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PLATFORMS OF EMPOWERMENT: AN IMAGINARIUM

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SPECIAL THANKS TO:

My Lord Jesus - You have been my constant fortress in this crazy, rollercoaster of a time in Boukunde. Without You none of this would have been possible.
For I know the plans I have for you, declares the LORD, plans to prosper you and not to harm you, plans to give you hope and a future.

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I am honoured to call you my brother and am excited to see what God has got in store for us.

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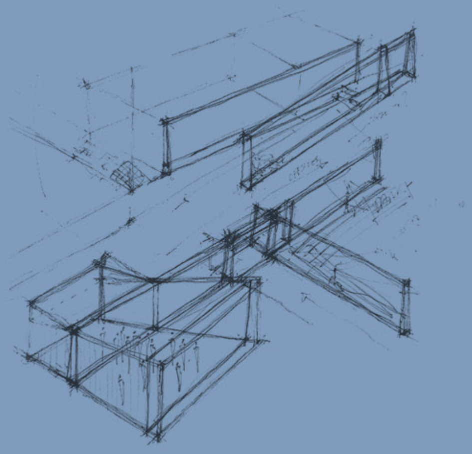

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Art has the power to transform, to illuminate, to educate, inspire and motivate.

Harvey Fierstein

ABSTRACT

This dissertation is founded on participatory mapping and design processes and the results thereof. Various social networks were identified and engaged with in the informal settlement of Alaska, Mamelodi East. The premise is that in order to intervene architecturally in such a context, critical engagement with the various networks in the community must occur.

Through participatory mapping processes the adolescent network in Alaska was identified. Although the adolescent stage proves to be a difficult time for most teenagers, the harsh conditions of informal settlements often compound these challenges (Ndugwa 2011). Due to the risk factors they face, such as peer pressure and boredom, and the lack of after-school programmes and facilities, many succumb to problem behaviours like substance abuse and violence.

Through further engagement an interest in performing and visual arts was discovered. According to Anderson (2004) there is a wide range of research supporting the notion that *the arts* have a significantly positive impact on the vulnerable youth taking part in art programs.

This dissertation proposes that an Imaginarium would be the most appropriate intervention to enable and empower the youth in Alaska. An Imaginarium is a place devoted to the cultivation and nurturing of one's imagination - a place where the youth can engage in the arts.

The facility aims to introduce programs that meet the interest shown by the adolescents, as well as to reinforce the current art and sewing programmes organised by VIVA, an NGO situated in Alaska.

The Imaginarium is to use the arts as a catalyst for activating public space.

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Figure 1.1: An Alaskan student on her way to high school
(Franklin 2014)

Our children are our greatest treasure. They are our future.

Nelson Mandela (1997)

1 Introduction

This chapter focuses on the research topic and the related problem statement. The proposed site, background and methodology are briefly presented in order to contextualise the research questions and dissertation aims.

1.1 Children, Slums' First Casualties

With nearly half of the world's population born less than a quarter of a century ago, it could be said that the world belongs to the youth. This, however, is questionable for the millions of children on poverty's frontline whose harsh living conditions make every day a challenge in itself (UN-HABITAT 2007:38). According to a UN-HABITAT report entitled *Children, Slums' First Casualties*, disease, malnutrition, high mortality rates, a lack of education, poor shelter and inadequate services are but a few problems facing many of the children born into this type of environment.

Informal settlements all over the world are renowned for their harsh living conditions and the daily difficulties their residents have to face. Poverty, unemployment, crime, violence, drugs and disease are all words strongly linked with these areas. According to the UN (2009), over 50% of the world's population, an estimated 3.3 billion people, live in urban areas. It is predicted that by 2030 this number will increase to over 5 billion.

This tremendous increase in the rate of urbanization, especially in developing areas, has placed an extreme amount of strain on cities' infrastructures and has resulted in many people's promises of a better life in the city left unfulfilled. People all over Southern Africa flock to South African cities in the hope of finding a job, only to arrive bitterly disappointed and with nowhere to live (Mills 2012).

According to Mills (2012) informal settlements have become the new norm in South African cities. He states that there are approximately 2700 informal settlements nationwide, most of which lack the housing, infrastructure and access to facilities to which any self-respecting citizen has the right.

According to UN-HABITAT (2007:38) the harsh conditions of informal settlements thrust children prematurely into adult responsibilities and take away the typical learning processes and joys of childhood. UN-HABITAT contends that even simple improvements in the living conditions of families in informal settlements will aid in the empowerment of children, as well as aid in their development.

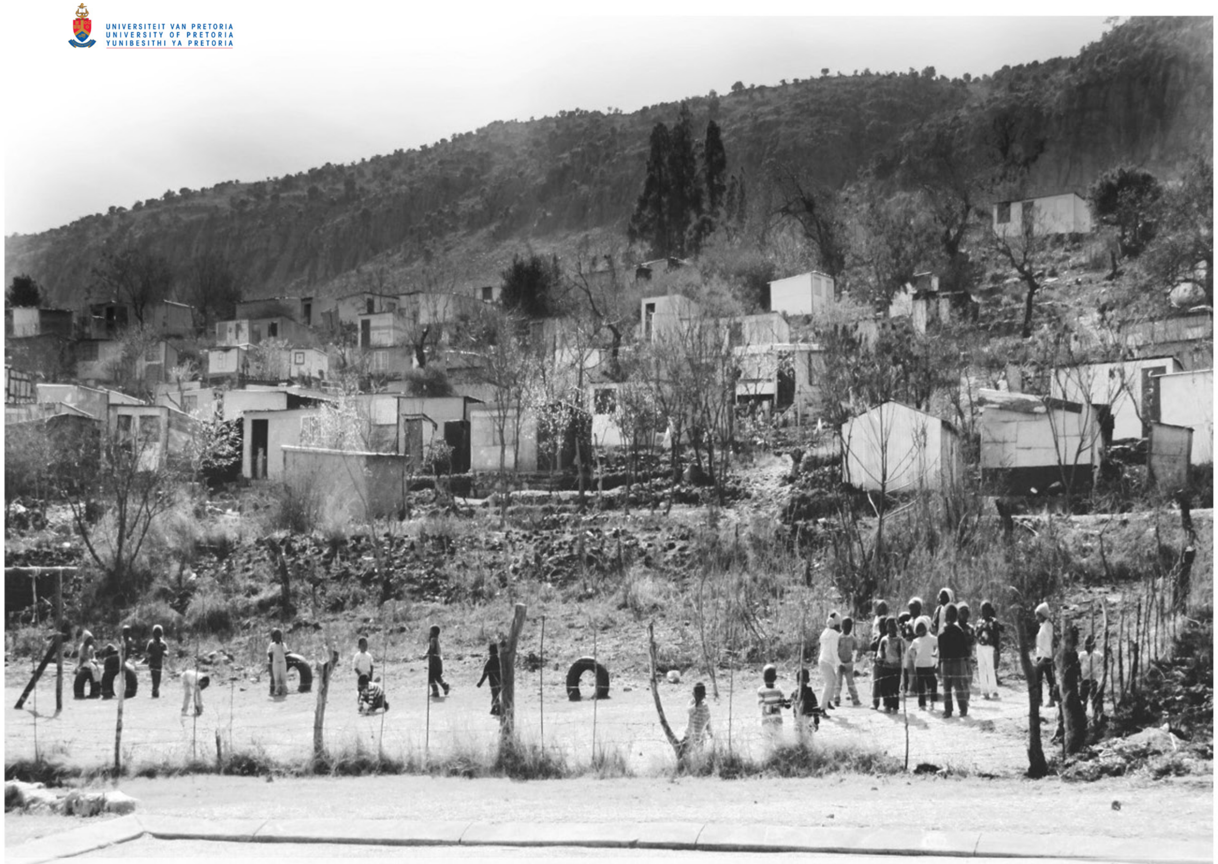


Figure 1.2: Recess at a day care centre in Alaska (Maritz 2011)

A study by Pillay (2006) entitled *Experiences of learners from informal settlements* states that the tough environment these children have to face on a daily basis hinders them in their studies. He concludes that in order to help these children, an ecosystemic approach must be taken towards an intervention. This means that interventions should not be limited to one aspect, but should cover a variety of systems in the children's lives.

Figure 1.3: The harsh conditions make life tough from an early age (Maritz 2011)

1.2 Proposed Context - Alaska Township, Mamelodi

The proposed site is situated in Alaska, a township located in the eastern part of Mamelodi, Pretoria. People from all over Southern Africa continue to move to the city of Pretoria in the hope of finding a job, which has led to the further expansion of Mamelodi (Kriel 2014).

Alaska was established in approximately 2007 and has grown rapidly ever since. The settlement is wedged between the Edendalspruit to the west and part of the Magalieserg mountains to the east. Unlike the communities to the east of Alaska, which are relatively new and growing constantly, the neighbourhoods to the west are older, more established, well-serviced and have permanent houses (Kriel 2014).

Due to space being limited in Alaska, newcomers are haphazardly building shacks further up the mountain, resulting in services becoming more difficult to provide. Illegal water and electricity connections are the norm for the majority of shacks in this area. The parasitic relationship that Alaska seems to have with the surrounding areas has resulted in a stigma being attached to many of its residents who are often referred to as *the monkeys from the mountain* (Alpheus 2014).

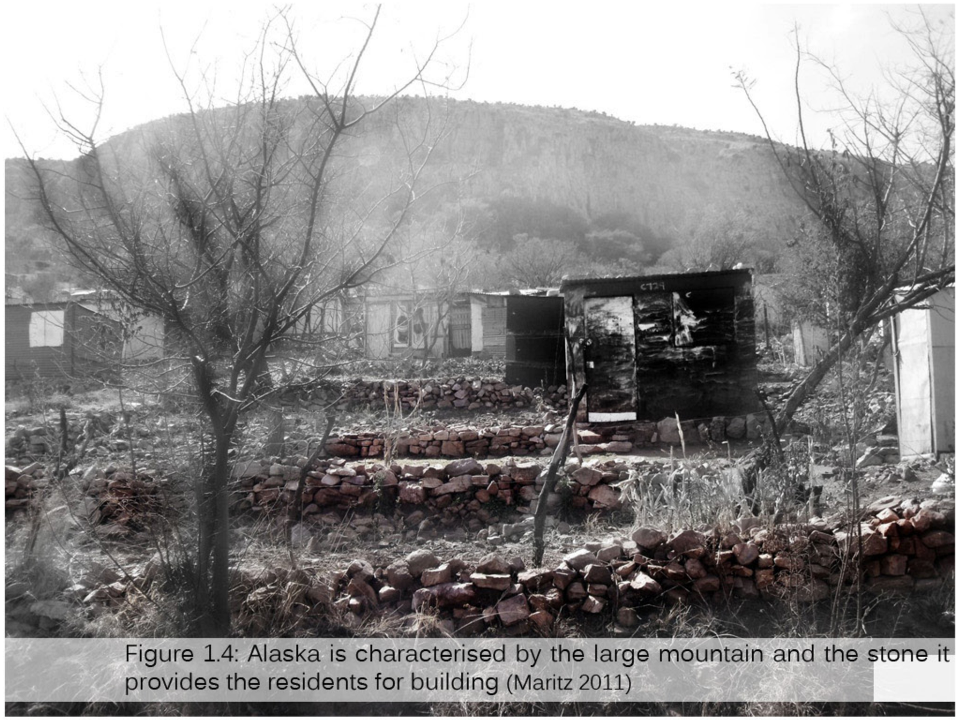


Figure 1.4: Alaska is characterised by the large mountain and the stone it provides the residents for building (Maritz 2011)

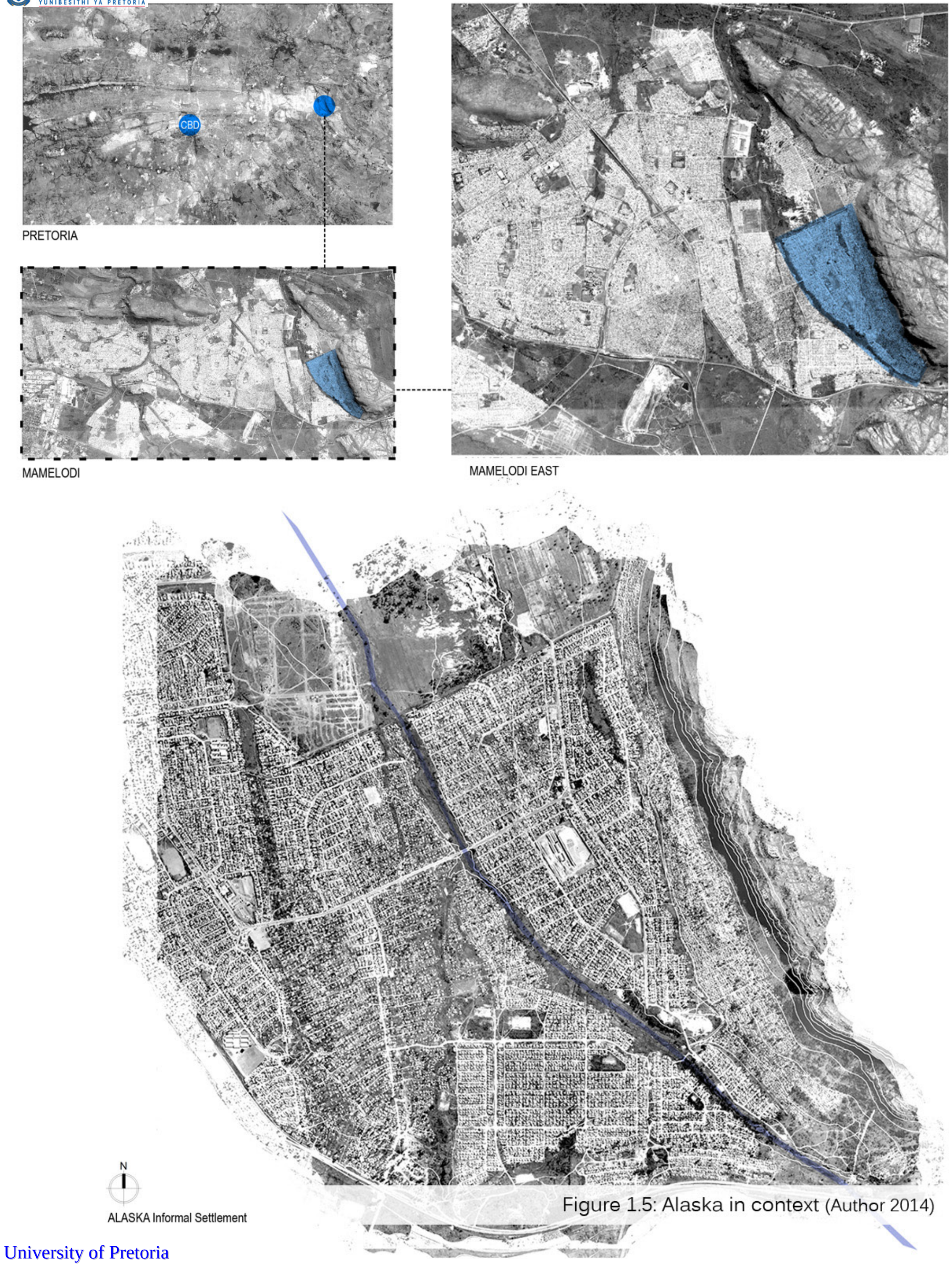


Figure 1.5: Alaska in context (Author 2014)

1.3 A New Architectural Professionalism

In her recent PhD thesis, Supitcha Tovivich (2010) stated that conventional architectural practice and education has long been limited to serving a minority of the world's elite population. Like her thesis, this dissertation sets out to explore the role of architects in addressing the emergence and growth of informal settlements which represent a large part of the built environment in most developing countries.

According to Tovivich (2010), the lessons learned from the failure of many top-down public housing projects in the modern architecture period prove that efforts to solve social problems require more than good will, noble architects or improvements in the physical environment. It is necessary to explore new values, knowledge and skills of architects in order for architects to be relevant to the greater part of the world's population and the built environment.

Part of the study focuses on the three roles of architects working in/for/with poor urban communities – those being provider, supporter and catalyst. While the supporter role involves design and employing the design process as a tool to support community members to make decisions for themselves, the catalyst role employs the design process as a tool for encouraging community empowerment.

Figure 1.6: A resident participates in a mass modelling exercise (Franklin 2014)

The aim is to shift architects from a providing paradigm to a supporting paradigm – calling for a new role for architects and the architectural profession (Tovivich 2010).

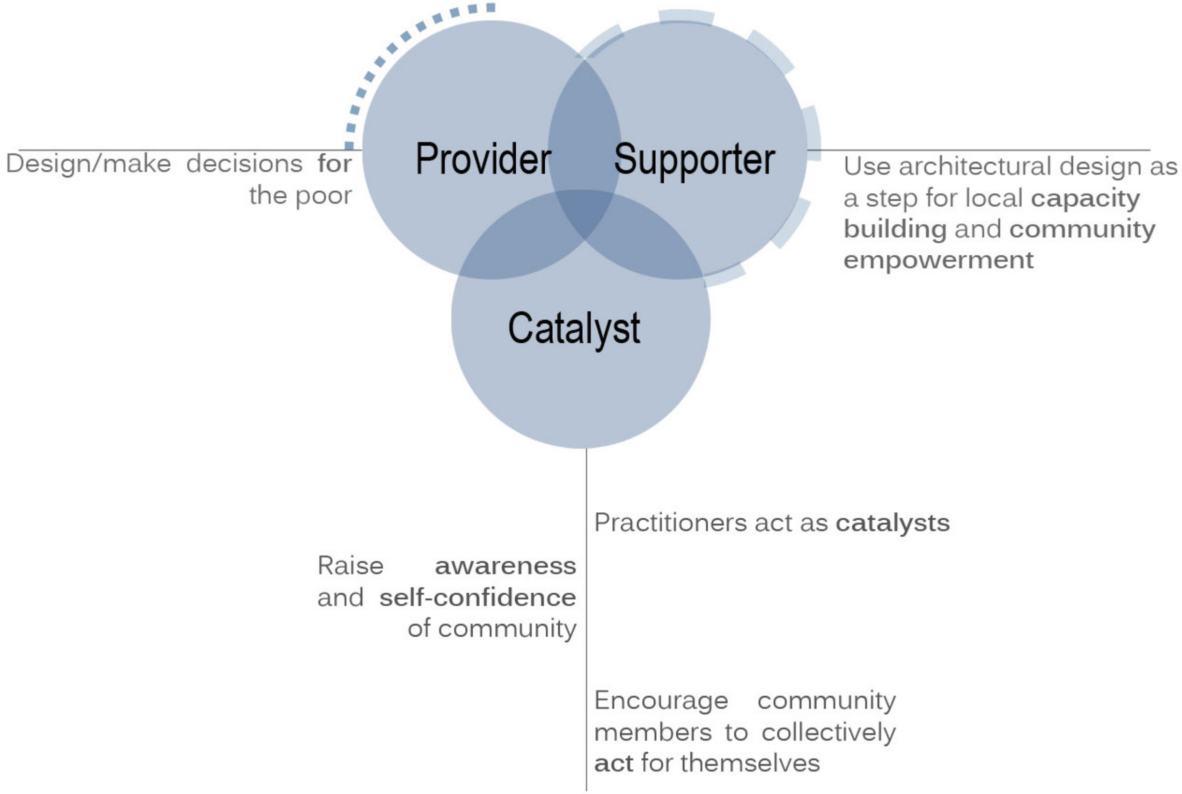


Figure 1.7 A diagram indicating the 3 various roles of the New Architectural Profession (Author 2014)

Tovivich (2010) argues that the roles of provider, supporter and catalyst are interconnected in their working process. In Figure 1.8, Tovivich (2010) shows how, through the implementation of small steps, each role works together towards empowering the community. The diagram emphasises critical reflectance on previous steps taken and also shows how the effect of catalytic interventions continue even after the project has been completed.

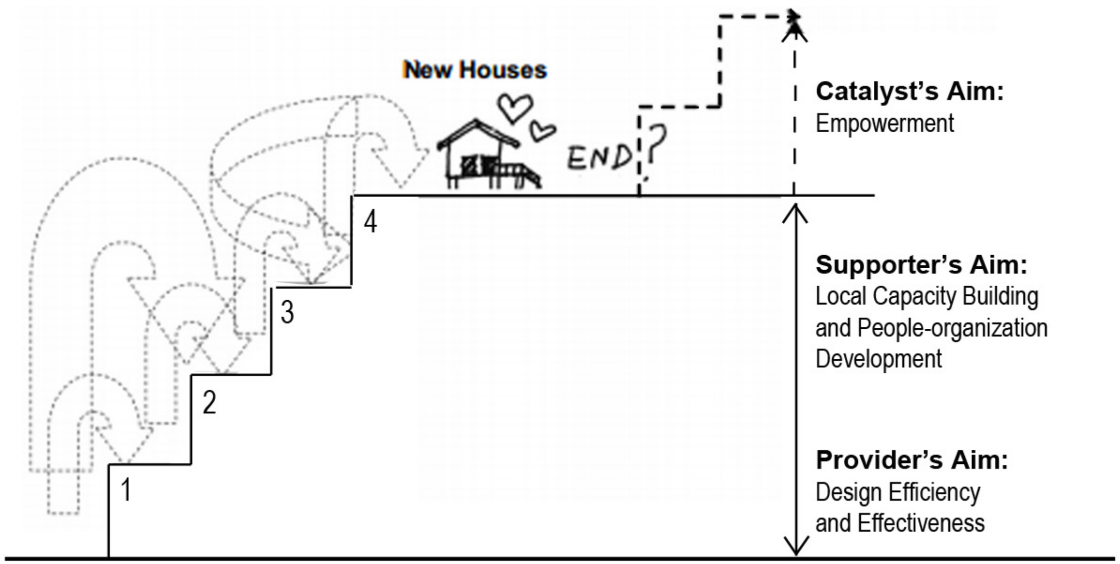


Figure 1.8: Diagram of the working process of the New Architectural Profession (Tovivich 2010)

1.4 Identifying the Network

According to Tovivich (2010), the importance of critically engaging with the community cannot be overstated. In order for the architect to act as a supporter and catalyst, the community, and its participation, must be at the focal point of the project.

Transect walks were undertaken during the early parts of 2014 in order to gain a better understanding of the context. During these walks participatory mapping and unstructured interviews were performed. These walks and exercises led to the discovery of various networks within the community.

A prominent network found walking along the streets of Alaska was that of the adolescents. Unstructured interviews were conducted to better understand the workings of the network as well as the challenges facing them.

The personal engagement with the network uncovered many issues that were not being addressed, and were having detrimental effects as a result - Chapter 2 will expand on this engagement and the author's findings.

Figure 1.9: Teens have very few ways of constructively releasing energy (Franklin 2014)

Boredom

There is just nothing for us to do, became a common response from the two hundred high school students spoken to when asked about the biggest difficulty facing them in Alaska. According to the adolescents they have very little to do after-school, during the weekends, as well as for long periods during the holidays.

The seriousness of the situation cannot be overemphasised as this boredom makes the children vulnerable to risk factors.

According to Kriel (2014), Webster (2014), as well as various community members, due to the lack of facilities, many of the adolescents are left to find their own ways of entertaining themselves. Due to this vulnerability to risk factors, drugs, alcohol, teenage pregnancies, drop-outs, gangs, gambling and violence are all major issues within the youth network of Alaska and the surrounding areas (Kriel 2014).

Figure 1.10: The adolescents themselves recognise the destructive side effects of boredom (Franklin 2014)

1.5 Problem Statement

The adolescents in Alaska lack facilities that cater for their recreational, as well as educational needs, particularly after-school, during weekends and holidays.

Figure 1.11: A pair of older adolescents emphasise the negative impact of substance abuse (Franklin 2014)

1.6 Research Question

How can architecture respond to the requirements of the adolescent youth through participatory mapping and design?

Sub Question

- Can architecture facilitate the empowerment and enablement of the adolescent youth within Alaska, Mamelodi?

1.7 Hypothesis

Through a participatory mapping and design process, a suitable architectural response can be created that, once established, will empower, enable and support the adolescent network in Alaska, Mamelodi.

Figure 1.12: Participation forms the basis for the research, concept and design development stages (Franklin 2014)

1.8 Research Methodology

- Contextual Analysis

An analysis of Mamelodi will be undertaken in order to gain an understanding of the tangible and intangible connections to Alaska.

In his book, *The Placemaker's Guide to Building Community*, Nabeel Hamdi (2010) describes the *Toolkit* he uses when engaging with an unknown context such as the one found in Alaska, Mamelodi. The *Toolkit* describes various methods used to analyse the tangible and intangible networks of poorer communities, these include:

-transect walks
- observations of physical conditions/workings of the community

-unstructured interviews
- engage with residents; gain a deeper understanding of needs and aspirations

-participatory mapping
- identify main routes, areas of safety, recreation, education etc

-mass modelling
- at the start of the design development it is important to obtain the opinions and input of the identifed network

The participation process is at the core of each stage of the design. It will not cease after the context analysis has been completed, but instead will carry through each stage of the design process. According to Tovivich (2010) if the community is to be empowered by the design process, their input in each design stage is imperative.

- Literature Review

The literature review will consist of an overiew of theories relating to various spheres such as psychology, urban planning and architectural design.

The various theories that have been studied are as follows:

Child Development Theories
If one is to design for a specific youth group, it is imperative that one understands the development of a child, as well the various characteristics of each phase.
Steiner, the founder of Waldorf education, gives an insight into the *Adolescent* phase and the characteristics associated with it (Wilkinson 1996). This theory brings a deeper understanding of the physical and cognitive development during this phase, and thus aids the author when approaching the adolescents during the analysis phase.

Jan Gehl's Urban Planning Theories
Gehl's *Life Between Buildings* and *Cities for people* is studied in order to understand how the design of building affects the urban character of a place. Gehl (2011) focuses on the design and use of public space - he says that designers are able to influence the conditions for social contacts. Gehl (2011) also gives clues on what makes a successful public space.

Newman's Defensible Space Theory
Due to the poverty-stricken environment of informal settlements, the installation of facilities with expensive equipment can be seen as risky.
Newman's theory, and the subsequent developments that followed, describe how design can aid in the security of such facilities by creating numerous thresholds, and encouraging activity between said facilities and the public (Reynald & Elffers 2009) .

Hamdi's Participation Theories

Nabeel Hamdi (2010) describes various ways in which a *placemaker* can engage with an unknown network. He emphasises the value of participation and partnerships in making practice more strategic and effective (Hamdi 2010) . Hamdi's *Toolkit* provides the foundation onto which this thesis' participatory methods are built.

Tovivich's New Architectural Professionalism

When working with the urban poor, Tovivich (2010) emphasises the importance of including participation early in the design process. Tovivich gives an insight into how an architect's role shifts between provider, enabler and catalyst in order for the design process to empower the community.

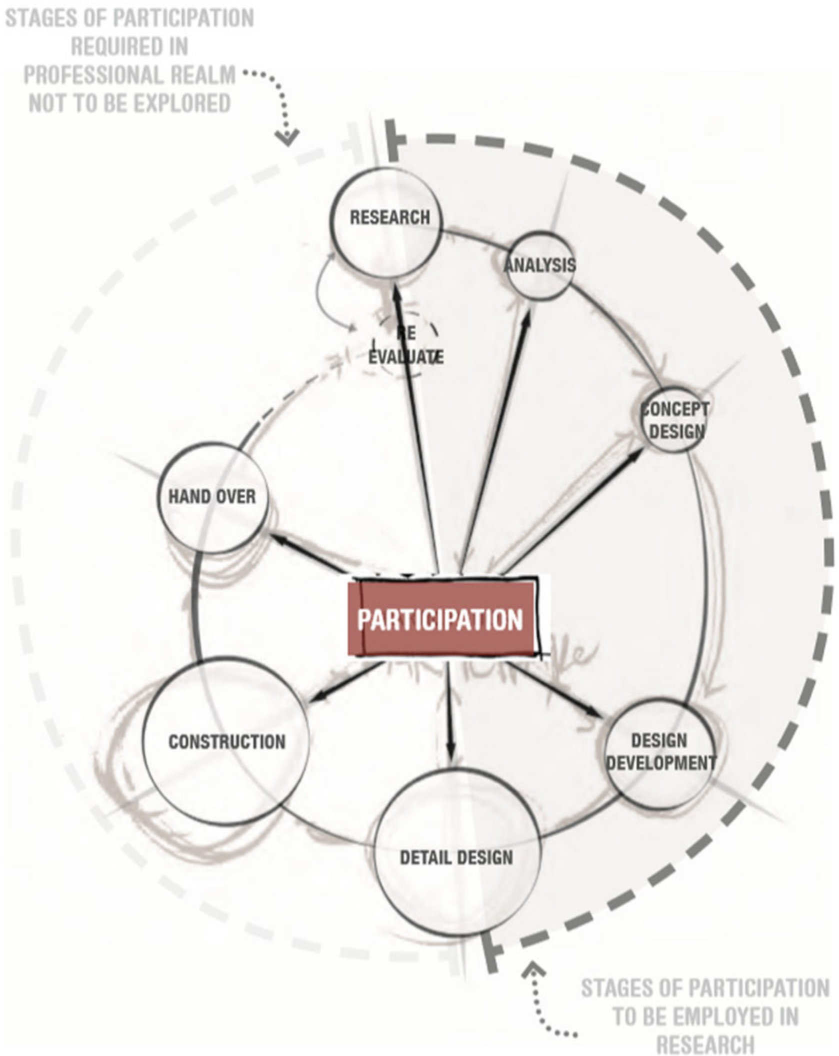


Figure 1.13: The participation process (Bennett 2011)

Figure 2.1: An Alaskan student on his way to school (Franklin 2014)

We shouldn't ask *What does a person need to be able to do in order to fit into the existing social order today?*
Instead we should ask *What lives in each human being and what can be developed in him or her?*

Rudolf Steiner (1923)

2 ENGAGING WITH THE NETWORK

This chapter introduces the various theories on which the thesis is based, as well as the methods and results of the network engagement.

2.1 Steiner's Child Development Theory

Rudolf Steiner, an Austrian philosopher, social reformer and architect, founded the Waldorf education system shortly after World War One.

He spent many years studying the development of children of all ages and refined a theory that would enhance, enrich and nurture this development (Hemleben 1975).

Steiner's theories and practices were predominantly based on providing meaningful support for the child in the journey from infancy to adulthood, with emphasis on the idea of *experiential learning*.

His theories have become widely recognised and accepted and the demand for Steiner schools and kindergartens has grown at a rapid rate around the world (Ullrich 2000).

Steiner (1923) categorised *childhood* into three categories, namely, *Early Childhood, The Heart of Childhood* and *Adolescence*, each with its own developmental characteristics.

The figure to the right succinctly presents each stage of childhood and its associated characteristics.

The *Adolescence* stage is characterised by a desire to make one's life one's own. The adolescent begins to discover him/herself in a world of ideas (Spano 2004).

This phase is also characterised by a life of thinking, which is crucial for the cultivation of good judgement and discernment. This comes with a certain idealism which, if not nurtured, can turn into cynicism and vulnerability (Spano 2004).

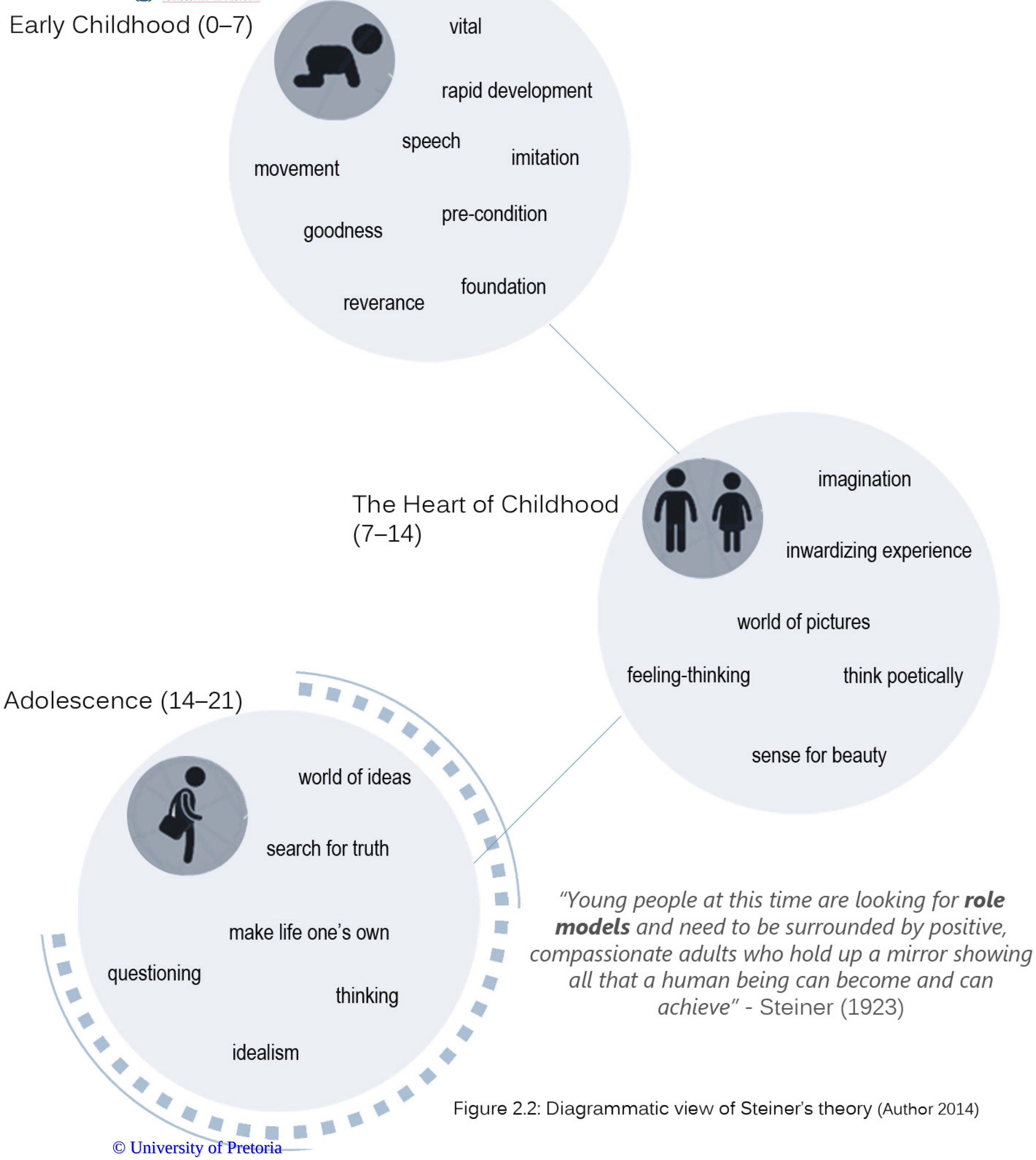


Figure 2.2: Diagrammatic view of Steiner's theory (Author 2014)

2.2 Problem Behaviour Theory

Although the adolescent stage proves to be a difficult time for all teenagers, the harsh conditions of informal settlements often compound these challenges. According to Ndugwa (2011), the often unstable context of slums pressurises adolescents into engaging in problem behaviours.

Richard Jessor conceptualised the *Problem Behaviour Theory* in 1977. It is based on the premise that all behavior is the result of person-environment interaction.

Problem behaviour is defined as any behaviour that society deems inappropriate, or that can compromise the health or development of a person. Adolescent problem behaviours include tobacco use, alcohol abuse, drug use, early sexual intercourse, aggression etc (Jessor 1977).

According to Jessor (1977), the *Problem Behaviour Theory* is made up of two different types of factors, those being the *Protective Factors* and *Risk Factors*. There are three types of *Protective Factors*, namely *models protection, controls protection, and support protection*. There are also three types of *Risk Factors*, namely *models risk, opportunity risk, and vulnerability risk*.

If the risk factors in an adolescent's life outweigh the protective factors, the likelihood of the adolescent's involvement in problem behaviours is far greater than if the protective factors outweigh the risk factors (Jessor 1977).

Ndugwa (2011) states that in order to counter any *Risk Factor* it is important for adolescents in informal settlements to have the necessary care and support, be it from friends or family, as well as good role models. He states that idleness and boredom are great contributors to adolescents' involvement in problem behaviour, therefore it is imperative for them to have facilities and activities after school, on weekends and during holidays.

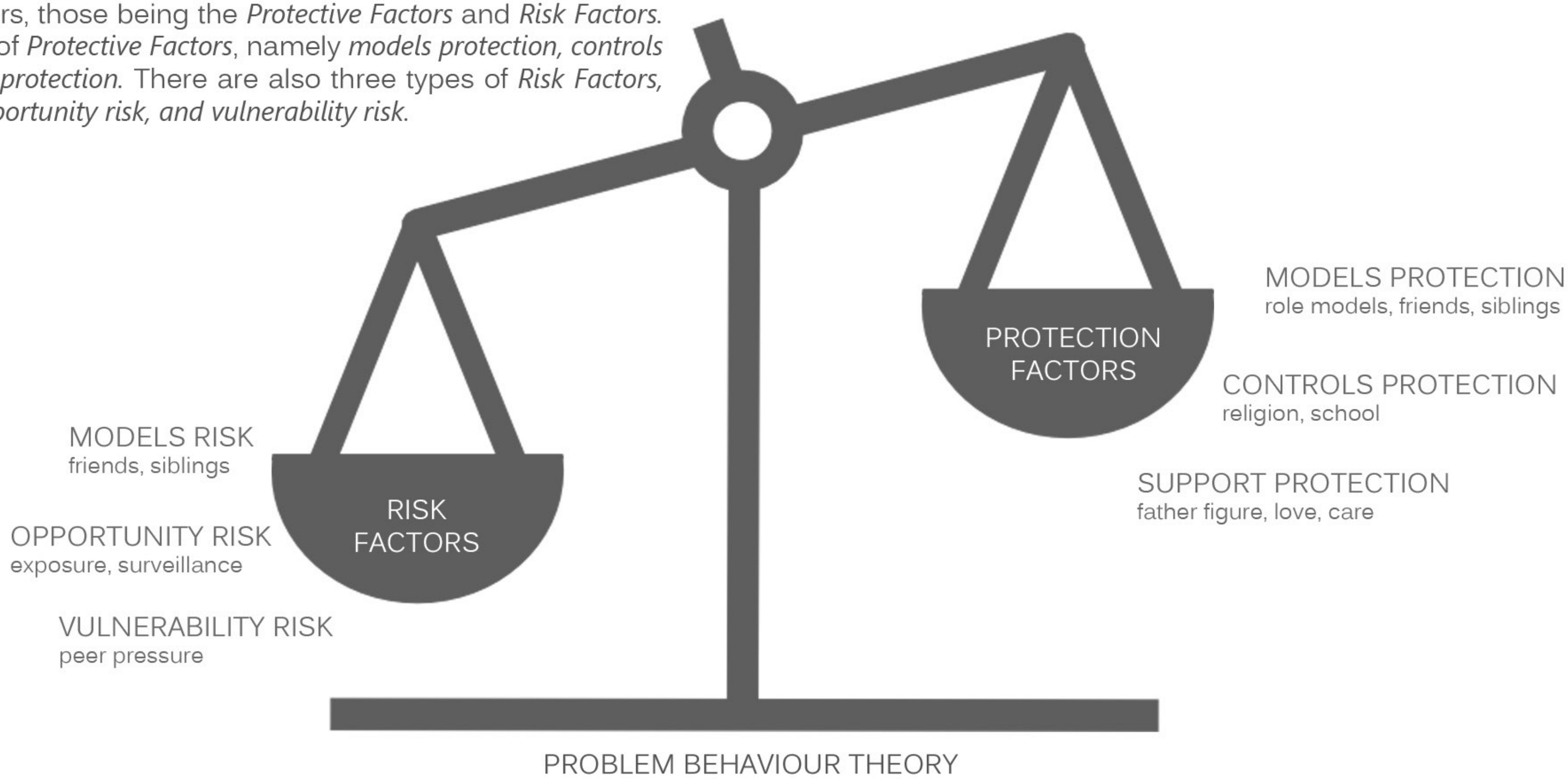


Figure 2.3: Diagrammatic view of the Problem Behaviour Theory (Author 2014)

2.3 Engaging with the Network

- Hamdi's *Placemaker's Guide to Building Community*

Nabeel Hamdi is one of the pioneers of participatory planning and his books, *Small Change* (2004) and *Placemaker's Guide* (2010), have been highly influential in describing the architect's role in informal contexts (Awan, Schneider & Till 2010).

Hamdi's contribution to architecture is recognised around the world. He has won numerous awards, one of which came in 1997 when Hamdi and Goethert won the UN-Habitat Scroll of Honour for their work on Community Action Planning (Awan, Schneider & Till 2010).

Hamdi's book, *Placemaker's Guide to Building Community* (2010), forms the foundation on which this thesis' community participation is based. As stated earlier in the document, the *Toolkit* Hamdi (2010) describes, forms the basis of the community interaction, observation and subsequent design.

The book serves as a guide, offering different methods and tools for analysing the issues, engaging with the community and improving the skills of those involved in placemaking.

Hamdi (2010) critiques the top-down approach to design and planning and states that this does not work in the context of the urban poor.

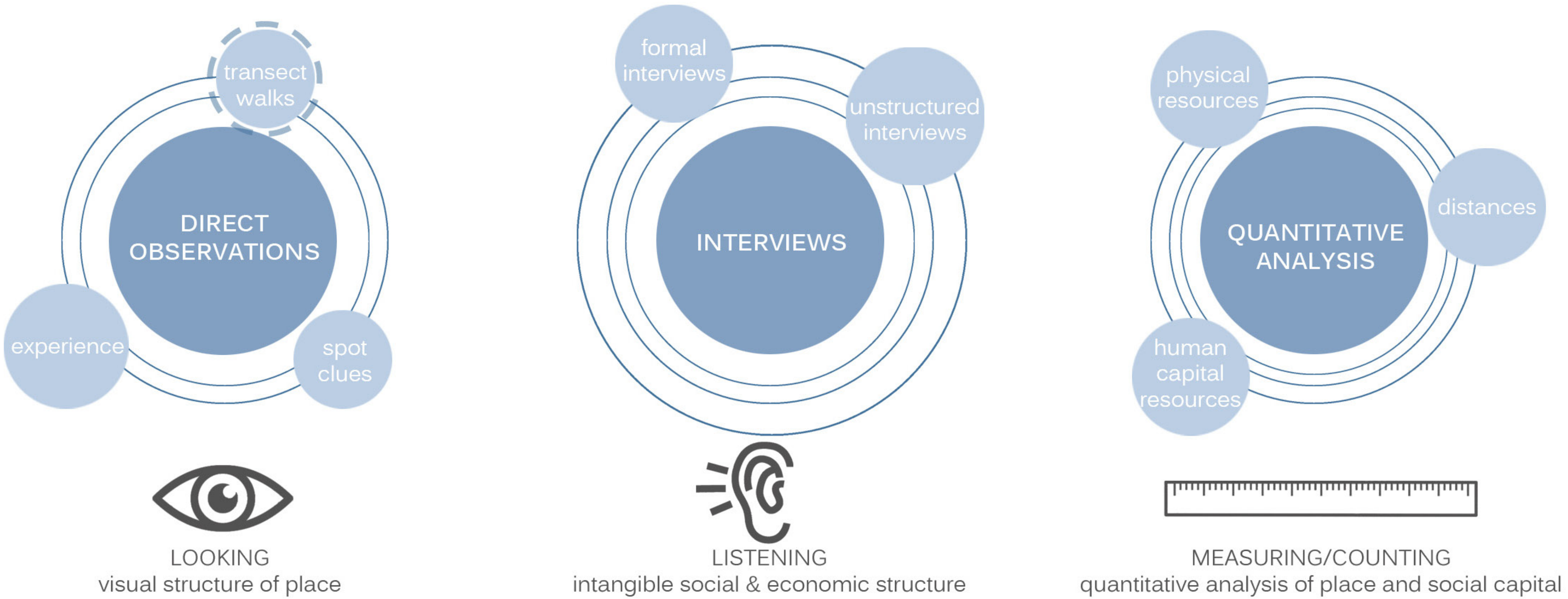


Figure 2.4: Diagrammatic view of Hamdi's Toolkit (Author 2014)

- Tovivich's *Architecture for the Urban Poor, the New Professionalism of Community Architects*

Like Hamdi, Tovivich (2010) encourages architects working in these contexts to shift between the three roles of provider, enabler and sustainer to ensure that the community, in which the project is being undertaken, is empowered and enabled.

In her thesis, Tovivich (2010) encourages architects to rethink the typical top-down approach in poor communitites by comparing case studies of unsuccessful, top-down projects with successful projects that have been based on a participatory approach.

Similarly to Hamdi (2010), she outlines various participatory tools that can be used to document the tangible and intangible characteristics of a community.

Tovivich (2010) states that, although overused in today's participatory planning, mapping and modelling are useful ways for documenting information and aspirations, as well as expressing views and opinions. Asking the residents of Alaska to draw diagrams of their favourite spaces in their community, and giving them cameras in order to see Alaska through their eyes, produces valuable insight into the minds of the Alaskan residents.

Figure 2.5: Diagram showing the various participatory mapping methods (Author 2014)

As stated in the introduction, transect walks and unstructured interviews were undertaken during the initial stages of the project in order to better understand the context. During this period it was noted once school had closed for the day, the streets quickly became filled with adolescents - some playing soccer, some gambling and others walking through the streets talking to friends.

Upon witnessing this, the initial questions that arose related to the *Problem Behaviour Theory. How do they keep themselves busy? What activities counteract the risk factors facing them?*

- VIVA's Engagement

Before any engagement with the adolescents had taken place an unstructured interview with Leon Kriel, founder of VIVA Foundation, was conducted. Founded in 2007, the Viva Foundation is a registered Non-Profit Organisation (Kriel 2014). According to Kriel (2014), VIVA's main goal is to establish itself as a main service hub within the informal settlement of Alaska, by meeting the expressed needs of the community.

VIVA has established various programmes and facilities in order to help improve the lives of those in Alaska and surrounding neighbourhoods. These programmes/facilities include an Early Learning Centre, Township Art Project, HIV/AIDS Care Programme, skills training, rape/abuse counseling, among others. Due to their extensive work in Alaska over the past 7 years, Leon and his team have gained a wealth of experience and knowledge relating to Alaska and its residents (Kriel 2014).

According to Kriel (2014) one of the main issues is that after school, and that is if they even go to school to begin with, they do not have anything to keep them occupied – they have no constructive way of releasing energy. Due to the lack of afterschool recreational and educational facilities the youth have to find their own way of amusing themselves.

Kriel (2014) states that music and pirate DVD's play a major role in keeping them occupied. He says the types of rap music and movies that they are watching is having serious consequences on the adolescent youth's mentality. Gangs, drug and alcohol abuse, and violence are prevalent within the community. Peer pressure, helplessness, a desire for belonging and a general feeling of having no other option are some of the main reasons for the adolescents' involvement in such activities (Kriel (2014).

While the aforegoing is mostly related to the boys, the girls in Alaska are facing challenges just as serious. According to Kriel (2014) the girls have a deep longing to feel recognised and desired. Pornography has become a platform of exposure for many of the adolescent girls. They often send pictures of themselves to other boys in order to boost their ego and, according to observations, many dress in such a way that they show-off their bodies. Underage sex and teenage pregnancy are also prevalent issues with the adolescents.

Although VIVA has recognised the danger of the boredom the adolescents face, their efforts to alleviate it has been somewhat unsuccessful. On the 15th of March 2014, VIVA held its annual arts festival which aims to empower the community. VIVA aims to create a tourist hub in Alaska by creating a *living gallery*. This is achieved by bringing graffiti artists from all over the world to paint shacks and walls.

Observation and interviews proved that there was a distinct gap between the festival and the community. The figure below emphasises how the community is left out of this event, meaning the festival does little to empower and enable the community. After the paint had dried and the artists had moved on, so the community were left with something they were not a part of.

Figure 2.6: Majority of the adolescents have very little to do during the day (Author 2014)

- Personal Engagement

Tovivich (2010) states that conventional architects are trained to play the role of providers, making design decisions for their clients. She explains that although the knowledge and skills of the architect as provider remain important, they are not enough to effectively deal with the challenges posed by informal settlements.

Both Tovivich (2010) and Hamdi (2010) argue that if an intervention is to be successful in such a context, and if the residents are to be enabled and empowered by it, it is important for participation to be the focal point of the project. It is for this reason that the author engaged critically with the adolescent network in order to have a full understanding of the main issues they face as well as to identify their needs and aspirations.

After Kriel's (2014) interview, the author began with unstructured interviews with adolescents and other community members encountered during transect walks. This engagement spanned one week and included adolescents, community leaders, adult residents and younger children. The majority of the questions asked related to the adolescents and their presence within the community.

Figure 2.7: Unstructured interviews were effective in uncovering the youth's challenges (Franklin 2014)

From discussions with the adolescents themselves it became apparent that the problems Kriel identified were correct. Alcohol and drug abuse, smoking, gangs and violence were all mentioned as daily problems facing the youth. Although many admitted these were serious issues impacting them as a youth network, they were reluctant to speak about them in fine detail.

Boredom was the main issue mentioned by many of the adolescents. There were many complaints relating to the fact that there was very little for them to do.

From the unstructured interviews it was evident that the adolescents felt as if they were lacking a facility that would cater for their recreational and further educational needs - there seemed to be a general feeling among the adolescents that they do not have, what they call, their *own ground*.

Delving deeper into their interests and aspirations, many of the adolescents expressed a desire to learn and participate in the arts, be it painting, music, drama, photography etc.

Apart from an interest in both visual and performing arts, some of the adolescents shared an interest in sport, more specifically soccer, which is already one of the main pastimes in Alaska, as well as netball. It is important to note here that VIVA has the necessary equipment for netball but lacks the facilities.

"Apart from soccer these children have nothing" -
Johannes, under-13 soccer coach.

2.4 University of Pretoria Honours Students

The Honours year at the University of Pretoria's Department of Architecture is divided into four quarters, each with its own theme and project. The various themes are as follows *Environmental Potential, Human Settlements and Urbanism, Heritage and Cultural Landscapes*, the fourth quarter is focused on iterating one of the previous three designs.

In 2014, the Honours students were required to work in the informal settlement of Alaska for the second quarter's, *Human Settlements and Urbanism* theme. This created the opportunity for collaboration between the Masters and Honours years.

The author presented his project proposal and development to the Honours class on the 27th of March, 2014. The aim of the presentation was to introduce the class to Alaska, but also to invite students to join the author in engaging with the adolescent network. Two groups of approximately eight each, expressed a desire to assist the author and work with the adolescents.

The two groups visited Alaska over the 7th and 8th of April, 2014. Group 1 expressed an interest in discovering what the teenagers thought of Alaska through the lens of photography, while Group 2 decided to engage with the network in their high school, trying to uncover any intangible networks not yet discovered by the author.

Figure 2.8: The Honours students engaged in interviews with the teens (Franklin 2014)

Figure 2.9: Adolescents ranging from 14 - 21 were engaged with (Franklin 2014)

Figure 2.10: The author guided the two groups on an introductory tour (Franklin 2014)

2.5 Group 1 - I ♥ Alaska

Group 1 organised a photography competition entitled *I ♥ Alaska* in order to see Alaska through the eyes of the youth who live there.

Seven disposable cameras were sponsored and given to various groups of children between the ages of 14 and 19 years old. They were tasked with taking photographs of anything they appreciated within Alaska. That afternoon they returned the cameras to the Honours students so the photographs could be developed.

The next morning the students returned with the photographs and the prizes for the winning photographers. All of the photos were put onto a presentation and the photographers were encouraged to present their photos to the others.

The spatial impact of the presentation was recorded. A crowd of people soon appeared and numerous public debates were sparked. The exhibition created a platform for expression and discussion. People in the crowd started discussing the various problem behaviours that are rife within Alaska and put forward ideas as to how they can be stopped. This was swiftly met with a counter-argument from another resident and so a public debate began.

The prize giving commenced without any public unrest. It was interesting to note that each recipient did not open the prize whilst in the company of other people. The winner of the competition, Alpheus, won a digital camera which provided an interesting insight into the power of the arts, in this case photography, and its ability to empower its participants. The author organised meetings with Alpheus throughout the year and saw, firsthand, how photography had started to influence, not just his present outlook, but future aspirations. *I didn't know I could do this for a living!* See Appendix C for his photographic journey.

CONCLUSIONS

- Photography was a successful approach in seeing Alaska through the resident's eyes.
- The exhibition sparked interest and debate amongst the people of Alaska
- The group was able to see firsthand how the arts could potentially impact the community
- Residents of all ages came to the exhibition and voiced their opinion

Figure 2.11: Seven disposable cameras were given to various adolescents (Franklin 2014)

Figure 2.12: An Honours student explaining the rules of the competition (Franklin 2014)

Figure 2.13: A series of images showing the impact of the competition and the prize giving (Franklin 2014)

2.6 Group 2 - Adolescents and their Aspirations

Compared to the first group, Group 2 took a more direct approach to mapping the needs and aspirations of the adolescents.

The group of eight went into the Rephafogile High School where 1000 students attend, majority of whom come from Alaska, and engaged in a participatory mapping exercise with 193 students.

From the unstructured interviews with the adolescents, the Honours students also concluded that boredom was one of the most serious issues facing the youth.

The students then delved into what programs and activities they would like to take part in, be it after-school, on weekends or during holidays. Fig 2.14 shows the results of the participatory mapping process. They assigned a colour to each activity and asked each student to choose an activity they would most like to take part in and stick it over the location of their house.

The youth were also asked to map the main walking routes and activity nodes in order to gain a better understanding of the workings of the network.

CONCLUSIONS

- The youth recognise boredom as a serious issue and is blamed for leading many into various vices

- The adolescents are interested in taking part in the arts, as well as sport, if there were facilities for such

-Reading and a study centre were not put forward by the Honours students but there was an expressed interest from some of the teens.

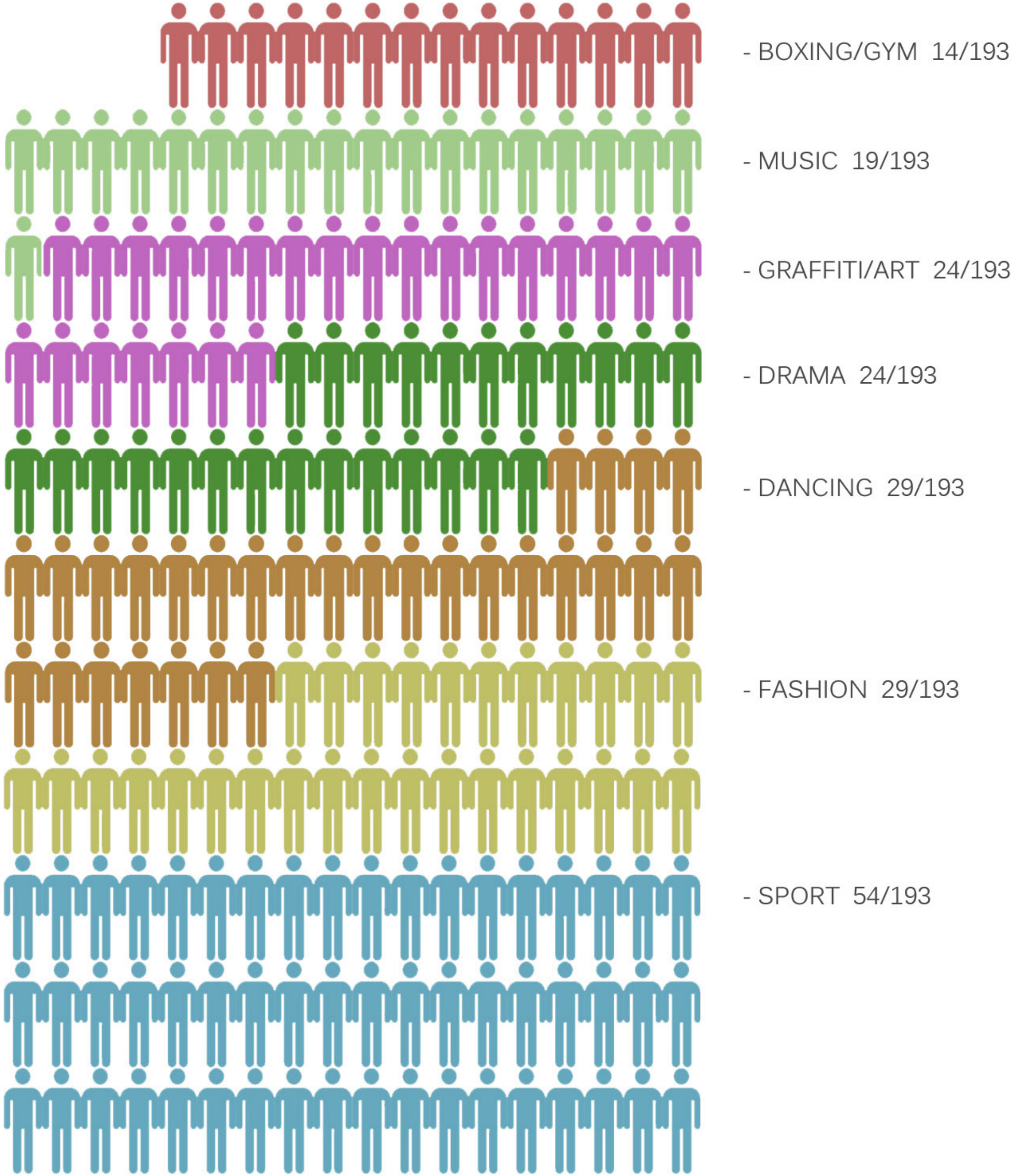


Figure 2.14: An infographic depicting the interest shown in the various activities (MacClements 2014)

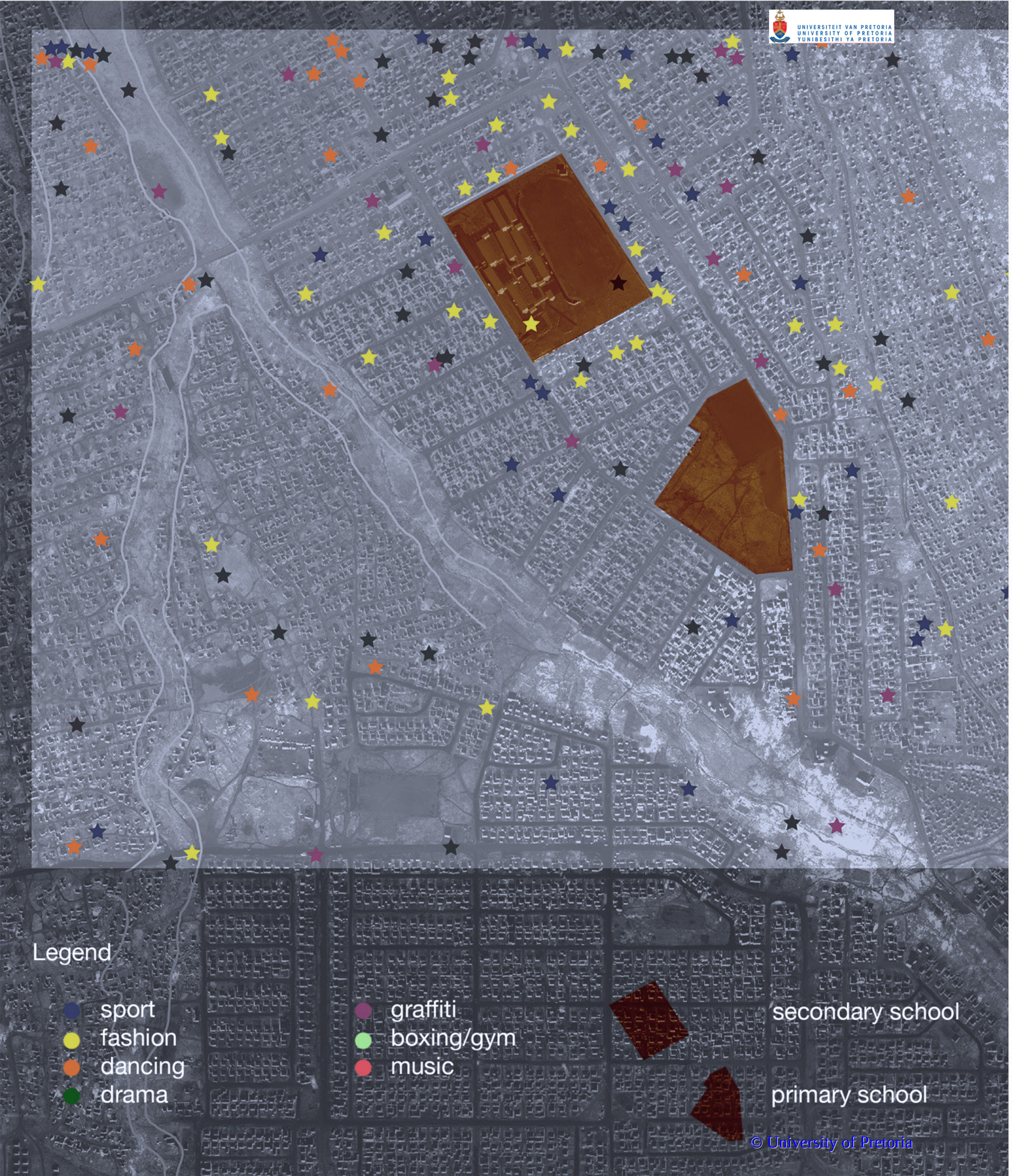


Figure 2.15: The results and photographs of the participatory mapping (MacClements 2014)

2.7 The Power of the Arts on Vulnerable Youth

According to Anderson (2004) there is a wide range of research supporting the notion that *the arts* have a significantly positive impact on the vulnerable youth taking part in art programs.

Anderson (2004) states that sustained involvement in the arts provides significant benefits for vulnerable youth and that the most successful programs revolve around the concepts of *attachment, meaning* and *social connectivity*, which are all necessary for healthy child development.

Through the presence of art in the life of an underprivileged child, that child can use art for its therapeutic devices while benefitting their cognitive, social and motor abilities - Pili (2008)

During a child's development it is essential for the protective factors to offset the risk factors. Anderson (2004) states, *In studies young people emphasize the importance of having something to do...They crave experience and productivity*.

Through constructive interactions with artists, art programs provide positive adult relationships which are essential, specifically for adolescents. In addition to the safe environments these programs create and the *artists as mentors* concept they encourage, the arts provide a sense of purpose, responsibility and attachment, (Mulligan 2006).

Mulligan (2006) states that research confirms that youth vandalize with graffiti and join gangs in search of recognition, achievement and self-expression. The arts provide a different manner of addressing these needs.

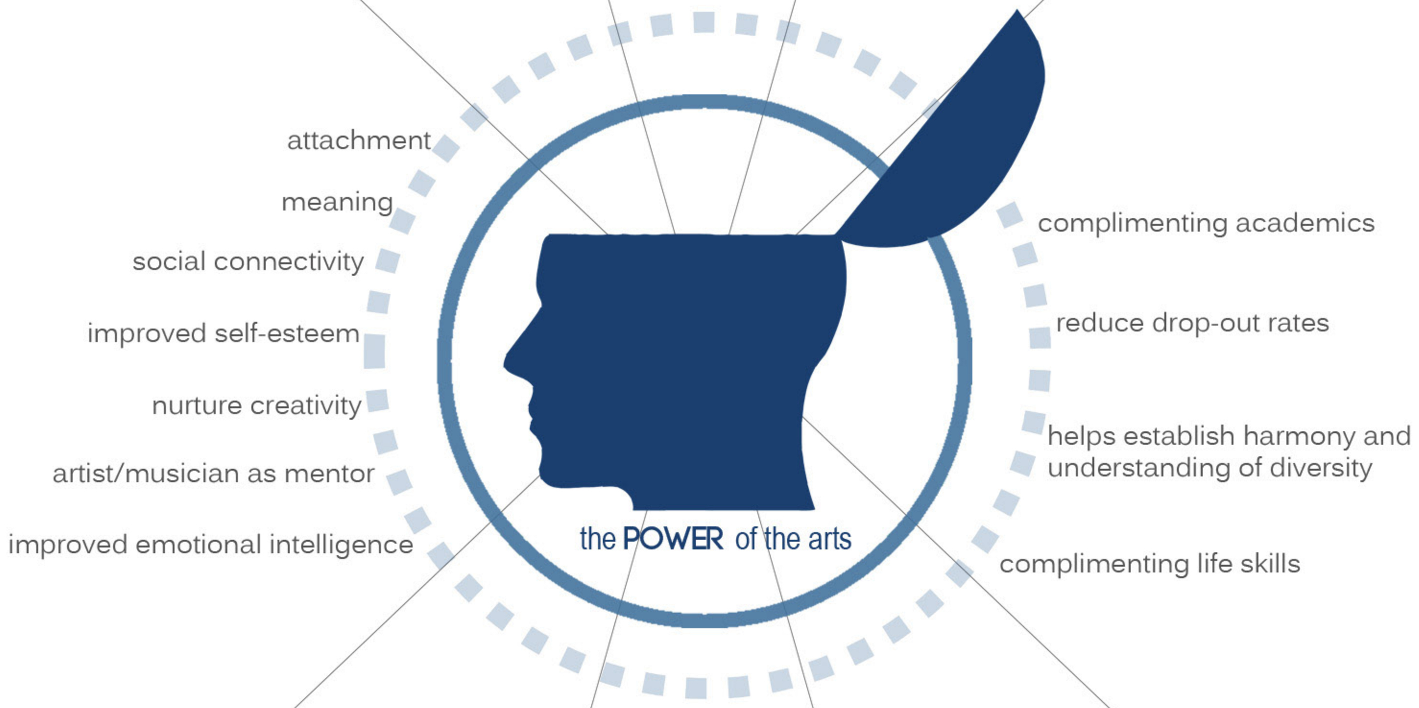


Figure 2.16: A diagram showing a few of the benefits of art programs (Author 2014)

2.8 Precedents of Art Programs

Slum SANAA - Nairobi, Kenya

Slum SANAA is a community-based organisation aimed at promoting arts-based activities in the slums of Nairobi, Kenya. Their focus is primarily on young boys and girls between the ages of 9-18 years. It is a place where people interact, learn, create and share new ideas, and where talents are nurtured (Jibu 2012).

The community arts centre uses the mediums of dance, drama, music and visual arts to convey messages to the community and, according to their website, have the noble aim of promoting peace, unity, reconciliation, understanding and national healing between slum-dwellers (Jibu 2012).

One of their main objectives is to establish a fully-equipped arts centre. They currently have all their classes in small rooms which they see as insufficient. They also have a small tent for their performances. They require a more permanent place with the necessary space and facilities to hold classes, exhibitions, performances and festivals effectively (Jibu 2012).

Developing Arts and Culture helps in the socio-economic development of an individual by complimenting academics and other life skills. It helps establish harmony, understanding and appreciation of diversity and different cultures and people (Jibu 2012).

Figure 2.17: Performing Arts festivals are effective catalysts for uniting a community (SANAA 2013)

Diepsloot Film Studio - South Africa

The Department of Arts and Culture partnered with Home Brew Movies to establish a fully-equipped film studio in the densely populated township of Diepsloot, Johannesburg (Gabara 2014).

The studio runs various training programs with the main aim of creating and nurturing a vibrant film culture within the community. The studio allows residents access to the resources and skills needed to tell their own stories in their own languages. According to Gabara (2014) residents can narrate their individual and community experiences through the medium of film.

Diepsloot should no longer be seen as a notorious area where children are raped and murdered, but as a model of a society that is producing actors and actresses, who will be making South Africa's film industry vibrant.
Mashatile - Minister of Arts and Culture (2014)

Figure 2.18: The project aims to be a catalyst, changing the perception of Diepsloot (Praag 2013)

Inner-City Arts - Los Angeles, U.S.A

This arts programme, situated in Los Angeles, provides arts-based education to 8 000 primary and high school children living in the area's poorest neighbourhoods every year. Tishler (2014) states that the youth in the area are among the nation's most at-risk of dropping out of school.

Inner-City Arts programs provide in-depth instruction in Visual Arts, Dance, Drama, Music, Ceramics, Digital Photography, Film Production, Graphic Design and Animation (Inner-City Arts 2014).

All programmes are taught by professional teaching artists and are designed to strengthen language development, develop critical thinking skills, promote literacy and improve learning outcomes overall. Their focus is on providing intervention and prevention programmes during the critical afternoon hours, as well as during weekends (Tishler 2014).

Performances, festivals and exhibitions act as catalysts for bringing the surrounding community together, and offer the students a chance to display their work and talent.

The building was built in three phases over a 15 year period (Maltzan 2009). It started off as a series of small classrooms, but as interest grew, so the need for bigger facilities arose. The programme is testament, not only to the impact art has on vulnerable youth, but also to the positive impact architecture can have on facilitating such programmes successfully. The architecture will be discussed further in Chapter 5.

"A full-service arts center offering opportunities to learn, create, gather and celebrate,
Inner-City Arts contributes to the beauty, safety, well-being, and vibrancy of the entire community."
Eric Schotz - Inner-City Arts board member (2012)

Figure 2.19: Group classes develop confidence and community-building skills (Inner-City Arts 2014)

Figure 2.20: The building is now a landmark in downtown Los Angeles (Inner-City Arts 2014)

Dudley Street Renewal - Boston, U.S.A

During the early 1990s, Dudley Street, Boston, U.S.A, was a run-down area with high crime rates, notable xenephobia and numerous abandoned buildings (Sklar 2008).

Tired of living in such conditions, the residents joined together and created the Dudley Street Neighbourhod Inititiative (DSNI). They pioneered various bottom-up approaches to urban renewal and successfully revitalised the area (Mahan 1996).

A vital part of the DSNI was its youth committee. The DSNI realised that the youth were the future of the area, thus it was imperative for the initiative to **raise up leaders**. The youth organised a large event where the whole community gathered to create a mural. The event had a major impact, uniting the community and encouraging them to work together (Mahan 1996).

John Barros (1996), the leader of the youth committee said *The arts is a great way to express yourself and send a message to the community.*

I truly believe that if the youth in the community become more involved, participate and help others, this would give them a better value and outlook on life and respect for themselves.
John Barros (1996)

Figure 2.21: The youth became active agents in change (Lempel 2012)

Figure 2.22: The mural entitled “Unity” stands as a symbol of a harmonious community (Lempel 2012)

Figure 3.1: Innovation and creativity are prominent characteristics of informal settlements (Author 2014)

If we regard these settlements as pointers to new forms of urban design then, by working with and on behalf of their inhabitants, we can transform and develop these places from the bottom up into decent living environments.

Mills (2012)

3 SITE AND CONTEXT

This chapter focuses on the meso context of Mamelodi, as well as the macro context of Alaska and Lusaka and, finally, the micro context of the site.

3.1 Mamelodi in Context

Mamelodi, a township to the east of Pretoria, was set up by the Apartheid government in 1953 when they built 16 houses on Vlakfontein farm (Bruwer 2012). Since then, the township has grown at an unprecedented rate and, according to the 2011 census, is home to approximately 350 000 people (Stats SA 2011).

According to Darkey (2000) Mamelodi has been impacted substantially by urbanisation over the years. Kriel (2014) states that there are a large number of migrant workers who work in the city but send their money to their families in the rural areas.

Due to Mamelodi being one of the oldest settlements within South Africa, the majority of residents have access to adequate infrastructure. However, with the high rate of urbanization, people have started to settle on the eastern side of Mamelodi, causing it to expand. The municipality has struggled to meet the needs of these new residents, thus leaving them with a lack of services (Kriel 2014).

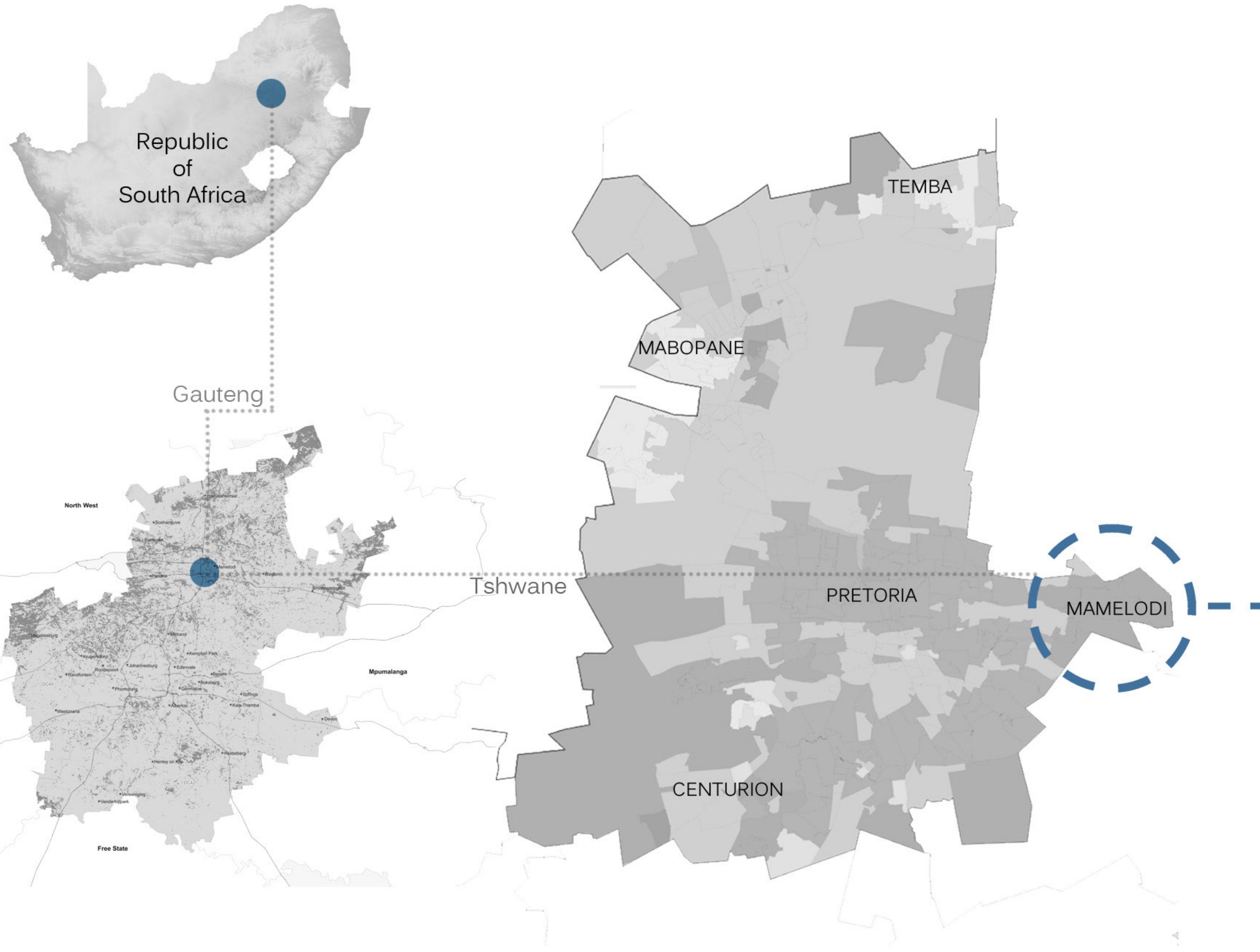


Figure 3.2: Mamelodi in Context (Author 2014)

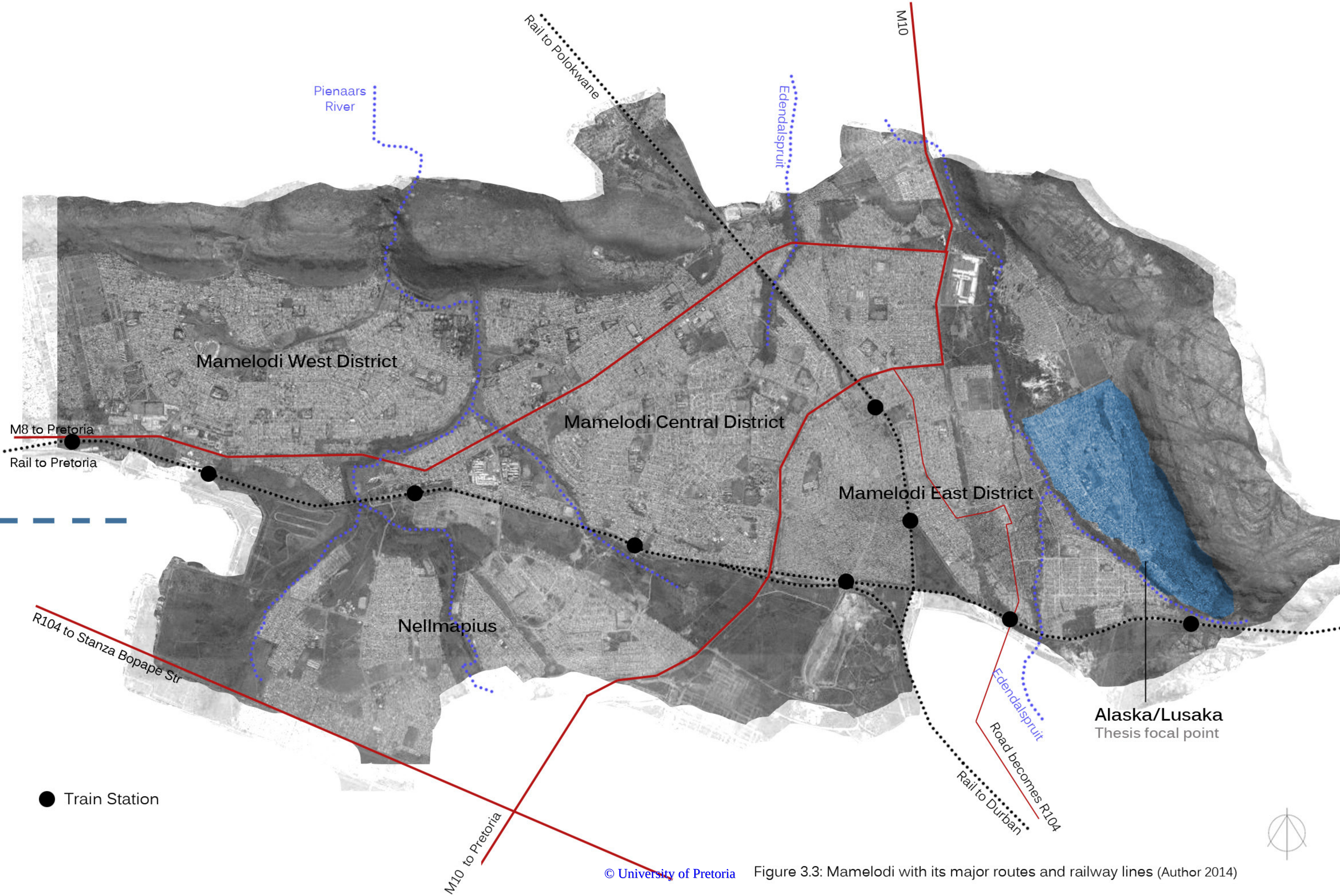


Figure 3.3: Mamelodi with its major routes and railway lines (Author 2014)

1860 – indigenous people settle, seeking jobs in the newly formed city of Pretoria

1890 – The Eerste Fabriek Station is built,connecting Pretoria to Maputo

1913 – land declared a black african residential area due to location of factory and station.

1940 – first 50 families move from Marabastad to Atteridgeville

1947 – residents refused to live in the the first government sponsored houses which were derived from the traditional bantu village

1951 – group area's act is introduced

1953 – Mamelodi is established on Vlakfontein

1954 – sites and service building scheme is introduced

1958 – rapid urbanisation results in job seekers squatting in Mooiplaats and Derdepoort

1960 – Vlakfontein is at full capacity and begins to expand eastwards

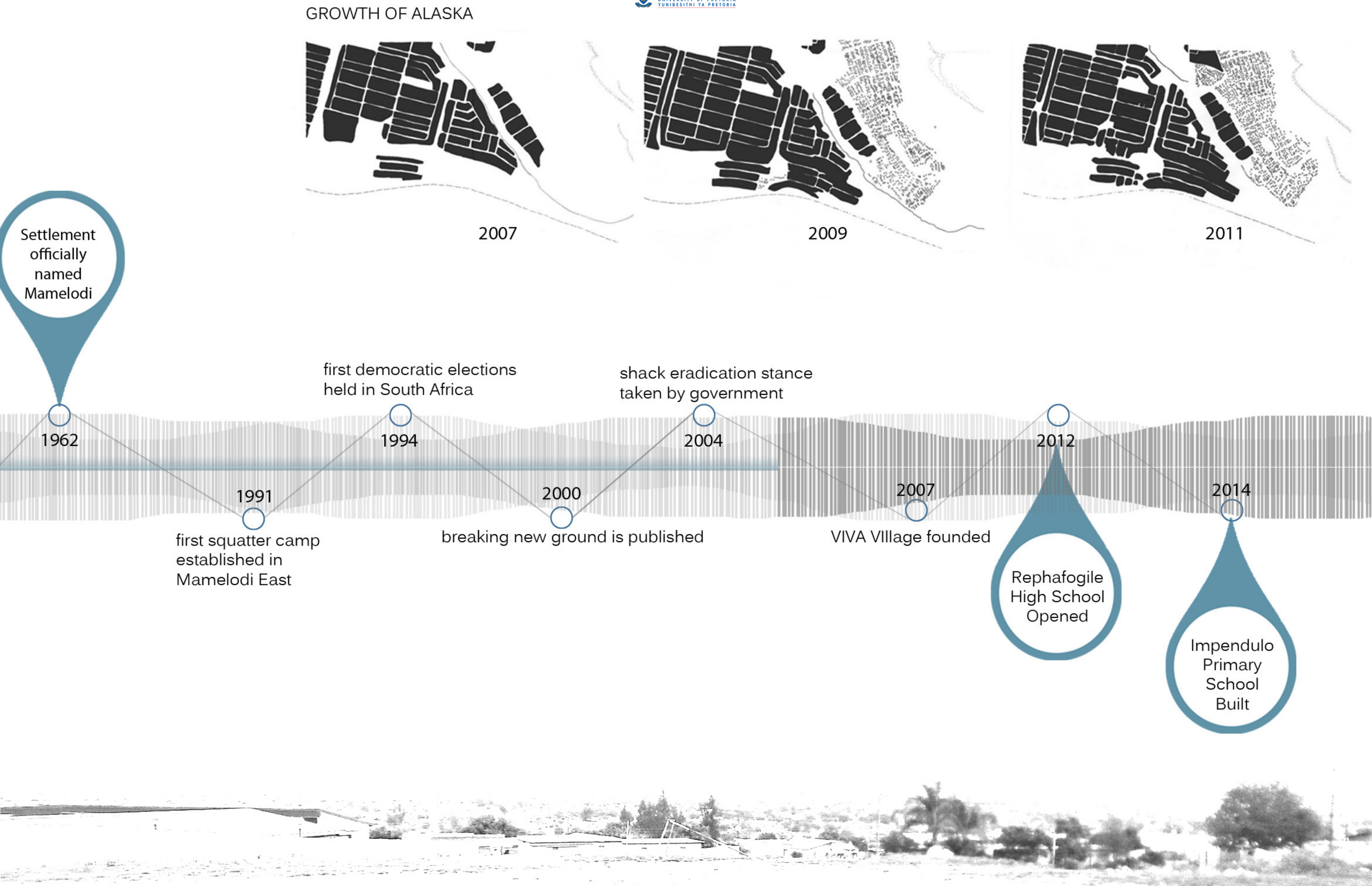


Figure 3.4: Timeline depicting the growth of Alaska relevant to historical milestones in Mamelodi (Author 2014)

3.3 Schools in Mamelodi Central/East

From the author's observations it was noted that there are numerous schools, ranging in sizes, throughout Mamelodi East. These schools become prominent points for the surrounding youth.

It was encouraging to see schools like the Meetse-A-Bophelo Primary School opening its gates after school, allowing children to utilise the sports fields, but this is not the norm, Schools through-out Mamelodi are barricaded behind concrete fences - giving nothing back to the community.

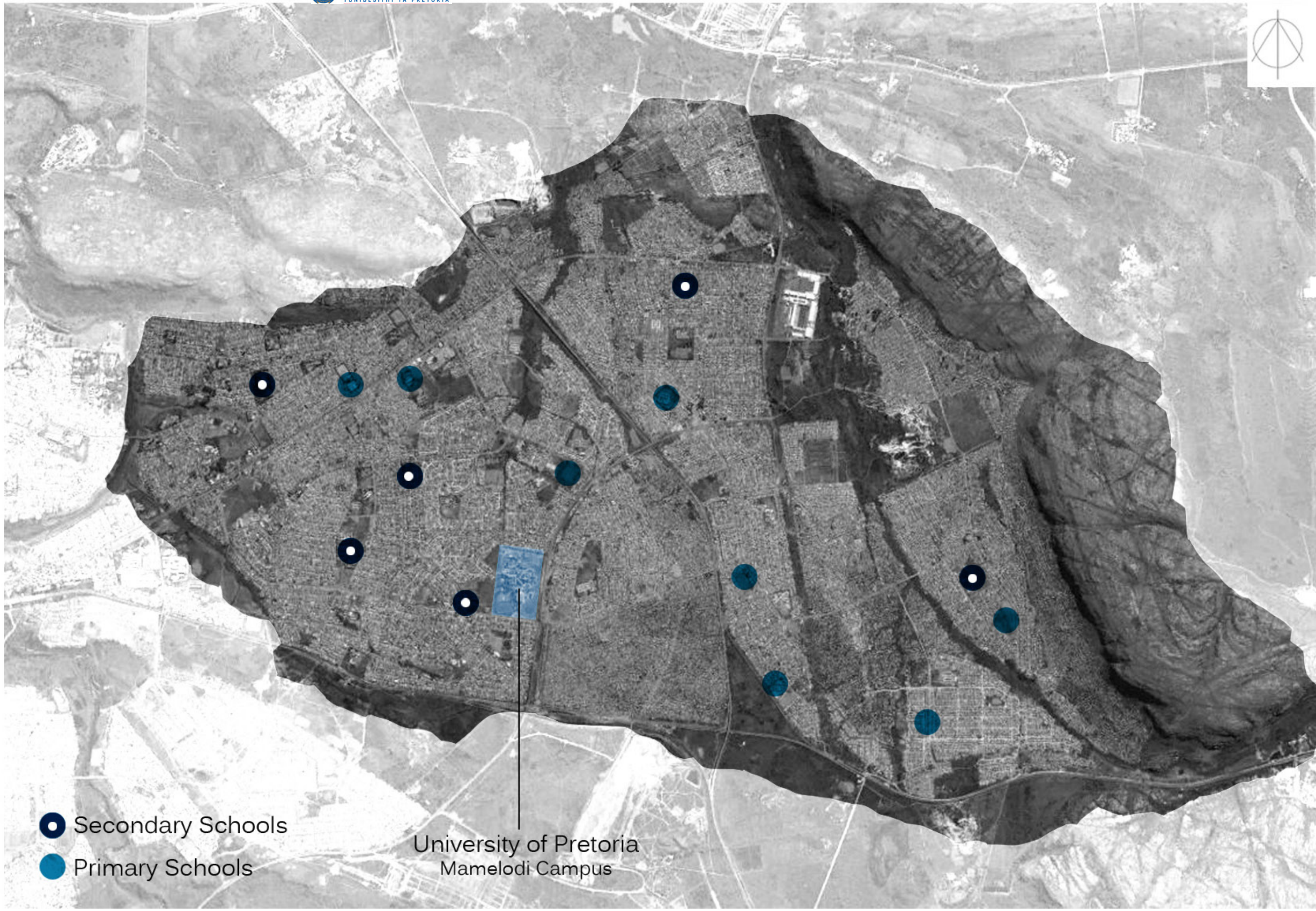


Figure 3.5: Map locating schools in Mamelodi East (Author 2014)

Meetse-A-Bophelo Primary School

Newly constructed primary school in Alaska

Concrete fences found around many Mamelodi schools

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

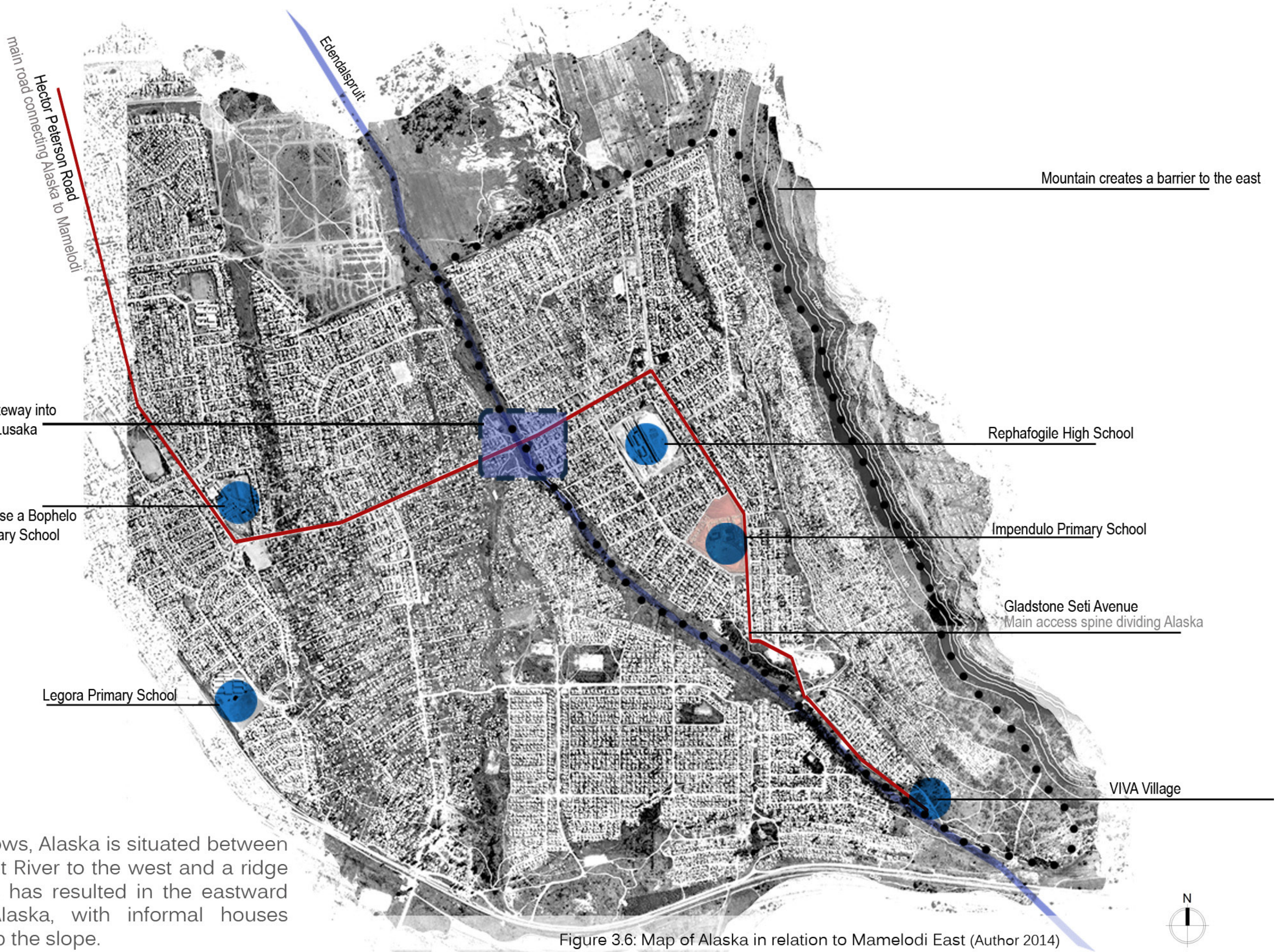


Figure 3.6: Map of Alaska in relation to Mamelodi East (Author 2014)

As this figure shows, Alaska is situated between the Edendalspruit River to the west and a ridge to the east. This has resulted in the eastward expansion of Alaska, with informal houses moving higher up the slope.

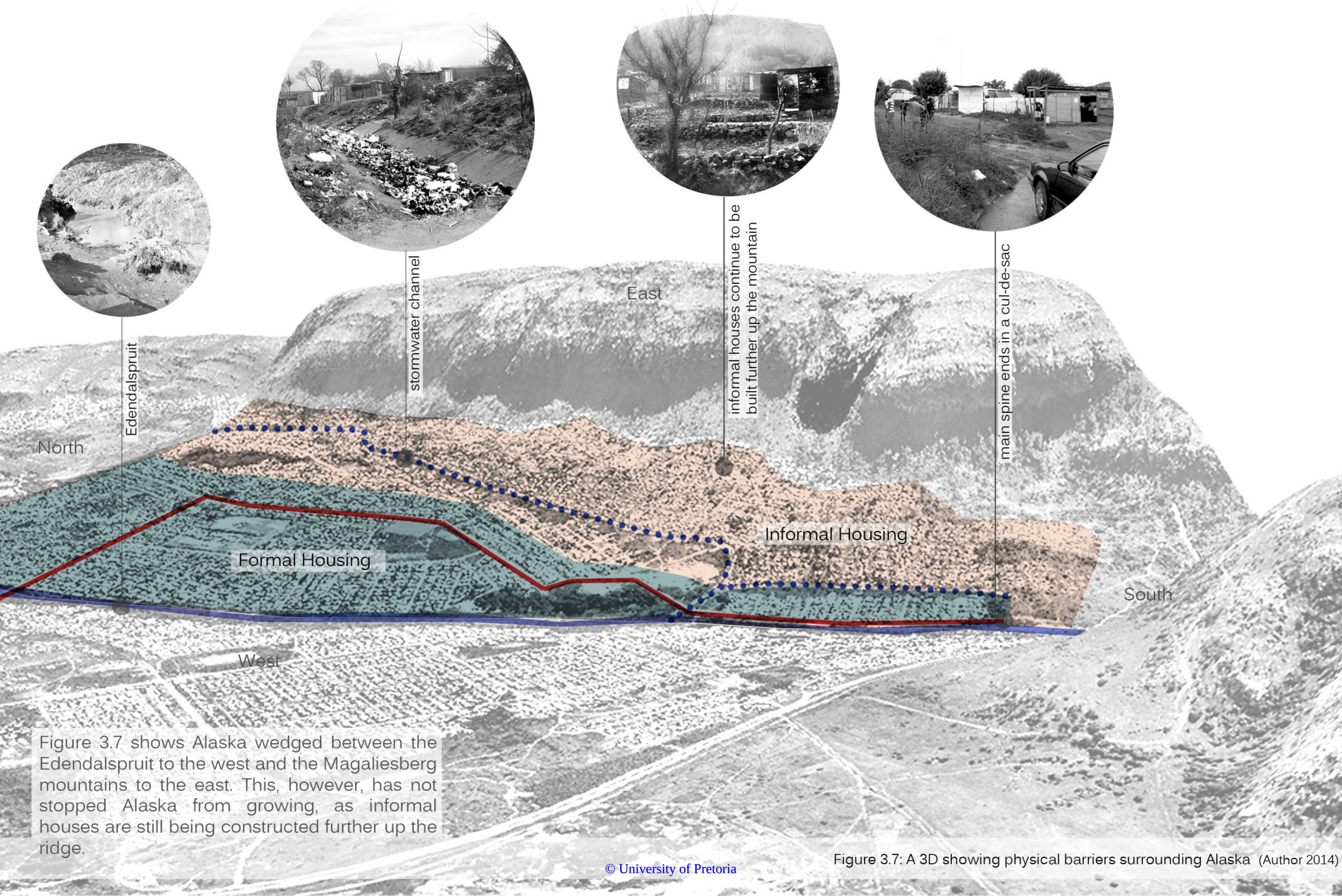
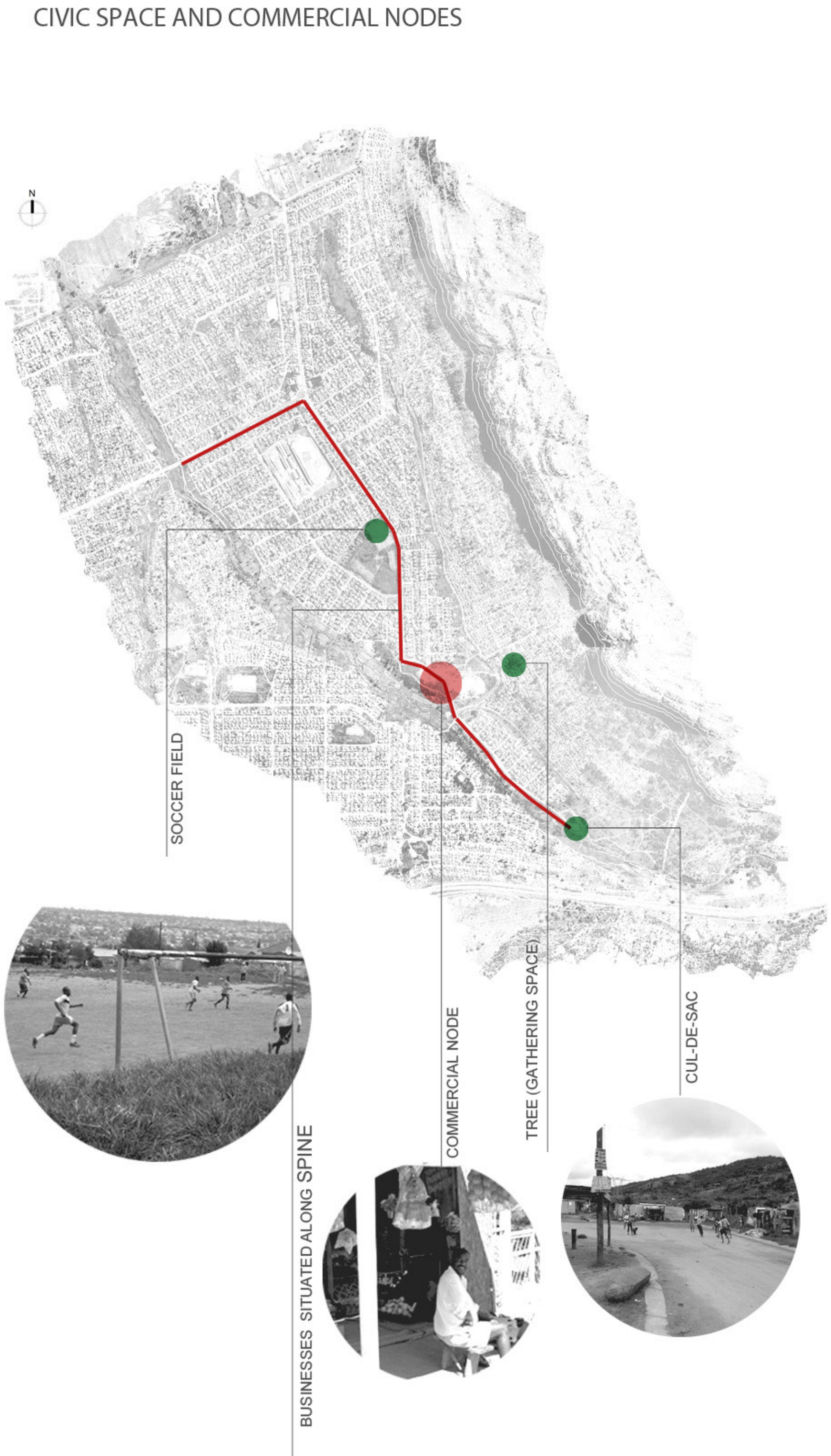


Figure 3.7 shows Alaska wedged between the Edendalspruit to the west and the Magaliesberg mountains to the east. This, however, has not stopped Alaska from growing, as informal houses are still being constructed further up the ridge.

Figure 3.7: A 3D showing physical barriers surrounding Alaska (Author 2014)



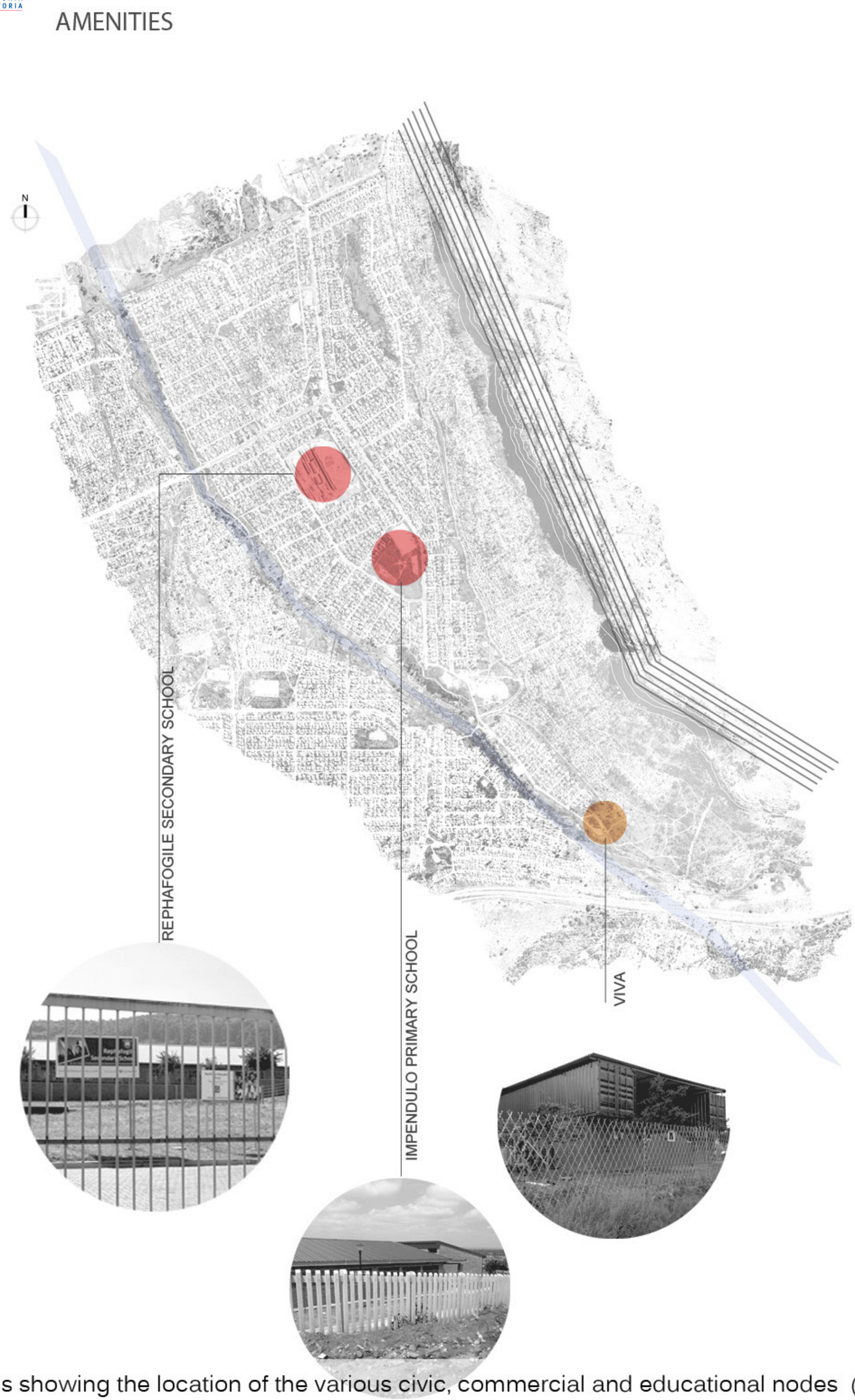


Figure 3.8: Maps showing the location of the various civic, commercial and educational nodes (Author 2014)

3.5 Lack of Civic Space

Due to the topography and the increasing density of Alaska, there are very few open, public spaces - the majority of civic engagement occurs in the streets.

One of the main public spaces where the community gathers and discusses important issues is known simply as *the tree*. This area is located midway up the slope, in between houses and is difficult to access.

Another main civic space in Alaska is the soccer field. This area was much larger, but due to the need for a primary school on the Alaskan side of the river, much of it was claimed. This resulted in the community being left with a small portion of land for soccer.

Engagement with the community, specifically the soccer players, showed a level of anger and frustration at the authorities who built the school. The community originally had a full-sized soccer pitch, but after the school was built, they were left with a small piece of sloping land that is not a suitable soccer field. The community has, however, been told that once the school is completed, its full-sized sports field wil be made available to the community.

Webster (2014), a community leader, further emphasised the need for a well designed civic space during an unstructured interview. *We don't have ground to call our own. One where we can sit, talk, play and be together.*

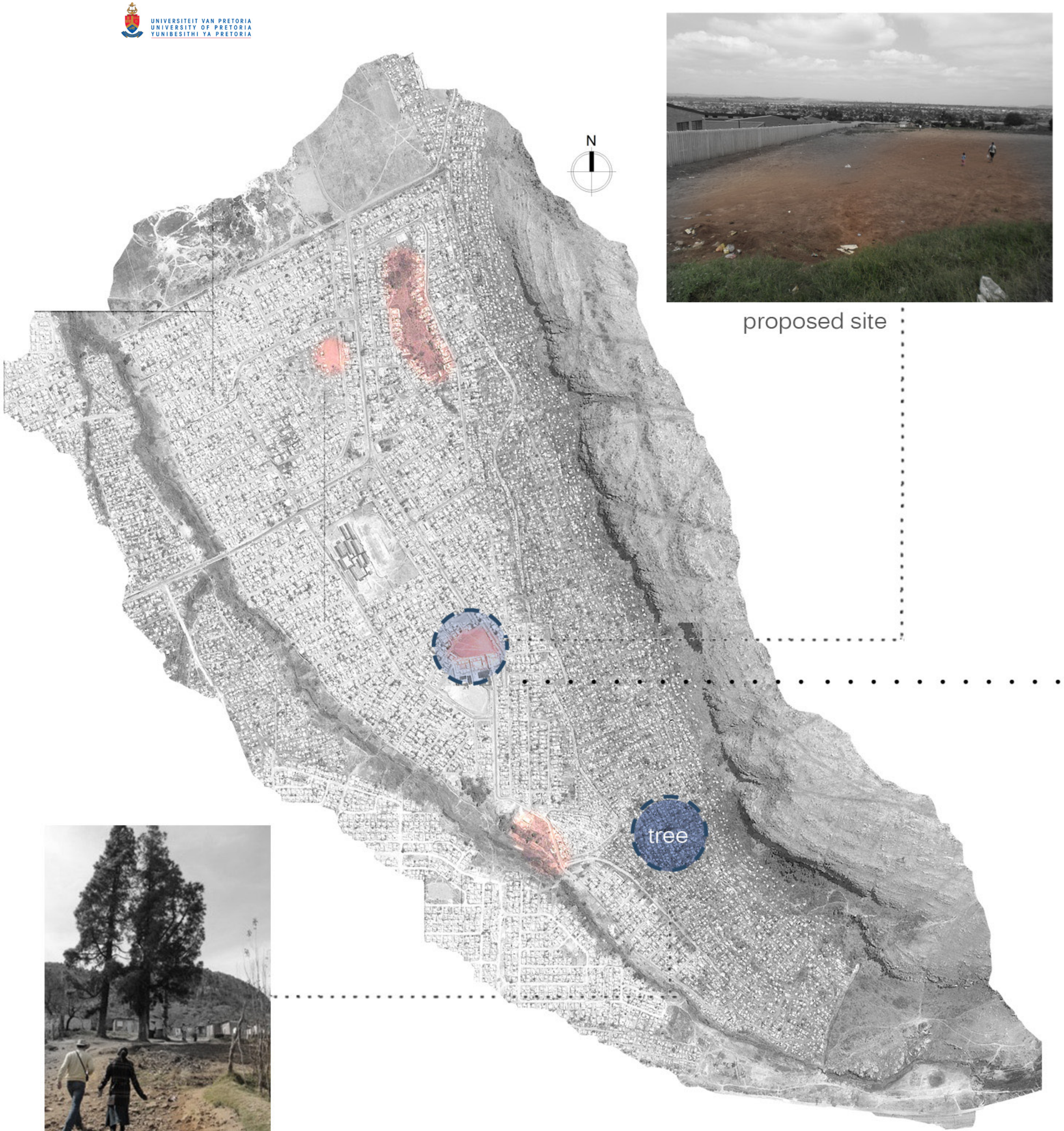


Figure 3.9: A map of Alaska and Lusaka emphasising the lack of well defined and designed public space. (Author 2014)

Prior to 2013, the entire site was vacant. It was a space used primarily for soccer.

Due to there being no primary school in Alaska, children were left with no other option but to cross the river to get to school. This became dangerous during periods of heavy rainfall, meaning a new primary school was to be built east of the river.

Impendulo Primary School is currently being built on what was the community soccer field and will be opened in January 2015.

The school is barricaded behind a concrete fence, with the community being left a small portion of the site.

Figure 3.10: The newly constructed school has taken over what was the community soccer field (Author 2014)

3.6 Macro Analysis - Alaska

The proposed site is situated along the main access spine running through Alaska. It is currently a vacant site that is used by the community for soccer matches.

Despite it being a harsh environment, devoid of any vegetation, adequate shade or seating areas, it is one of the only open, community sites within Alaska - it thus experiences a lot of activity, particularly when soccer matches are being played.

It lies in an educational zone between the high school and primary school and, as a result, experiences a lot of pedestrian traffic from youth of all ages. This site has the potential to add to the educational and recreational precinct in which it is found.

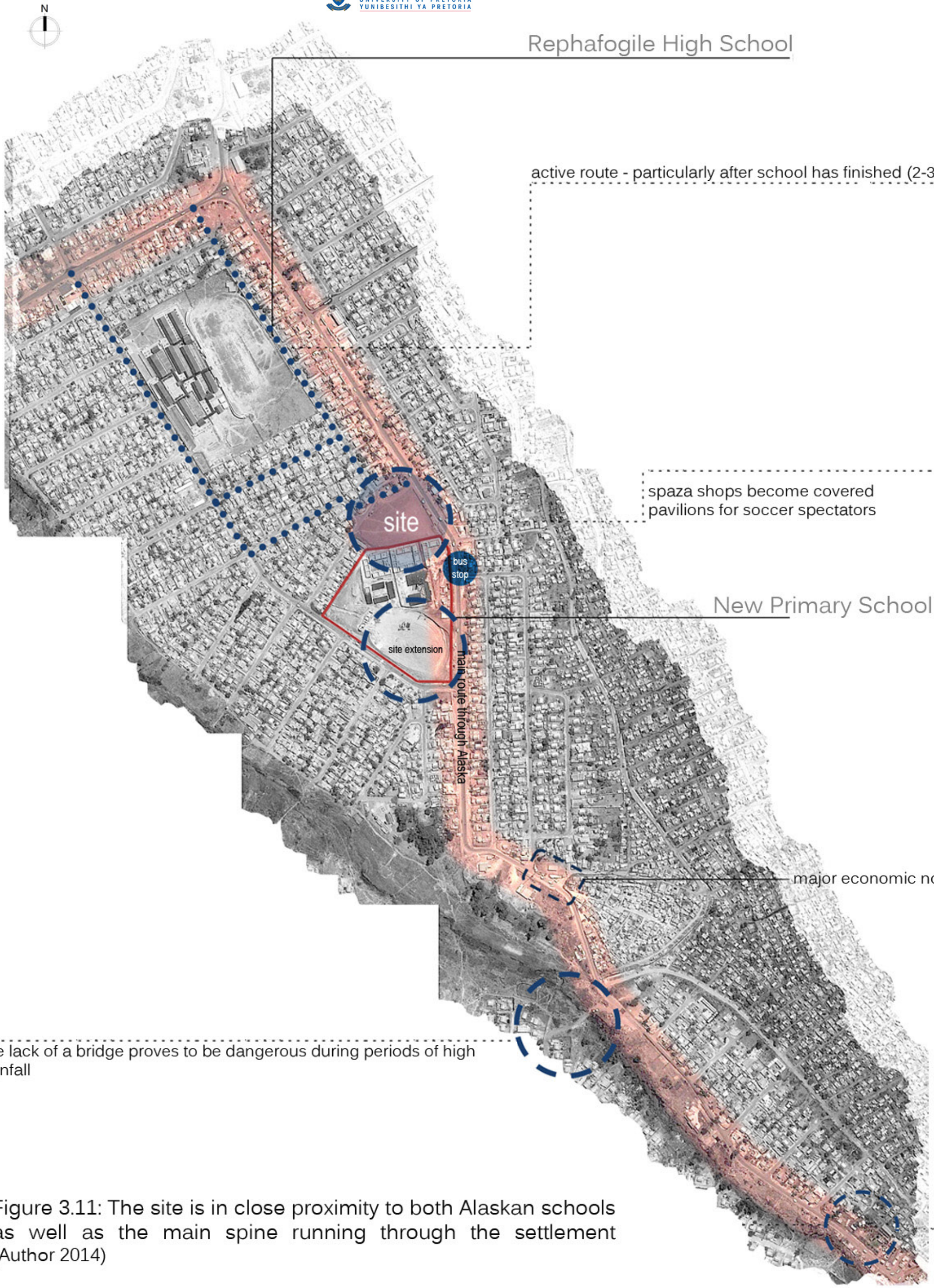
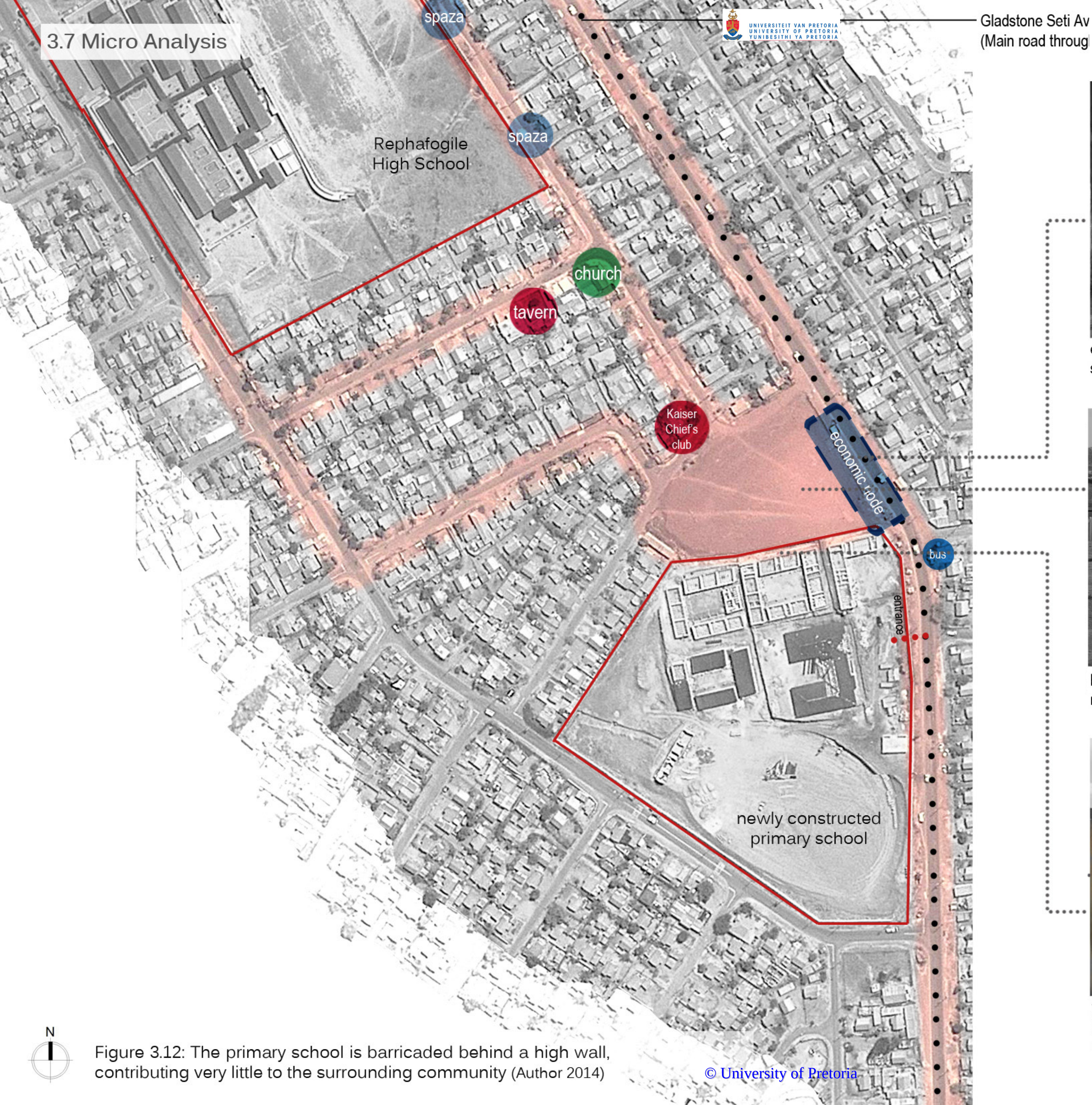


Figure 3.11: The site is in close proximity to both Alaskan schools as well as the main spine running through the settlement (Author 2014)

3.7 Micro Analysis



empty spazas double up as seating areas for soccer matches

being the only public soccer field, it is used by residents of all ages

the adjacent primary school is completely barricaded from the surroundings by a concrete fence

Figure 3.12: The primary school is barricaded behind a high wall, contributing very little to the surrounding community (Author 2014)

.7 Micro Analysis

the eastern edge of the site consists of various businesses, taking advantage of the activity on the main route

the adjacent primary school is completely barricaded from the surroundings by a concrete fence

the edges of the site have become dump sites

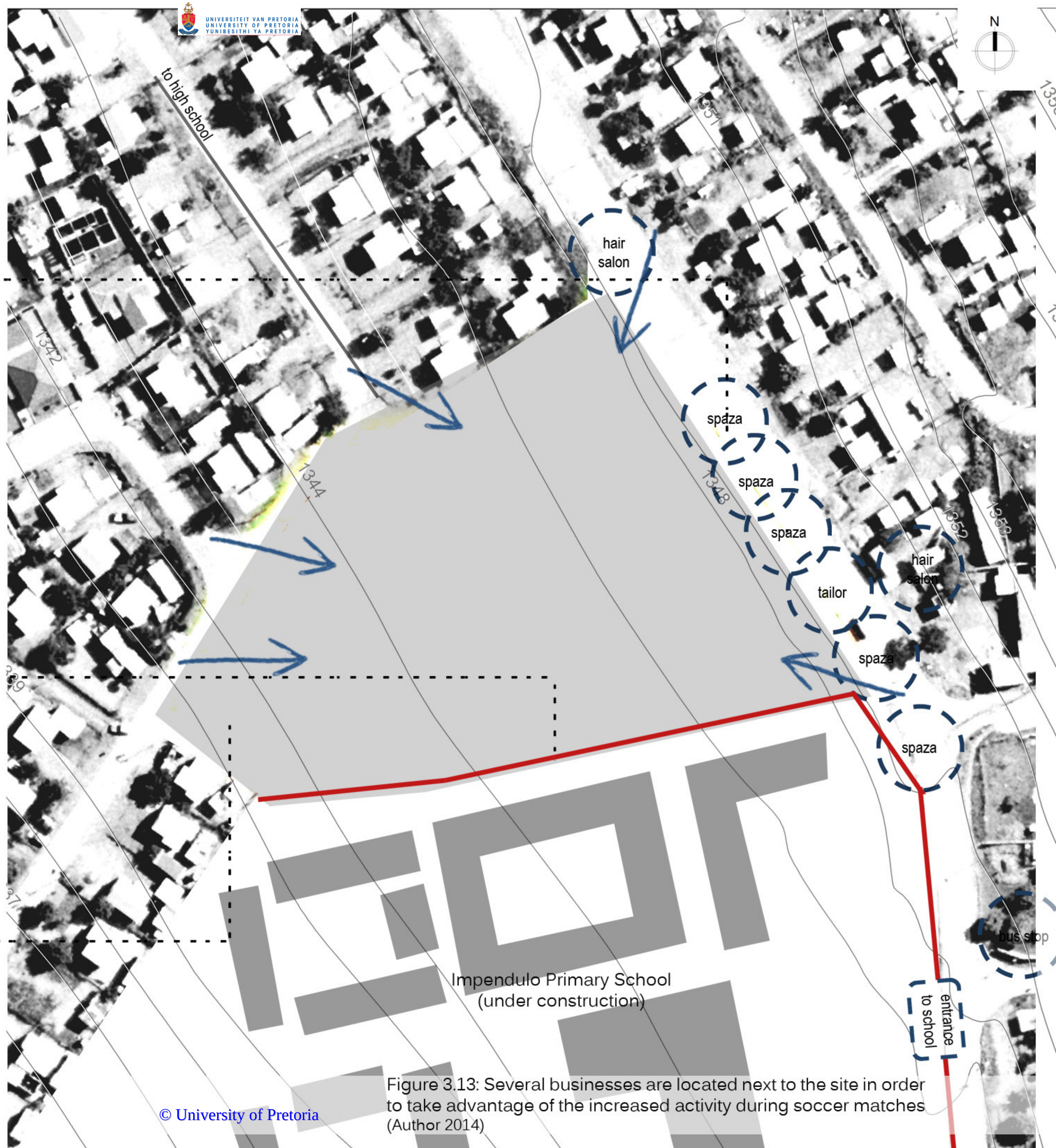


Figure 3.13: Several businesses are located next to the site in order to take advantage of the increased activity during soccer matches (Author 2014)

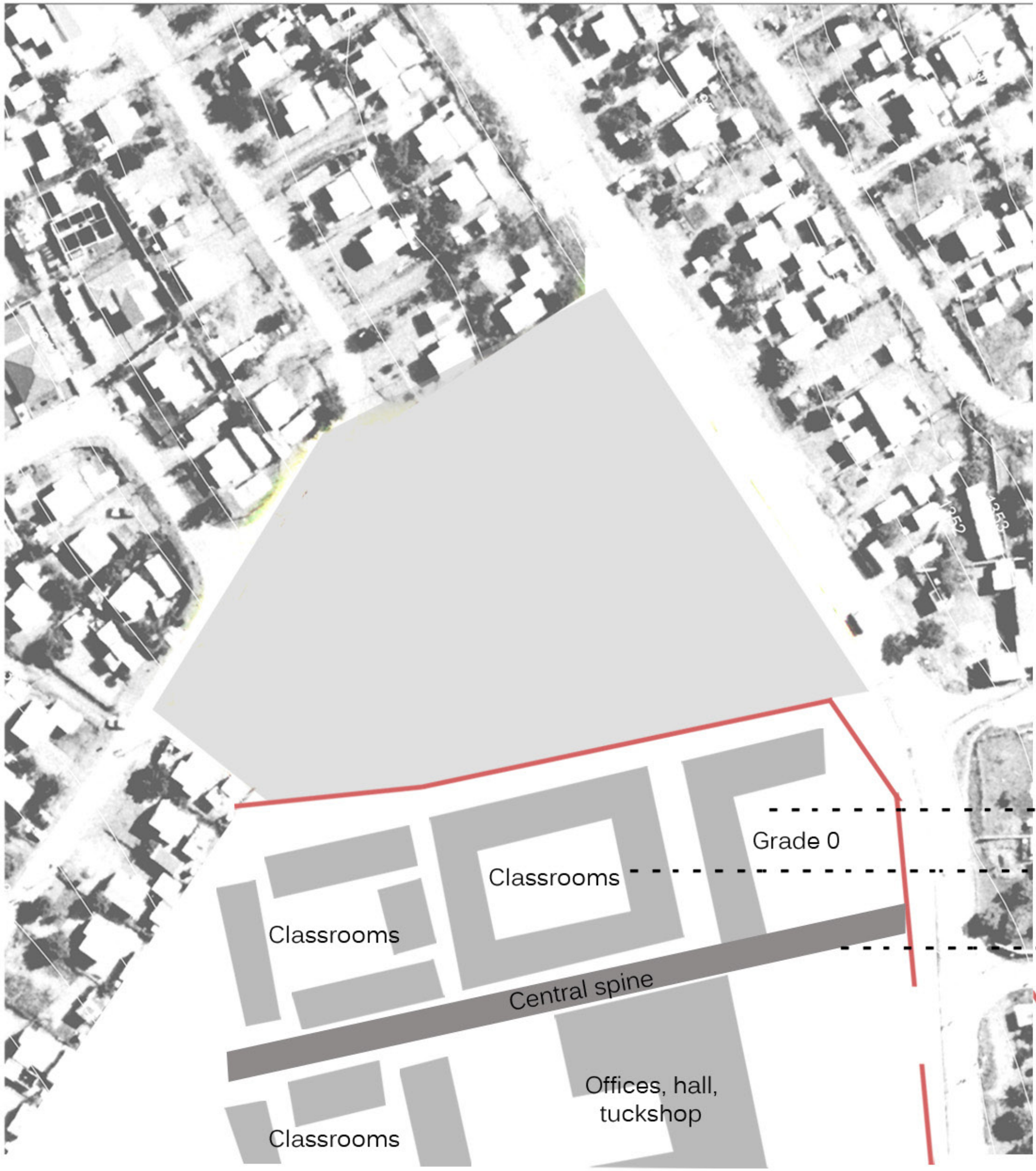


Figure 3.14: Impendulo Primary School (Author 2014)

The school is made up of a series of buildings arranged around courtyards. A central spine leads from the main entrance through the site, linking each set of classrooms. These courtyards encourage social interaction between different classes. The school is constructed of brick and has mono-pitched corrugated iron roofs.

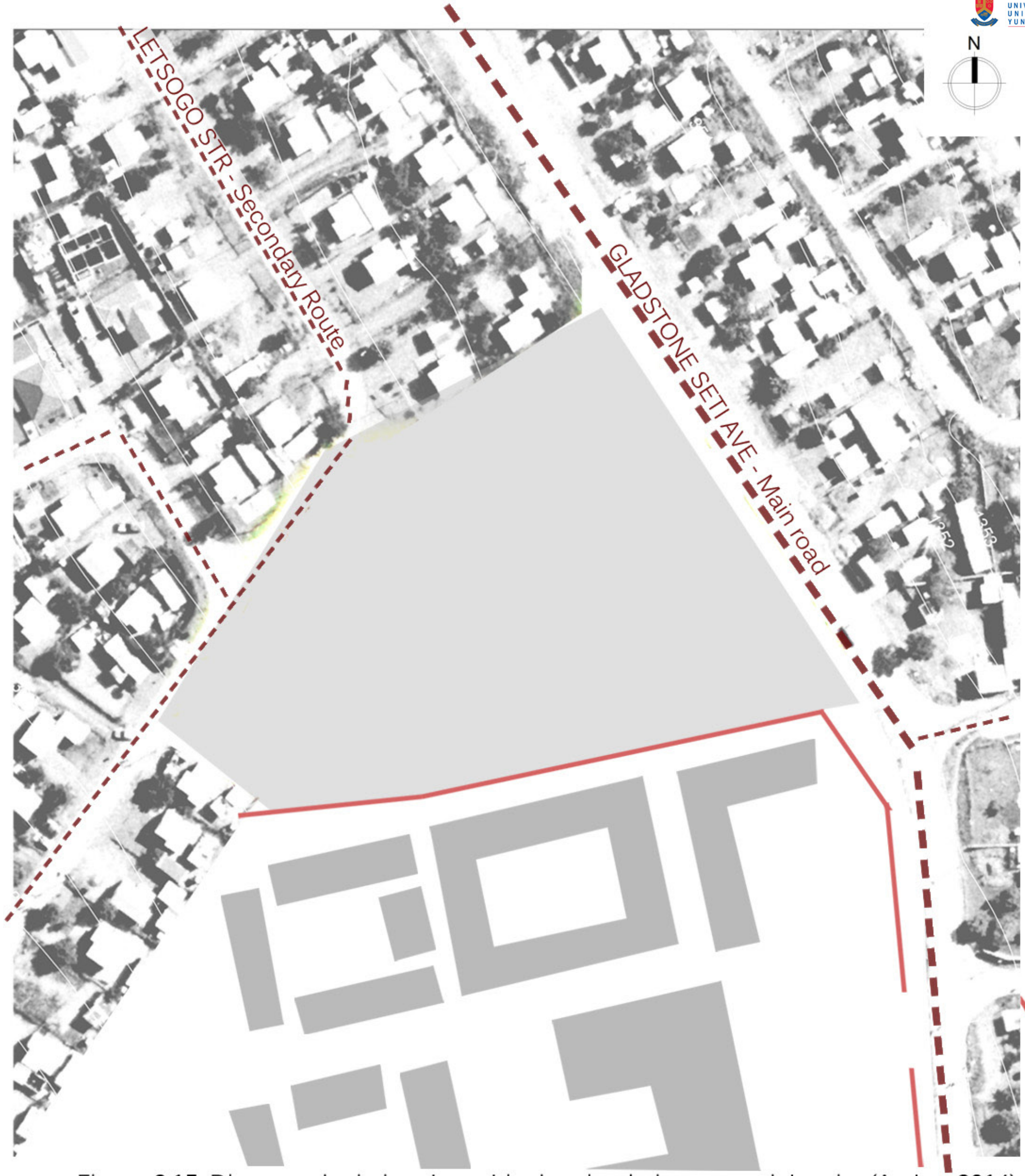


Figure 3.15: Diagram depicting the vehicular circulation around the site (Author 2014)

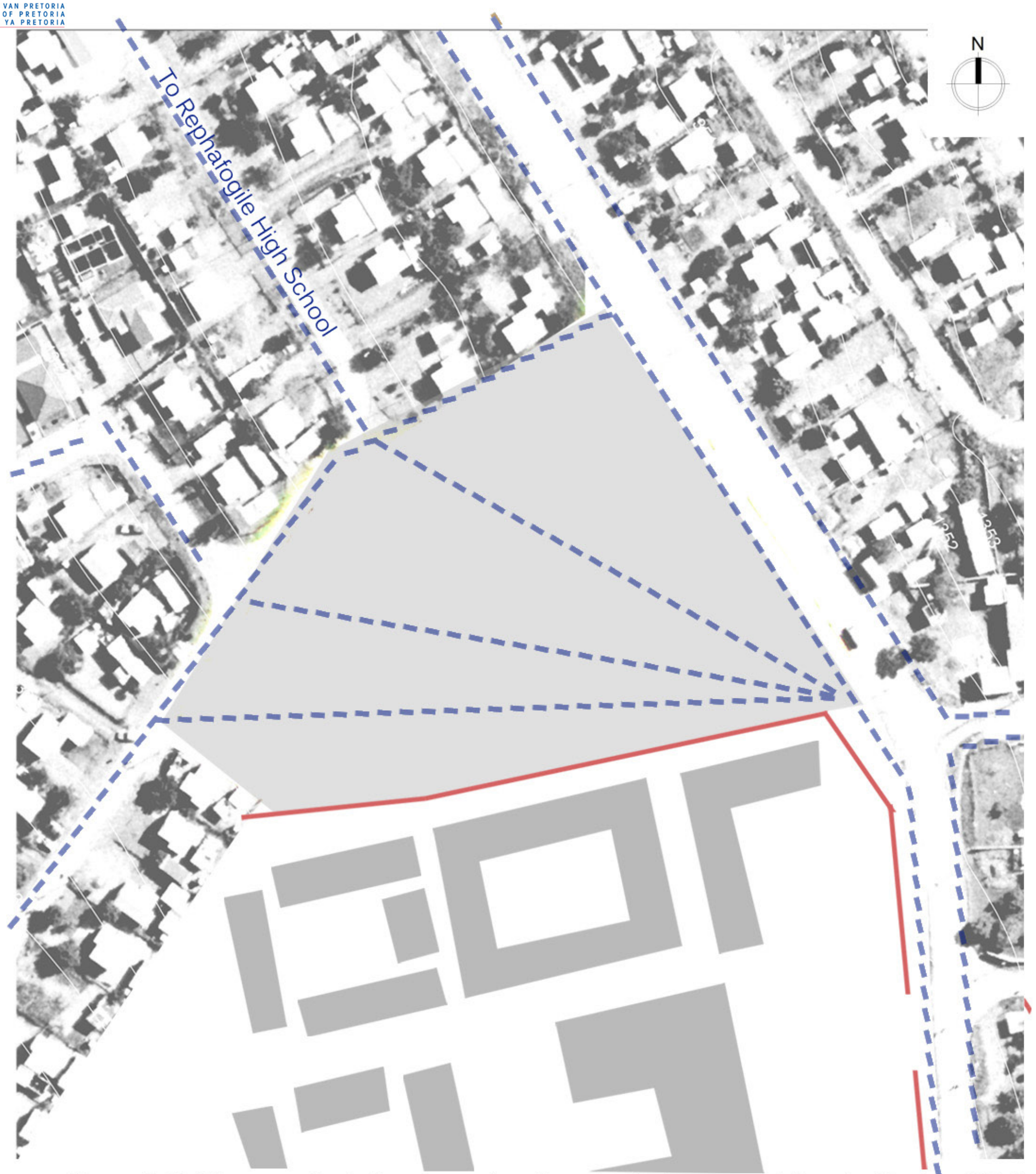


Figure 3.16: Diagram depicting the pedestrian circulation around the site (Author 2014)

The site is situated alongside the main route through Alaska, Gladstone Seti Avenue, which experiences high traffic volumes when compared to the rest of the settlement. Secondary routes are situated to the north and west of the site making the site easily accessible by vehicle.

Due to the site's proximity to both the high school and primary school, it sees high volumes of pedestrian traffic, the majority being made up of the youth. Pedestrians use the site as a shortcut linking to the main road.

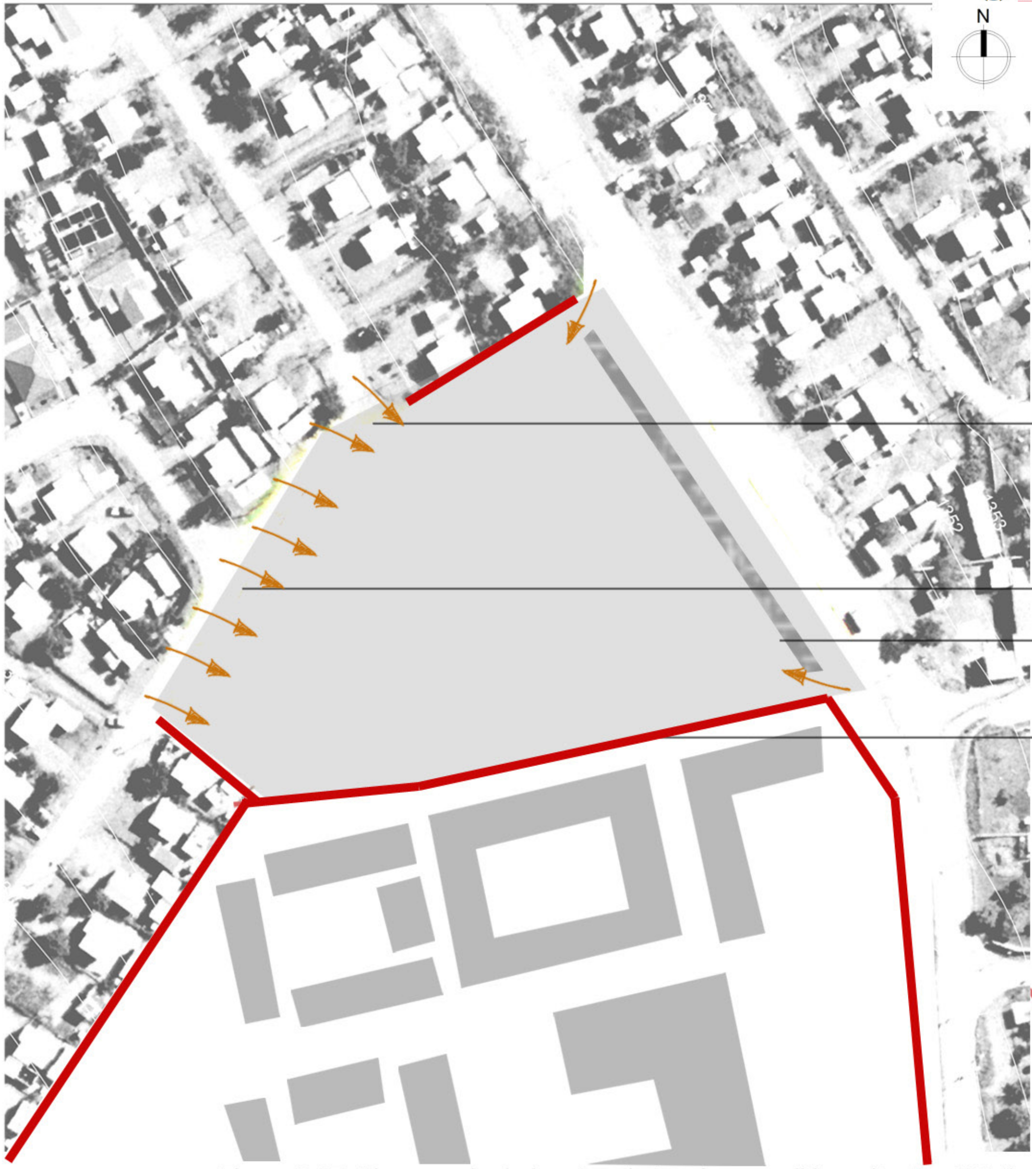


Figure 3.17: Diagram depicting the site's edge conditions (Author 2014)

site is open to the north, linking it to the high school's route

site is open to the north-west

the sudden level change of approximately 1.2 metres prevents pedestrians from accessing the site from the majority of the eastern side

the school's high concrete fence acts as a barrier to the southern side of the site

3.8 Urban Framework

The identified site forms part of a larger group framework. During March 2014, the urban design group, comprising of Claire du Trevou, Mike Duvel and the author, mapped both the physical features of Alaska, as well as its intangible networks.

From the unstructured interviews with the community, the group found a desire for open civic space, or *own ground*, as Webster (2014) called it. The group identified main public nodes within the settlement and designed a framework that aimed to strengthen and enhance these areas as prominent public spaces.

Figure 3.18 illustrates the different social networks each group member focused on over the course of the year.

The framework is focused on the main spine of Alaska, Gladstone Seti Avenue, along which the majority of Alaska's commercial activity occurs. Each group member's site is located along this spine with each intervention aiming to act as a catalyst, reinforcing the current activities around the area and encouraging further activity between each public node.

Appendix B contains a detailed explanation of the group's framework, the design process and the critiques of other Mamelodi frameworks from professional firms and previous University of Pretoria Honours students.

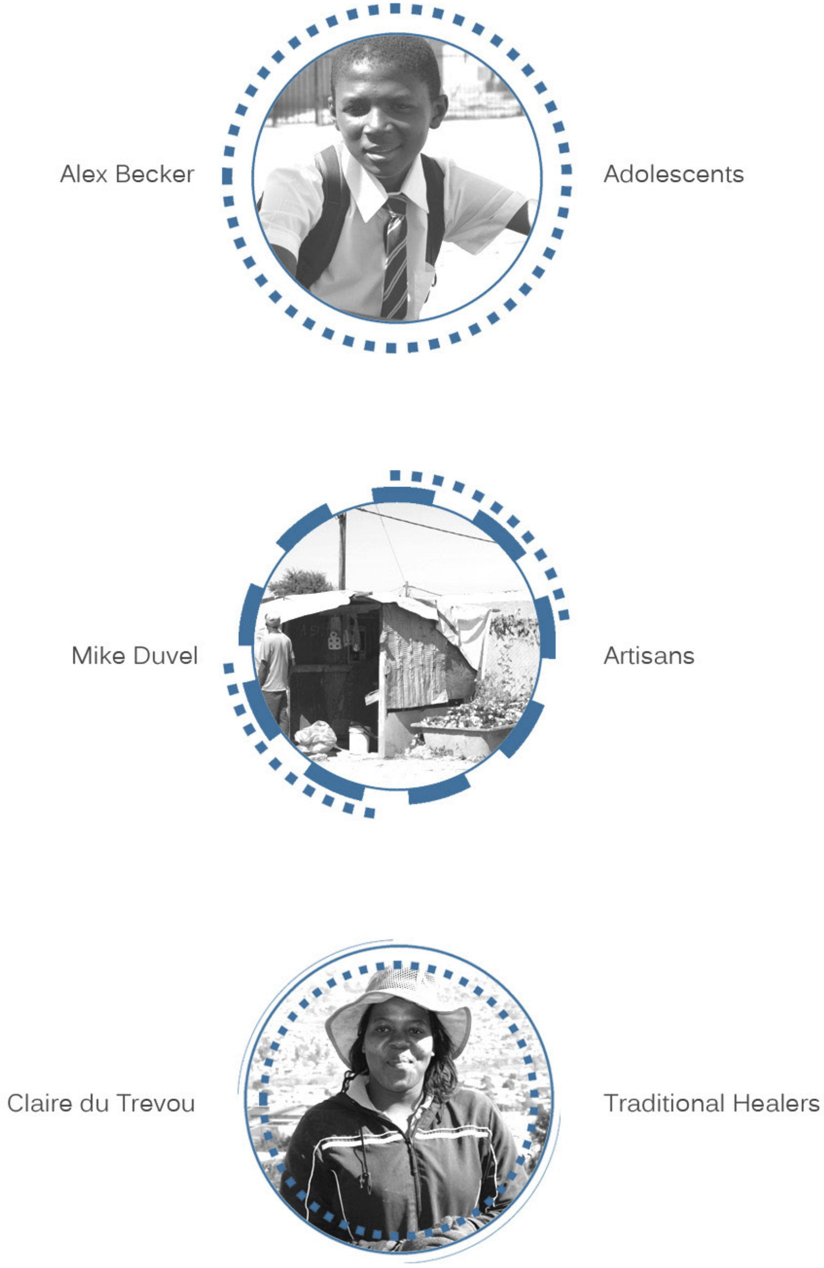


Figure 3.18: Diagram depicting the social network each member focused on (Author 2014)

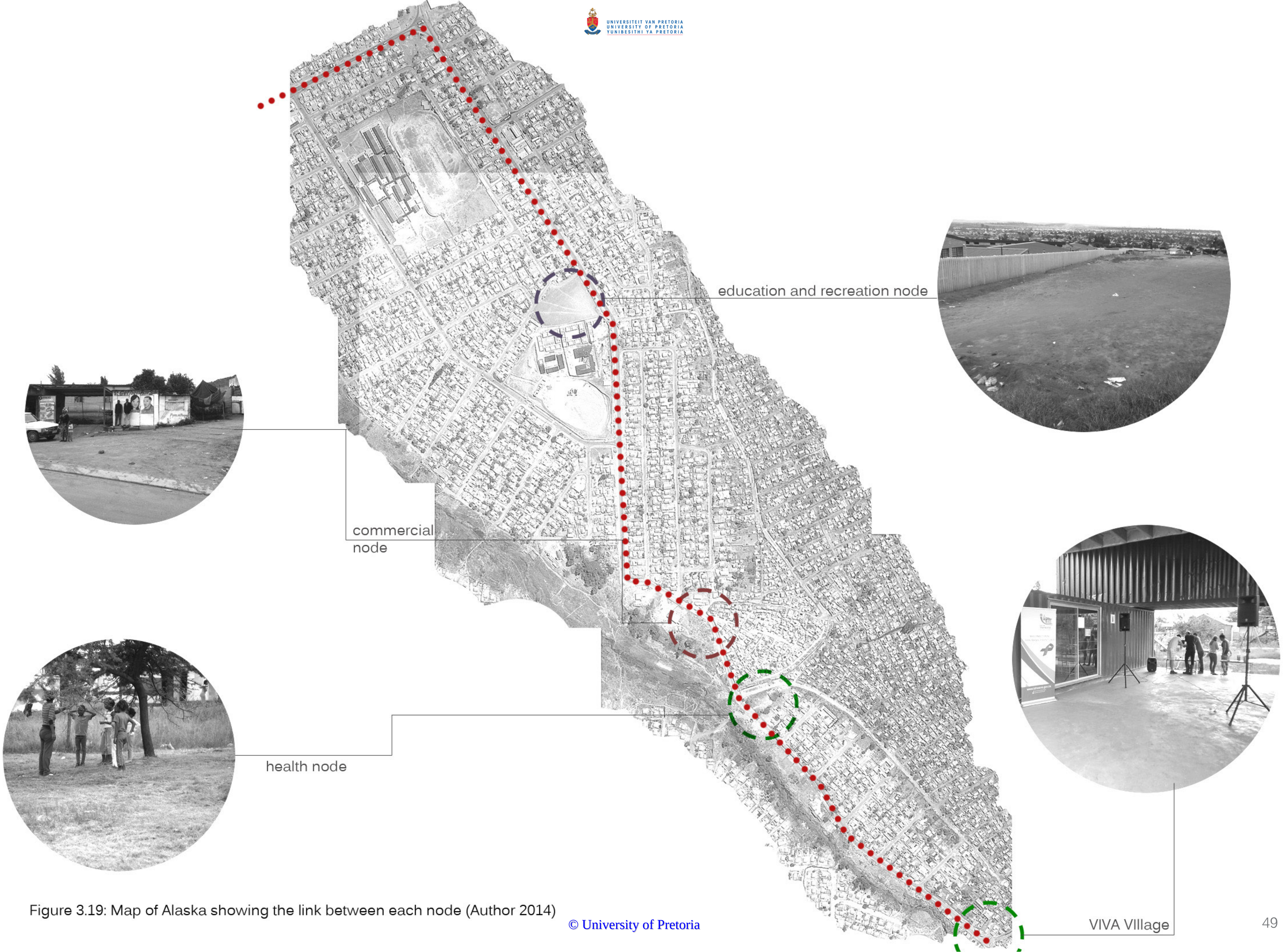


Figure 3.19: Map of Alaska showing the link between each node (Author 2014)

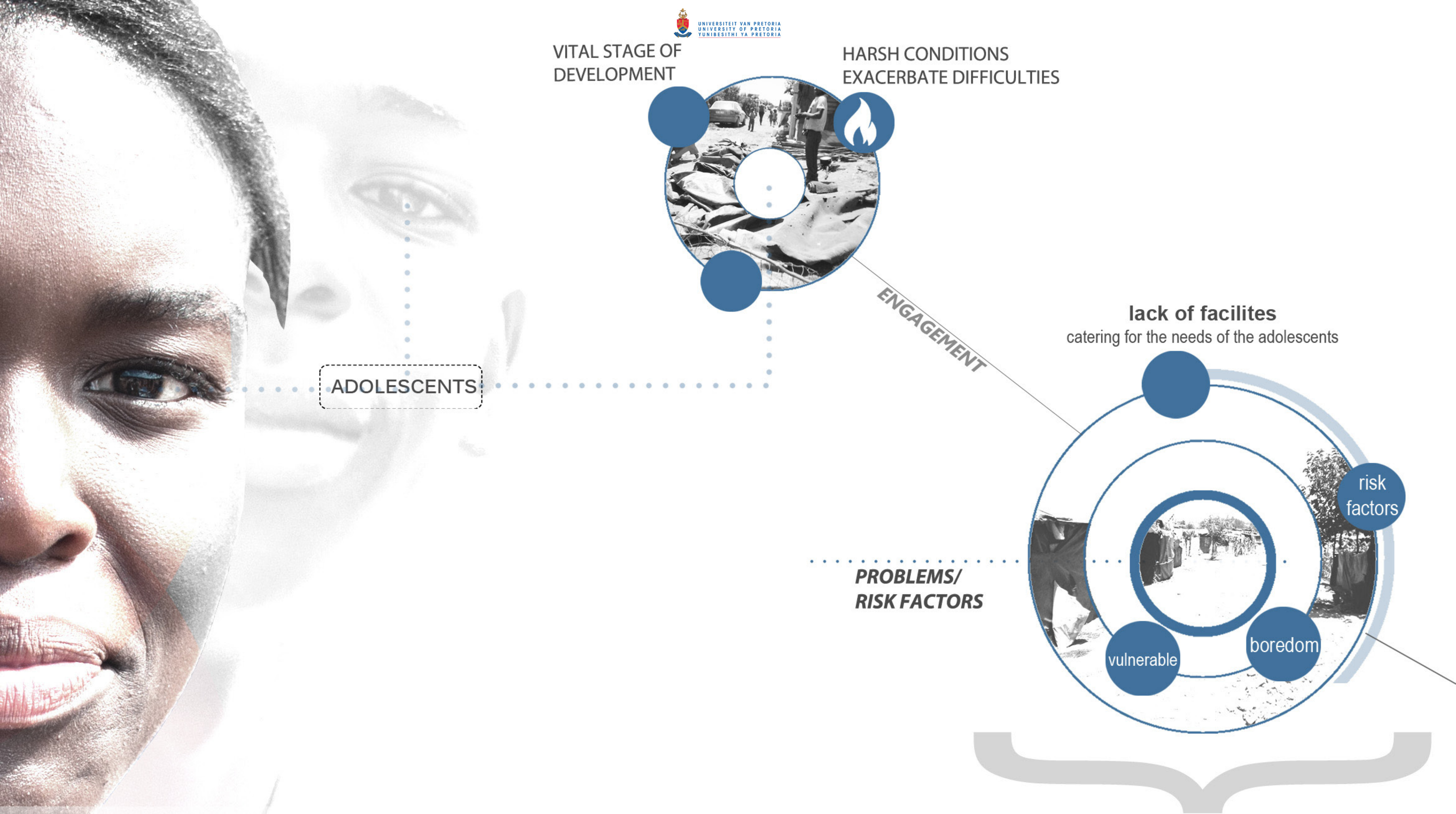
Figure 4.1: One of the Alaskan youths walked to the peak of the mountain to capture this image of himself and Alaska (Jacob 2014)

It is easier to build strong children than to repair broken men.

Douglass (1855)

4 PROGRAMME

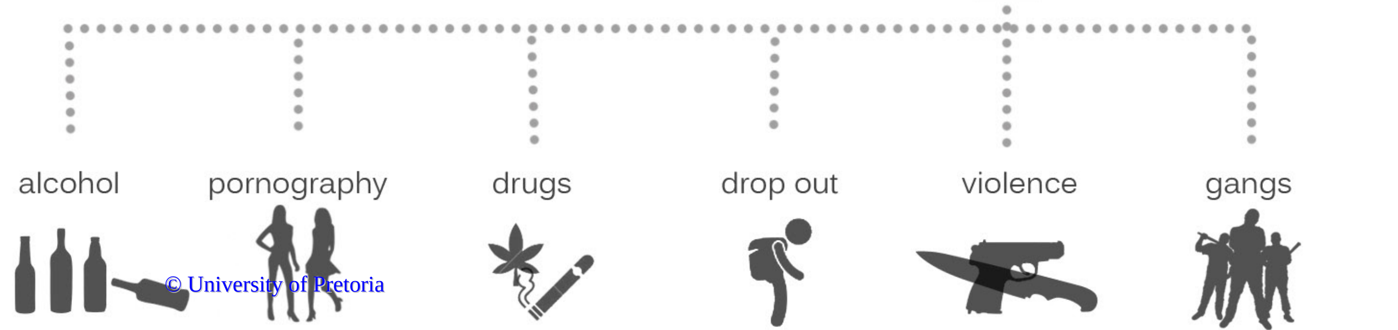
This chapter focuses on the intention of the project and the proposed programme of the building



4.1 Summary of Findings

Before a programme was formulated the findings that arose during the participatory mapping exercises were summarised.

The following diagram summarises the risk factors facing the adolescents, the various after-school activities they desire to be involved in and the benefits such activities can have on them.



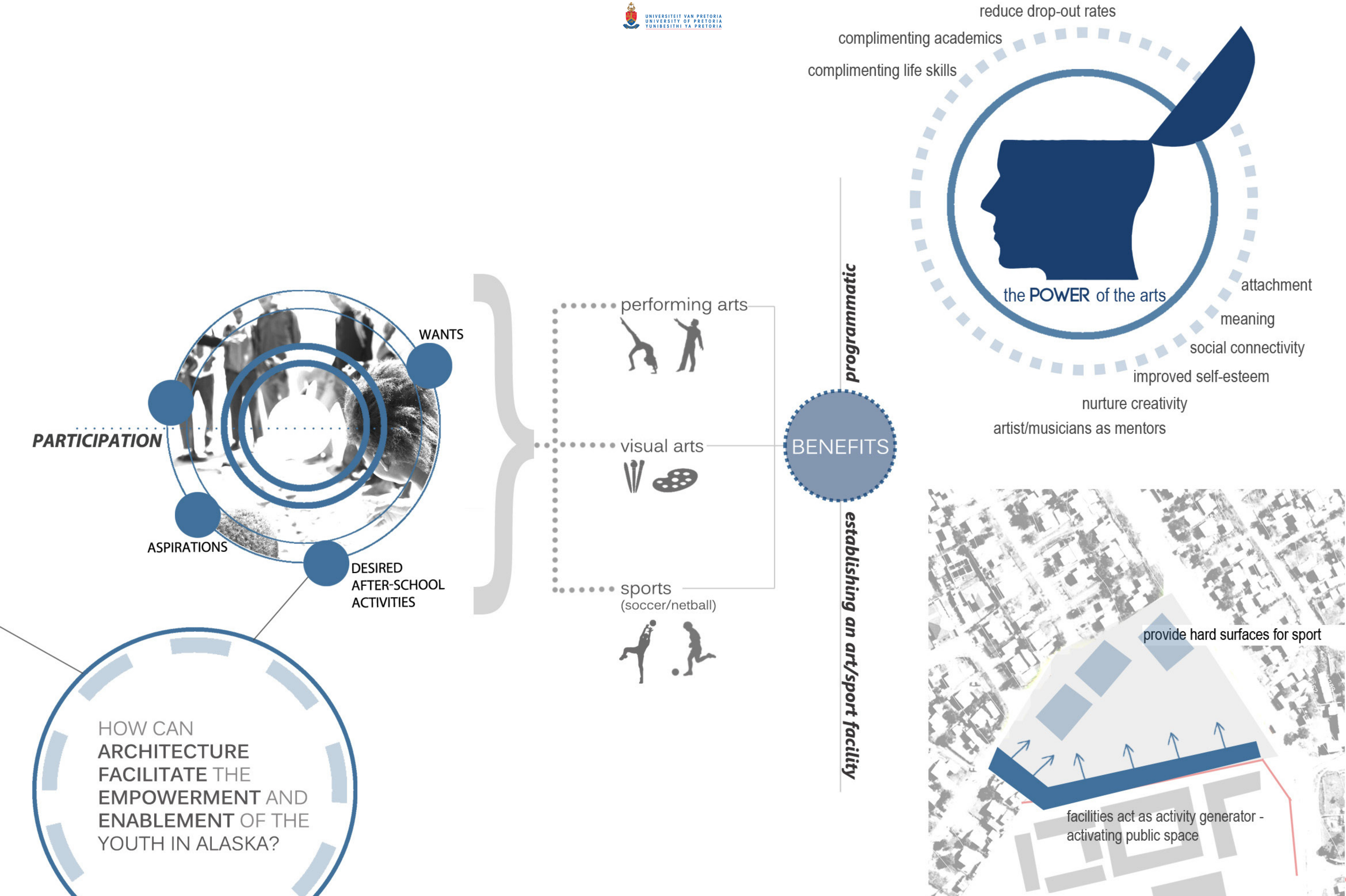


Figure 4.2: Diagram summarising the participatory mapping findings and potential benefits of establishing an art facility(Author 2014)

4.2 Public Space in Alaska

Public spaces have a social function in urban environments. They *represent the primary, and arguably the most important, form of social infrastructure* (Dewar & Todeschini 2004:69).

Worpole (2006) states that public spaces play a vital role in the social and economic life of communities. He states that public spaces offer numerous benefits; these include the opportunity for social interaction and a place where people can display their culture and identities.

According to Gehl (2011) successful public places contribute to community health whether socially, economically, culturally or environmentally. They provide the urban environment with a sense of character as well as a place for public activities to occur.

As emphasised by one of the community leaders, Webster (2014), *Alaska lacks its own community ground, where we can meet, sit, talk and children can play.*

Figure 4.3: The proposed site is currently a harsh, barren environment (Author 2014)

4.3 An Imaginarium in Alaska

Imagination is more important than knowledge
Albert Einstein (1901)

An *imaginarium* is a place where one's imagination is stimulated and cultivated. It is a space where ideas can be explored and shared (Omnilexica 2007).

The investigations performed by the honours students uncovered an interest in both visual arts and performing arts. An imaginarium is a place where this creative, artistic desire can be harnessed, moulded and then shared with the public.

The intention of the project is to strengthen public space by introducing the arts as an activity generator.

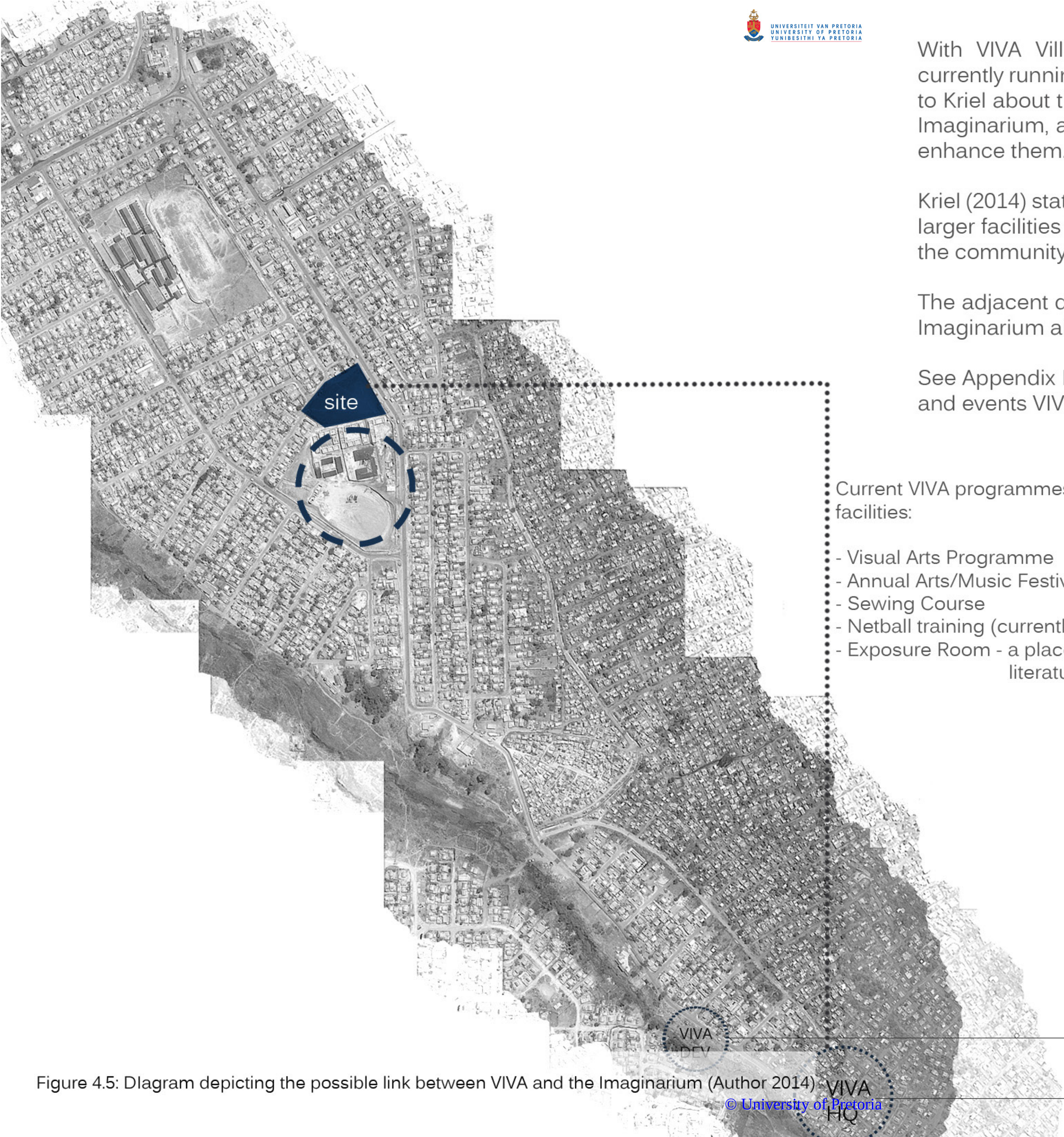
Figure 4.4: Imagination is more important than knowledge (Junio 2014)

With VIVA Village being the only organisation in Alaska currently running programmes for the youth, the author spoke to Kriel about these activities in order to understand how the Imaginarium, and possibly the school, could strengthen and enhance them.

Kriel (2014) stated that if they had more human resources and larger facilities they could expand their sphere of influence in the community.

The adjacent diagram depicts the VIVA-run programmes the Imaginarium aims to support.

See Appendix D for photographs of the various programmes and events VIVA has held over the course of 2014.



Current VIVA programmes that have the potential to grow through adequate facilities:

- Visual Arts Programme
- Annual Arts/Music Festival
- Sewing Course
- Netball training (currently have the equipment but no court)
- Exposure Room - a place where children are exposed to educational literature and films outside of school

Involvement with VIVA:
-reinforce activities - man power
-provide more suitable spaces for activities
-utilise equipment sports, sewing etc

Figure 4.5: Diagram depicting the possible link between VIVA and the Imaginarium (Author 2014)

4.4 Visual Arts

According to d'Alant (2013) a number of initiatives across the globe are using art to empower marginalized communities. *Whether it is through museums in Rio de Janeiro, art training workshops and exhibitions in Mumbai and Lagos or encouraging film production in Nairobi, several projects are giving the poor a voice* (d'Alant 2013).

d'Alant (2013) states that these initiatives allow marginalized communities to see themselves from a different perspective, an important start for bringing about social change.

The Beginnings of a Photography Club

As stated in Chapter 2, the two day Alaskan photography competition that was held in April 2014 was a great success with the winner, Alpheus, receiving a digital camera as a prize. A month later the author visited him to see how his photography skills had progressed. According to Alpheus (2014) the opportunity to pursue photography further had given him a new lease on life. *I never thought I could ever do something like this, but now that I have the opportunity, I couldn't be happier.*

In May 2014, Alpheus had started teaching a few of his friends how to take pictures and so the beginnings of a photography club began to sprout. This exercise is testament to the power of the arts and how it can bring a renewed sense of meaning to a person. It also indicates how a programme can start with a single person, gain momentum and result in the formation of a club of interested participants. See Appendix C for Alpheus' first exhibition which took place on the 25th of October 2014.

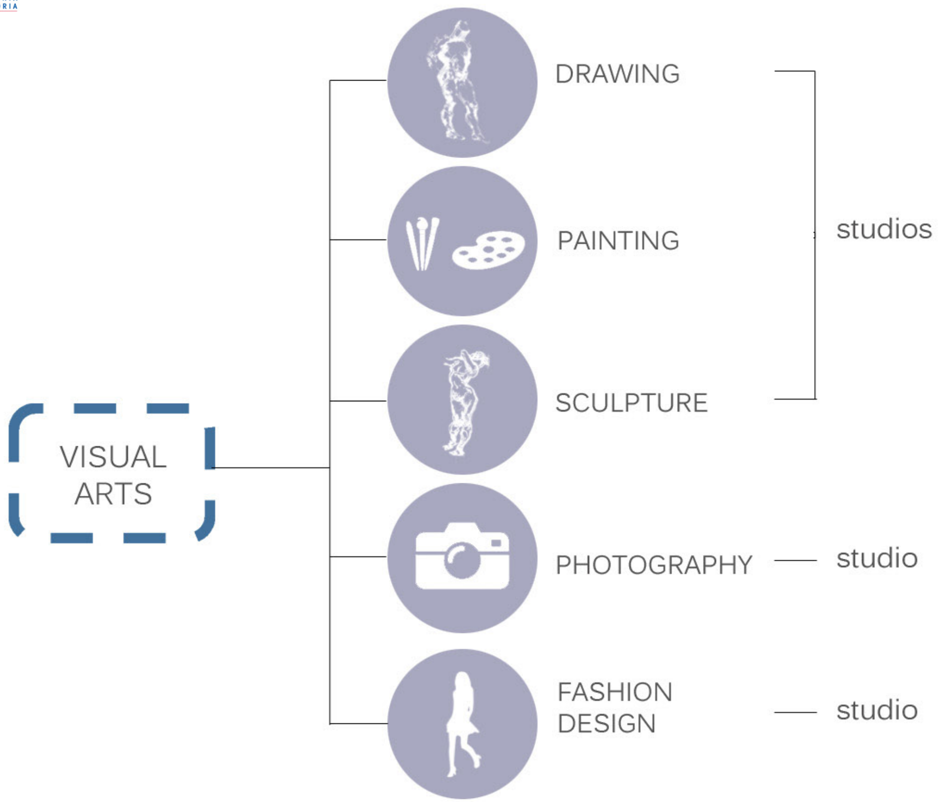


Figure 4.6: Diagram illustrating the various visual art programmes in which the adolescents showed an interest (Author 2014)

Figure 4.7: The *I Love Alaska* project was successful in engaging the adolescents in a visual art form (Franklin 2014)

Figure 4.8: An art exhibition in a slum in Mumbai, India. (d'Alant 2013)

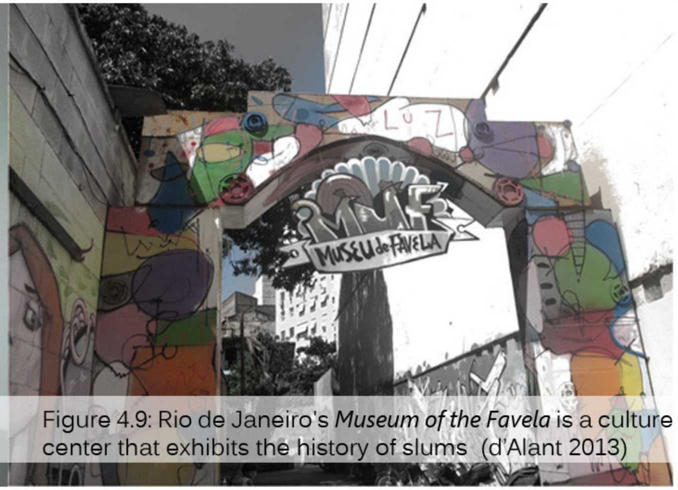


Figure 4.9: Rio de Janeiro's *Museum of the Favela* is a culture center that exhibits the history of slums (d'Alant 2013)

4.5 Performing Arts

Apart from a church choir, the author found no other performing arts group in Alaska. Children were dancing and listening to music in the street, but no signs of a formal group or club were found. When asked why that was the case, a group of adolescents responded by saying that there are no facilities for such activities.

The participatory mapping showed an interest in dancing, singing, spoken word, poetry, music and drama, while unstructured interviews uncovered frustration amongst the youth because no clubs or groups currently exist.

According to Slum SANAA (2009), performing arts festivals are effective catalysts in bringing communities together and are vital to strengthening community bonds.

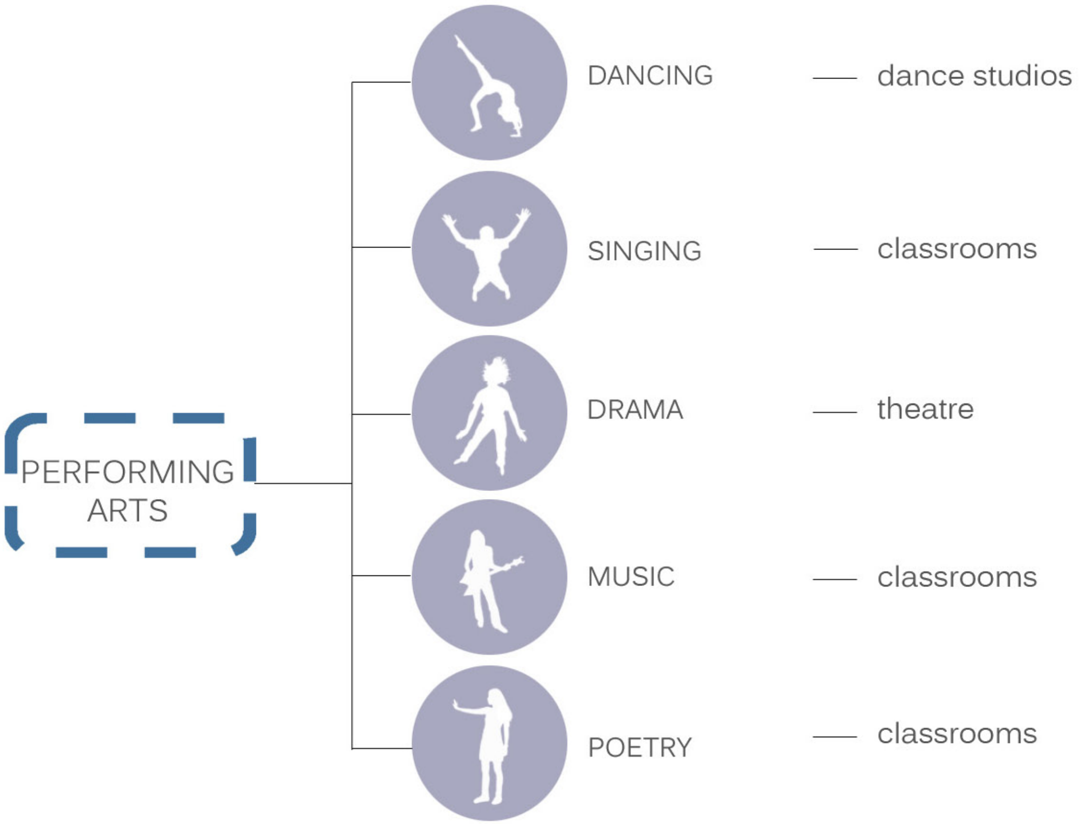


Figure 4.10: Diagram illustrating the various performing art programmes in which the adolescents showed an interest (Author 2014)

Figure 4.11: Artists can become mentors/role model (SANAA 2009)

Figure 4.12: Performances act as catalysts, drawing people to investigate the event (d'Alant 2013)

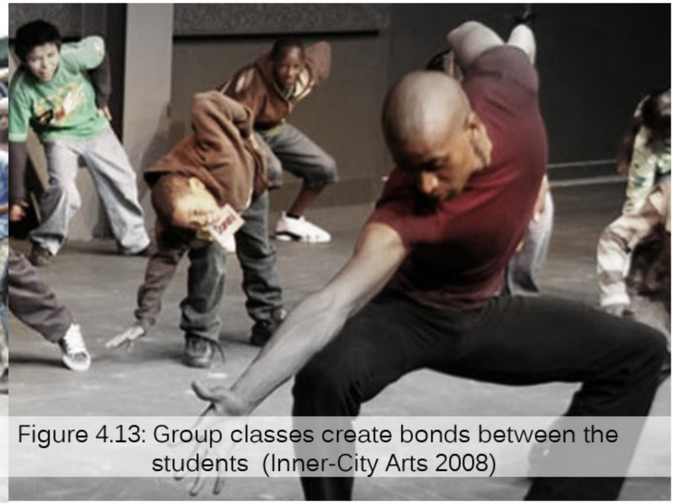


Figure 4.13: Group classes create bonds between the students (Inner-City Arts 2008)

4.6 Sport

Alongside visual and performing arts, another popular activity amongst the adolescents is sport. The participatory mapping showed that of the 193 students interviewed, 54 chose sport as their main interest. The sports the students were interested in were predominantly divided between soccer and netball, while a small karate club was identified. A large group of boys showed interest in general exercise, like running and weightlifting.

A number of hard courts are proposed on the site to facilitate netball games and 5-a-side soccer matches. An outdoor gym will also be provided for those wanting to take part in general exercise.

As stated in Chapter 3, the newly developed primary school claimed the majority of open, community land where a full-sized soccer field was located. Interviews indicate that the community is unhappy as they are now left with a sloping field that is too small, the incorrect shape and orientated east-west. This injustice, however, will not last much longer as the school, once completed, is planning to open up the new sports fields to the community, according to Webster (2014).

The school is terraced and fenced in such a way that opening the field up to the public will not jeopardize the school's security.

Figure 4.14: The school is fenced off from the sports field (Author 2014)

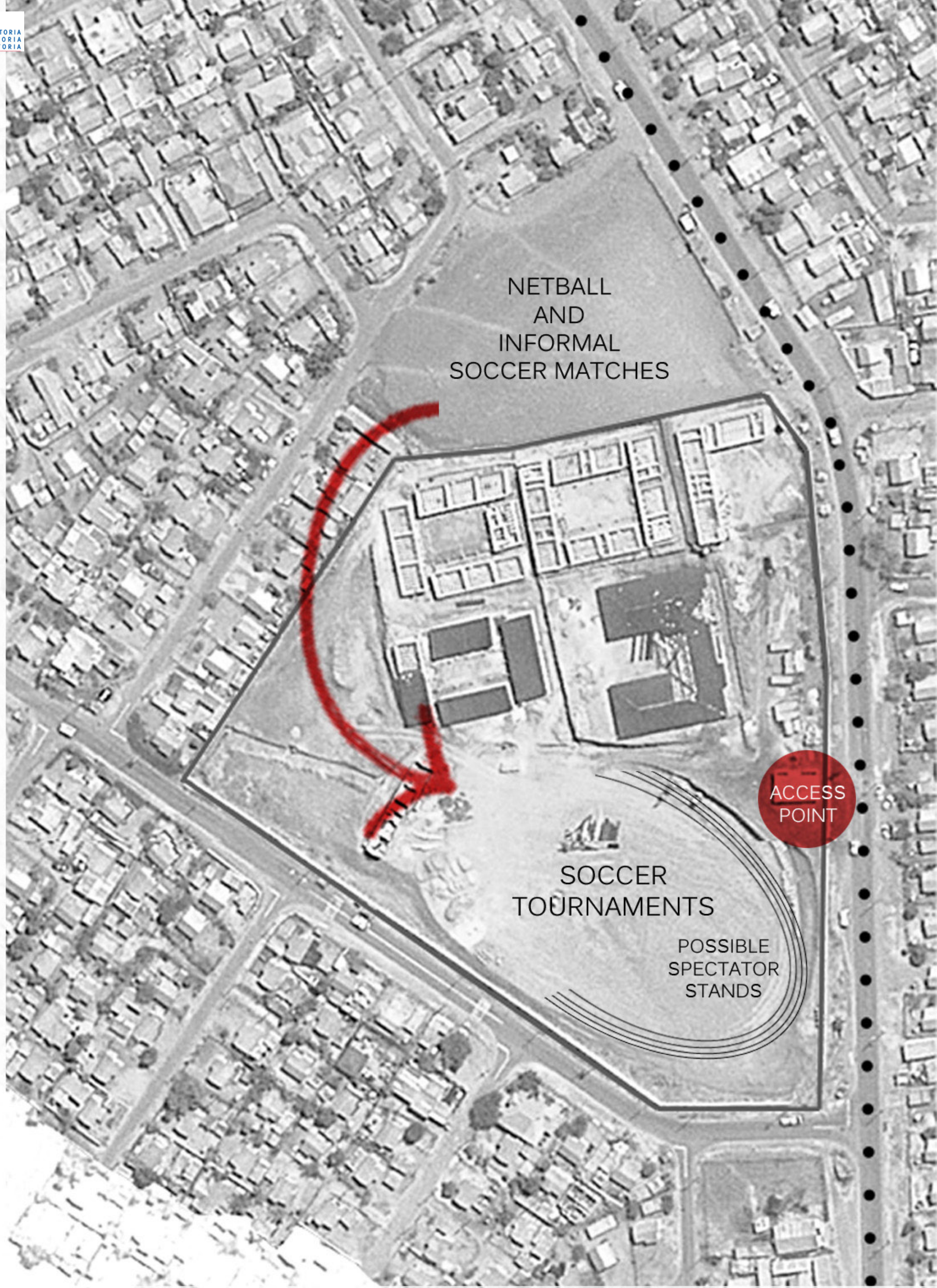


Figure 4.15: An illustration showing the community soccer field's relocation to the new school (Author 2014)

Figure 5.1: A drama class gathers for their after school rehearsal (Inner-City Arts 2009)

Imagination is more important than knowledge. Knowledge is limited. Imagination encircles the world.

Albert Einstein (1929)

5 PRECEDENT STUDY

The precedents chosen in this chapter relate to aspects of the thesis in various categories. These are as follows: programme, design approach, implementation, construction.

5.1. Vele Secondary School, Limpopo, South Africa (Project year: 2007-2011)

In 2007, East Coast Architects, with the participation of the community, started the design of Vele Secondary School. It was to serve not just as a school, but a centre for the village community as a whole, one that stimulates social and economic development (Cantz 2014).

Participatory Approach

The school serves four rural villages, whose representatives were involved in the planning process. Other parties participating in the planning process included officials from the Ministry of Education, teachers, parents and students, who collaborated with the architects in workshops held in 2008 (Cantz 2014).

The architects engaged with the various parties in order to gather information about routes to school, local building methods and skills, as well as the home of students as the new school centre was to be a *second home*. This engagement took the form of a mapping and photography project (Cantz 2014).

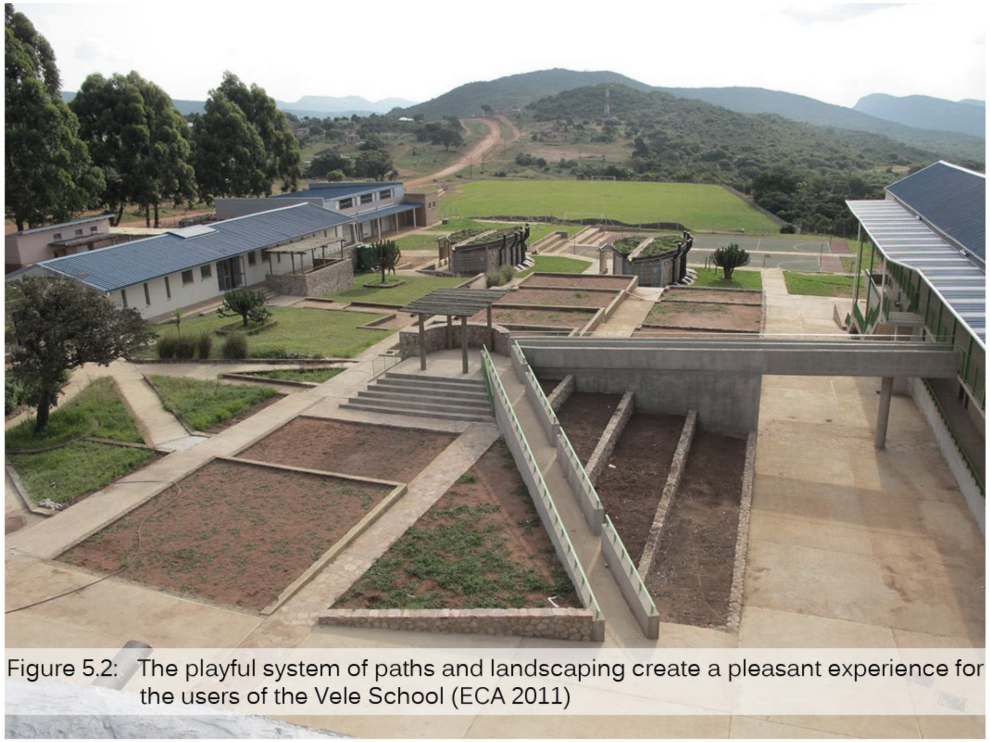


Figure 5.2: The playful system of paths and landscaping create a pleasant experience for the users of the Vele School (ECA 2011)

Figure 5.3: Numerous courtyards are found throughout the school, creating opportunities for social interaction between students (ECA 2011)

Figure 5.4: The school overlooks the sports field to the west (ECA 2011)

The participatory process not only encouraged the exchange of knowledge between parties, but also cultivated a working relationship between the architects and the community. Due to the community being a part of the planning, design and construction processes, there was an increased sense of pride and ownership when the building was completed (Cantz 2014).

The building uses the following sustainable technologies and methods:
- locally sourced materials - stone and wood
- rainwater harvesting
- passive ventilation
- local labour
- solar panels power the computers
- insulating materials in the walls, floors and ceilings

KEY PRINCIPLES

- Community involved from outset and throughout project
- Local materials were used
- Various sustainable technologies employed
- Multi-purpose rooms serve a variety of functions

Figure 5.6: Skilled and semiskilled labourers from the four communities were hired (ECA 2011)

Figure 5.5: Classrooms receive light from the north, whilst aluminium window edgings reflect additional light into the rooms (ECA 2011)

Figure 5.7: The school is made of locally sourced wood and stone, creating a strong link with its surroundings (ECA 2011)

5.2 Inner-City Arts, Los Angeles

An urban community center and agent for change...a positive force in that neighborhood.
Michael Maltzan - Architect of Inner-City Arts Precinct

As stated in Chapter 2, Inner-City Arts (ICA) provides arts-based education to vulnerable youth in Los Angeles' poorest neighbourhoods.

Figure 5.9 shows the incremental growth of ICA since its inception in 1989. The programme is an example of how a small project can gradually grow, over many years, into a multi-million dollar organization. ICA is also testament to how architecture is able to facilitate such a programme succesfully.

Programme

In 1994, ICA bought its first building, an old auto body shop. It was renovated into art classrooms, studios, as well as a ceramics classroom. As the organization's popularity grew, so more facilities were needed. The programme expanded beyond only visual arts to include dance and drama classes (Maltzan 2009).

After the completion of the third phase, in 2008, the building consists of art workshops, dance studios, a ceramics studio, a black box theatre and media library (Maltzan 2009).

Figure 5.8: Located amongst dull, derelict buildings, the building's bright white colour makes a bold statement (Baan 2009)

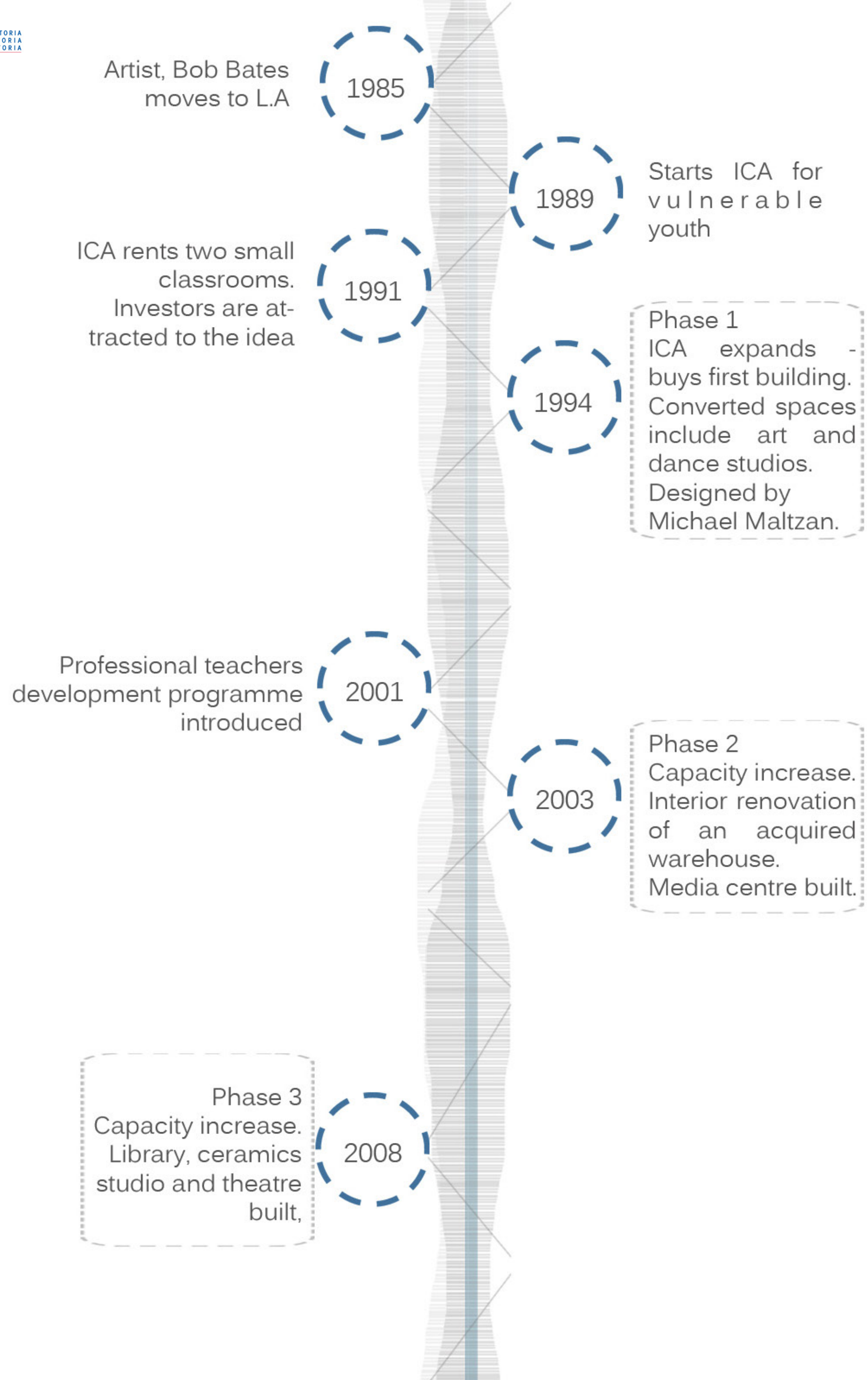


Figure 5.9: Incremental growth of Inner-City Arts (Author 2014)

Design Approach

According to Maltzan (2009) the aim was to create an urban village with a series of indoor and outdoor spaces. It was to be a strong symbol of hope in a derelict neighbourhood.

The building's strong, angular and stark forms combined with white stucco walls makes the building stand out against the relatively mundane and drab warehouses that surround it.

Windows are strategically placed to provide abundant natural light and views of the landscaped courtyard gardens. The link between interior and exterior is blurred through the use of large windows overlooking these courtyards (Maltzan 2009).

Instead of the project being one large building, it is made up of a series of buildings linked by courtyard spaces. This not only defines the various spaces, but also encourages social interaction between disciplines.

The building is largely inward-focused, but does open to the street with a number of gates that are perforated and allow visual access into the court-yards.

According to Maltzan (2009), the building's white exterior is a symbol of a blank slate and is an invitation for grafitti artists to use the architecture as a canvas. Many of the walls are now covered in mosaics created by the students.

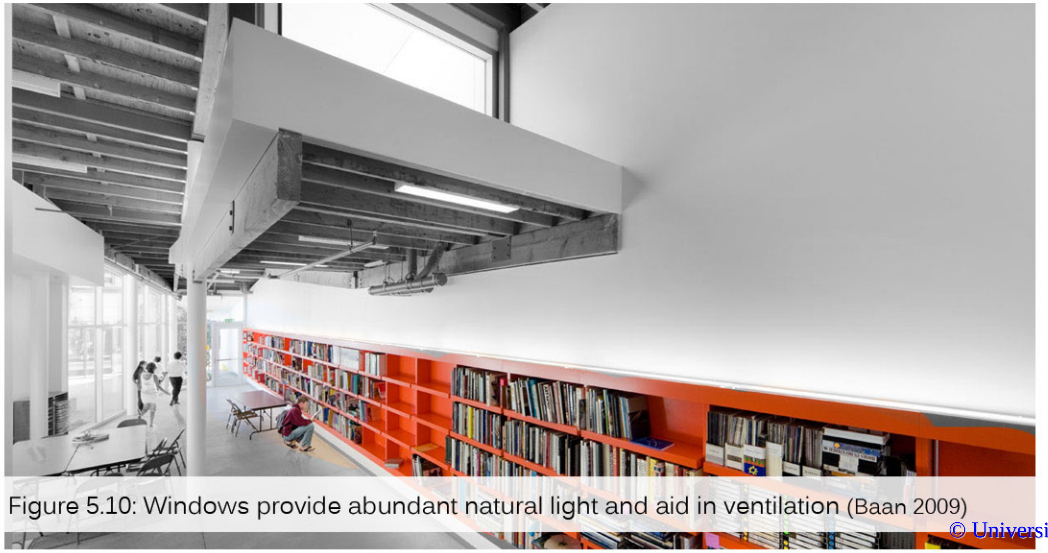
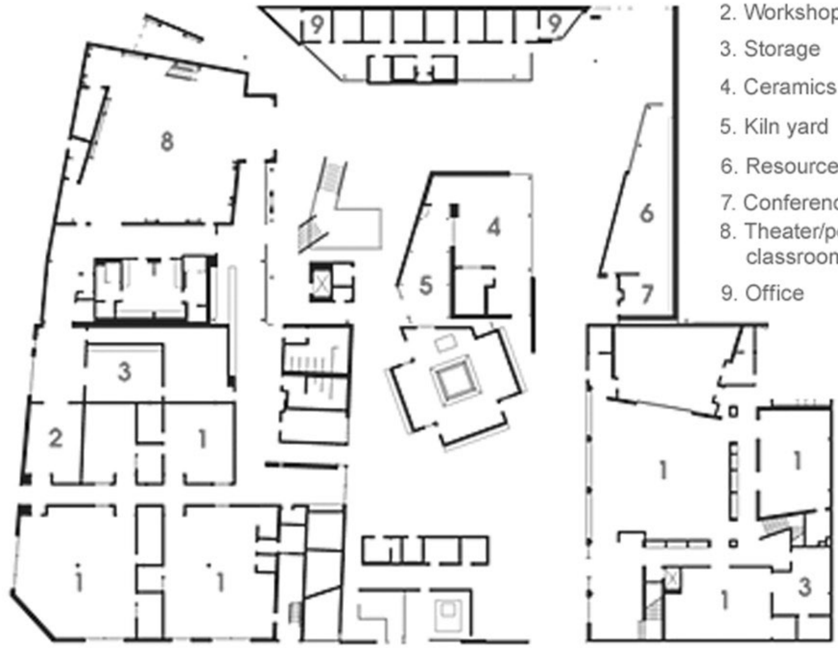


Figure 5.10: Windows provide abundant natural light and aid in ventilation (Baan 2009)



1. Classroom
2. Workshop
3. Storage
4. Ceramics classroom
5. Kiln yard
6. Resource center
7. Conference
8. Theater/performing arts classroom
9. Office

Figure 5.11: Group classes develop confidence and community-building skills (Saha 2012)

Figure 5.12: Courtyards become social spaces between classes (Baan 2009)

KEY PRINCIPLES

- Phased approach
- Strong emphasis on courtyard spaces
- Architecture as a blank canvas
- Link between interior and nature
- Inwardly focused

5.3. Gehua Youth and Cultural Centre - Qinhuangdao, China (Project year: 2012)

The centre is located in a seaside town with exceptional historic and cultural significance. From the outset, OPEN Architects (2012) saw this centre as being an oasis within the town - free from noise and surrounded by nature. Maintaining the building's link with nature became the main design generator for the centre.

Programme and Design Approach

The building has various functional requirements, these include a theatre, gallery, multi-purpose activity spaces, cafe, bookstore and multi-media library. The majority of the spaces are flexible, so they can be used for a variety of functions (OPEN Architects 2012).

The building is organised around a central courtyard that acts as a social gathering space and can also become an extension of the theatre. The theatre doors can fold open, creating an open-air theatre or cinema depending on the occasion (OPEN Architects 2012).

Figure 5.14: The building is inwardly focused -organised around a central courtayrd (Zhi 2012)

Figure 5.13: The building merges with nature. The boundary between building and landscape becomes a blur (Zhi 2012)

Figure 5.15: The theatre opens up towards the central courtyard (Zhi 2012)

Most of the windows stretch from the ceiling to the floor; this further blurs the lines between inside and out, whilst they also fill the interior space with natural light. Sliding and folding doors also reinforce this idea of bringing nature indoors by opening the building up to the exterior (OPEN Architects 2012).

The sight lines have been designed so that many parts of the building are completely transparent, creating a constant link to the outside (OPEN Architects 2012).

Figure 5.17: The large windows blur the boundaries between inside and outside (Zhi 2012)

KEY PRINCIPLES

- Blur boundary between building and nature
- Blur boundary between outside and inside
- Inwardly focused - oasis
- Multi-functional spaces

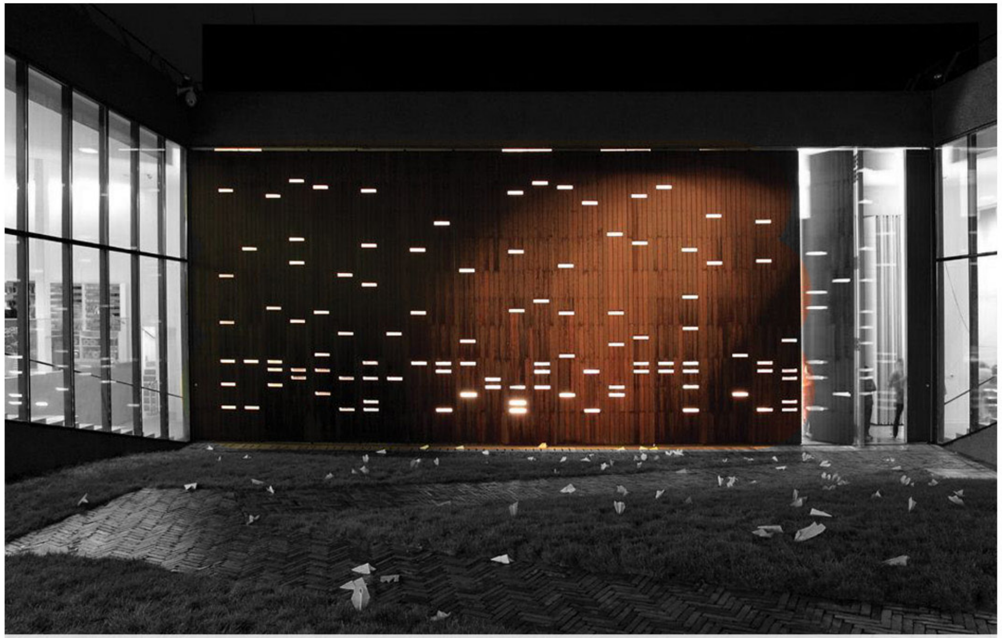


Figure 5.16: The folding doors are perforated, enlivening the facade (Zhi 20012)

Figure 5.18: The large folding doors open the facade up to the outdoors (Zhi 2012)

5.4. Strawberry Vale School - British Columbia, Canada (Project year: 1992-1995)

In 1992, Patkau Architects were commissioned to design an elementary school in a semi-rural community in British Columbia, Canada.

The programme includes 16 classrooms, a library, gym and office spaces.

A central, meandering spine divides the school, with classrooms to the south and offices and sport to the north. The classrooms are grouped together in pods, creating a variety of interior and exterior in-between spaces which act as informal meeting spaces, encouraging social interaction both spontaneous and planned (Patkau Architects 1992).

Between the main route and the classrooms are small waiting spaces that are used as social spaces providing a platform onto which a stronger sense of community may develop (Patkau Architects 1992).

Figure 5.19: The building responds sensitively to the adjacent woodland (Dow 2008)

Figure 5.20: The irregular configuration of spine and pods creates a variety of in-between spaces, allowing students to meet (Dow 2008)

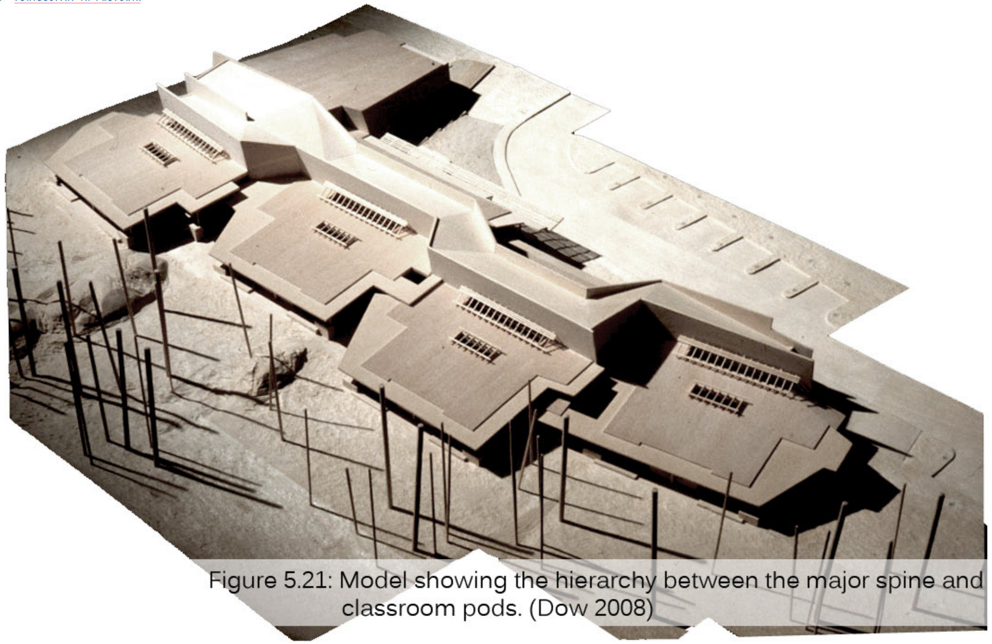


Figure 5.21: Model showing the hierarchy between the major spine and classroom pods. (Dow 2008)

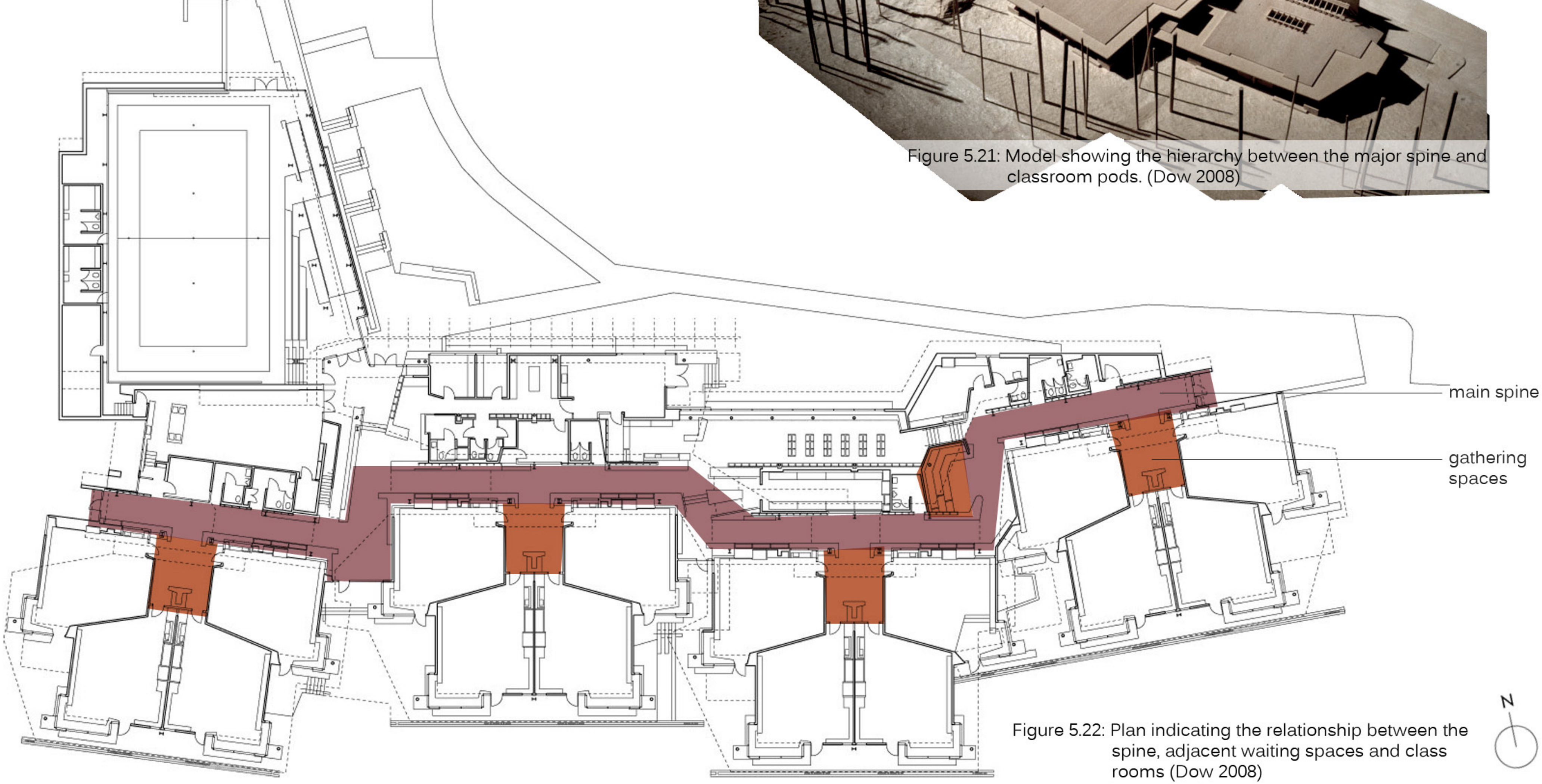


Figure 5.22: Plan indicating the relationship between the spine, adjacent waiting spaces and class rooms (Dow 2008)

5.5. University of Johannesburg Arts Centre (Project year: 2005)

In 2003 Mashabane Rose and Associates was comissioned to design the Universtity of Johannesburg's new arts centre.

The centre is made up of two buildings joined by a central gathering courtyard, which acts as a forecourt. The main building houses the contemporary theatre, rehearsal studios and dressing rooms, whilst the other houses an art gallery (Mashabane Rose 2005).

According to Mashabane Rose (2005) "*The aim of the forecourt was to create a noise-protected environment where the arts flourish*." Visitors descend down a series of steps to a winding path connected to the forecourt. The complex is lower than the rest of the university and is surrounded by a natural amphitheatre which aids in noise protection and creates a certain sense of separation from the rest of the university.

Figure 5.24: The rehearsal spaces act as platforms where practices in fact become performances (Raaths 2011)

Figure 5.23: The forecourt connects the theatre and art gallery (Raaths 2011)

Figure 5.25: The rehearsal spaces are framed, allowing passersby to view the happenings within the building (Suzman 2005)

The art gallery merges with the landscape. Its green roof acts as an extension of the natural amphitheatre with visitors being able to walk on it.

The theatre space is flanked by servant spaces such as the ablution blocks, rehearsal spaces and dressing rooms.

The complex is unusual in that the inner-workings of the buildings are made visible to the public. The art gallery and studios have large displays that extend the arts, be they visual or performance, into the public realm - they are not kept hidden from passersby.

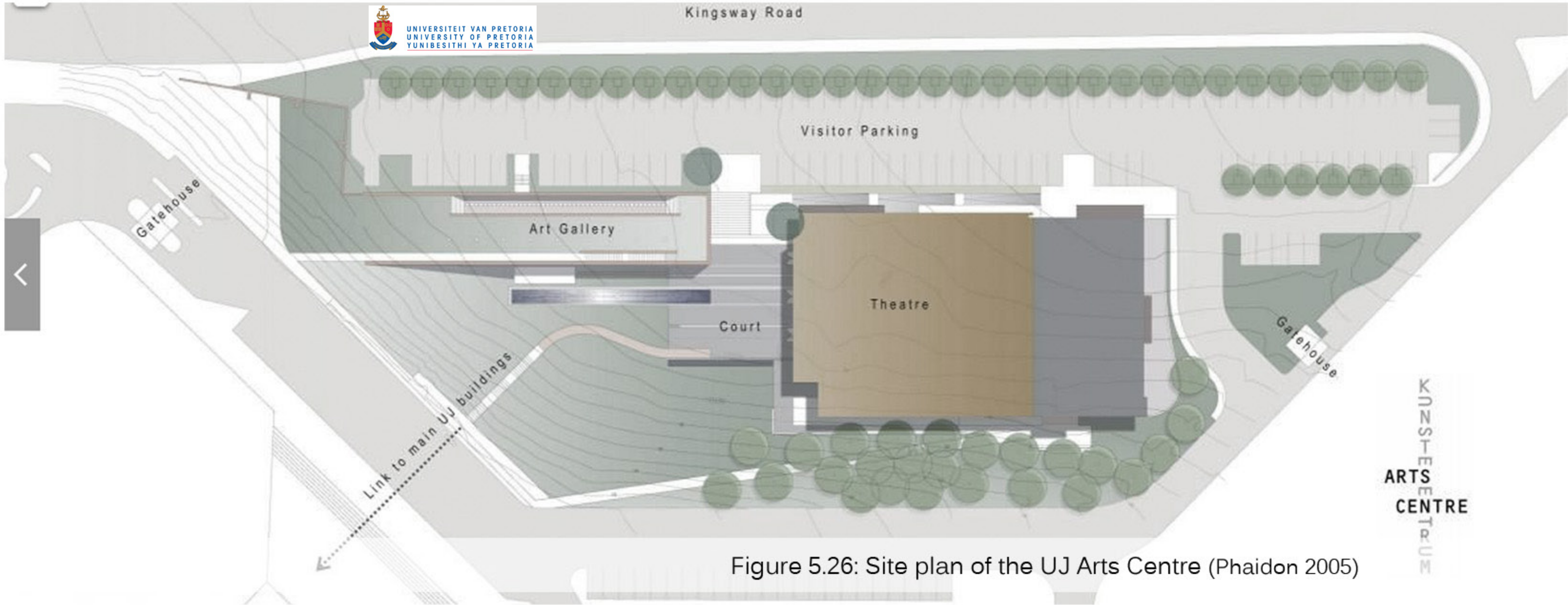


Figure 5.26: Site plan of the UJ Arts Centre (Phaidon 2005)

KEY PRINCIPLES

- The inner-workings of the buildings are extended outwards to the public
- The buildings consist of a number of platforms and displays
- The art gallery merges with the landscape
- The buildings are joined by a central gathering forecourt

Figure 5.27: The interior of the art gallery is displayed to the public (Suzman 2005)

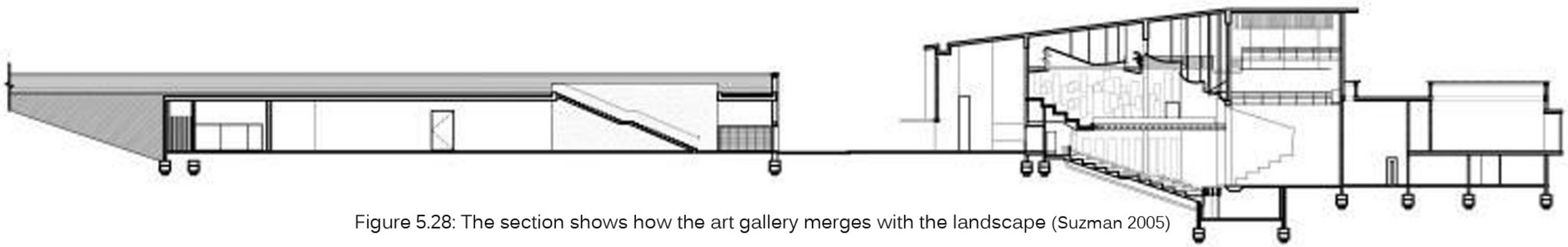


Figure 5.28: The section shows how the art gallery merges with the landscape (Suzman 2005)

5.6. Youth Center In Niafourang, Senegal
(Project year: 2011)

In 2011 Project Niafourang, a team of three students studying masters in architecture in Norway, travelled to Niafourang, a small coastal village in Senegal. A non-profit organisation working in the village approached the students with the task of building a youth centre that would include a computer room , library and a larger multi-purpose room (Skotte 2012).

The intention of the project was to create opportunities, jobs and development in the village.

Participatory Approach

Community participation was fundamental to the project. The community was involved in both the building and planning stages, in order to create a sense of ownership and pride in the resulting building (Skotte 2012).

There was great enthusiasm surrounding the project and the entire village partook in volunteer work (Skotte 2012).

Figure 5.29: The building is made up of a series of tectonic and stereotomic elements, defining public and private spaces (Skotte 2012)

Figure 5.30: The wood was sourced, cut and assembled on-site by the locals with assistance from the architects (Skotte 2012)

Construction and Design

There is no electricity in the village, so apart from a battery-powered drill, no electrical tools were used (Skotte 2012).

The walls are built using blocks of compressed sand and a small amount of cement that the residents hand-pressed using a local machine. The corrugated aluminum roof extends beyond the walls to prevent rain from entering the building and creates shaded areas for relaxation. The steel brackets for the roof were custom welded in a nearby village (Skotte 2012).

Throughout the design and construction phases the local residents developed various skills that the architects hope will result in their empowerment, enablement and inspiration (Skotte 2012).

KEY PRINCIPLES

- Community involved from outset and throughout project
- Local materials were used
- Project sought to enable and empower community
- Multi-purpose rooms

Figure 5.32: The large roof creates various shaded areas for relaxation and reading (Skotte 2012)

Figure 5.31: The roof sits lightly on the heavy mass that houses the library and computer labs (Skotte 2012)

Figure 5.33: Windows are positioned low on the walls with deep frames, so they can be used to sit in (Skotte 2012)

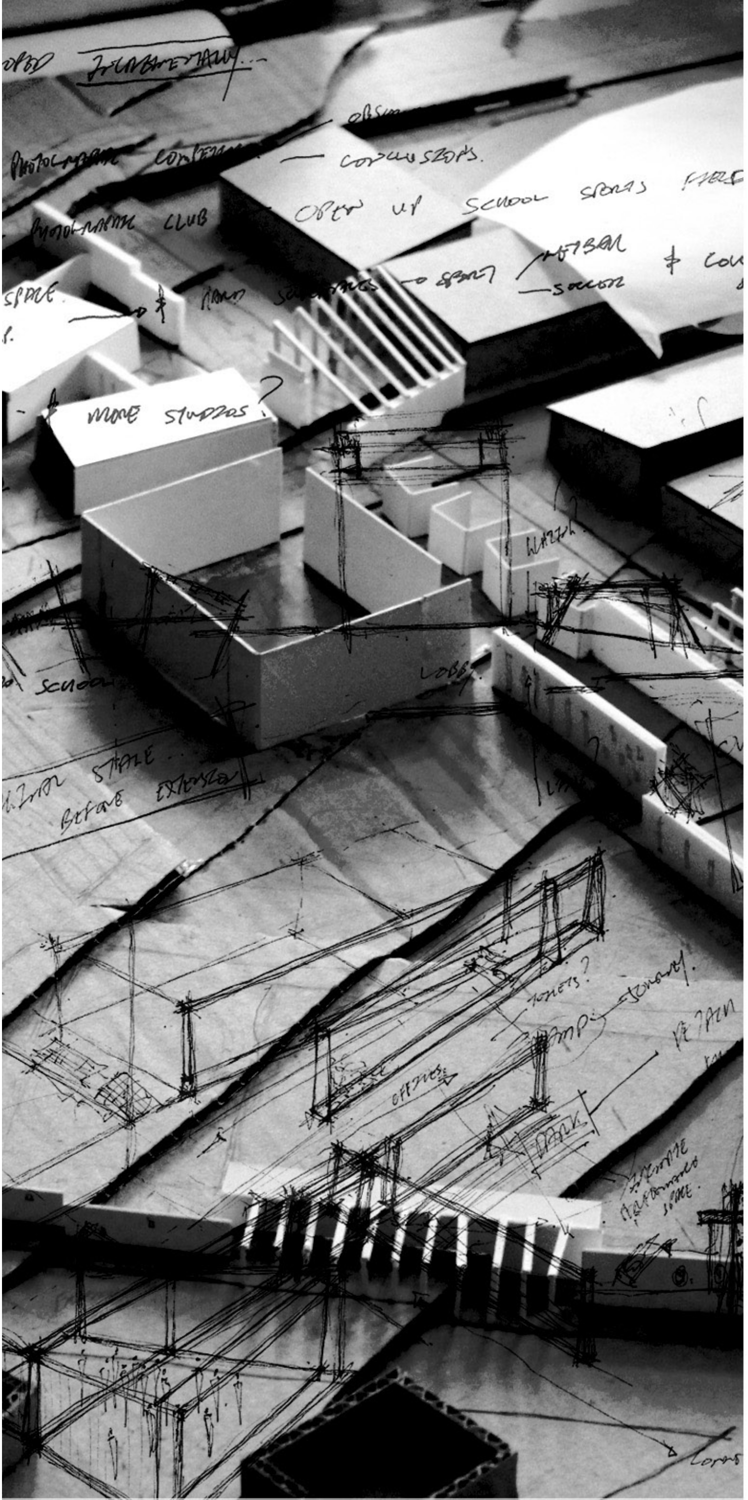


Figure 6.1: A maquette exploring the relationship of building to landscape (Author 2014)

One of the functions of landscape is to correspond to, nurture, and provoke exploration of the landscape of the imagination

Solnit (2007).

6 DESIGN DEVELOPMENT

This chapter describes the primary design generators and analyses the main theoretical premise and participatory research to support the decision-making process.

The participatory process, as described in Chapter 2, identified that a large portion of the Alaskan youth have a desire to participate in the arts, but lacks such a facility. Chapter 6 discusses the various generators informing the design of the proposed art facility.

6.1 Site Informants

The site faces an uncertain future. It is currently a prominent civic space within Alaska as it is where the community soccer field is located. However, the field was always a temporary solution while the primary school was being built, and, with the school ready to open its doors at the end of 2014, the community soccer field will be moved to the new, well-kempt school fields, leaving the current site with an uncertain future.

The dissertation sees the Imaginarium as an extension of the primary school. As it stands, the school is barricaded behind a concrete fence without positively impacting the community around it. Nelson Mandela (1993) said *Education is the most powerful weapon which you can use to change the world*. With the school being a symbol of knowledge and education within the community should it all be locked behind high walls?

Figure 6.2: Photograph showing the school's soccer field opening to the public (Author 2014)

Figure 6.3: Photograph showing the school barricaded behind a high fence (Author 2014)

The Imaginarium proposes that the solid barrier surrounding the school be replaced. The idea is for the building to frame the public space and provide a public interface where people can engage with the programmes, exhibitions and performances. Through the Imaginarium, the school can increase its sphere of positive influence within the community.

It is proposed that the Imaginarium will utilise performing and visual arts, as well as sports, as catalysts for strengthening the site's identity as a place where people meet, interact and play.

The site is situated adjacent to Impendulo Primary School and along the road leading to Rephafogile High School. The Imaginarium is an extension of Impendulo and is thus used by the primary school children during school hours, with adolescent programmes run after school.

Although the official soccer field is relocated, the site retains its identity as a space where children come to play together, with hard courts being provided for smaller netball and soccer matches.

Businesses have been established to the east of the site, taking advantage of the high volumes of pedestrian traffic experienced down the main road. These businesses are not ignored by the proposed facility and thus become an integral part of the precinct.

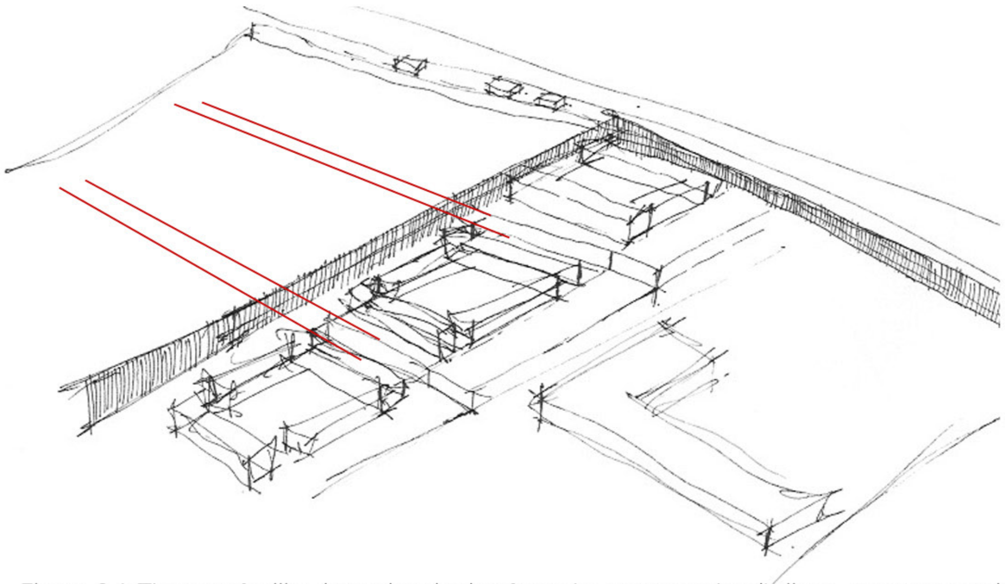


Figure 6.4: The new facility draws inspiration from the current school's lines, geometry and terraces. (Author 2014)

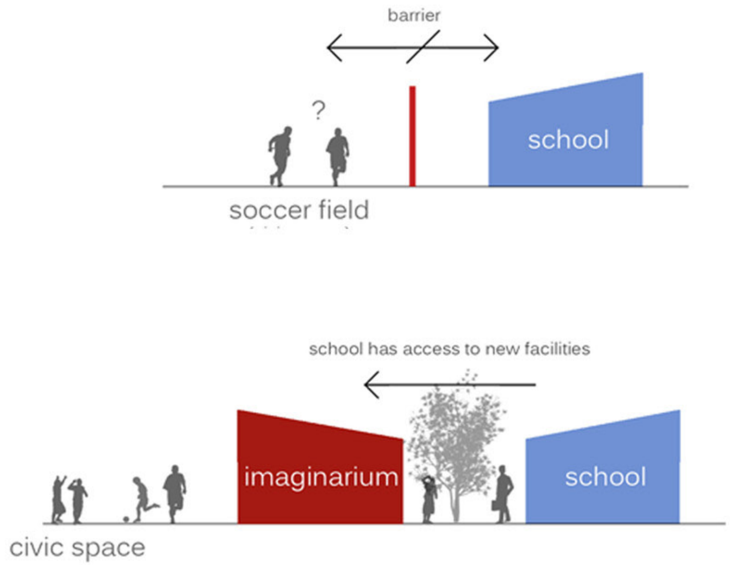


Figure 6.5: Illustration showing how the Imaginarium replaces the barricade and creates a public interface with the school (Author 2014)

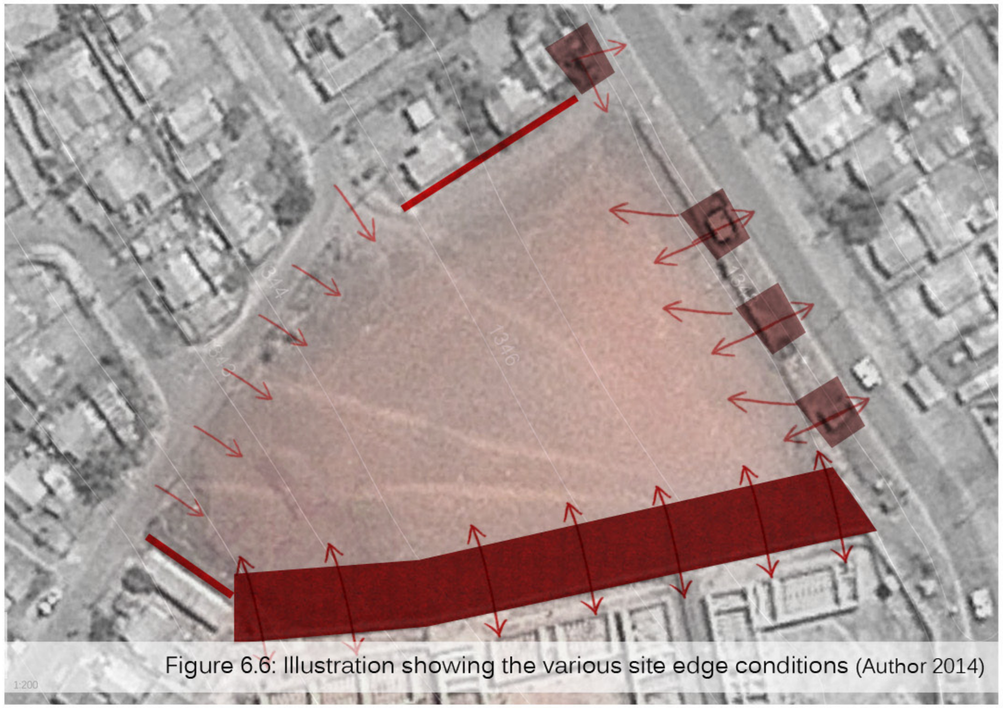


Figure 6.6: Illustration showing the various site edge conditions (Author 2014)

6.2 Architectural Intention

Architecture as Platform

Platform: 1. A raised floor or stage used by public speakers or performers so that they can be seen by their audience
2. An opportunity to voice one's views or initiate action
(Oxford Dictionary 2007)

The project proposes both a physical and metaphorical platform for the occupants and spectators.

The Imaginarium, through the various programmes and activities, becomes a **platform of empowerment** for the youth of Alaska, where their creativity is nurtured and talents developed.

The intent is for the building to frame the public space and act as an activity generator. It shall also serve as a public space where members of the community can gather and enjoy the creative and sporting talents of the youth.

The Imaginarium is intended to be a **physical platform** and **display** where, instead of the creative happenings being hidden from the public, they are extended into the public realm.

The concept is for the architecture itself to become a part of the artwork with portions of the building being used as graffiti and mural walls, whilst the rest of the building is to consist of a series of displays and platforms, sharing the inner-workings of the Imaginarium with the public.

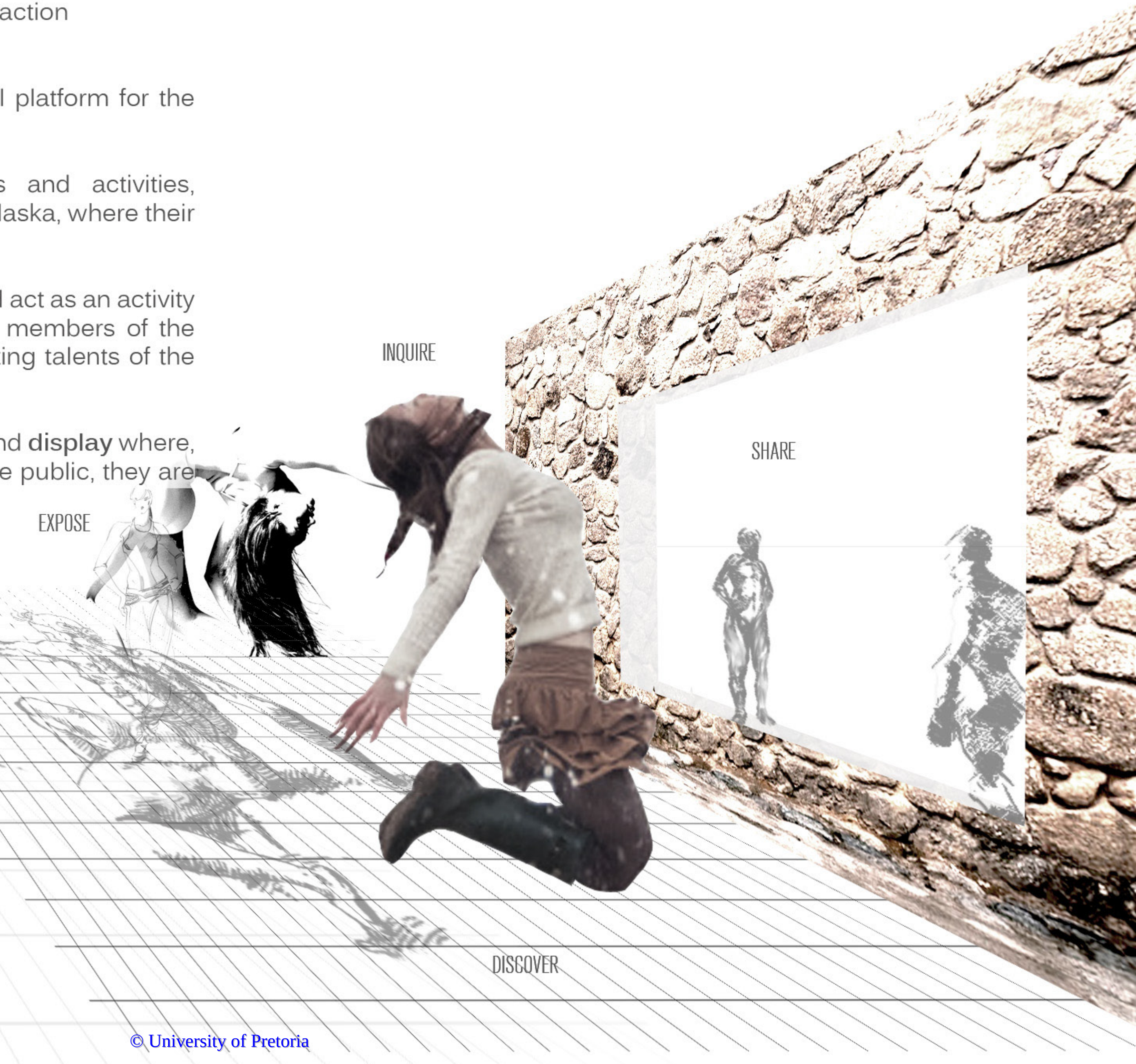


Figure 6.7: Initial concept collage representing the relationship of the inner-workings and the public (Author 2014)

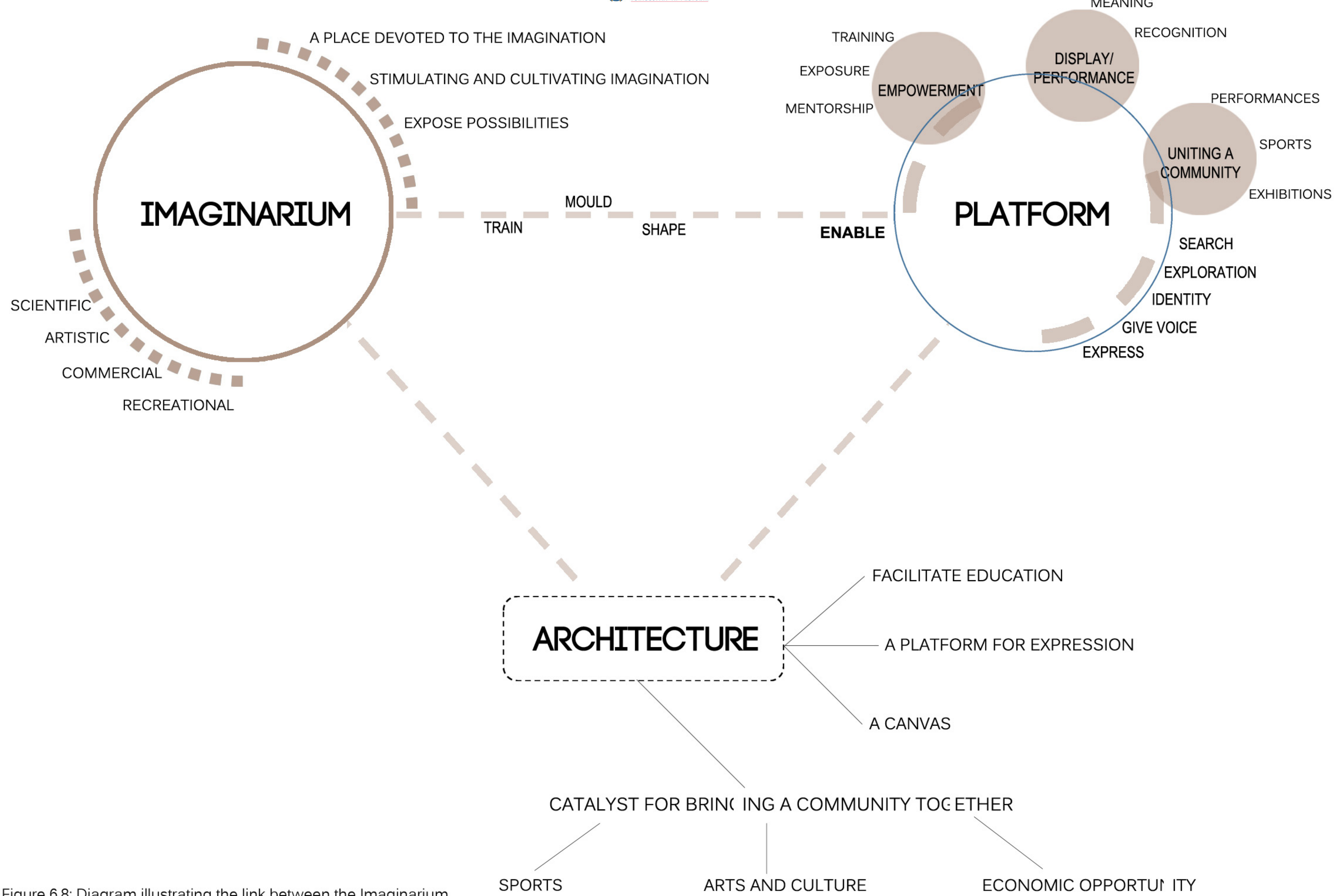


Figure 6.8: Diagram illustrating the link between the Imaginarium, the idea of platform and architecutre (Author 2014)

6.3 Positioning the Imaginarium

Although the physical environment has no direct influence on social contacts, designers are able to influence the conditions for these contacts (Gehl 2011).

Gehl (2011) states that for a public space to be successful, it is important for there to be stimulating activities within the space, both moving and stationary. These spaces should also be flexible and easily accessible.

The design process began with an investigation into the most appropriate position for the building. The Imaginarium frames the public space, supporting the various activities that occur within the space.

A great square can be a focal point of civic pride and help to make citizens feel connected to their community (PPS 2012).

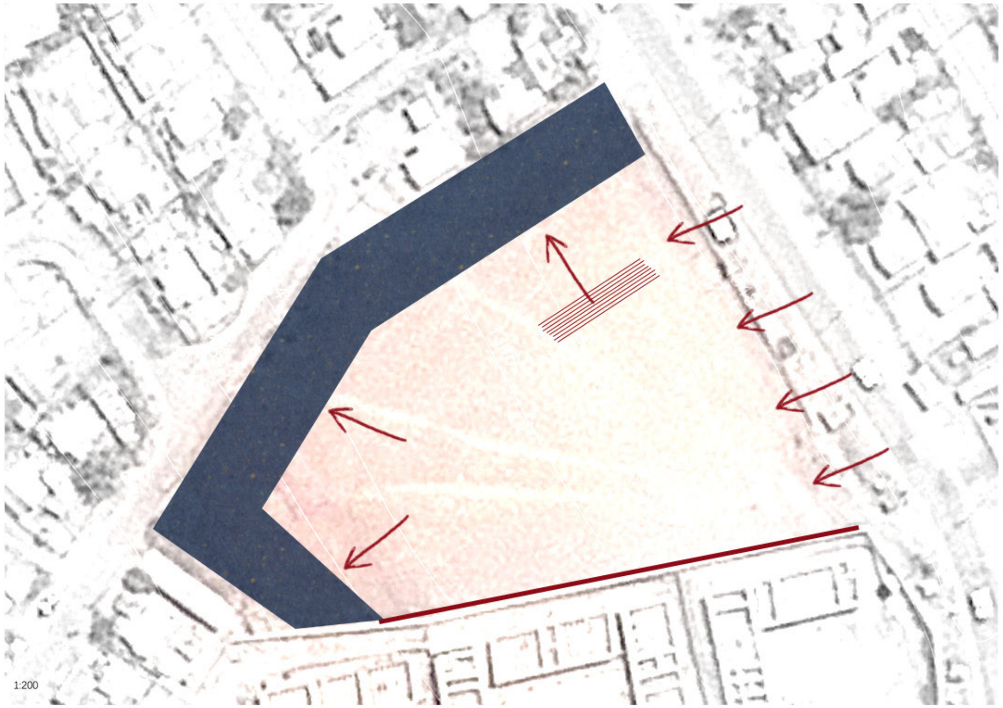


Figure 6.9: First investigation of building position (Author 2014)

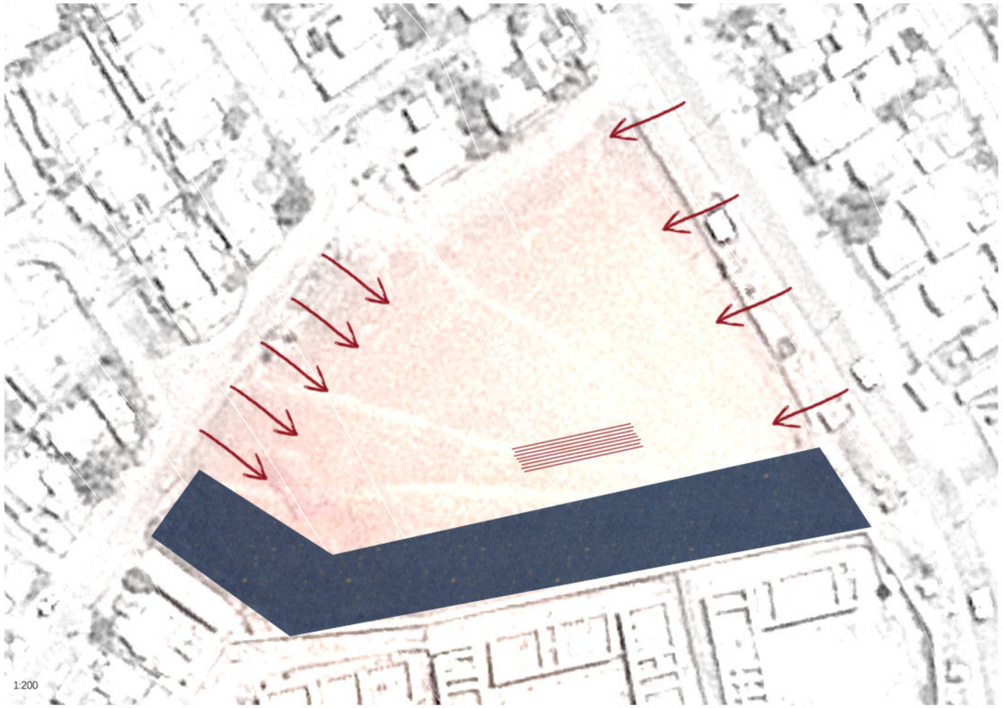


Figure 6.10: Second investigation of building position (Author 2014)

In April 2014 a discussion regarding the initial design took place with an internal lecturer. The importance of the positioning of the building was emphasised and a comparative study was undertaken.

The first option was to position the building along the north and western sides in order to hold and frame the public space.

The main disadvantages of this were the weak link to the school, the barrier around the school was not addressed, the scale difference between the institutional-style Imaginarium and the adjacent residential area is uncomfortable and the site would not be as freely accessible as before.

The second option was to position the building along school boundary, preserving the open site edges.

The main disadvantage of this was the danger of *bleeding edges* meaning that the edges of the site must be framed in order to hold the public space. Soft or permeable edges are required for the space to be framed, yet still be inviting to passersby (Gehl 2011). The edges to the north-west of the site must be designed in such a way that the space is held.
Due to its strong link to the school, ability to frame the public space and improved orientation when compared to the previous option, it is seen as the **more appropriate** position.

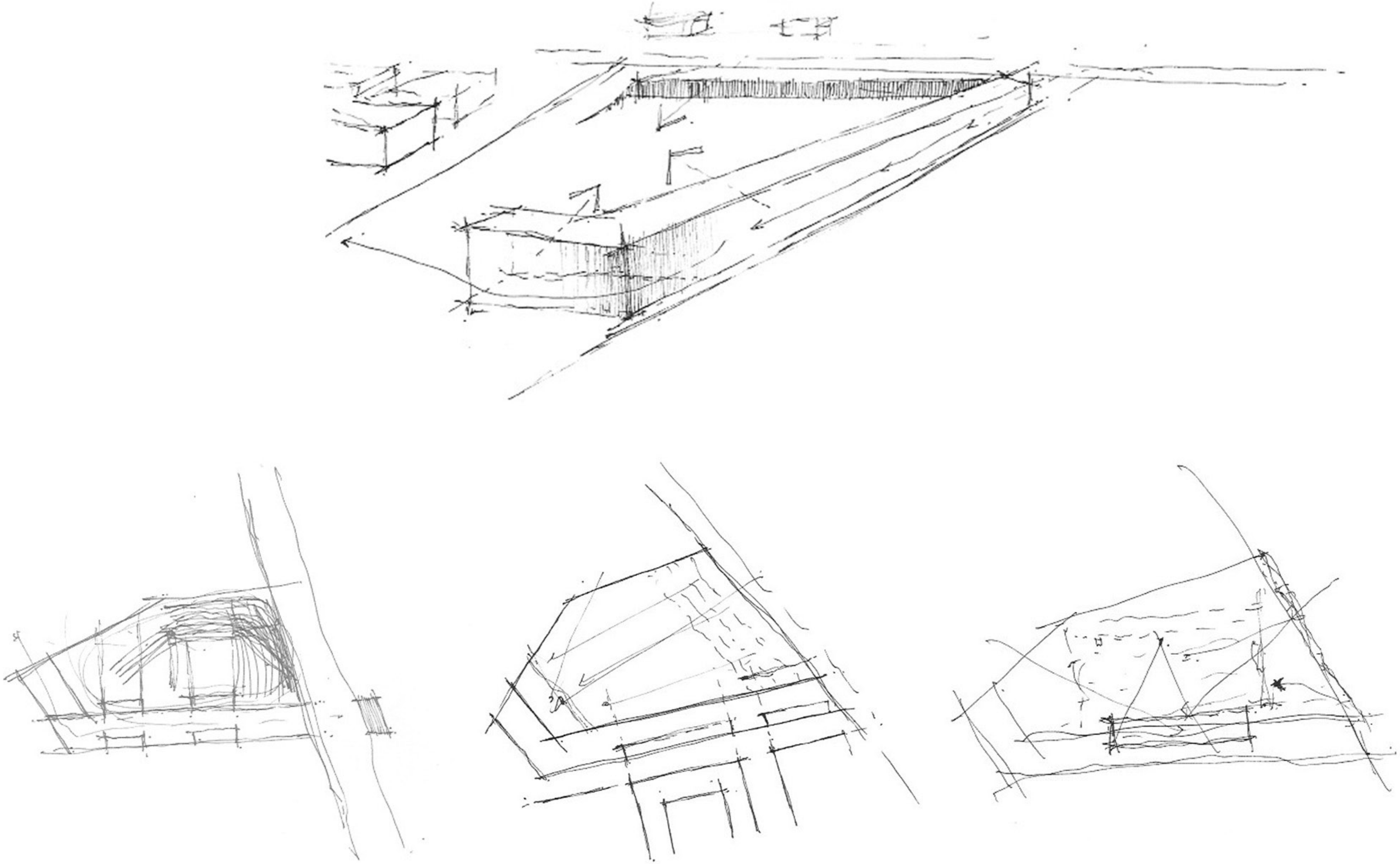


Figure 6.11: Initial concept sketches investigating the positioning of the amphitheatre (Author 2014)

6.4 Responding to the School

Imagination versus Knowledge

We are educating people out of their creative capacities.
Robinson (2006)

Sir Ken Robinson (2006), an English author and educationalist, states that the current education system in place around the world is impeding the creative growth of students. Robinson (2006) states that *Creativity is as important as literacy and we should treat it with the same status*.

Robinson (2006) states that imagination and knowledge are not polar opposites, but are in fact linked.

The juxtaposition of an Imaginarium, a place devoted to the imagination, to a school, predominantly a place of knowledge, creates opportunity for the designer to mediate between the two spheres.

Figure 6.12 shows the rigid and inwardly focused organisation of Impendulo Primary School. The Imaginarium aims to challenge this by breaking through the existing barrier and open out towards the public.

Figure 6.12: Diagram showing the introverted nature of the school (Author 2014)

Figure 6.13: Concept diagram illustrating the idea of breaking through the barrier and breaking free from isolation into the public realm (Author 2014)

Figure 6.14: Diagram showing the edge conditions of the site and school (Author 2014)

Gehl (2011) states that buildings have an impact on the adjacent spaces and, if designed appropriately, can enhance and reinforce these as successful public spaces within the community. Despite this, the newly constructed Impendulo Primary School has barricaded itself behind a high concrete fence.

According to Newman (1972) this separation from the community also impacts the safety and security of surrounding areas. There is a hierarchy of space in our built environment ranging from totally private and defendable space through to completely public. Newman (1972) states that the more thresholds there are between the public space and private space, the more secure and defendable the private space becomes.

Newman (1972) identified four factors that create defensible space:

Territoriality – refers to the desire of users of the space to lay claim to it

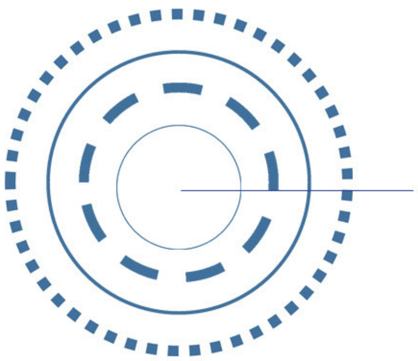
Natural surveillance – refers to the ability of residents to be able to watch over their surroundings

Image – refers to the capacity of the physical design to impart a sense of security. It is important for the building or space not to seem isolated from the surrounding community

Milieu – this suggests that the location of a development close to areas of high security/surveillance will inhibit criminal activity.

Figure 6.15 shows the site in relation to the school. The barrier creates a harsh threshold between the two areas leaving both the school and site isolated.

The Imaginarium aims to overcome this harsh threshold, extend the school's influence beyond the barrier and address the site with regards to the above four points, creating a safe and active public space for the surrounding community.



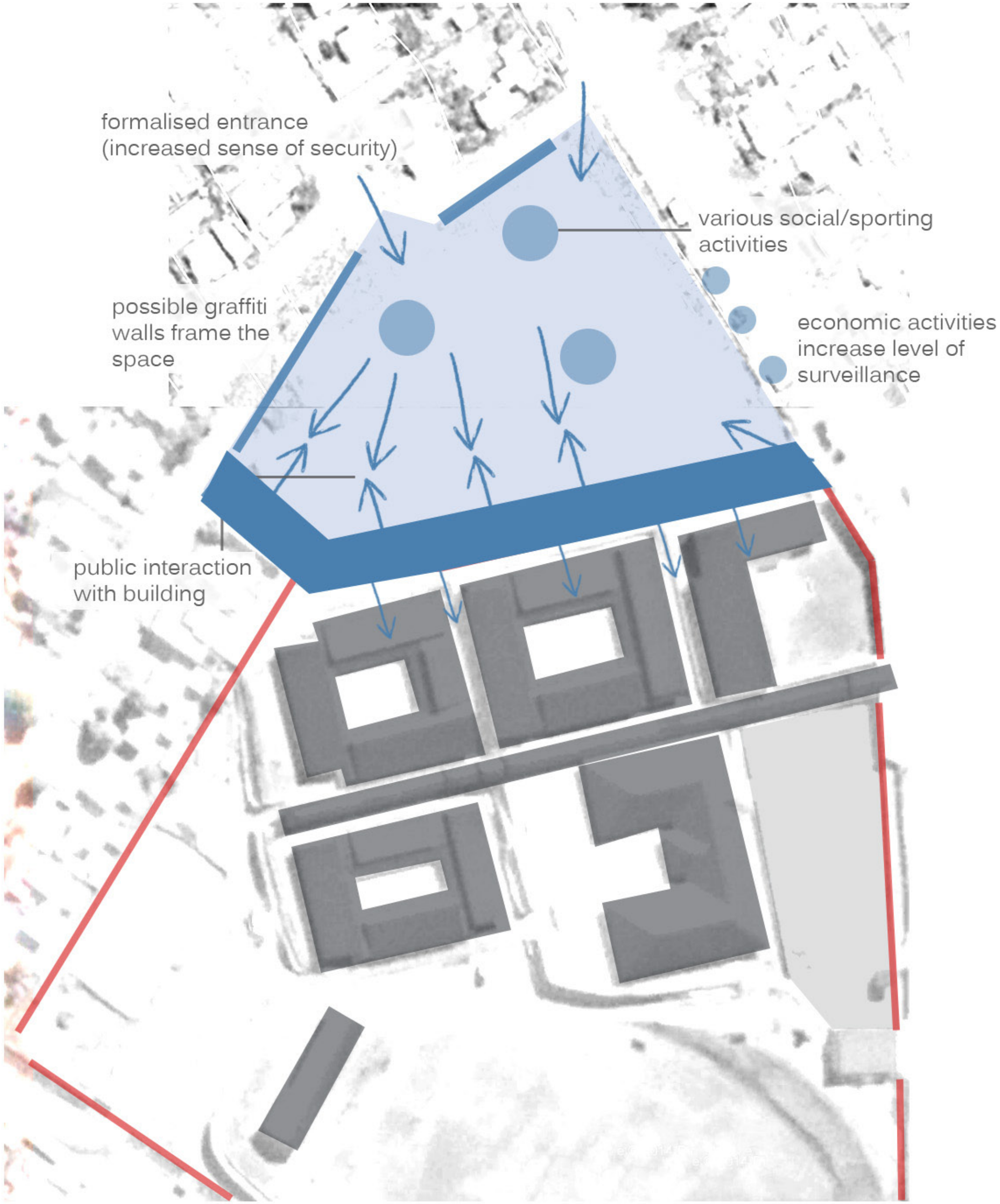


Figure 6.15: Diagram indicating the Imaginarium's relationship to the school and the proposed public space(Author 2014)

6.5 Initial Design Participation

Tovivich (2010) puts forward the notion that knowledge and skills of the architect as provider remain important, but they are not enough to effectively deal with the challenges posed by informal settlements.

From Tovivich's (2010) case studies, she concluded that, within the context of informal settlements, where there was little participation from the community, the effectiveness of the designs was seen as low.

Further case studies, where the architect shifted more to a supporting role, showed dialogue between the various parties to be high, the designs to be more effective, local capacity of community members had been built up and learning between all those involved was encouraged (Tovivich 2010).

From Tovivich's (2010) research, the author considered it important to involve the community early on in the design process in order to ensure the project adheres to what they truly need.

During March 2014, the author spent two days engaging with five people identified during the mapping exercises, these included adolescents and community leaders.

During the participatory mapping earlier in the year the author found it difficult to convey his message to a larger group as only a few understood the aim of the project. A smaller group was chosen for the design exercise as this was seen to be manageable for the author.

Figure 6.16: Alpheus explains his thoughts regarding the site (Author 2014)

The author explained his concept and talked the group through his initial concept model. Dialogue between the various actors was encouraged. They agreed with the positioning along the school edge and also with the Imaginarium being split up into the visual arts and performing arts.

The group used a working mass model in order to easily explain the possible layouts of the Imaginarium and the surrounding facilities, such as the amphitheatre and stage.

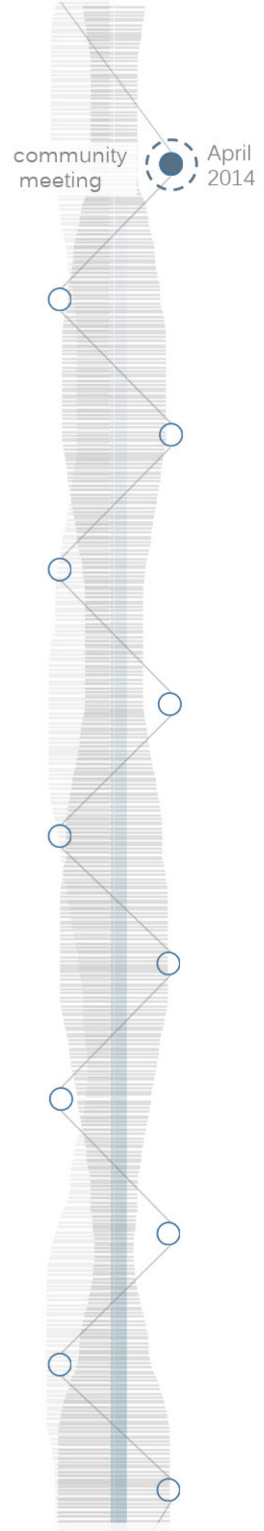
The meeting had limited success from a design aspect as the group members did not know where to place the various masses, placing blocks at random, and seemed to merely agree with everything the author was saying.

Despite this, the discussions with the group gave the author more insight into the residents' thoughts about the site:

- Once the soccer field is relocated, the community sees the site as a park where residents can meet, relax and children can play.

 - The group saw the multipurpose hall and amphitheatre as the most important elements within the proposed precinct.

Figure 6.17: The mass model became the central tool for discussion (Author 2014)



Timeline of Design Process

6.6 Maquette Development

The aim of the initial maquette was to explore the organisation of the various activities within the Imaginarium.

The building follows the school boundary, framing the adjacent site. It is divided into three main parts. The first being the exhibition space and theatre which are open to the public. The second is the performing arts area and the third is dedicated to visual arts. The latter two areas are accessible only to those enrolled in the various arts programmes.

Opening up the northern facade allows the public to see the inner-workings of the building, making the Imaginarium a platform/display and the processes within, the performance.

This initial design was critiqued by an internal panel of lecturers at the University of Pretoria.
The numerous internal and external crits that took place throughout the year were seen as part of the participatory process. D' Anjou (2001) states that in a co-operation model, all parties are embedded in the design process. The process is made up of shared decision-making and reflective dialogue.

The main critiques were that it failed to respond to the edges of the site, as well as the spaces between the Imaginarium and the school.

Reflecting on the crit, the author concluded that in order to design a site-sensitive and responsive building, the inclusion of context is an essential aspect to both drawing and maquette building.

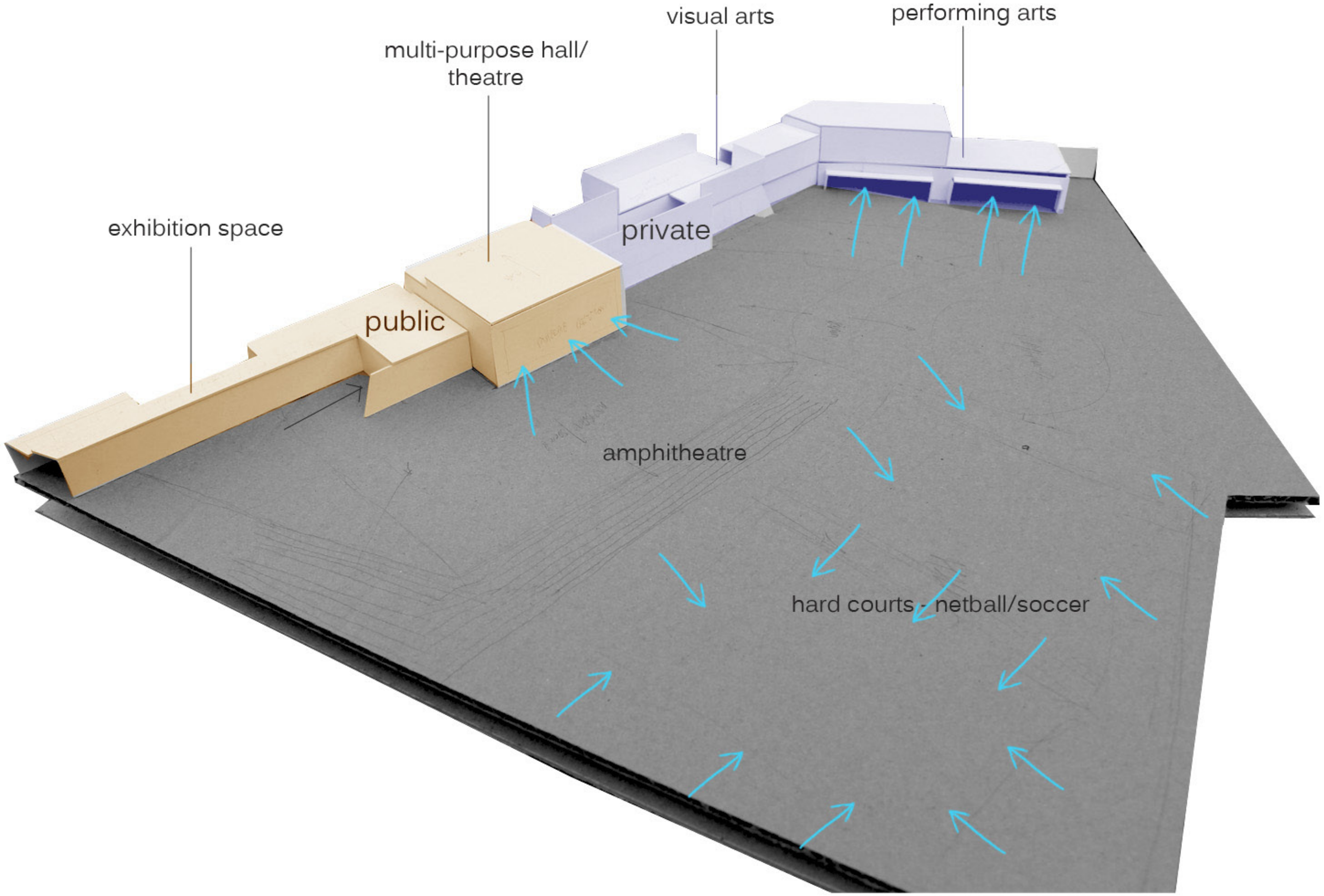
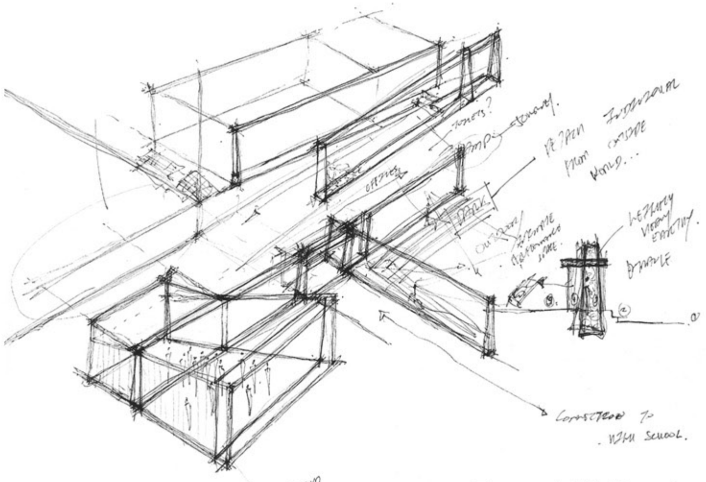


Figure 6.18: Initial concept model (Author 2014)



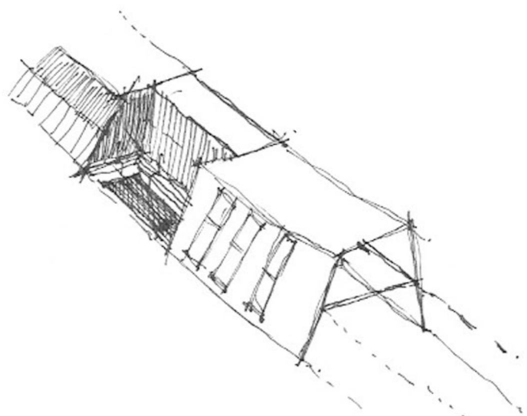


Figure 6.19: Sketches exploring the organisation of the programme (Author 2014)

Re-Imagining the Theatre

A study of the various theatre and stage types was conducted in order to select the most appropriate for the context.

Figure 6.20 describes four of the main stage/theatre types (Gambertz 2010):

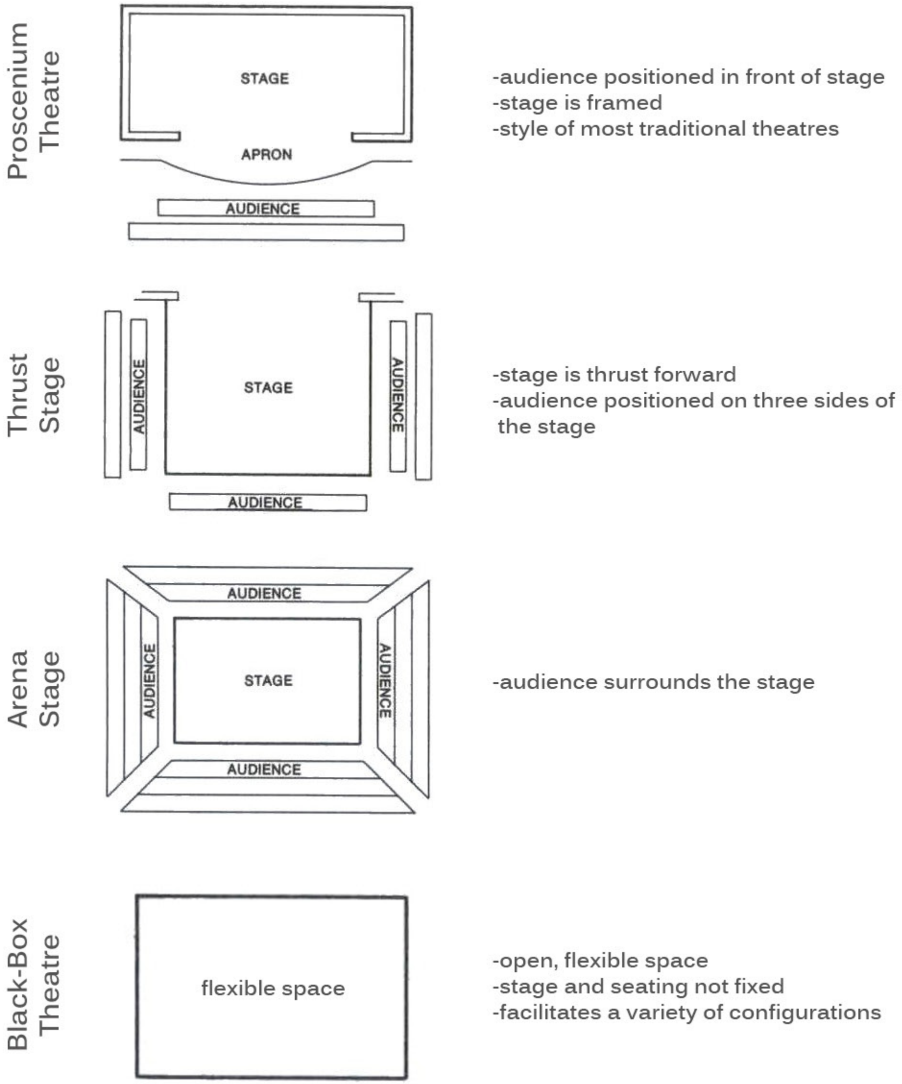


Figure 6.20: Parti diagrams of various theatre types (Author 2014)

The Imaginarium hosts a variety of performances, such as, music, dance, poetry and drama, therefore a flexible, multi-purpose hall is required. From the research, a black-box theatre is thus the most appropriate type of theatre for the given context.

Reinforcing the idea of the architecture displaying the inner-workings of the Imaginarium, the theatre is able to open up towards the amphitheatre, allowing for a variety of performances to take place.

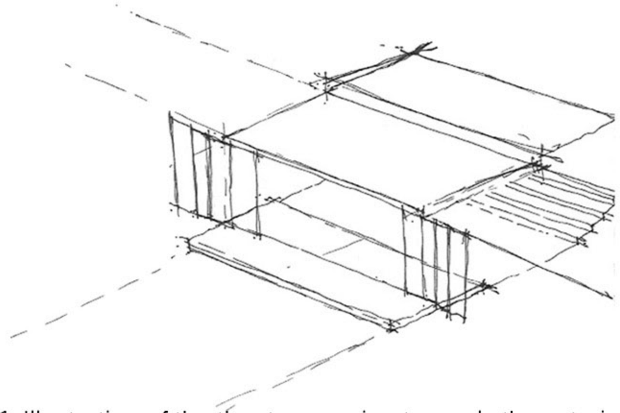


Figure 6.21: Illustration of the theatre opening towards the exterior (Author 2014)

From the observations made during events held by VIVA, the spectators often take part in the dancing and singing despite not officially being a part of the performance. The idea was thus to design an amphitheatre made up of a series of small terraces. The terraces step in to create more intimate spaces for conversation and step out to create platforms on which spectators can participate in performances, i.e. dance and music.

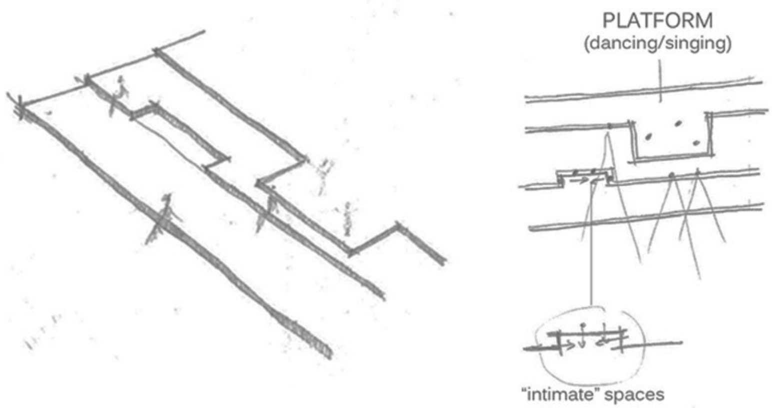


Figure 6.22: Illustration of the amphitheatre's concept (Author 2014)

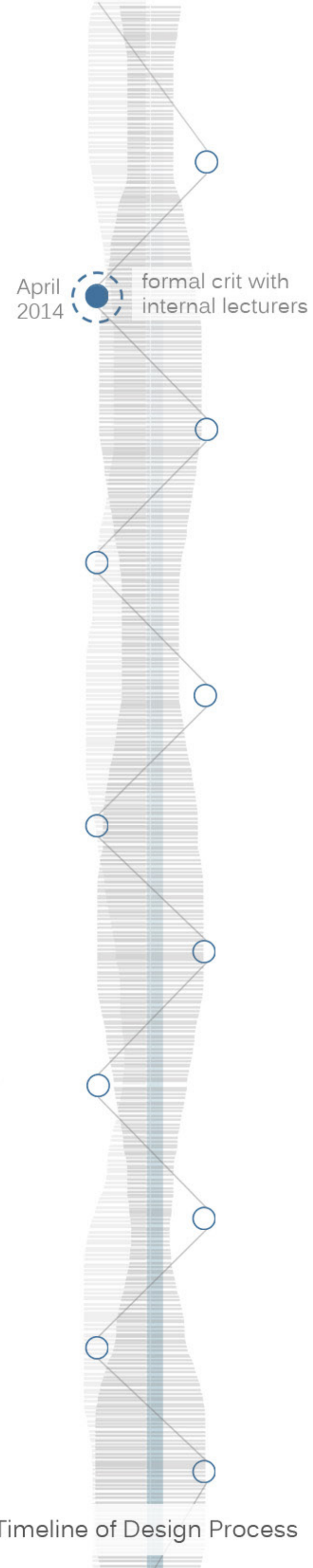
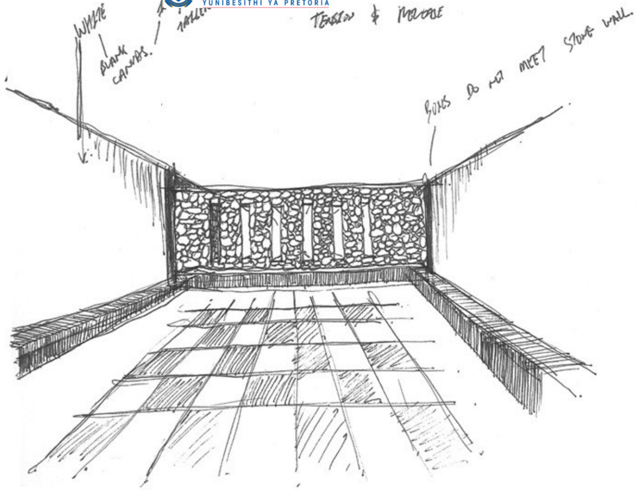
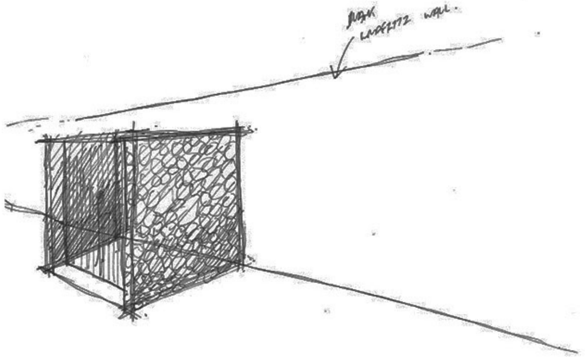


Figure 6.23: Stone is a prevalent material in Alaska (Author 2014)





As the sun crosses the sky, so the rocks create a variety of shadows along the mountain. Many residents see the mountain on which Alaska is built as living (Alpheus 2014). It is one of the most prominent features in the area and provides building materials to all who settle there.

Stone from the mountain can be found throughout the settlement, whether it be for the buildings themselves, or for terracing up the slope.

The Imaginarium seeks to carry on this tradition of stone construction by having large, heavy stone walls parallel to the school and then introducing lighter elements that penetrate through the stone.

The stone walls define the circulation spine, whilst the lighter *pods* facilitate the programmes.

The large stone walls represent both a physical and metaphorical barrier that is being broken through by the various imagination stations.

The use of stone varies as one moves through the building. This will be explained later under *Design Resolution*.

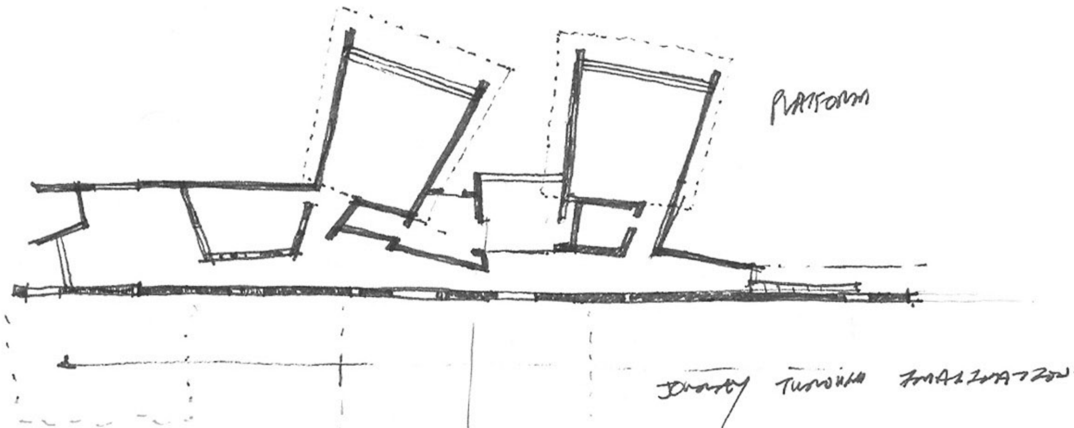
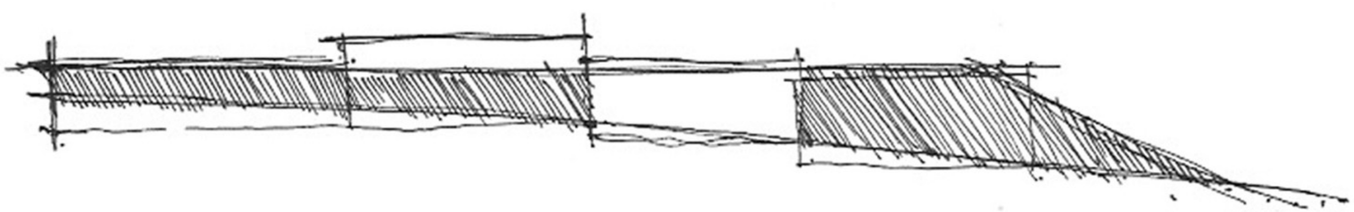
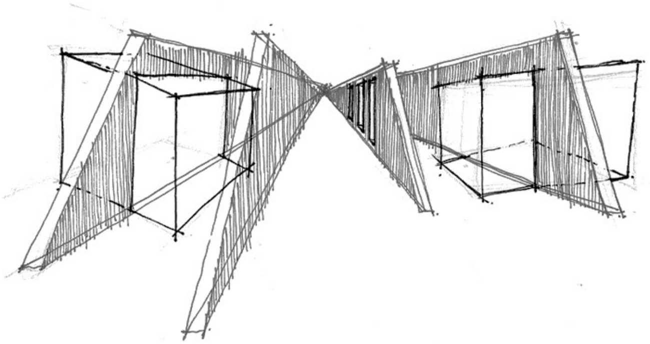
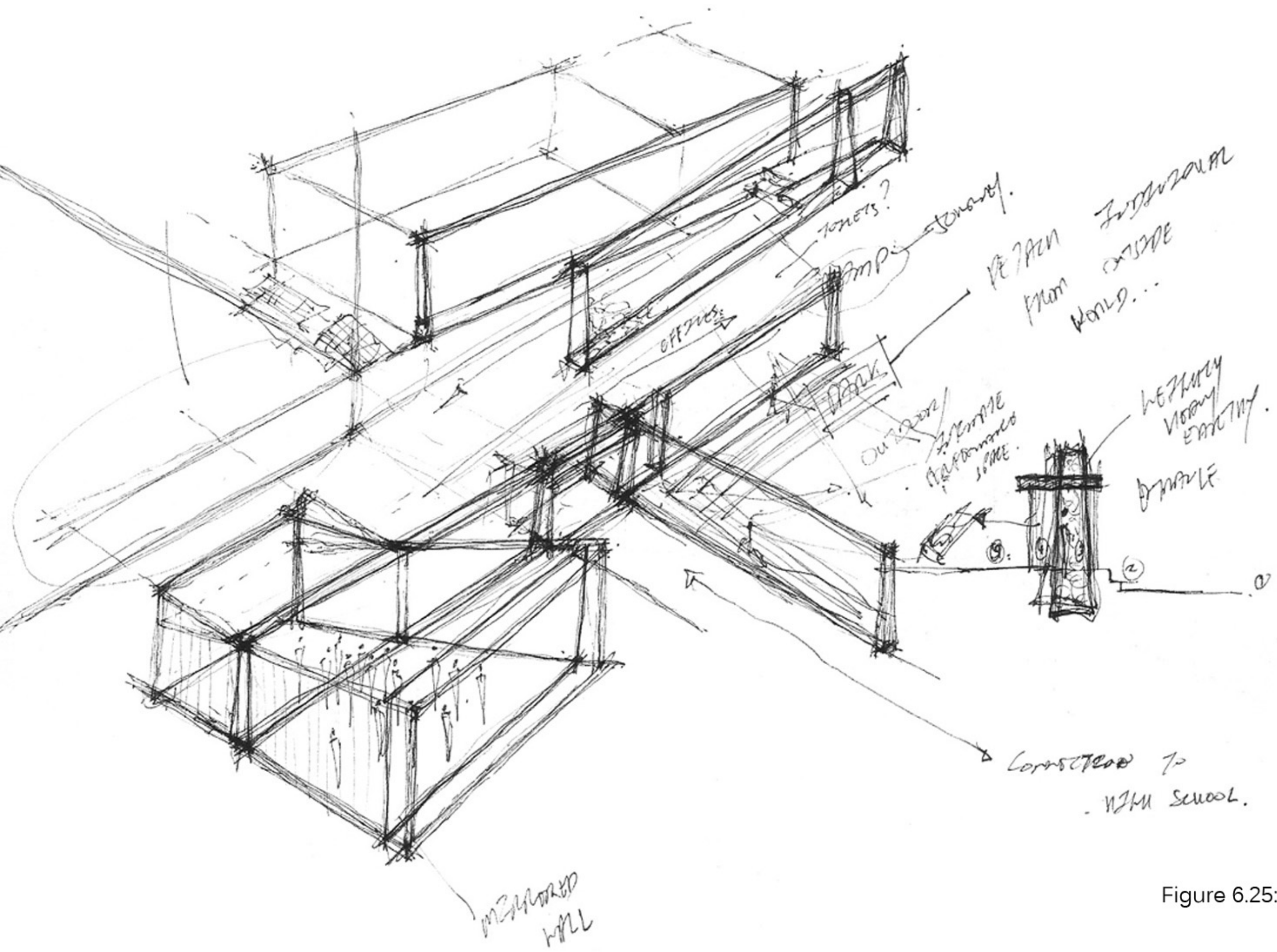


Figure 6.24: Sketches showing the pods break through the stone walls - Mehrotra (Author 2014)







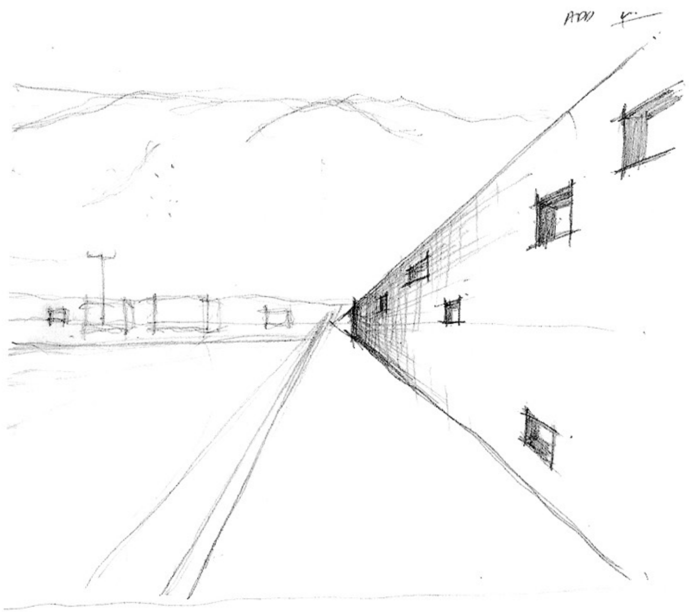


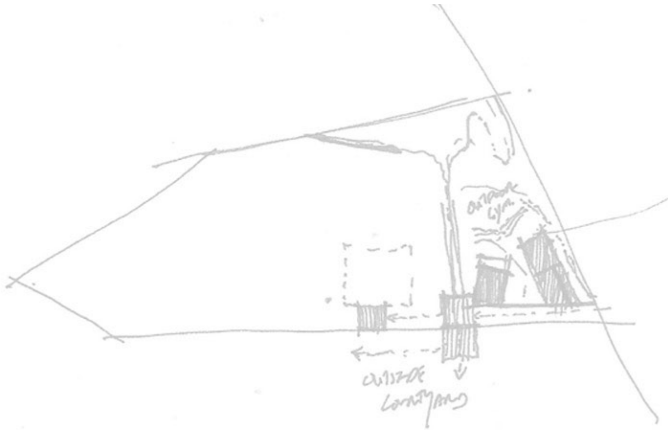
Figure 6.25: Initial concept sketches showing the stone walls protruding out of the landscape and being pierced by the Imagination Stations (Author 2014)

After the internal panel had critiqued the initial concept model, the author attempted to address the various issues through a second maquette.

The lack of context included in the previous model was addressed, which aided in the design of the spaces between the Imaginarium and the school. The inclusion of context assisted in analysing the scale relationship of the Imaginarium to its surroundings.

The spaces in between the school and the Imaginarium act as private courtyards where students can gather, interact and listen to the music being practiced inside.

The western edge of the site is framed by a graffiti wall which holds the space and acts as an extension of the exhibition space.



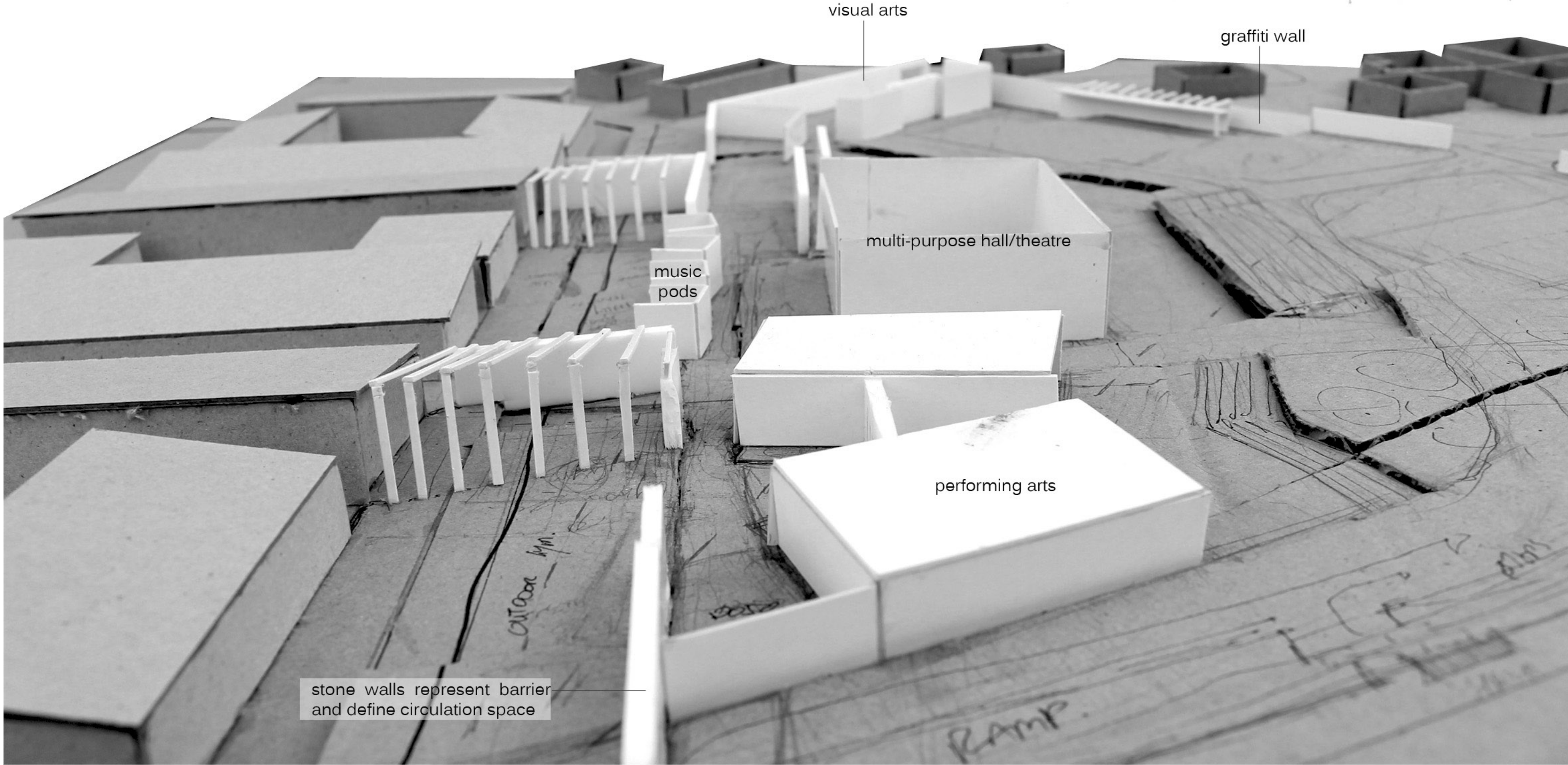


Figure 6.26: Maquette showing the relationship of the Imaginarium to the school and civic space (Author 2014)

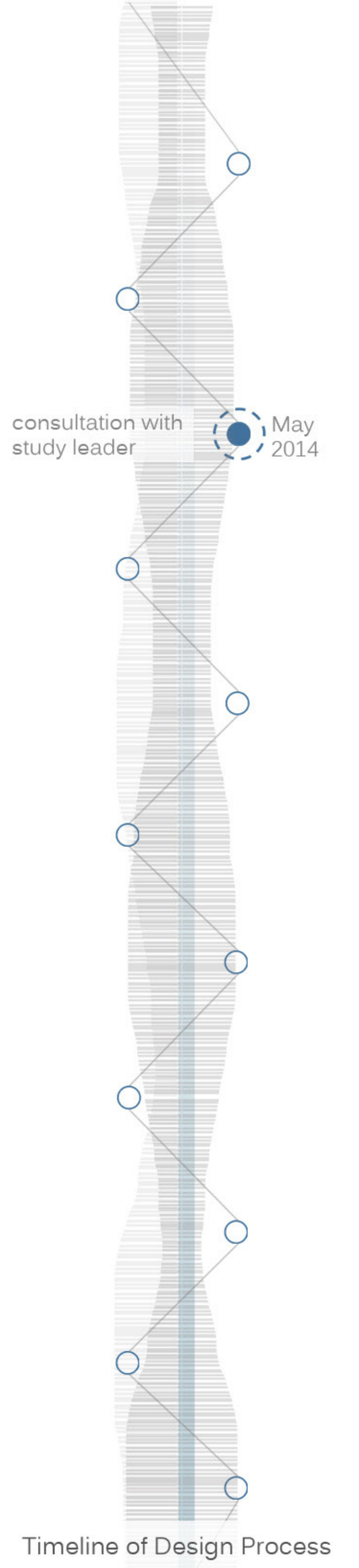
Figure 6.27 illustrates the difference in plan between the Imaginarium and school. The author explored the placing of walls at angles to the school in order to emphasise the juxtaposition of *knowledge to creativity*.

During a weekly crit with the author's study leader the following issues with the maquette were highlighted:

- The main entrance does not read as such
- The performing arts studios create an awkard space between each other
- The spaces adjacent to the theatre are uncomfortable
- There is a lack of hierarchy between the spaces

Despite the above issues, the study leader stated that the maquette improved on the previous design by addressing the street and school edges appropriately, while the relationship of building to landscape was developing well.

Figure 6.27: Second maquette - addressing street edge and school (Author 2014)

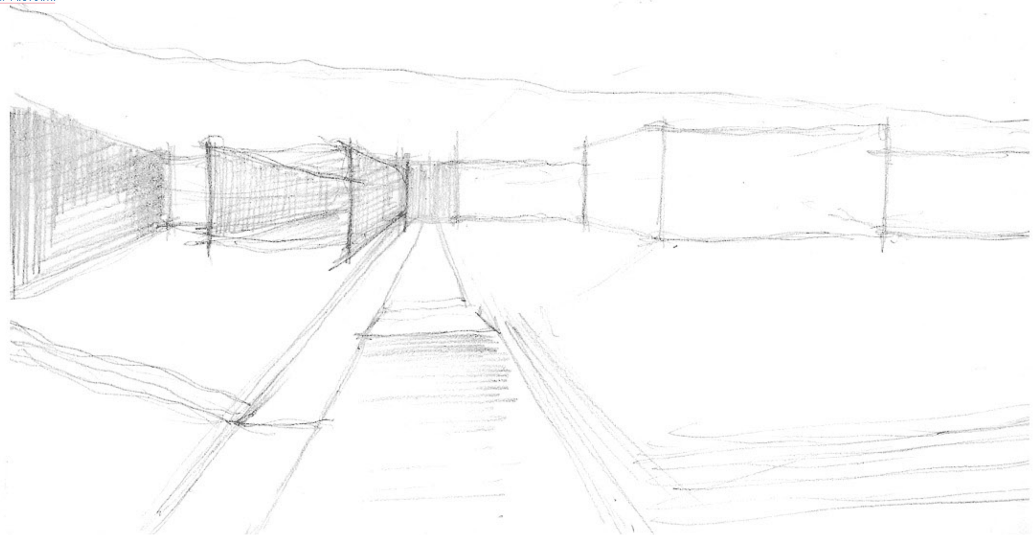


Timeline of Design Process

After critically reflecting on the previous crits and discussions, the author created a third maquette focusing on the primary issues that the project seeks to address; those being:

- the hierarchy of the various spaces
- the relationship of the Imaginarium to the school
- the relationship of the building to the landscape

The design was critiqued by an external panel of professional architects in June 2014.



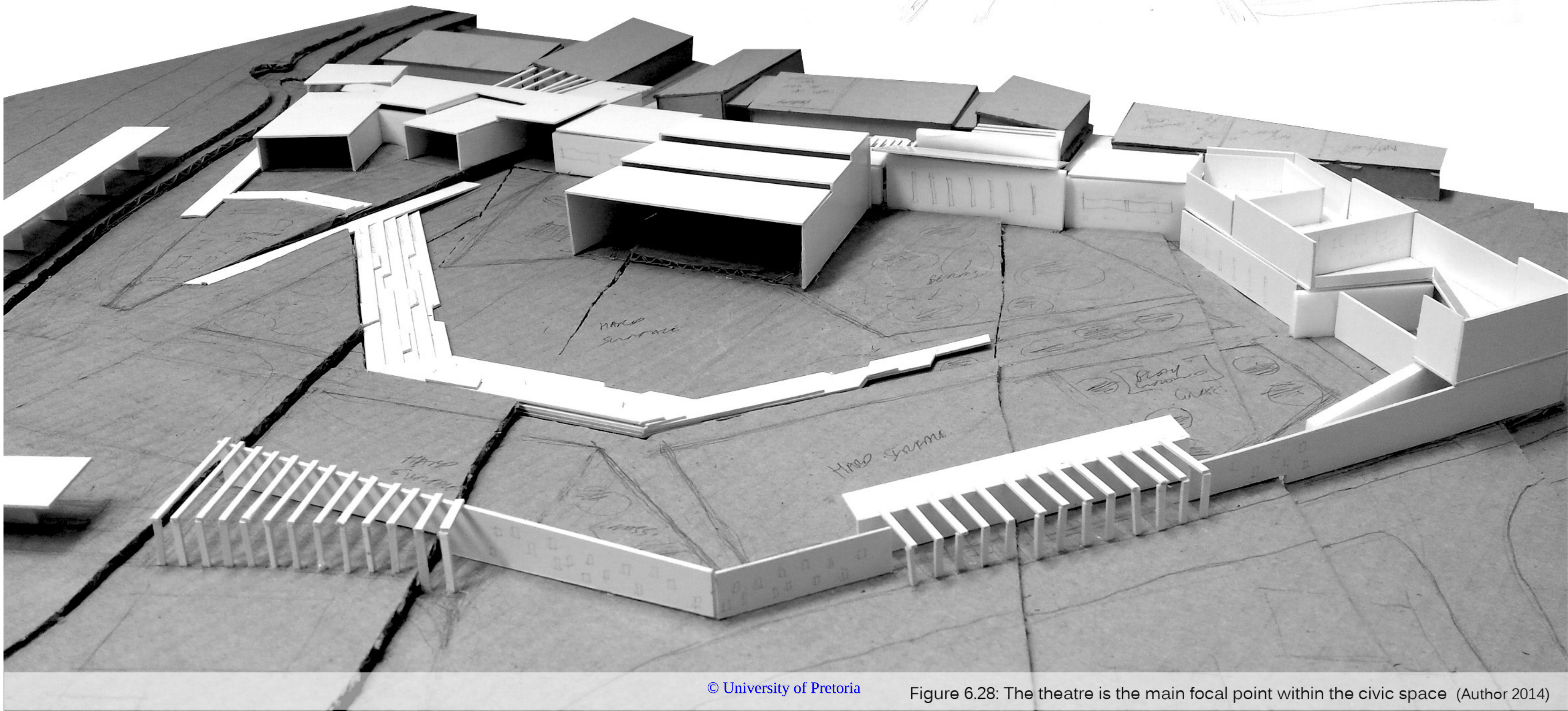


Figure 6.28: The theatre is the main focal point within the civic space (Author 2014)

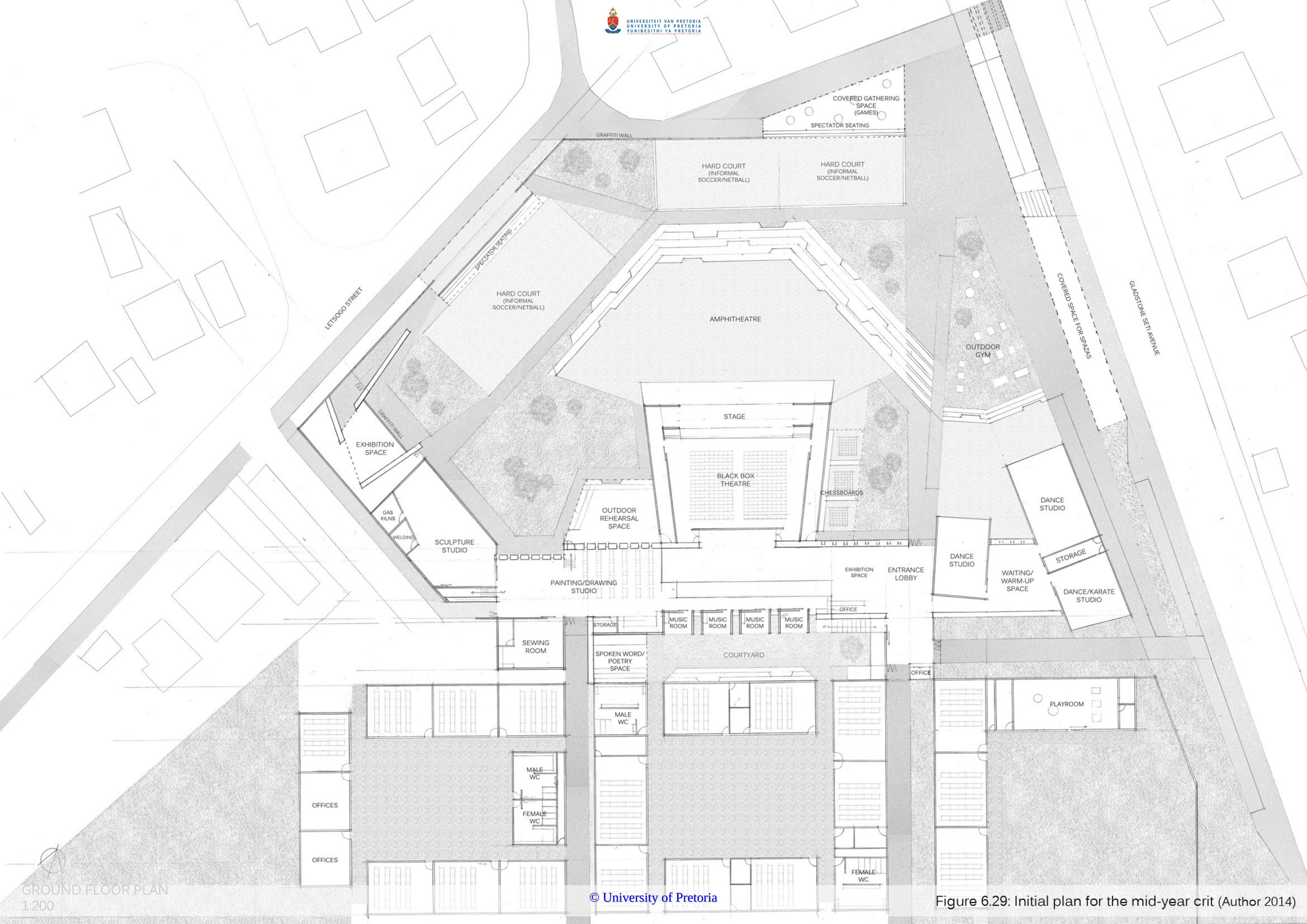


Figure 6.29: Initial plan for the mid-year crit (Author 2014)

During the crit, the external panel began to break up the model and relocate components whilst explaining various ideas - much like the mass model used by the community in Alaska.

The main issues highlighted during the mid-year crit by the external panel were:

- The angled walls addressed the juxtaposition too literally and created uncomfortable spaces

- The building felt like a large thoroughfare with no anchor points along the route

Other principles that needed to be revisited were the theatre's foyer, which was seen as too small, the exhibition space, as well as the amphitheatre.

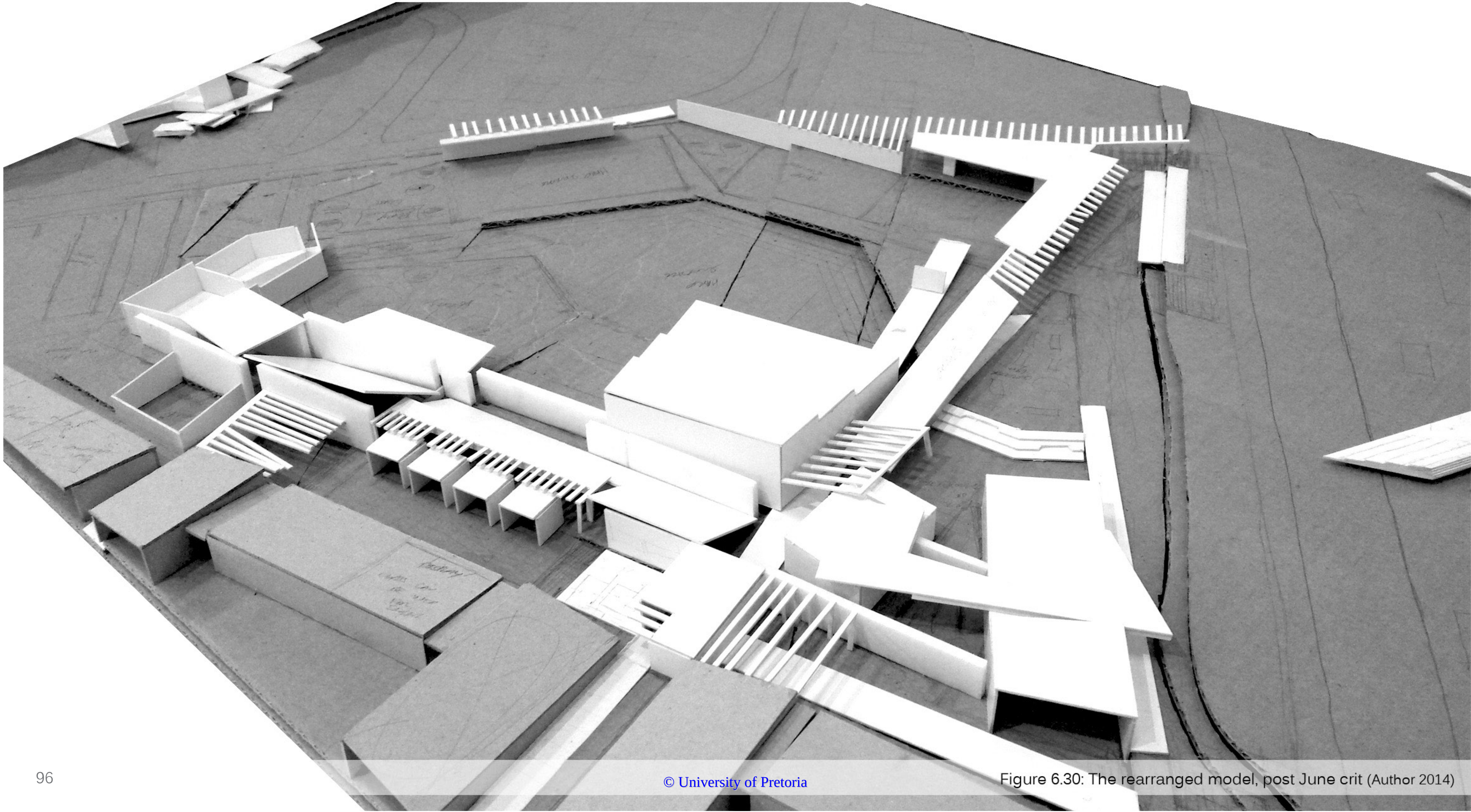


Figure 6.30: The rearranged model, post June crit (Author 2014)

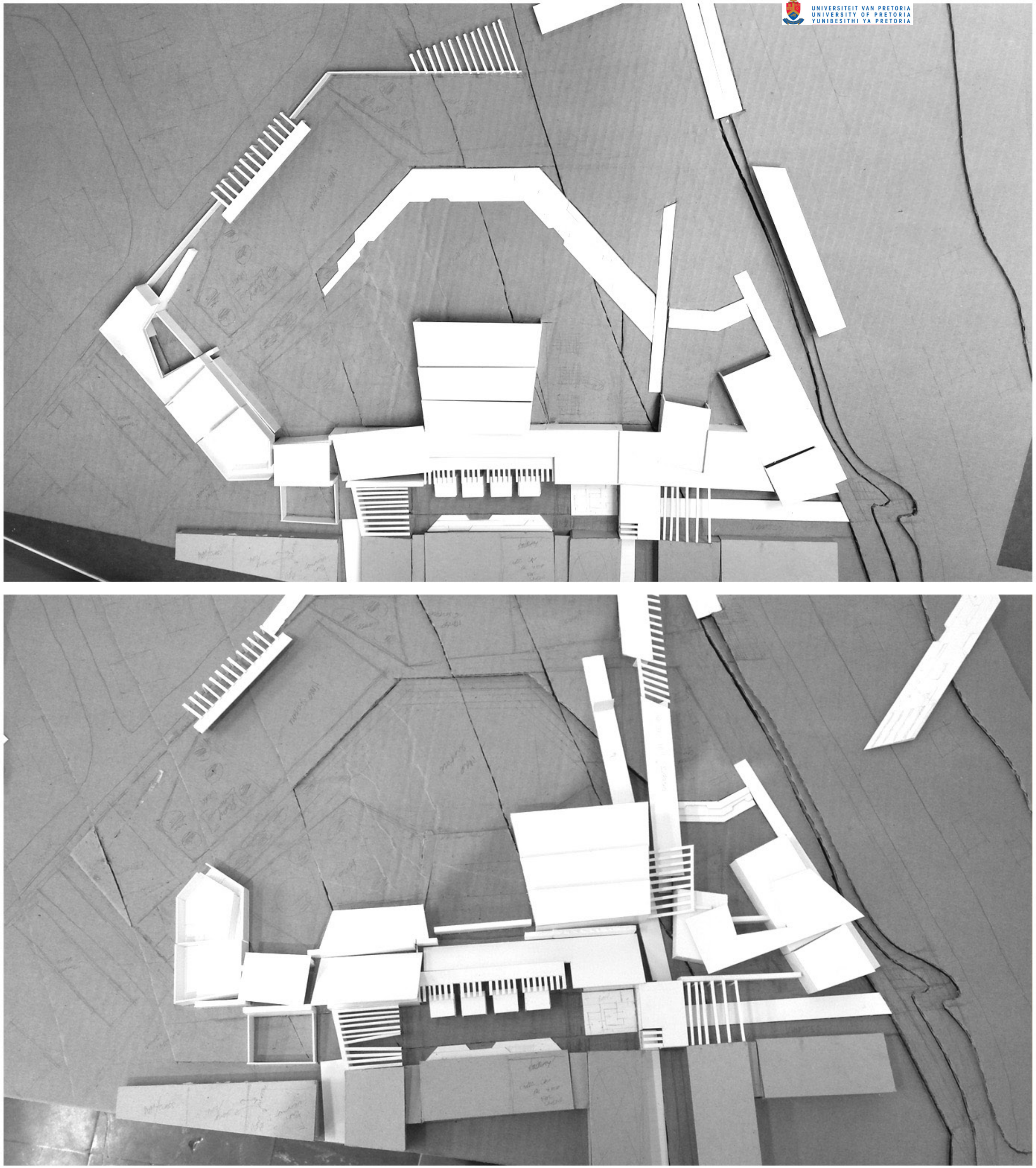
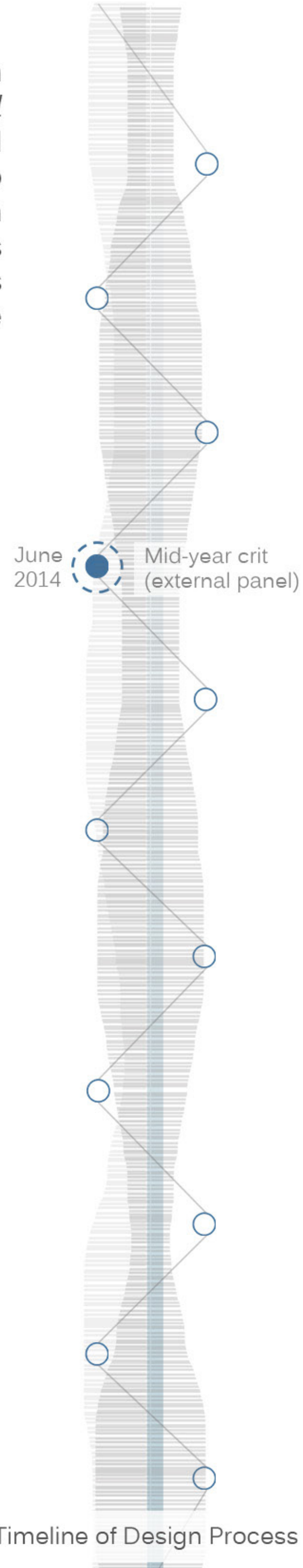


Figure 6.31: A comparison of the model before and after the mid-year crit (Author 2014)

Critically reflecting on the session with the external examiners and the *model break-up* exercise, the author decided to reorganise the plan in order to address the uncomfortable circulation issues. The landscape design and its relationship to the current desire lines and the proposed building were to be revisited.



Timeline of Design Process

The fourth maquette focused on the reorganisation of the plan. As is illustrated in Figure 6.32, intermediary spaces link the main circulation spine with the various studios. These intermediary spaces serve as gathering spaces for students, encouraging social interaction and increasing the sense of community within the Imaginarium.

The building is divided into three parts, the first consists of the exterior exhibition area which acts as the foyer for the multipurpose hall, the second facilitates the performing arts studios and the third, the visual arts studios.

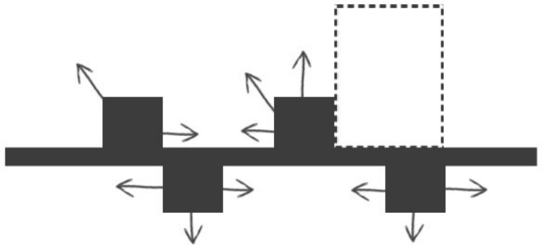


Figure 6.32: Diagram illustrating main spine and intermediary spaces (Author 2014)

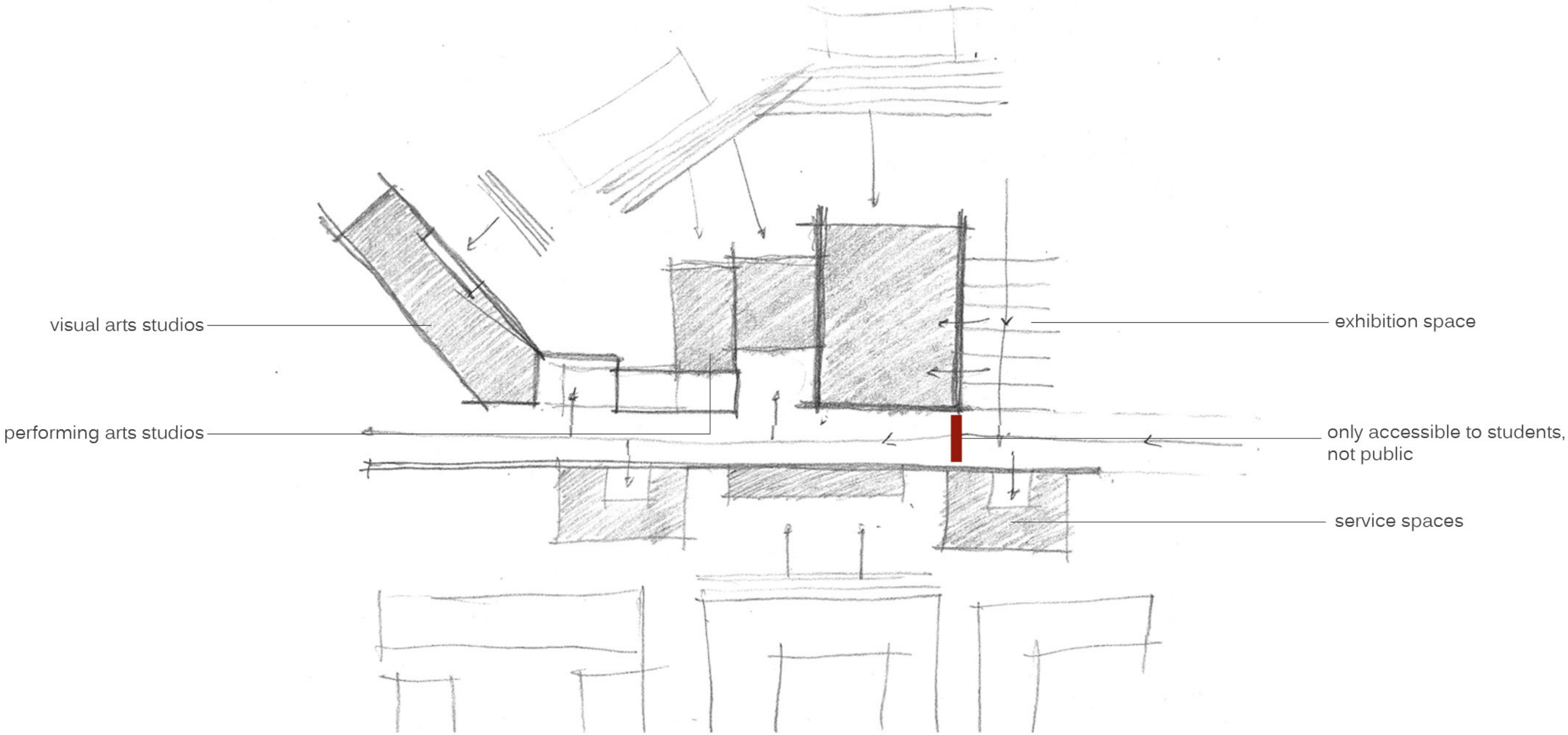
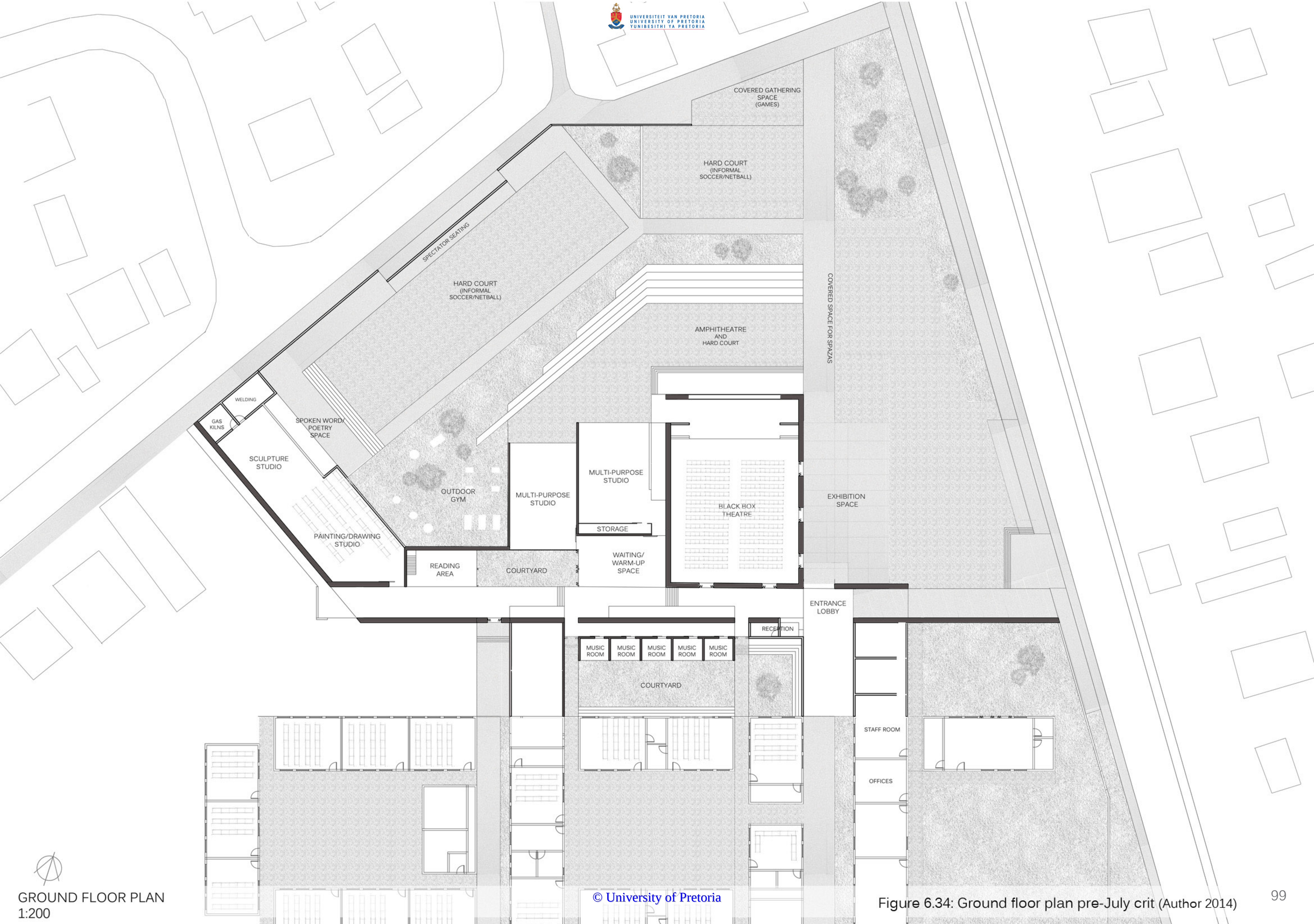


Figure 6.33: Conceptual sketch of new plan (Author 2014)



GROUND FLOOR PLAN
1:200

Figure 6.34: Ground floor plan pre-July crit (Author 2014)

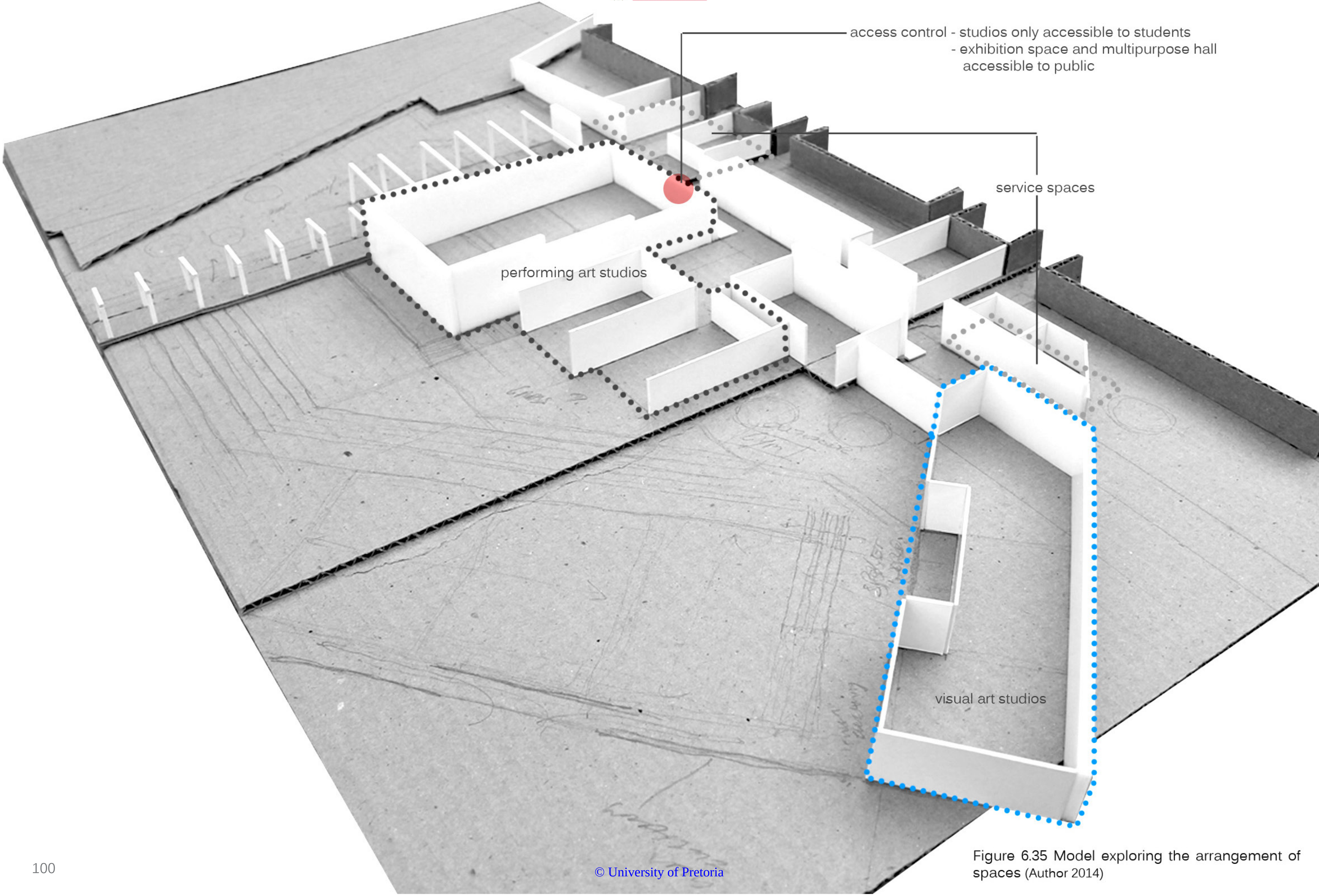


Figure 6.35 Model exploring the arrangement of spaces (Author 2014)

On the 30th of July 2014 another external panel participated in the design process of the Imaginarium.

The crit focused mainly on the design of the roof and the main circulation spine, both of which the author saw as areas that needed further exploration.

Reflecting on the discussion, the author decided to explore roof designs that drew inspiration from, and responded to the immediate context.

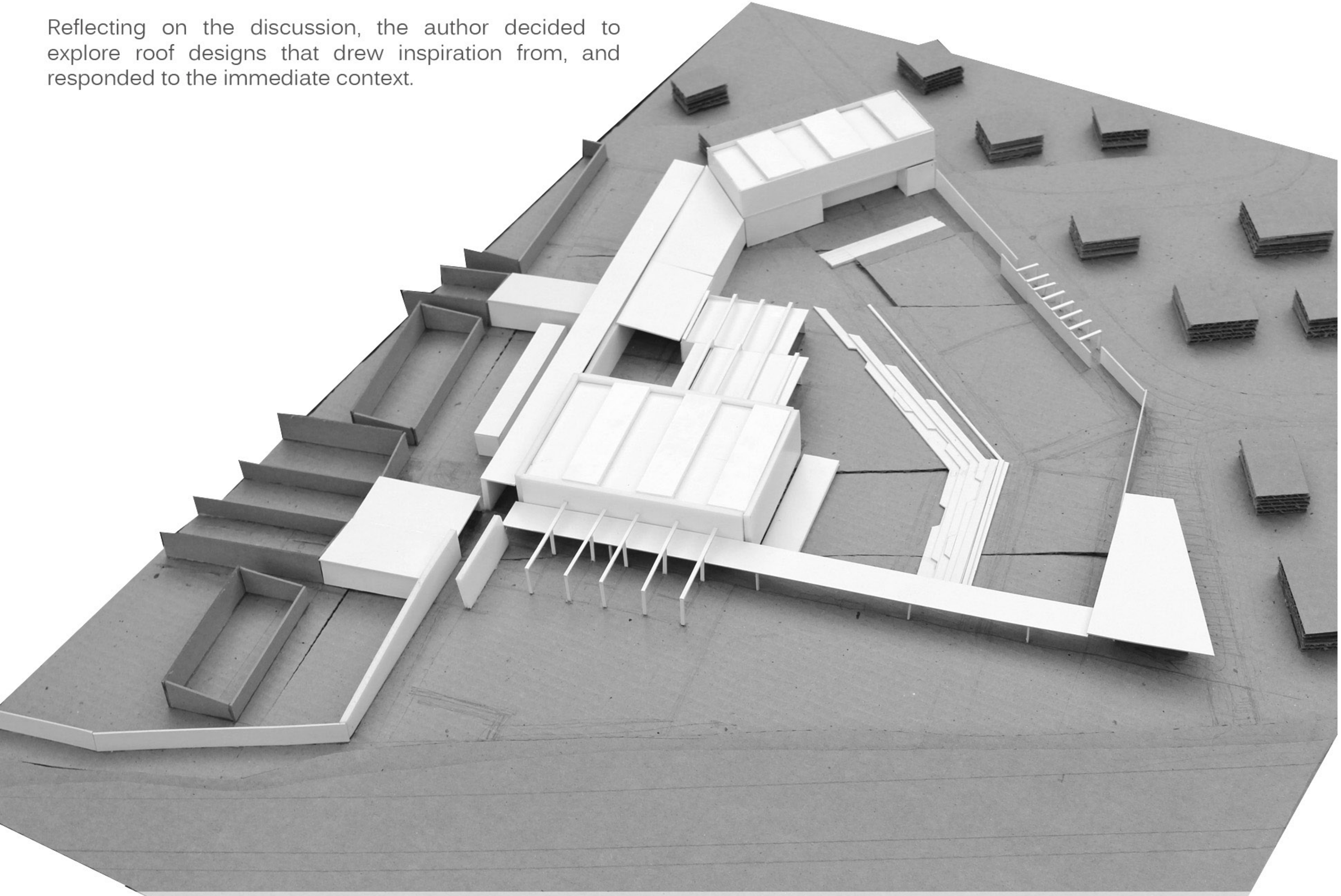
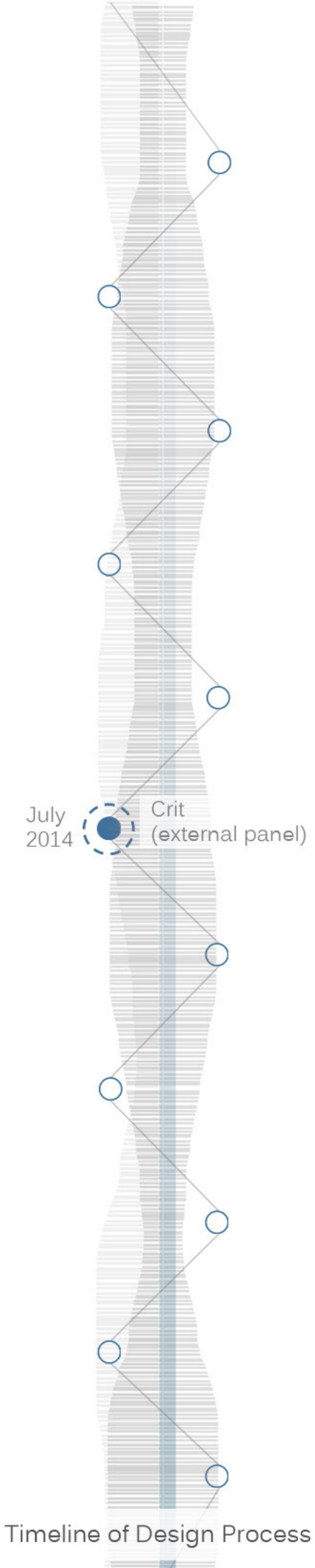


Figure 6.36: The final model, pre-July crit (Author 2014)



Timeline of Design Process

6.7 Further Design Participation

On the 9th of August 2014 the author returned to Alaska for another participatory design exercise with the group consulted in March 2014. Models that had been presented at previous crits were used as points of departure for the exercise.
The author explained the development of the design since March 2014 and explained why the various changes had been made.

When asked for comments, the group said they were content with the way in which the project had developed. Their questions focused mainly on the functional and programmatic aspects of the building, with members of the group asking where toilets would be provided and where they would be able to sit undercover and meet with others.

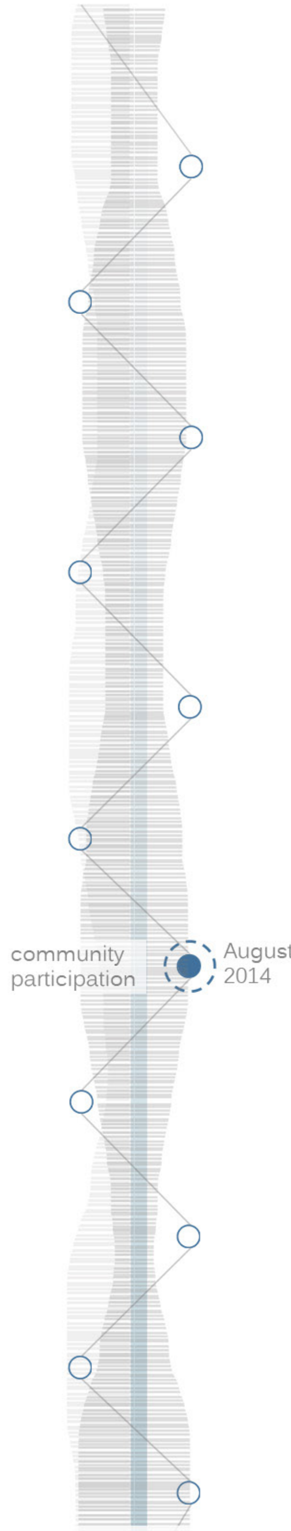
When asked for design input or if there was anything they would change, they all agreed that they were pleased with the design and had nothing they would alter. The author continued to probe for opinions but the community members maintained that they would not alter anything.

Reflecting on the design meeting, the author observed that the community did not contribute from a design perspective and were focused only on the functional aspects of the Imaginarium. It was interesting to note that whenever the author brought up the design of the building and its aesthetics, the community were quick to shift the discussion back towards programme and function.

The author decided that because the group were happy with the programme and showed little concern for the design and aesthetics of the building, it was no longer necessary for further participatory design meetings to take place.

Figure 6.37: The author explaining his scheme during a design meeting with members of the community (Author 2014)

Figure 6.38: It was observed that the community were able to understand the models better than the drawings (Author 2014)



Timeline of Design Process

6.8 Initial Tectonic Informants

Following the previous crit, tectonic informants were analysed in order to understand the building from a structural and aesthetic perspective and with the expectation that the informants would assist in resolving the roof design. The technical concept is explained in more detail in Chapter 7.

The tectonic informants were as follows:

- the duality between ***imagination*** and ***knowledge*** (mentioned in section 6.4)
- the concept of architecture as a ***platform/display***
- the use of ***stone*** as a building material in Alaska
- the form of the adjacent ***school***
- the relationship of ***light*** structures to the ***heavy*** mountainside

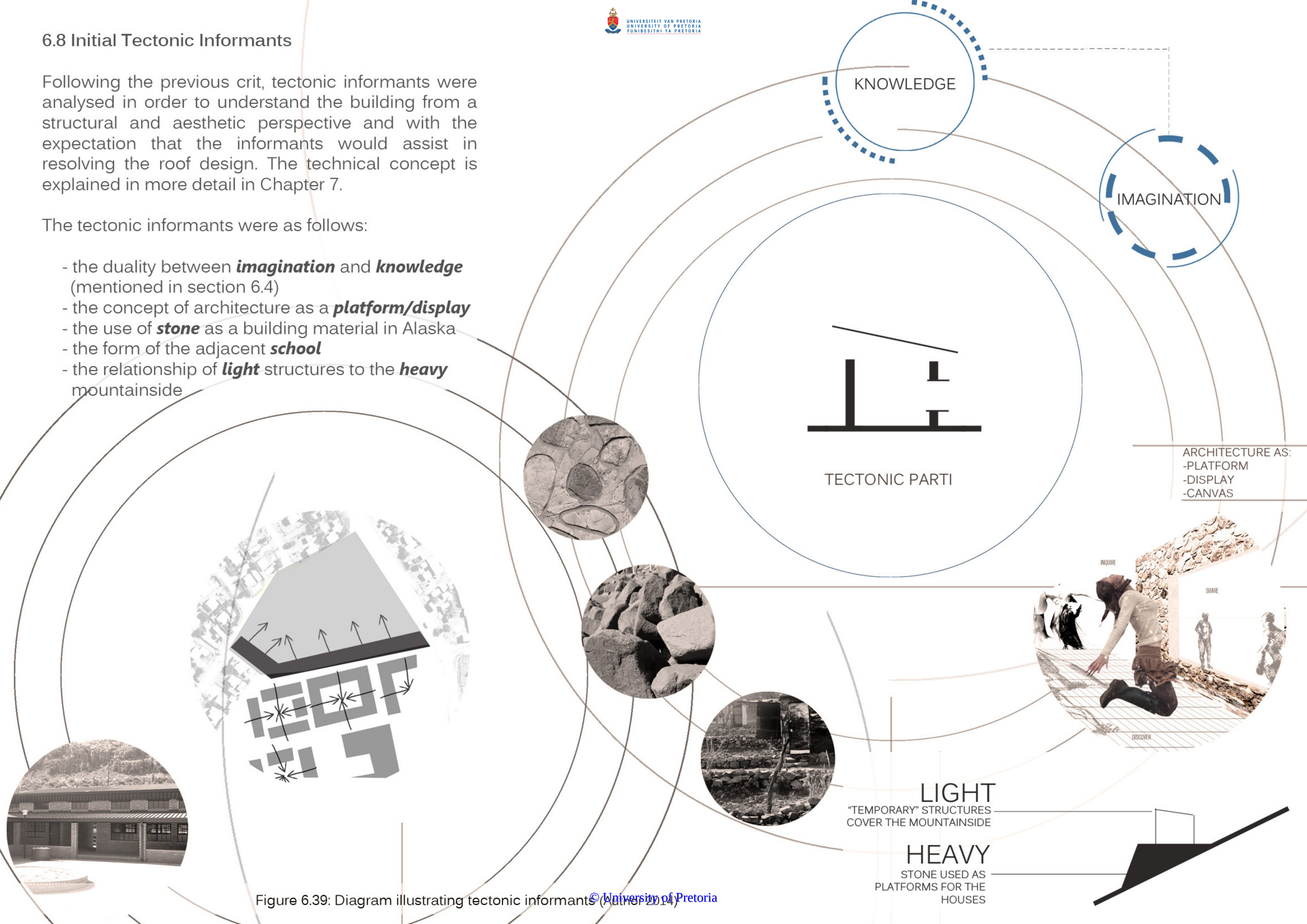
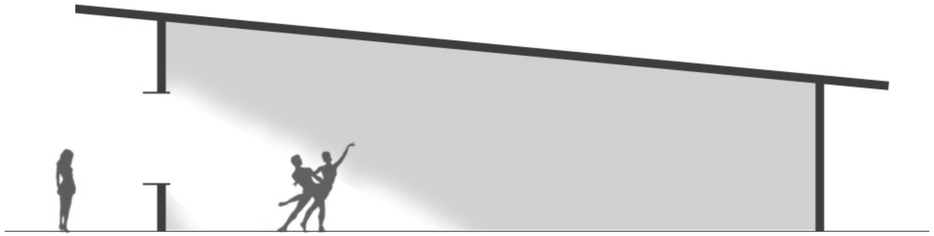


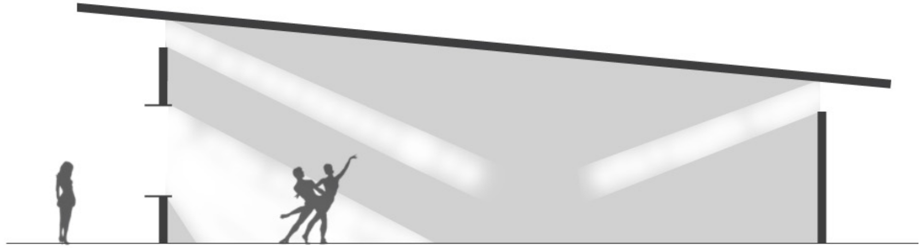
Figure 6.39: Diagram illustrating tectonic informants (Author 2014)

Flat Roof

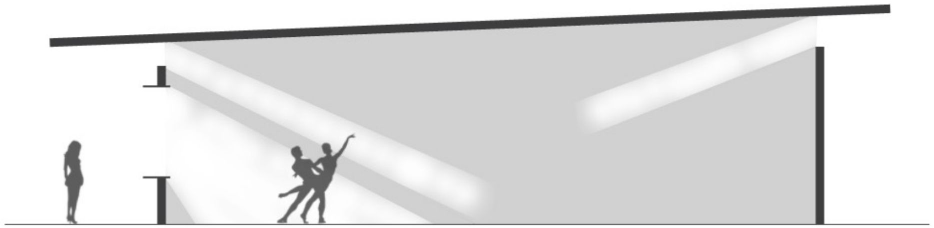
Frame Display Window



Mono-pitched roof - direct response to adjacent school



Lift roof above walls - responds to tectonic parti
and allows for more light to fill the studio

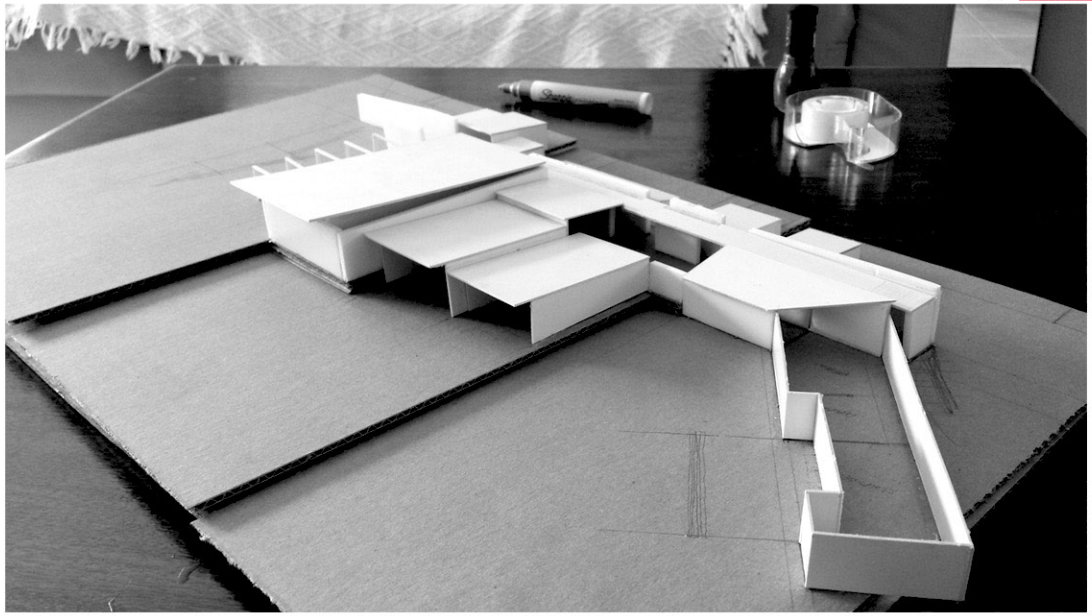


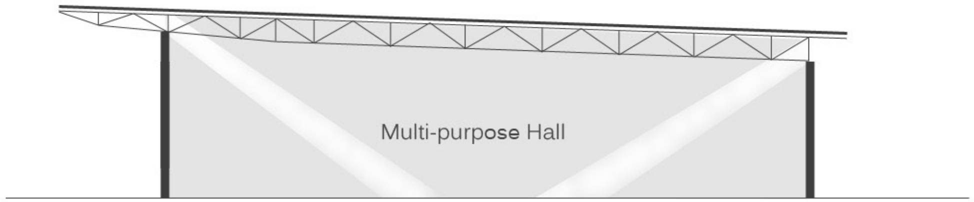
Roof slopes down towards public space creating a covered
area for spectators to stand and watch

The initial roof exploration drew inspiration from the mono-pitched roofs of the adjacent school buildings. The idea was to lift the roof off the walls and have a light element floating above the performance spaces.

The concept behind the duality of heavy and light is explained in more detail in Chapter 7.

Figure 6.40: Diagrams depicting the initial roof exploration (Author 2014)

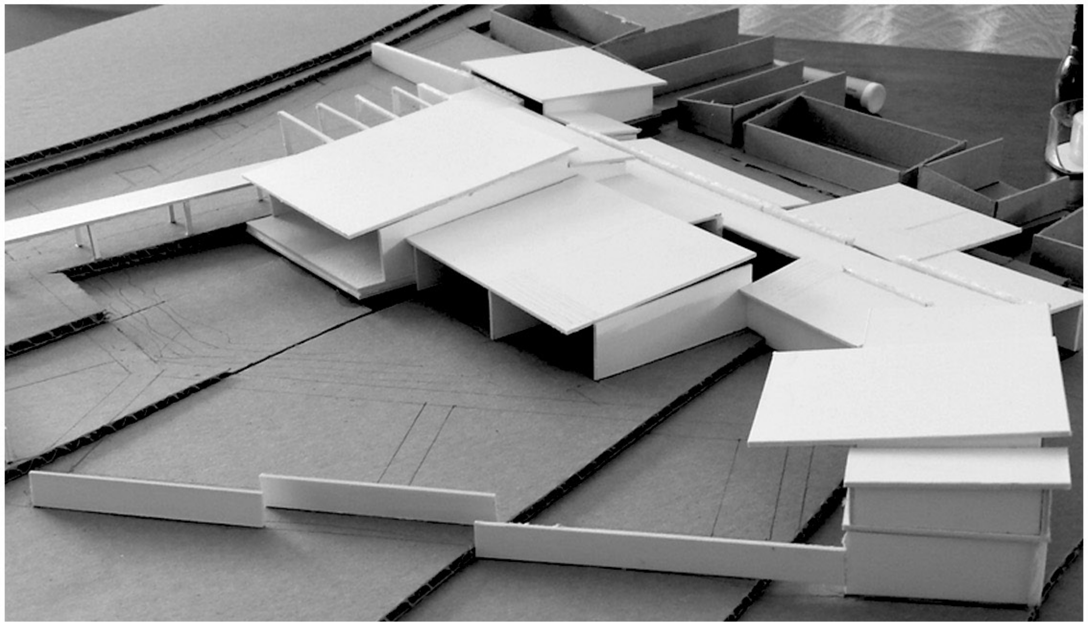




Two maquettes exploring the roofs over the performance spaces were built.

Initially, the roof of the multi-purpose hall was designed to be a mono-pitched roof that floated above the walls. At a meeting with the author's study leader the possibility of allowing more light into the space was discussed.

The section below shows the resulting roof design. More natural light is allowed into the space while the overhang creates a more effective cover for the stage than the above alternative.



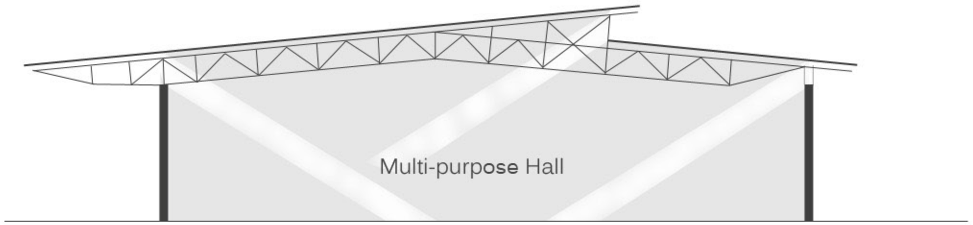


Figure 6.41: Maquettes and sections exploring two different roof designs for the multi-purpose hall (Author 2014)

On the 1st of October 2014 a crit panel consisting of external professional architects and lecturers participated in the design process of the Imaginarium.

Although mainly focused on construction, the crit panel said the roof of the multi-purpose hall would have to be revisited as the roof truss and the position of the skylight created uncomfortable interior spaces. The possibility of the roofs over the performance spaces becoming more sculptural, adding to the public space's identity, was discussed.

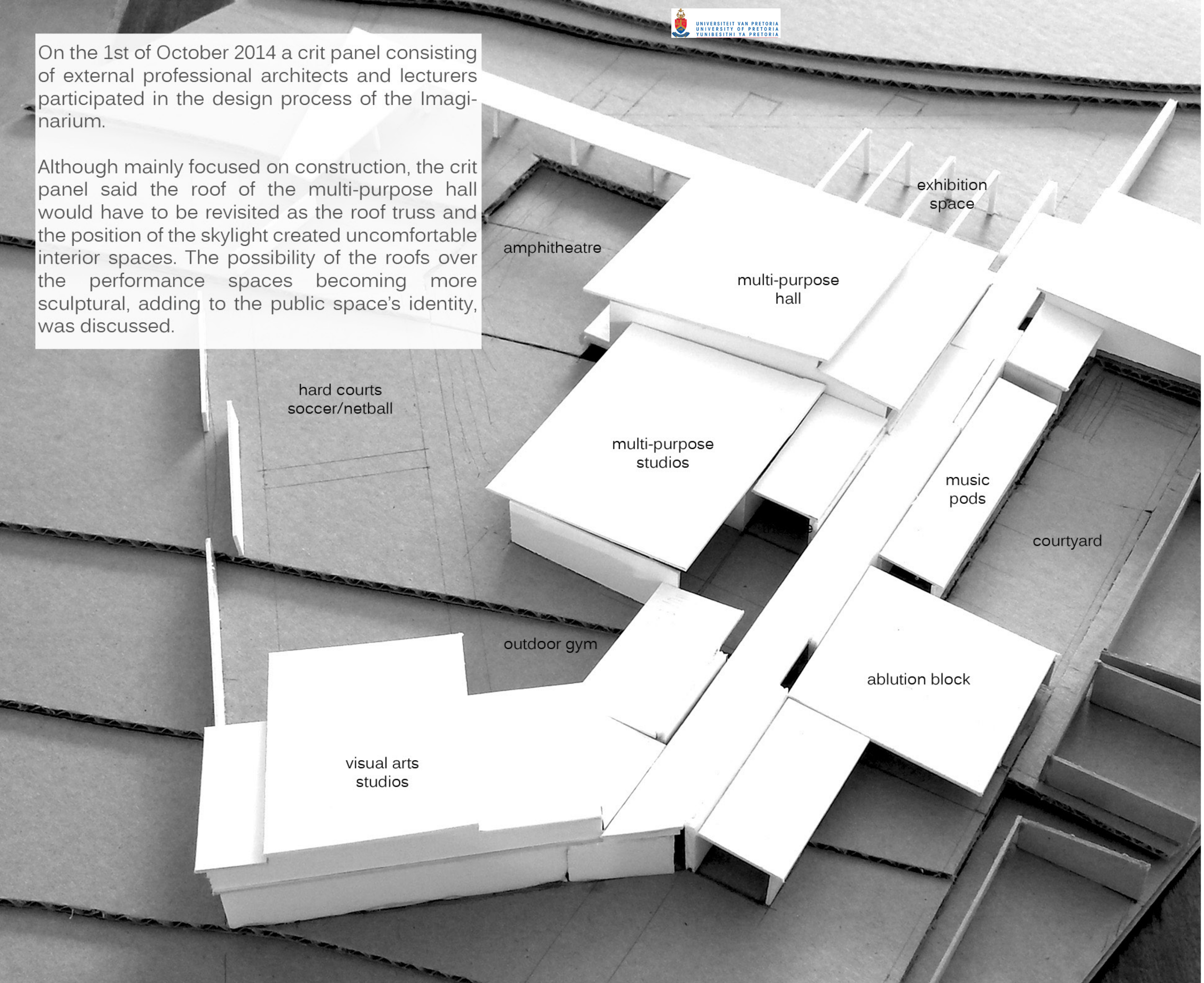
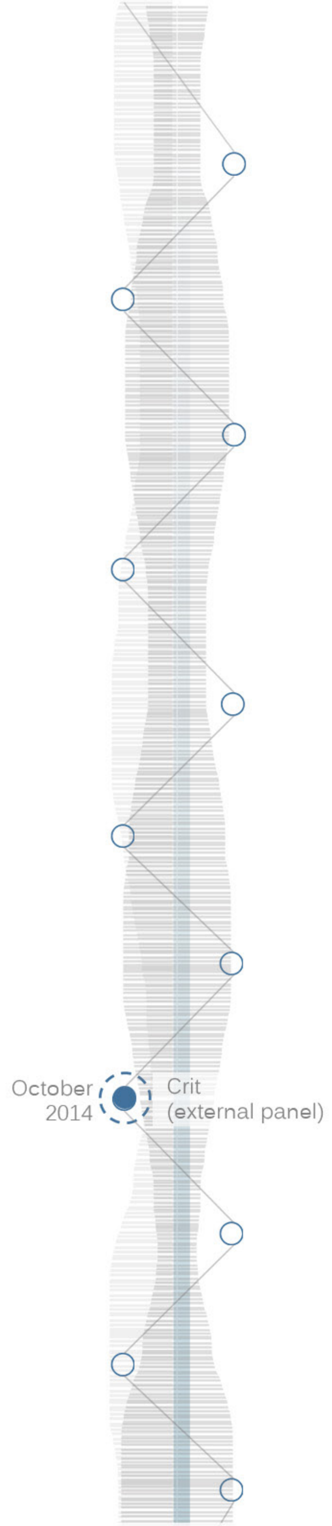


Figure 6.42: Fifth maquette - exploring the roof design (Author 2014)



Timeline of Design Process

6.9 Design Resolution

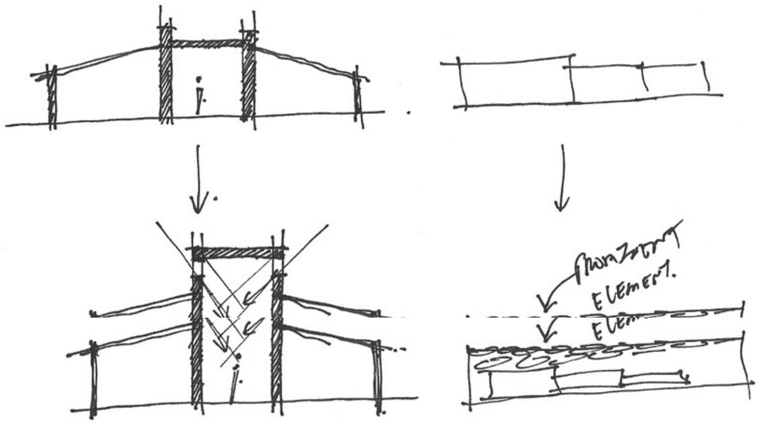
The final maquette addressed the design of the roofs and the circulation spine, both of which proved to be challenges for much of the year.

Resolution of the Plan

Hierarchy and the ending of the main spine were the two main issues highlighted. Figure 6.44 shows the final alteration to the plan, with the visual arts studios being positioned perpendicular to the rest of the building. This reorganisation was done so the main spine would no longer terminate in an uncomfortable space and the site line through the building is maintained.

The circulation spine is made up of a series of stairs and ramps with numerous anchor points, or gathering spaces located along it.

Due to the circulation spine being a prominent organising element, the volume of the space is increased. This increase in height allows for clerestory windows to fill the space with natural light. The hierarchial differences between the various spaces in the Imaginarium can be seen in Figure 6.45.



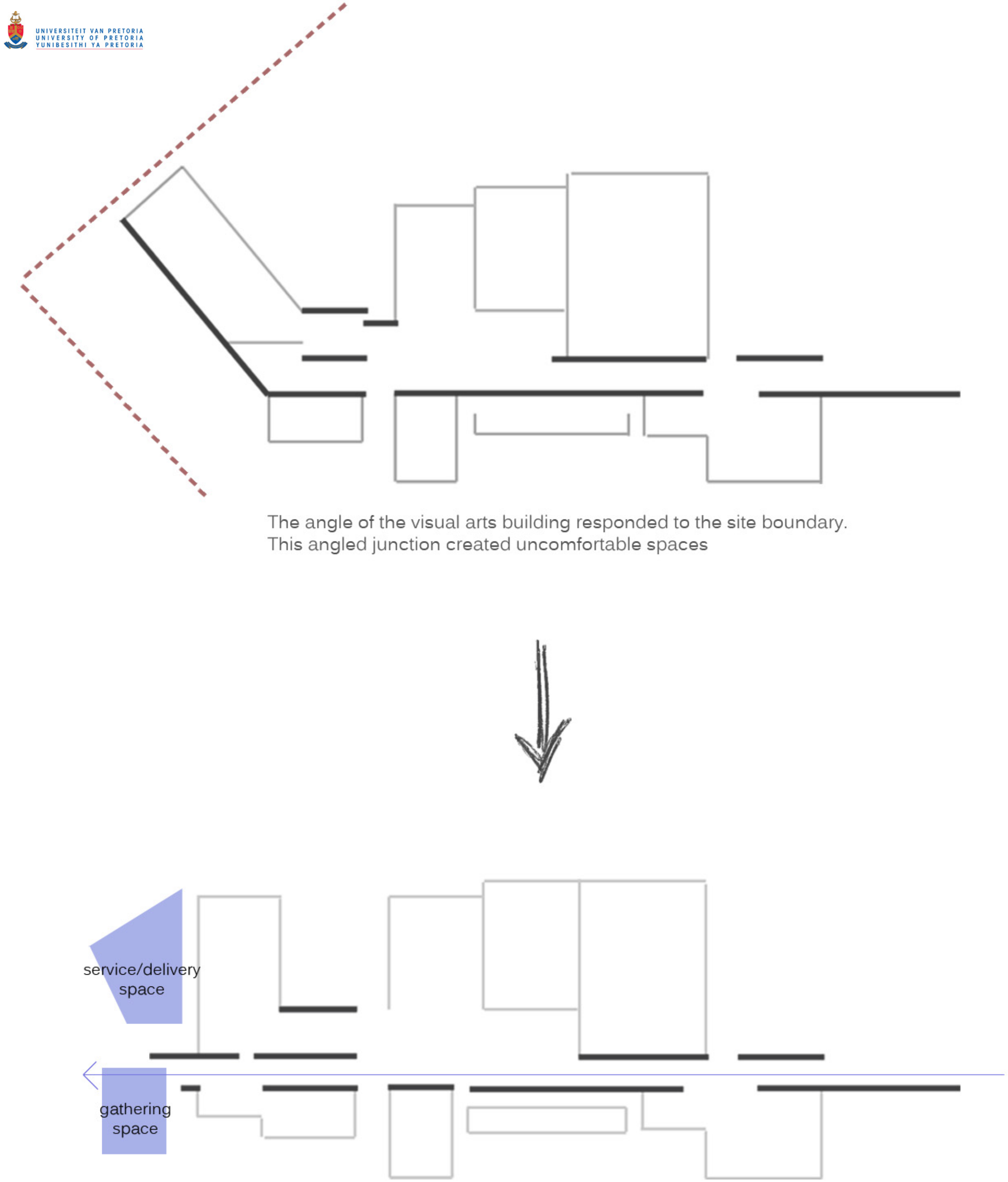


Figure 6.43: Illustration showing that raising the volume of the circulation spine allows for clerestory windows and makes the spine a prominent element from the outside (Author 2014)

Figure 6.44: Diagrams indicating the reorganisation of the main spine (Author 2014)

Figure 6.45 explains the final organisation of the plan. The service spaces are situated to the south of the building, adjacent to the school. The Imaginarium folds in and out to mould various courtyards between it and the school.

From the various precedents studied in Chapter 5, the idea of linking the building to nature in order to inspire creativity was a running theme. The Imaginarium has numerous courtyards, creating spaces for users to gather, talk and watch any ongoing performances.

The main circulation space separates the service spaces from the performance spaces and studios which are situated along the northern part of the building, framing the public space.

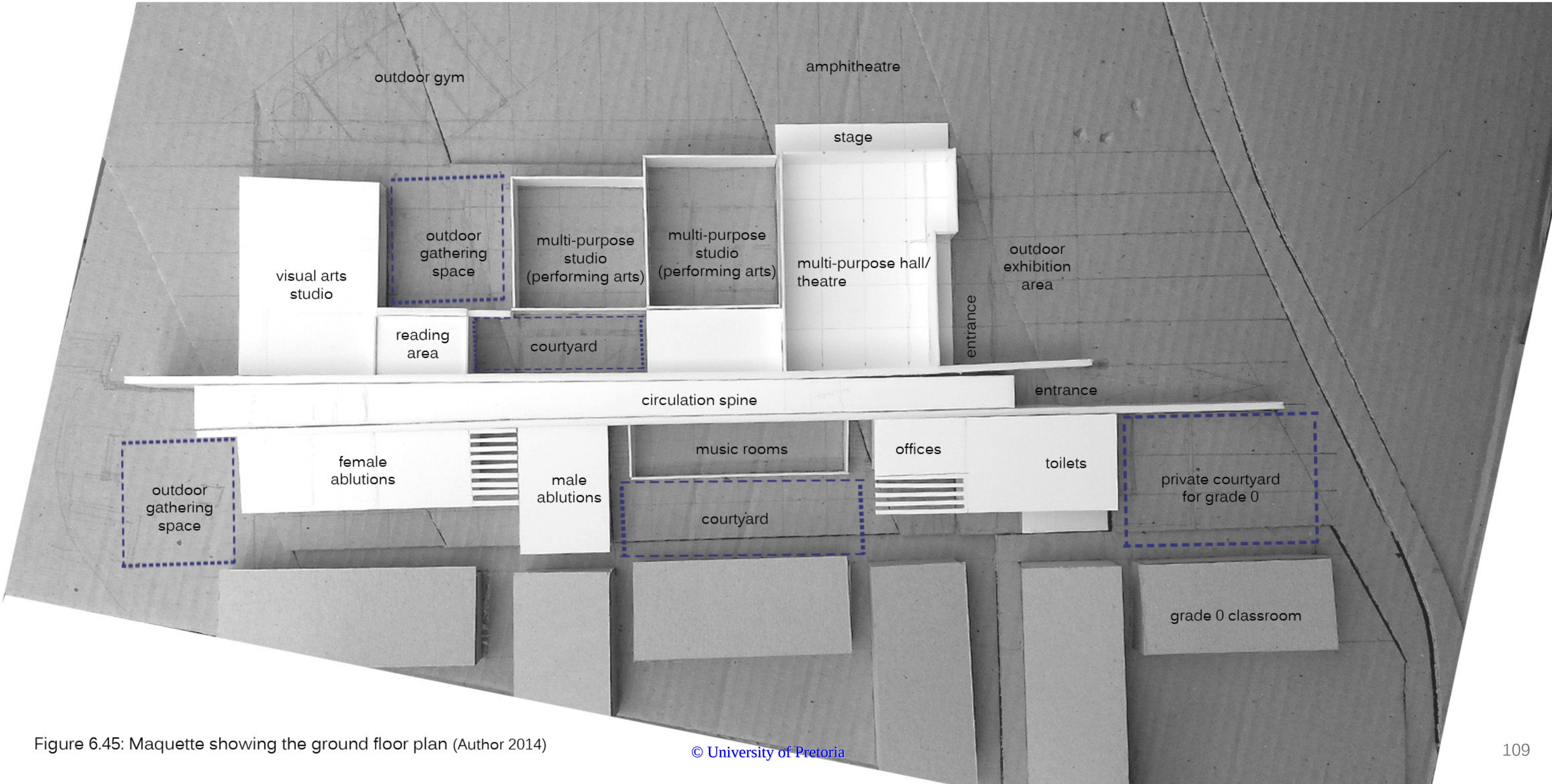


Figure 6.45: Maquette showing the ground floor plan (Author 2014)

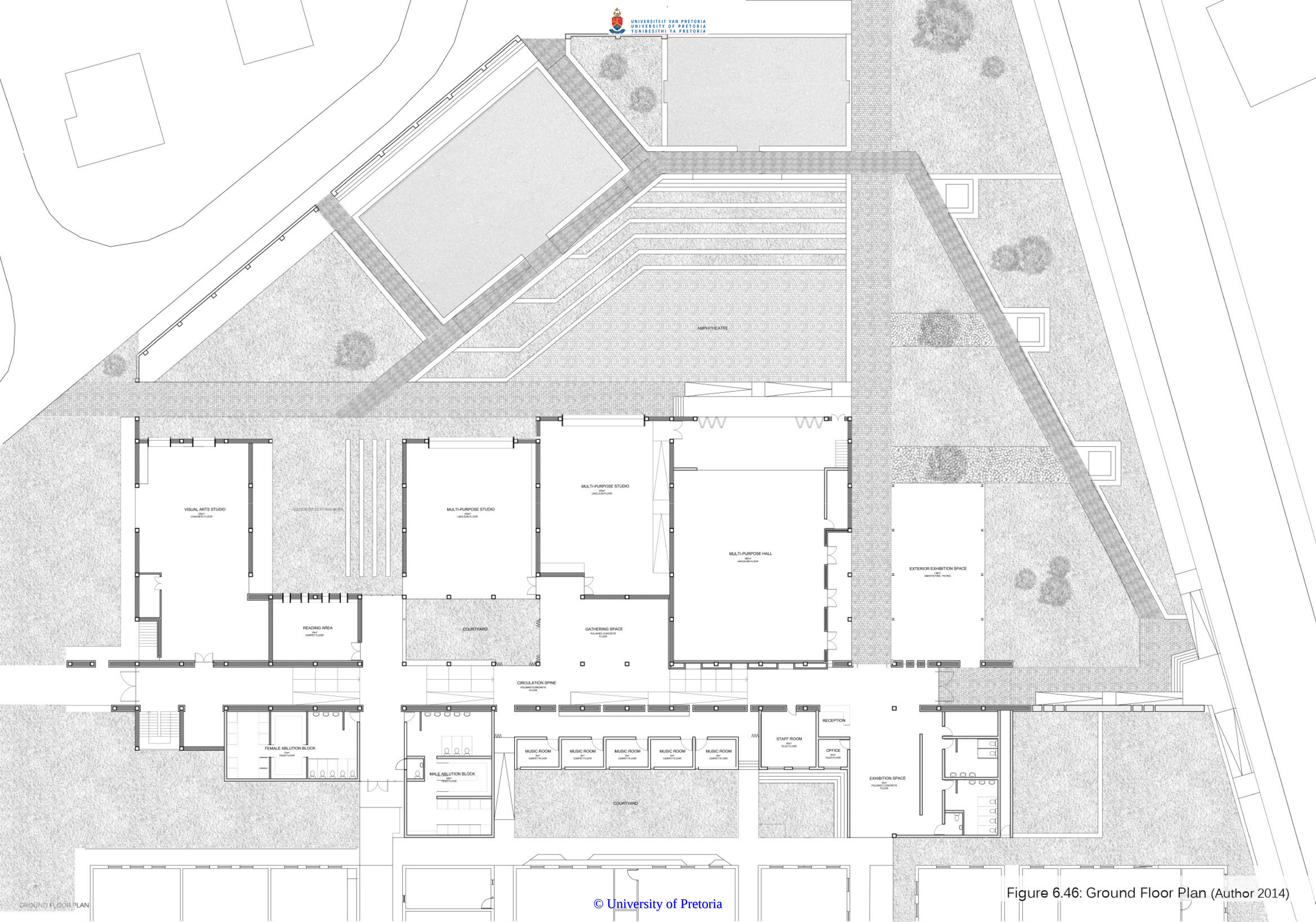


Figure 6.46: Ground Floor Plan (Author 2014)

Resolving the Roof

The roofs above the performance spaces proved to be a challenge throughout the year. The separate roofs over each studio felt disorganised, disjointed and lacking boldness and expression that one would expect from an Imaginarium - a place devoted to the imagination. The author then explored the idea of having one continous roof flowing over all three performance spaces, linking the spaces together and expressing the creative nature of the facility.

Figure 6.50 shows the exploration of the roof as a sculptural element floating above the performance studios.

The Imaginarium can be broken down into three main zones, namely, services spaces, the main circulation spine and studios or *imagination stations*.

Figure 6.51 shows how the roofs differentiate between each space. As mentioned earlier, the service spaces are located on the southern side of the building, adjacent to the school. The roofs of these spaces respond to the mono-pitch roofs and corrugated sheeting of the school.

The main circulation spine is covered by a concrete roof, while the performance spaces have a light, flowing, sculptural roof 'floating' above them.

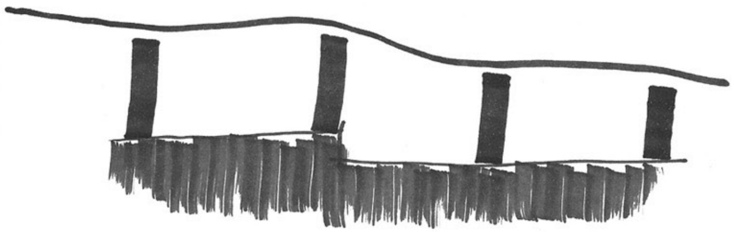


Figure 6.47: Concept sketch of performance space roof (Author 2014)

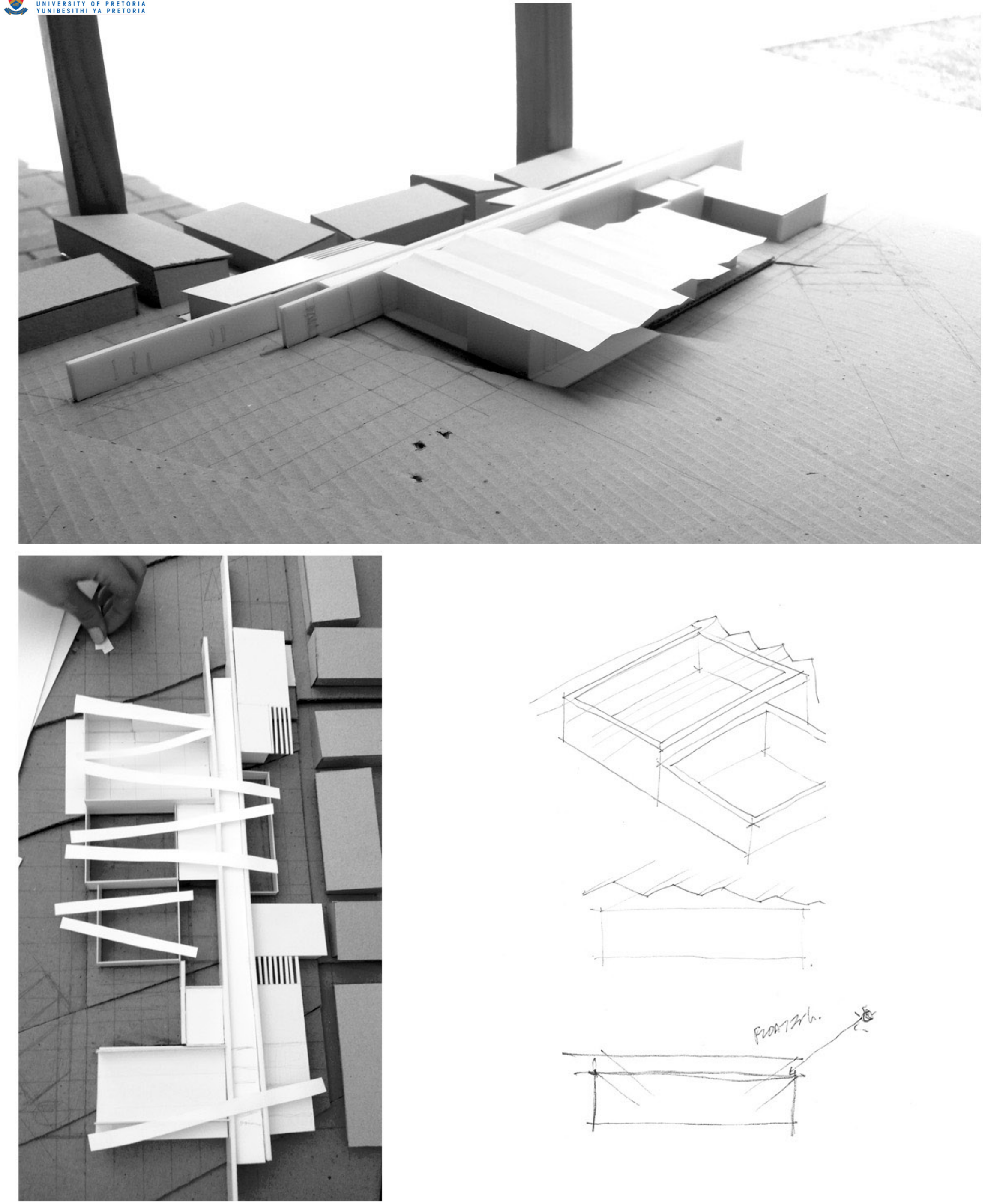


Figure 6.48: Maquettes/sketches showing the exploration of the performance space roof (Author 2014)

The corrugated iron roof flows up the slope and ultimately becomes a pergola-type structure defining the exterior exhibition space below.

The roof overhang provides shelter for the lower gathering area

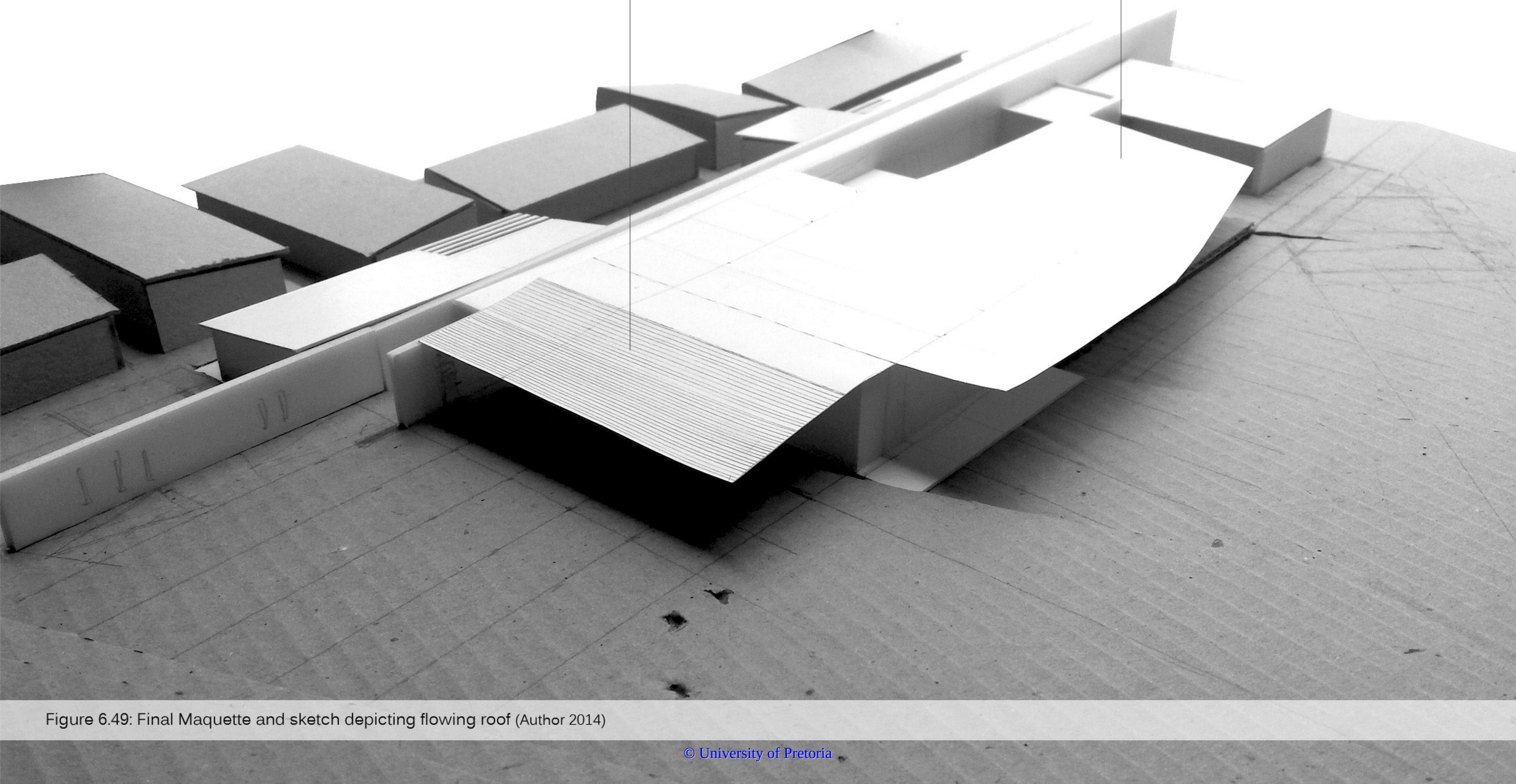
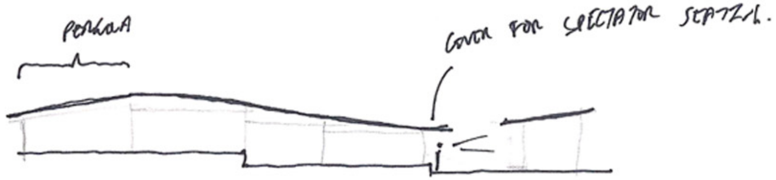
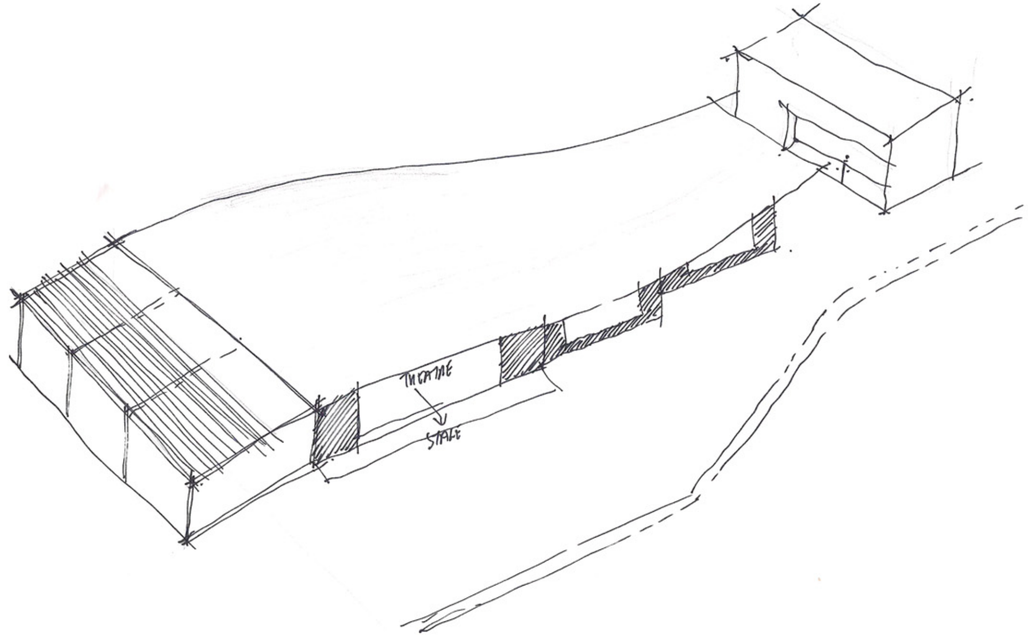
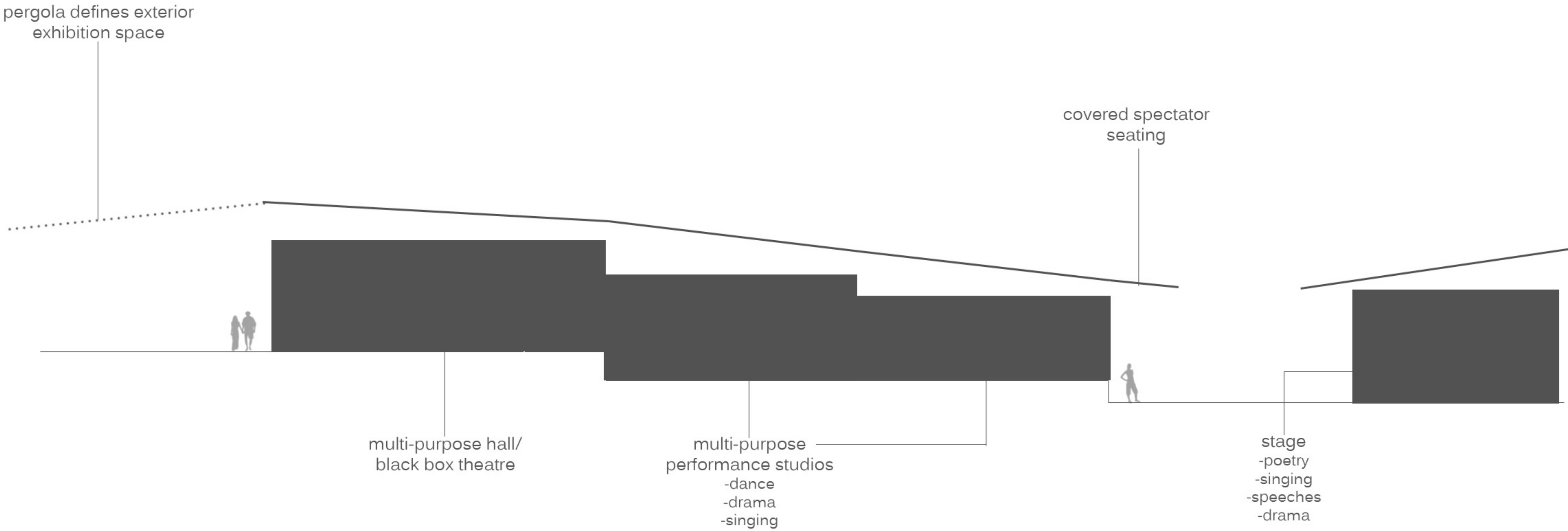


Figure 6.49: Final Maquette and sketch depicting flowing roof (Author 2014)


PERGOLA
COVER FOR SPECTATOR SEATING.

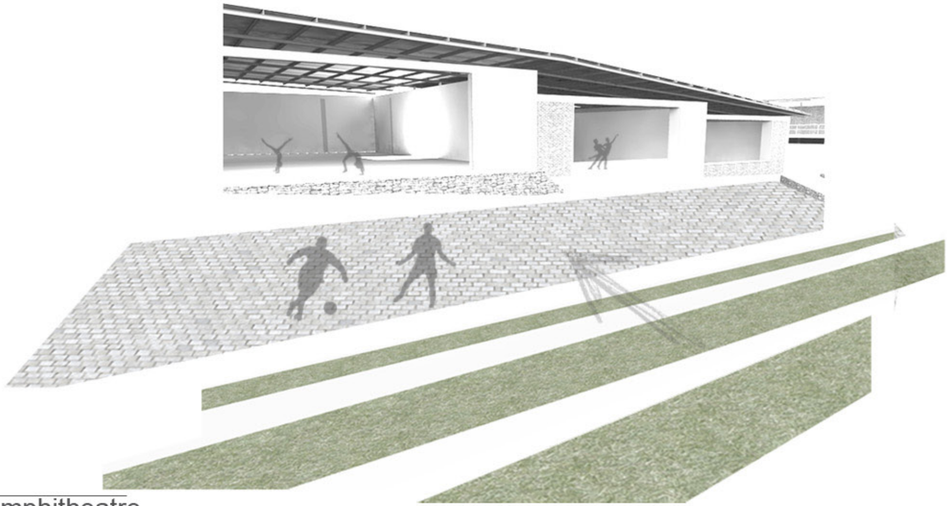

THEATRE
STAGE


pergola defines exterior
exhibition space
covered spectator
seating
multi-purpose hall/
black box theatre
multi-purpose
performance studios
-dance
-drama
-singing
stage
-poetry
-singing
-speeches
-drama


hard courts
-soccer
-netball
multi-purpose performance studios
gathering space
-platform for performances/practice
intimate performance area
-poetry
-platform to present artwork
-public speaking

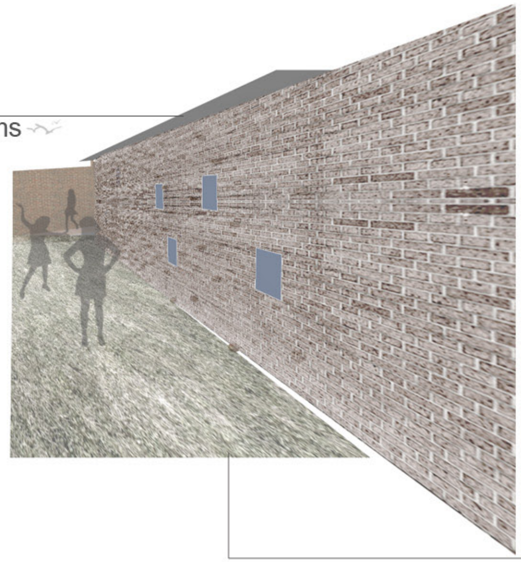
Performing Arts

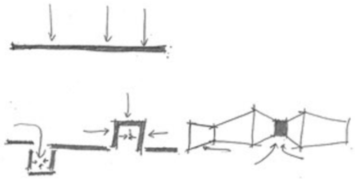
The main performing arts studios open up towards the amphitheatre. A series of stages and displays are found throughout the Imaginarium, facilitating various performances.

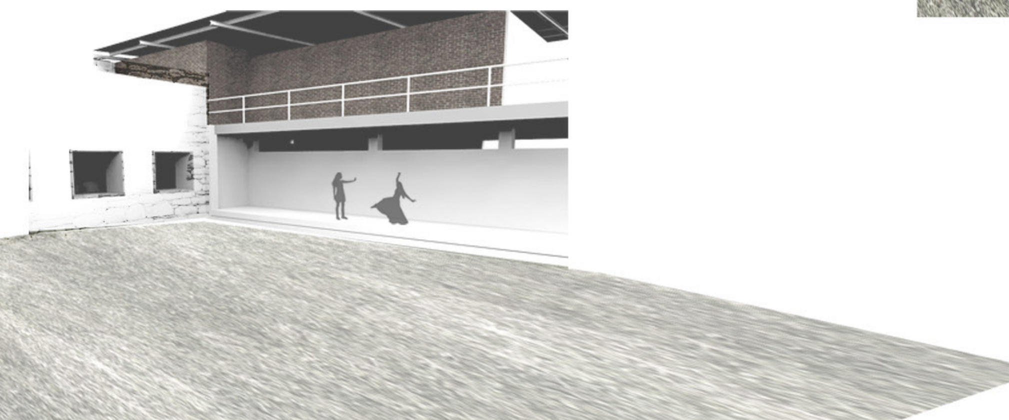


amphitheatre
-sport
-performances

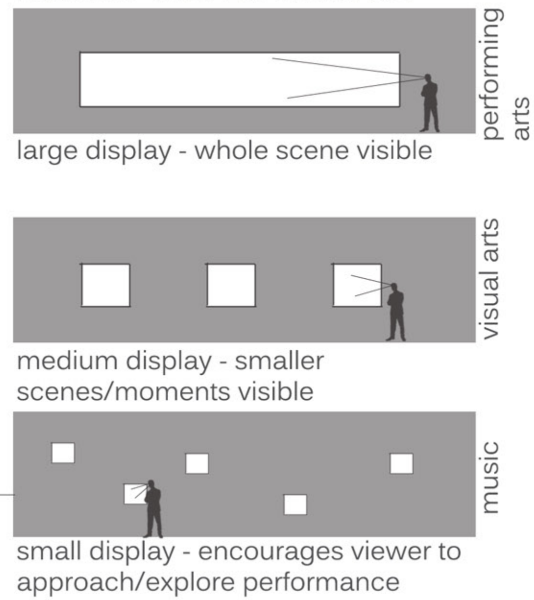
music rooms







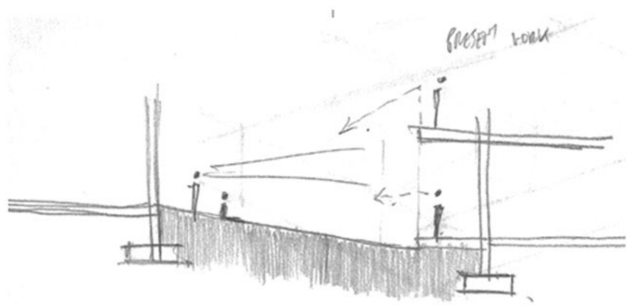
FRAMING THE PERFORMANCE

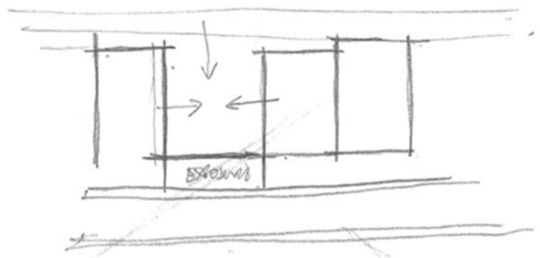


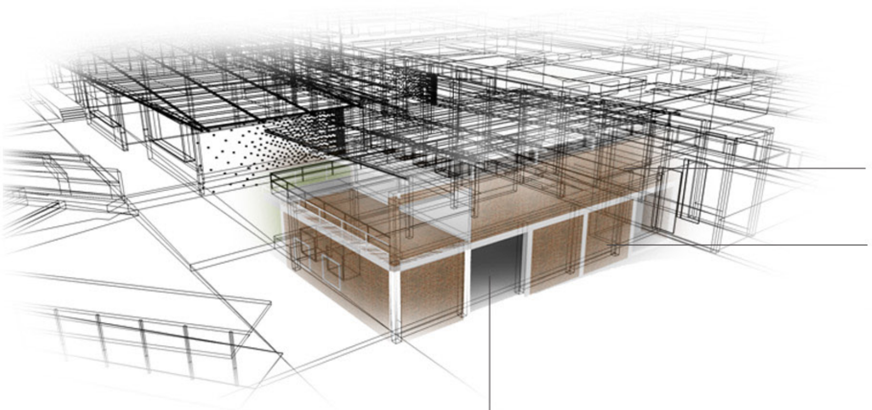

mural/graffiti wall
mural/graffiti wall
exterior exhibition space
interior exhibition space
projects are displayed along the main circulation spine

Visual Arts

The Imaginarium seeks to expose the Alaskan public to the creative talents of those enrolled in the various art programmes. Numerous walls and exhibition spaces provide the youth with such a platform.







Courtyards between the Imaginarium and primary school create spaces for children to relax, interact and practice performances

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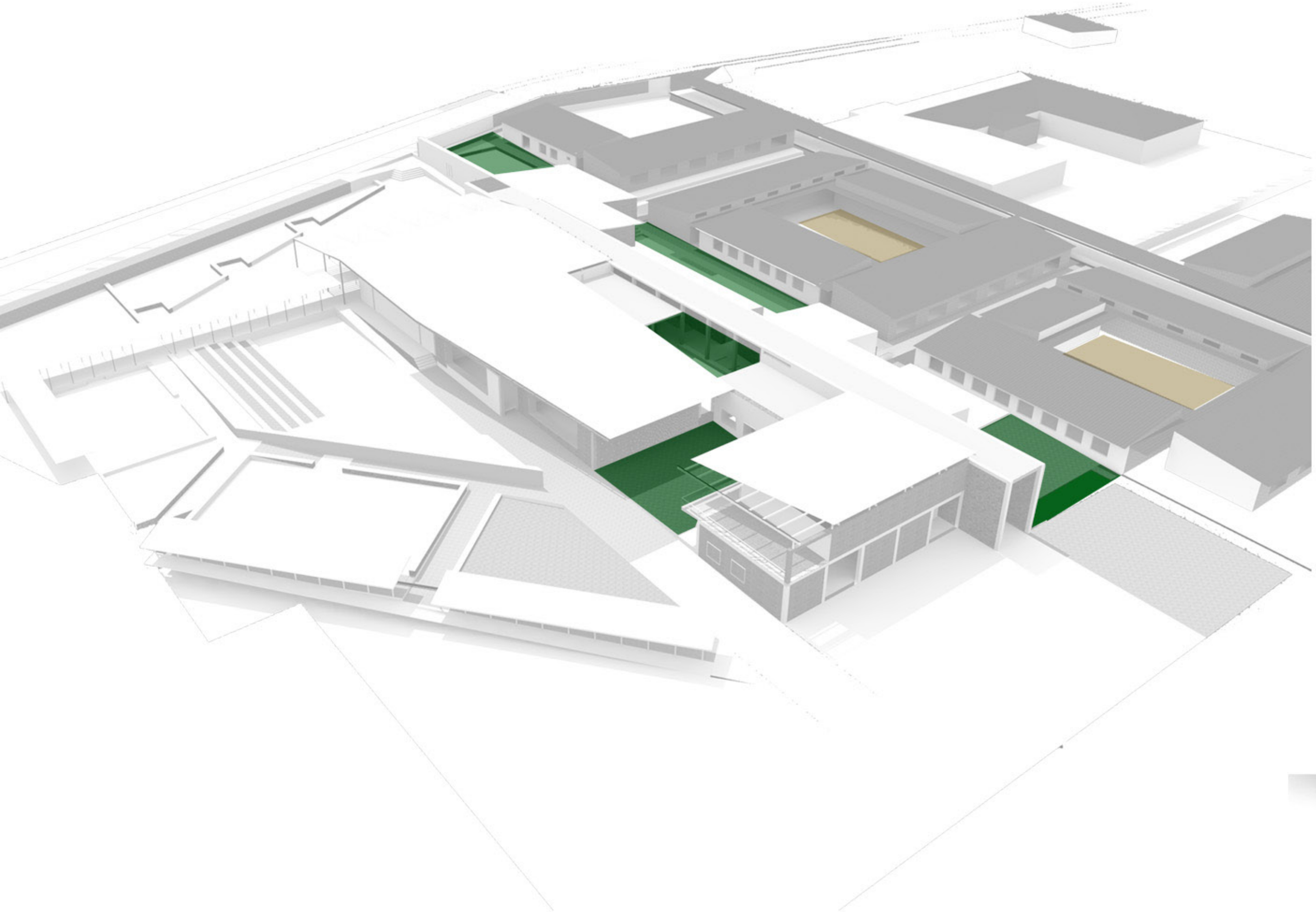
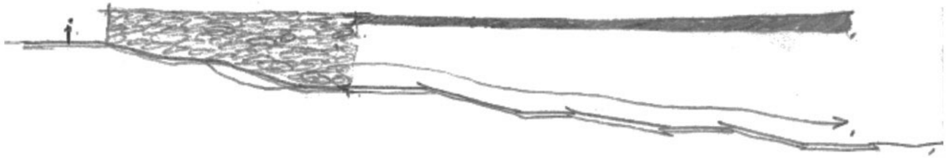
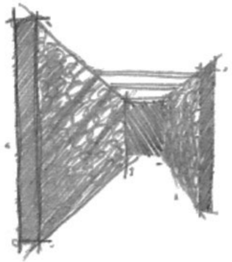
YUNIBESITHI YA PRETORIA

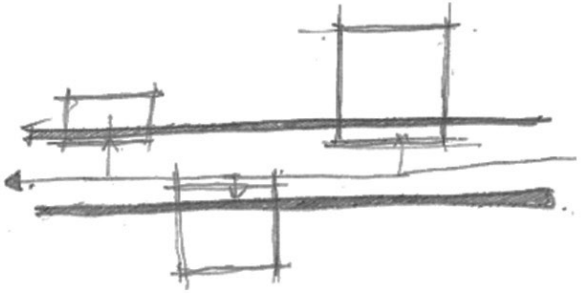
Courtyards

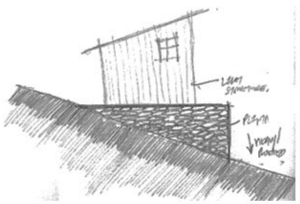
Research has shown that classrooms that open out towards courtyards aid in the learners' concentration spans. The Imaginarium is organised around a series of courtyards, providing tranquil, introverted spaces for people to gather, relax and practice performances











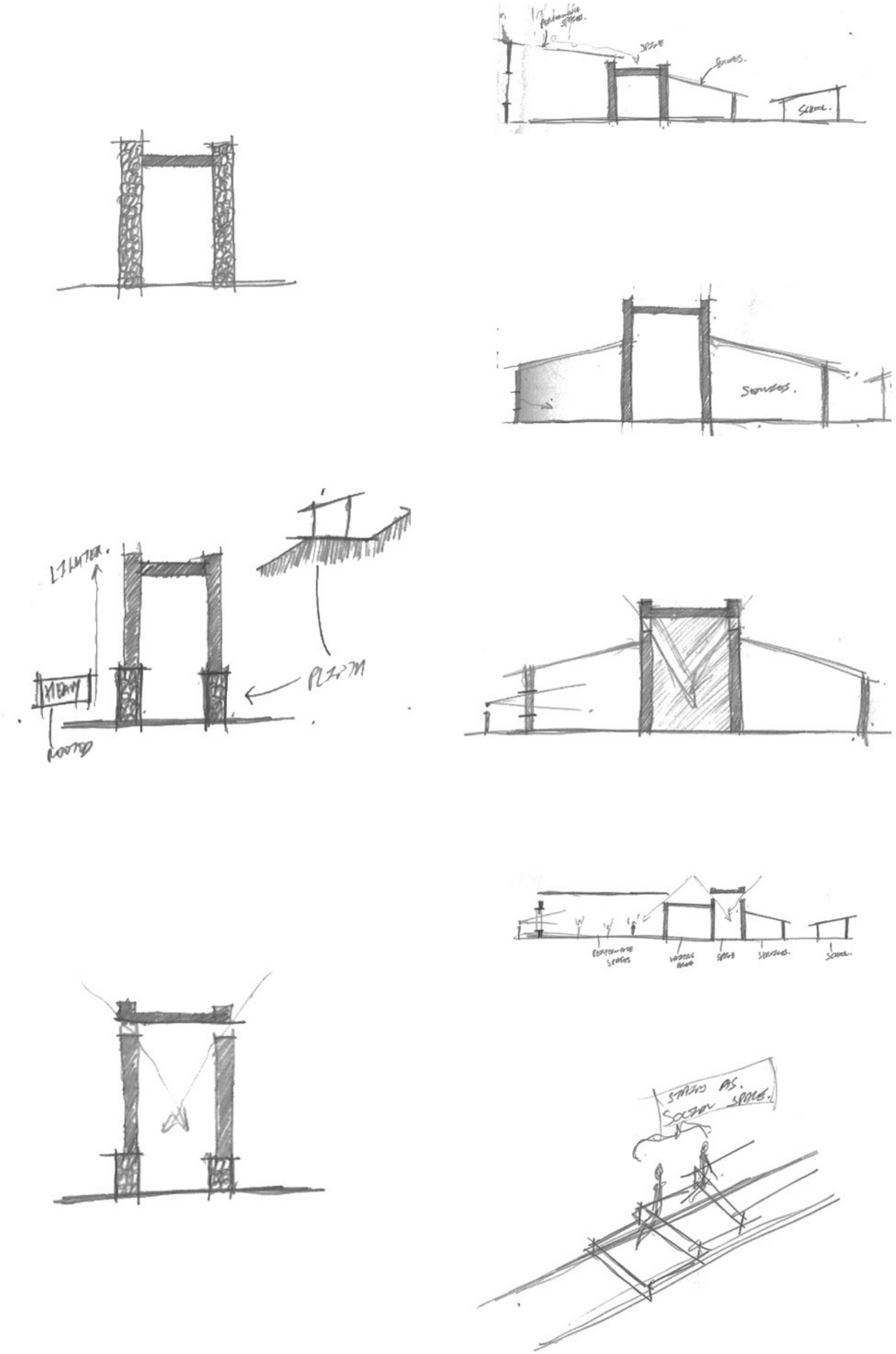

SERVICES.
PLINTH
STAIRS AS SOCIAL SPACE.

Figure 7.1: Rocky outcrops are prominent features throughout Alaska (Alpheus 2014)

As the sun crosses the sky, so the shadows cast by the rocks keep changing. It's as if the mountain were alive.

Alpheus (2014)

This chapter describes the technical concept and focuses on the technical exploration of the Imaginarium.

Technical Investigation

7

7.1 Technical Concept

As described in Chapter 6.8, the technical concept responds to five informants:

- the duality between ***imagination*** and ***knowledge*** (mentioned in section 6.4)
- the concept of architecture as a ***platform/display***
- the use of ***stone*** as a building material in Alaska
- the form of the adjacent ***school***
- the relationship of ***light*** structures to the ***heavy*** mountainside

The idea was for the Imaginarium to draw inspiration from, and respond to, the surrounding buildings and natural features, yet also express the creative nature of the programmes it facilitates.

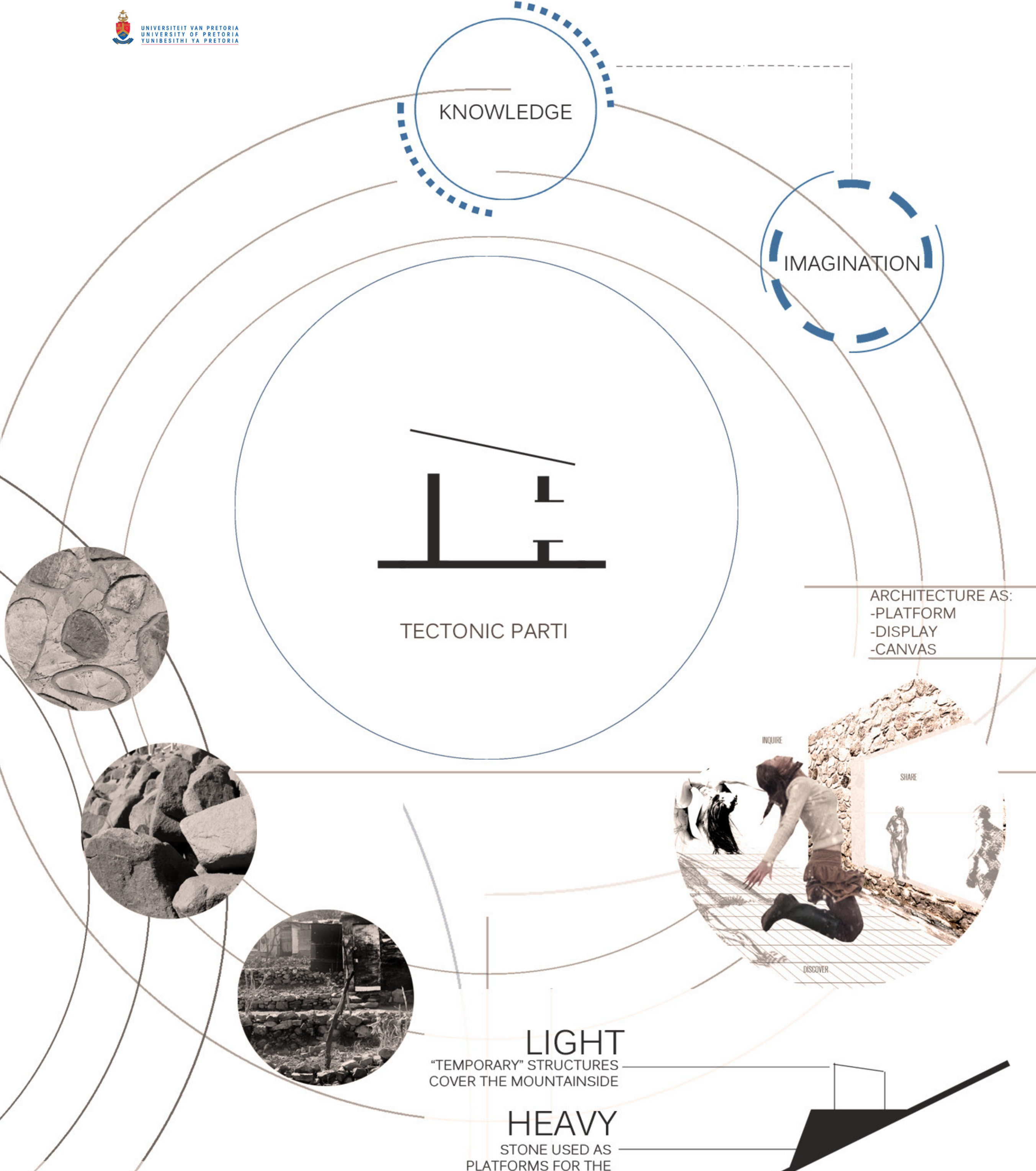
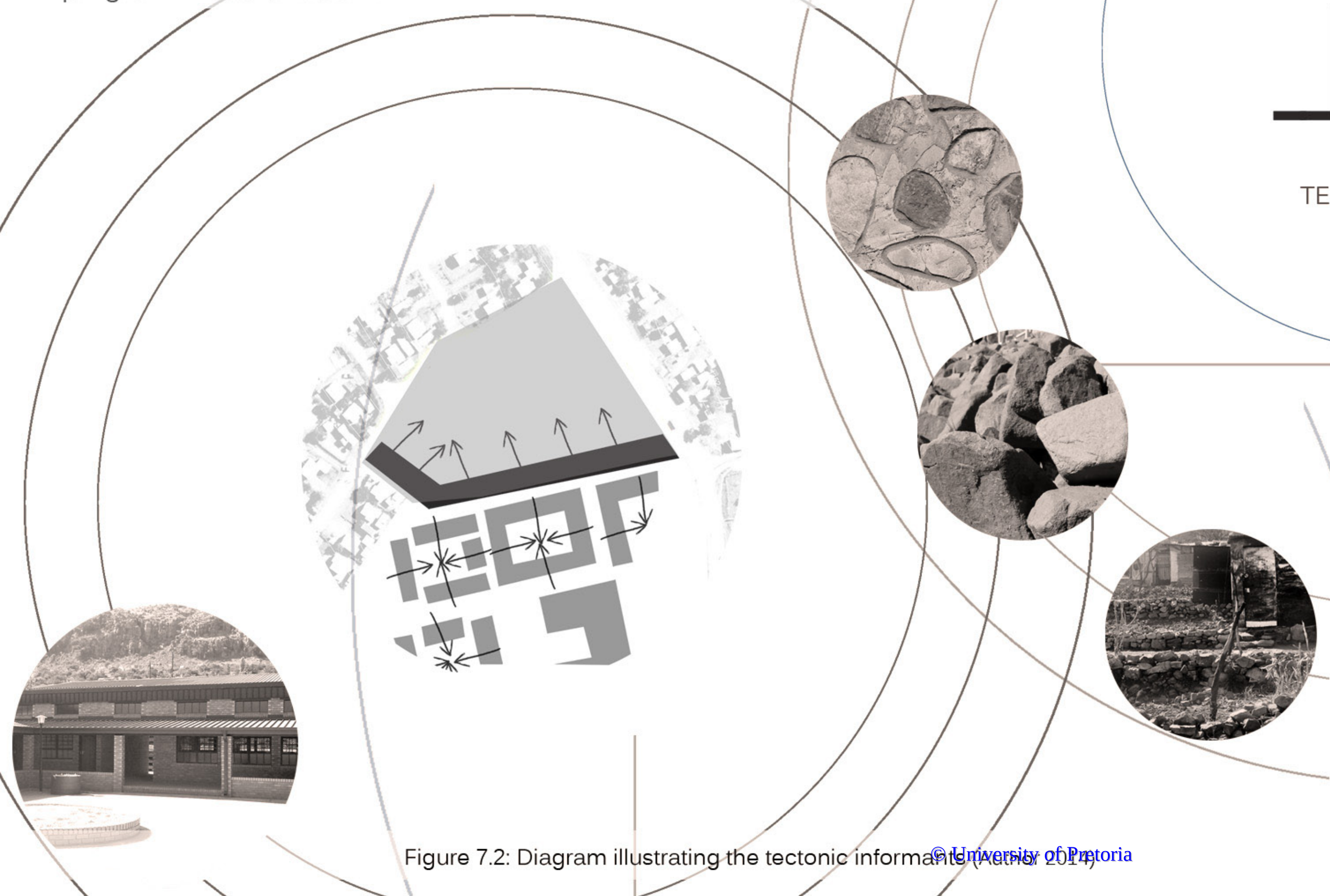



Figure 7.2: Diagram illustrating the tectonic informants (Author 2014)

Light vs. Heavy

When approaching Alaska from a distance, the mountain, with its thousands of glistening boxes scattered along it, is one of the most prominent features in Mamelodi East.

When walking up the mountain, winding your way up between the houses made predominantly of light, corrugated iron, one sees the way in which the residents have utilised the stone to build strong, heavy platforms. There is a distinct language throughout the settlement of light and heavy, stereotomic and tectonic.

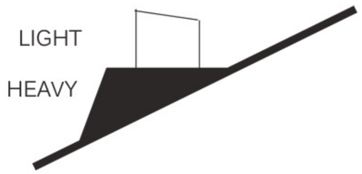


Figure 7.3: Photograph showing a house built on a stone terrace (Author 2014)

This idea of lightness and heaviness is further explored when addressing the juxtaposition of the Imaginarium to Impendulo Primary School. The duality between *Imagination* and *Knowledge,* discussed in Chapter 6.4, is explored technically by investigating the relationship of the stereotomic to the tectonic. The concept is to represent this duality through the heaviness of the stereotomic elements, rooting the building to the earth, whilst the light tectonic elements form gestures towards the sky or the ethereal.

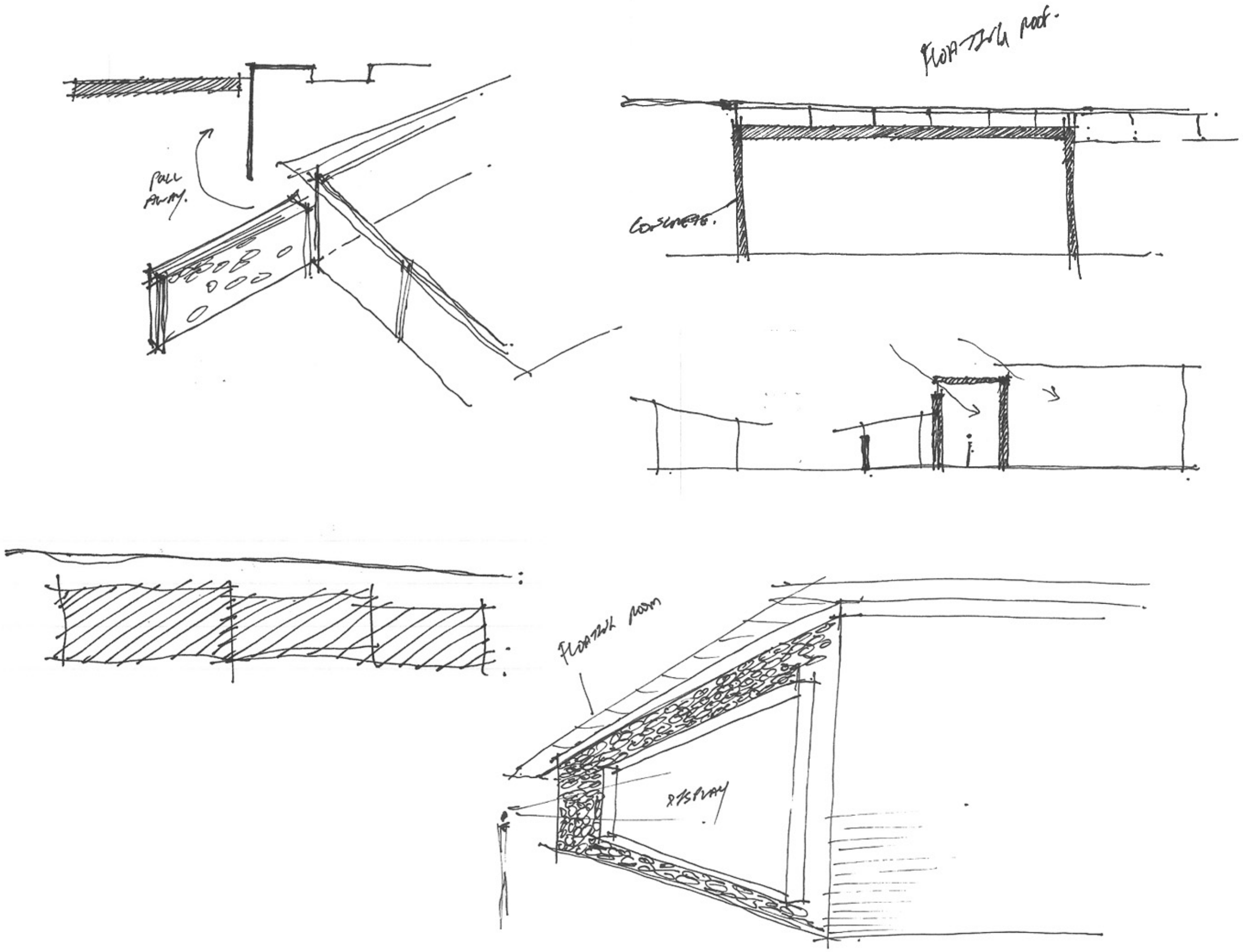


Figure 7.4: Concept sketches showing the tectonic approach (Author 2014)

The concept of lightness and heaviness is further explored between the circulation spine, defined by thick stone walls, and the imagination stations, made of thinner, brick walls.

The initial idea was to have the whole circulation spine as one, uniform, monolithic element, both inside and out, but during a crit the idea of the stone changing in height in order to alter the occupant's experience was discussed.

The author explored using the stone at different heights, creating a variety of experiences as one walks along the spine. The exploration resulted in the spine appearing as one monolithic element from the outside, with the lighter imagination stations breaking through it, but once inside the stone varies in its use.

Figure 7.5 illustrates the stone lowering in order to define seating areas. The height of the stone alters with the terracing of the building and, as Figure 7.8 shows, resembles a series of plinths, much like the ones found throughout Alaska (see Figure 6.23).

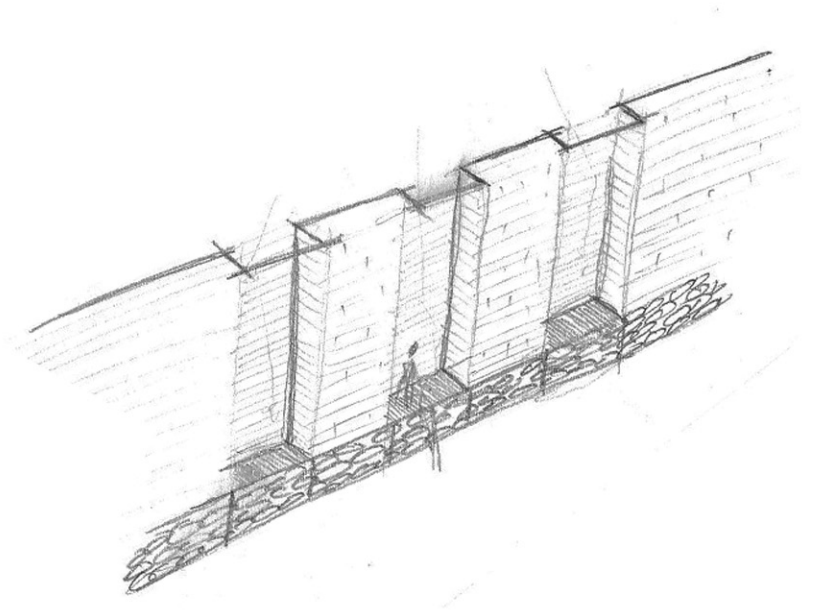


Figure 7.5: Perspective of stone defining the seating (Author 2014)

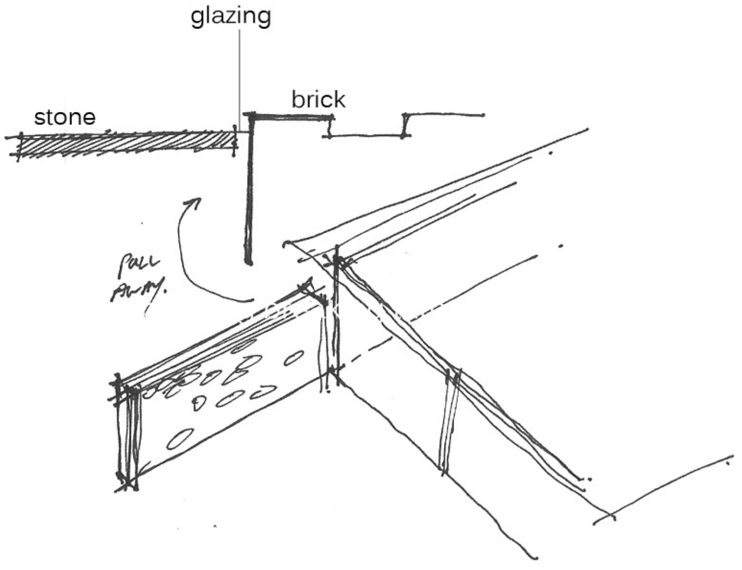


Figure 7.6: Sketches illustrating the relationship of stone to brick (Author 2014)

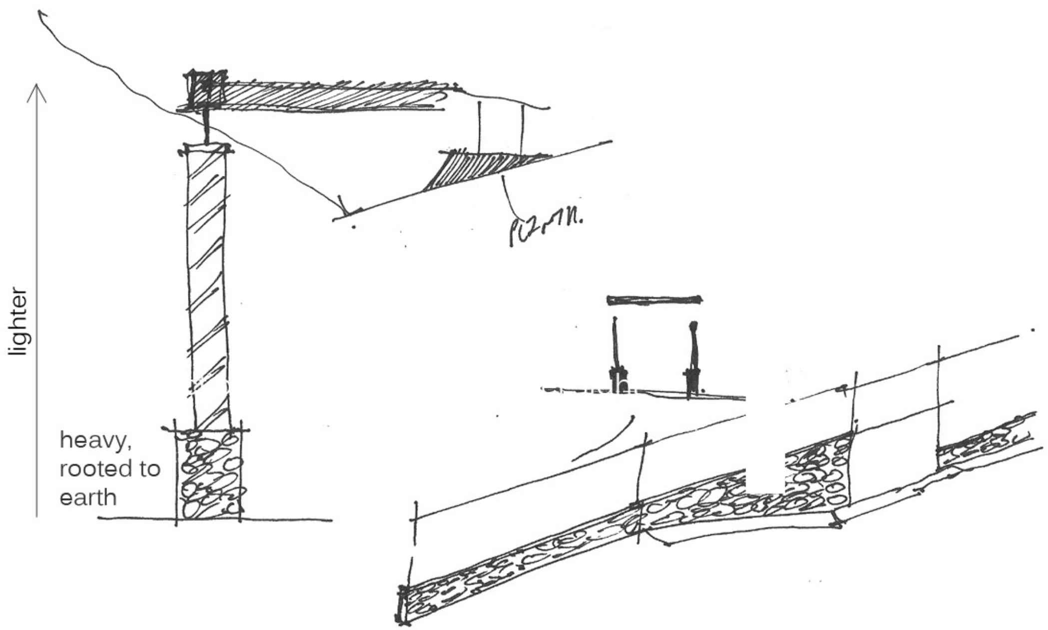


Figure 7.7: Sketches of the main circulation spine (Author 2014)

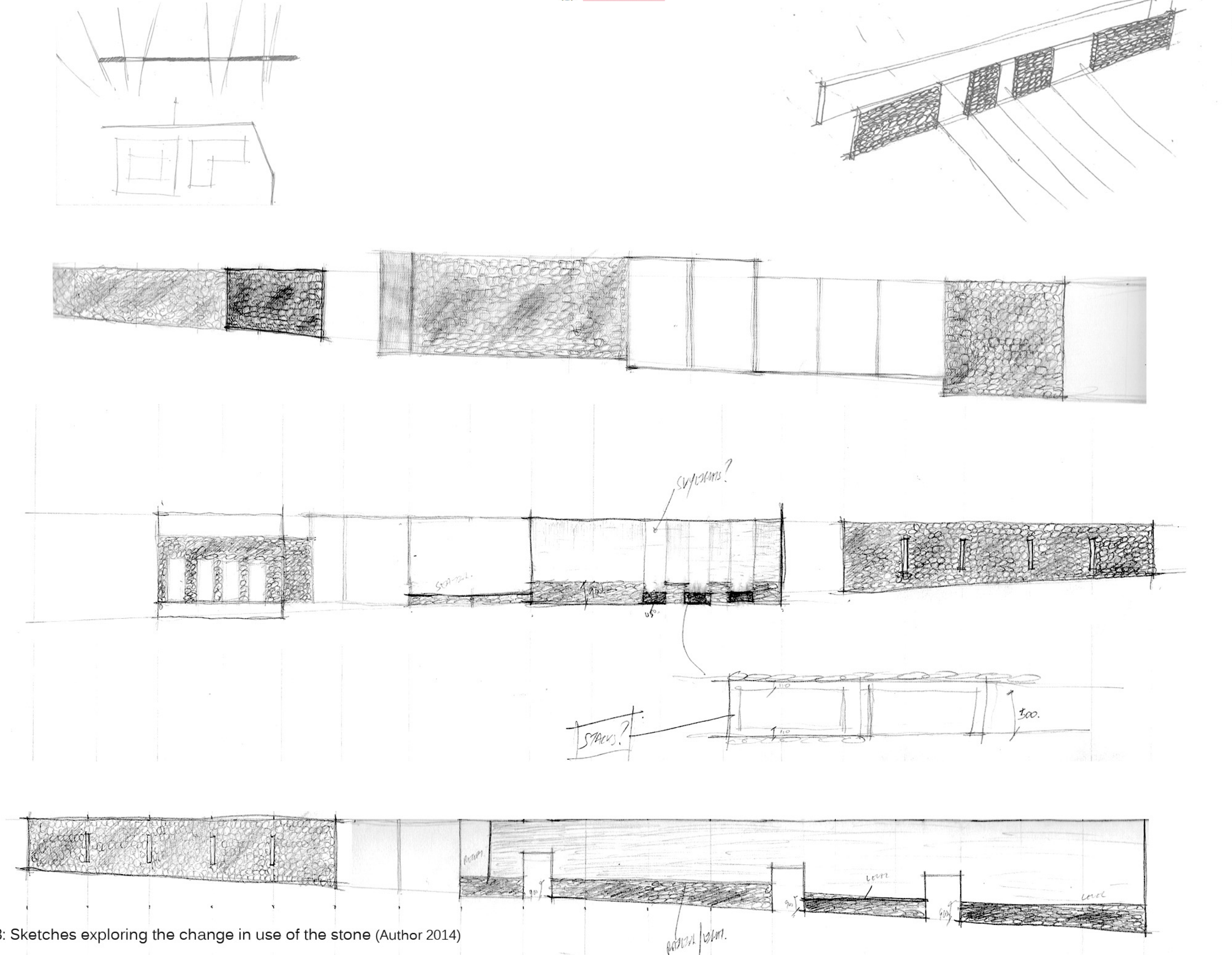


Figure 7.8: Sketches exploring the change in use of the stone (Author 2014)

7.2 Structure

The material used in the Imaginarium responds to its immediate context. The igneous stone is sourced locally, while the the brick relates to the neighbouring school, and the corrugated iron roofing is used thoughout Alaska.

Figure 7.11 illustrates the various parts of the structure. The main spine, studios and performance spaces are constructed of a concrete frame with brick infill, with parts of the main spine being clad with igneous stone.

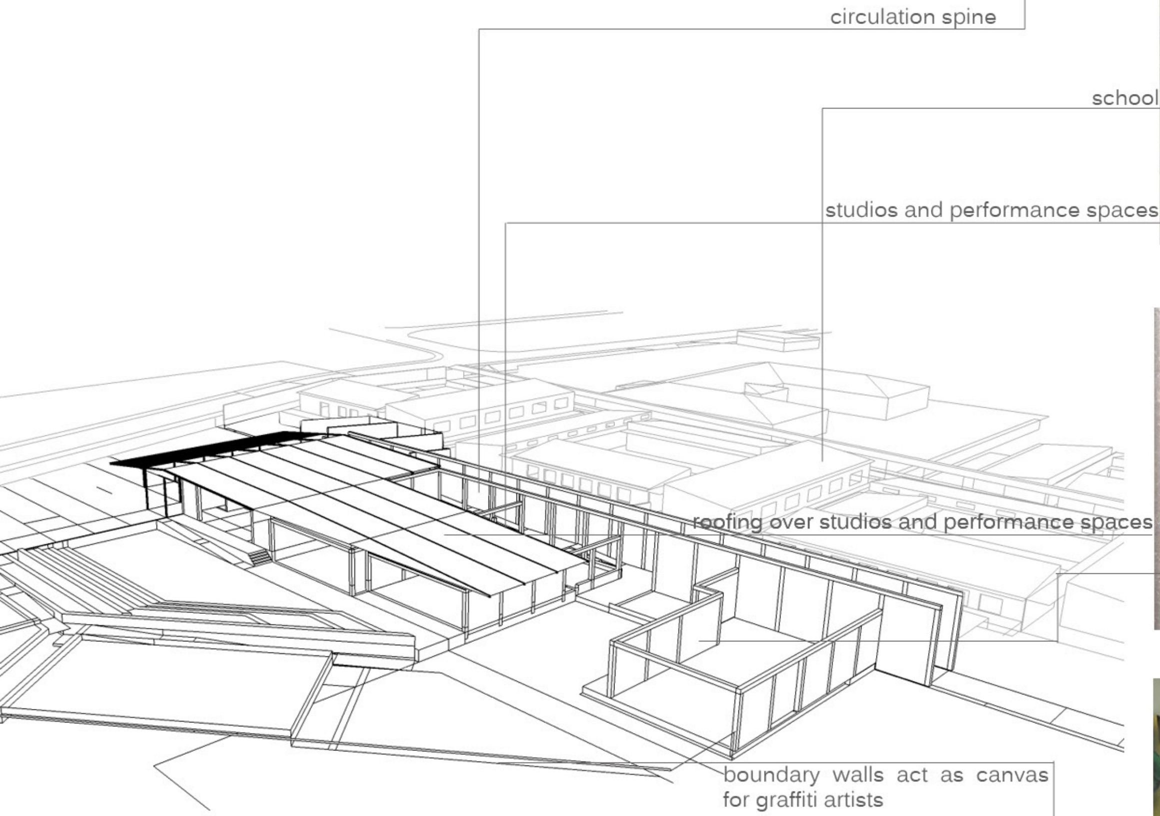


Figure 7.9: Axonometric of the Imaginarium (Author 2014)

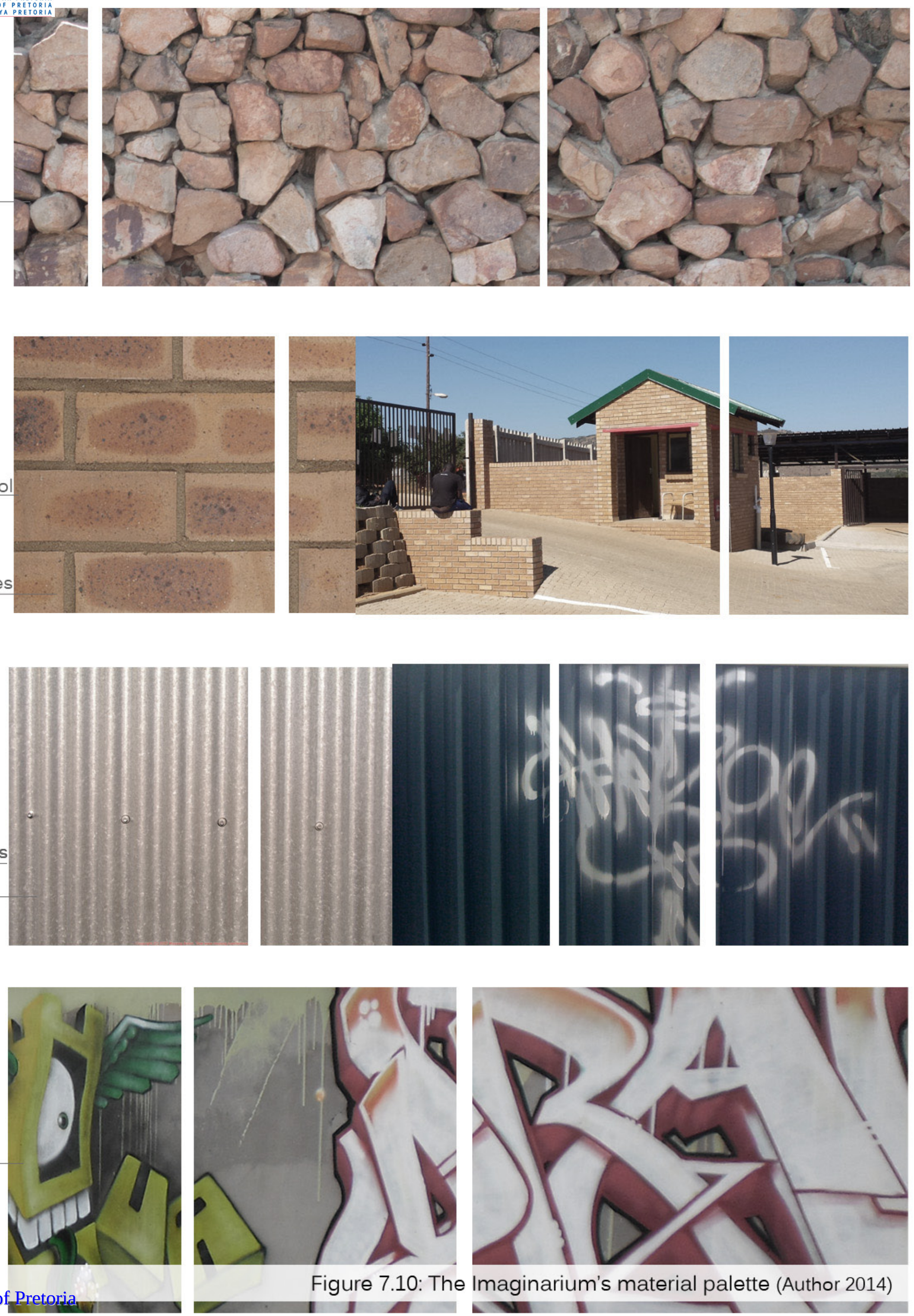


Figure 7.10: The Imaginarium's material palette (Author 2014)

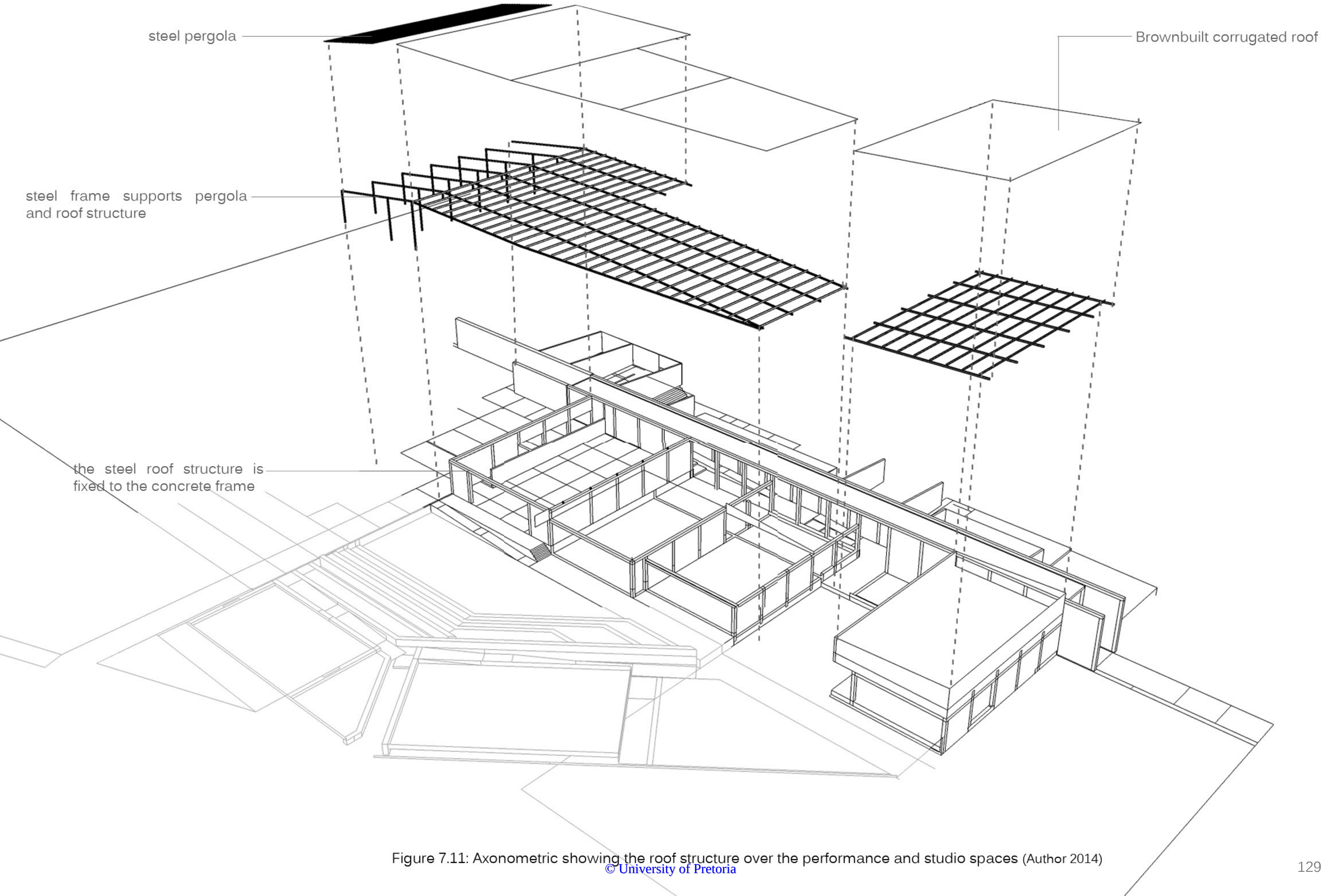
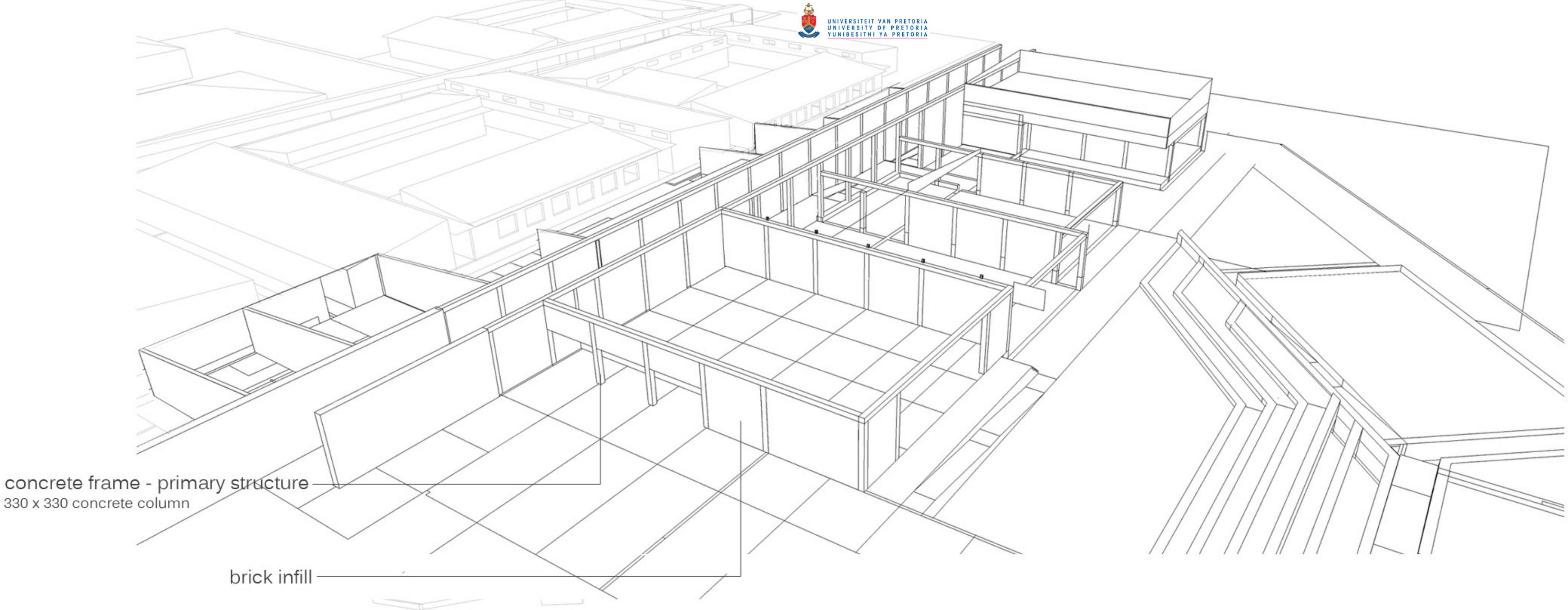
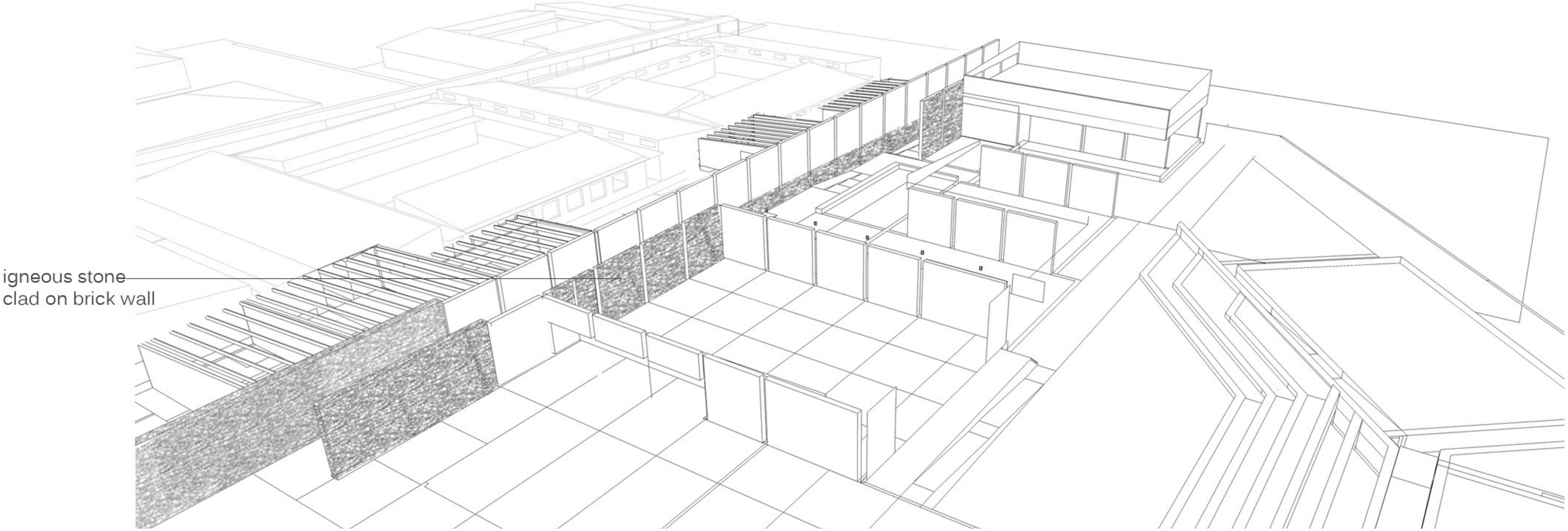
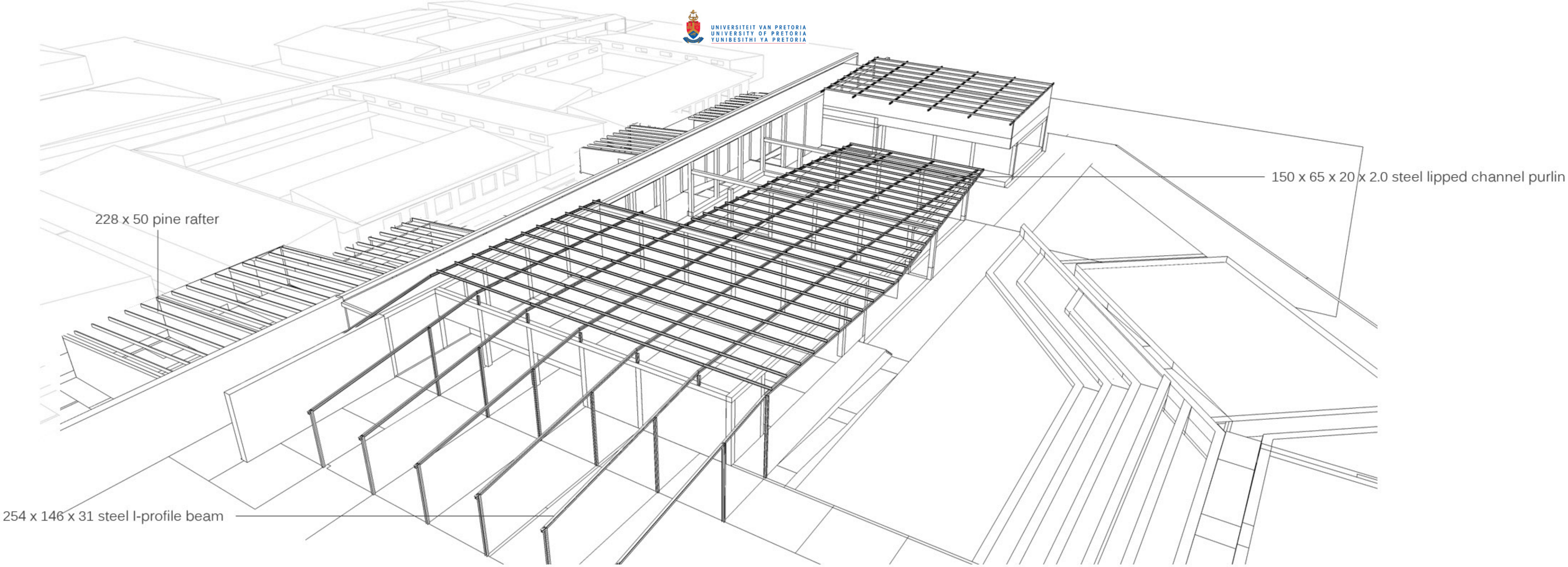


Figure 7.11: Axonometric showing the roof structure over the performance and studio spaces (Author 2014)


concrete frame - primary structure
330 x 330 concrete column
brick infill


igneous stone
clad on brick wall



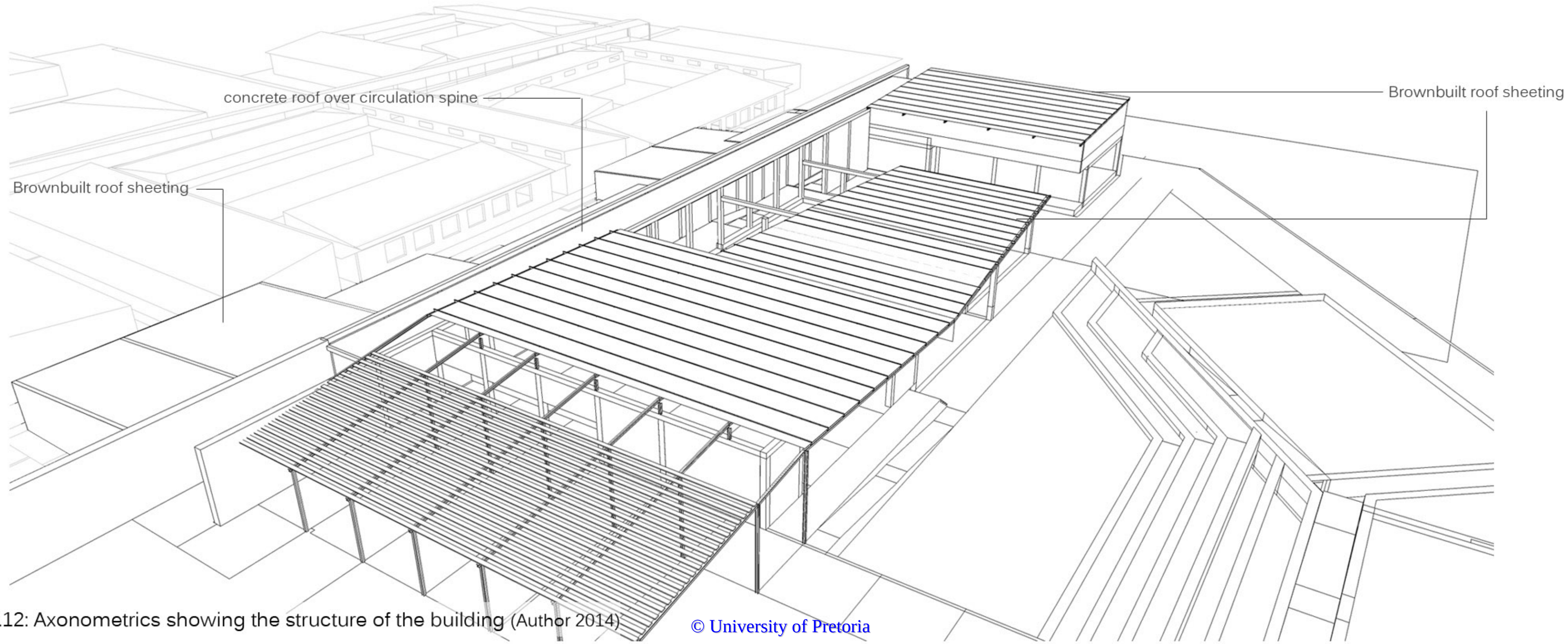


Figure 7.12: Axonometrics showing the structure of the building (Author 2014)

7.3 Circulation

The multi-purpose hall and exhibition spaces are accessible to the public, while the rest of the facilities are available only to those enrolled in the various art programmes. The reception surveys the entrance, ensuring only those enrolled in programmes gain entrance to the studios

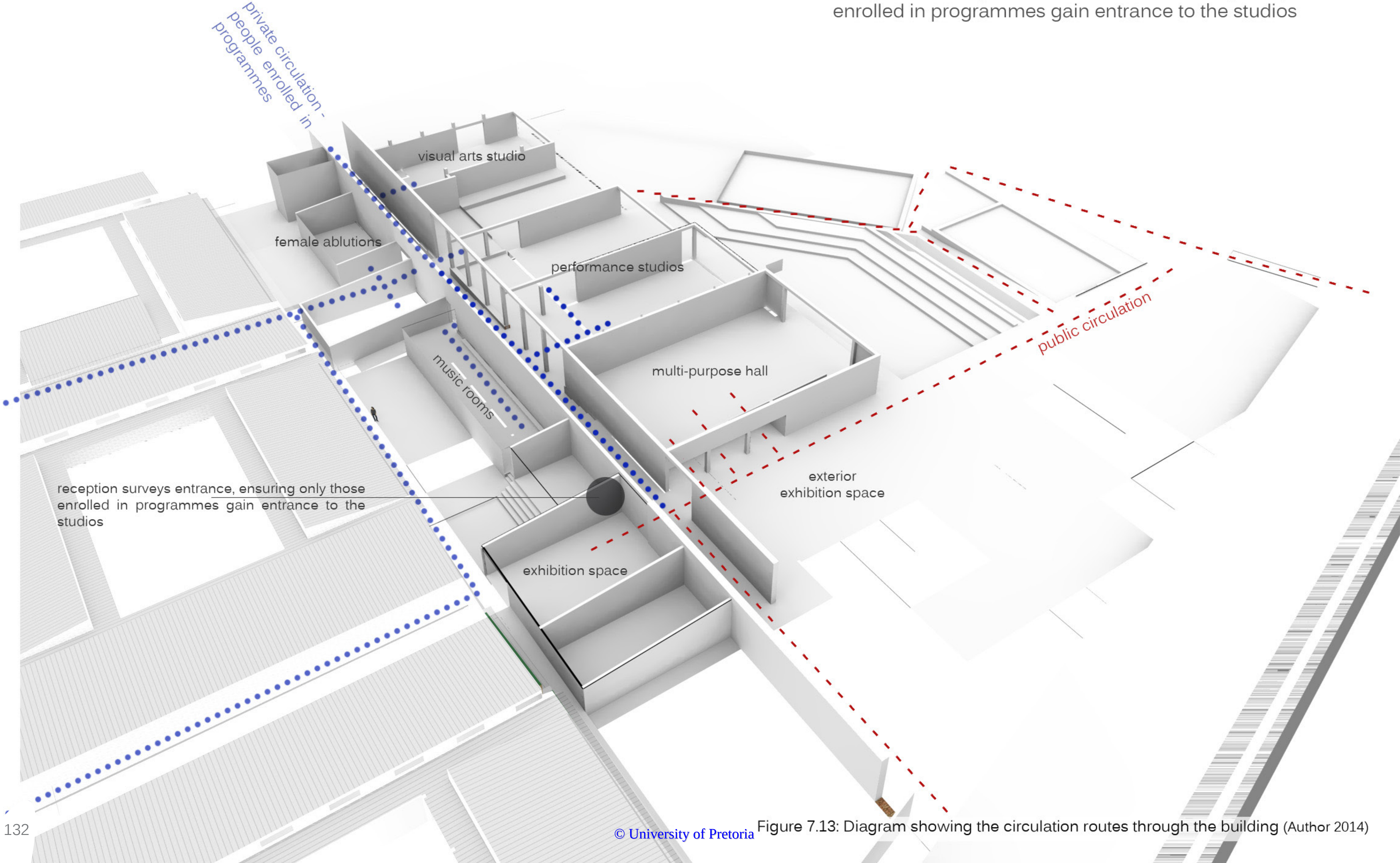


Figure 7.13: Diagram showing the circulation routes through the building (Author 2014)

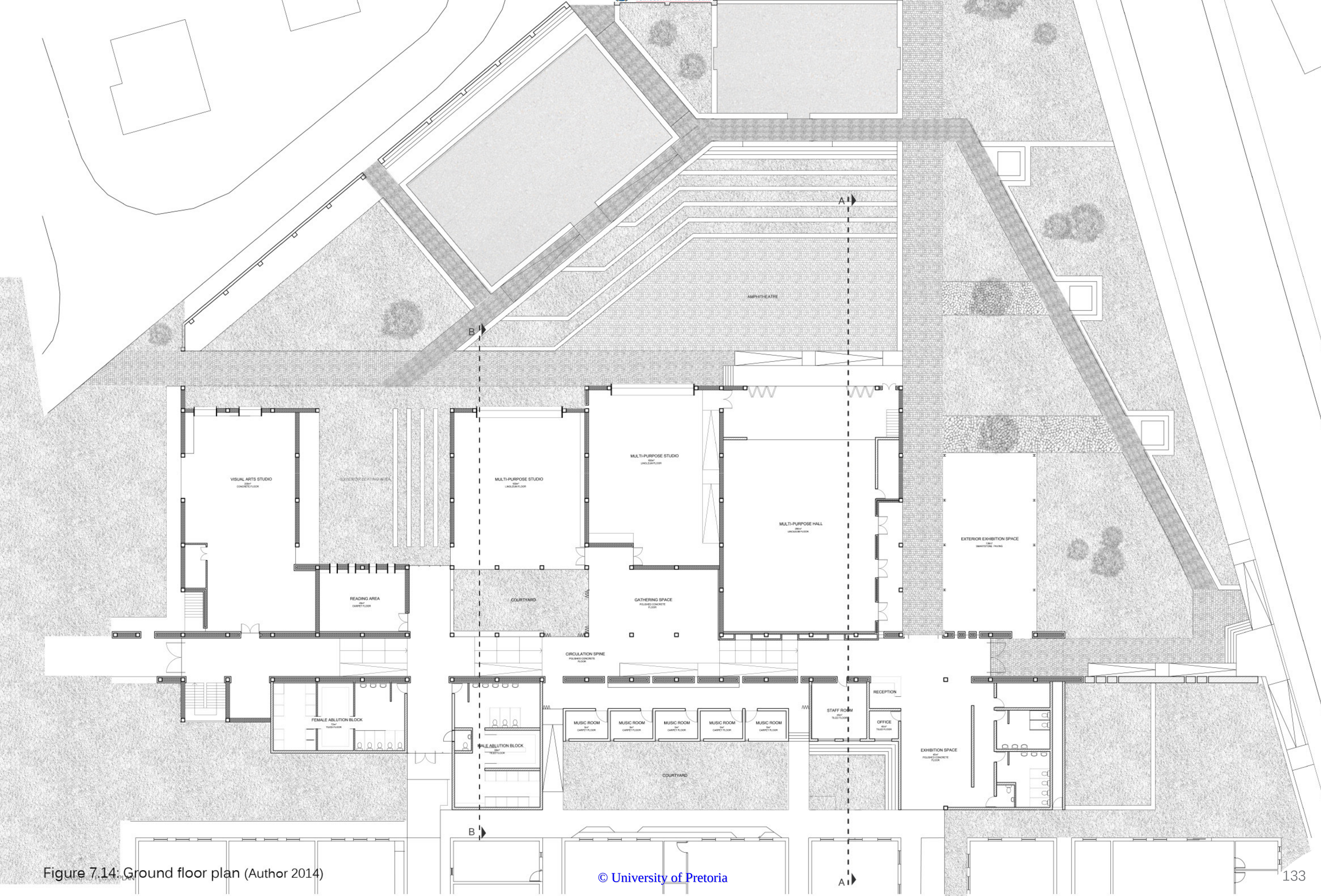


Figure 7.14: Ground floor plan (Author 2014)

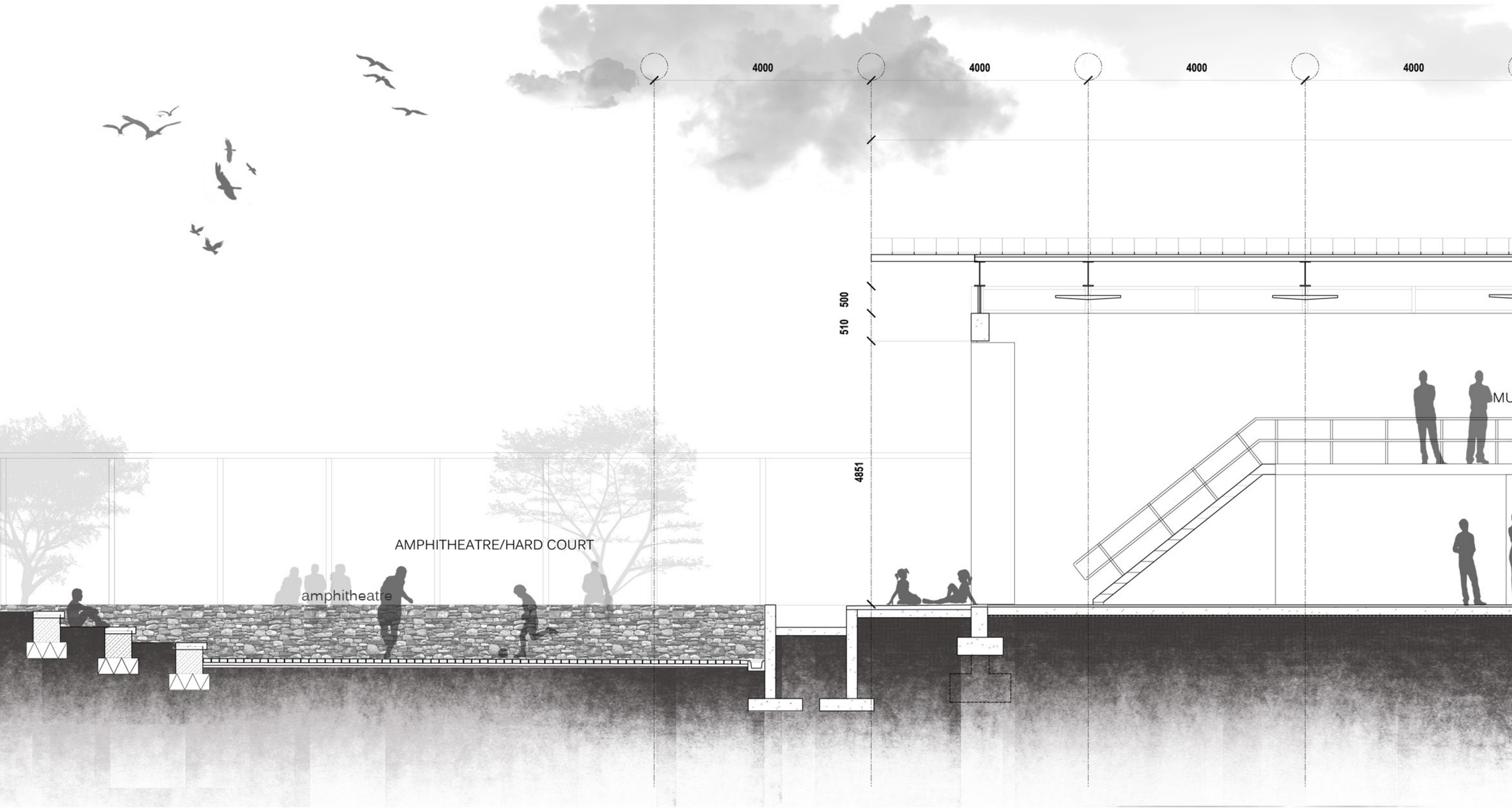
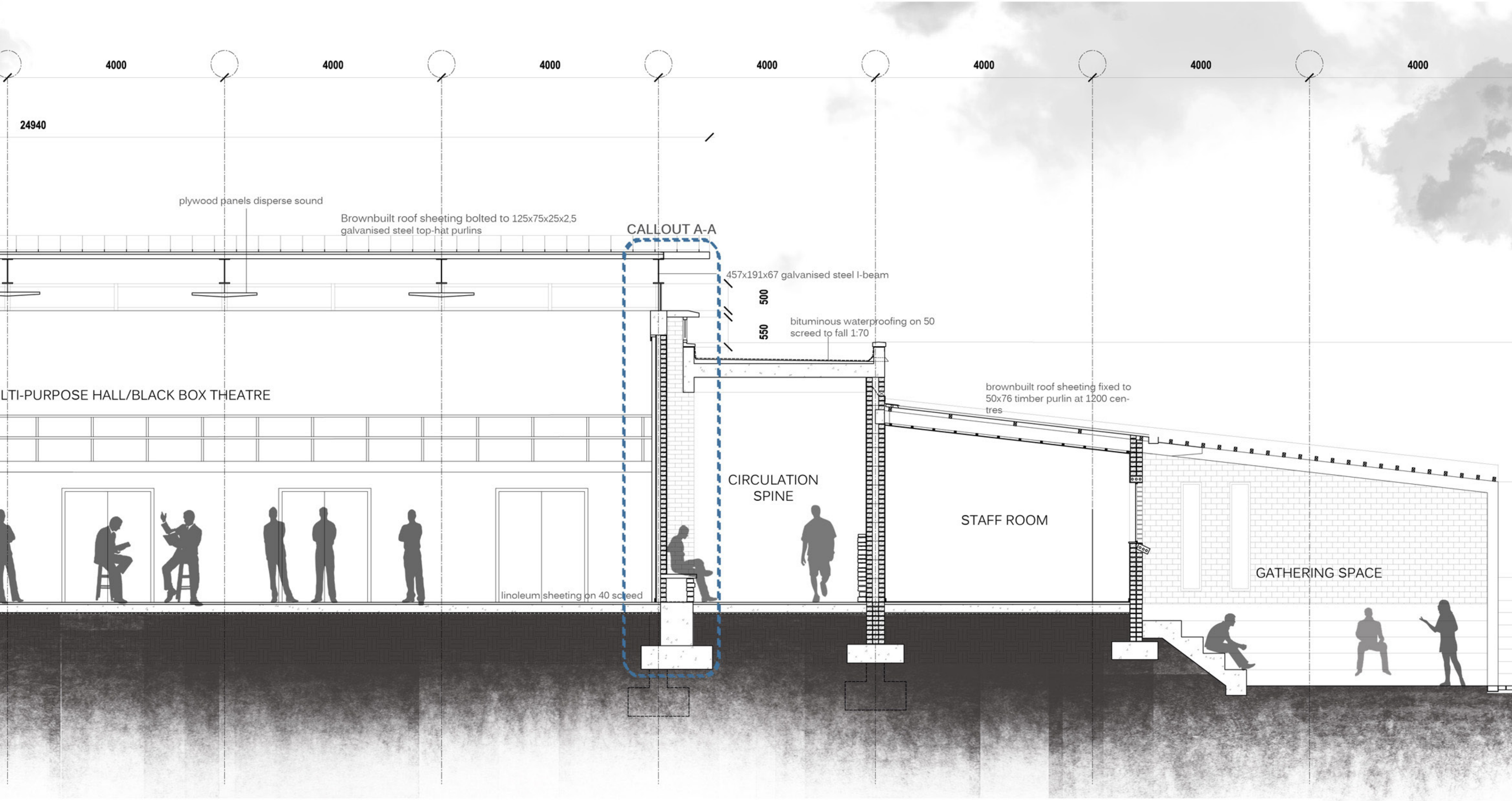


Figure 7.15: Section through multi-purpose hall (Author 2014)


4000
4000
4000
4000
4000
4000
4000
4000
24940
plywood panels disperse sound
Brownbuilt roof sheeting bolted to 125x75x25x2,5 galvanised steel top-hat purlins
CALLOUT A-A
457x191x67 galvanised steel I-beam
500
550
bituminous waterproofing on 50 screed to fall 1:70
LTI-PURPOSE HALL/BLACK BOX THEATRE
brownbuilt roof sheeting fixed to 50x76 timber purlin at 1200 centres
CIRCULATION SPINE
STAFF ROOM
GATHERING SPACE
linoleum sheeting on 40 screed

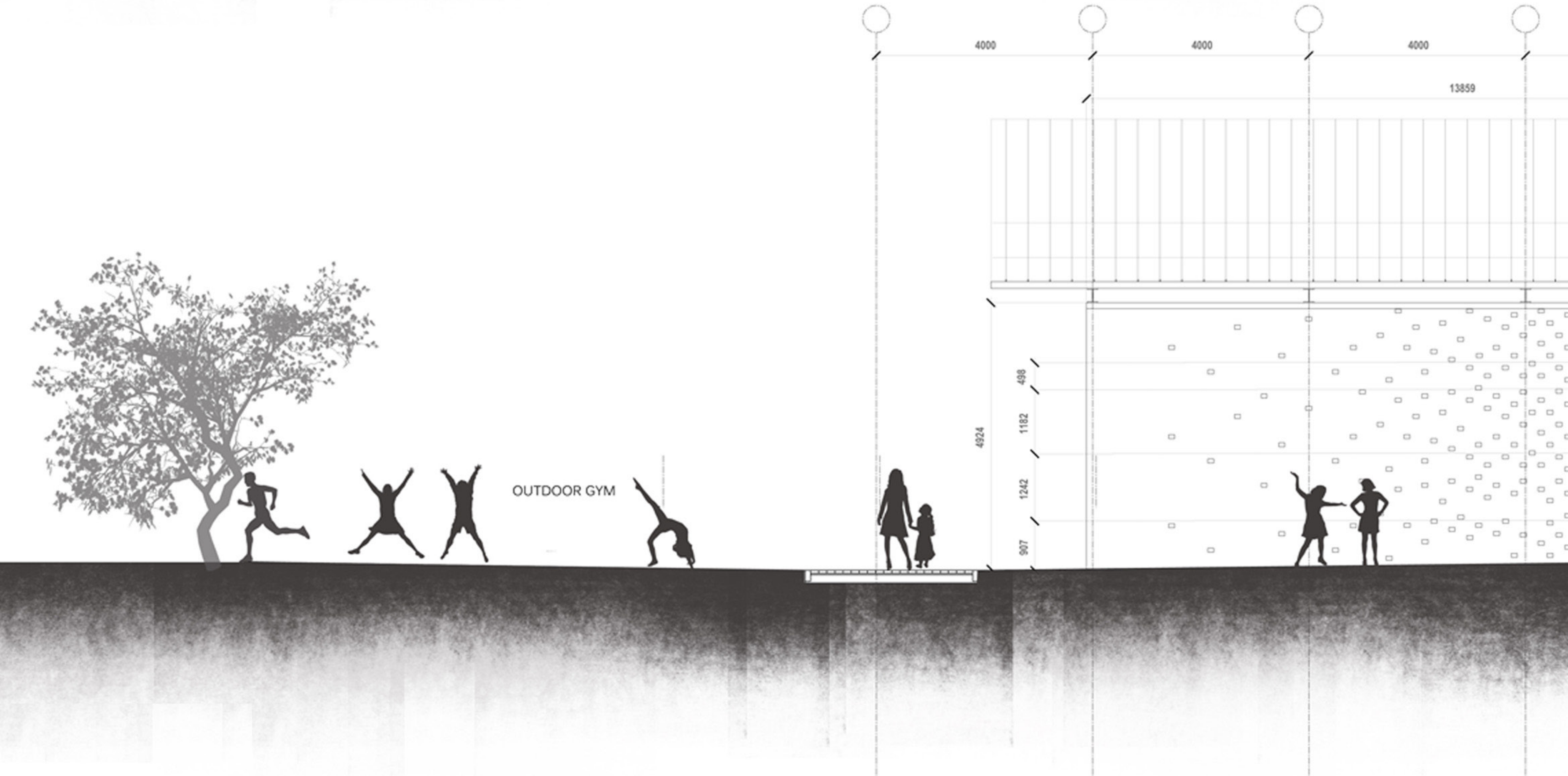
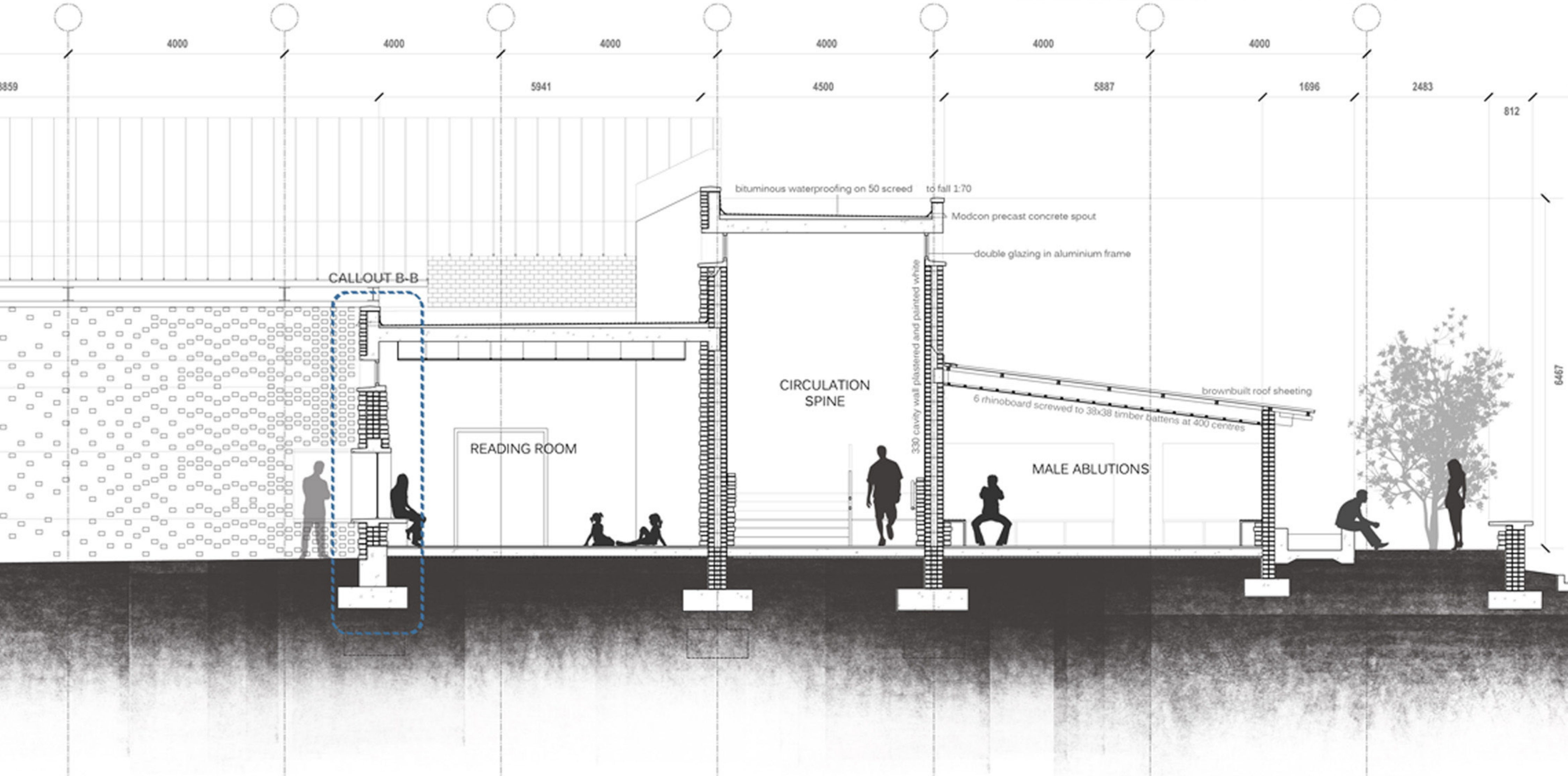
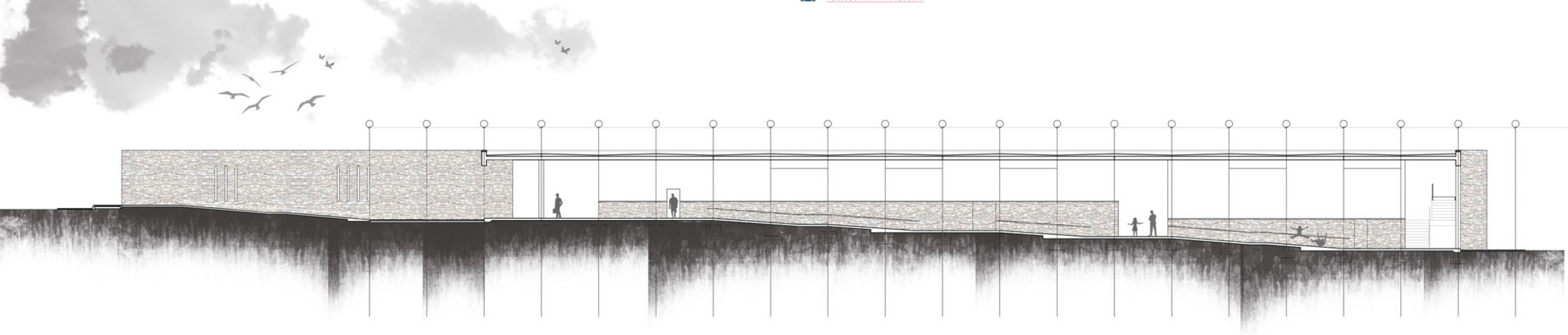
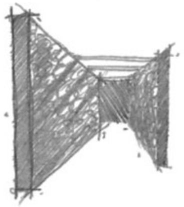


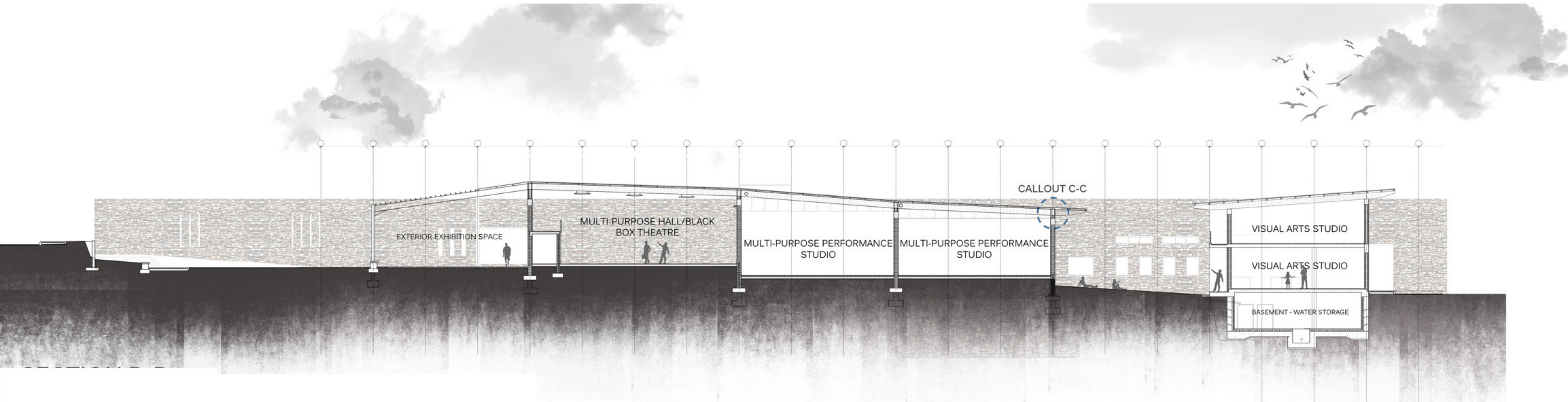
Figure 7.16: Section through reading room (Author 2014)


4000
4000
4000
4000
4000
4000
3859
5941
4500
5887
1696
2483
812
6467
bituminous waterproofing on 50 screed to fall 1:70
Modcon precast concrete spout
double glazing in aluminium frame
CALLOUT B-B
CIRCULATION SPINE
330 cavity wall plastered and painted white
brownbuilt roof sheeting
6 rhinoboard screwed to 38x38 timber battens at 400 centres
READING ROOM
MALE ABLUTIONS



section through circulation spine





section through performance spaces

Responding to the idea of the architecture displaying the inner-workings of the Imaginarium, the windows are framed by reinforced concrete window reveals. Figure 7.18 shows how, in the case of the reading room, the frame extends, creating seating as well as storage for books.

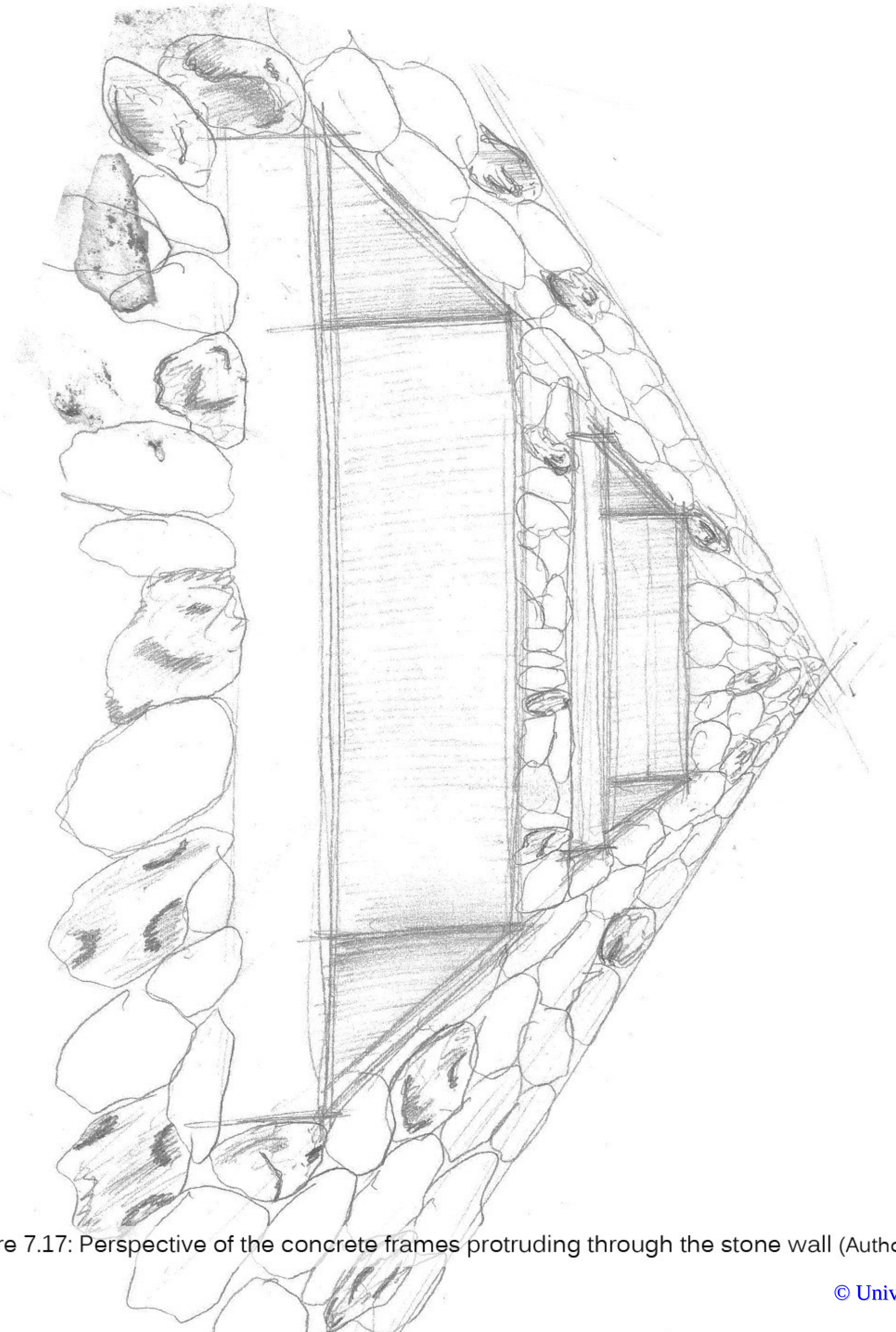


Figure 7.17: Perspective of the concrete frames protruding through the stone wall (Author 2014)

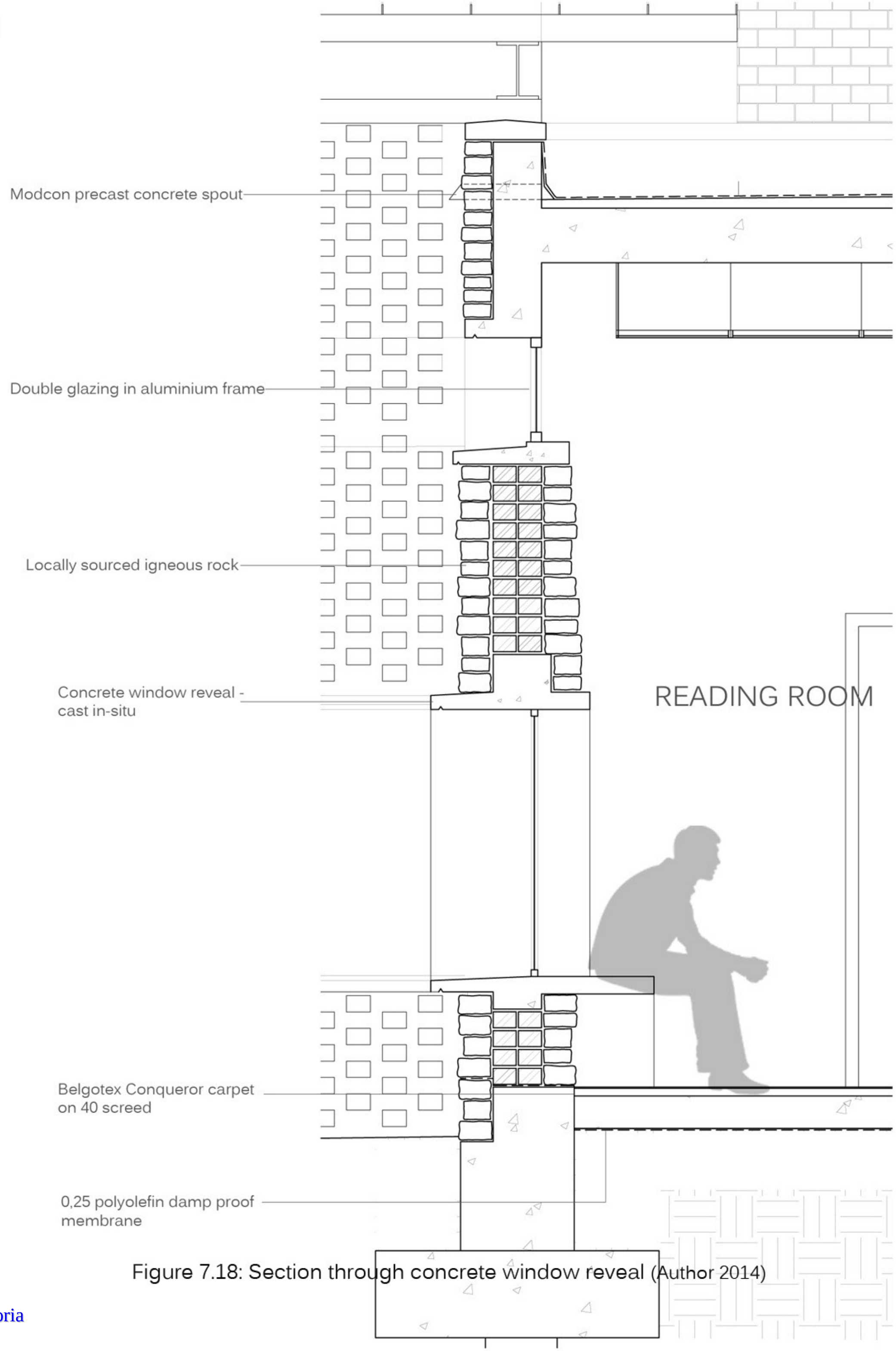


Figure 7.18: Section through concrete window reveal (Author 2014)

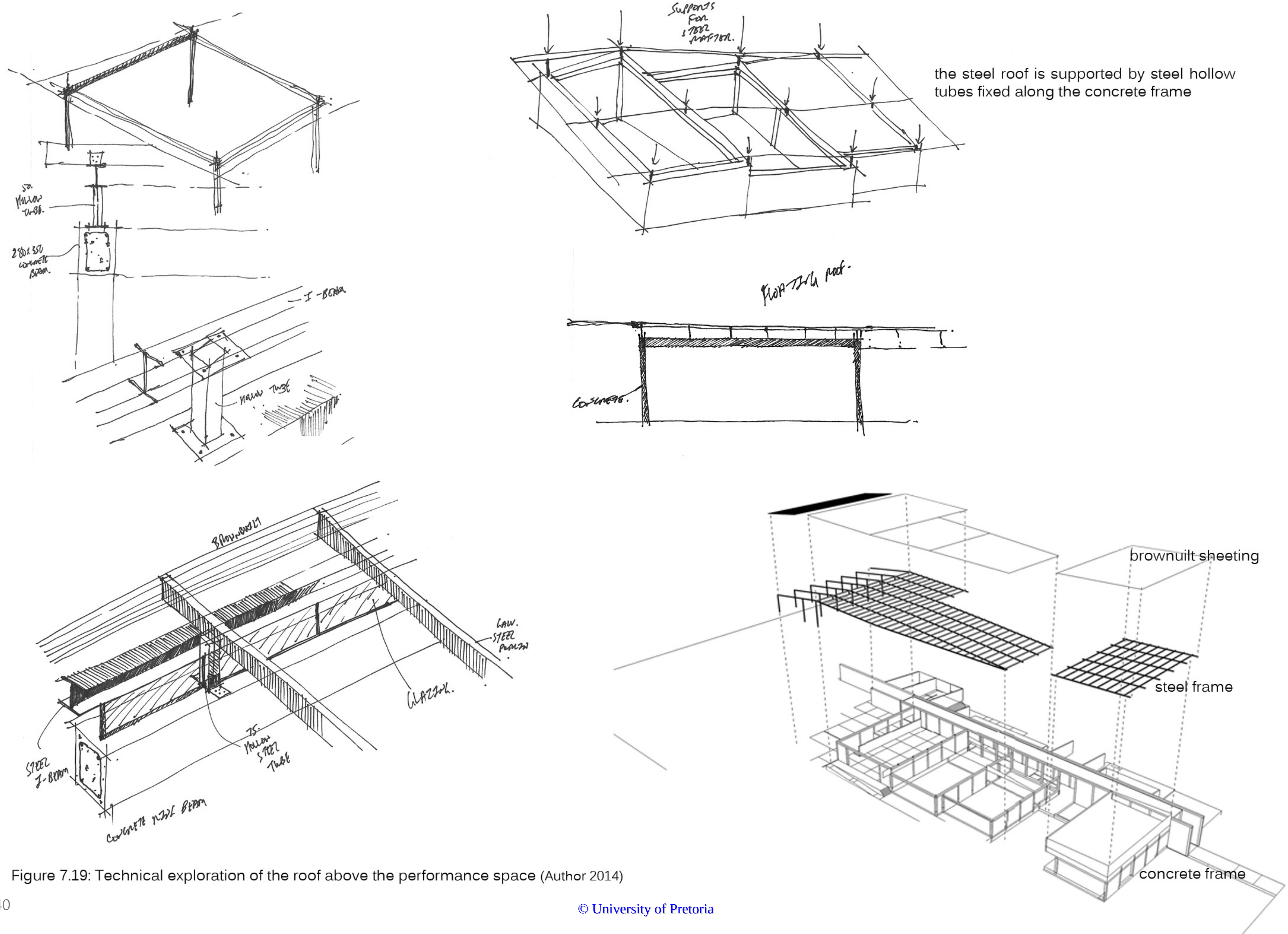


Figure 7.19: Technical exploration of the roof above the performance space (Author 2014)

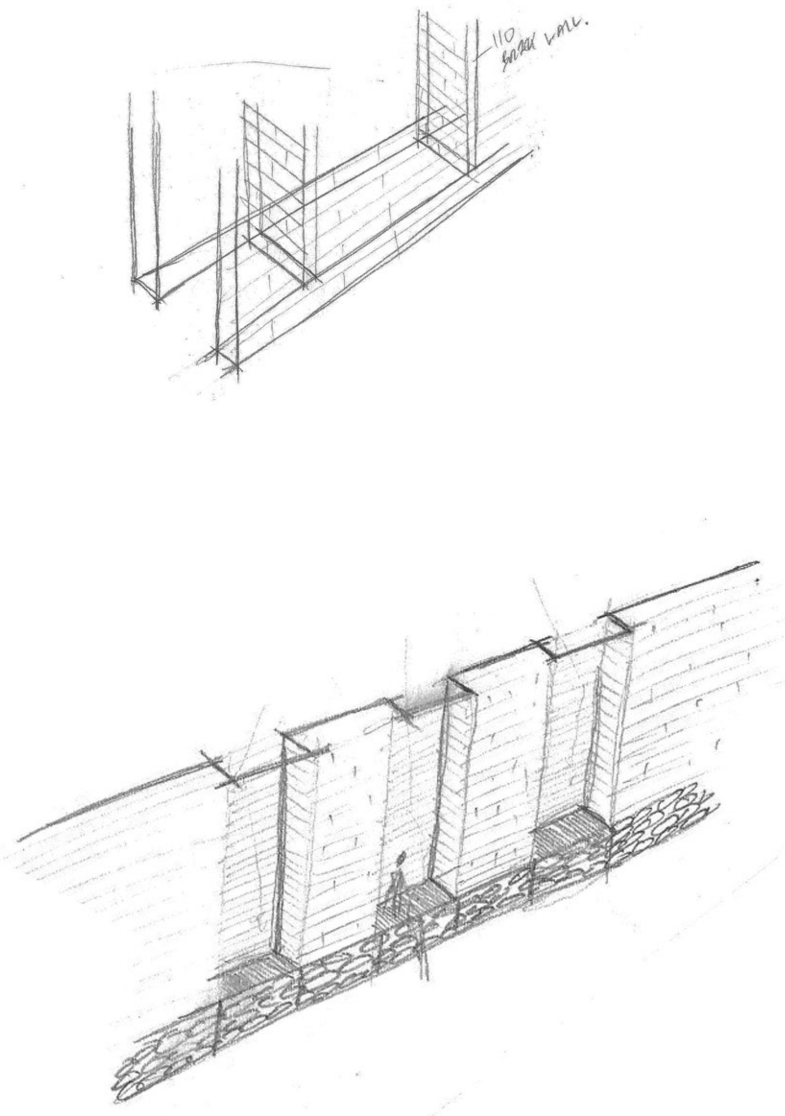
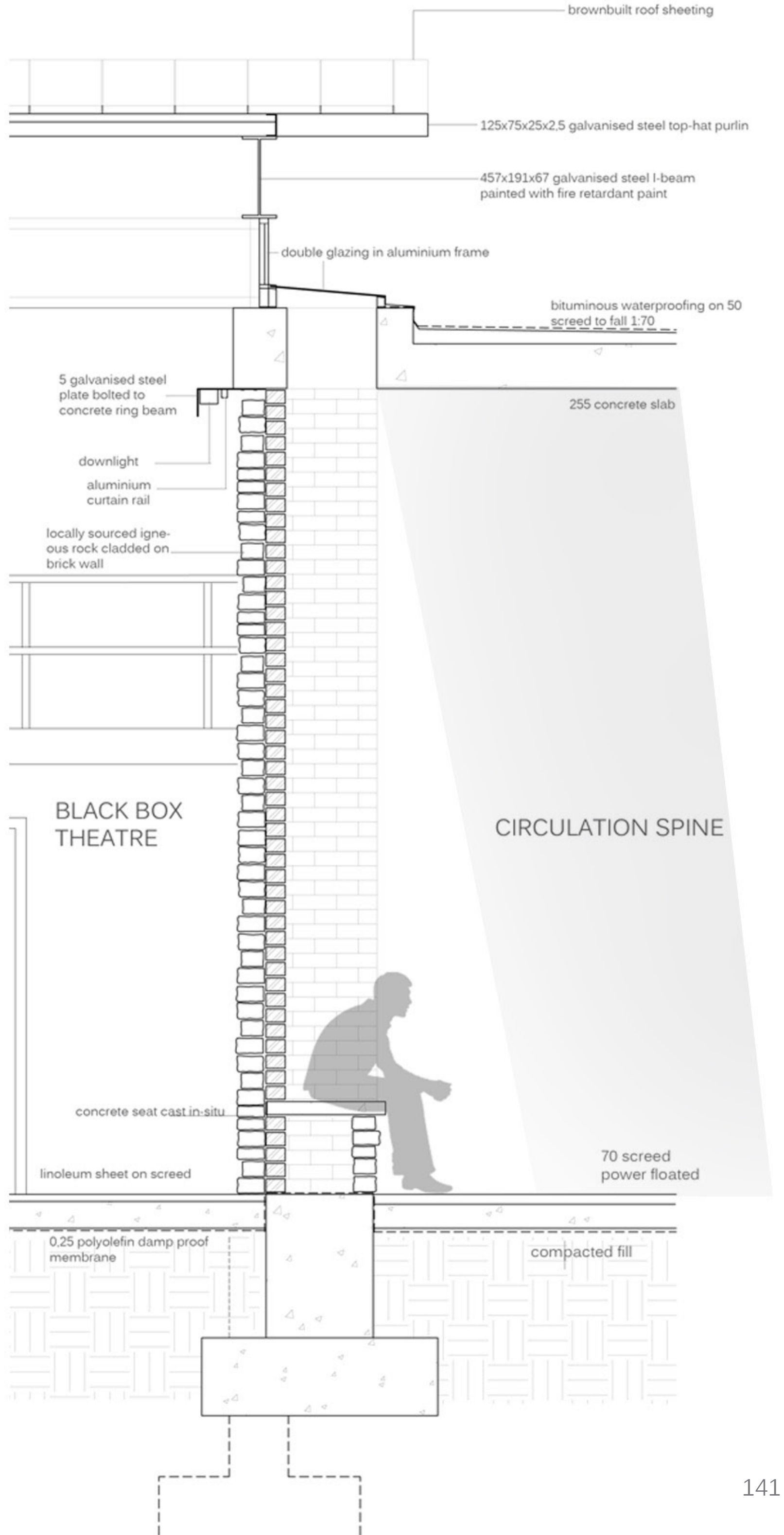


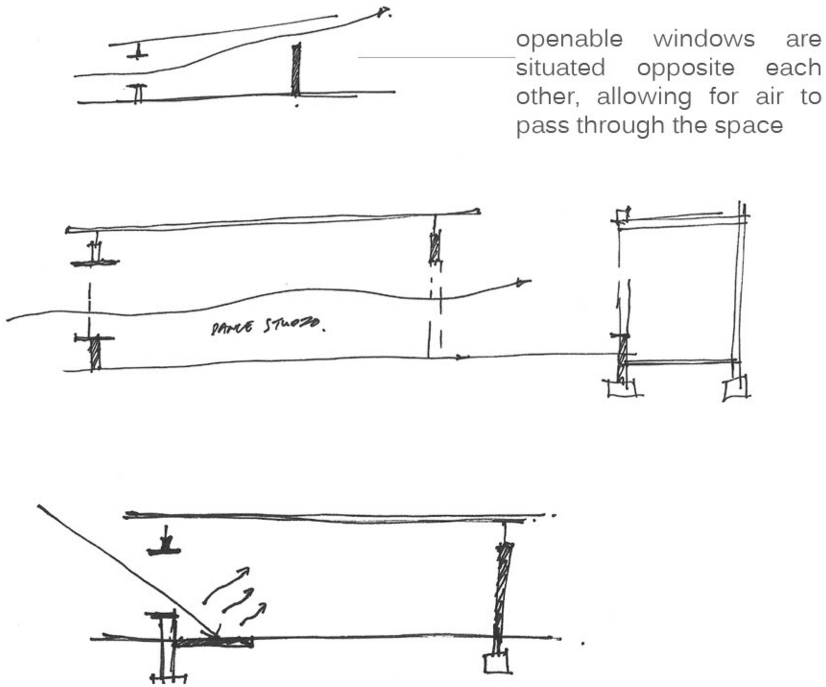
Figure 7.20: Exploration of skylight above seating area (Author 2014)



7.5 Sustainable Design Strategies

The Imaginarium is designed along an east-west axis in order to take advantage of the direct northern sunlight. The spaces where the various art programs are facilitated are situated along the northern facade, with the service spaces situated along the southern facade. Overhangs are designed to allow the low, winter sun to penetrate into the building, while blocking out the hot summer sun.

The steel roof is raised above the walls - this allows for high windows that bring light into the studios and can be opened to allow hot air to escape.



The floor of the multi-purpose studios is predominantly covered with linoleum flooring. The first two metres closest to the window however, is concrete with a matt black finish. The idea is that in winter the mass will heat up and slowly radiate into the space.

Figure 7.22: Sketches showing the passive design considerations (Author 2014)

During the October 2014 crit, the prospect of using geothermal pipes to heat and cool the building was discussed. A fan would push air through pipes buried a few metres underground. As the air passes through the pipes it will either give off heat or draw heat, depending on the season. These pipes lead into the various studios and performance spaces, heating or cooling them. Figure 7.23 is a sketch the author drew with an internal lecturer. The idea is to include trombe assisted stacks which will aid in the ventilation of the building. At the time of going to print, this issue was yet to be resolved.

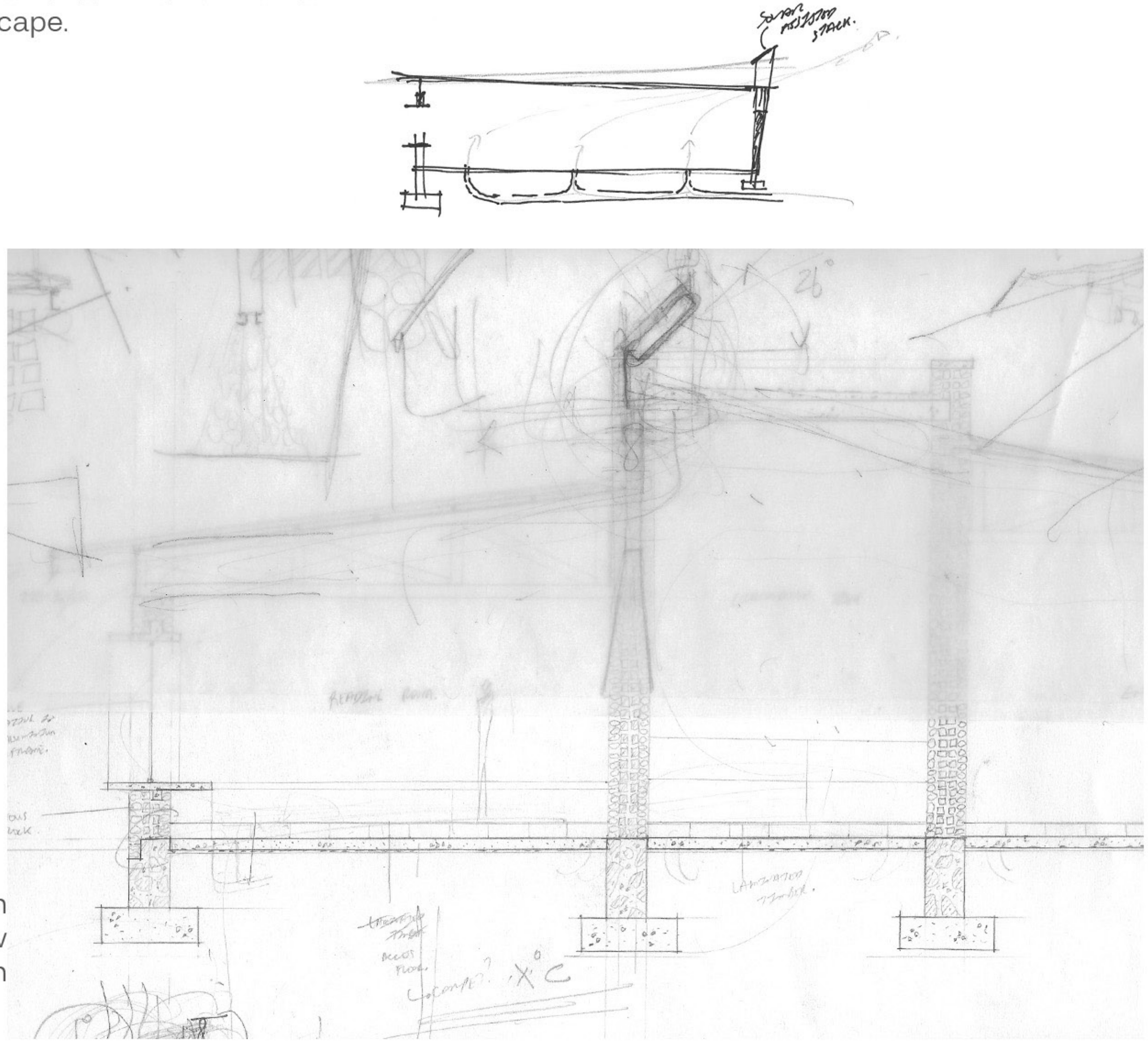
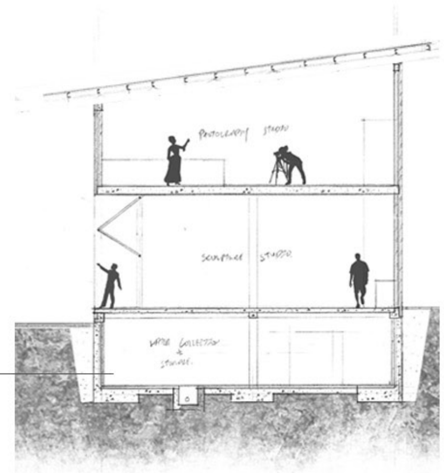
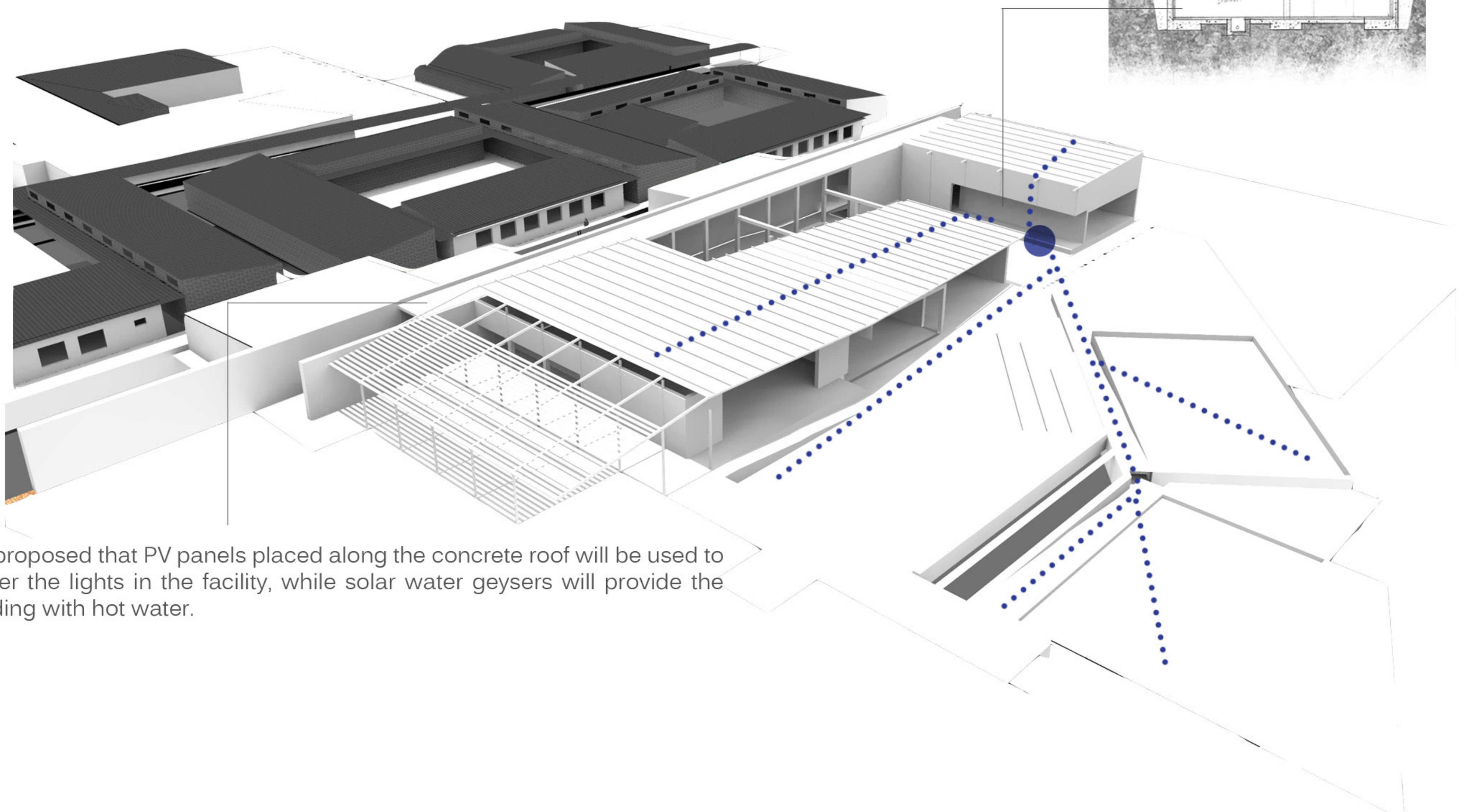


Figure 7.23 Section showing the geothermal pipes and trombe assisted stack (Author 2014)

Rainwater from the landscape and the roofs is stored in segmental tanks under the visual arts studios. Grey water from the sinks is also stored. The slope is used to naturally feed the rainwater and grey water to the storage tanks. The water is used to irrigate the landscape and to flush the toilets within the Imaginarium.





It is proposed that PV panels placed along the concrete roof will be used to power the lights in the facility, while solar water geysers will provide the building with hot water.

Figure 7.24: Diagram showing the water being fed down towards the bottom of the site (Author 2014)


Figure 8.1: One of Alpheus' photographs from his *Limpopo* series (Alpheus 2014)

My passion and great enjoyment for architecture, and the reason the older I get the more I enjoy it, is because I believe we - architects - can effect the quality of life of the people.

Richard Rogers

8 Conclusion & Appendix

8.1 Conclusion

The dissertation focused on the question *How can architecture respond to the requirements of the adolescent youth through participatory mapping and design?*

The premise was that in order to intervene architecturally in such a context, critical engagement with the various networks in the community must occur. According to Tovivich (2010) this engagement should lead to a deeper understanding of the needs of the community and has the potential to build local capacity, give the community a sense of ownership over the project and encourage learning between those involved.

The participatory exercises were more effective when the Honours students were involved, as the increase in human resources meant more members of the community were reached, different exercises could be performed and more time was spent on each exercise. This resulted in a wealth of detailed information which assisted the author in decision-making during the design process.

The participatory mapping exercises proved to be more manageable and more effective than the participatory design meetings. The unstructured interviews, transect walks and photographic exercises were successful in gaining an understanding of the workings of the various social networks and in identifying their needs.

The participatory design meetings proved to be more challenging. During the design meetings it was observed that the community members focused more on the functional and programmatic aspects of the building. When the author diverted the discussion away from the programme, towards the design, and asked for their design input, they merely stated that they were content with design, meaning the community participation from a design perspective was limited.

Due to the dissertation not being a built project, the author found it difficult to move between the three roles of supporter, provider and catalyst, as Tovivich (2010) describes.

Although the project was not built, the author experienced the importance of community participation and the excitement and sense of purpose such projects can give residents. Alpheus is a prime example of how a project can start with a small participatory mapping exercise, gain momentum, and end in him being part of an exhibition a few months later. The author has experienced first-hand the potential participation has in empowering and enabling community members.

The author found the participatory process to be essential as a means of understanding the community's needs and formulating a possible intervention which can facilitate the empowerment of the identified network.

Figure 8.2: The mountain is our home (Alpheus 2014)

Appendix A - I ❤ Alaska Photography Competition

Chapter 2.5 describes the photography competition the University of Pretoria Honours group organised as a means of *seeing Alaska through the eyes of the adolescents* (Franklin 2014).

Appendix A contains some of the photographs taken by the youth, photographs of the adolescents presenting their work and the final prizegiving.

Figure 8.3: Photographs taken by the adolescents during the photography competition (Franklin 2014)

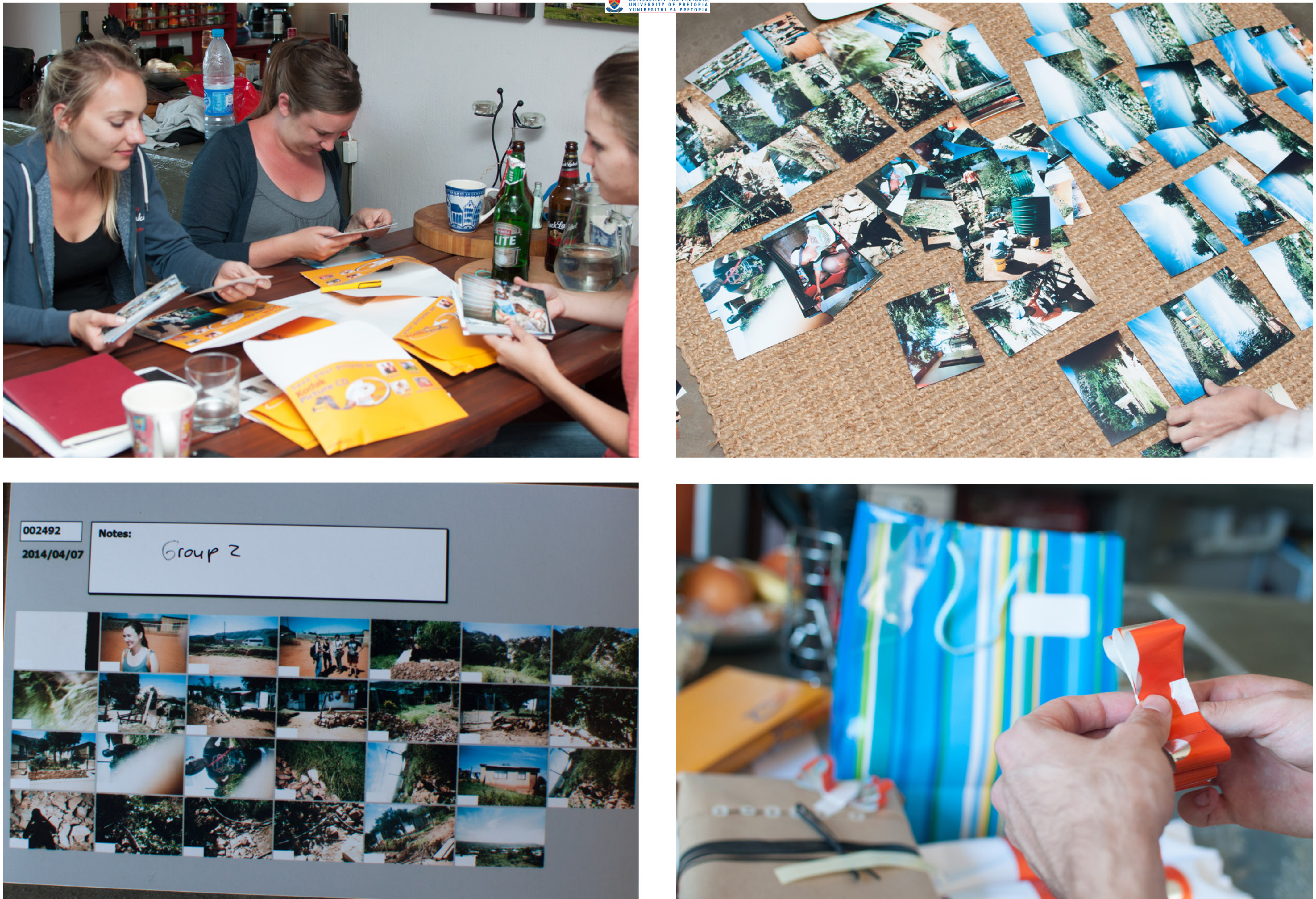


Figure 8.4: The honours students sorted through the images and organised prizes for the winners (Author 2014)

Figure 8.5: The exhibition was well attended with residents of all ages coming to support the various contestants (Author 2014)

Appendix B - Group Urban Framework

Before the group began work on the urban framework, they deemed it important to position themselves within the argument surrounding informal settlements. They, with the help of their study leader, discussed four positions within the argument.

The adjacent figure briefly describes the various positions and illustrates the position the group took during the design of the urban framework.

Instead of merely seeing informal settlements as a blight, the group engaged with the existing intangible networks that make up the community, found their needs, wants and aspirations and proposed a framework that sought to enhance, not just the various identified networks, but the community as a whole.

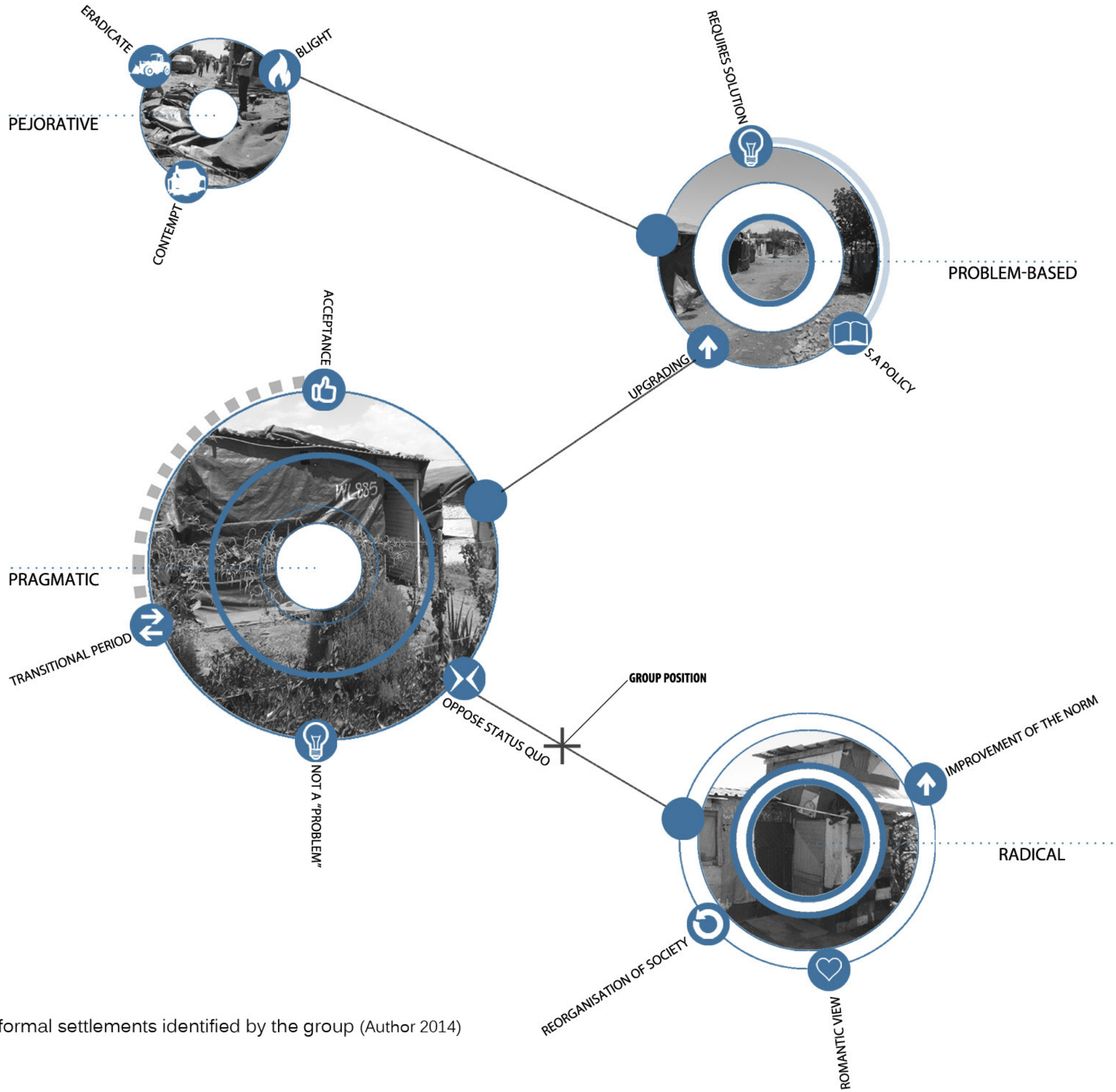


Figure 8.6: Diagram depicting the various positions towards informal settlements identified by the group (Author 2014)

Figure 8.7 Engaging with the community was an essential part of the framework design process (Author 2014)

The initial transect walks and unstructured interviews assisted in gaining an understanding of the conditions in Alaska, the challenges the residents face and their desires for the community.

From the participatory mapping exercises, it was observed that the majority of economic and social activities were located along the main spine running through Alaska.

Figure 8.8: Map used during the initial transect walk (Author 2014)

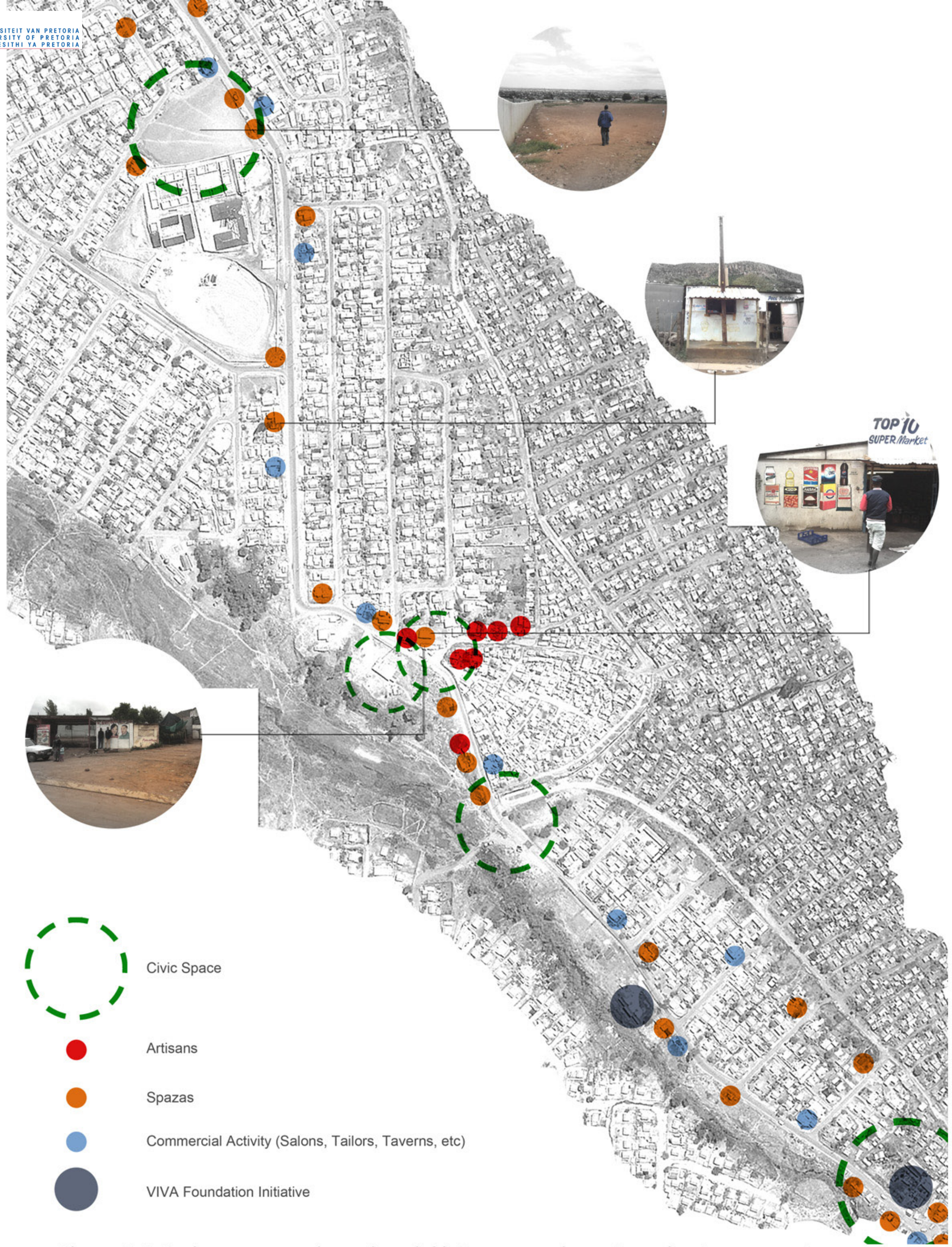


Figure 8.9: Various economic and social informants along the spine (Author 2014)

The mapping, interviews and observations led to a series of problems and opportunities that the framework sought to address - these included the lack of amenities and the opportunity to enhance existing civic space.

These problems and opportunities are depicted on the adjacent map.

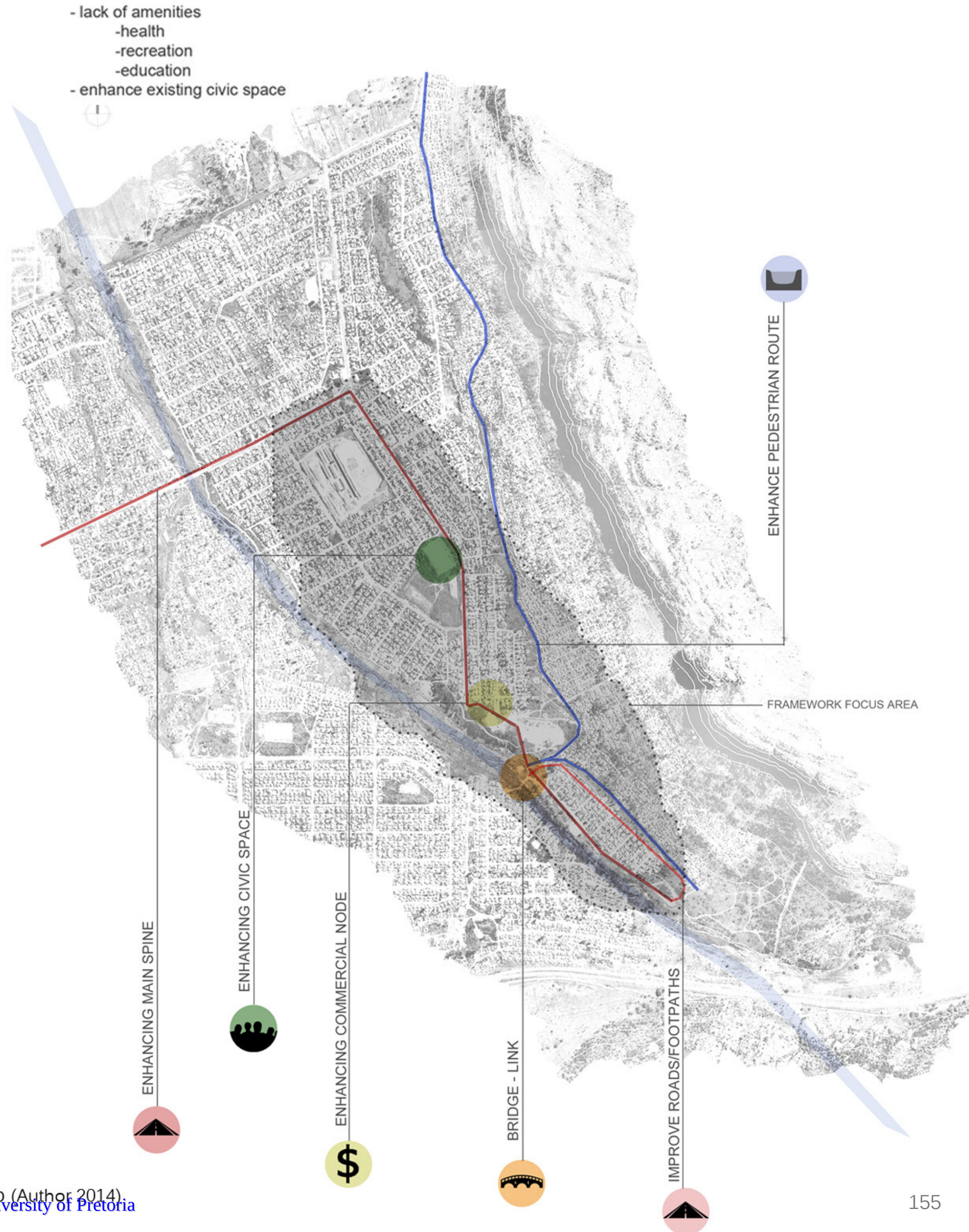


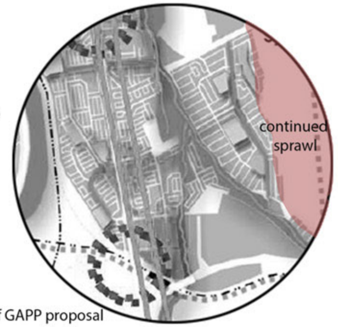
Figure 8.10: Map showing the various problems and opportunities identified by the group (Author 2014).

Macro Urban Scheme - GAPP Urban Designers, 2011

Schools

Green Spine

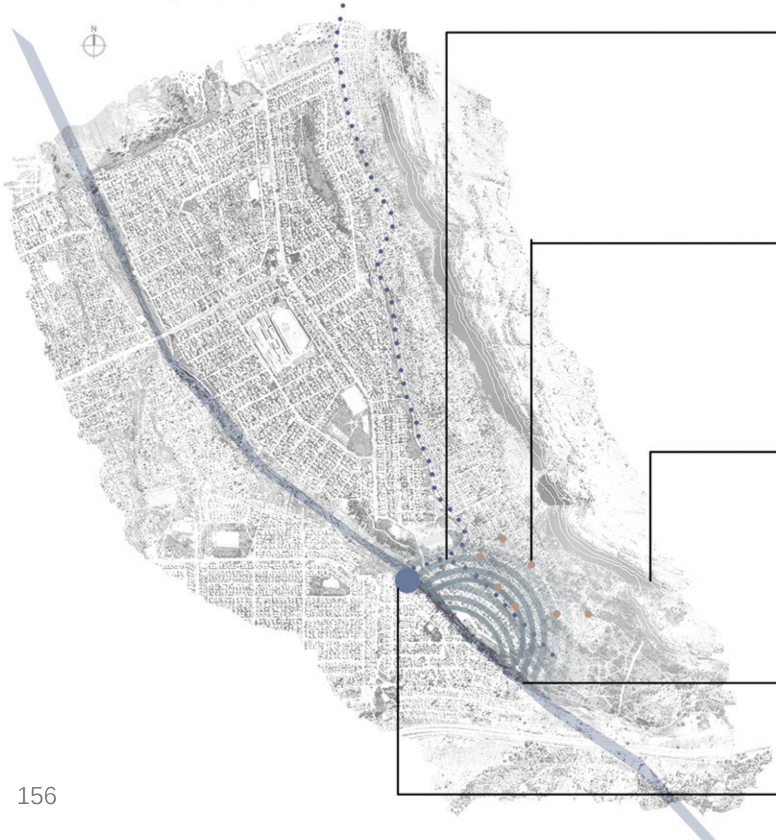
The GAPP proposal, on a Macro scale - has the potential to transform Mamelodi into an Urban Centre in itself. The proposal, submitted in 2011, completely ignores the Informal settlement of Alaska and almost entirely disregards the RDP Developments to the East of the Elandal Spruit.
This master plan would further perpetuate the *Islandisation* of Alaska, as it remains at the end of a Cul de sac, across an unbridged river.
No new economic nodes or public amenities are proposed within the focus area. As such, Mamelodi could grow into a thriving Urban Centre, offering more work opportunities and the informal settlement would continue to grow in place, offering migrant workers cheaper living accommodation.
Additionally, this proposal does not address the river issues and halfheartedly attempts to connect Alaska with a single BRT line.



Anticipated Consequence of GAPP proposal

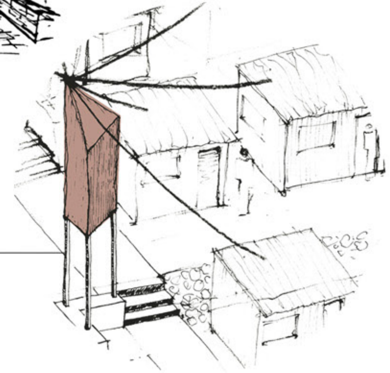
Meso Urban Schemes - HSU Honours Students, 2011&2013

The majority of the student projects deal with the Informal Settlement, East of the RDP development. Many suggest similar interventions - such as a bridge, emergency gathering points, public amenities, off-grid infrastructure and in situ upgrading of the informal settlement - thus changing the status of the settlement from temporary to permanent.



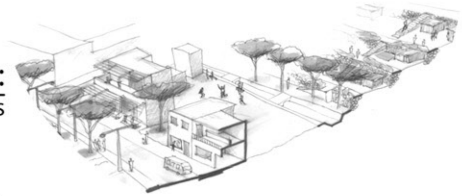
Catalysts & Phases:

-Infrastructure
-economic
-social



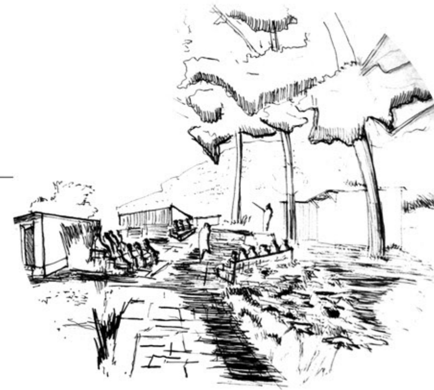
Route Markers:

Gathering markers
Footpath legibility



The advantage of the slope:

potential for terraced buildings



Footpaths as public space

River side terracing & Cleaning the Channel:

improved public realm through provision of recreational areas

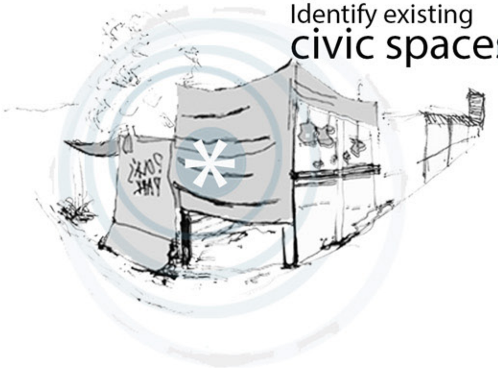
Bridging the River:

reduce the cul de sac nature

Intentions of the Framework

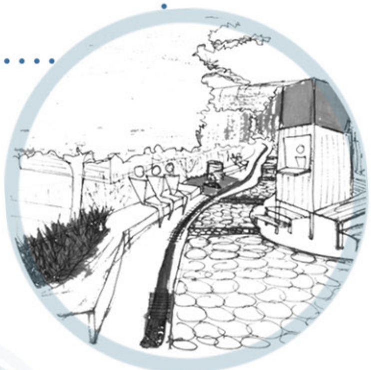
The Apartheid Spatial Legacy has left Alaska removed from Pretoria's urban centre, economic hubs and public spaces. Mapping revealed Alaska to be an Urban Island - void of defined public space, but host to the beginnings of social structures, none the less. The potential exists for this site to become an urban centre. Building upon these existing, adaptable social structures, the Urban Framework aims to unlock the site's potential and in doing so, concretise the coherence of community and place.

Identify existing **civic spaces**



Revitalise & Enhance

such spaces through the various design interventions



The right to urban life:
to **renewed** centrality, to places of **encounter** and **exchange**, to life rhythms and time uses, **enabling** the complete usage of these moments and places.

Rooted in existing on-site activities and evolved through community participatory processes, the interventions intend to

Stabilise current Social Structure

Create **catalytic** centres for in situ upgrading to grow from.

largely in dependant **Economy**

Self-Reliant Urban Centre

well defined and accessible **Civic Spaces** and amenities.

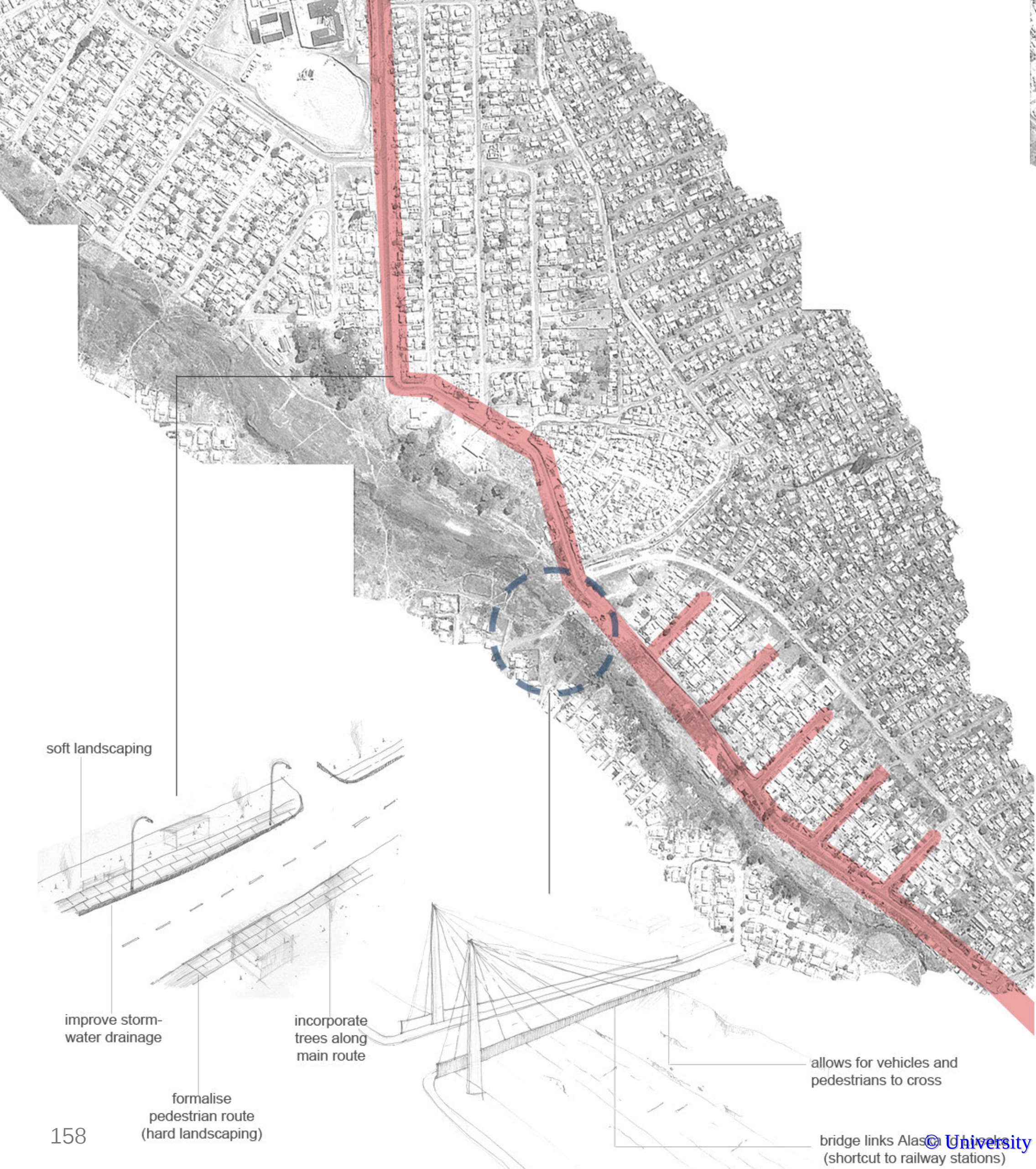
Figure 8.11: Extracts from the group presentation depicting the various intentions of the framework as well as critiques of previous frameworks (Author 2014)

PHASE 1

-bridge
safe pedestrian and vehicular link to Lusaka
(south of Edendalspruit)

-re-surfacing of main spine

- tarring new secondary roads



PHASE 2

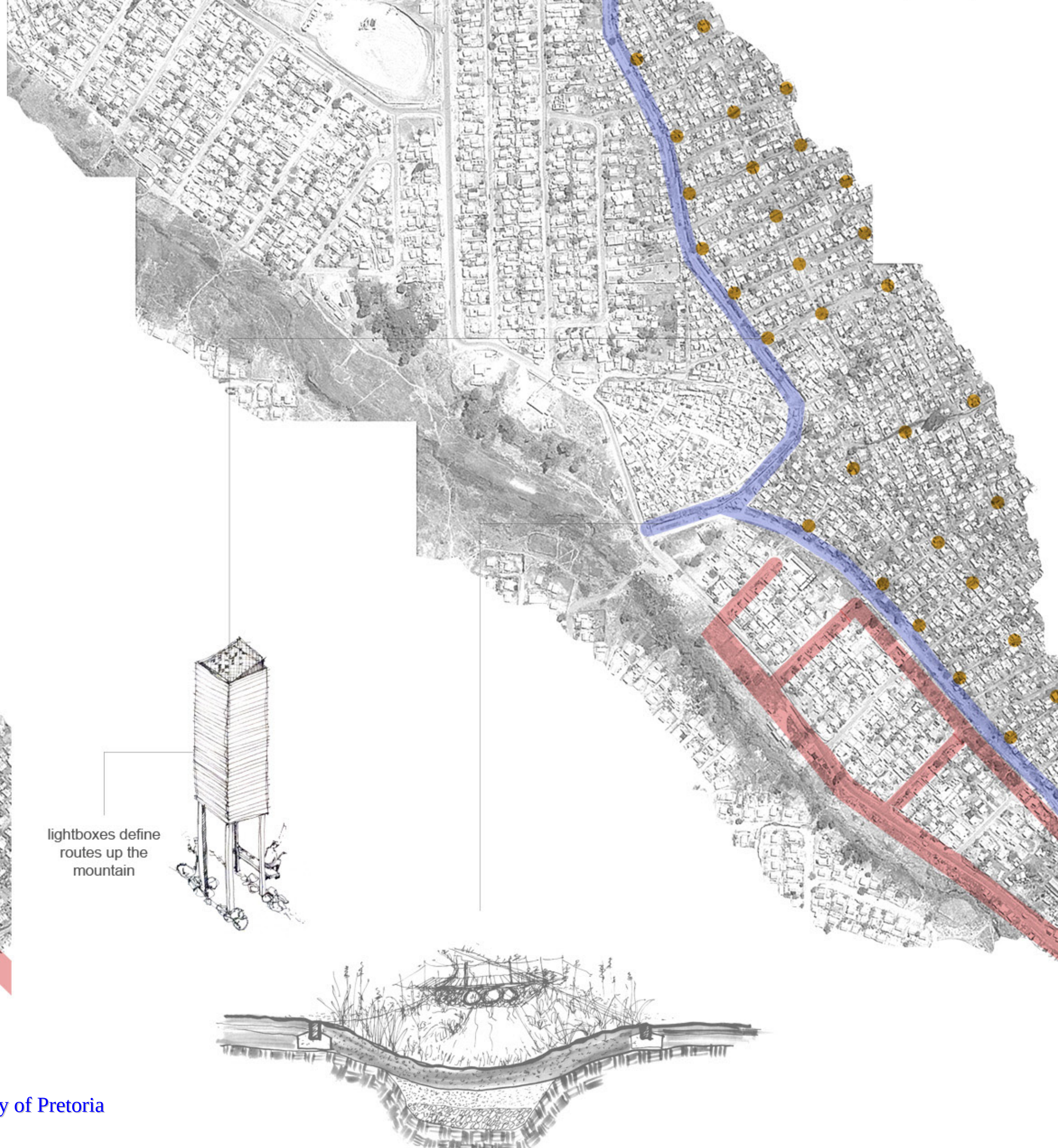
- cleaning out of culvert

- establish links across culvert

- replace cul-de-sac with loop road

- create emergency routes up mountain

- improve footpaths and create better defined public space



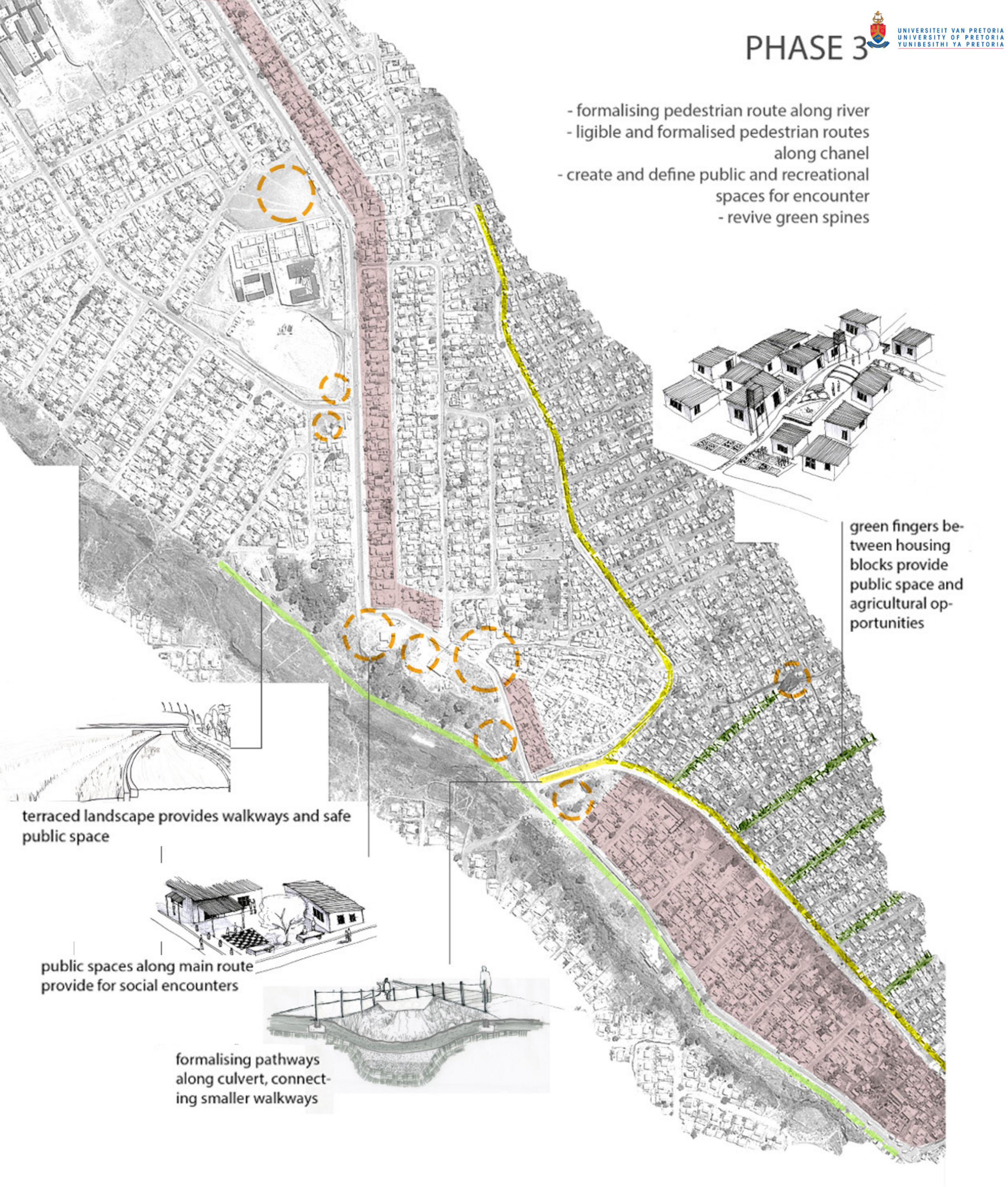


Figure 8.12: Extracts from the group presentation depicting the phasing of the framework (Author 2014)

Appendix C - Alpheus' Photographic Journey

Alpheus Sedibeng won a digital camera in the photography competition organised by the Honours group.

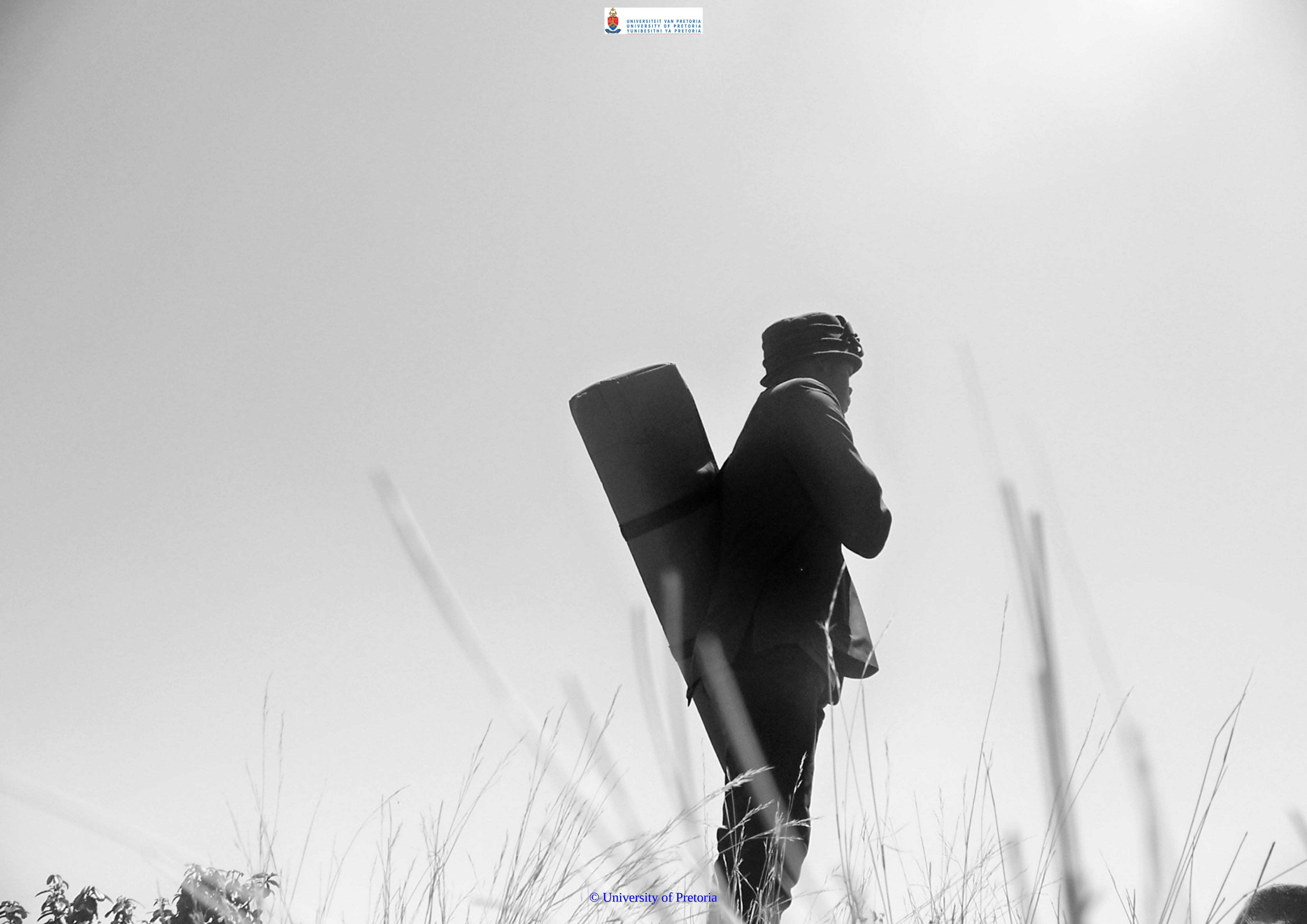
The opportunity to pursue photography has given me hope (Alpheus 2014).

The author, along with Marike Franklin, the Honours student who organised the camera, met with Alpheus throughout the year. They gave him photographic literature, taught him various techniques and went on numerous photography walks through Alaska and Pretoria CBD.

Alpheus started his own blog, a platform from where he shares his work with the world.

On the 24th of October 2014, Alpheus' work was included in an Open-House exhibition where he sold two of his works.

Figure 8.13: Photographs of Alpheus' Open-House Exhibition work (Author 2014)



Appendix D - VIVA Events

Annual Art Festival

On the 15th of March 2014 VIVA held its annual Art Festival. VIVA invited graffiti artists from all over the world to paint various houses throughout Alaska. According to Kriel (2014) the aim is to create a *living gallery* in the township that will act as an attraction, drawing visitors into the community.

The author observed a disconnectedness between the visiting artists and members of the community. The lack of community participation led to the residents becoming mere spectators. When speaking to a group of Alaskan residents, the author found that they were upset. *When the artists leave we are left with these paintings we do not understand,* said one resident.

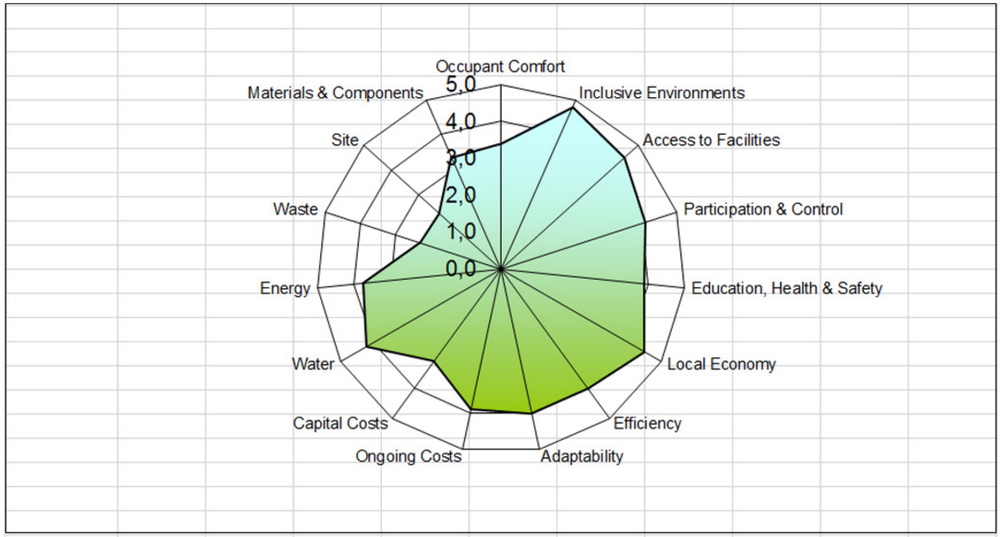
The festival has the potential to become a platform for residents to express themselves and learn from professional artists.

Figure 8.14: Photographs documenting VIVA's annual arts festival (Author 2014)

Mandela Day

On the 18th of July 2014, VIVA organised a day of music, dancing and, in rememberance of Mandela, 67 minutes of work. Members from all over Alaska and nearby Lusaka came to paint VIVA's classrooms and fences, and to join in the festivities. The event brought people from all walks of life together and provided a platform on which different cultures were shared.

Figure 8.15: Photographs taken during the Mandela Day festivities (Author 2014)



Social	4,1		Economic	3,9		Environmental	3,2
			Overall	3,7			

Building Performance - Social				
	Criteria	Indicative performance measure	Measured	Points
SO 1	**Occupant Comfort**	Explanatory notes		3,4
SO 1.1	Daylighting	% of occupied spaces that are within distance 2H from window, where H is the height of the window or where there is good daylight from skylights	70	0,7
SO 1.2	Ventilation	% of occupied spaces have equivalent of opening window area equivalent to 10% of floor area or adequate mechanical system, with upolluted air source	80	0,8
SO 1.3	Noise	% of occupied spaces where external/internal/reverberation noise does not impinge on normal conversation (50dbA)	70	0,7
SO 1.5	Thermal comfort	Tempreture of occupied space does not exceed 28 or go below 19oC for less than 5 days per year (100%)	60	0,6
SO 1.5	Views	% of occupied space that is 6m from an external window (not a skylight) with a view	60	0,6
SO 2	**Inclusive Environments**	Explanatory notes		4,8
SO 2.1	Public Transport	% of building (s) within 400m of disabled accessible (20%) and affordable (80%) public transport	100	1,0
SO 2.2	Information	Comprehensive signage provided (50%), Signage high contrast, clear print signage in appropriate locations and language(s) / use of understandable symbols / manned reception at all entrances (50%)	100	1,0
SO 2.3	Space	% of occupied spaces that are accessible to ambulant disabled / wheelchair users	80	0,8
SO 2.4	Toilets	% of occupied space with fully accessible toilets within 50m along easily accessible route	100	1,0
SO 2.5	Fittings & Furniture	% of commonly used furniture and fittings (reception desk, kitchenette, auditorium) fully accessible	100	1,0
SO 3	**Access to Facilities**	Explanatory notes		4,5
SO 3.1	Children	All users can walk (100%) / use public transport (50%) to get to their childrens' schools and creches	100	1,0
SO 3.2	Banking	All users can walk (100%) / use public transport (50%) to get to banking facilities	50	0,5
SO 3.3	Retail	All users can walk (100%) / use public transport (50%) to get to food retail	100	1,0
SO 3.4	Communication	All users can walk (100%) / use public transport (50%) to get to communication facilities (post/telephone/internet)	100	1,0
SO 3.5	Exercise	All users can walk (100%) / use public transport (50%) to get to recreation/excercise facilities	100	1,0
SO 4	**Participation & Control**	Explanatory notes		4,1
SO 4.1	Environmental control	% of occupied space able to control their thermal environment (adjacent to openable windows/thermal controls)	80	0,8
SO 4.2	Lighting control	% of occupied space able to control their light (adjacent to controllable blinds etc/local lighting control)	40	0,4
SO 4.3	Social spaces	Social informal meeting spaces (parks / staff canteens / cafes) provided locally (within 400m) (100%)	100	1,0
SO 4.4	Sharing facilties	5% or more of facilities shared with other users / organisations on a weekly basis (100%)	100	1,0
SO 4.5	User group	Users actively involved in the design process (50%) / Active and representative management user group (50%)	90	0,9
SO 5	**Education, Health & Safety**	Explanatory notes		3,9
SO 5.1	Education	Two percent or more space/facilities available for education (seminar rooms / reading / libraries) per occupied space (75%). Construction training provided on site (25%)	80	0,8
SO 5.2	Safety	All well used routes in and around building well lit (25%), all routes in and around buildings visually supervised (25%), secure perimeter and access control (50%), No crime (100%)	90	0,9
SO 5.3	Awareness	% of users who can access information on health & safety issues (ie HIV/AIDS), training and employment opportunities easily (posters/personnel/intranet site)	20	0,2
SO 5.4	Materials	All materials/components used have no negative effects on indoor air quality (100%)	100	1,0
SO 5.5	Accidents	Process in place for recording all occupational accidents and diseases and addressing these	100	1,0

Building Performance - Economic				
	Criteria	**Indicative performance measure**	**Measured**	**Points**
EC 1	**Local economy**	Explanatory notes		4,5
EC 1.1	Local contractors	% value of the building constructed by local (within 50km) small (employees<20) contractors	70	0,7
EC 1.2	Local materials	% of materials (sand, bricks, blocks, roofing material) sourced from within 50km	90	0,9
EC 1.3	Local components	% of components (windows, doors etc) made locally (in the country)	100	1,0
EC 1.4	Local furniture/fittings	% of furniture and fittings made locally (in the country)	100	1,0
EC 1.5	Maintenance	% of maintenance and repairs by value that can, and are undertaken, by local contractors (within 50km)	90	0,9
EC 2	**Efficiency**	Explanatory notes		4,0
EC 2.1	Capacity	% capacity of building used on a daily basis (actual number of users / number of users at full capacity*100)	90	0,9
EC 2.2	Occupancy	% of time building is occupied and used (actual average number of hours used / all potential hours building could be used (24) *100)	60	0,6
EC 2.3	Space per occupant	Space provision per user not more than 10% above national average for building type (100%)	100	1,0
EC 2.4	Communication	Site/building has access to internet and telephone (100%), telephone only (50%)	50	0,5
EC 2.5	Material & Components	Building design coordinated with material / component sizes in order to minimise wastage. Walls (50%), Roof and floors (50%)	100	1,0
EC 3	**Adaptability**	Explanatory notes		3,7
EC 3.1	Vertical heights	% of spaces that have a floor to ceiling height of 3000mm or more	75	0,8
EC 3.2	External space	Design facilitates flexible external space use (100%)	70	0,7
EC 3.3	Internal partition	Non loadbearing internal partitions that can be easily adapted (loose partioning (100%), studwall (50%), masonary (25%)	25	0,3
EC 3.4	Modular planning	Building with modular stucture, envelope (fenestration) & services allowing easy internal adaptaptation (100%)	100	1,0
EC 3.5	Furniture	Modular, limited variety furniture - can be easily configured for different uses (100%)	100	1,0
EC 4	**Ongoing costs**	Explanatory notes		3,9
EC 4.1	Induction	All new users receive induction training on building systems (50%), Detailed building user manual (50%)	0	0,0
EC4.2	Consumption & waste	% of users exposed on a monthly basis to building performance figures (water (25%), electricity (25%), waste (25%), accidents (25%)	100	1,0
EC 4.2	Metering	Easily monitored localised metering system for water (50%) and energy (50%)	100	1,0
EC4.3	Maintenance & Cleaning	% of building that can be cleaned and maintained easily and safely using simple equipment and local non-hazardous materials	100	1,0
SO 4.5	Procurement	% of value of all materials/equipment used in the building on a daily basis supplied by local (within the country) manufacturers	90	0,9
EC 5	**Capital Costs**	Explanatory notes		3,1
EC 5.1	Local need	Five percent capital cost allocated to address urgent local issues (employment, training etc) during construction process (100%)	100	1,0
EC5.2	Procurement	Tender / construction packaged to ensure involvement of small local contractors/manufacturers (100%)	80	0,8
EC 5.3	Building costs	Capital cost not more than fifteen % above national average building costs for the building type (100%)	80	0,8
EC5.4	Technology	3% or more of capital costs allocated to new sustainable/indigenous technology (100%)	50	0,5
EC 5.5	Existing Buildings	Existing buildings reused (100%)	0	0,0

Building Performance - Environmental				
	Criteria	**Indicative performance measure**	**Measured**	**Points**
EN 1	**Water**	Explanatory notes		4,2
EN 1.1	Rainwater	% of water consumed sourced from rainwater harvested on site	50	0,5
EN 1.2	Water use	% of equipment (taps, washing machines, urinals showerheads) that are water efficient	100	1,0
EN 1.3	Runoff	% of carparking, paths, roads and roofs that have absorbant/semi absorbant/permeable surfaces (grassed/thatched/looselaid paving/ absorbant materials)	70	0,7
EN 1.4	Greywater	% of water from washing/relatively clean processes recycled and reused	100	1,0
EN 1.5	Planting	% of planting (other than food gardens) on site with low / appropriate water requirements	100	1,0
EN 2	**Energy**	Explanatory notes		3,8
EN 2.1	Location	% of users who walk / cycle / use public transport to commute to the building	90	0,9
EN 2.2	Ventilation	% of building ventilation requirements met through natural / passive ventilation	60	0,6
EN 2.3	Heating & Cooling	% of occupied space which relies solely on passive environmental control (no or minimal energy consumption)	60	0,6
EN 2.4	Appliances & fittings	% of appliances / lighting fixtures that are classed as highly energy efficient (ie energy star rating)	90	0,9
EN 2.5	Renewable energy	% of building energy requirements met from renewable sources	75	0,8
EN 3	**Waste**	Explanatory notes		2,3
EN 3.1	Toxic waste	% of toxic waste (batteries, ink cartridges, flourescent lamps) recycled	100	1,0
EN 3.2	Organic waste	% of organic waste recycled	0	0,0
EN 3.3	Inorganic waste	% of inorganic waste recycled.	80	0,8
EN 3.4	Sewerage	% of sewerage recycled on site	0	0,0
EN 3.5	Construction waste	% of damaged building materials / waste developed in construction recycled on site	50	0,5
EN 4	**Site**	Explanatory notes		2,3
EN 4.1	Brownfield site	% of proposed site already disturbed / brownfield (previously developed)	0	0,0
EN 4.2	Neighbouring buildings	No neighbouring buildings negatively affected (access to sunlight, daylight, ventilation) (100%)	90	0,9
EN 4.3	Vegetation	% of area of area covered in vegetation (include green roofs, internal planting) relative to whole site	65	0,7
EN 4.4	Food gardens	Food gardens on site (100%)	0	0,0
EN 4.5	Landscape inputs	% of landscape that does not require mechanical equipment (ie lawn cutting) and or artificial inputs such as weed killers and pesticides	70	0,7
EN 5	**Materials & Componer**	Explanatory notes		3,3
EN 5.1	Embodied energy	Materials with high embodied energy (aluminium,plastics) make up less than 1% of weight of building (100%)	100	1,0
EN 5.2	Material sources	% of materials and components by volume from grown sources (animal/plant)	20	0,2
EN 5.3	Ozone depletion	No materials and components used requiring ozone depleting processes (100%)	80	0,8
EN 5.4	Recyled / reuse	% of materials and components (by weight) reused / from recycled sources	80	0,8
EN 5.5	Construction process	Volume / area of site disturbed during construction less than 2X volume/area of new building (100%)	50	0,5

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PLATFORMS OF EMPOWERMENT:
AN IMAGINARIUM

Alexander Becker 10005766

SPECIAL THANKS TO:

My Lord Jesus - You have been my constant fortress in this crazy, rollercoaster of a time in Boukunde. Without You none of this would have been possible.
For I know the plans I have for you, declares the LORD, plans to prosper you and not to harm you, plans to give you hope and a future.

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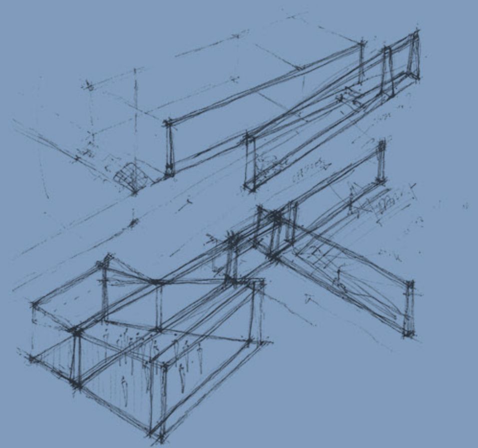

Submitted in partial fulfilment of the requirements for the degree
MArch(Prof),
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University of Pretoria
South Africa
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Art has the power to transform, to illuminate, to educate, inspire and motivate.

Harvey Fierstein

ABSTRACT

This dissertation is founded on participatory mapping and design processes and the results thereof. Various social networks were identified and engaged with in the informal settlement of Alaska, Mamelodi East. The premise is that in order to intervene architecturally in such a context, critical engagement with the various networks in the community must occur.

Through participatory mapping processes the adolescent network in Alaska was identified. Although the adolescent stage proves to be a difficult time for most teenagers, the harsh conditions of informal settlements often compound these challenges (Ndugwa 2011). Due to the risk factors they face, such as peer pressure and boredom, and the lack of after-school programmes and facilities, many succumb to problem behaviours like substance abuse and violence.

Through further engagement an interest in performing and visual arts was discovered. According to Anderson (2004) there is a wide range of research supporting the notion that t*he arts* have a significantly positive impact on the vulnerable youth taking part in art programs.

This dissertation proposes that an Imaginarium would be the most appropriate intervention to enable and empower the youth in Alaska. An Imaginarium is a place devoted to the cultivation and nurturing of one's imagination - a place where the youth can engage in the arts.

The facility aims to introduce programs that meet the interest shown by the adolescents, as well as to reinforce the current art and sewing programmes organised by VIVA, an NGO situated in Alaska.

The Imaginarium is to use the arts as a catalyst for activating public space.

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Figure 1.1: An Alaskan student on her way to high school
(Franklin 2014)

Our children are our greatest treasure. They are our future.

Nelson Mandela (1997)

1 Introduction

This chapter focuses on the research topic and the related problem statement. The proposed site, background and methodology are briefly presented in order to contextualise the research questions and dissertation aims.

1.1 Children, Slums' First Casualties

With nearly half of the world's population born less than a quarter of a century ago, it could be said that the world belongs to the youth. This, however, is questionable for the millions of children on poverty's frontline whose harsh living conditions make every day a challenge in itself (UN-HABITAT 2007:38). According to a UN-HABITAT report entitled *Children, Slums' First Casualties*, disease, malnutrition, high mortality rates, a lack of education, poor shelter and inadequate services are but a few problems facing many of the children born into this type of environment.

Informal settlements all over the world are renowned for their harsh living conditions and the daily difficulties their residents have to face. Poverty, unemployment, crime, violence, drugs and disease are all words strongly linked with these areas. According to the UN (2009), over 50% of the world's population, an estimated 3.3 billion people, live in urban areas. It is predicted that by 2030 this number will increase to over 5 billion.

This tremendous increase in the rate of urbanization, especially in developing areas, has placed an extreme amount of strain on cities' infrastructures and has resulted in many people's promises of a better life in the city left unfulfilled. People all over Southern Africa flock to South African cities in the hope of finding a job, only to arrive bitterly disappointed and with nowhere to live (Mills 2012).

According to Mills (2012) informal settlements have become the new norm in South African cities. He states that there are approximately 2700 informal settlements nationwide, most of which lack the housing, infrastructure and access to facilities to which any self-respecting citizen has the right.

According to UN-HABITAT (2007:38) the harsh conditions of informal settlements thrust children prematurely into adult responsibilities and take away the typical learning processes and joys of childhood. UN-HABITAT contends that even simple improvements in the living conditions of families in informal settlements will aid in the empowerment of children, as well as aid in their development.

Figure 1.2: Recess at a day care centre in Alaska (Maritz 2011)

A study by Pillay (2006) entitled *Experiences of learners from informal settlements* states that the tough environment these children have to face on a daily basis hinders them in their studies. He concludes that in order to help these children, an ecosystemic approach must be taken towards an intervention. This means that interventions should not be limited to one aspect, but should cover a variety of systems in the children's lives.

Figure 1.3: The harsh conditions make life tough from an early age (Maritz 2011)

1.2 Proposed Context - Alaska Township, Mamelodi

The proposed site is situated in Alaska, a township located in the eastern part of Mamelodi, Pretoria. People from all over Southern Africa continue to move to the city of Pretoria in the hope of finding a job, which has led to the further expansion of Mamelodi (Kriel 2014).

Alaska was established in approximately 2007 and has grown rapidly ever since. The settlement is wedged between the Edendalspruit to the west and part of the Magalieserg mountains to the east. Unlike the communities to the east of Alaska, which are relatively new and growing constantly, the neighbourhoods to the west are older, more established, well-serviced and have permanent houses (Kriel 2014).

Due to space being limited in Alaska, newcomers are haphazardly building shacks further up the mountain, resulting in services becoming more difficult to provide. Illegal water and electricity connections are the norm for the majority of shacks in this area. The parasitic relationship that Alaska seems to have with the surrounding areas has resulted in a stigma being attached to many of its residents who are often referred to as *the monkeys from the mountain* (Alpheus 2014).

Figure 1.4: Alaska is characterised by the large mountain and the stone it provides the residents for building (Maritz 2011)

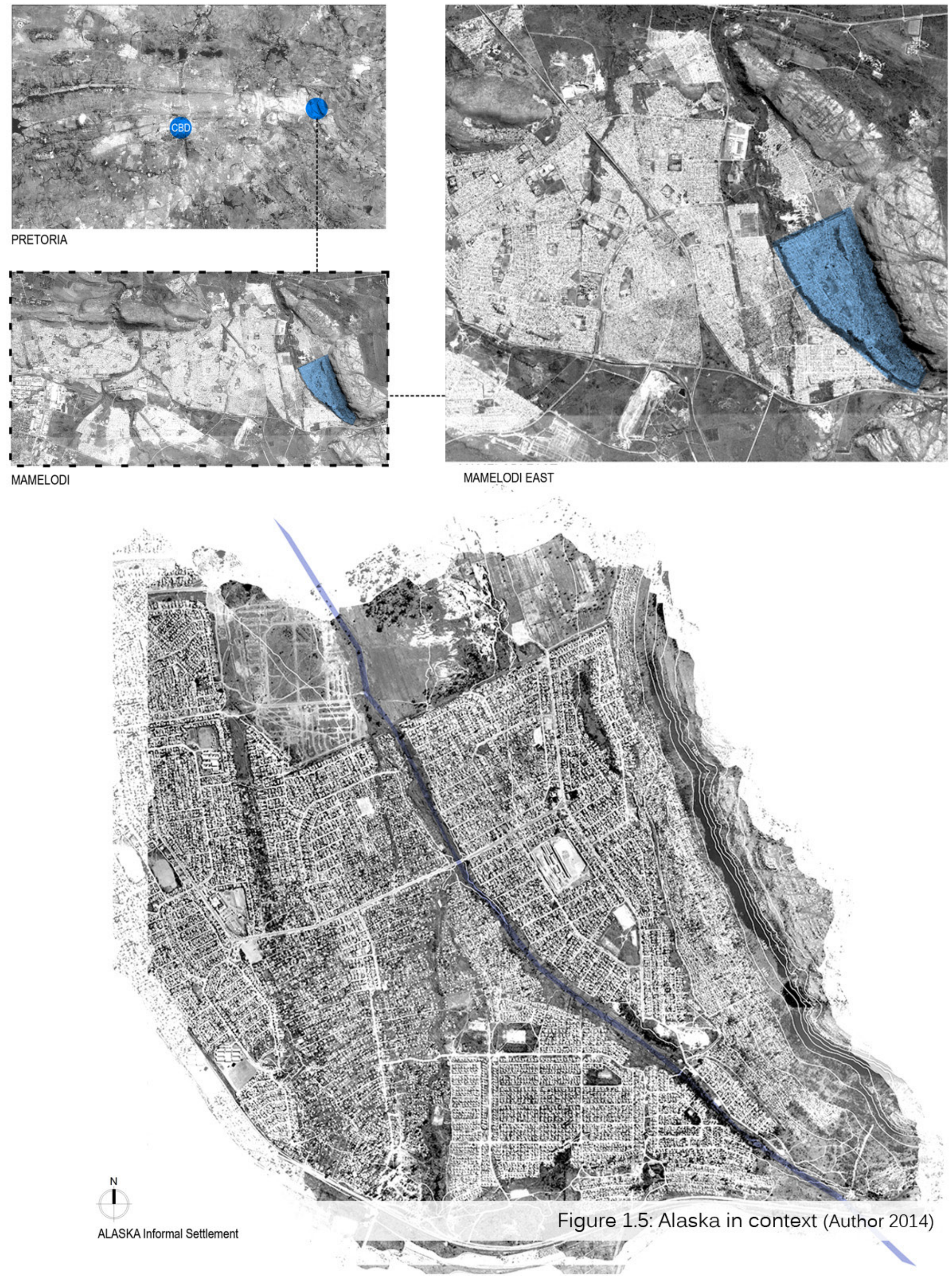


Figure 1.5: Alaska in context (Author 2014)

1.3 A New Architectural Professionalism

In her recent PhD thesis, Supitcha Tovivich (2010) stated that conventional architectural practice and education has long been limited to serving a minority of the world's elite population. Like her thesis, this dissertation sets out to explore the role of architects in addressing the emergence and growth of informal settlements which represent a large part of the built environment in most developing countries.

According to Tovivich (2010), the lessons learned from the failure of many top-down public housing projects in the modern architecture period prove that efforts to solve social problems require more than good will, noble architects or improvements in the physical environment. It is necessary to explore new values, knowledge and skills of architects in order for architects to be relevant to the greater part of the world's population and the built environment.

Part of the study focuses on the three roles of architects working in/for/with poor urban communities – those being provider, supporter and catalyst. While the supporter role involves design and employing the design process as a tool to support community members to make decisions for themselves, the catalyst role employs the design process as a tool for encouraging community empowerment.

Figure 1.6: A resident participates in a mass modelling exercise (Franklin 2014)

The aim is to shift architects from a providing paradigm to a supporting paradigm – calling for a new role for architects and the architectural profession (Tovivich 2010).

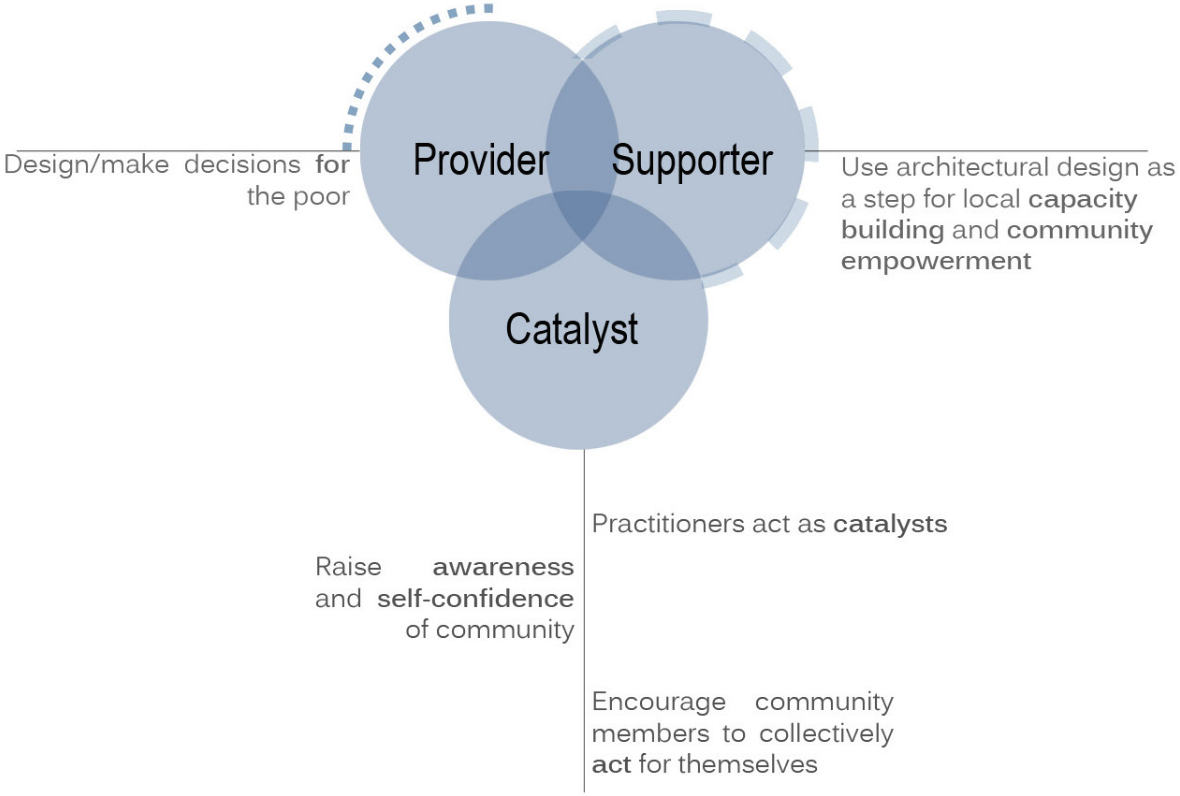


Figure 1.7 A diagram indicating the 3 various roles of the New Architectural Profession (Author 2014)

Tovivich (2010) argues that the roles of provider, supporter and catalyst are interconnected in their working process. In Figure 1.8, Tovivich (2010) shows how, through the implementation of small steps, each role works together towards empowering the community. The diagram emphasises critical reflectance on previous steps taken and also shows how the effect of catalytic interventions continue even after the project has been completed.

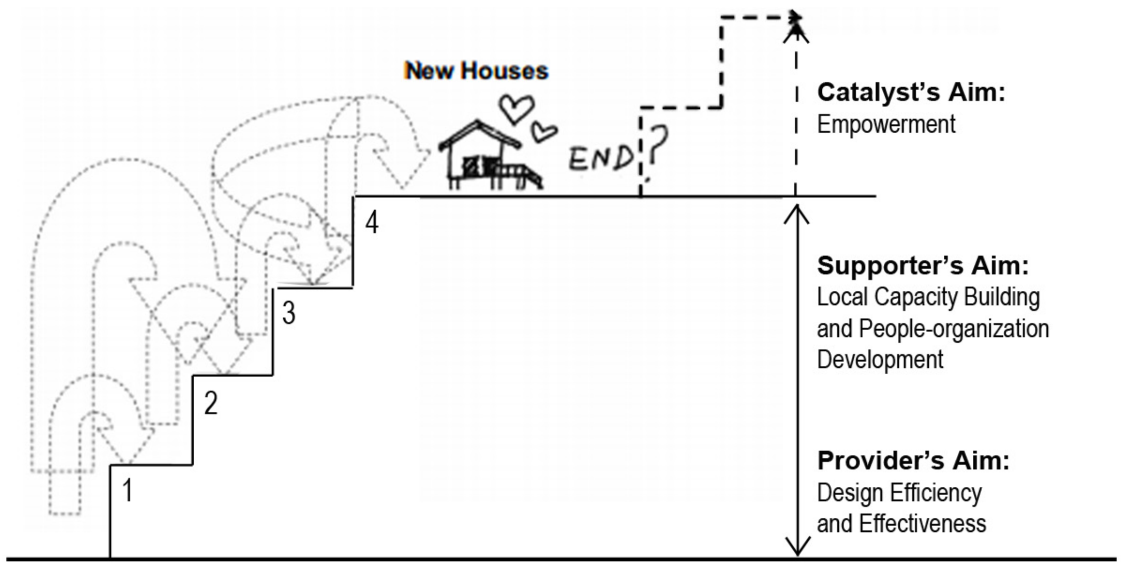


Figure 1.8: Diagram of the working process of the New Architectural Profession (Tovivich 2010)

1.4 Identifying the Network

According to Tovivich (2010), the importance of critically engaging with the community cannot be overstated. In order for the architect to act as a supporter and catalyst, the community, and its participation, must be at the focal point of the project.

Transect walks were undertaken during the early parts of 2014 in order to gain a better understanding of the context. During these walks participatory mapping and unstructured interviews were performed. These walks and exercises led to the discovery of various networks within the community.

A prominent network found walking along the streets of Alaska was that of the adolescents. Unstructured interviews were conducted to better understand the workings of the network as well as the challenges facing them.

The personal engagement with the network uncovered many issues that were not being addressed, and were having detrimental effects as a result - Chapter 2 will expand on this engagement and the author's findings.

Figure 1.9: Teens have very few ways of constructively releasing energy (Franklin 2014)

Boredom

There is just nothing for us to do, became a common response from the two hundred high school students spoken to when asked about the biggest difficulty facing them in Alaska. According to the adolescents they have very little to do after-school, during the weekends, as well as for long periods during the holidays.

The seriousness of the situation cannot be overemphasised as this boredom makes the children vulnerable to risk factors.

According to Kriel (2014), Webster (2014), as well as various community members, due to the lack of facilities, many of the adolescents are left to find their own ways of entertaining themselves. Due to this vulnerability to risk factors, drugs, alcohol, teenage pregnancies, drop-outs, gangs, gambling and violence are all major issues within the youth network of Alaska and the surrounding areas (Kriel 2014).

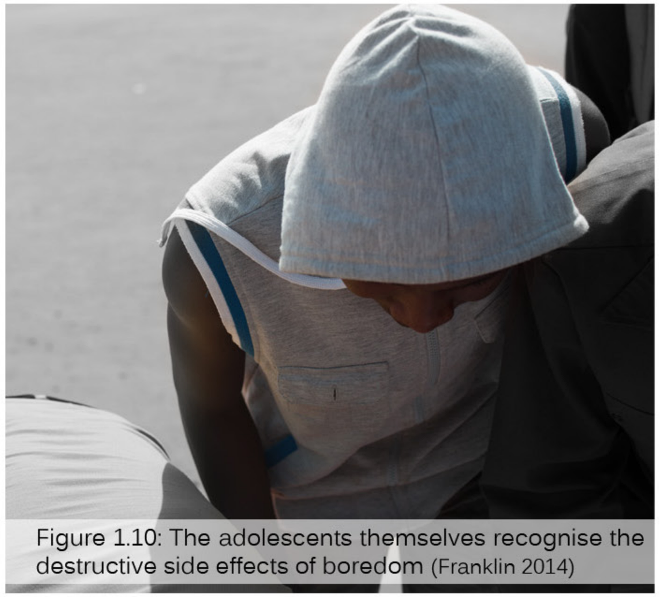


Figure 1.10: The adolescents themselves recognise the destructive side effects of boredom (Franklin 2014)

1.5 Problem Statement

The adolescents in Alaska lack facilities that cater for their recreational, as well as educational needs, particularly after-school, during weekends and holidays.

Figure 1.11: A pair of older adolescents emphasise the negative impact of substance abuse (Franklin 2014)

1.6 Research Question

How can architecture respond to the requirements of the adolescent youth through participatory mapping and design?

Sub Question

- Can architecture facilitate the empowerment and enablement of the adolescent youth within Alaska, Mamelodi?

1.7 Hypothesis

Through a participatory mapping and design process, a suitable architectural response can be created that, once established, will empower, enable and support the adolescent network in Alaska, Mamelodi.

Figure 1.12: Participation forms the basis for the research, concept and design development stages (Franklin 2014)

1.8 Research Methodology

- Contextual Analysis

An analysis of Mamelodi will be undertaken in order to gain an understanding of the tangible and intangible connections to Alaska.

In his book, *The Placemaker's Guide to Building Community*, Nabeel Hamdi (2010) describes the *Toolkit* he uses when engaging with an unknown context such as the one found in Alaska, Mamelodi. The *Toolkit* describes various methods used to analyse the tangible and intangible networks of poorer communities, these include:

-transect walks
- observations of physical conditions/workings of the community

-unstructured interviews
- engage with residents; gain a deeper understanding of needs and aspirations

-participatory mapping
- identify main routes, areas of safety, recreation, education etc

-mass modelling
- at the start of the design development it is important to obtain the opinions and input of the identifed network

The participation process is at the core of each stage of the design. It will not cease after the context analysis has been completed, but instead will carry through each stage of the design process. According to Tovivich (2010) if the community is to be empowered by the design process, their input in each design stage is imperative.

- Literature Review

The literature review will consist of an overiew of theories relating to various spheres such as psychology, urban planning and architectural design.

The various theories that have been studied are as follows:

Child Development Theories
If one is to design for a specific youth group, it is imperative that one understands the development of a child, as well the various characteristics of each phase.
Steiner, the founder of Waldorf education, gives an insight into the *Adolescent* phase and the characteristics associated with it (Wilkinson 1996). This theory brings a deeper understanding of the physical and cognitive development during this phase, and thus aids the author when approaching the adolescents during the analysis phase.

Jan Gehl's Urban Planning Theories
Gehl's *Life Between Buildings* and *Cities for people* is studied in order to understand how the design of building affects the urban character of a place. Gehl (2011) focuses on the design and use of public space - he says that designers are able to influence the conditions for social contacts. Gehl (2011) also gives clues on what makes a successful public space.

Newman's Defensible Space Theory
Due to the poverty-stricken environment of informal settlements, the installation of facilities with expensive equipment can be seen as risky.
Newman's theory, and the subsequent developments that followed, describe how design can aid in the security of such facilities by creating numerous thresholds, and encouraging activity between said facilities and the public (Reynald & Elffers 2009) .

Hamdi's Participation Theories

Nabeel Hamdi (2010) describes various ways in which a *placemaker* can engage with an unknown network. He emphasises the value of participation and partnerships in making practice more strategic and effective (Hamdi 2010) . Hamdi's *Toolkit* provides the foundation onto which this thesis' participatory methods are built.

Tovivich's New Architectural Professionalism

When working with the urban poor, Tovivich (2010) emphasises the importance of including participation early in the design process. Tovivich gives an insight into how an architect's role shifts between provider, enabler and catalyst in order for the design process to empower the community.

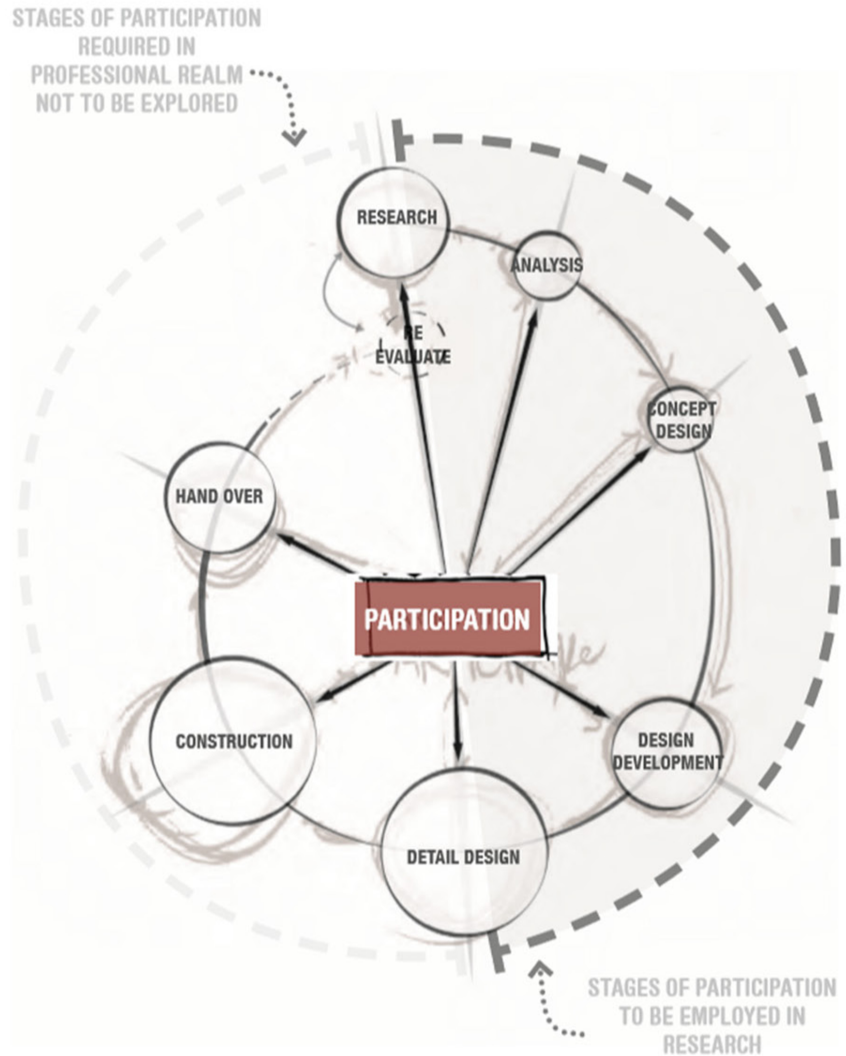


Figure 1.13: The participation process (Bennett 2011)

Figure 2.1: An Alaskan student on his way to school (Franklin 2014)

We shouldn't ask *What does a person need to be able to do in order to fit into the existing social order today?*
Instead we should ask *What lives in each human being and what can be developed in him or her?*

Rudolf Steiner (1923)

2 ENGAGING WITH THE NETWORK

This chapter introduces the various theories on which the thesis is based, as well as the methods and results of the network engagement.

2.1 Steiner's Child Development Theory

Rudolf Steiner, an Austrian philosopher, social reformer and architect, founded the Waldorf education system shortly after World War One.

He spent many years studying the development of children of all ages and refined a theory that would enhance, enrich and nurture this development (Hemleben 1975).

Steiner's theories and practices were predominantly based on providing meaningful support for the child in the journey from infancy to adulthood, with emphasis on the idea of *experiential learning*.

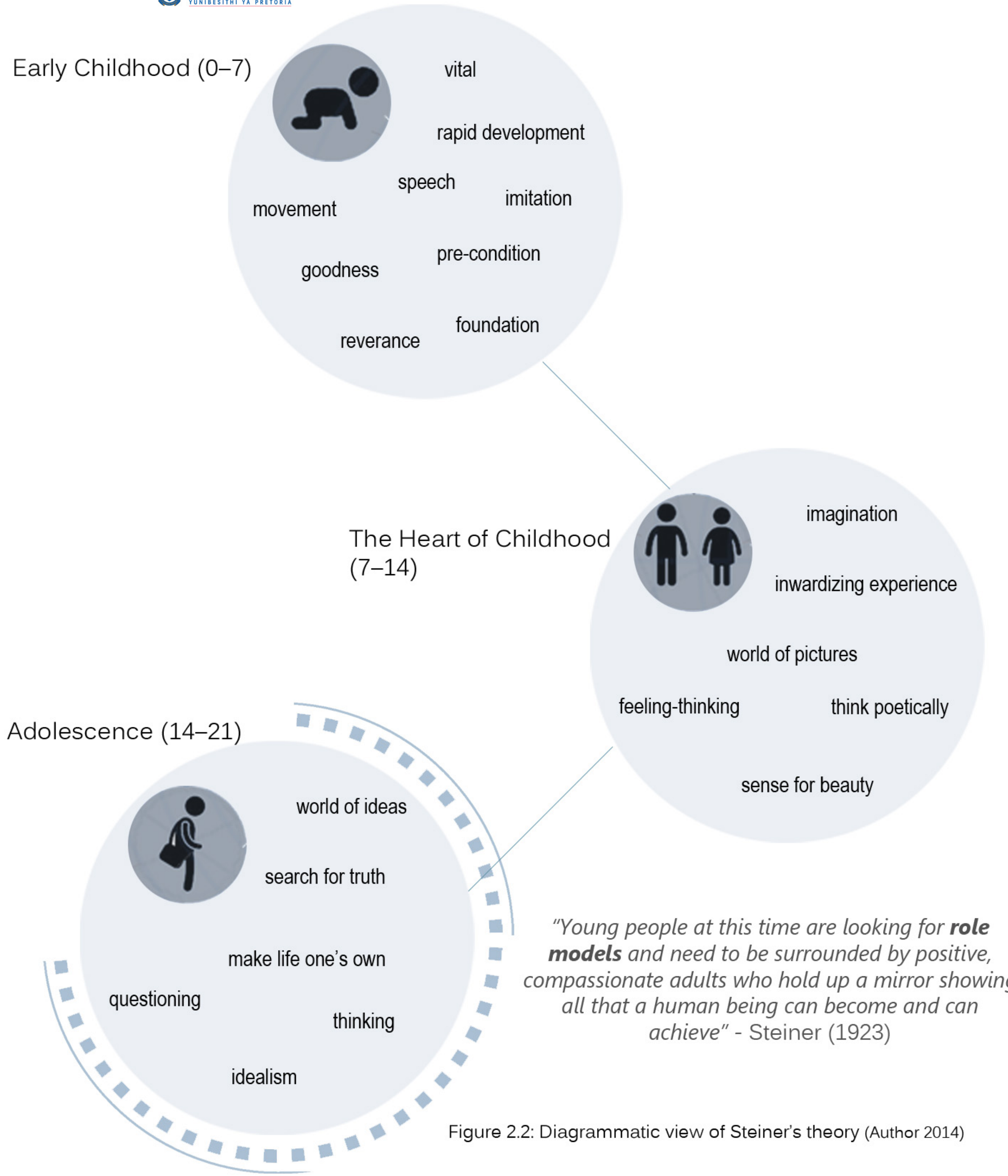
His theories have become widely recognised and accepted and the demand for Steiner schools and kindergartens has grown at a rapid rate around the world (Ullrich 2000).

Steiner (1923) categorised *childhood* into three categories, namely, *Early Childhood, The Heart of Childhood* and *Adolescence*, each with its own developmental characteristics.

The figure to the right succinctly presents each stage of childhood and its associated characteristics.

The *Adolescence* stage is characterised by a desire to make one's life one's own. The adolescent begins to discover him/herself in a world of ideas (Spano 2004).

This phase is also characterised by a life of thinking, which is crucial for the cultivation of good judgement and discernment. This comes with a certain idealism which, if not nurtured, can turn into cynicism and vulnerability (Spano 2004).



"Young people at this time are looking for ***role models*** *and need to be surrounded by positive, compassionate adults who hold up a mirror showing all that a human being can become and can achieve"* - Steiner (1923)

Figure 2.2: Diagrammatic view of Steiner's theory (Author 2014)

2.2 Problem Behaviour Theory

Although the adolescent stage proves to be a difficult time for all teenagers, the harsh conditions of informal settlements often compound these challenges. According to Ndugwa (2011), the often unstable context of slums pressurises adolescents into engaging in problem behaviours.

Richard Jessor conceptualised the *Problem Behaviour Theory* in 1977. It is based on the premise that all behavior is the result of person-environment interaction.

Problem behaviour is defined as any behaviour that society deems inappropriate, or that can compromise the health or development of a person. Adolescent problem behaviours include tobacco use, alcohol abuse, drug use, early sexual intercourse, aggression etc (Jessor 1977).

According to Jessor (1977), the *Problem Behaviour Theory* is made up of two different types of factors, those being the *Protective Factors* and *Risk Factors*. There are three types of *Protective Factors*, namely *models protection, controls protection, and support protection*. There are also three types of *Risk Factors*, namely *models risk, opportunity risk, and vulnerability risk*.

If the risk factors in an adolescent's life outweigh the protective factors, the likelihood of the adolescent's involvement in problem behaviours is far greater than if the protective factors outweigh the risk factors (Jessor 1977).

Ndugwa (2011) states that in order to counter any *Risk Factor* it is important for adolescents in informal settlements to have the necessary care and support, be it from friends or family, as well as good role models. He states that idleness and boredom are great contributors to adolescents' involvement in problem behaviour, therefore it is imperative for them to have facilities and activities after school, on weekends and during holidays.

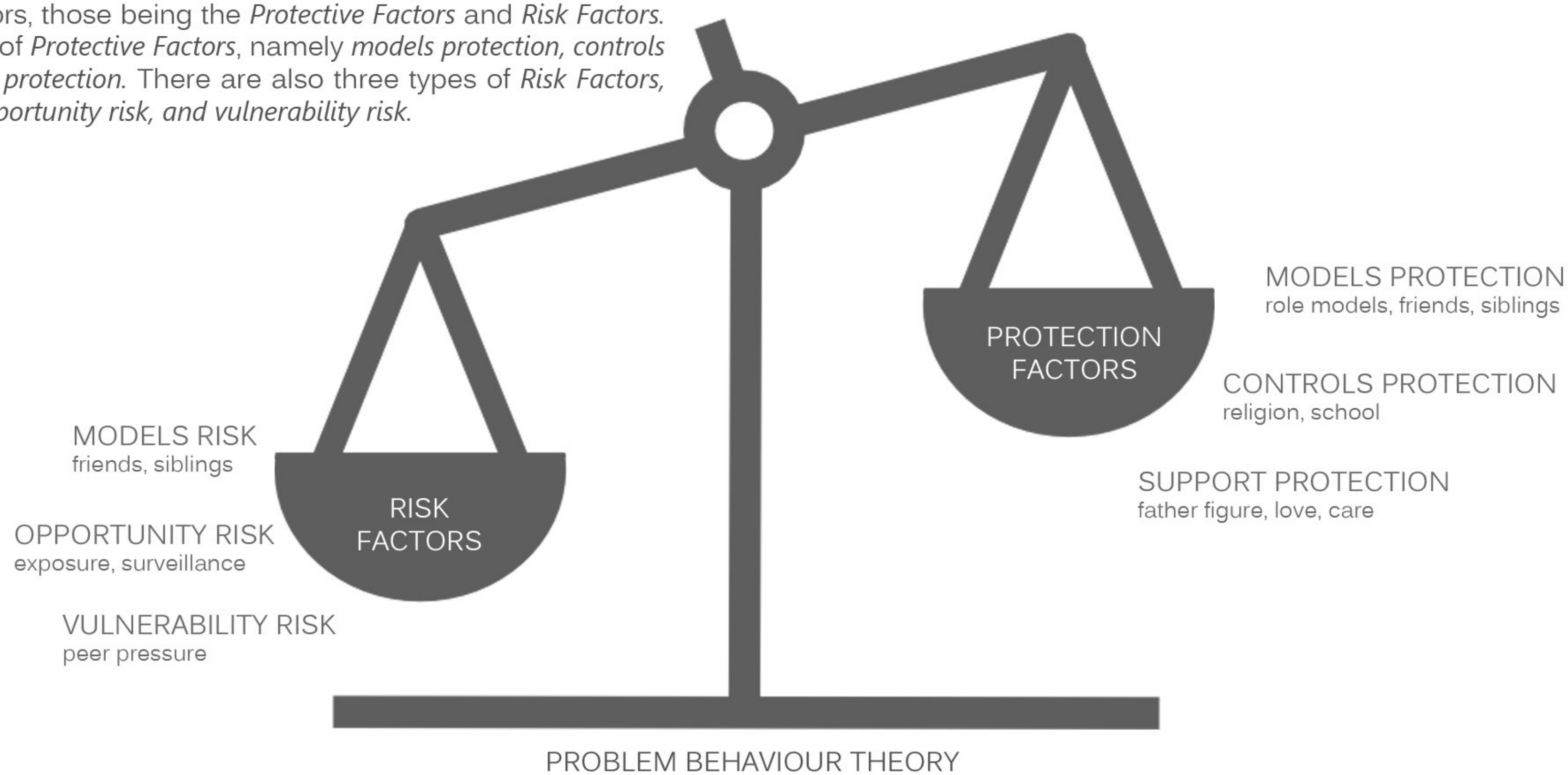


Figure 2.3: Diagrammatic view of the Problem Behaviour Theory (Author 2014)

2.3 Engaging with the Network

- Hamdi's *Placemaker's Guide to Building Community*

Nabeel Hamdi is one of the pioneers of participatory planning and his books, *Small Change* (2004) and *Placemaker's Guide* (2010), have been highly influential in describing the architect's role in informal contexts (Awan, Schneider & Till 2010).

Hamdi's contribution to architecture is recognised around the world. He has won numerous awards, one of which came in 1997 when Hamdi and Goethert won the UN-Habitat Scroll of Honour for their work on Community Action Planning (Awan, Schneider & Till 2010).

Hamdi's book, *Placemaker's Guide to Building Community* (2010), forms the foundation on which this thesis' community participation is based. As stated earlier in the document, the *Toolkit* Hamdi (2010) describes, forms the basis of the community interaction, observation and subsequent design.

The book serves as a guide, offering different methods and tools for analysing the issues, engaging with the community and improving the skills of those involved in placemaking.

Hamdi (2010) critiques the top-down approach to design and planning and states that this does not work in the context of the urban poor.

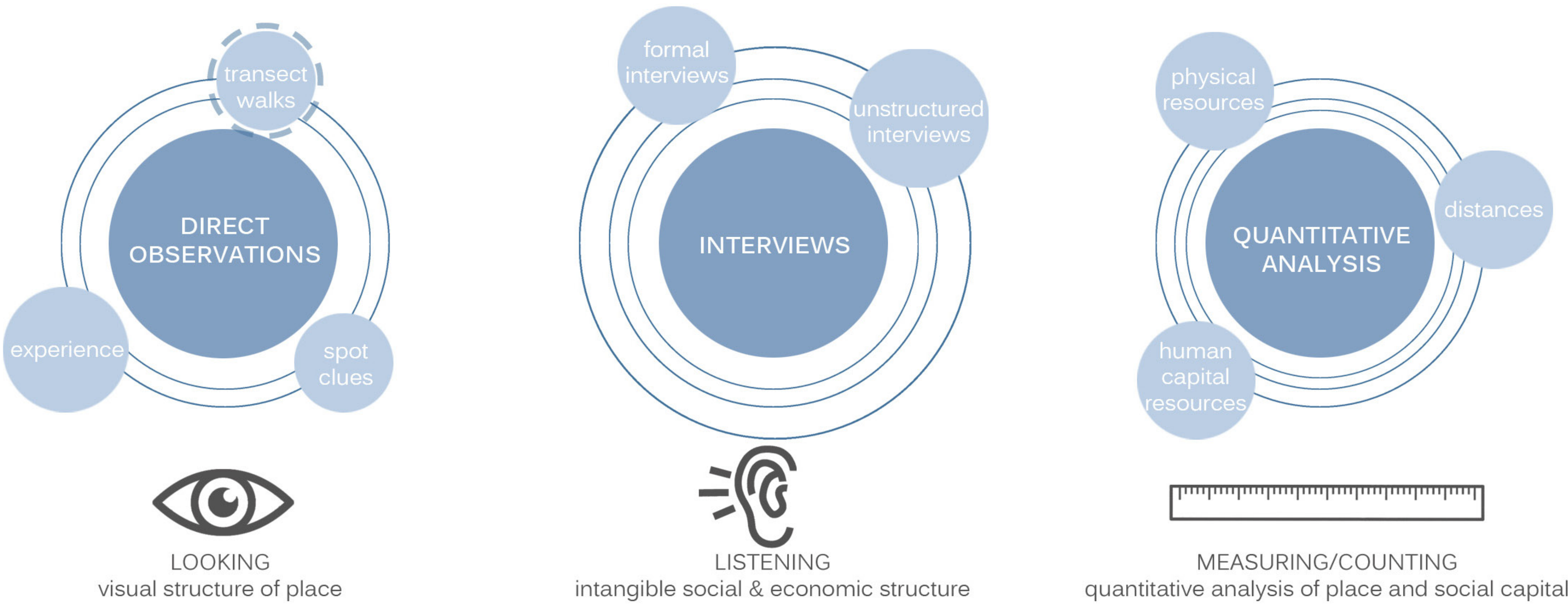


Figure 2.4: Diagrammatic view of Hamdi's Toolkit (Author 2014)

- Tovivich's *Architecture for the Urban Poor, the New Professionalism of Community Architects*

Like Hamdi, Tovivich (2010) encourages architects working in these contexts to shift between the three roles of provider, enabler and sustainer to ensure that the community, in which the project is being undertaken, is empowered and enabled.

In her thesis, Tovivich (2010) encourages architects to rethink the typical top-down approach in poor communitites by comparing case studies of unsuccessful, top-down projects with successful projects that have been based on a participatory approach.

Similarly to Hamdi (2010), she outlines various participatory tools that can be used to document the tangible and intangible characteristics of a community.

Tovivich (2010) states that, although overused in today's participatory planning, mapping and modelling are useful ways for documenting information and aspirations, as well as expressing views and opinions. Asking the residents of Alaska to draw diagrams of their favourite spaces in their community, and giving them cameras in order to see Alaska through their eyes, produces valuable insight into the minds of the Alaskan residents.

Figure 2.5: Diagram showing the various participatory mapping methods (Author 2014)

As stated in the introduction, transect walks and unstructured interviews were undertaken during the initial stages of the project in order to better understand the context. During this period it was noted once school had closed for the day, the streets quickly became filled with adolescents - some playing soccer, some gambling and others walking through the streets talking to friends.

Upon witnessing this, the initial questions that arose related to the *Problem Behaviour Theory. How do they keep themselves busy? What activities counteract the risk factors facing them?*

- VIVA's Engagement

Before any engagement with the adolescents had taken place an unstructured interview with Leon Kriel, founder of VIVA Foundation, was conducted. Founded in 2007, the Viva Foundation is a registered Non-Profit Organisation (Kriel 2014). According to Kriel (2014), VIVA's main goal is to establish itself as a main service hub within the informal settlement of Alaska, by meeting the expressed needs of the community.

VIVA has established various programmes and facilities in order to help improve the lives of those in Alaska and surrounding neighbourhoods. These programmes/facilities include an Early Learning Centre, Township Art Project, HIV/AIDS Care Programme, skills training, rape/abuse counseling, among others. Due to their extensive work in Alaska over the past 7 years, Leon and his team have gained a wealth of experience and knowledge relating to Alaska and its residents (Kriel 2014).

According to Kriel (2014) one of the main issues is that after school, and that is if they even go to school to begin with, they do not have anything to keep them occupied – they have no constructive way of releasing energy. Due to the lack of afterschool recreational and educational facilities the youth have to find their own way of amusing themselves.

Kriel (2014) states that music and pirate DVD's play a major role in keeping them occupied. He says the types of rap music and movies that they are watching is having serious consequences on the adolescent youth's mentality. Gangs, drug and alcohol abuse, and violence are prevalent within the community. Peer pressure, helplessness, a desire for belonging and a general feeling of having no other option are some of the main reasons for the adolescents' involvement in such activities (Kriel (2014).

While the aforegoing is mostly related to the boys, the girls in Alaska are facing challenges just as serious. According to Kriel (2014) the girls have a deep longing to feel recognised and desired. Pornography has become a platform of exposure for many of the adolescent girls. They often send pictures of themselves to other boys in order to boost their ego and, according to observations, many dress in such a way that they show-off their bodies. Underage sex and teenage pregnancy are also prevalent issues with the adolescents.

Although VIVA has recognised the danger of the boredom the adolescents face, their efforts to alleviate it has been somewhat unsuccessful. On the 15th of March 2014, VIVA held its annual arts festival which aims to empower the community. VIVA aims to create a tourist hub in Alaska by creating a *living gallery*. This is achieved by bringing graffiti artists from all over the world to paint shacks and walls.

Observation and interviews proved that there was a distinct gap between the festival and the community. The figure below emphasises how the community is left out of this event, meaning the festival does little to empower and enable the community. After the paint had dried and the artists had moved on, so the community were left with something they were not a part of.

Figure 2.6: Majority of the adolescents have very little to do during the day (Author 2014)

- Personal Engagement

Tovivich (2010) states that conventional architects are trained to play the role of providers, making design decisions for their clients. She explains that although the knowledge and skills of the architect as provider remain important, they are not enough to effectively deal with the challenges posed by informal settlements.

Both Tovivich (2010) and Hamdi (2010) argue that if an intervention is to be successful in such a context, and if the residents are to be enabled and empowered by it, it is important for participation to be the focal point of the project. It is for this reason that the author engaged critically with the adolescent network in order to have a full understanding of the main issues they face as well as to identify their needs and aspirations.

After Kriel's (2014) interview, the author began with unstructured interviews with adolescents and other community members encountered during transect walks. This engagement spanned one week and included adolescents, community leaders, adult residents and younger children. The majority of the questions asked related to the adolescents and their presence within the community.

Figure 2.7: Unstructured interviews were effective in uncovering the youth's challenges (Franklin 2014)

From discussions with the adolescents themselves it became apparent that the problems Kriel identified were correct. Alcohol and drug abuse, smoking, gangs and violence were all mentioned as daily problems facing the youth. Although many admitted these were serious issues impacting them as a youth network, they were reluctant to speak about them in fine detail.

Boredom was the main issue mentioned by many of the adolescents. There were many complaints relating to the fact that there was very little for them to do.

From the unstructured interviews it was evident that the adolescents felt as if they were lacking a facility that would cater for their recreational and further educational needs - there seemed to be a general feeling among the adolescents that they do not have, what they call, their *own ground*.

Delving deeper into their interests and aspirations, many of the adolescents expressed a desire to learn and participate in the arts, be it painting, music, drama, photography etc.

Apart from an interest in both visual and performing arts, some of the adolescents shared an interest in sport, more specifically soccer, which is already one of the main pastimes in Alaska, as well as netball. It is important to note here that VIVA has the necessary equipment for netball but lacks the facilities.

"Apart from soccer these children have nothing" -
Johannes, under-13 soccer coach.

2.4 University of Pretoria Honours Students

The Honours year at the University of Pretoria's Department of Architecture is divided into four quarters, each with its own theme and project. The various themes are as follows *Environmental Potential, Human Settlements and Urbanism, Heritage and Cultural Landscapes*, the fourth quarter is focused on iterating one of the previous three designs.

In 2014, the Honours students were required to work in the informal settlement of Alaska for the second quarter's, *Human Settlements and Urbanism* theme. This created the opportunity for collaboration between the Masters and Honours years.

The author presented his project proposal and development to the Honours class on the 27th of March, 2014. The aim of the presentation was to introduce the class to Alaska, but also to invite students to join the author in engaging with the adolescent network. Two groups of approximately eight each, expressed a desire to assist the author and work with the adolescents.

The two groups visited Alaska over the 7th and 8th of April, 2014. Group 1 expressed an interest in discovering what the teenagers thought of Alaska through the lens of photography, while Group 2 decided to engage with the network in their high school, trying to uncover any intangible networks not yet discovered by the author.

Figure 2.8: The Honours students engaged in interviews with the teens (Franklin 2014)

Figure 2.9: Adolescents ranging from 14 - 21 were engaged with (Franklin 2014)

Figure 2.10: The author guided the two groups on an introductory tour (Franklin 2014)

2.5 Group 1 - I ♥ Alaska

Group 1 organised a photography competition entitled *I ♥ Alaska* in order to see Alaska through the eyes of the youth who live there.

Seven disposable cameras were sponsored and given to various groups of children between the ages of 14 and 19 years old. They were tasked with taking photographs of anything they appreciated within Alaska. That afternoon they returned the cameras to the Honours students so the photographs could be developed.

The next morning the students returned with the photographs and the prizes for the winning photographers. All of the photos were put onto a presentation and the photographers were encouraged to present their photos to the others.

The spatial impact of the presentation was recorded. A crowd of people soon appeared and numerous public debates were sparked. The exhibition created a platform for expression and discussion. People in the crowd started discussing the various problem behaviours that are rife within Alaska and put forward ideas as to how they can be stopped. This was swiftly met with a counter-argument from another resident and so a public debate began.

The prize giving commenced without any public unrest. It was interesting to note that each recipient did not open the prize whilst in the company of other people. The winner of the competition, Alpheus, won a digital camera which provided an interesting insight into the power of the arts, in this case photography, and its ability to empower its participants. The author organised meetings with Alpheus throughout the year and saw, firsthand, how photography had started to influence, not just his present outlook, but future aspirations. *I didn't know I could do this for a living!* See Appendix C for his photographic journey.

CONCLUSIONS

- Photography was a successful approach in seeing Alaska through the resident's eyes.
- The exhibition sparked interest and debate amongst the people of Alaska
- The group was able to see firsthand how the arts could potentially impact the community
- Residents of all ages came to the exhibition and voiced their opinion

Figure 2.11: Seven disposable cameras were given to various adolescents (Franklin 2014)

Figure 2.12: An Honours student explaining the rules of the competition (Franklin 2014)

Figure 2.13: A series of images showing the impact of the competition and the prize giving (Franklin 2014)

2.6 Group 2 - Adolescents and their Aspirations

Compared to the first group, Group 2 took a more direct approach to mapping the needs and aspirations of the adolescents.

The group of eight went into the Rephafogile High School where 1000 students attend, majority of whom come from Alaska, and engaged in a participatory mapping exercise with 193 students.

From the unstructured interviews with the adolescents, the Honours students also concluded that boredom was one of the most serious issues facing the youth.

The students then delved into what programs and activities they would like to take part in, be it after-school, on weekends or during holidays. Fig 2.14 shows the results of the participatory mapping process. They assigned a colour to each activity and asked each student to choose an activity they would most like to take part in and stick it over the location of their house.

The youth were also asked to map the main walking routes and activity nodes in order to gain a better understanding of the workings of the network.

CONCLUSIONS

- The youth recognise boredom as a serious issue and is blamed for leading many into various vices
- The adolescents are interested in taking part in the arts, as well as sport, if there were facilities for such
- Reading and a study centre were not put forward by the Honours students but there was an expressed interest from some of the teens.

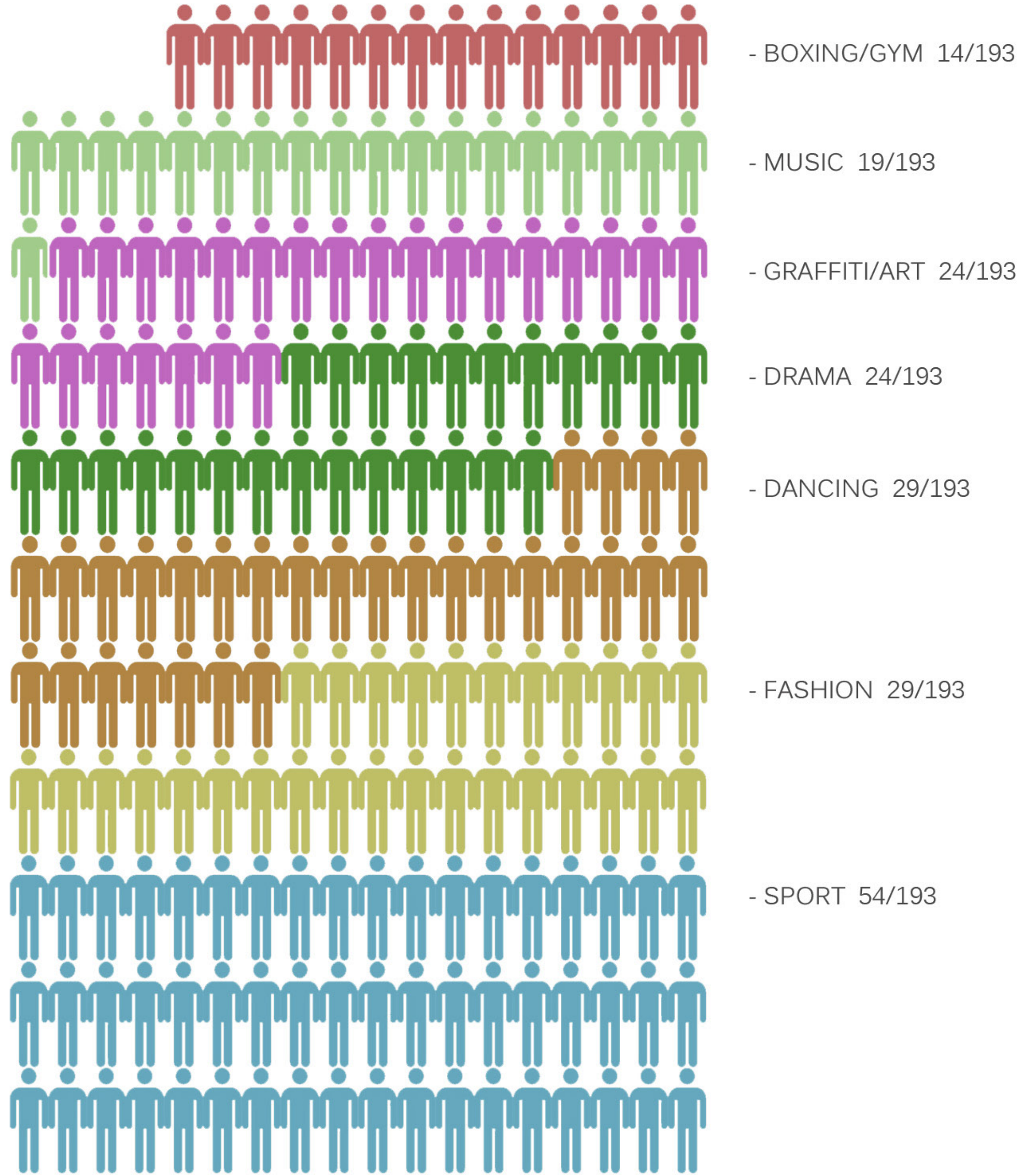


Figure 2.14: An infographic depicting the interest shown in the various activities (MacClements 2014)

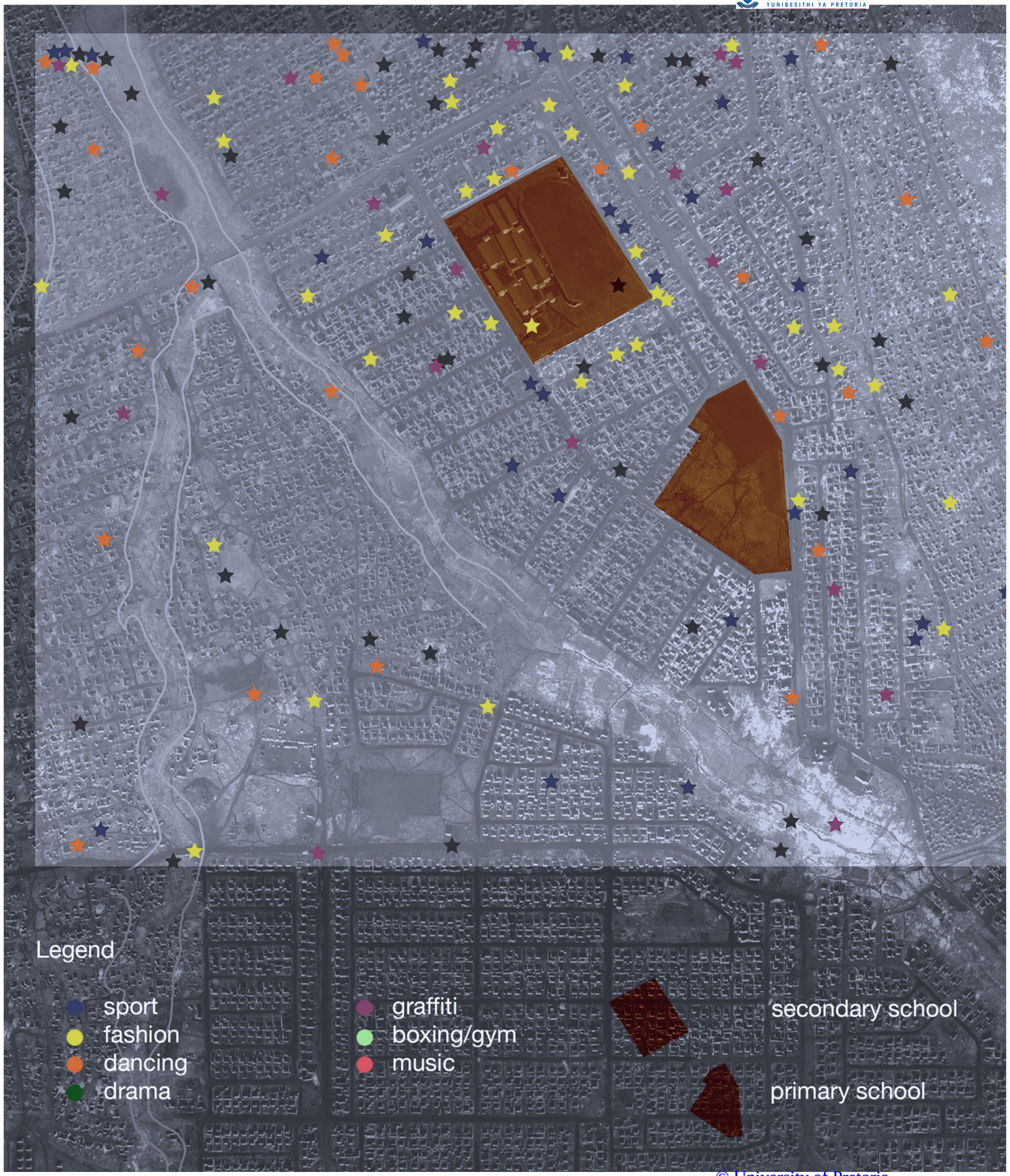


Figure 2.15: The results and photographs of the participatory mapping (MacClements 2014)

2.7 The Power of the Arts on Vulnerable Youth

According to Anderson (2004) there is a wide range of research supporting the notion that t*he arts* have a significantly positive impact on the vulnerable youth taking part in art programs.

Anderson (2004) states that sustained involvement in the arts provides significant benefits for vulnerable youth and that the most successful programs revolve around the concepts of *attachment, meaning* and *social connectivity*, which are all necessary for healthy child development.

> *Through the presence of art in the life of an underprivileged child, that child can use art for its therapeutic devices while benefitting their cognitive, social and motor abilities* - Pili (2008)

During a child's development it is essential for the protective factors to offset the risk factors. Anderson (2004) states, *In studies young people emphasize the importance of having something to do...They crave experience and productivity.*

Through constructive interactions with artists, art programs provide positive adult relationships which are essential, specifically for adolescents. In addition to the safe environments these programs create and the *artists as mentors* concept they encourage, the arts provide a sense of purpose, responsibility and attachment, (Mulligan 2006).

Mulligan (2006) states that research confirms that youth vandalize with graffiti and join gangs in search of recognition, achievement and self-expression. The arts provide a different manner of addressing these needs.

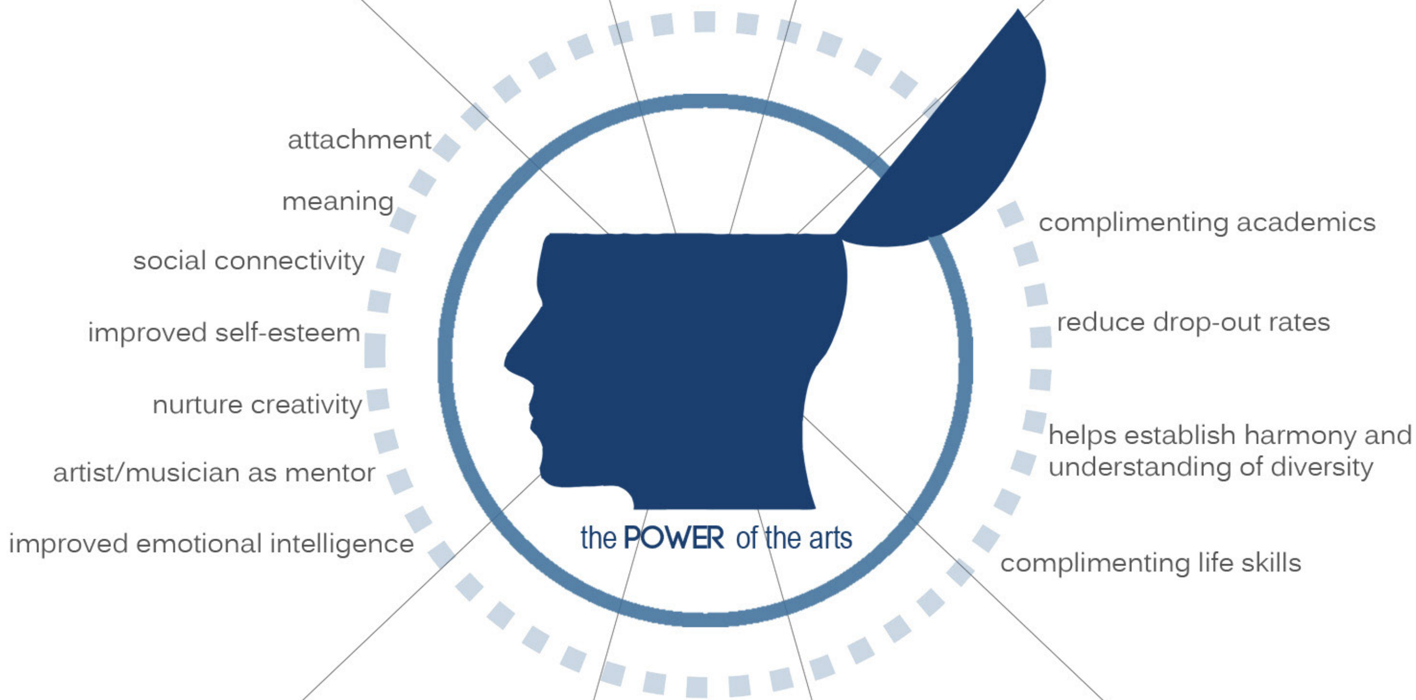


Figure 2.16: A diagram showing a few of the benefits of art programs (Author 2014)

2.8 Precedents of Art Programs

Slum SANAA - Nairobi, Kenya

Slum SANAA is a community-based organisation aimed at promoting arts-based activities in the slums of Nairobi, Kenya. Their focus is primarily on young boys and girls between the ages of 9-18 years. It is a place where people interact, learn, create and share new ideas, and where talents are nurtured (Jibu 2012).

The community arts centre uses the mediums of dance, drama, music and visual arts to convey messages to the community and, according to their website, have the noble aim of promoting peace, unity, reconciliation, understanding and national healing between slum-dwellers (Jibu 2012).

One of their main objectives is to establish a fully-equipped arts centre. They currently have all their classes in small rooms which they see as insufficient. They also have a small tent for their performances. They require a more permanent place with the necessary space and facilities to hold classes, exhibitions, performances and festivals effectively (Jibu 2012).

Developing Arts and Culture helps in the socio-economic development of an individual by complimenting academics and other life skills. It helps establish harmony, understanding and appreciation of diversity and different cultures and people (Jibu 2012).

Figure 2.17: Performing Arts festivals are effective catalysts for uniting a community (SANAA 2013)

Diepsloot Film Studio - South Africa

The Department of Arts and Culture partnered with Home Brew Movies to establish a fully-equipped film studio in the densely populated township of Diepsloot, Johannesburg (Gabara 2014).

The studio runs various training programs with the main aim of creating and nurturing a vibrant film culture within the community. The studio allows residents access to the resources and skills needed to tell their own stories in their own languages. According to Gabara (2014) residents can narrate their individual and community experiences through the medium of film.

Diepsloot should no longer be seen as a notorious area where children are raped and murdered, but as a model of a society that is producing actors and actresses, who will be making South Africa's film industry vibrant.
Mashatile - Minister of Arts and Culture (2014)

Figure 2.18: The project aims to be a catalyst, changing the perception of Diepsloot (Praag 2013)

Inner-City Arts - Los Angeles, U.S.A

This arts programme, situated in Los Angeles, provides arts-based education to 8 000 primary and high school children living in the area's poorest neighbourhoods every year. Tishler (2014) states that the youth in the area are among the nation's most at-risk of dropping out of school.

Inner-City Arts programs provide in-depth instruction in Visual Arts, Dance, Drama, Music, Ceramics, Digital Photography, Film Production, Graphic Design and Animation (Inner-City Arts 2014).

All programmes are taught by professional teaching artists and are designed to strengthen language development, develop critical thinking skills, promote literacy and improve learning outcomes overall. Their focus is on providing intervention and prevention programmes during the critical afternoon hours, as well as during weekends (Tishler 2014).

Performances, festivals and exhibitions act as catalysts for bringing the surrounding community together, and offer the students a chance to display their work and talent.

The building was built in three phases over a 15 year period (Maltzan 2009). It started off as a series of small classrooms, but as interest grew, so the need for bigger facilities arose. The programme is testament, not only to the impact art has on vulnerable youth, but also to the positive impact architecture can have on facilitating such programmes successfully. The architecture will be discussed further in Chapter 5.

"A full-service arts center offering opportunities to learn, create, gather and celebrate,
Inner-City Arts contributes to the beauty, safety, well-being, and vibrancy of the entire community."
Eric Schotz - Inner-City Arts board member (2012)

Figure 2.19: Group classes develop confidence and community-building skills (Inner-City Arts 2014)

Figure 2.20: The building is now a landmark in downtown Los Angeles (Inner-City Arts 2014)

Dudley Street Renewal - Boston, U.S.A

During the early 1990s, Dudley Street, Boston, U.S.A, was a run-down area with high crime rates, notable xenephobia and numerous abandoned buildings (Sklar 2008).

Tired of living in such conditions, the residents joined together and created the Dudley Street Neighbourhod Inititiative (DSNI). They pioneered various bottom-up approaches to urban renewal and successfully revitalised the area (Mahan 1996).

A vital part of the DSNI was its youth committee. The DSNI realised that the youth were the future of the area, thus it was imperative for the initiative to **raise up leaders**. The youth organised a large event where the whole community gathered to create a mural. The event had a major impact, uniting the community and encouraging them to work together (Mahan 1996).

John Barros (1996), the leader of the youth committee said *The arts is a great way to express yourself and send a message to the community.*

I truly believe that if the youth in the community become more involved, participate and help others, this would give them a better value and outlook on life and respect for themselves.
John Barros (1996)

Figure 2.21: The youth became active agents in change (Lempel 2012)

Figure 2.22: The mural entitled “Unity” stands as a symbol of a harmonious community (Lempel 2012)

Figure 3.1: Innovation and creativity are prominent characteristics of informal settlements (Author 2014)

If we regard these settlements as pointers to new forms of urban design then, by working with and on behalf of their inhabitants, we can transform and develop these places from the bottom up into decent living environments.

Mills (2012)

3 SITE AND CONTEXT

This chapter focuses on the meso context of Mamelodi, as well as the macro context of Alaska and Lusaka and, finally, the micro context of the site.

3.1 Mamelodi in Context

Mamelodi, a township to the east of Pretoria, was set up by the Apartheid government in 1953 when they built 16 houses on Vlakfontein farm (Bruwer 2012). Since then, the township has grown at an unprecedented rate and, according to the 2011 census, is home to approximately 350 000 people (Stats SA 2011).

According to Darkey (2000) Mamelodi has been impacted substantially by urbanisation over the years. Kriel (2014) states that there are a large number of migrant workers who work in the city but send their money to their families in the rural areas.

Due to Mamelodi being one of the oldest settlements within South Africa, the majority of residents have access to adequate infrastructure. However, with the high rate of urbanization, people have started to settle on the eastern side of Mamelodi, causing it to expand. The municipality has struggled to meet the needs of these new residents, thus leaving them with a lack of services (Kriel 2014).

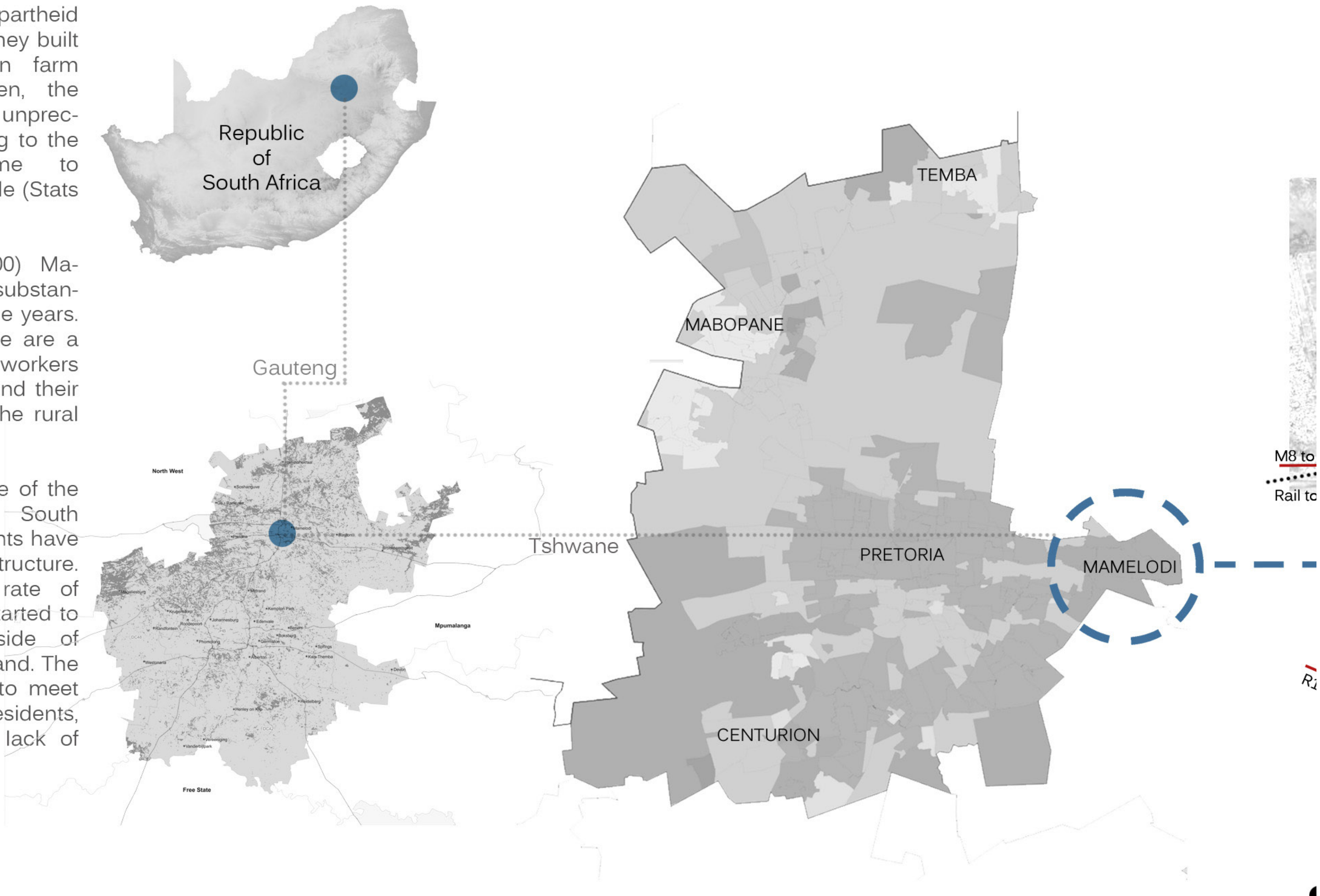


Figure 3.2: Mamelodi in Context (Author 2014)

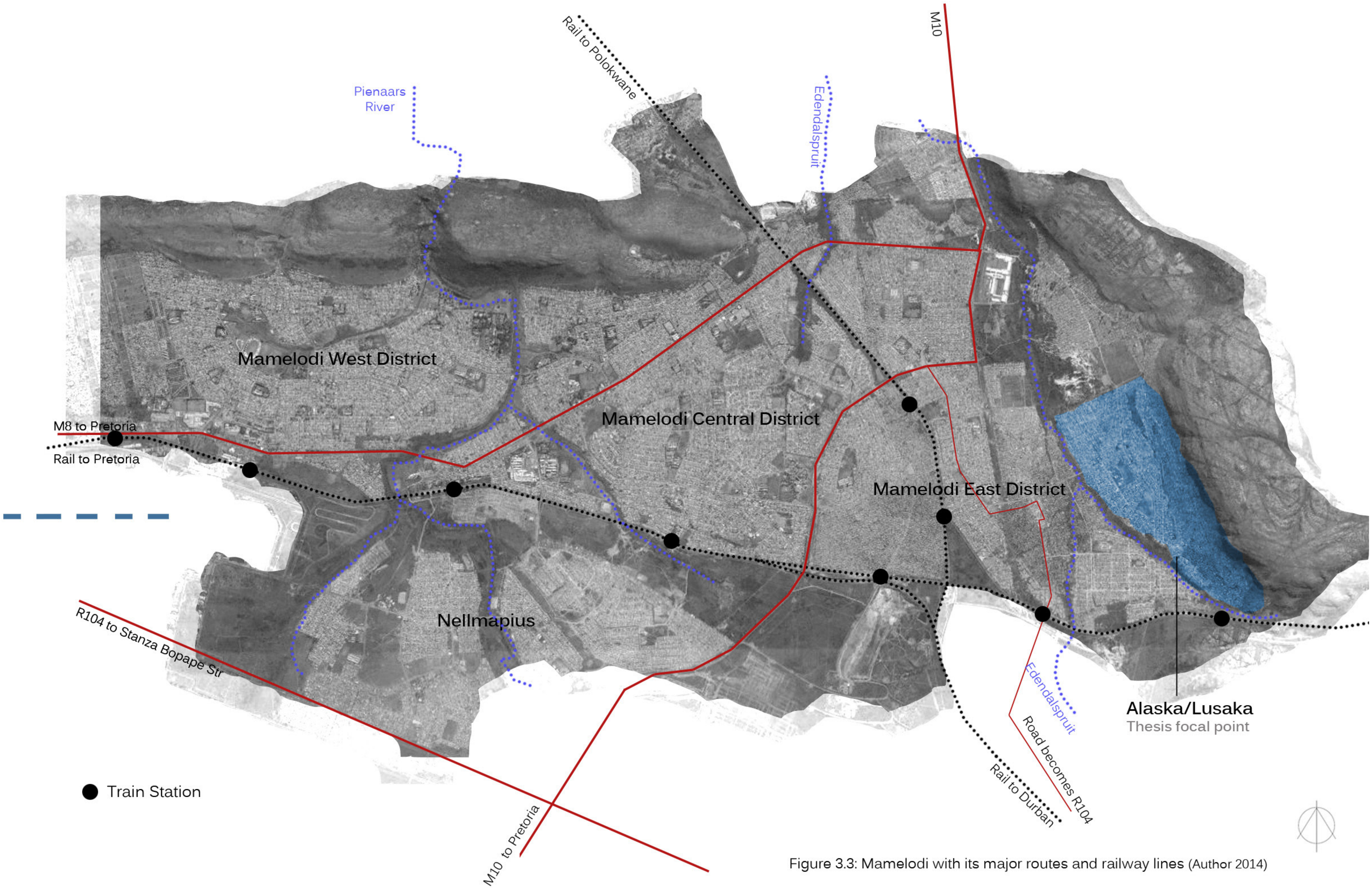


Figure 3.3: Mamelodi with its major routes and railway lines (Author 2014)

3.2 Timeline of Mamelodi

1860
indigenous people settle, seeking jobs in the newly formed city of Pretoria

1890
The Eerste Fabriek Station is built,connecting Pretoria to Maputo

1913
land declared a black african residential area due to location of factory and station.

1940
first 50 families move from Marabastad to Atteridgeville

1947
residents refused to live in the the first government sponsored houses which were derived from the traditional bantu village

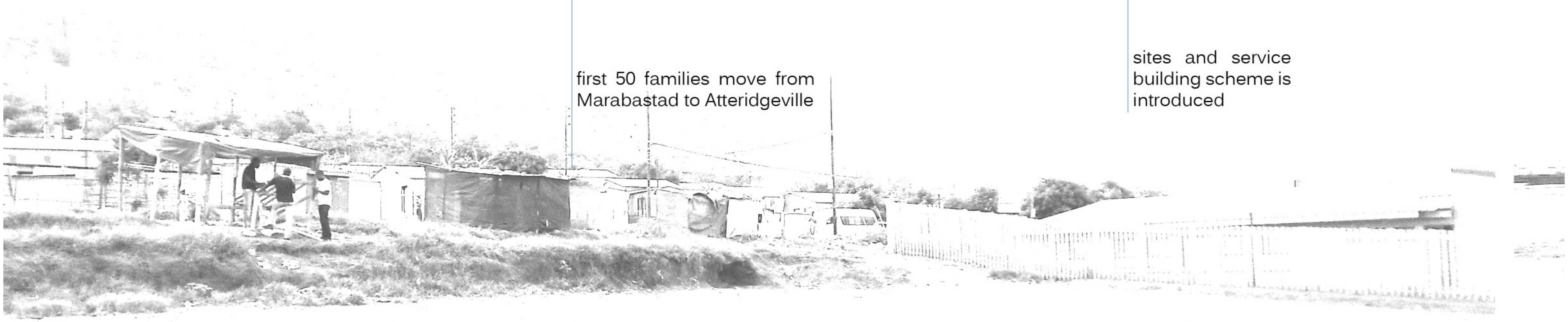
1951
group area's act is introduced

1953
Mamelodi is established on Vlakfontein

1954
sites and service building scheme is introduced

1958
rapid urbanisation results in job seekers squatting in Mooiplaats and Derdepoort

1960
Vlakfontein is at full capacity and begins to expand eastwards



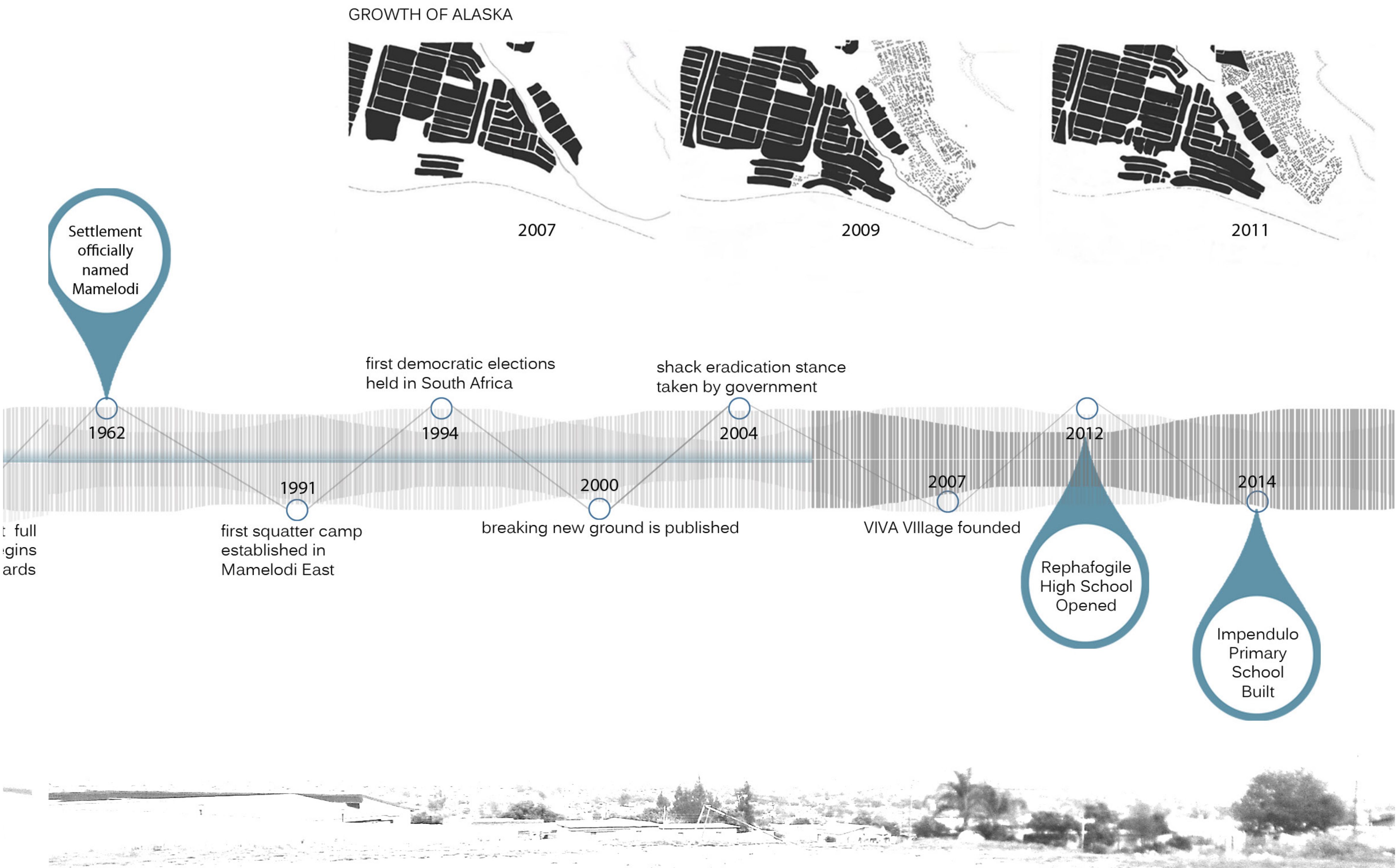


Figure 3.4: Timeline depicting the growth of Alaska relevant to historical milestones in Mamelodi (Author 2014)

3.3 Schools in Mamelodi Central/East

From the author's observations it was noted that there are numerous schools, ranging in sizes, throughout Mamelodi East. These schools become prominent points for the surrounding youth.

It was encouraging to see schools like the Meetse-A-Bophelo Primary School opening its gates after school, allowing children to utilise the sports fields, but this is not the norm, Schools throughout Mamelodi are barricaded behind concrete fences - giving nothing back to the community.

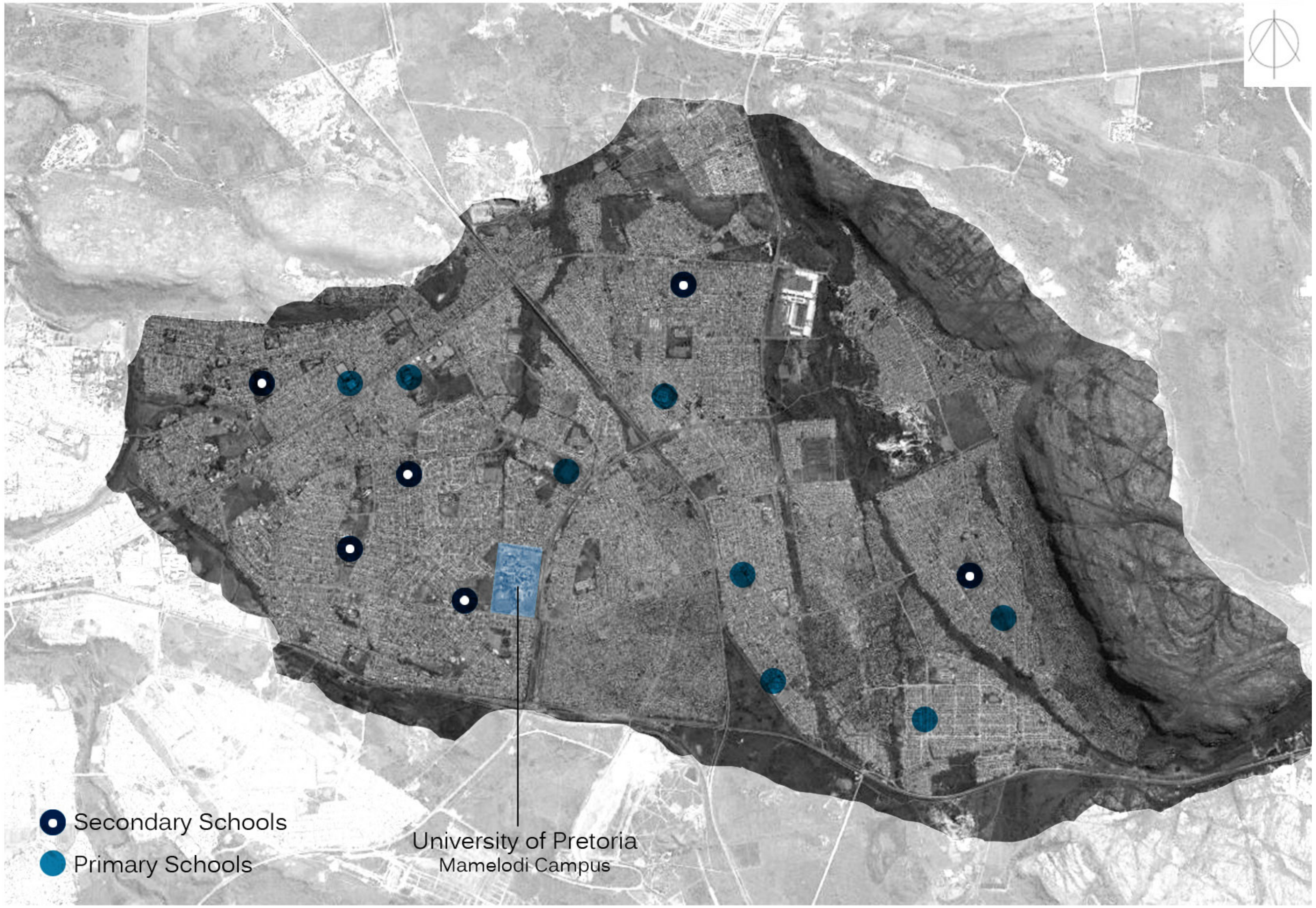


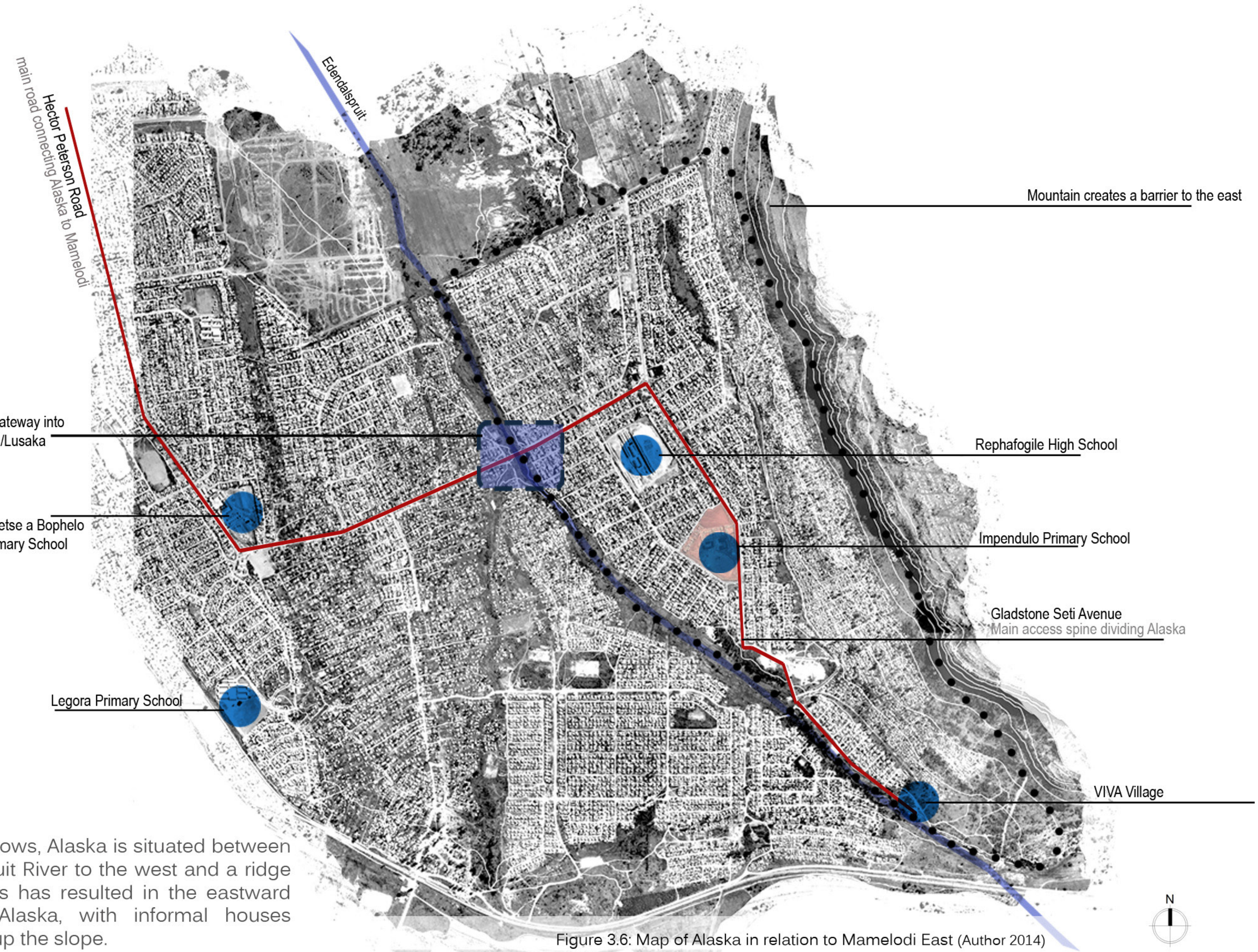
Figure 3.5: Map locating schools in Mamelodi East (Author 2014)

Meetse-A-Bophelo Primary School

Newly constructed primary school in Alaska

Concrete fences found around many Mamelodi schools

3.4 Macro Analysis - Mamelodi East and Alaska



As this figure shows, Alaska is situated between the Edendalspruit River to the west and a ridge to the east. This has resulted in the eastward expansion of Alaska, with informal houses moving higher up the slope.

Figure 3.6: Map of Alaska in relation to Mamelodi East (Author 2014)

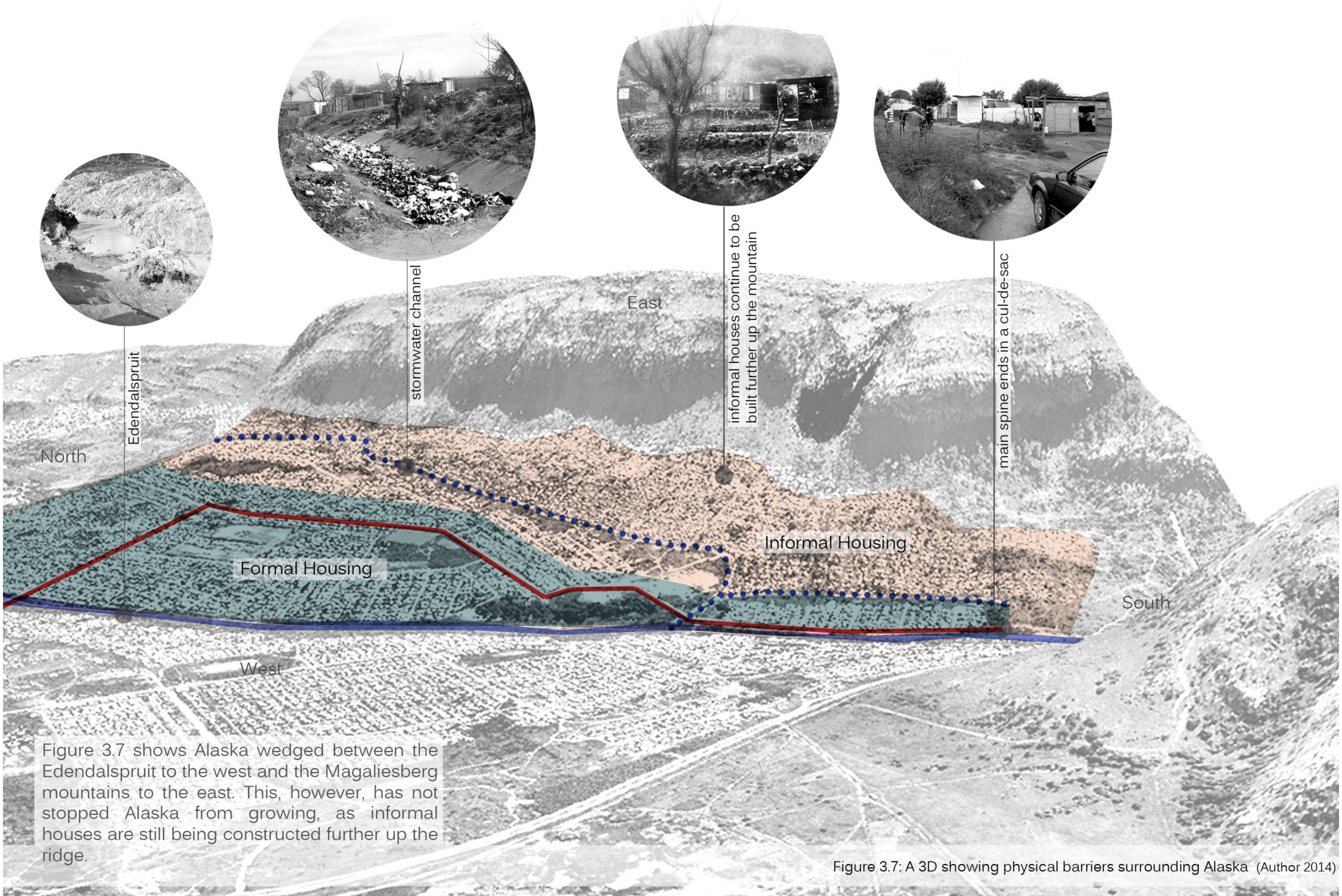
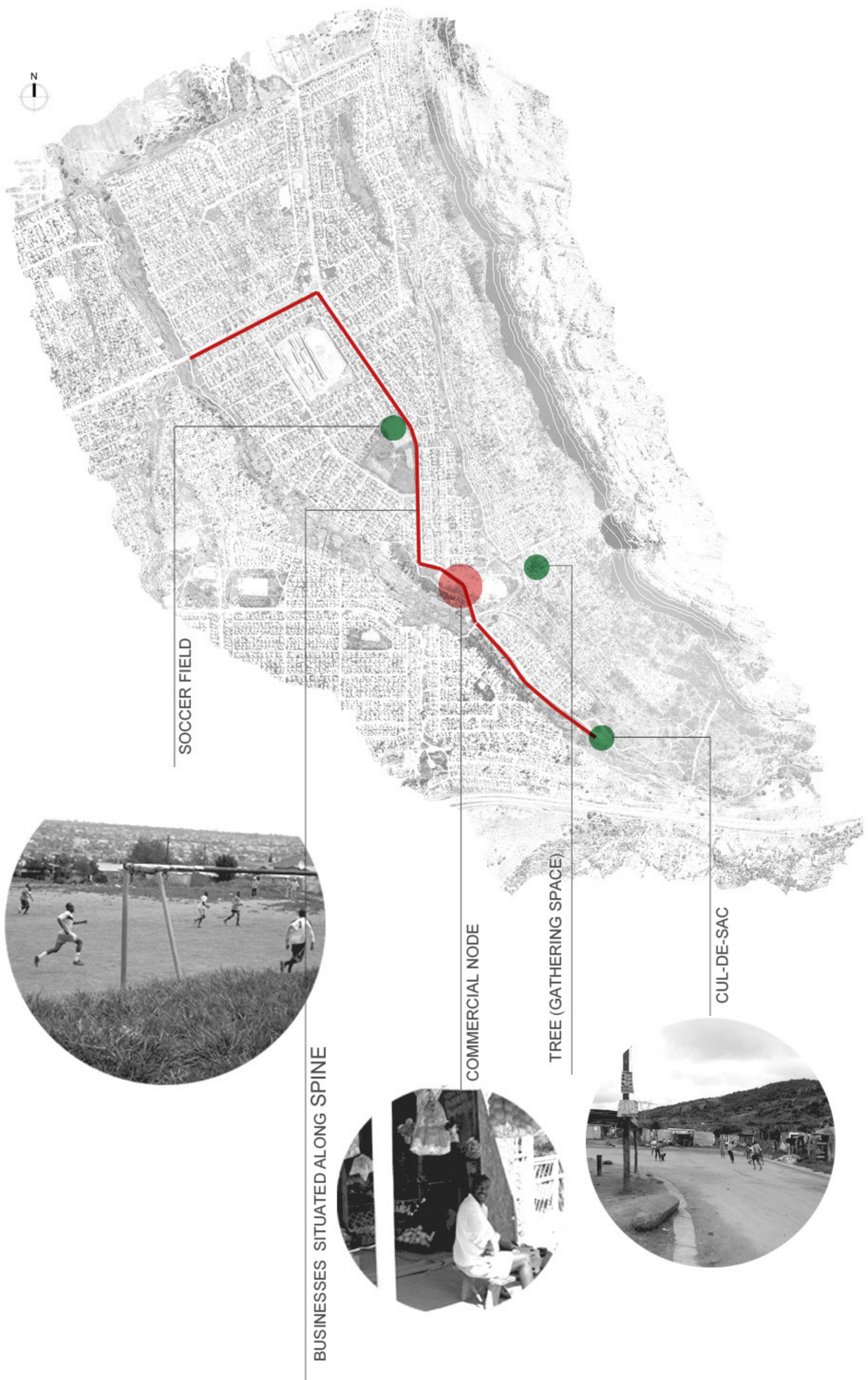


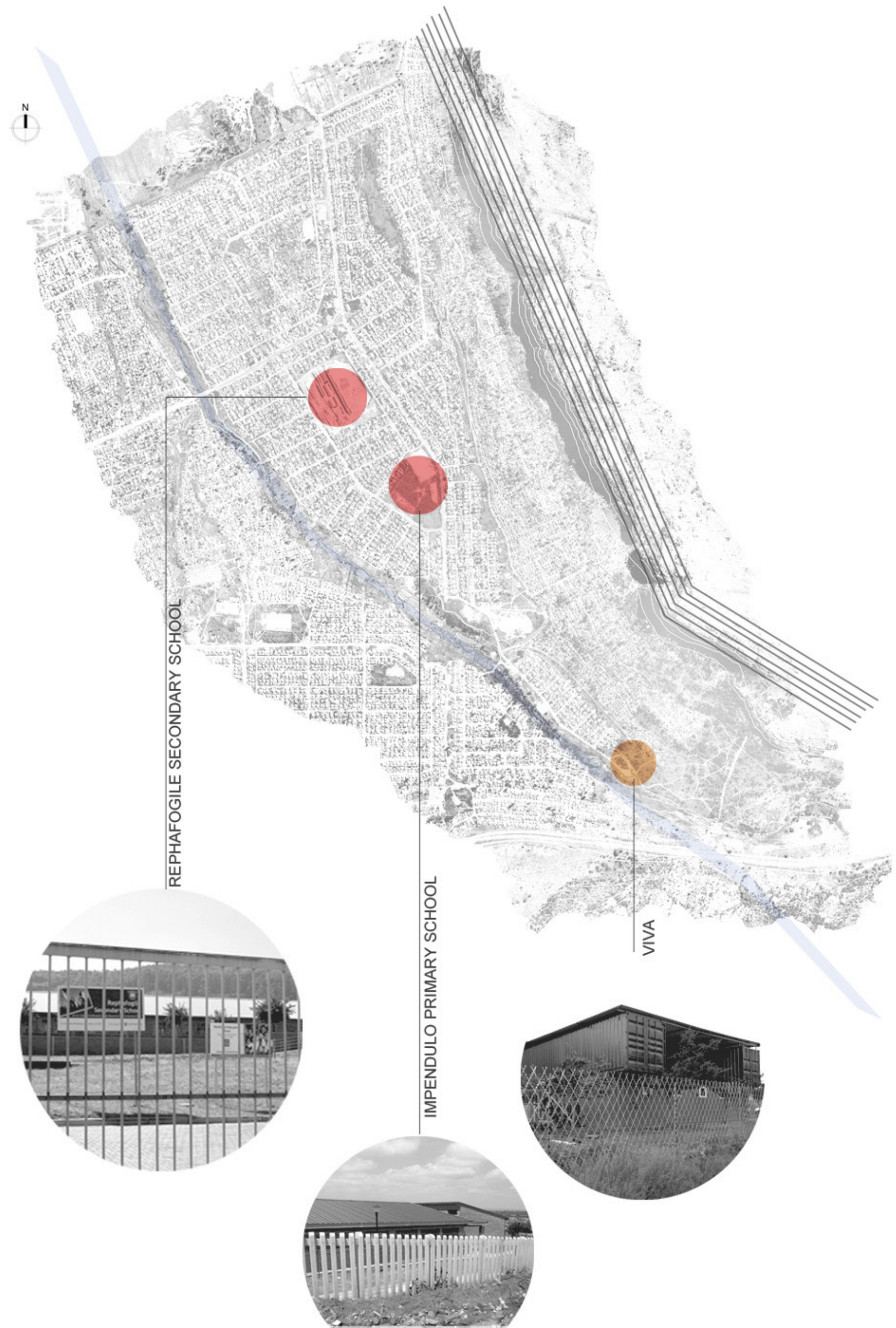
Figure 3.7 shows Alaska wedged between the Edendalspruit to the west and the Magaliesberg mountains to the east. This, however, has not stopped Alaska from growing, as informal houses are still being constructed further up the ridge.

Figure 3.7: A 3D showing physical barriers surrounding Alaska (Author 2014)

CIVIC SPACE AND COMMERCIAL NODES



AMENITIES



r 2014)

Figure 3.8: Maps showing the location of the various civic, commercial and educational nodes (Author 2014)

3.5 Lack of Civic Space

Due to the topography and the increasing density of Alaska, there are very few open, public spaces - the majority of civic engagement occurs in the streets.

One of the main public spaces where the community gathers and discusses important issues is known simply as *the tree*. This area is located midway up the slope, in between houses and is difficult to access.

Another main civic space in Alaska is the soccer field. This area was much larger, but due to the need for a primary school on the Alaskan side of the river, much of it was claimed. This resulted in the community being left with a small portion of land for soccer.

Engagement with the community, specifically the soccer players, showed a level of anger and frustration at the authorities who built the school. The community originally had a full-sized soccer pitch, but after the school was built, they were left with a small piece of sloping land that is not a suitable soccer field. The community has, however, been told that once the school is completed, its full-sized sports field wil be made available to the community.

Webster (2014), a community leader, further emphasised the need for a well designed civic space during an unstructured interview. *We don't have ground to call our own. One where we can sit, talk, play and be together.*

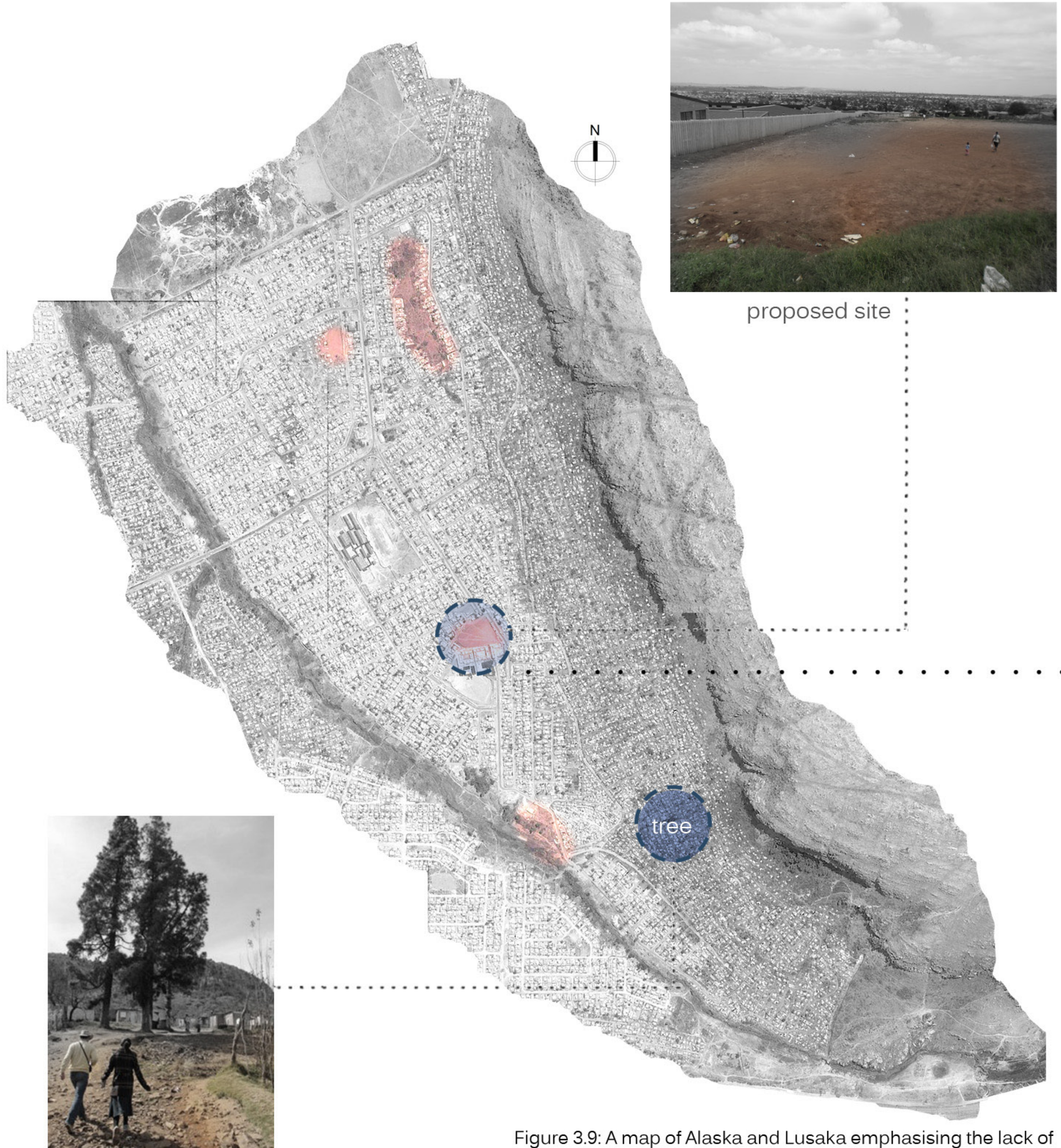


Figure 3.9: A map of Alaska and Lusaka emphasising the lack of well defined and designed public space. (Author 2014)

Prior to 2013, the entire site was vacant. It was a space used primarily for soccer.

Due to there being no primary school in Alaska, children were left with no other option but to cross the river to get to school. This became dangerous during periods of heavy rainfall, meaning a new primary school was to be built east of the river.

Impendulo Primary School is currently being built on what was the community soccer field and will be opened in January 2015.

The school is barricaded behind a concrete fence, with the community being left a small portion of the site.

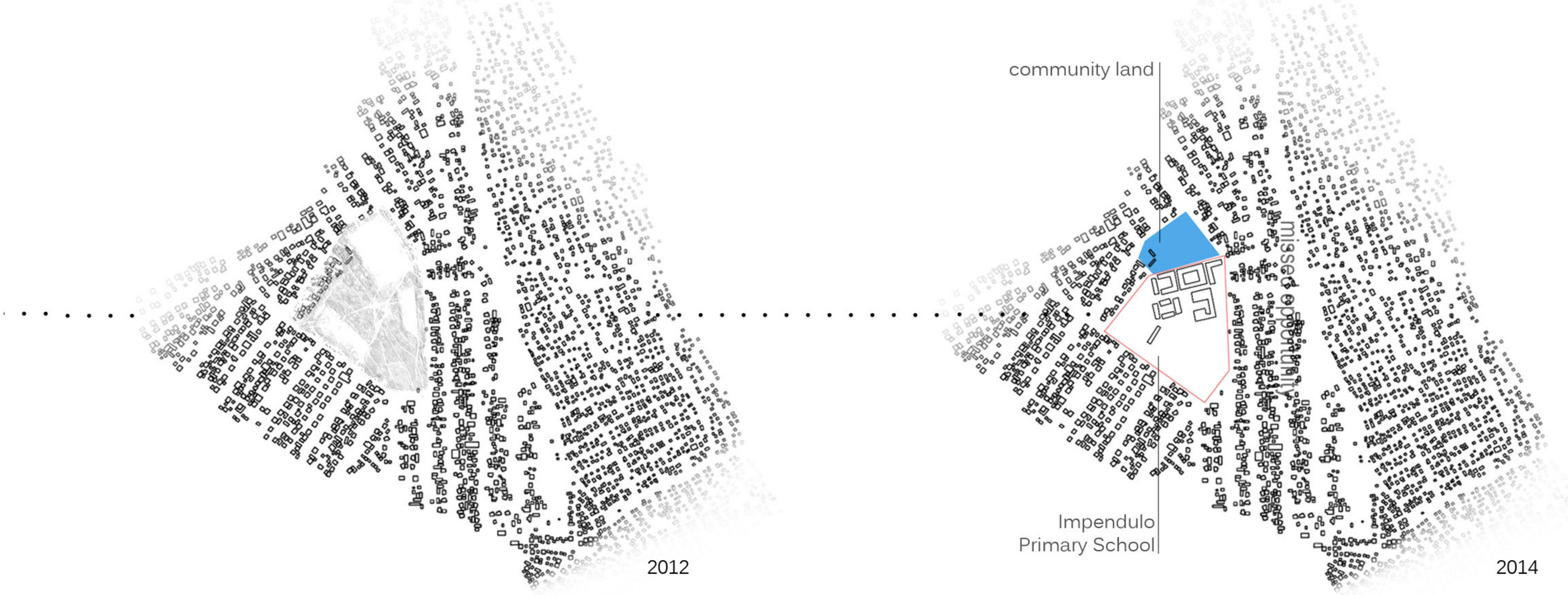


Figure 3.10: The newly constructed school has taken over what was the community soccer field (Author 2014)

ck of

3.6 Macro Analysis - Alaska

The proposed site is situated along the main access spine running through Alaska. It is currently a vacant site that is used by the community for soccer matches.

Despite it being a harsh environment, devoid of any vegetation, adequate shade or seating areas, it is one of the only open, community sites within Alaska - it thus experiences a lot of activity, particularly when soccer matches are being played.

It lies in an educational zone between the high school and primary school and, as a result, experiences a lot of pedestrian traffic from youth of all ages. This site has the potential to add to the educational and recreational precinct in which it is found.

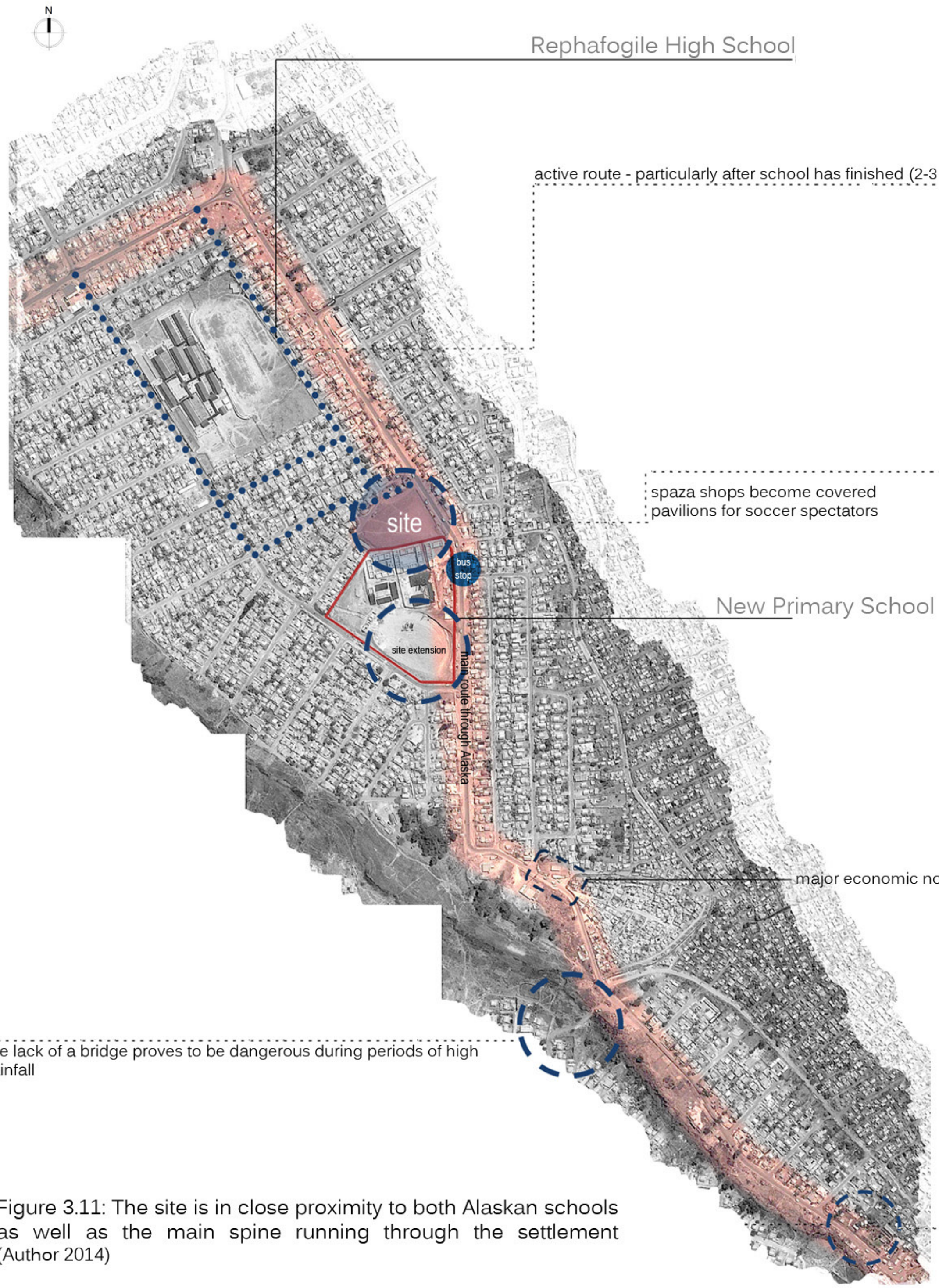


Figure 3.11: The site is in close proximity to both Alaskan schools as well as the main spine running through the settlement (Author 2014)

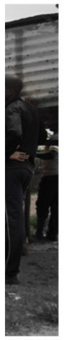
3.7 Micro Analysis

Figure 3.12: The primary school is barricaded behind a high wall, contributing very little to the surrounding community (Author 2014)

empty spazas double up as seating areas for soccer matches

being the only public soccer field, it is used by residents of all ages

the adjacent primary school is completely barricaded from the surroundings by a concrete fence



.7 Micro Analysis

the eastern edge of the site consists of various businesses, taking advantage of the activity on the main route

the adjacent primary school is completely barricaded from the surroundings by a concrete fence

the edges of the site have become dump sites

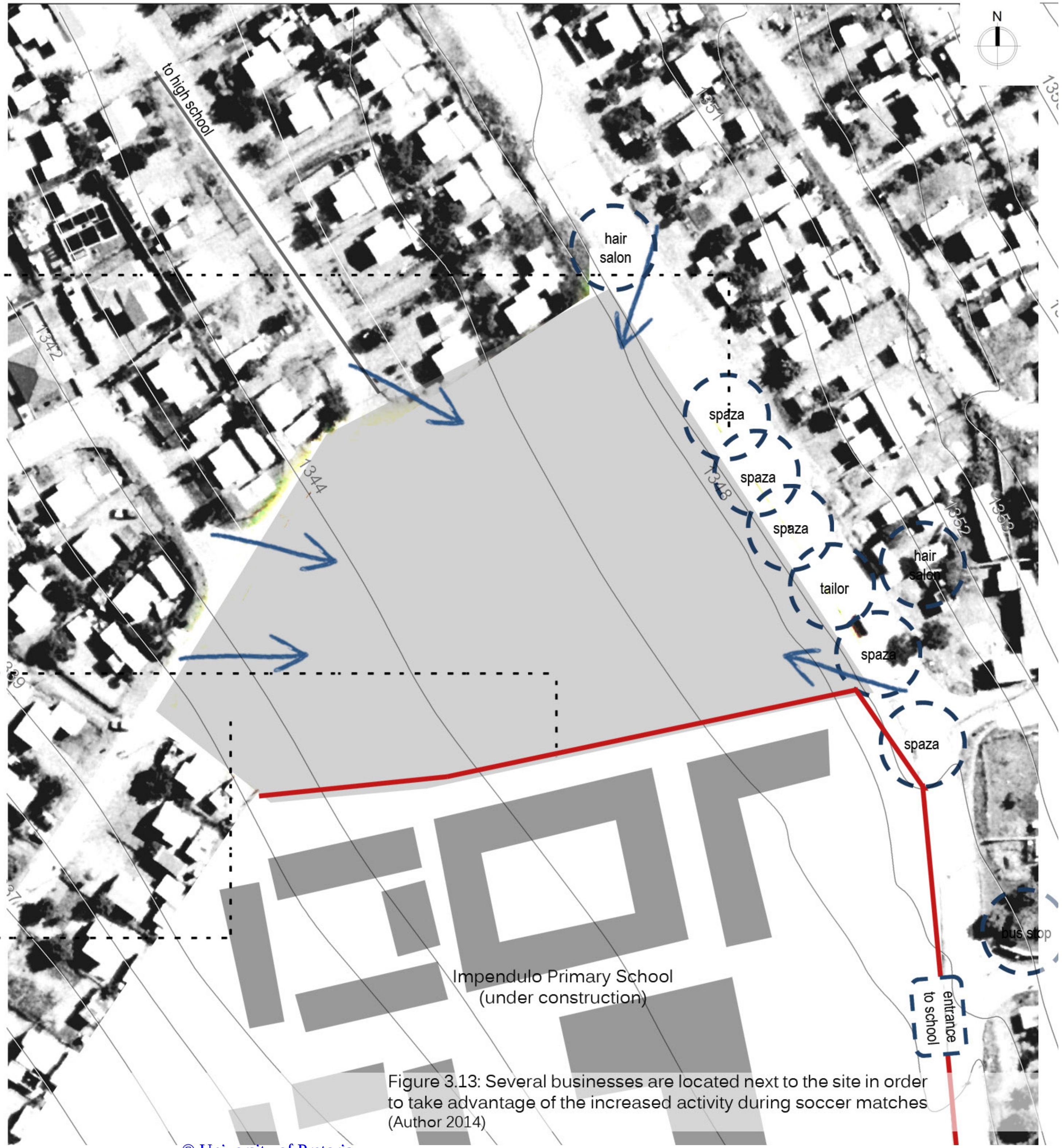
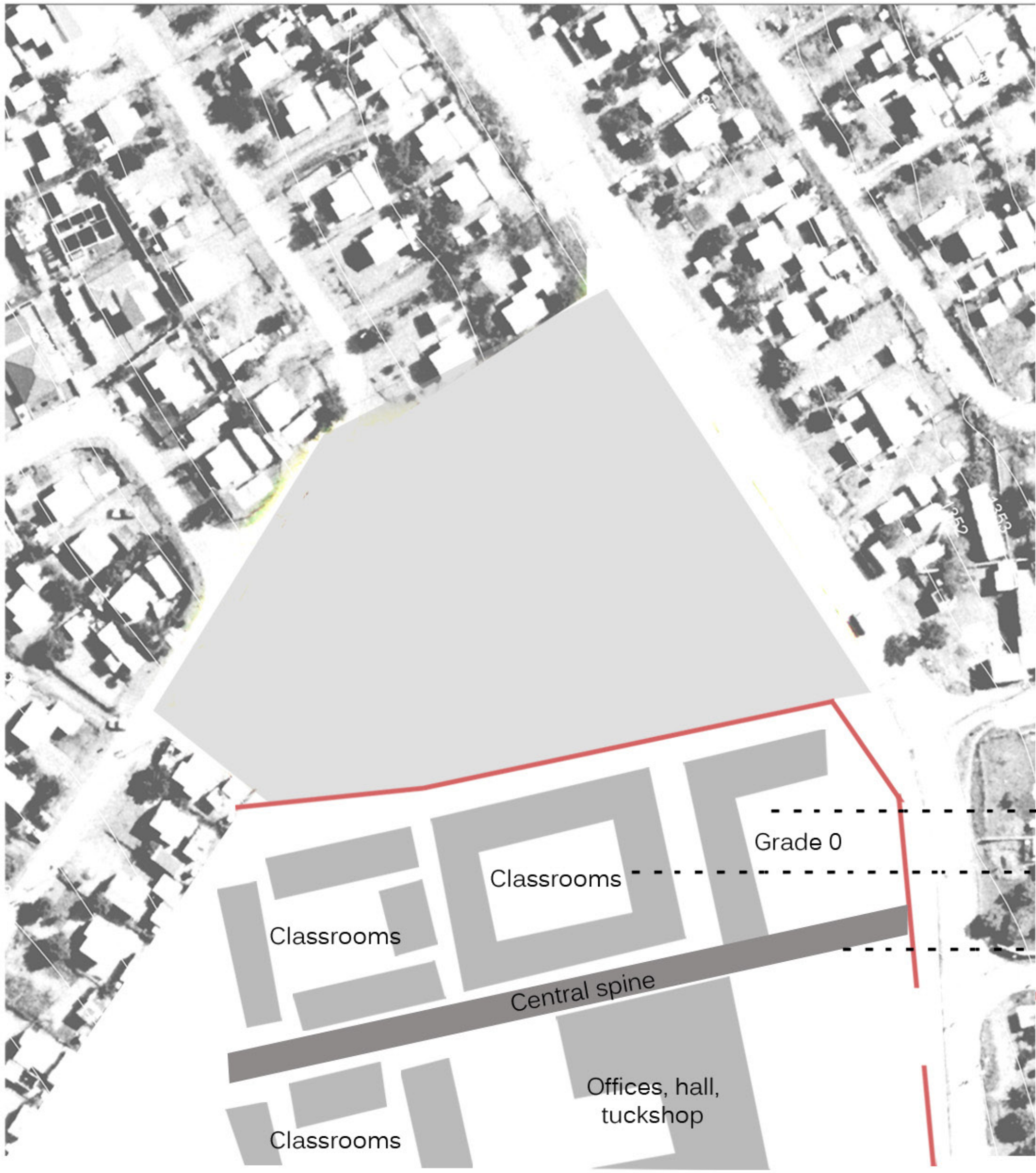


Figure 3.13: Several businesses are located next to the site in order to take advantage of the increased activity during soccer matches (Author 2014)



The school is made up of a series of buildings arranged around courtyards. A central spine leads from the main entrance through the site, linking each set of classrooms. These courtyards encourage social interaction between different classes. The school is constructed of brick and has mono-pitched corrugated iron roofs.

Figure 3.14: Impendulo Primary School (Author 2014)

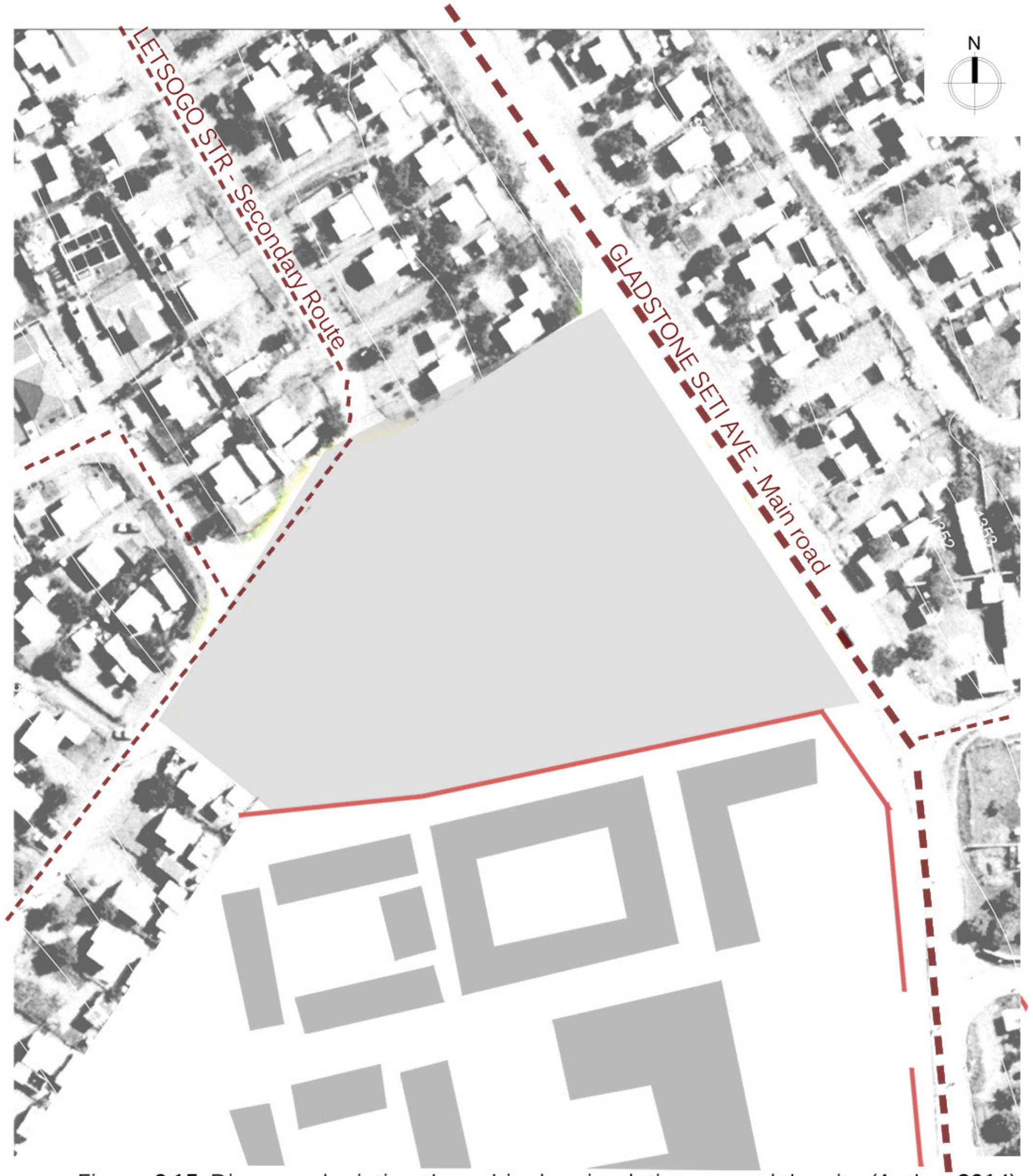


Figure 3.15: Diagram depicting the vehicular circulation around the site (Author 2014)

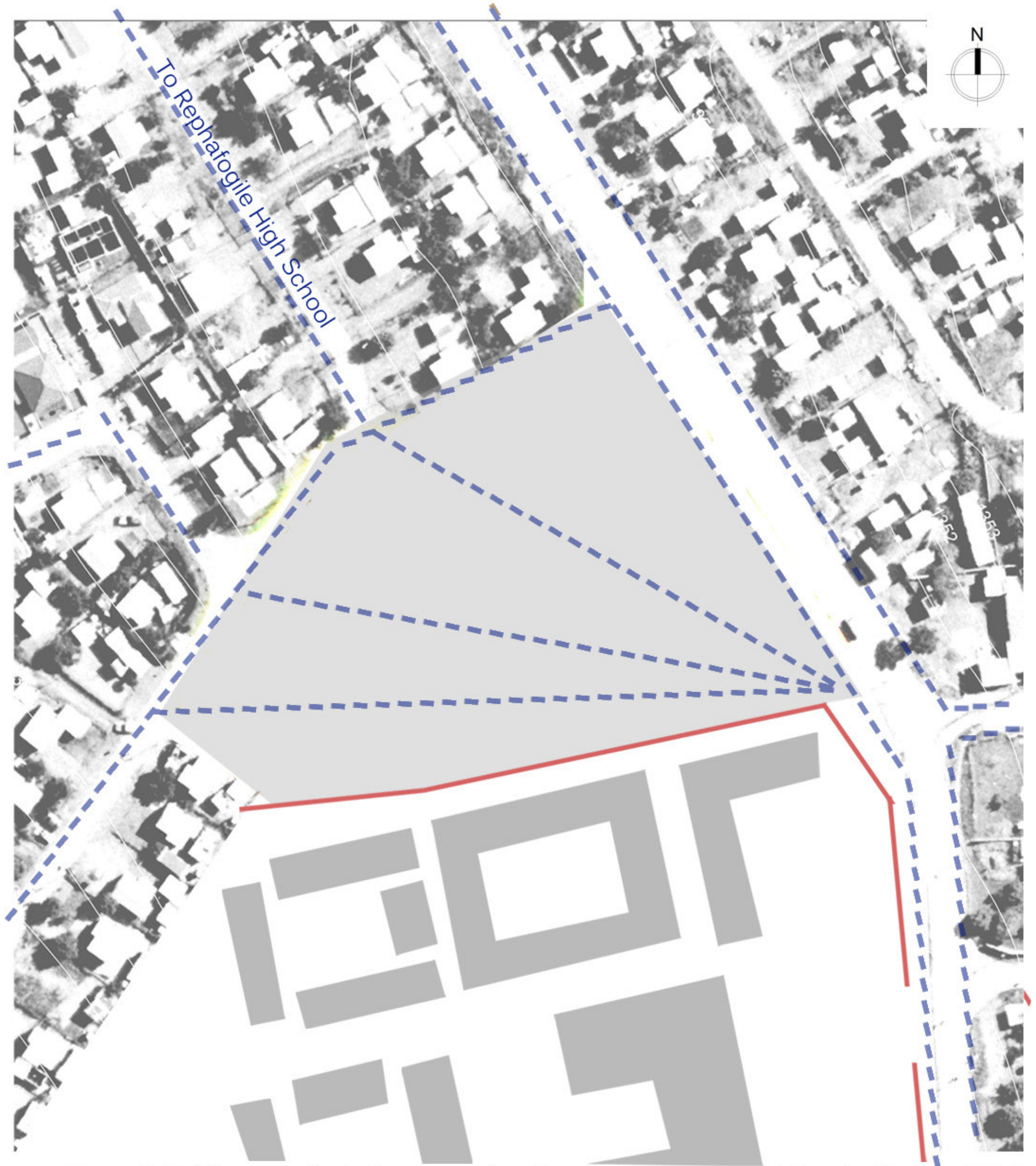


Figure 3.16: Diagram depicting the pedestrian circulation around the site (Author 2014)

The site is situated alongside the main route through Alaska, Gladstone Seti Avenue, which experiences high traffic volumes when compared to the rest of the settlement. Secondary routes are situated to the north and west of the site making the site easily accessible by vehicle.

Due to the site's proximity to both the high school and primary school, it sees high volumes of pedestrian traffic, the majority being made up of the youth. Pedestrians use the site as a shortcut linking to the main road.

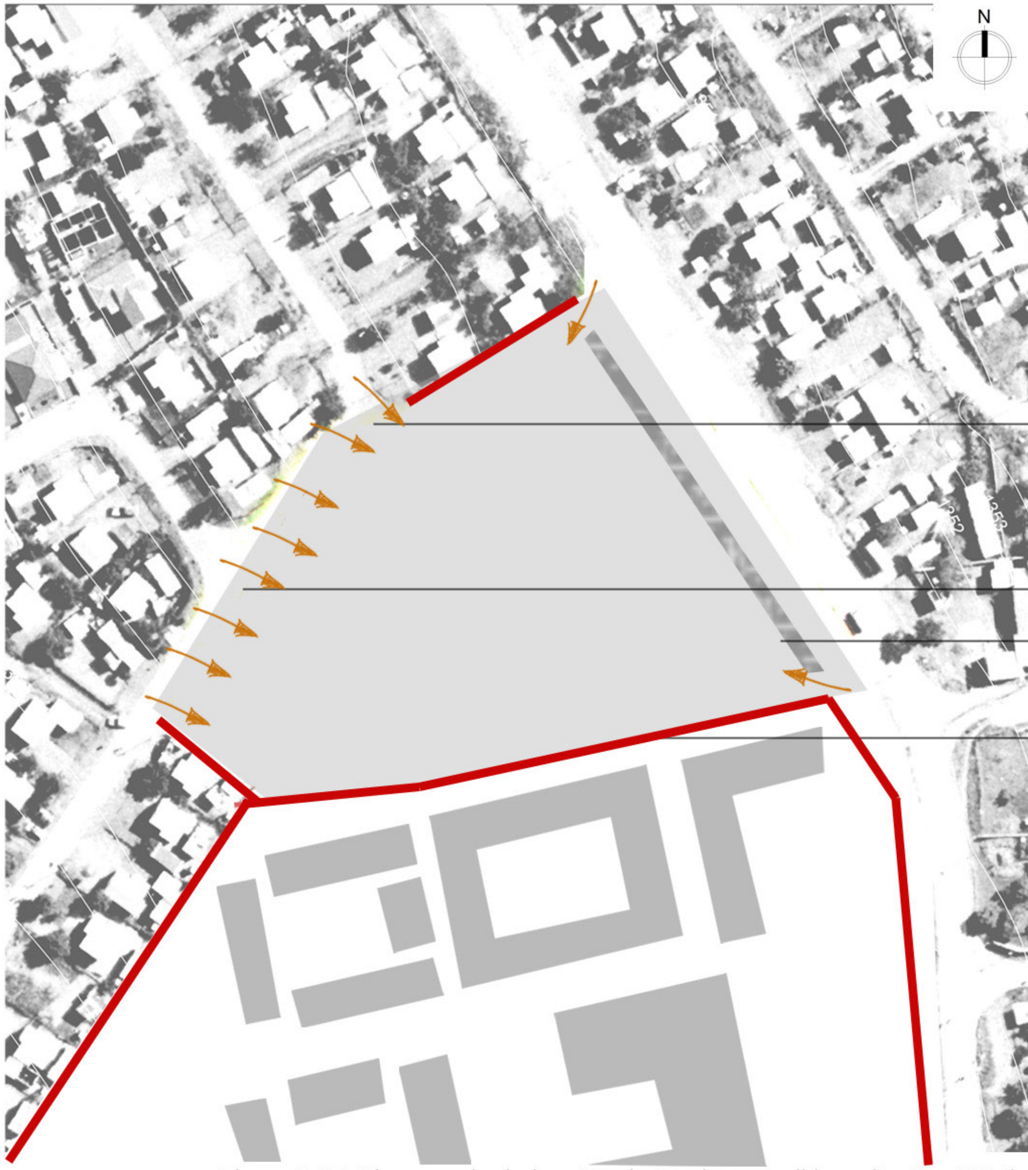


Figure 3.17: Diagram depicting the site's edge conditions (Author 2014)

site is open to the north, linking it to the high school's route

site is open to the north-west

the sudden level change of approximately 1.2 metres prevents pedestrians from accessing the site from the majority of the eastern side

the school's high concrete fence acts as a barrier to the southern side of the site

3.8 Urban Framework

The identified site forms part of a larger group framework. During March 2014, the urban design group, comprising of Claire du Trevou, Mike Duvel and the author, mapped both the physical features of Alaska, as well as its intangible networks.

From the unstructured interviews with the community, the group found a desire for open civic space, or *own ground*, as Webster (2014) called it. The group identified main public nodes within the settlement and designed a framework that aimed to strengthen and enhance these areas as prominent public spaces.

Figure 3.18 illustrates the different social networks each group member focused on over the course of the year.

The framework is focused on the main spine of Alaska, Gladstone Seti Avenue, along which the majority of Alaska's commercial activity occurs. Each group member's site is located along this spine with each intervention aiming to act as a catalyst, reinforcing the current activities around the area and encouraging further activity between each public node.

Appendix B contains a detailed explanation of the group's framework, the design process and the critiques of other Mamelodi frameworks from professional firms and previous University of Pretoria Honours students.

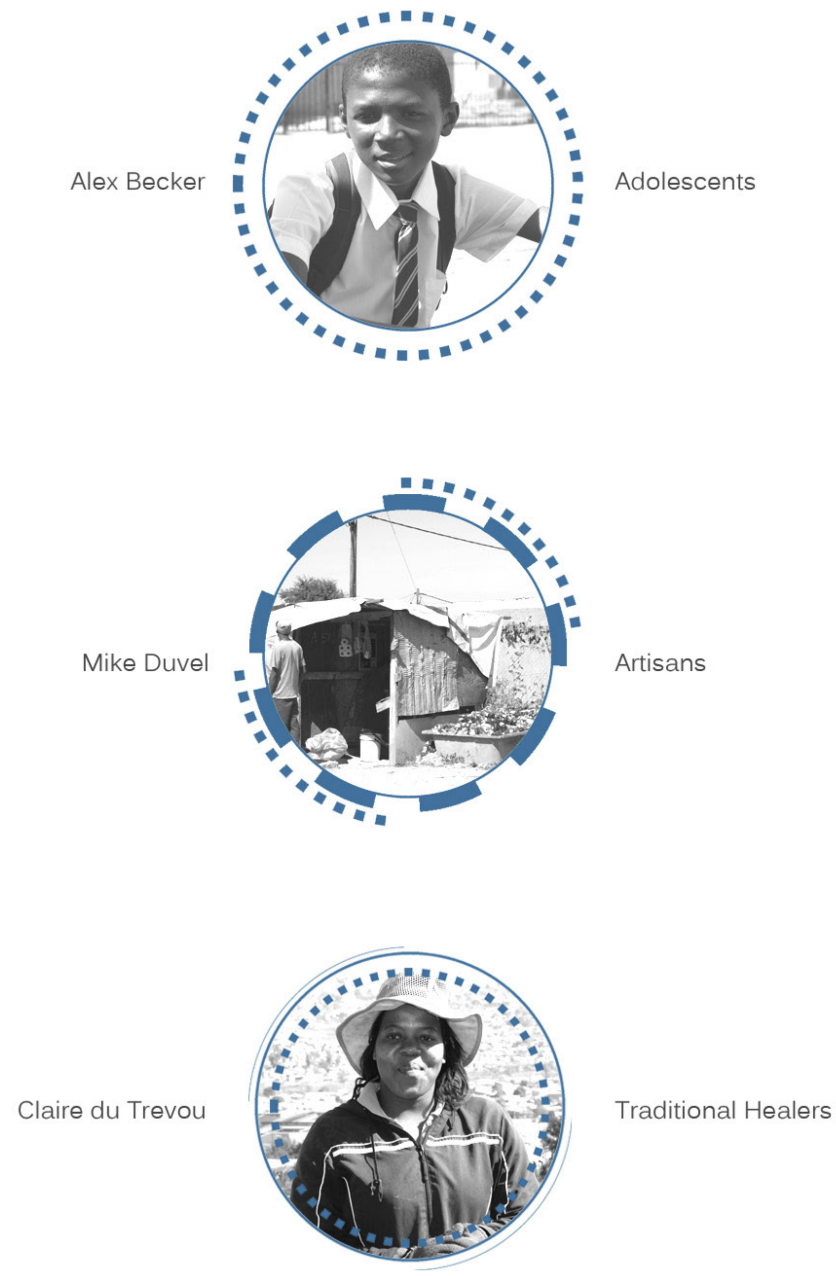


Figure 3.18: Diagram depicting the social network each member focused on (Author 2014)

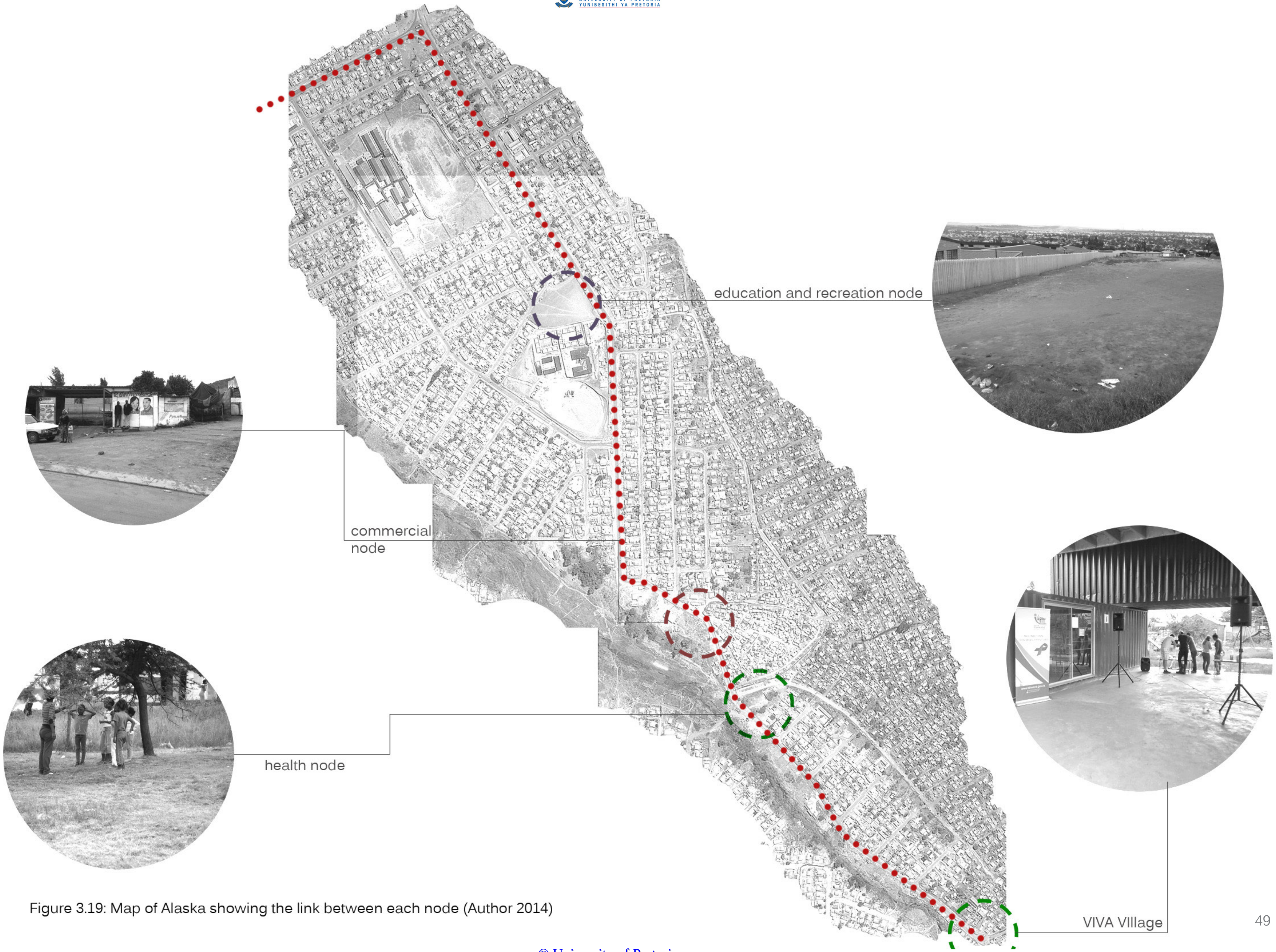


Figure 3.19: Map of Alaska showing the link between each node (Author 2014)

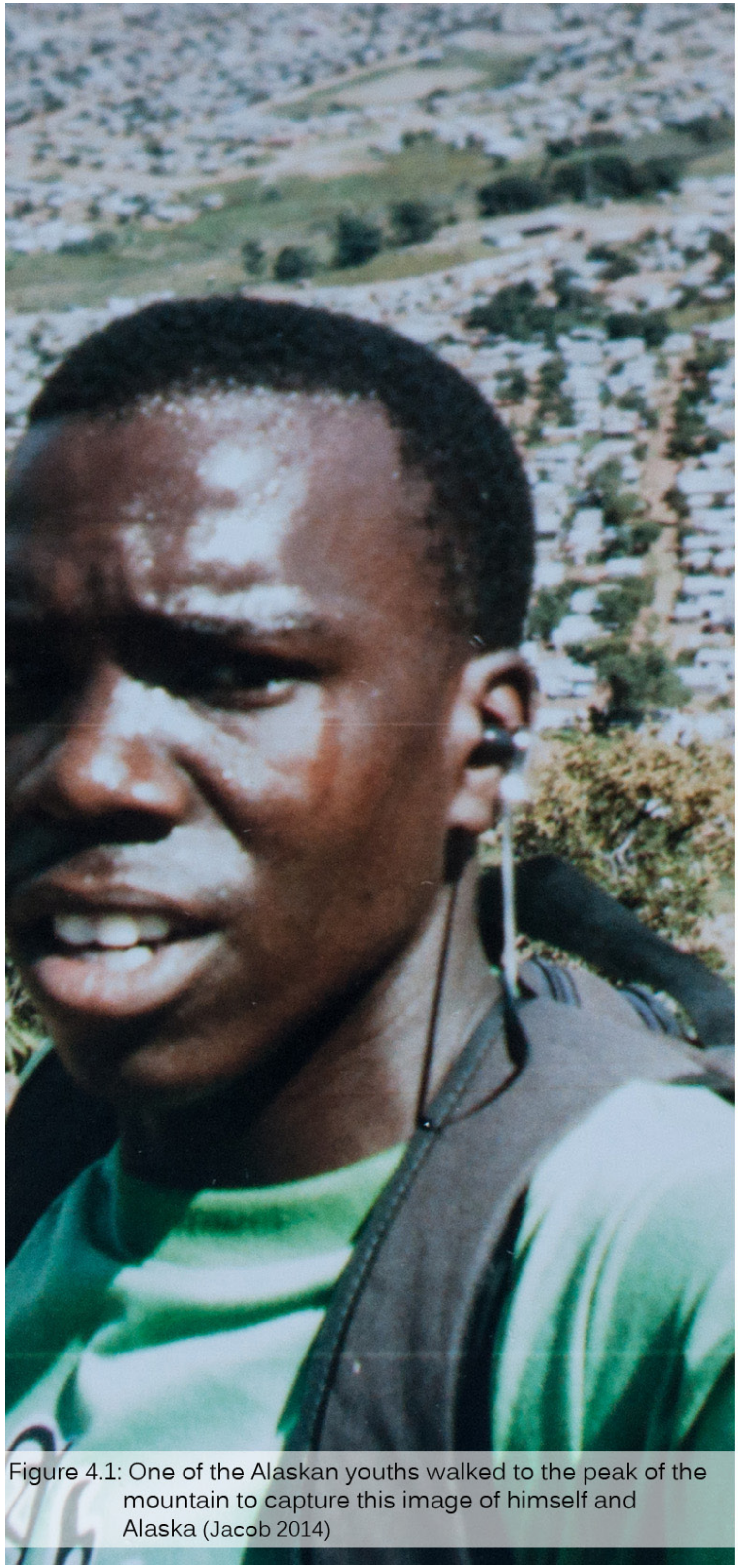


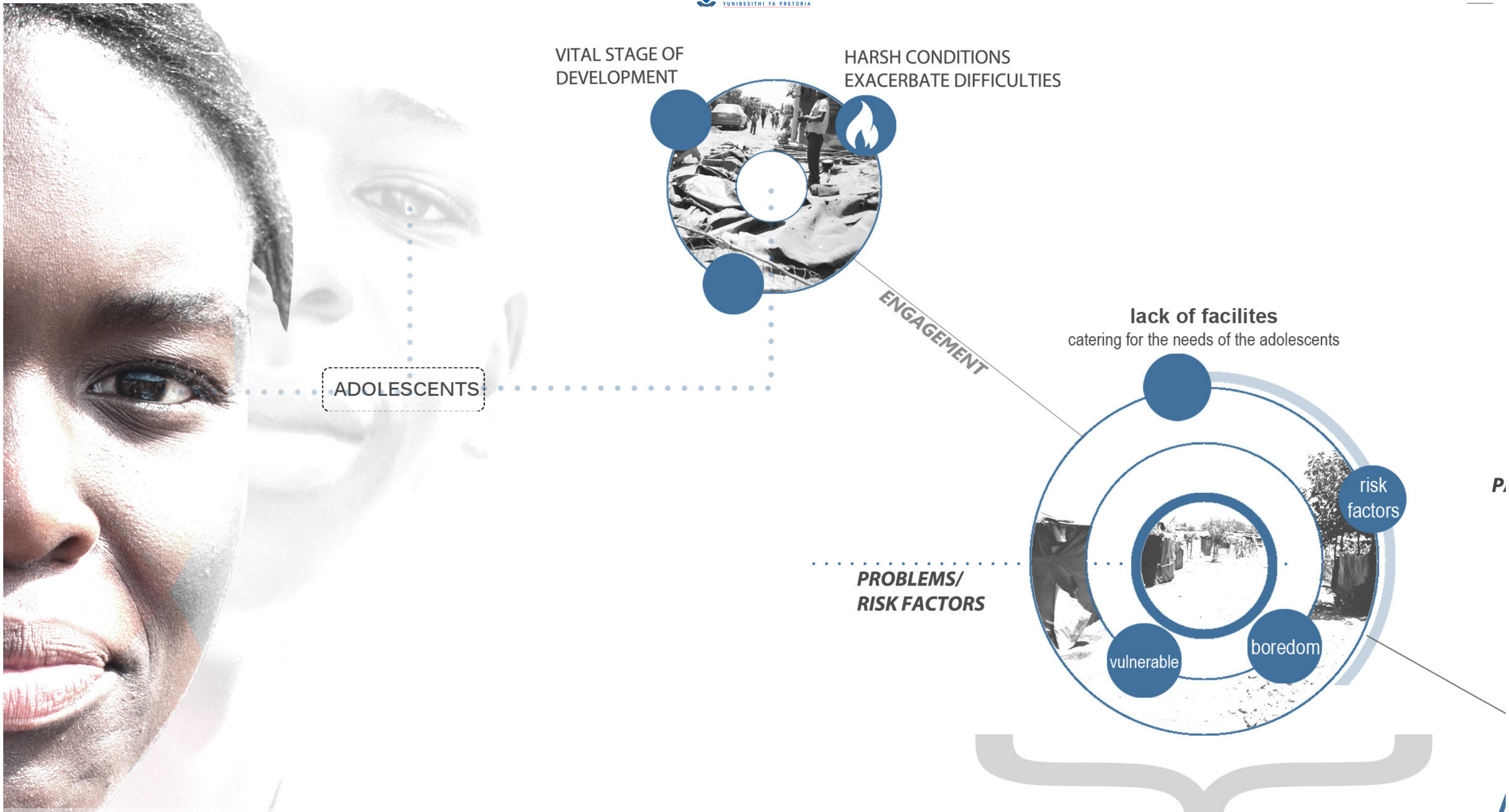
Figure 4.1: One of the Alaskan youths walked to the peak of the mountain to capture this image of himself and Alaska (Jacob 2014)

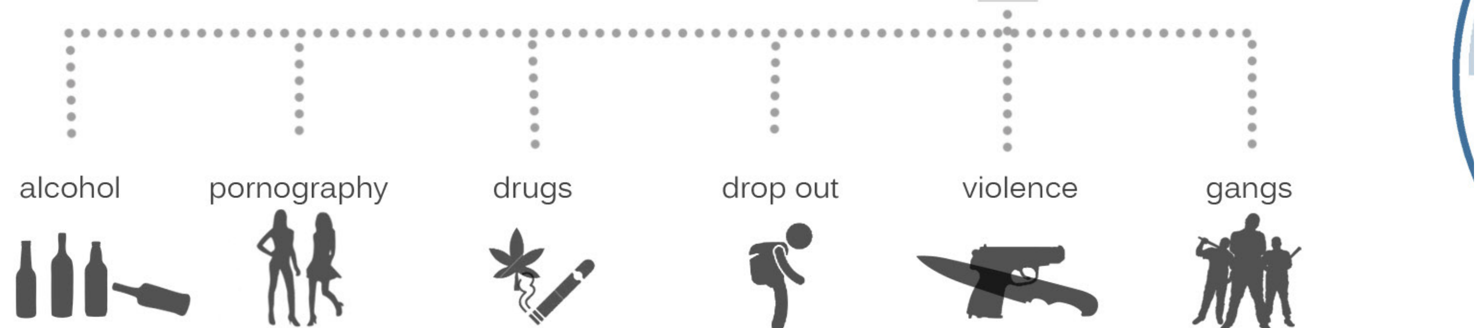
It is easier to build strong children than to repair broken men.

Douglass (1855)

4 PROGRAMME

This chapter focuses on the intention of the project and the proposed programme of the building





4.1 Summary of Findings

Before a programme was formulated the findings that arose during the participatory mapping exercises were summarised.

The following diagram summarises the risk factors facing the adolescents, the various after-school activities they desire to be involved in and the benefits such activities can have on them.

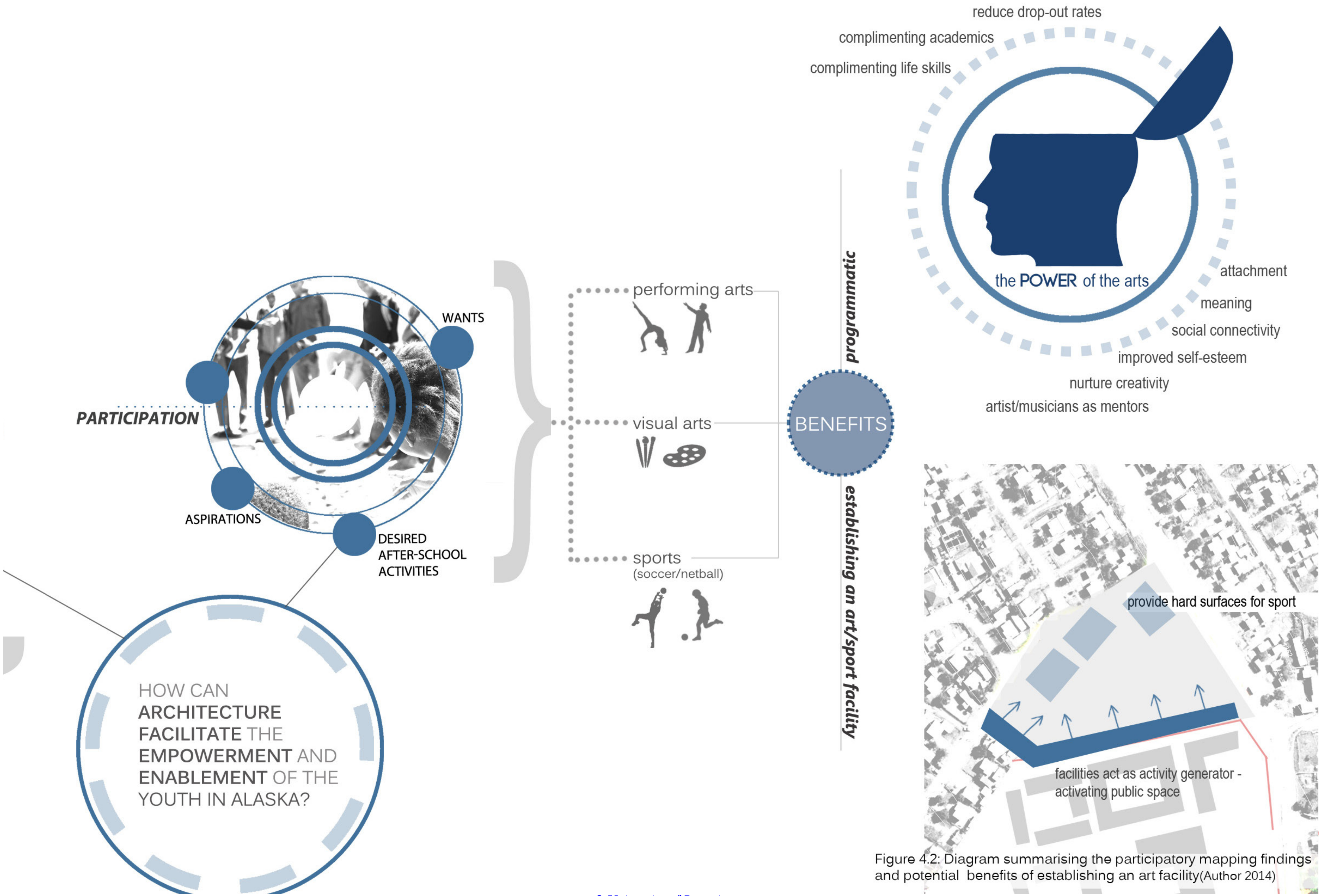


Figure 4.2: Diagram summarising the participatory mapping findings and potential benefits of establishing an art facility(Author 2014)

4.2 Public Space in Alaska

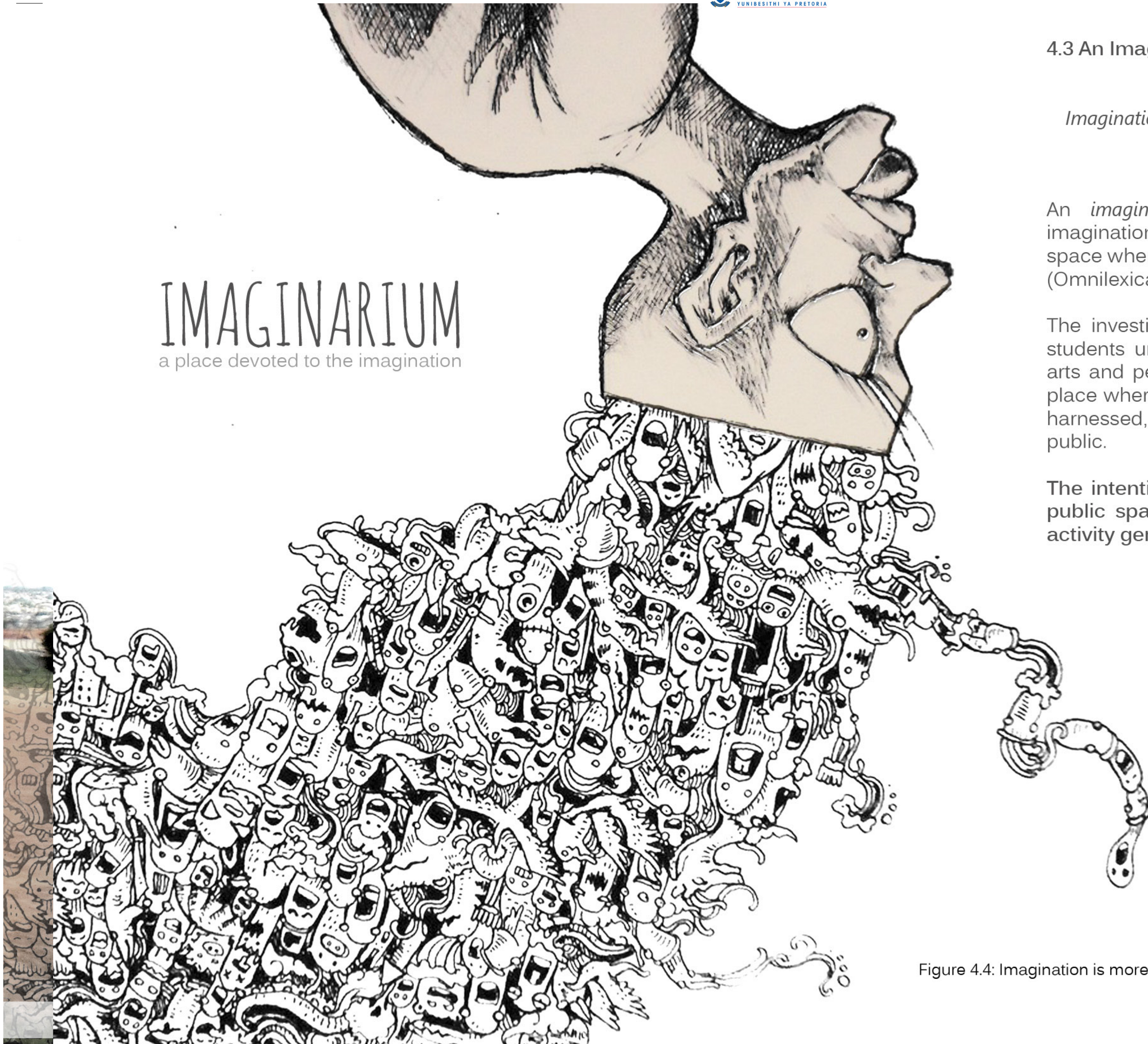
Public spaces have a social function in urban environments. They *represent the primary, and arguably the most important, form of social infrastructure* (Dewar & Todeschini 2004:69).

Worpole (2006) states that public spaces play a vital role in the social and economic life of communities. He states that public spaces offer numerous benefits; these include the opportunity for social interaction and a place where people can display their culture and identities.

According to Gehl (2011) successful public places contribute to community health whether socially, economically, culturally or environmentally. They provide the urban environment with a sense of character as well as a place for public activities to occur.

As emphasised by one of the community leaders, Webster (2014), *Alaska lacks its own community ground, where we can meet, sit, talk and children can play.*

Figure 4.3: The proposed site is currently a harsh, barren environment (Author 2014)



4.3 An Imaginarium in Alaska

Imagination is more important than knowledge
Albert Einstein (1901)

An *imaginarium* is a place where one's imagination is stimulated and cultivated. It is a space where ideas can be explored and shared (Omnilexica 2007).

The investigations performed by the honours students uncovered an interest in both visual arts and performing arts. An imaginarium is a place where this creative, artistic desire can be harnessed, moulded and then shared with the public.

The intention of the project is to strengthen public space by introducing the arts as an activity generator.

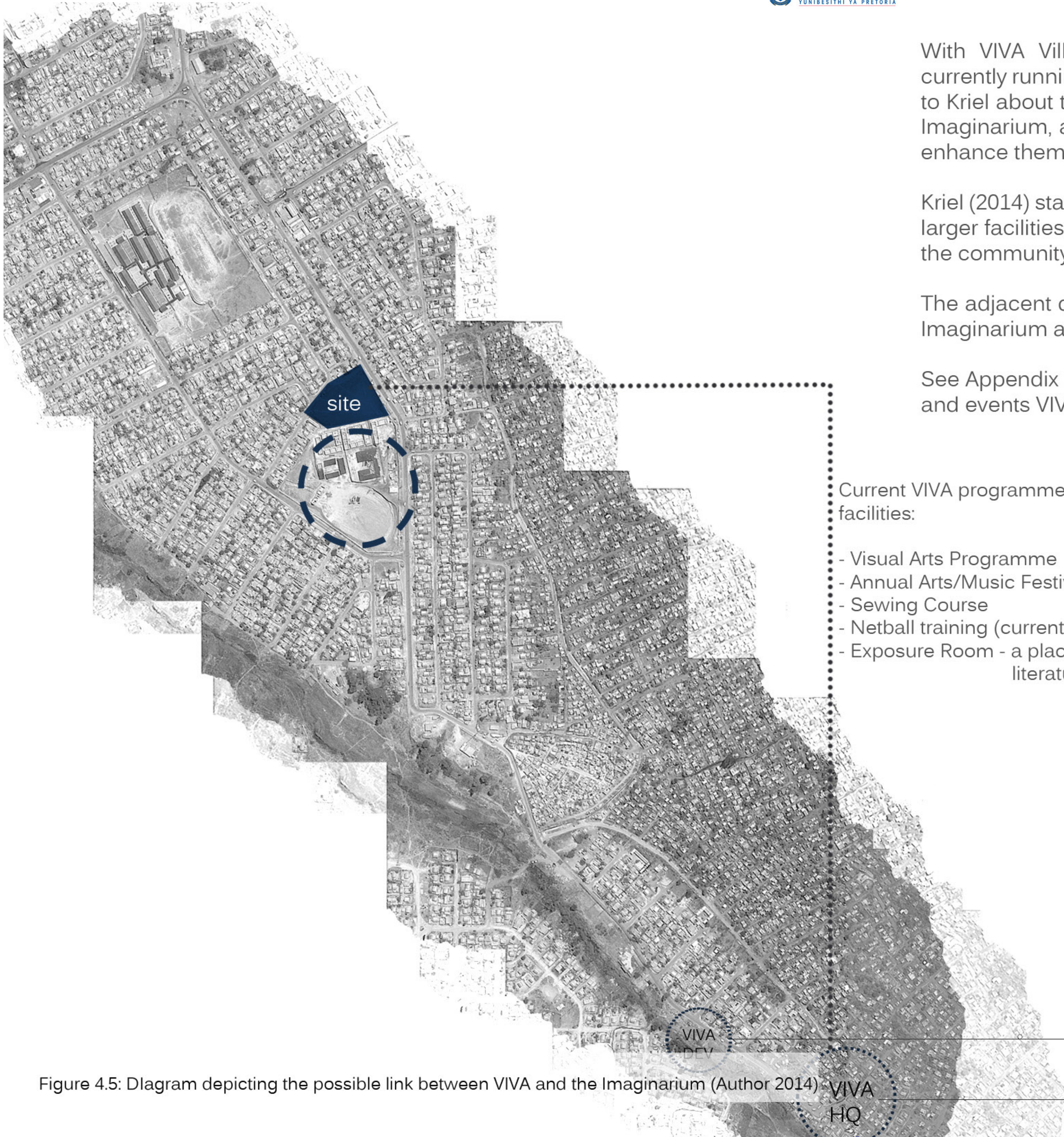
Figure 4.4: Imagination is more important than knowledge (Junio 2014)

With VIVA Village being the only organisation in Alaska currently running programmes for the youth, the author spoke to Kriel about these activities in order to understand how the Imaginarium, and possibly the school, could strengthen and enhance them.

Kriel (2014) stated that if they had more human resources and larger facilities they could expand their sphere of influence in the community.

The adjacent diagram depicts the VIVA-run programmes the Imaginarium aims to support.

See Appendix D for photographs of the various programmes and events VIVA has held over the course of 2014.



Current VIVA programmes that have the potential to grow through adequate facilities:

- Visual Arts Programme
- Annual Arts/Music Festival
- Sewing Course
- Netball training (currently have the equipment but no court)
- Exposure Room - a place where children are exposed to educational literature and films outside of school

Involvement with VIVA:

-reinforce activities - man power
-provide more suitable spaces for activities
  -utilise equipment sports, sewing etc

Figure 4.5: Diagram depicting the possible link between VIVA and the Imaginarium (Author 2014)

4.4 Visual Arts

According to d'Alant (2013) a number of initiatives across the globe are using art to empower marginalized communities. *Whether it is through museums in Rio de Janeiro, art training workshops and exhibitions in Mumbai and Lagos or encouraging film production in Nairobi, several projects are giving the poor a voice (*d'Alant 2013).

d'Alant (2013) states that these initiatives allow marginalized communities to see themselves from a different perspective, an important start for bringing about social change.

The Beginnings of a Photography Club

As stated in Chapter 2, the two day Alaskan photography competition that was held in April 2014 was a great success with the winner, Alpheus, receiving a digital camera as a prize. A month later the author visited him to see how his photography skills had progressed. According to Alpheus (2014) the opportunity to pursue photography further had given him a new lease on life. *I never thought I could ever do something like this, but now that I have the opportunity, I couldn't be happier.*

In May 2014, Alpheus had started teaching a few of his friends how to take pictures and so the beginnings of a photography club began to sprout. This exercise is testament to the power of the arts and how it can bring a renewed sense of meaning to a person. It also indicates how a programme can start with a single person, gain momentum and result in the formation of a club of interested participants. See Appendix C for Alpheus' first exhibition which took place on the 25th of October 2014.

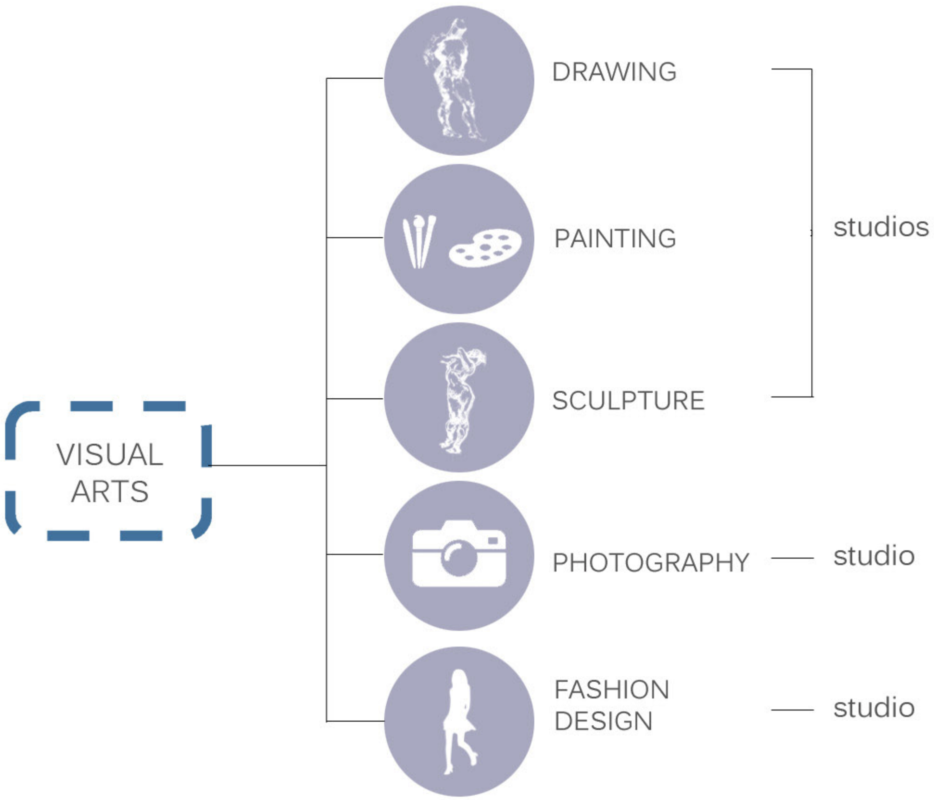


Figure 4.6: Diagram illustrating the various visual art programmes in which the adolescents showed an interest (Author 2014)

for

Figure 4.7: The *I Love Alaska* project was successful in engaging the adolescents in a visual art form (Franklin 2014)

Figure 4.8: An art exhibition in a slum in Mumbai, India. (d'Alant 2013)

Figure 4.9: Rio de Janeiro's *Museum of the Favela* is a culture center that exhibits the history of slums (d'Alant 2013)

4.5 Performing Arts

Apart from a church choir, the author found no other performing arts group in Alaska. Children were dancing and listening to music in the street, but no signs of a formal group or club were found. When asked why that was the case, a group of adolescents responded by saying that there are no facilities for such activities.

The participatory mapping showed an interest in dancing, singing, spoken word, poetry, music and drama, while unstructured interviews uncovered frustration amongst the youth because no clubs or groups currently exist.

According to Slum SANAA (2009), performing arts festivals are effective catalysts in bringing communities together and are vital to strengthening community bonds.

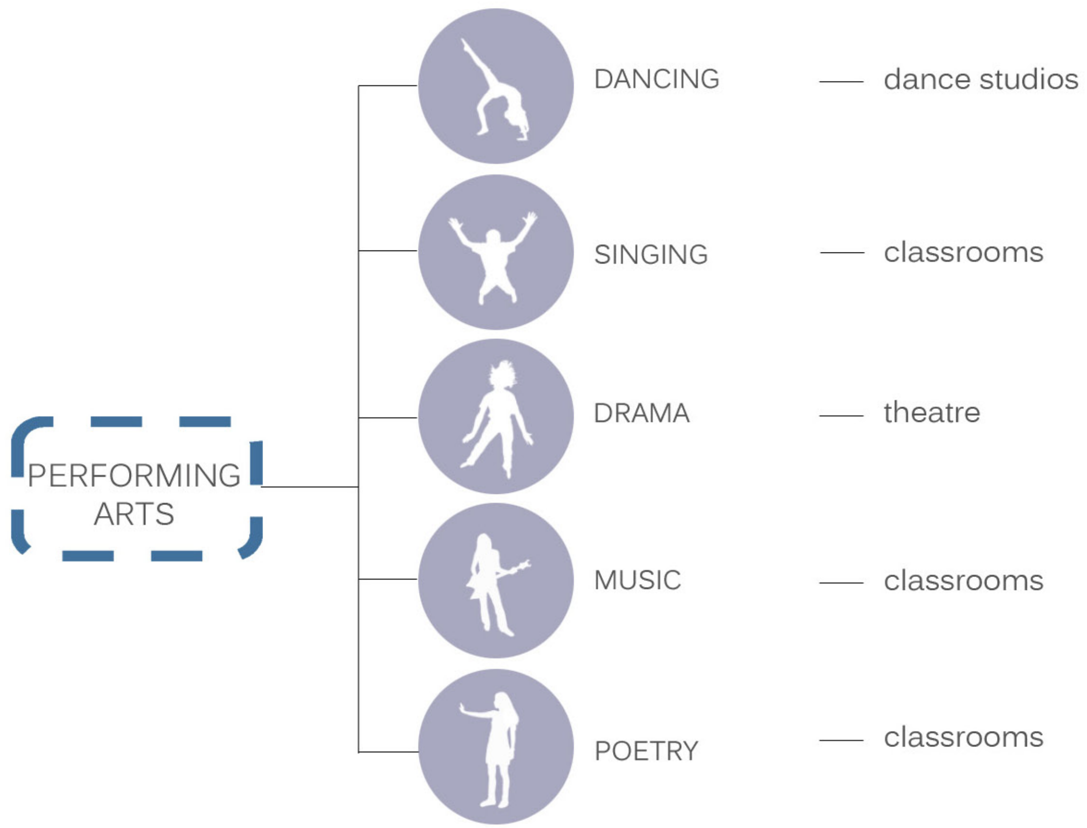


Figure 4.10: Diagram illustrating the various performing art programmes in which the adolescents showed an interest (Author 2014)

Figure 4.11: Artists can become mentors/role model (SANAA 2009)

Figure 4.12: Performances act as catalysts, drawing people to investigate the event (d'Alant 2013)

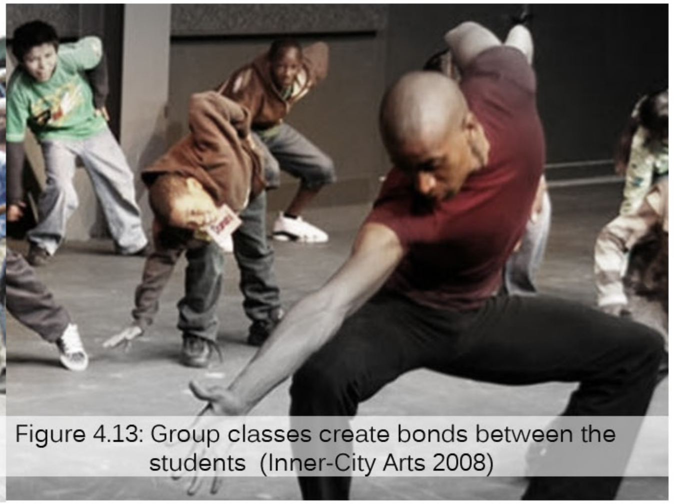


Figure 4.13: Group classes create bonds between the students (Inner-City Arts 2008)

4.6 Sport

Alongside visual and performing arts, another popular activity amongst the adolescents is sport. The participatory mapping showed that of the 193 students interviewed, 54 chose sport as their main interest. The sports the students were interested in were predominantly divided between soccer and netball, while a small karate club was identified. A large group of boys showed interest in general exercise, like running and weightlifting.

A number of hard courts are proposed on the site to facilitate netball games and 5-a-side soccer matches. An outdoor gym will also be provided for those wanting to take part in general exercise.

As stated in Chapter 3, the newly developed primary school claimed the majority of open, community land where a full-sized soccer field was located. Interviews indicate that the community is unhappy as they are now left with a sloping field that is too small, the incorrect shape and orientated east-west. This injustice, however, will not last much longer as the school, once completed, is planning to open up the new sports fields to the community, according to Webster (2014).

The school is terraced and fenced in such a way that opening the field up to the public will not jeopardize the school's security.

in

Figure 4.14: The school is fenced off from the sports field (Author 2014)

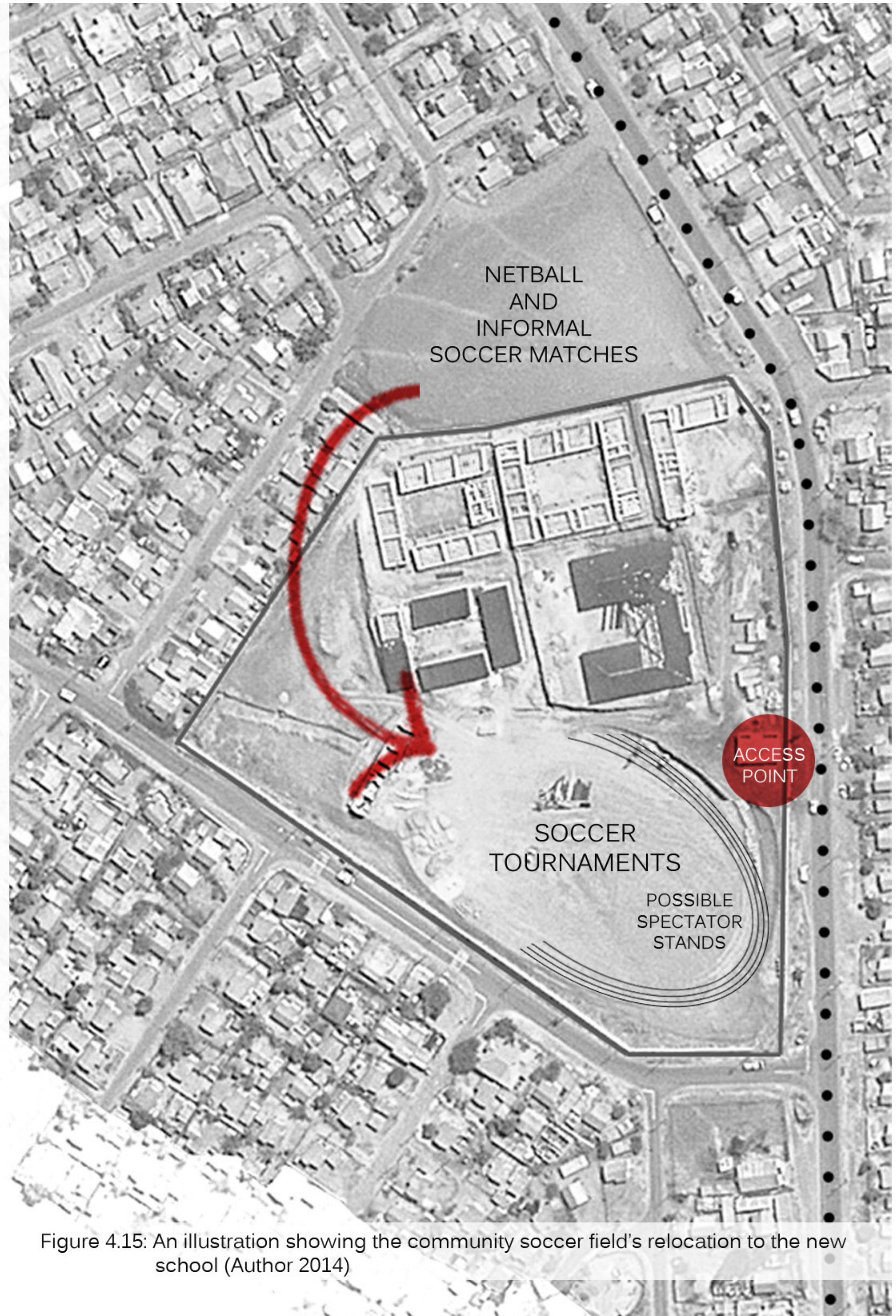


Figure 4.15: An illustration showing the community soccer field's relocation to the new school (Author 2014)

Figure 5.1: A drama class gathers for their after school rehearsal (Inner-City Arts 2009)

Imagination is more important than knowledge. Knowledge is limited. Imagination encircles the world.

Albert Einstein (1929)

5 PRECEDENT STUDY

The precedents chosen in this chapter relate to aspects of the thesis in various categories. These are as follows: programme, design approach, implementation, construction.

5.1. Vele Secondary School, Limpopo, South Africa (Project year: 2007-2011)

In 2007, East Coast Architects, with the participation of the community, started the design of Vele Secondary School. It was to serve not just as a school, but a centre for the village community as a whole, one that stimulates social and economic development (Cantz 2014).

Participatory Approach

The school serves four rural villages, whose representatives were involved in the planning process. Other parties participating in the planning process included officials from the Ministry of Education, teachers, parents and students, who collaborated with the architects in workshops held in 2008 (Cantz 2014).

The architects engaged with the various parties in order to gather information about routes to school, local building methods and skills, as well as the home of students as the new school centre was to be a *second home*. This engagement took the form of a mapping and photography project (Cantz 2014).

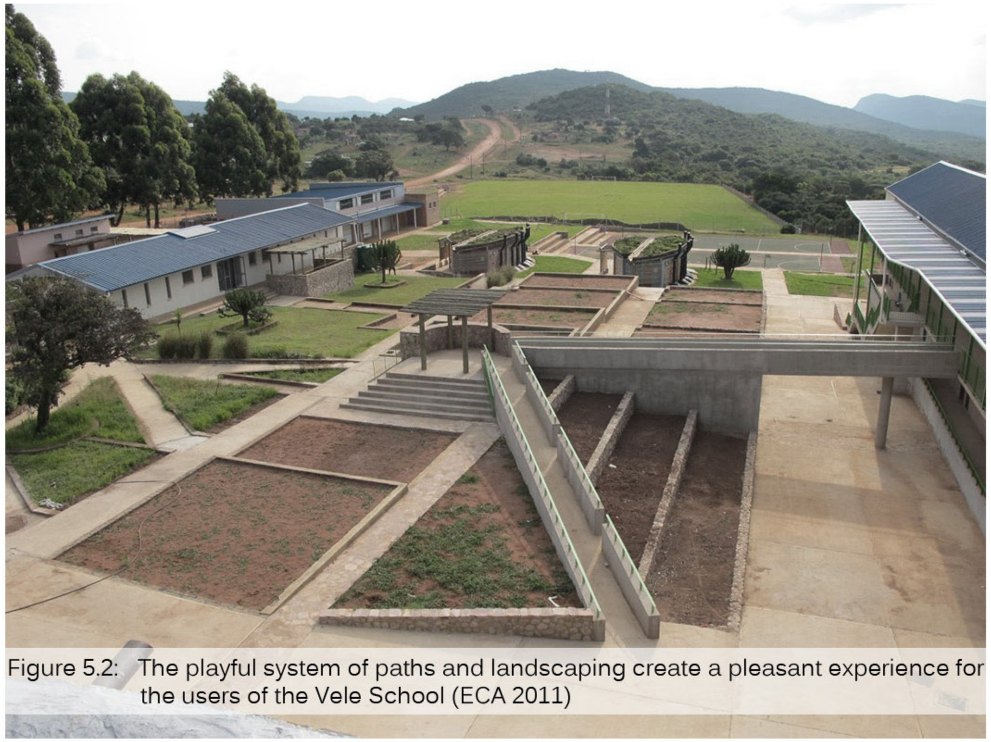


Figure 5.2: The playful system of paths and landscaping create a pleasant experience for the users of the Vele School (ECA 2011)

Figure 5.3: Numerous courtyards are found throughout the school, creating opportunities for social interaction between students (ECA 2011)

Figure 5.4: The school overlooks the sports field to the west (ECA 2011)

The participatory process not only encouraged the exchange of knowledge between parties, but also cultivated a working relationship between the architects and the community. Due to the community being a part of the planning, design and construction processes, there was an increased sense of pride and ownership when the building was completed (Cantz 2014).

The building uses the following sustainable technologies and methods:

- locally sourced materials - stone and wood
- rainwater harvesting
- passive ventilation
- local labour
- solar panels power the computers
- insulating materials in the walls, floors and ceilings

KEY PRINCIPLES

- Community involved from outset and throughout project
- Local materials were used
- Various sustainable technologies employed
- Multi-purpose rooms serve a variety of functions

Figure 5.6: Skilled and semiskilled labourers from the four communities were hired (ECA 2011)

Figure 5.5: Classrooms receive light from the north, whilst aluminium window edgings reflect additional light into the rooms (ECA 2011)

Figure 5.7: The school is made of locally sourced wood and stone, creating a strong link with its surroundings (ECA 2011)

5.2 Inner-City Arts, Los Angeles

An urban community center and agent for change...a positive force in that neighborhood.
Michael Maltzan - Architect of Inner-City Arts Precinct

As stated in Chapter 2, Inner-City Arts (ICA) provides arts-based education to vulnerable youth in Los Angeles' poorest neighbourhoods.

Figure 5.9 shows the incremental growth of ICA since its inception in 1989. The programme is an example of how a small project can gradually grow, over many years, into a multi-million dollar organization. ICA is also testament to how architecture is able to facilitate such a programme succesfully.

Programme

In 1994, ICA bought its first building, an old auto body shop. It was renovated into art classrooms, studios, as well as a ceramics classroom. As the organization's popularity grew, so more facilities were needed. The programme expanded beyond only visual arts to include dance and drama classes (Maltzan 2009).

After the completion of the third phase, in 2008, the building consists of art workshops, dance studios, a ceramics studio, a black box theatre and media library (Maltzan 2009).


Figure 5.8: Located amongst dull, derelict buildings, the building's bright white colour makes a bold statement (Baan 2009)

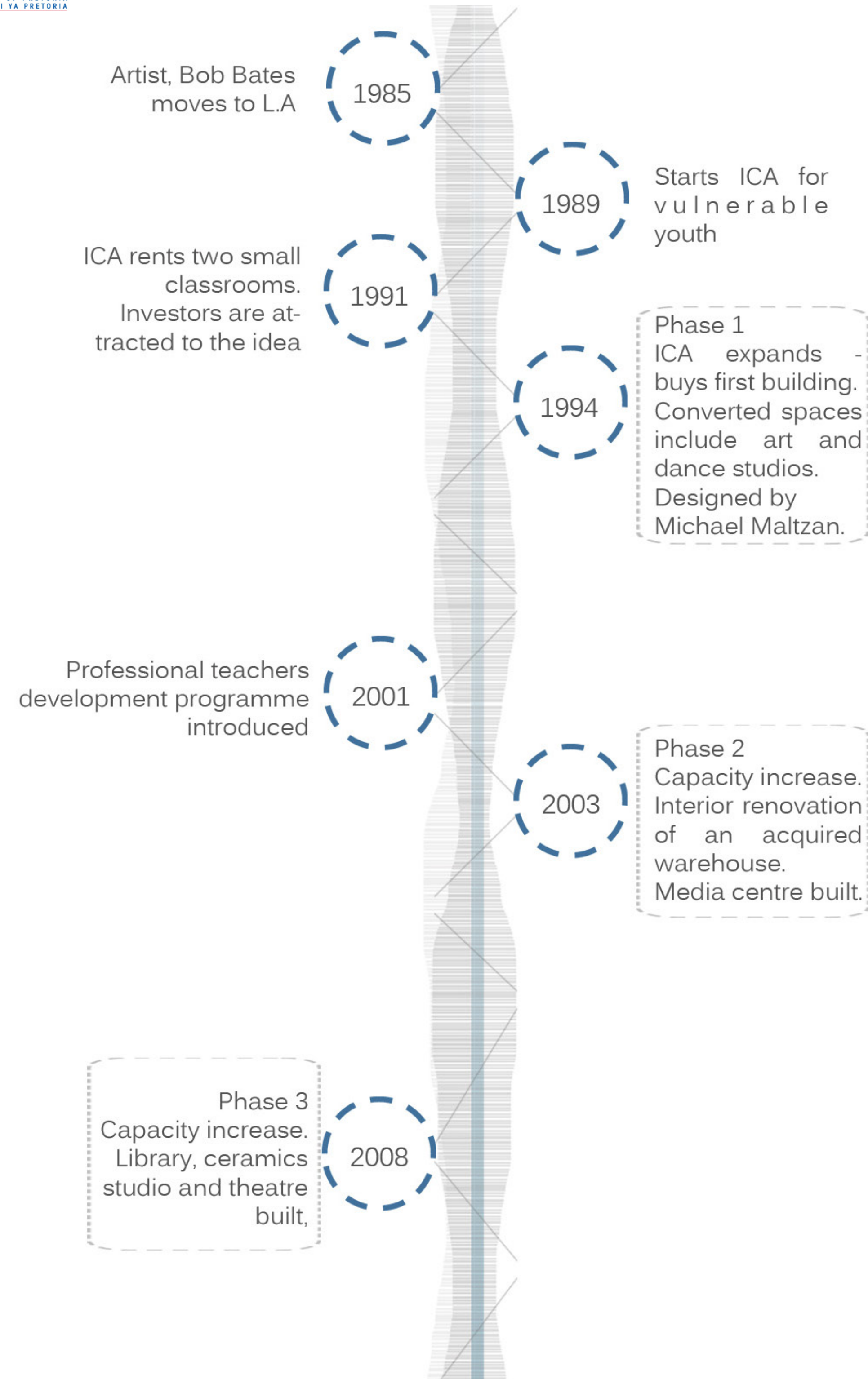


Figure 5.9: Incremental growth of Inner-City Arts (Author 2014)

Design Approach

According to Maltzan (2009) the aim was to create an urban village with a series of indoor and outdoor spaces. It was to be a strong symbol of hope in a derelict neighbourhood.

The building's strong, angular and stark forms combined with white stucco walls makes the building stand out against the relatively mundane and drab warehouses that surround it.

Windows are strategically placed to provide abundant natural light and views of the landscaped courtyard gardens. The link between interior and exterior is blurred through the use of large windows overlooking these courtyards (Maltzan 2009).

Instead of the project being one large building, it is made up of a series of buildings linked by courtyard spaces. This not only defines the various spaces, but also encourages social interaction between disciplines.

The building is largely inward-focused, but does open to the street with a number of gates that are perforated and allow visual access into the court-yards.

According to Maltzan (2009), the building's white exterior is a symbol of a blank slate and is an invitation for grafitti artists to use the architecture as a canvas. Many of the walls are now covered in mosaics created by the students.

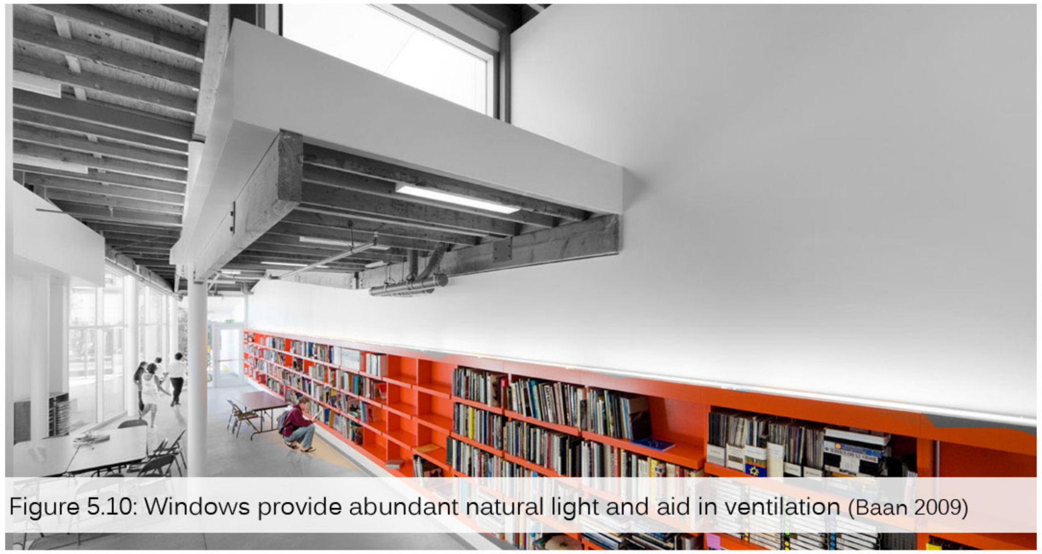


Figure 5.10: Windows provide abundant natural light and aid in ventilation (Baan 2009)

Figure 5.11: Group classes develop confidence and community-building skills (Saha 2012)

Figure 5.12: Courtyards become social spaces between classes (Baan 2009)

KEY PRINCIPLES

- Phased approach
- Strong emphasis on courtyard spaces
- Architecture as a blank canvas
- Link between interior and nature
- Inwardly focused

5.3. Gehua Youth and Cultural Centre - Qinhuangdao, China (Project year: 2012)

The centre is located in a seaside town with exceptional historic and cultural significance. From the outset, OPEN Architects (2012) saw this centre as being an oasis within the town - free from noise and surrounded by nature. Maintaining the building's link with nature became the main design generator for the centre.

Programme and Design Approach

The building has various functional requirements, these include a theatre, gallery, multi-purpose activity spaces, cafe, bookstore and multi-media library. The majority of the spaces are flexible, so they can be used for a variety of functions (OPEN Architects 2012).

The building is organised around a central courtyard that acts as a social gathering space and can also become an extension of the theatre. The theatre doors can fold open, creating an open-air theatre or cinema depending on the occasion (OPEN Architects 2012).

Figure 5.13: The building merges with nature. The boundary between building and landscape becomes a blur (Zhi 2012)

Figure 5.14: The building is inwardly focused -organised around a central courtayrd (Zhi 2012)

Figure 5.15: The theatre opens up towards the central courtyard (Zhi 2012)

Most of the windows stretch from the ceiling to the floor; this further blurs the lines between inside and out, whilst they also fill the interior space with natural light. Sliding and folding doors also reinforce this idea of bringing nature indoors by opening the building up to the exterior (OPEN Architects 2012).

The sight lines have been designed so that many parts of the building are completely transparent, creating a constant link to the outside (OPEN Architects 2012).

Figure 5.17: The large windows blur the boundaries between inside and outside (Zhi 2012)

KEY PRINCIPLES

- Blur boundary between building and nature
- Blur boundary between outside and inside
- Inwardly focused - oasis
- Multi-functional spaces

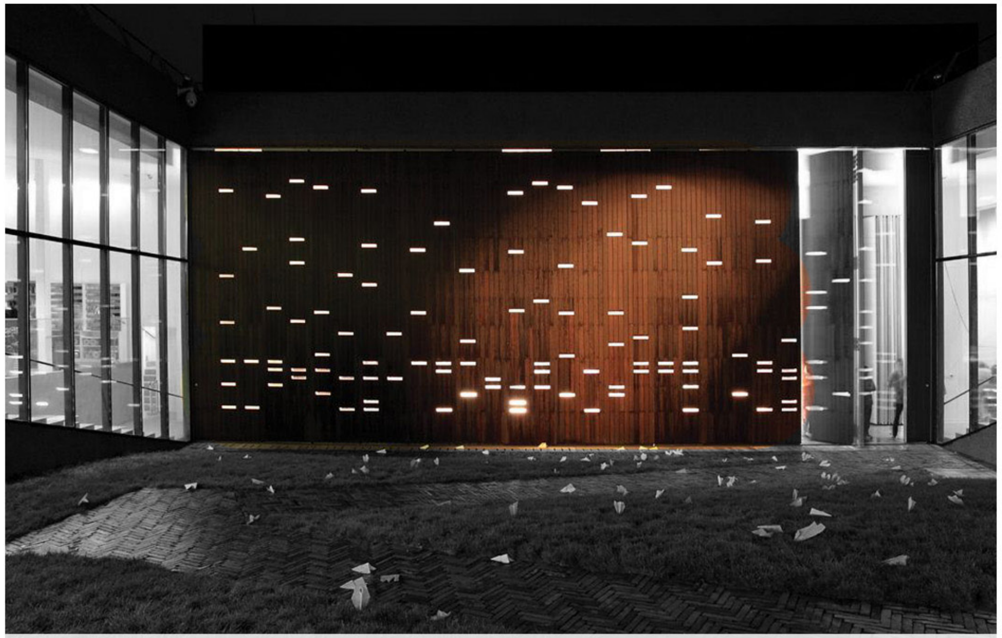


Figure 5.16: The folding doors are perforated, enlivening the facade (Zhi 20012)

Figure 5.18: The large folding doors open the facade up to the outdoors (Zhi 2012)

5.4. Strawberry Vale School - British Columbia, Canada (Project year: 1992-1995)

In 1992, Patkau Architects were commissioned to design an elementary school in a semi-rural community in British Columbia, Canada.

The programme includes 16 classrooms, a library, gym and office spaces.

A central, meandering spine divides the school, with classrooms to the south and offices and sport to the north. The classrooms are grouped together in pods, creating a variety of interior and exterior in-between spaces which act as informal meeting spaces, encouraging social interaction both spontaneous and planned (Patkau Architects 1992).

Between the main route and the classrooms are small waiting spaces that are used as social spaces providing a platform onto which a stronger sense of community may develop (Patkau Architects 1992).

Figure 5.19: The building responds sensitively to the adjacent woodland (Dow 2008)

Figure 5.20: The irregular configuration of spine and pods creates a variety of in-between spaces, allowing students to meet (Dow 2008)

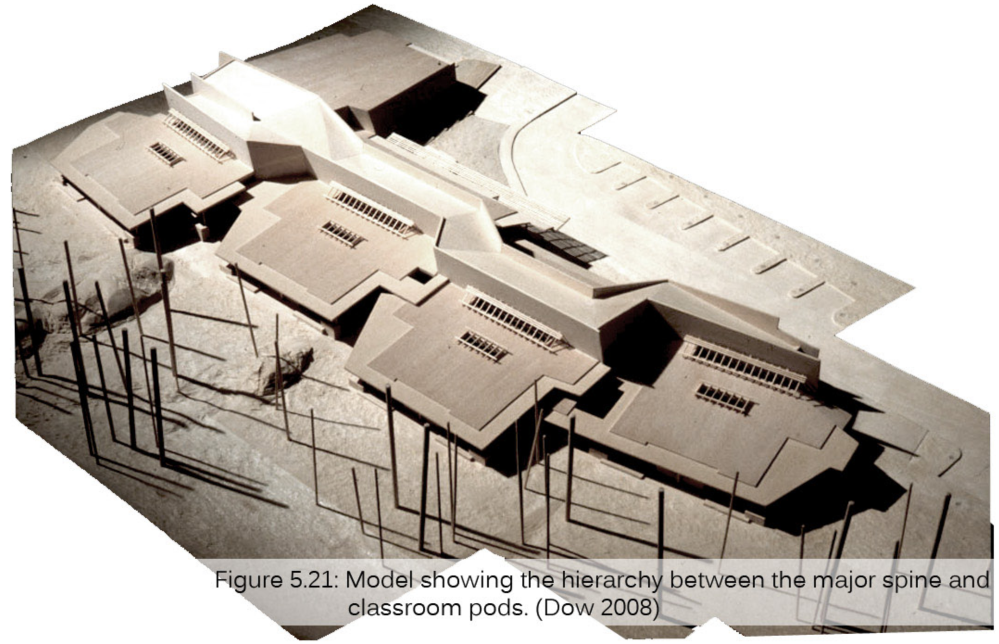


Figure 5.21: Model showing the hierarchy between the major spine and classroom pods. (Dow 2008)

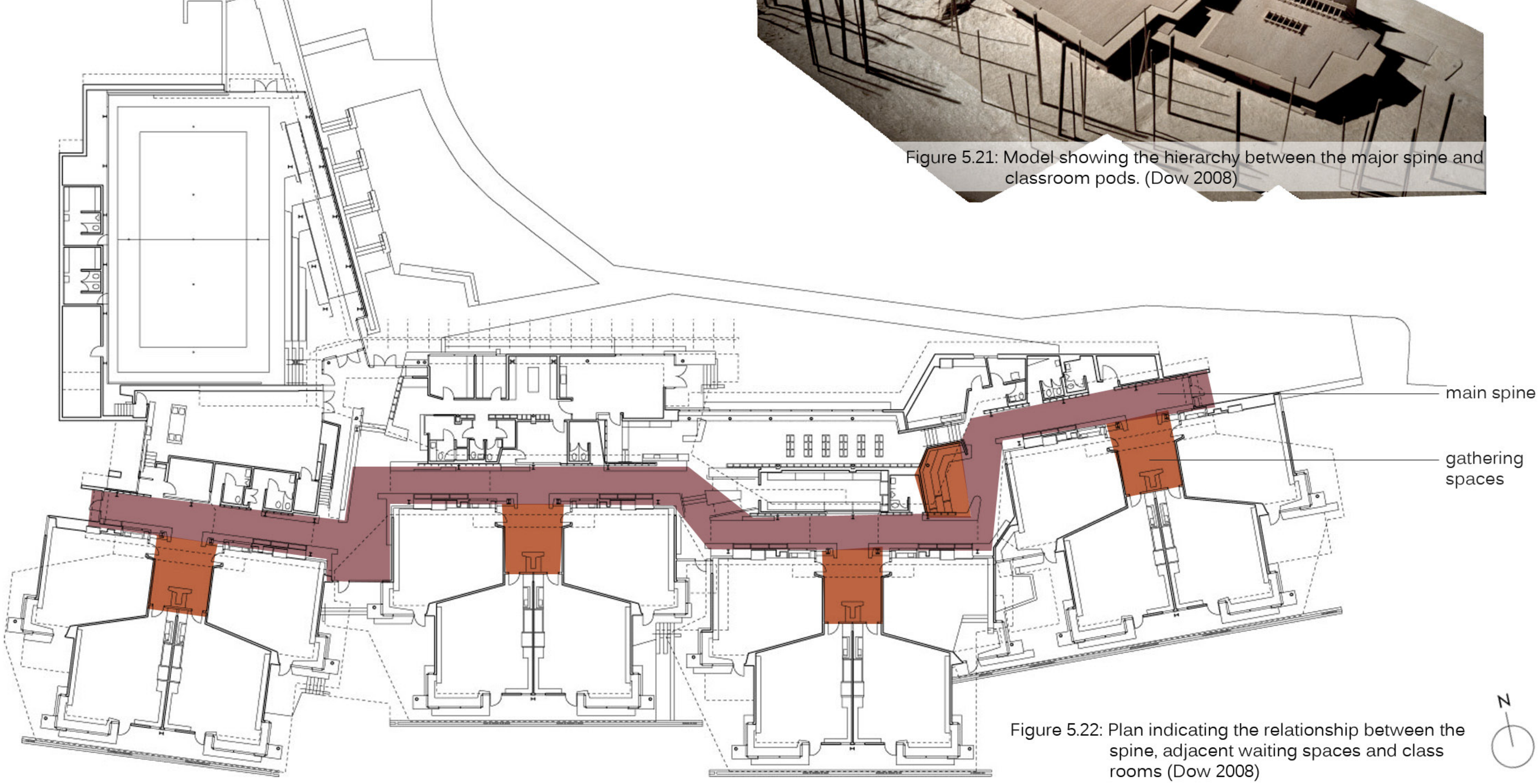


Figure 5.22: Plan indicating the relationship between the spine, adjacent waiting spaces and class rooms (Dow 2008)

5.5. University of Johannesburg Arts Centre (Project year: 2005)

In 2003 Mashabane Rose and Associates was comissioned to design the Universtity of Johannesburg's new arts centre.

The centre is made up of two buildings joined by a central gathering courtyard, which acts as a forecourt. The main building houses the contemporary theatre, rehearsal studios and dressing rooms, whilst the other houses an art gallery (Mashabane Rose 2005).

According to Mashabane Rose (2005) "*The aim of the forecourt was to create a noise-protected environment where the arts flourish*." Visitors descend down a series of steps to a winding path connected to the forecourt. The complex is lower than the rest of the university and is surrounded by a natural amphitheatre which aids in noise protection and creates a certain sense of separation from the rest of the university.

Figure 5.24: The rehearsal spaces act as platforms where practices in fact become performances (Raaths 2011)

Figure 5.23: The forecourt connects the theatre and art gallery (Raaths 2011)

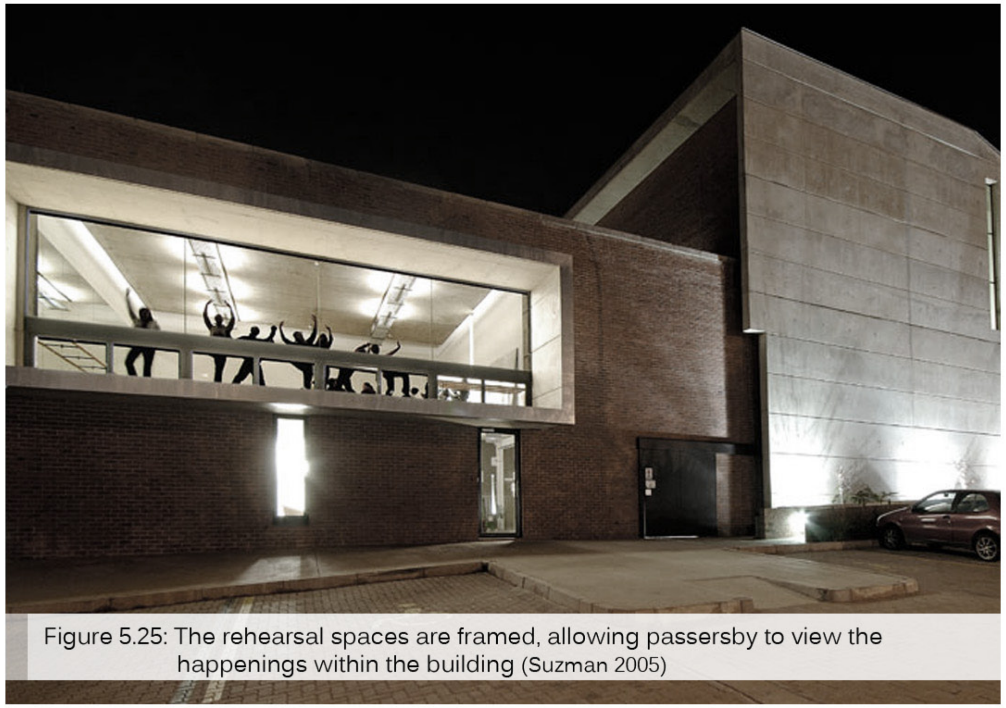


Figure 5.25: The rehearsal spaces are framed, allowing passersby to view the happenings within the building (Suzman 2005)

The art gallery merges with the landscape. Its green roof acts as an extension of the natural amphitheatre with visitors being able to walk on it.

The theatre space is flanked by servant spaces such as the ablution blocks, rehearsal spaces and dressing rooms.

The complex is unusual in that the inner-workings of the buildings are made visible to the public. The art gallery and studios have large displays that extend the arts, be they visual or performance, into the public realm - they are not kept hidden from passersby.

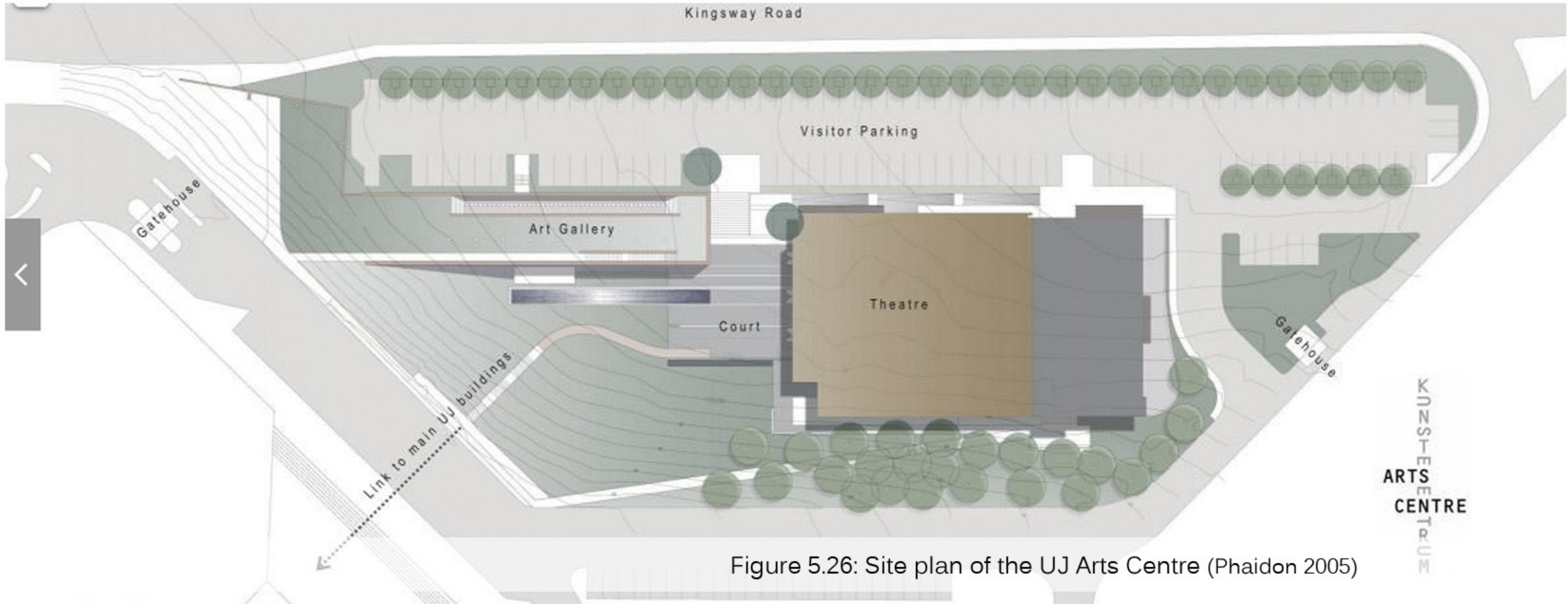


Figure 5.26: Site plan of the UJ Arts Centre (Phaidon 2005)

KEY PRINCIPLES

- The inner-workings of the buildings are extended outwards to the public
- The buildings consist of a number of platforms and displays
- The art gallery merges with the landscape
- The buildings are joined by a central gathering forecourt


Figure 5.27: The interior of the art gallery is displayed to the public (Suzman 2005)

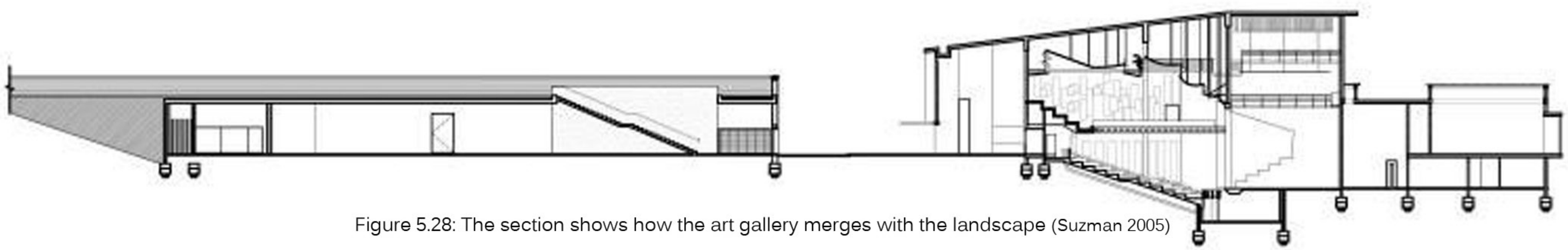


Figure 5.28: The section shows how the art gallery merges with the landscape (Suzman 2005)

5.6. Youth Center In Niafourang, Senegal
(Project year: 2011)

In 2011 Project Niafourang, a team of three students studying masters in architecture in Norway, travelled to Niafourang, a small coastal village in Senegal. A non-profit organisation working in the village approached the students with the task of building a youth centre that would include a computer room , library and a larger multi-purpose room (Skotte 2012).

The intention of the project was to create opportunities, jobs and development in the village.

Participatory Approach

Community participation was fundamental to the project. The community was involved in both the building and planning stages, in order to create a sense of ownership and pride in the resulting building (Skotte 2012).

There was great enthusiasm surrounding the project and the entire village partook in volunteer work (Skotte 2012).

Figure 5.29: The building is made up of a series of tectonic and stereotomic elements, defining public and private spaces (Skotte 2012)

Figure 5.30: The wood was sourced, cut and assembled on-site by the locals with assistance from the architects (Skotte 2012)

Construction and Design

There is no electricity in the village, so apart from a battery-powered drill, no electrical tools were used (Skotte 2012).

The walls are built using blocks of compressed sand and a small amount of cement that the residents hand-pressed using a local machine. The corrugated aluminum roof extends beyond the walls to prevent rain from entering the building and creates shaded areas for relaxation. The steel brackets for the roof were custom welded in a nearby village (Skotte 2012).

Throughout the design and construction phases the local residents developed various skills that the architects hope will result in their empowerment, enablement and inspiration (Skotte 2012).

KEY PRINCIPLES

- Community involved from outset and throughout project
- Local materials were used
- Project sought to enable and empower community
- Multi-purpose rooms

Figure 5.31: The roof sits lightly on the heavy mass that houses the library and computer labs (Skotte 2012)

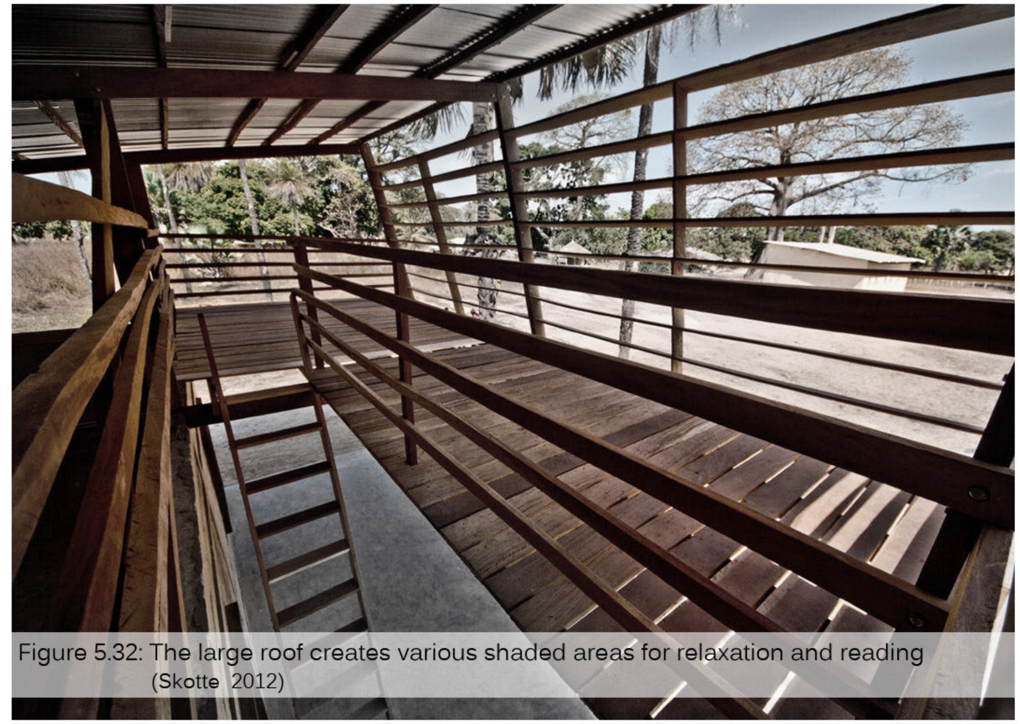


Figure 5.32: The large roof creates various shaded areas for relaxation and reading (Skotte 2012)

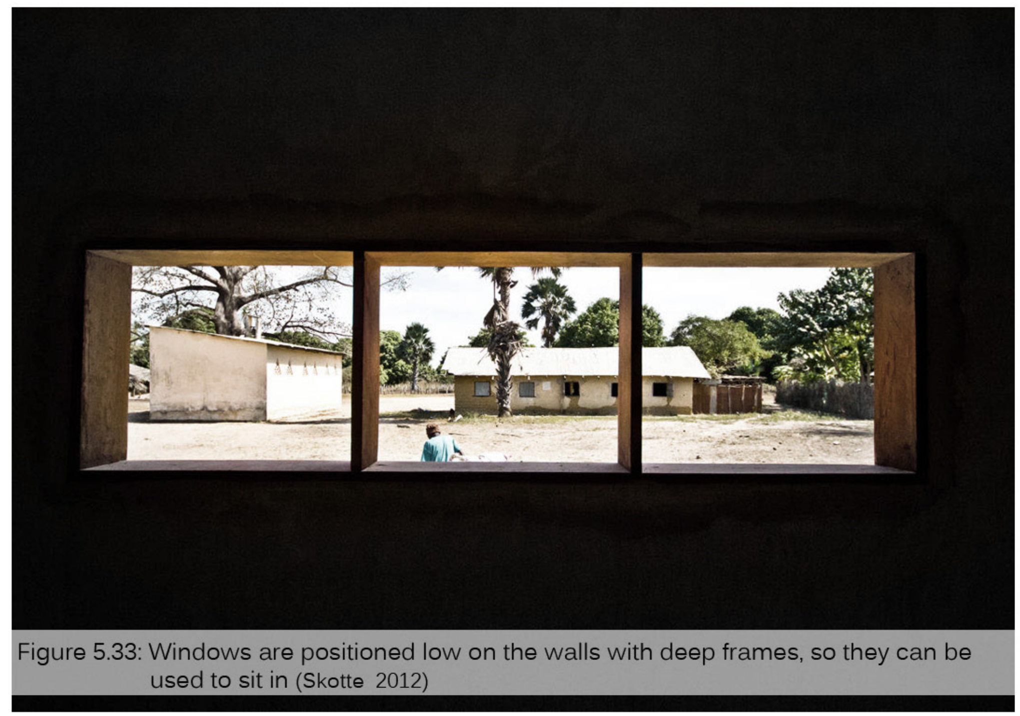


Figure 5.33: Windows are positioned low on the walls with deep frames, so they can be used to sit in (Skotte 2012)

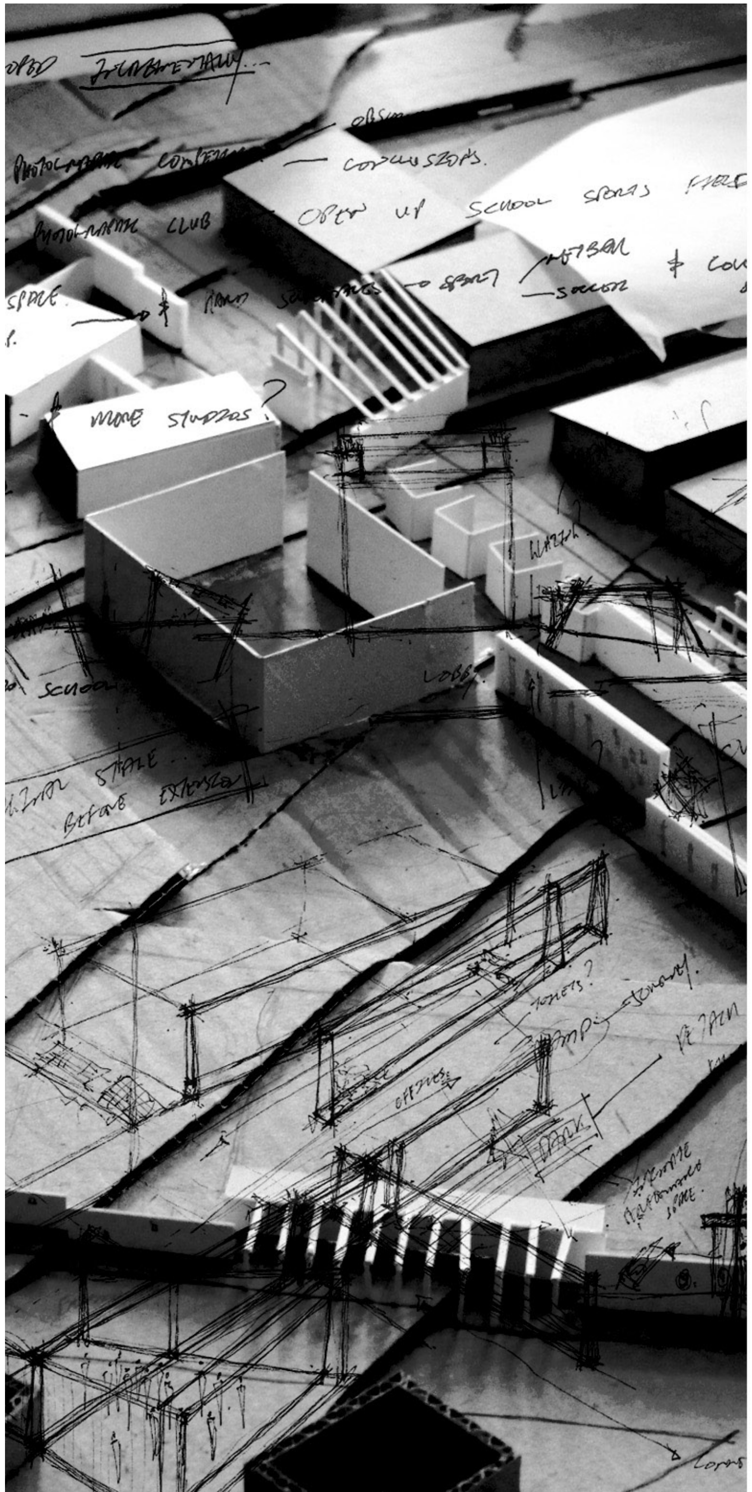


Figure 6.1: A maquette exploring the relationship of building to landscape (Author 2014)

One of the functions of landscape is to correspond to, nurture, and provoke exploration of the landscape of the imagination

Solnit (2007).

6 DESIGN DEVELOPMENT

This chapter describes the primary design generators and analyses the main theoretical premise and participatory research to support the decision-making process.

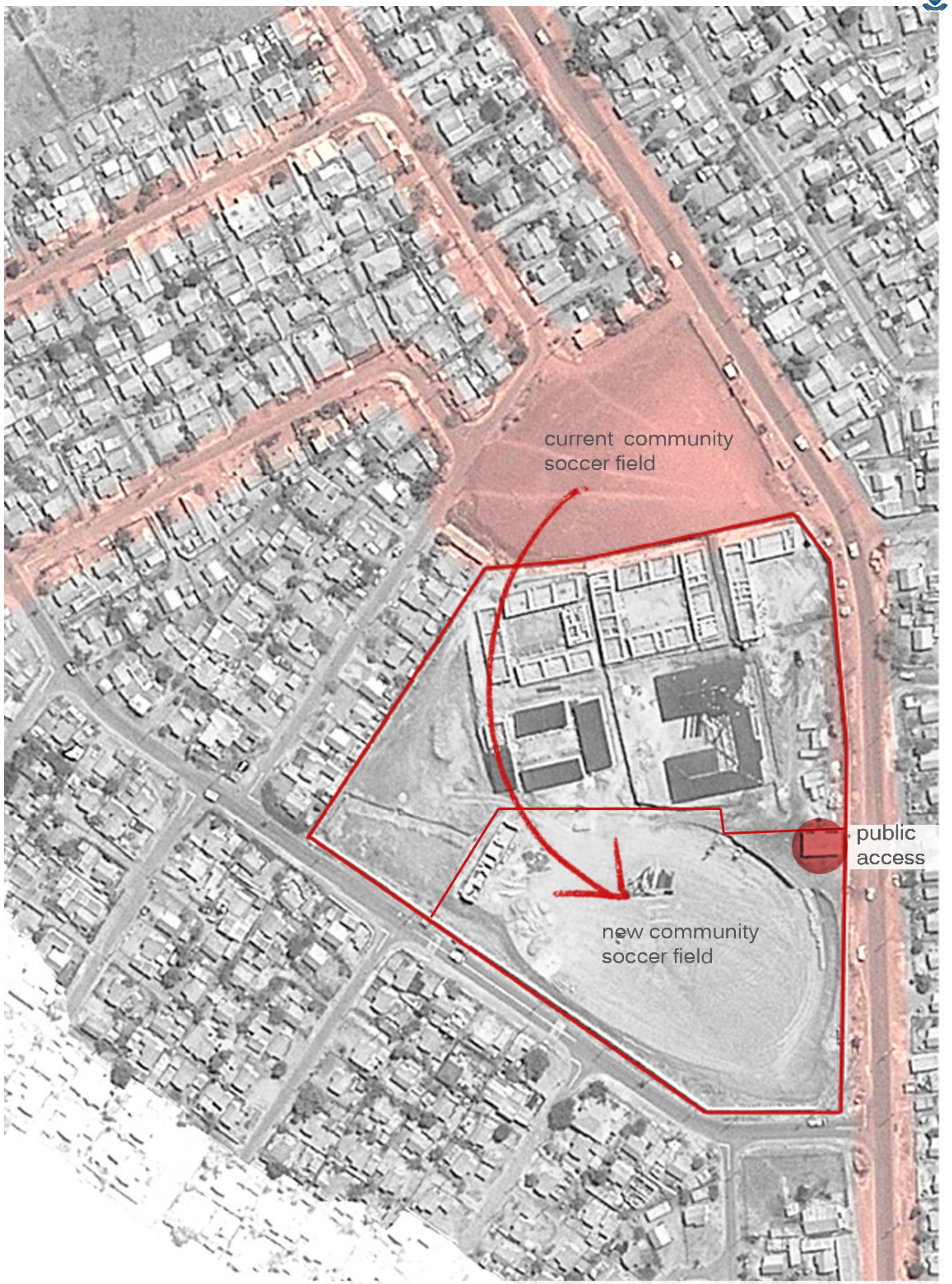


Figure 6.2: Photograph showing the school's soccer field opening to the public (Author 2014)

The participatory process, as described in Chapter 2, identified that a large portion of the Alaskan youth have a desire to participate in the arts, but lacks such a facility. Chapter 6 discusses the various generators informing the design of the proposed art facility.

6.1 Site Informants

The site faces an uncertain future. It is currently a prominent civic space within Alaska as it is where the community soccer field is located. However, the field was always a temporary solution while the primary school was being built, and, with the school ready to open its doors at the end of 2014, the community soccer field will be moved to the new, well-kempt school fields, leaving the current site with an uncertain future.

The dissertation sees the Imaginarium as an extension of the primary school. As it stands, the school is barricaded behind a concrete fence without positively impacting the community around it. Nelson Mandela (1993) said *Education is the most powerful weapon which you can use to change the world*. With the school being a symbol of knowledge and education within the community should it all be locked behind high walls?

Figure 6.3: Photograph showing the school barricaded behind a high fence (Author 2014)

The Imaginarium proposes that the solid barrier surrounding the school be replaced. The idea is for the building to frame the public space and provide a public interface where people can engage with the programmes, exhibitions and performances. Through the Imaginarium, the school can increase its sphere of positive influence within the community.

It is proposed that the Imaginarium will utilise performing and visual arts, as well as sports, as catalysts for strengthening the site's identity as a place where people meet, interact and play.

The site is situated adjacent to Impendulo Primary School and along the road leading to Rephafogile High School. The Imaginarium is an extension of Impendulo and is thus used by the primary school children during school hours, with adolescent programmes run after school.

Although the official soccer field is relocated, the site retains its identity as a space where children come to play together, with hard courts being provided for smaller netball and soccer matches.

Businesses have been established to the east of the site, taking advantage of the high volumes of pedestrian traffic experienced down the main road. These businesses are not ignored by the proposed facility and thus become an integral part of the precinct.

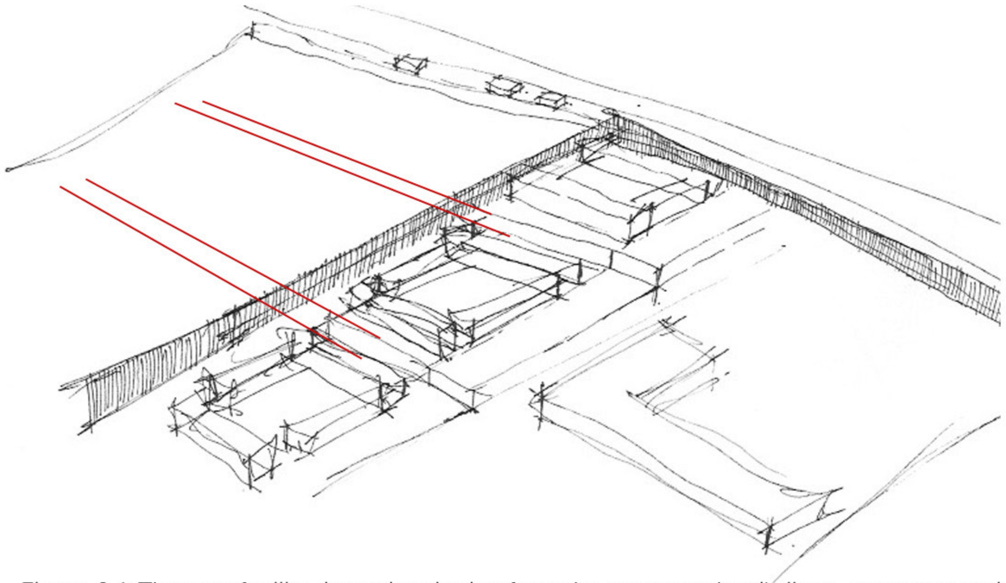


Figure 6.4: The new facility draws inspiration from the current school's lines, geometry and terraces. (Author 2014)

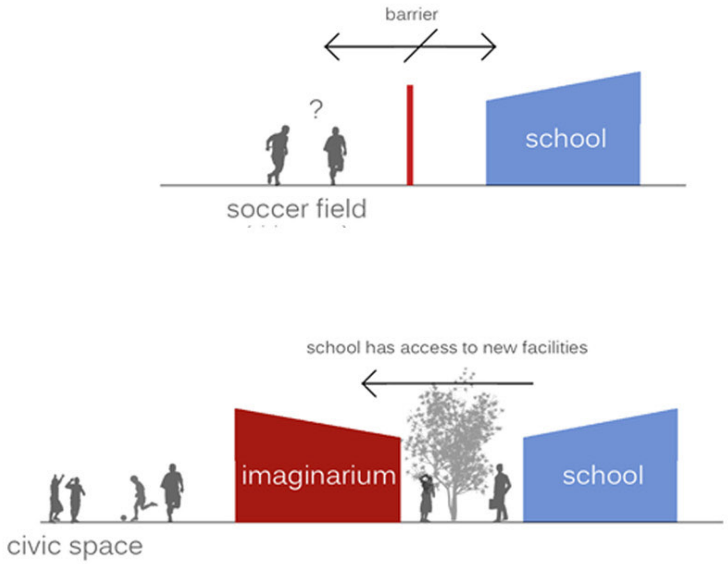


Figure 6.5: Illustration showing how the Imaginarium replaces the barricade and creates a public interface with the school (Author 2014)

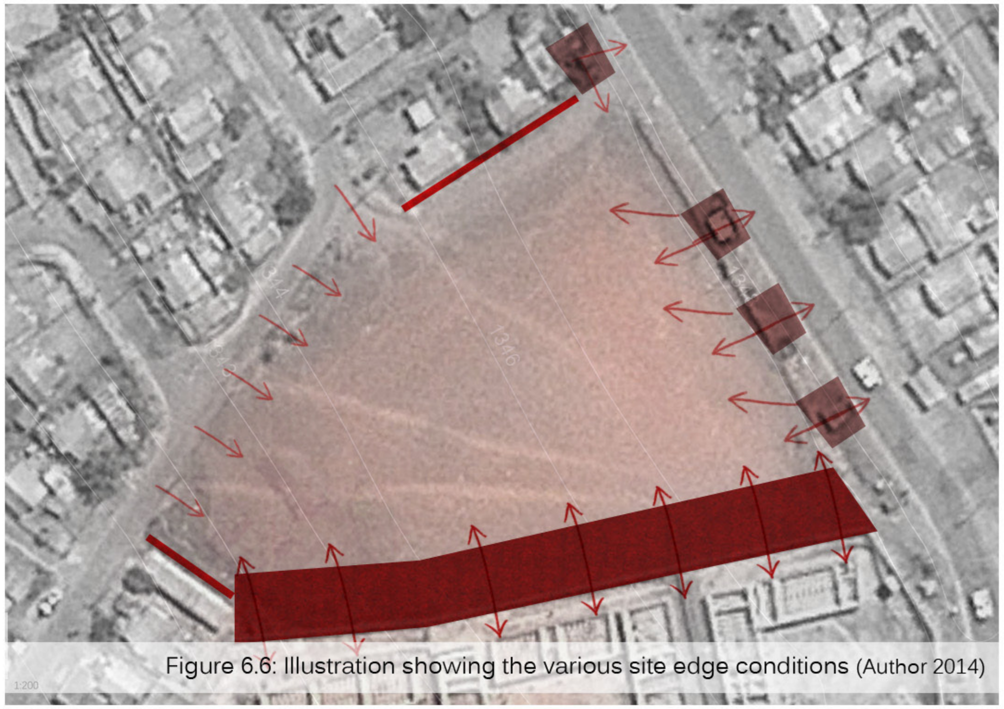


Figure 6.6: Illustration showing the various site edge conditions (Author 2014)

6.2 Architectural Intention

Architecture as Platform

Platform: 1. A raised floor or stage used by public speakers or performers so that they can be seen by their audience
2. An opportunity to voice one's views or initiate action
(Oxford Dictionary 2007)

The project proposes both a physical and metaphorical platform for the occupants and spectators.

The Imaginarium, through the various programmes and activities, becomes a **platform of empowerment** for the youth of Alaska, where their creativity is nurtured and talents developed.

The intent is for the building to frame the public space and act as an activity generator. It shall also serve as a public space where members of the community can gather and enjoy the creative and sporting talents of the youth.

The Imaginarium is intended to be a **physical platform** and **display** where, instead of the creative happenings being hidden from the public, they are extended into the public realm.

The concept is for the architecture itself to become a part of the artwork with portions of the building being used as graffiti and mural walls, whilst the rest of the building is to consist of a series of displays and platforms, sharing the inner-workings of the Imaginarium with the public.

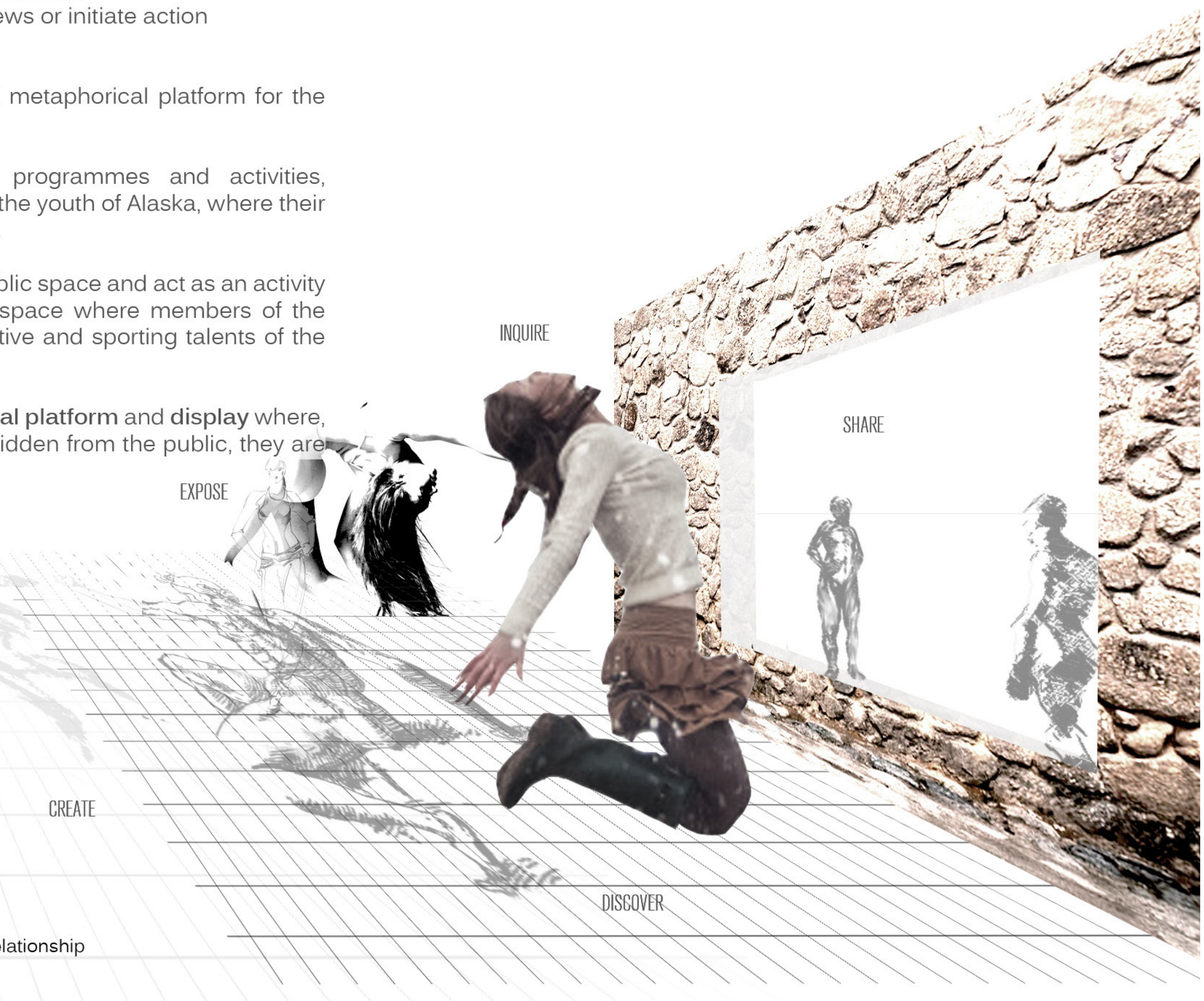


Figure 6.7: Initial concept collage representing the relationship of the inner-workings and the public (Author 2014)

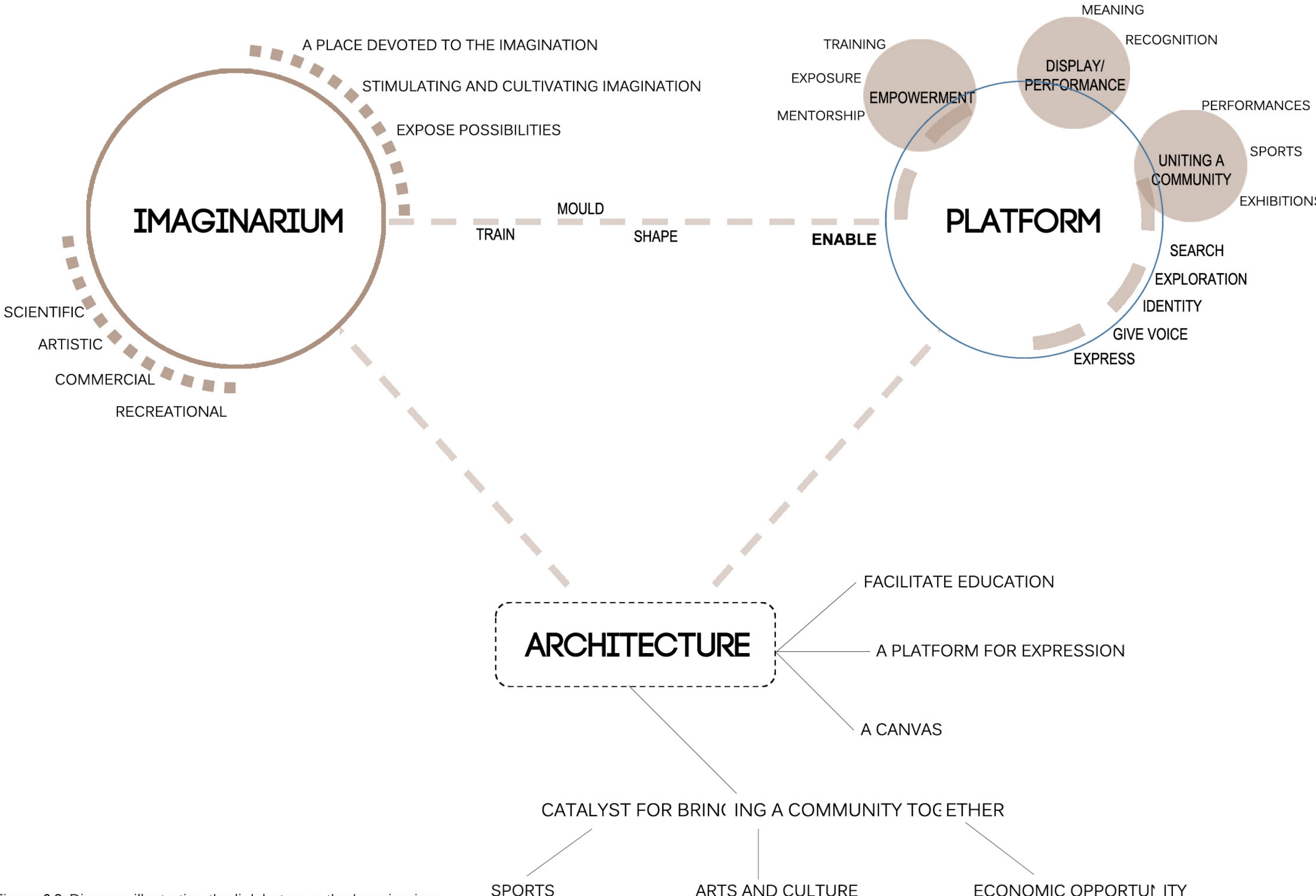


Figure 6.8: Diagram illustrating the link between the Imaginarium, the idea of platform and architecutre (Author 2014)

6.3 Positioning the Imaginarium

Although the physical environment has no direct influence on social contacts, designers are able to influence the conditions for these contacts (Gehl 2011).

Gehl (2011) states that for a public space to be successful, it is important for there to be stimulating activities within the space, both moving and stationary. These spaces should also be flexible and easily accessible.

The design process began with an investigation into the most appropriate position for the building. The Imaginarium frames the public space, supporting the various activities that occur within the space.

A great square can be a focal point of civic pride and help to make citizens feel connected to their community (PPS 2012).

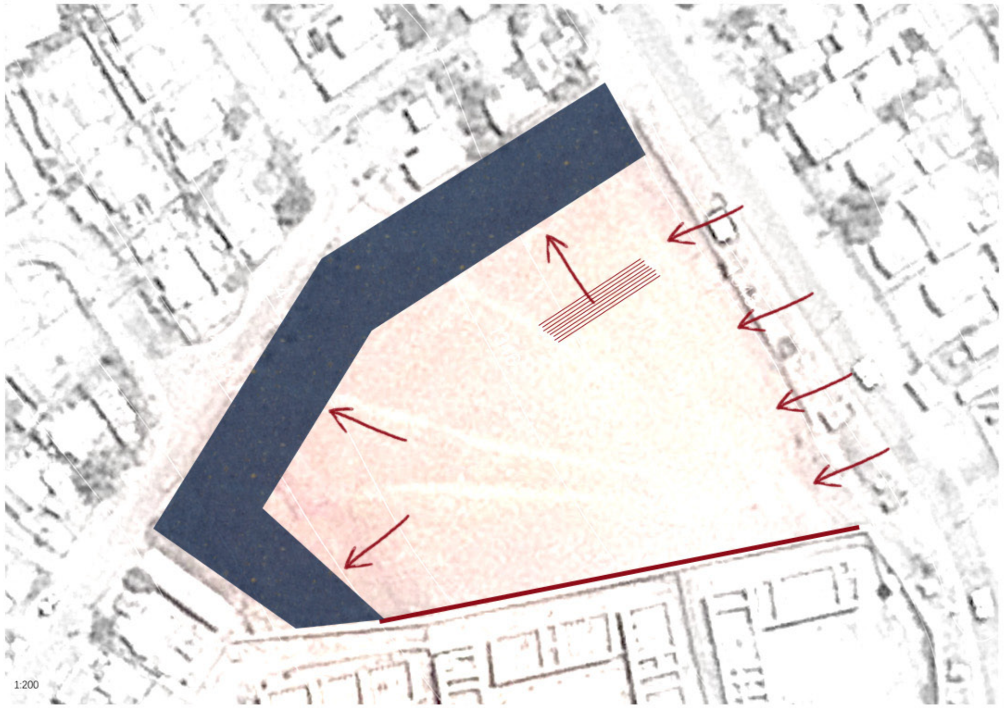


Figure 6.9: First investigation of building position (Author 2014)

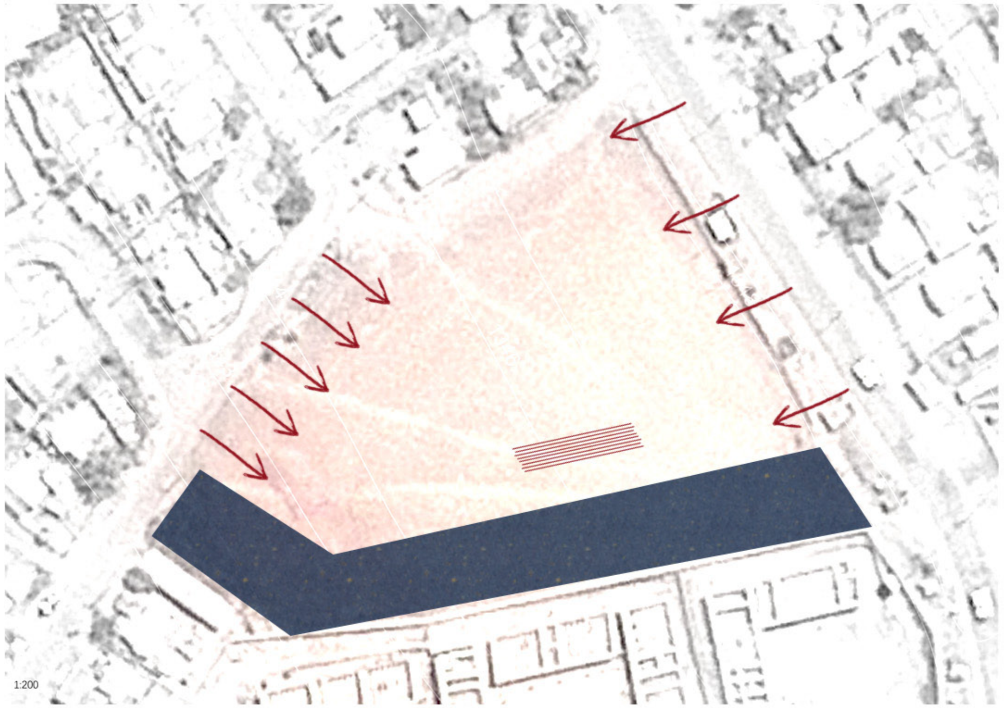


Figure 6.10: Second investigation of building position (Author 2014)

In April 2014 a discussion regarding the initial design took place with an internal lecturer. The importance of the positioning of the building was emphasised and a comparative study was undertaken.

The first option was to position the building along the north and western sides in order to hold and frame the public space.

The main disadvantages of this were the weak link to the school, the barrier around the school was not addressed, the scale difference between the institutional-style Imaginarium and the adjacent residential area is uncomfortable and the site would not be as freely accessible as before.

The second option was to position the building along school boundary, preserving the open site edges.

The main disadvantage of this was the danger of *bleeding edges* meaning that the edges of the site must be framed in order to hold the public space. Soft or permeable edges are required for the space to be framed, yet still be inviting to passersby (Gehl 2011). The edges to the north-west of the site must be designed in such a way that the space is held.
Due to its strong link to the school, ability to frame the public space and improved orientation when compared to the previous option, it is seen as the **more appropriate** position.

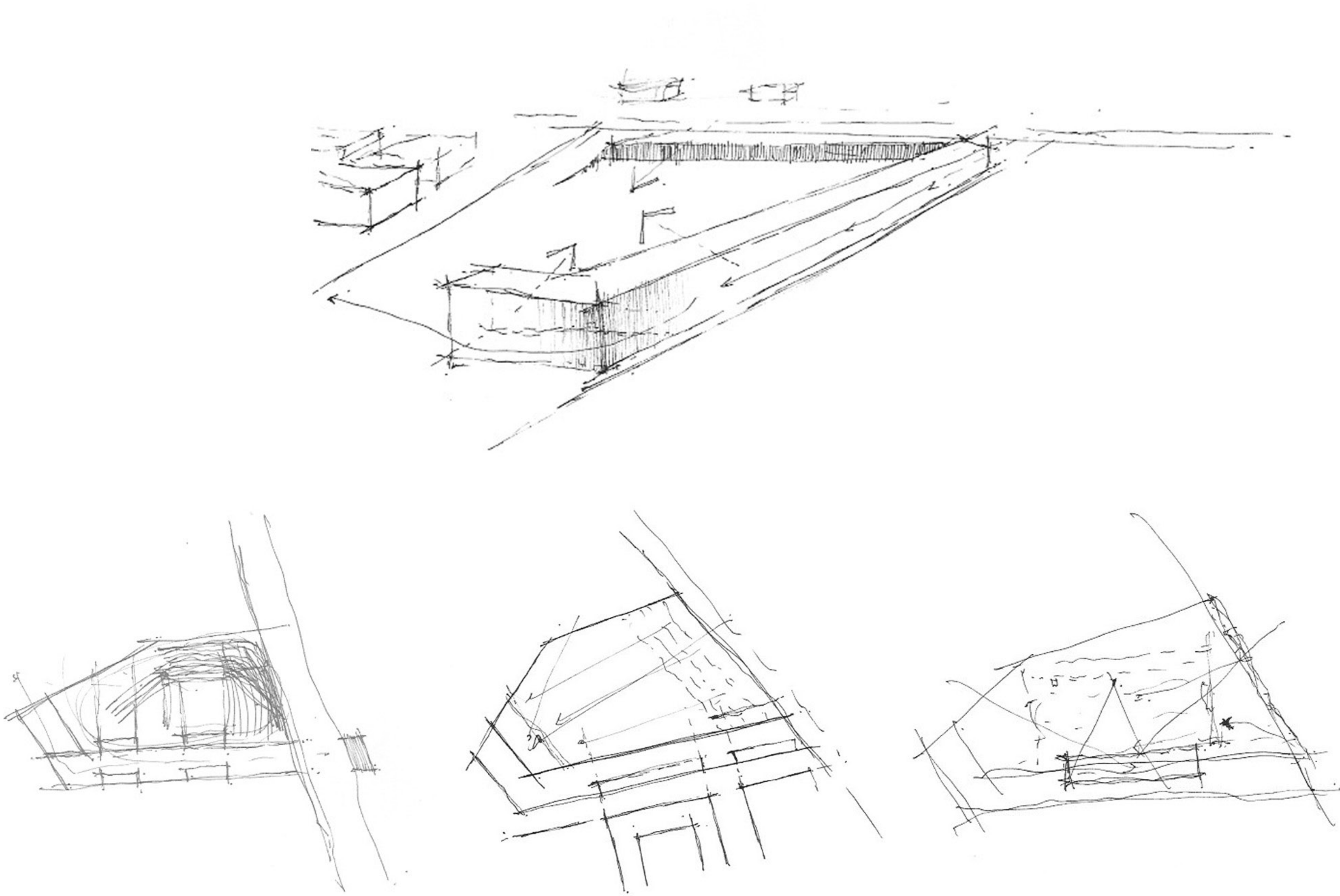
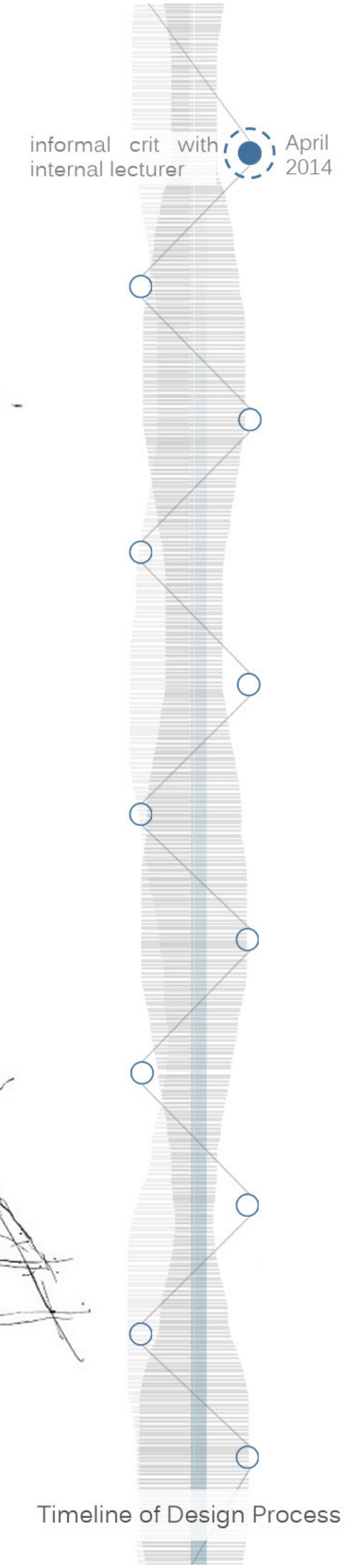


Figure 6.11: Initial concept sketches investigating the positioning of the amphitheatre (Author 2014)



Timeline of Design Process

6.4 Responding to the School

Imagination versus Knowledge

We are educating people out of their creative capacities.
Robinson (2006)

Sir Ken Robinson (2006), an English author and educationalist, states that the current education system in place around the world is impeding the creative growth of students. Robinson (2006) states that *Creativity is as important as literacy and we should treat it with the same status*.

Robinson (2006) states that imagination and knowledge are not polar opposites, but are in fact linked.

The juxtaposition of an Imaginarium, a place devoted to the imagination, to a school, predominantly a place of knowledge, creates opportunity for the designer to mediate between the two spheres.

Figure 6.12 shows the rigid and inwardly focused organisation of Impendulo Primary School. The Imaginarium aims to challenge this by breaking through the existing barrier and open out towards the public.

Figure 6.12: Diagram showing the introverted nature of the school (Author 2014)

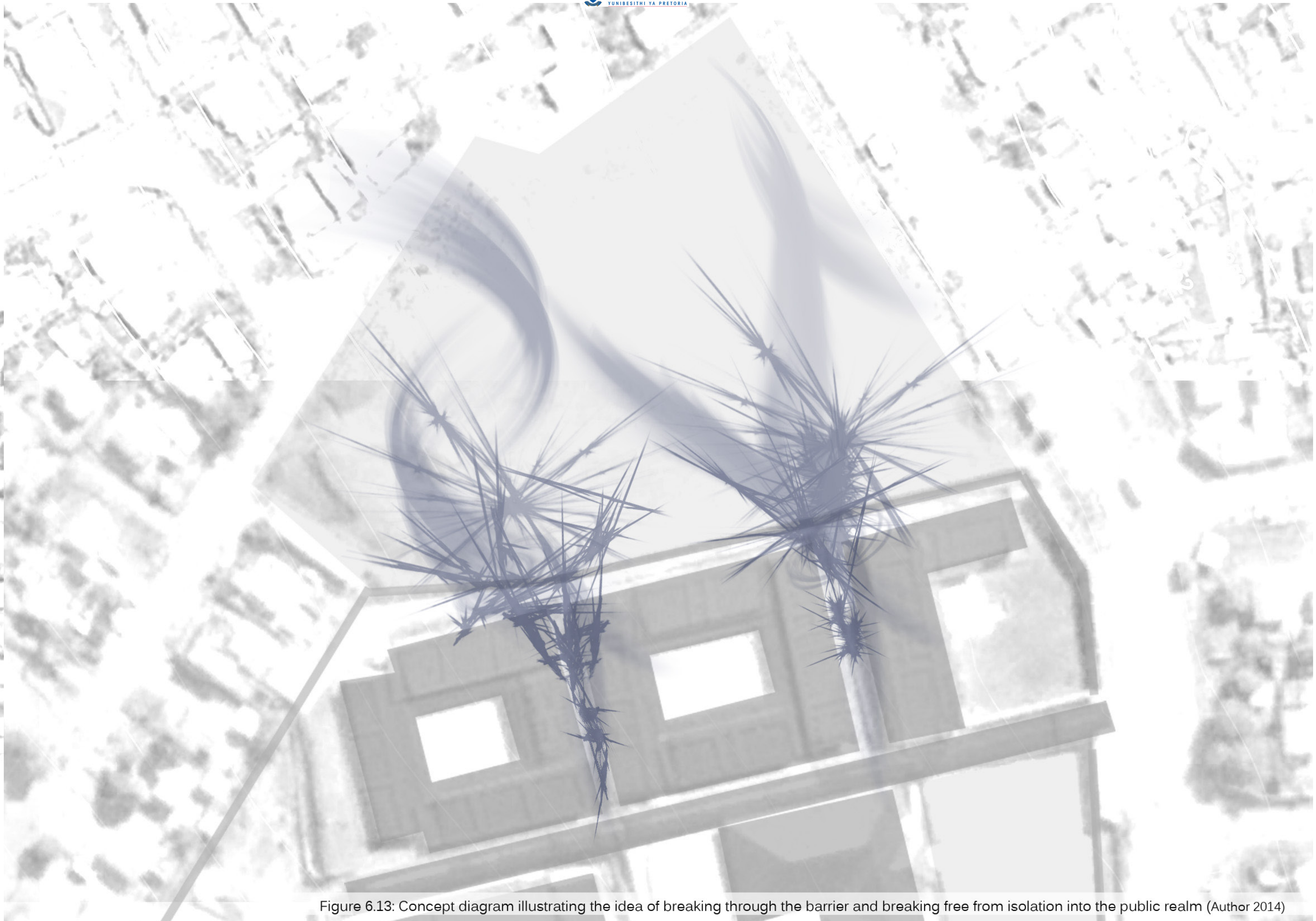


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Figure 6.13: Concept diagram illustrating the idea of breaking through the barrier and breaking free from isolation into the public realm (Author 2014)

Figure 6.14: Diagram showing the edge conditions of the site and school (Author 2014)

Gehl (2011) states that buildings have an impact on the adjacent spaces and, if designed appropriately, can enhance and reinforce these as successful public spaces within the community. Despite this, the newly constructed Impendulo Primary School has barricaded itself behind a high concrete fence.

According to Newman (1972) this separation from the community also impacts the safety and security of surrounding areas. There is a hierarchy of space in our built environment ranging from totally private and defendable space through to completely public. Newman (1972) states that the more thresholds there are between the public space and private space, the more secure and defendable the private space becomes.

Newman (1972) identified four factors that create defensible space:

Territoriality – refers to the desire of users of the space to lay claim to it

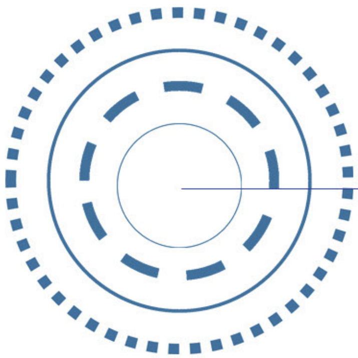
Natural surveillance – refers to the ability of residents to be able to watch over their surroundings

Image – refers to the capacity of the physical design to impart a sense of security. It is important for the building or space not to seem isolated from the surrounding community

Milieu – this suggests that the location of a development close to areas of high security/surveillance will inhibit criminal activity.

Figure 6.15 shows the site in relation to the school. The barrier creates a harsh threshold between the two areas leaving both the school and site isolated.

The Imaginarium aims to overcome this harsh threshold, extend the school's influence beyond the barrier and address the site with regards to the above four points, creating a safe and active public space for the surrounding community.



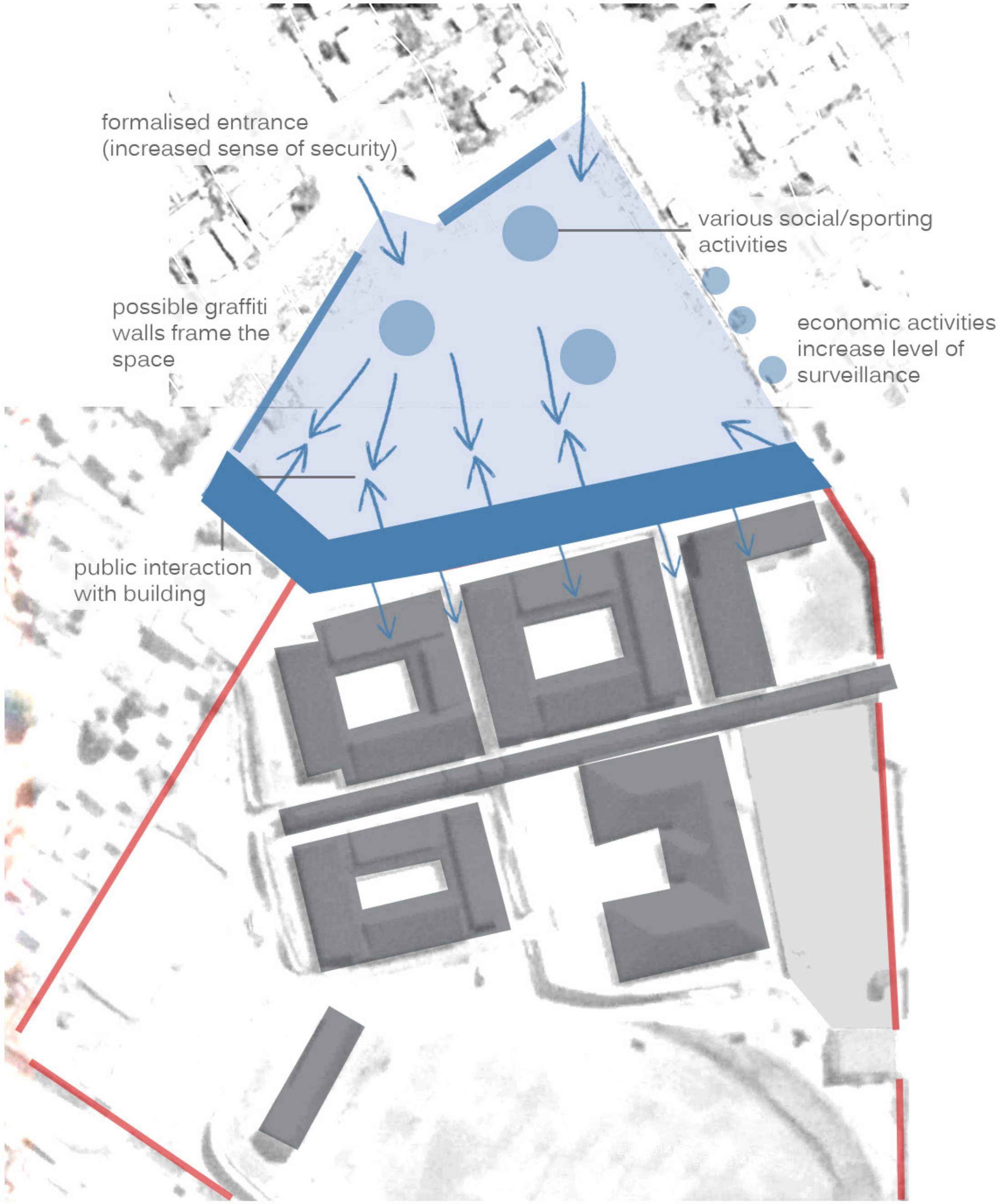


Figure 6.15: Diagram indicating the Imaginarium's relationship to the school and the proposed public space(Author 2014)

6.5 Initial Design Participation

Tovivich (2010) puts forward the notion that knowledge and skills of the architect as provider remain important, but they are not enough to effectively deal with the challenges posed by informal settlements.

From Tovivich's (2010) case studies, she concluded that, within the context of informal settlements, where there was little participation from the community, the effectiveness of the designs was seen as low.

Further case studies, where the architect shifted more to a supporting role, showed dialogue between the various parties to be high, the designs to be more effective, local capacity of community members had been built up and learning between all those involved was encouraged (Tovivich 2010).

From Tovivich's (2010) research, the author considered it important to involve the community early on in the design process in order to ensure the project adheres to what they truly need.

During March 2014, the author spent two days engaging with five people identified during the mapping exercises, these included adolescents and community leaders.

During the participatory mapping earlier in the year the author found it difficult to convey his message to a larger group as only a few understood the aim of the project. A smaller group was chosen for the design exercise as this was seen to be manageable for the author.

Figure 6.16: Alpheus explains his thoughts regarding the site (Author 2014)

The author explained his concept and talked the group through his initial concept model. Dialogue between the various actors was encouraged. They agreed with the positioning along the school edge and also with the Imaginarium being split up into the visual arts and performing arts.

The group used a working mass model in order to easily explain the possible layouts of the Imaginarium and the surrounding facilities, such as the amphitheatre and stage.

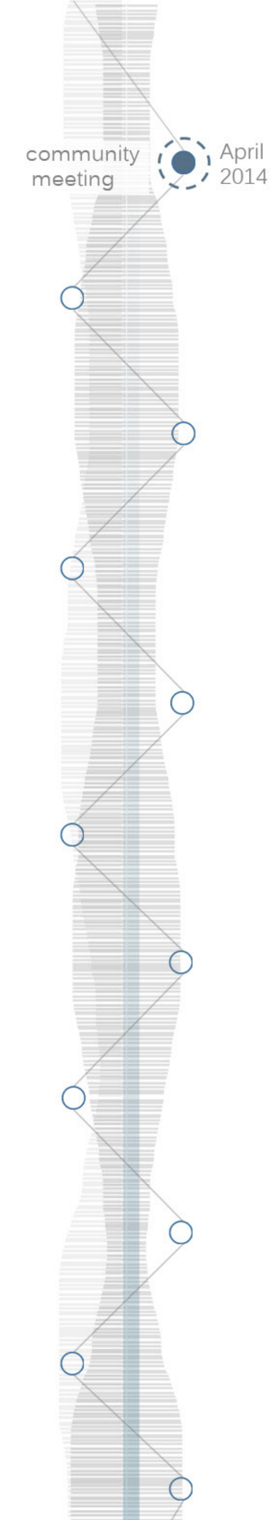
The meeting had limited success from a design aspect as the group members did not know where to place the various masses, placing blocks at random, and seemed to merely agree with everything the author was saying.

Despite this, the discussions with the group gave the author more insight into the residents' thoughts about the site:

- Once the soccer field is relocated, the community sees the site as a park where residents can meet, relax and children can play.

- The group saw the multipurpose hall and amphitheatre as the most important elements within the proposed precinct.

Figure 6.17: The mass model became the central tool for discussion (Author 2014)



Timeline of Design Process

6.6 Maquette Development

The aim of the initial maquette was to explore the organisation of the various activities within the Imaginarium.

The building follows the school boundary, framing the adjacent site. It is divided into three main parts. The first being the exhibition space and theatre which are open to the public. The second is the performing arts area and the third is dedicated to visual arts. The latter two areas are accessible only to those enrolled in the various arts programmes.

Opening up the northern facade allows the public to see the inner-workings of the building, making the Imaginarium a platform/display and the processes within, the performance.

This initial design was critiqued by an internal panel of lecturers at the University of Pretoria.
The numerous internal and external crits that took place throughout the year were seen as part of the participatory process. D' Anjou (2001) states that in a co-operation model, all parties are embedded in the design process. The process is made up of shared decision-making and reflective dialogue.

The main critiques were that it failed to respond to the edges of the site, as well as the spaces between the Imaginarium and the school.

Reflecting on the crit, the author concluded that in order to design a site-sensitive and responsive building, the inclusion of context is an essential aspect to both drawing and maquette building.

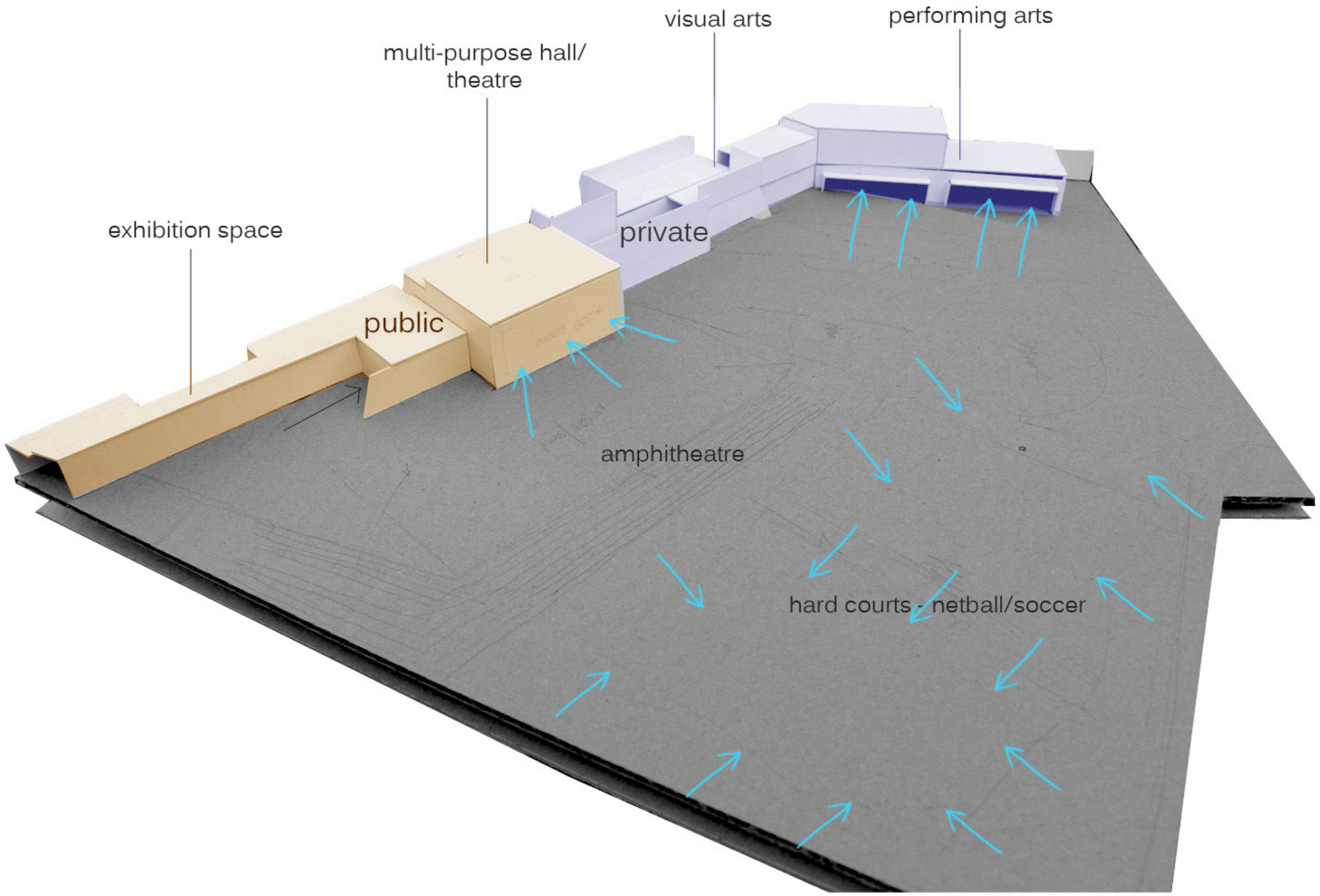


Figure 6.18: Initial concept model (Author 2014)

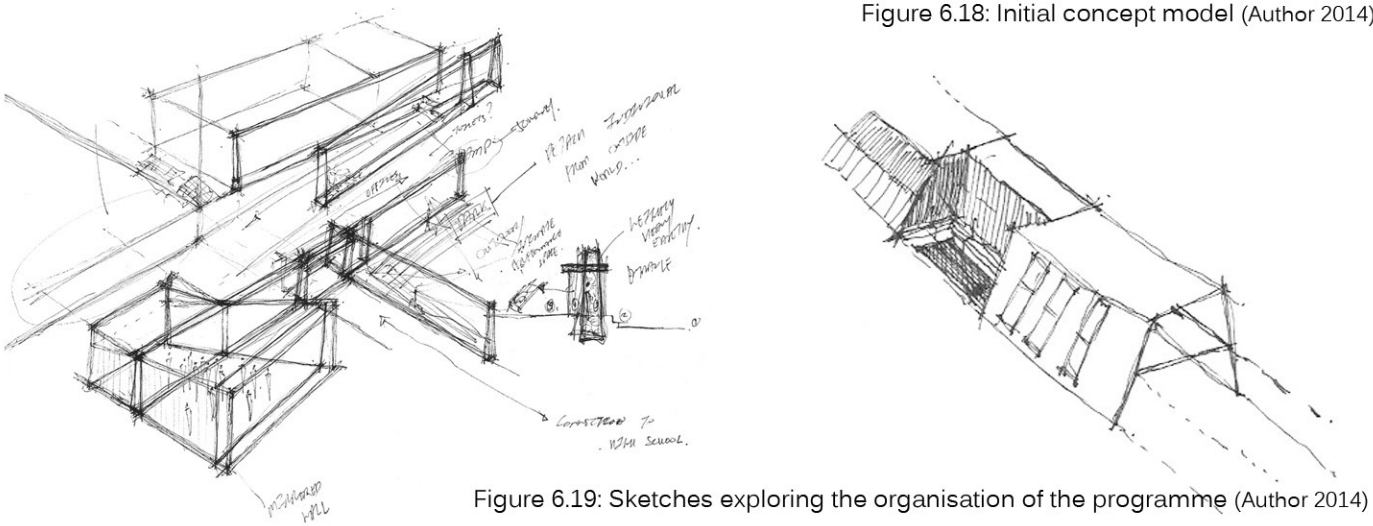


Figure 6.19: Sketches exploring the organisation of the programme (Author 2014)

Re-Imagining the Theatre

A study of the various theatre and stage types was conducted in order to select the most appropriate for the context.

Figure 6.20 describes four of the main stage/theatre types (Gambertz 2010):

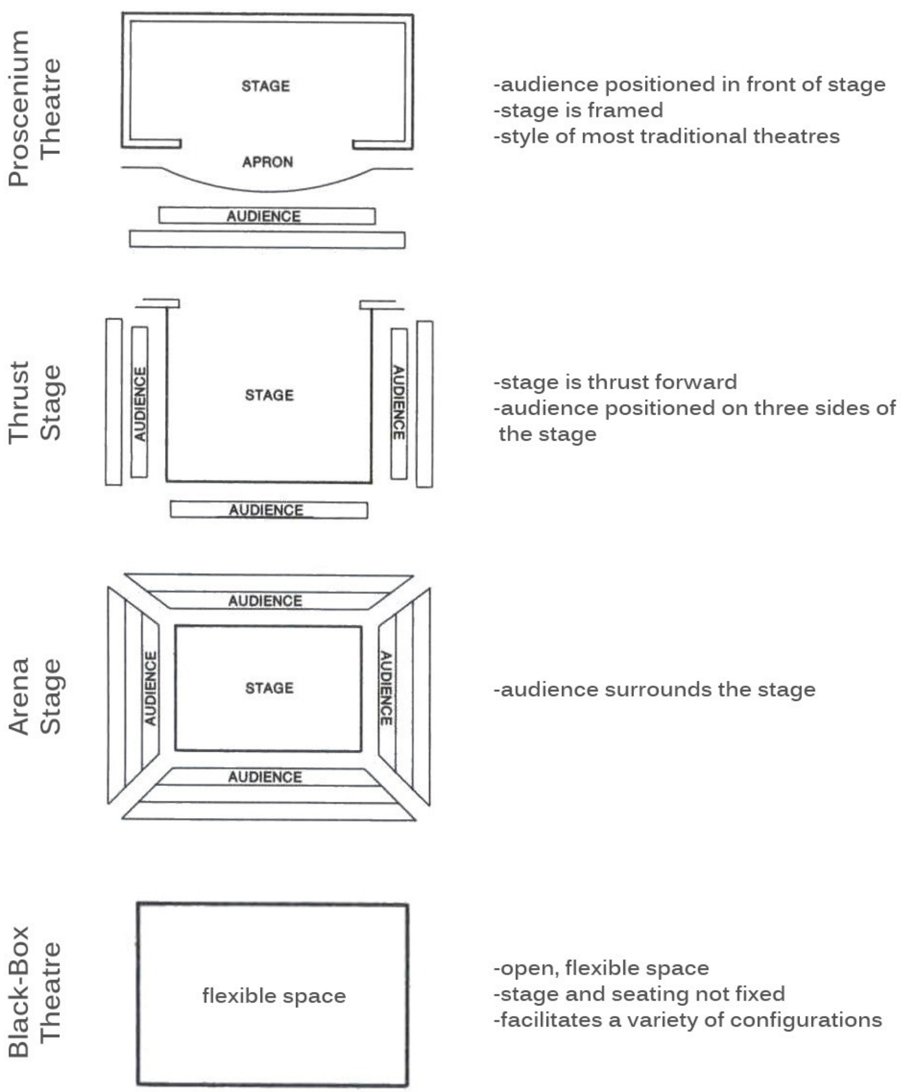


Figure 6.20: Parti diagrams of various theatre types (Author 2014)

The Imaginarium hosts a variety of performances, such as, music, dance, poetry and drama, therefore a flexible, multi-purpose hall is required. From the research, a black-box theatre is thus the most appropriate type of theatre for the given context.

Reinforcing the idea of the architecture displaying the inner-workings of the Imaginarium, the theatre is able to open up towards the amphitheatre, allowing for a variety of performances to take place.

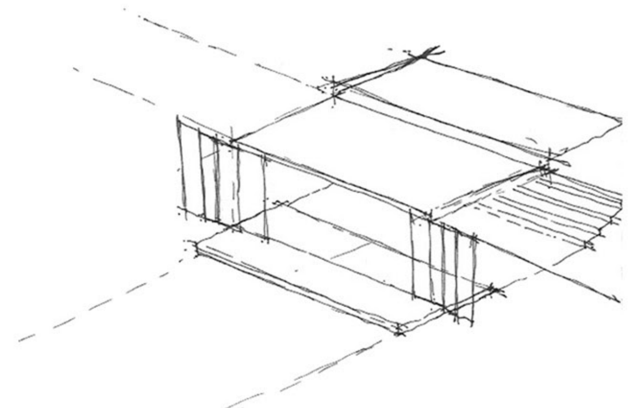


Figure 6.21: Illustration of the theatre opening towards the exterior (Author 2014)

From the observations made during events held by VIVA, the spectators often take part in the dancing and singing despite not officially being a part of the performance. The idea was thus to design an amphitheatre made up of a series of small terraces. The terraces step in to create more intimate spaces for conversation and step out to create platforms on which spectators can participate in performances, i.e. dance and music.

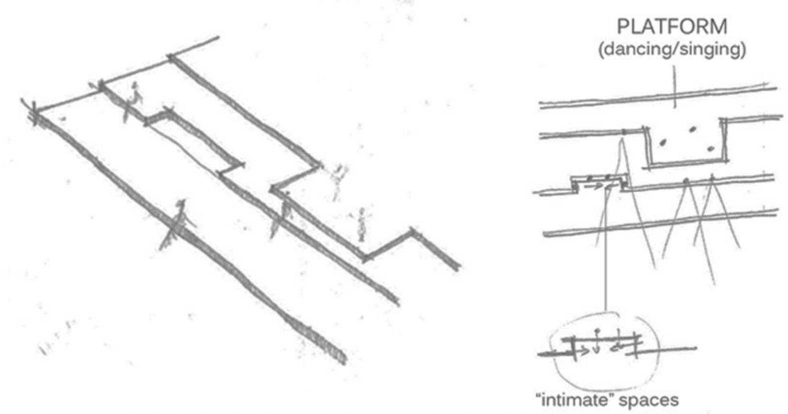
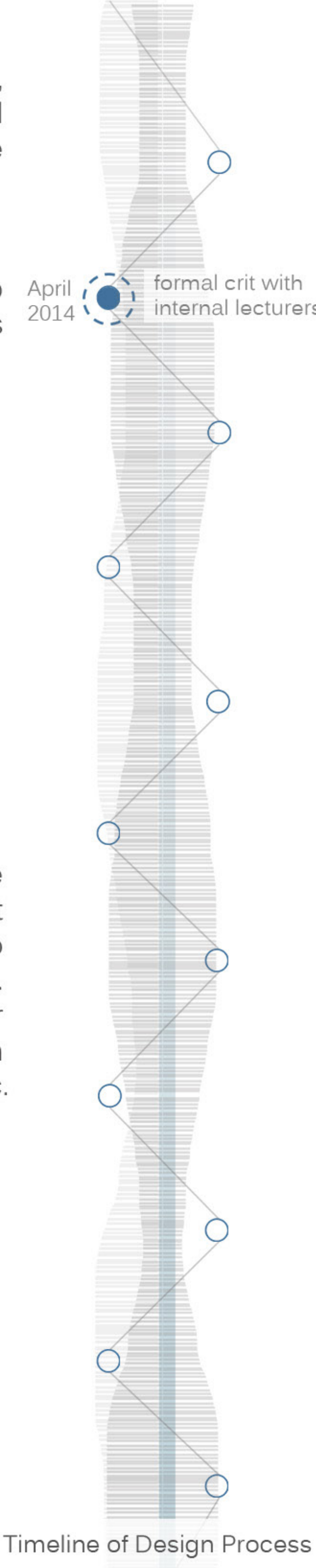
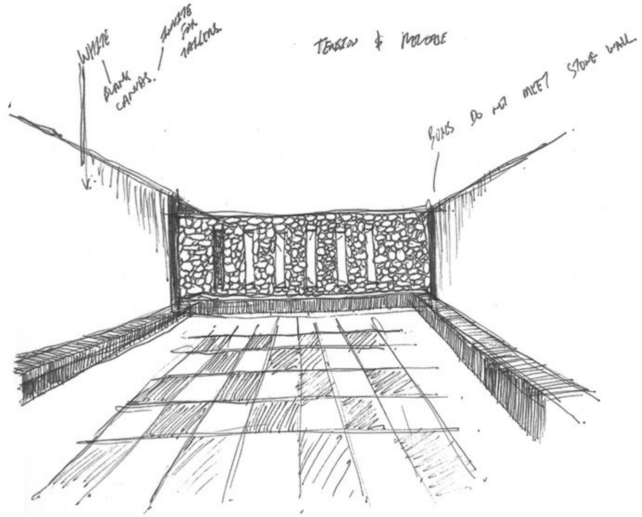


Figure 6.22: Illustration of the amphitheatre's concept (Author 2014)



Timeline of Design Process

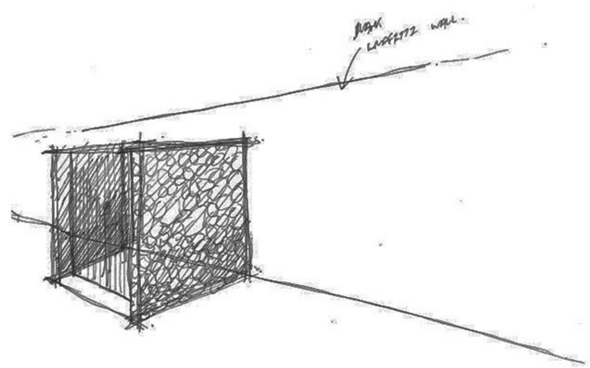
Figure 6.23: Stone is a prevalent material in Alaska (Author 2014)



As the sun crosses the sky, so the rocks create a variety of shadows along the mountain. Many residents see the mountain on which Alaska is built as living (Alpheus 2014). It is one of the most prominent features in the area and provides building materials to all who settle there.

Stone from the mountain can be found throughout the settlement, whether it be for the buildings themselves, or for terracing up the slope.

The Imaginarium seeks to carry on this tradition of stone construction by having large, heavy stone walls parallel to the school and then introducing lighter elements that penetrate through the stone.



The stone walls define the circulation spine, whilst the lighter *pods* facilitate the programmes.

The large stone walls represent both a physical and metaphorical barrier that is being broken through by the various imagination stations.

The use of stone varies as one moves through the building. This will be explained later under *Design Resolution*.

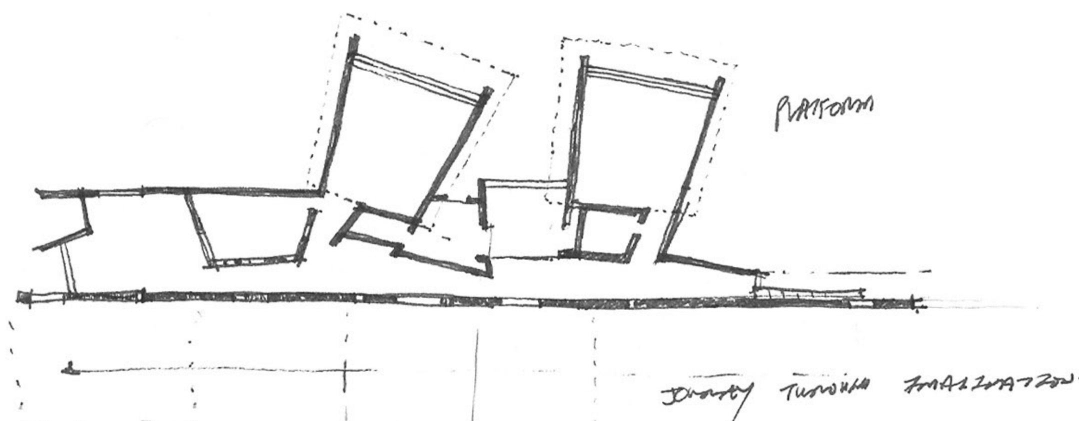


Figure 6.24: Sketches showing the pods break through the stone walls - Mehrotra (Author 2014)

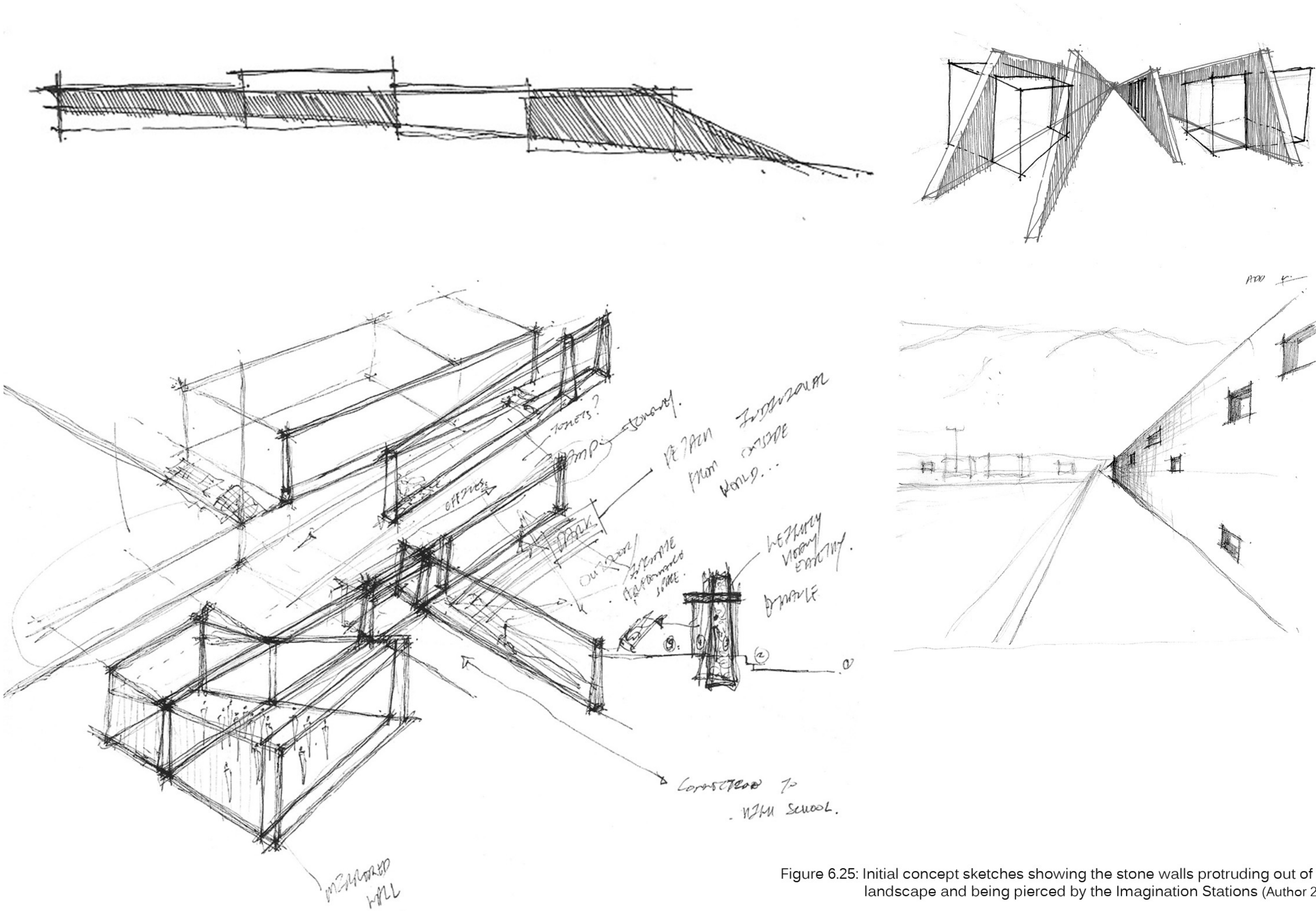


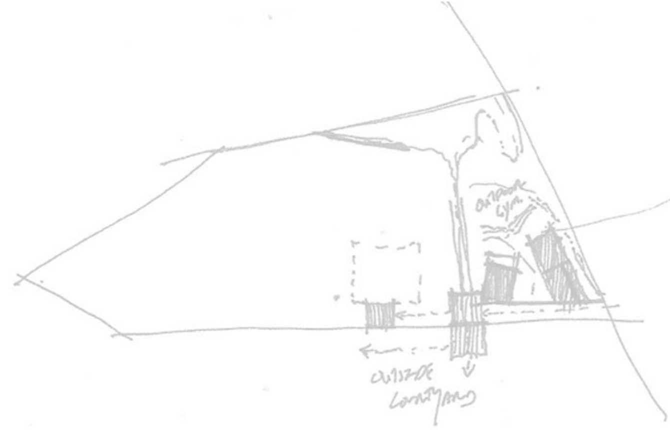
Figure 6.25: Initial concept sketches showing the stone walls protruding out of the landscape and being pierced by the Imagination Stations (Author 2014)

After the internal panel had critiqued the initial concept model, the author attempted to address the various issues through a second maquette.

The lack of context included in the previous model was addressed, which aided in the design of the spaces between the Imaginarium and the school. The inclusion of context assisted in analysing the scale relationship of the Imaginarium to its surroundings.

The spaces in between the school and the Imaginarium act as private courtyards where students can gather, interact and listen to the music being practiced inside.

The western edge of the site is framed by a graffiti wall which holds the space and acts as an extension of the exhibition space.



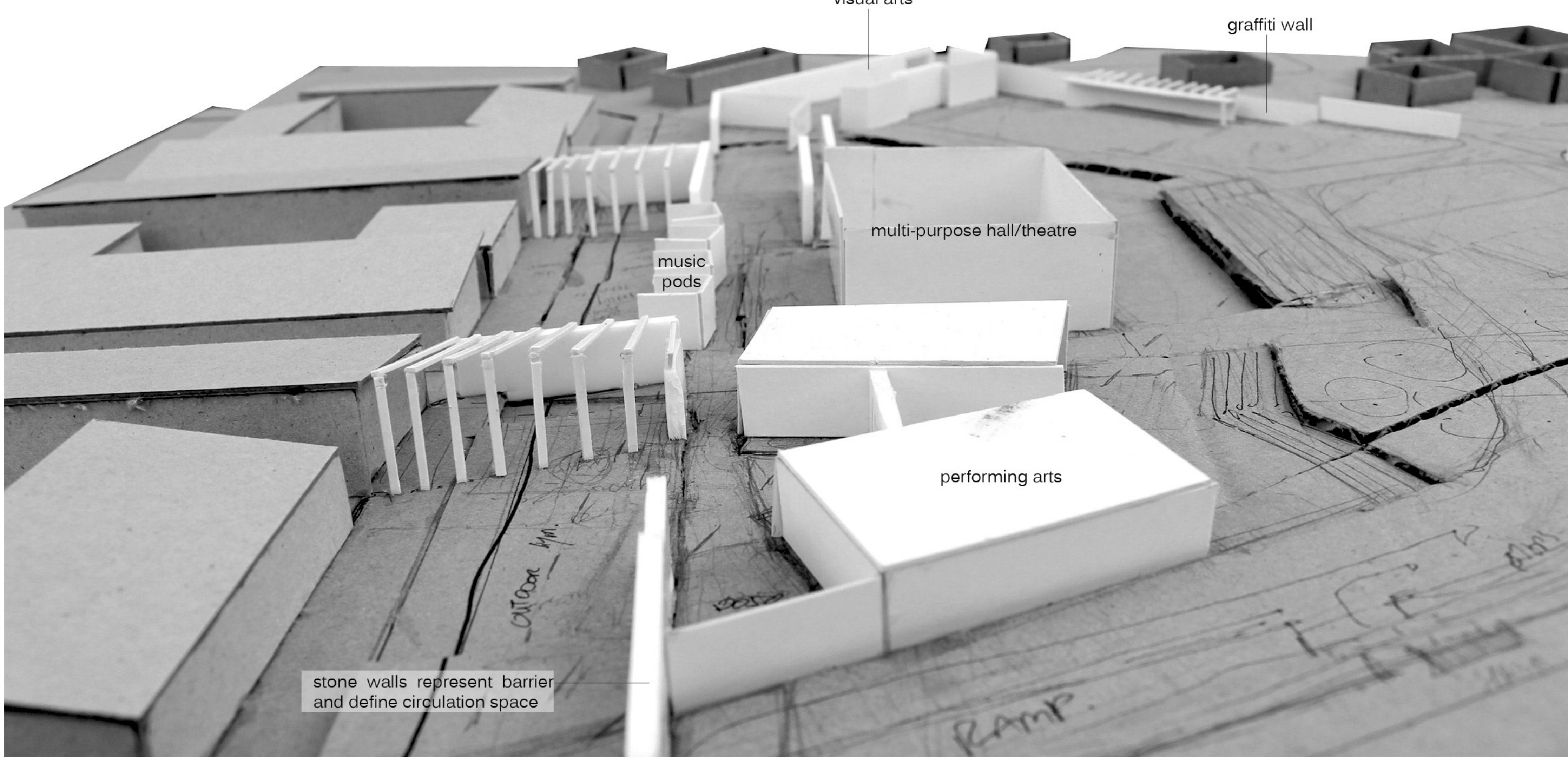


Figure 6.26: Maquette showing the relationship of the Imaginarium to the school and civic space (Author 2014)

Figure 6.27 illustrates the difference in plan between the Imaginarium and school. The author explored the placing of walls at angles to the school in order to emphasise the juxtaposition of *knowledge to creativity*.

During a weekly crit with the author's study leader the following issues with the maquette were highlighted:

- The main entrance does not read as such
- The performing arts studios create an awkard space between each other
- The spaces adjacent to the theatre are uncomfortable
- There is a lack of hierarchy between the spaces

Despite the above issues, the study leader stated that the maquette improved on the previous design by addressing the street and school edges appropriately, while the relationship of building to landscape was developing well.

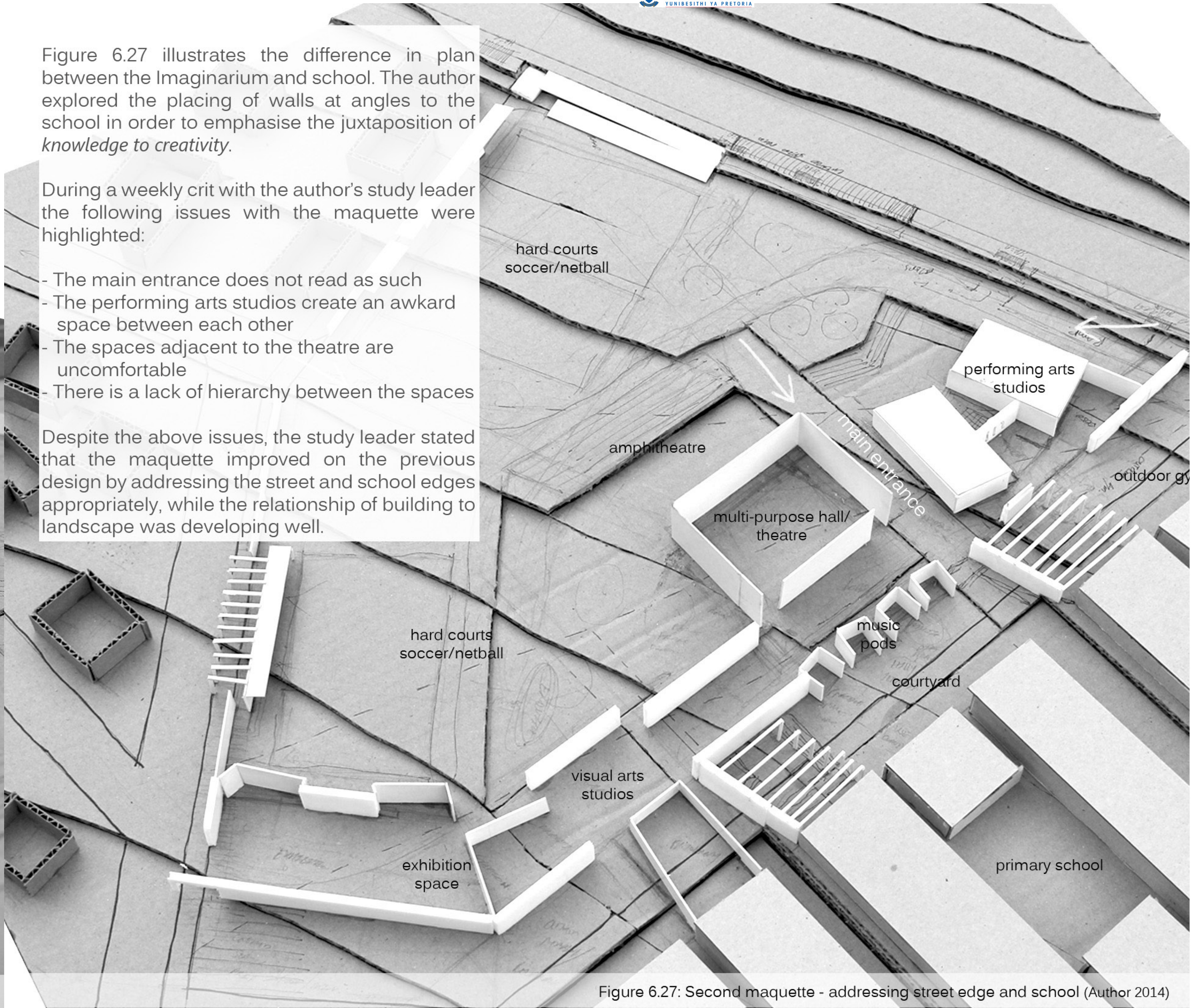
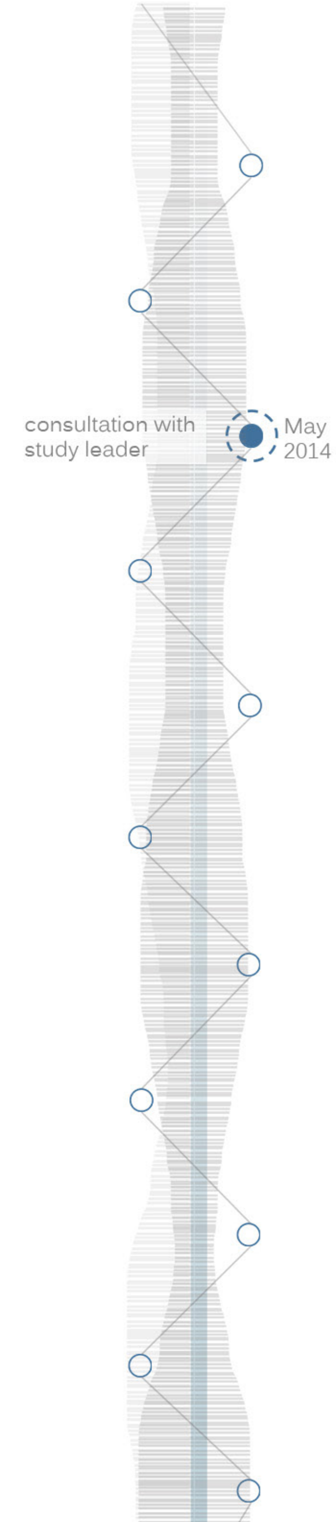


Figure 6.27: Second maquette - addressing street edge and school (Author 2014)



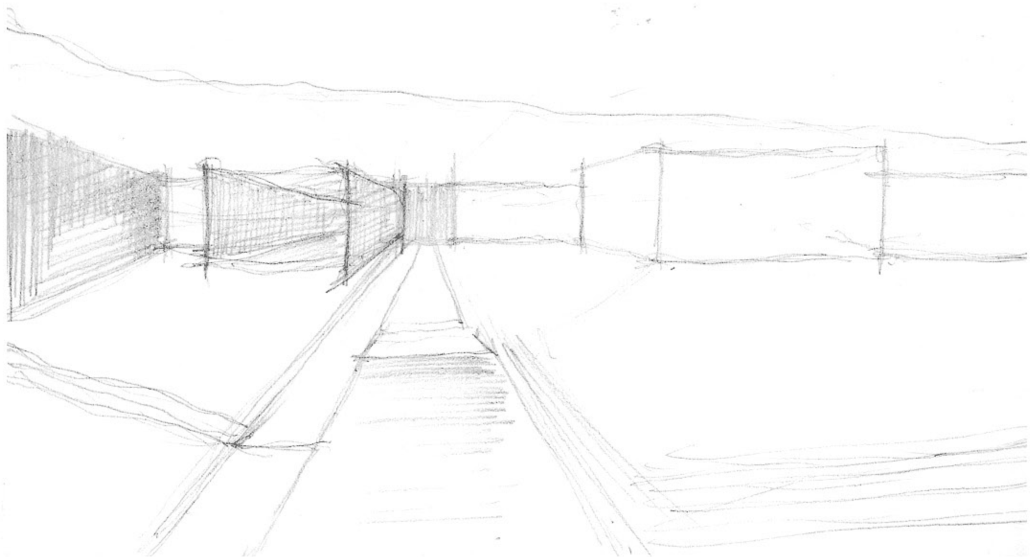
Timeline of Design Process

2014)

After critically reflecting on the previous crits and discussions, the author created a third maquette focusing on the primary issues that the project seeks to address; those being:

- the hierarchy of the various spaces
- the relationship of the Imaginarium to the school
- the relationship of the building to the landscape

The design was critiqued by an external panel of professional architects in June 2014.



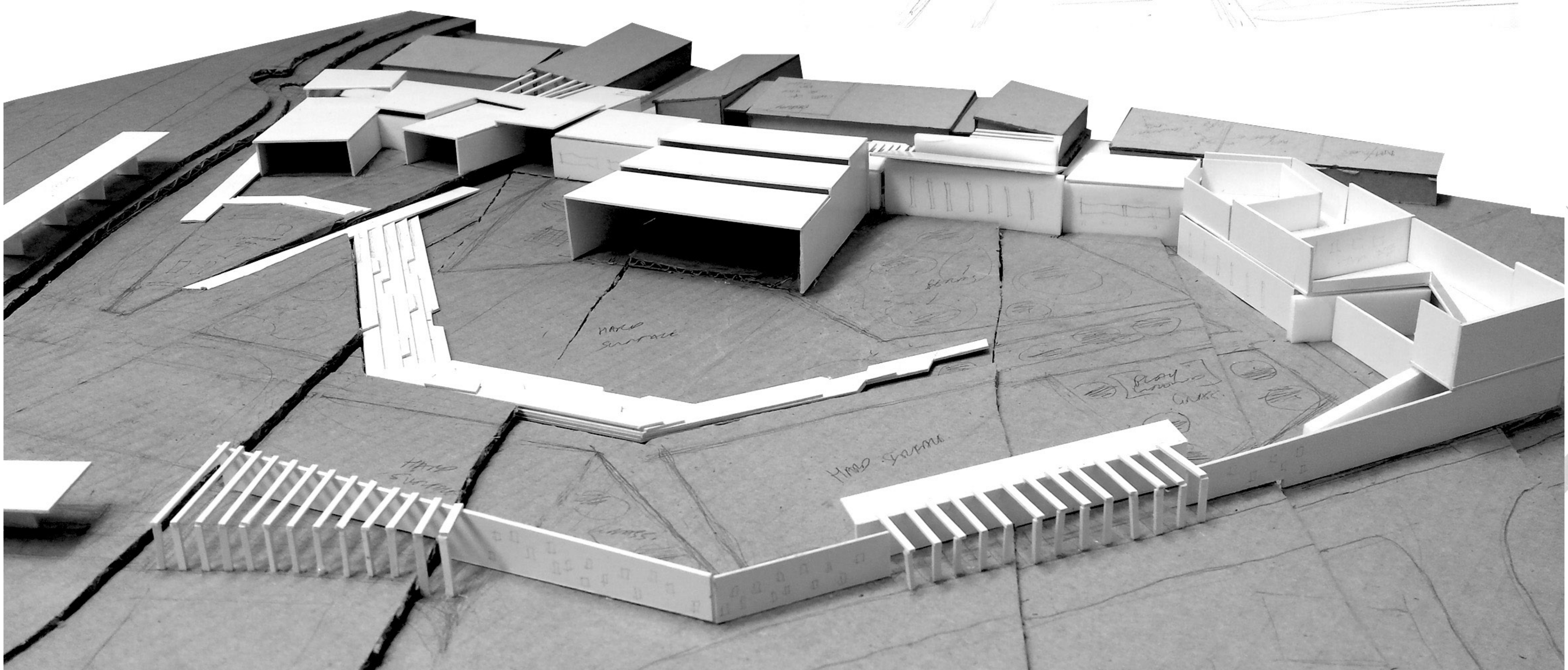
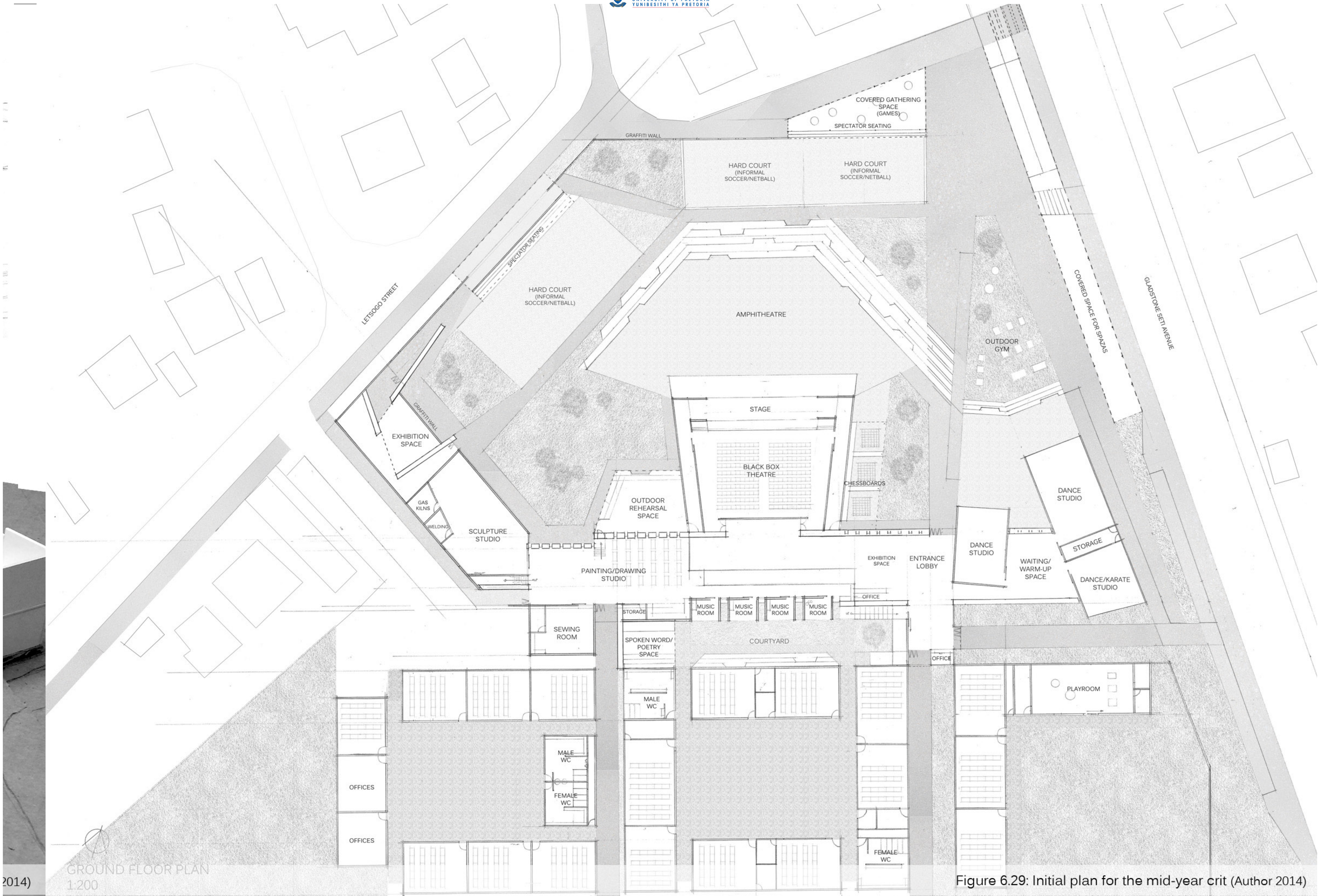


Figure 6.28: The theatre is the main focal point within the civic space (Author 2014)



2014)

Figure 6.29: Initial plan for the mid-year crit (Author 2014)

During the crit, the external panel began to break up the model and relocate components whilst explaining various ideas - much like the mass model used by the community in Alaska.

The main issues highlighted during the mid-year crit by the external panel were:

- The angled walls addressed the juxtaposition too literally and created uncomfortable spaces

- The building felt like a large thoroughfare with no anchor points along the route

Other principles that needed to be revisited were the theatre's foyer, which was seen as too small, the exhibition space, as well as the amphitheatre.

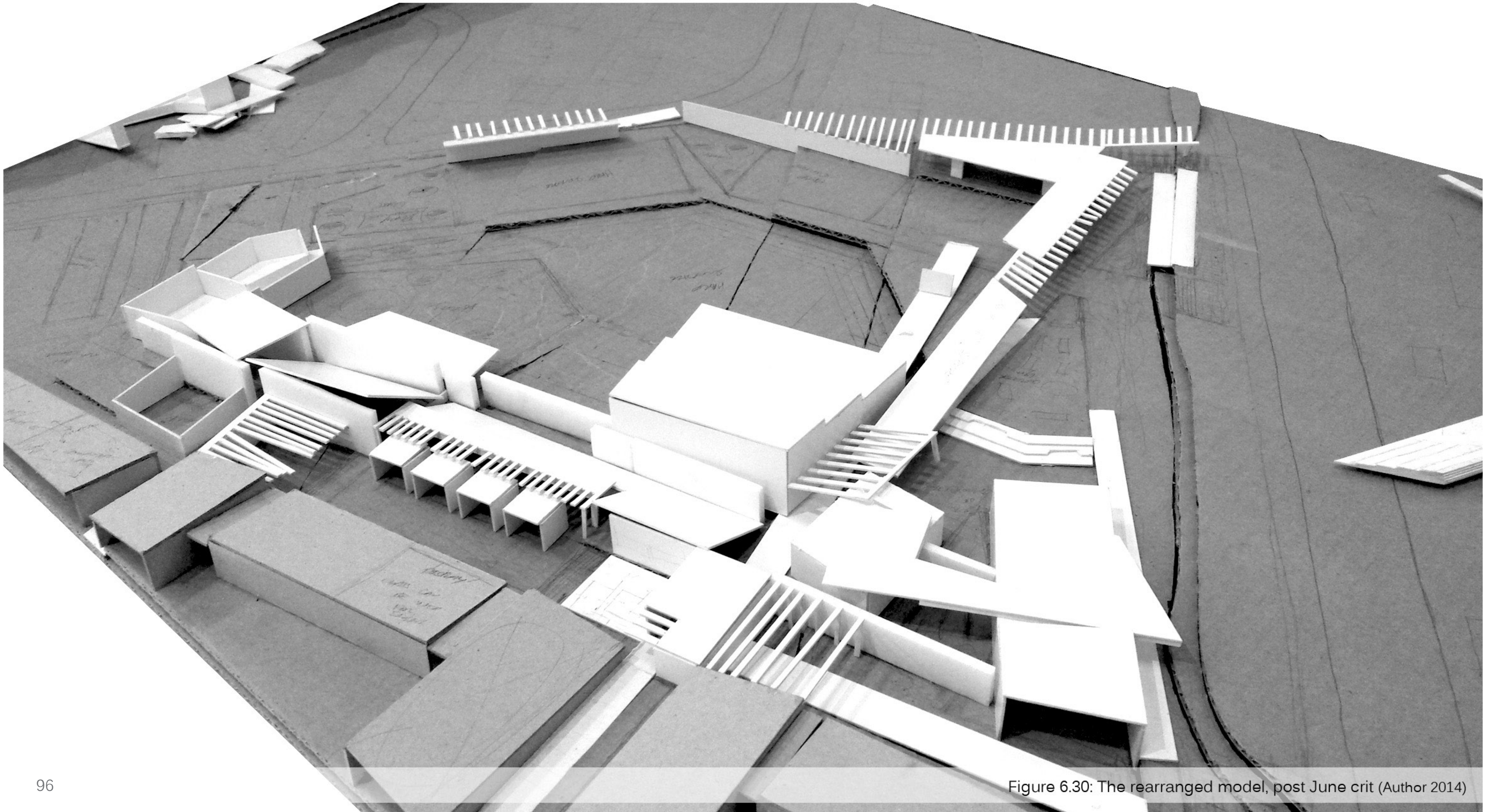


Figure 6.30: The rearranged model, post June crit (Author 2014)

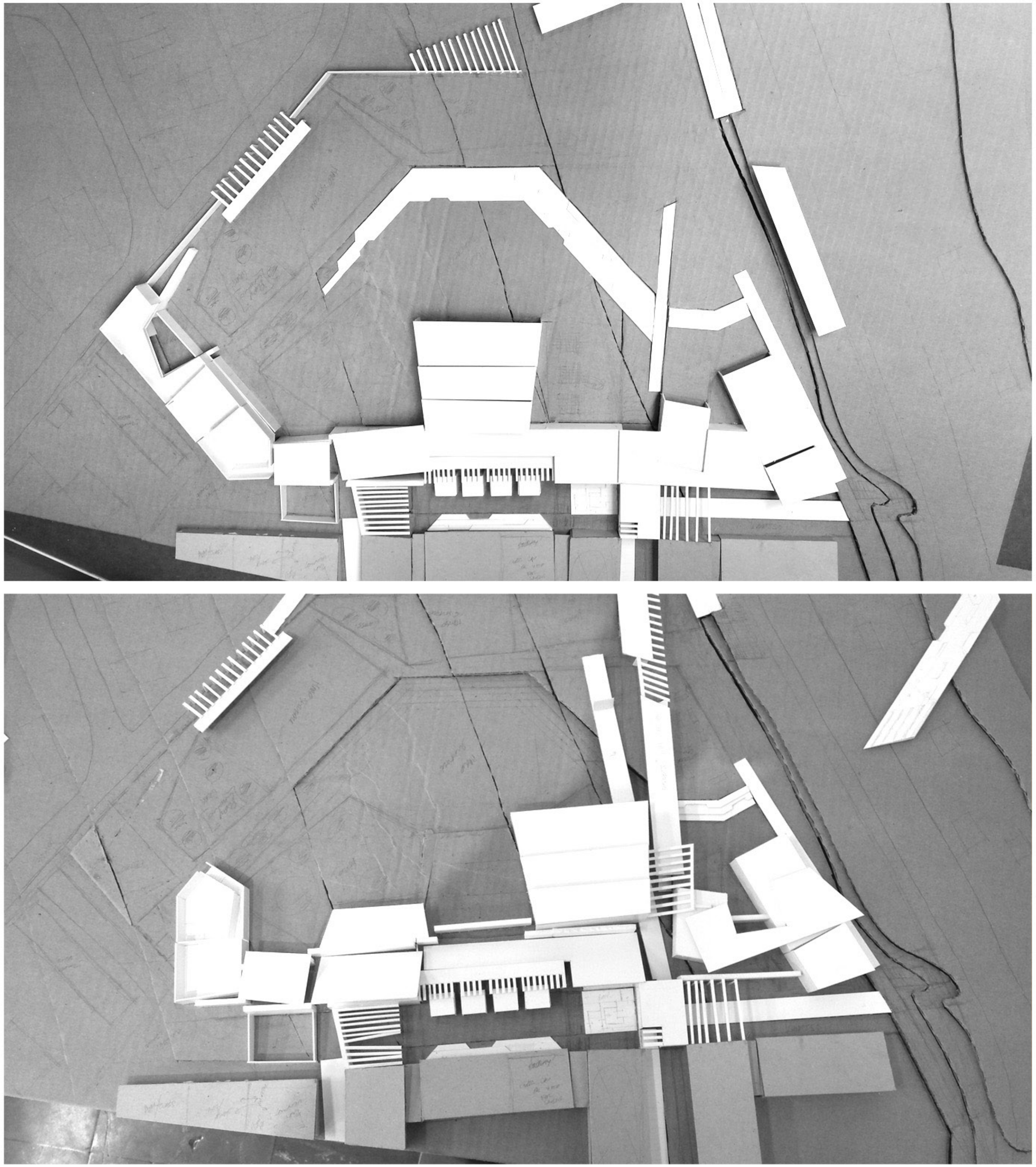
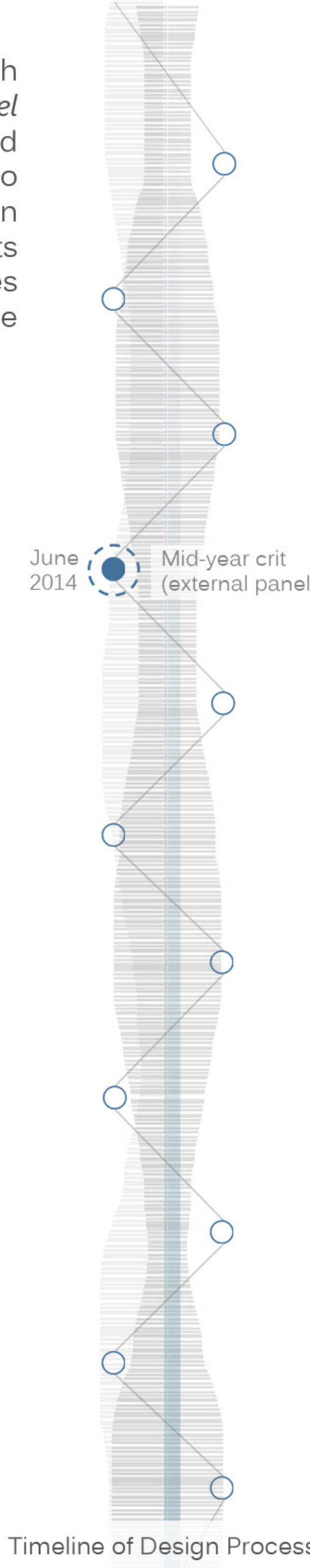


Figure 6.31: A comparison of the model before and after the mid-year crit (Author 2014)

Critically reflecting on the session with the external examiners and the *model break-up* exercise, the author decided to reorganise the plan in order to address the uncomfortable circulation issues. The landscape design and its relationship to the current desire lines and the proposed building were to be revisited.



Timeline of Design Process

The fourth maquette focused on the reorganisation of the plan. As is illustrated in Figure 6.32, intermediary spaces link the main circulation spine with the various studios. These intermediary spaces serve as gathering spaces for students, encouraging social interaction and increasing the sense of community within the Imaginarium.

The building is divided into three parts, the first consists of the exterior exhibition area which acts as the foyer for the multipurpose hall, the second facilitates the performing arts studios and the third, the visual arts studios.

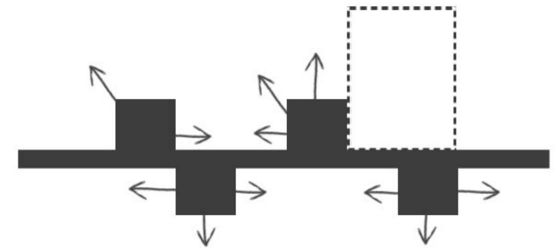


Figure 6.32: Diagram illustrating main spine and intermediary spaces (Author 2014)

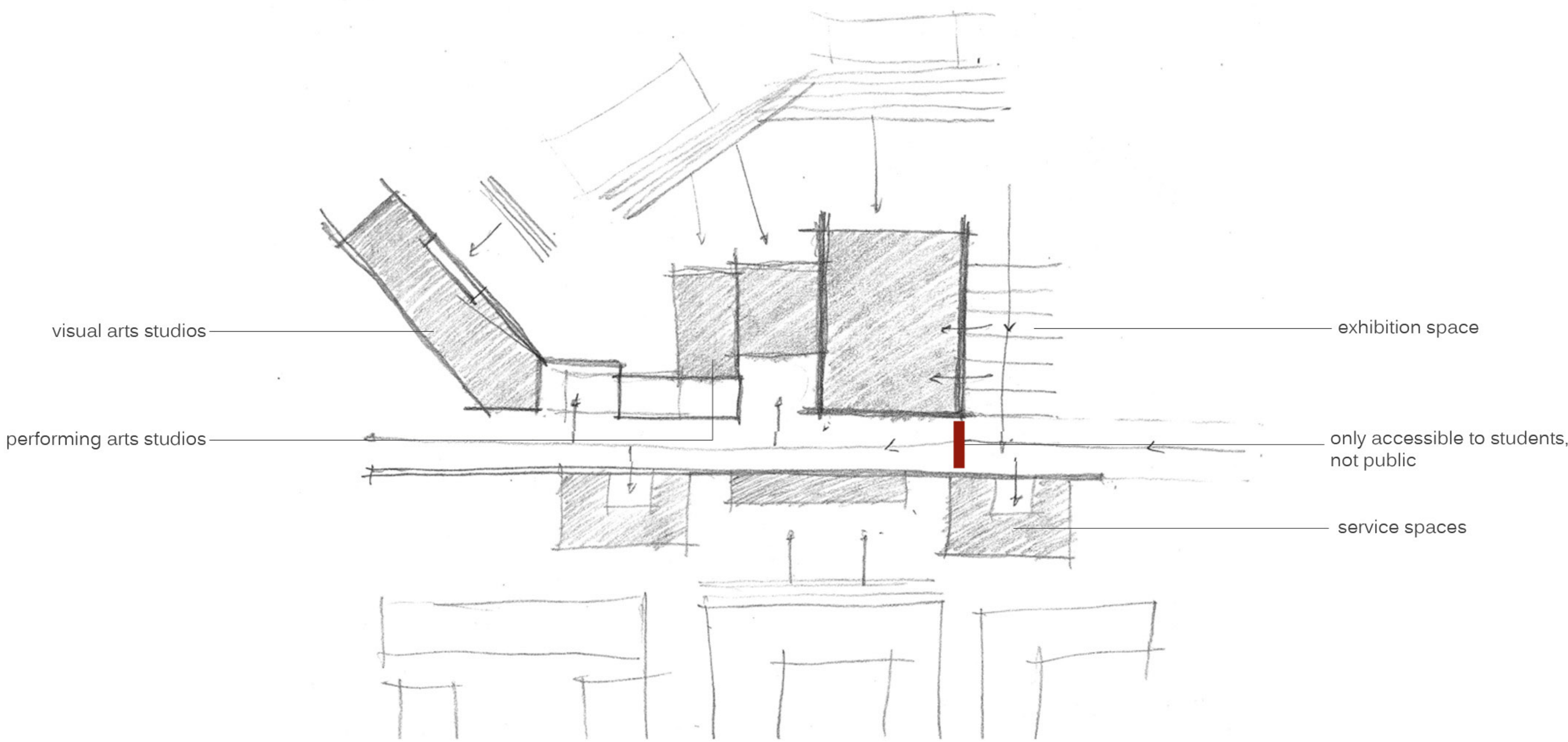


Figure 6.33: Conceptual sketch of new plan (Author 2014)

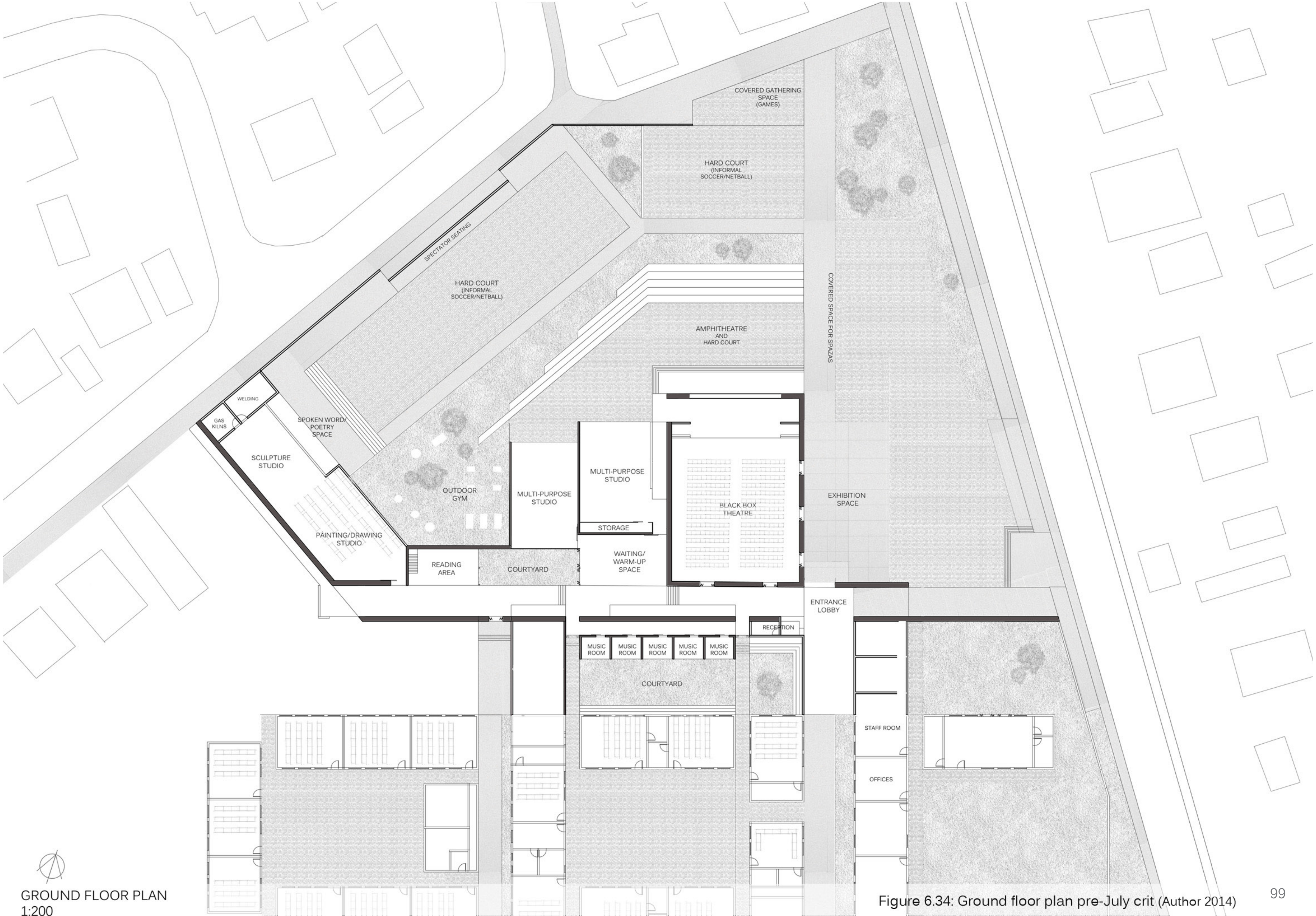


Figure 6.34: Ground floor plan pre-July crit (Author 2014)

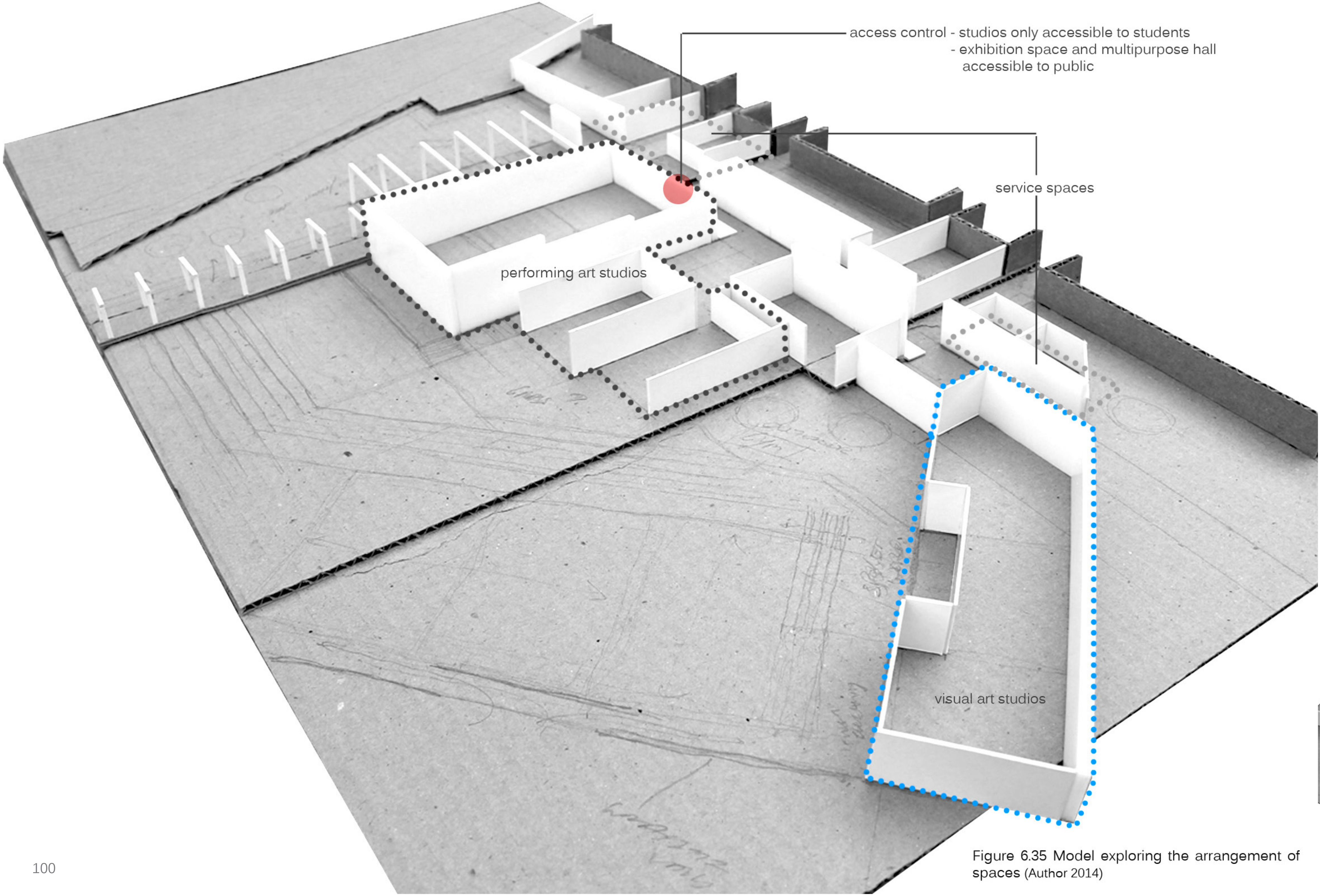


Figure 6.35 Model exploring the arrangement of spaces (Author 2014)

On the 30th of July 2014 another external panel participated in the design process of the Imaginarium.

The crit focused mainly on the design of the roof and the main circulation spine, both of which the author saw as areas that needed further exploration.

Reflecting on the discussion, the author decided to explore roof designs that drew inspiration from, and responded to the immediate context.

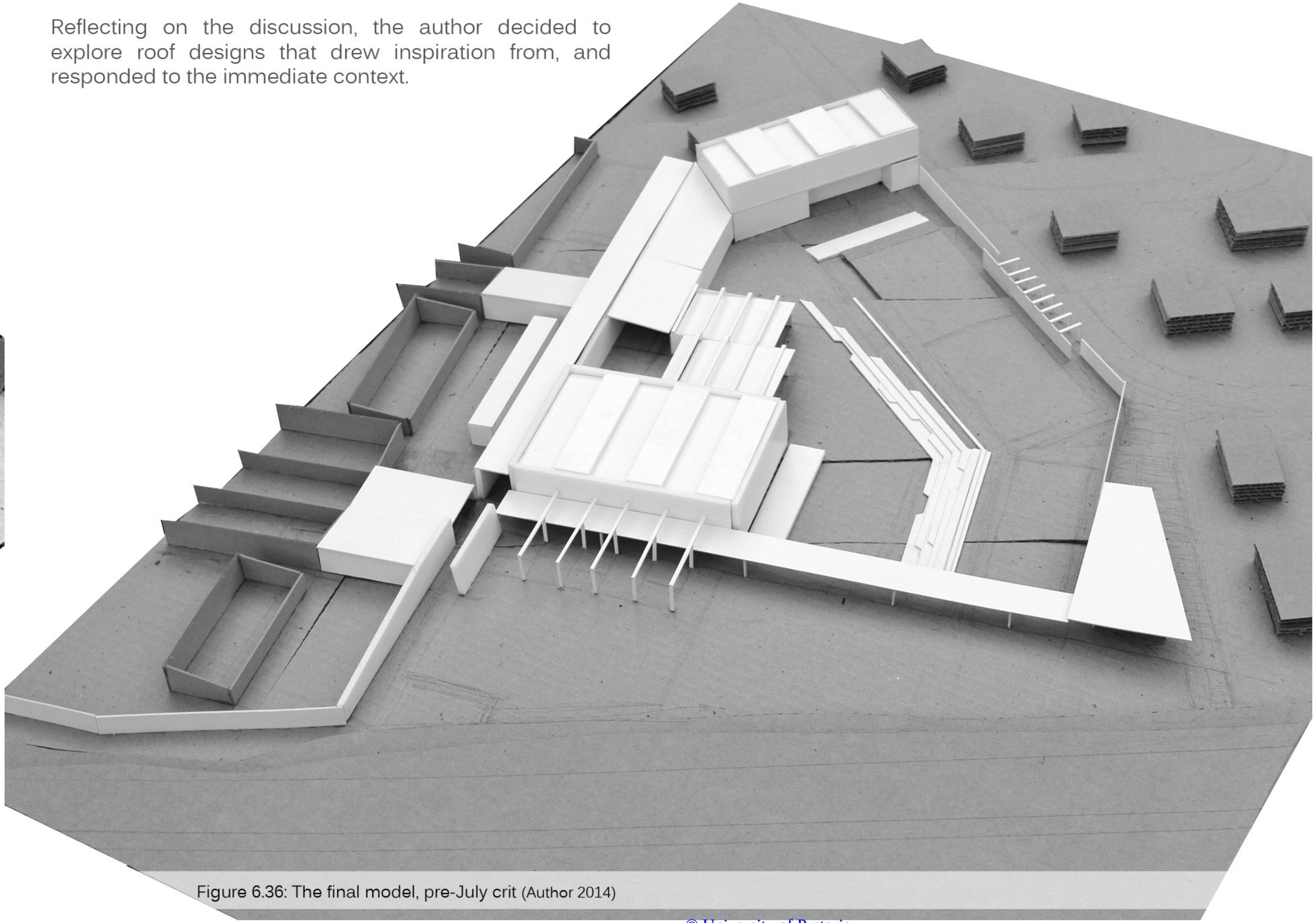
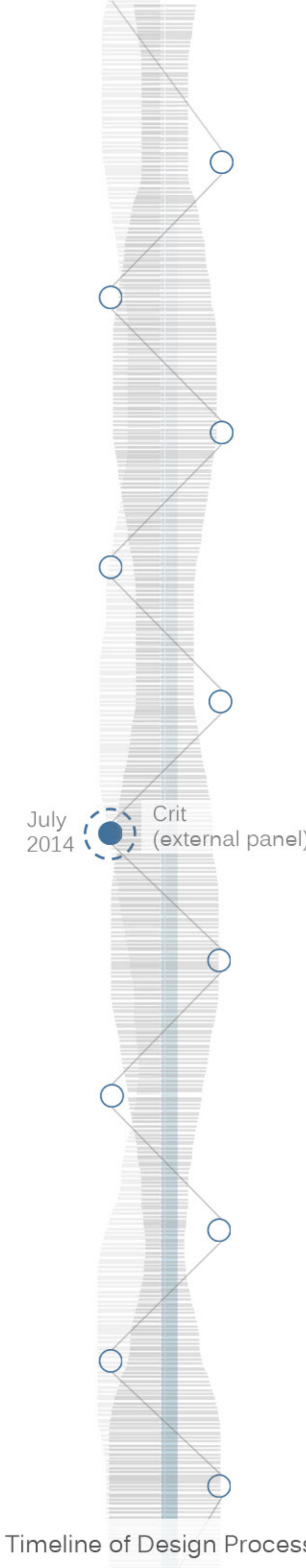


Figure 6.36: The final model, pre-July crit (Author 2014)



Timeline of Design Process

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6.7 Further Design Participation

On the 9th of August 2014 the author returned to Alaska for another participatory design exercise with the group consulted in March 2014. Models that had been presented at previous crits were used as points of departure for the exercise.
The author explained the development of the design since March 2014 and explained why the various changes had been made.

When asked for comments, the group said they were content with the way in which the project had developed. Their questions focused mainly on the functional and programmatic aspects of the building, with members of the group asking where toilets would be provided and where they would be able to sit undercover and meet with others.

When asked for design input or if there was anything they would change, they all agreed that they were pleased with the design and had nothing they would alter. The author continued to probe for opinions but the community members maintained that they would not alter anything.

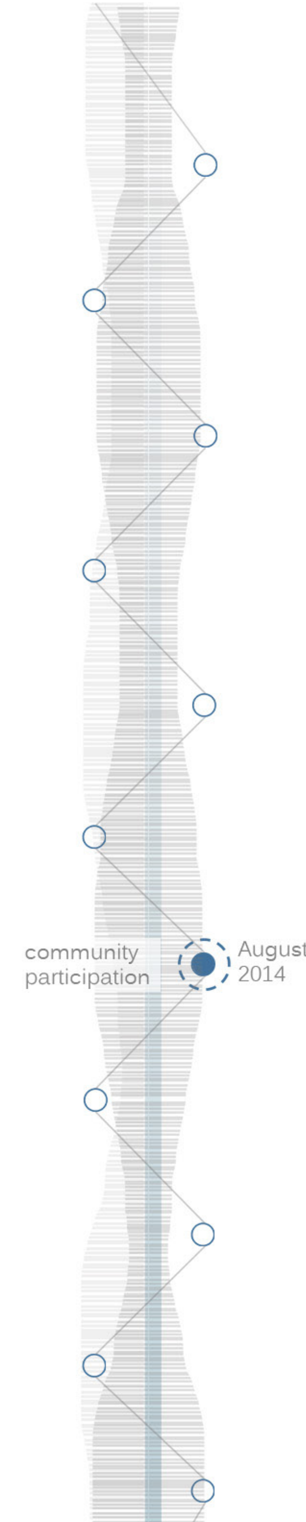
Reflecting on the design meeting, the author observed that the community did not contribute from a design perspective and were focused only on the functional aspects of the Imaginarium. It was interesting to note that whenever the author brought up the design of the building and its aesthetics, the community were quick to shift the discussion back towards programme and function.

The author decided that because the group were happy with the programme and showed little concern for the design and aesthetics of the building, it was no longer necessary for further participatory design meetings to take place.

Figure 6.37: The author explaining his scheme during a design meeting with members of the community (Author 2014)

014)

Figure 6.38: It was observed that the community were able to understand the models better than the drawings (Author 2014)



Timeline of Design Process

6.8 Initial Tectonic Informants

Following the previous crit, tectonic informants were analysed in order to understand the building from a structural and aesthetic perspective and with the expectation that the informants would assist in resolving the roof design. The technical concept is explained in more detail in Chapter 7.

The tectonic informants were as follows:

- the duality between ***imagination*** and ***knowledge*** (mentioned in section 6.4)
- the concept of architecture as a ***platform/display***
- the use of ***stone*** as a building material in Alaska
- the form of the adjacent ***school***
- the relationship of ***light*** structures to the ***heavy*** mountainside

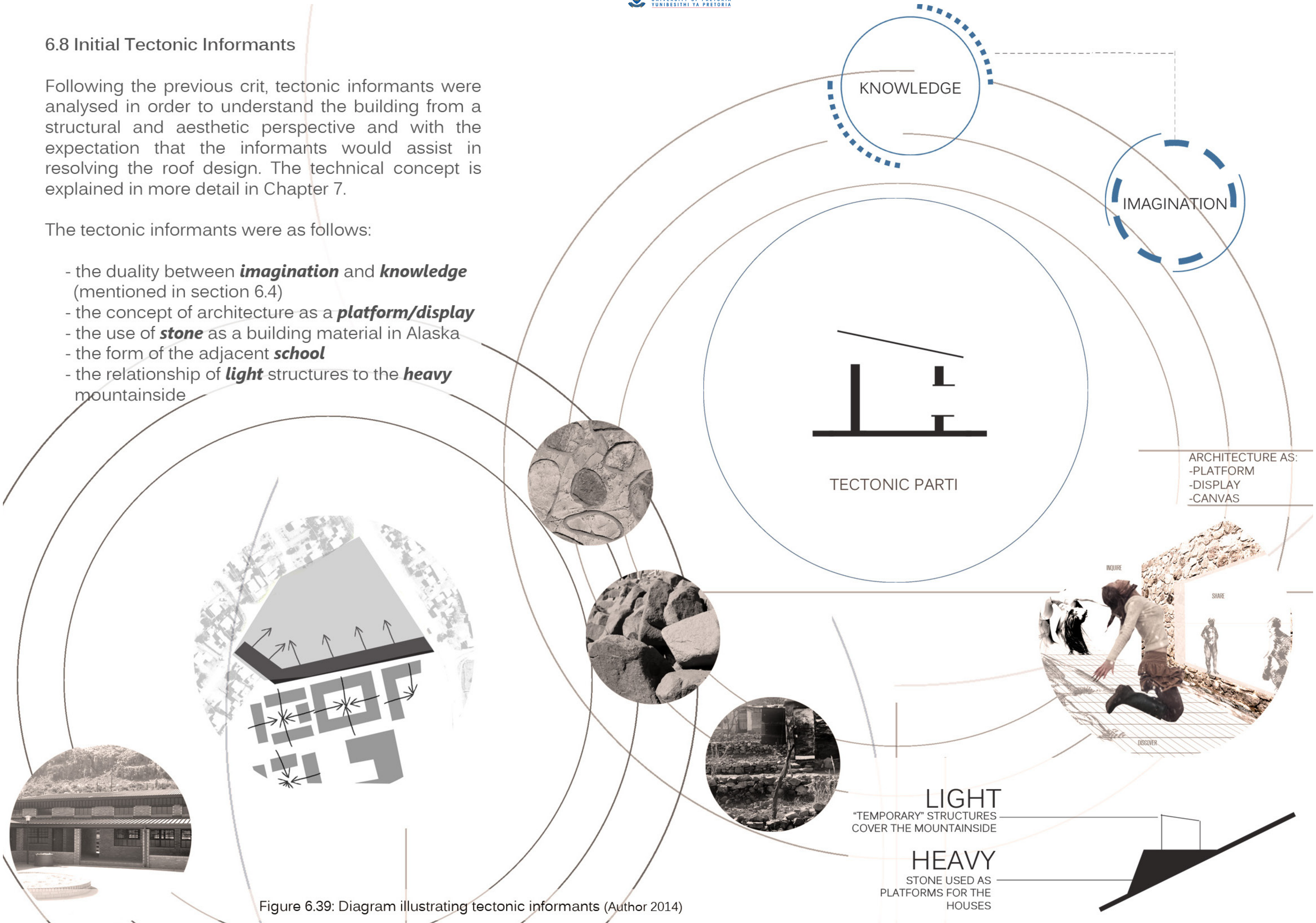
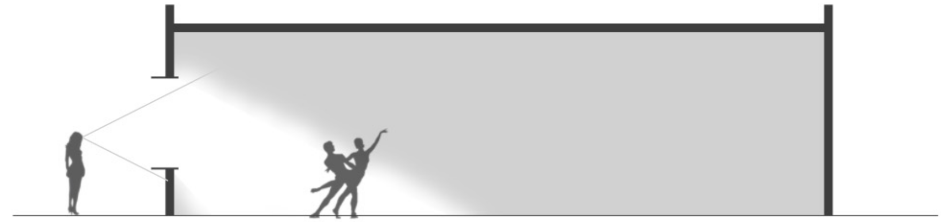
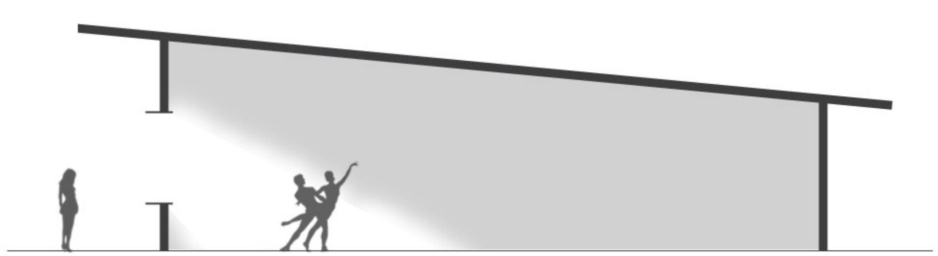


Figure 6.39: Diagram illustrating tectonic informants (Author 2014)

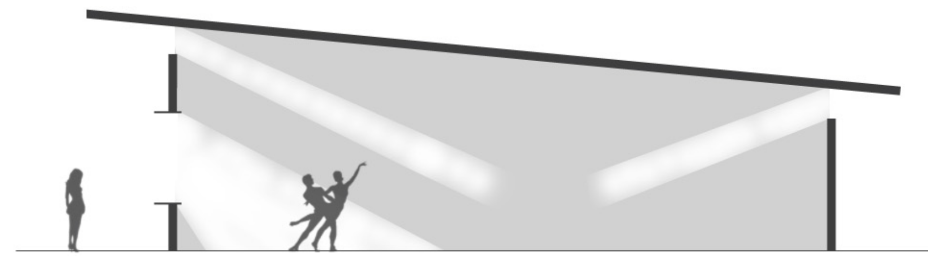
Flat Roof



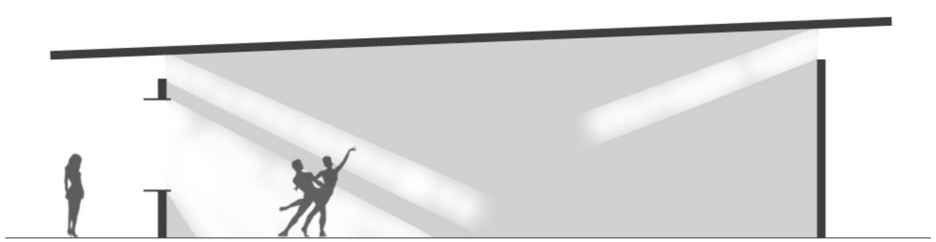
Frame Display Window



Mono-pitched roof - direct response to adjacent school



Lift roof above walls - responds to tectonic parti
and allows for more light to fill the studio

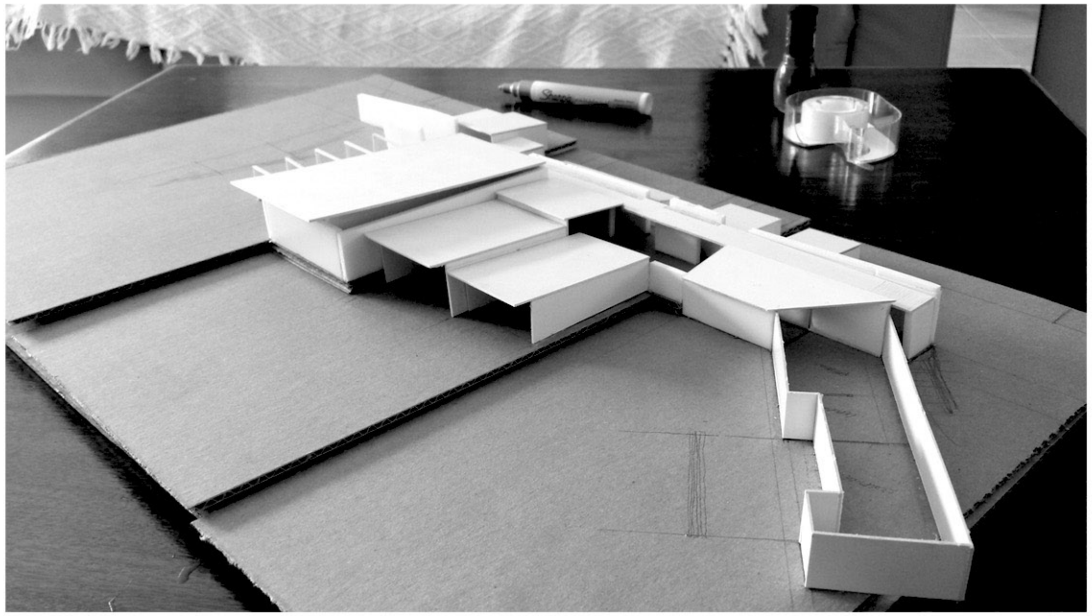


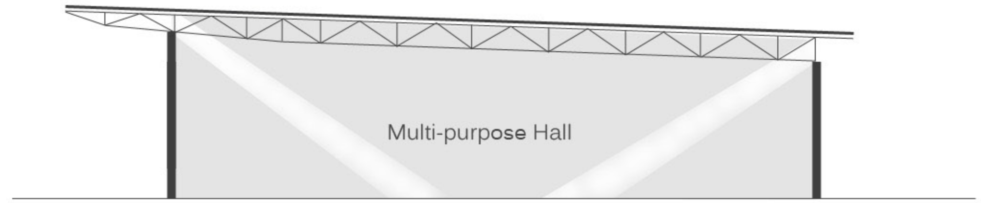
Roof slopes down towards public space creating a covered
area for spectators to stand and watch

The initial roof exploration drew inspiration from the mono-pitched roofs of the adjacent school buildings. The idea was to lift the roof off the walls and have a light element floating above the performance spaces.

The concept behind the duality of heavy and light is explained in more detail in Chapter 7.

Figure 6.40: Diagrams depicting the initial roof exploration (Author 2014)

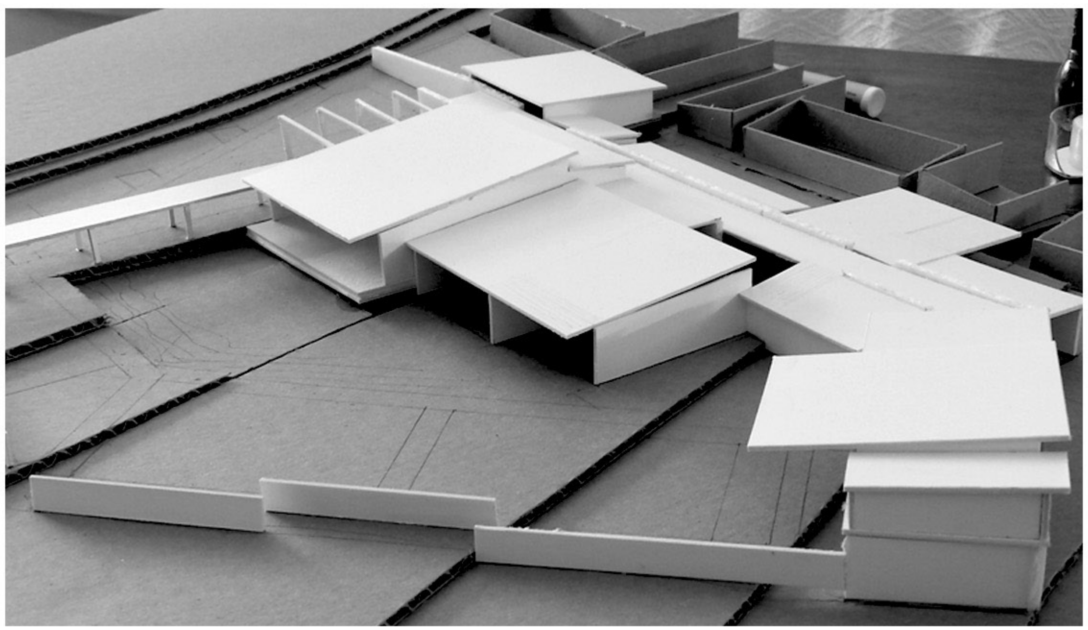




Two maquettes exploring the roofs over the performance spaces were built.

Initially, the roof of the multi-purpose hall was designed to be a mono-pitched roof that floated above the walls. At a meeting with the author's study leader the possibility of allowing more light into the space was discussed.

The section below shows the resulting roof design. More natural light is allowed into the space while the overhang creates a more effective cover for the stage than the above alternative.



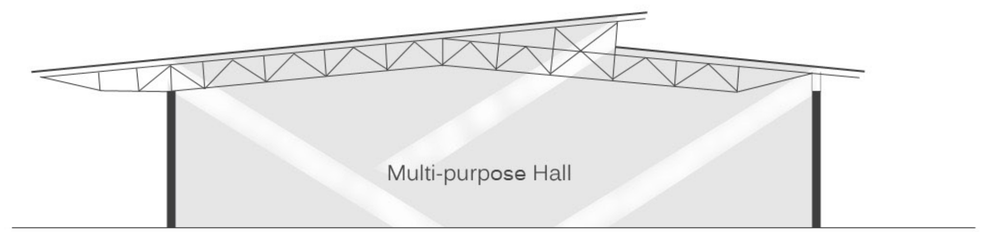


Figure 6.41: Maquettes and sections exploring two different roof designs for the multi-purpose hall (Author 2014)

On the 1st of October 2014 a crit panel consisting of external professional architects and lecturers participated in the design process of the Imaginarium.

Although mainly focused on construction, the crit panel said the roof of the multi-purpose hall would have to be revisited as the roof truss and the position of the skylight created uncomfortable interior spaces. The possibility of the roofs over the performance spaces becoming more sculptural, adding to the public space's identity, was discussed.

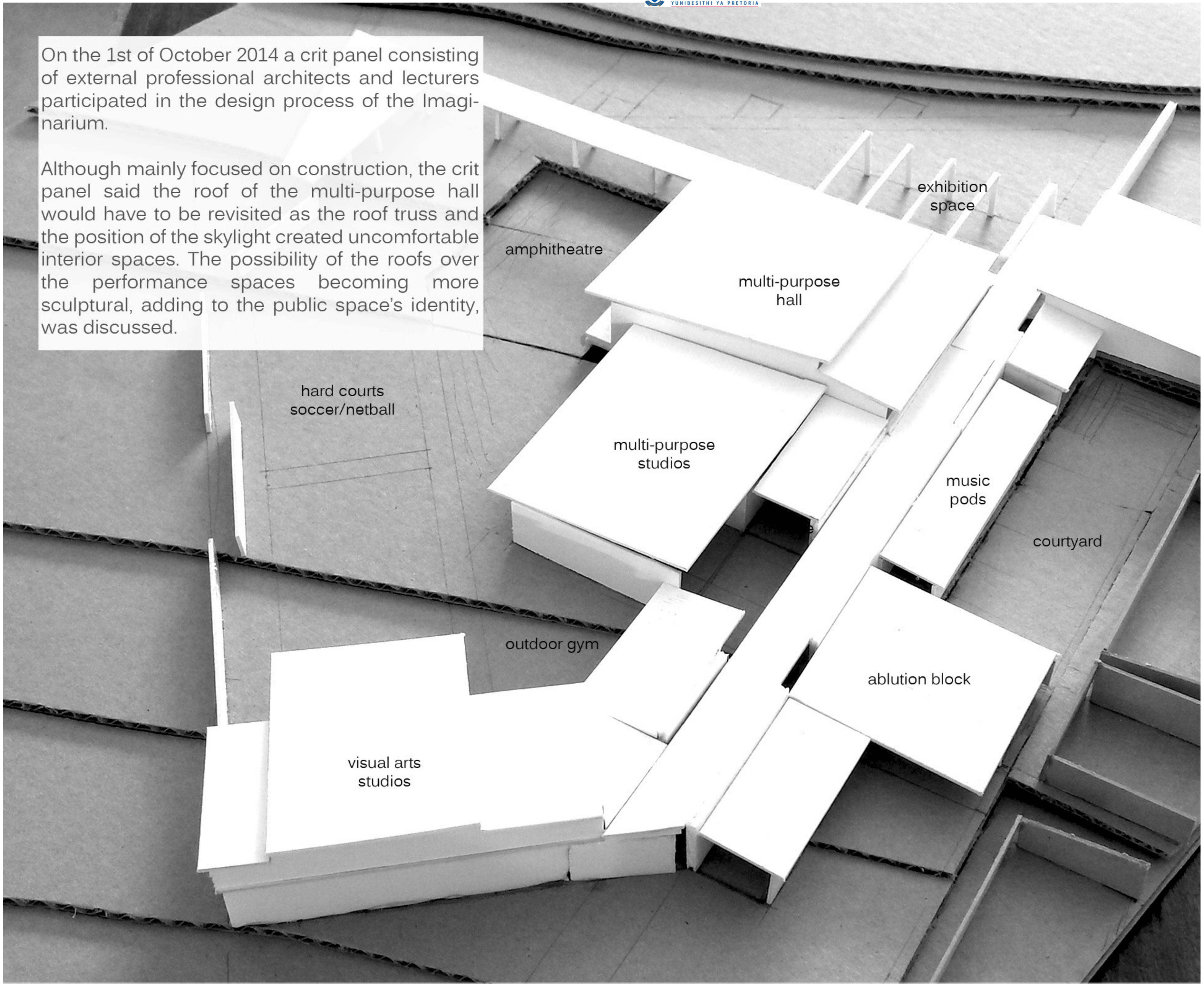
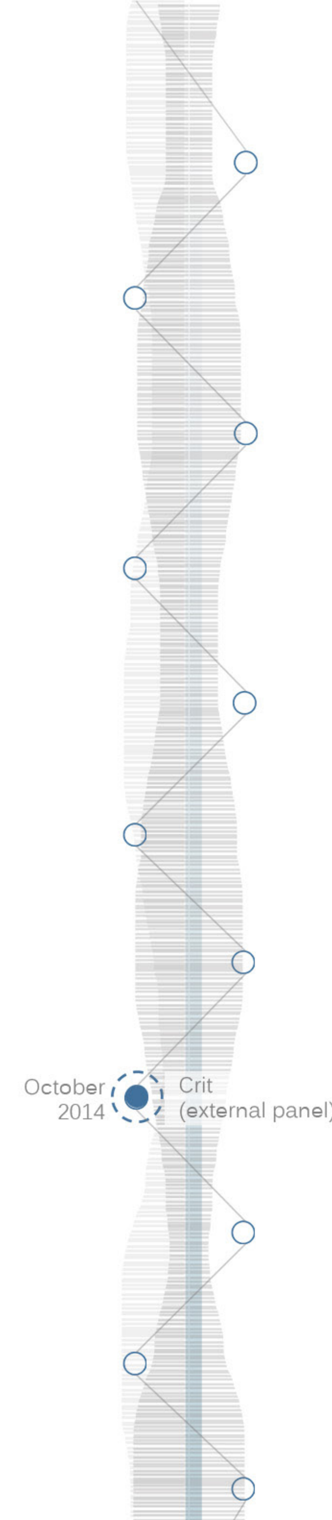


Figure 6.42: Fifth maquette - exploring the roof design (Author 2014)



Timeline of Design Process

6.9 Design Resolution

The final maquette addressed the design of the roofs and the circulation spine, both of which proved to be challenges for much of the year.

Resolution of the Plan

Hierarchy and the ending of the main spine were the two main issues highlighted. Figure 6.44 shows the final alteration to the plan, with the visual arts studios being positioned perpendicular to the rest of the building. This reorganisation was done so the main spine would no longer terminate in an uncomfortable space and the site line through the building is maintained.

The circulation spine is made up of a series of stairs and ramps with numerous anchor points, or gathering spaces located along it.

Due to the circulation spine being a prominent organising element, the volume of the space is increased. This increase in height allows for clerestory windows to fill the space with natural light. The hierarchial differences between the various spaces in the Imaginarium can be seen in Figure 6.45.

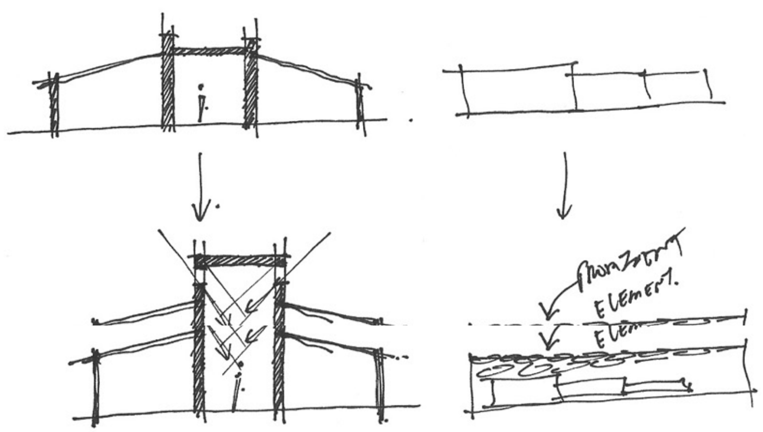


Figure 6.43: Illustration showing that raising the volume of the circulation spine allows for clerestory windows and makes the spine a prominent element from the outside (Author 2014)

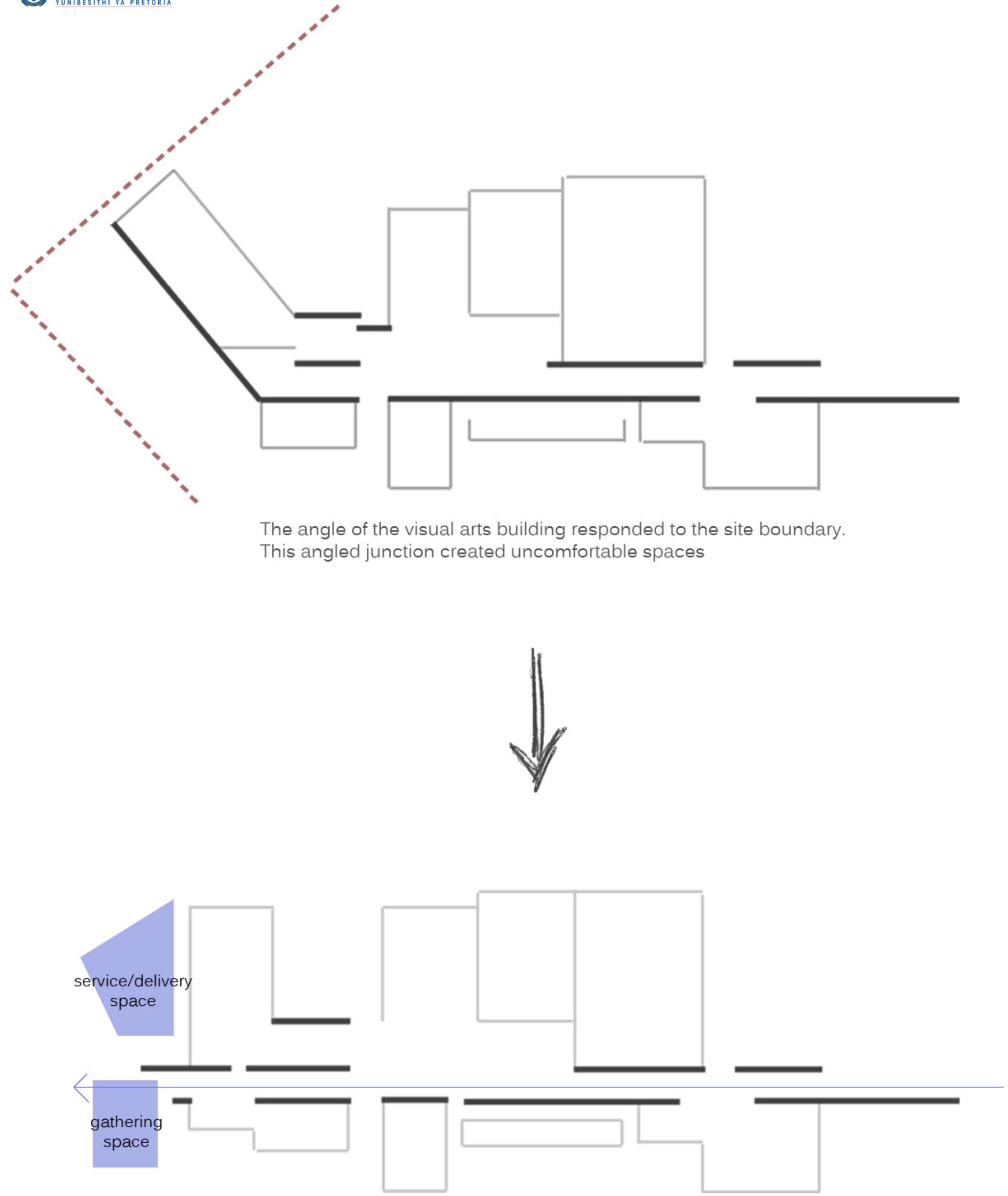


Figure 6.44: Diagrams indicating the reorganisation of the main spine (Author 2014)

Figure 6.45 explains the final organisation of the plan. The service spaces are situated to the south of the building, adjacent to the school. The Imaginarium folds in and out to mould various courtyards between it and the school.

From the various precedents studied in Chapter 5, the idea of linking the building to nature in order to inspire creativity was a running theme. The Imaginarium has numerous courtyards, creating spaces for users to gather, talk and watch any ongoing performances.

The main circulation space separates the service spaces from the performance spaces and studios which are situated along the northern part of the building, framing the public space.

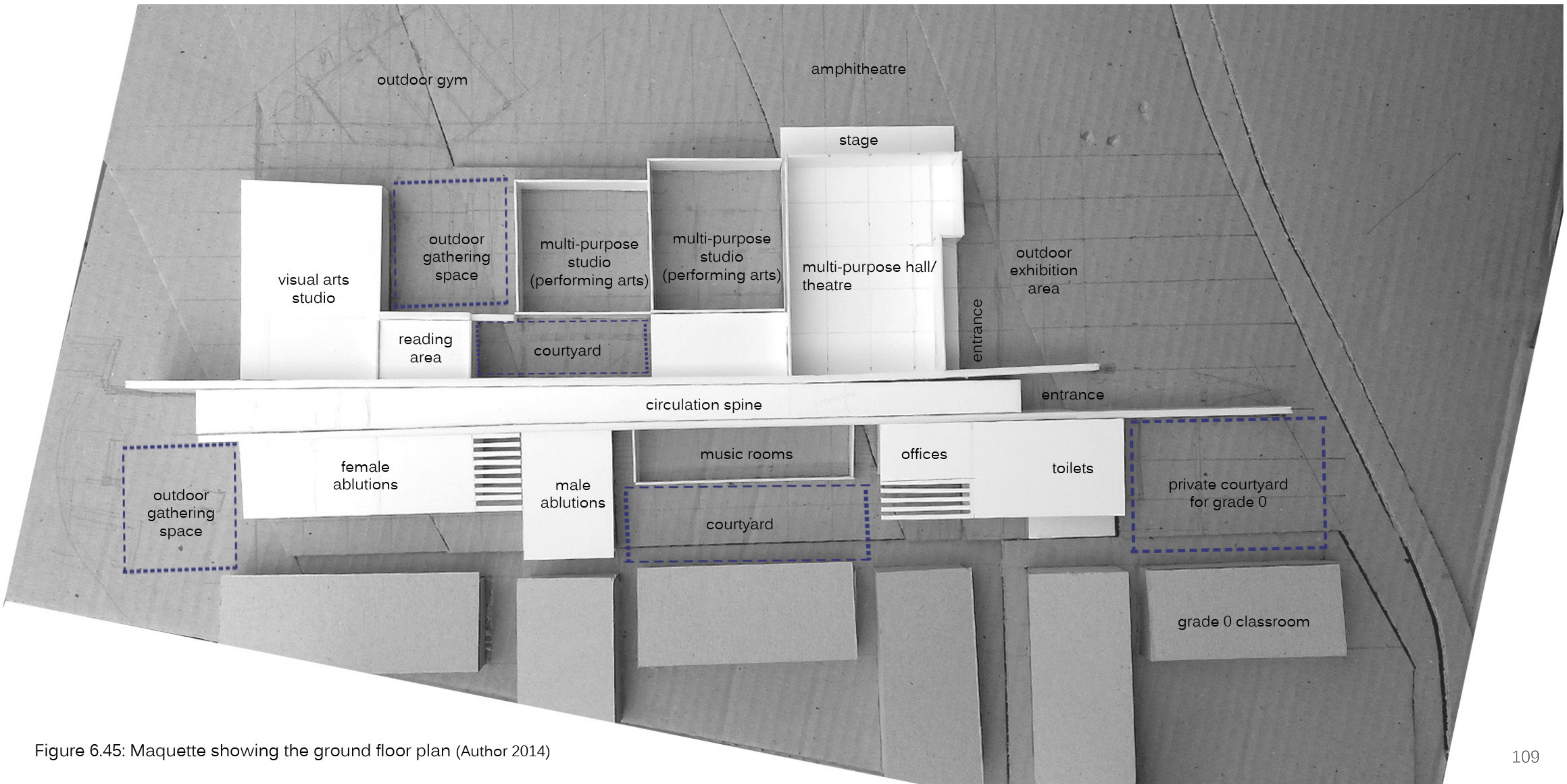


Figure 6.45: Maquette showing the ground floor plan (Author 2014)

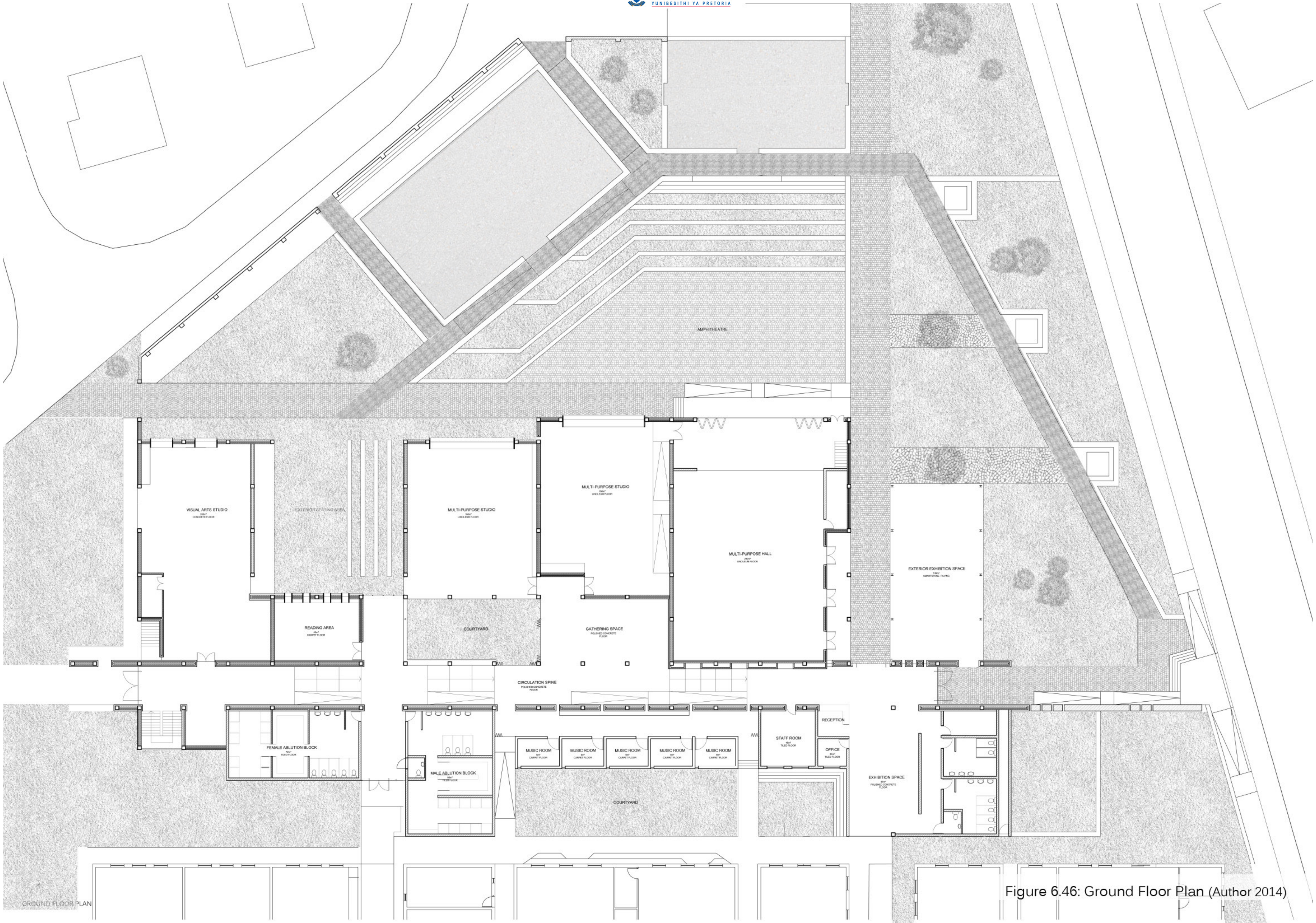


Figure 6.46: Ground Floor Plan (Author 2014)

Resolving the Roof

The roofs above the performance spaces proved to be a challenge throughout the year. The separate roofs over each studio felt disorganised, disjointed and lacking boldness and expression that one would expect from an Imaginarium - a place devoted to the imagination. The author then explored the idea of having one continous roof flowing over all three performance spaces, linking the spaces together and expressing the creative nature of the facility.

Figure 6.50 shows the exploration of the roof as a sculptural element floating above the performance studios.

The Imaginarium can be broken down into three main zones, namely, services spaces, the main circulation spine and studios or *imagination stations*.

Figure 6.51 shows how the roofs differentiate between each space. As mentioned earlier, the service spaces are located on the southern side of the building, adjacent to the school. The roofs of these spaces respond to the mono-pitch roofs and corrugated sheeting of the school.

The main circulation spine is covered by a concrete roof, while the performance spaces have a light, flowing, sculptural roof 'floating' above them.

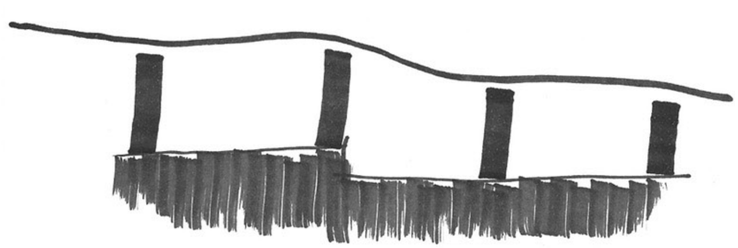


Figure 6.47: Concept sketch of performance space roof (Author 2014)

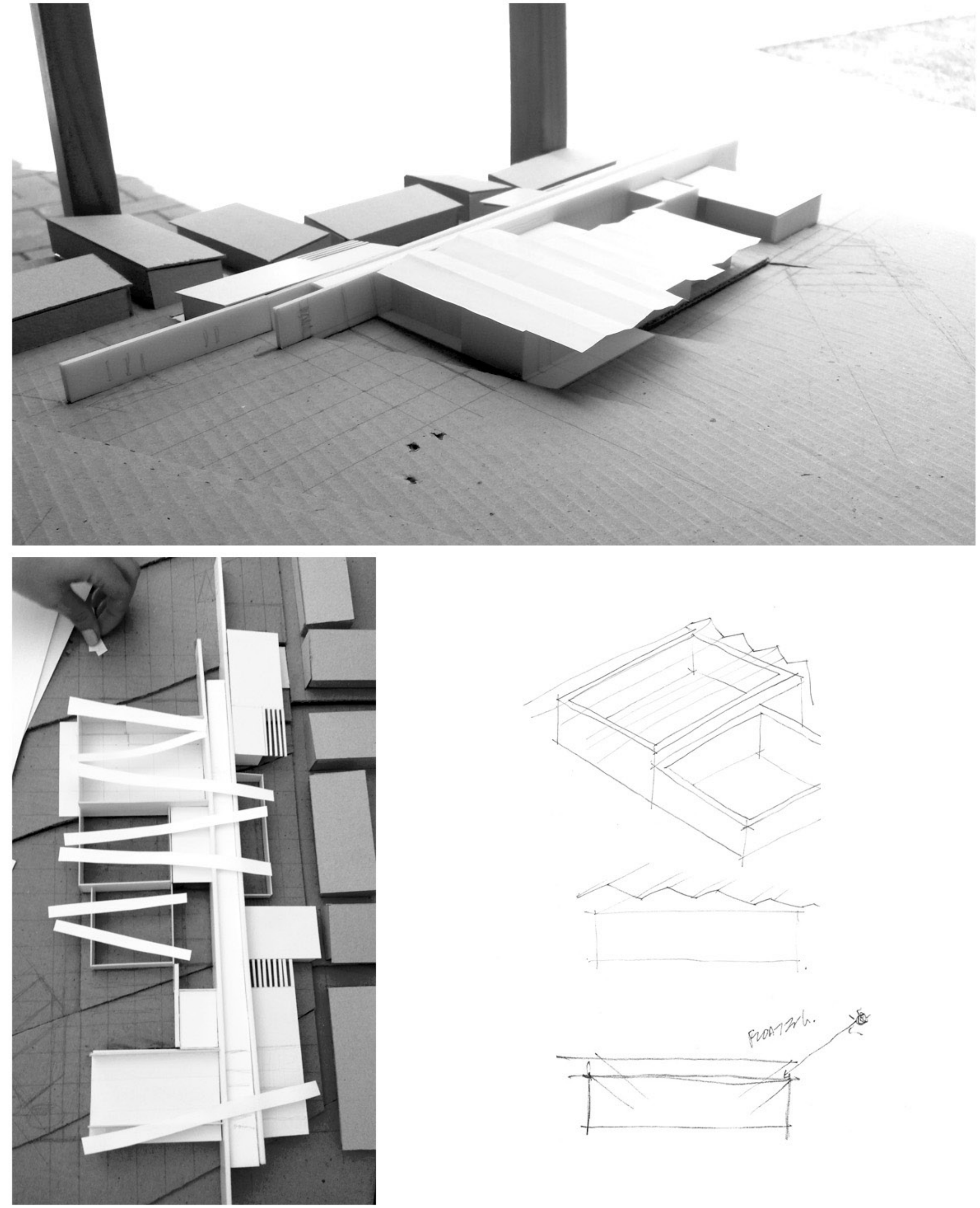


Figure 6.48: Maquettes/sketches showing the exploration of the performance space roof (Author 2014)

The corrugated iron roof flows up the slope and ultimately becomes a pergola-type structure defining the exterior exhibition space below.

The roof overhang provides shelter for the lower gathering area

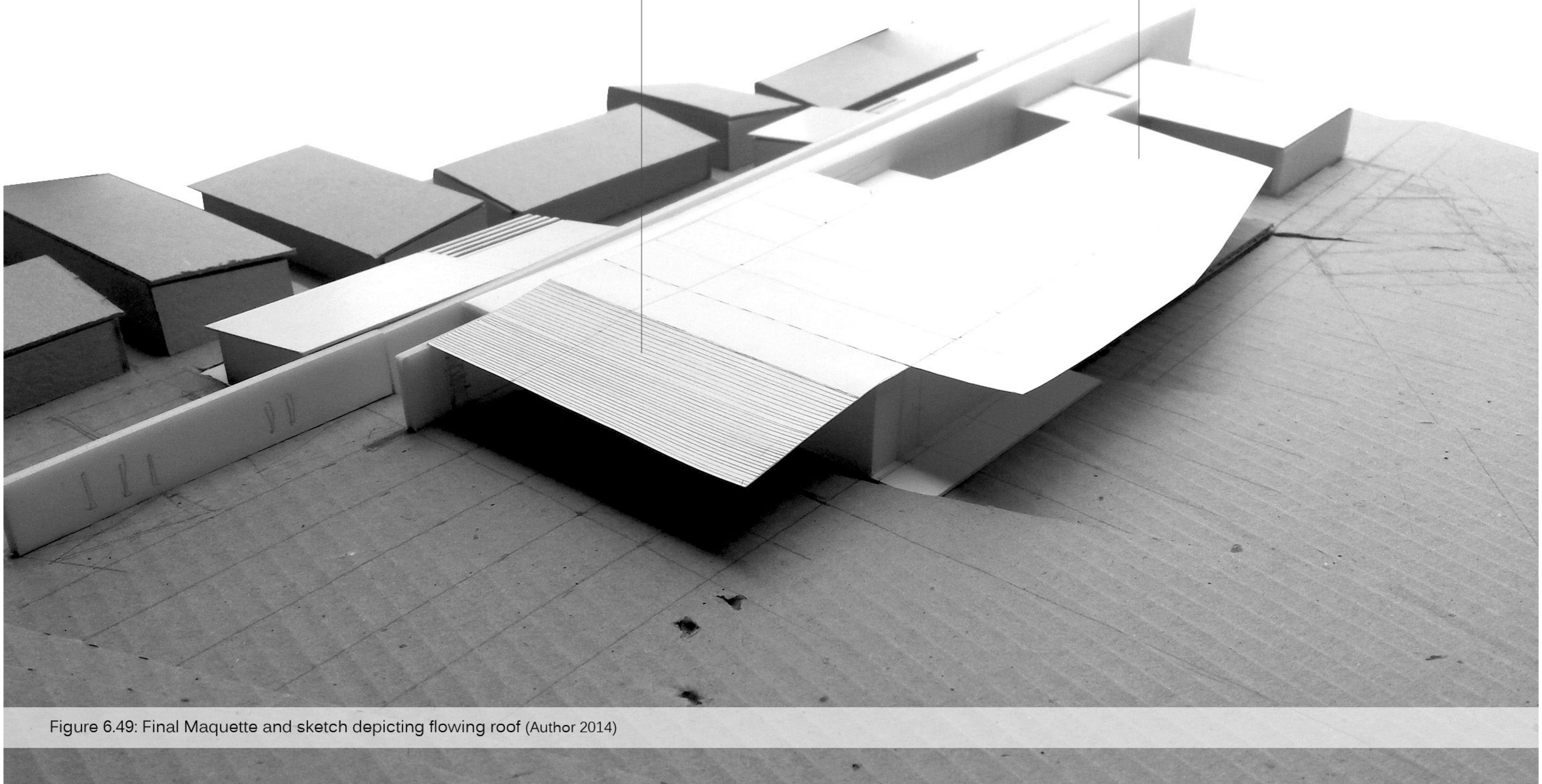
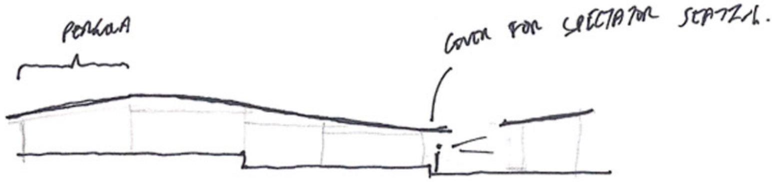
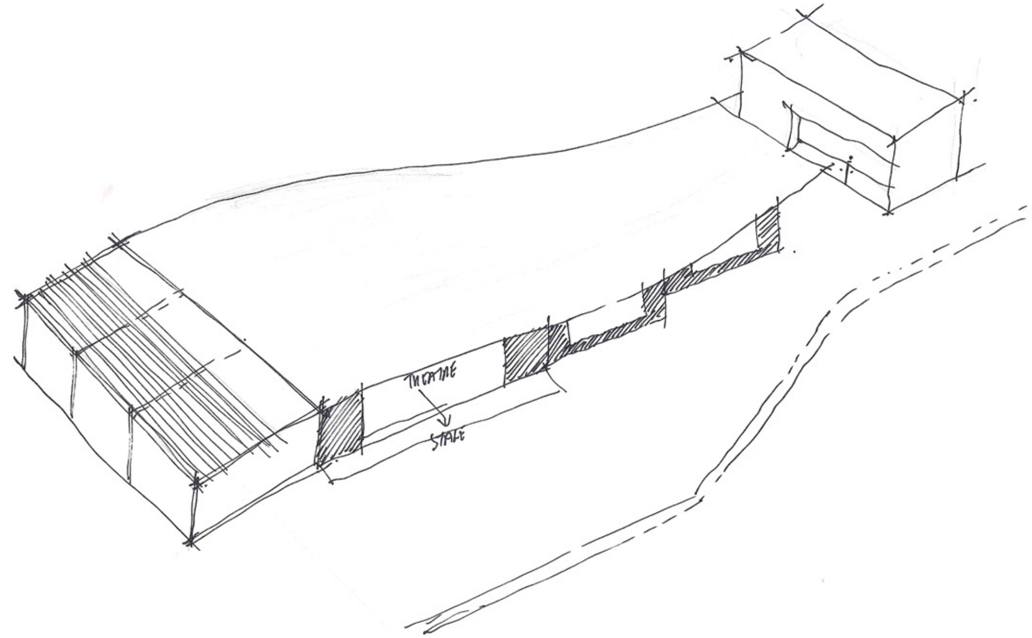
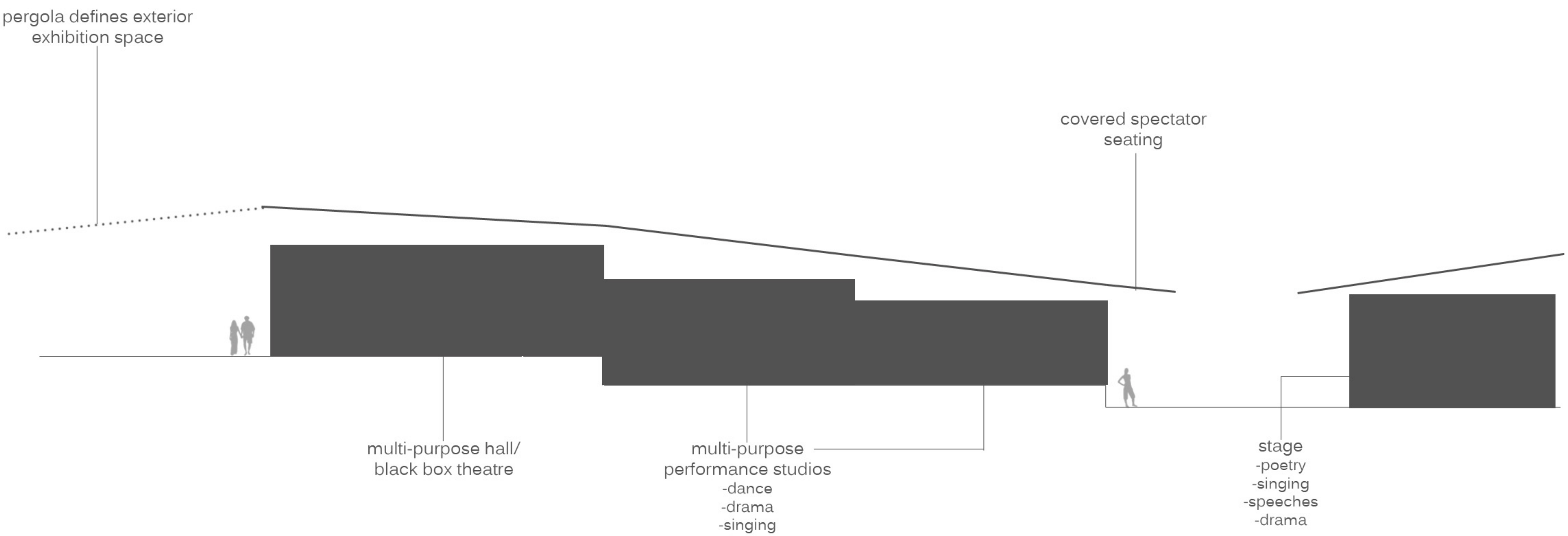


Figure 6.49: Final Maquette and sketch depicting flowing roof (Author 2014)


PERGOLA
COVER FOR SPECTATOR SEATING.

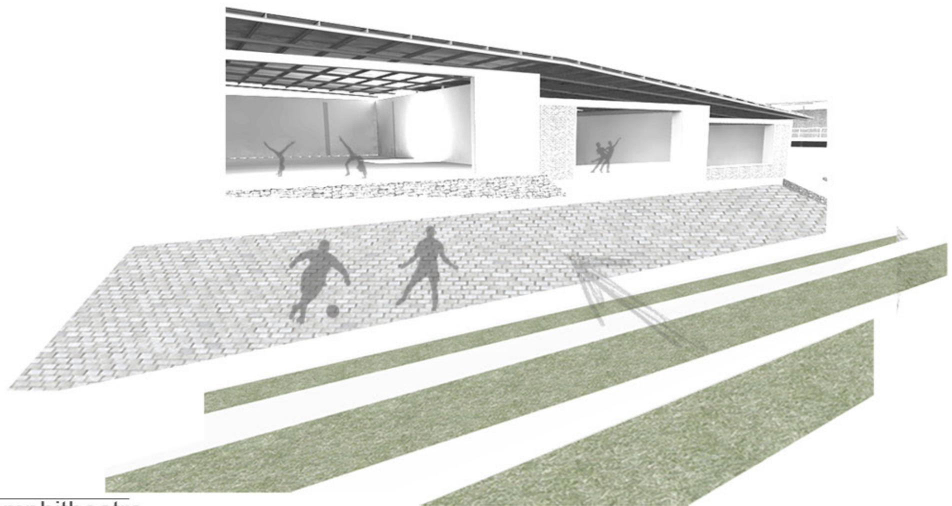

THEATRE
STAGE


pergola defines exterior exhibition space
covered spectator seating
multi-purpose hall/ black box theatre
multi-purpose performance studios
-dance
-drama
-singing
stage
-poetry
-singing
-speeches
-drama


hard courts
-soccer
-netball
multi-purpose performance studios
gathering space
-platform for performances/practice
intimate performance area
-poetry
-platform to present artwork
-public speaking

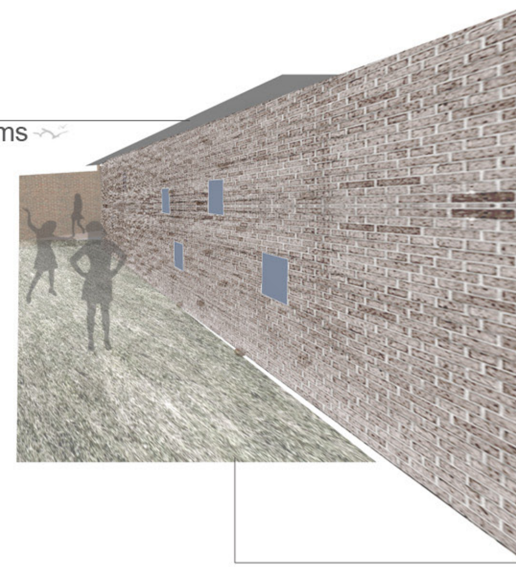
Performing Arts

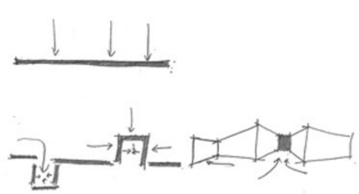
The main performing arts studios open up towards the amphitheatre. A series of stages and displays are found throughout the Imaginarium, facilitating various performances.



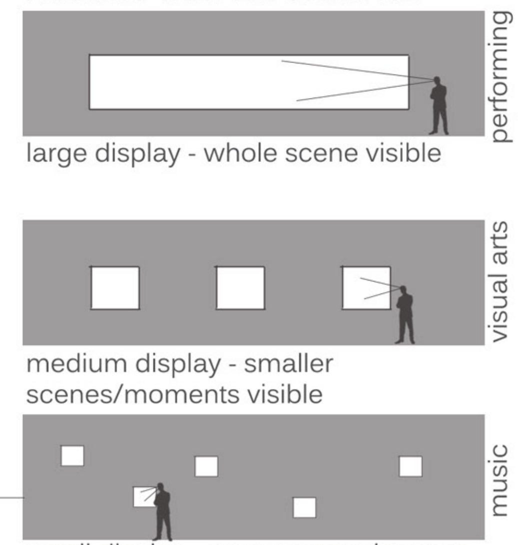
amphitheatre
-sport
-performances

music rooms

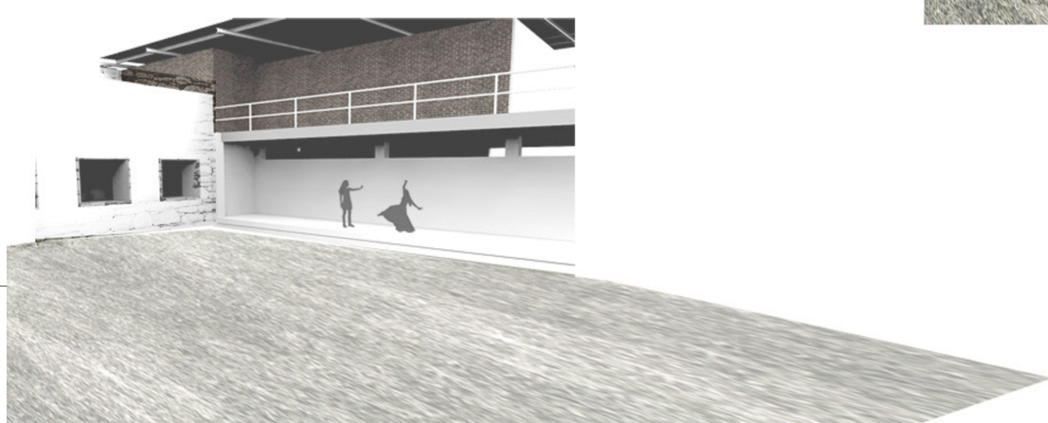




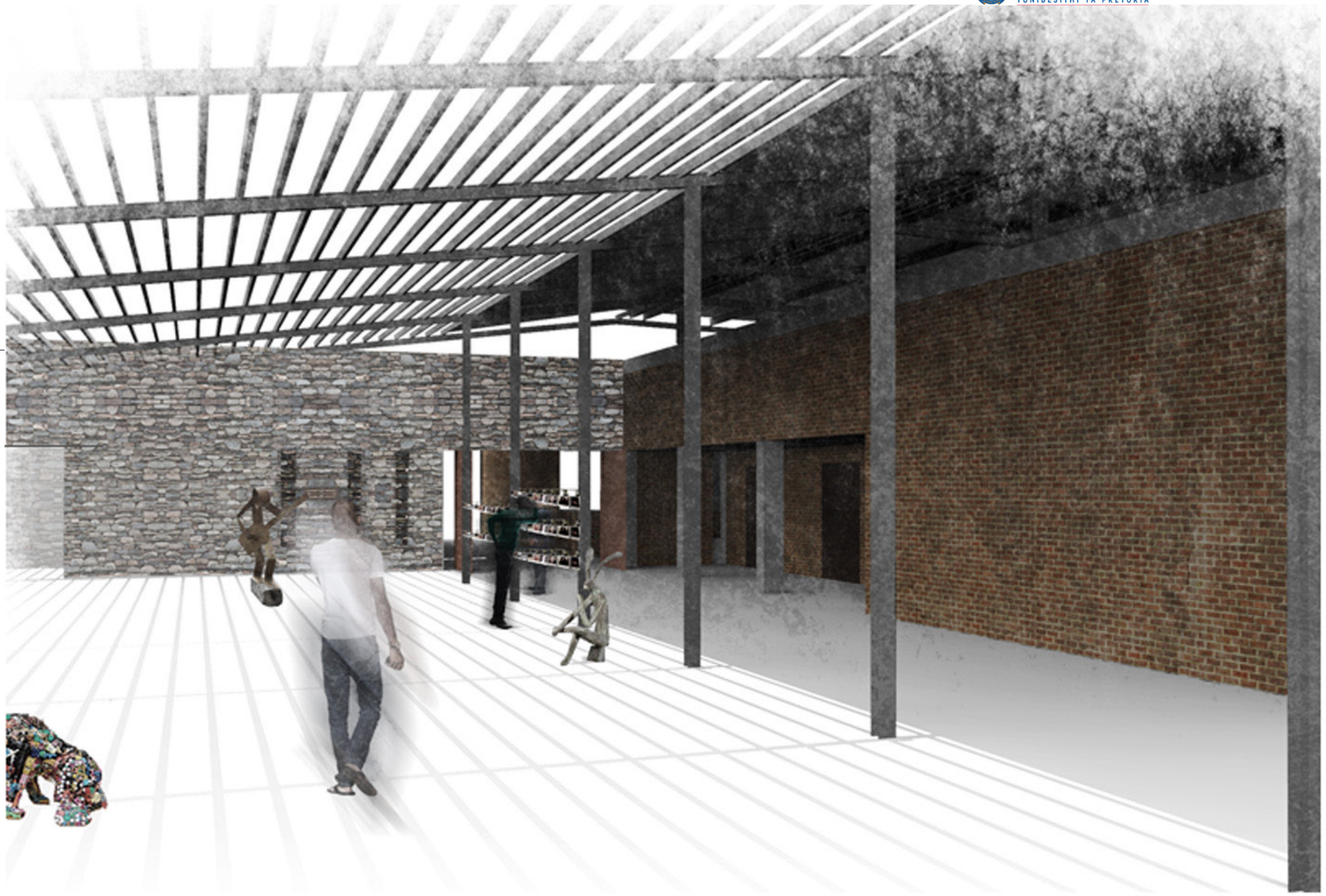
FRAMING THE PERFORMANCE



small display - encourages viewer to approach/explore performance

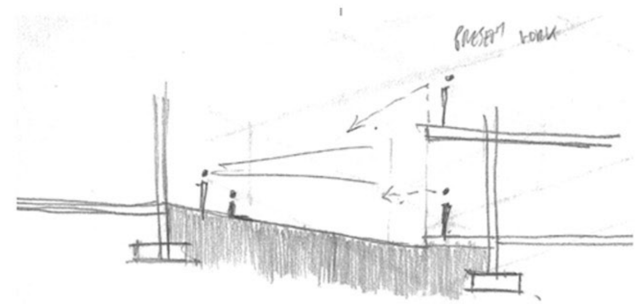


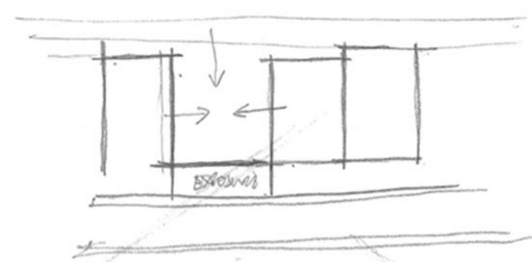

mural/graffiti wall
mural/graffiti wall
exterior exhibition space
interior exhibition space
projects are displayed along the main circulation spine

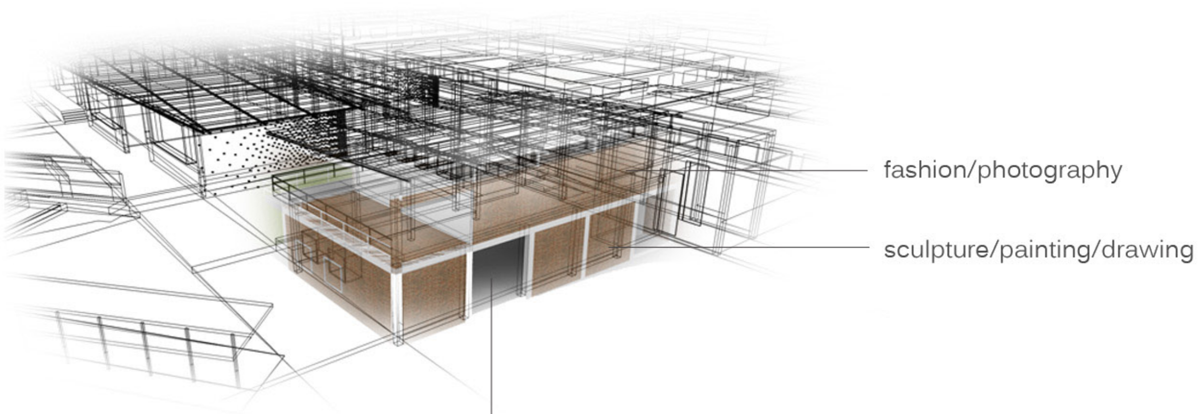


Visual Arts

The Imaginarium seeks to expose the Alaskan public to the creative talents of those enrolled in the various art programmes. Numerous walls and exhibition spaces provide the youth with such a platform.



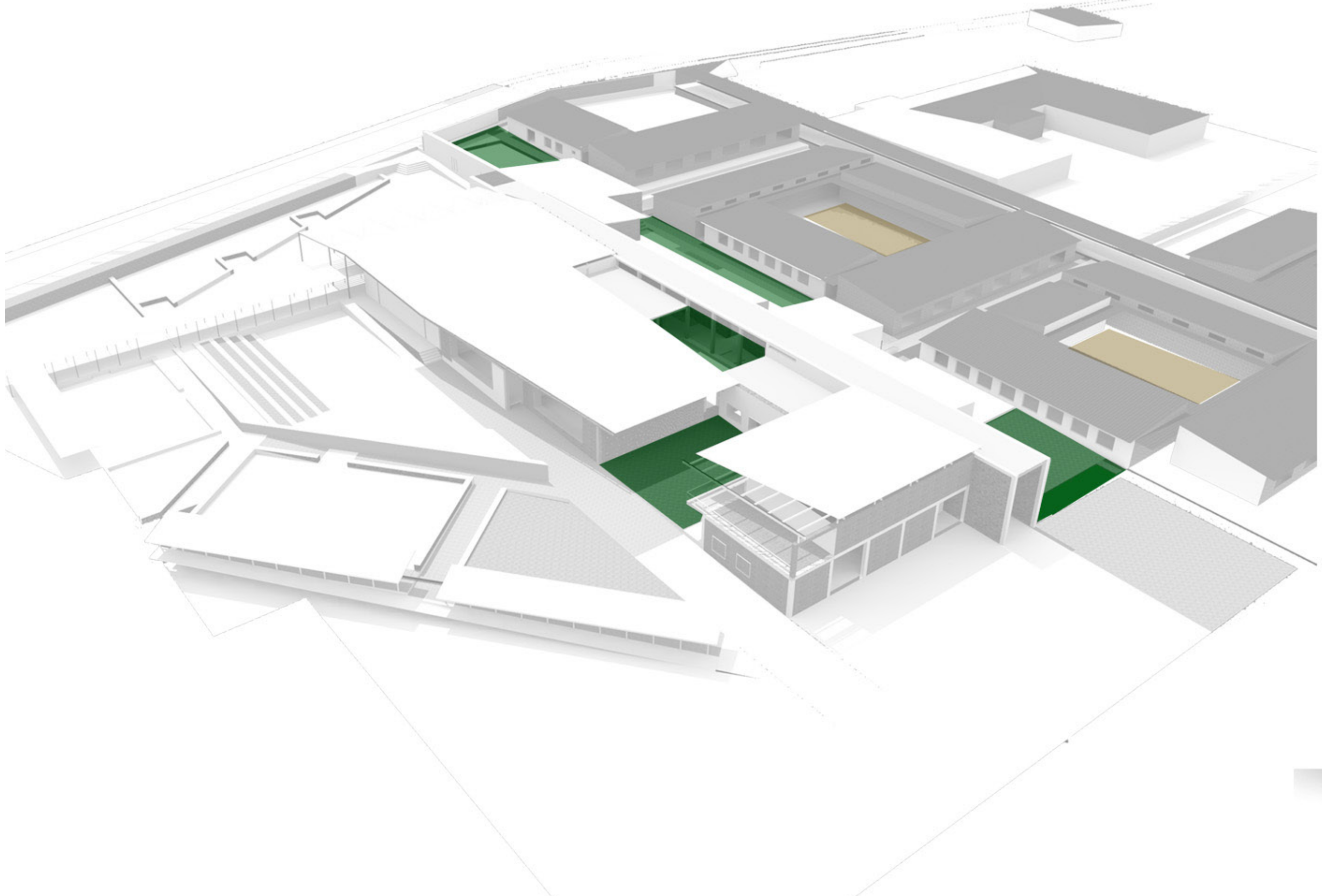


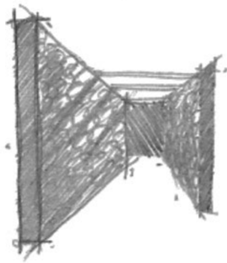


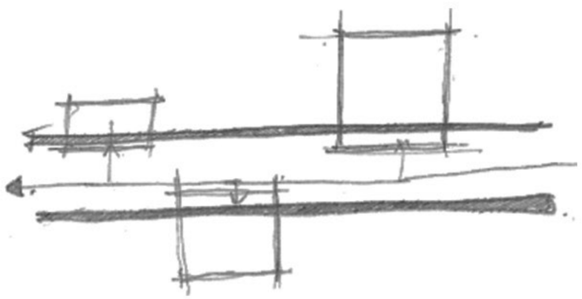
Courtyards between the Imaginarium and primary school create spaces for children to relax, interact and practice performances

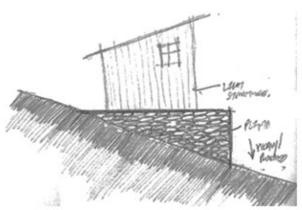
Courtyards

Research has shown that classrooms that open out towards courtyards aid in the learners' concentration spans. The Imaginarium is organised around a series of courtyards, providing tranquil, introverted spaces for people to gather, relax and practice performances









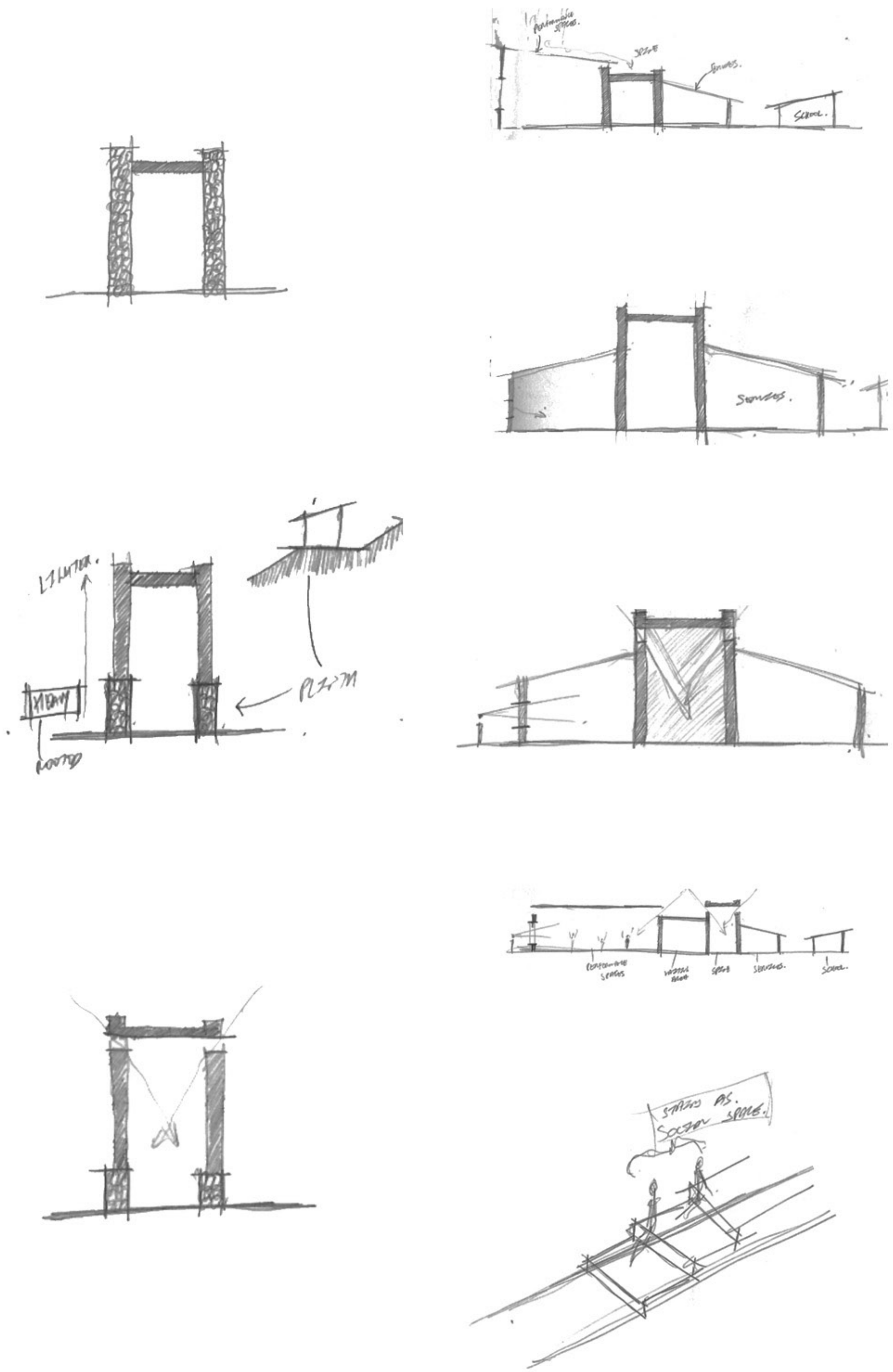

LIGHTER
HEAVY
ROOTED
PLINTH
SERVICES.
STAIRS AS SOCIAL SPACE.

Figure 7.1: Rocky outcrops are prominent features throughout Alaska (Alpheus 2014)

As the sun crosses the sky, so the shadows cast by the rocks keep changing. It's as if the mountain were alive.

Alpheus (2014)

7 Technical Investigation

This chapter describes the technical concept and focuses on the technical exploration of the Imaginarium.

7.1 Technical Concept

As described in Chapter 6.8, the technical concept responds to five informants:

- the duality between ***imagination*** and ***knowledge*** (mentioned in section 6.4)
- the concept of architecture as a ***platform/display***
- the use of ***stone*** as a building material in Alaska
- the form of the adjacent ***school***
- the relationship of ***light*** structures to the ***heavy*** mountainside

The idea was for the Imaginarium to draw inspiration from, and respond to, the surrounding buildings and natural features, yet also express the creative nature of the programmes it facilitates.

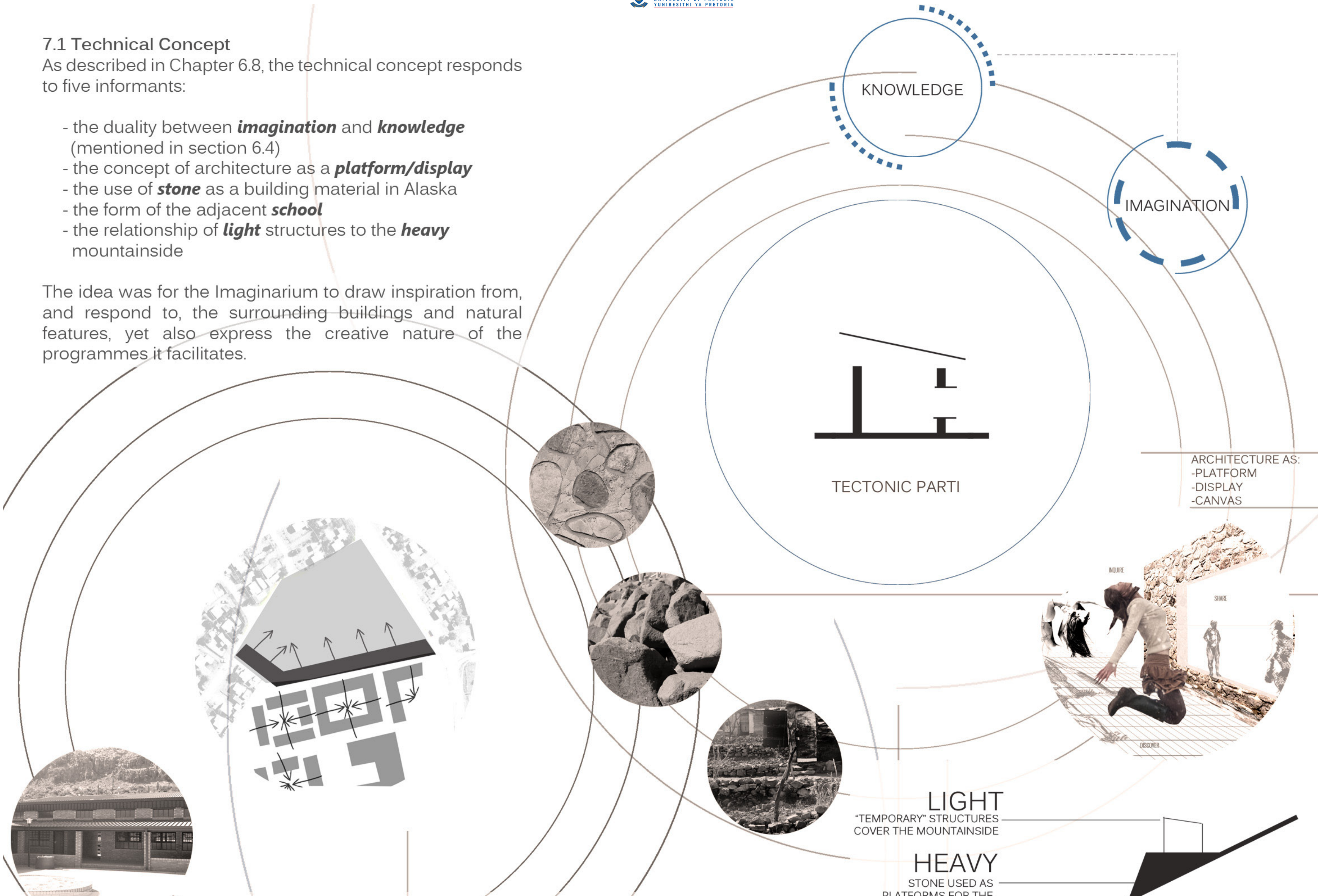


Figure 7.2: Diagram illustrating the tectonic informants (Author 2014)

Light vs. Heavy

When approaching Alaska from a distance, the mountain, with its thousands of glistening boxes scattered along it, is one of the most prominent features in Mamelodi East.

When walking up the mountain, winding your way up between the houses made predominantly of light, corrugated iron, one sees the way in which the residents have utilised the stone to build strong, heavy platforms. There is a distinct language throughout the settlement of light and heavy, stereotomic and tectonic.

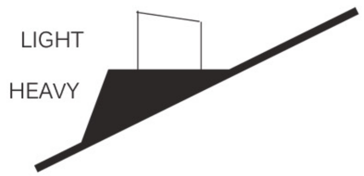


Figure 7.3: Photograph showing a house built on a stone terrace (Author 2014)

This idea of lightness and heaviness is further explored when addressing the juxtaposition of the Imaginarium to Impendulo Primary School. The duality between *Imagination* and *Knowledge,* discussed in Chapter 6.4, is explored technically by investigating the relationship of the stereotomic to the tectonic. The concept is to represent this duality through the heaviness of the stereotomic elements, rooting the building to the earth, whilst the light tectonic elements form gestures towards the sky or the ethereal.

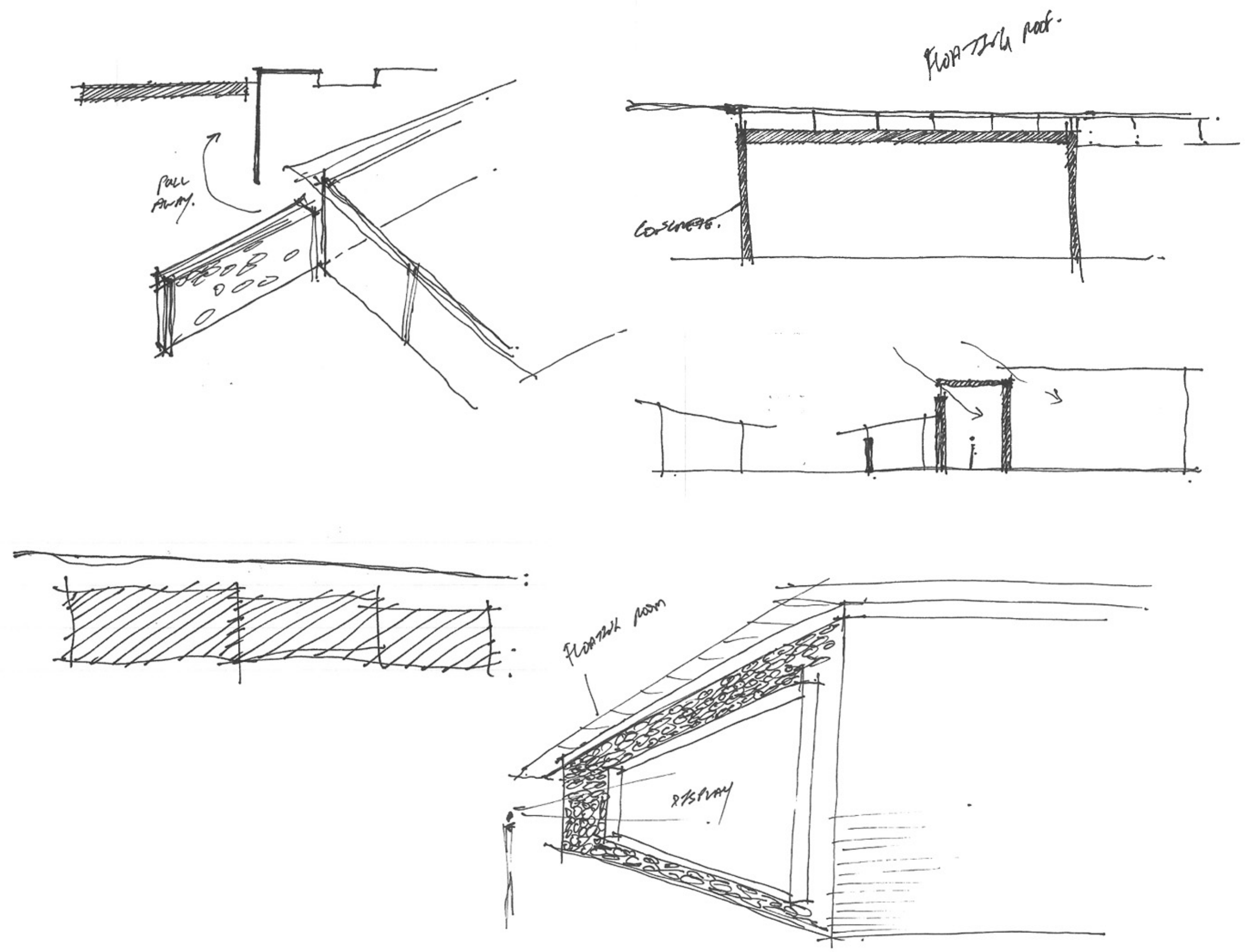


Figure 7.4: Concept sketches showing the tectonic approach (Author 2014)

The concept of lightness and heaviness is further explored between the circulation spine, defined by thick stone walls, and the imagination stations, made of thinner, brick walls.

The initial idea was to have the whole circulation spine as one, uniform, monolithic element, both inside and out, but during a crit the idea of the stone changing in height in order to alter the occupant's experience was discussed.

The author explored using the stone at different heights, creating a variety of experiences as one walks along the spine. The exploration resulted in the spine appearing as one monolithic element from the outside, with the lighter imagination stations breaking through it, but once inside the stone varies in its use.

Figure 7.5 illustrates the stone lowering in order to define seating areas. The height of the stone alters with the terracing of the building and, as Figure 7.8 shows, resembles a series of plinths, much like the ones found throughout Alaska (see Figure 6.23).

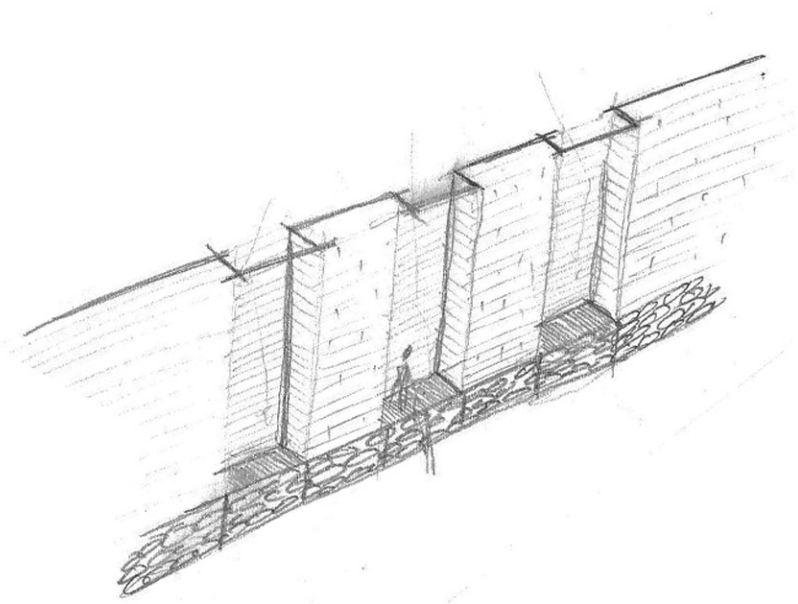


Figure 7.5: Perspective of stone defining the seating (Author 2014)

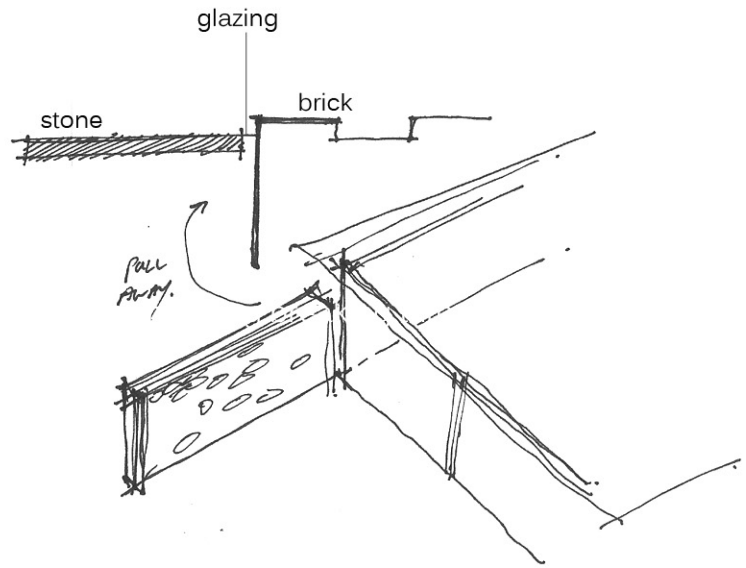


Figure 7.6: Sketches illustrating the relationship of stone to brick (Author 2014)

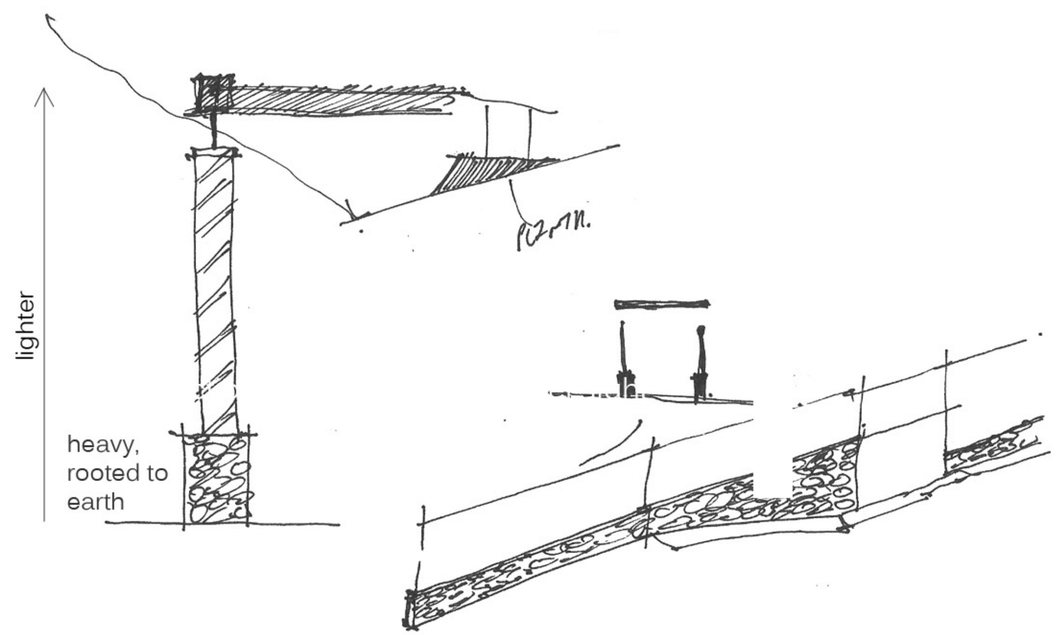


Figure 7.7: Sketches of the main circulation spine (Author 2014)

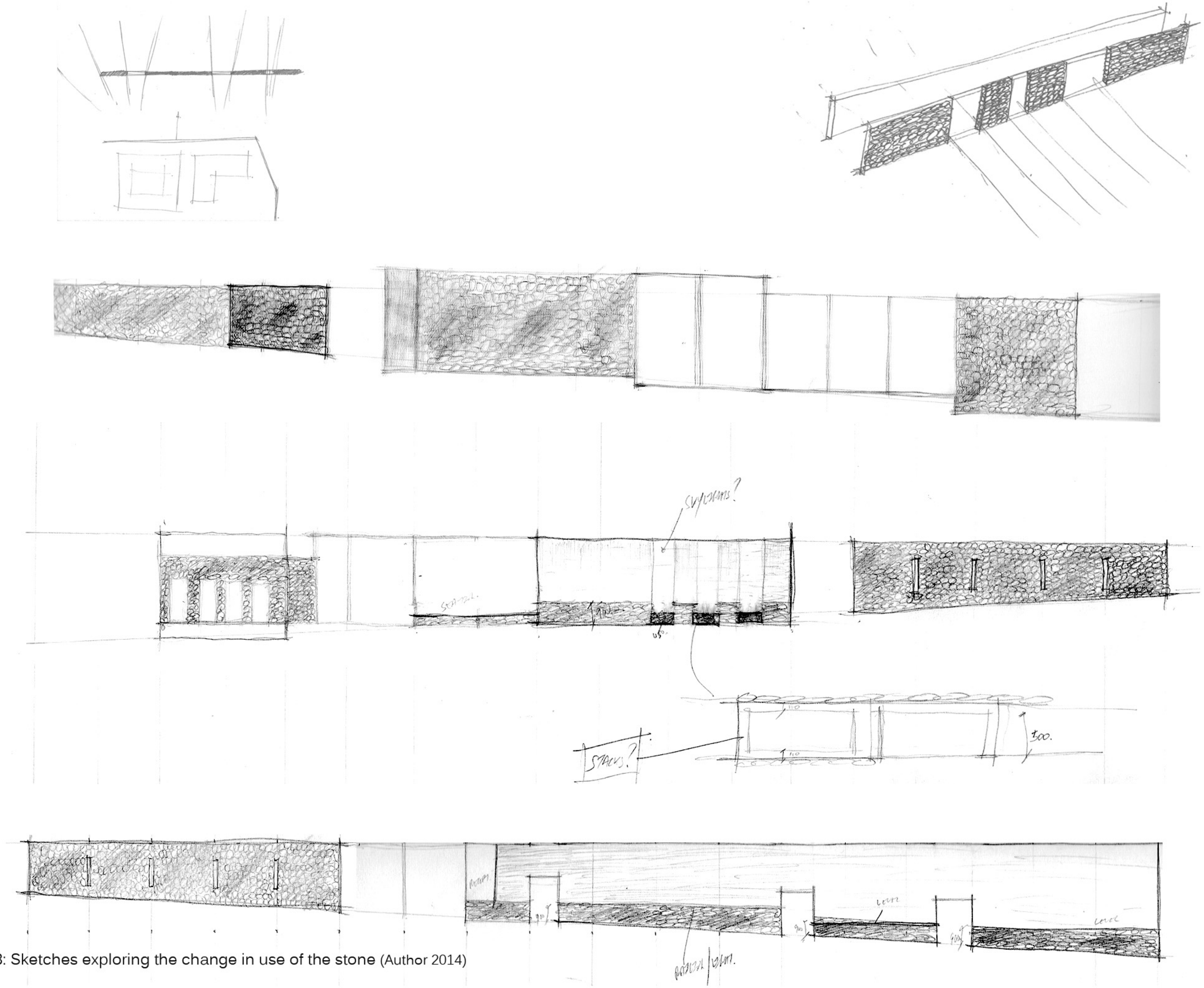


Figure 7.8: Sketches exploring the change in use of the stone (Author 2014)

7.2 Structure

The material used in the Imaginarium responds to its immediate context. The igneous stone is sourced locally, while the the brick relates to the neighbouring school, and the corrugated iron roofing is used thoughout Alaska.

Figure 7.11 illustrates the various parts of the structure. The main spine, studios and performance spaces are constructed of a concrete frame with brick infill, with parts of the main spine being clad with igneous stone.

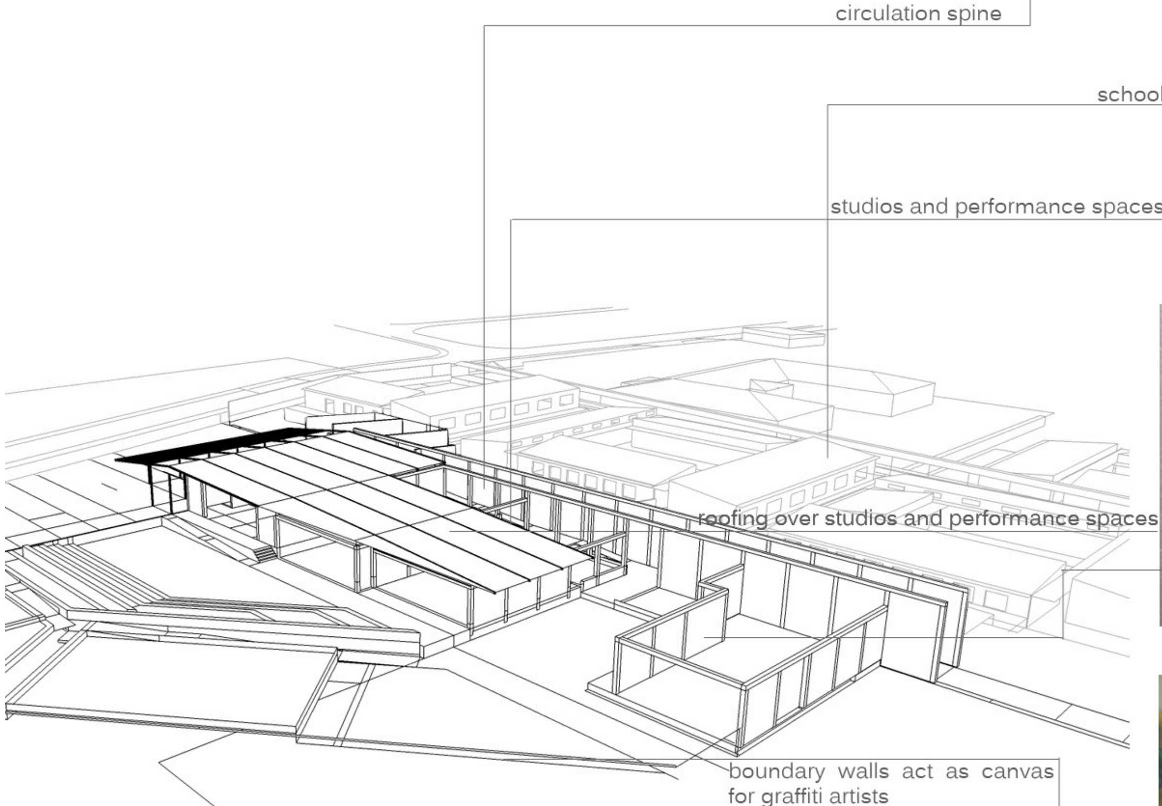


Figure 7.9: Axonometric of the Imaginarium (Author 2014)

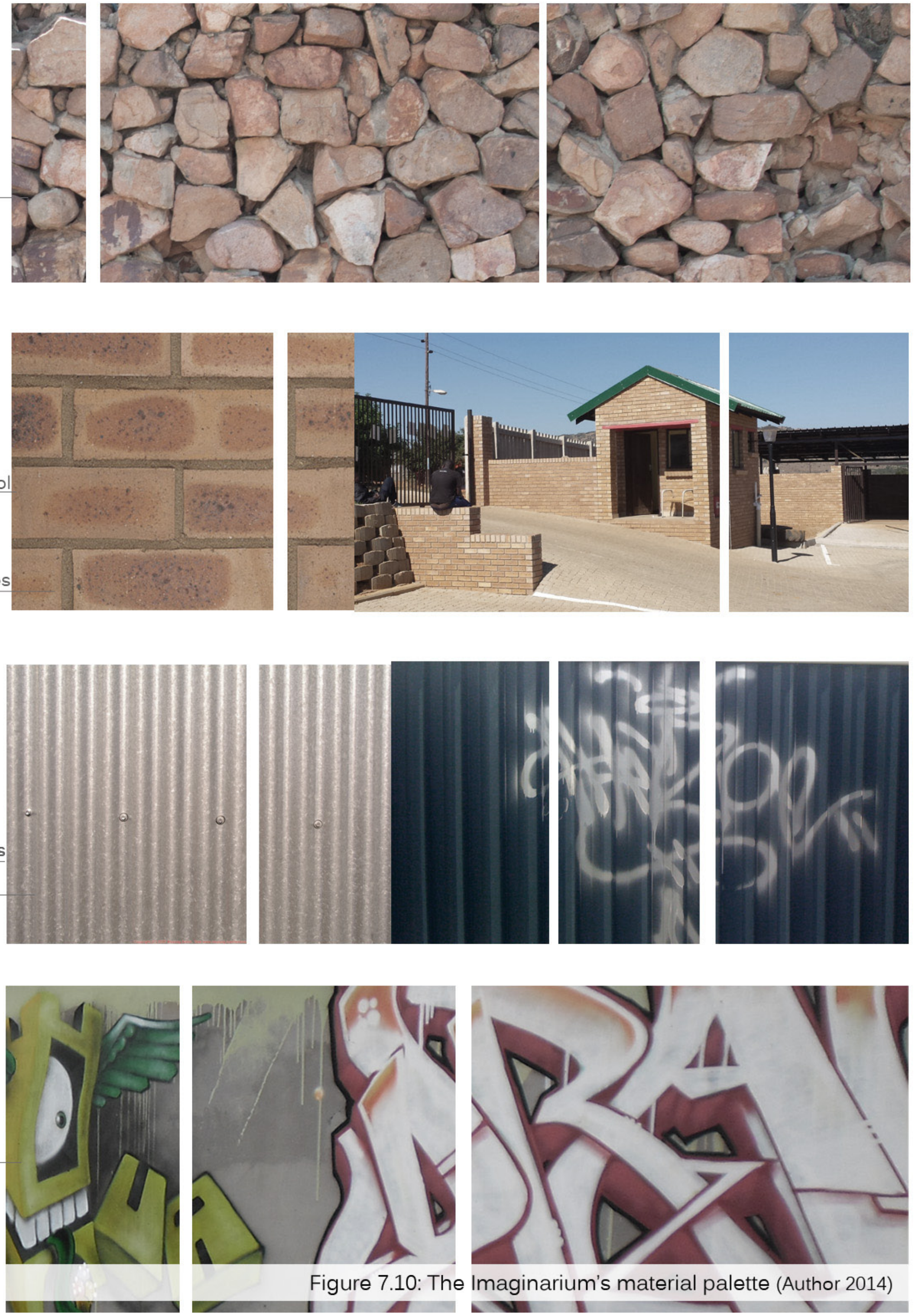


Figure 7.10: The Imaginarium's material palette (Author 2014)

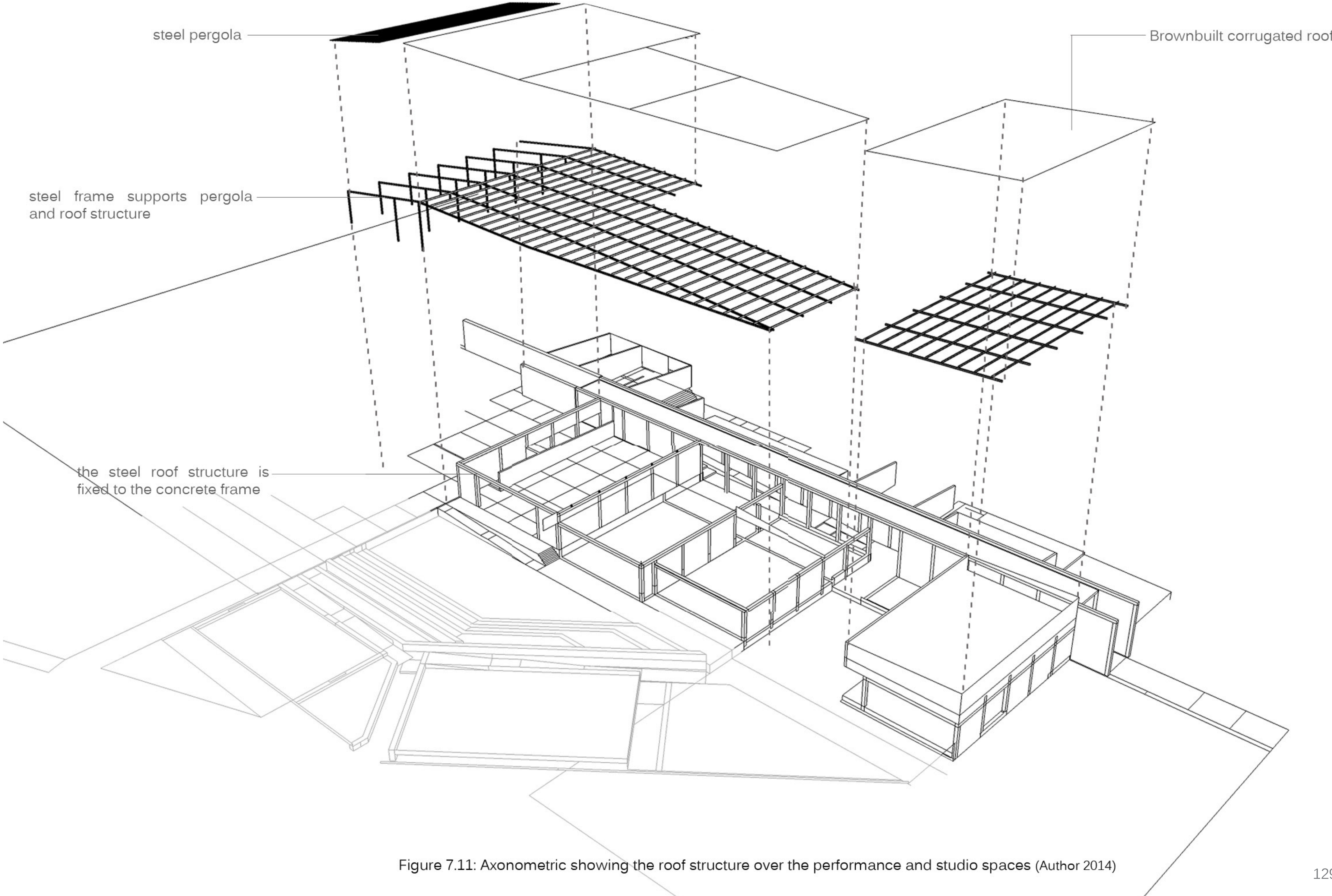
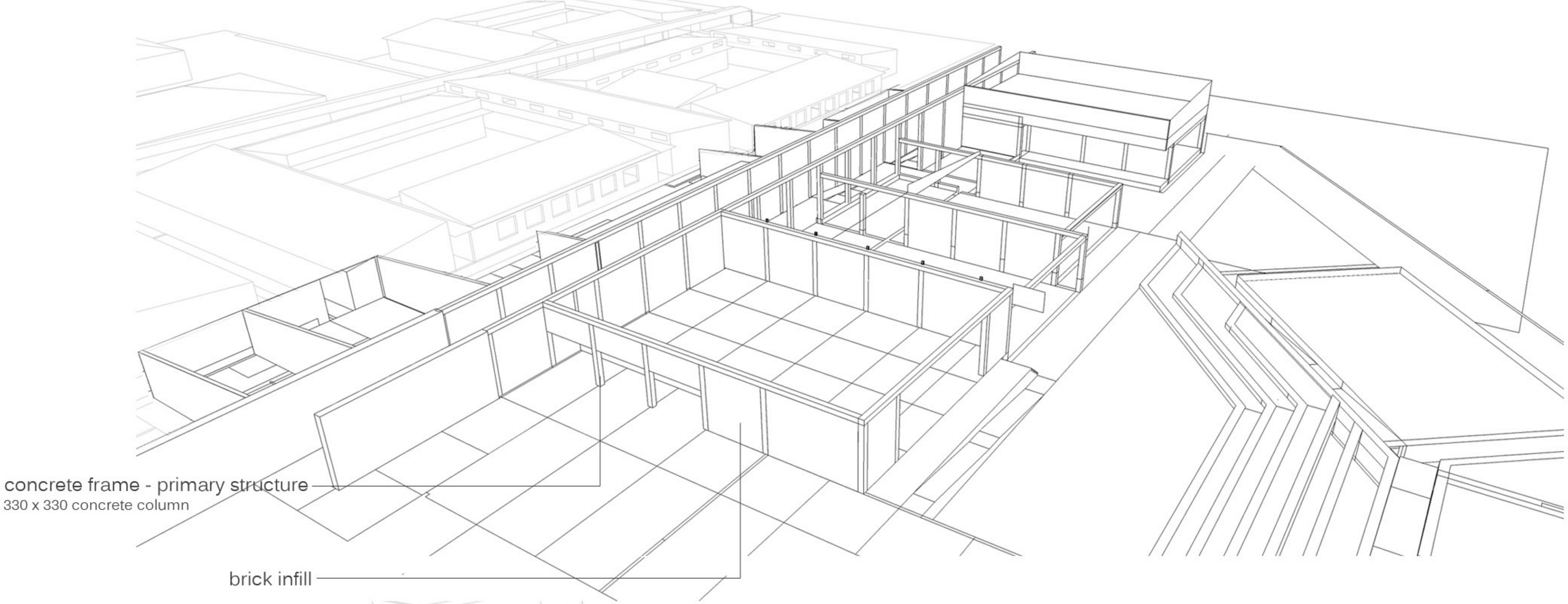
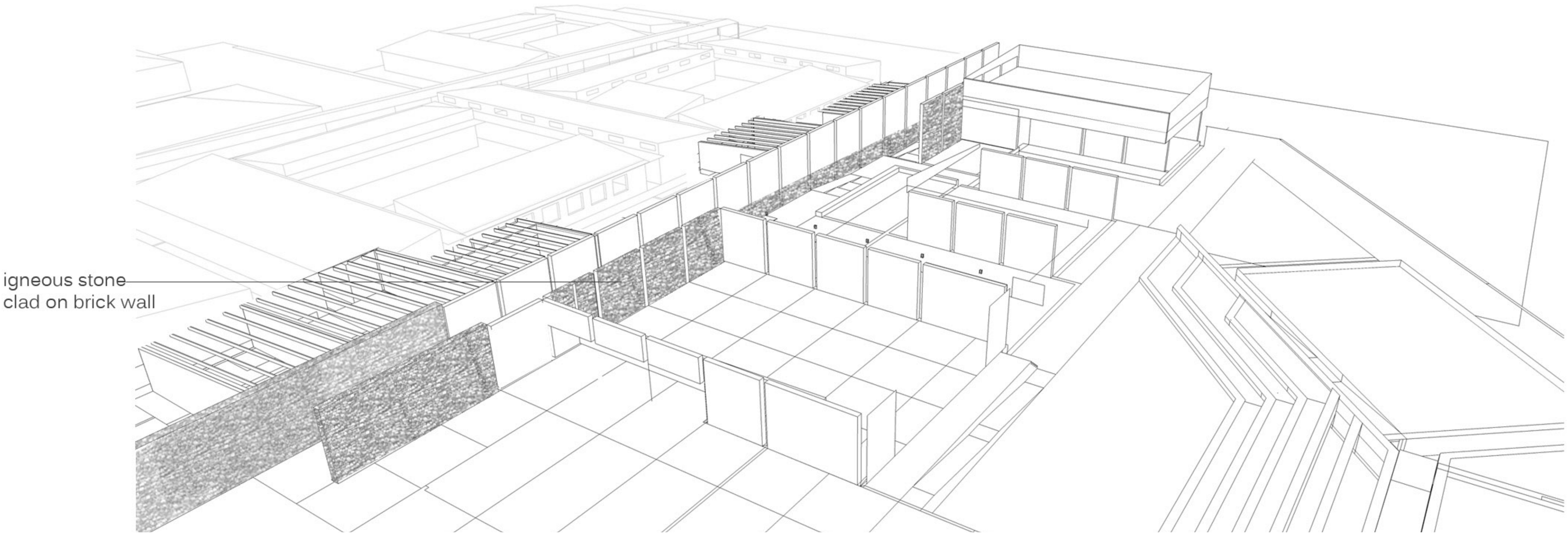
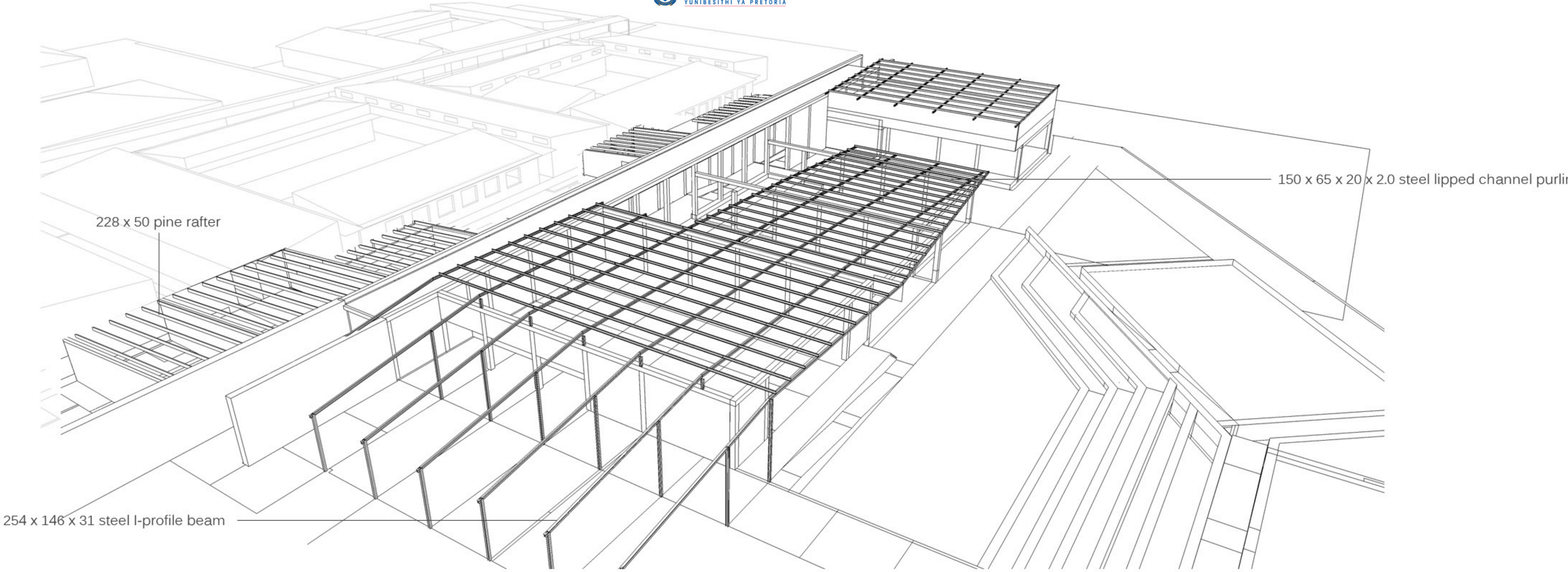


Figure 7.11: Axonometric showing the roof structure over the performance and studio spaces (Author 2014)


concrete frame - primary structure
330 x 330 concrete column
brick infill


igneous stone
clad on brick wall



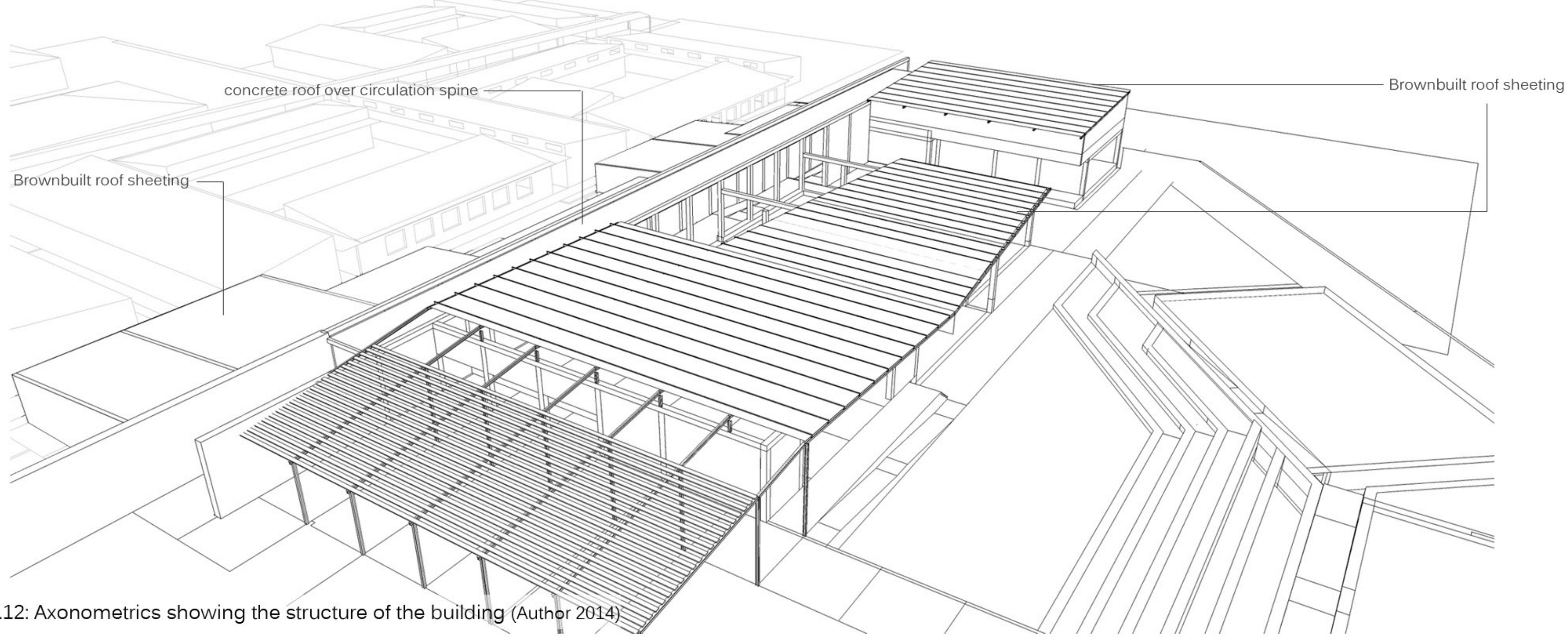


Figure 7.12: Axonometrics showing the structure of the building (Author 2014)

7.3 Circulation

The multi-purpose hall and exhibition spaces are accessible to the public, while the rest of the facilities are available only to those enrolled in the various art programmes. The reception surveys the entrance, ensuring only those enrolled in programmes gain entrance to the studios

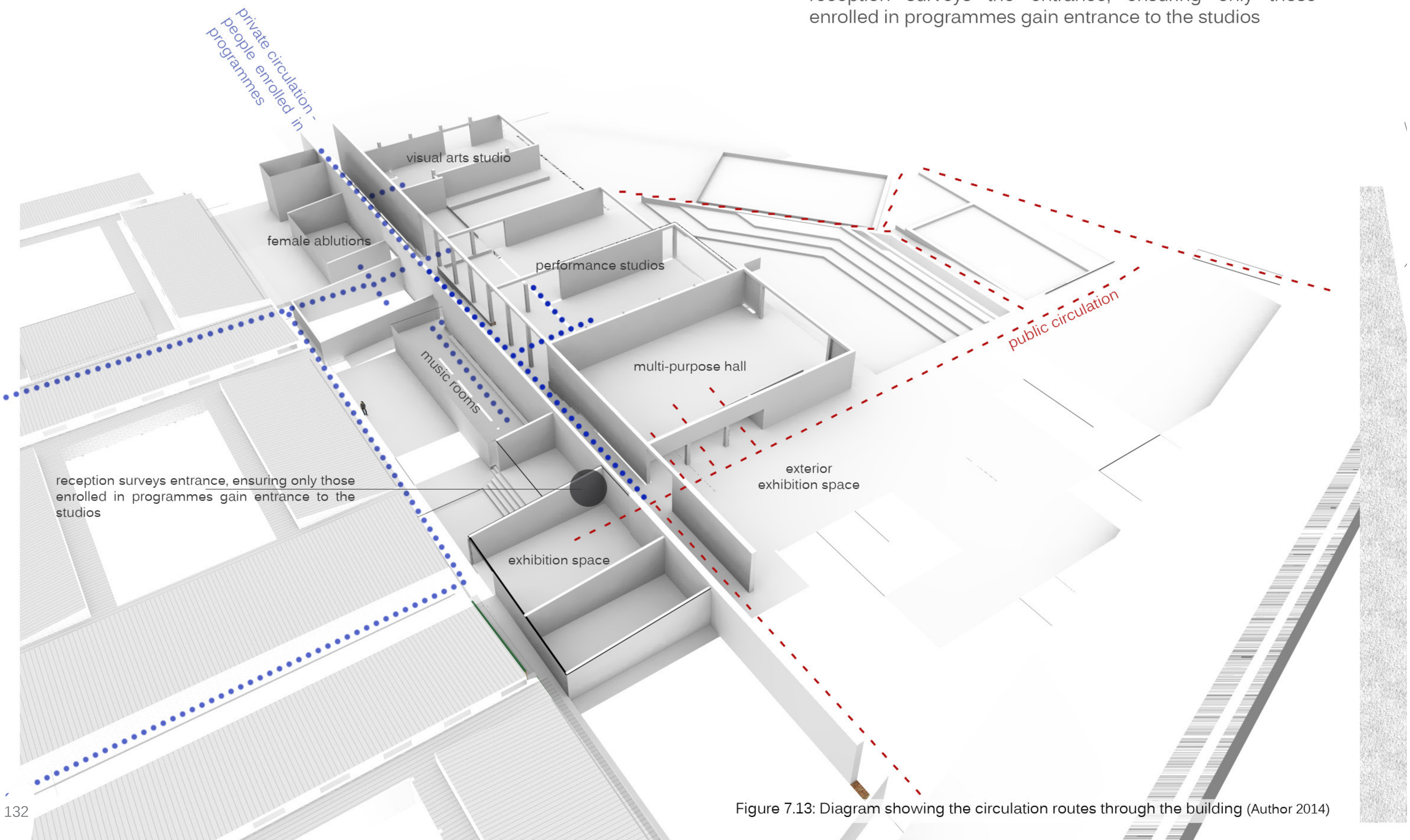


Figure 7.13: Diagram showing the circulation routes through the building (Author 2014)

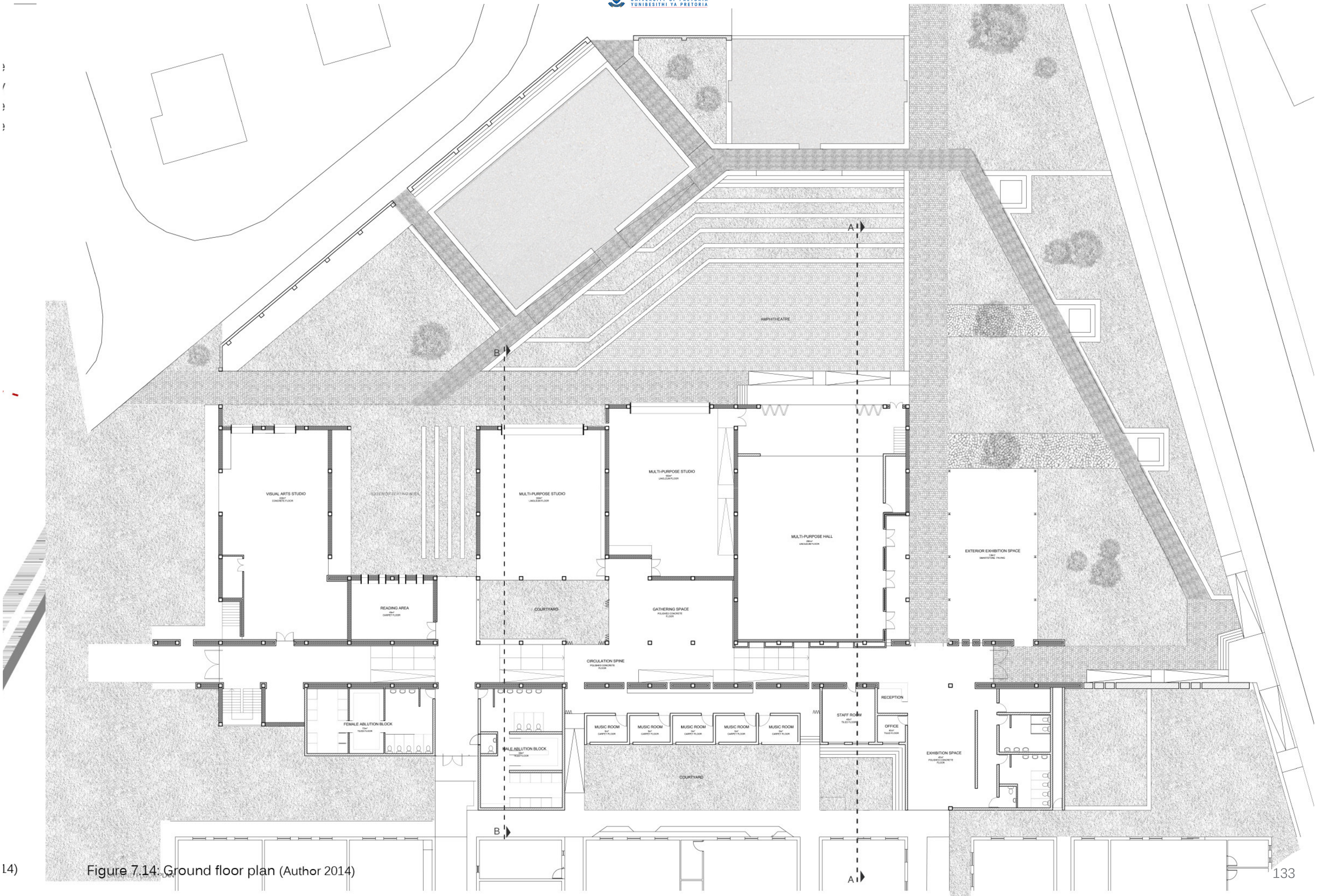


Figure 7.14: Ground floor plan (Author 2014)

7.4 Sections

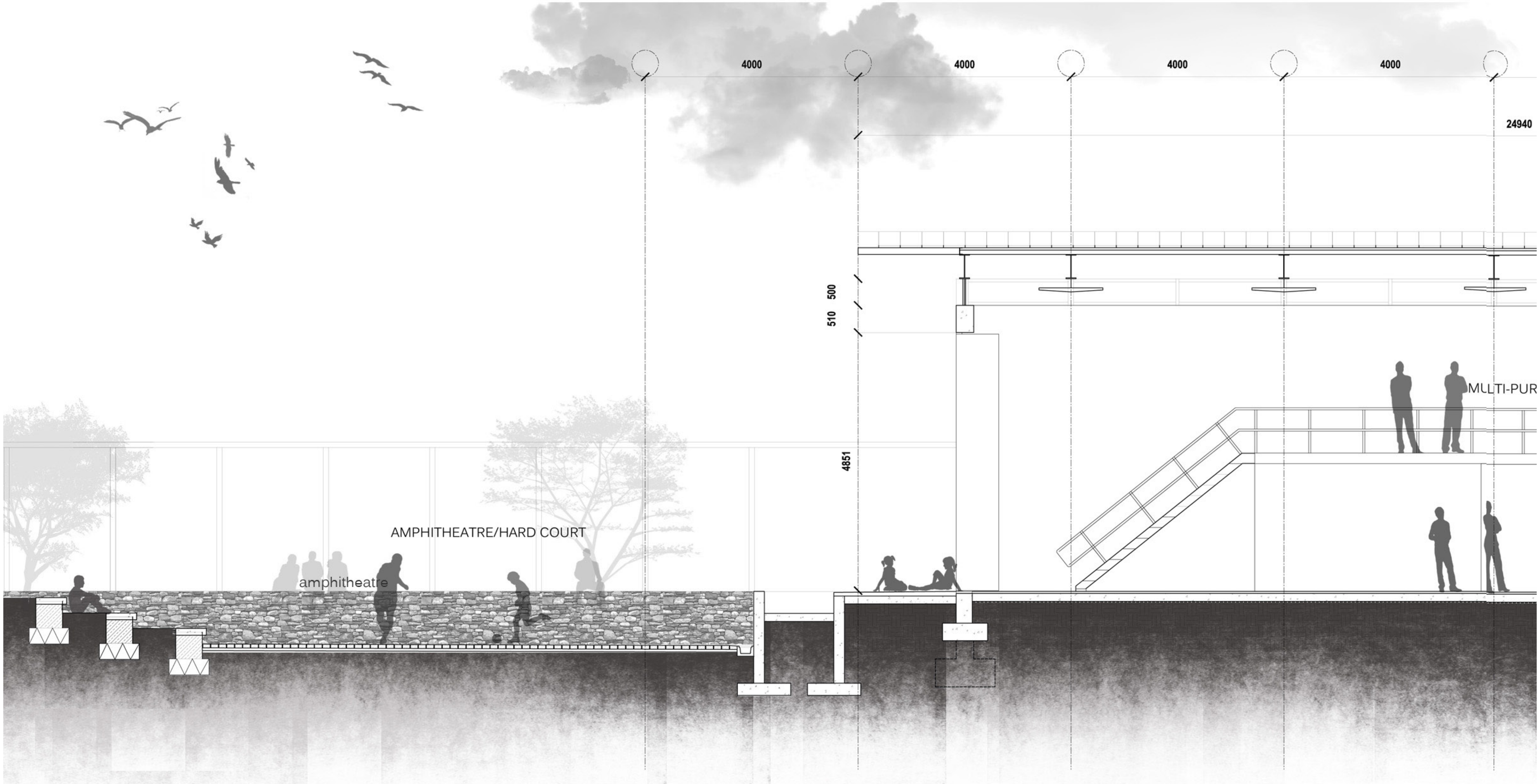
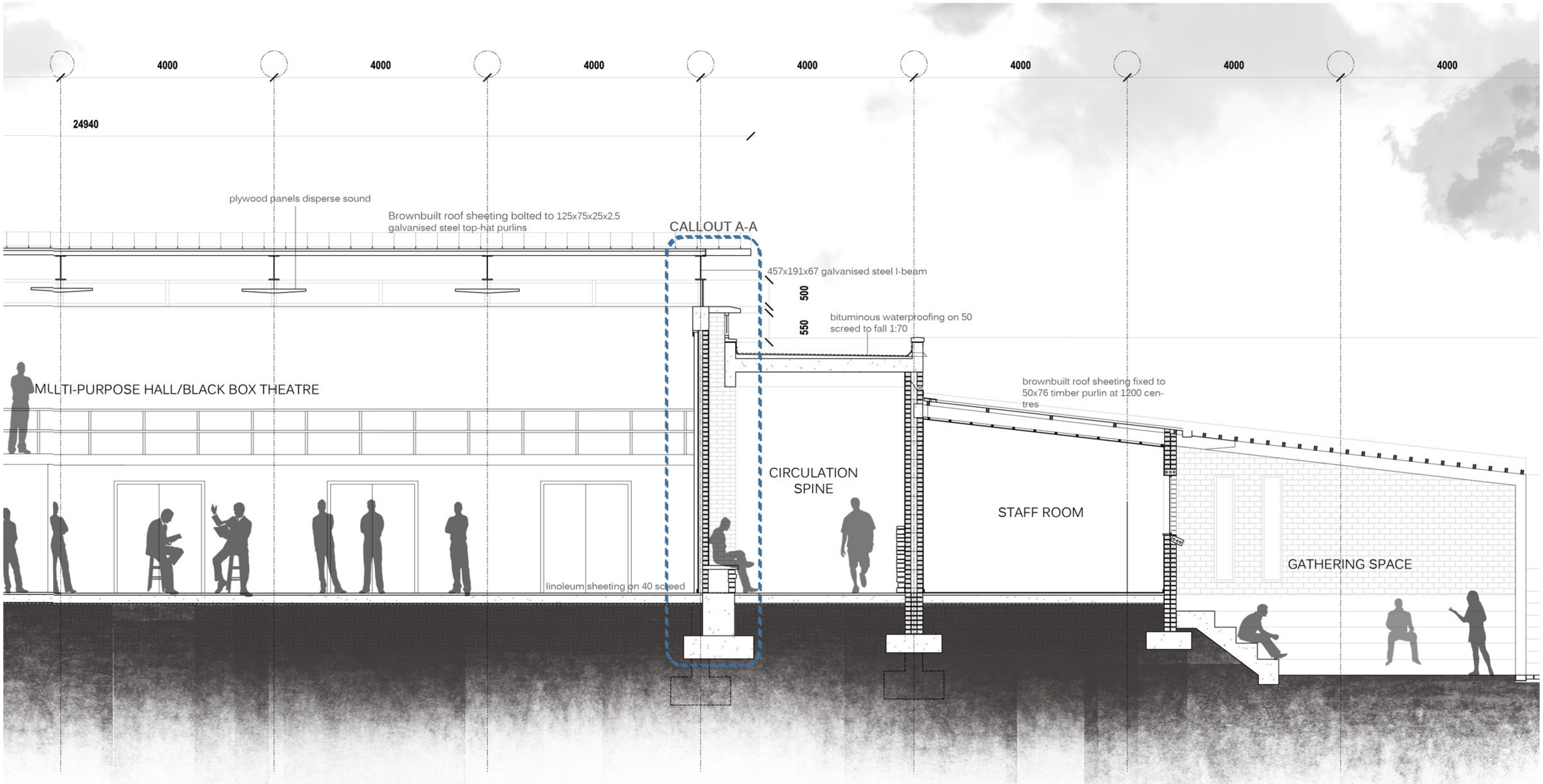


Figure 7.15: Section through multi-purpose hall (Author 2014)


4000
4000
4000
4000
4000
4000
4000
4000
24940
plywood panels disperse sound
Brownbuilt roof sheeting bolted to 125x75x25x2,5 galvanised steel top-hat purlins
CALLOUT A-A
457x191x67 galvanised steel I-beam
500
550
bituminous waterproofing on 50 screed to fall 1:70
MULTI-PURPOSE HALL/BLACK BOX THEATRE
brownbuilt roof sheeting fixed to 50x76 timber purlin at 1200 centres
CIRCULATION SPINE
STAFF ROOM
GATHERING SPACE
linoleum sheeting on 40 screed

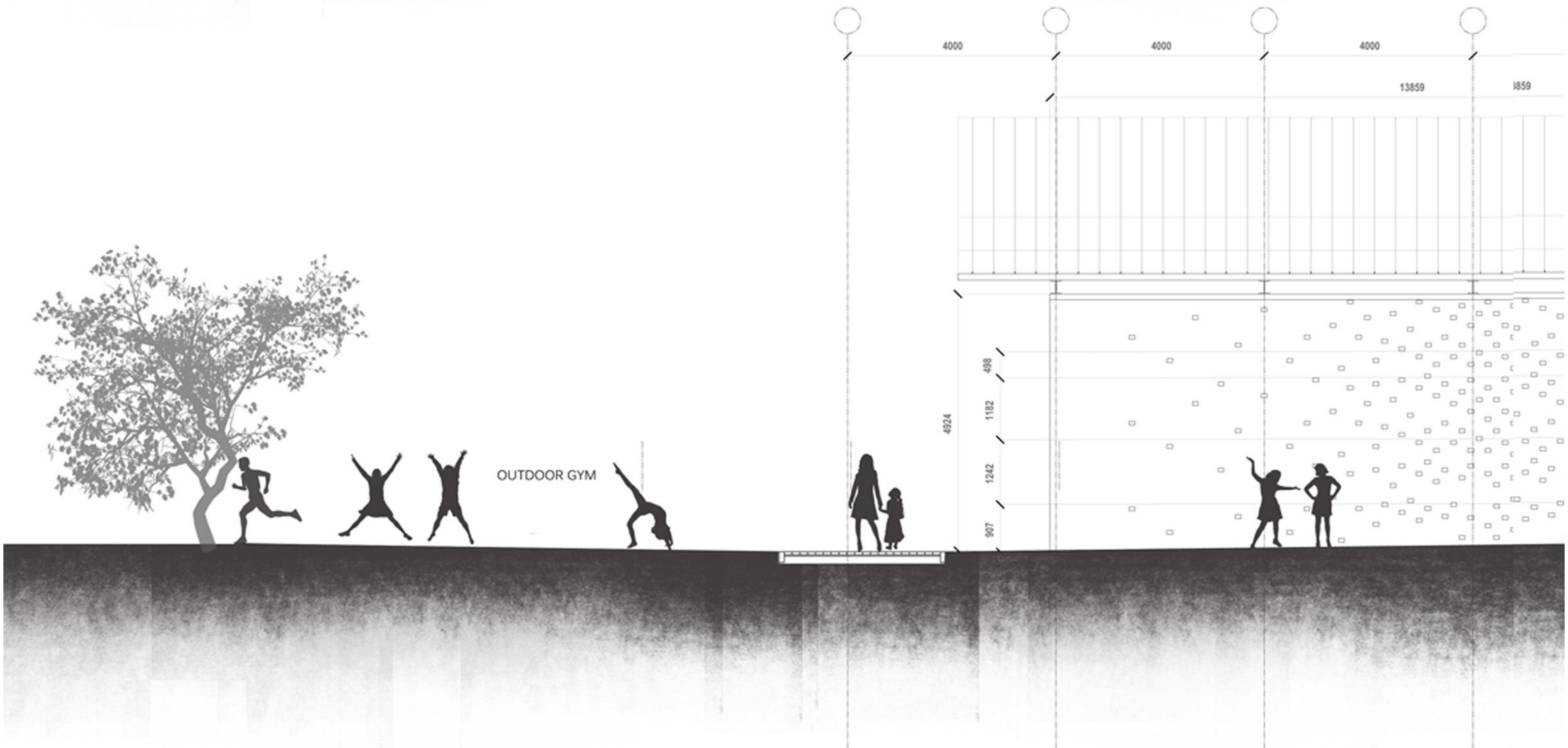
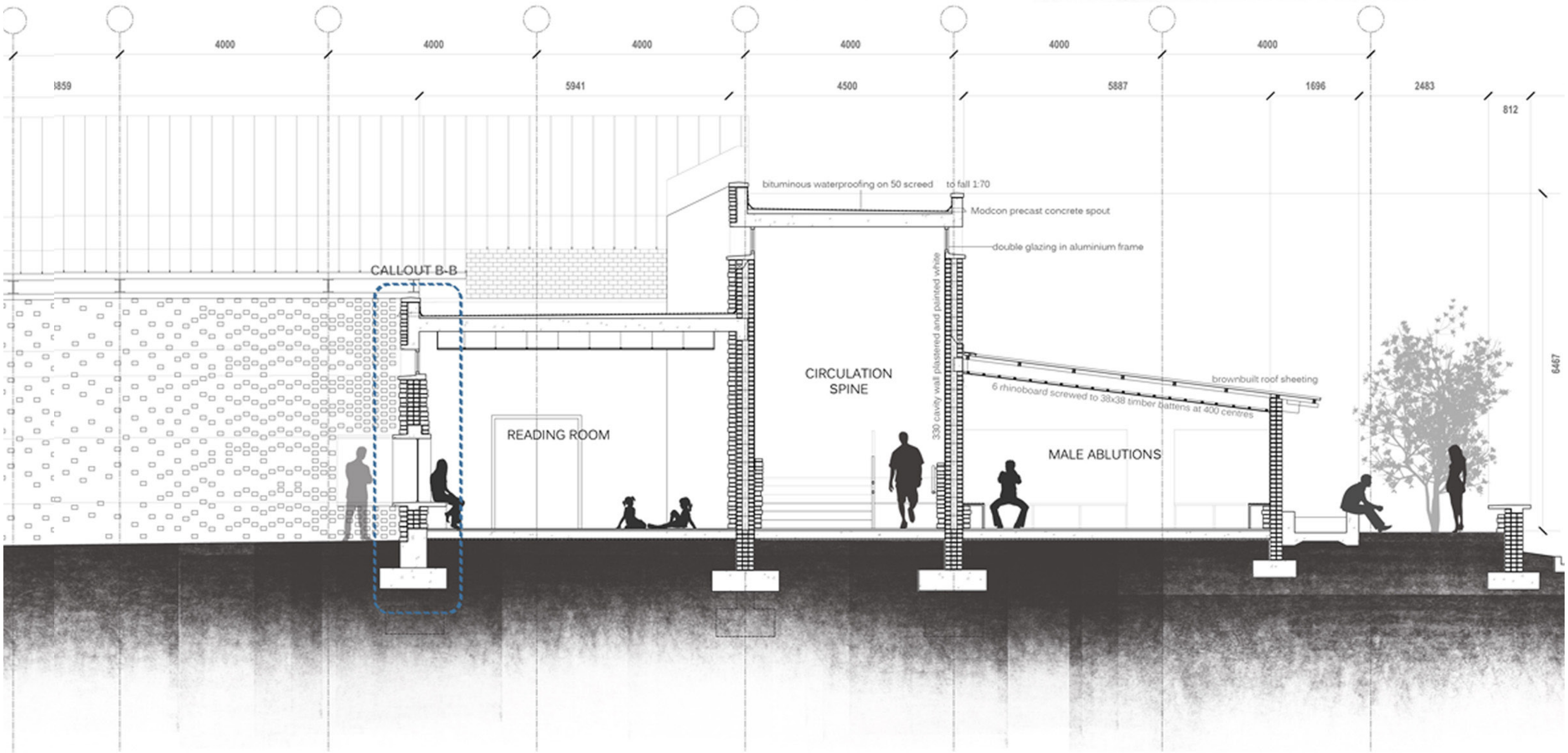
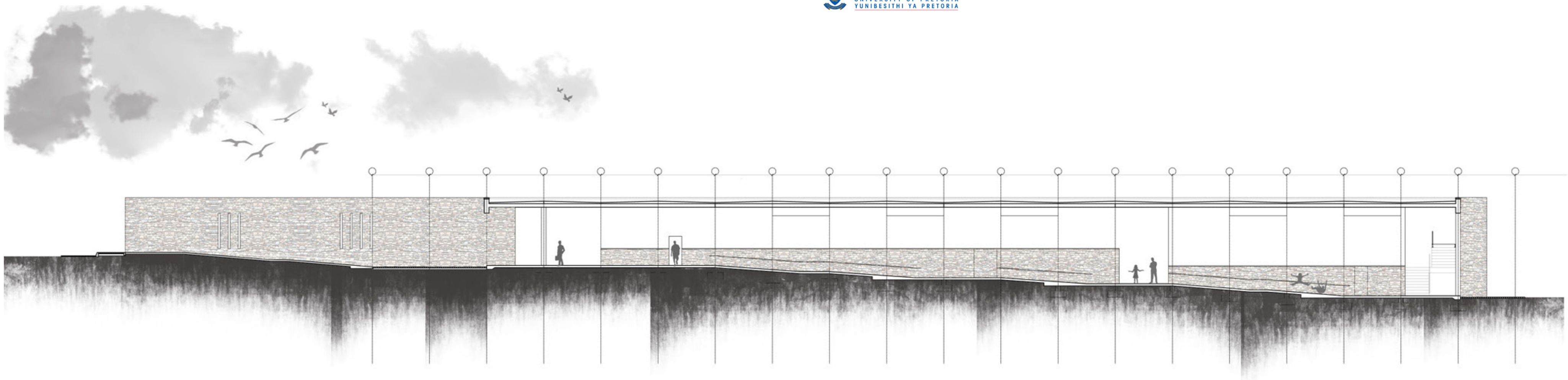
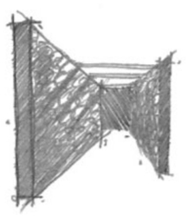


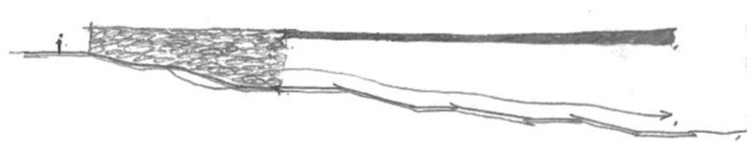
Figure 7.16: Section through reading room (Author 2014)

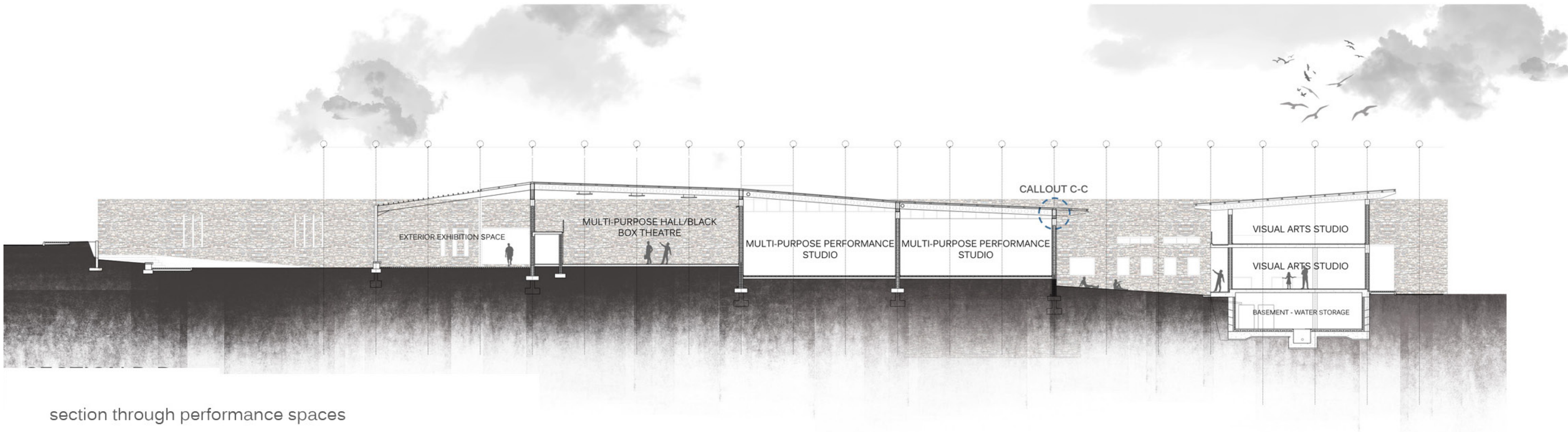

4000
4000
4000
4000
4000
4000
3859
5941
4500
5887
1696
2483
812
6467
bituminous waterproofing on 50 screed
to fall 1:70
Modcon precast concrete spout
double glazing in aluminium frame
CALLOUT B-B
CIRCULATION SPINE
330 cavity wall plastered and painted white
brownbuilt roof sheeting
6 rhinoboard screwed to 38x38 timber battens at 400 centres
READING ROOM
MALE ABLUTIONS



section through circulation spine







section through performance spaces

Responding to the idea of the architecture displaying the inner-workings of the Imaginarium, the windows are framed by reinforced concrete window reveals. Figure 7.18 shows how, in the case of the reading room, the frame extends, creating seating as well as storage for books.

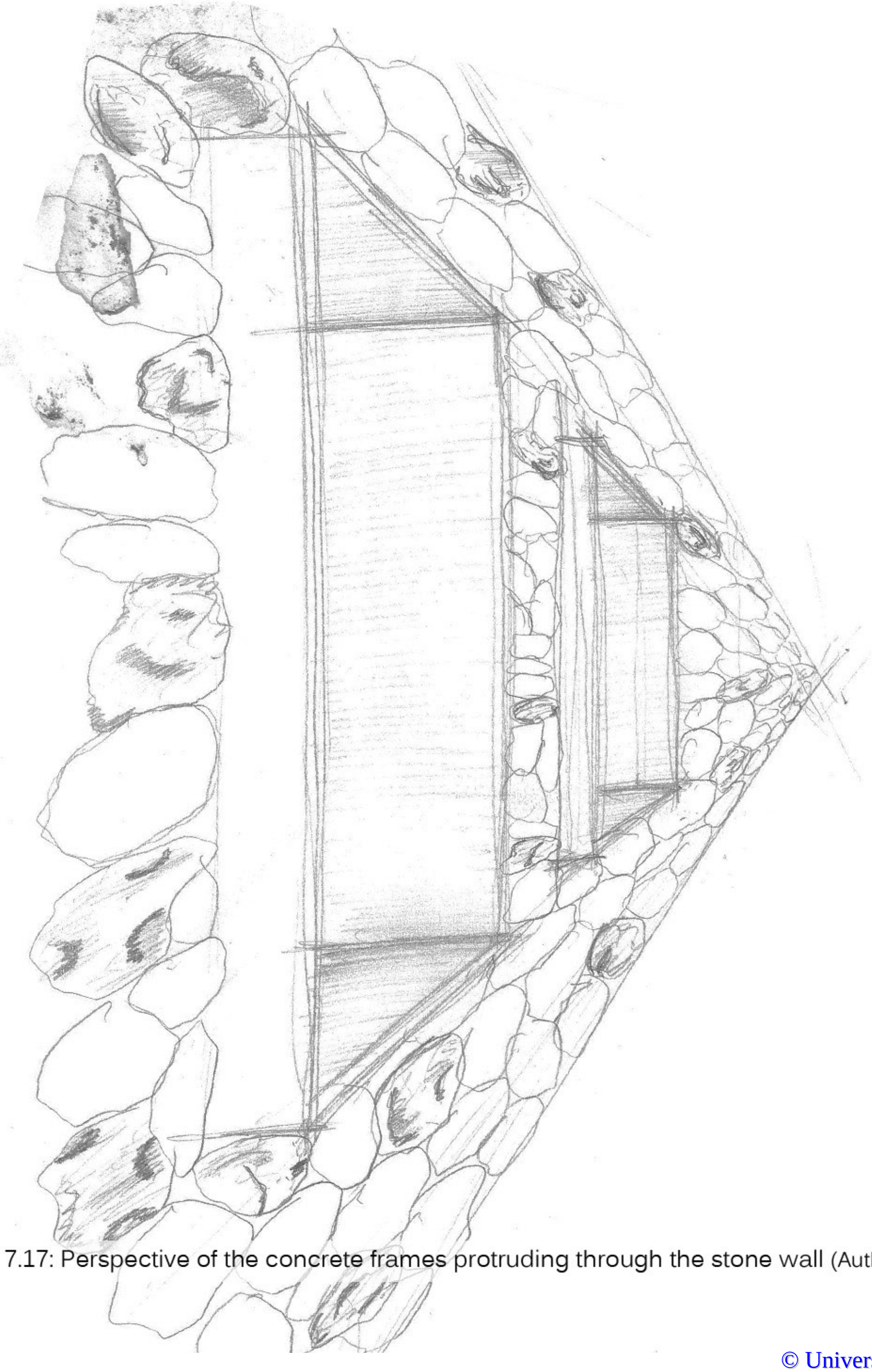


Figure 7.17: Perspective of the concrete frames protruding through the stone wall (Author 2014)

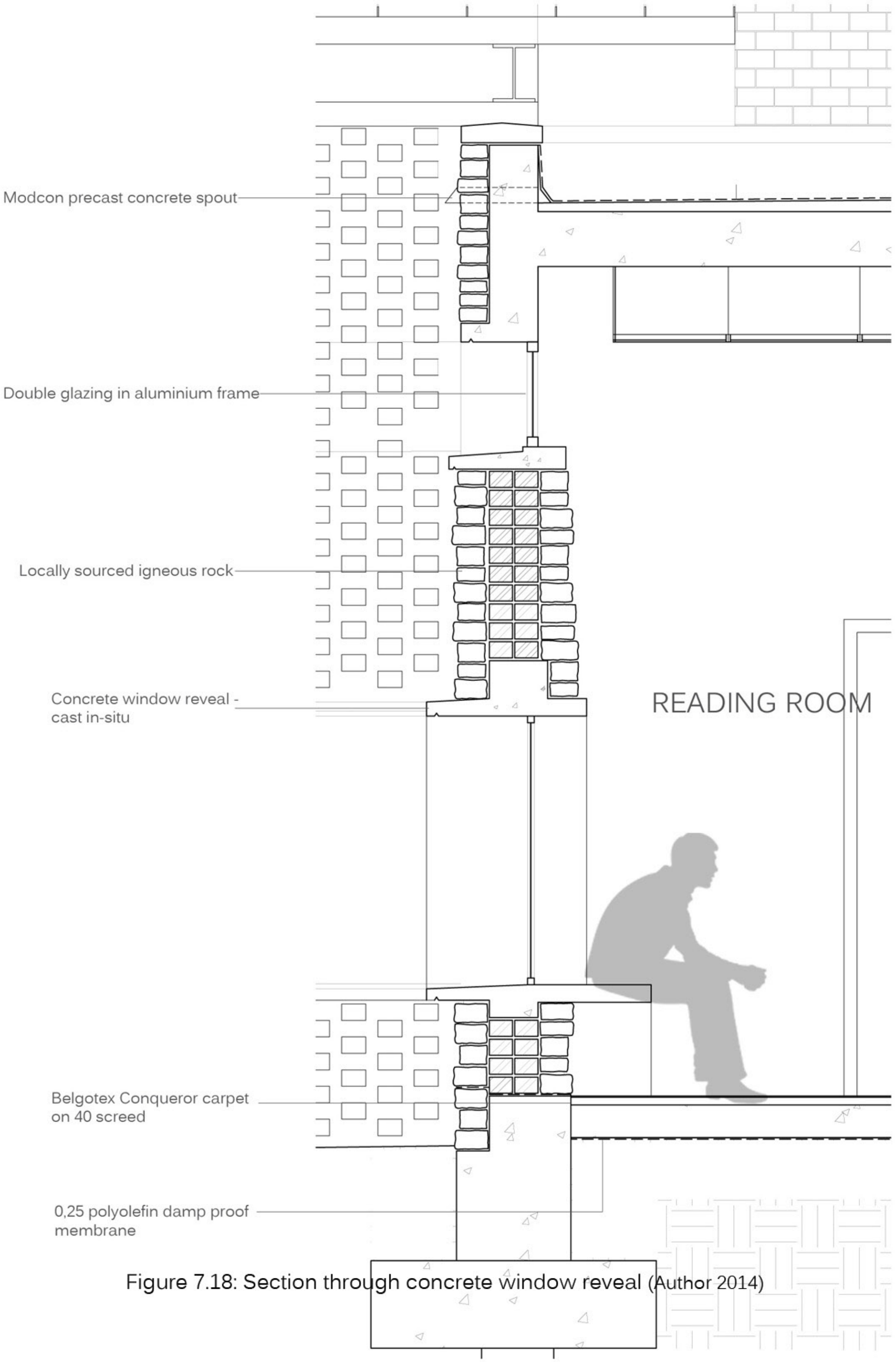
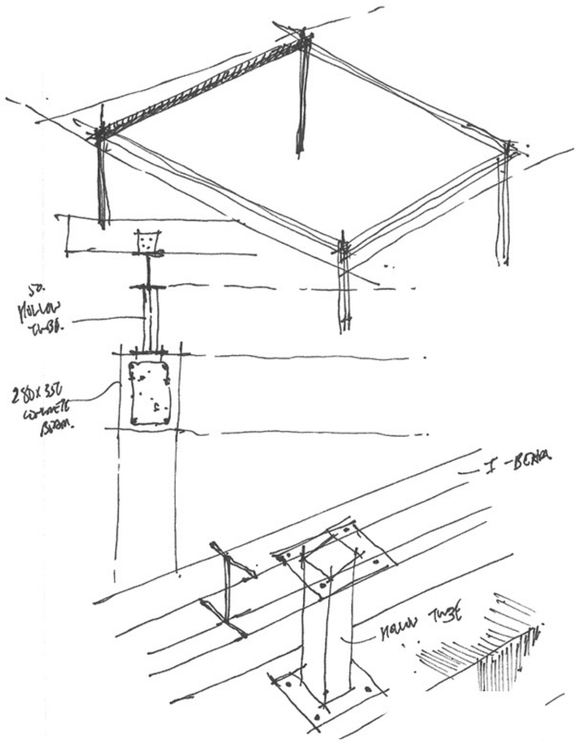
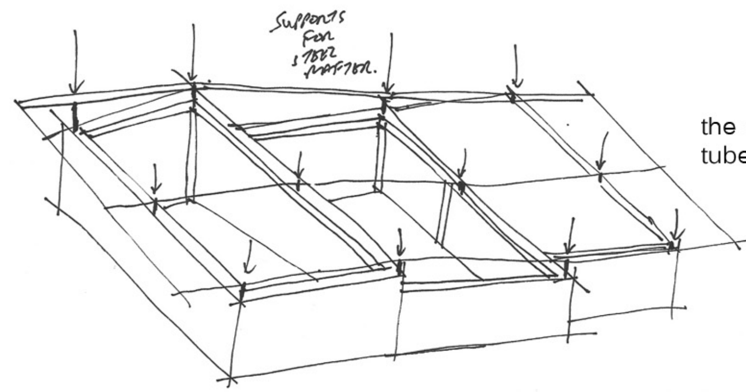
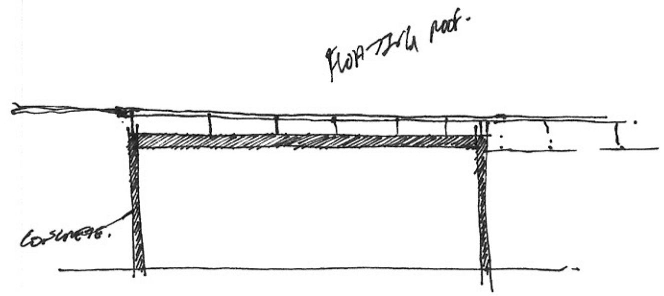


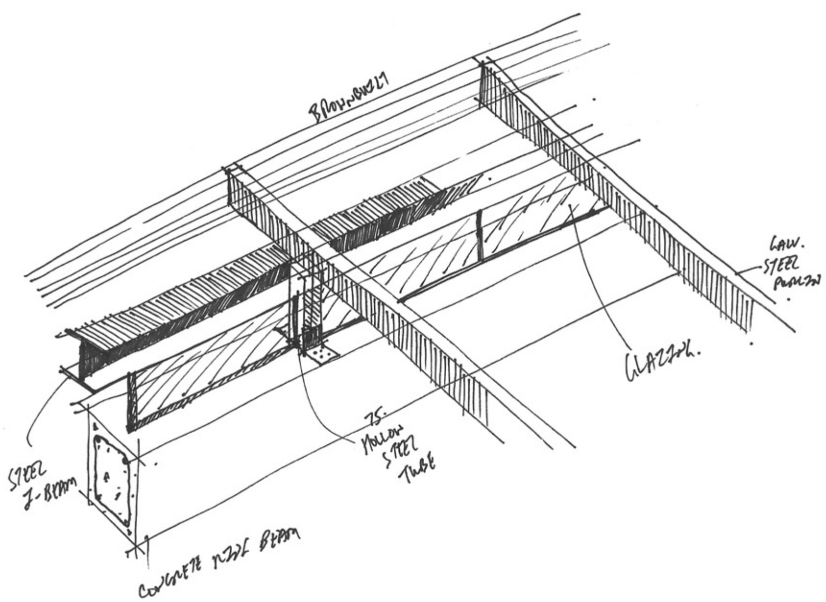
Figure 7.18: Section through concrete window reveal (Author 2014)





the steel roof is supported by steel hollow tubes fixed along the concrete frame





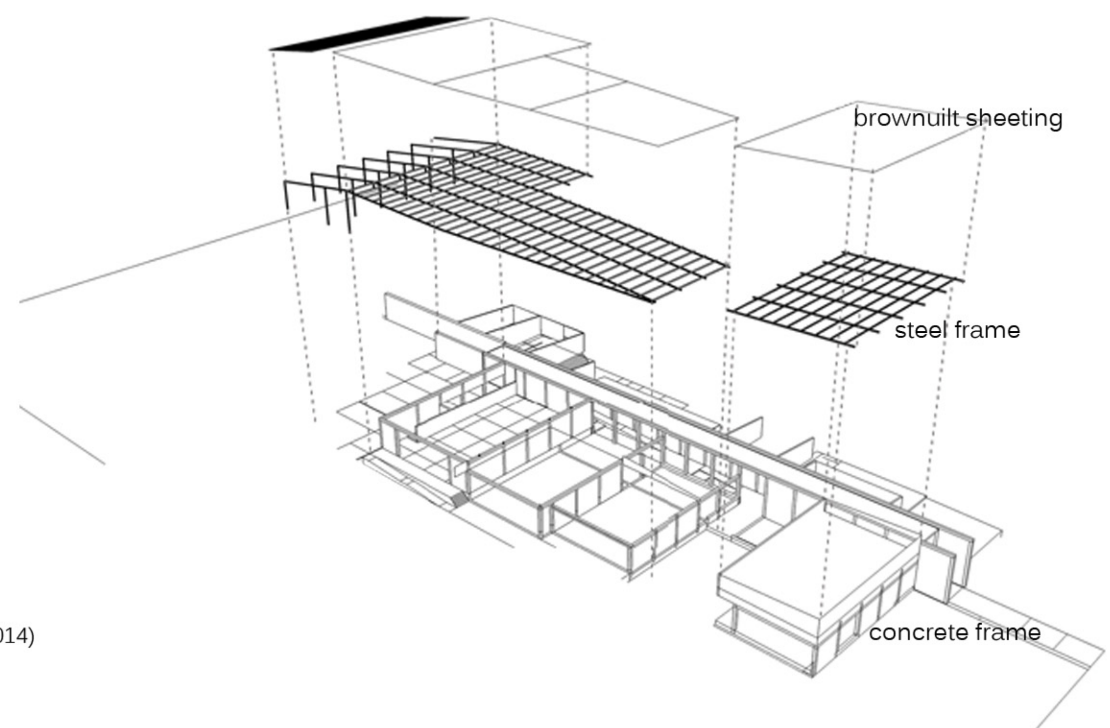
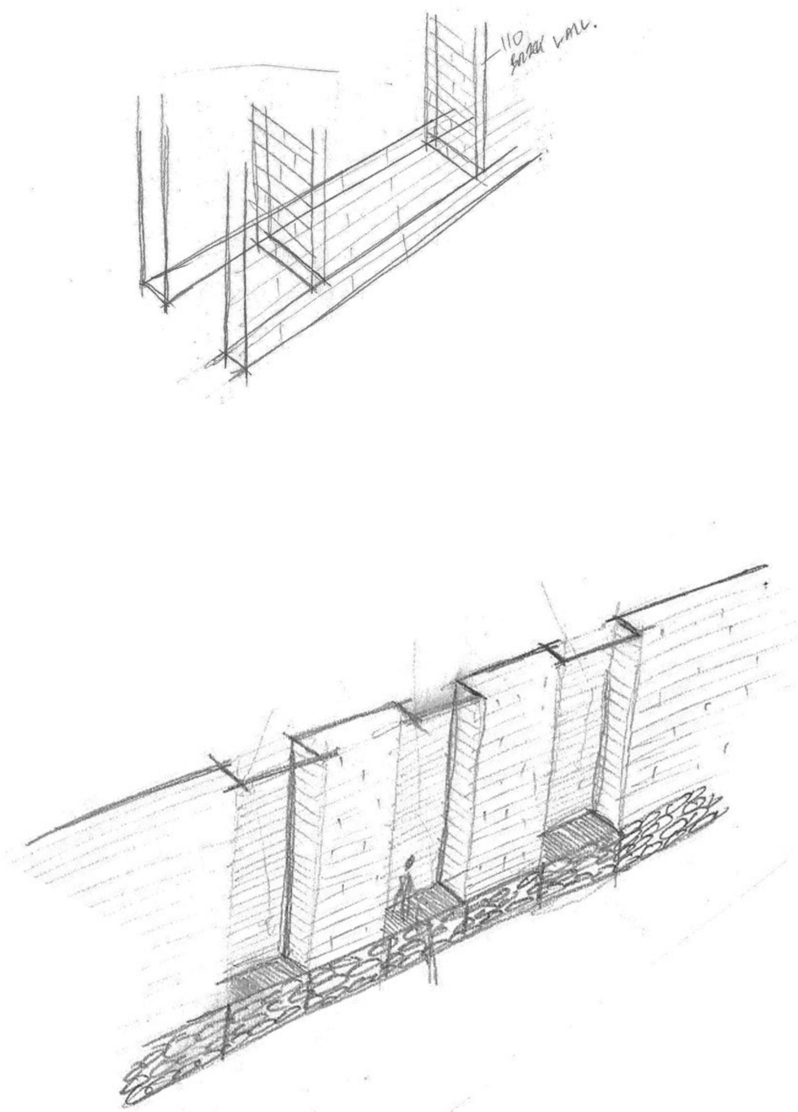


Figure 7.19: Technical exploration of the roof above the performance space (Author 2014)



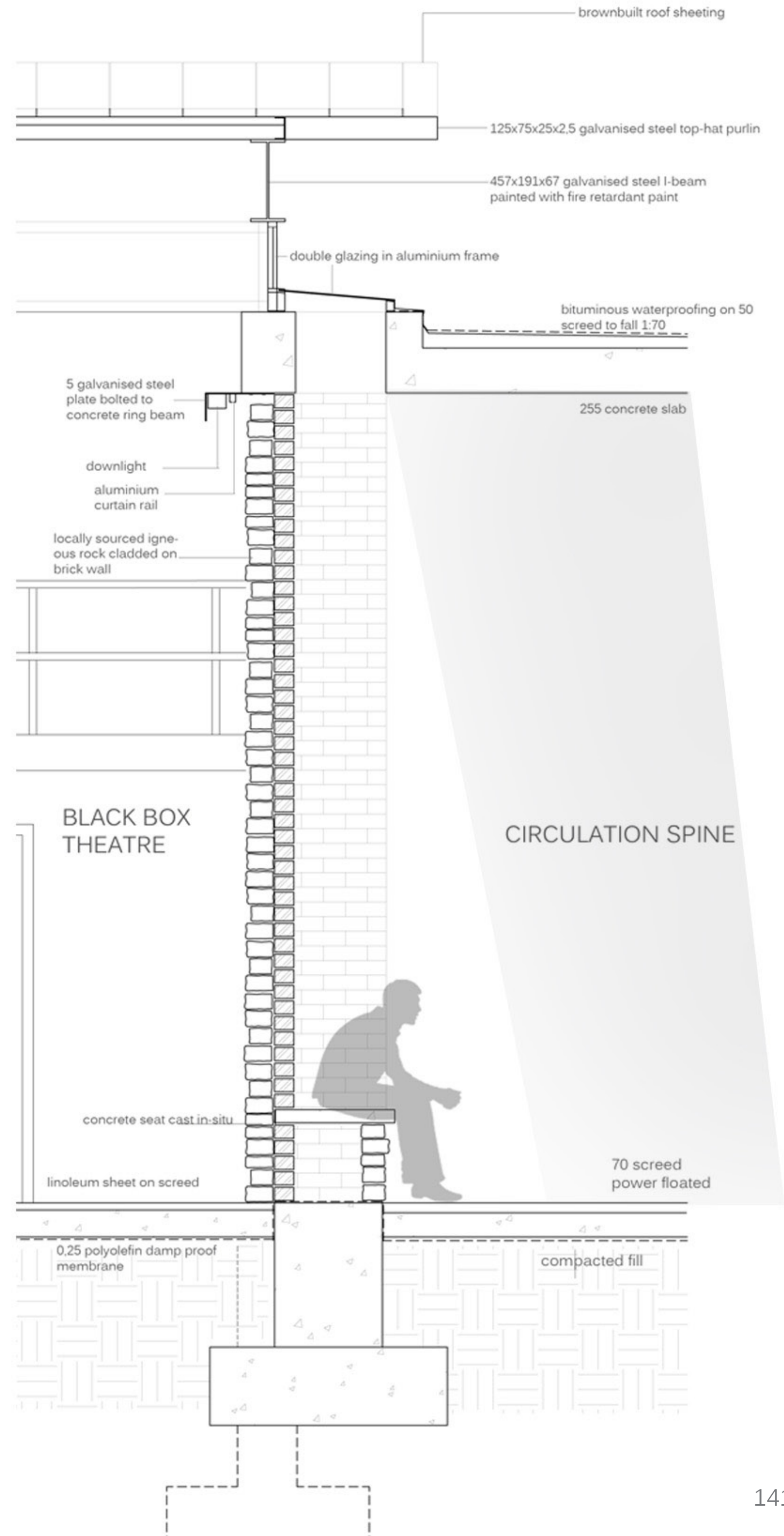
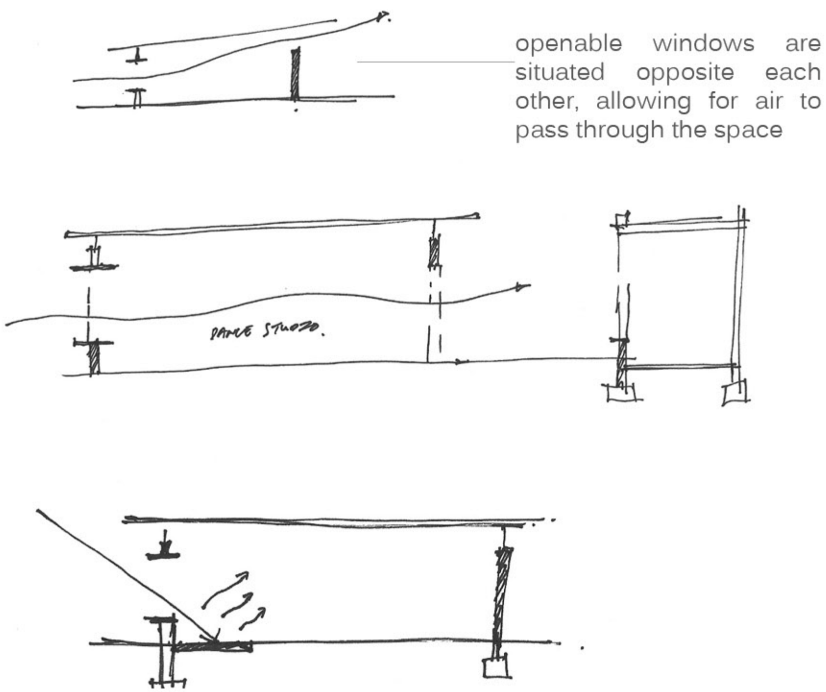


Figure 7.20: Exploration of skylight above seating area (Author 2014)

7.5 Sustainable Design Strategies

The Imaginarium is designed along an east-west axis in order to take advantage of the direct northern sunlight. The spaces where the various art programs are facilitated are situated along the northern facade, with the service spaces situated along the southern facade. Overhangs are designed to allow the low, winter sun to penetrate into the building, while blocking out the hot summer sun.

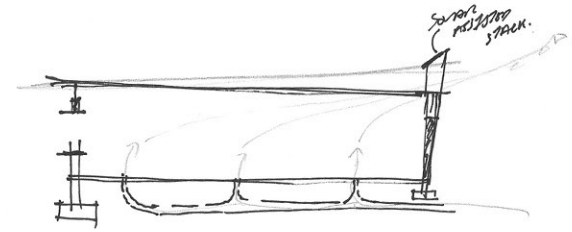
The steel roof is raised above the walls - this allows for high windows that bring light into the studios and can be opened to allow hot air to escape.



The floor of the multi-purpose studios is predominantly covered with linoleum flooring. The first two metres closest to the window however, is concrete with a matt black finish. The idea is that in winter the mass will heat up and slowly radiate into the space.

Figure 7.22: Sketches showing the passive design considerations (Author 2014)

During the October 2014 crit, the prospect of using geothermal pipes to heat and cool the building was discussed. A fan would push air through pipes buried a few metres underground. As the air passes through the pipes it will either give off heat or draw heat, depending on the season. These pipes lead into the various studios and performance spaces, heating or cooling them. Figure 7.23 is a sketch the author drew with an internal lecturer. The idea is to include trombe assisted stacks which will aid in the ventilation of the building. At the time of going to print, this issue was yet to be resolved.



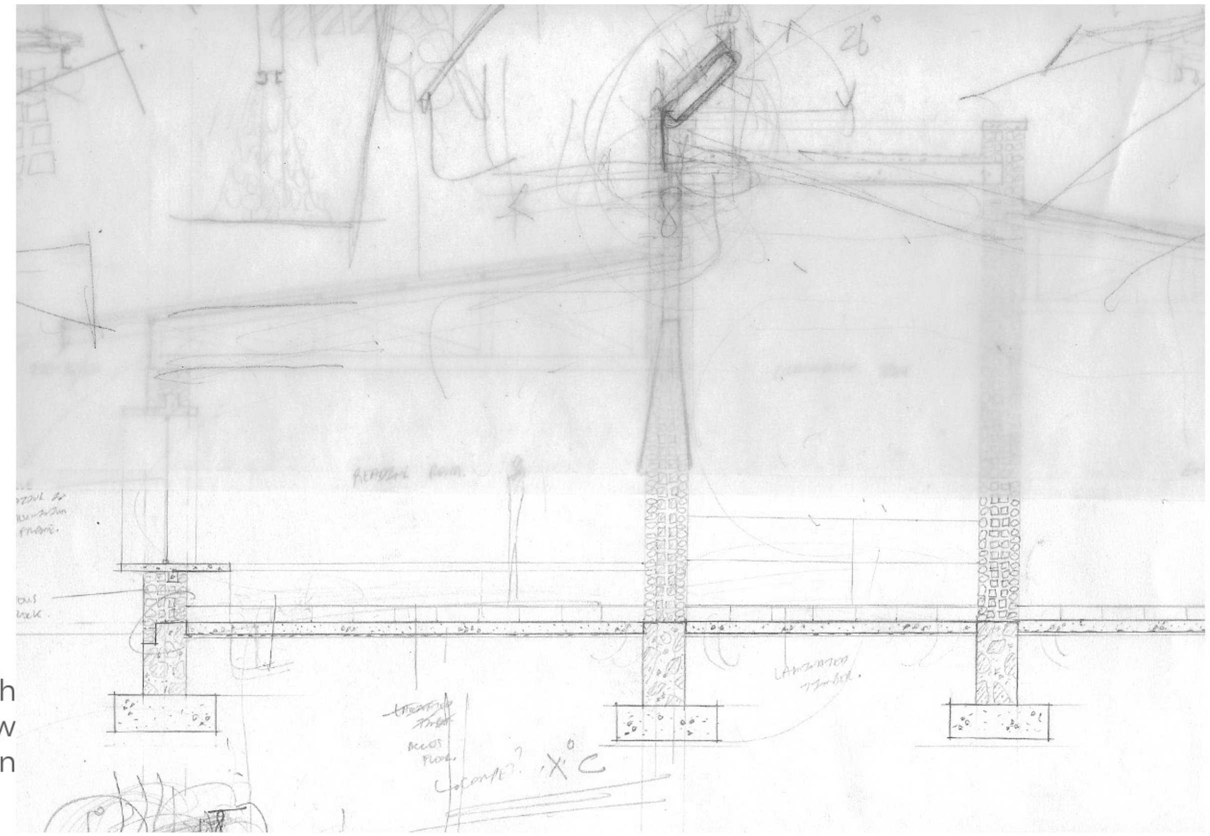
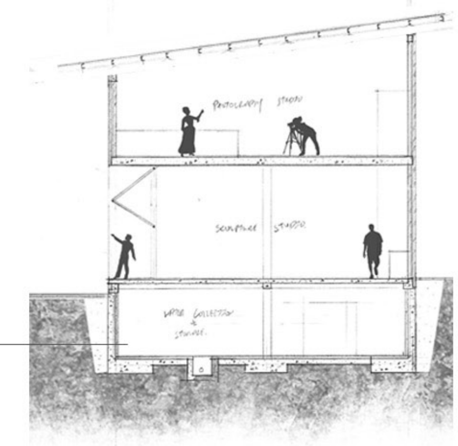
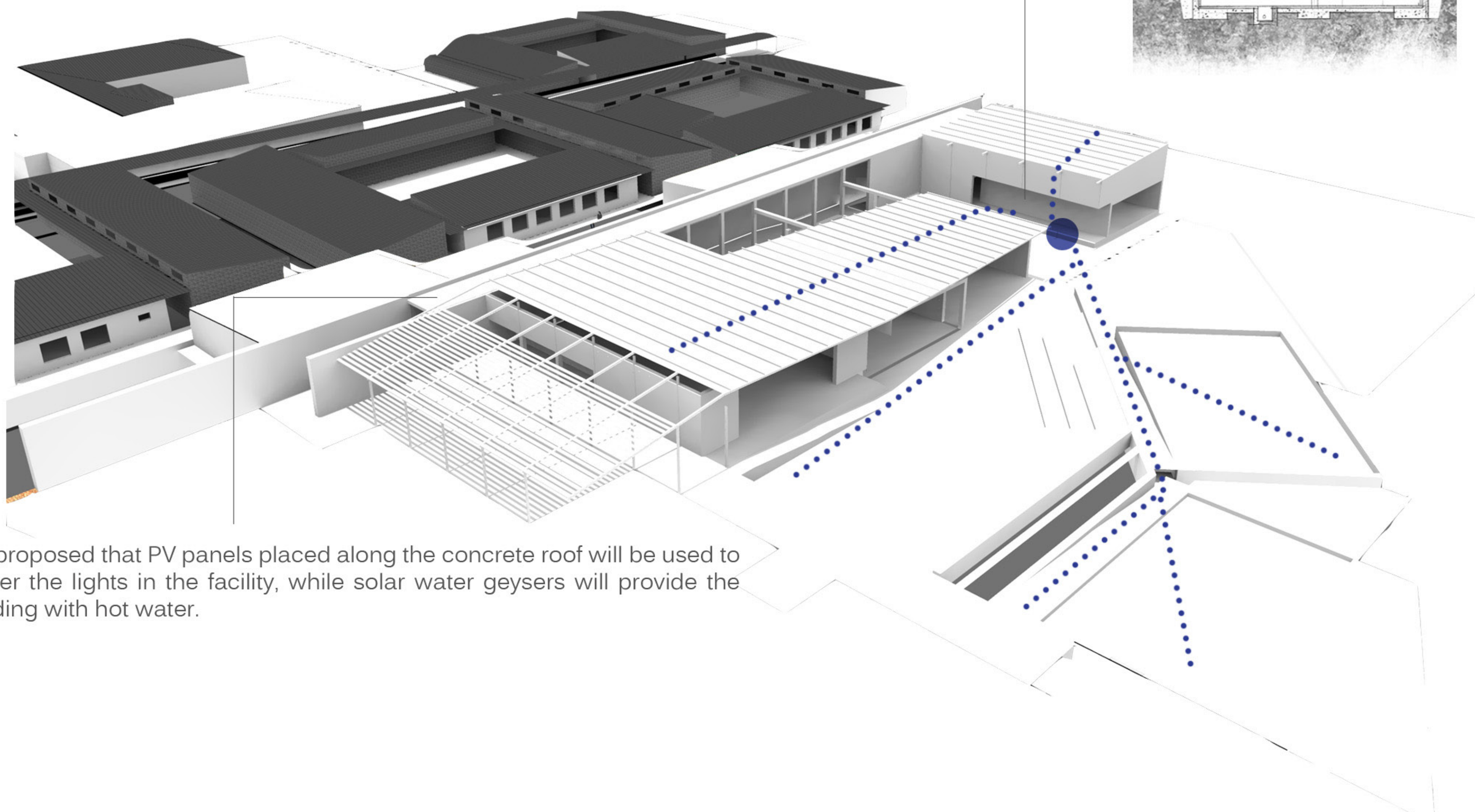


Figure 7.23 Section showing the geothermal pipes and trombe assisted stack (Author 2014)

Rainwater from the landscape and the roofs is stored in segmental tanks under the visual arts studios. Grey water from the sinks is also stored. The slope is used to naturally feed the rainwater and grey water to the storage tanks. The water is used to irrigate the landscape and to flush the toilets within the Imaginarium.





It is proposed that PV panels placed along the concrete roof will be used to power the lights in the facility, while solar water geysers will provide the building with hot water.

Figure 7.24: Diagram showing the water being fed down towards the bottom of the site (Author 2014)

Figure 8.1: One of Alpheus' photographs from his *Limpopo* series (Alpheus 2014)

My passion and great enjoyment for architecture, and the reason the older I get the more I enjoy it, is because I believe we - architects - can effect the quality of life of the people.

Richard Rogers

8 Conclusion & Appendix

8.1 Conclusion

The dissertation focused on the question *How can architecture respond to the requirements of the adolescent youth through participatory mapping and design?*

The premise was that in order to intervene architecturally in such a context, critical engagement with the various networks in the community must occur. According to Tovivich (2010) this engagement should lead to a deeper understanding of the needs of the community and has the potential to build local capacity, give the community a sense of ownership over the project and encourage learning between those involved.

The participatory exercises were more effective when the Honours students were involved, as the increase in human resources meant more members of the community were reached, different exercises could be performed and more time was spent on each exercise. This resulted in a wealth of detailed information which assisted the author in decision-making during the design process.

The participatory mapping exercises proved to be more manageable and more effective than the participatory design meetings. The unstructured interviews, transect walks and photographic exercises were successful in gaining an understanding of the workings of the various social networks and in identifying their needs.

The participatory design meetings proved to be more challenging. During the design meetings it was observed that the community members focused more on the functional and programmatic aspects of the building. When the author diverted the discussion away from the programme, towards the design, and asked for their design input, they merely stated that they were content with design, meaning the community participation from a design perspective was limited.

Due to the dissertation not being a built project, the author found it difficult to move between the three roles of supporter, provider and catalyst, as Tovivich (2010) describes.

Although the project was not built, the author experienced the importance of community participation and the excitement and sense of purpose such projects can give residents. Alpheus is a prime example of how a project can start with a small participatory mapping exercise, gain momentum, and end in him being part of an exhibition a few months later. The author has experienced first-hand the potential participation has in empowering and enabling community members.

The author found the participatory process to be essential as a means of understanding the community's needs and formulating a possible intervention which can facilitate the empowerment of the identified network.

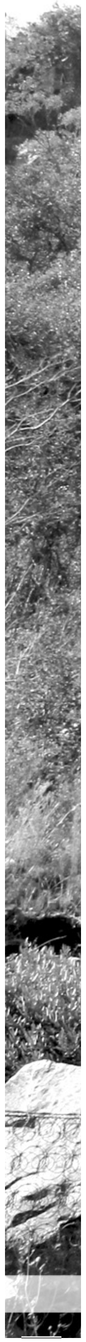


Figure 8.2: The mountain is our home (Alpheus 2014)

Appendix A - I ♥ Alaska Photography Competition

Chapter 2.5 describes the photography competition the University of Pretoria Honours group organised as a means of *seeing Alaska through the eyes of the adolescents* (Franklin 2014).

Appendix A contains some of the photographs taken by the youth, photographs of the adolescents presenting their work and the final prizegiving.

Figure 8.3: Photographs taken by the adolescents during the photography competition (Franklin 2014)

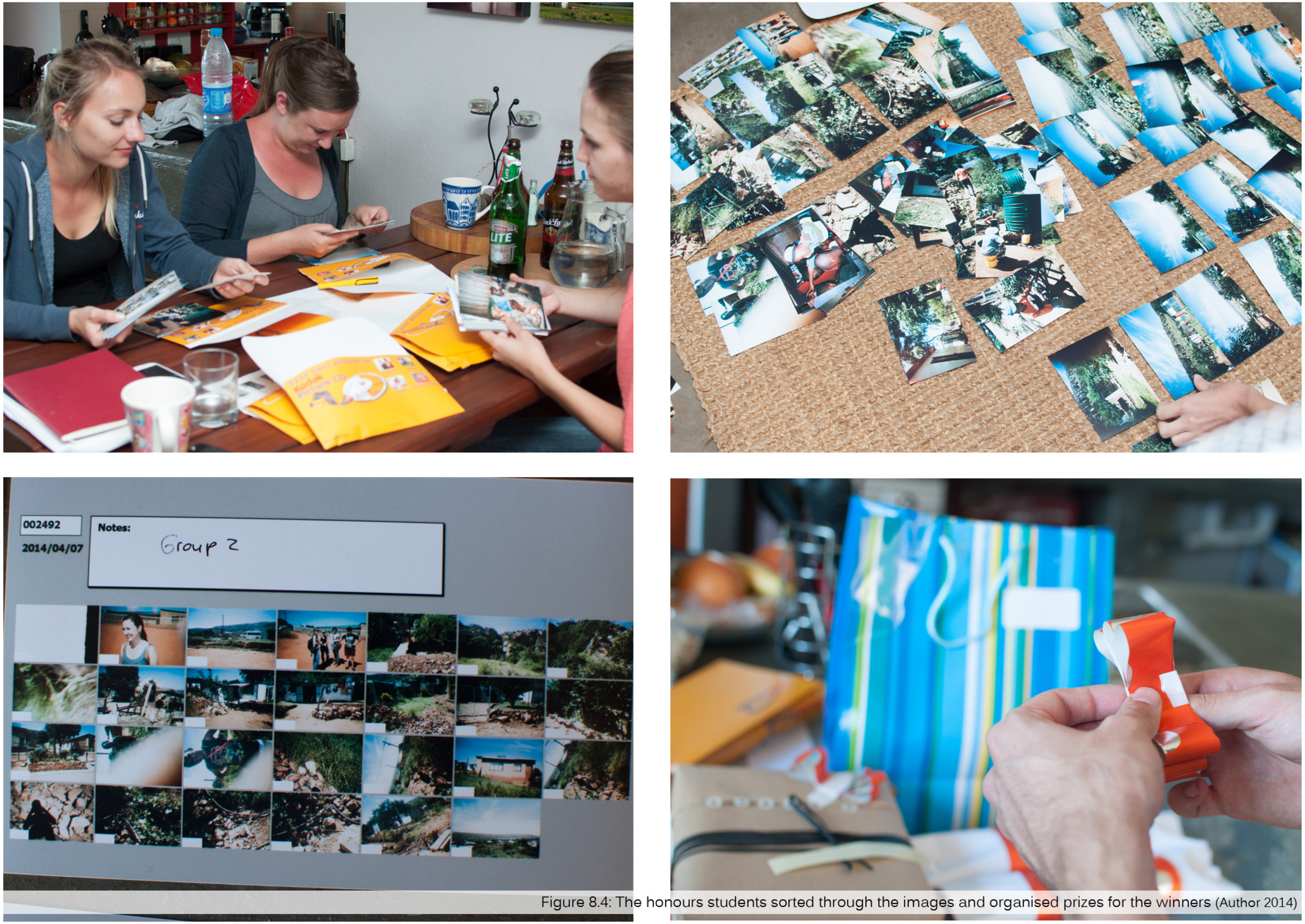


Figure 8.4: The honours students sorted through the images and organised prizes for the winners (Author 2014)

Figure 8.5: The exhibition was well attended with residents of all ages coming to support the various contestants (Author 2014)

Appendix B - Group Urban Framework

Before the group began work on the urban framework, they deemed it important to position themselves within the argument surrounding informal settlements. They, with the help of their study leader, discussed four positions within the argument.

The adjacent figure briefly describes the various positions and illustrates the position the group took during the design of the urban framework.

Instead of merely seeing informal settlements as a blight, the group engaged with the existing intangible networks that make up the community, found their needs, wants and aspirations and proposed a framework that sought to enhance, not just the various identified networks, but the community as a whole.

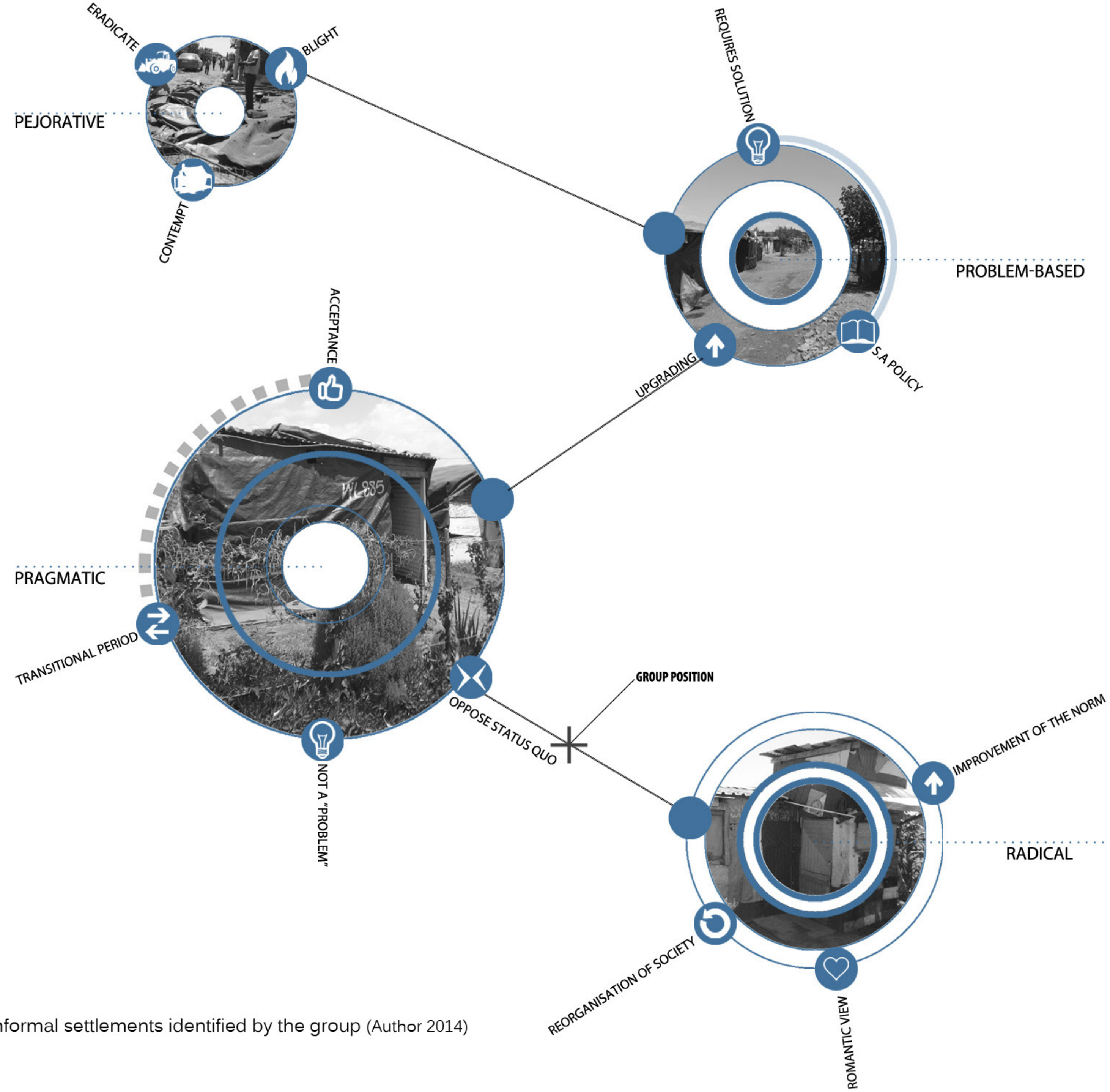


Figure 8.6: Diagram depicting the various positions towards informal settlements identified by the group (Author 2014)

Figure 8.7 Engaging with the community was an essential part of the framework design process (Author 2014)

The initial transect walks and unstructured interviews assisted in gaining an understanding of the conditions in Alaska, the challenges the residents face and their desires for the community.

From the participatory mapping exercises, it was observed that the majority of economic and social activities were located along the main spine running through Alaska.

Figure 8.8: Map used during the initial transect walk (Author 2014)

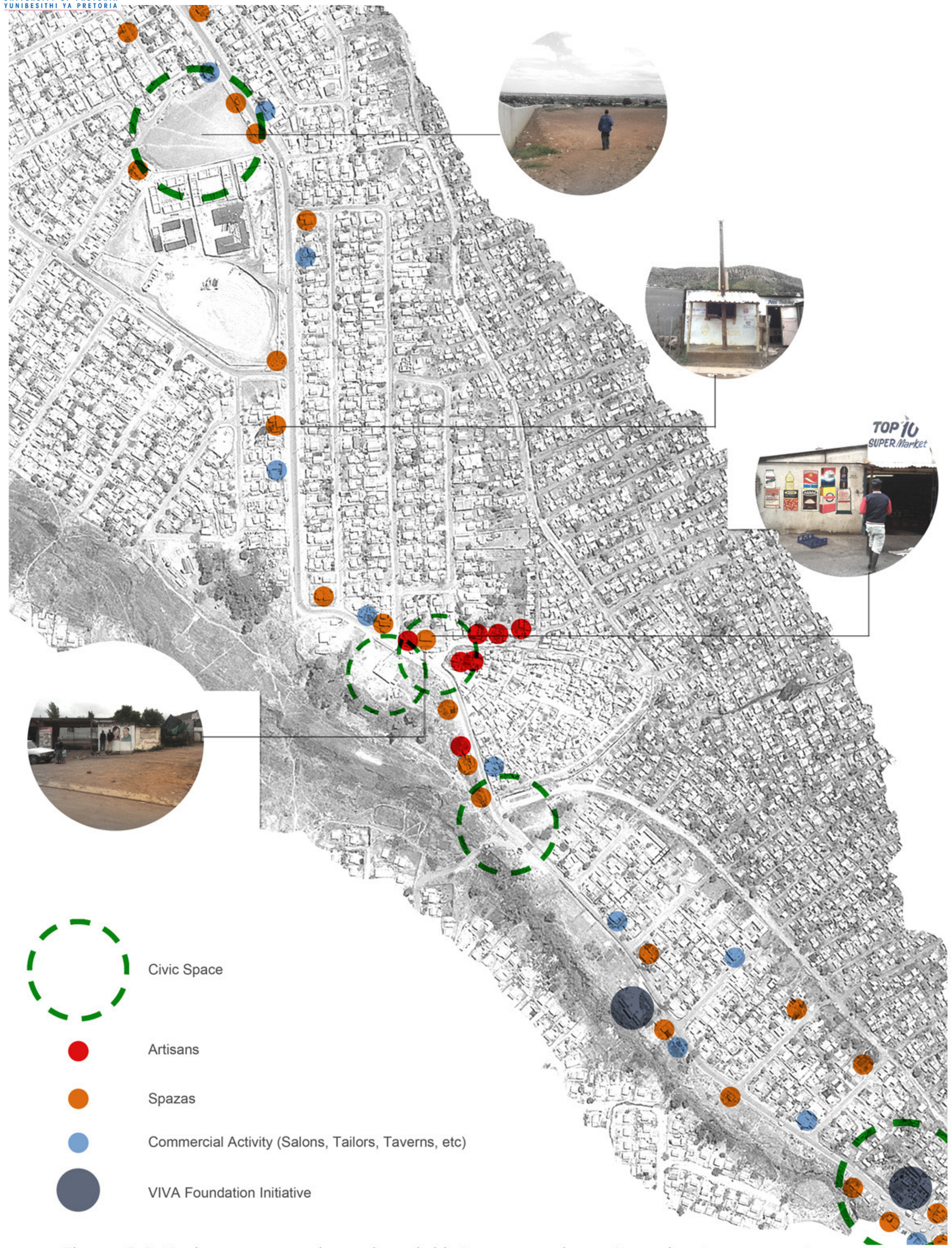


Figure 8.9: Various economic and social informants along the spine (Author 2014)

FRAMEWORK_ OPPORTUNITIES

The mapping, interviews and observations led to a series of problems and opportunities that the framework sought to address - these included the lack of amenities and the opportunity to enhance existing civic space.

These problems and opportunities are depicted on the adjacent map.

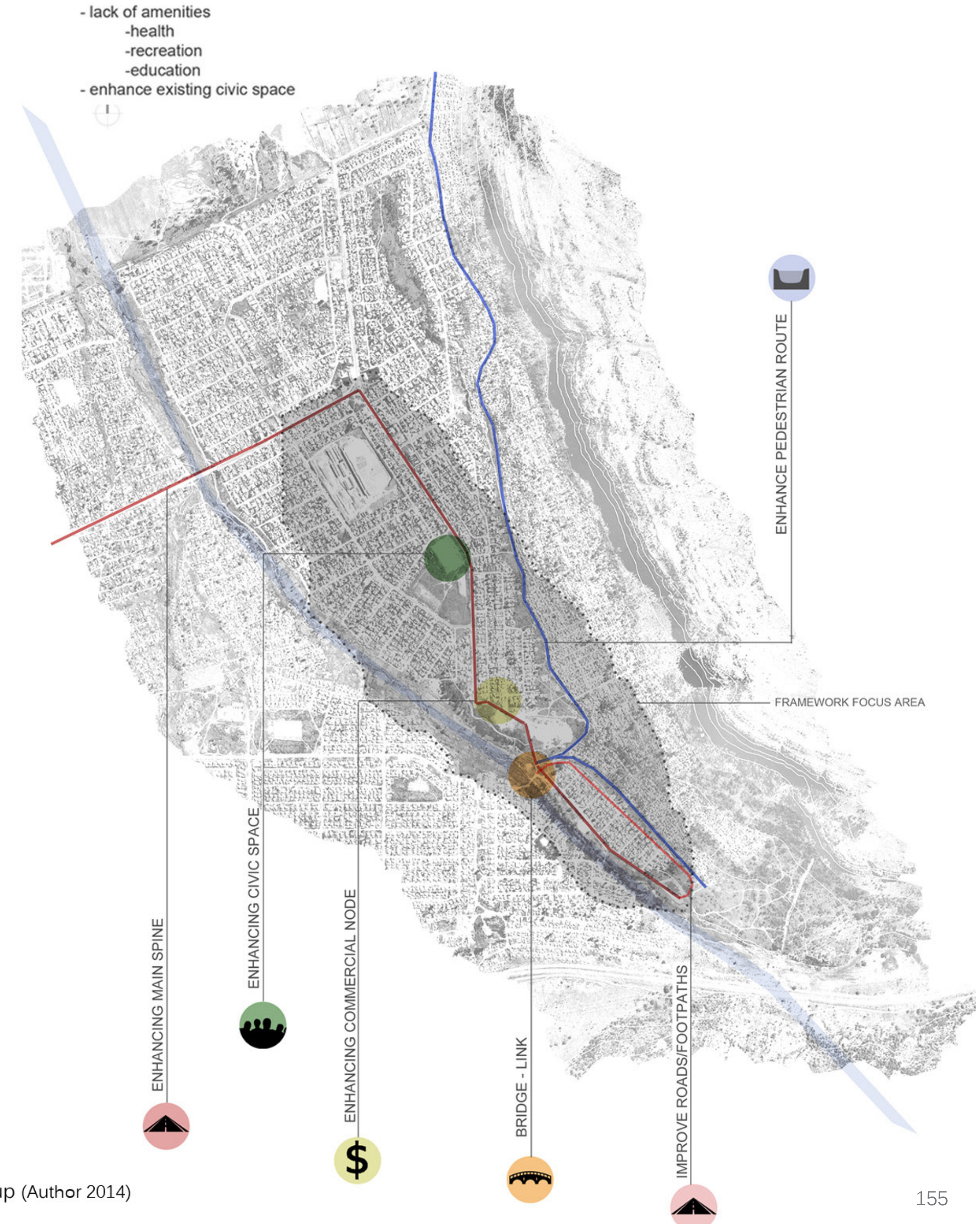
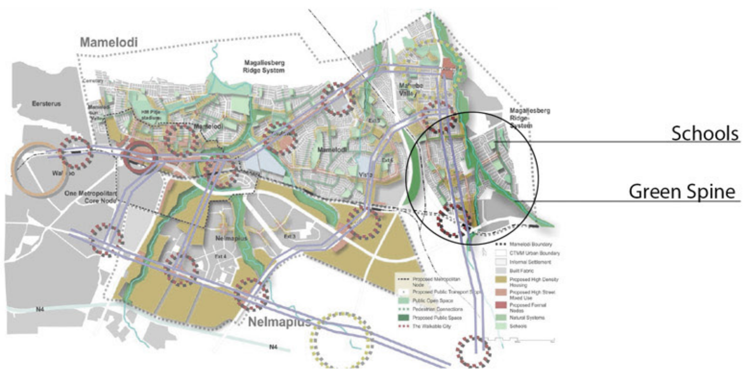


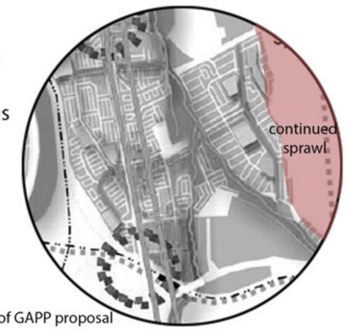
Figure 8.10: Map showing the various problems and opportunities identified by the group (Author 2014)

Critique of Previous Frameworks

Macro Urban Scheme - GAPP Urban Designers, 2011



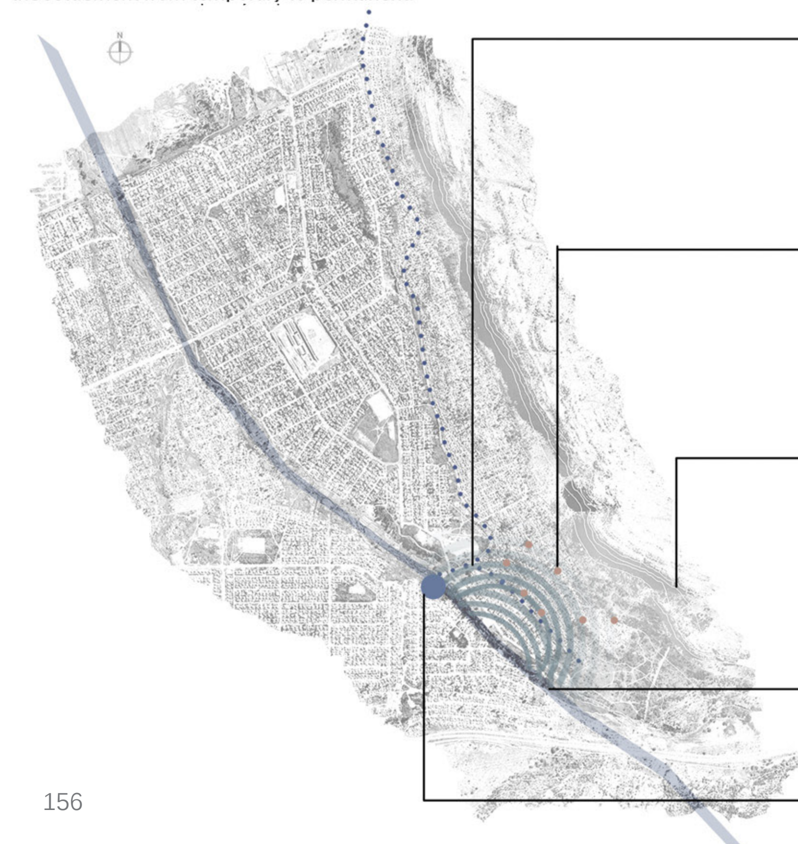
The GAPP proposal, on a Macro scale - has the potential to transform Mamelodi into an Urban Centre in itself. The proposal, submitted in 2011, completely ignores the Informal settlement of Alaska and almost entirely disregards the RDP Developments to the East of the Elandal Spruit.
This master plan would further perpetuate the *Islandisation* of Alaska, as it remains at the end of a Cul de sac, across an unbridged river.
No new economic nodes or public amenities are proposed within the focus area. As such, Mamelodi could grow into a thriving Urban Centre, offering more work opportunities and the informal settlement would continue to grow in place, offering migrant workers cheaper living accommodation.
Additionally, this proposal does not address the river issues and halfheartedly attempts to connect Alaska with a single BRT line.

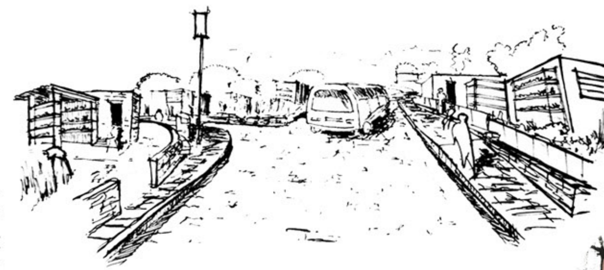


Anticipated Consequence of GAPP proposal

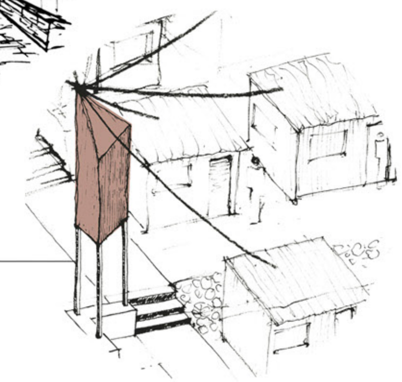
Meso Urban Schemes - HSU Honours Students, 2011&2013

The majority of the student projects deal with the Informal Settlement, East of the RDP development. Many suggest similar interventions - such as a bridge, emergency gathering points, public amenities, off-grid infrastructure and in situ upgrading of the informal settlement - thus changing the status of the settlement from temporary to permanent.

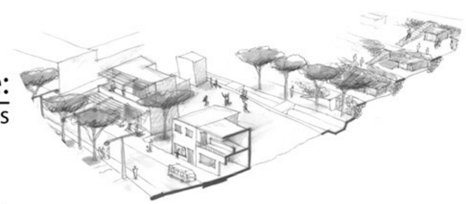




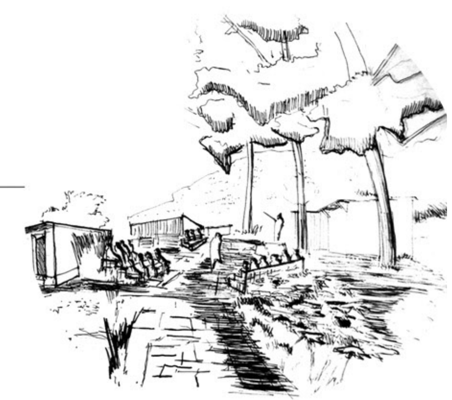
Catalysts & Phases:
-Infrastructure
-economic
-social



Route Markers:
Gathering markers
Footpath legibility

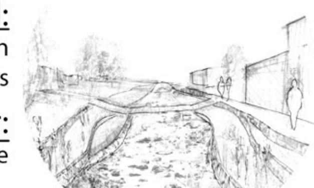


The advantage of the slope:
potential for terraced buildings



Footpaths as public space

River side terracing & Cleaning the Channel:
improved public realm through provision of recreational areas



Bridging the River:
reduce the cul de sac nature

Fig

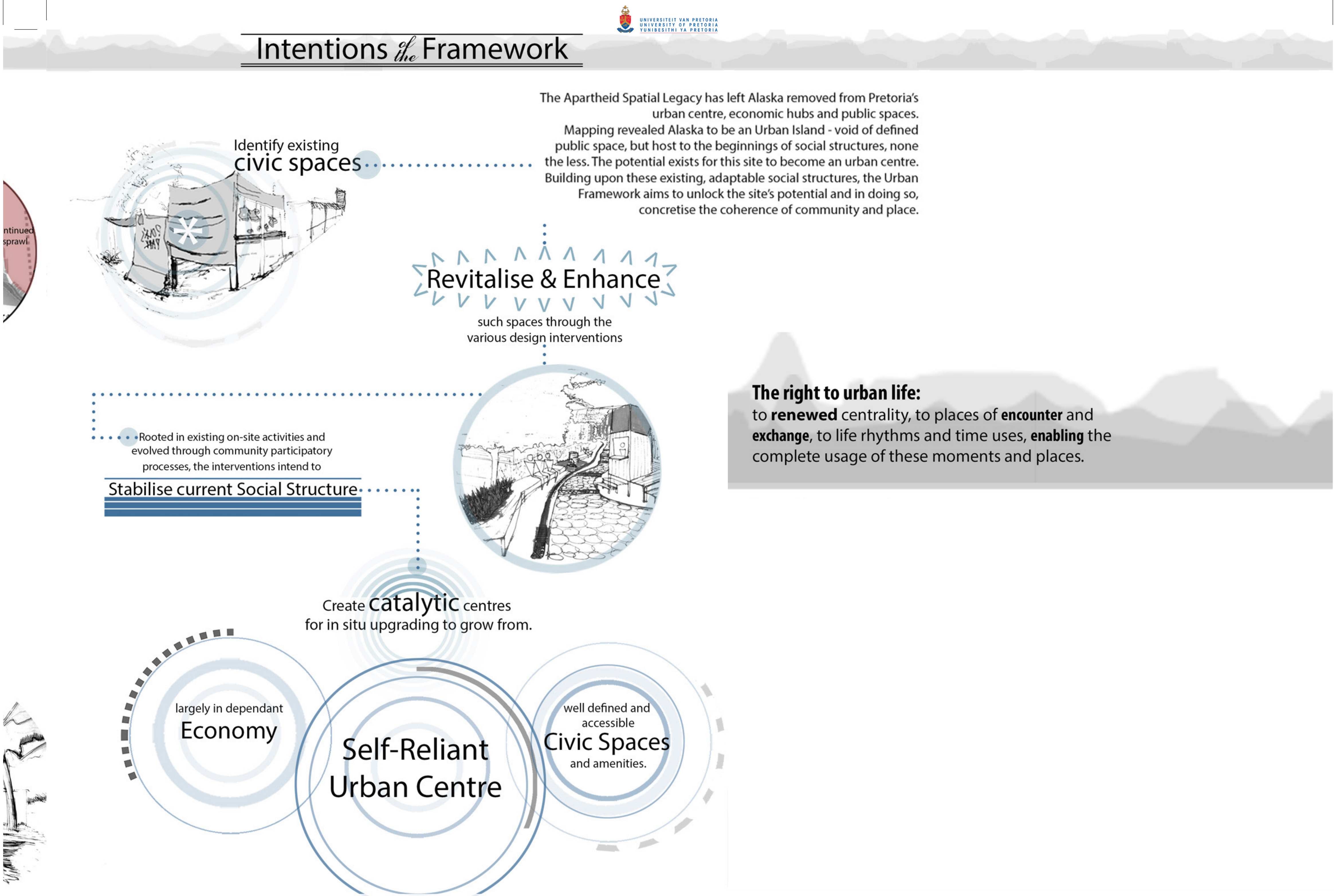


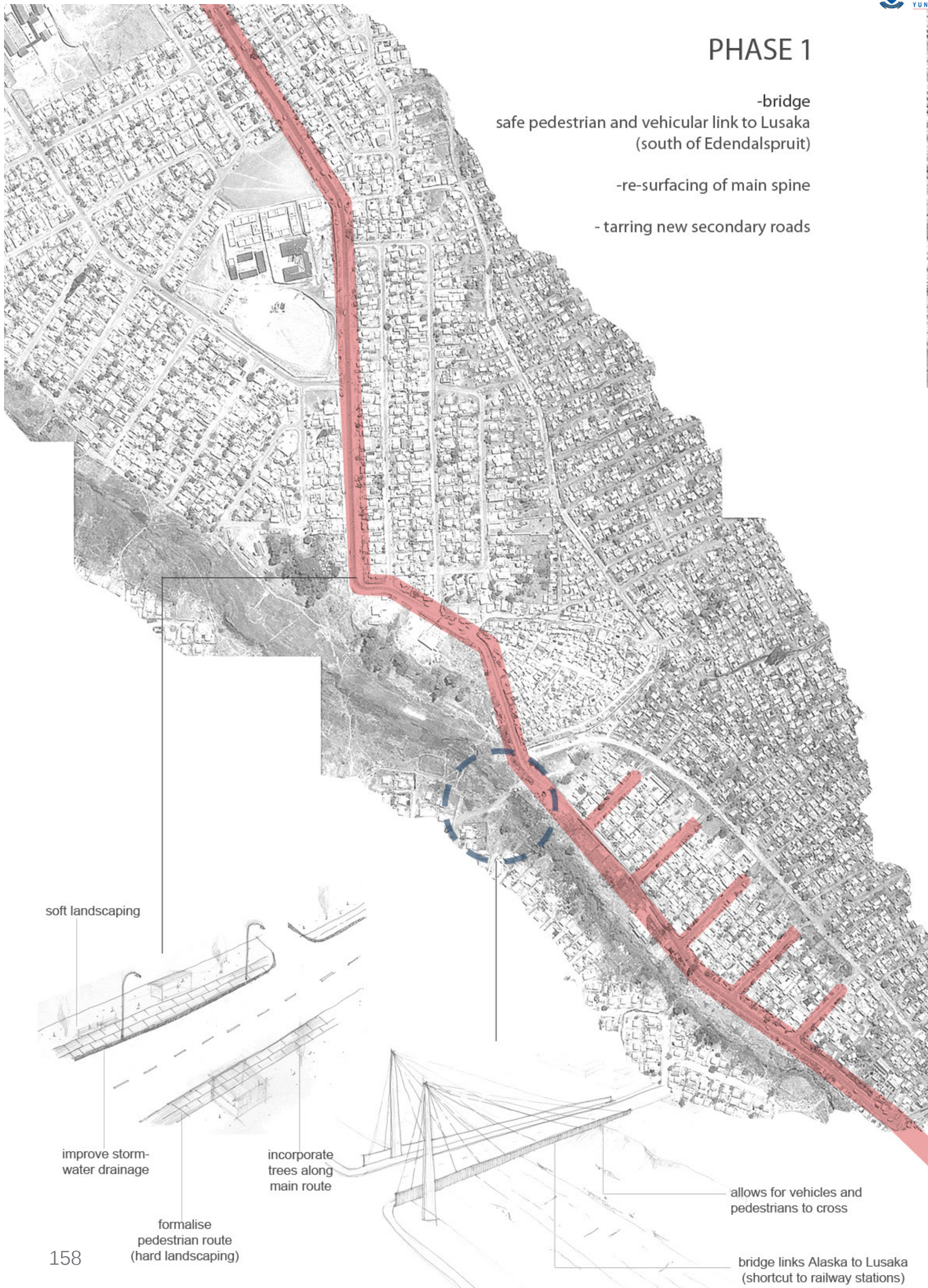
Figure 8.11: Extracts from the group presentation depicting the various intentions of the framework as well as critiques of previous frameworks (Author 2014)

PHASE 1

-bridge
safe pedestrian and vehicular link to Lusaka
(south of Edendalspruit)

-re-surfacing of main spine

- tarring new secondary roads



PHASE 2

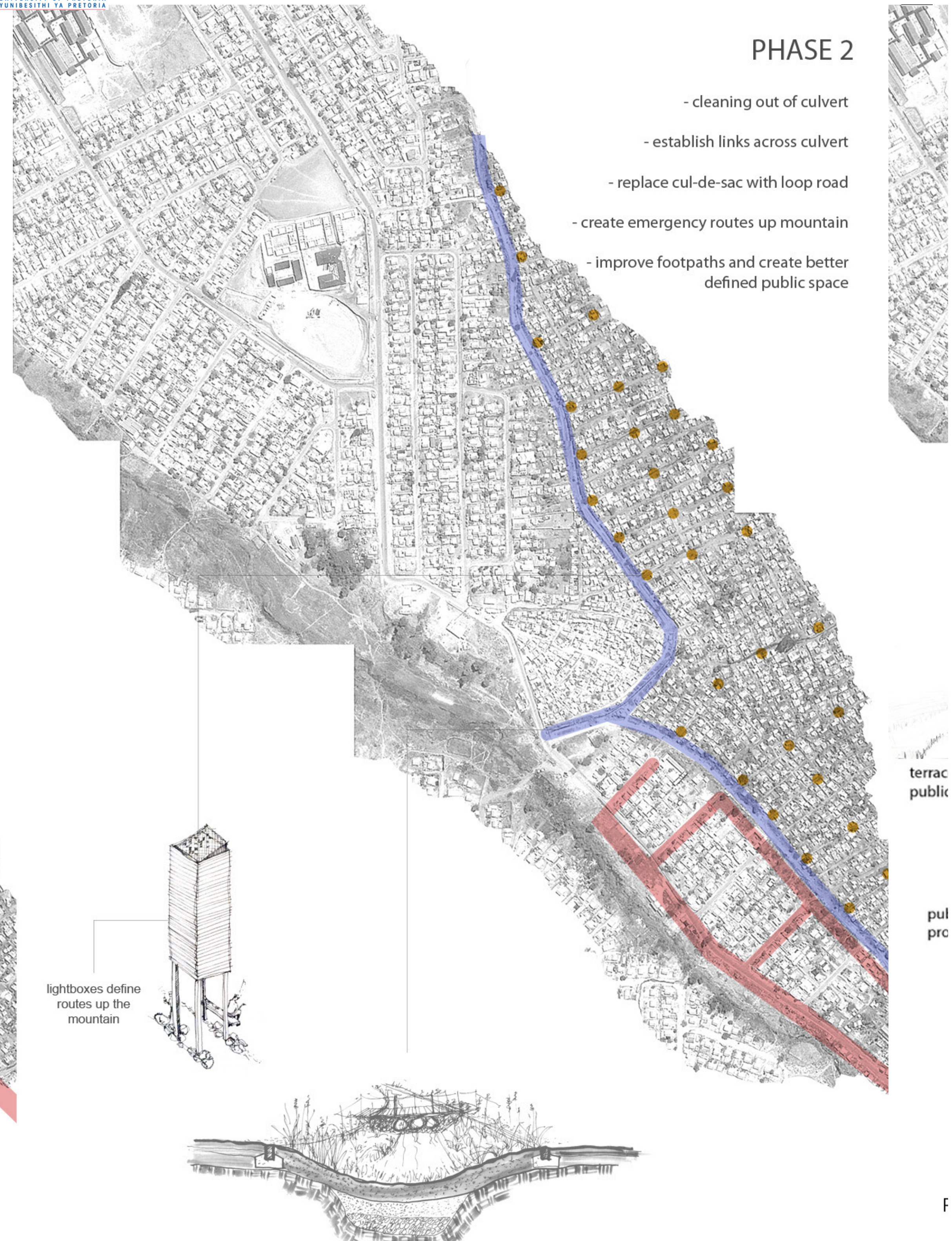
- cleaning out of culvert

- establish links across culvert

- replace cul-de-sac with loop road

- create emergency routes up mountain

- improve footpaths and create better defined public space



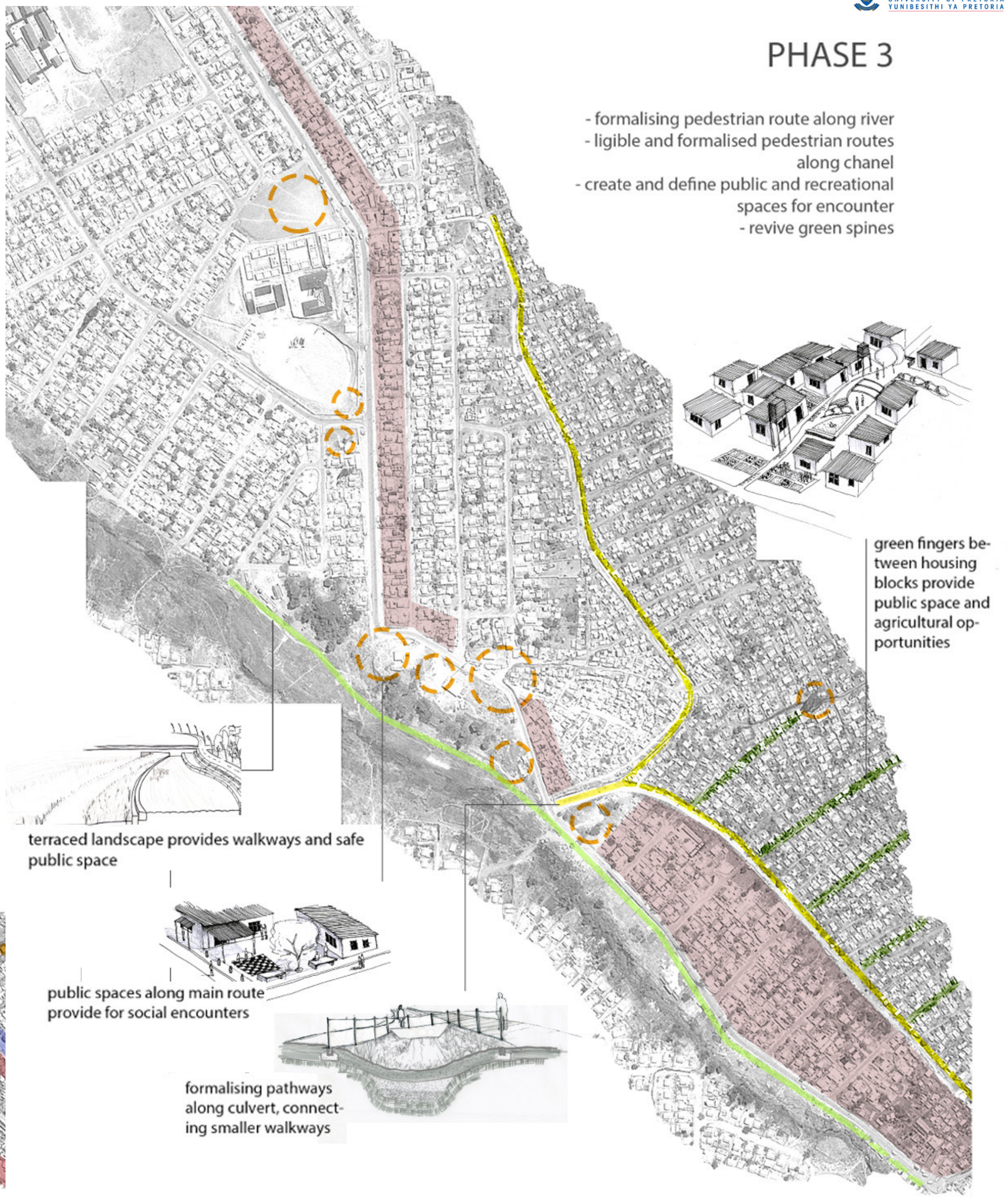


Figure 8.12: Extracts from the group presentation depicting the phasing of the framework (Author 2014)

Appendix C - Alpheus' Photographic Journey

Alpheus Sedibeng won a digital camera in the photography competition organised by the Honours group.

The opportunity to pursue photography has given me hope (Alpheus 2014).

The author, along with Marike Franklin, the Honours student who organised the camera, met with Alpheus throughout the year. They gave him photographic literature, taught him various techniques and went on numerous photography walks through Alaska and Pretoria CBD.

Alpheus started his own blog, a platform from where he shares his work with the world.

On the 24th of October 2014, Alpheus' work was included in an Open-House exhibition where he sold two of his works.

Figure 8.13: Photographs of Alpheus' Open-House Exhibition work (Author 2014)

Appendix D - VIVA Events

Annual Art Festival

On the 15th of March 2014 VIVA held its annual Art Festival. VIVA invited graffiti artists from all over the world to paint various houses throughout Alaska. According to Kriel (2014) the aim is to create a *living gallery* in the township that will act as an attraction, drawing visitors into the community.

The author observed a disconnectedness between the visiting artists and members of the community. The lack of community participation led to the residents becoming mere spectators. When speaking to a group of Alaskan residents, the author found that they were upset. *When the artists leave we are left with these paintings we do not understand,* said one resident.

The festival has the potential to become a platform for residents to express themselves and learn from professional artists.

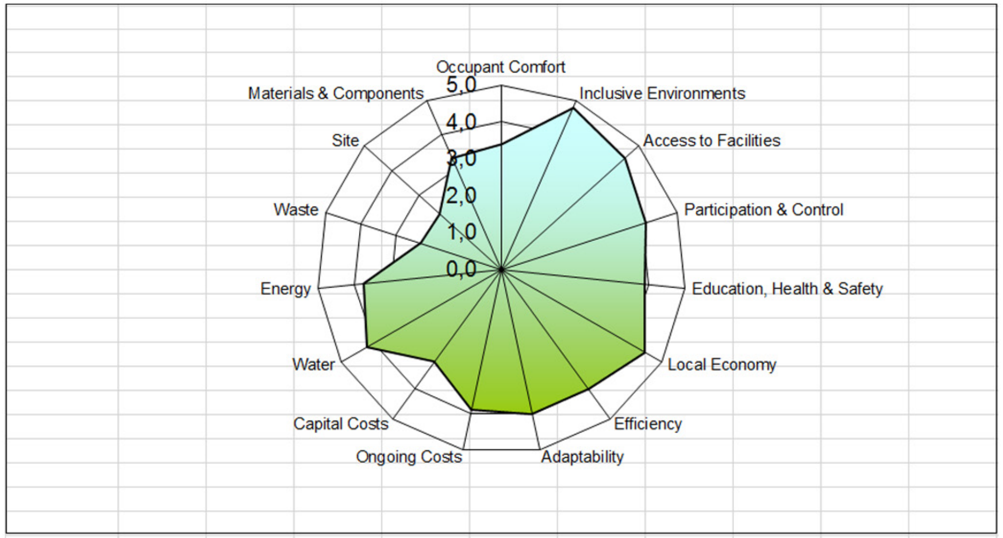
Figure 8.14: Photographs documenting VIVA's annual arts festival (Author 2014)

Mandela Day

On the 18th of July 2014, VIVA organised a day of music, dancing and, in rememberance of Mandela, 67 minutes of work. Members from all over Alaska and nearby Lusaka came to paint VIVA's classrooms and fences, and to join in the festivities. The event brought people from all walks of life together and provided a platform on which different cultures were shared.

Figure 8.15: Photographs taken during the Mandela Day festivities (Author 2014)

Appendix E - SBAT Tool



Social	4,1	Economic	3,9	Environmental	3,2
		Overall	3,7		

Building Performance - Social				
	Criteria	**Indicative performance measure**	**Measured**	**Points**
SO 1	**Occupant Comfort**	Explanatory notes		3,4
SO 1.1	Daylighting	% of occupied spaces that are within distance 2H from window, where H is the height of the window or where there is good daylight from skylights	70	0,7
SO 1.2	Ventilation	% of occupied spaces have equivalent of opening window area equivalent to 10% of floor area or adequate mechanical system, with upolluted air source	80	0,8
SO 1.3	Noise	% of occupied spaces where external/internal/reverberation noise does not impinge on normal conversation (50dbA)	70	0,7
SO 1.5	Thermal comfort	Tempreture of occupied space does not exceed 28 or go below 19ºC for less than 5 days per year (100%)	60	0,6
SO 1.5	Views	% of occupied space that is 6m from an external window (not a skylight) with a view	60	0,6
SO 2	**Inclusive Environments**	Explanatory notes		4,8
SO 2.1	Public Transport	% of building (s) within 400m of disabled accessible (20%) and affordable (80%) public transport	100	1,0
SO 2.2	Information	Comprehensive signage provided (50%), Signage high contrast, clear print signage in appropriate locations and language(s) / use of understandable symbols / manned reception at all entrances (50%)	100	1,0
SO 2.3	Space	% of occupied spaces that are accessible to ambulant disabled / wheelchair users	80	0,8
SO 2.4	Toilets	% of occupied space with fully accessible toilets within 50m along easily accessible route	100	1,0
SO 2.5	Fittings & Furniture	% of commonly used furniture and fittings (reception desk, kitchenette, auditorium) fully accessible	100	1,0
SO 3	**Access to Facilities**	Explanatory notes		4,5
SO 3.1	Children	All users can walk (100%) / use public transport (50%) to get to their childrens' schools and creches	100	1,0
SO 3.2	Banking	All users can walk (100%) / use public transport (50%) to get to banking facilities	50	0,5
SO 3.3	Retail	All users can walk (100%) / use public transport (50%) to get to food retail	100	1,0
SO 3.4	Communication	All users can walk (100%) / use public transport (50%) to get to communication facilities (post/telephone/internet)	100	1,0
SO 3.5	Exercise	All users can walk (100%) / use public transport (50%) to get to recreation/excercise facilities	100	1,0
SO 4	**Participation & Control**	Explanatory notes		4,1
SO 4.1	Environmental control	% of occupied space able to control their thermal environment (adjacent to openable windows/thermal controls)	80	0,8
SO 4.2	Lighting control	% of occupied space able to control their light (adjacent to controllable blinds etc/local lighting control)	40	0,4
SO 4.3	Social spaces	Social informal meeting spaces (parks / staff canteens / cafes) provided locally (within 400m) (100%)	100	1,0
SO 4.4	Sharing facilities	5% or more of facilities shared with other users / organisations on a weekly basis (100%)	100	1,0
SO 4.5	User group	Users actively involved in the design process (50%) / Active and representative management user group (50%)	90	0,9
SO 5	**Education, Health & Safety**	Explanatory notes		3,9
SO 5.1	Education	Two percent or more space/facilities available for education (seminar rooms / reading / libraries) per occupied space (75%). Construction training provided on site (25%)	80	0,8
SO 5.2	Safety	All well used routes in and around building well lit (25%), all routes in and around buildings visually supervised (25%), secure perimeter and access control (50%), No crime (100%)	90	0,9
SO 5.3	Awareness	% of users who can access information on health & safety issues (ie HIV/AIDS), training and employment opportunities easily (posters/personnel/intranet site)	20	0,2
SO 5.4	Materials	All materials/components used have no negative effects on indoor air quality (100%)	100	1,0
SO 5.5	Accidents	Process in place for recording all occupational accidents and diseases and addressing these	100	1,0

	Criteria	Indicative performance measure	Measured	Points
Building Performance - Economic				
EC 1	**Local economy**	Explanatory notes		4,5
EC 1.1	Local contractors	% value of the building constructed by local (within 50km) small (employees<20) contractors	70	0,7
EC 1.2	Local materials	% of materials (sand, bricks, blocks, roofing material) sourced from within 50km	90	0,9
EC 1.3	Local components	% of components (windows, doors etc) made locally (in the country)	100	1,0
EC 1.4	Local furniture/fittings	% of furniture and fittings made locally (in the country)	100	1,0
EC 1.5	Maintenance	% of maintenance and repairs by value that can, and are undertaken, by local contractors (within 50km)	90	0,9
EC 2	**Efficiency**	Explanatory notes		4,0
EC 2.1	Capacity	% capacity of building used on a daily basis (actual number of users / number of users at full capacity*100)	90	0,9
EC 2.2	Occupancy	% of time building is occupied and used (actual average number of hours used / all potential hours building could be used (24) *100)	60	0,6
EC 2.3	Space per occupant	Space provision per user not more than 10% above national average for building type (100%)	100	1,0
EC 2.4	Communication	Site/building has access to internet and telephone (100%), telephone only (50%)	50	0,5
EC 2.5	Material & Components	Building design coordinated with material / component sizes in order to minimise wastage. Walls (50%), Roof and floors (50%)	100	1,0
EC 3	**Adaptability**	Explanatory notes		3,7
EC 3.1	Vertical heights	% of spaces that have a floor to ceiling height of 3000mm or more	75	0,8
EC 3.2	External space	Design facilitates flexible external space use (100%)	70	0,7
EC 3.3	Internal partition	Non loadbearing internal partitions that can be easily adapted (loose partioning (100%), studwall (50%), masonary (25%)	25	0,3
EC 3.4	Modular planning	Building with modular stucture, envelope (fenestration) & services allowing easily internal adaptaptation (100%)	100	1,0
EC 3.5	Furniture	Modular, limited variety furniture - can be easily configured for different uses (100%)	100	1,0
EC 4	**Ongoing costs**	Explanatory notes		3,9
EC 4.1	Induction	All new users receive induction training on building systems (50%), Detailed building user manual (50%)	0	0,0
EC4.2	Consumption & waste	% of users exposed on a monthly basis to building performance figures (water (25%), electricity (25%), waste (25%), accidents (25%)	100	1,0
EC 4.2	Metering	Easily monitored localised metering system for water (50%) and energy (50%)	100	1,0
EC4.3	Maintenance & Cleaning	% of building that can be cleaned and maintained easily and safely using simple equipment and local non-hazardous materials	100	1,0
SO 4.5	Procurement	% of value of all materials/equipment used in the building on a daily basis supplied by local (within the country) manufacturers	90	0,9
EC 5	**Capital Costs**	Explanatory notes		3,1
EC 5.1	Local need	Five percent capital cost allocated to address urgent local issues (employment, training etc) during construction process (100%)	100	1,0
EC5.2	Procurement	Tender / construction packaged to ensure involvement of small local contractors/manufacturers (100%)	80	0,8
EC 5.3	Building costs	Capital cost not more than fifteen % above national average building costs for the building type (100%)	80	0,8
EC5.4	Technology	3% or more of capital costs allocated to new sustainable/indigenous technology (100%)	50	0,5
EC 5.5	Existing Buildings	Existing buildings reused (100%)	0	0,0

	Criteria	Indicative performance measure	Measured	Points
Building Performance - Environmental				
EN 1	**Water**	Explanatory notes		4,2
EN 1.1	Rainwater	% of water consumed sourced from rainwater harvested on site	50	0,5
EN 1.2	Water use	% of equipment (taps, washing machines, urinals showerheads) that are water efficient	100	1,0
EN 1.3	Runoff	% of carparking, paths, roads and roofs that have absorbant/semi absorbant/permeable surfaces (grassed/thatched/looselaid paving/ absorbant materials)	70	0,7
EN 1.4	Greywater	% of water from washing/relatively clean processes recycled and reused	100	1,0
EN 1.5	Planting	% of planting (other than food gardens) on site with low / appropriate water requirements	100	1,0
EN 2	**Energy**	Explanatory notes		3,8
EN 2.1	Location	% of users who walk / cycle / use public transport to commute to the building	90	0,9
EN 2.2	Ventilation	% of building ventilation requirements met through natural / passive ventilation	60	0,6
EN 2.3	Heating & Cooling	% of occupied space which relies solely on passive environmental control (no or minimal energy consumption)	60	0,6
EN 2.4	Appliances & fittings	% of appliances / lighting fixtures that are classed as highly energy efficient (ie energy star rating)	90	0,9
EN 2.5	Renewable energy	% of building energy requirements met from renewable sources	75	0,8
EN 3	**Waste**	Explanatory notes		2,3
EN 3.1	Toxic waste	% of toxic waste (batteries, ink cartridges, flourescent lamps) recycled	100	1,0
EN 3.2	Organic waste	% of organic waste recycled	0	0,0
EN 3.3	Inorganic waste	% of inorganic waste recycled.	80	0,8
EN 3.4	Sewerage	% of sewerage recycled on site	0	0,0
EN 3.5	Construction waste	% of damaged building materials / waste developed in construction recycled on site	50	0,5
EN 4	**Site**	Explanatory notes		2,3
EN 4.1	Brownfield site	% of proposed site already disturbed / brownfield (previously developed)	0	0,0
EN 4.2	Neighbouring buildings	No neighbouring buildings negatively affected (access to sunlight, daylight, ventilation) (100%)	90	0,9
EN 4.3	Vegetation	% of area of area covered in vegetation (include green roofs, internal planting) relative to whole site	65	0,7
EN 4.4	Food gardens	Food gardens on site (100%)	0	0,0
EN 4.5	Landscape inputs	% of landscape that does not require mechanical equipment (ie lawn cutting) and or artificial inputs such as weed killers and pesticides	70	0,7
EN 5	**Materials & Componer**	Explanatory notes		3,3
EN 5.1	Embodied energy	Materials with high embodied energy (aluminium,plastics) make up less than 1% of weight of building (100%)	100	1,0
EN 5.2	Material sources	% of materials and components by volume from grown sources (animal/plant)	20	0,2
EN 5.3	Ozone depletion	No materials and components used requiring ozone depleting processes (100%)	80	0,8
EN 5.4	Recyled / reuse	% of materials and components (by weight) reused / from recycled sources	80	0,8
EN 5.5	Construction process	Volume / area of site disturbed during construction less than 2X volume/area of new building (100%)	50	0,5

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