Chapter 5

Concept

05 | Concept

Hierarchy of summarised informants

RESULT OF CONVENTIONAL INDUSTRIAL PRACTICES

Conventional industrial practices have often abused natural systems. The pollution left on the old Johannesburg Gas Works' site as a result of the coal to gas process is one such an example. The exploitation of natural resources is also reaching a critical level and a drastic new approach is needed in order to prevent further degradation of our planet.

The abuse of nature by industries is a result of the disconnection between nature and the built environment caused by the Industrial revolution. In order to change the way in which industries are run, this relationship between industry and nature needs to be mended and architecture should become more responsive to its surrounding context.

INDUSTRIAL HERITAGE

The remnants of our industrial heritage, play an important part in understanding the development of cities. Preserving this part of our heritage is important and the re-use of these sites may be the key to reintegrating them back into the surrounding urban fabric and mitigating environmental and social issues that arose as a result of the hazardous industrial processes. The insertion of new functions into abandoned industrial buildings and sites opens up the possibility of these sites thereby catalysing regeneration.

It is important to use lessons from the past as tools to improve the way in which industries are approached in the future. It becomes important to change linear systems to closed loop systems to restrict waste production and energy consumption. The emerging concept of industrial ecology provides a means of dealing with unwanted waste and utilizing renewable resources to power some of these processes.

Figure 5.1. Left: Retort 2 interior (Author 2017)

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THEORETICAL PREMISE

Regenerative theory

Regenerative theory aspires to mend the broken relationship between man and nature as a result of industrialization. In order for this to be achieved a radically different approach needs to be taken. Instead of man dominating nature through the exploitation of natural resources and the environmental degradation caused by this one-way throughput approach, man should assume his role as part of nature. This reverts back to the idea of systems thinking.

Philological restoration

As described in the theory chapter, philological restoration perceives a building as a document conveying a specific meaning and should therefore not be falsified and any additions made should be minimal and respect the epoch of the building. Due to the intentions of this dissertation to mediate the dichotomy between industry and nature and to adopt a regenerative approach to architecture, the existing retort house will be tested in terms of its environmental performance and any additions or changes made to the building will purely be to improve any inadequacies in terms of its environmental performance or to allow for the new programme to function effectively inside the old retort.

THE CURRENT CONDITIONS ON SITE

The current dilapidated conditions on site have prompted the need for an intervention in order to regenerate this dead node in Johannesburg. This begins by understanding the importance of preserving this part of our country's industrial heritage but at the same time endowing these ghosts of industries as instigators of change in the field of industrial architecture and more broadly, in the field of regenerative architecture.

The conceptual approach was strongly influenced by the polluted and dilapidated conditions on site and the need for remediation in order to regenerate the site's latent productive potential in an attempt to not only preserve this important industrial heritage but also to act as a pioneer in the way industrial architecture is approached in future.

PROGRAMMATIC DRIVERS

The proposed programme for the old Johannesburg Gas Works aims to introduce production back onto site. This opens up the possibility of setting the tone for the way in which future industries can be approached.

The textile dyeing industry is synonymous with pollution, but the key to sustainable processes lies in ancient methods of textile dyeing. The proposed dye house will make use of purely natural dyes in the form of plant materials that will be grown on site.

Figure 5.2: Pollution of the River Bandi by Textile industry (Zimbardo 2009)

THE SITE AND ITS LOCATIONAL DRIVERS

Addressing the need for the revitalisation of the South African textile industry will be through the introduction of a new textile mill that is able to promote mutualism between industry and nature through the utilization of fibres that require less pesticides and water (an alternative to cotton) and the implementation of cyclical processes and natural materials that are less harmful to the environment and promote living system regeneration on site.

The site's location relative to the universities allows for skill transfer between the fashion students at the University of Johannesburg and the members of the surrounding Vrededorp community, as a part of the students' community service. This strengthens the urban vision strategy of restituting the relationship between city dweller and the site. Exposing man to the process and making the city dweller more aware of the process also allows for the restitution of the relationship between industry and city dweller as well.

MEMORY

The concept of memory is important in preserving old buildings. However, industrial heritage is often tasked with integrating its multi-layered memory whilst enabling new development (Chilingaryan 2014:4).

According to Bangstad (2014:95), industrial heritage can often be classified as a form of hybrid, as it has the capacity to preserve the local industrial past while at the same time catalysing community renewal. The slightly opposing roles industrial heritage has to assume, ultimately involves celebrating the industrial past, while finding ways in which preservation can be used to overcome this same industrial past. Numerous scholars have concluded "that the function of cultural memory and heritage is not antithetica to forgetting but rather accompanied by it" (Bangstad 2014:95).
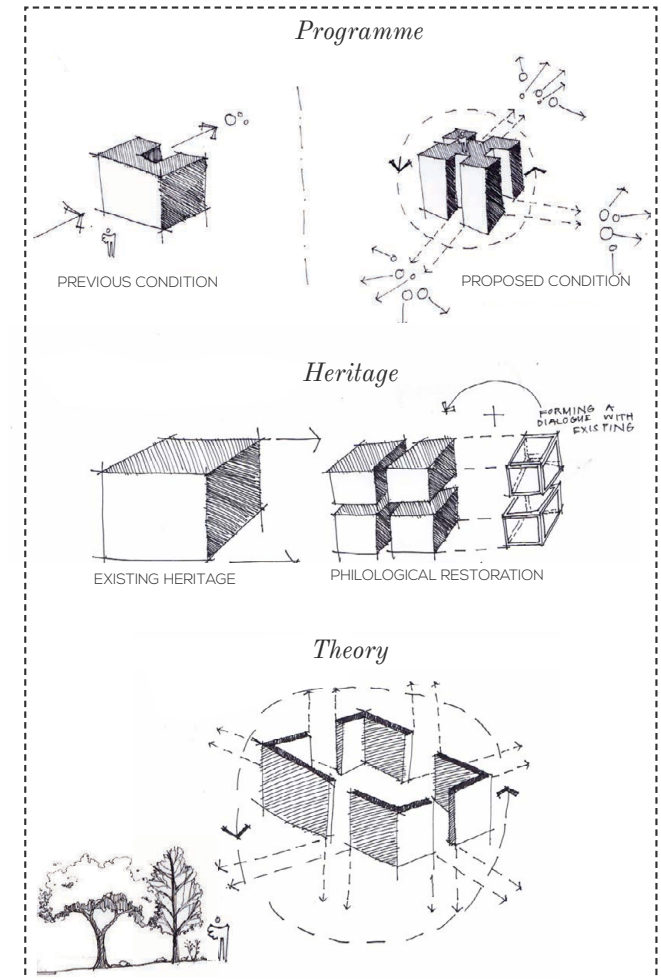
CONCEPT DIAGRAMS

Figure 5.3: Concept diagrams of informants (Author 2017)

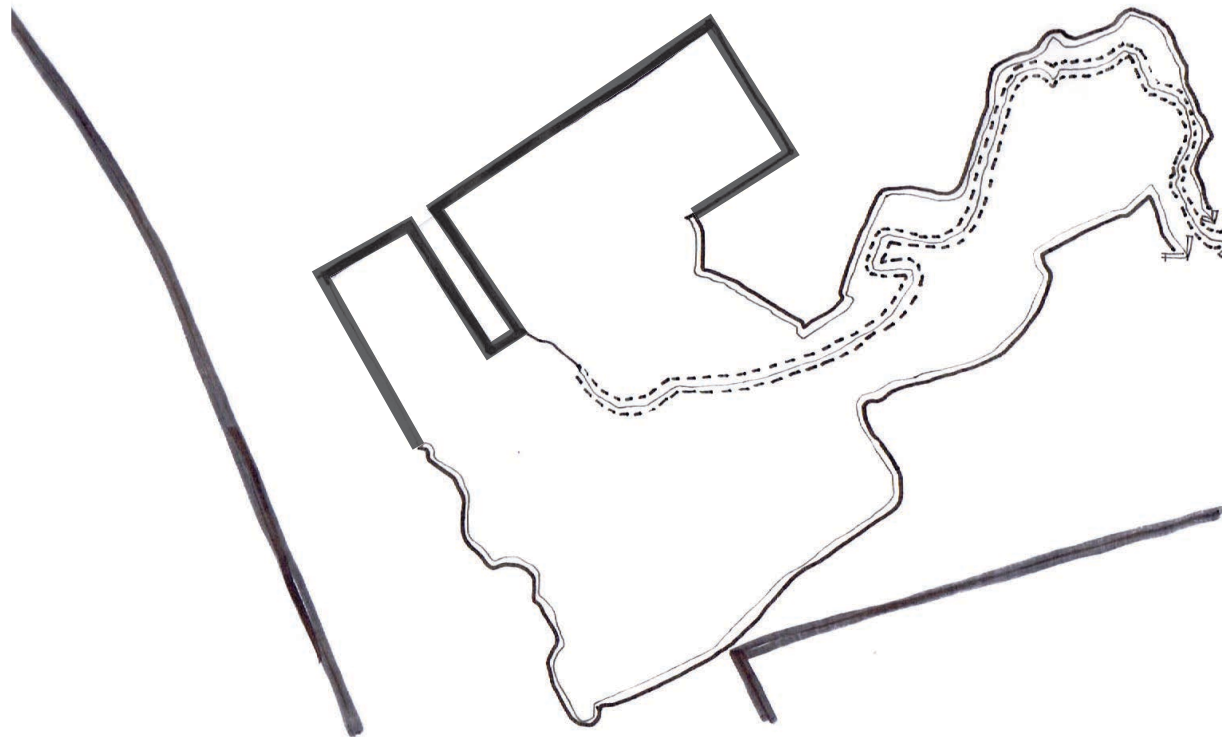# DESIGN CONCEPT
Architecture as [Re]mediator

Figure 5.4: Conceptual diagram of industry and nature merging (Author 2017)

A synthesis of the previously mentioned informants led to the development of the concept of architecture as [re]mediator.
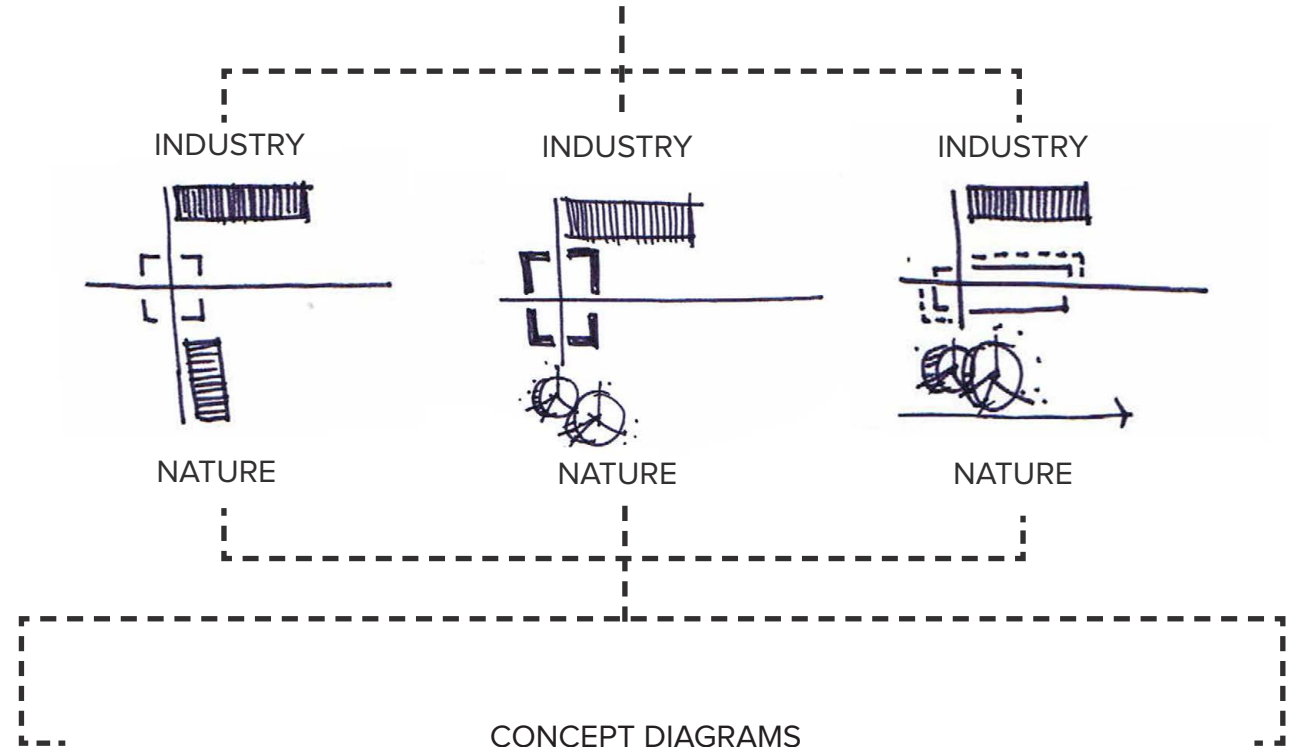
The concept is based on two ideas. The first being the idea of architecture as a remediator.

The Oxford Living Dictionary (2017) defines remediator as, "*A person who or thing which remediates something; an agent or provider of remediation*" and the act of remediation as fixing or solving something often referring to that of environmental damage.

The second part of the concept refers to the idea of a mediator. The Merriam-Webster dictionary (2017) defines mediation as an act of intervening between two conflicting parties in order to encourage reconciliation or compromise.

The underlying issue identified throughout the preceding chapters is the need for resolution of the dichotomy between industry and nature, resulting from the

Renaissance ideals of man being above nature and nature merely being a service to be exploited by the Industrial Revolution. Regenerative and other environmental theories have prompted the need for design that responds to nature and instead of exploiting nature, working together with nature in order to promote prosperity of living systems as well as socio-economic systems.

The architecture should therefore act as mediator between industry and nature and at the same time as remediator, promoting ecological health and remedying the current environmental damaged caused by previous industrial processes.

The architecture could possibly allow for nature and industry to work together in a more mutually beneficial relationship and also act as a facilitator in order for interaction between these two entities to occur. This means that all interfaces become important tools in achieving and experiencing this new mediated relationship.

CONCEPTUAL PARTI DIAGRAMS

INDUSTRY

INDUSTRY

INDUSTRY

NATURE

NATURE

NATURE

CONCEPT DIAGRAMS

Historic flow of process

Relationship to landscape
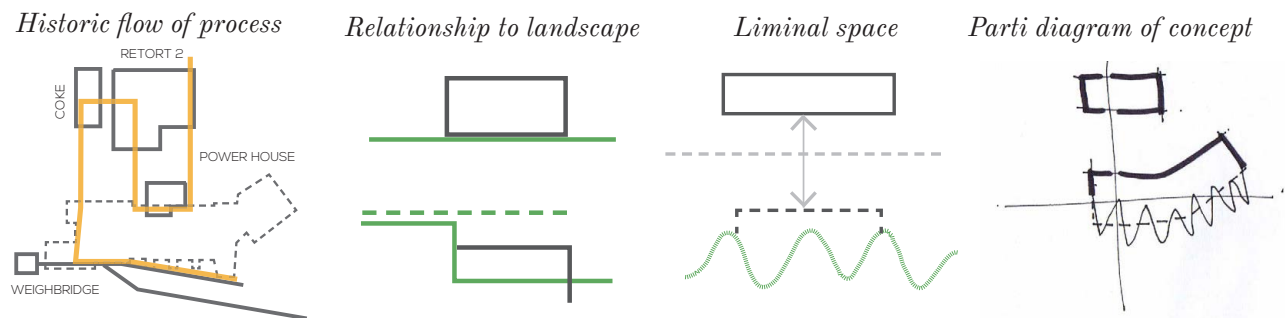
Liminal space

Parti diagram of concept

Figure 5.5: Conceptual diagram development - Architecture as [Re]mediator (Author 2017)

BUILDING AS [RE]MEDIATOR

Remediator defined
A thing which remediates something;
an agent or provider of remediation (English Oxford Living Dictionary 2017)
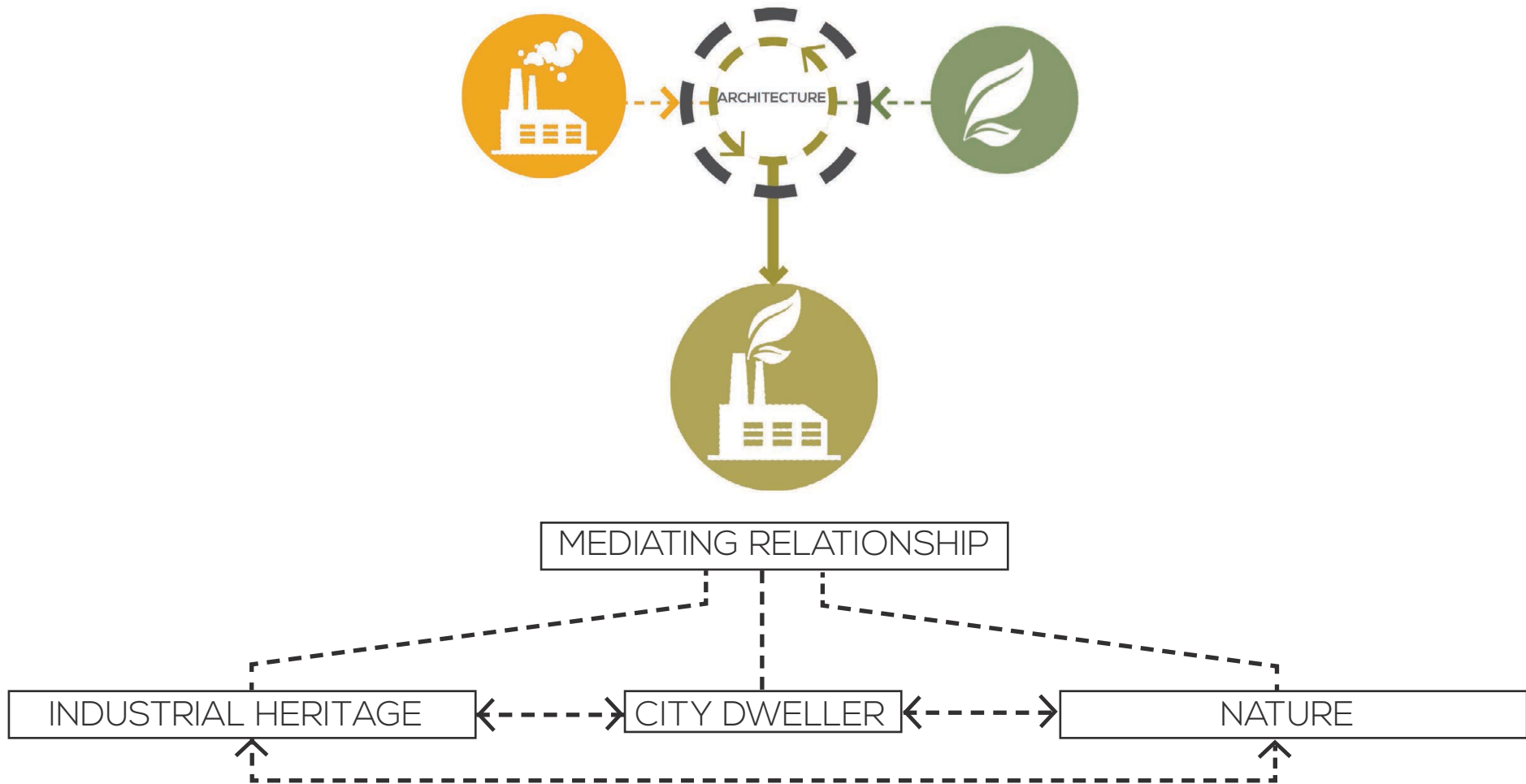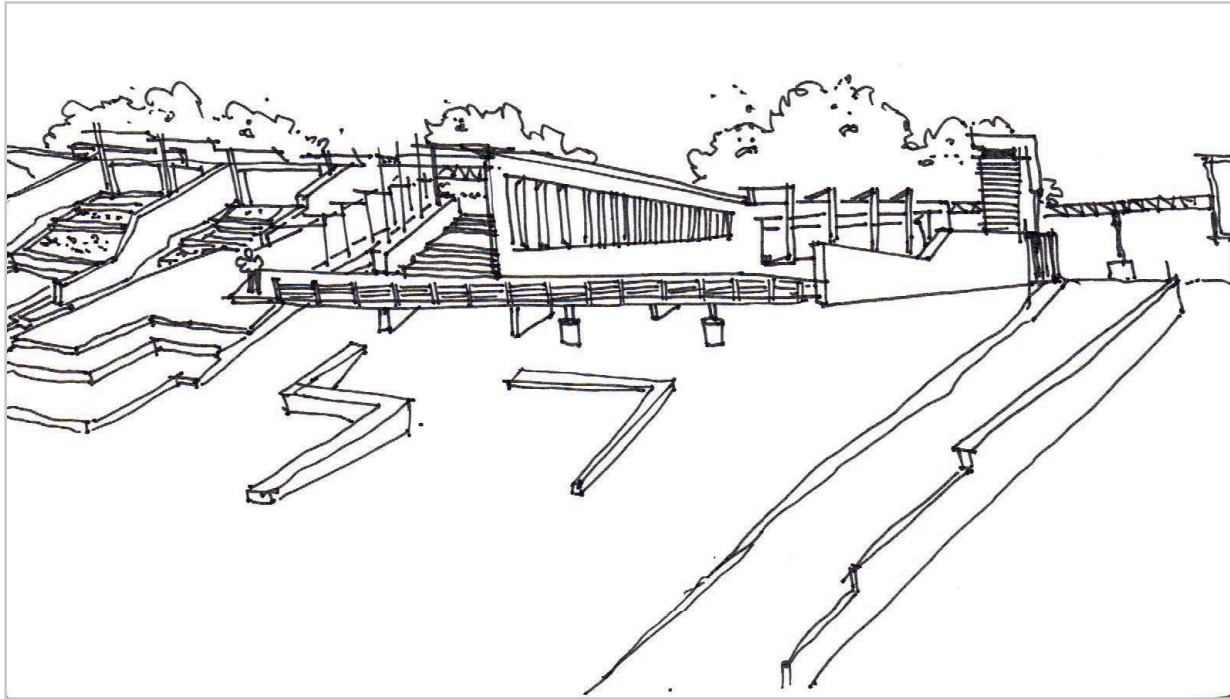

Figure 5.6: [Re]mediator diagram (Author 2017)

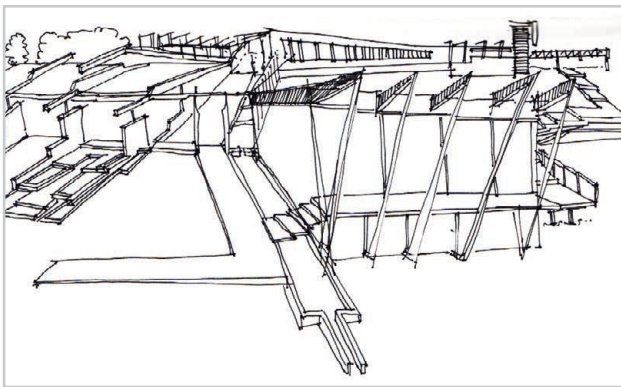*Figure 5.7: Conceptual perspective A (Author, June 2017)*

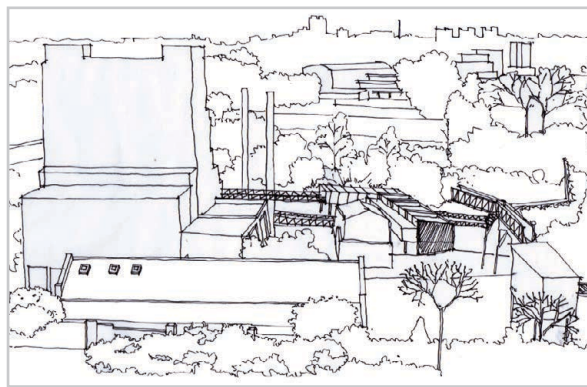*Figure 5.8: Conceptual perspective B
(Author, June 2017)*
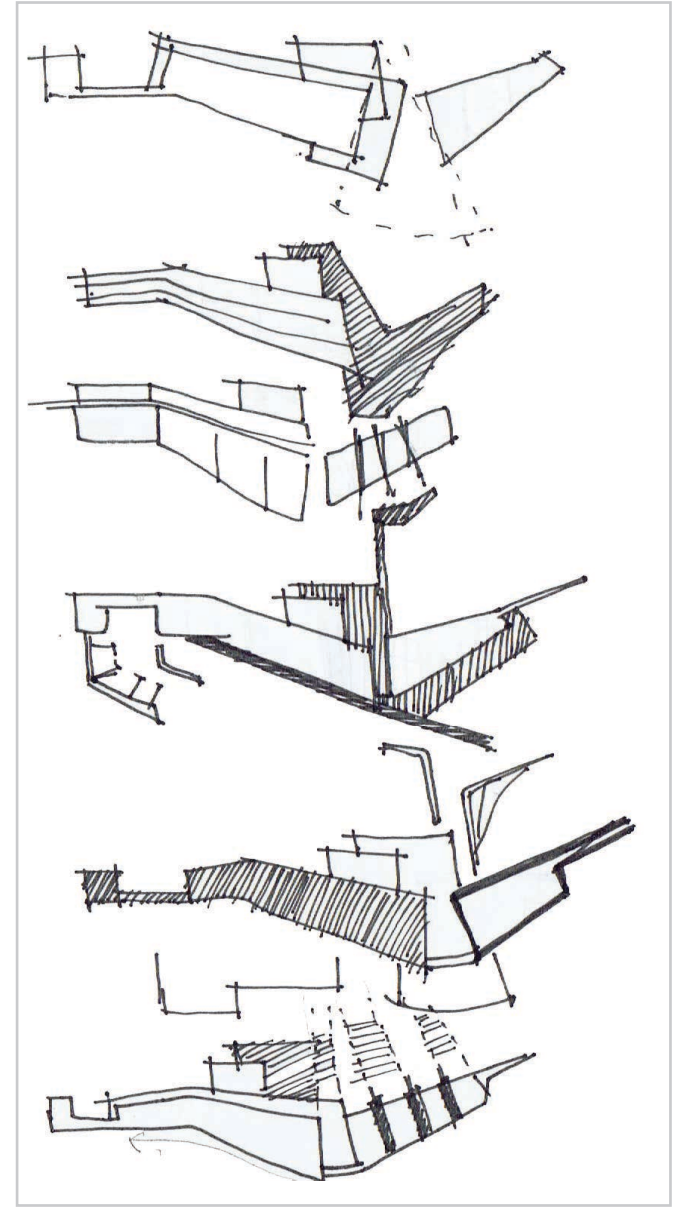

*Figure 5.9: Conceptual perspective C
(Author, June 2017)*

Figure 5.10: Plan vignettes (Author, June 2017)