these intersections, based on observations of people and ritual activity on site, is represented as illustrative rubrics of this morphology, i.e. subjective impressions of an evolving overall morphology of place in Jeppestown. This morphology is akin to a representation of the *locus of a collective memory* (Rossi *et al.* 1982: 130) of the city.

Identified morphological rubrics are:

- A - the island
- B - the periphery
- C - the sidewalk

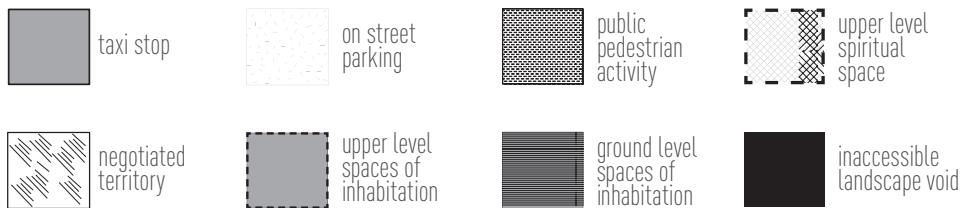
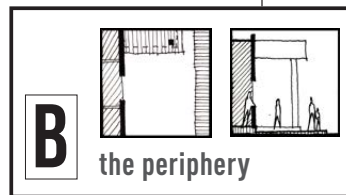
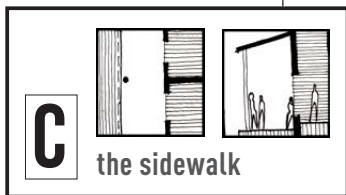
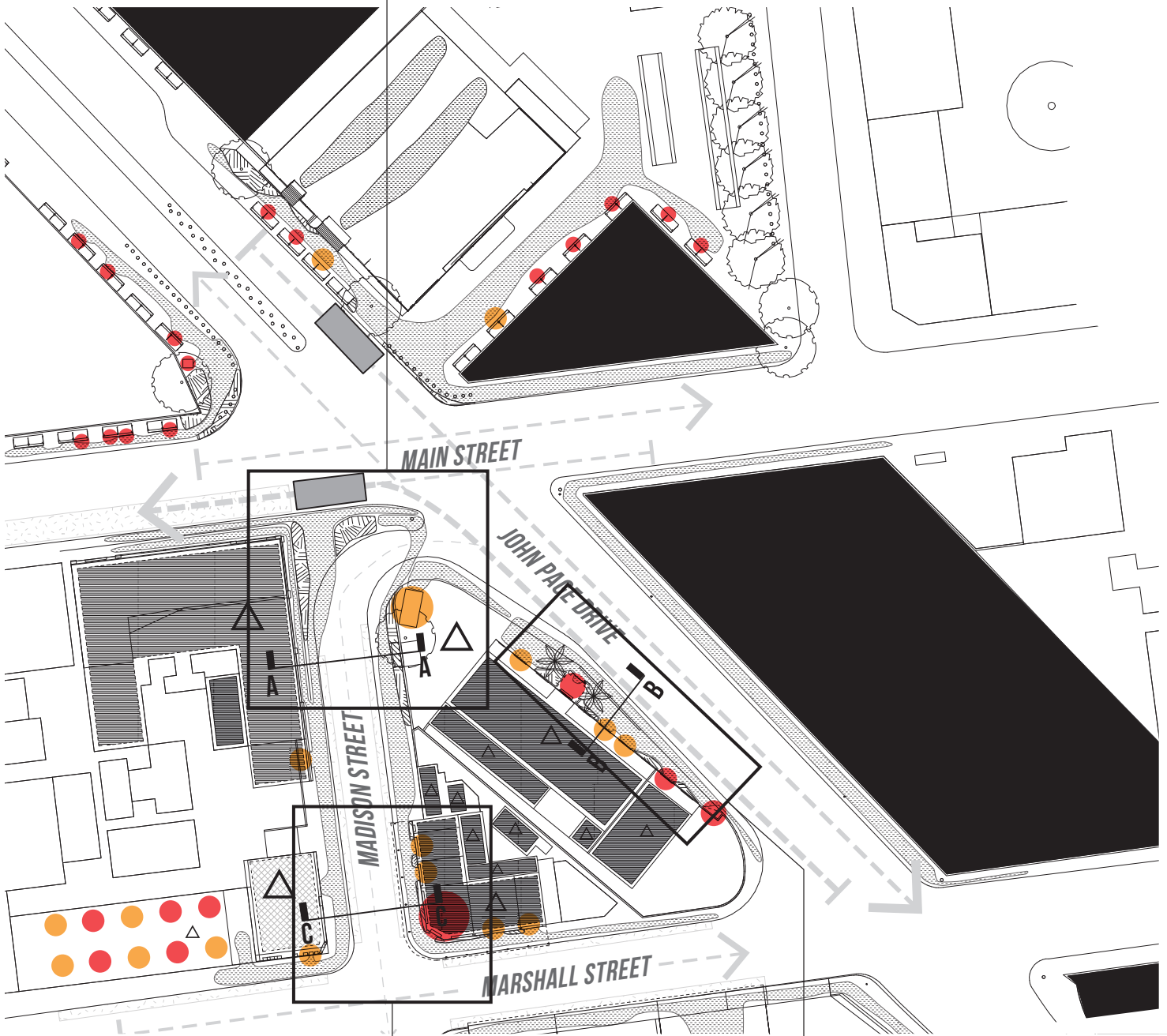
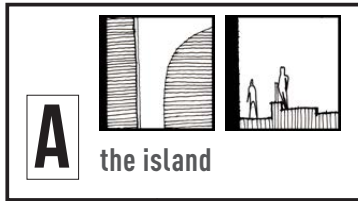


Figure 2.44. Morphological rubrics study, nts - facing page, (Author 2014).





## A – the island

The intersection of Main Street and John Page Drive, diagonally across from the entrance to the station, is characterised by a straddled negotiated territory on the pavement that becomes a space of event, and therefore perception and memory, through everyday public events. This pavement island is where people meet, gather and watch each other gathering from the periphery. The presence of people funnelled up between unforgiving walls along Madison Street and onto this island is overshadowed by the backdrop of the tall gables of the Grand Station Hotel. These become landmarks for this everyday meeting space. It can be considered as a micro square, with people meandering and pausing across

it, reorienting themselves within the city and providing choice of movement, allowing the subject to continue the orchestration of his/her everyday life – either taking a taxi, waiting for a friend, meeting a lover, watching lovers, or moving across the island and towards the station and market.

Significant ritual modes observed here are: the indifference of passing people; the perceptive exchanges through event, memory and negotiation; the loitering public being received at the peripheries of negotiated territories such as the micro square, and the expression of public being through recreational events in public spaces such as loitering, meeting and gambling.

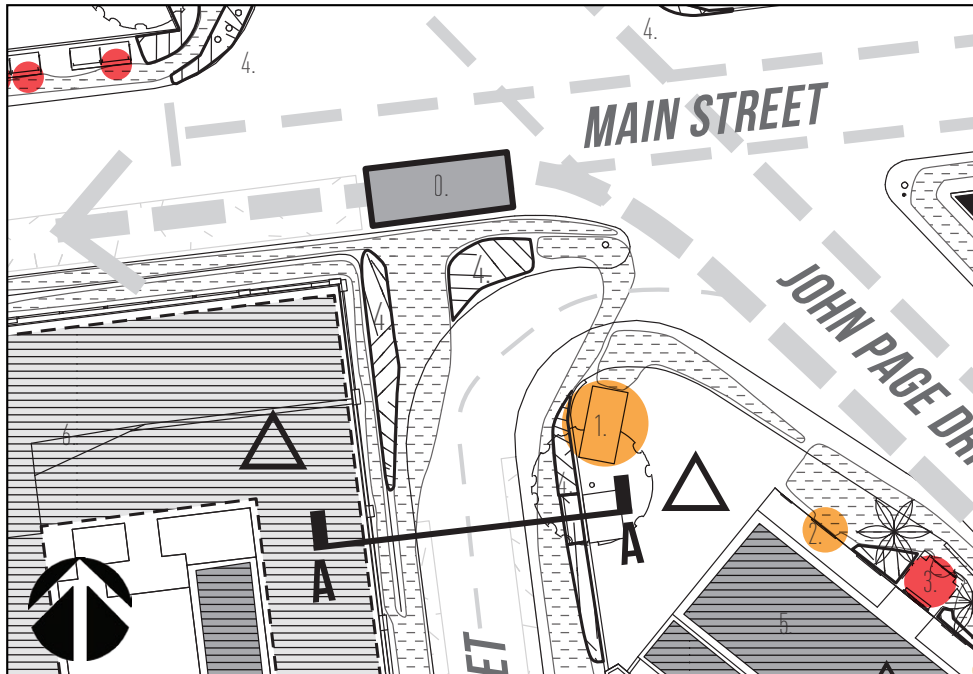


Figure 2.45. The island, plan, (Author 2014).

Figure 2.46. The island - section through Madison Street - facing page, (Author 2014).

△ indifference of passing people

✱ expression of public being through recreational loitering at negotiated territories

○ reception of public being at negotiated territories

□ negotiated territory becomes space of event and therefore perception through act & memory

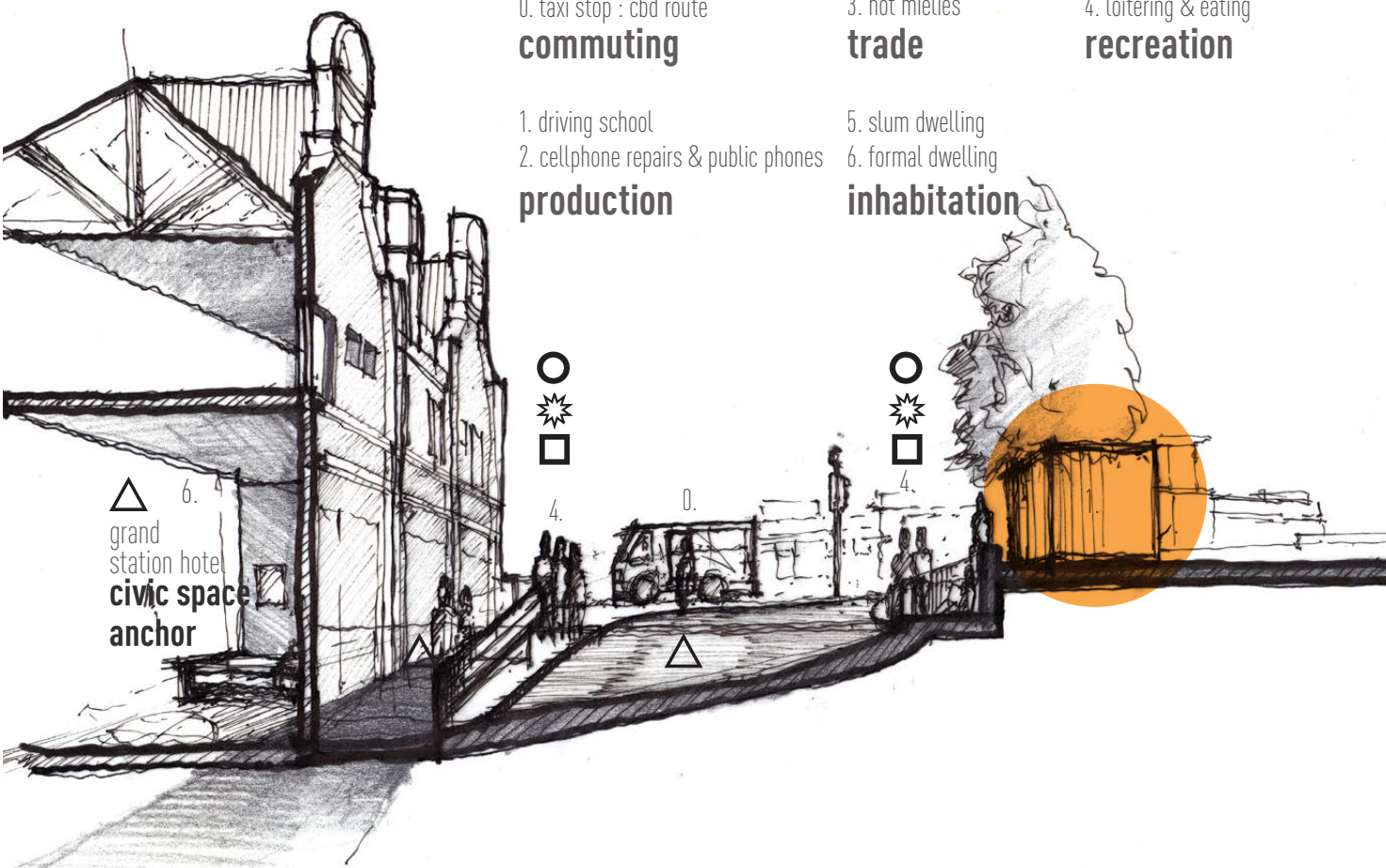
0. taxi stop : cbd route  
**commuting**

1. driving school  
2. cellphone repairs & public phones  
**production**

3. hot mielies  
**trade**

5. slum dwelling  
6. formal dwelling  
**inhabitation**

4. loitering & eating  
**recreation**



## B - the periphery

The linear edge of the triangular site along John Page Drive, between Main and Marshall Streets, is characterised by the pockets of ritual energy that open towards the passing public. These range from trade activities such as cooking hot mielies or repairing cellphones to a barber shop and photographic studio. The space between this activated edge and the traffic on John Page Drive is largely used by the passing public who can engage with the mentioned activities at a distance, or move towards their thresholds and interact with their rituals.

Notable ritual modes within this rubric are: the indifference of local inhabitants to the derelict site building; the perceptive exchanges that occur at interstitial spaces as passing subjects are confronted with the choice of engaging with peripheral activities or continuing on their commute; the reception of passing people by inhabitants of the edge; and the expression of the public peripheral activities, the presence of which sometimes flows out beyond their threshold and to the edge of the periphery, enticing the passing subject to engage with their offerings.

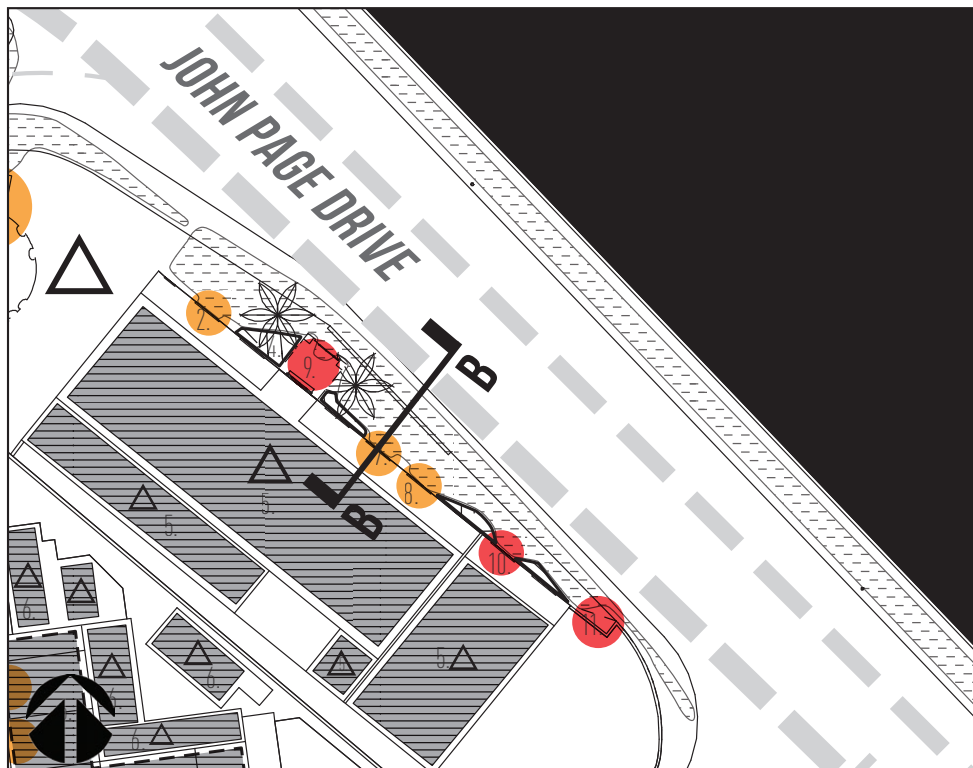


Figure 2.47. *The periphery - plan, (Author 2014).*

Figure 2.48. *The periphery - section through John Page Drive - facing page, (Author 2014).*



indifference of internal inhabitants



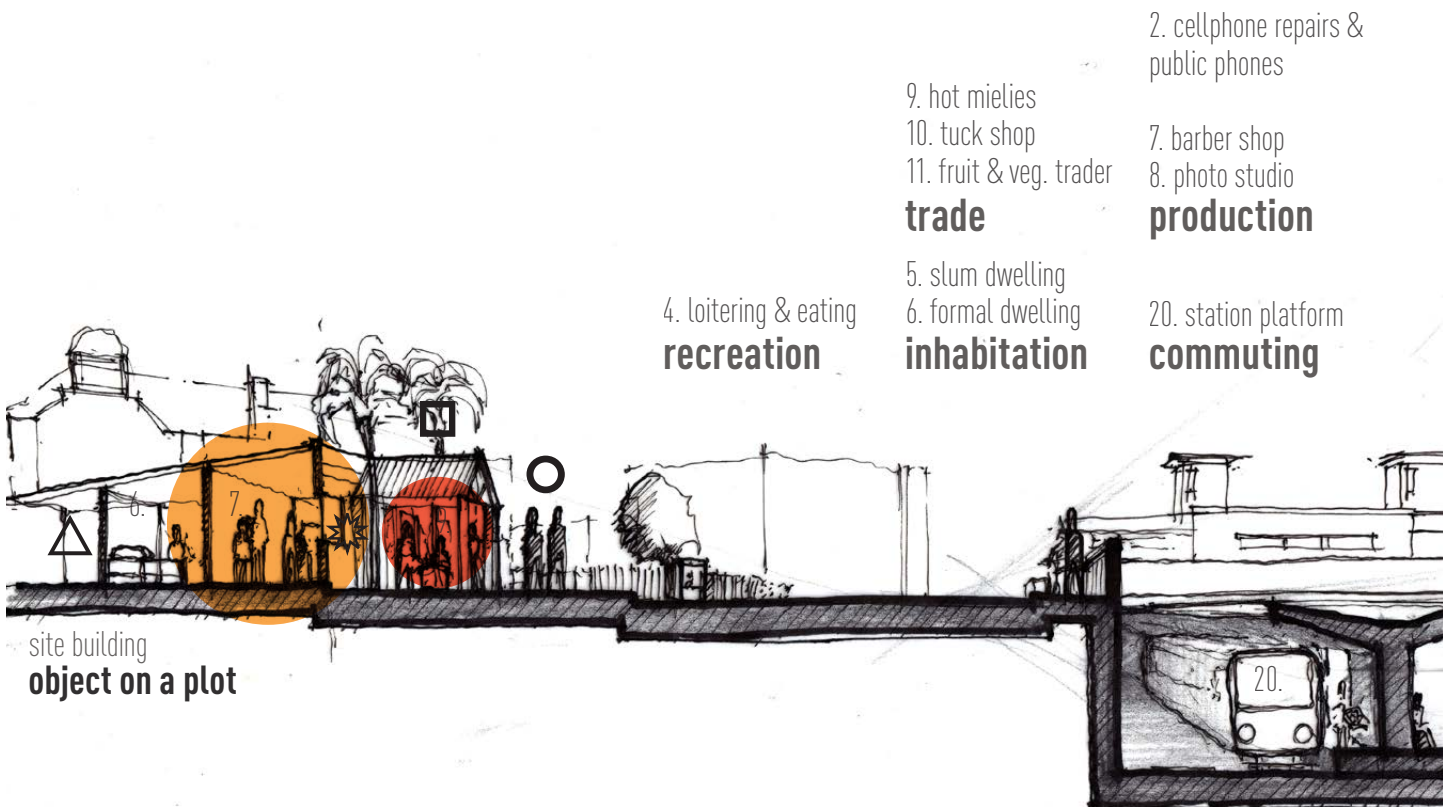
expression of periphery activities



reception of passing people



interstitial loitering spaces of event, perception & memory



2. cellphone repairs & public phones

9. hot mielies  
10. tuck shop  
11. fruit & veg. trader

### trade

5. slum dwelling  
6. formal dwelling inhabitation

4. loitering & eating recreation

7. barber shop  
8. photo studio production

20. station platform commuting

site building  
object on a plot

## C - the sidewalk

The pavement bounded by the Osbourne Pharmacy and the intersection of Madison and Marshall Streets is a place for passing through. It creates pockets of negotiated territories as subjects move across the threshold and engage with the activities visible behind the glass shop fronts of the building. The sidewalk and the corner are significant spaces that resonate with the everyday event noted at the island, on a smaller and less persistent scale.

The supermarket on the corner activates the space from 06:00 till 21:00, shedding

light onto this intersection and creating a safe place for rest and meeting underneath its canopy, in what could well be an intimidating environment at night. The sidewalk rubric is an idealised intersection of uses, where ground-floor spaces are semi-public service and product providers that activate and create visibility for the street, and where upper-level spaces are private spaces of habitation with a veiled presence toward Madison and Marshall Streets.

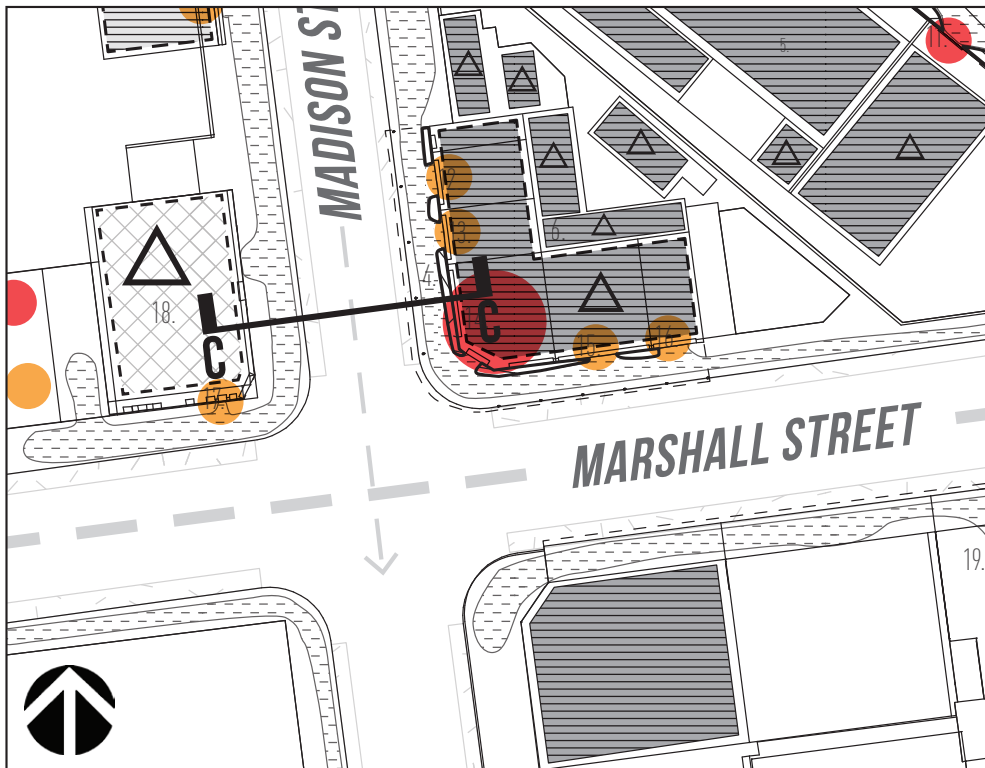


Figure 2.49. The sidewalk, plan (Author 2014).

Figure 2.50. The sidewalk - section through Madison Street - facing page, (Author 2014).

On the corner adjacent to the Osbourne Pharmacy, the modified corner typology of the Jeppestown Musallah (Mosque) represents an introverted condition of the sidewalk rubric that does not activate the edges of the street. It does however mirror the veiled upper level presence of Muslim devotees appearing and reappearing through the fenestrations as they move from a standing position to prostration. Their passing from the public realm into this introverted building – 5 times a day - also creates a temporal presence on the street and a limited opportunity for chance interactions at its uninviting threshold.

Significant ritual modes at this threshold are: the indifference of the internalised activities of the Muslim devotees; the perceptive exchanges that occur in interstitial spaces as subjects move past information presented behind shop fronts and have subliminal engagements with shop owners; the reception of customers into its internal semi-public ground floor – with the reception of Muslim devotees mirrored on the opposite side of the street – and the expression of event and activity that occupies spaces underneath the canopy of the sidewalk.

11. fruit & veg. trader  
14. corner grocer  
6am-9pm

**trade**

4. loitering & eating  
19. pool, drinking -  
bar, liquor store

**recreation**

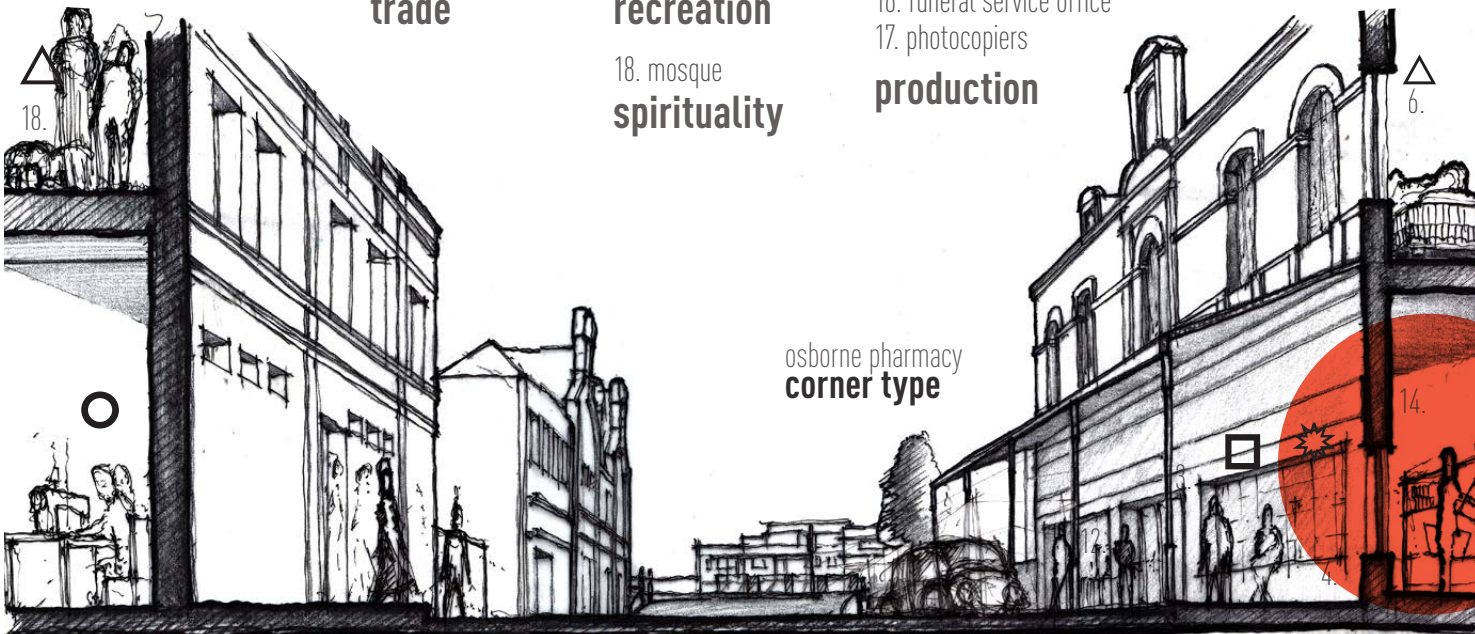
18. mosque  
**spirituality**

12. hairdresser  
13. hair supply store  
15. tailor  
16. funeral service office  
17. photocopiers

**production**

5. slum dwelling  
6. formal dwelling

**inhabitation**



The illustrated morphological rubrics create impressions of a becoming morphology that is influenced by the intersection of ritual, typological, and ecological components of the place.

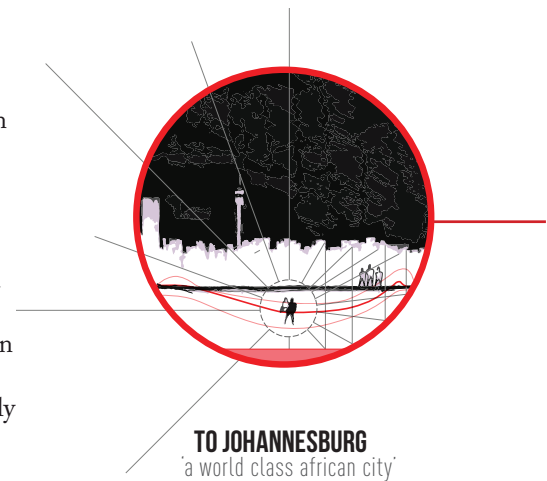
The spatial qualities create a backdrop for grounding a metamorphosis of the site that resonates with existing tendencies and creates new possibilities for this becoming morphology through the intersections created by the insertion.

## 2.6. A BECOMING MORPHOLOGY

An interpretative narrative of the significance of the selected site within Jeppé builds on the morphological rubrics illustrated above. The significance of the site as a place operates on the following three contextual scales: *To Johannesburg* (the metropolis of “A World Class African City”), *to the inner city* of that metropolis, and *to Jeppé itself* as a place of value and meaning.

### to johannesburg

*To Johannesburg* “A World Class African City” (Seedat & Gotz 2006), Jeppestown tells the historical narrative of its initial settlement and appropriation by gold prospectors and miners. The layering of its current habitation and its proximity to light industry makes it significant as a future mixed-use environment. Within the context of the metropolis, Jeppestown West is particularly significant as a peripheral industrial scar zone historically utilised to divide and segregate inhabitants of the Johannesburg inner city.



Historical narrative of settlement by appropriation of early prospectors.



Proximity and layering of industry & current inhabitation.



Peripheral industrial scar zone between multiple public divides of the city metropolis.

Figure 2.51.  
Jeppestown - to  
Johannesburg,  
(Author 2014).



## to the inner city

*To the inner city* Jeppe presents a significant opportunity for future densification, as noted in the Johannesburg GDS 2040 (City of Johannesburg 2014). It can also grow into an extension of that inner city as a trading destination for inhabitants of the periphery. This ties into significant historical narratives of trade in Jeppeshtown. Its proximity to the inner city makes Jeppeshtown a significant urban gateway node for segregated communities of the East Rand.



Proximity to the inner city:  
Gateway urban node from  
segregated East-Rand.



Space for future densification of  
Johannesburg as a livable city -  
GDS 2040.

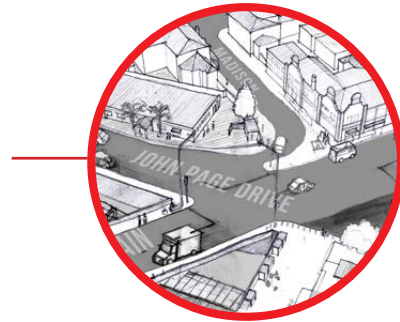


Extension of the city as  
a trading destination -  
historical narratives of Jeppe  
clothing retail.

Figure 2.52.  
*Jeppeshtown - to the  
Inner City,*  
(Author 2014).

## to jeppe itself

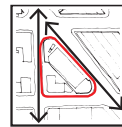
*To Jeppe itself* the selected site as a place of value and meaning forms a significant edge that receives energy emanating from the station. It is a place for passing through and the site allows for social engagement through the intersection of the identified networks. It can therefore be seen as a hybrid activation point for the embedded morphological potential of Jeppestown. Its triangular geometry as left-over soil (after the intersection of the sunken train line) makes it a significant spatial void within the urban form for the insertion of new fabric.



**TO JEPPE**  
a place of value and meaning



Significant edge for energy dispelled from station & subjects accessing engagement with networks.



Place of passing: Social engagement & intersection between trade, family & commuter networks.



Hybrid activation point for embedded morphological values of heritage fabric & adjacent historical market plein.



Spatial void for insertion of the new and the amplification of persistent tendencies of place.

Figure 2.53.  
Jeppestown - to  
Jeppe itself;  
(Author 2014).

## 2.8. STATEMENT OF HERITAGE SIGNIFICANCE

Jeppestown is significant as a place due to its resilience as a space of continual urbanisation and communal growth that has, to varying degrees, been a persistent tendency since it was first inhabited.

This significance is tied to the collective memory of its public and is accessed through the embedded ritual, typological, and ecological values, the intersection of which can be read as rubrics of a becoming morphology.

The current manifestation of embedded ritual and typological values are the most significant indicators of potential future trajectories of the place of Jeppestown.

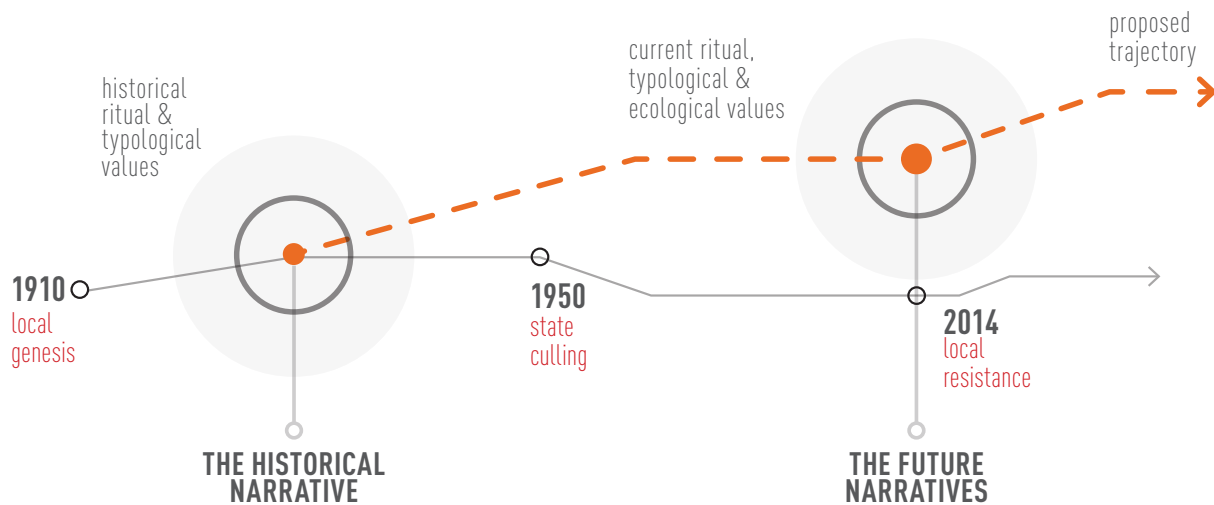


Figure 2.54. Future trajectories of Jeppe, (Author 2014).

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## 2.9. AN APPLICATION OF THE HERITAGE CHARTERS

The statement of significance forms the groundwork for further substantiation by research derived from the following applicable international charters and recommendations: *The Burra Charter* (ICOMOS 2000) and *The UNESCO recommendation on the Historic Urban Landscape [HUL]* (United Nations Education, Scientific and Cultural Organization [UNESCO 2011]).

Over the generations of its lifetime, Jeppestown and its inhabitants have contributed to an expression of place that has been carried through the evolution of a unique urban landscape. This place may therefore be understood as a *historic urban landscape*, with legible tangible and intangible characteristics as per the definition stated in TICCIH (2003). The historic landscape approach and its tools can therefore serve as an informant for dealing with an intervention within this broader urban context and geographical setting.

Considering the aforementioned historical narratives that marked the birth of the site, and its siting within the context of cultural & spatial narratives, the resultant diverse cultural landscape, as substantiated by the UNESCO (2011: 51) recommendation on the Historic Urban Landscape, becomes a key asset for social and economic development and makes provision for the harmonious integration of a contemporary intervention layered upon heritage.

## 2.10. INVESTIGATIVE FRAMEWORK STRATEGY

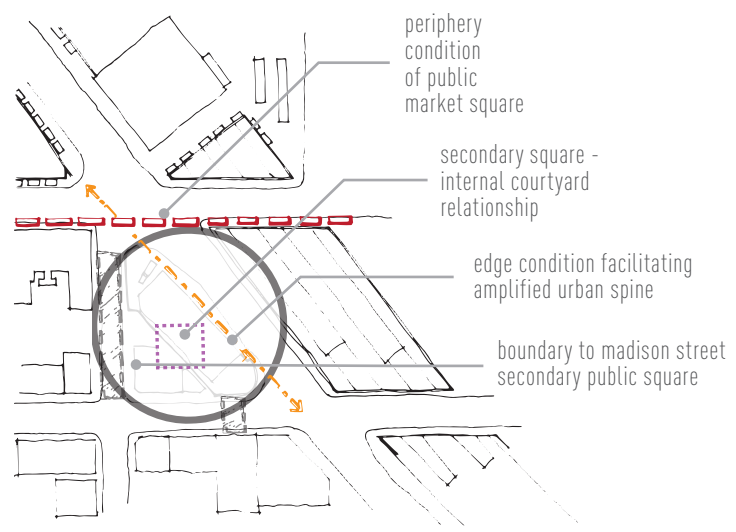
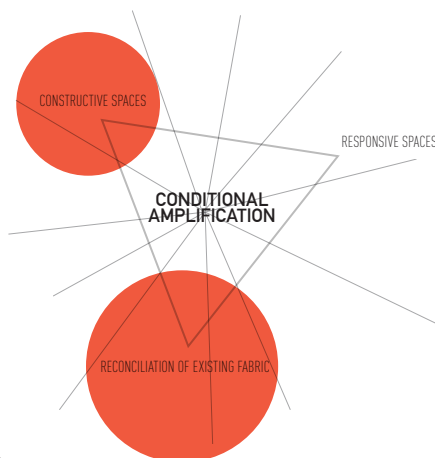
### a prospect ritual

The intersection of the contextual interpretations described above - in terms of a becoming morphology with the intent of the group macro and micro framework strategies *Volume 1: Jeppestown - A Prospect Ritual* (Dawjee *et al.* 2014: 94-102) described as *conditional amplification* - leads to the following:

- The reconciliation of existing fabric – through addressing key structures and their current significance around the site, i.e. the Grand Station Hotel and the Osbourne Pharmacy (and the adjacent Victorian house);
- Constructive spaces – the intervention will synthesise existing rituals and negotiated territories and create future possibilities for the public through the insertion of a new intervention over the derelict building that occupies the site.

Pragmatic considerations of urban form that guide the intervention are:

- The site forms a periphery condition of a reconfigured public square and station to its North;
- It is to facilitate an amplified edge condition along John Page Drive;
- Madison Street is to be pedestrianized and its facing edge should accommodate public activity;
- Internal semi-public courtyard spaces are to maintain a relationship with the street, reducing the scale of the blocks and creating a consistent language of inclusive spaces through traditionally broader-grained sites.



## 2.11. SOCIAL PROSPECTING

### a future strategy

The City of Johannesburg was founded through a series of prospecting rituals that sought the contents of its primary landscape value. This value is a culmination of a series of natural events, from the formation of the Witwatersrand basin 3000 million years ago, to the surface exposure of gold through the meteorite impact at Vredefort 2020 million years ago. Human beings finally stumbled onto its existence in 1886 on a farm in Langlaagte.

Now that the first wave of human rituals based on the extraction of gold is nearing its end, and a city has risen from within its wastes, what is the future of Johannesburg?

The practices associated with the extraction of gold from the soil have given rise to a layer of secondary landscape values, understood as a collective memory of continuous formation. This secondary landscape is embedded in the values of our social narrative.

A social prospecting of this reserve does not deplete its value but builds into the continual formation of this locus.

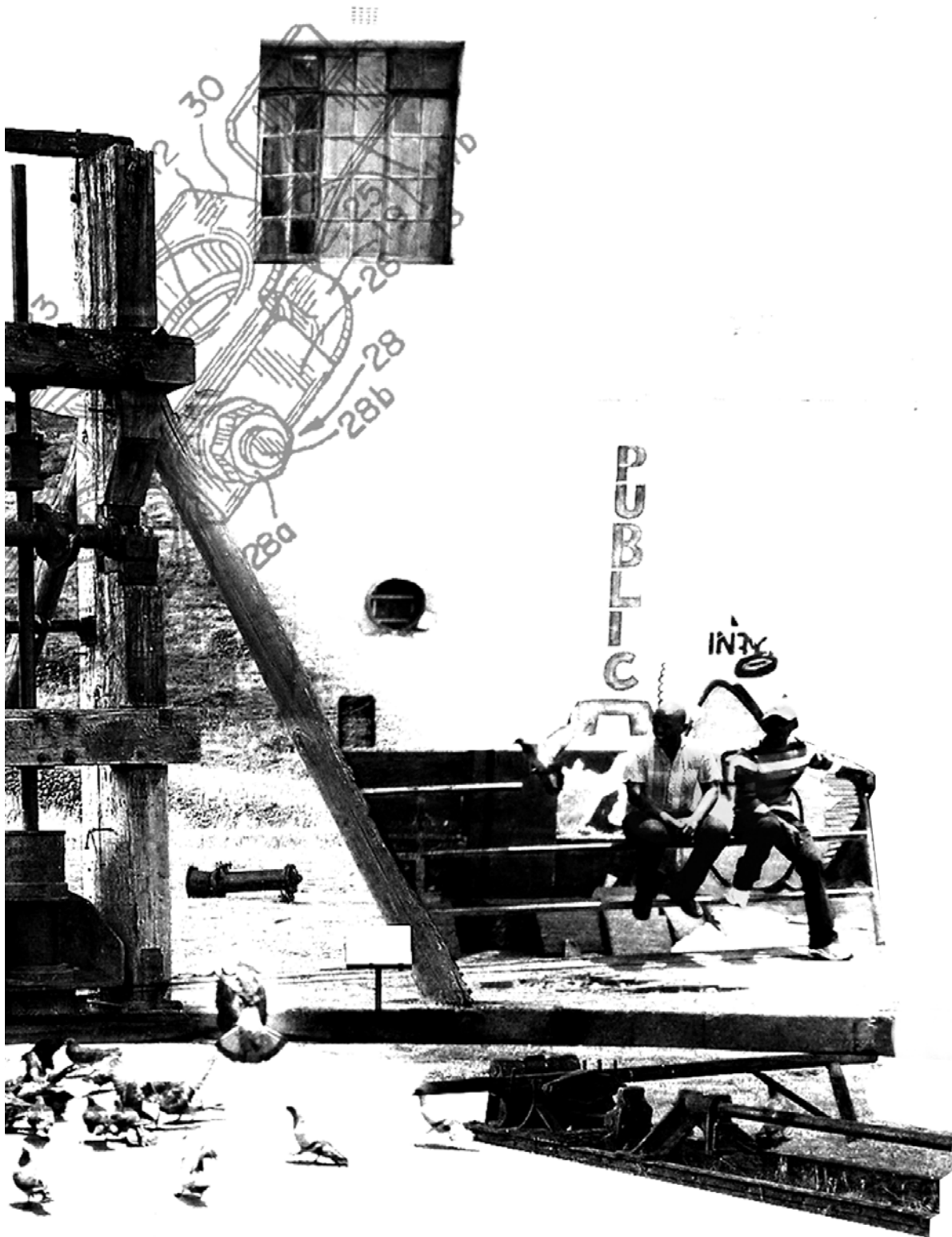
*The stamping battery* – a machine for the extraction of gold from ore – is a metaphor for the mechanistic character of a process revealing value. An intervention in this context becomes a stamping battery for the future social prospecting of secondary landscape values. It provokes and uncovers this extant locus, the becoming morphology – and through the exposure of its embedded values, it simultaneously builds into and adds value to the depth and complexity of that narrative wherein all people are participants. ■

*Figure 2.55. Conditional amplification - facing page, (Darvjee et al. 2014).*

*Figure 2.56. Pragmatic considerations of urban form - facing page, (Author 2014).*

*Figure 2.57. The stamping battery - next page, (Author 2014).*







# 03

## TOWARDS A METAMORPHOSIS OF PLACE

*conceptual informants*

The integration of rational and intuitive processes are driven by the investigation and application of metamorphosis types as conceptual approaches that structure and inform the validity of the design decisions.

3.1. **METAMORPHOSIS TYPES**

3.2. **CONCEPTUAL EXPLORATIONS**

3.3. **CONCEPTUAL GENEALOGY**

*metamorphosis as provocation*

### 3.1. METAMORPHOSIS TYPES

Conceptual approaches are identified categorically in accordance with the following adapted derivations of approaches posited by Bernard Tschumi (2004):

#### metamorphosis type 1: reciprocity

This strategy is founded on the will to establish a collegial space for facilitating existing ritual modes & morphological patterns. The strategy seeks to foster a complementary condition between the existing morphology and its metamorphosis through the architectural insertion. The site and intervention would seem to merge seamlessly into a continuous entity (Tschumi 2004: 11).

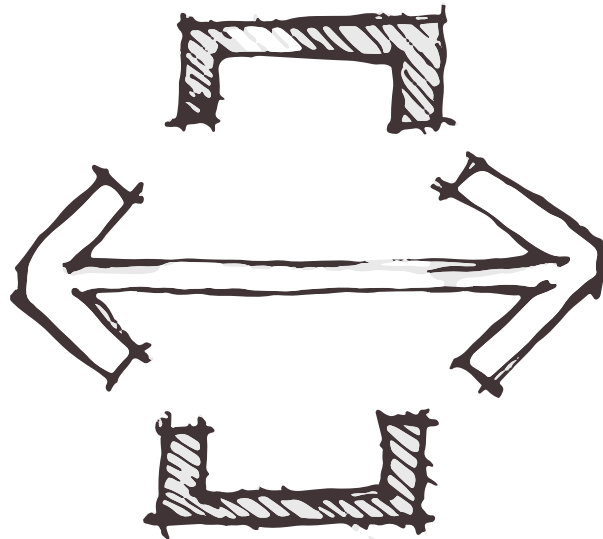
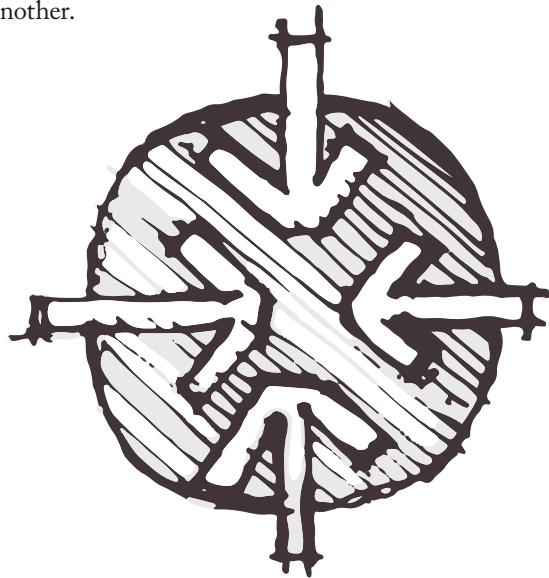


Figure 3.1. Diagram -  
Reciprocity,  
(Author 2014).

## metamorphosis type b: detachment

Here existing ritual modalities and an overall integration with the becoming morphology are disregarded as generators for the synthesis of a new insertion. This strategy deliberately defines the intervention as an antithesis to the morphological tendencies of the site. It is akin to what Tschumi (2004: 11) describes as indifference – where the idea and its siting are ignorant of one another.

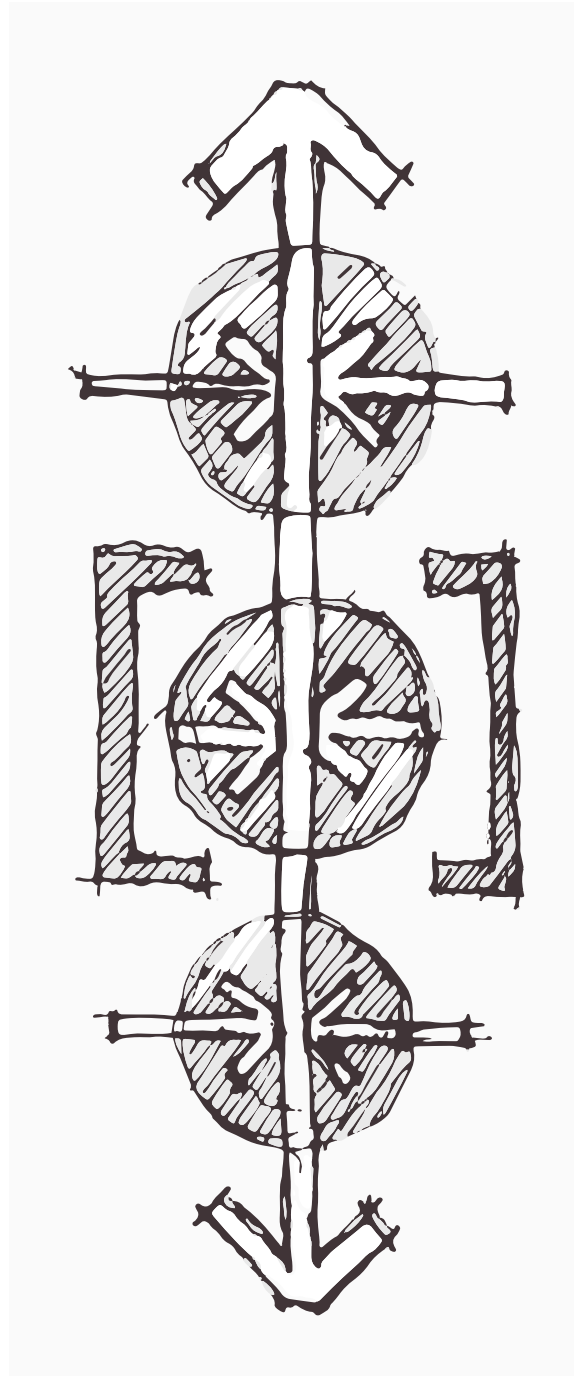


*Figure 3.2. Diagram -  
Detachment,  
(Author 2014).*

## metamorphosis type c: provocation

This approach signals the synthesis of Metamorphosis types A & B, where the intervention challenges the existing morphological tendencies with a new urban type. This allows for the postulation of new hybridities of ritual modes that can operate at (unforeseen) scales of engagement with the becoming morphology.

An understanding of place is then reached due to the new-found significances that are both inherent and inserted into this landscape. Place is an expression of this provocative intersection.



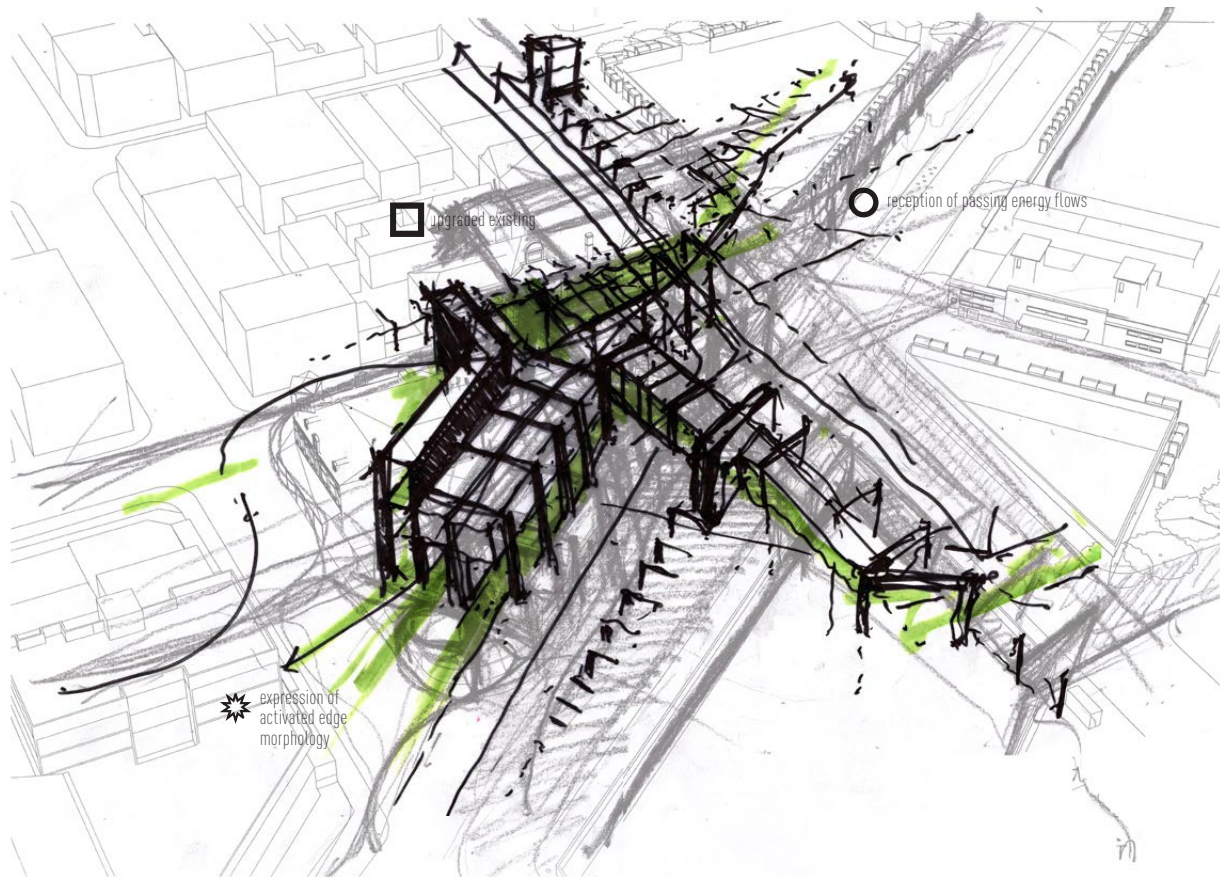
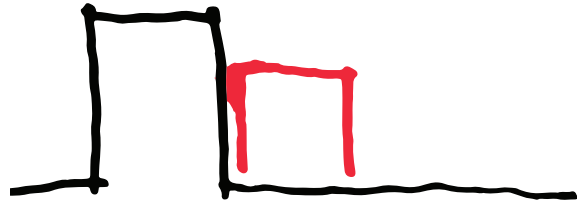
*Figure 3.3. Diagram -  
Provocation,  
(Author 2014).*

*Figure 3.4. Casing the  
edge, trying the grid-  
facing page,  
(Author 2014).*

### 3.2. CONCEPTUAL EXPLORATIONS

#### conceptual exploration 1: casing the edge – trying the grid

The edge becomes an expression of the modulated landscape that receives passing flows and upgrades existing spatial interactions.



## conceptual exploration 2: the grid is not flat

The morphological orders established by the grid in Jeppestown during Generation 1 (1886) are stratified vertically and horizontally to inform a three-dimensional architectural expression of the landscape. Void spaces that remain interstitially between these orders are public spaces of expression. Expressions of scale are vertical extrusions derived from the orders of this grid in dialogue with the surrounding urban fabric.

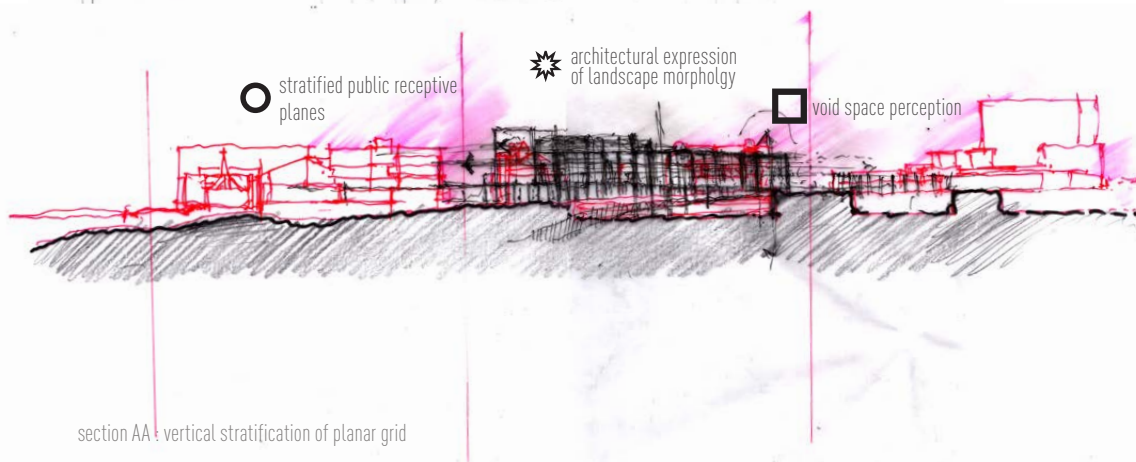
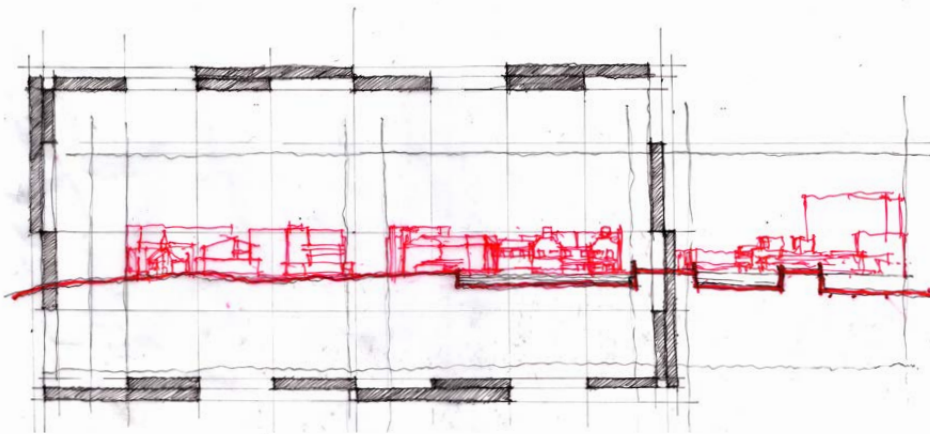
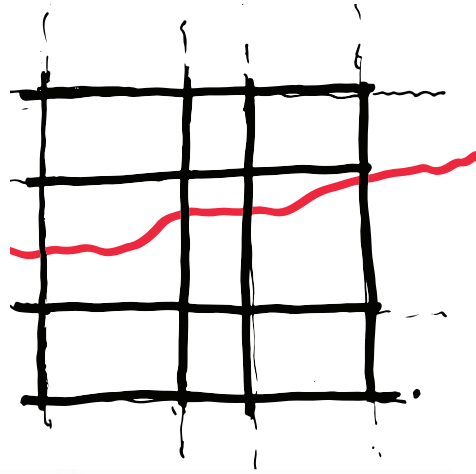
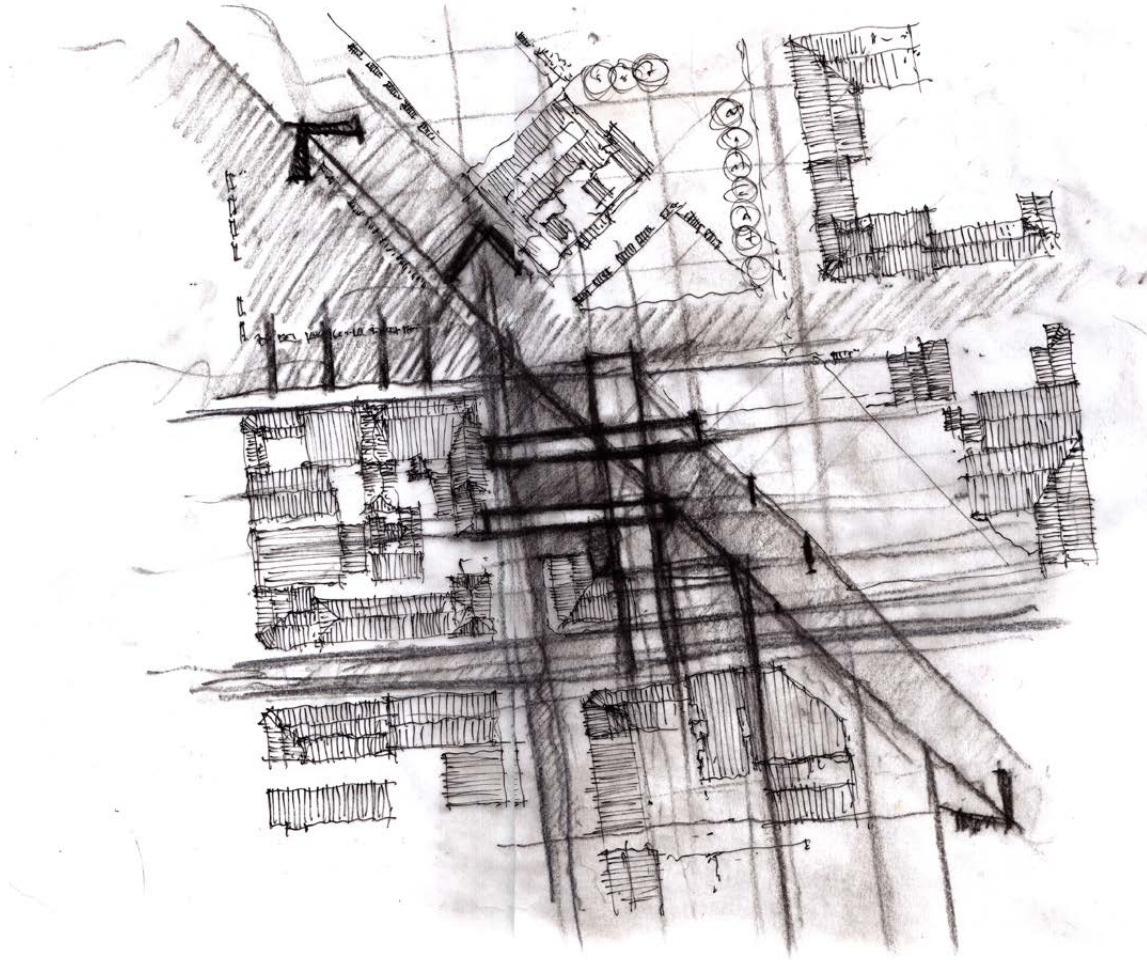
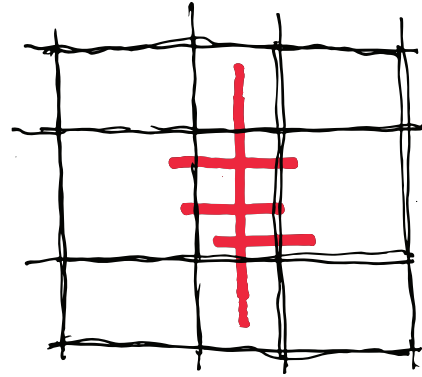


Figure 3.5. *The grid is not flat,*  
(Author 2014).

### conceptual exploration 3: divide and pull

Here the grid is factored and pulled over the site on plan to generate a site layout that is informed by the existing urban form. The triangular site block is modulated and scaled down for the creation of more intimately humane spaces.

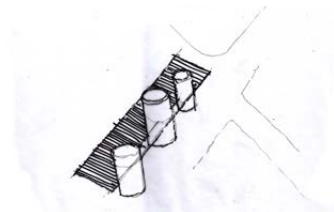
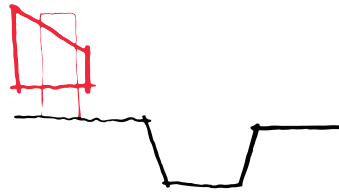


factored grid superimposed onto site creating multiple scales of public engagement

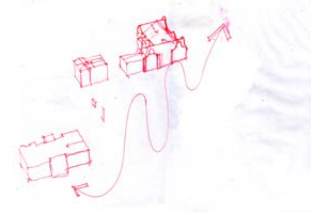
Figure 3.6. Divide and pull, (Author 2014).

## conceptual exploration 4: inverting the morphology

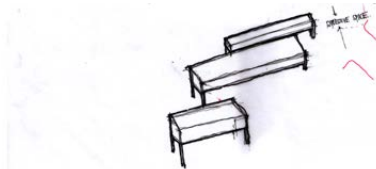
The intervention becomes an expression of place as a counter-moment flow between existing ritual modes. Spaces of perception emerge at the intersection of expressive and receptive modes of engagement (common public spaces or squares). Expressive spaces of newly inserted ritual (programme) are elevated and become signifiers of a new urban form. The site at ground level is always receptive to passing flows, an inversion of the hostile condition of the current site. The organization of the site is informed by an intersection of the railway and city grid that becomes imposed onto the site creating a layered space of modal engagement. The resultant transformative space is the formal inversion of the void of the inaccessible railway excavation.



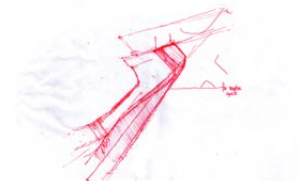
□ spaces of perception at intersection of expression and reception



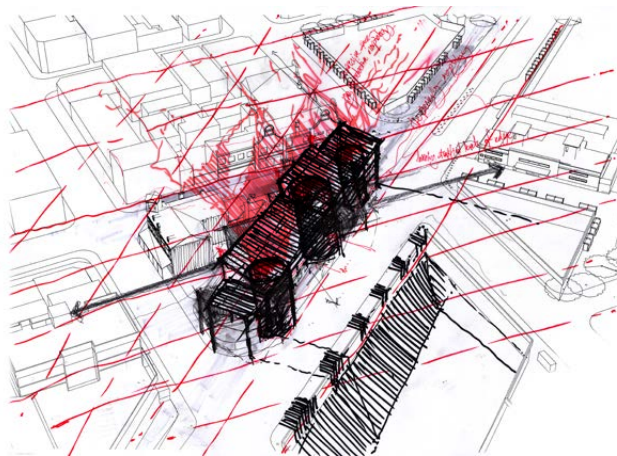
expression of place as a countermoment flow between existing ritual anchors



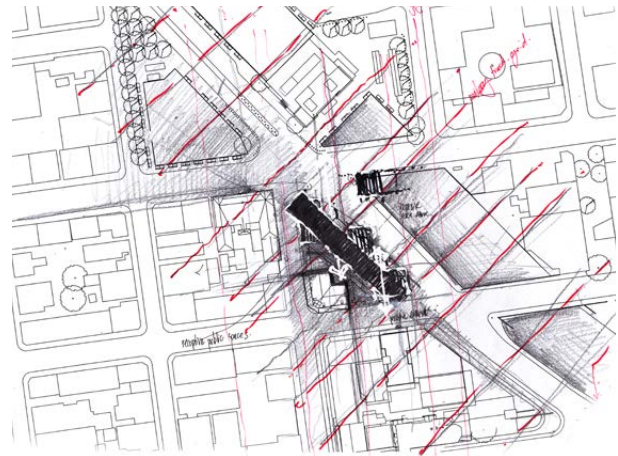
✱ elevated creative spaces of expression



○ reception of passing energy flows



layered modal engagement space - space as an inverse of the railway excavation



factored railway & city grid superimposed onto site

Figure 3.7. *Inverting the morphology*, (Author, 2014).

Figure 3.8. *Table - Conceptual genealogy-facing page*, (Author, 2014).

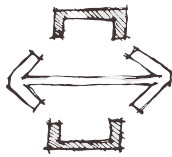


### 3.3. CONCEPTUAL GENEALOGY

metamorphosis as provocation

From the categorical grouping of conceptual explorations under applicable metamorphosis types, *provocation* is identified as an applicable conceptual approach that becomes a departure point for further design investigation and development. *Provocation* as a metamorphosis type incorporates the possibilities explored in all four conceptual sketches to varying degrees.

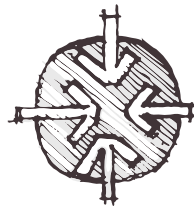
*A priori* theoretical and conceptual investigations are reframed and synthesized within this approach and can serve as a structuring ideal to guide a vision for the metamorphosis of this collective component (site) of a becoming morphology.



**RECIPROCITY**  
metamorphosis type a

Establishing a collegial space, facilitating existing ritual modes & morphological patterns.

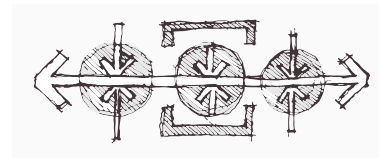
Funneling a common ground.



**DETACHMENT**  
metamorphosis type b

Disregarding existing ritual modalities & morphology.

Establishing a counterpoint.



**PROVOCATION**  
metamorphosis type c

Challenging existing morphology & ritual modes with a new urban type.

Hybridity of ritual modes operating at intersecting scales of engagement with morphology.

Place becomes an expression of this intersection.

one					
two					
three					
four					

# 04

## AT JEPPE a social club

The selection of a social club as a programmatic extension of contextual and conceptual approaches for the metamorphosis of the described morphology.

- 4.1. IDENTIFICATION
- 4.2. ASSOCIATED HISTORICAL, SOCIAL AND ARCHITECTURAL DISCOURSES
- 4.3. THE CLIENT
- 4.4. SPATIAL PROGRAMME

## 4.1. IDENTIFICATION

The City of Johannesburg is marketed as “*A World Class African City*” by its municipal government. This dissertation questions the conditions required by the public for realistically accessing their place within the notion of a world or global context.

The identification of the building programme as a social club relates to a historical narrative of place making through public engagement, fostered in the city of Johannesburg before the intrusion of Apartheid power. Places such as the Bantu Men’s Social Centre, opened in 1924 and later closed by the Apartheid regime, opened up urban space for inclusive social exchanges. Memory was moulded through participation in events and manifested as social and cultural resources. The centre became a source of value, added through a palimpsest of press, literature and art. Most importantly, the space provided access to the urban subject, creating a channel for thought and creativity that was simultaneously fed by the character of the immediate urban context and societal condition.

At Jeppe the programme becomes a vehicle for an intention to reconnect this place to an unrealised vision of the possibilities of its future, as founded upon its initial values.

The site - in terms of contextual urban function and programme - is situated at a seam between the economic trade hub of the city centre and the segregated light-industrial and suburban outer radii. This provides the opportunity for the application of financial tools, as described by *The UNESCO recommendation on the Historic Urban Landscape [HUL]*, that are aimed at building capacities and income generation rooted in tradition and also at fostering private-public partnerships at a local level (UNESCO 2011: 53).

More importantly, and as suggested by the above recommendation (UNESCO 2011: 53), civic engagement tools should be explored to facilitate intercultural dialogue by learning from the community about their histories, traditions, values, needs and aspirations.

*Figure 4.3. Comparison diagram - Rand Club vs. Bantu Men’s Social Centre - facing page (Author 2014).*

### THE RAND CLUB

commissioner st  
market square  
**1888**

loveday street  
**present**



exclusive social  
exchange



event resultant  
of participation



memory formed  
through event

### BANTU MENS' SOCIAL CENTRE

1 eloff street  
**1924**

closed  
**present**



'other' inclusive  
social exchange



event resultant of  
participation memory formed  
through event



memory crafted & recorded  
as palimpsest of press,  
literature & art

### JOHANNESBURG METROPOLIS

pop. 4.4 million  
provincial capital of  
gauteng (legislature  
at city hall)

### GAUTENG CITY REGION MEGALOPOLIS

12.2 million  
provincial capital of gauteng  
(legislature at city hall)

### AFRICAN CONTINENT

johannesburg as  
gateway to africa  
a leading  
african city

### GLOBAL CONTEXT

johannesburg as a  
representation of the post  
colonial, post apartheid  
identity

## 4.2 ASSOCIATED HISTORICAL, SOCIAL AND ARCHITECTURAL DISCOURSES

Subsequent to the selection and design investigation of a plausible programme for the site based on the historical narrative described above, parallel urban investigations were discovered to have existed in the early 20th century during the Russian Avant-Garde movement. Architects, amongst other creatives, were prompted by the immediacy of the revolution to investigate an awareness of being different and identifying themselves through the agency of architectural forms that created a radical transformation of the physical environment.

This investigation of both urban form and content gave rise to the spatial notion of the “social condenser” as a place for the transformation of a society in accordance with the values of social justice and equality in progress (Kopp & Burton 1970: 15). Gerchuk (1966) as quoted by Kopp and Burton (1970: 78) refers to the theme of the club as essential to the time for a new form of social relations without tradition or even a clearly defined programme.

The notion of a *club* was previously applied to private rooms reserved for the noble or wealthy bourgeois. The Avant-Garde reinterpretation sought the direct involvement of a mass of community members. Therein they could find maximum self-expression. The club was conceived as a place for rest, relaxation and a renewal of energy at the end of the day – a place to liberate man from the old oppression of the church and the state (Kopp & Burton 1970: 16).

This new building was the expression of a social function run by trade unions, political organisations or communities. The club became a centre for creative activity and the diffusion of culture, a place to compensate for the discomfort and overcrowding that workers suffered at home. The club embodied a conception of culture as no longer of and for an elite, but rather as a trait acquired in a group bound by common interests and an awareness of their needs. This corresponded with the notion of home as a place for the individual to rest, whilst life in all its social and cultural aspects developed in collective centres and collective forms at a time when a craving for culture was beginning to seize the masses of a new population (Kopp & Burton 1970: 16).

In the design investigation, the club transformed gradually from a place of assembly for the dispensation of culture (primarily manifested as grand auditorium spaces) to a culture club of which the members were themselves the creators and instructors, with the platform at the disposal of a variety of amateur groups. Spaces to accommodate this programme included: rehearsal rooms, a hall of modifiable capacity (that tore down barriers between audiences and actors), intercommunicating spaces, overhanging galleries, and staircases with landings that offered choice observation points. (Kopp & Burton 1970: 120).

Studying the club as described by Kopp and Burton (1970: 78) is an attempt to seek and achieve a synthesis between formal research and new content. This notion is carried through to the current design investigation for Jeppestown, wherein the programme becomes a vehicle for the investigation of the architectural agency of a contemporary urban artefact for its citizens.

The architectural value of specific works from this period will be discussed and critiqued under the section titled: *Parallel precedents*.

### 4.3. THE CLIENT

Due to the layered complexity of urbanity in the South African context through a period of transformation, the client is considered in three parts: *an instigator*, *official management* and *community management*.

The National Department of Arts and Culture is considered as the instigator of the centre for the implementation of heritage promotion, cultural development and social cohesion through state allocated funding in a developing community (South Africa 2014).

The City of Johannesburg Metropolitan Municipality is considered as the official manager of the facility with, as stated in Johannesburg GDS 2040, with a focus on the implementation of principles of eradicating poverty, access to livelihood, affordability, accommodating the poor, empowering by participation, and achieving social inclusion by support and enablement (City of Johannesburg 2014: 33).

The members of the community, as represented by individuals, forums, societies and trade communities, are the primary clients of the facility and, through their occupation of the facility are responsible for the management of community participation and dialogue with official management for the allocation of budget and resources for the curation of content and events.

#### INSTIGATOR



#### DEPARTMENT OF ARTS AND CULTURE

implementation of heritage promotion, cultural development and social cohesion through state funded facility in a developing urban area.

#### OFFICIAL MANAGEMENT



#### CITY OF JOHANNESBURG

for implementation of GDS 2040 principles of social development, human social development.

#### COMMUNITY MANAGEMENT



#### BUSINESS FORUMS, RELIGIOUS SOCIETIES, TRADE COMMUNITY

development of social cohesion through access, event and memory.

social support structures and participatory shared space management.

Figure 4.4. Intended client breakdown (Author 2014).

## 4.4. SPATIAL PROGRAMME

*At Jepppe*, as played out over time by the members of its community, becomes a place of access (to a collective cultural resource) that, through its event, is a provocation of the historic urban landscape.

The programme is grounded in the catalytic possibility of providing access to resources. This becomes manifested as a reference library reliant on donated collections of printed material. A curation of information is considered where the library meets the public realm, in an overlapping curatorial avenue of which the physical and digital content is determined by the cultural demands of the society it serves.

The auditorium becomes a place of outward expression for the contemplation and interpretation of the collective cultural resource. It is the main event space that drives the production of memory by modifying the perceptions of people interacting with the urban environment.

Meeting rooms are smaller community gathering spaces pooled in a chamber that act as intimate pockets of relief from the city.

Daily public gatherings of interacting urban subjects are celebrated at the canteen – a programmatic anchor based on the common ritual of eating and access to affordable cooked meals for the commuter, labourer and community resident. ■

**MAX BUILDING POPULATION:  
400 - 500 PEOPLE  
SANS 10-400 OCCUPANCY CLASS: A1**

*Jeppetown - population 14 000*

105m<sup>2</sup> adult lending area  
27,3m<sup>2</sup> book stock  
52,5m<sup>2</sup> seating  
13,65m<sup>2</sup> periodicals

Suggested areas adapted from  
(Adler, 1999: 32.1).



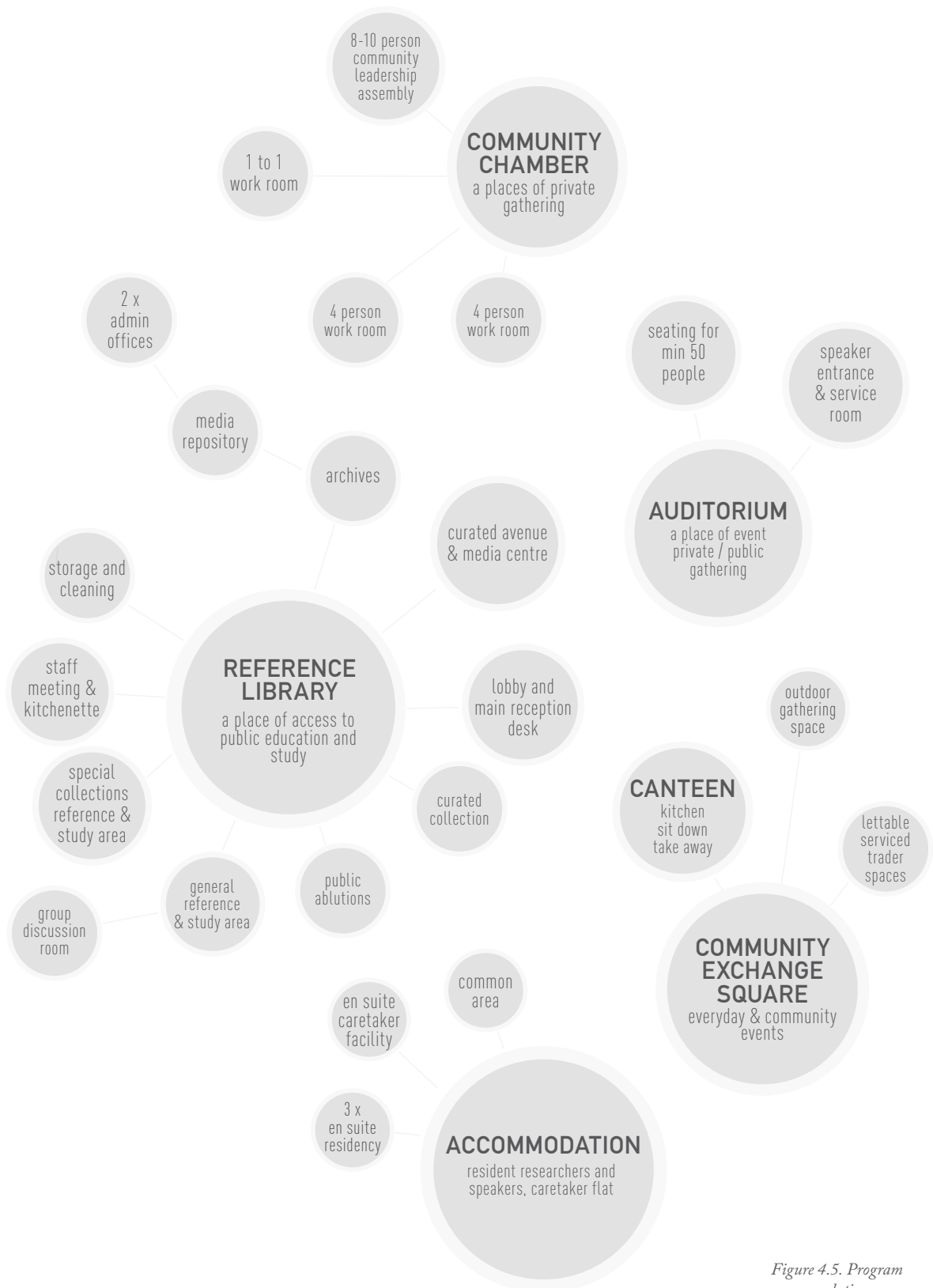


Figure 4.5. Program accommodation, (Author 2014).





“The corner was our Rock of Gibraltar,  
Our Stonehenge,  
Our Taj Mahal,  
Our Monument,  
Our testimonial to freedom,  
to peace & to love,  
down on the corner.”  
The Lost Poets

Common. 2005.  
[CD]. *Be*. New York  
City, NY: GOOD  
Music.

*Figure 5.1. The Corner,  
Marshall Street,  
Jeppestown,  
(Author 2014).*

# 05

## REVEALING THE SITE

design development

A chronological record of a becoming design process wherein theory, context, concept and programme intersect with a personal creative journey through a cyclical relationship between inventive intuition and reflective logic.

Process precedents consulted intermittently through the development are included in this section.

5.1. **DEVELOPMENT CHRONOLOGY**

a record of key iterative events

5.2. **ITERATION 0**

inverting the morphology

5.3. **ITERATION 1**

metamorphosis for degrees of gathering

5.4. **ITERATION 2**

provocation of the assimilating space

5.5. **A PLACE OF ACCESS**

the library as instigator

5.6. **ITERATION 3**

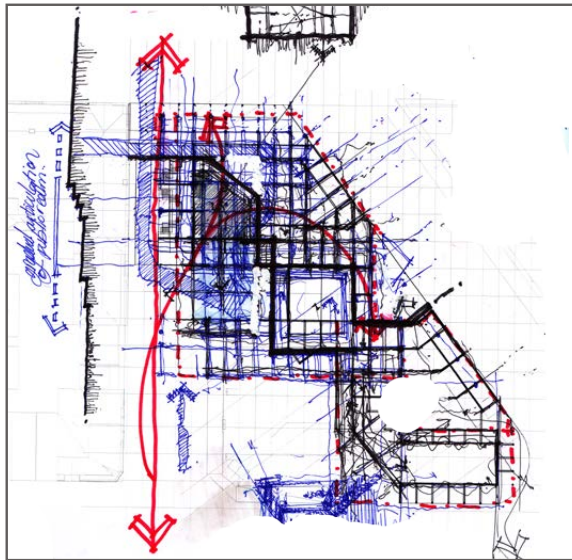
transfer and transform

5.7. **PARALLEL PRECEDENT**

the avant-garde (russian architecture in the twenties)

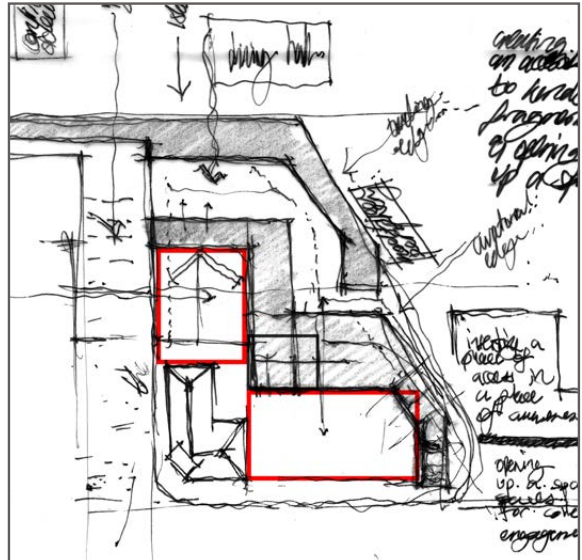


**02** ITERATION 2  
PROVOCATION OF THE ASSIMILATING SPACE



milestone 4 - 18 june 2014

**03** ITERATION 3  
TRANSFER AND TRANSFORM



milestone 5 - 30 july 2014

Figure 5.4. Parti,  
Iteration 2,  
(Author 2014).

Figure 5.5. Parti,  
Iteration 3,  
(Author 2014).

## 5.2. ITERATION 0

inverting the morphology

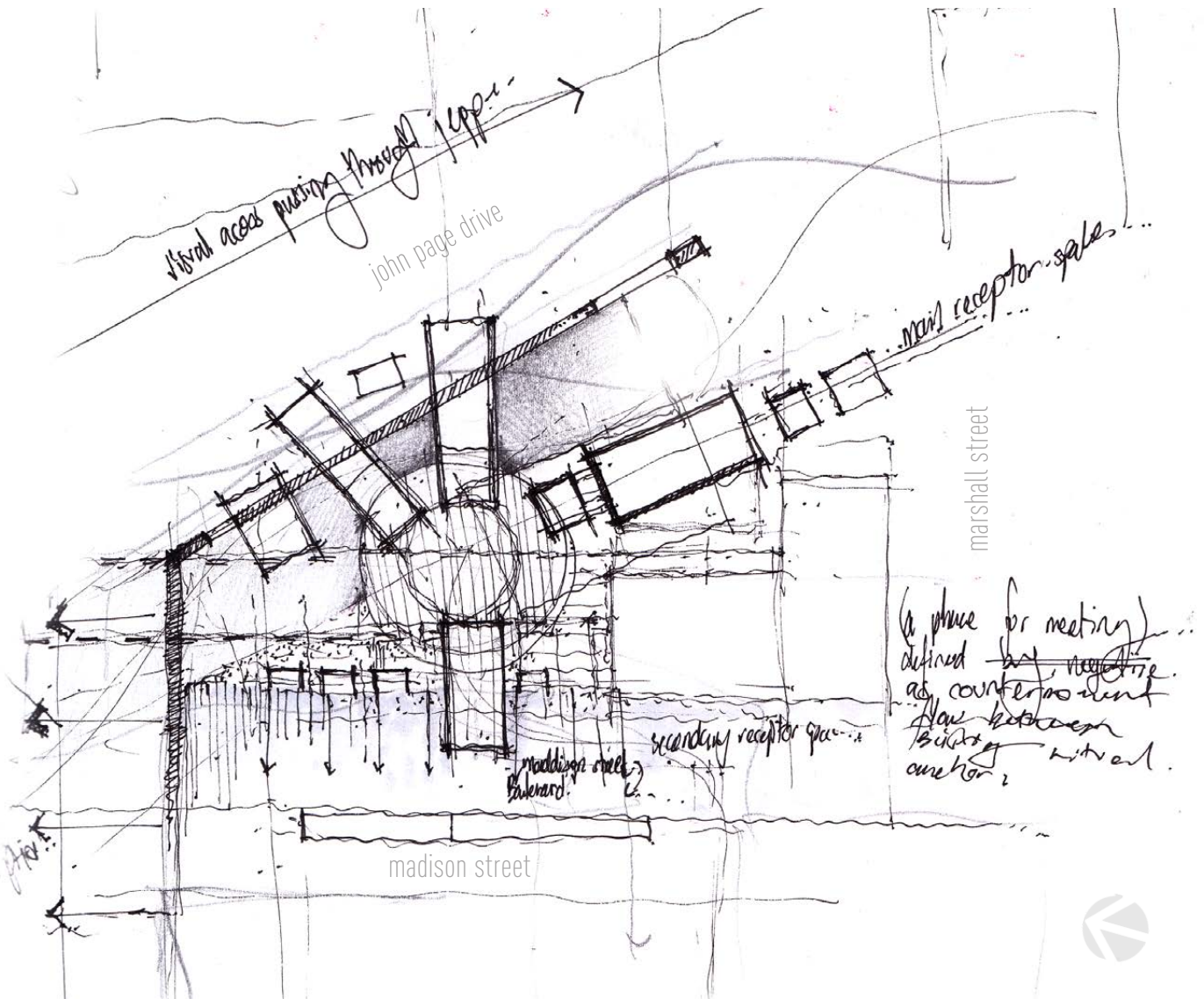


Figure 5.6. Site concept, nts - inverting the morphology, (Author 2014).

## intent

The site is conceived as a complementary inversion of the illustrated morphological readings. This conception manifests primarily on a formal level by making the site a rupture in the urban landscape to create a new space of encounter.

The adjacency of new and existing fabric and the development of canonic architectural motifs that vertically stratify new and existing public realms creates an expression of the continual provocation of this landscape by its people.

New ritual spaces become expressed as enclosures raised off a public ground floor plane (a reframed and amplified negotiated territory).

Within this rupture Jeppestown is reimagined as a hub of dynamic cultural mutations. The once outcast to the inner city becomes a complimentary node known for the diversity of its livelihoods and its enabling human character. It is neither a place of creation or destruction, but rather founded upon the natural imbalances of the human resource. People collide on their respective orbits and through their interaction new trajectories are cast.

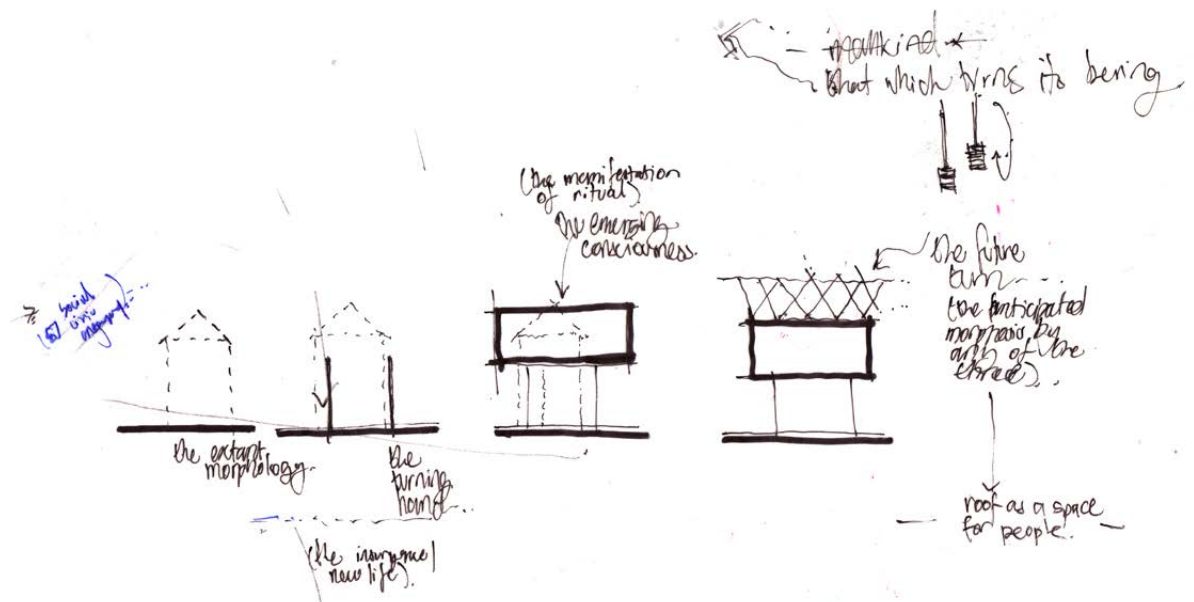


Figure 5.7. Expression of new ritual enclosures. (Author 2014).



## programme

At the early stages of unpacking and revealing the site through design the consideration of building programme is left open ended to allow the exploration of possibilities and their intersection with the physical constraints of the site. During this iteration the ritual of eating is considered as a potential anchor for social gathering and interaction. Eating collectively shares a common need and ritual in Jeppestown. The act exists at the intersection of movement, thought and satisfaction. A need for food transcends and eating is a practice of participation - a spatial practice.

*Fire and food* accommodates a dining hall, shebeen, restaurant, culinary school, coffee shop, chesa enyama and a platform for public performance. These new ritualistic anchors become the drivers for a relational matrix of negotiated territories that exist between them – that have the designed potential to collectively become a productive urban space.

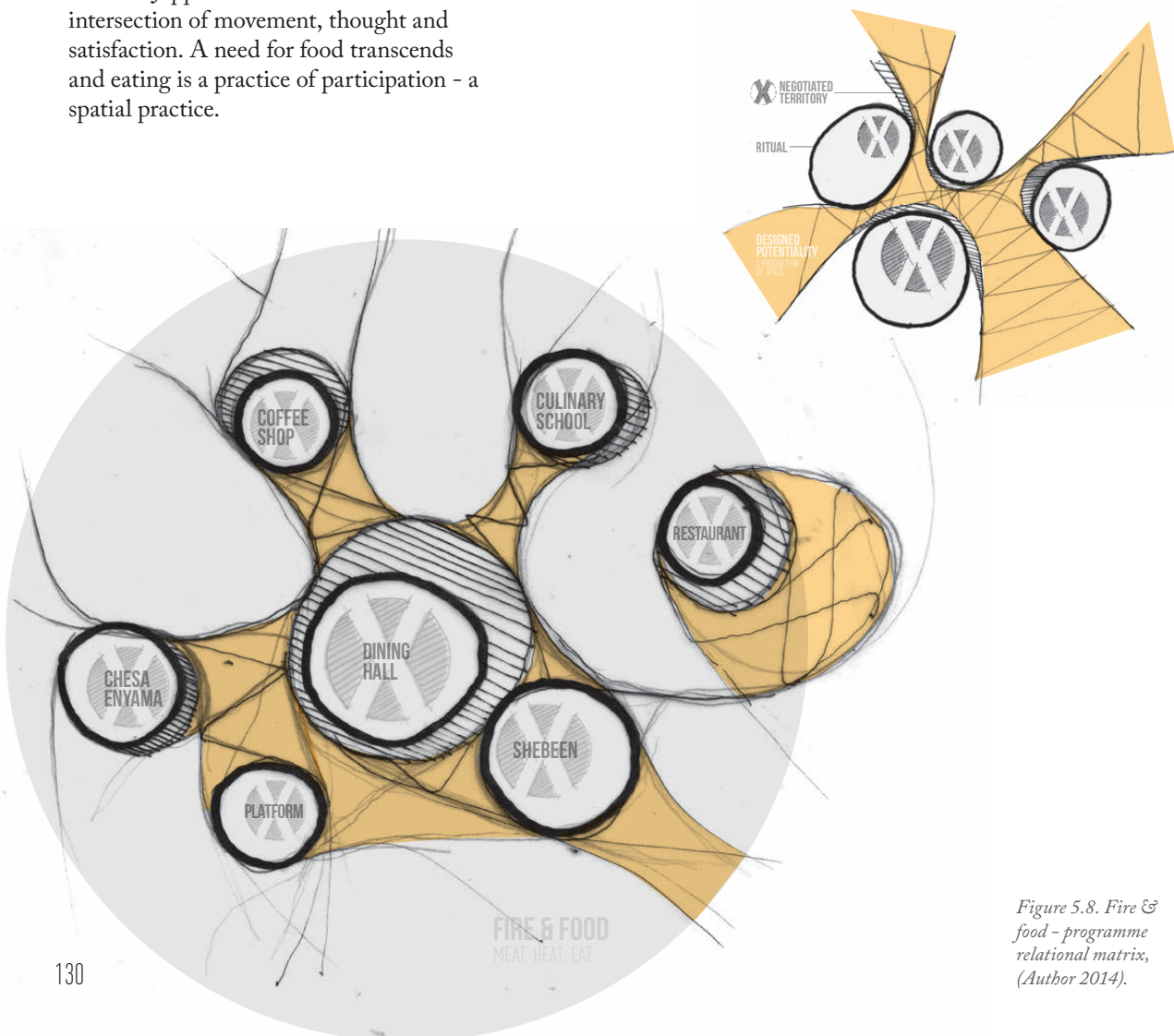
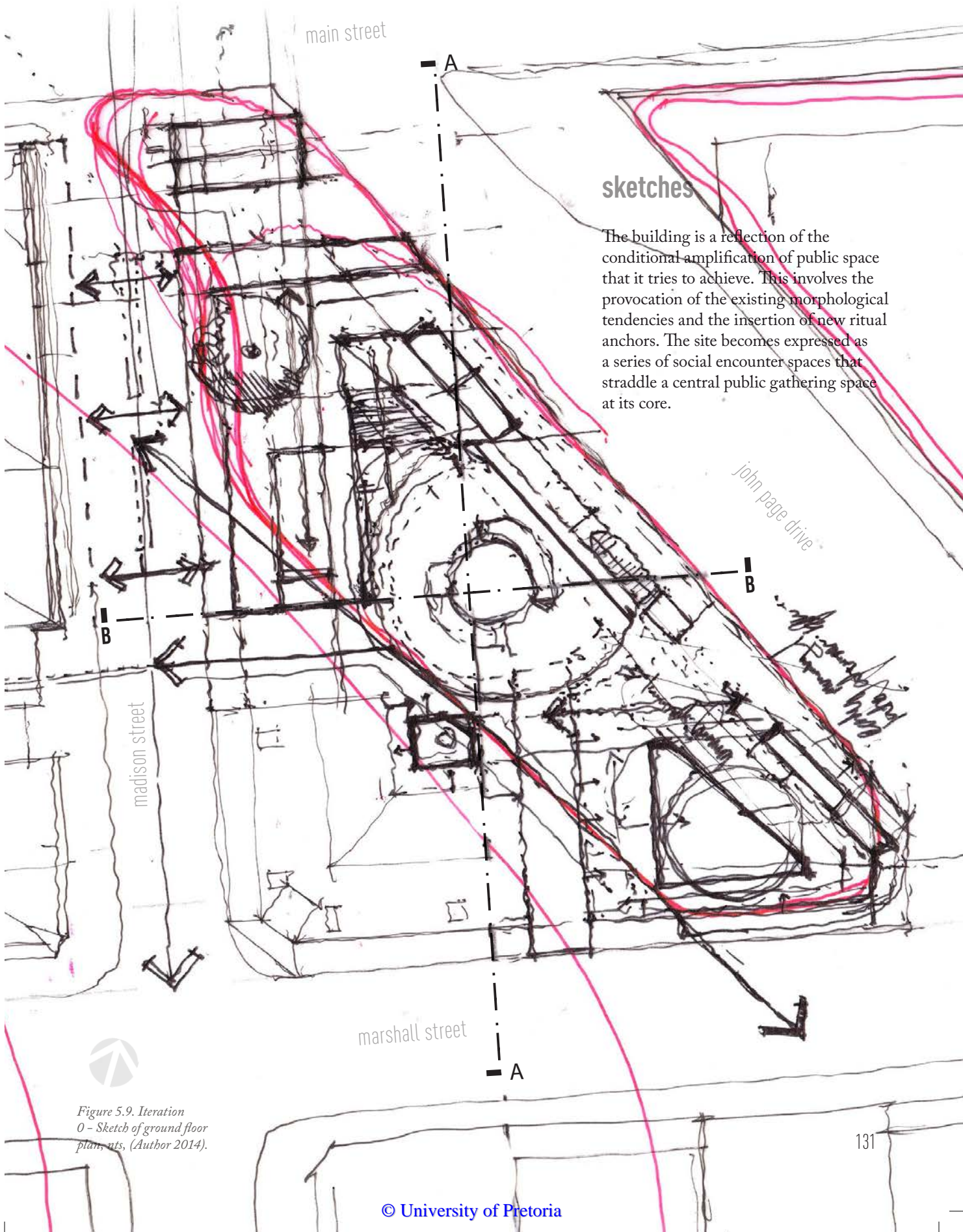


Figure 5.8. *Fire & food* - programme relational matrix, (Author 2014).

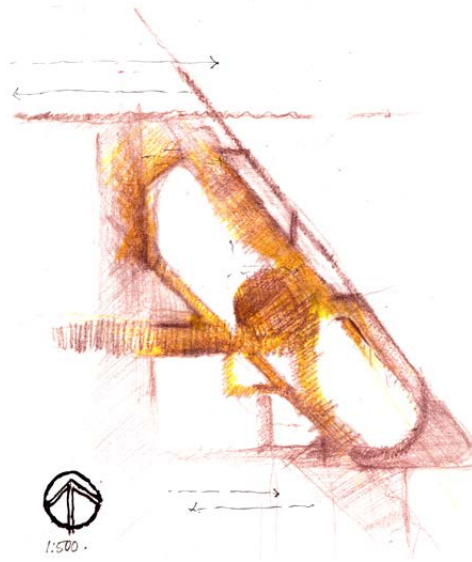


## sketches

The building is a reflection of the conditional amplification of public space that it tries to achieve. This involves the provocation of the existing morphological tendencies and the insertion of new ritual anchors. The site becomes expressed as a series of social encounter spaces that straddle a central public gathering space at its core.

Figure 5.9. Iteration 0 - Sketch of ground floor plans, (Author 2014).

The manifestation tries to achieve a dynamic composition of layered social spaces (accommodating the current transient community gatherings to the North at The Island & inserting more dedicated programmed spaces at the Southern end of the site) that overlap and create a hybrid space of collective engagement at the centre. This is expressed as an emerging volume – a collecting pot for large community gatherings.



high degree of enclosure  
high degree of negotiation  
space articulated  
by existing morphological  
boundaries...

higher degree of  
characteristic  
engagement / negotiated  
space...

higher degree of  
holistic civic engagement  
SPACES OF PROVOCATION / DYNAMIC  
ENGAGEMENT.  
SPACE METAMORPHOSIS.

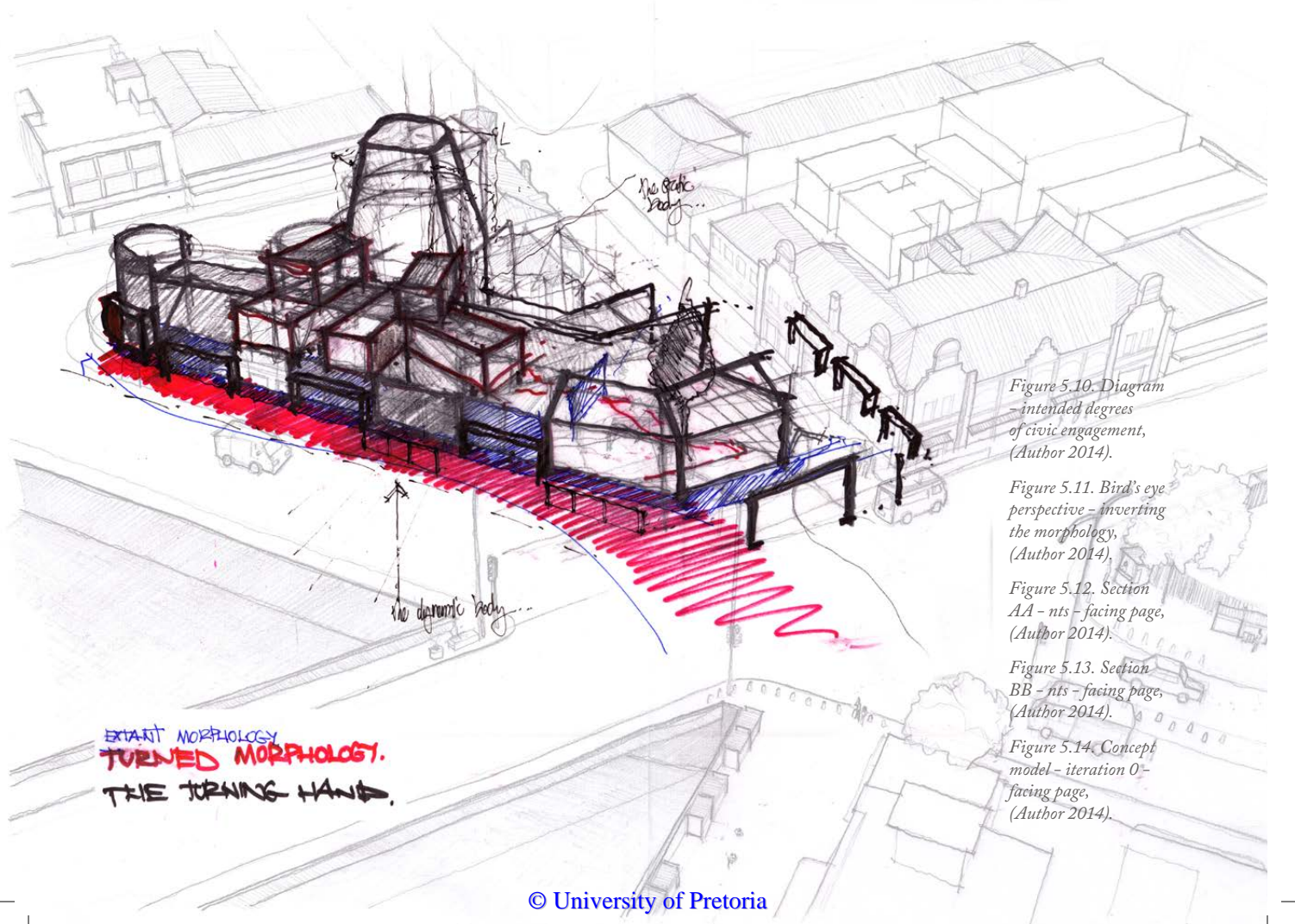


Figure 5.10. Diagram - intended degrees of civic engagement, (Author 2014).

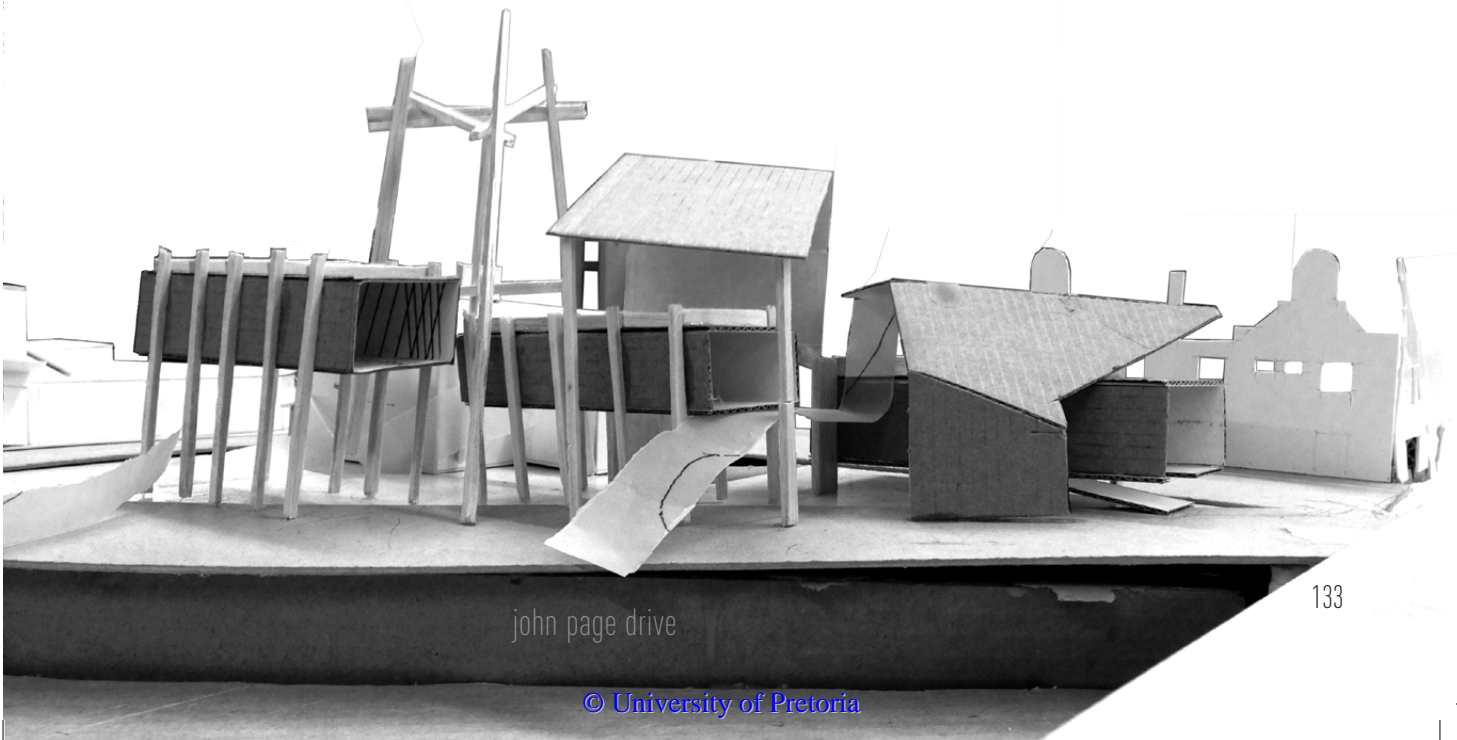
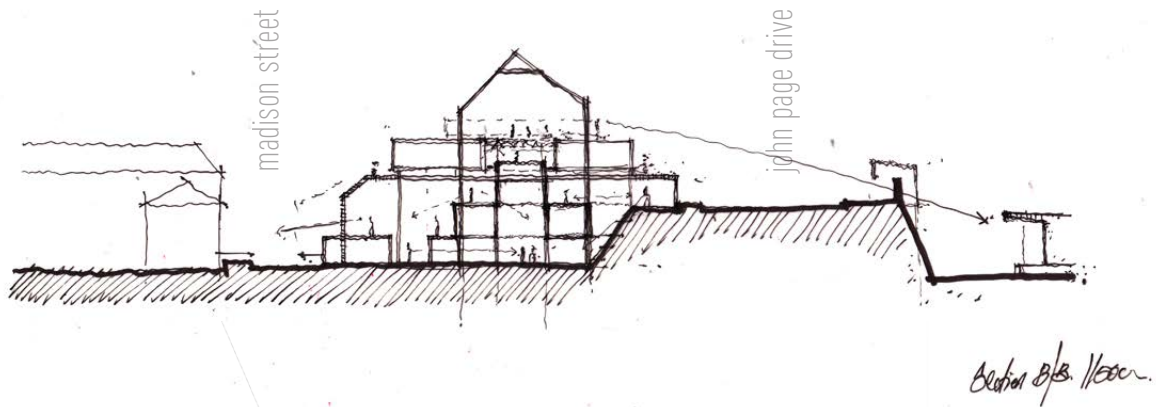
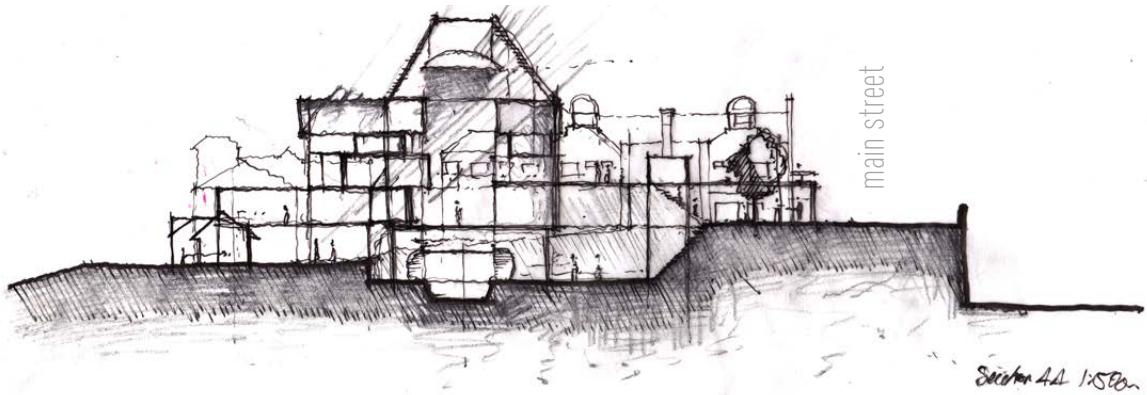
Figure 5.11. Bird's eye perspective - inverting the morphology, (Author 2014).

Figure 5.12. Section AA - nts - facing page, (Author 2014).

Figure 5.13. Section BB - nts - facing page, (Author 2014).

Figure 5.14. Concept model - iteration 0 - facing page, (Author 2014).

**EXISTANT MORPHOLOGY  
TURNED MORPHOLOGY.  
THE TURNING LAND.**



## critique

The sketches represent a superficial understanding of the analysed and unpacked morphological tendencies as illustrated by the rubrics.

The diagram of intended degrees of civic engagement physically becomes the building and its actual spatial qualities reflected through the composition of volumes relate poorly to the context.

Through its intent on inversion, the building turns its back on the urban form potentials of the adjacent fabric. The building becomes an object that relates poorly to the existing fabric and possible new connections to the regenerative urban spine.

form has the inbuilt capacity to become a vehicle for significance

### 5.3. ITERATION 1

metamorphosis for degrees of gathering



Figure 5.15. Site concept, nts - metamorphosis for degrees of gathering, (Author 2014).

## intent

The architectural intent builds upon the notions of iteration 0. Degrees of public gathering become the informants for composing the site as a collection of polyvalent units of form.

Momentary anchors for this composition are: a public event space at the Northern end of the site acting as a gateway to the market square, this progresses into the site becoming a node of interconnected community recreation spaces. At the Southern end, the site becomes anchored by a study courtyard and library. New ritual spaces once again overlap at the centre of the site where a social exchange square acts as a hybrid event space.

## programme

Prior notions of programme become augmented by spaces that accommodate community participation in recreational activities and provide access to a new channel for culture and information through the library.

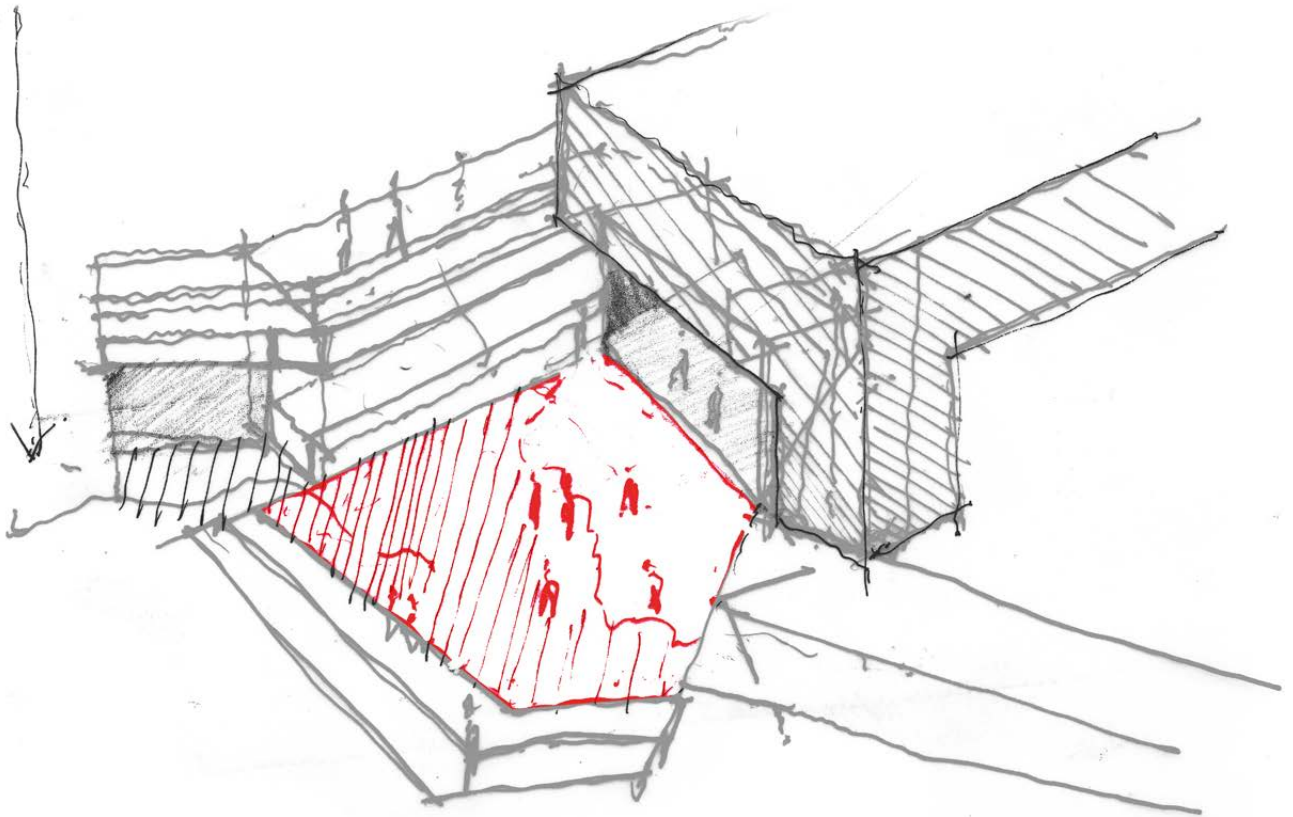
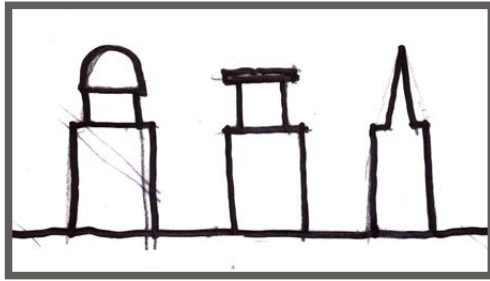


Figure 5.16. Community exchange square, (Author 2014).



fairview fire station, 1890

jeppe station, 1961

dutch reformed church, 1906

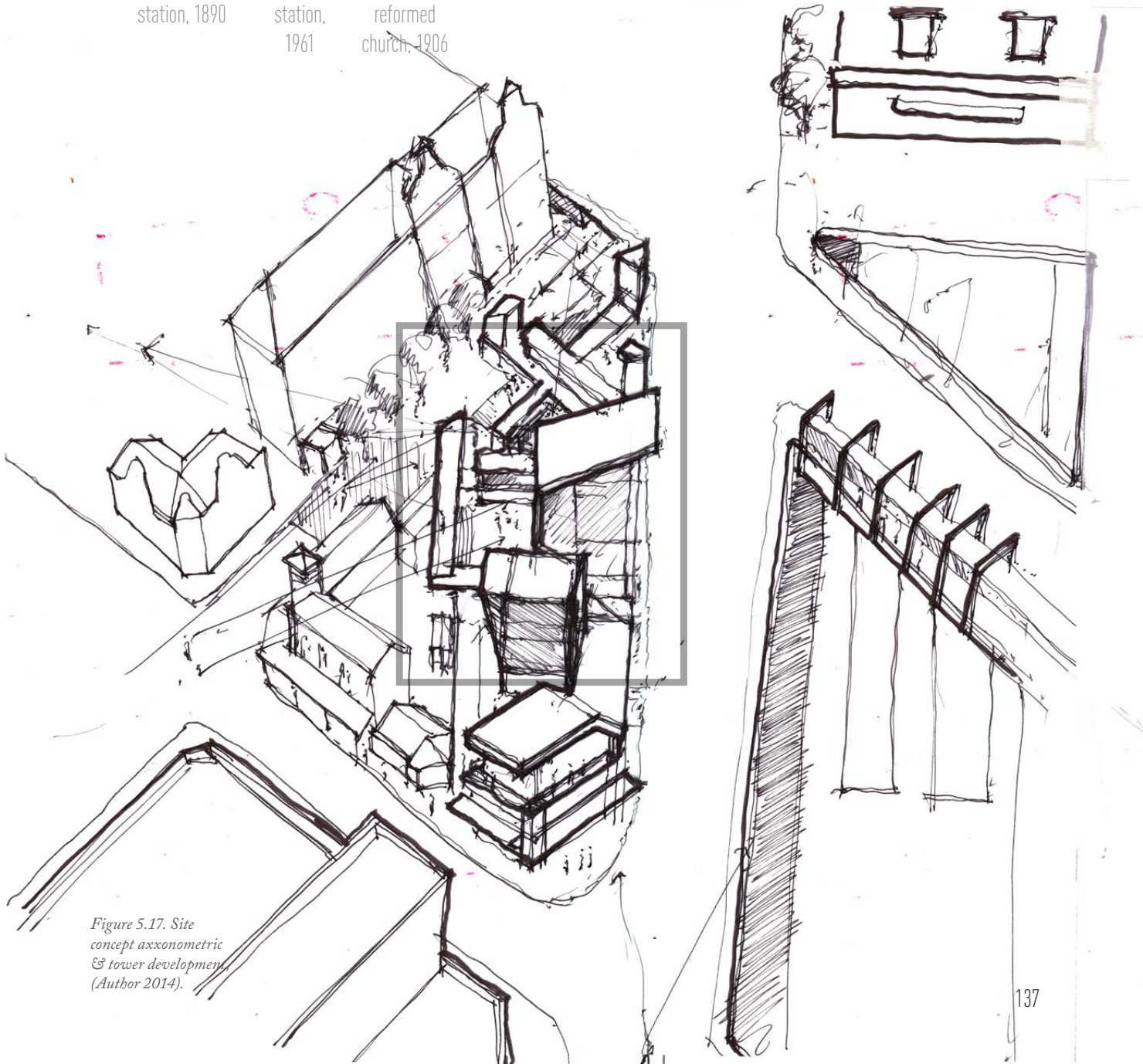


Figure 5.17. Site concept axonometric & tower development. (Author 2014).



## sketches

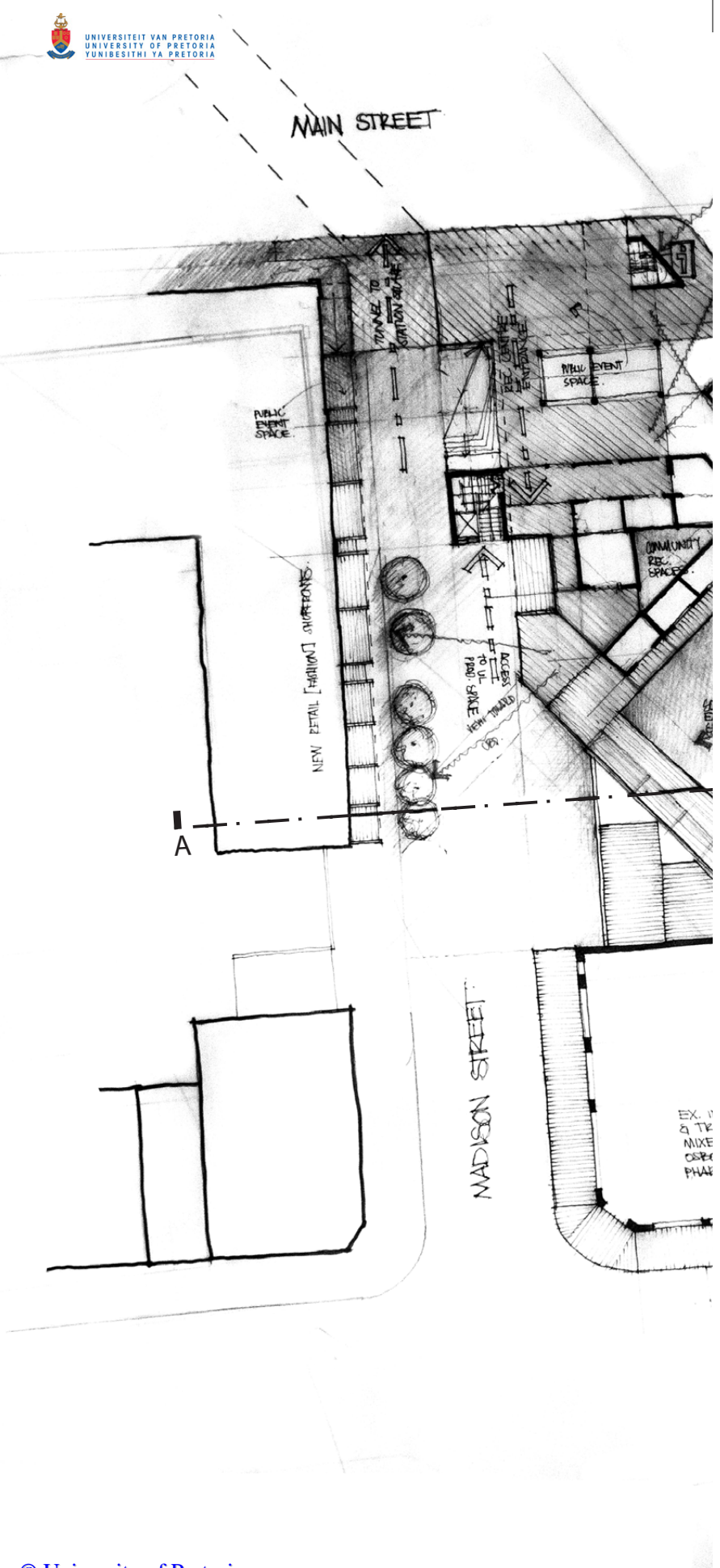
*The Periphery* becomes an informant for binding the inserted spaces on site to the regenerative spine. This is still a movement space that becomes the defining edge to the site at John Page Drive with the provision of trading stalls feeding off passing feet that are incorporated into this façade. A formal exploration looks at the explosion of the edge and its intersection with the contrapuntal central social exchange square making the backyard an expressive mass celebrating a dedicated space of civic engagement.

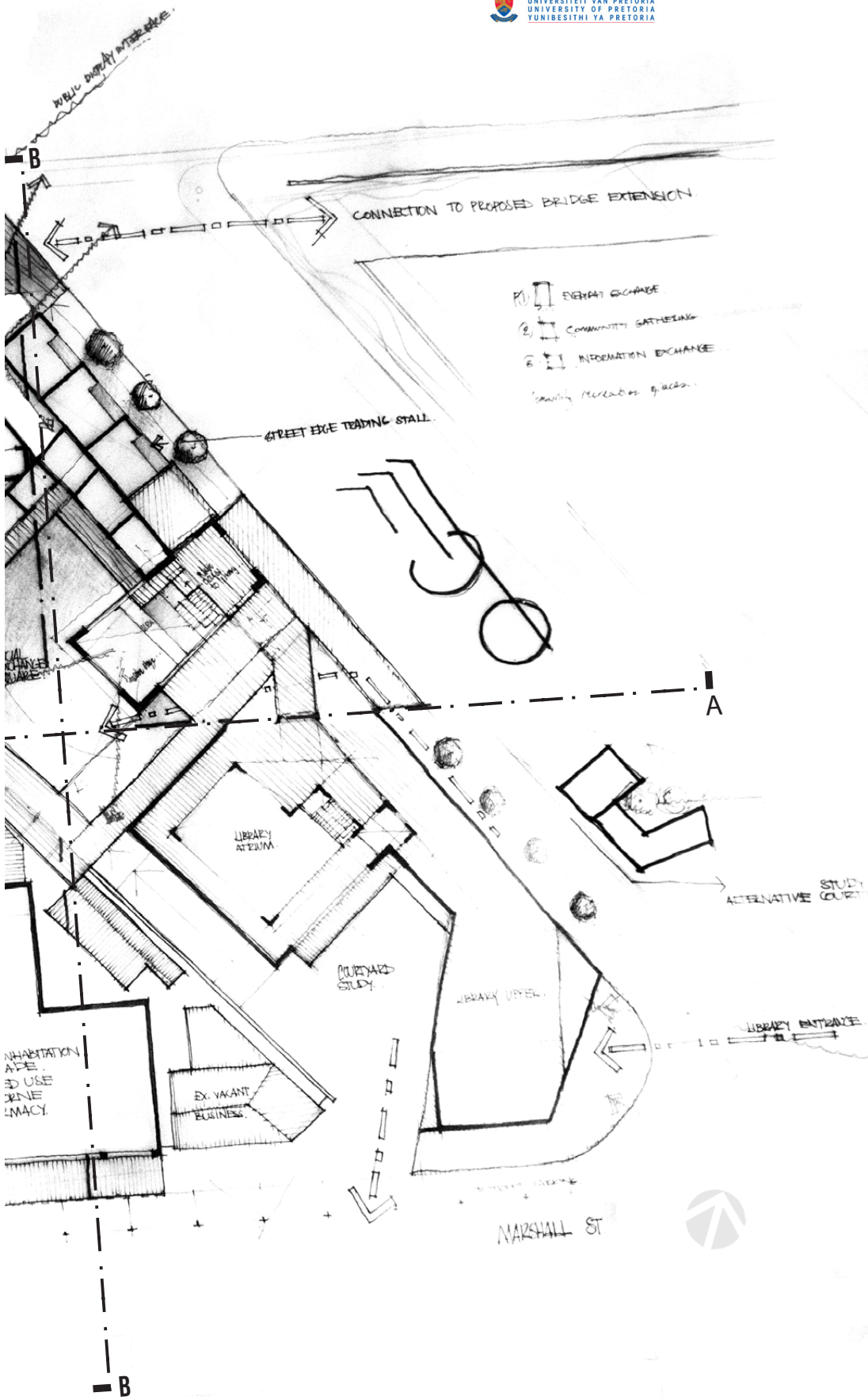
To the West of the site *The Sidewalk* becomes copied and reinserted as an activated edge that punctures the Madison Street elevation of the Grand Station Hotel. Madison Street as a pedestrian corridor becomes a part of this urban metamorphosis.

Built form is set back from *The Island* at the Northern end allowing for an undisturbed continuation of current public daily gatherings. A social exchange square binds the more active community recreation and gathering Northern end to the quieter library and study courtyard to the South.

Figure 5.18. Iteration 1 - Sketch of ground floor plans, (Author 2014).

Figure 5.19. Formal exploration - site as a transformation of urban form - far right, (Author 2014).





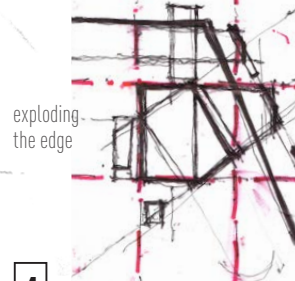
1



2



3



4



5

## critique

This manifestation although displaying greater variation than iteration 0 across the site is still introverted and disconnected from the potentials of the surrounding fabric. The building is a manifestation of disjointed forms. This reflects a naïve response to the conceptual intent of provocation as the morphological rubrics on site were not sufficiently internalised yet to allow for adequate design investigation. The idea of provocation therefore remains mostly object driven, formalistic and disconnected from the actual morphological values of the micro context.

The overly complex delineation evident in the ground floor plan does not make effective use of the available space on a constricted site for the synthesis of new and existing rituals on site. It therefore reads as eclectic and conflated. The architecture then becomes the foreground instead of forming an enabling backdrop for people to appropriate.

The intersection of the intervention with the existing urban landscape is neither sufficiently complimentary nor provocative. This is illustrated in the way that it ignores the significant typological values of the Osbourne Pharmacy.

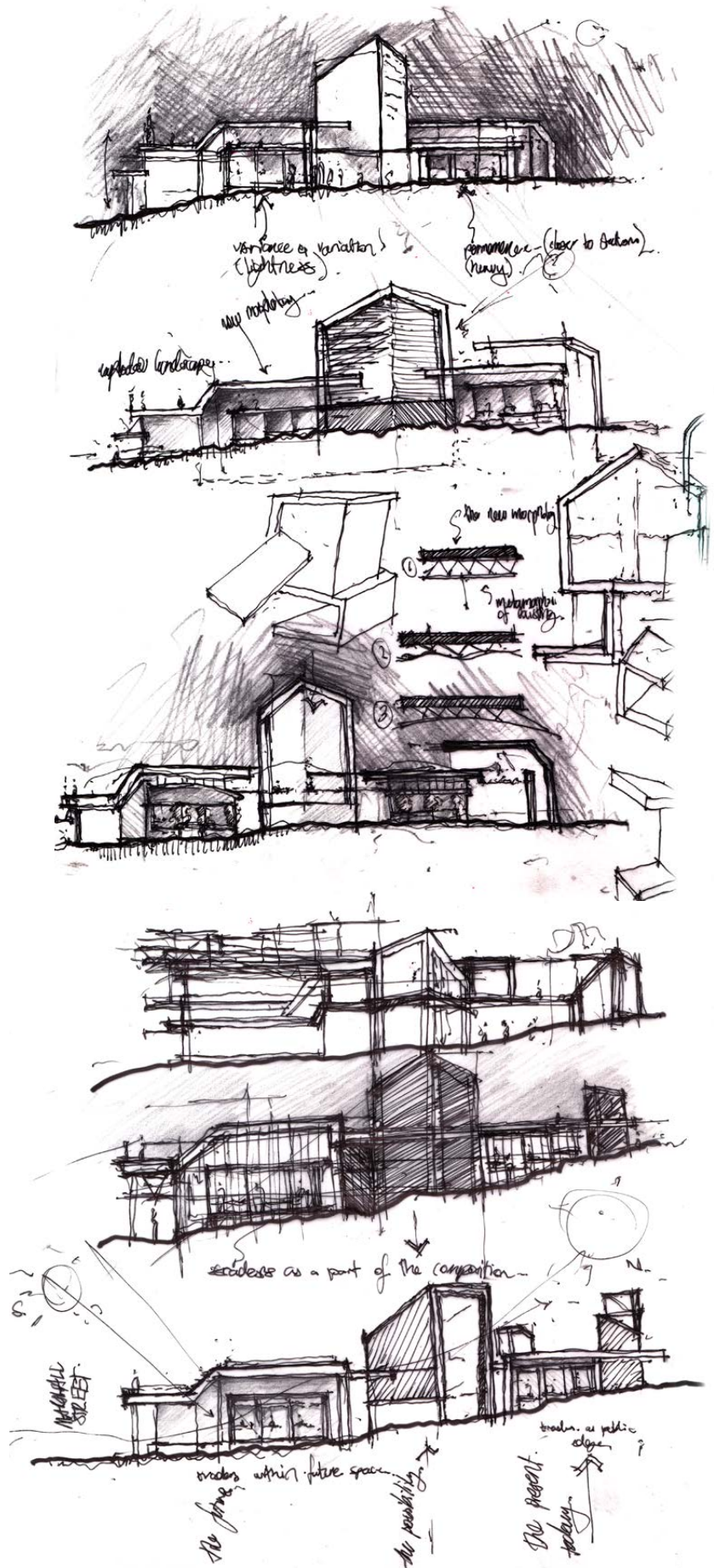
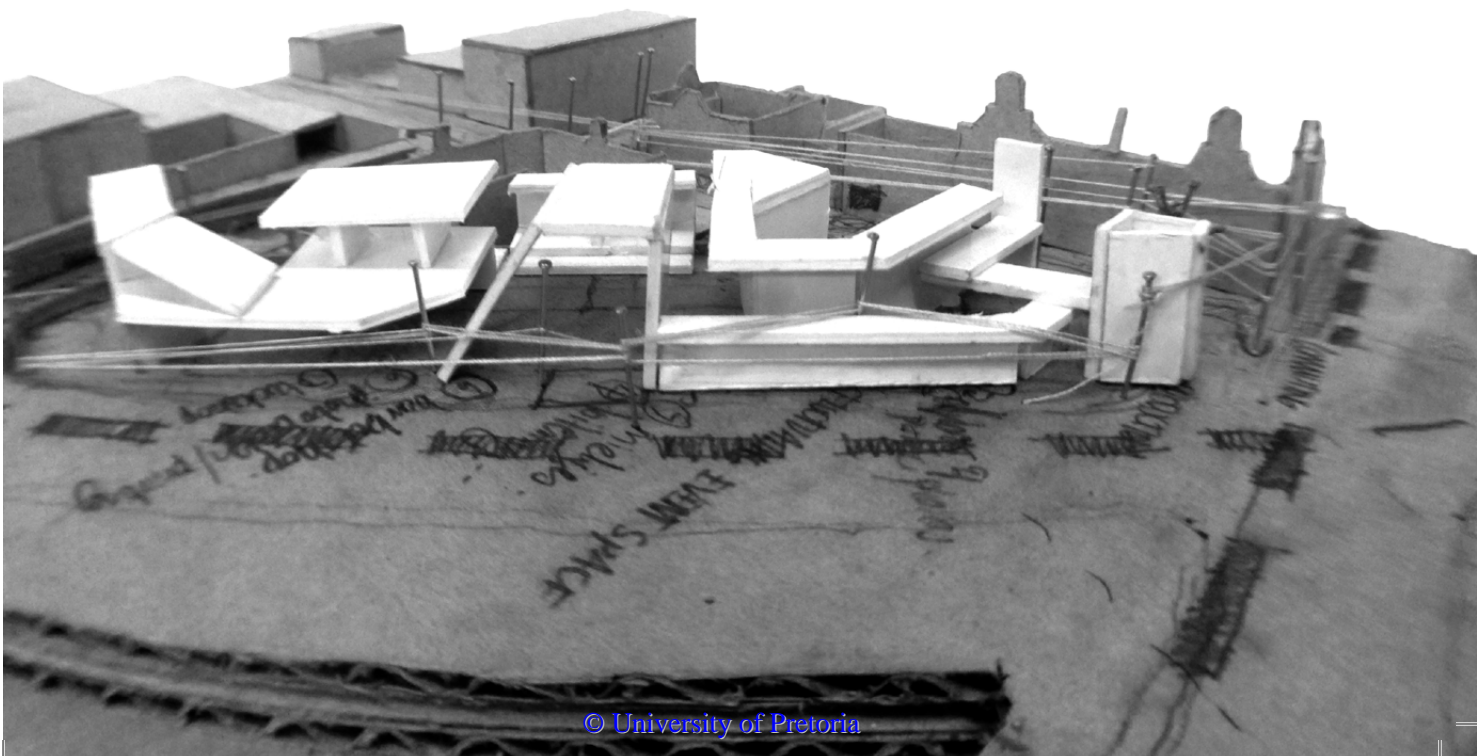
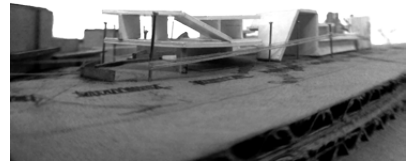
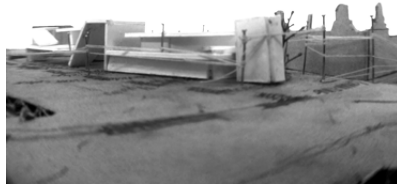
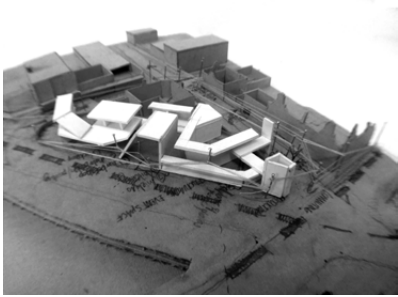


Figure 5.20. Iteration 1 - John Page Drive elevation explorations, nts, (Author 2014).

Figure 5.21. Iteration 1 - Concept model - facing page, (Author 2014).



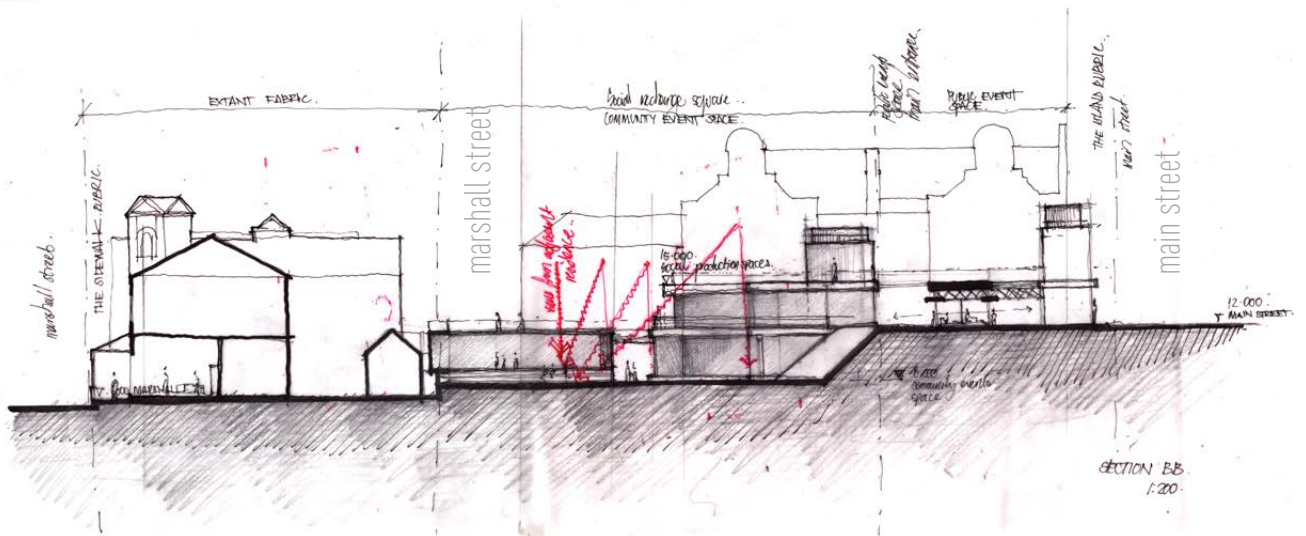
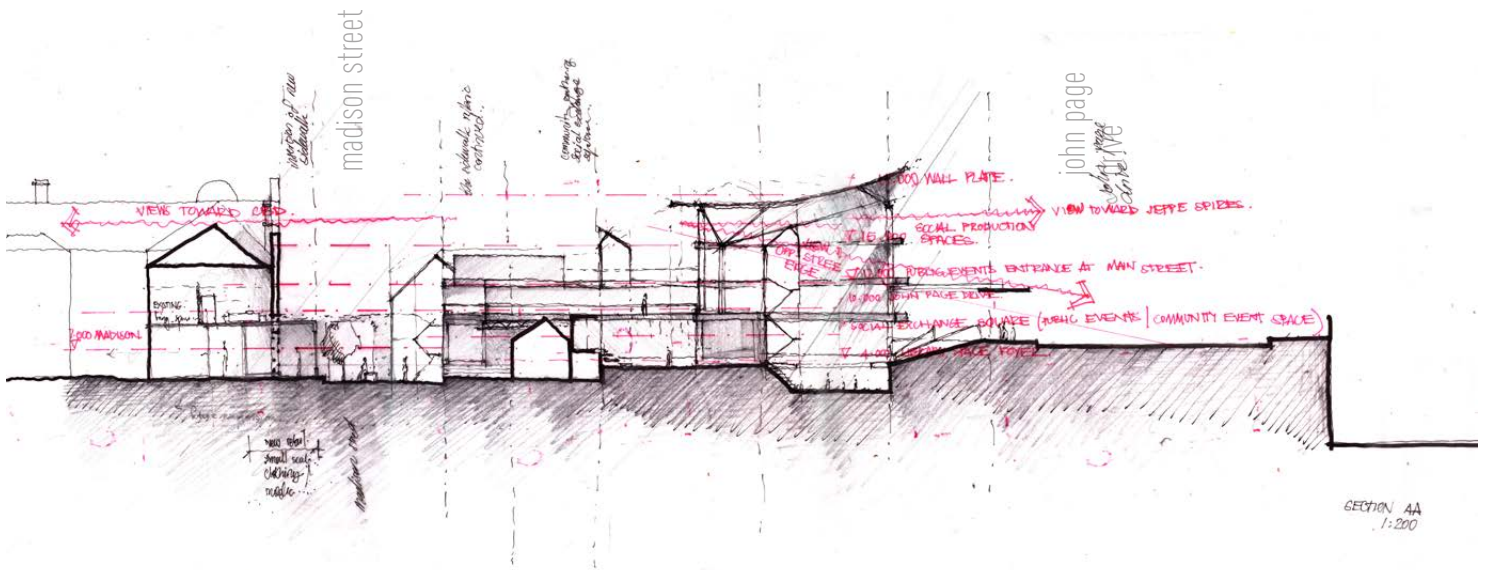


Figure 5.22. Iteration 1 - Section AA, nts, (Author 2014).

Figure 5.23. Iteration 1 - Section BB, nts, (Author 2014).

Figure 5.24. Iteration 1 - concept model, (Author 2014).



main street

john page drive

marshall street

madison street

## 5.4. ITERATION 2

### provocation of the assimilating space

#### intent

Morphological rubrics are synthesised into a reading of an assimilating space. This is delineated as the space of public engagement on the site and is the sum of receptive and expressive ritual spaces and interstitial negotiated territories.






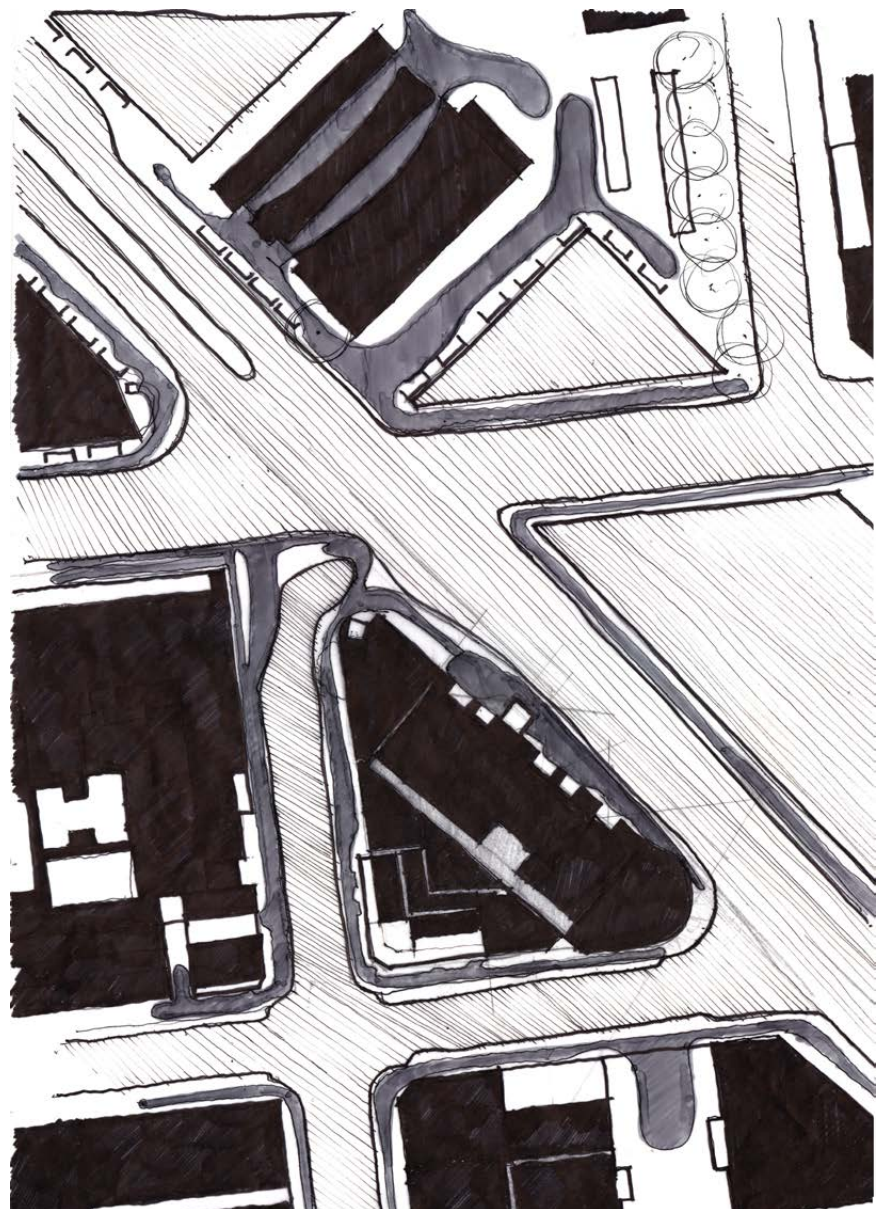
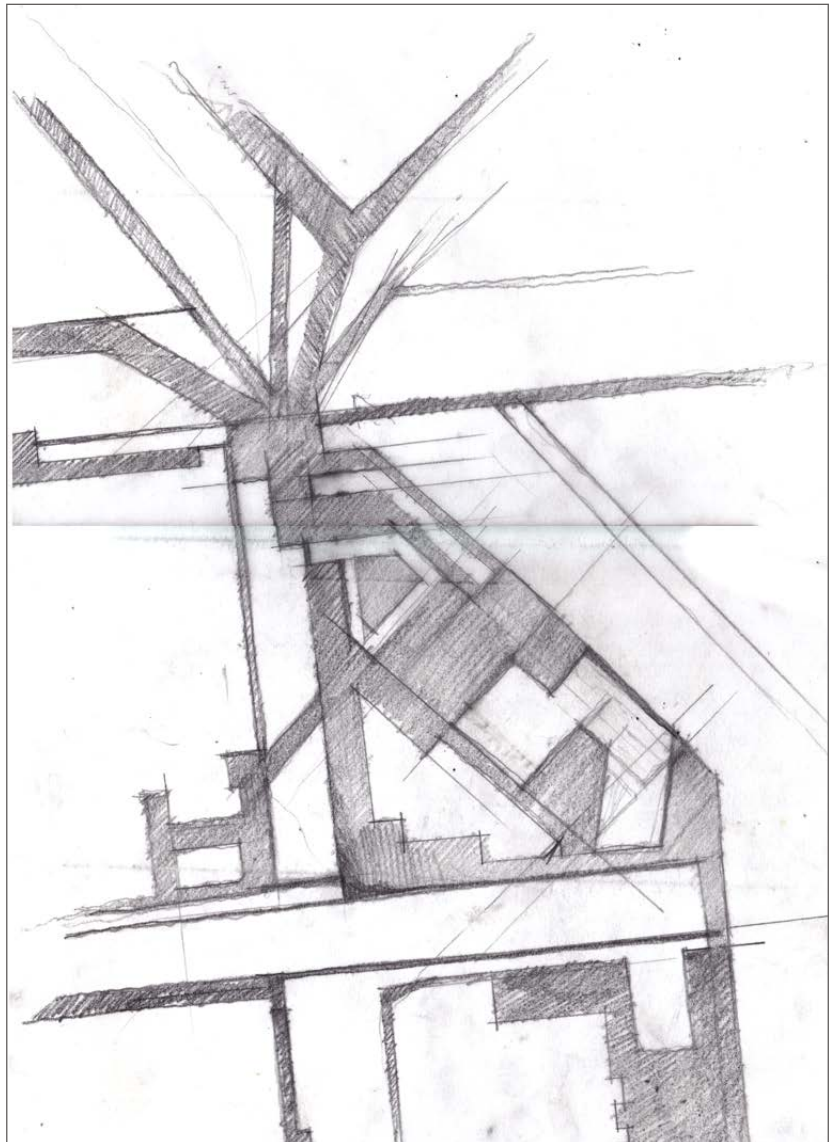
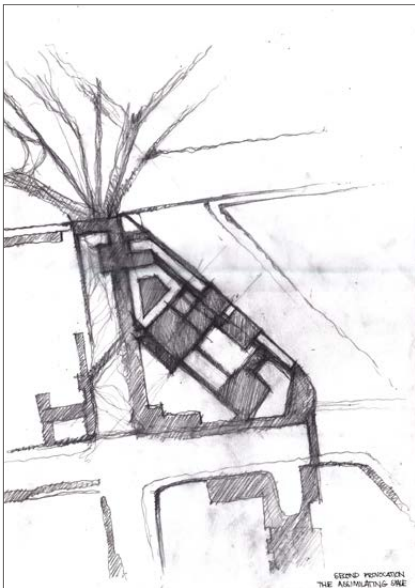
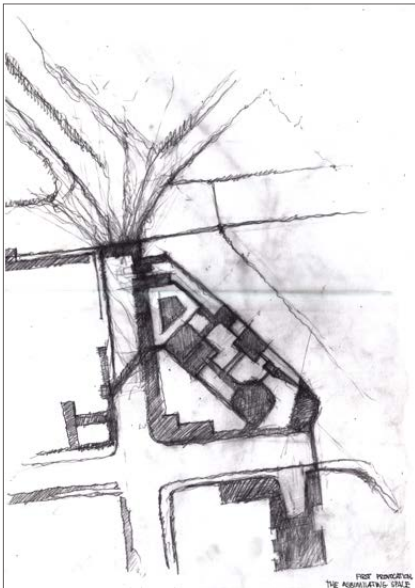
-  public pedestrian activity
-  indifferent space
-  dedicated vehicular space

Figure 5.25. Finding the assimilating space, nts, (Author 2014).

Figure 5.26. Provoking the assimilating space, nts - facing page, (Author 2014).





assimilating space :  
space of public engagement = receptive & expressive  
ritual spaces + interstitial negotiated  
territories



Through provocation by urban form the assimilating space is reconfigured as and proposed as a curation of possibilities for public everyday events such as commuting and performing, peripheral public events such as loitering; and concealed public events which are internal program driven ritual insertions. Its physical manifestation reads as an expression of contrasts influenced by dualities observed within the existing context.

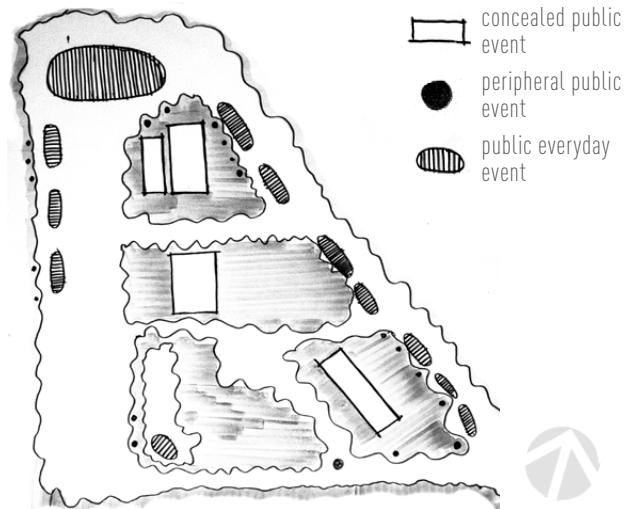
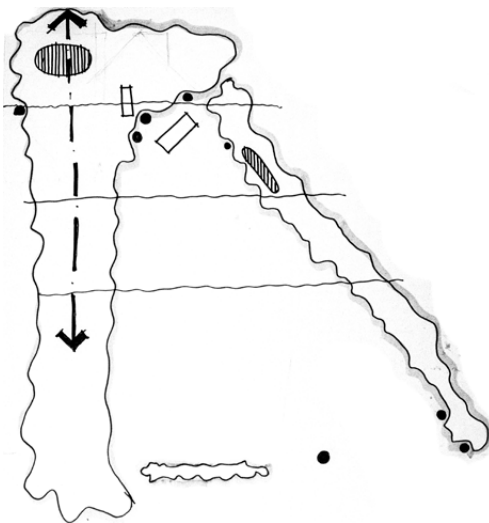


Figure 5.27. Current condition - the assimilating space, (Author 2014).

Figure 5.28. Proposed condition - the assimilating space, (Author 2014).



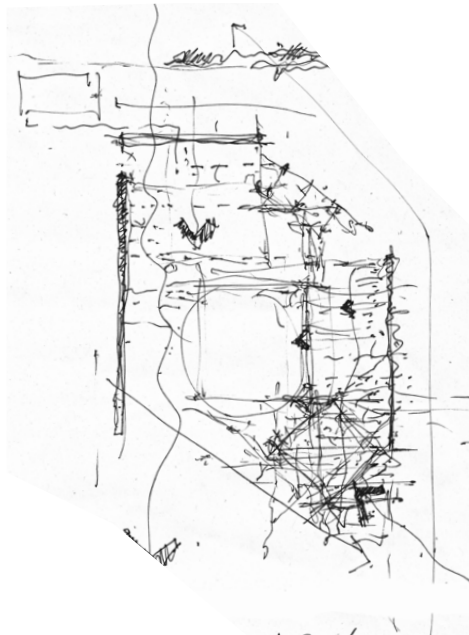
print & imprinted



together & divided



visible & invisible



The architectural intent is to create new spaces through the deliberate fragmentation of the existing urban landscape. The parti thereof is the landing of inferred forms as fragmented parts of the existing urban landscape anchored by a series of courtyards. Through this process the memory of previous forms and their ritual appropriation become amplified and celebrated. For instance: the sidewalk rubric remains as a celebrated public edge binding the new fragments and courtyards and stitching the intervention onto the regenerative urban spine.

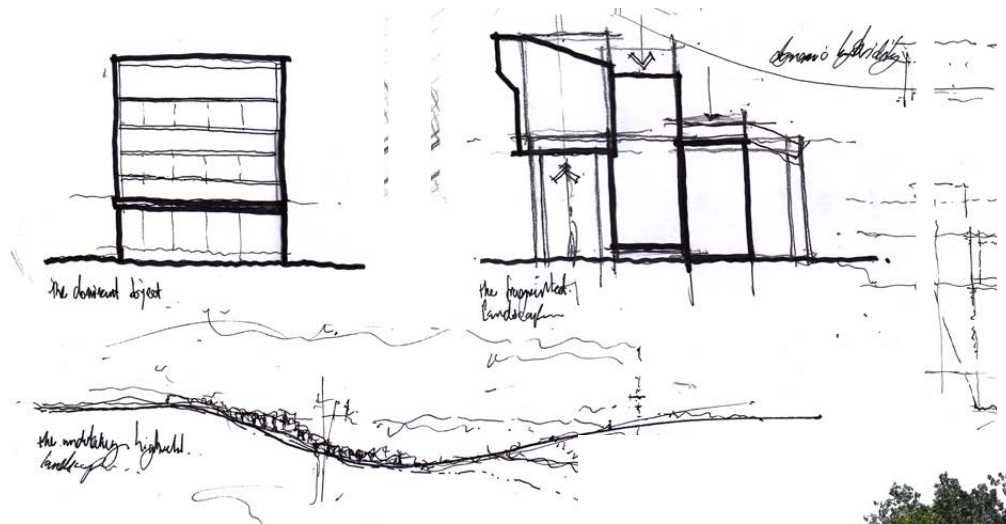
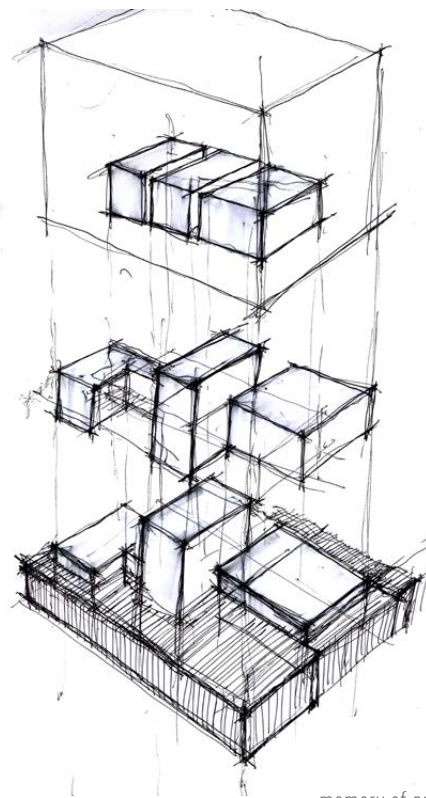


Figure 5.29. Iteration 2 - Parti, (Author 2014).

Figure 5.30. Fragmenting the landscape, (Author 2014).

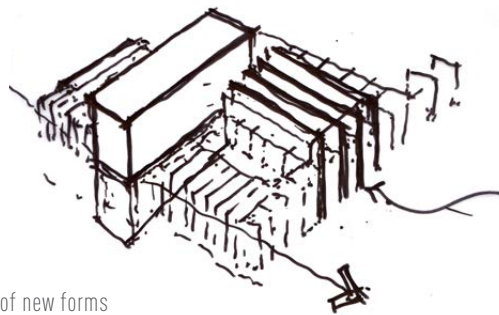
Figure 5.31. Context dualities - bottom, (Darvjee et al. 2014).



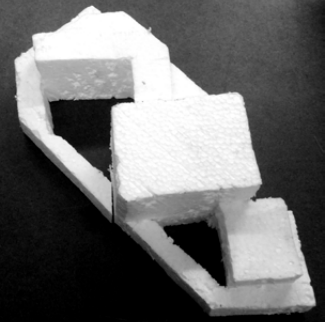


crushing &  
extraction

-memory of previous form  
articulated as celebrated public edge -



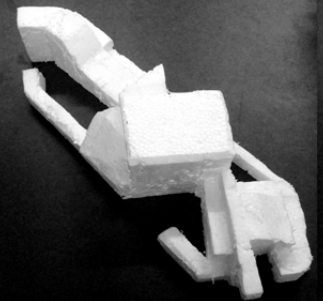
a landing of new forms  
as fragmented parts of extant form



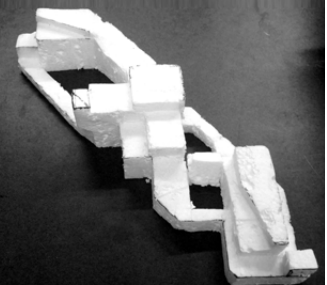
[1]



[2]



[3]



[4]

Figure 5.32. *Crushing & extraction,* (Author 2014).

Figure 5.33. *A landing of form,* (Author 2014).

Figure 5.34. *Process models (1-5) - Sculpting from foam,* (Author 2014).

main street

john page drive

madison street

marshall street

## sketches

Sculpting from foam illustrates a reverse methodology that begins from the whole and works towards the parts. This is an effort to cut away from the available urban volume and reveal the essential. It aims to simplify the composition and reach the essence of what the architecture can convincingly achieve given the embedded ritual, typological and ecological values on site; and its physical constraints.

Three primary volumes order the site and create an initial composition of a new urban sequence. A grid is overlaid as a mechanism for the translation of the established volumes into rhythms and sub-sequences considering the intent of the proposed assimilating space. A provocation of the landscape by an expression of contrasts is achieved by the juxtaposition of objects within the exposed grid. This grid is expressed as a concrete pergola. It is a deliberate fragmentation of the domino system of massive industrial blocks prevalent in the landscape to the South of the site. This becomes the primary structure and ordering overhead datum for expressing a field of peripheral public negotiated territories around the site.

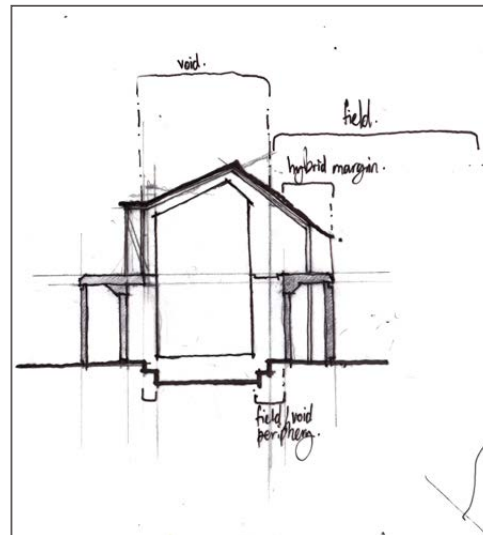
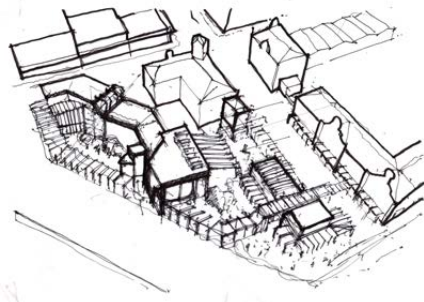
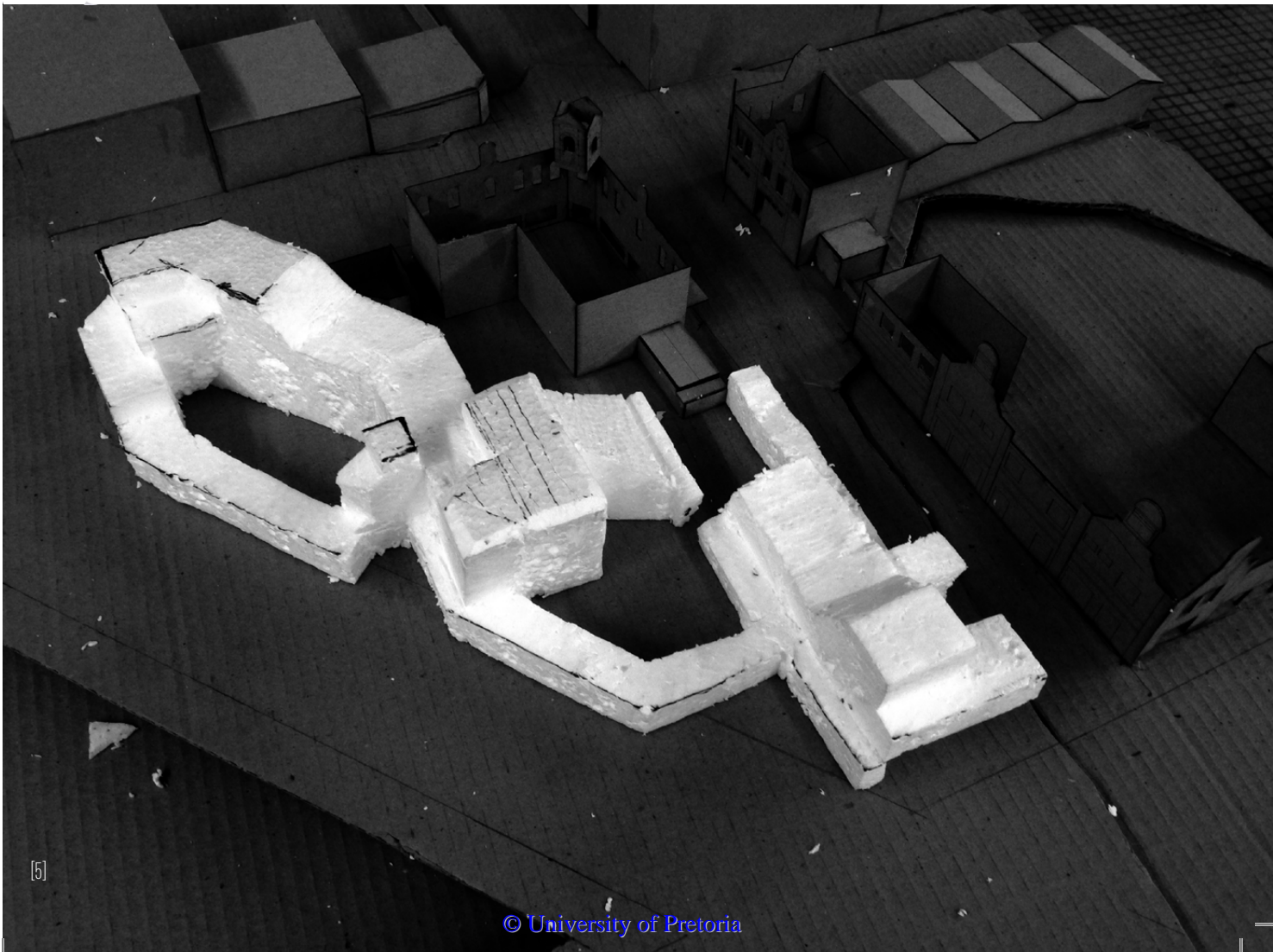
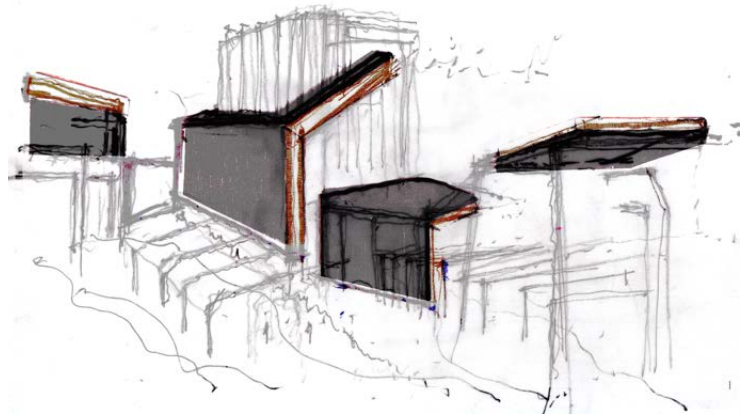
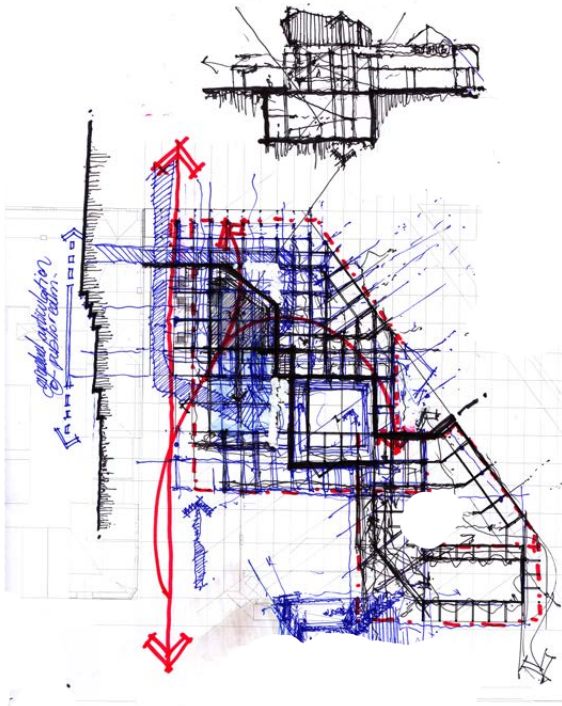


Figure 5.35. Bird's eye perspective - provocation of the assimilating space, (Author 2014).

Figure 5.36. Establishing orders - The void and the field, (Author 2014).

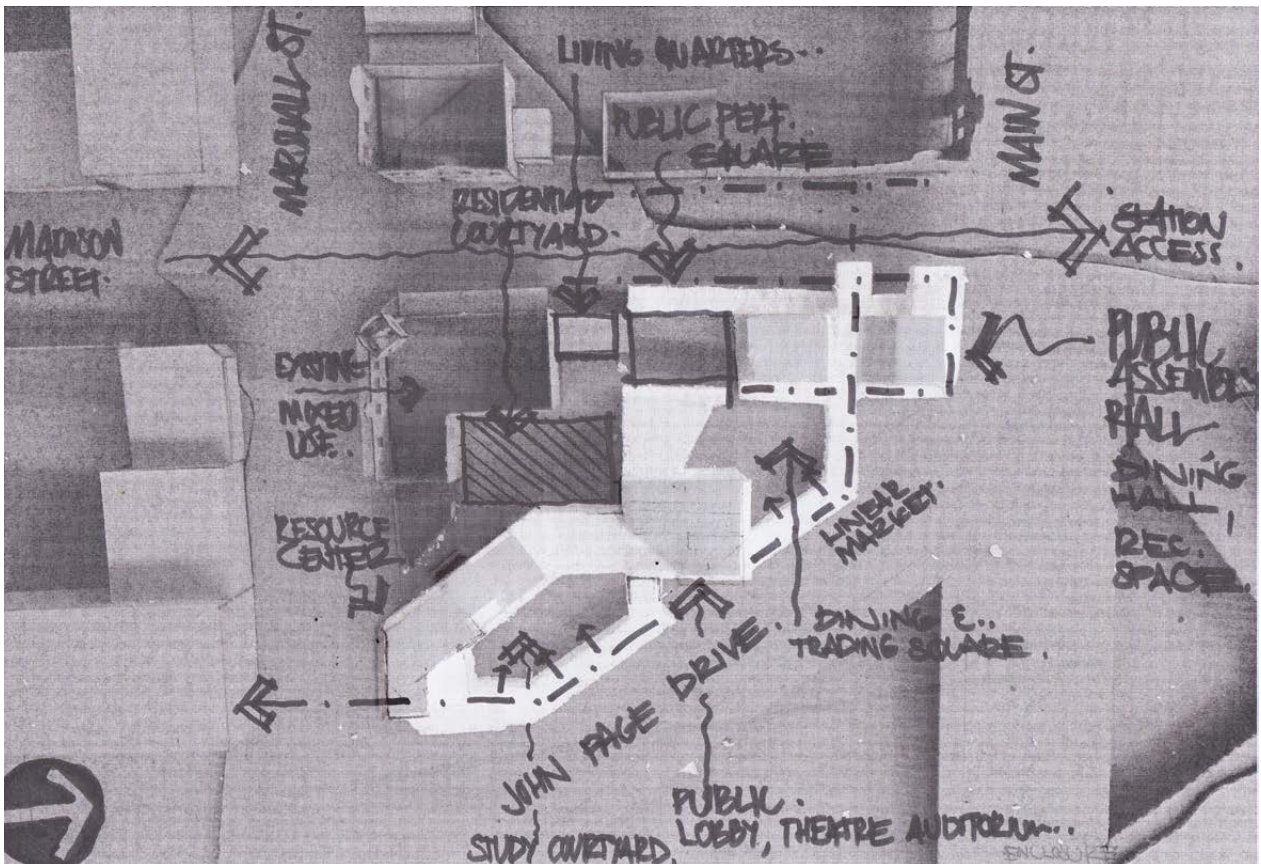
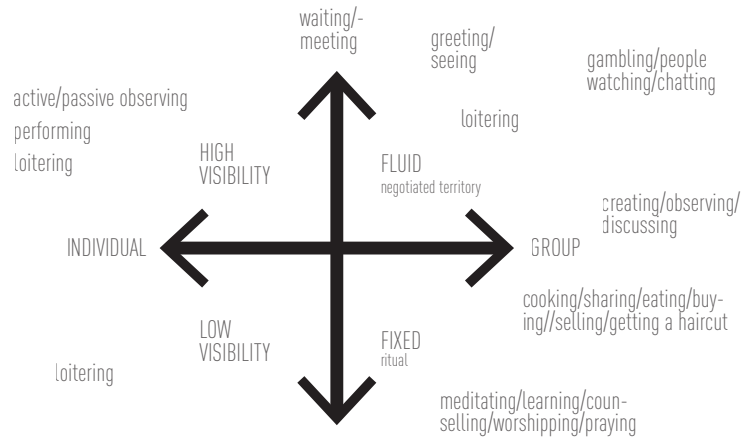
Figure 5.37. Conceptual development - facing page, (Author 2014).

Figure 5.38. Inferred building form - model - facing page, (Author 2014).

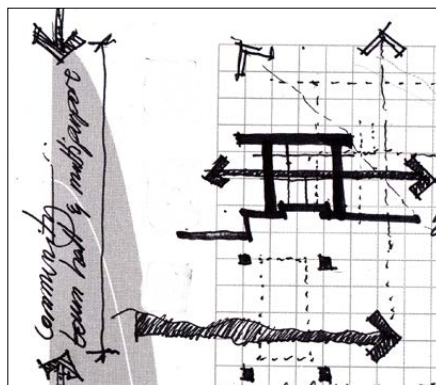
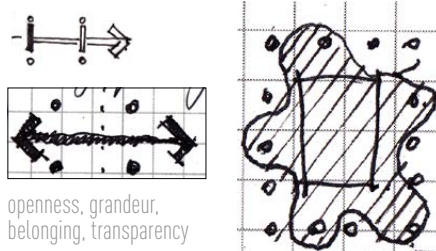
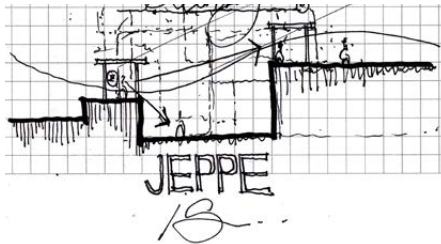


## programme

Degrees of gathering are overlaid over the sculpted parti for the provocation of the proposed assimilating space. Existing pockets of public group activity towards the Northern end of the site become accommodated by an enclosed dining hall sandwiched between an adjacent dining corridor along Madison Street and a trading courtyard along John Page Drive. This progresses toward the community chamber and elevated auditorium that acts as a central nucleus grounding the composition of the urban insertion. The site terminates at the Southern end in a study courtyard that is enveloped by the library and research area



**A**  **A PLACE OF AWARENESS**



transient dining hall

The dining hall to the North is a repurposable public interior space that melts into this defined structure creating a sense of grandeur and belonging communicated through a play on light and volume marking it as a contingent space. Permeability & transparency are important and it accommodates an extension of eating spaces in the market square to the North that now speaks to both the dappled day-lit exterior moving through the dining corridor along Madison street and a degree of permanence with extended durations of dwelling in the restaurants that open to the consistent Southern lighting of its interior.

The hall is also a public foyer and movement space submerging the city dweller in the comfort of its consistent light before emerging over the amphitheatre under the shadows & reflections of a more intensive intersection of the public field; pause; then move across Main street and into the station square. This pause captures a transitional moment of daily decision making in the everyday life and journeys of the community of Jeppetown West. This transitional space facilitates the engagement in everyday public events and the observation thereof by commuters from beneath the shelter of its collonaded periphery and trading courtyards.

**This is a place of awareness.**

Figure 5.39. Degrees of gathering - facing page, (Author 2014).

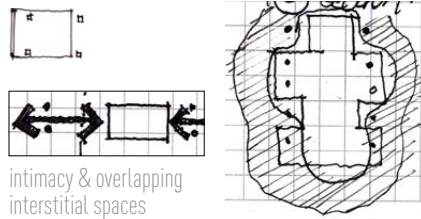
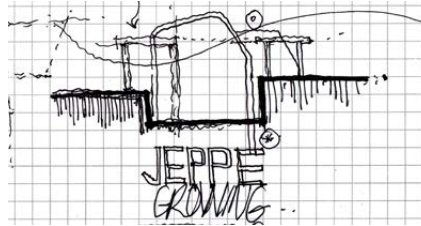
Figure 5.40. Programme zoning - facing page, (Author 2014).

Figure 5.41. A place of awareness, (Author 2014).

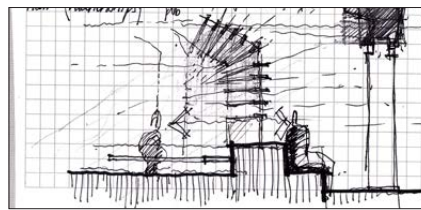


At the opposite end of the site the library as a place of access begins to engulf the expressed concrete structure – creating pocketed stoeps at its periphery along Marshall street and within the adjacent courtyard. The ritual of study begins to encroach on the public field and engages the reader in a silent dialogue with the content of his/her choice and the variable urban content of the filtered public spaces around it. Subjects are drawn humbly into the space through the historical Victorian structure adjacent to the Osbourne pharmacy that becomes the new lending and library administration area. Subjects are then revealed into the dynamic interior of the new building that reads as a modified continuation of the sheltered public field outside. The rituals of public study and the provision of a point of access to information for the community becomes capped and expressed by an overhanging steel roof above that latches onto the concrete pergola.

**B**  **A PLACE OF ACCESS**



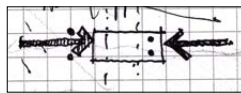
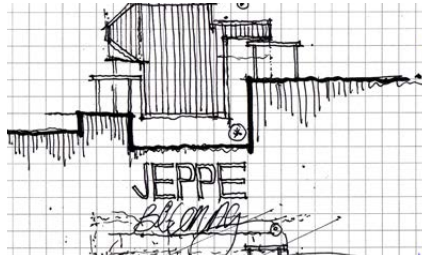
intimacy & overlapping interstitial spaces



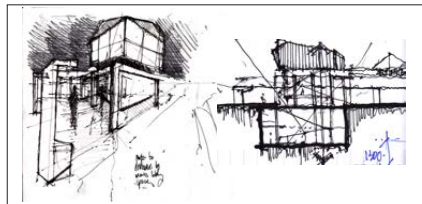
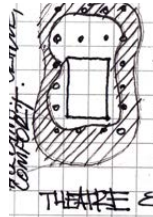
library and reading rooms

Figure 5.42. A place of access, (Author 2014).

**C**  **A PLACE OF INTERPRETATION**



enclosure, cradle,  
decompression



community chamber & auditorium

An awareness of Jeppe and the access to information beyond its geographical locality has been established and the public now has the opportunity to engage in the reflection and interpretation of both. The community chamber is where these intersect. It is a void within the field that becomes a submerged urban decompression chamber. A still place of contemplation and private discussion. Secluded community gathering spaces and an exhibition space are cradled by a massive wall indicating an intentional temporary break from the public field.

Floating as a contrasting object above this void lies the auditorium. It is a sanctuary for interpretation and representation of experiences gathered in the city that surrounds it. Its relationship to the void below and the journey towards it as a rhythmic and gradual ascent through a veiled staircase – ties this narrative together. This is a place of interpretation and within it – Jeppe is always becoming.

Figure 5.43. A place of interpretation, (Author 2014).

# Saynatsalo Town Hall (1951)

saynatsalo, finland

Alvar Aalto

An offset composition rests in an eternal state of tension that binds the entirety of the ensemble. There is an emphasis on how the ensemble interacts with the landscape as a consideration of contour topography – becoming gradually measured as the free line of the public stair gets drawn into the central complexity of the fractured composition of forms (Baker 1997).

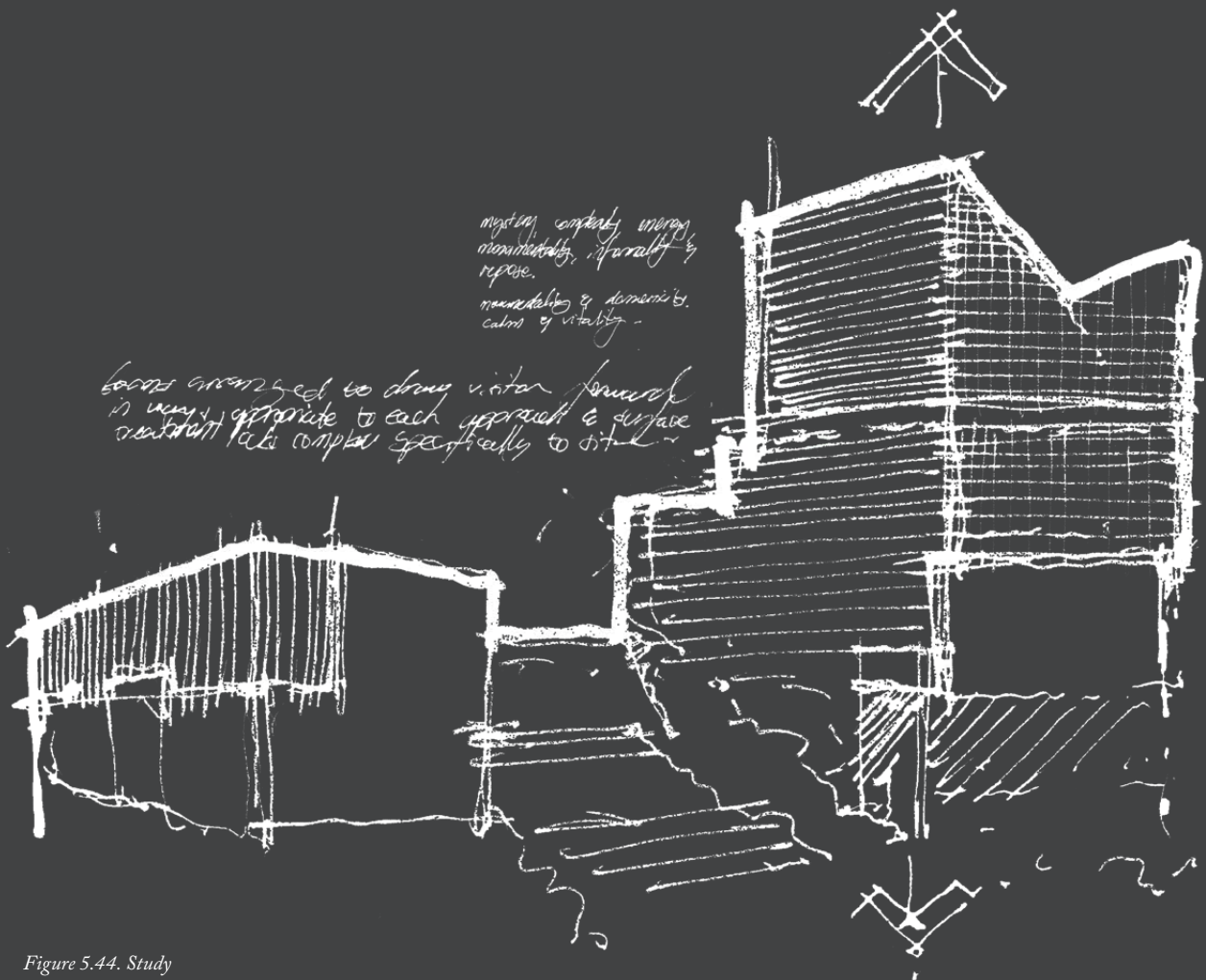
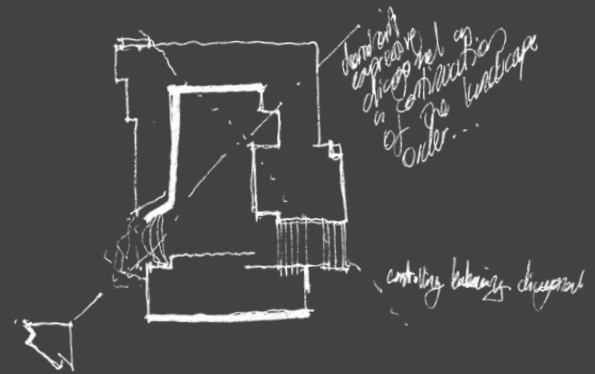


Figure 5.44. Study drawings - Saynatsalo Town Hall, (Author 2014).

## University of Cape Town Sports Centre (1977)

cape town, western cape, south africa

Roelof Uytenbogaardt

A grand interior meets the sky; shifting light seeps through a dynamic membrane. The roofscape expresses the spirit of this space. It is a celebration of its event that is collected from beyond its walls toward its interior.

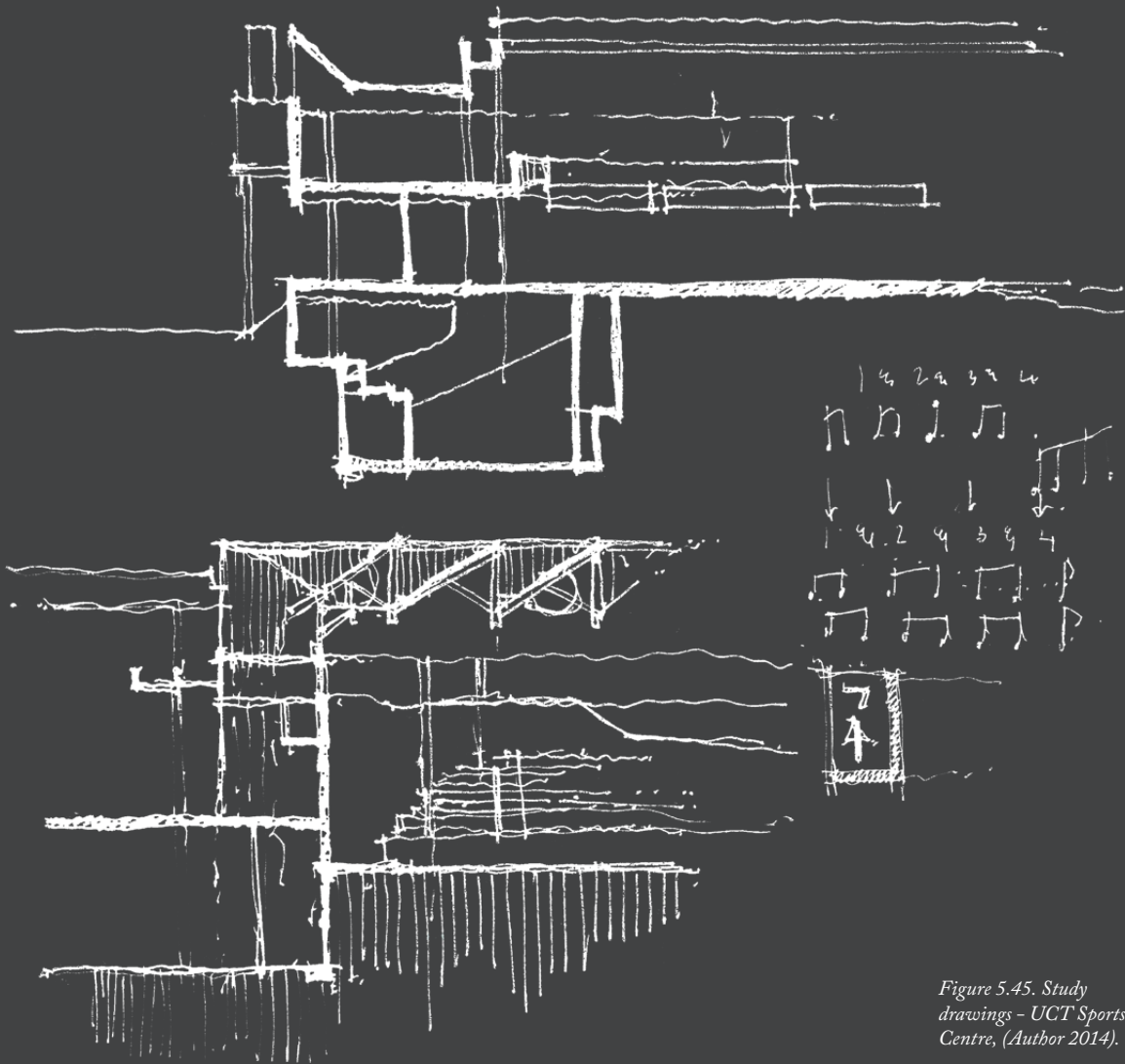
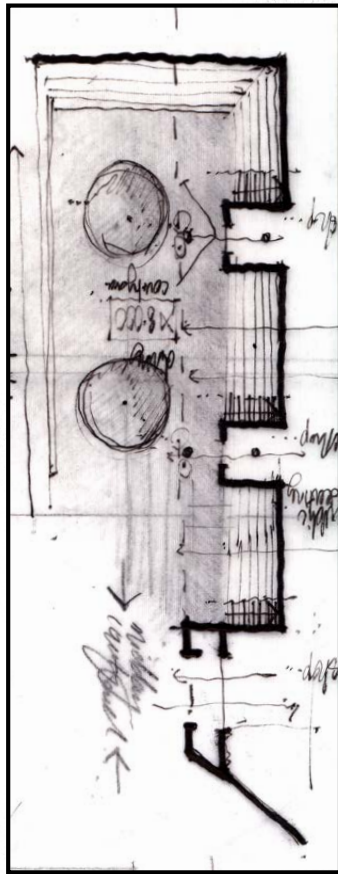


Figure 5.45. Study drawings - UCT Sports Centre, (Author 2014).

MAIN STREET



A

C

dining corridor

take-away restaurants

public  
reception  
threshold  
X 10.000

dining hall  
X 8.000

tradin  
courty

contemplative  
courtyard

cc  
cf  
x

MADISON STREET

B

MARSHALL STREET

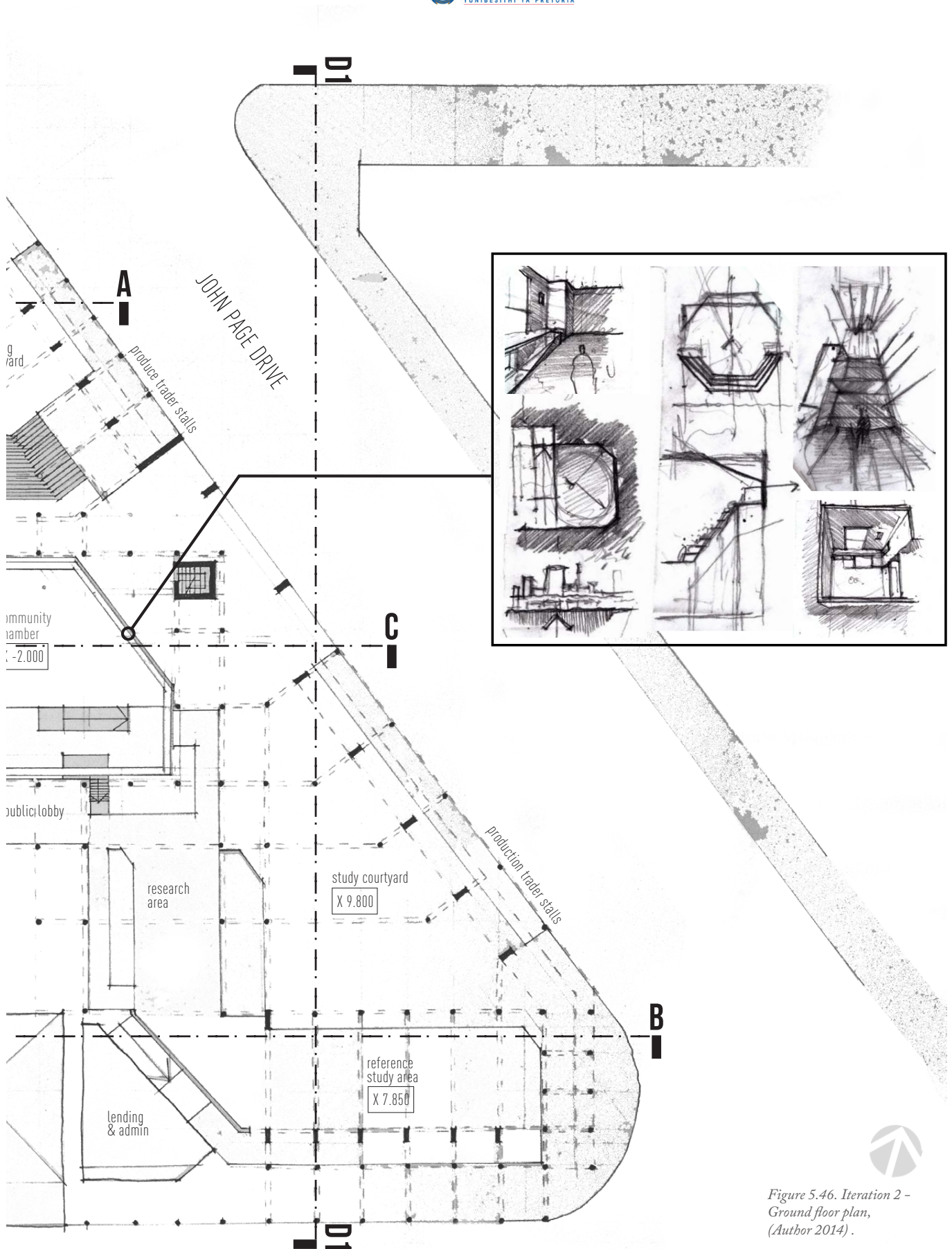


Figure 5.46. Iteration 2 -  
Ground floor plan,  
(Author 2014).



## **design can acknowledge human nature**

the task of making places for people is fostered by engaging with the design as tactile, hand made and always in the process of becoming.

this stance liberates both the designer, the constructor and the occupant from any expectation of completion or any predetermined notion of success of the built work.

the architecture will only reach versions of completion during its occupation.

in this way, many decisions are felt,  
yet few can be abstracted and reductively understood...



architecture becomes a backdrop for the expression of ritual by people

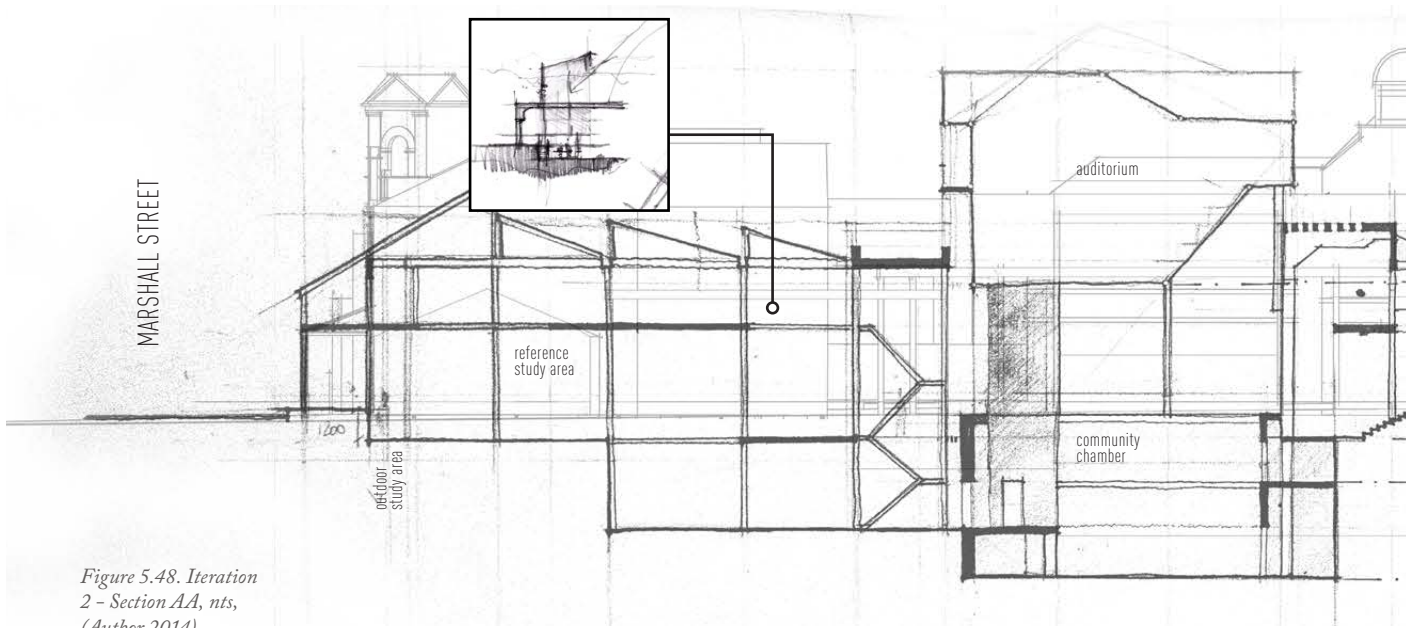
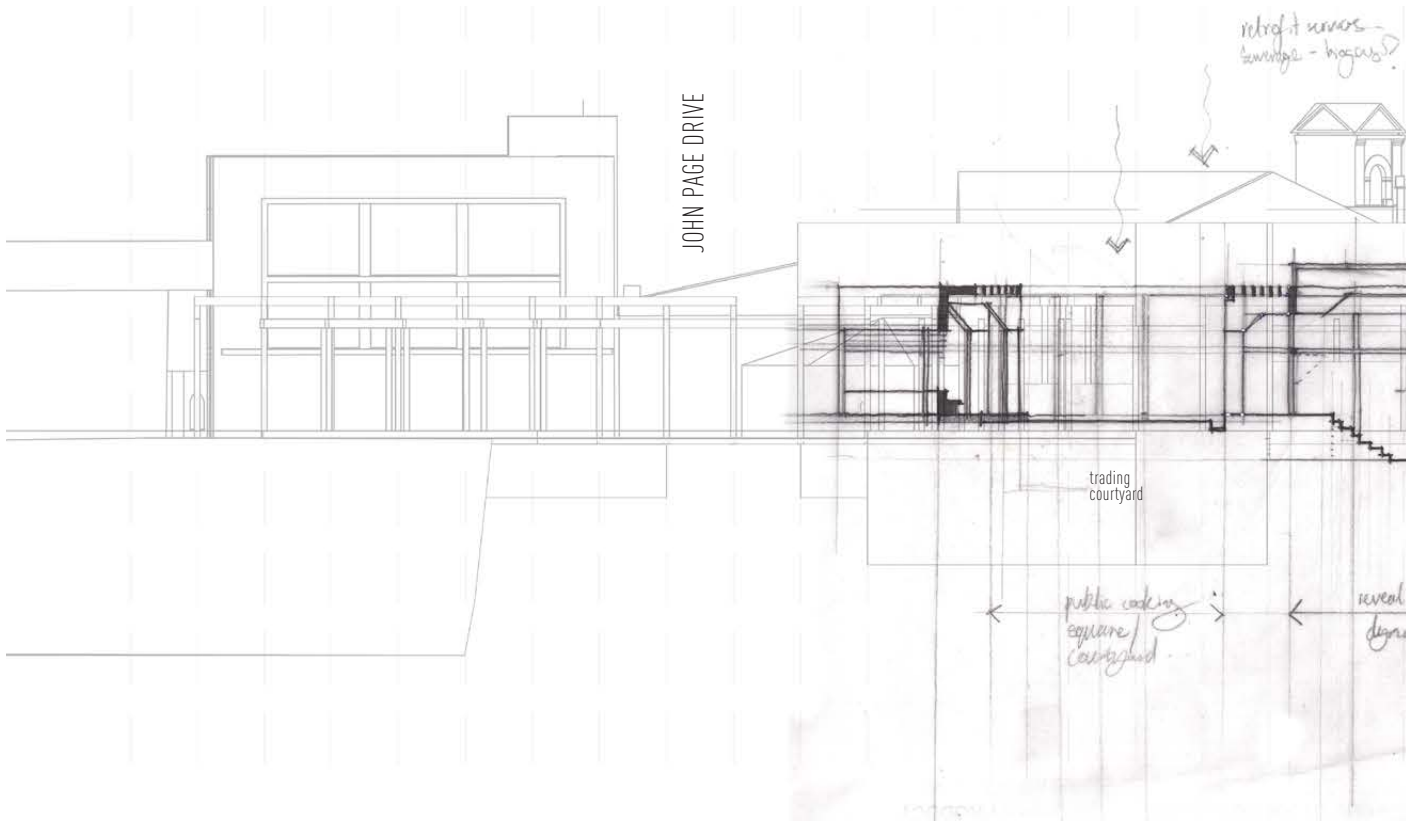
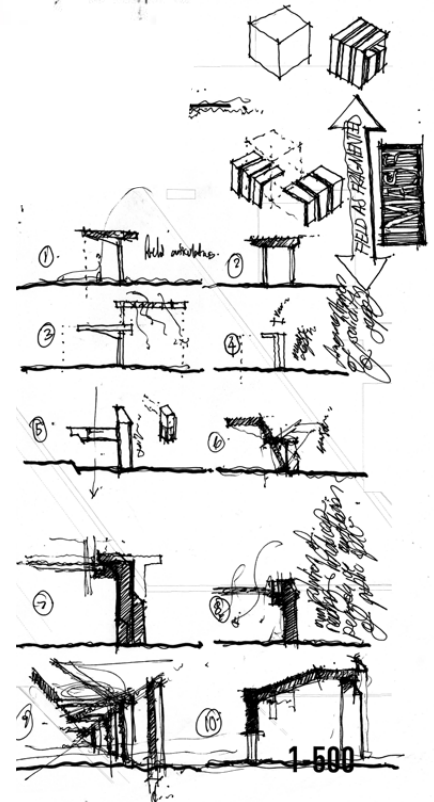
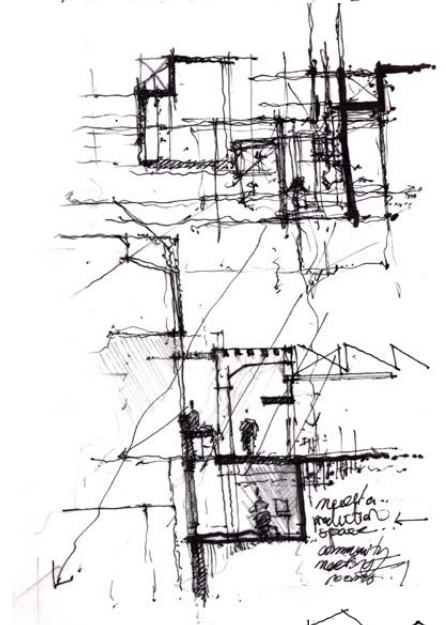
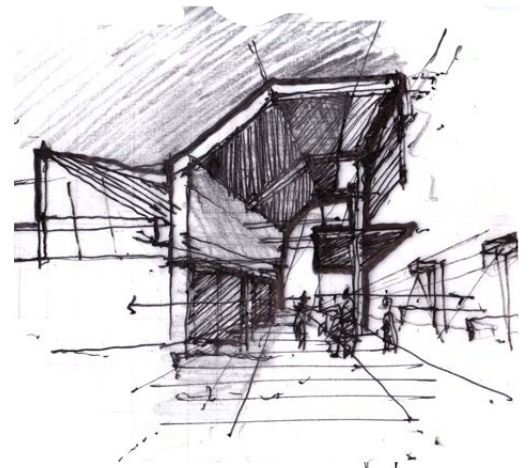
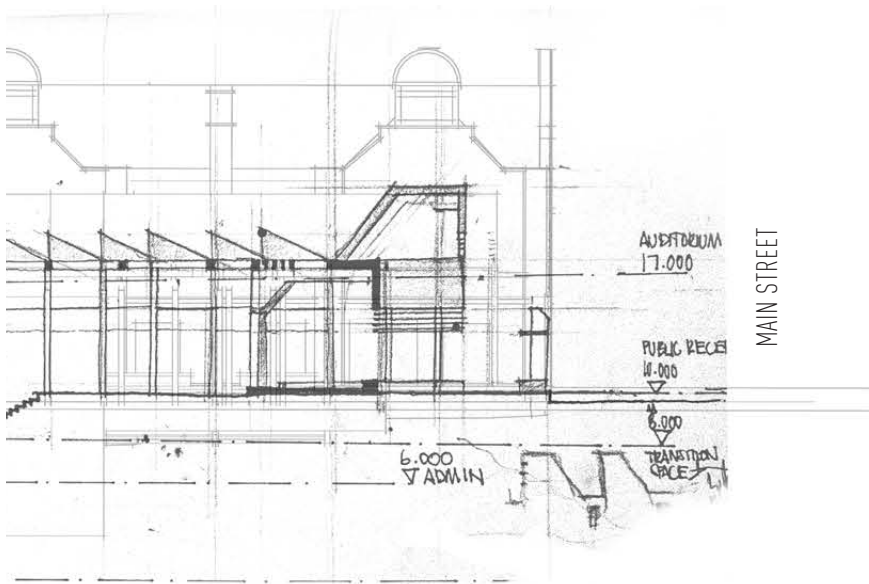
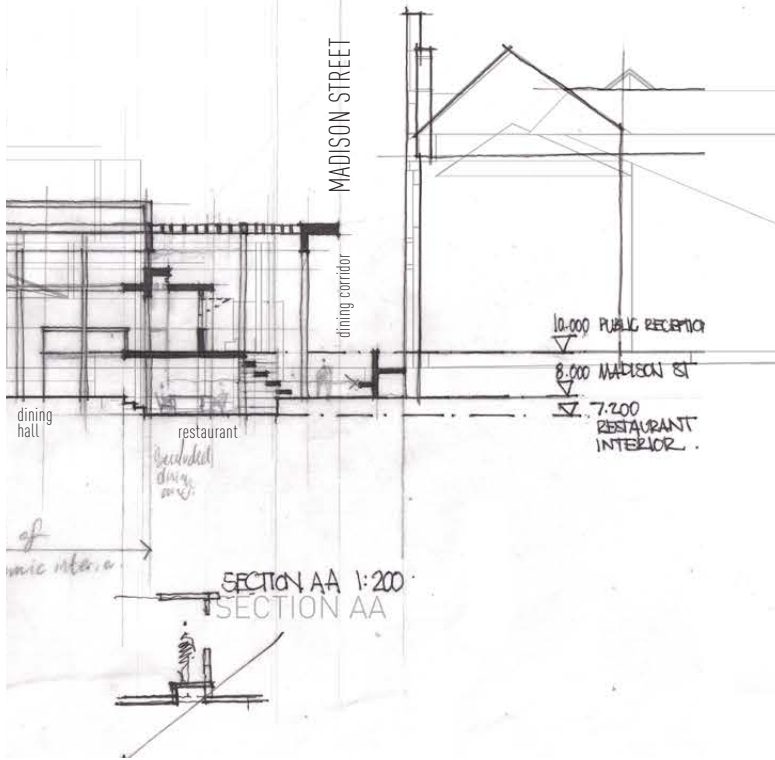


Figure 5.48. Iteration 2 - Section AA, nts, (Author 2014).

Figure 5.49. Iteration 2 - Section DD, nts, (Author 2014).

Figure 5.50. Iteration 2 - Tectonic exploration - far right, (Author 2014).



## Werdmuller Centre (1976)

cape town, western cape, south africa

Roelof Uytenbogaardt

A path through an upside down landscape, from the asphalt of attachment to the ground, turning into slate and expressive reinforced concrete columns supporting perched formal masses. At its zenith it transmutes into a landscape of vegetation that meets the sky.

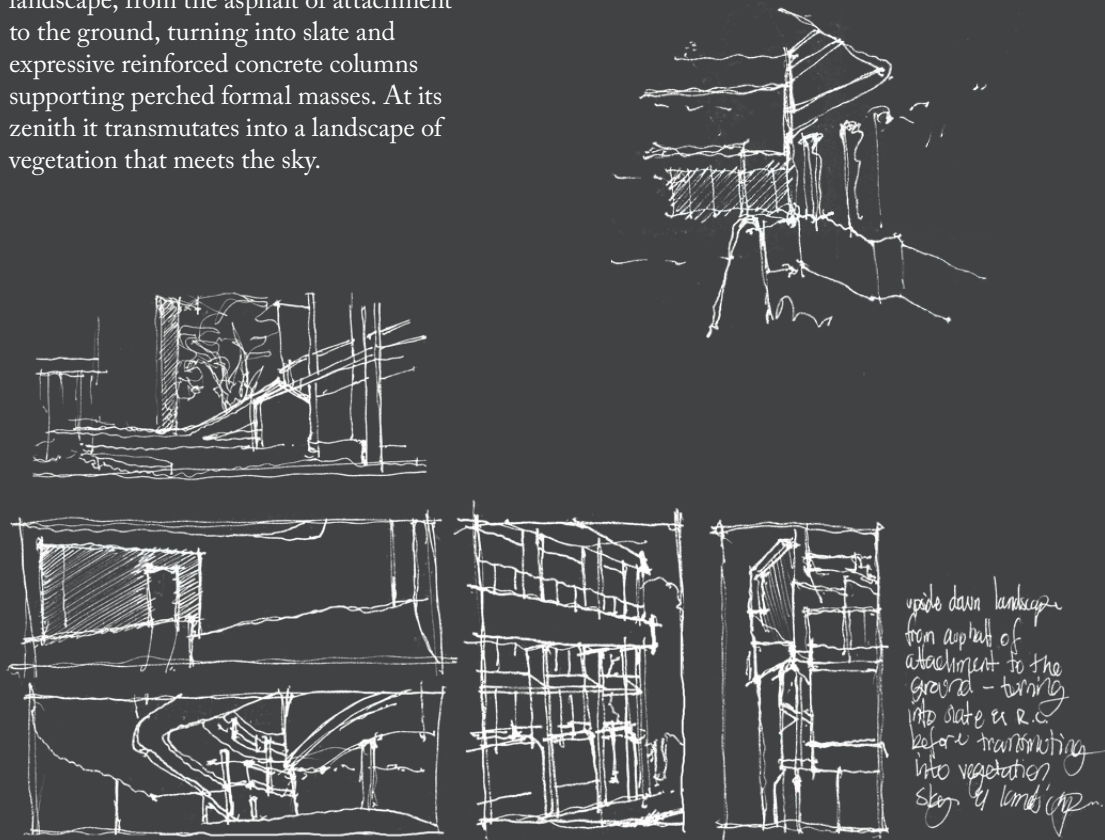


Figure 5.51. Study drawings - Werdmuller centre, (Author 2014).

Figure 5.52. Provocation of the assimilating space - model - facing page, (Author 2014).

## critique

The insertion still struggles with an arbitrariness in the composition of the whole that is a collection of cacophonous forms that struggle to communicate with one another formally and programmatically. The result is a convoluted insertion that is apprehensive to its own being and the simple intentions of provoking the assimilating space.

Scale and hierarchy can be used more effectively to balance the composition of the insertion. The current manifestation is an illegible confusion of competing buildings that disable legibility and the spatial negotiation of an urban subject.

The introverted character of the auditorium is questionable in an environment where outdoor gatherings are a contributor to urbanity and collective participation.



main street

john page drive

madison street

marshall street

## Nederduitse Gereformeerde Kerk (1964)

welkom, free state, south africa

Roelof Uytenbogaardt

The room inside becomes the architecture outside. The architecture outside becomes an extension of its landscape. It is a significant enclosure, cradling the sanctity and layers of a communal sacred space, and is bathed in consistent light.

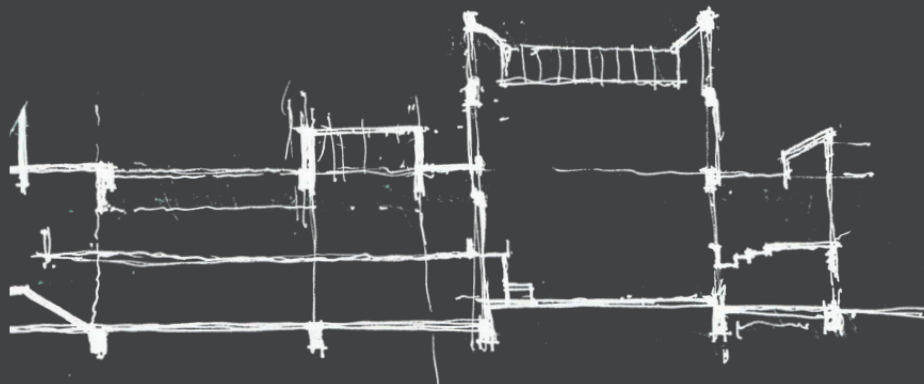
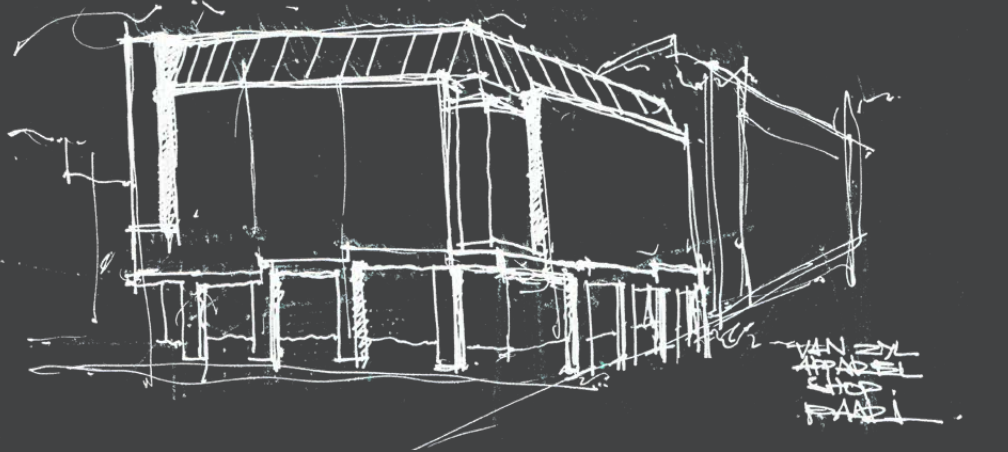
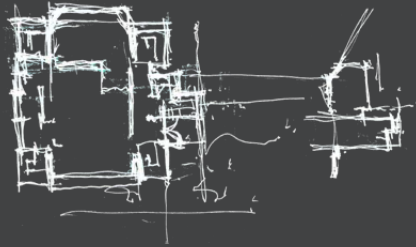


Figure 5.53. Iteration 2 –  
Site model – facing page,  
(Author, 2014).

Figure 5.54. Study  
drawings – NG Kerk,  
(Author, 2014).

# Munster City Library (1993)

munster, germany

Bolles-Wilson & Partner

A building as an augmenting transformative interval of the greater urban environment (geography). Its own public spaces relate to a compositional narrative of related spaces of value within the city and creates linkages between major parks and monuments. The form at the centre of this urban composition rests in a divided schism expressed as the programmatic division between types of information (traditional and technological) housed in the library. Its makeup is both ordered and chaotic, where strange juxtapositions and intervals between external and internal spaces create potential for the event (McConnell 2014).

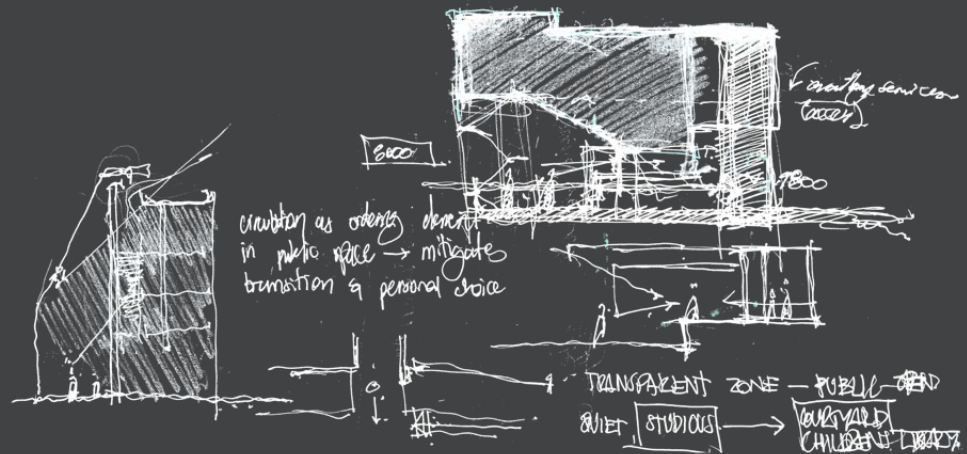
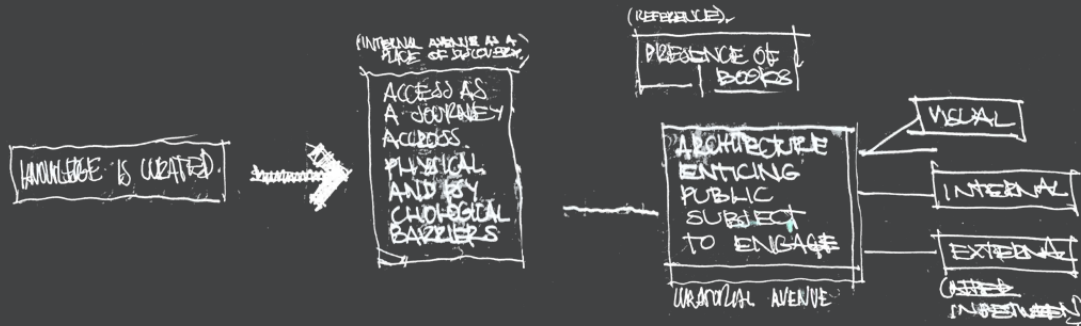
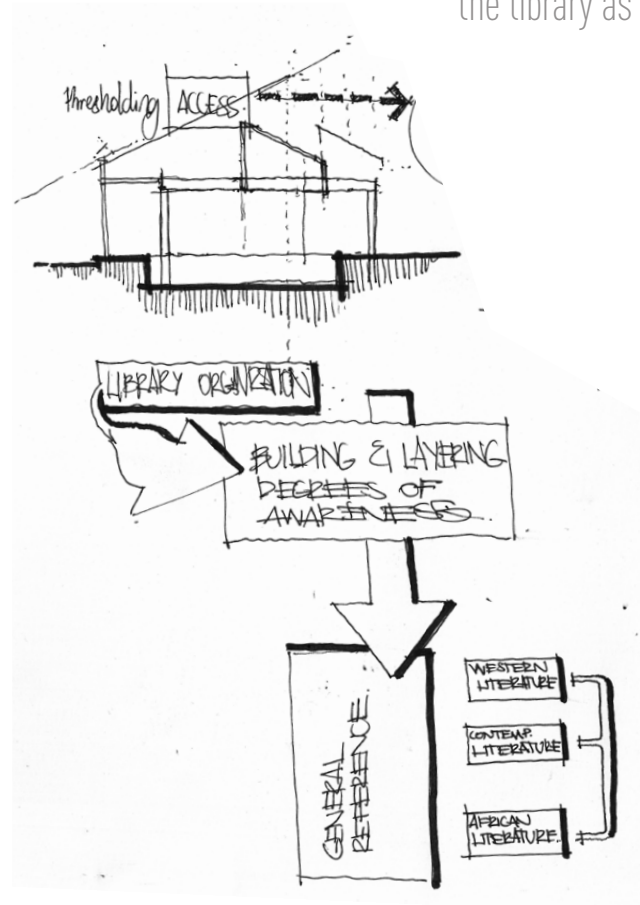


Figure 5.55. Study drawings - Munster City Library, (Author 2014).

in an age of apparent information everything is curated...

## 5.5. A PLACE OF ACCESS

the library as instigator



A library becomes the catalyst for instigating community gathering and on street discourse based on a new insertion of cultural material into the landscape.

This new place of access acknowledges the power that comes with an ability to curate its physical content.

Architecture becomes the mechanism for spatially transferring this power and handing it over to its subjects.

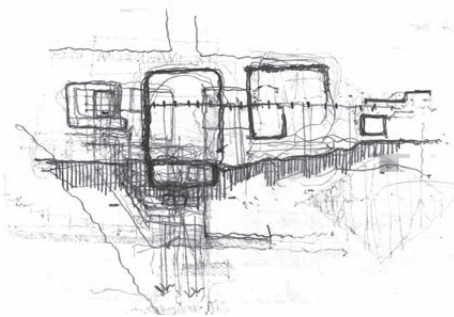
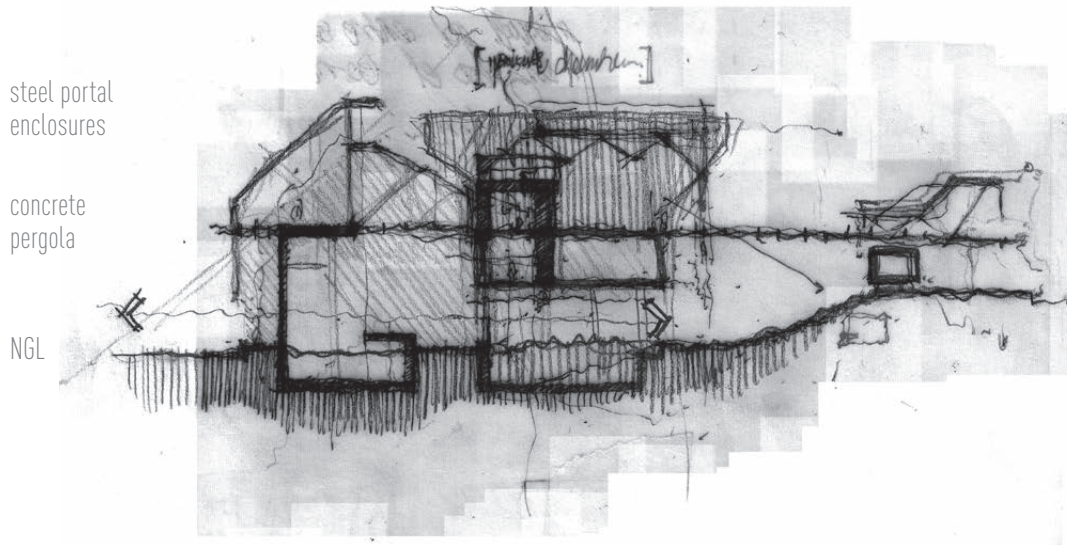
The library as a curatorial space for new content allows for a shift in public awareness based on the provocative potential of print media, literature and narrative and the ability for culture to transcend differences and become a mirror for humans to be in conversation with themselves and each other.

Figure 5.56. Thresholding access - building and layering awareness, (Author 2014).



## 5.6. ITERATION 3

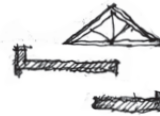
### transfer and transform



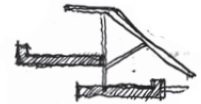
1940s modernist flat roof



1910 victorian pitched roof



transfer of types



transformed typology

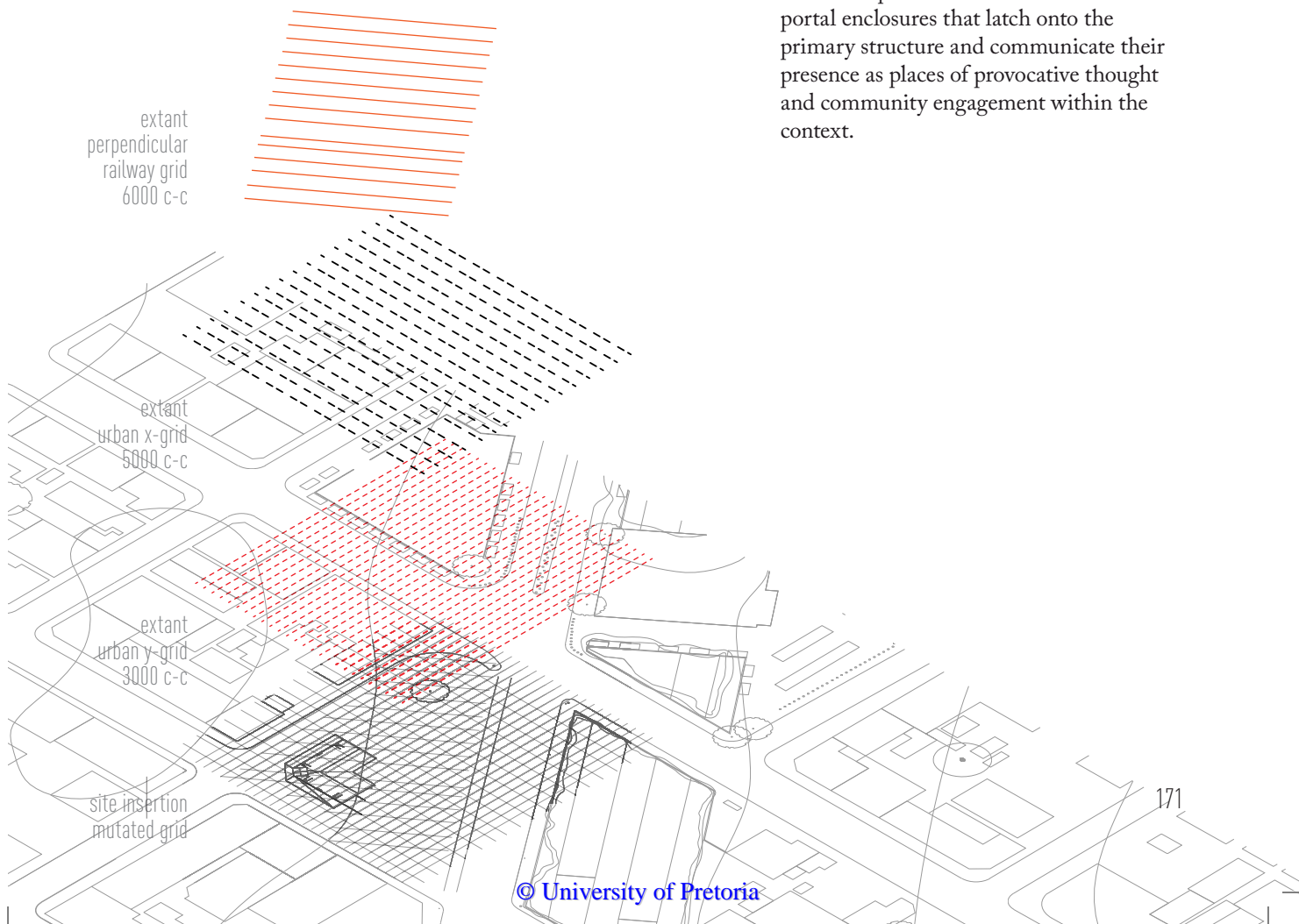
Figure 5.57. Transfer and transform, (Author 2014).

Figure 5.58. An intersection of grids - facing page, (Author 2014).

## intent

The site is again conceived as the creation of a relief in a hostile environment. This allows its subjects a new point of access to information and participation in the making of their urban landscape. It is formally driven and programmatically complemented.

The existing grid of the urban landscape intersects with a line perpendicular to the railway line. The resultant mutated grid becomes an ordering device for landing the fragments that stitch the existing fabric and the intervention onto the regenerative spine. The concrete pergola structure remains as the definition of a field of public negotiated territory. New ritual spaces driven by the programme (such as the library and auditorium) become expressed as modulated steel portal enclosures that latch onto the primary structure and communicate their presence as places of provocative thought and community engagement within the context.



The transfer and transformation of typological and ritual values originate from the existing Generation I: Corner type – Osbourne Pharmacy that anchors the site at the corner of Madison and Marshall Streets. It becomes a generator for stitching an incomplete historical urban landscape into the regenerative urban spine. Its positive formal qualities designed for enabling public life become departure points for the insertion of new fabric. The intervention is conceived as a mirrored reinterpretation of the Osbourne Pharmacy.

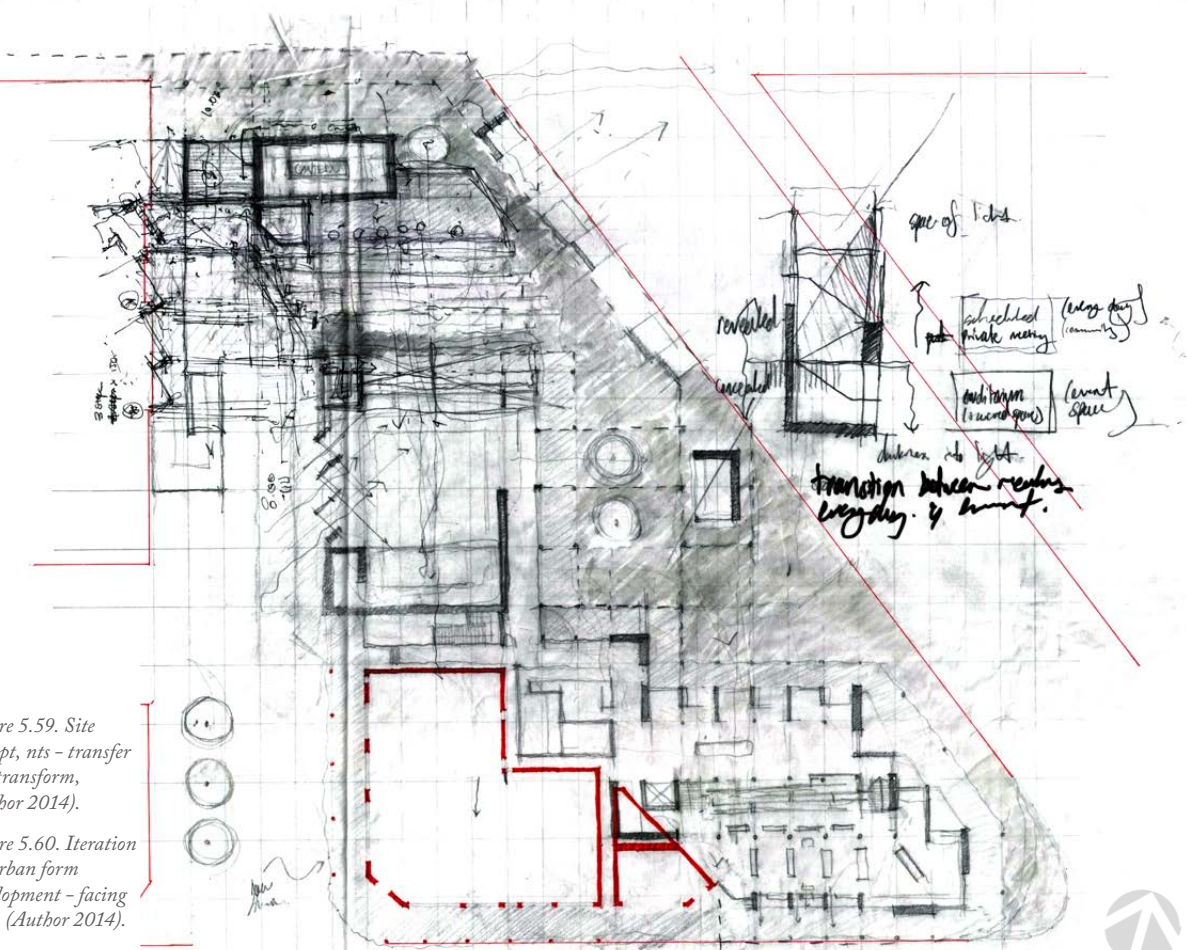
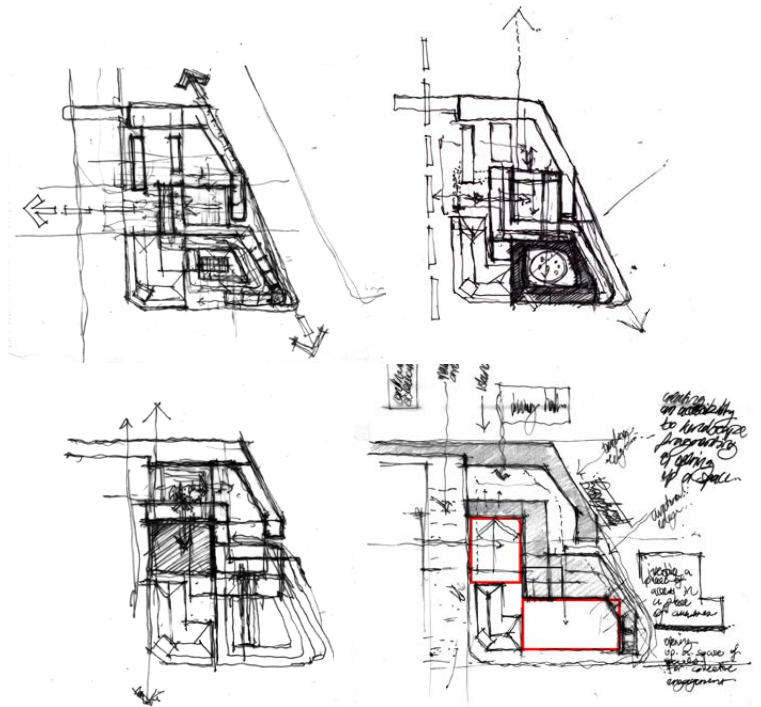
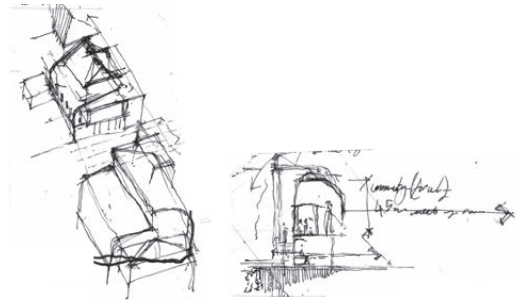
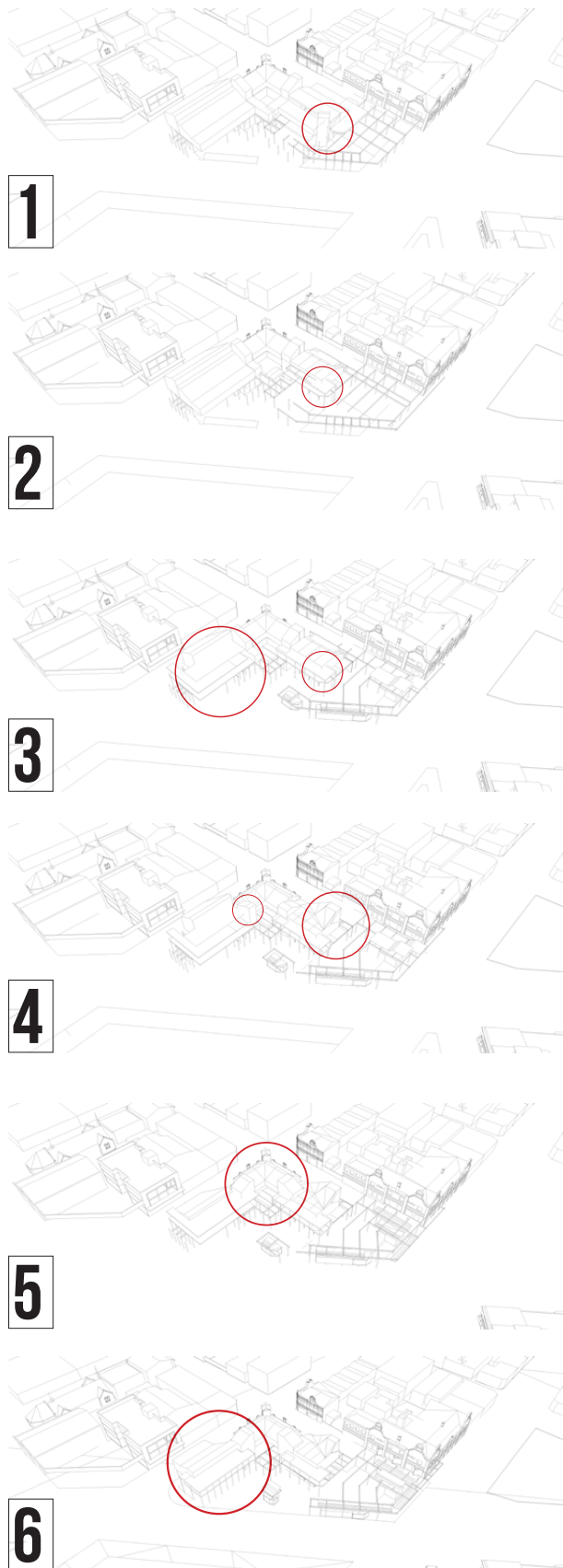


Figure 5.59. Site concept, nts - transfer and transform, (Author 2014).

Figure 5.60. Iteration 3 - urban form development - facing page, (Author 2014).



The inserted typology activates an internal square on the site in a similar way to which the corner typology of the Osbourne Pharmacy creates a landmark and activates the street corners of Marshall and Madison Street. Particular emphasis is placed on the modulation of scale and hierarchy expressed through form, the articulation of the roofscape and the composition of elevations.

An internal courtyard backs into the rear end of the Osbourne Pharmacy and binds inserted intervention spaces to the existing fabric. It is a common lobby that stitches together a place of access (the library) and a place of interpretation (the auditorium and community chambers) and allows movement into the building from a central node. At the roof level the intervention appears to emerge as a metamorphosis of the existing fabric where the insertion encroaches onto the attic space of the Osbourne Pharmacy to create a symbiotic relationship between the new and the old.

The transferred wings of the library and auditorium that extend and transform the urban value of the Osbourne Pharmacy become a backdrop for the leftover space between themselves and the regenerative spine along John Page Drive. This void becomes an avenue for community activity and provocation.

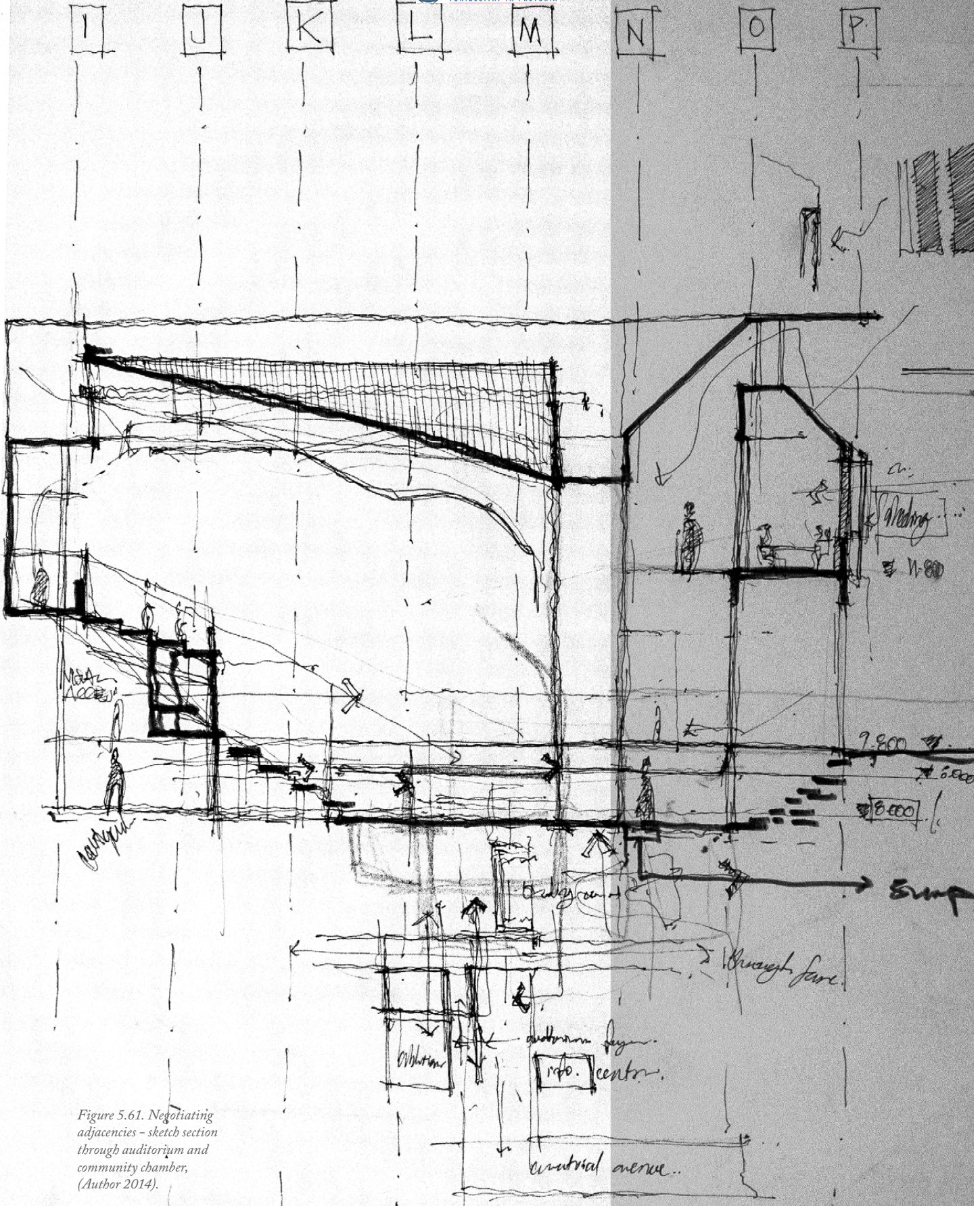


Figure 5.61. Negotiating adjacencies - sketch section through auditorium and community chamber, (Author 2014).

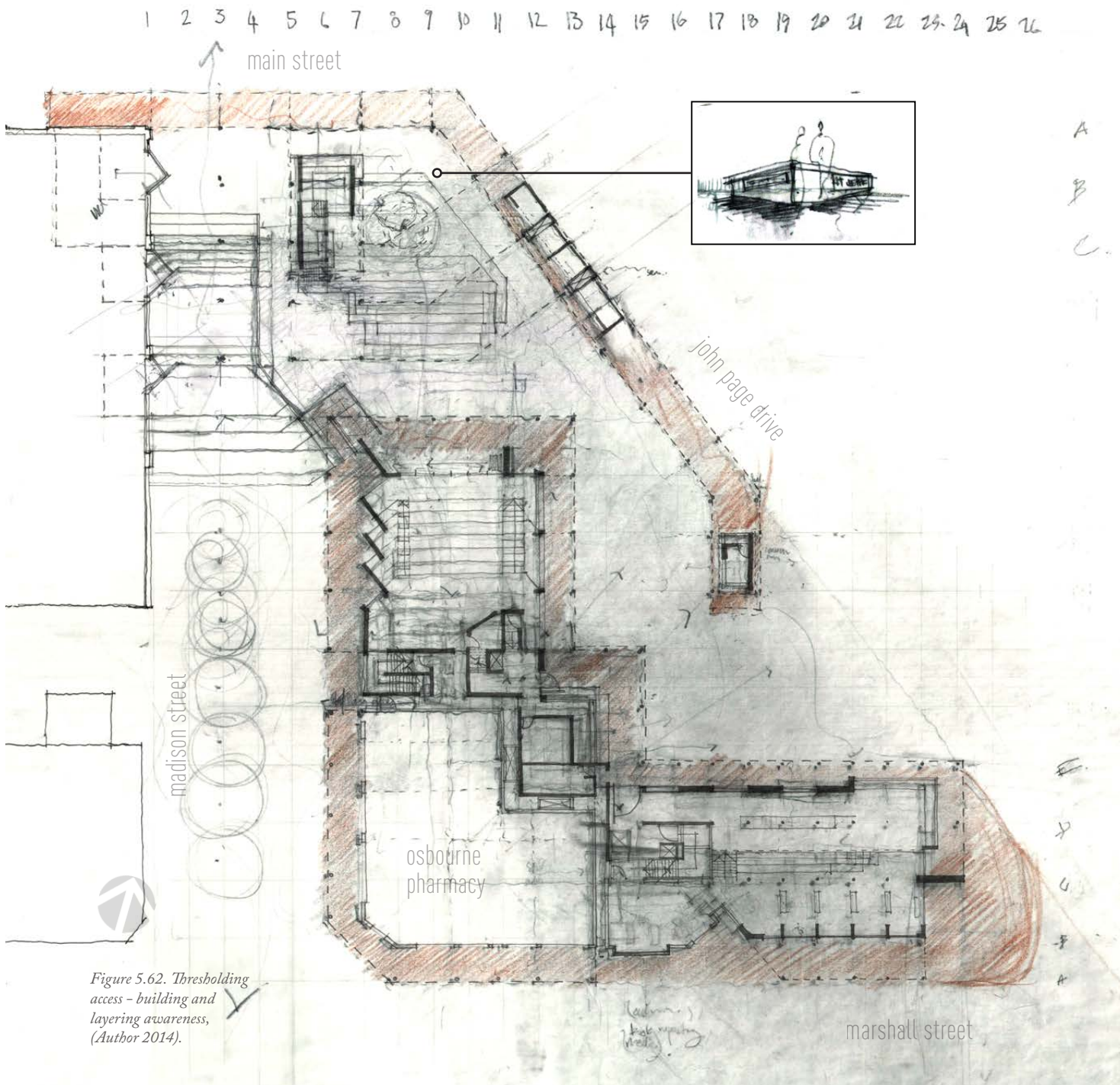
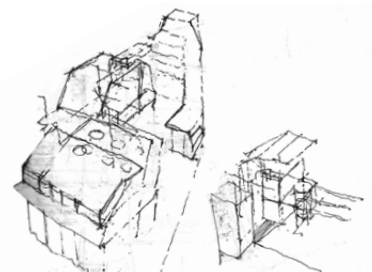
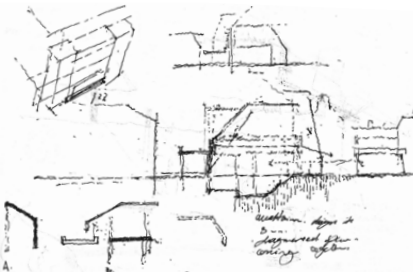
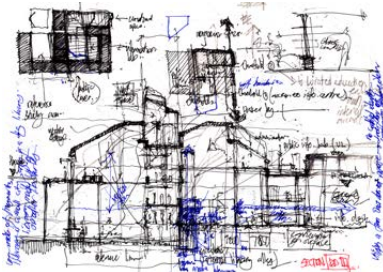


Figure 5.62. Thresholding access - building and layering awareness, (Author 2014).

# AT&T Performing Arts Centre – Dee and Charles Wyly Theatre (2009)

dallas, texas, united states of america

Rex - OMA

A theatre where innovative technology is used to gain freedom from the constraints of a fixed stage configuration, and challenge traditional internalised spatial conditions to create a relationship with the urban environment through transformable skins and furniture. Theatre services are stacked below and above the stage to 'free' the stage from horizontal constraints, allowing it to vary in size and configuration and create a direct relationship with its urban surroundings (Rex & OMA 2010).

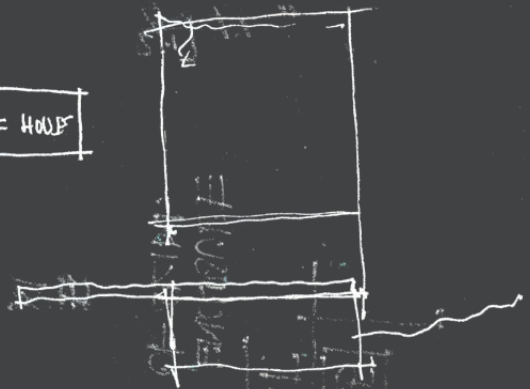
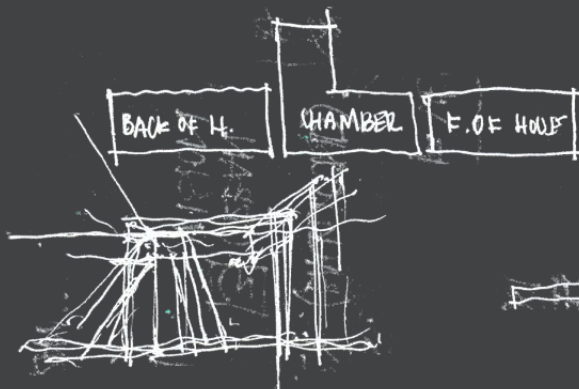
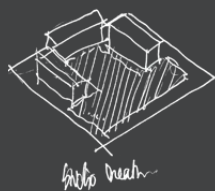
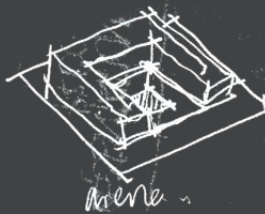
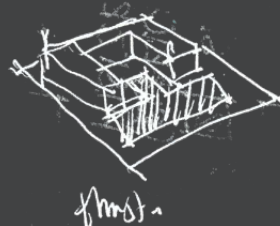
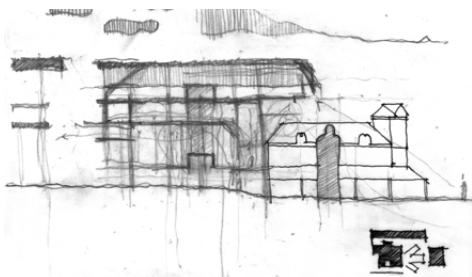
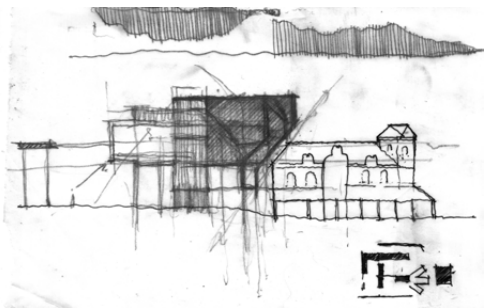
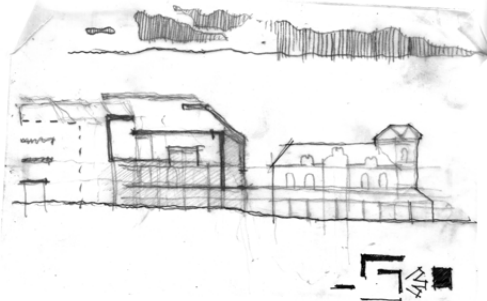
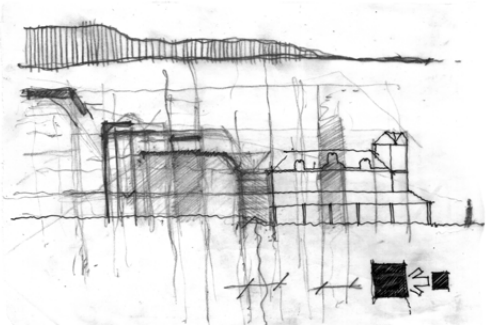
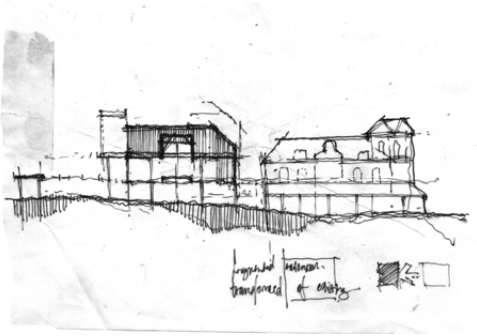


Figure 5.63. Studydrawings  
- Munster City Library,  
(Author 2014).

Figure 5.64. Madison  
street - Western elevation  
development, (Author  
2014).





## sketches

The manifestation reads as both a continuation and provocation of the assimilating space and the related morphology that becomes expressed through the articulation of language and materiality. This is reflected in the play between spaces of public negotiation (articulated by the concrete pergola) that speak of heaviness and belonging; and spaces of new programmatic insertion and ritual provocation (articulated by the modulating steel portal frame enclosure) that speak of lightness and becoming. The relationship between these polar canons is mediated in the treatment of infill blocks and glazing that entice the urban subject towards entrance and engagement with provocative ritual spaces. The intrusion of light and shadow inform the making of this mediation – articulated through the treatment of vertical surfaces, screen walls and fenestrations.

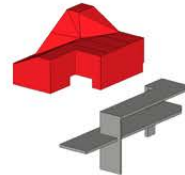




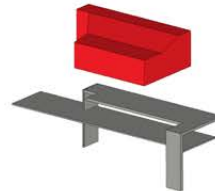
**ACCOMMODATION**  
resident researchers and  
visiting speakers, caretaker flat



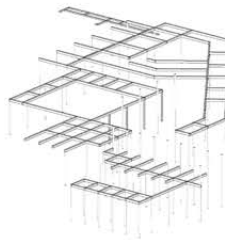
**VERTICAL  
CIRCULATION**



**AUDITORIUM**  
a place of event  
private / public gathering



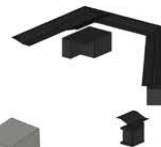
**COMMUNITY  
CHAMBER**  
a places of private  
gathering



**REFERENCE  
LIBRARY**  
a place of access to  
public education and study

**CANTEEN**

kitchen  
sit down  
take away



**PUBLIC FIELD**  
concrete pergola

**SERVICE  
BLOCK**

ablutions  
to new &  
existing

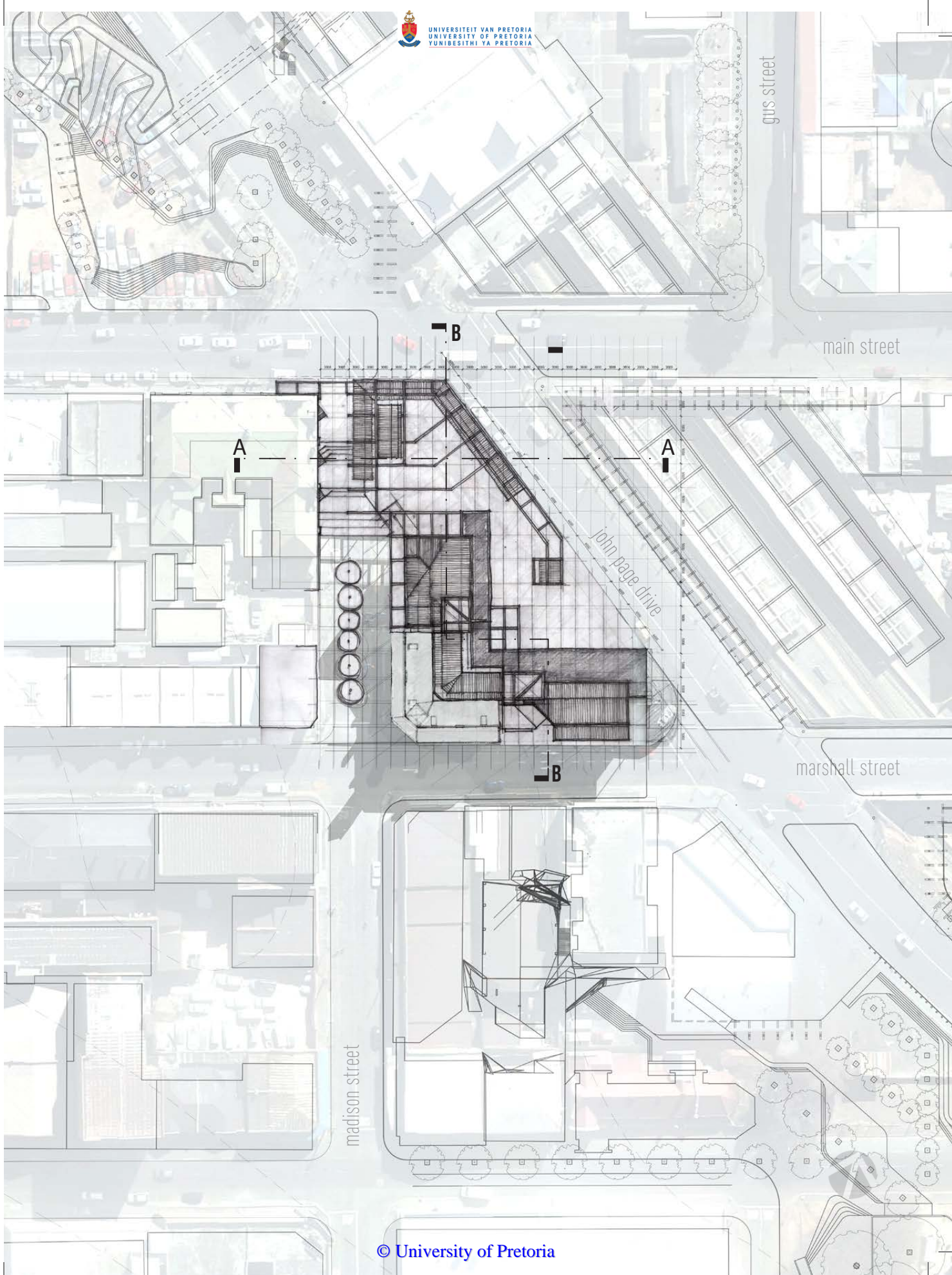
**TRADING EDGE**  
civic service  
provider

**COMMUNITY  
EXCHANGE SQUARE**

everyday & community  
events

Figure 5.65. Iteration 3  
- Programme & zoning,  
(Author 2014).

Figure 5.66. Iteration 3 -  
site plan, nts - facing page,  
(Author 2014).





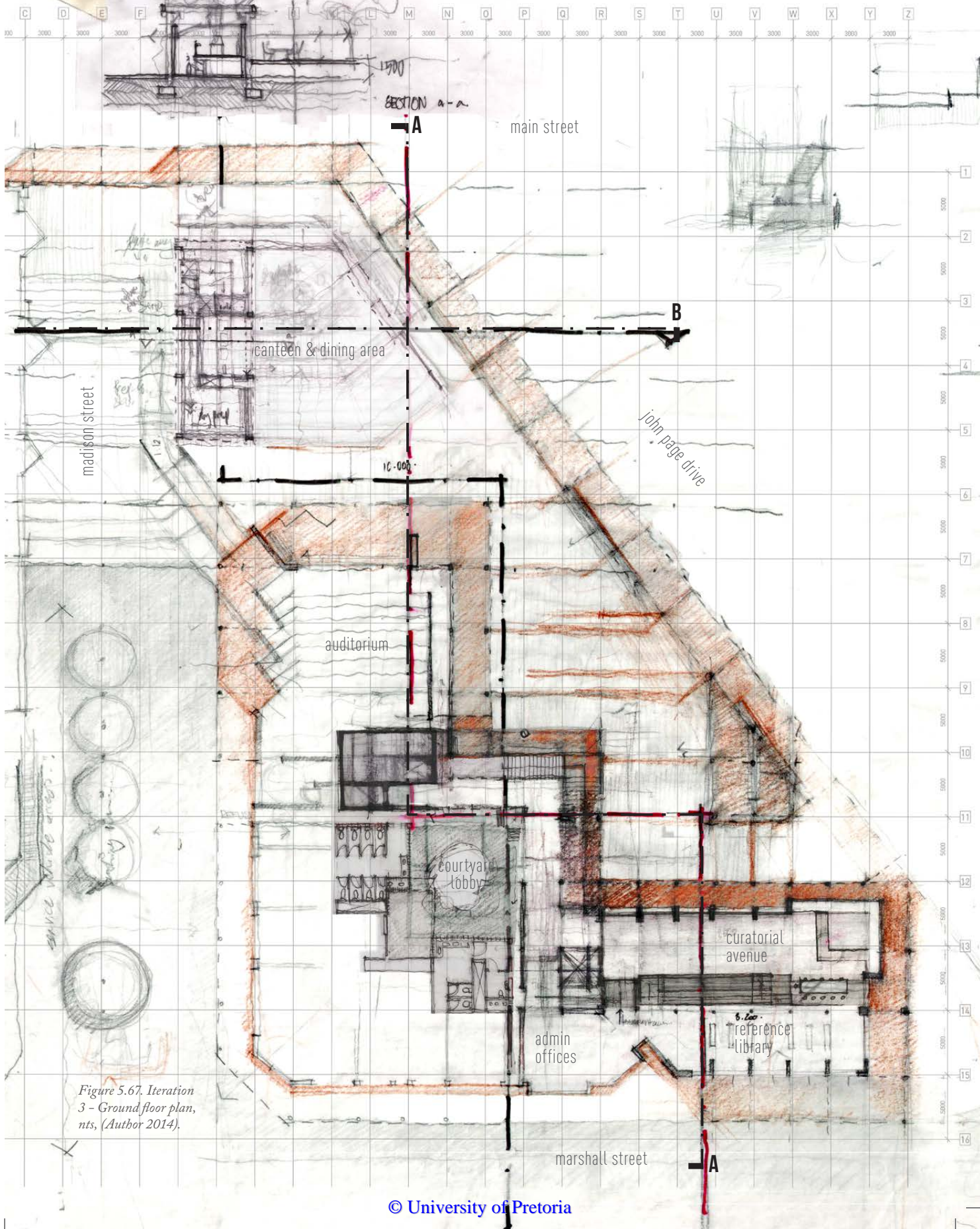


Figure 5.67. Iteration 3 - Ground floor plan, nts, (Author 2014).

# CATHEDRAL OF THE HOLY NATIVITY (1981)

pietermaritzburg, kwazulu-natal, south africa

Heinrich Kammeyer, Norbert Rozendal and Geoffrey Carter-Brown

Material becomes manifest as a mirror for divine light. Darkness fears light. Noise fears silence. A collective is collected from exterior interstitial spaces of everyday devotion expressed as interactions between human beings – heard and felt.

Material and form are embraced from fragmented walls and columns into a pool, an abyss or vessel that becomes the main formation of the congregation. A symbolic representation of a permanent connection to a world beyond the reflections of light that we human beings perceive.

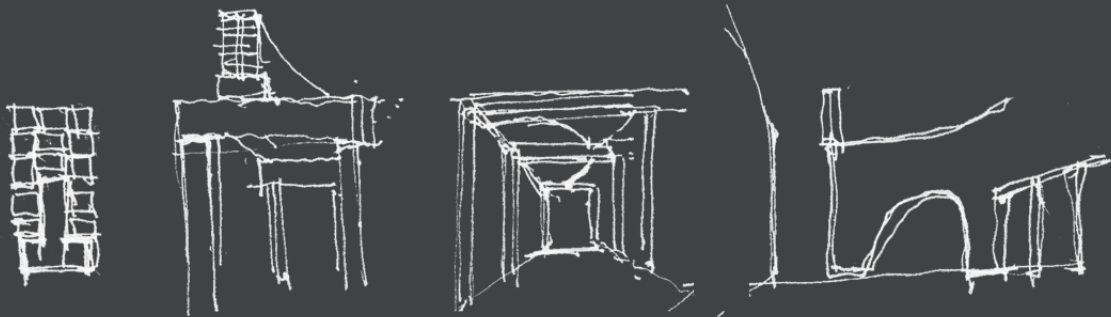
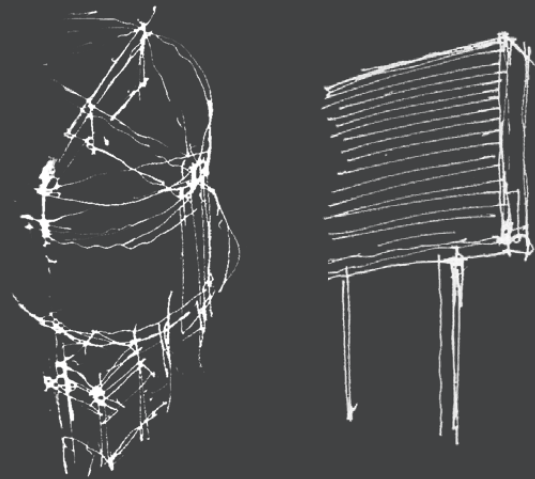
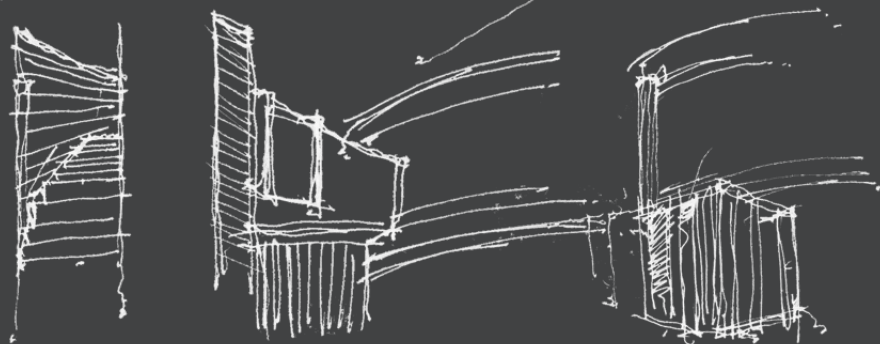


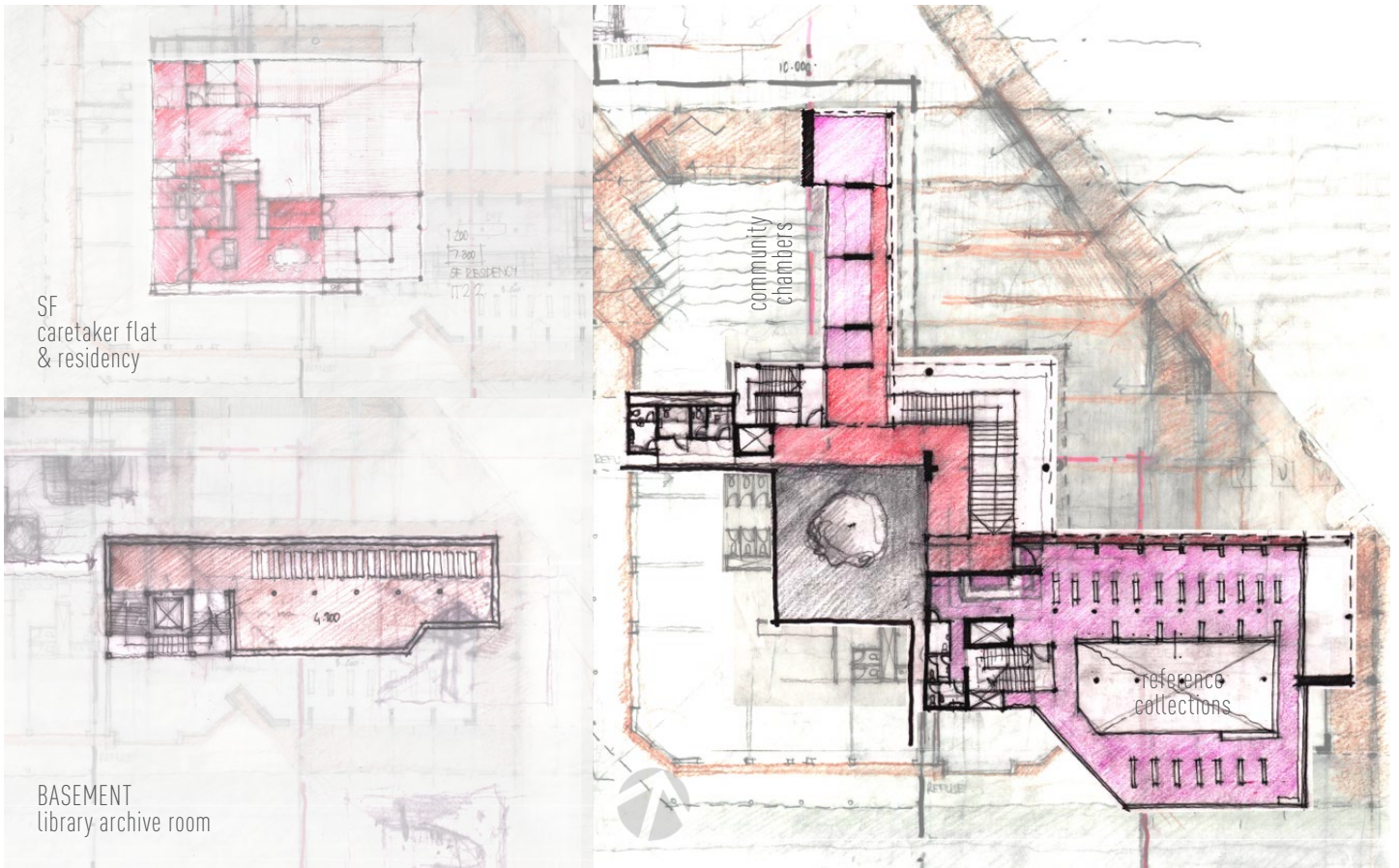
Figure 5.68. Studydrawings  
– Cathedral of the Holy  
Nativity,  
(Author 2014).

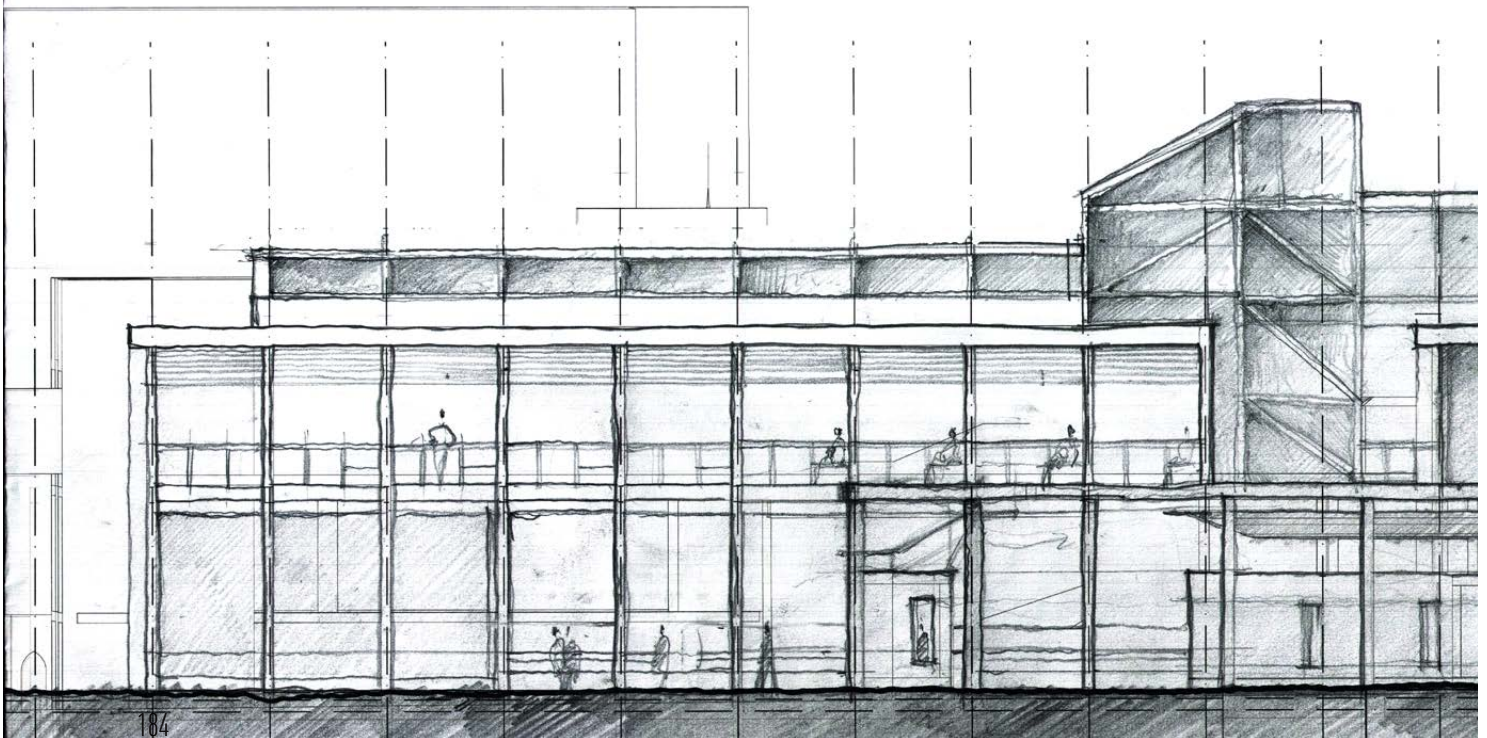
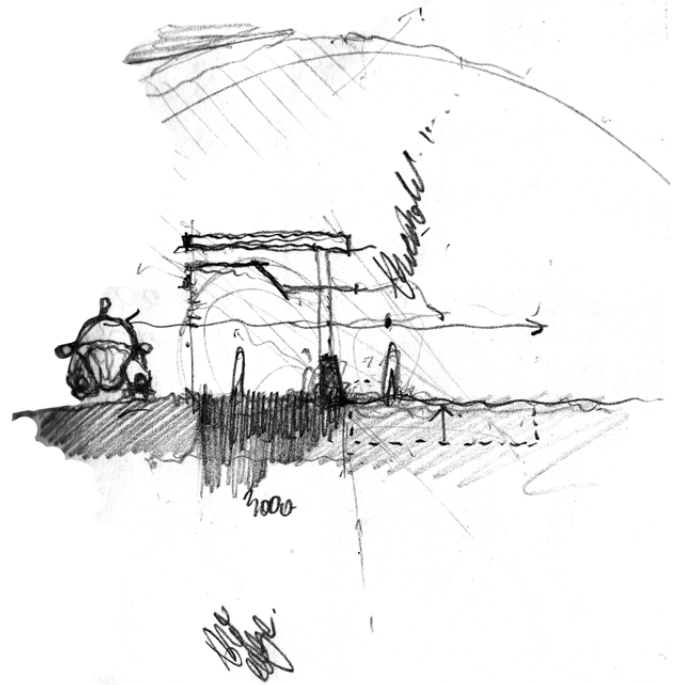
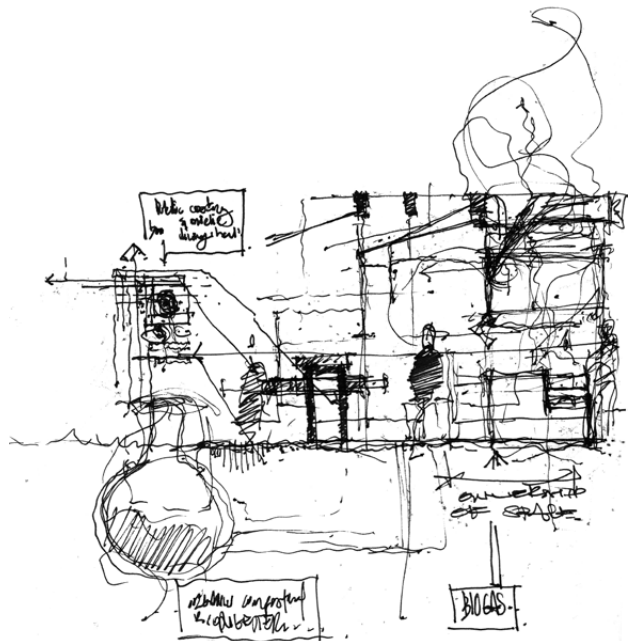
Figure 5.69. Iteration 3 –  
UF residency plan, nts,  
(Author 2014).

Figure 5.70. Iteration 3 –  
Basement plan, nts,  
(Author 2014).

Figure 5.71. Iteration 3 –  
FF plan, nts,  
(Author 2014).







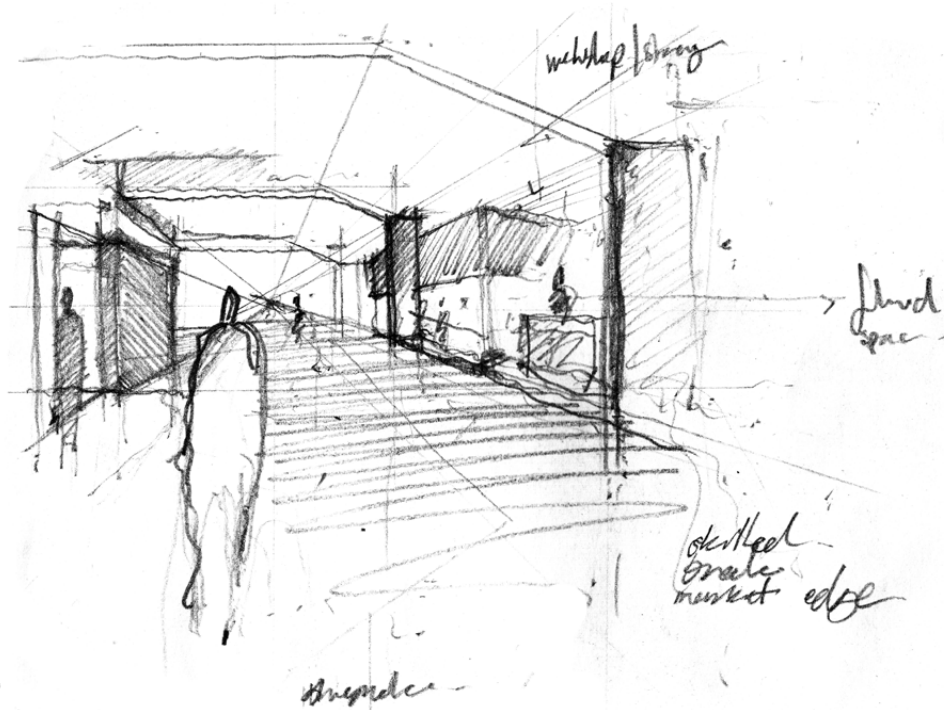
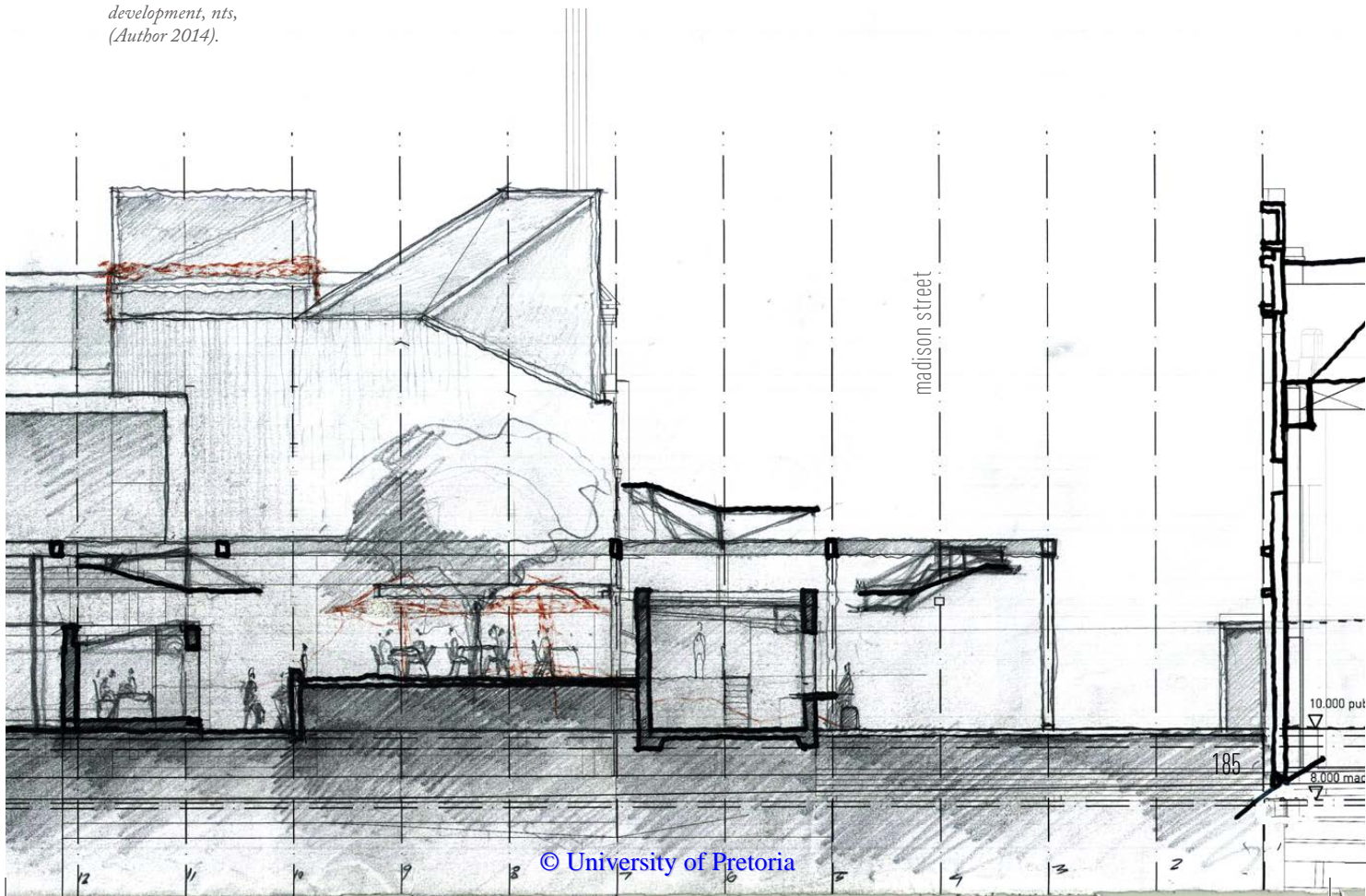
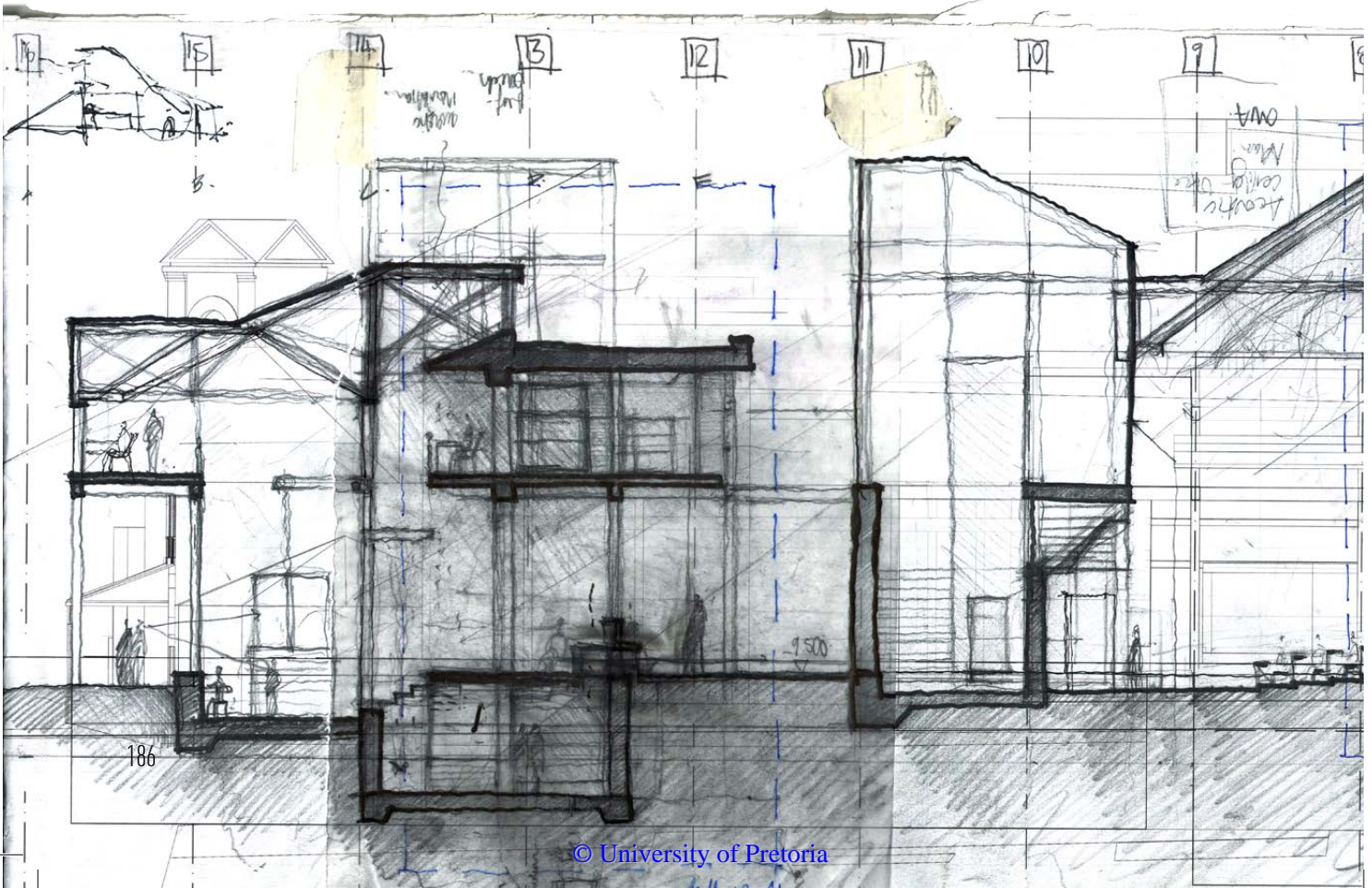
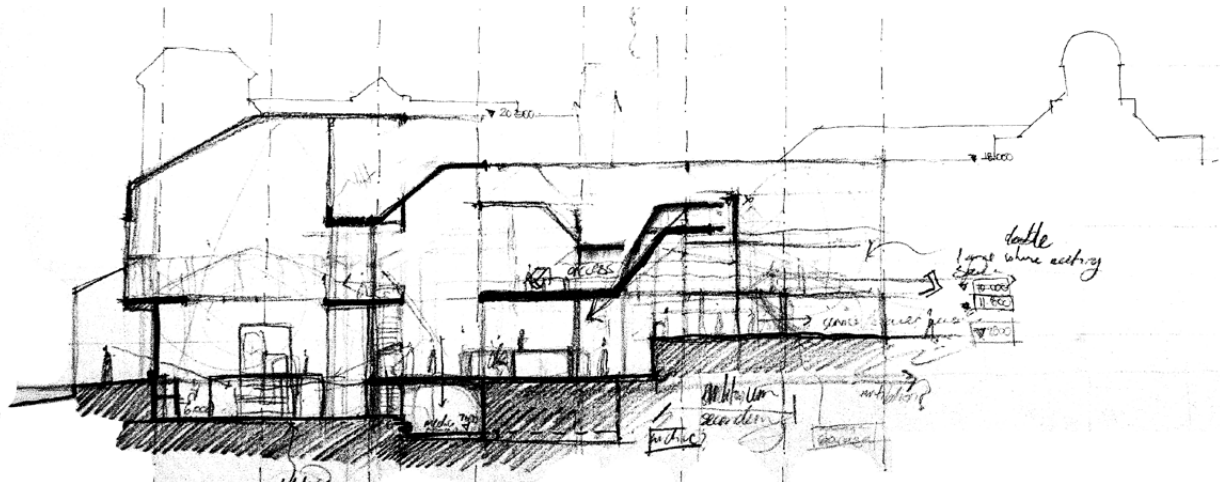


Figure 5.72. Iteration  
3 - Section BB  
development, nts,  
(Author 2014).







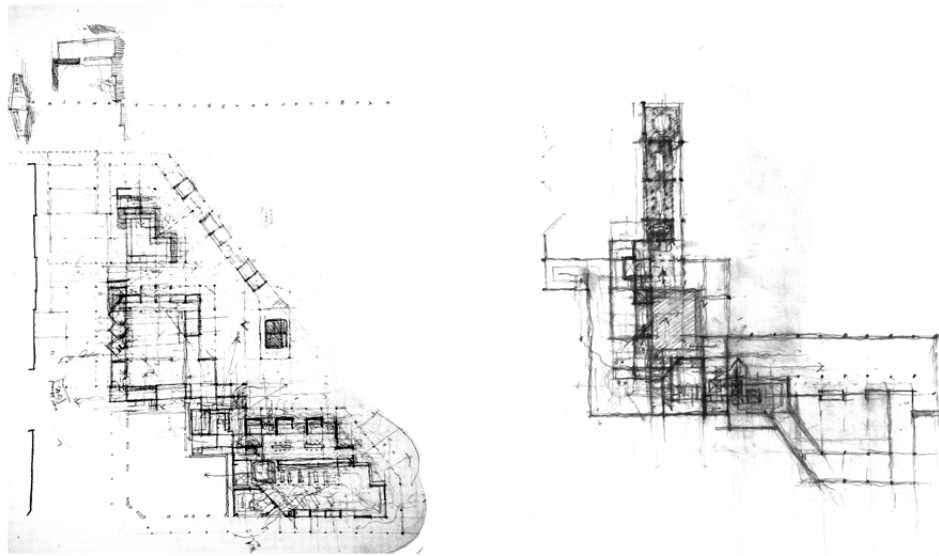
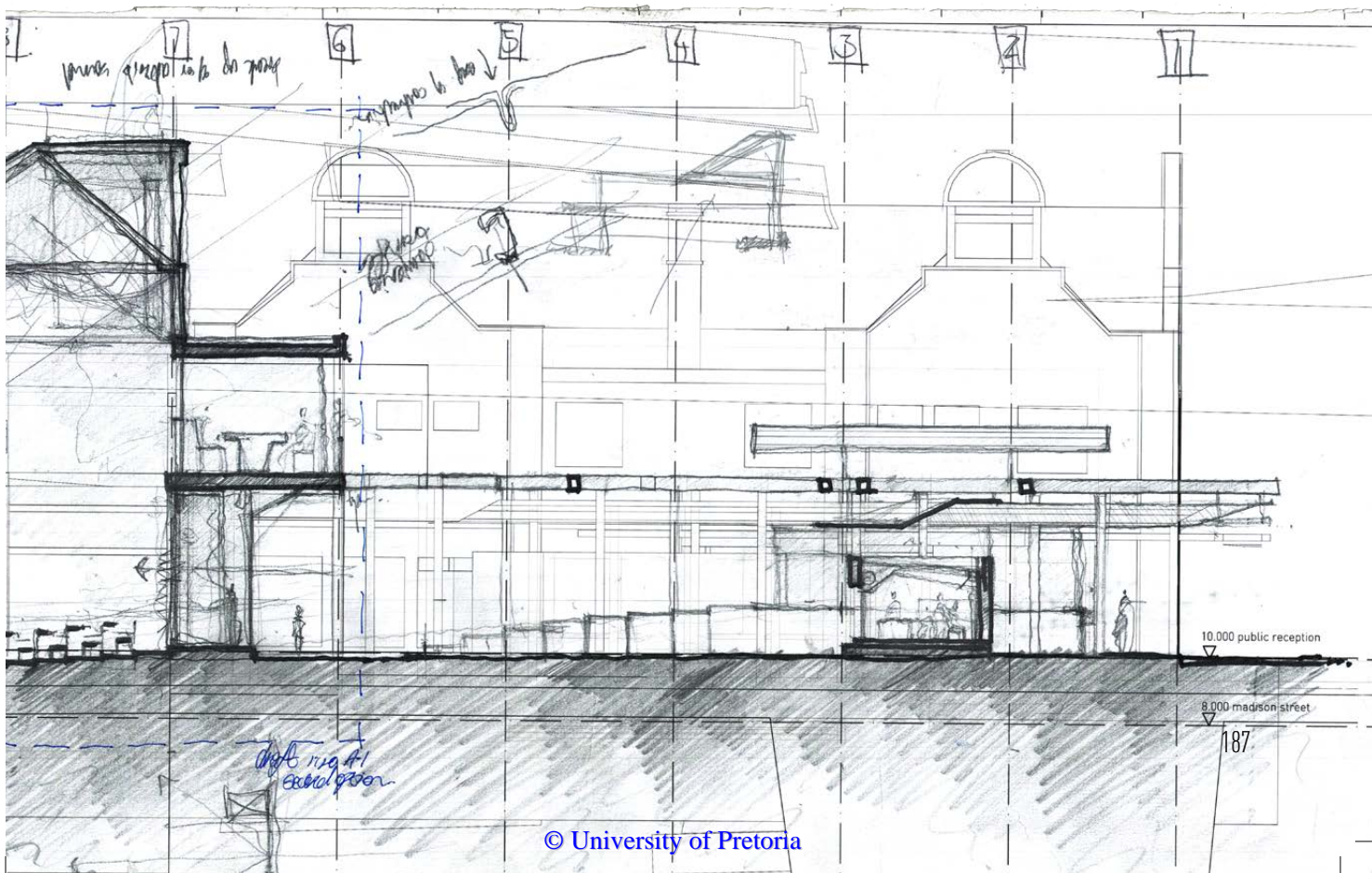


Figure 5.73. Iteration  
3 - Section AA  
development, nts,  
(Author 2014).

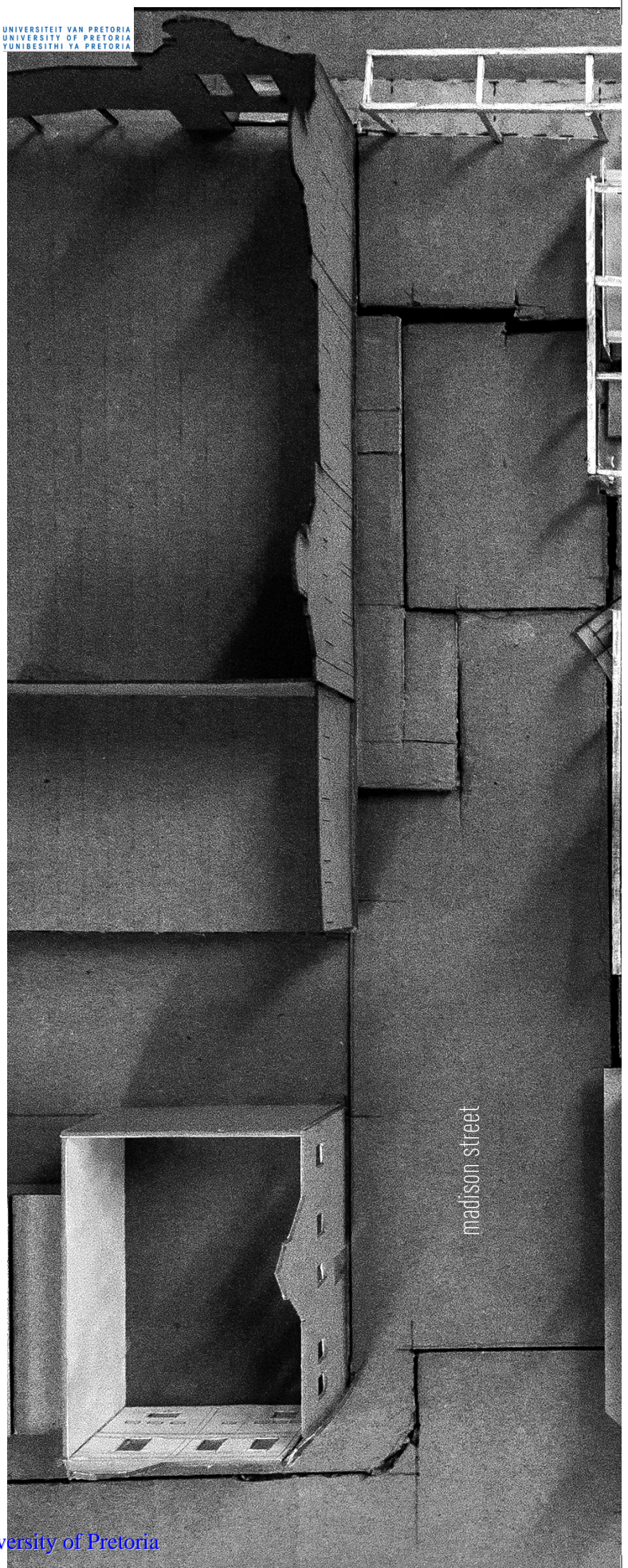


## critique

This iteration addresses the historical and typological significances of a historically becoming urban form embedded in the artefactual evidence of the Osbourne Pharmacy. The insertion complements its formal and ritual values and brings them into a contemporary narrative woven along the regenerative spine.

It begins to articulate the essences of what the physically constrained site can become and establishes a formal and subverted dialogue with the existing urban landscape and its making through community engagement. The sketch design through the iterative process has become stripped to its essences to allow the technical expression of its intentions. In this way, the architecture can evoke emotional responses relating to notions of place and belonging that instigates the participation of the urban subject in the collective making of his/her own landscape.

*Figure 5.74. Iteration  
3 - Context model,  
(Author 2014).*



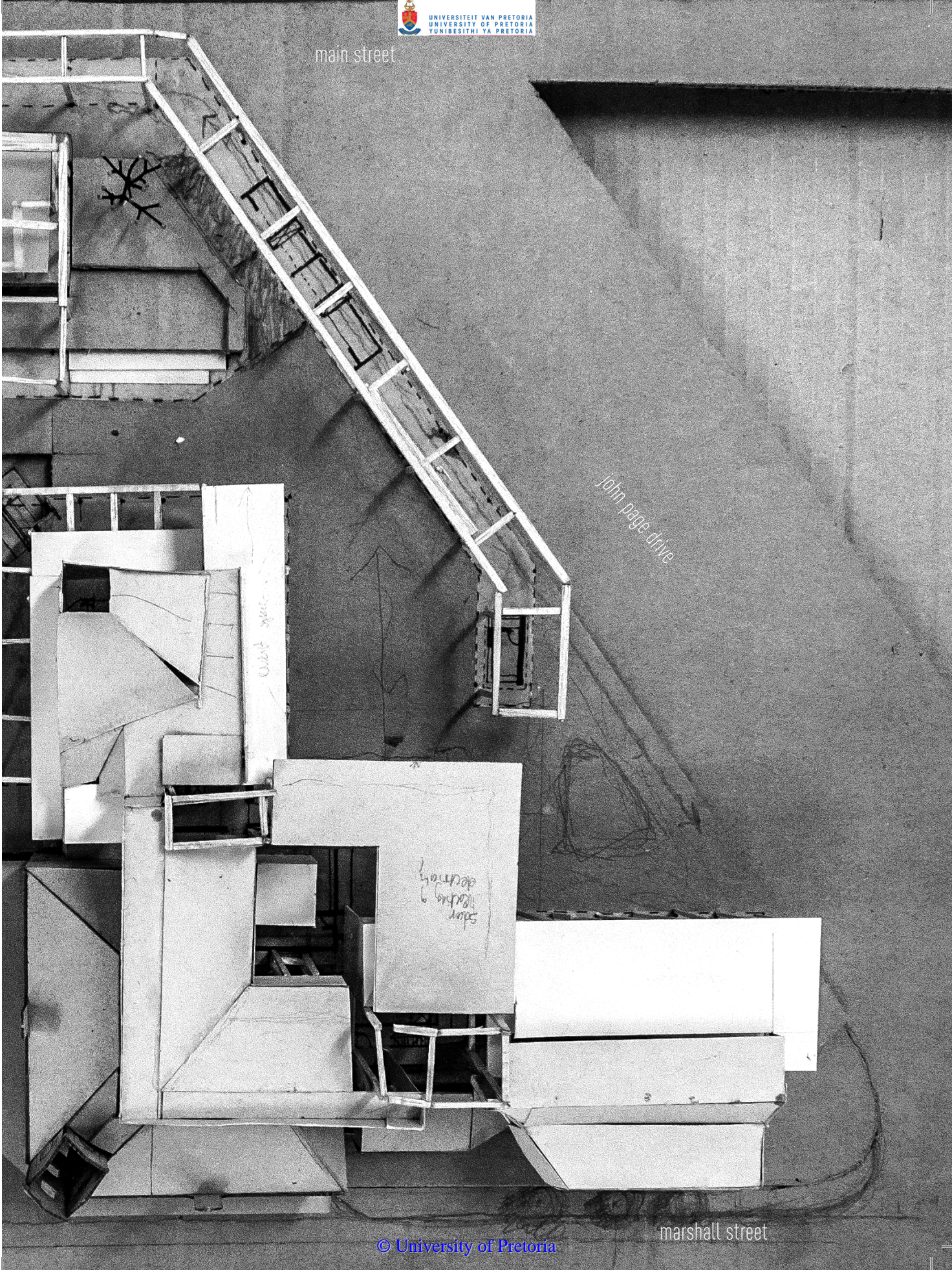
main street

john page drive

west gate

store  
loading  
dock

marshall street



## Rusakov Workers' Club (1929)

MOSCOW, RUSSIA

Konstantin Melnikov

This collective space for public gathering is an expressive collection of forms composed as a statement marking new public territories over the landscape. The auditorium is an adaptable collection of subsidiary spaces for gathering that can be collectively opened up as the magnitude of the main gathering requires.

Constructivists sought to retrace factors of personal talent and inspiration believed to be crucial to socially responsive and responsible architecture. Melnikov (1983: 35), as quoted by Papadakis and Cooke (1991: 17), refers to the dependence of design on intuition and the creative imagination. He states further that, although no work of any kind is possible on the conception of any building without some preliminary study of the technical and economic features of the task at hand, it can happen that the spatial treatment and composition can take shape in the architect's mind before the detailed work on economic and technical considerations has started.

Though the built work may seem somewhat inhumane and brutally utopian due to its size, it should be noted that the attitude behind its conception and process resonates with the constructivist approach and finds commonalities with the unfolding design process *At Jeppé*. These tendencies are reflected in a personal desire for intuitive contact with the evolution of design as expressed throughout the design process through model making and hand-drawing.

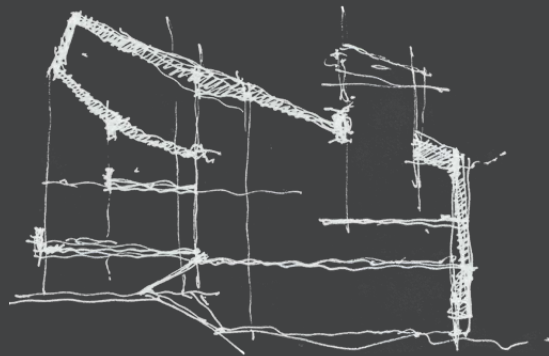


Figure 5.75. Study drawings - Rusakov Workers' Club, (Author 2014).

## 5.6. PARALELL PRECEDENT

the avant-garde (russian architecture in the twenties)

In the Soviet Union during the 1920s an interesting clash occurred between burgeoning modernism and the prominence of cultural heritage. New attempts at transformation and synthesis called for new phenomena, not simply reinterpretations of old canons (Papadakēs & Cooke 1991: 11). Evidence of these efforts can be traced back to what Tatlin referred to as his laboratory work, wherein functionless reliefs and studies of materials became new tools for readings of form. This created the grounds for what Papadakēs and Cooke (1991: 13) refer to as a psycho-technical laboratory where the external form created options for investigating possibilities of new social organisation.

The laboratory method of dismembering, examining, membering and reassembling – often without functional intent – closely follows the personal and intuitive development of form fostered throughout this design process. Mosei Ginsburg’s notion of “form as a function” (Papadakēs & Cooke 1991: 15) complements the value of this investigation, and seats this design within an evolutionary narrative of architectural discourse that was critically formulated in the early 20th century, the intuitive values of which were superseded within a decade. ■

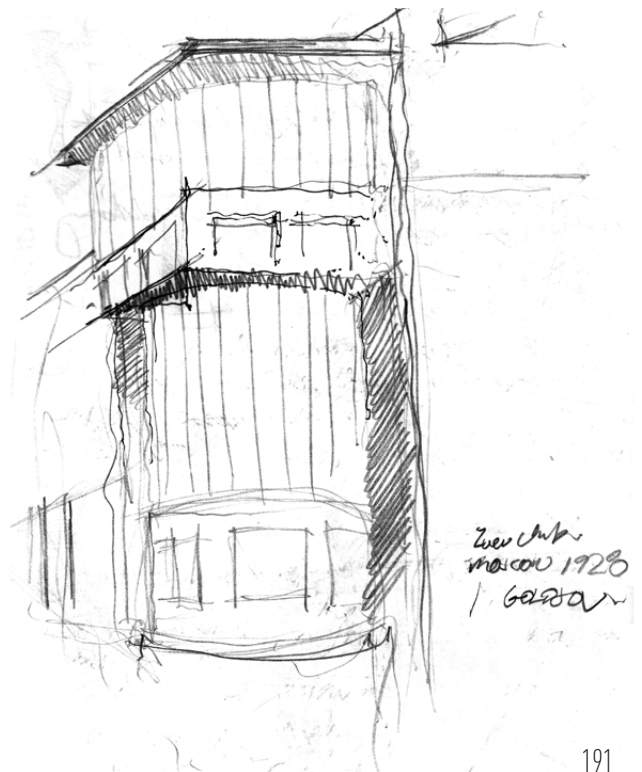
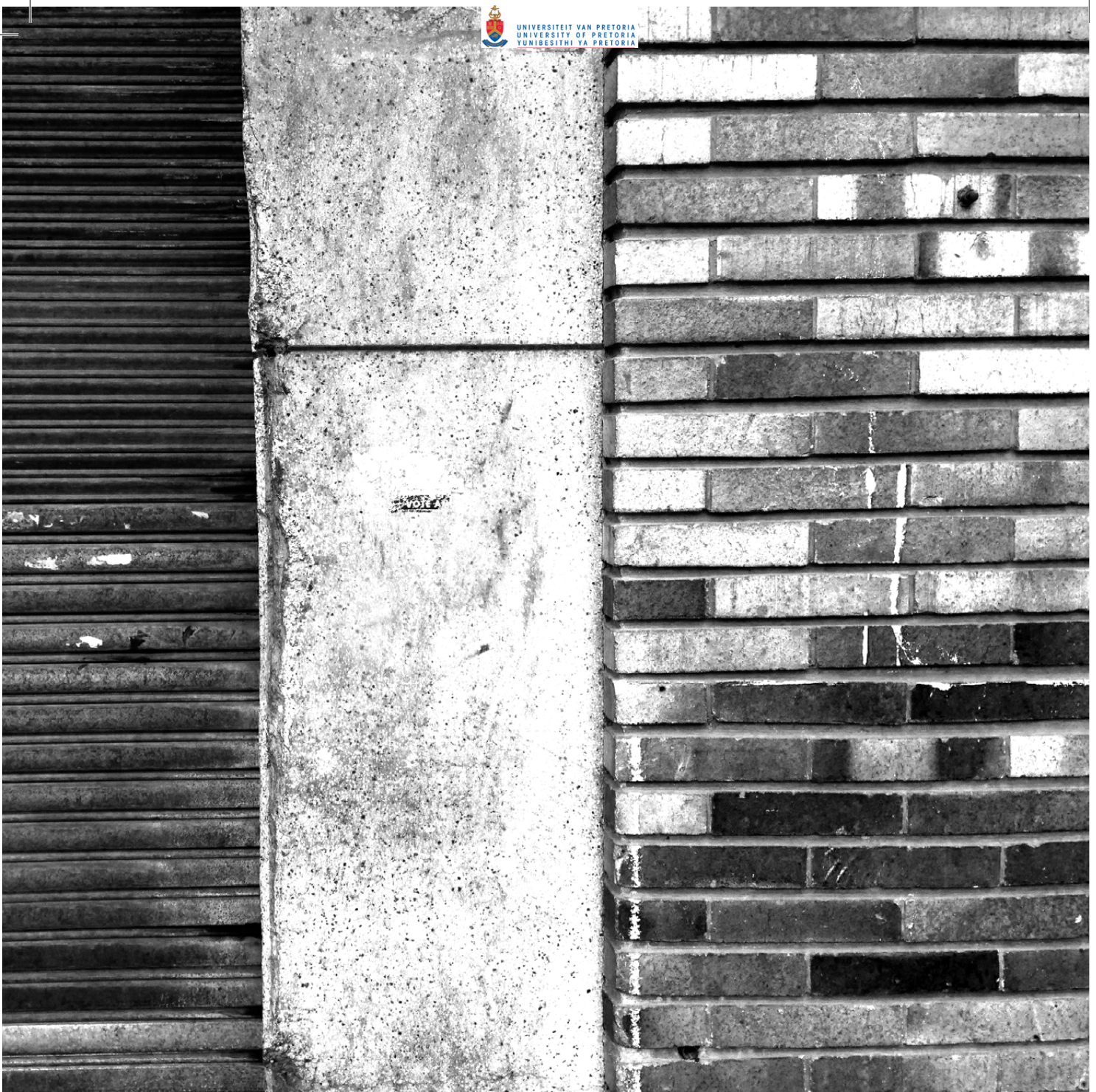


Figure 5.76. Study drawing – Zuev Workers' Club (1928), Moscow, Russia, (Author 2014).



“Architects don’t invent anything,  
they transform reality”  
Alvaro Siza

Bouman, O. & Van Toorn, R. n.d. Desperately seeking siza – A conversation with Alvaro Siza.  
<http://www.roemervantoon.nl/interviewalvaros.html> [Accessed 21 October 2014].

*Figure 6.1. Surface  
transformations,  
Jeppestown,  
(Author, 2014).*

# 06

## A LANDING OF COMPONENTS

design detail & resolution

Illustrated impressions of intent through tectonic exploration and representational making.

6.1. **LANDING THE COMPONENT**

conceptual techniques for transfer & transformation

6.2. **TRANSFORMATIVE STRATEGIES**

for enabling productive urban spaces

6.3. **UNPACKING THE BUILDING**

site manifestations of tectonic intent

6.4. **MAKING THE BUILDING**

iteration 1

iteration 2

iteration 3

6.5. **TECHNICAL GENEALOGY**

6.6. **REPRESENTING THE ARTEFACT**

site plan

plans

sections

details

elevations

perspectives



## 6.1. LANDING THE COMPONENT

conceptual techniques for transfer and transformation

The conceptual informant for tectonically communicating the intent of the public space to the urban subject gives expression to the spatial intent of transferring and transforming the morphology. This allows the architecture to read as a new progression embedded within the narrative of the becoming urban landscape.

The composition of its parts are seated within the whole as incremental moments that transform places of every day mutuality into dignified places of celebrated mutuality, thereby extending the perceptions of place in Jeppestown. The urban subject is invited by the subversive nature of his or her environment to journey from a space of the ordinary into spaces of inventiveness.

This journey through the architectural narrative can provoke thought and lead to an encounter of the place and role of the self within the collective urban context. This is communicated through the articulation of new ritual enclosures and their internal environments, such as the library and the auditorium that read as spatial components - variations of collective urban space.



This urban metamorphosis becomes illustrated through selected strategies for transforming space

*Figure 6.2. Landing the component, (Author 2014).*

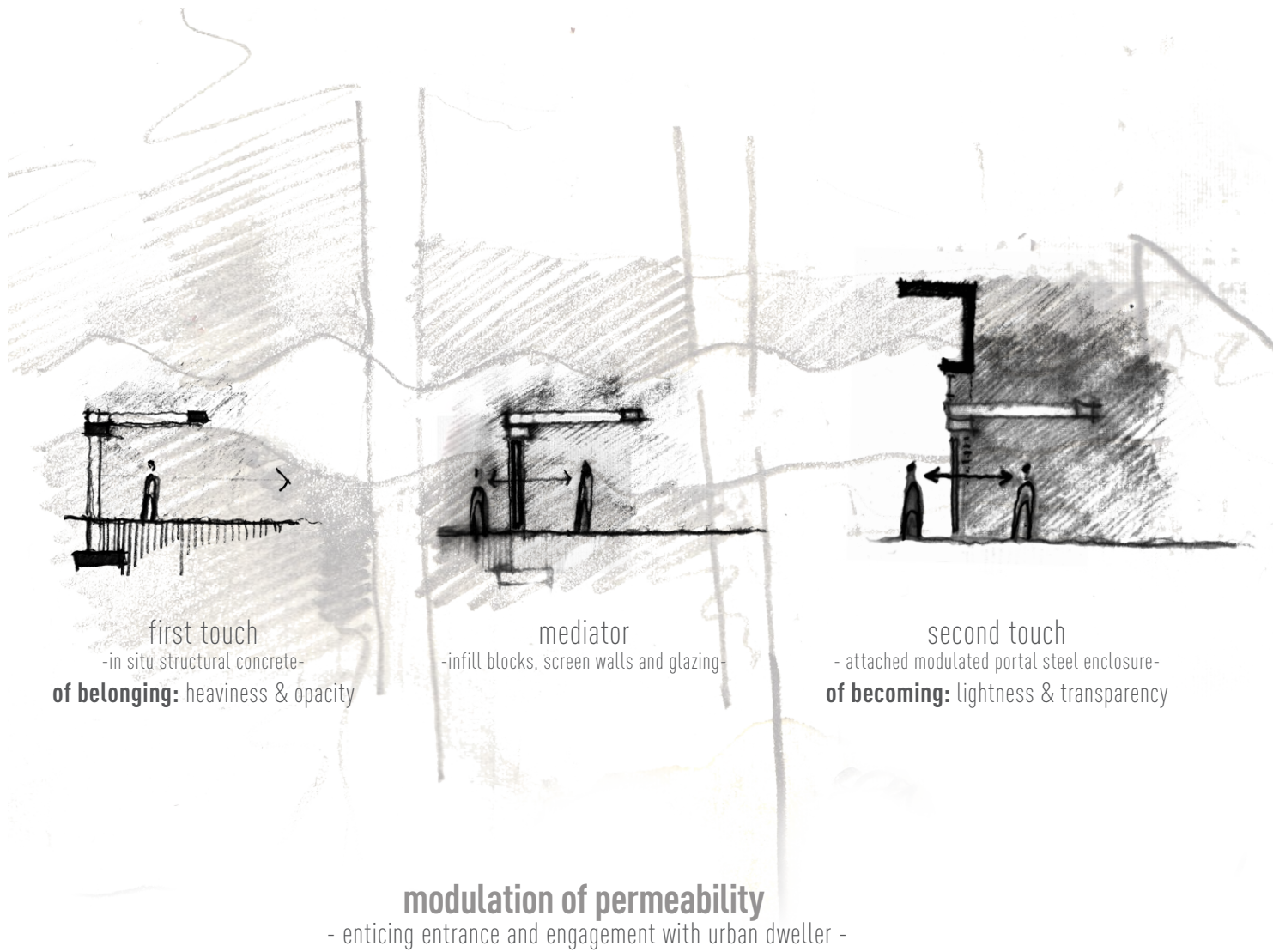


Figure 6.3. A modulation of permeability, (Author 2014).

## 6.2. TRANSFORMATIVE STRATEGIES

for enabling productive urban spaces

Materiality becomes the primary medium for communicating the tectonic and spatial intent. This is a progression of scale and permanence moving from that which is of the landscape to that which is transcendental. This is translated into the articulation of fixed and fluid material mechanisms. Fixed mechanisms are permanent tectonic forms (moving from in-situ to precast concrete and eventually encased by the attached portal steel enclosures) that create a backdrop for moments of fluidity expressed through the transcending movement of nature and man across and through the building.

The illustrated textural timbre stems from a study of significant forms and articulated surfaces of the historical urban landscape heritage fabric observed on walks through the context. The metamorphosis implicitly reads as a translation of this timbre through the insertion of contemporary robust materials appropriate for a high-use, long term public environment. High-technology (and the maintenance thereof) is not a design driver in this environment and is secondary to low-tech passive methods and building systems.

Light, air, water and sound are fluid mechanisms overlaid onto the fixed materiality that communicate the ephemeral quality of constantly changing and becoming landscape.

The quality of design and its making is treated as the basis for enabling better life and livelihoods.

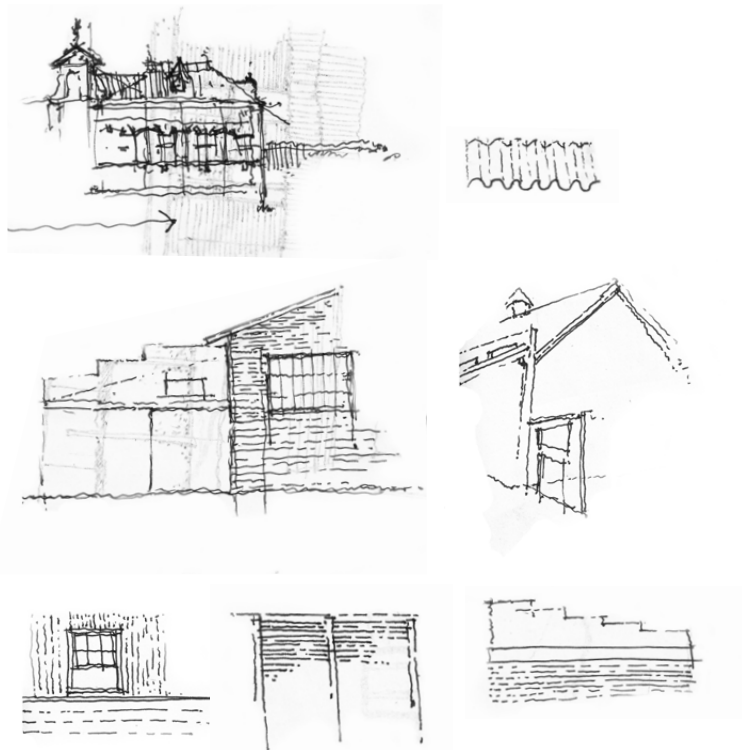
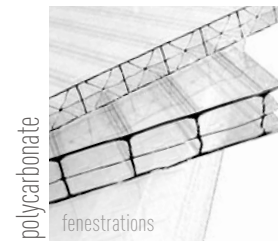
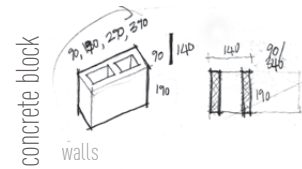
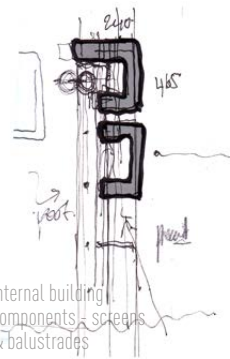
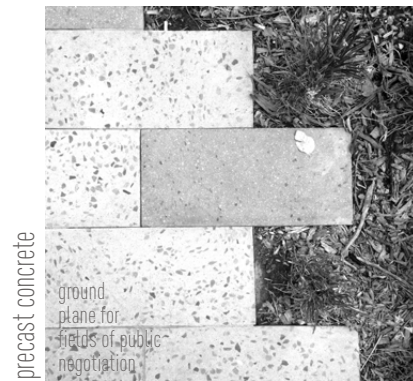


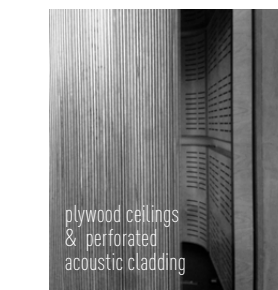
Figure 6.4. Jeppestown textural timbre, (Author 2014).



in situ  
**of permanence  
& belonging**



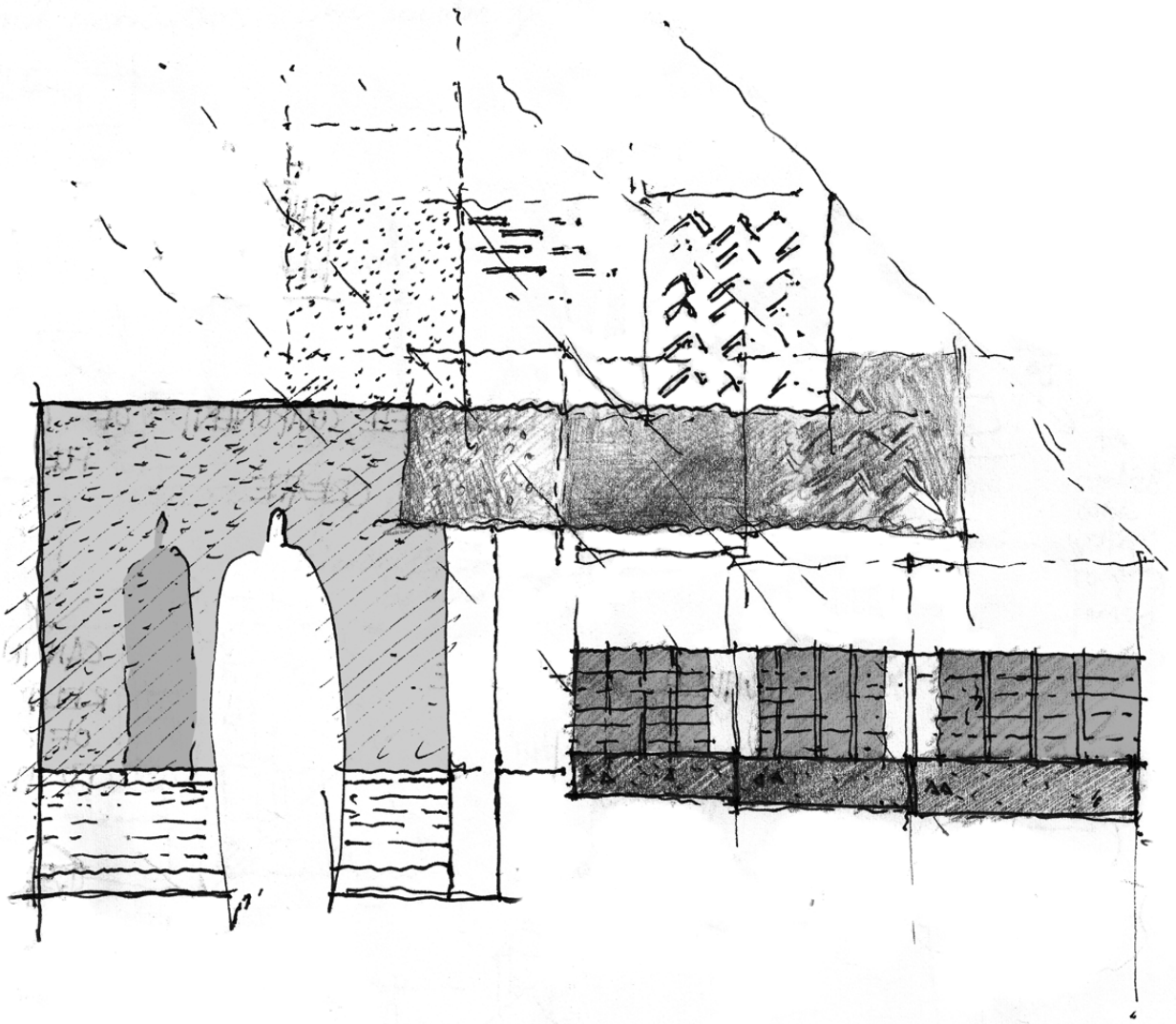
infill  
**mediator**



attached  
**of impermanence  
& becoming**

**fixed mechanisms**

Figure 6.5. Fixed material mechanisms, (Author 2014).



*Figure 6.6. Being between the duality: fixed and fluid material mechanisms, (Author 2014).*

*Figure 6.7. Fluid material mechanisms – facing page, (Author 2014).*

## fluid mechanisms

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the ephemeral

water

light

air

vegetation

sound



## 6.3. UNPACKING THE BUILDING

site manifestations of tectonic intent

First principles for fixed and fluid mechanisms are unpacked. These establish the groundwork for technical iterative design in 6.4 – *making the building*.

### fixed mechanisms

Static materials establish the canons for spatially ordering the site.

Portal frame steel enclosures illustrating the internal landing of new public spaces meet at the central nucleus of the shared lobby space.

A narrative of this metamorphosis is communicated through the articulation of landed materials that read with horizontal variation and vertical continuity, starting from the repetitive order of the grid and moving up through the articulation of roof cladding lines that eventually meet the sky.

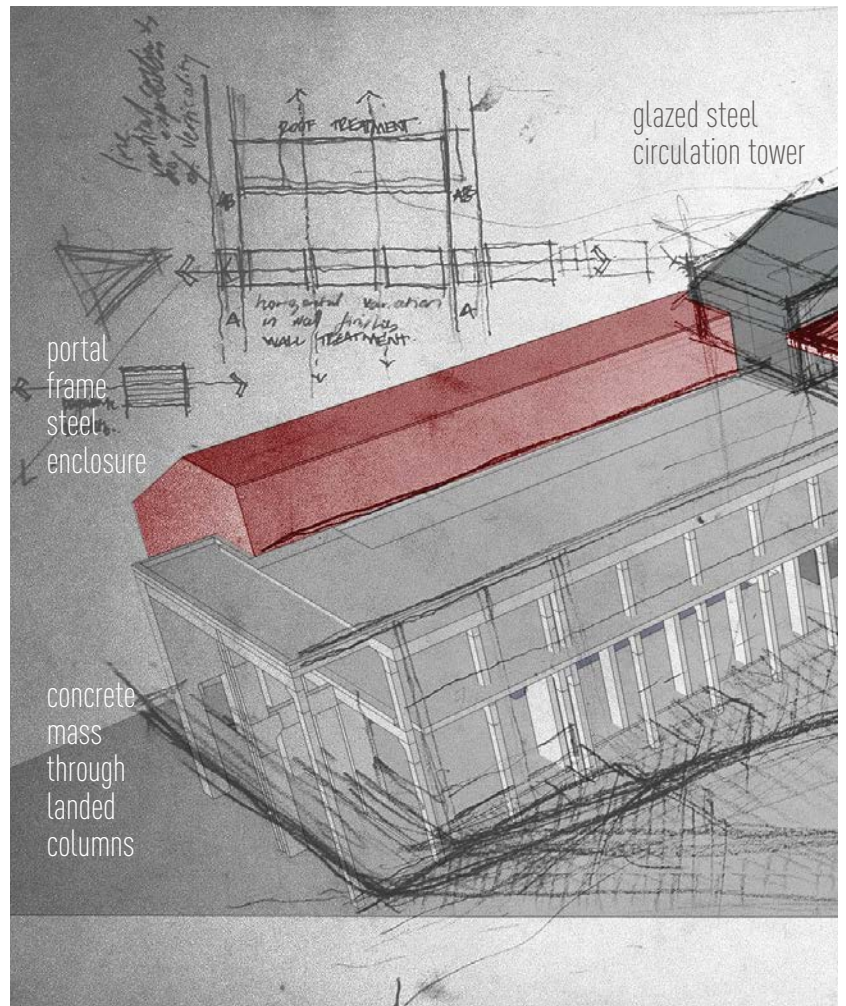
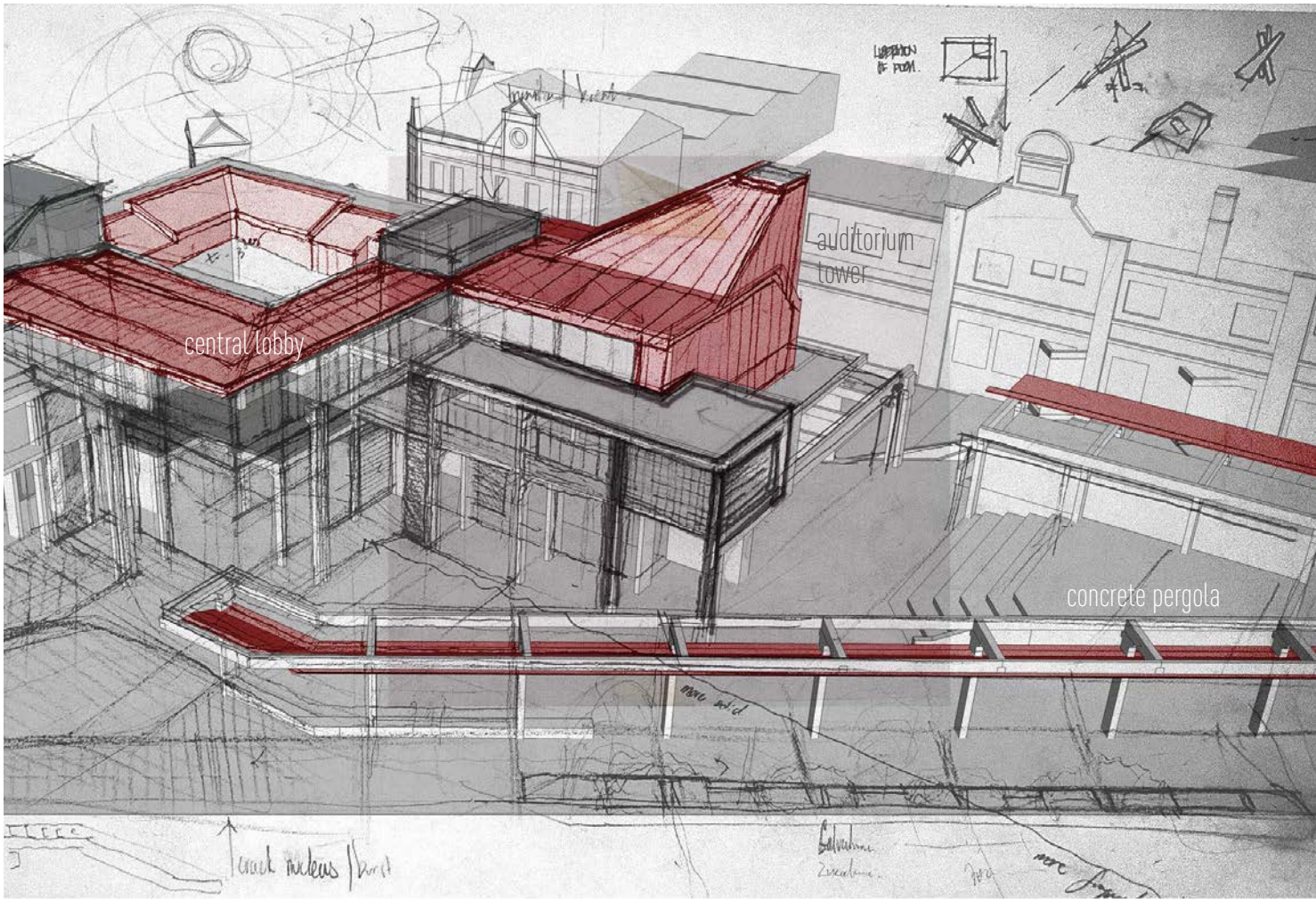


Figure 6.8. Conceptual site manifestation of fixed mechanisms, (Author 2014).





## fluid mechanisms

### light

#### *Orientation & shading:*

The built form and massing are based on best practices for passive energy design in the Highveld following a compact urban form with minimal exposure to the East and West and a maximised and shaded Northern facade for lighting and heating habitable interior spaces. Edges are treated with protection for pedestrians against high ultra violet radiation and summer showers.

#### *Incident sun angles:*

22 December 12:00 - 87°  
21 March/23 September 12:00 - 64°  
22 June 12:00 - 40°

(Holm 1996: 67)

#### *Indirect light ingress and southern lighting:*

Diffuse indirect Southern daylighting is preferable to minimise solar heat gain towards the interior.

#### *Required lux levels:*

50 lx - simple orientation  
100lx - working spaces where simple visual tasks are performed

(Rea 2000: 465).

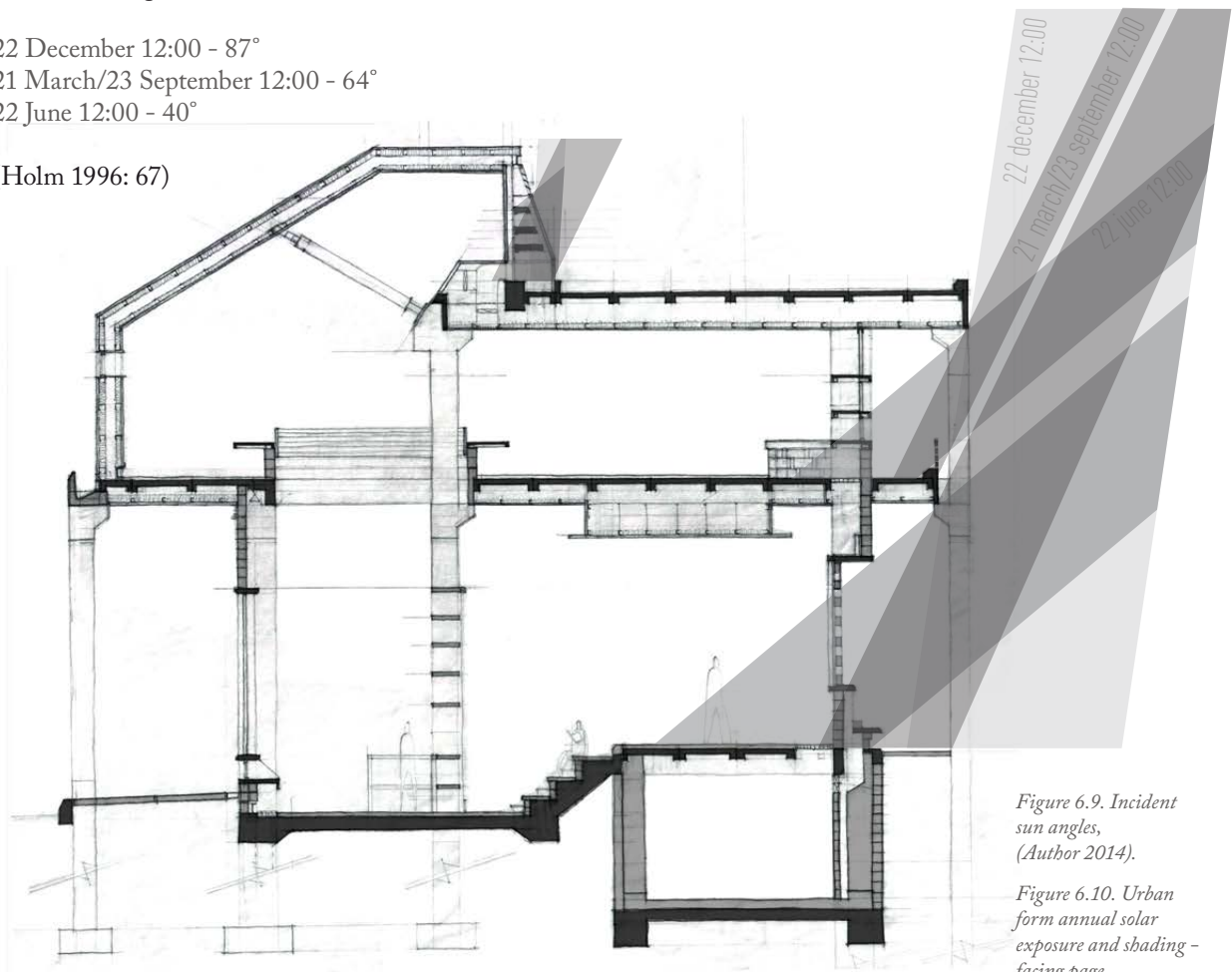
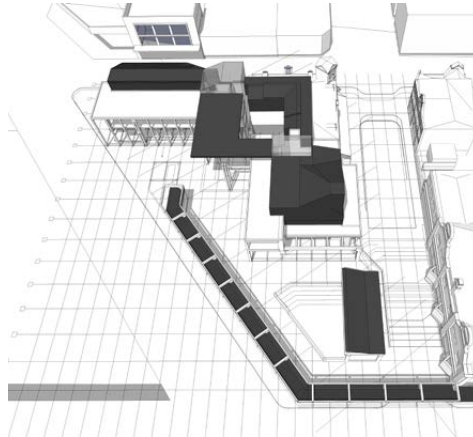
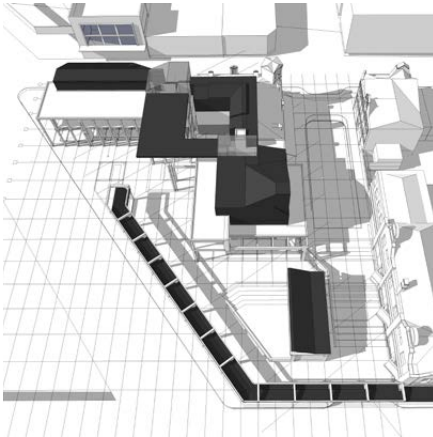


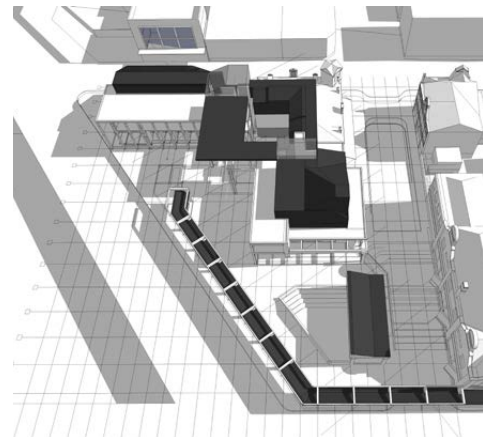
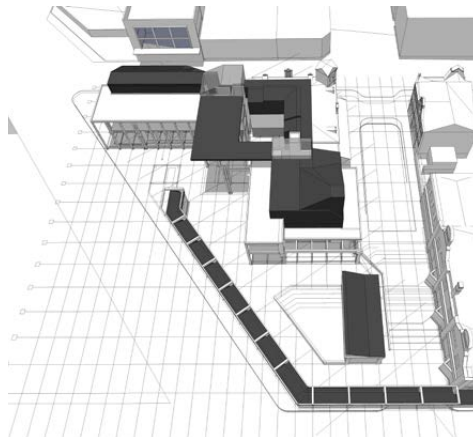
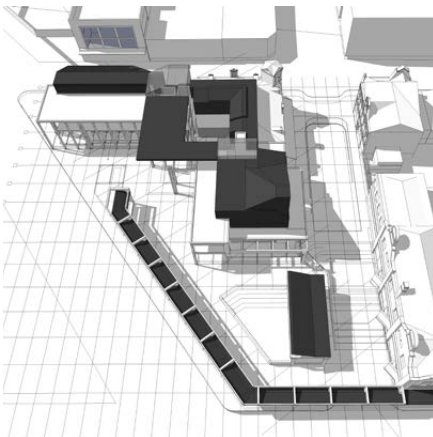
Figure 6.9. Incident sun angles, (Author 2014).

Figure 6.10. Urban form annual solar exposure and shading - facing page, (Author 2014).

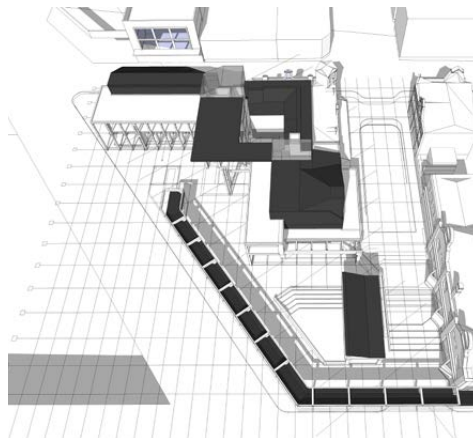
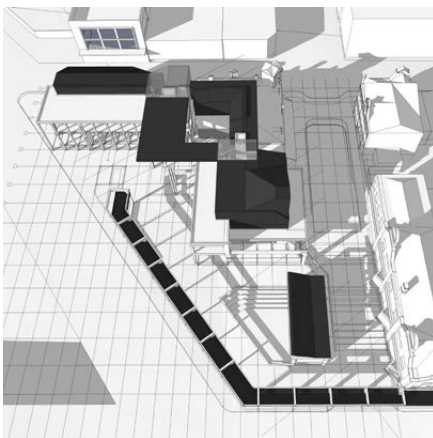
equinox **21 march/22 september**



summer solstice **22 december**



winter solstice **22 june**



09:00

12:00

16:00

air

*Prevailing wind directions:*

Summer winds are predominantly North-easterly and winter winds are predominantly North-westerly. There is a fair amount of South-westerly wind (Holm 1996: 64).

*Ventilation, heating & cooling:*

Passive ventilation strategies for maintaining habitable indoor conditions incorporate the use of natural cross ventilation and solar assisted stack ventilation - pulling air at a consistent temperature drawn through earth tube ducts 1.5m beneath the building through the internal environment. These ventilation methods coupled with summer shading, direct solar gain in winter and the thermal mass property (with assisted night ventilation in summer) of the primary concrete structure are the main passive strategies for maintaining indoor thermal comfort.

Diurnal variation in earth temperatures die at about 0.6cm below the surface and as illustrated by Schulze (1986: 178) reach a consistent temperature of approximately

20°C at 0.6m beneath a grass surface. Temperatures at 1.5m beneath the surface of the earth can be estimated as fluctuating around 18°C annually (Appendix A). Seasonal fluctuations become negligible between 0.6 and 1.2m (Schulze 1986: 78).

SANS 10-400 Part O (SABS 2011a) requires openings of min 5% of the floor area of the room for adequate natural ventilation.

Solar heated water radiators can be explored as a possibility for heating air drawn through the earth tubes at inlets for additional heating of the internal environment in winter.

*SANS 10-400 required ACH:*

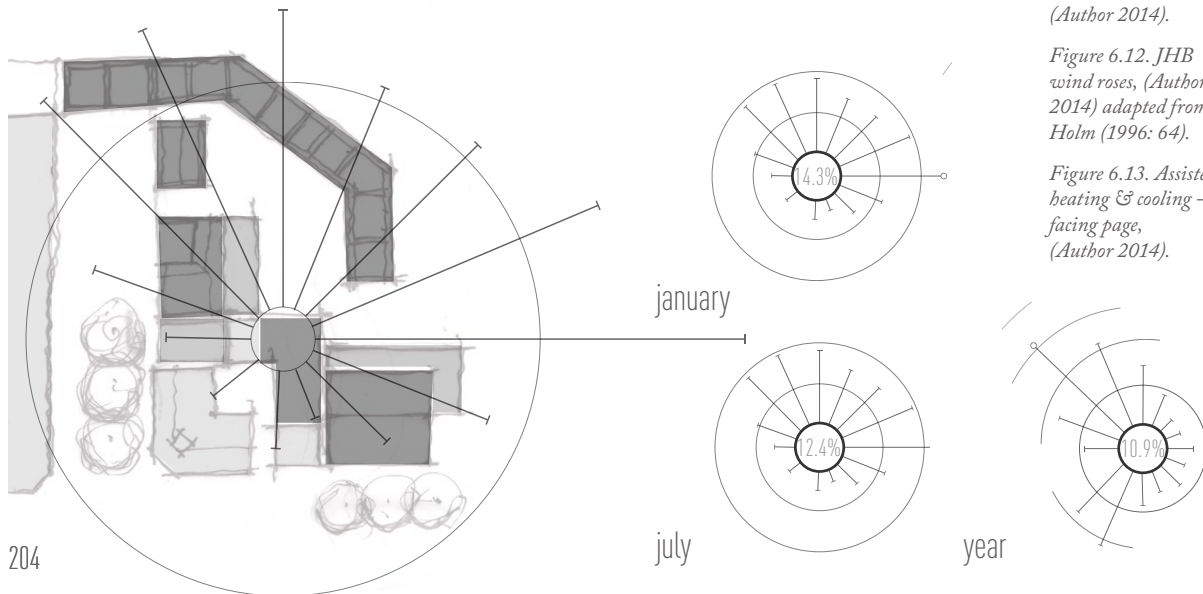
Air change rates are to comply with SANS 10-400 Part O. These are as follows:

- Auditoria: 10 ACH
- Libraries: 2 ACH
- Kitchens: 20 ACH
- General offices: 2 ACH
- Conference & board rooms: 10 ACH
- Book storage: 2 ACH

Figure 6.11. Site annual prevailing wind directions, (Author 2014).

Figure 6.12. JHB wind roses, (Author 2014) adapted from Holm (1996: 64).

Figure 6.13. Assisted heating & cooling - facing page, (Author 2014).



## sound

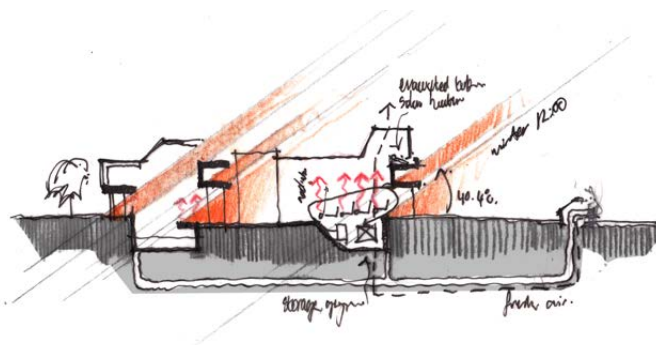
Room acoustics are considered as a progression of the urban context, to heighten the subjects' perception of moving from a collective urban environment to private gathering spaces, to spaces which are more personal within the collective environment.

*Required sound pressure levels specified for room categories are as follows:*

Auditoria/lecture theatre: 35 dB,  
1s reverb time  
Meeting rooms: 35 dB, 1s reverb time  
Reading room: 35dB, 1s reverb time

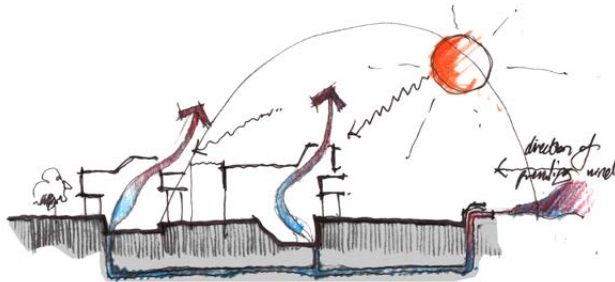
(Hausladen & Tichelmann 2010: 39)

Through consultation with Coralie Van Reenen (2014), an acoustic engineer, the following principles were established as best practices for the building function (specifically the library interior):



### assisted passive heating

- direct gain, thermally massive floors, earthtubes,  
solar heated radiators -



### assisted passive cooling

- earth tubes beneath buried 1.5m beneath built structure-

Maximise acoustic absorption on all interior surfaces using soft absorptive materials. Additional depth and mass of acoustic batting is required at ground levels in sensitive spaces to cancel low frequency sound vibrations from traffic.

Floors should be treated with acoustic absorptive materials and preferably carpeted.

## vegetation

The planting palette consists of low maintenance indigenous plants that encourage biodiversity within the ecological landscape (Wilken 2014: 126).

The site vegetation consists of rain water gardens along John Page Drive and Marshall Street that create a soft buffer between vehicular and pedestrian movement; and a surface wetland along the Madison Street. This aids thermally for reducing effects of the urban heat island on the micro context caused by hard surfaces. Outdoor vegetation along the street edges also reduces the accumulation of dust and pollution around the building envelope. Evaporative cooling associated with the rain water gardens along John Page Drive assists in reducing air temperatures before being drawn into subsurface earth tubes for internal building ventilation (figure ... , Appendix A).

Wilken (2014: 206) suggests plants for rain water gardens around the site that are hardy and overlap with a riparian community creating micro habitats for birds and insects, and bridging the divide between the urban and natural landscape.

## 6.4. MAKING THE BUILDING

### iteration 1 fixed mechanisms

#### *Precast concrete primary structure*

Structural precast concrete columns, beams and slabs are proposed for the construction of the primary structure.

The advantages of using precast components are:

An increased quality control of elements due to manufacture at an off-site monitored environment;

Precast elements can be installed immediately on site leading to a reduced construction time;

Repeatability in a modular design makes it easy to make many copies of the same product, making it an economical option for high-rise developments with recurring typical floors and elevations;

A reduction in on-site formwork;

And an increased durability of concrete due to a tightly controlled process.

(<http://www.concretenetwork.com>)

The disadvantages of precast concrete are:

Elements can become damaged during transport. Precast construction requires specialised transport and handling on site.

Connections between members can become structural weak points.

Precast concrete construction in this instance can communicate notions of civic gravitas within the urban environment yet unlike in-situ concrete its modular articulation and visible joining adds a sense of accessibility and flexibility to the scale of the structure.

An increased speed of construction means that the site will be disturbed from daily public use for a decreased time period and can more rapidly become tested as a space of engagement for the public through its occupancy.

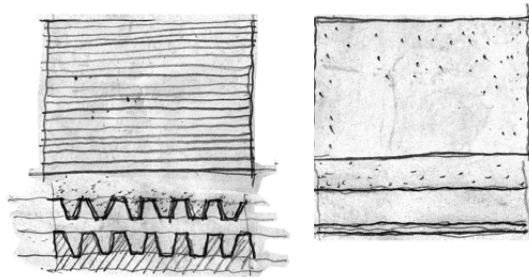
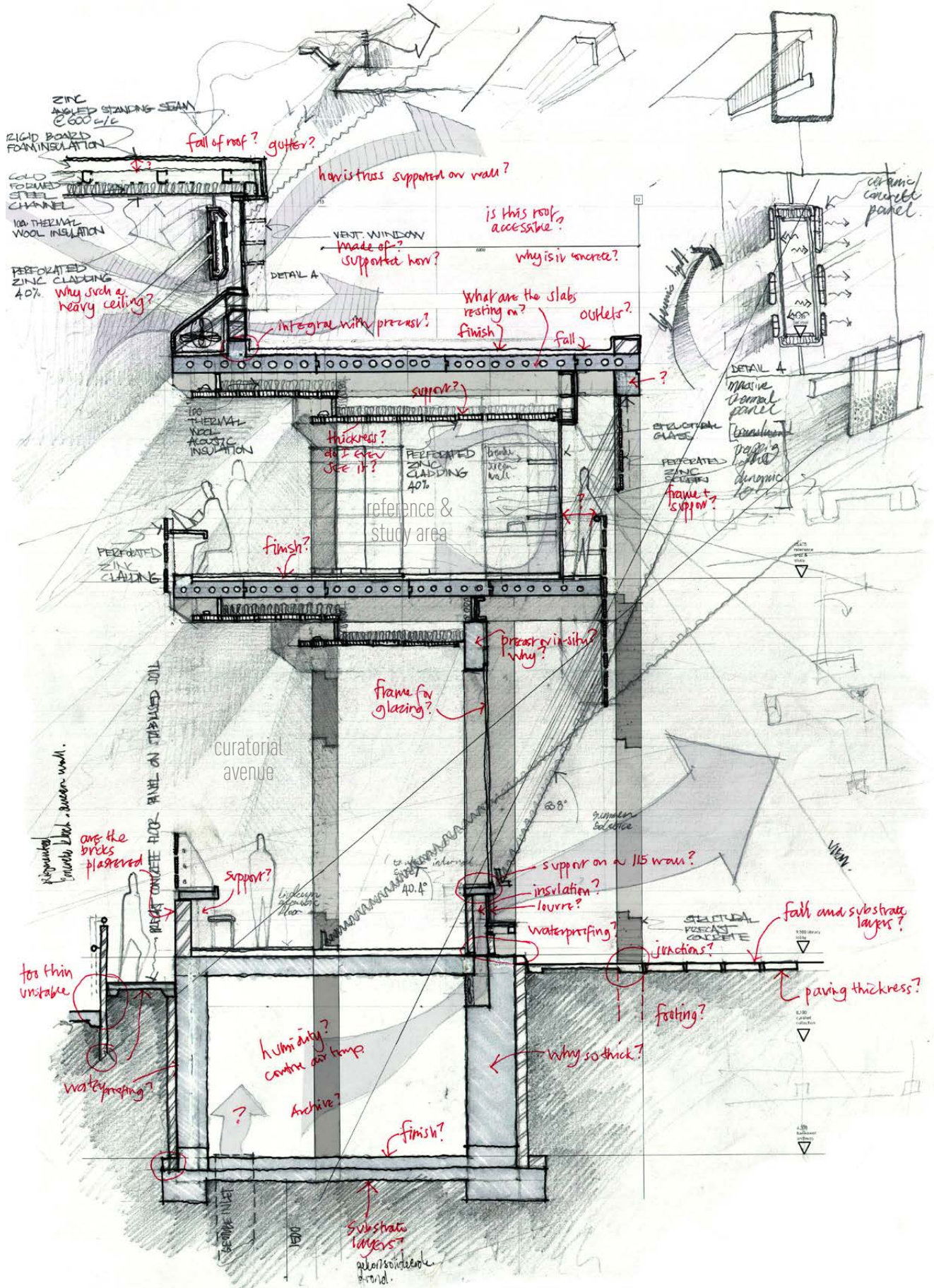


Figure 6.14. Precast concrete finishing textures: ribbed & off shutter, (Author 2014).

Figure 6.15. Section D1, nts - Iteration 1 - facing page, (Author 2014).



### *Concrete block infill*

Concrete block infill is an extension of the language established by the landing of precast components that form the primary structure.

It is high durability and low maintenance allows for sufficient robustness in a harsh, high-use urban environment. Reduced construction and maintenance costs make concrete block economically more viable for the context than, for instance, clay brick masonry.

The use of fly-ash concrete for the manufacture of blocks means that each unit has a reduced embodied energy and environmental impact. The embodied energy of concrete block is less than half (0.94 MJ/kg) than that of clay brick (2.5 MJ/kg), (Holtzhausen 2007: 5).

Blocks offer a degree of design flexibility within the constraints of modular standard manufacture sizes. This limitation offers a departure point for tectonic innovation, craftsmanship and exploration.

### *Portal frame steel enclosures*

The steel portal frame enclosure becomes attached to the primary structure and reads as a modulating internal and external form emerging from the datum established by the primary structure and infill. Zinc standing seam cladding is proposed for further investigation as a roofing material that reads as a contemporary metamorphosis of the corrugated iron roofs in the surrounding historical fabric.

### *Polycarbonate multiwall sheet glazing*

Polycarbonate multiwall sheets are proposed as a fenestration material to allow the ingress of natural light into the internal environment. Its tectonic character adds textures of translucency becoming a veil draped between internal and external public spaces.

It offers a much higher impact resistance and durability than glass making it appropriately robust for the civic space. It is a lightweight component with an integral web structure that allows for the reduction in mullions and supports and increased window sizes.

A multiwall sheet is essentially a double glazed unit with an increased insulative thermal resistance property. This makes it an ideal material for maintaining the internal air temperatures by reducing heat losses and gains typically problematic at fenestrations

*Figure 6.16. First floor combined trombe wall & retractable solar shade, nts - facing page, (Author 2014).*

## fluid mechanisms

### Air

A combination of earth-tube inlets located as vents in the floor slab and a solar assisted stack at the highest point of the roof allows for the circulation of fresh air at a constant temperature through the building. Inlets are insulated where they make contact with the building structure to reduce heat gain/loss to the physical fabric through the walls of the pipes.

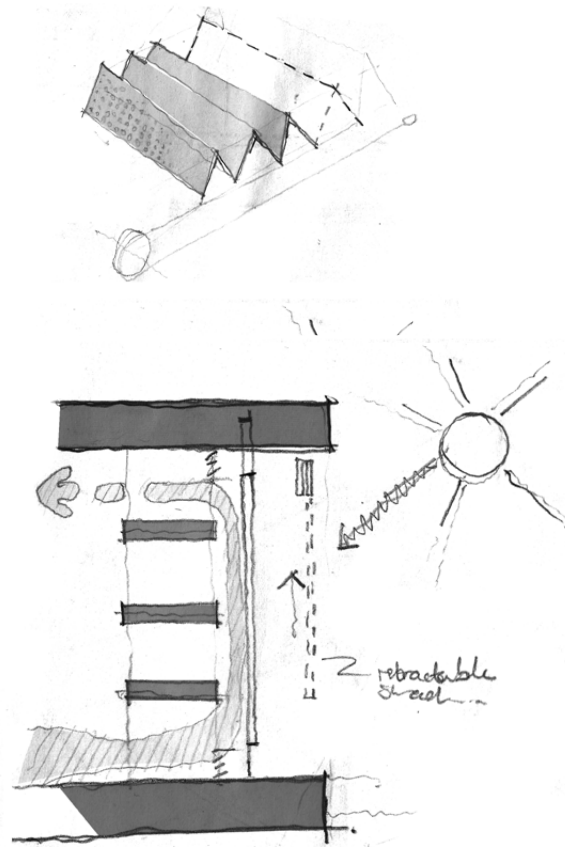
A solar assisted stack in the library is proposed where the portal enclosure meets the concrete structure. It consists of a thermally massive ceramic curtain that also acts light diffuser to the internal environment and a vent window that allows heated air to escape to the outside. This creates a natural motor to drive air through the space from the earth-tube inlets.

Ventilation through the first floor is augmented with a proposed combined trombe wall (using the mass of precast book shelves) and retractable solar shade. In winter the shade the shade is opened and heat is allowed through the glazing and onto the massive shelf structure. The system is active and the vents are opened allowing heated air to circulate through the study areas. In summer the shade and vents are closed, deactivating the trombe system and reducing heat gain into the cooler internal space.

<p><b>WINTER</b></p> <p>SHADE OPEN HEAT THROUGH GLAZING ONTO MASSIVE SHELF STRUCTURE - HEATED AIR - VENTS OPEN -</p>	<p><b>SUMMER</b></p> <p>SHADE CLOSED VENTS CLOSED INTERNAL STACK SECURE CIRCULATION</p>
--	---

### Light

Incident solar radiation for the overheated annual period between September 21 and March 21 is shaded by overhangs and perforated zinc screens. Direct Northern light is diffused by brise soleil and reflected into the library curatorial space through full height polycarbonate glazed walls. Diffuse Northern light is also reflected into the internal library space at the solar assisted stack. Reflective white tones are proposed as colours for internal finishes to increase a uniform distribution of daylight into the library.





### Sound

100mm polyester acoustic batting above a 40% perforated zinc ceiling coupled with linoleum acoustic floor finishes at study areas are proposed for sound attenuation in the library interior. Polyester batting can be manufactured from recycled polyethylene bottles and is resistant to condensation and associated fungi and bacteria.

These design specifications complement the suggested principles for sound attenuation to achieve the suggested sound pressure level for a habitable library environment in this urban context.

### Water

The building water strategy falls within the conceptual framework proposed in *Volume 1: Jeppestown - A Prospect Ritual* (Dawjee *et al.* 2014: 88) and detailed in *Volume 2: Landscape laboratory - Infrastructure and public space in the urban environment* (Wilken 2014: 124).

Rainwater is collected from roofs through full-bore outlets and downpipes cast into the primary structure, stored in underground tanks and reused within the building for toilet flushing (see Appendix A).

Excesses and overflows are fed into the urban framework system, purified through a surface flow wetland for reuse on other sites or discharge into the natural system (Wilken 2014: 124).

The site forms a part of *catchment basement 7* within the overall macro water management strategy. This entails the retention of purified surface runoff and excess harvested rainwater at the subsurface collection point at the lowest point of the site (corner of Madison and Marshall street) that can either be pumped back into high level reservoir tanks in the building for reuse or passed down to other sites (Wilken 2014: 124).

The patina and residue left by rapid Johannesburg summer showers on buildings is seen as a positive quality that adds natural values to the built fabric. The detailing of precast concrete drips, joints and connections are considered with this in mind.

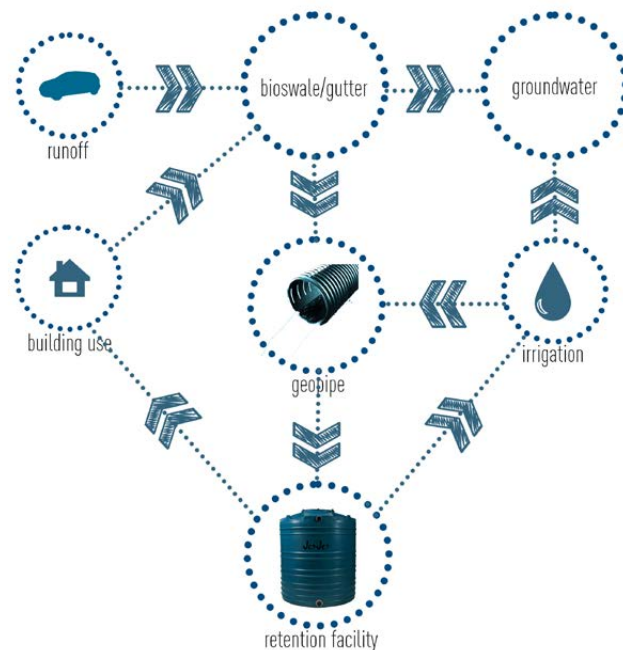


Figure 6.17. Water management diagram, (Wilken 2014).

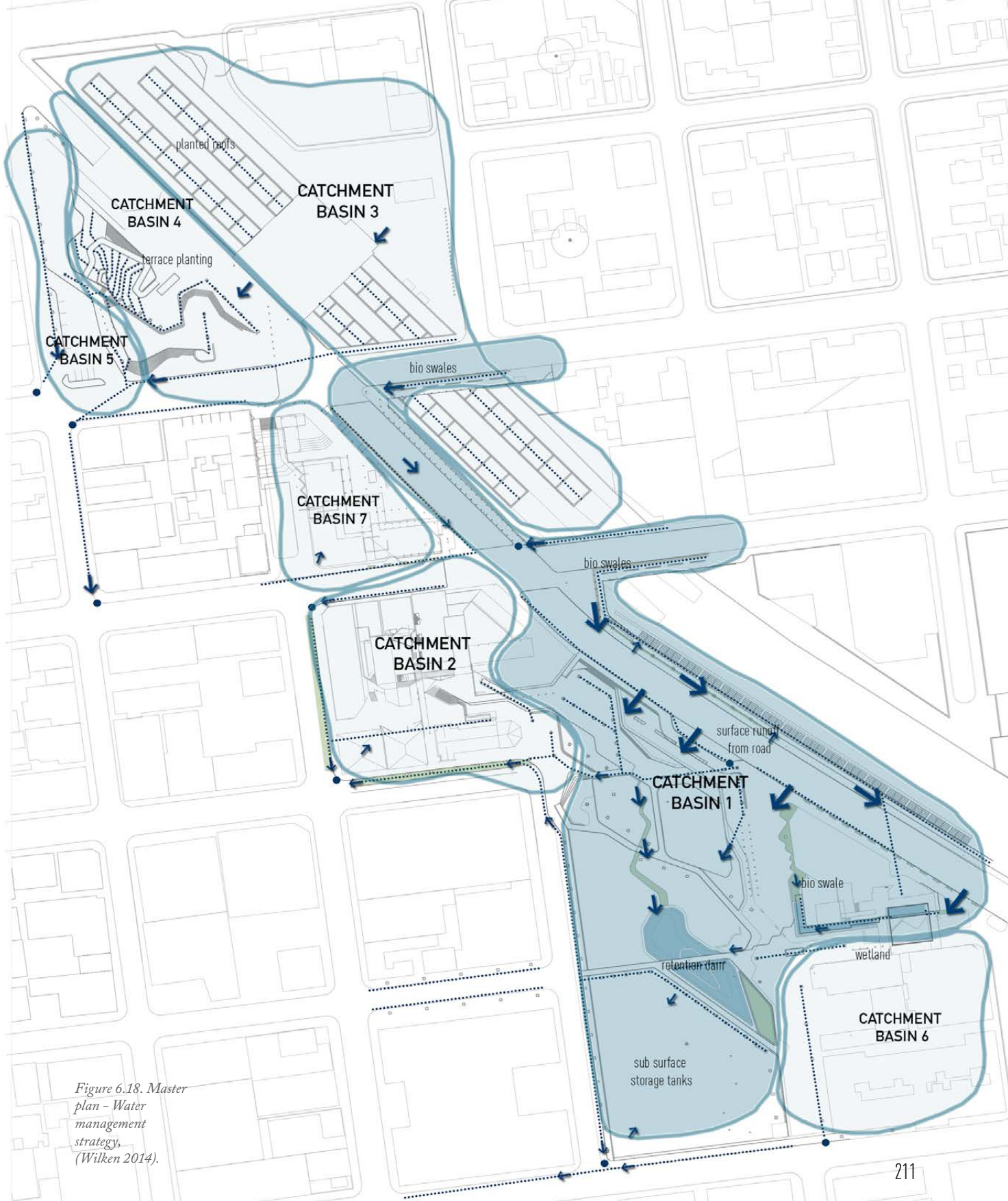


Figure 6.18. Master plan - Water management strategy, (Wilken 2014).

## iteration 2 fixed mechanisms

### *Precast concrete primary structure*

The standardised hollow core floor slab system proposed in iteration 1 is substituted by 600x340x300 A-channel precast concrete decking seated into notched precast beams. This option allows for greater specificity and sizing of components for thereby reducing waste. Structural decking in this instance makes more effective use of the structural frame and therefore reduces excess material.

### *Concrete block infill*

Concrete blocks become expressive components for modulating permeability and enticing the urban subject to engage with the curatorial library space through the detailing of the Northern brise soleil wall in front of the polycarbonate multiwall sheet.

### *Portal frame enclosures*

Corrugated IBR roof sheeting is proposed as a locally manufactured alternative to imported Zinc standing seam cladding systems.

### *Timber cross bracing*

The steel enclosure that encloses the volume of the reference library appears tied to the primary structure by a timber cross beam that offers additional support to the diagonal portal beam and cradles the space of belonging and becoming together in a constant state of tension.

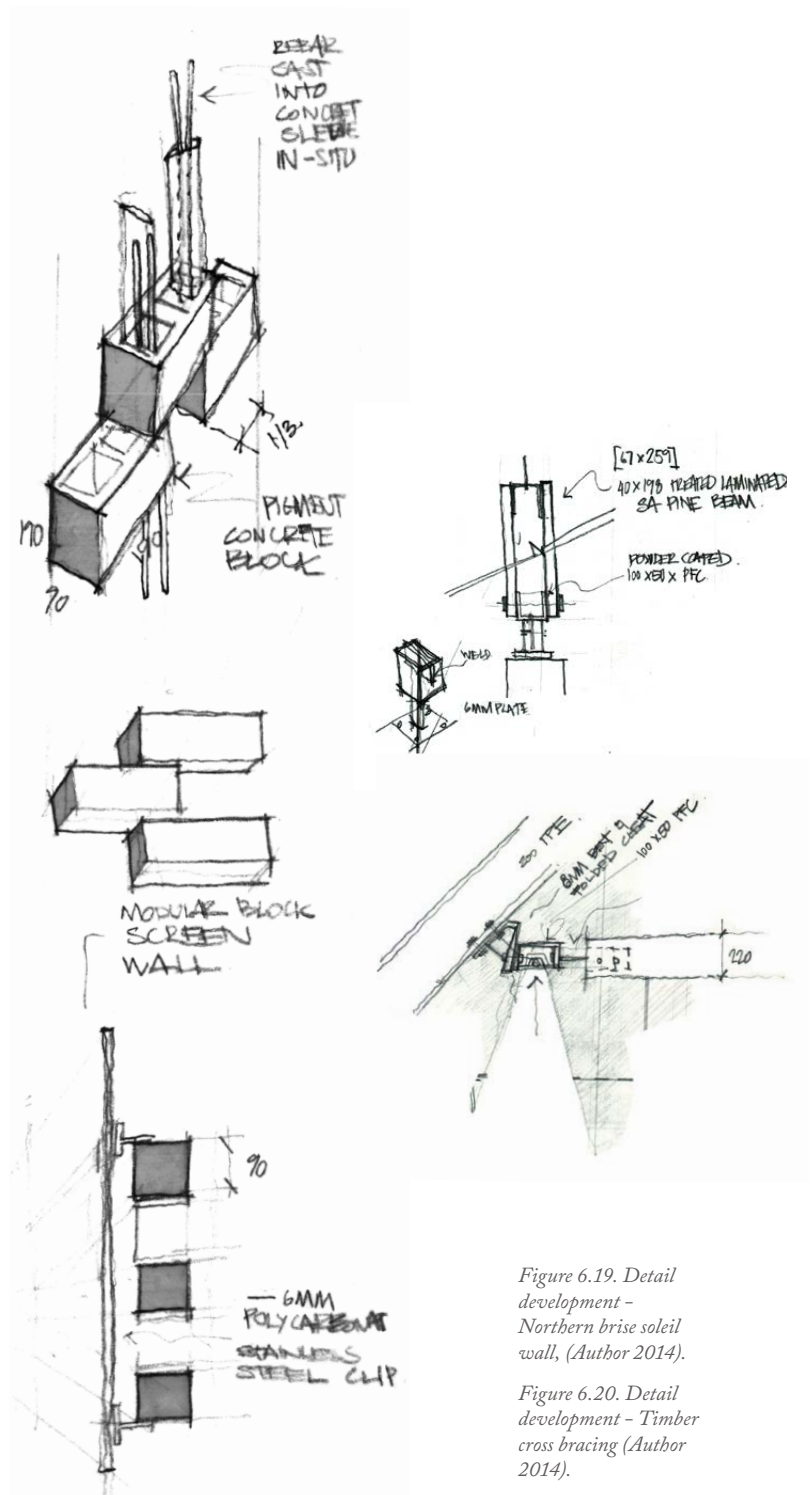
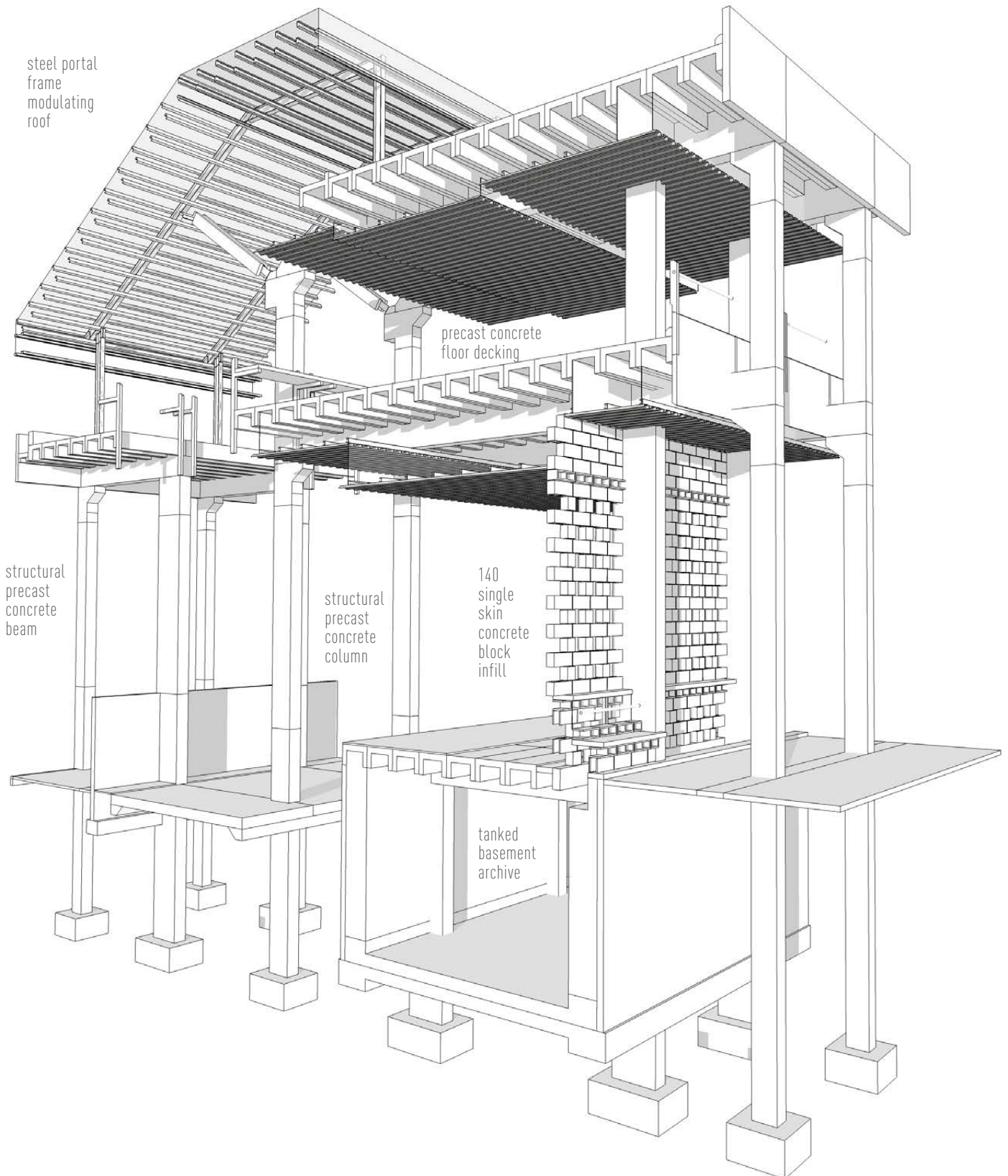


Figure 6.19. Detail development - Northern brise soleil wall, (Author 2014).

Figure 6.20. Detail development - Timber cross bracing (Author 2014).

Figure 6.21. 3D perspective section through library, nts - structural system - facing page, (Author 2014).

Figure 6.22. Section D1, nts - Iteration 2 - following page, (Author 2014).







## fluid mechanisms

### *Air*

The proposed solar assisted stack at the roof level is developed into an integrated precast concrete screen that fits within a narrative progression of language and materiality incorporated into the section.

The threshold between the internal public space at the curatorial avenue and the public square is investigated using air as a medium metaphorically for connecting degrees of public space. A public bench is incorporated into the façade as a scaled down solar assisted stack for ventilation of the library archive room.

Radiators transporting heated water from evacuated tube solar heat collectors located on service roofs are proposed above earth tube inlets for additional space heating in winter.

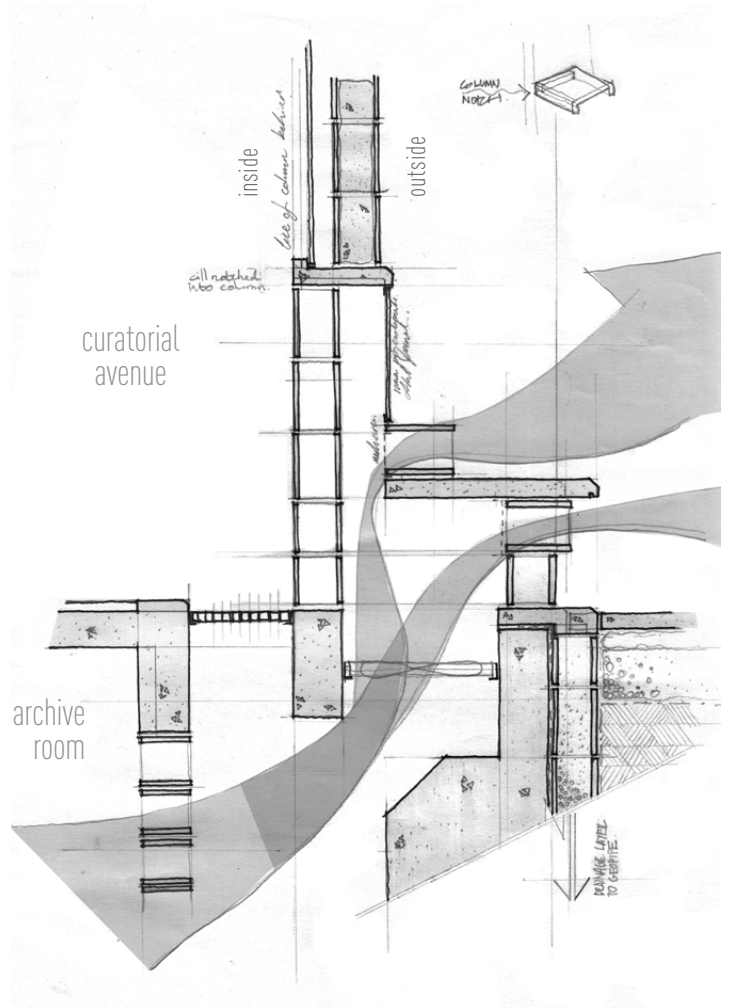
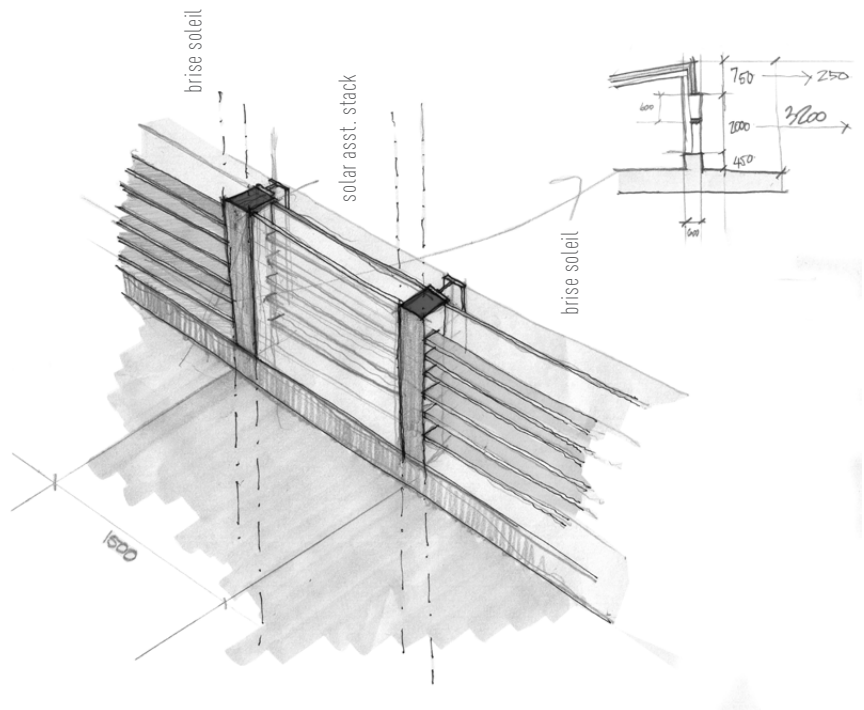
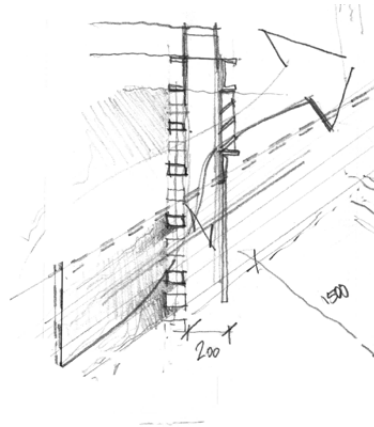
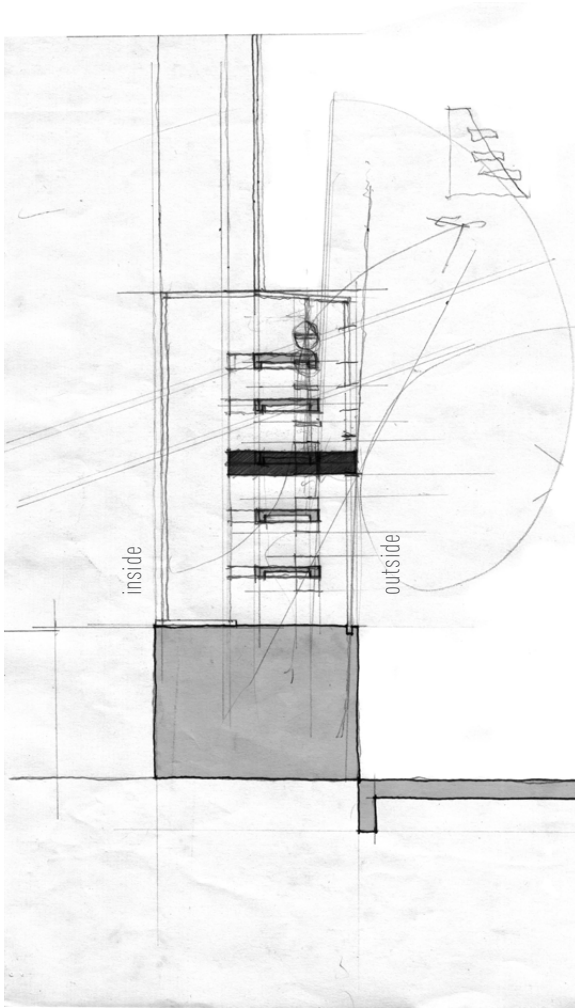


Figure 6.23. Detail 1, nts - Public bench & solar assisted stack, (Author 2014).

Figure 6.24. Detail 2, nts - Roof level solar assisted stack - facing page, (Author 2014).



### *Light*

Increasing the depth of the overhangs on the Northern façade allows better shading and reduced heat gain through fenestrations on the façade for the overheated period. This also allows the building to be stripped of additional screens, pasted onto the elevation in the previous iteration.

Filtered light creates a dynamic curatorial space as light penetrates through openings in the concrete block brise soleil wall on the Northern edge.

Refracted light from the Southern sky is allowed ingress into the interior through large polycarbonate multiwall sheets supported on precast concrete mullions in the exhibited collection reading area overlooking Marshall Street.



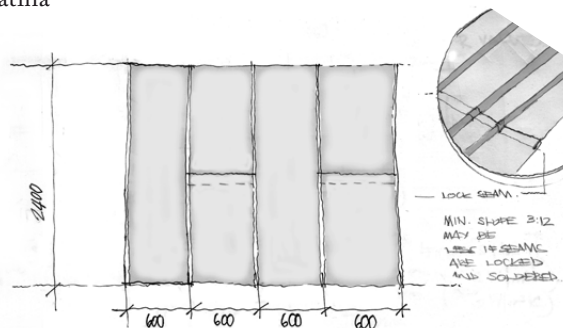
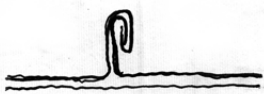
## iteration 3

### fixed mechanisms

#### *Hybrid concrete primary structure*

In an interview and concrete yard visit with structural engineer and precast concrete specialist Paul Van Rooyen (2014), the viability of structural precast concrete for members of the primary frame was brought into question. The scale and simplicity of the project makes the transport and erection costs associated with precast concrete uneconomical for primary members in comparison to in-situ concrete. Although requiring more time on site and increased material in terms of formwork, in-situ concrete can promote the development of skills and their transfer through local labour (Van Rooyen 2014).

A hybrid structural system is therefore proposed consisting of in-situ footings, columns and beams that become the framework for precast decking, in-fill and attached portal frame steel structures. Precast concrete elements can still be utilised for their increased production quality that makes detailed articulation more controlled and achievable. The pergola tie beam for example is a secondary structural element that provides lateral stability to the overhead plane. It can be precast and manufactured with control and uniformity. It is articulated considering the run-off and drip of rainwater and the resultant patina added to the building.



#### *Portal frame enclosure*

Corrugated IBR roof sheeting is discarded as an option for the roof finish due to the incompatible pitch of the folding enclosure and the accompanying waterproofing issues that would be problematic at its junctions. The use of IBR also results in an overly complicated, heavy and massive appearance to the volumes intended to communicate a sense of becoming through its lightness and verticality.

The cladding is reverted to a standing seam finish using locally manufactured Zinc-Aluminium (Zn-Al) sheets that can be rolled into the required profile on site. Flashings and accessories are of the same material. This allows for a minimum slope of 3:12 that may be reduced if seams are locked and soldered, making 'flat' sections of the enclosure plausible (Ching 2008: 7.11). This selection adds a layer of robustness and civic permanence to the building due to the increased service life of the Zn-Al alloy and its minimum lifespan of 65 years. Junctions are made by cutting and folding the sheet. Cuts at the seam are lapped with additional sheet metal strips.



Figure 6.25. Precast concrete yard visit photographs (Author 2014).

Figure 6.26. Zinc-Aluminium standing seam cladding, (Author 2014).

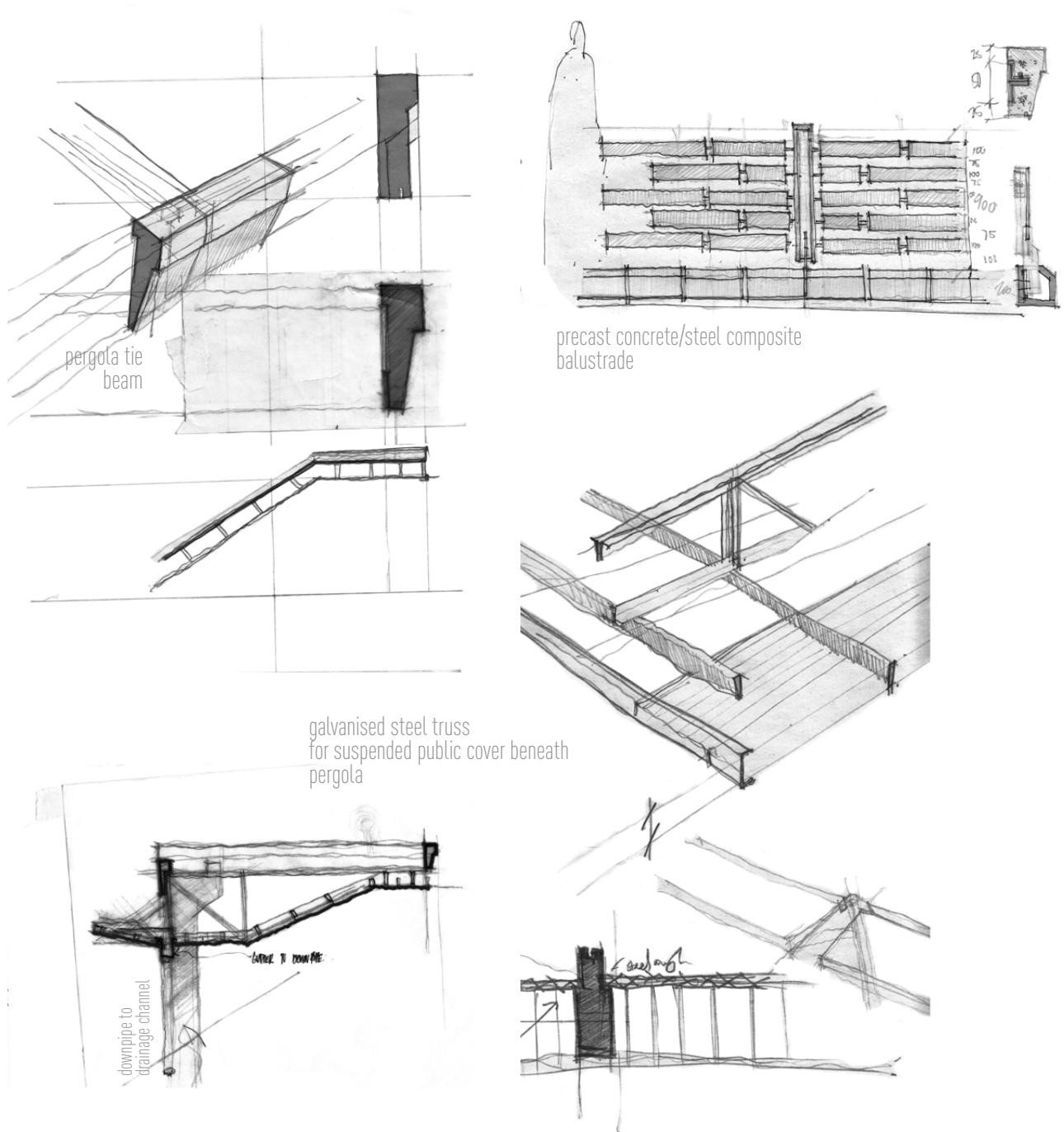
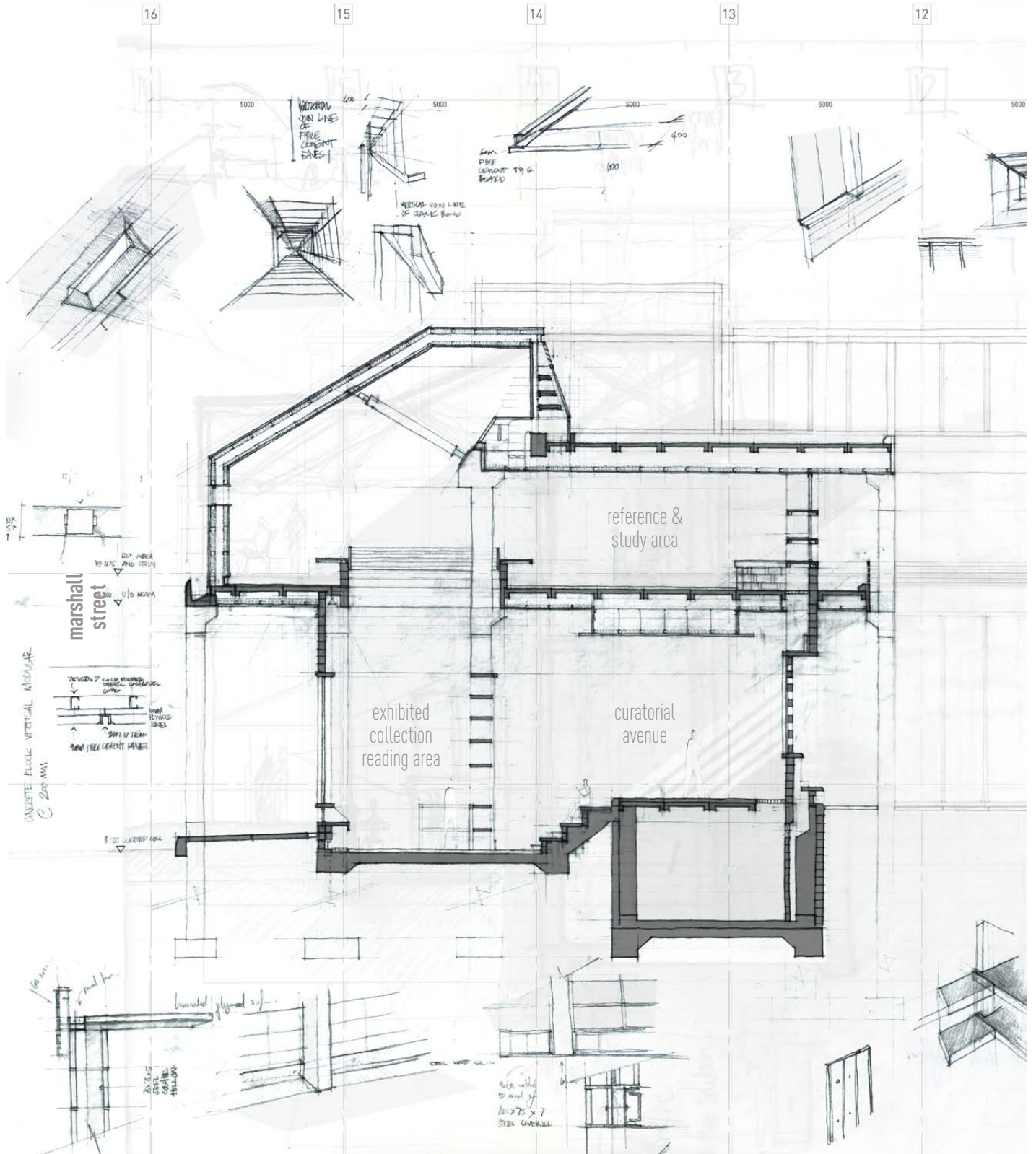
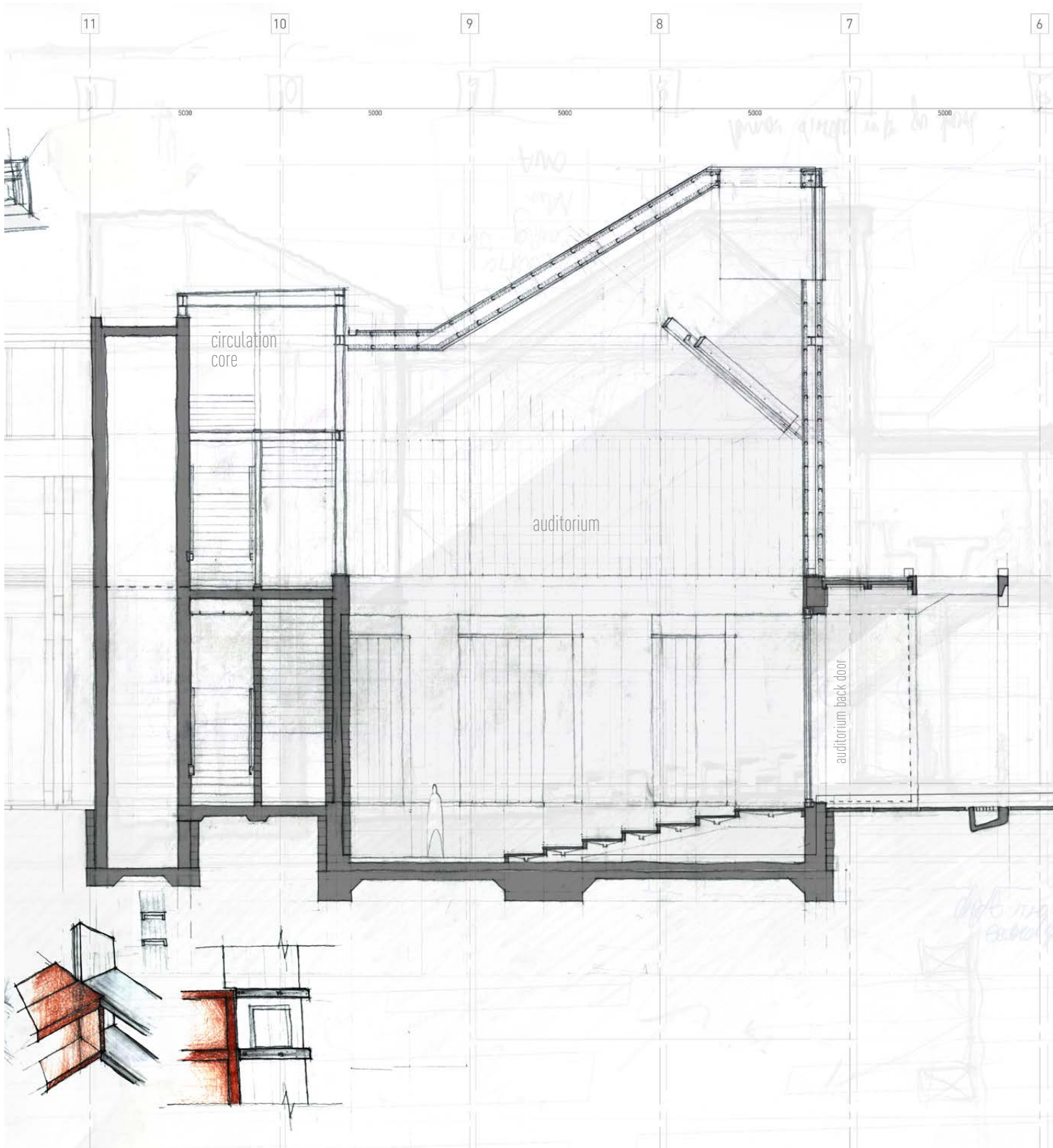


Figure 6.27. Pergola precast concrete tie beam articulation & explorative sketches for steel/concrete precast balustrade and suspended public cover, (Author 2014).

Figure 6.28. Section AA, nts - Iteration 3 - following page, (Author 2014).





The maximum thermal conductivity of the envelope in as per SANS 10-400 XA (SABS 2011c) dictates required resistance values for metal sheet roof assemblies in climatic zone 1 (in which Johannesburg falls).

These are the following:

Roof cover – 0.30m<sup>2</sup>K/W

Ceiling – 0.05m<sup>2</sup>K/W

Insulation – 3.35m<sup>2</sup>K/W

The resultant total required R-Value for the roof assembly = 3.7 m<sup>2</sup>K/W.

The proposed roof construction as per detail 3 (figure 6.27) is assembled as follows: 600x0.6 Zn-Al metal sheets clamped over roofing clips fixed over a waterproofing membrane to a 10mm marine plywood sheet, resting above 80mm expanded polystyrene insulation. The plywood substrate is fixed through the insulation using rubber spacers to provide a thermal break to a 75x50x20x2 galvanised mild steel lipped channel purlins at 600mm centres. The purlins in turn rest upon an IPE 200 steel beam. Purlins are repeated at 1200 centres beneath the beam structure as battens providing support to an 8mm CNC perforated plywood ceiling and a 50mm polyester acoustic batting above.

The total resistance of the envelope is calculated using the following formula and values obtained from Joubert (2010).

$$R = 1/h_0 + dx/kx + 1/h_c + dy/ky + 1/h_i$$

Where

dx/yz = Material thickness (m)

Heat transfer coefficients

$h_0 = 20 \text{ W/m}^2\text{K}$  (exterior surfaces)

$h_c = 7.5 \text{ W/m}^2\text{K}$

(horizontal cavity 75mm - heat flow up)

and

$h_i = 8 \text{ W/m}^2\text{K}$  (interior vertical surface)

Thermal conductivity values

$k_p = 0.14 \text{ W/mk}$  (plywood)

Resistance values

$R_i = 1.53 \text{ m}^2\text{K/W}$  (75mm expanded polystyrene insulation)

$R_a = 1.02 \text{ m}^2\text{K/W}$  (50mm polyester acoustic batting)

The resultant total thermal resistance of the portal steel enclosure yields an R-Value of: 2.87 m<sup>2</sup>K/W. This is 0.83 m<sup>2</sup>K/W below the SANS 10-400 XA requirement. It is therefore proposed that the thickness of the expanded polystyrene insulation be increased to a minimum thickness of 100mm (2.4 m<sup>2</sup>K/W).

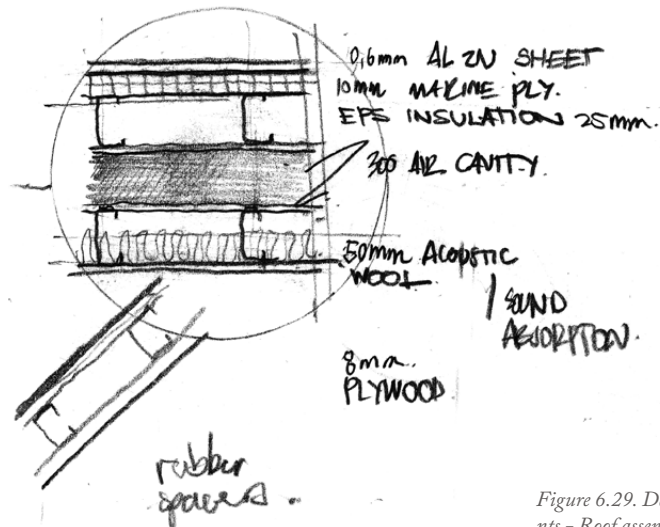


Figure 6.29. Detail 3, nts - Roof assembly, (Author 2014).

*Timber cross bracing*

The flitch beam (figure 6.28) – a composite of steel and laminated timber sections is explored for the internal cross bracing beams in the library and the auditorium. In the auditorium the element provides secondary support to the angled portal beam that creates the structure for the extruded tower. It additionally becomes a service conduit for suspended lighting and/or audio/visual equipment.

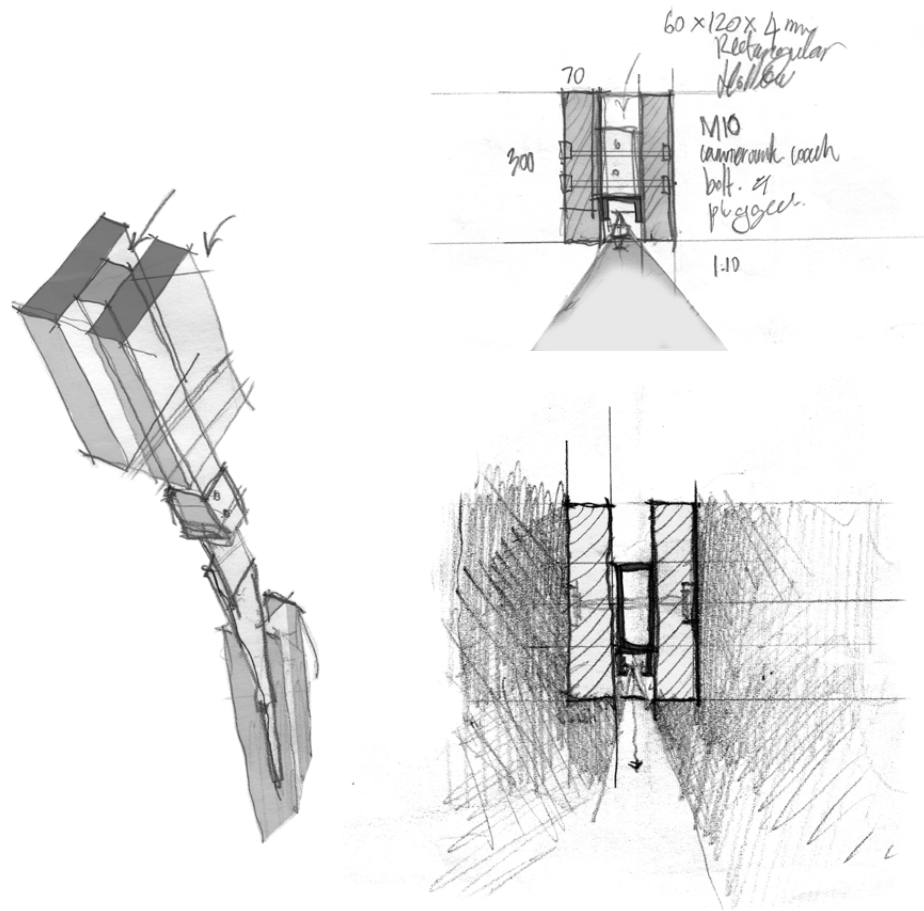
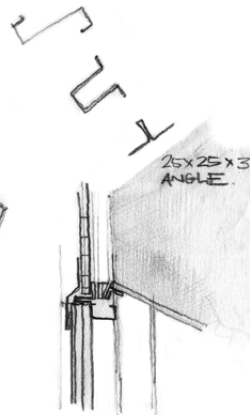
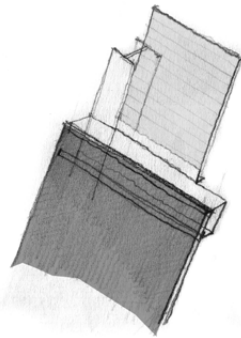
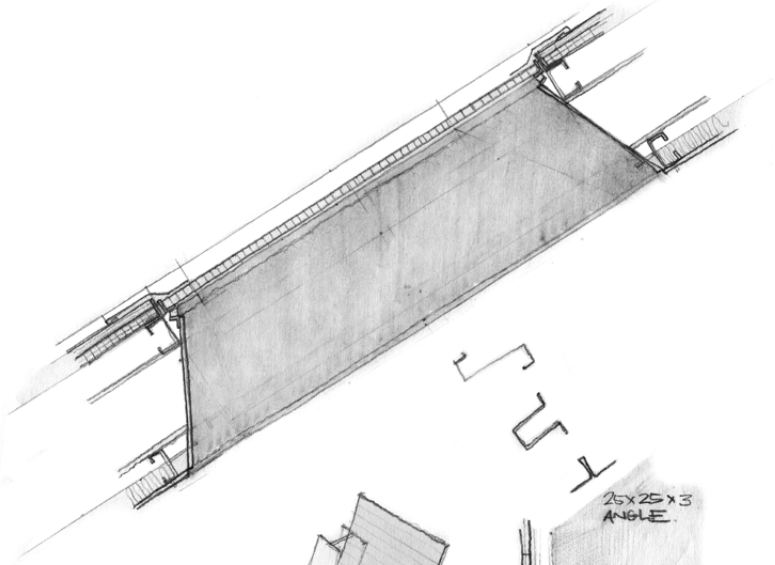
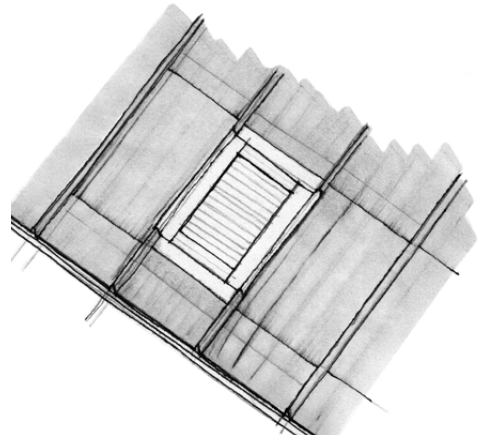


Figure 6.30. Development sketches, nts – flitch beam, (Author 2014).



*Light*

Additional Southern diffuse lighting can be introduced into the library interior, creating a uniformly lit space and reducing energy demands resultant of additional artificial lighting that may be required. Roof lights are detailed as elongated fenestrations between the seams of the steel enclosure.



10MM POLYCARBONATE  
MULTI WALL  
SHEET

25x25x3  
GMS ANGLE  
FRAME

STEEL  
SEAM

20x30  
x 3  
GMS  
CHANNEL  
FIXED TO  
75x50 x  
3 GMS  
LIPPED  
CHANNEL

Figure 6.32. Detail 4,  
nts - Roof light,  
(Author 2014).



Sound

Visual access to the auditorium as an internal enclosure of public space is maintained through transparent folding and stacking back doors that can be opened out towards the canteen for larger gatherings. In order to attenuate external noise and minimize cluttering reverberation from the speaker that may cause indiscernible speech, the back doors are detailed in alternating sections of double glazed transparent polycarbonate flat sheets and perforated plywood acoustic sandwich panels.

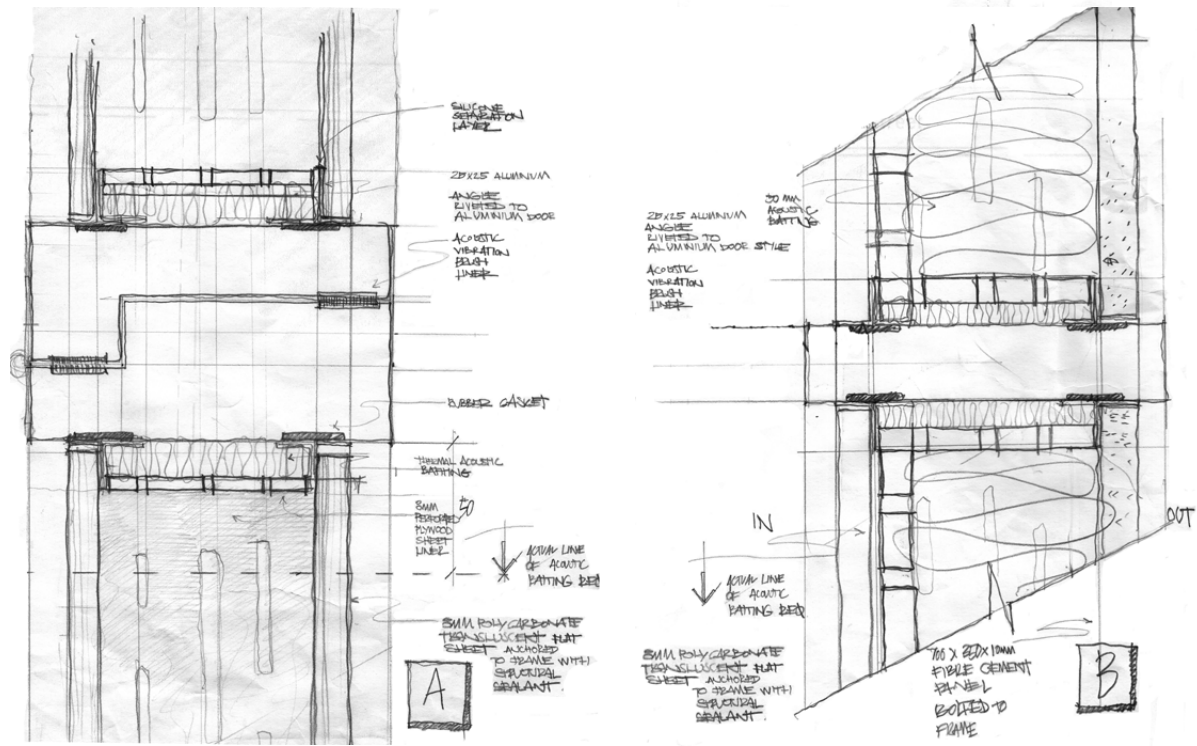
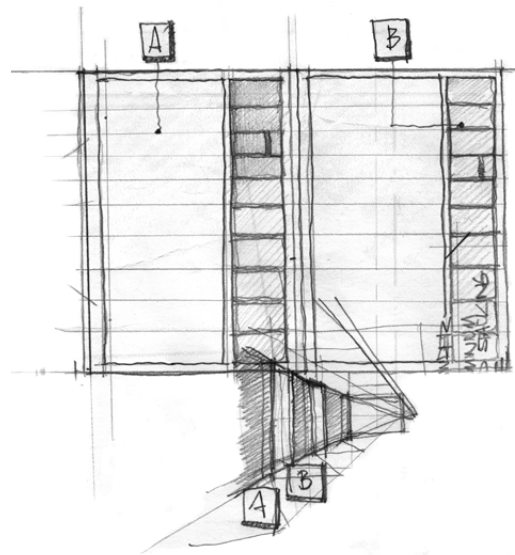


Figure 6.33. Detail development - auditorium acoustic folding and stacking doors, (Author 2014).

*Fire protection services*

The building consists of 2 circulation cores that house the elevators and fire escape stairs. Cores are constructed of concrete in-situ elevator shafts that provide structural support to attached precast concrete stairs. As recommended by SANS 10-400 T (SABS 2011b: 37) staircases are within reach of a maximum 45m escape route from any point in the building and stairs provided have a minimum width of 1500mm. Refuges for persons with disabilities are provided on each level with a minimum resistance of 30min. Escape routes discharge directly into the lobby courtyard and that leads out onto the street.

The circulation cores are conceptually intended (within the composition of the building) to read as lighter elements that allow new public enclosures to meet the existing fabric. National regulation requires a minimum fire resistance of 120 min for (SABS 2011b: 30) an emergency route. 8mm laminated safety glass with an intumescent interlayer is therefore specified for the glazed walls of the circulation cores.

Dry chemical fire extinguishers are proposed for fire-fighting purposes. SANS 10-400 T Table 11 (SABS 2011b: 49) specifies a 14.5kg dry chemical extinguisher for every 200m<sup>2</sup>. In terms of regulation 4.34 (SABS 2011b: 46) 1 fire hose reel per 500m<sup>2</sup> is provided at each floor level for a building of 2 or more storeys. Extinguishers and fire hose reels are located in the building as per the detail escape plans below.

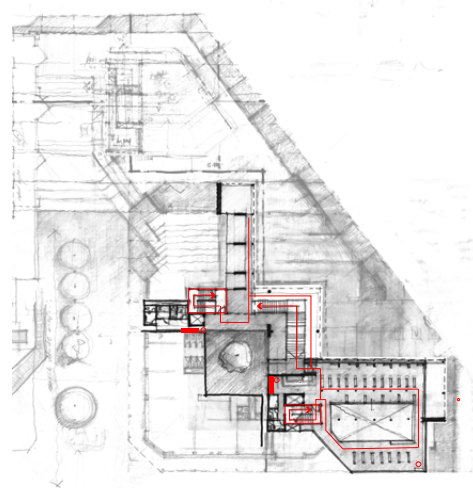
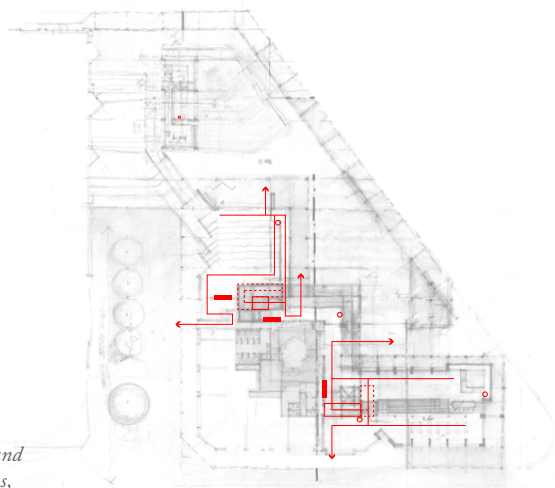
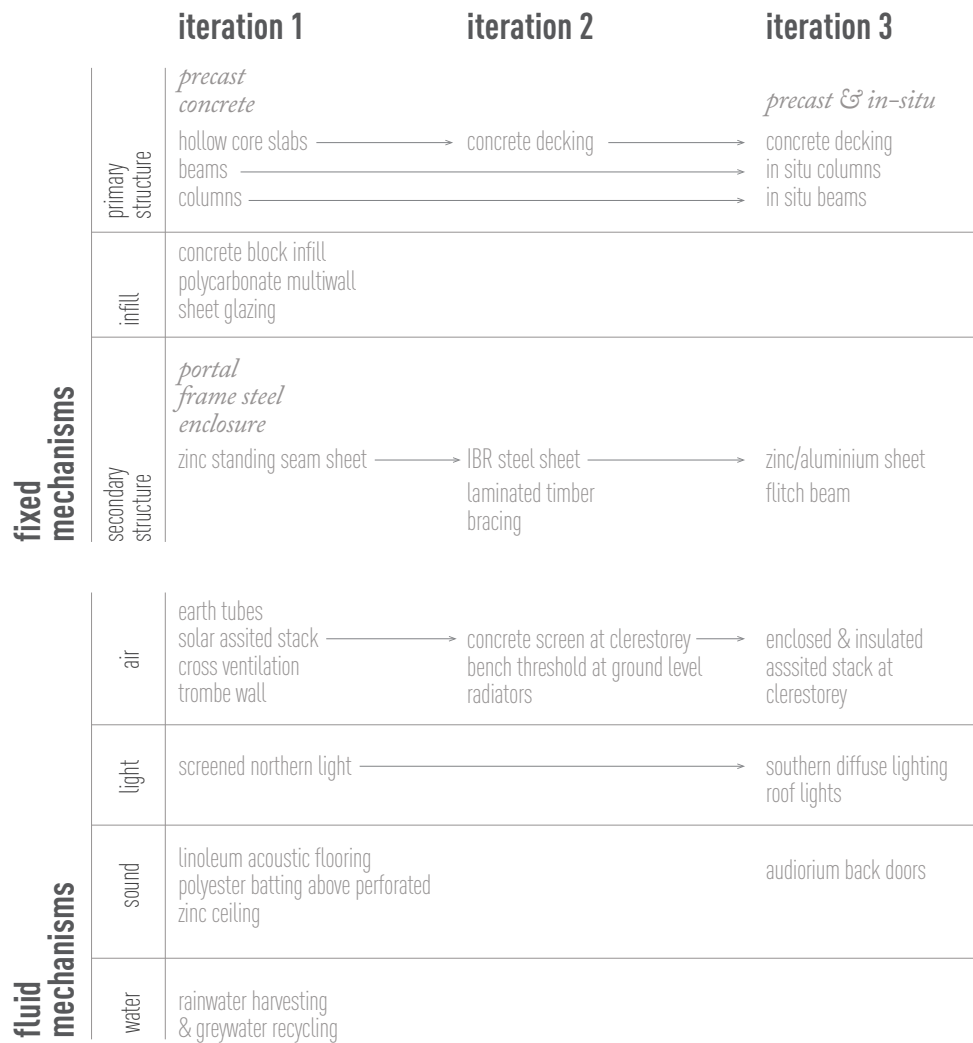


Figure 6.34. GF and FF fire escape plans, (Author 2014).

## 6.5. TECHNICAL GENEALOGY



The methodology for the technical development of the design follows the same methodology as the design component.

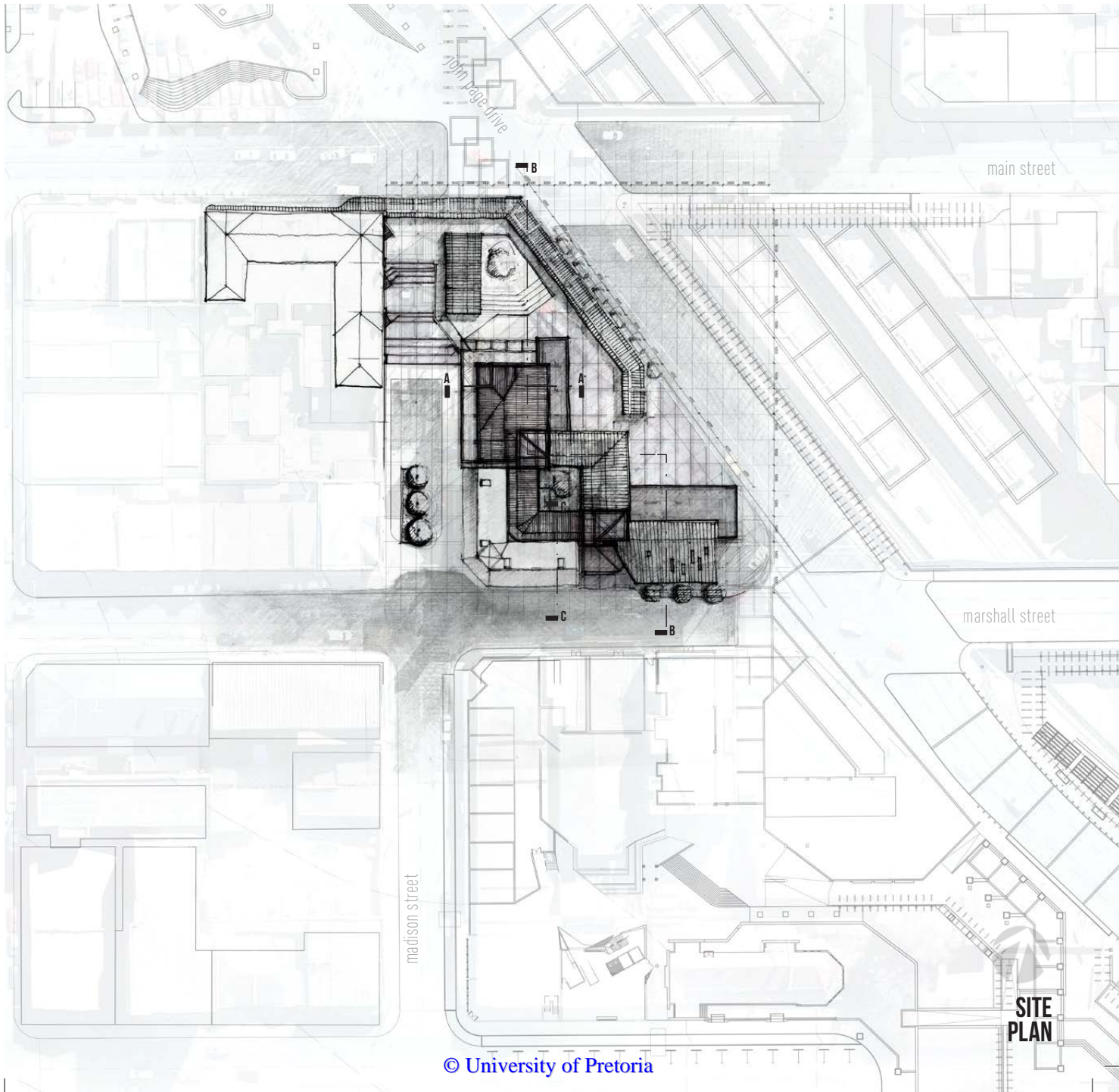
Sequential process iterations completed at this stage and their overall evolution are documented above.■

Figure 6.35. Technical genealogy (Author 2014).

Figure 6.36. Site plan, nts - facing page, (Author 2014).

Figure 6.37. Ground floor plan, nts - next page, (Author 2014).

## 6.6. REPRESENTING THE ARTEFACT



main street

A B C D E F G H I J K L M N O P Q R S T U V W

A

john page drive

B

B

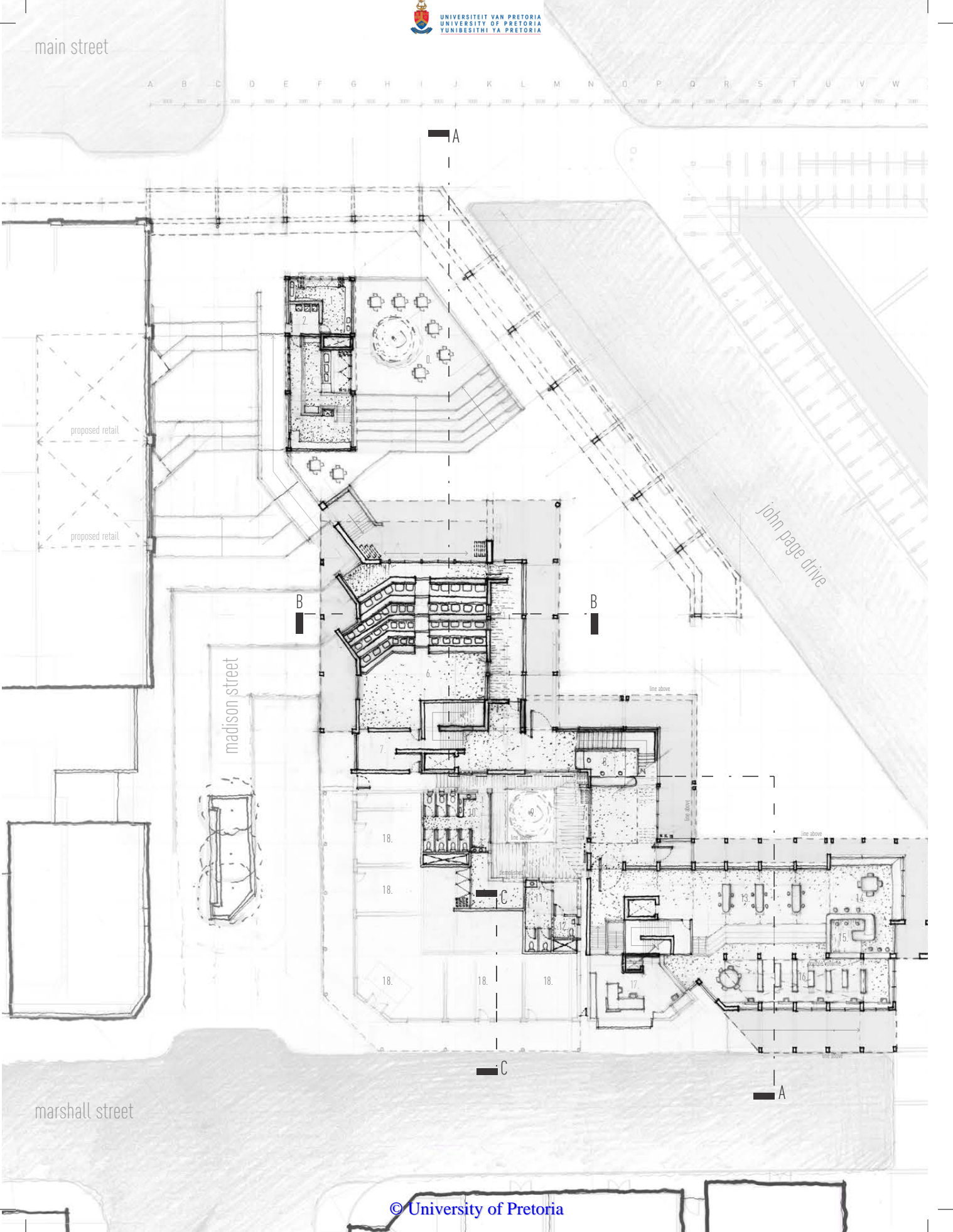
madison street



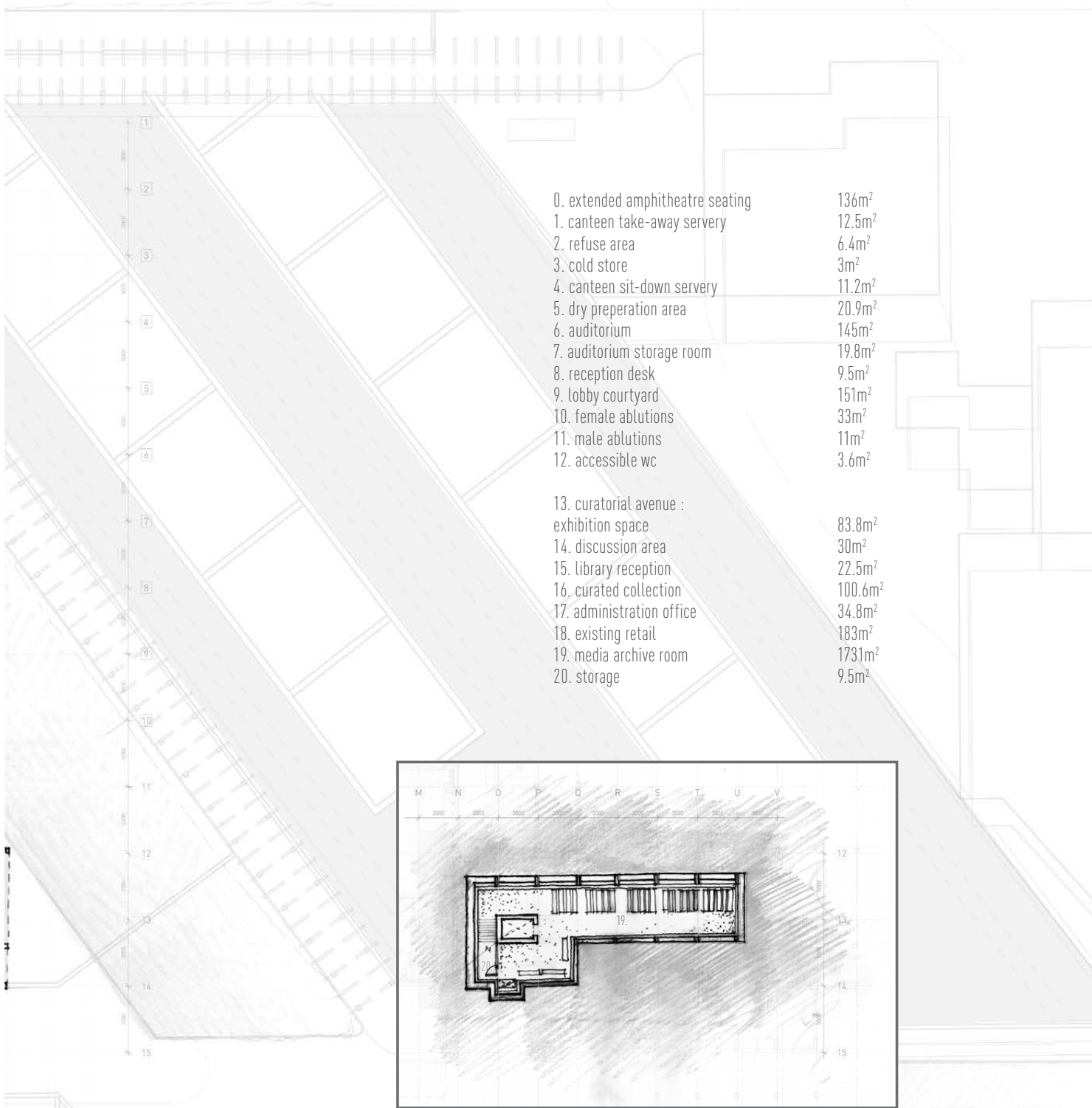
marshall street

C

A



X Y Z



GROUND  
FLOOR

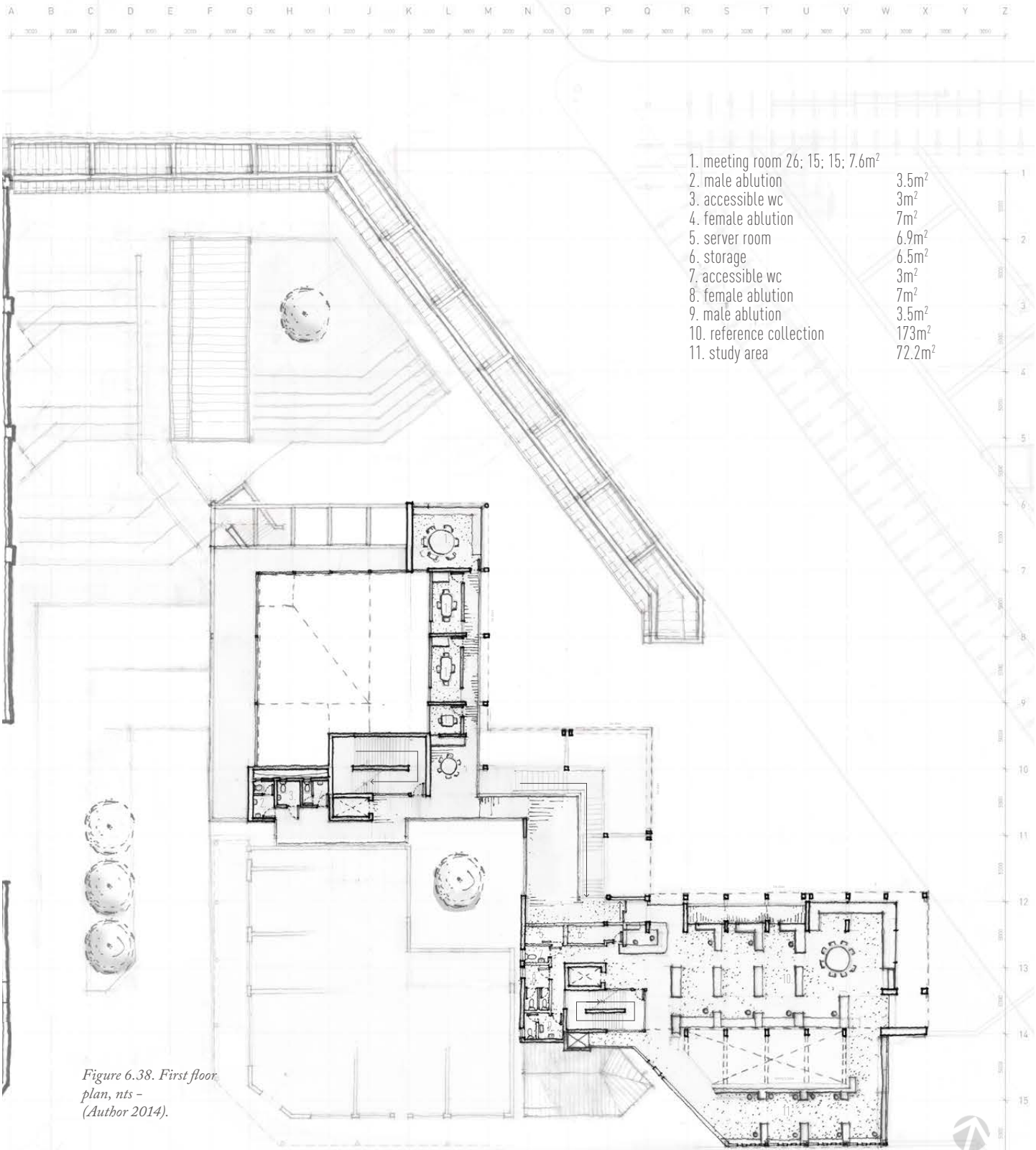


Figure 6.38. First floor plan, nts - (Author 2014).

FIRST FLOOR

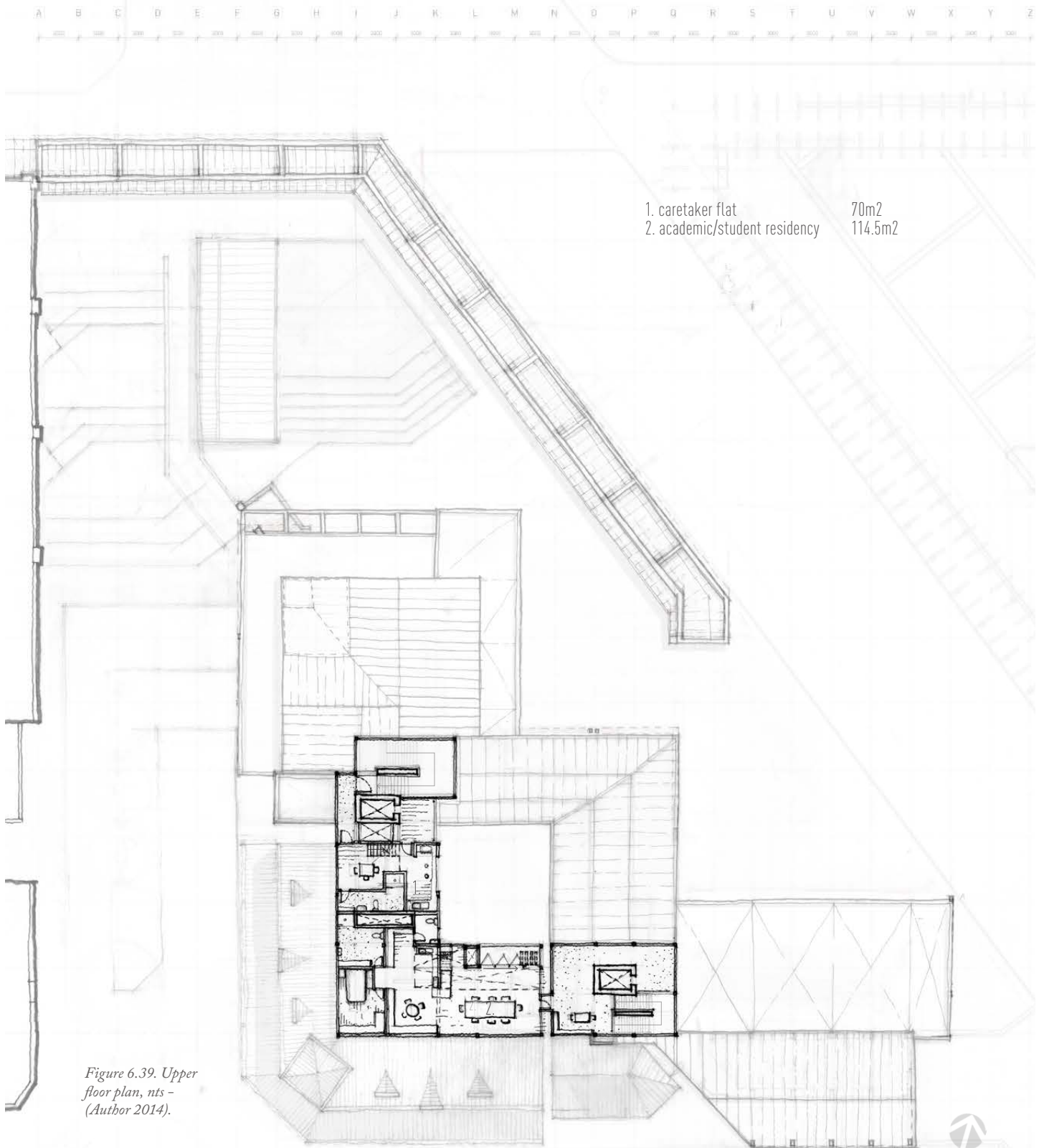
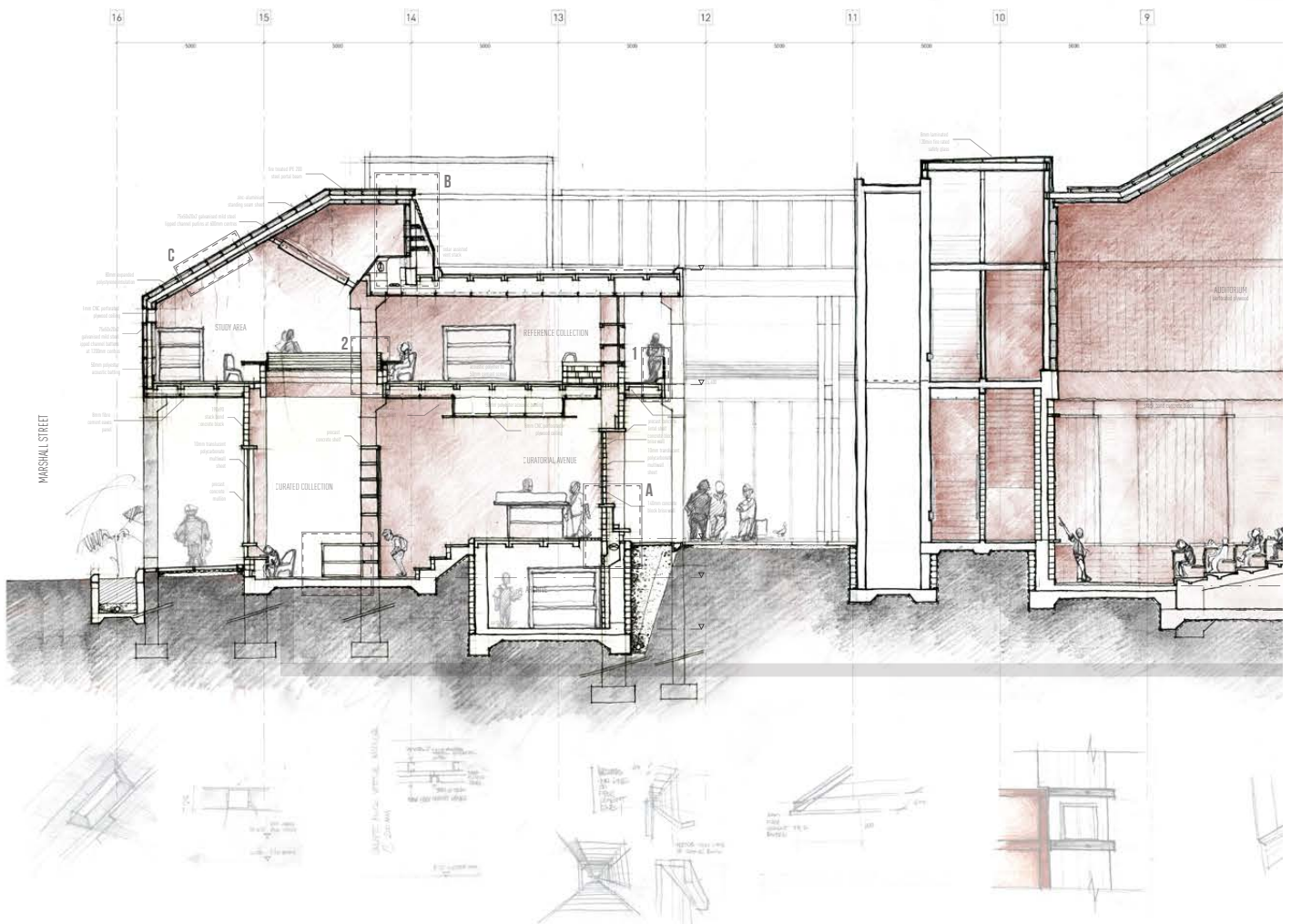
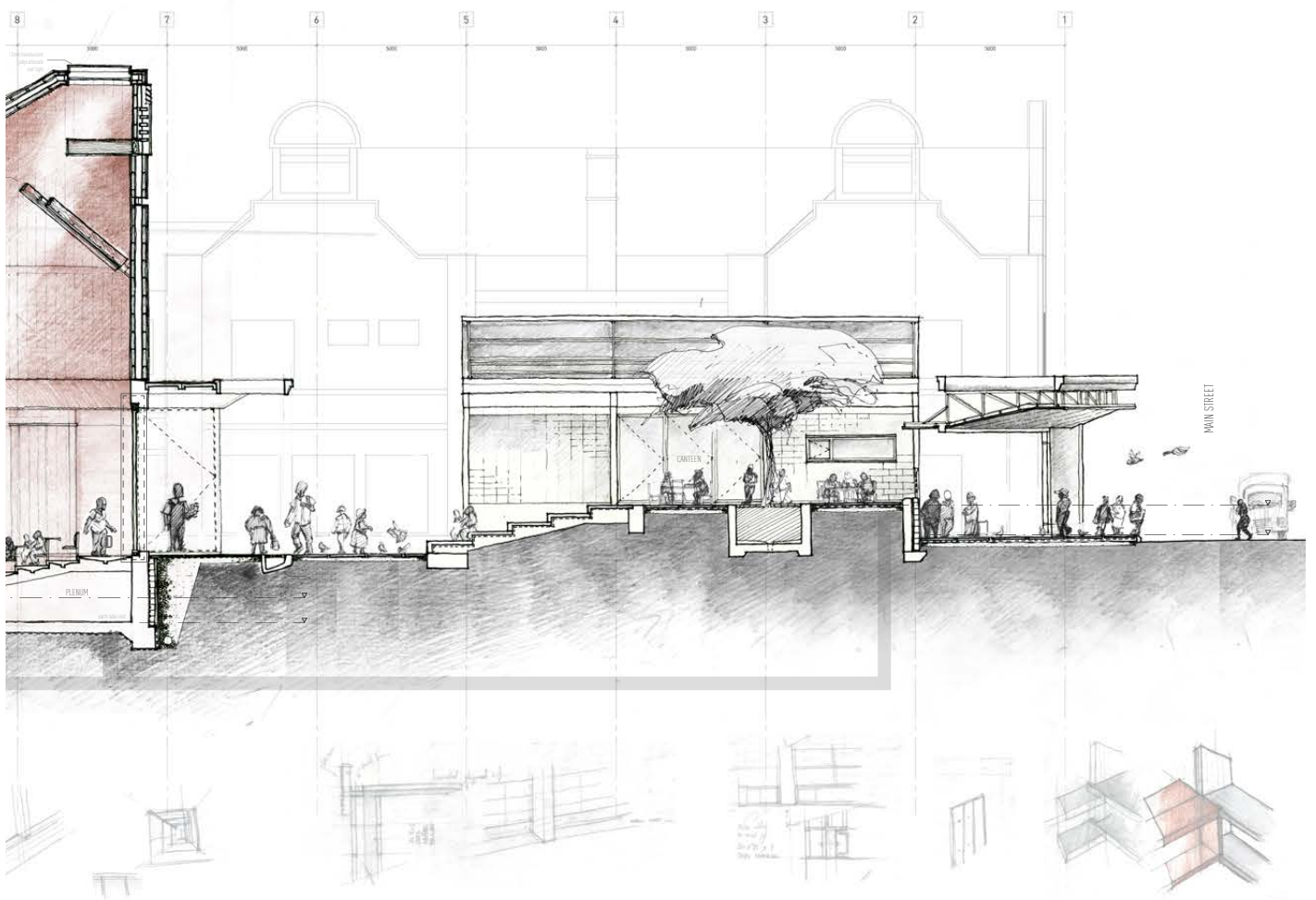


Figure 6.39. Upper floor plan, nts - (Author 2014).

UPPER FLOOR







**SECTION AA**

*Figure 6.40. Section AA, nts - (Author 2014).*

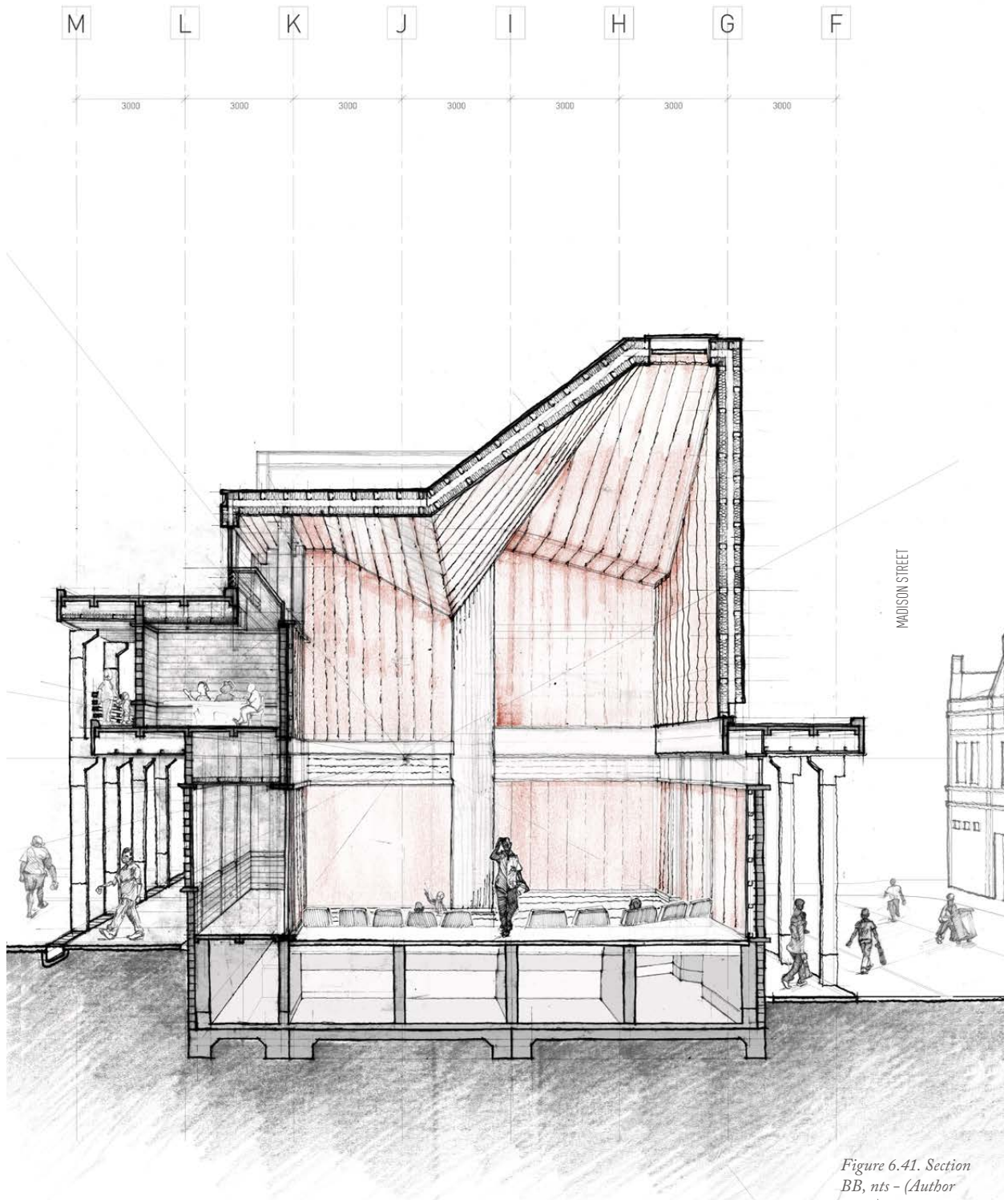


Figure 6.41. Section BB, nts - (Author 2014).

elevations

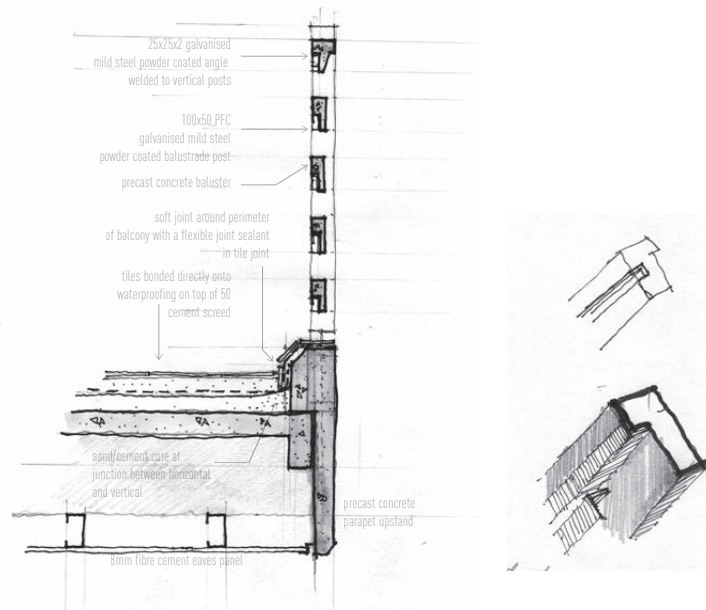


Figure 6.42. East elevation, Madison Street, nts - facing page, (Author 2014).

Figure 6.43. North elevation, Main Street, nts - facing page, (Author 2014).

Figure 6.44. South elevation, nts - facing page, (Author 2014).

**1** steel & precast concrete balustrade- nts



**3** heritage building roof connection - nts

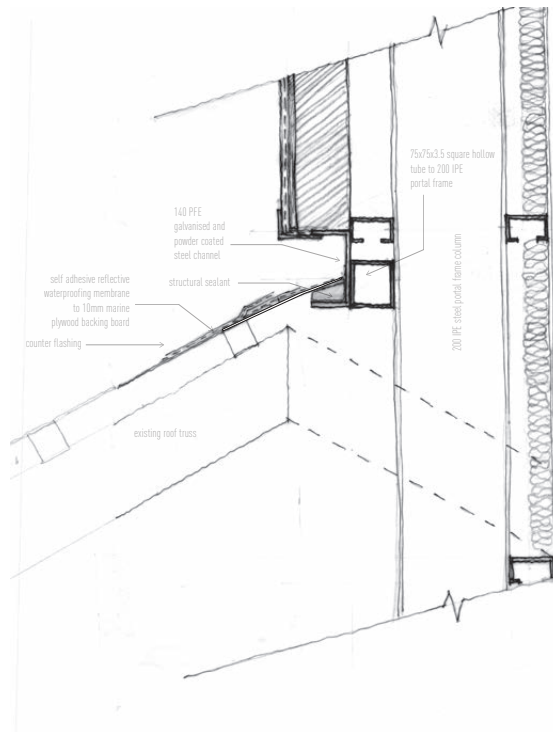
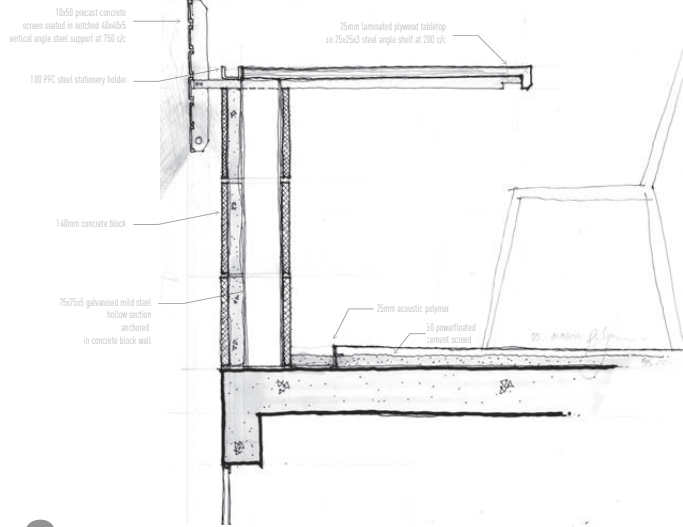


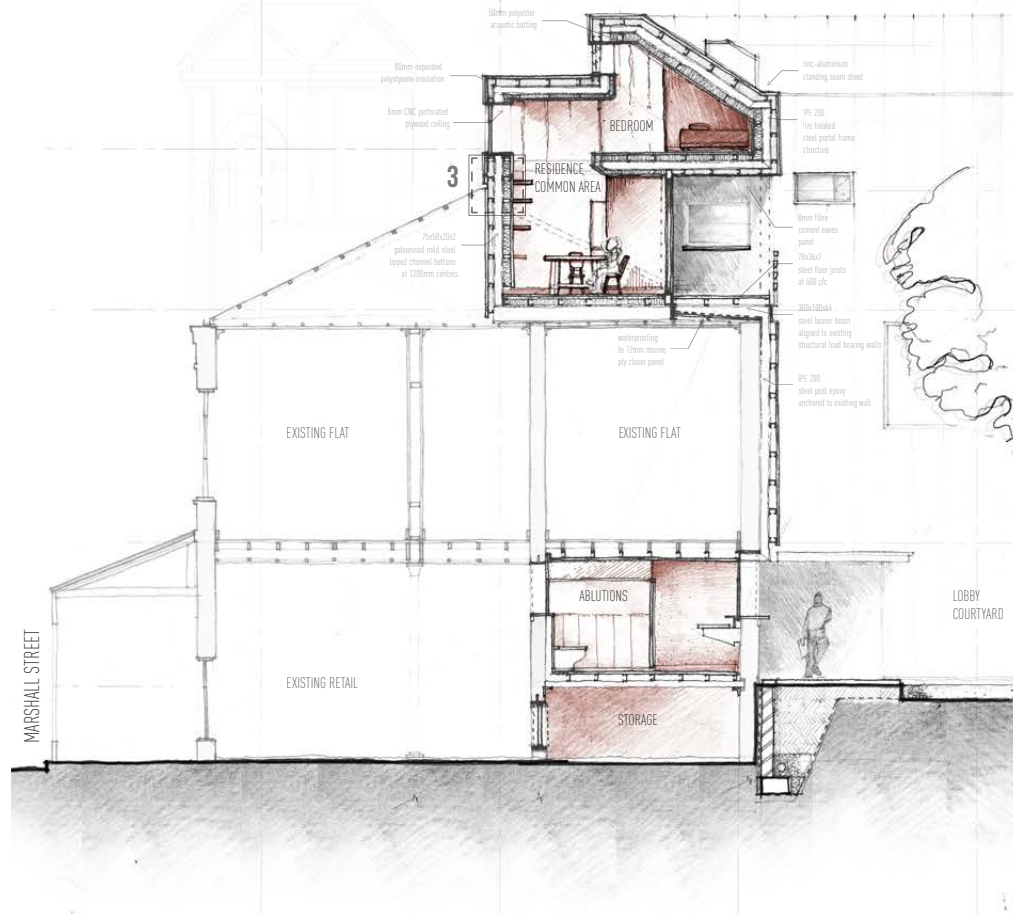
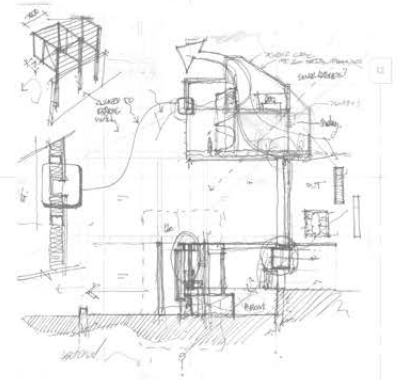
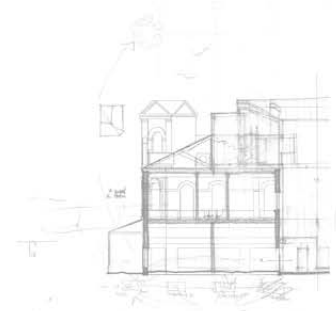
Figure 6.45. Detail 1 - steel & precast concrete balustrade, nts - (Author 2014).

Figure 6.46. Detail 2 - study desk, nts - (Author 2014).

Figure 6.47. Detail 3 - heritage building roof connection, nts - (Author 2014).

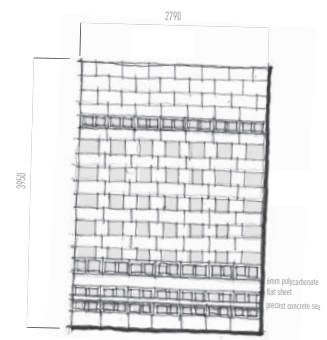
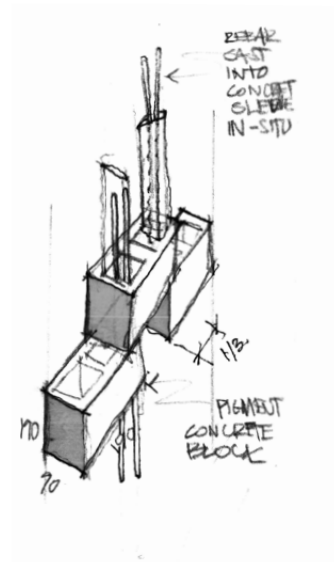
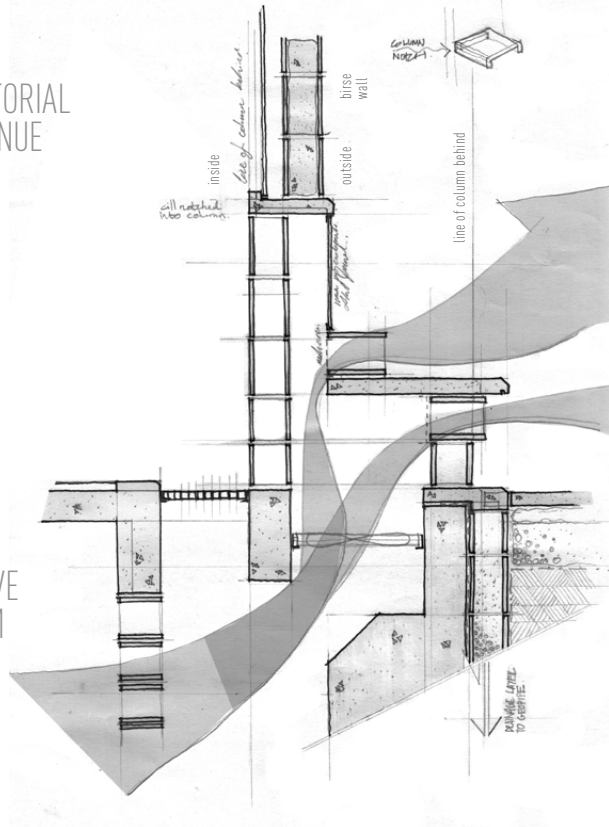


2 study desks



CURATORIAL AVENUE

ARCHIVE ROOM



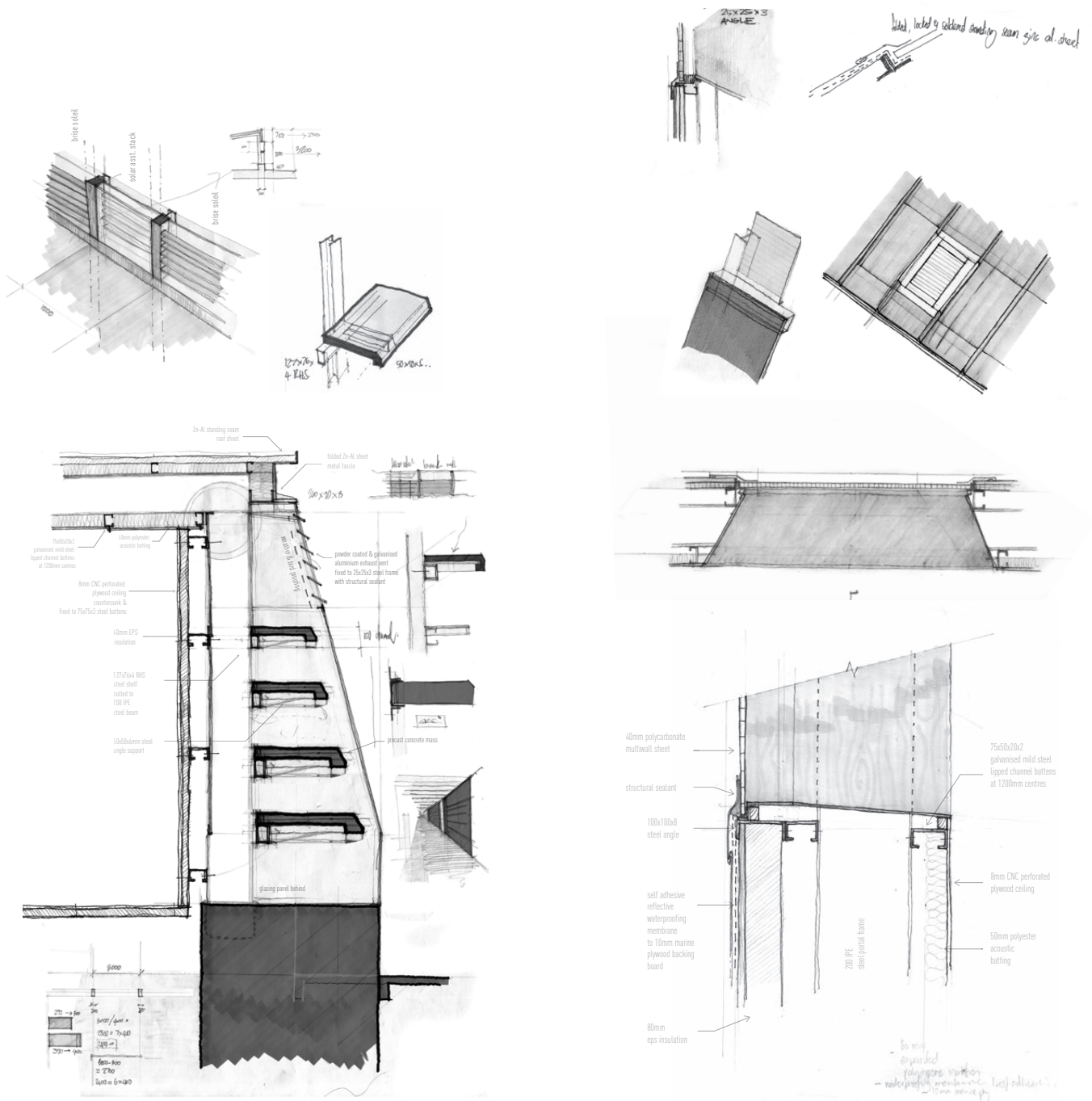
brise wall elevation (nts)

**A** public bench vent stack 1-10

Figure 6.48. Detail A - public bench vent stack, nts - (Author 2014).

Figure 6.49. Detail B - solar assisted stack, nts - (Author 2014).

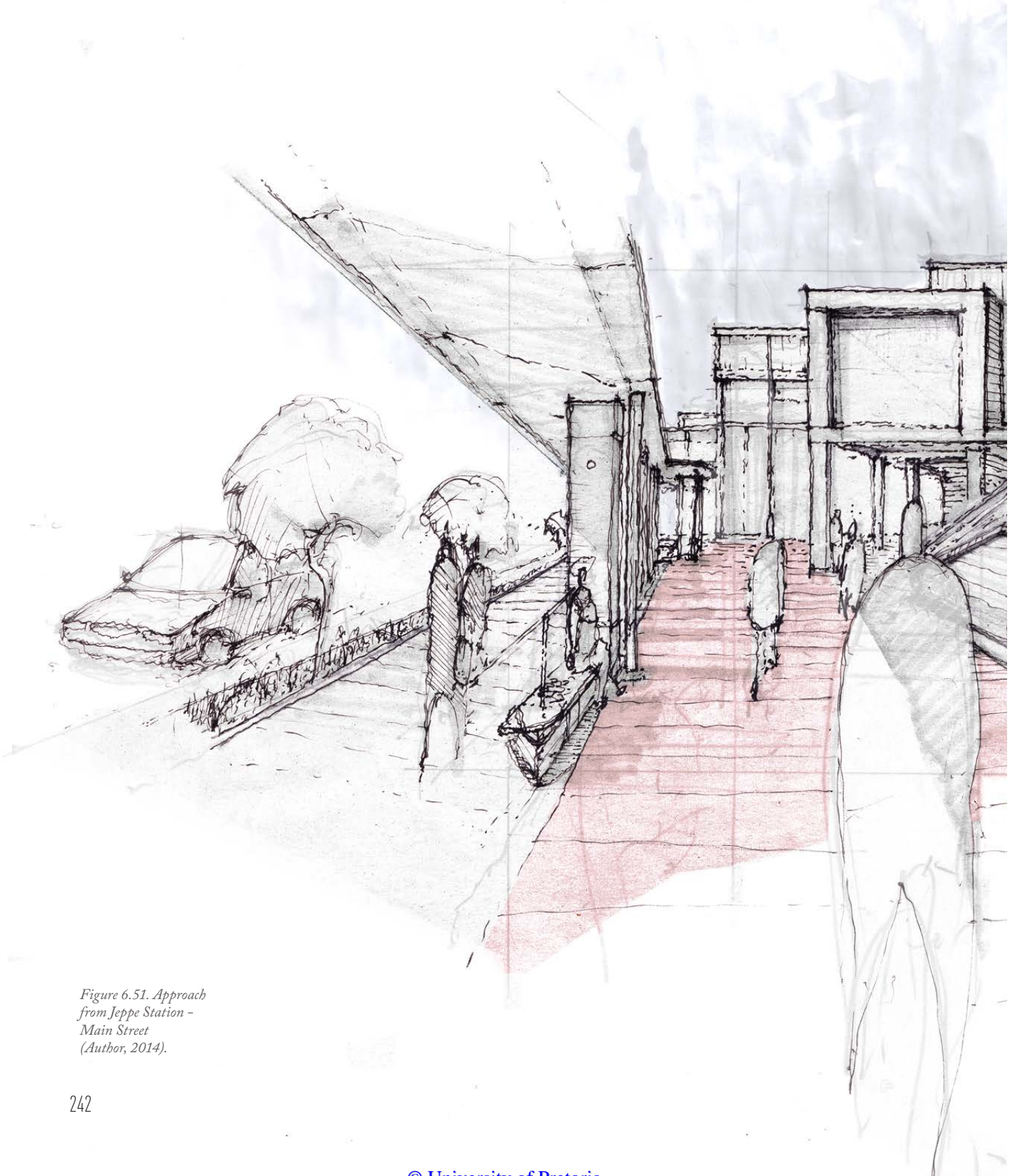
Figure 6.50. Detail C - southern roof light, nts - (Author 2014).



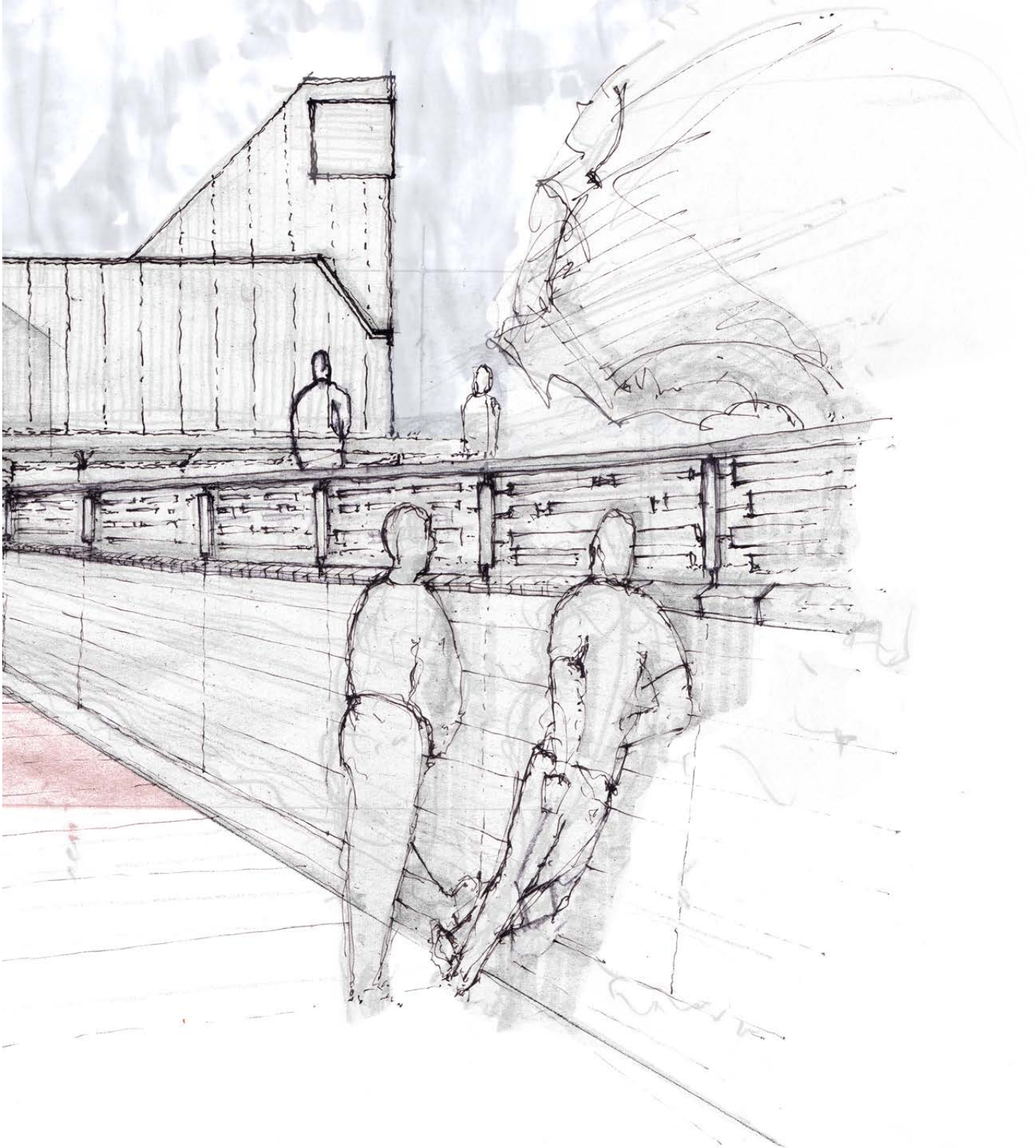
**B** solar assisted stack 1-10

**C** southern roof light 1-10





*Figure 6.51. Approach  
from Jeppe Station -  
Main Street  
(Author, 2014).*





*Figure 6.52. Final model - view from corner of Marshall & Madison street - (Author 2014).*



*Figure B.1. Interstitial spaces under the cover, Yeoville, Johannesburg (Author 2014).*

## CONCLUSION

### a manifesto of making

This dissertation primarily sought to investigate the transformative potential inherent in a contemporary urban artefact. Jeppestown as a study area offered plausible conditions that could serve as precedent for understanding ways of working within similar, often historically significant, peripheral urban conditions prevalent in major South African cities.

The main research intention of the dissertation was to identify ways of working with architecture as a medium to create places of meaning and value for people within the landscape. A framework of theoretical, contextual and conceptual informants collectively set the research basis for an intuitive departure into the metamorphosis of the site.

Design is an act. Its performance is the synthesis of both logic and the unknown, revealed in moments wherein the performer is the only accompanist to him/herself... Space and time should be allowed for this to unfold, and thereafter more time added for the reflection of its revelation(s). Through the process polarity becomes simultaneity and therein – through point, line, plane and volume – a projection is cast.

Whilst engaging with the process and its evolution, that by its very nature is consequential of a maturing perception of the relevance of drawing at each stage – design becomes a discovery of something that is both a projection of the vision imagined in the mind's eye, and the intersections encountered in the conversation between rational thought and the intuitive line along the way.

It becomes evident through this cyclical encounter with the making of a building that indeed – form and typology can inform a metamorphosis that is embedded in the values of the morphology that have the potential to add meaning to the lives of its inhabitants. However, to achieve this requires constant practice and dedication to the craft of making. This can only happen when the drawing is not considered for its objective value as the representation of a product, but for its meaning as a tool for communicating, firstly to ourselves and then to another. Through this practice we as architects can begin to narrow the gap between the pencil and ourselves, ourselves and the work and eventually ourselves and those for whom we are tasked to design.

But in order to do that we need also, to begin to understand the role of the self. The making of places of value and meaning in the South African landscape cannot happen if we ourselves do not understand our place within it and accept who and what we are,

and are not.

The deliberate focus on urban form as a medium for the transformation of the landscape explored throughout the dissertation was an attempt to narrow the focus and delimit a broad scope of theoretical issues currently debated within South African architectural discourse, often with a commanding tone of utopian idealism. Despite these equally valid avenues for architectural practice, at the very essence, we make things, physical things – generated by physical pencils, on physical paper, for physical human beings. And only through its making can we truly begin to understand both the nature of its existence and our own.

Building upon the research intentions - the design investigation became a body of iterative exercises for intuitively developing the projective synthesis of the studied (theoretical, contextual & conceptual) informants. In an attempt to simplify the act of design and its making, the experimental and qualitative component of the investigation was conducted by means of hand drawings, models and photographs.

An obvious setback of this projective method is its foundation in the subjective perspective of the designer. This is however critical to the methodology of making that proposes a way of working with design as an intuitive process, to craft places of meaning and value for people from the perspective of a person. The process was therefore intentionally driven by intuition, reflection and iteration.

The outcome of the dissertation as a body of sequential design acts within a larger act of exploring an understanding of the role of architectural practice within the South African metropolis is only the beginning of a journey into what it means to architect. Its final response is difficult if not impossible to conclude as successful or unsuccessful due its physical limitation as a mere representation of a possible reality. This representation can and will always be subjected to the same personal biases that plague its making. The product, although somewhat conclusive in practice, does not carry the same weight within the dissertation due to this limitation. Architecture can only reach completion in its occupation, desertion and re-occupation over time as an artefact, a component of the landscape for the people who roam its limits.

The specific theoretical, contextual and conceptual positions informing the manifestation the generation and evolution of *At Jeppe* create the only plausible framework for assessing the architecture within the confines of the dissertation.

*Provocation* as a metamorphosis type formed the conceptual departure point for stitching background theoretical and contextual research into the making of the intervention. This sought to challenge the existing morphology and ritual modes with a new urban type, express a hybridity of ritual modes that operate across varied scales of engagement with the morphology and allow place to become an expression of these intersections.

Conclusive manifestations of this intent evident in the product can be noted as the following:

The selection of the programme as a collection of complementary ritual anchors to a civic environment that suggests, through its uses, a new place of possible meaning and value to the urban subject.

This is articulated through form and typology that becomes a contemporary metamorphosis of the existing urban landscape. Its expression in the final design iteration is the creation of a relief in a hostile environment that becomes ordered upon a mutated grid informed by the dominant canons of the urban environment. The dialogue expressed through the materiality of concrete and steel communicates the intentions of a hybrid space. Therein new ritual spaces such as the library and auditorium become anchors for the continuous provocation of the landscape through their programme and its intersection with the networks of site subjects at its thresholds.

The physical provocation is not ungrounded and finds links to positive values of adjacent historical fabric. Its physical representation as a metamorphosis of the morphology picks up on formal typological values of the Osbourne pharmacy – taking cues and stitching the contemporary manifestation into forgotten qualities of a historical urban landscape.



Shortcomings of this manifestation that require further investigation and development and could add richness to its intent are:

A detailed design investigation into the internal workings of the programme and its daily intersection with the urban subject. For example: How relevant is the inclusion of the community body spatially within the hierarchical order of the building; What is the nature of the curated material; How does it become curated; How often does this happen; And how can public education and learning influence the way that users spatially encounter new material?

The lack of detail programmatic exploration is the greatest failure of the manifestation in relation to its concept. It too should be embraced as a vehicle that complements the primary metamorphosis of the urban form. Theoretical research illustrating a background to the possibilities and relevance of public information in our age were not investigated and could have further informed this intersection.

The iterative process was largely subjective and based on personal reflections of generated concepts on paper. A consultative process involving people with daily perspectives of the site could have been incorporated into the iterative method as a means to deepen an insight and personal perception of place between each manifestation.

Despite these shortcomings the following lessons can be noted from the overall journey of the dissertation:

Productive spaces in the metropolis are not a result of applied textbook methods for creating urban spaces or direct interpretations of singular metaphorical conceptual informants but rather place emphasis on the perception of the user and his/her spatial negotiation and understanding of place within the greater context. Transformative architectures of place in successful case studies provoked and challenged segregated norms of spatial planning and boldly created places of tension as they stitched new narratives over existing polarities in the landscape. In many instances, this is achieved through the humility of the architecture that simply became a robust canvas for public appropriation without trying to be overly symbolic and pretentious.

Unpacking and understanding the context as a becoming morphology is a valuable tool for laying bare the spread of possible avenues for seating a new intervention into embedded values of a collective memory. This allows for measuring authenticity, establishing continuity and fostering belonging by creating an urban part that exemplifies the whole.

The layered complexity of a becoming morphology cannot be reductively unpacked without sacrificing the values inherent therein. This challenges the designer to study, internalise and ultimately feel the character of the morphology. Intuition is a tool for unpacking and transforming internalised significances of place through feeling the manifestation of forms. Each iteration can be rationally assessed after the act of design. To reflect and understand the success of its intended and unintended value through the lens of its intention.

A cyclical method of working towards making places of meaning and value is no different to the way humans inhabit the earth daily; and therein constantly transcend nested scales of macro and micro habitats with the measure of an instinctive desire to surpass the bare minimum of survival and create better conditions for their life.

*At Jeppe* is only the beginning of a journey into the unknown, wherein design is never complete, but always becoming, as we become. ■

“I am not an architect, that’s the problem...  
I am not an architect.  
For me it’s a search, only a search.  
Search for that unknown that I have not known,  
Neither do I know how it will manifest.  
That’s actually the essence of my work.  
It begins somewhere, ends somewhere,  
And in that process,  
I grow and the work grows.

We grow together.”

Balkrishna Doshi

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## DECLARATION

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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(s) of Master of Architecture (Professional), and Master in Landscape Architecture (Professional) respectively 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.



Muhammad Dawjee  
October 2014

## APPENDIX A

### Water

A municipal water supply is proposed for the high-use public building. This supply becomes supplemented by rainwater harvesting and greywater recycling on site.

Recycled water demand calculations for toilet flushing are estimated at 15l per person per day. This average multiplied by an average occupancy of 400 persons per day over 12 months results in an annual demand of 3 141m<sup>3</sup>.

Water from surface runoff is collected from: roofs, pavements and vegetation. This runoff is directed through purifying rainwater gardens and wetlands towards the retention tank for *catchment basement 7* at the subsurface collection point.

Greywater is recycled through a surface wetland system on Madison Street. Pollutants are naturally removed by wetland plants, specified by Wilken (2014: 200) from water entering the wetland. Recycled water is fed into the subsurface collection point and storage tanks for reuse in the building or surrounding urban landscape.

Yield and demand calculations reveal that sufficient water can be harvested for annual reuse for toilet flushing. 38 x 50 000l underground storage tanks are proposed on Madison Street.

From this point water is pumped back into high level storage reservoirs for daily toilet flushing. Excesses in the landscape water system are passed down for reuse in adjacent buildings or fed back into the natural system.

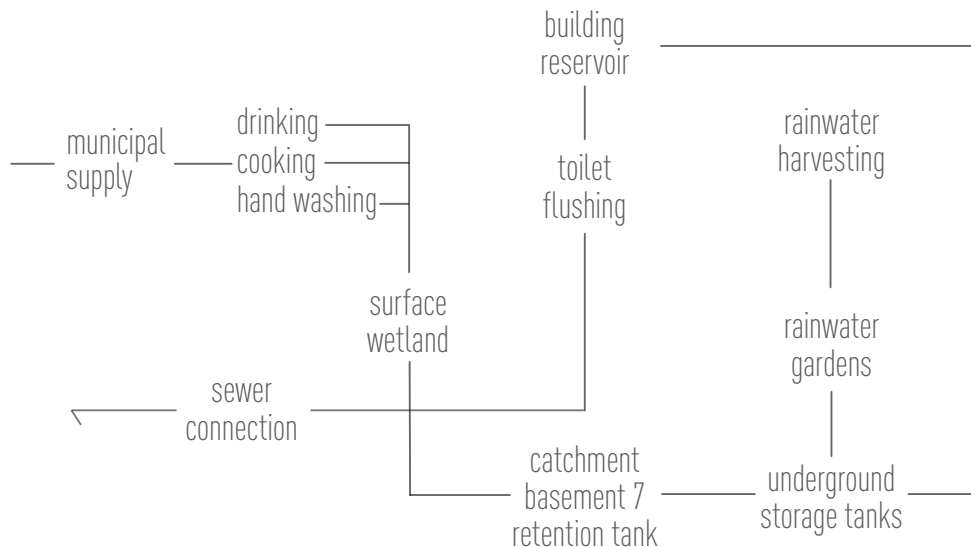
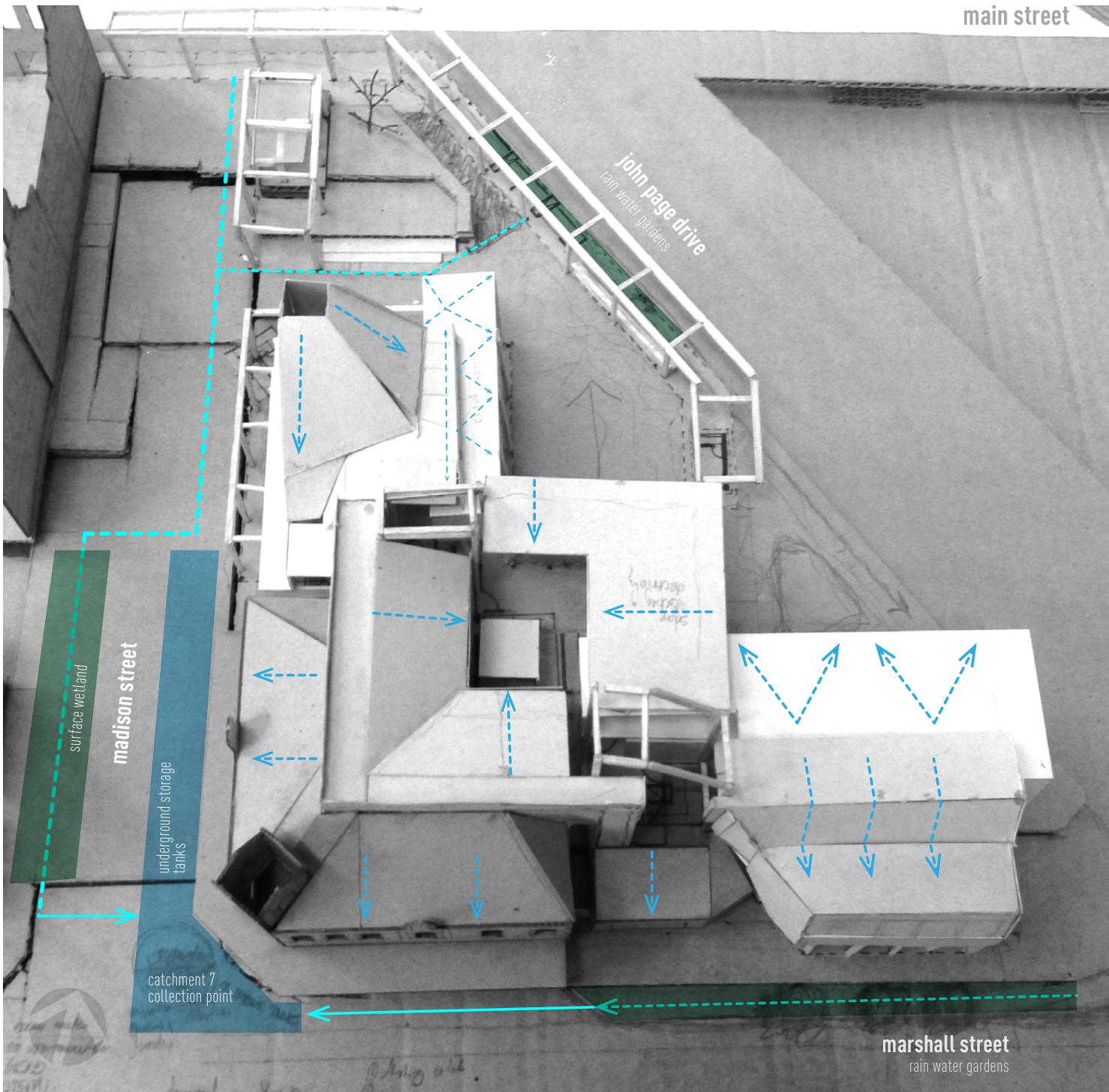


Figure X.1. Water management strategy (Author 2014).

Figure X.2. Site illustration - water management strategy (Author 2014).



place:	Johannesburg						
position:	25°44'S, 28°11'E						
height:	1330m						
period:	1961-1990						
	<b>temperature</b>				<b>precipitation</b>		
<b>month</b>	highest recorded	average daily maximum	average daily minimum	lowest recorded	average monthly (mm)	average number of days >= 1mm	highest 24hr rainfall (mm)
january	36	29	18	8	105	14	160
february	36	28	17	11	121	11	95
march	35	27	16	6	96	10	84
april	33	24	12	3	39	7	72
may	29	22	8		25	3	40
june	25	19	5	-6	9	1	32
july	26	20	5	-4	3	1	18
august	31	22	8		7	2	15
september	34	26	12	2	19	3	43
october	36	27	14	4	78	9	108
november	36	27	16	7	85	12	67
december	35	28	17	7	109	15	50
<b>year</b>	<b>36</b>	<b>25</b>	<b>12</b>	<b>-6</b>	<b>696</b>	<b>87</b>	<b>160</b>

Figure X.3. Table -  
 Climatic data  
 (Author 2014).

Yield (m <sup>3</sup> ) = $P \times A \times C$ (Where P=precipitation (m), A=area (m <sup>2</sup> ), and C=run-off coefficient )				
<b>area of catchment:</b>	<b>area</b>	<b>run-off coefficient</b>		
(per surface)	(m <sup>2</sup> )			
Roofing	3 100,00 m <sup>2</sup>	0,9		
Paving	2 500,00 m <sup>2</sup>	0,8		
Planting	250,00 m <sup>2</sup>	0,3		
Gravel	72,00 m <sup>2</sup>	0,7		
Grey water	546,00 m <sup>2</sup>	1		
<b>total:</b>	<b>6 468,00 m<sup>2</sup></b>	<b>0,84</b>		
	<b>precipitation</b>	<b>area</b>	<b>run-off</b>	<b>yield</b>
<b>month</b>	average monthly (mm)		coefficient	p(m) x a(m <sup>2</sup> ) x c
january	105 mm	6 468 m <sup>2</sup>	0,84	573 m <sup>3</sup>
february	121 mm	6 468 m <sup>2</sup>	0,84	661 m <sup>3</sup>
march	96 mm	6 468 m <sup>2</sup>	0,84	524 m <sup>3</sup>
april	39 mm	6 468 m <sup>2</sup>	0,84	213 m <sup>3</sup>
may	25 mm	6 468 m <sup>2</sup>	0,84	137 m <sup>3</sup>
june	9 mm	6 468 m <sup>2</sup>	0,84	49 m <sup>3</sup>
july	3 mm	6 468 m <sup>2</sup>	0,84	16 m <sup>3</sup>
august	7 mm	6 468 m <sup>2</sup>	0,84	38 m <sup>3</sup>
september	19 mm	6 468 m <sup>2</sup>	0,84	104 m <sup>3</sup>
october	78 mm	6 468 m <sup>2</sup>	0,84	426 m <sup>3</sup>
november	85 mm	6 468 m <sup>2</sup>	0,84	464 m <sup>3</sup>
december	109 mm	6 468 m <sup>2</sup>	0,84	595 m <sup>3</sup>
<b>year</b>	<b>696 mm</b>			<b>3 801 m<sup>3</sup></b>

Figure X.4. Table -  
 Rainfall yield  
 (Author 2014).

	irrigation demand (m <sup>3</sup> )	domestic demand (m <sup>3</sup> )	total water demand
january	89 m <sup>3</sup>	233 m <sup>3</sup>	321 m <sup>3</sup>
february	80 m <sup>3</sup>	210 m <sup>3</sup>	290 m <sup>3</sup>
march	89 m <sup>3</sup>	233 m <sup>3</sup>	321 m <sup>3</sup>
april	64 m <sup>3</sup>	225 m <sup>3</sup>	289 m <sup>3</sup>
may	44 m <sup>3</sup>	233 m <sup>3</sup>	277 m <sup>3</sup>
june	43 m <sup>3</sup>	225 m <sup>3</sup>	268 m <sup>3</sup>
july	43 m <sup>3</sup>	225 m <sup>3</sup>	268 m <sup>3</sup>
august	44 m <sup>3</sup>	233 m <sup>3</sup>	277 m <sup>3</sup>
september	64 m <sup>3</sup>	225 m <sup>3</sup>	289 m <sup>3</sup>
october	89 m <sup>3</sup>	233 m <sup>3</sup>	321 m <sup>3</sup>
november	86 m <sup>3</sup>	225 m <sup>3</sup>	311 m <sup>3</sup>
december	89 m <sup>3</sup>	233 m <sup>3</sup>	321 m <sup>3</sup>
<b>year</b>	<b>823 m<sup>3</sup></b>	<b>2 730 m<sup>3</sup></b>	<b>3 553 m<sup>3</sup></b>

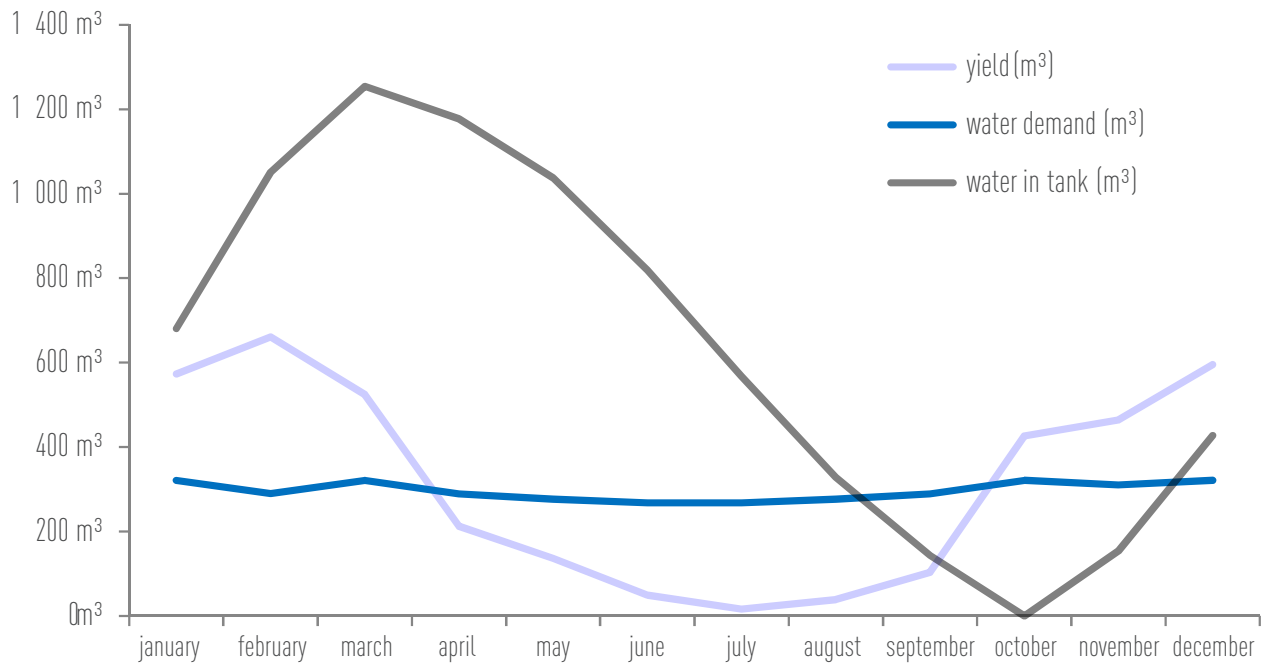


Figure X.5. Table - Total water demand (Author 2014).

Figure X.6. Graph - Water budget (Author 2014).

	<b>yield</b> from onsite runoff (m <sup>3</sup> )	<b>demand</b> total onsite water demand (m <sup>3</sup> )	<b>monthly balance</b>	<b>water in tank/ reservoir</b> (m <sup>3</sup> )
january	573 m <sup>3</sup>	321 m <sup>3</sup>	252 m <sup>3</sup>	680 m <sup>3</sup>
february	661 m <sup>3</sup>	290 m <sup>3</sup>	371 m <sup>3</sup>	1 051 m <sup>3</sup>
march	524 m <sup>3</sup>	321 m <sup>3</sup>	203 m <sup>3</sup>	1 254 m <sup>3</sup>
april	213 m <sup>3</sup>	289 m <sup>3</sup>	- 76 m <sup>3</sup>	1 178 m <sup>3</sup>
may	137 m <sup>3</sup>	277 m <sup>3</sup>	-1 40 m <sup>3</sup>	1 038 m <sup>3</sup>
june	49 m <sup>3</sup>	268 m <sup>3</sup>	-2 19 m <sup>3</sup>	819 m <sup>3</sup>
july	16 m <sup>3</sup>	268 m <sup>3</sup>	-2 51 m <sup>3</sup>	567 m <sup>3</sup>
august	38 m <sup>3</sup>	277 m <sup>3</sup>	-2 39 m <sup>3</sup>	329 m <sup>3</sup>
september	104 m <sup>3</sup>	289 m <sup>3</sup>	-1 86 m <sup>3</sup>	143 m <sup>3</sup>
october	426 m <sup>3</sup>	321 m <sup>3</sup>	105 m <sup>3</sup>	0 m <sup>3</sup>
november	464 m <sup>3</sup>	311 m <sup>3</sup>	154 m <sup>3</sup>	154 m <sup>3</sup>
december	595 m <sup>3</sup>	321 m <sup>3</sup>	274 m <sup>3</sup>	428 m <sup>3</sup>
<b>year</b>	<b>7 354 m<sup>3</sup></b>	<b>3 553 m<sup>3</sup></b>		
greatest volume of water in tank/reservoir at any time is the minimum capacity of the tank				<b>1 254 m<sup>3</sup></b>
	safety factor:	<b>1,5</b>	final tank/reservoir size:	<b>1 881 m<sup>3</sup></b>
	proprietary tank volume:	<b>50 000 l</b>	number of tanks needed	<b>38</b>
	(e.g. jojo tanks)	<b>50 m<sup>3</sup></b>		

Figure X.7. Water budget (Author 2014).



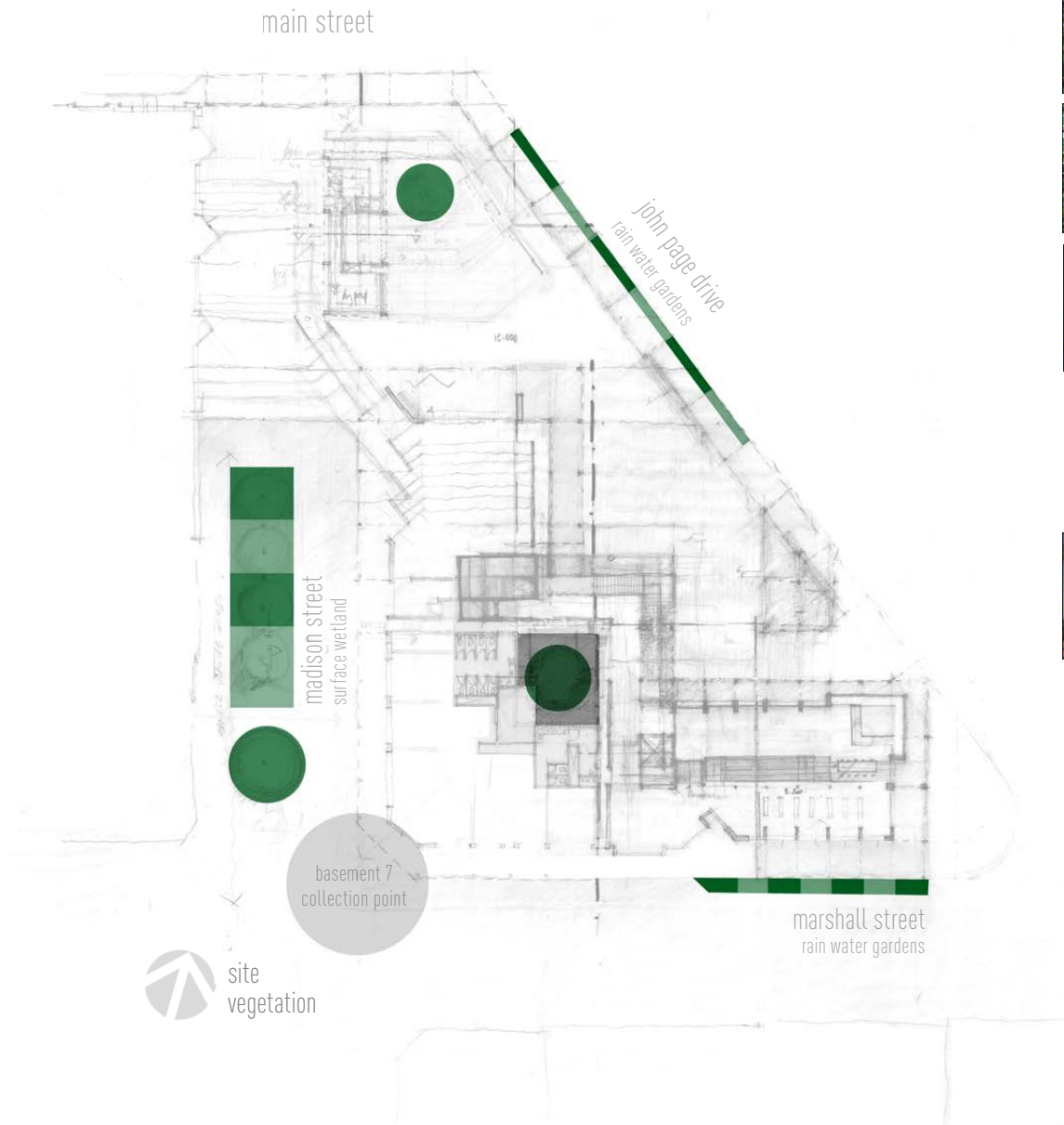


Figure X.8. Site vegetation, nts (Author 2014).

Figure X.9. Swale planting (Author 2014).

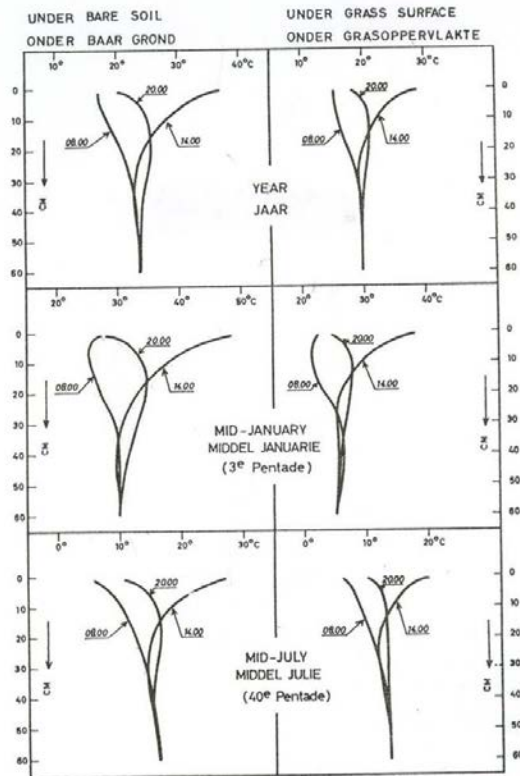


Fig. 95: Variation of earth temperature with depth at 0800, 1400 and 2000 hours. S.A.S.T.  
Variasie van grondtemperatuur met diepte om 0800, 1400 en 2000 uur S.A.S.T.

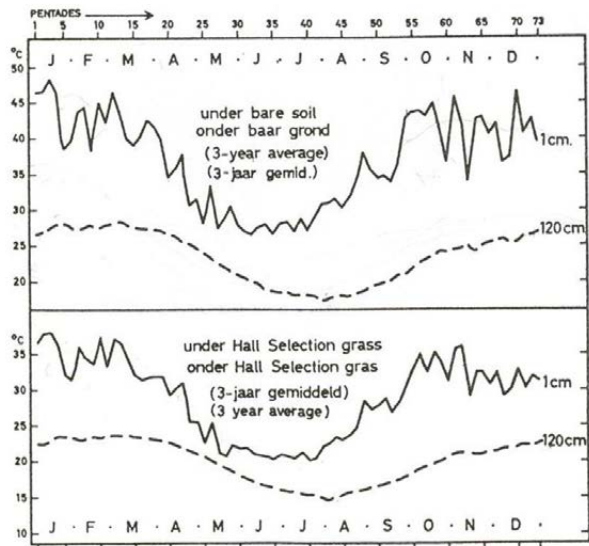


Fig. 96: Annual march of earth temperature at two levels under bare soil and grass surface at 1400 hours. S.A.S.T.

Jaargang van grondtemperatuur by twee dieptes onder kaal grond en onder gras oppervlakte om 1400 uur. S.A.S.T.

Figure X.10. Variation of earth temperature with depth at 0800, 1400 and 2000 hours S.A.S.T. (Schulze 1986: 178).

Figure X.11. Annual march of earth temperature at two levels under bare soil and grass surface at 1400 hours S.A.S.T. (Schulze 1986: 178).