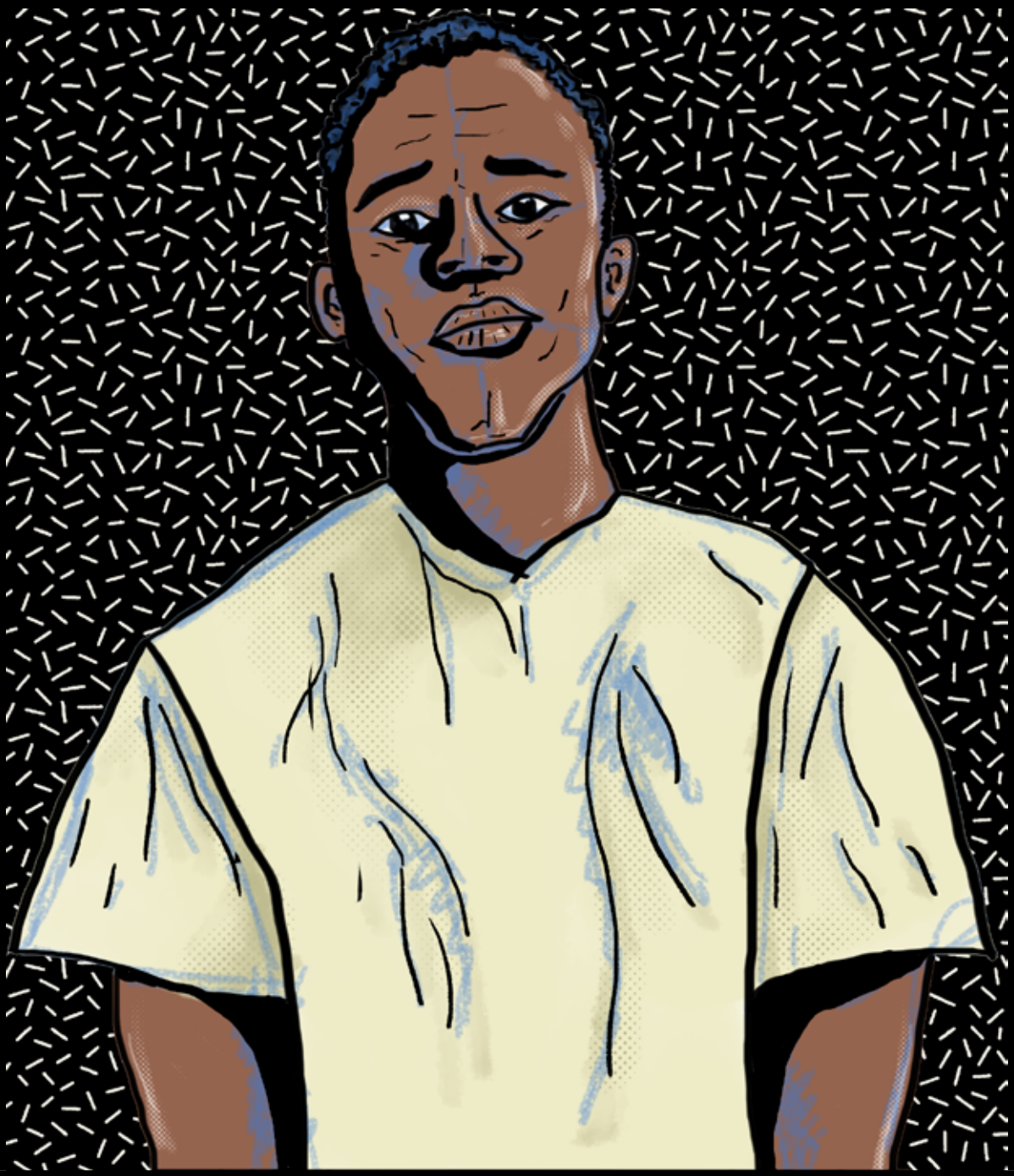
MISSING RESOURCE

PIECING TOGETHER PRETORIA'S CREATIVE FUTURE



THE POTENTIAL OF RESOURCE SHARING TO EVOKE PERCEPTIVE GROWTH IN ALTERNATIVE EDUCATION

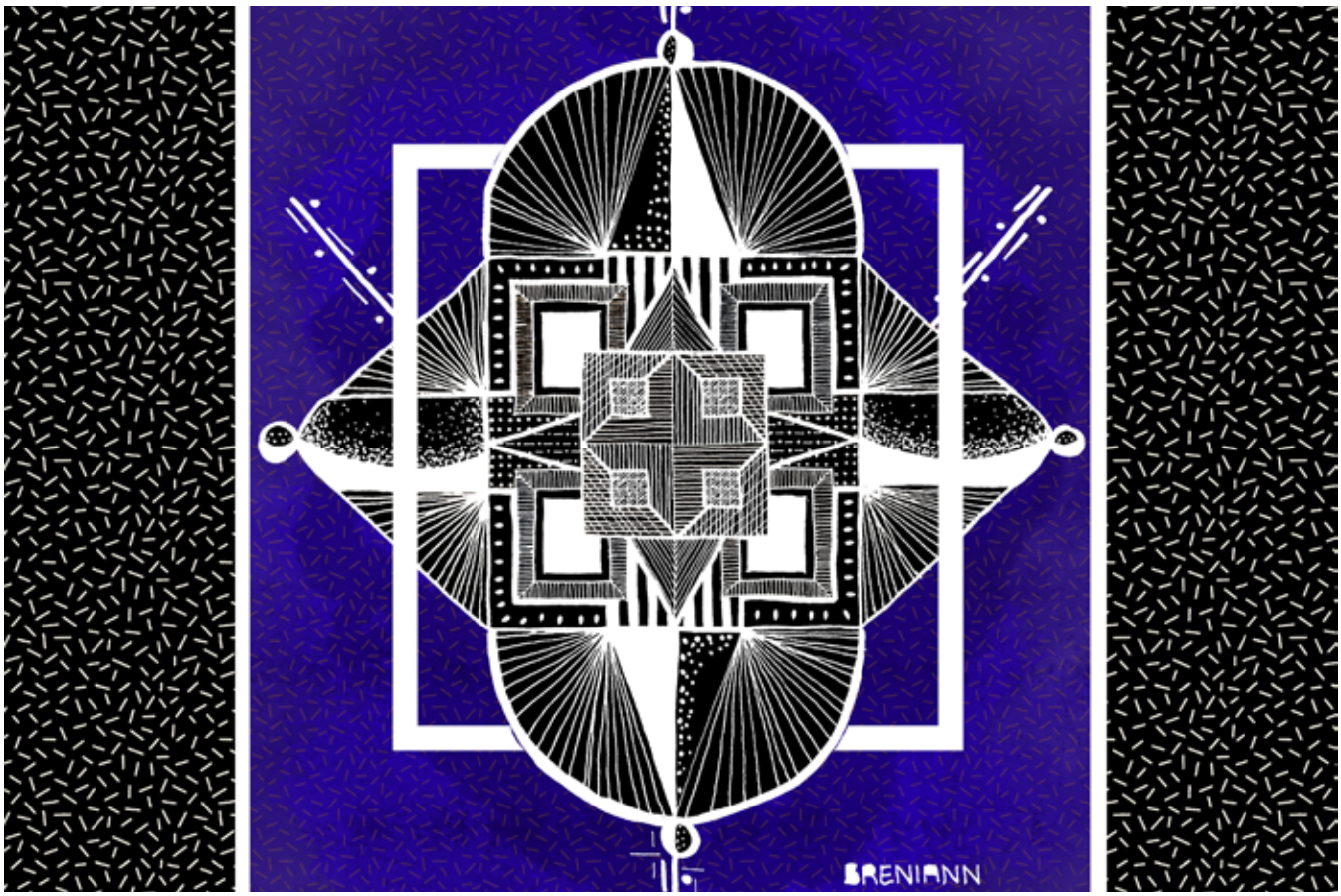


Figure1: Creative Conceptual Diagram (Author 2019)

Study Leader: Dr Nico Botes

Course Co-ordinator: Prof Arthur Barker

Research Field: Heritage & Cultural Landscapes

Submitted by: Breniann Labuschagne

Student number: 14156955

Site: 287 Nana Sita St, Pretoria Central, Pretoria, 0003, 25.750 S, 28.192 E

Programme: Resource sharing centre for alternative education

Client: Surrounding school children & creatives in association with programs such as the Imbali Project, IEB, NSC and the Little Theater.

Key Words: alternative education, perceptive growth, creative, cultural, resource sharing, affordance theory, school typology, wellness, cognitive well-being

Figure2: Urban Vision Diagram (Author 2019)

Abstract

An alternative school is an educational setting designed to accommodate educational, behavioral, and/or medical needs of children and adolescents that cannot be adequately addressed in a traditional school environment (Health 2010).

Many educational facilities fail to cater for the needs of learners who are less conventionally academic and more creatively inclined, by not providing resource facilities that allow for use and growth within them. The Pretoria inner city schools are good examples of this and thus students do not experience perceptive growth in the same manner that students in schools with these resources do. This gap needs to be filled by means of a communal resource sharing facility that allows for use by many different parties, through investigation of global and South African educational theories and overlapping building typologies from each, to find the specific gaps required to have a successful outcome. This allows for equality of opportunity, which is essential in a country like South Africa, and allows for people to have the ability to dictate their own futures through cognitive and perceptive growth as well as being essential to wellness of mind. The result of the investigation leads to a small step in the correction of the missing resource in order to improve cognitive and perceptive wellbeing.

Acknowledgments

A special thanks to my family for their constant support and guidance through the years to help me achieve my goals.

My father, Pierre, who taught me to be disciplined and to never stop when things get tough.

My mother, Heidi, for helping during the tougher times and always being a pillar of strength.

My brother, Kristiann, for proividing comedic relief when times called for some humour.

Nico, for pushing me to continually develop and never settle for the easiest solution.

Arthur, for caring about all the students and being thoroughly invested in our development, not only as designers, but as people.

And finally to my friends, without whom the years would not have been as fun.

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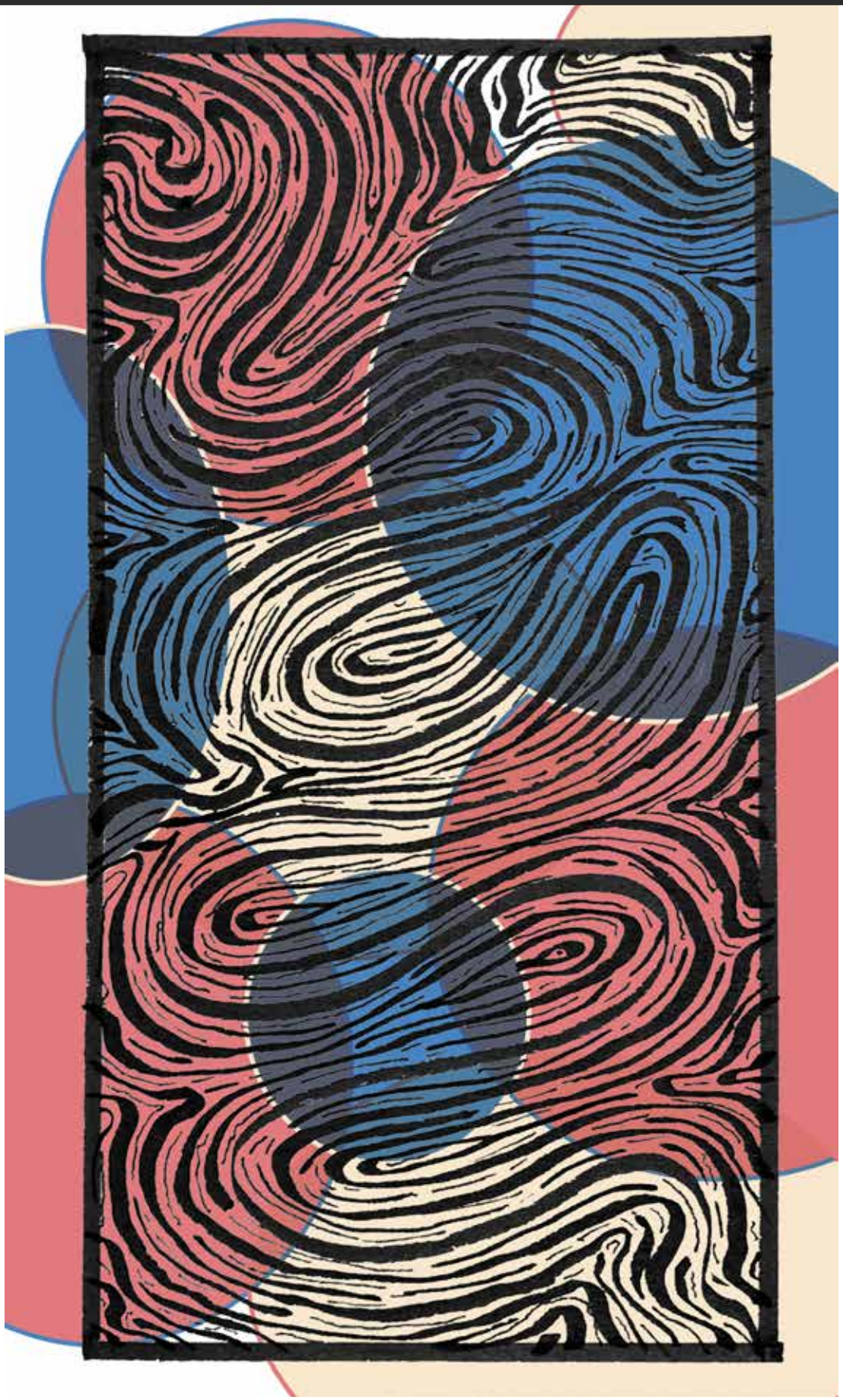

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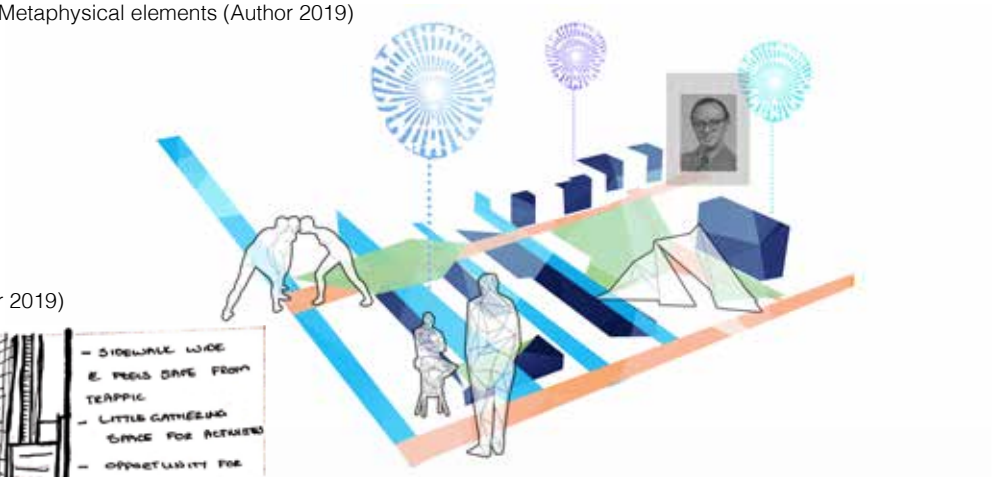

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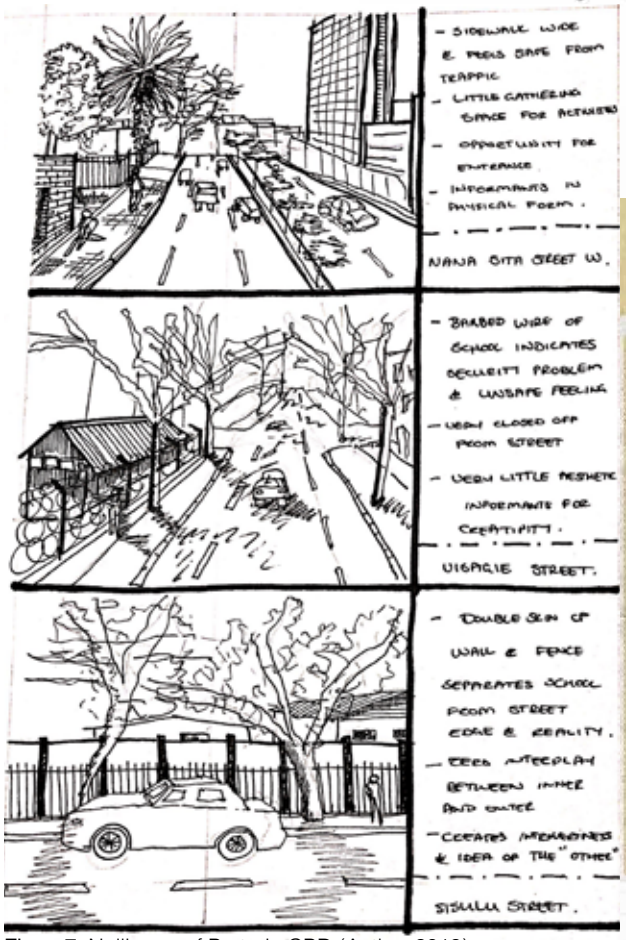

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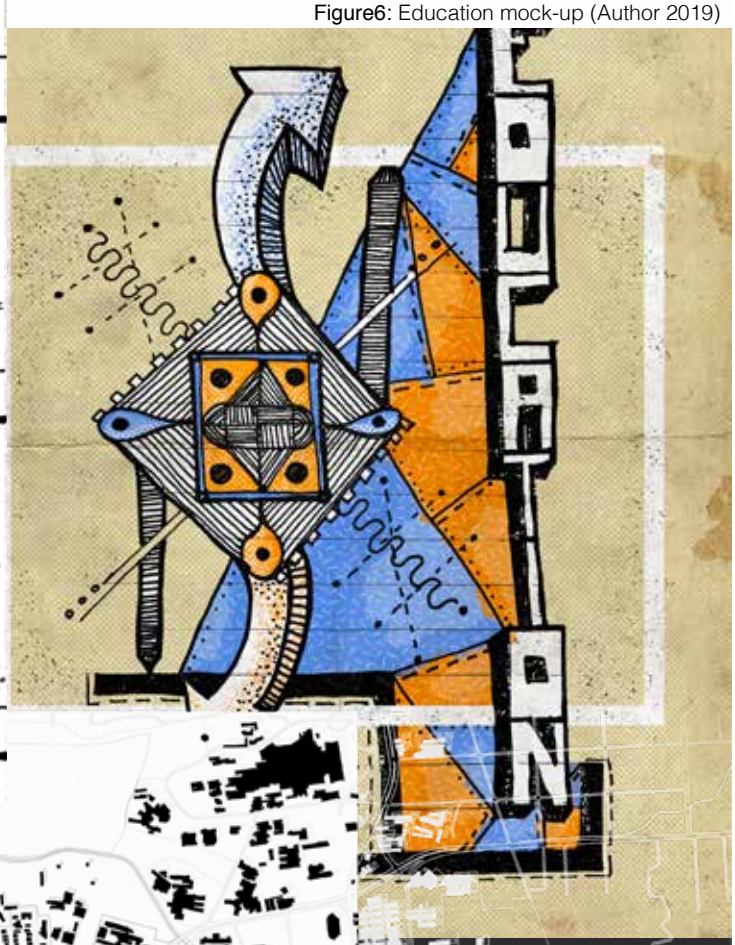


Figure7: Nolli map of Pretoria CBD (Author 2019)

1.1 Problem Statement

There is a large school district within the southern border of the Pretoria CBD, within the surrounds of Burger's Park north, with a number of inner city primary schools, technical colleges and cultural university buildings. It possesses a high frequency of pedestrian level learning activity as well as being ideally situated near residential buildings, making for easy access to schooling facilities. However, there is a gap within the area whereby communal facilities for alternative creative education are missing. In this dissertation, it is proposed that architecture can provide a communal alternative resource sharing facility that caters to the needs of users who do not fit the conventional academic programme. Through the use of this facility it is proposed that users can improve perceptive and cognitive growth in order to be better prepared for life and thus improve their social and economic standing within the world. The provision of equal opportunity is seen as a small correction of exisiting education typologies in order for users to have the means that they previously would not have had access to.

1.2 General Issue

How can alternative education options cater to students who do not fit the conventional educational structures?

1.3 Urban Issue

How can alternative
education centres
contribute to the
existing schooling structures within
Pretoria and Gauteng as a whole?

1.4 Architectural Issue

What kind of building typology is required to support alternative education resource sharing within the schooling district of the Burger's park area?

1.5 Research Question

How can architecture facilitate a resource sharing facility in the creative field for users from various fields and age groups?

1.6 Research Intentions

The intention would be to establish a typology architecturally that accurately and adequately provides for the needs of students who ordinarily would not be found within the standard, conventional schooling system.

The research would seek to fit into the continuum of global educational theories, South African educational theories and filling the gap required to cater for those lost to the system conventionally.

The methodological paradigm would revolve around interpretive social science by looking at qualitative data in the texts of previous studies and determining the lessons learnt from them and drawing future pathways from it. In the case of examples that do not have previous, extensive written texts, identified patterns throughout the regionalist continuum will be pre-emptively assigned and tested against existing examples that have been investigated by the authors above. Patterns in the use of brickwork by prominent architects such as Norman Eaton and Gabriel Fagan will be investigated further and the natural development thereof determined and the influences it has had on architects' work up until the present and future. Secondary textual data sources will inform these findings and conclusions drawn by the author of the paper through the core logic of interpretation. Possible conclusions that can be drawn from the research will then be implemented in a contemporary fashion indicative of the context by means of an architectural design that draws on the meaning in brick patterning as investigated in the experiments of Eaton, Fagan and other architects.

The design intentions will seek to compare building typologies from each era of the prevalent theories and to investigate the positives and negatives as well as the gaps evident. From that overlapping approach an opportunity to provide an alternative model for schooling and resource sharing should arise around which the design will take place. The continuation of theory is critical.

1.7 Hypotheses

1. Inner city schools are inadequately equipped to cater for anything other than the very basics in education and thus cannot be a source of creativity for students that seek alternative education.
2. South African education history is complex and multi-layered and thus needs to be looked at in depth, with the design intervention forming part of the continuum. Previously disadvantaged schools and public schools that are under-resourced or under-funded have to find other means through communal connections in order to compete with privately funded education where each entity having the facilities is the norm.
3. Learners who have no to little creative experience at schooling level are less likely to think unconventionally and thus are less equipped to deal with certain situations when compared to those that have explored methods of looking at the world through a creative, cultural lens.

1.8 Limitations

To try and cater for every single aspect of alternative education and for every single educational facility within the CBD would be a futile exercise. Thus the focus will be on creative fields within alternative education such as music, art and performance in conjunction with cultural institutions such as the UNISA Little Theatre. This allows for a concise design intervention that focuses on a specific issue that is relevant to the immediate context and that can be replicated in similar areas. The choice of site will also be centred around the idea of culture, education and wellness, being the in-between spaces of the Little Theatre, church and primary schools on the block north of Burger's Park and on Nana Sita Drive.

1.9 Delimitations

The aim of the dissertation is to develop a typology that could respond to areas where this specific type of architecture is required and design it appropriately to cater for those needs. The design will respond to the examples below and will need to be able to fit into the continuum of South African educational theory and global theory as well.

1. Alternative resources for surrounding schools
2. Building as educator through technology
3. Continuum of global and South African educational theories
4. Building form through representation of program and identity
5. Surrounding school typologies and heritage aspects
6. Wellness in the urban framework of the residential and school district
7. Examples of creative spaces such as Casey Neistat's 368, a building in New York City that caters for various creative functions like skateboarding, gaming, tattooing, clothing, video and photography etc.

1.10 Assumptions

It is assumed that the proposed design intervention would be approved by the municipality, stakeholders (UNISA, Public Works, IEB, NSC). It is also assumed that the various users will be able to use the design cohesively and communaly to promote experiential learning between the various parties. The final assumption is that sections of the surrounding context would be pedestrianised in line with the proposed urban and block visions to allow for seamless integration with the proposed site and design.

1.11 Site Location

The identified site is located within the residential and school district with interspersed cultural elements which allows for informants to alternative schooling. There is a 'gap' in the market for an alternative method of schooling in this area that still allows for a link with existing systems.

Figure8: Nolli Map of Pretoria with identified site (Author 2019)

Chapter 2: Theory and Context

Figure9: Musicians of Pretoria (Author 2019)

2.1 Introduction

Modern educational theory had its origins in J.A. Comenius' Sense Realism and Jean-Jacques Rousseau's Naturalism theories on education. Both these theories led to the psychological and social developmentism of the 19th and 20th century. These then developed over time to influence the most influential theories of learning globally, as will be discussed later, and in turn influenced the architectural design of the school building and the various functions within (Hammad 1984:5).

"everyone adheres to a philosophy whether he is aware of it or not" - Aristotle (Hammad 1984:5).

As architects, this is pertinent to our way of thinking and how we shape the designs we implement. It follows then that educational theories over time will influence the design of school buildings to suit the needs of a specific time period and theory. It can then also be said that in order to understand where we are today in terms of educational theory we first need to understand what has come before, the development thereof and where we are heading towards.

Rousseau's Naturalism revolves around the idea of a return to nature and that nature is intrinsic to our very being. He advocates the idea of a 'Return to Nature' and that all learning occurs through experience of the senses in a similar vein to Comenius' Realism. Rousseau also outlined his ideas on education in his educational treaties, "Emile" whereby it was said that if education was given properly then man would minimise the drawbacks of civilisation and bring him nearer to nature. He proceeded to outline a number of general aims for education being:

1. Education is a natural process not artificial.
2. Education is a development from within, not accretion from without.
3. Education could be acquired by exploiting the natural instinct and interest.
4. It is the expansion of natural power.
5. It is a life itself.
6. The attainment of fullest natural growth of the individual (Mondal 2015).

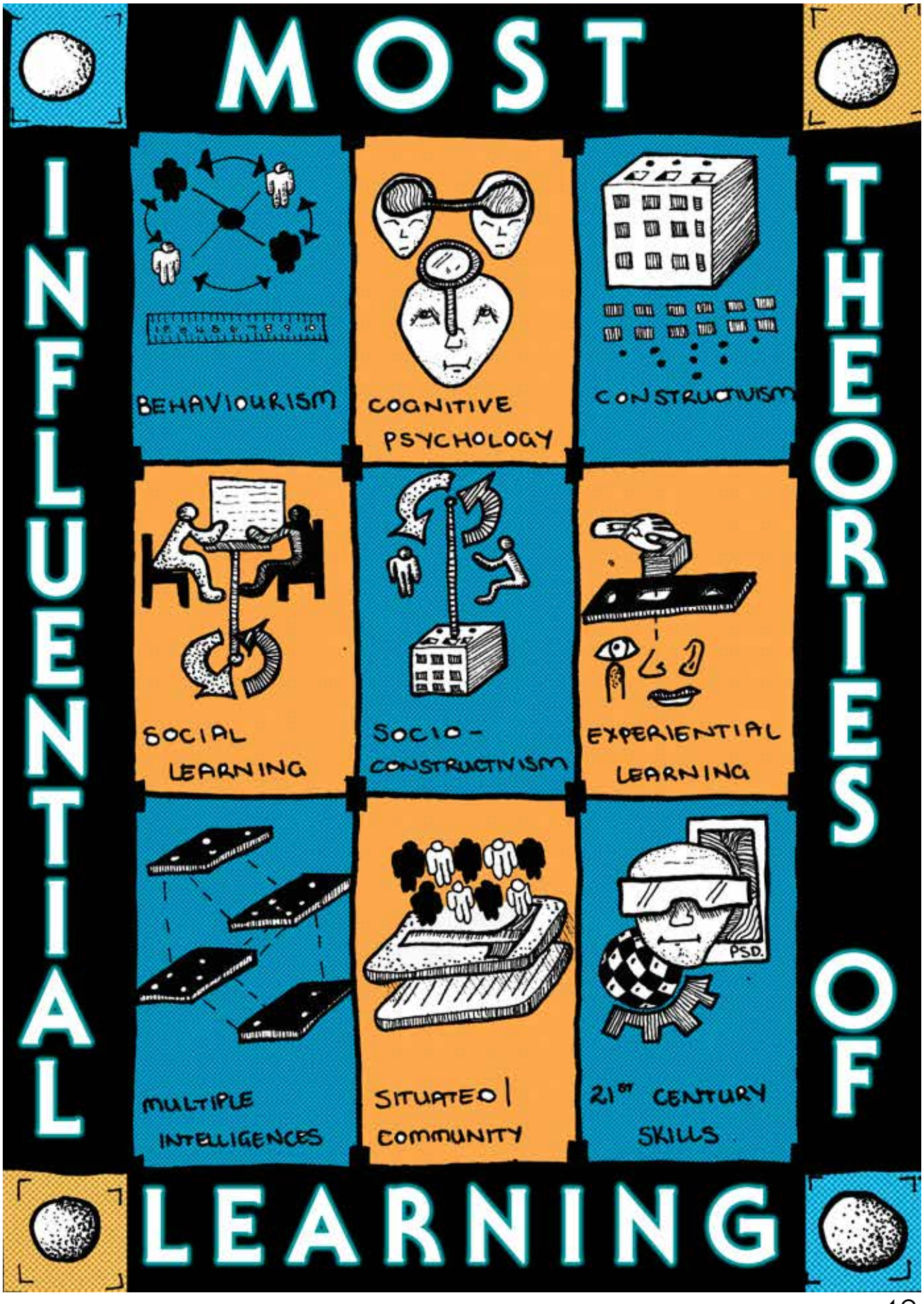
Comenius had similar ideas in his theory of Realism where he outlined the following:

1. Anything to be learned must be taught directly and not through its form or symbol,
2. It should be of some definite use being of practical application in everyday life,
3. The method must not be complicated, being of practical application in everyday life,
4. The learning material should be taught with reference to its true nature and origin i.e., through its causes (Shawal 2018).

These theories together form part of Sense-Realism whereby learning is seen as experiential and linked to nature and over time led to school typologies such as the central-hall school, pavilion school, functional-unit school and the open-plan school (Hammad 1984:7). From there these theories expanded and developed into various theories that in themselves developed and progressed to influence the design of different school typologies across the world. Due to the complex nature of South Africa's political history, a lot of these ideas were brought across and with them the building typologies were appropriated. These then took a further development in theory and typology up until the point we find ourselves now. It is therefore important to understand the basics of these theories and how they relate to school building typology. From that we can then understand how they influenced South African theory and South African school building typology.

2.2 Most Influential Global Theories of Learning

Figure10: Educational theories continuum (Author 2019)



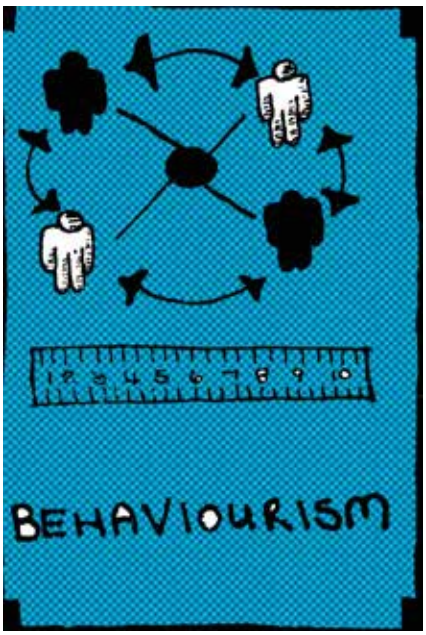


Figure11: Behaviourism (Author 2019)

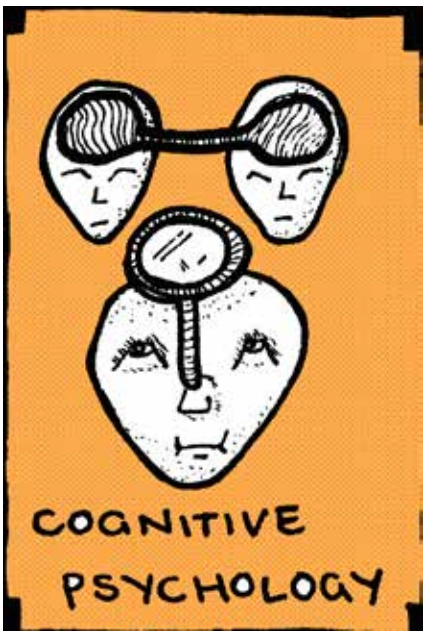


Figure12: Cognitive Psychology (Author 2019)

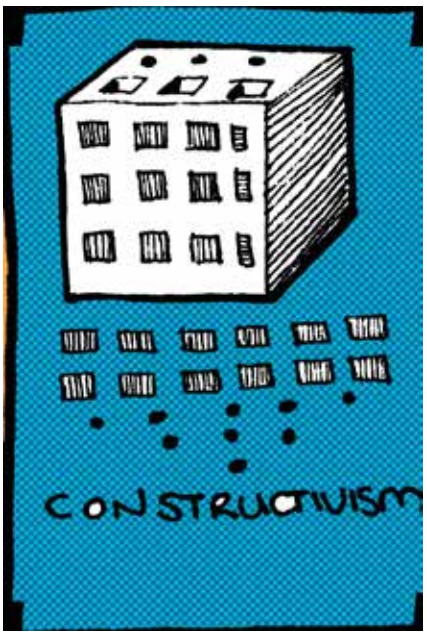
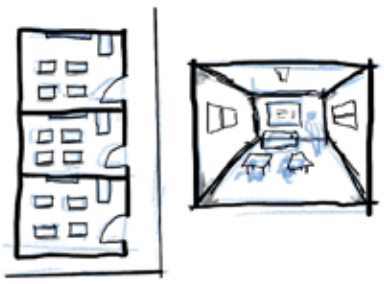
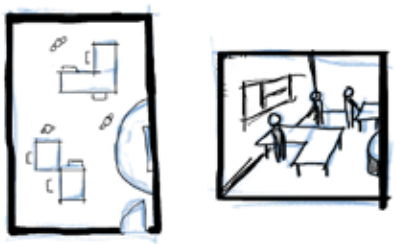
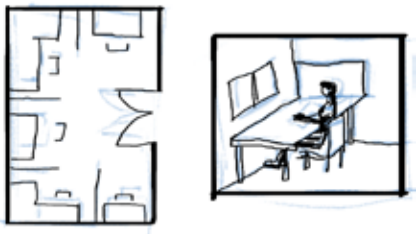


Figure13: Constructivism (Author 2019)

All boys school example - PBHS etc.	Co-ed school example - Crawford etc.	Libraries in schools such as WHPS, UP etc.
		
Behaviourism - Originating in the early 1900s it relates to change in behaviour due to aquisition, reinforcement & application of associations between stimuli from environments & observable responses of the individual (OECD 2010).	**Cognitive Psychology** - Originating in the late 1950s it was a move away from behaviourism whereby people were not viewed as a collection of responses to external stimuli but were seen as information processors. Attention was given to complex mental phenomena and was influenced by the emergence of the computer (OECD 2010).	**Constructivism** - Originating in the 70s and 80s, learners actively construct their own knowledge in interaction with the environment & reorganisation of mental structures (OECD 2010).

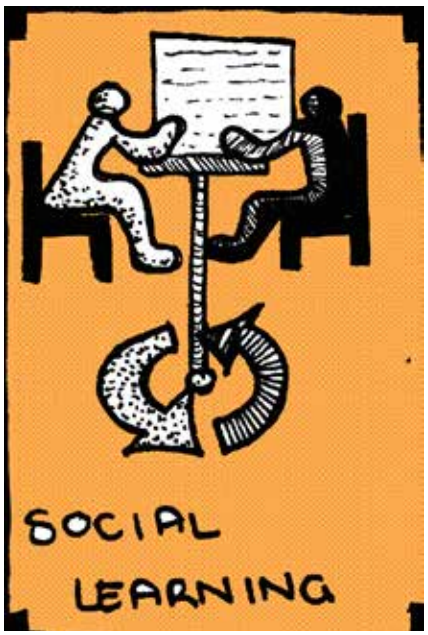


Figure14: Social Learning (Author 2019)

Figure15: Socio-Constructivism (Author 2019)

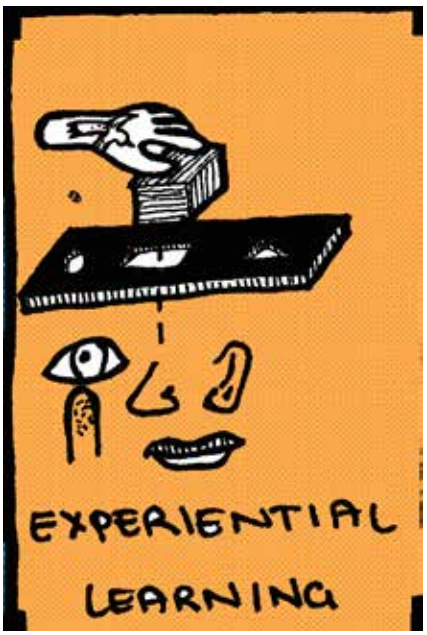


Figure16: Experiential Learning (Author 2019)

Technical schools, woodworking type schools. More rural type setting schools.	Nature reserve learning environment at Hilton College and KZN schools.	Southdown's College utilises viewing of surrounding landscape and sports fields while learning.
		
Social Learning - Based on the notion that people learn within a social context and is facilitated through concepts such as modeling, observation and imitation (OECD 2010).	**Socio-Constructivism** - Originating in the late 20th century, it was based on situated cognition and learning whereby an individual interacts with a situation and knowledge is a product of activity, context and culture (OECD 2010).	**Experiential Learning** - Learning is about meaningful experience that lead to changes in an individual's behaviours and knowledge (OECD 2010).

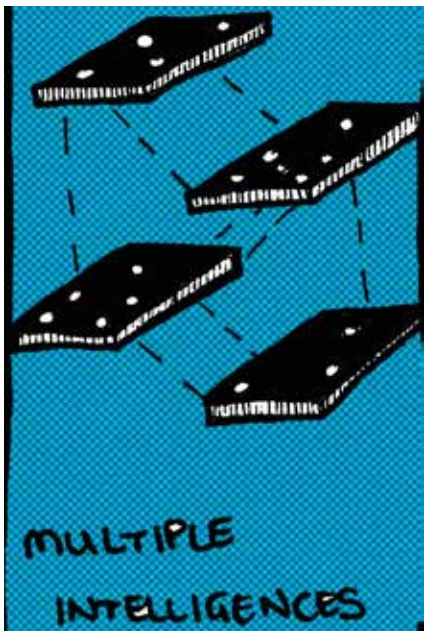
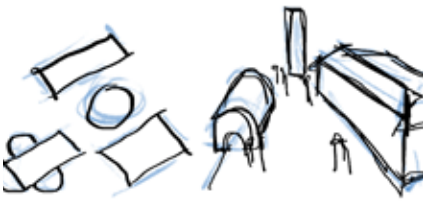
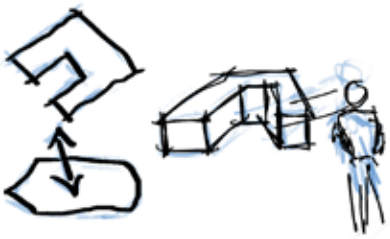


Figure17: Multiple Intelligences (Author 2019)

Figure18: Situated/Community (Author 2019)

Figure19: 21st Century Skills (Author 2019)

Inner city schools do not utilise multiple programmes and buildings that reflect use. Every building in inner city schools is uniform.	Relationship between Open Window and Southdowns College.	St Albans College makes use of technology to enhance learning through programmed buildings that reflect the need and intention.
		
Multiple Intelligences - Logical, linguistic, spatial, musical, kinesthetic, interpersonal and intrapersonal. Speculative theory as a means to achieve educational goals (OECD 2010).	**Situated/Community of Practice** - Emphasises relational & negotiated character of knowledge (OECD 2010).	**21st Century Skills** - Classrooms to encourage core subject knowledge & new media literacies. Based on group learning or thematic projects as well as inquiry based collaborative work that addresses real world issues & questions (OECD 2010).

2.3 South African Educational Theory

From the above it can be seen that there is a wide range of educational theories, some of which overlaps. This is understandable considering the ever changing landscape of world cultures. The next step is to investigate uniquely South African theories of education such as the initial landing of Dutch Settlers bringing their own education systems, the British bringing religion-based schooling, the Bantu Education Act, post 1994 and public/private distinctions. From there building typologies of each will be compared with their global counterparts to determine the gaps within the typologies in order to design effectively for a communal resource centre.

2.4 South African Theories and Criteria

2.4.1 Outcomes Based Education (OBE)

Being the main form of assessment based theory within South Africa, the Department of Education (DOE, 2002) states that OBE considers the PROCESS of learning as important as the CONTEXT that learning takes place within. This is emphasised by the explanation of outcomes to be achieved at the end of the process. Some critical and developmental outcomes were derived from the Constitution and in the South African Qualification Act (1995) which describes the type of citizen the intended system should create and cater for. OBE was introduced in the late 1990's as part of the Curriculum 2005 program and evolved from anti-apartheid education policies as well as borrowing from competency-based education and vocational education from New Zealand and Australia. The scheme has failed to an extent as progress in basic education has been slow due in large to mismanagement and corruption. The poor progress in basic education has led to little emphasis being placed on the creative fields.

2.4.2 Private - Independent Education Board (IEB)

The philosophy of the IEB centres around working within the range of extremes in education while this philosophical undertaking is backed by social and educational values. Assessment is based on integrity, innovation and international comparability. While international comparability is important to measure progress globally, it is important to not lose track of the needs of a uniquely African educational assessment type (IEB 2019).

The IEB strives to create learners who are:

1. Critical users of information
2. Ethical reasoners
3. Problem solvers
4. Creative and reflective thinkers (There is a gap here in a large number of schools that do not cater for creative learning effectively)
5. Lifelong learners
6. Society members respectful of diversity in the South African context
7. Active citizens committed to upholding the principles of the South African Constitution and WELLBEING of all people (IEB 2019).

"The IEB supports the position that actively promoting quality education for every South African citizen is fundamental in establishing a just, open society based on democratic values, social justice and fundamental human rights, in which cultural diversity is appreciated and embraced." (IEB 2019)

The above is at the core of why the gap of alternative, creative education resource sharing facilities needs to be filled and catered for.

2.4.3 Public - National Senior Certificate (NSC)

Vision - "of a South Africa in which all our people will have access to lifelong learning, education and training opportunities, which will, in turn contribute towards improving the quality of life and building a peaceful, prosperous and democratic South Africa" (Education 2019).

Mission - "is to provide leadership in the establishment of a South African education system for the 21st century" (Education 2019).

Broad statements or guidelines such as the previously mentioned do not adequately or realistically provide specific solutions to the mentioned problems. Under-resourcing and small budgets mean that shared resourcing is cheaper and far more valuable for learning to be effective.

Values:

1. People - Upholding the Constitution, being accountable to the Minister, the government and the people of SA. (Unfortunately accountability is rare in the public sector and thus educational systems have been neglected and corrupted to the detriment of the learners).
2. Excellence - Maintaining high standards of performance and professionalism by aiming for excellence in everything we do, including being fair, ethical and trustworthy in all that we do (Many inner city schools and other public educational facilities do not get this sort of treatment).
3. Teamwork - Cooperating with one another and with our partners in education in an open and supportive way to achieve shared goals

(This is extremely important and precisely what needs to be enhanced in all learning environments).
4. Learning - Creating a learning organisation in which staff members seek and share knowledge and information while committing themselves to personal growth. (Examples of these could be linkages between the Little Theatre, UNISA, surrounding colleges and public learning environments).
5. Innovation - Striving to address the training needs for high quality service and seeking ways to achieve our goals. (Collaboration in multi-use spaces and a need to move away from traditional school education typologies) (Education 2019).

Strategic Outcome-Orientated Goals: Improved quality of basic education

1. Outcome 1 - Improve the quality of teaching and learning
   1.1 Improve teacher capacity and practices
   1.2 Increase access to high quality learning materials

   Intervention to address high quality materials by focusing on the need for perceptive growth through creativity that leads to more considerate decisions surrounding other aspects of learning.

2. Outcome 2 - Undertake regular assessment to track progress
   2.1 Establish a world-class system of standardised national assessments. (The problem with this is related to a standardised approach in a setting where individuality and identity should thrive but is inhibited by outdated assessment standards and methods. The digital age has allowed individuals to learn whatever they want to, whenever they want to).
   2.2 Extract key lessons from ongoing participation in international assessments.

3. Outcome 3 - Improve Early Childhood Development
   3.1 Universalise access to Grade R
   3.2 Improve the quality of childhood development. (Intervention to address this through creative learning environments).

4. Outcome 4 - Ensure a credible outcomes focused planning and accountability system.
   4.1 Strengthen school management and promote functional schools.
   4.2 Strengthen the capacity of district offices (Education 2019).

The main approach to the above is that current standards and guidelines need to align with a move away from standardised assessment that uniformly judges learners based on a core learning environment. There is a need for individuality focused learning and environments that self-govern rather than relying on an unreliable and unaccountable governing body.

Reflection on current guidelines and frameworks:

1. Main issues surround the theory and frameworks currently, being rigid in only focusing on assessment and outcomes rather than manners of thinking and learning.
2. Creativity improves perception, therefore improves manners of thinking that lead to improved decision making in other aspects and fields.
3. Resources are not a priority in these documents for urban schools and are therefore overlooked.
4. A resource sharing centre that caters specifically for creativity and teaching as well as multi-use is far more practical and can enact the outcomes proposed within the documents through the lens of multiple intelligences and identities. This allows the individual to determine a unique path rather than being defined as the collective they had no choice being a part of.
5. The main gap in legislation documents is that it overlooks creativity in education and it has been mainly the private sector that has actively sought to seek innovative solutions.

Figure20: Green spaces and points of interest, Pretoria CBD (Author 2019)

2.5 Urban Mapping

2.5.1 Green Spaces, Educational & Recreational

A few recreational spaces such as theatres and movie theatres exist within the city with interspersed informal recreational spaces such as tattoo parlours and places such as 012 central, a large shed space near the State Theatre that is often used for music events, weddings, pop-up markets etc. This leads to areas of the city with high activity and intangible cultural activity that fluctuates at various times of the day and month. This leads to opportunity for a singular space that incorporates these elements in a centralised creative zone.

There is a strong educational zone of the city found in the blocks to the north of Burger's park and surrounding the Little Theatre. It also strongly coincides with the more residential areas of the city which tells us that education and residential relate to one another strongly, possibly as a result of travel times and safety of children. There is, however, a gap whereby older children are not catered for in this particular area. The areas are also heavily fenced off and not open to the public at all which seems to inhibit the idea of learning. This is quite possibly due to security and safety concerns which creates very introverted blocks away from the street.

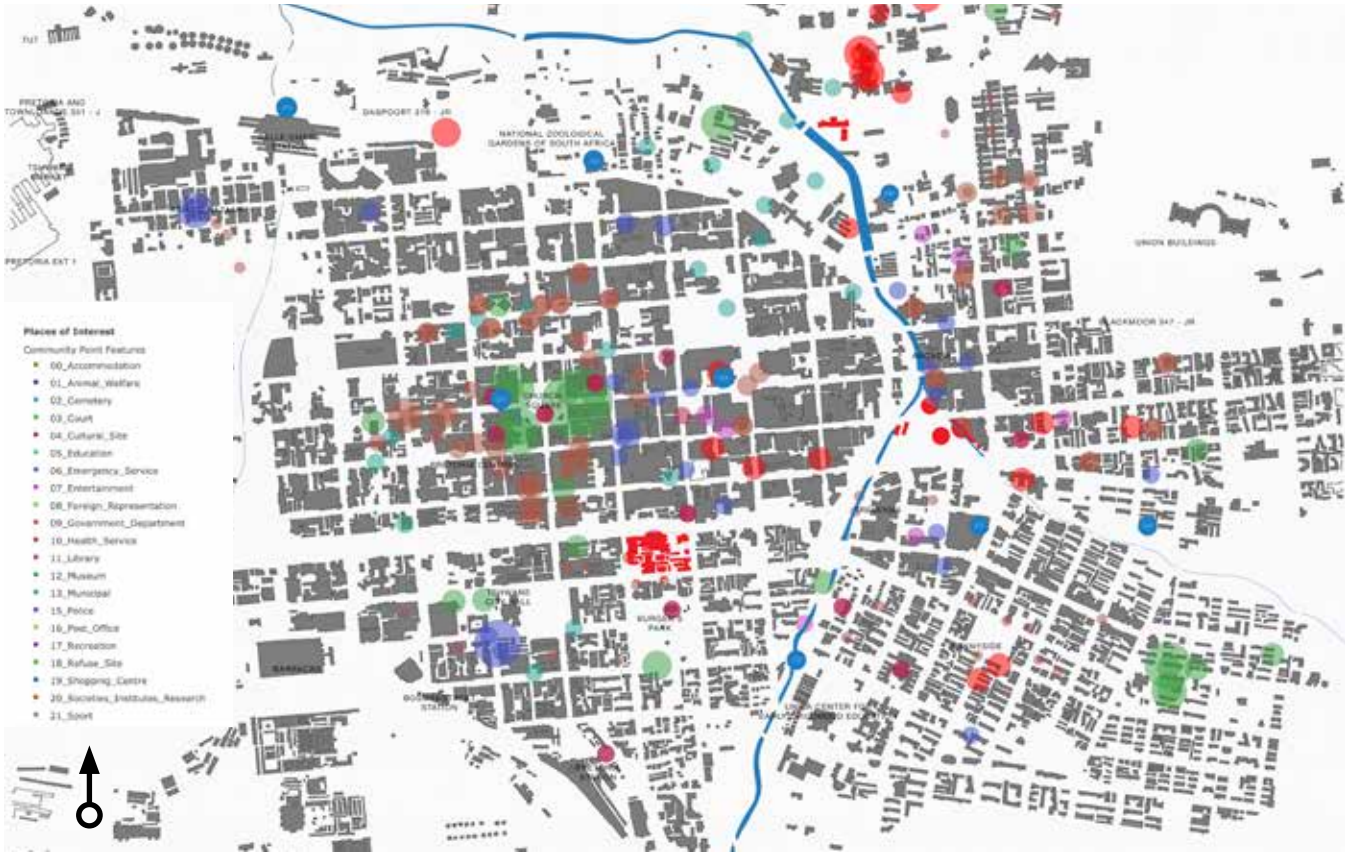


Figure21: Places of Interest (Author 2019)

2.5.2 Function, Water & Transport

The transport hubs are mostly concentrated around the edges of the city, this could be due to the idea of easy ways to get out of the city. But thereafter there seems to be a gap of corridors that take people into the city. This could make the city much more friendly and accessible for the public, thus giving the opportunity to break into new areas.

The Apies River quite clearly separates residential areas from the more business district focused areas which follows the history of the Pretoria CBD's formation and the natural continuation of the city's formation along the natural elements found there. There is therefore opportunity for development in line with the continuum of the city's growth over time.

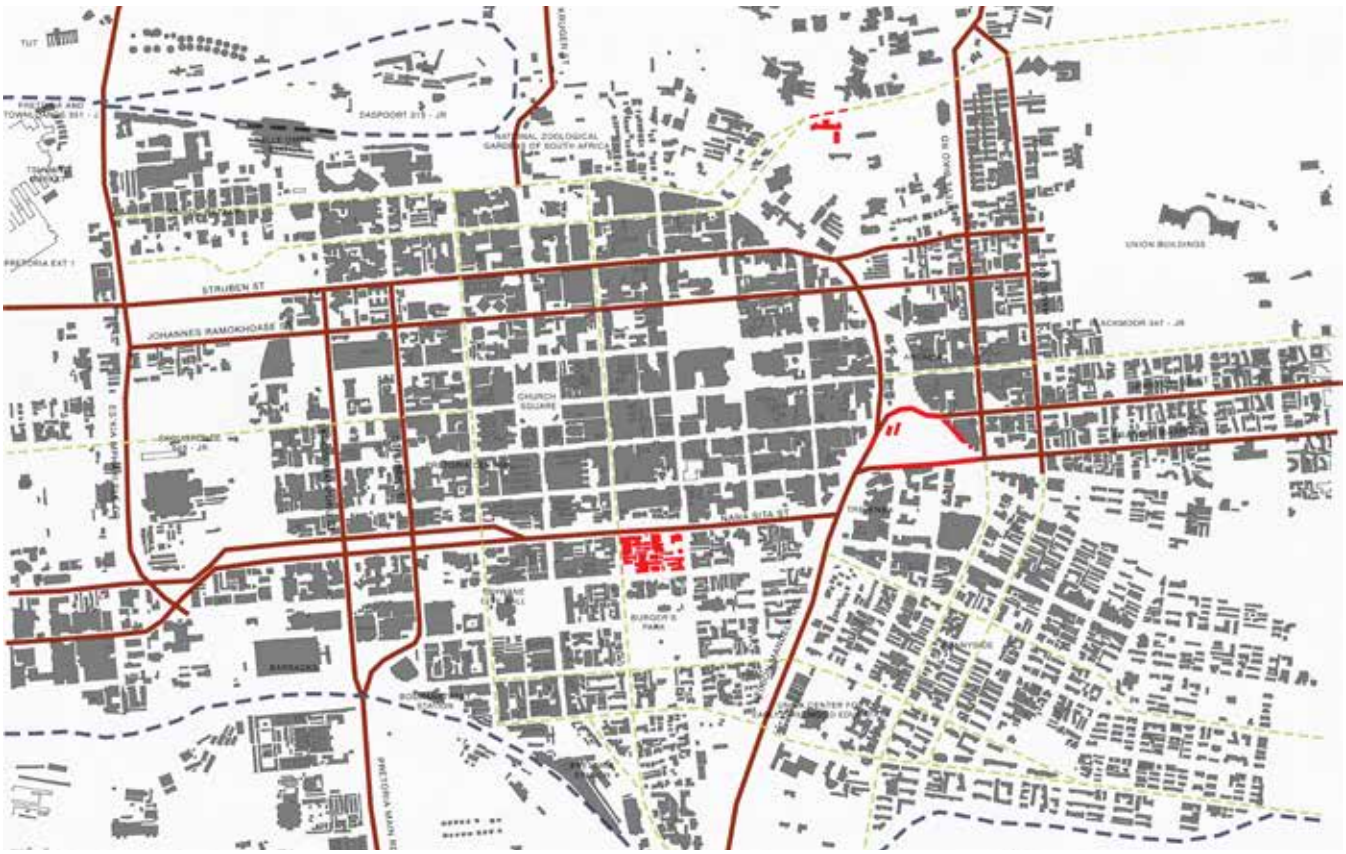


Figure22: Access Routes (Author 2019)

2.5.3 Access Routes

The open green spaces in the city were mapped to investigate the amount and condition of these spaces. Green parks can serve as the lungs of a city if they are maintained and open to all. The mapping indicates the lack of open green spaces in the inner city. The remaining green spaces are either fenced off or derelict. The open green spaces increase towards the periphery of the CBD.These are normally leftover spaces and are not in great condition or are used for agriculture. This points to a need for green spaces used exclusively as rejuvenation spaces in the CBD.

The mapping looked at how people are currently moving into the city through the current infrastructure. The main roads highlight the fast access routes into the city, where they are then broken up into ‘slower’ roads for easier access into the CBD. The placement of the routes are clearly influenced by the surrounding natural landscape.

2.6 Applicable criteria of mapping

- Density
- Activity
- Tree areas
- Criteria potential
- Vehicle & Pedestrian
- Sensory Experience

Figure23: Pretoria CBD storefront (N Smith 2019)

Figure24: Little Theatre Northern sidewalk (N Smith 2019)

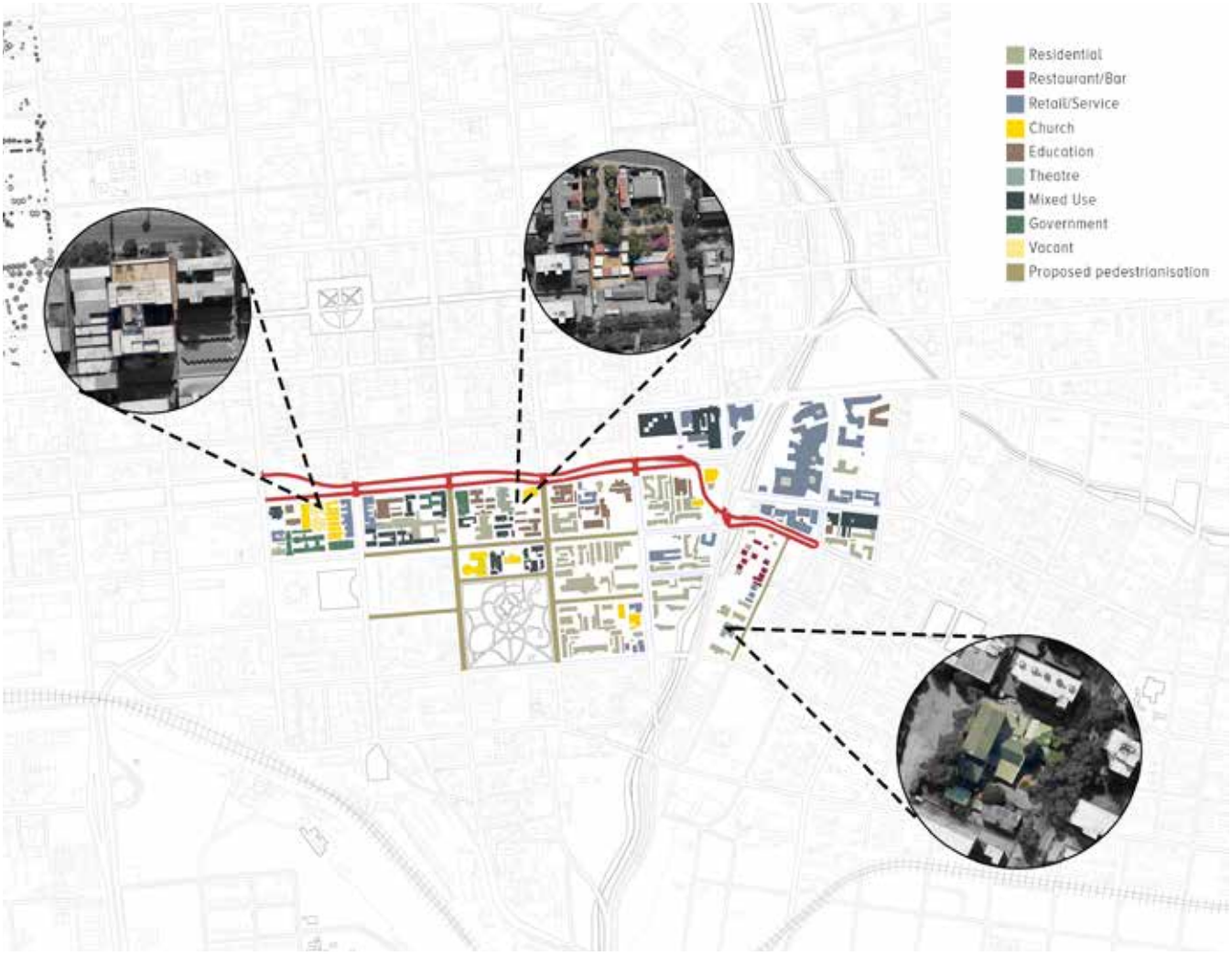


Figure25: Building usage and group sites (Author 2019)

2.7 Urban Vision

Through the landing experience, desktop studies and historical literature we were able to identify current enhancing features of the urban journey. Several harming or neglected nuances are discussed as to whether they present potential to enhance the urban life-cycle of Sunnyside.

Through mapping and walking around the identified areas it can be seen that larger transport roads relate to higher volumes of traffic and less pedestrian movement while smaller roads have higher pedestrian movement and less moving traffic. With the BRT route bordering the north of the site, there is less of a need for individual vehicles to have access, while the arterial routes surrounding the site then have the opportunity to be converted to be more pedestrian friendly and open the site to the public from its current introverted state.

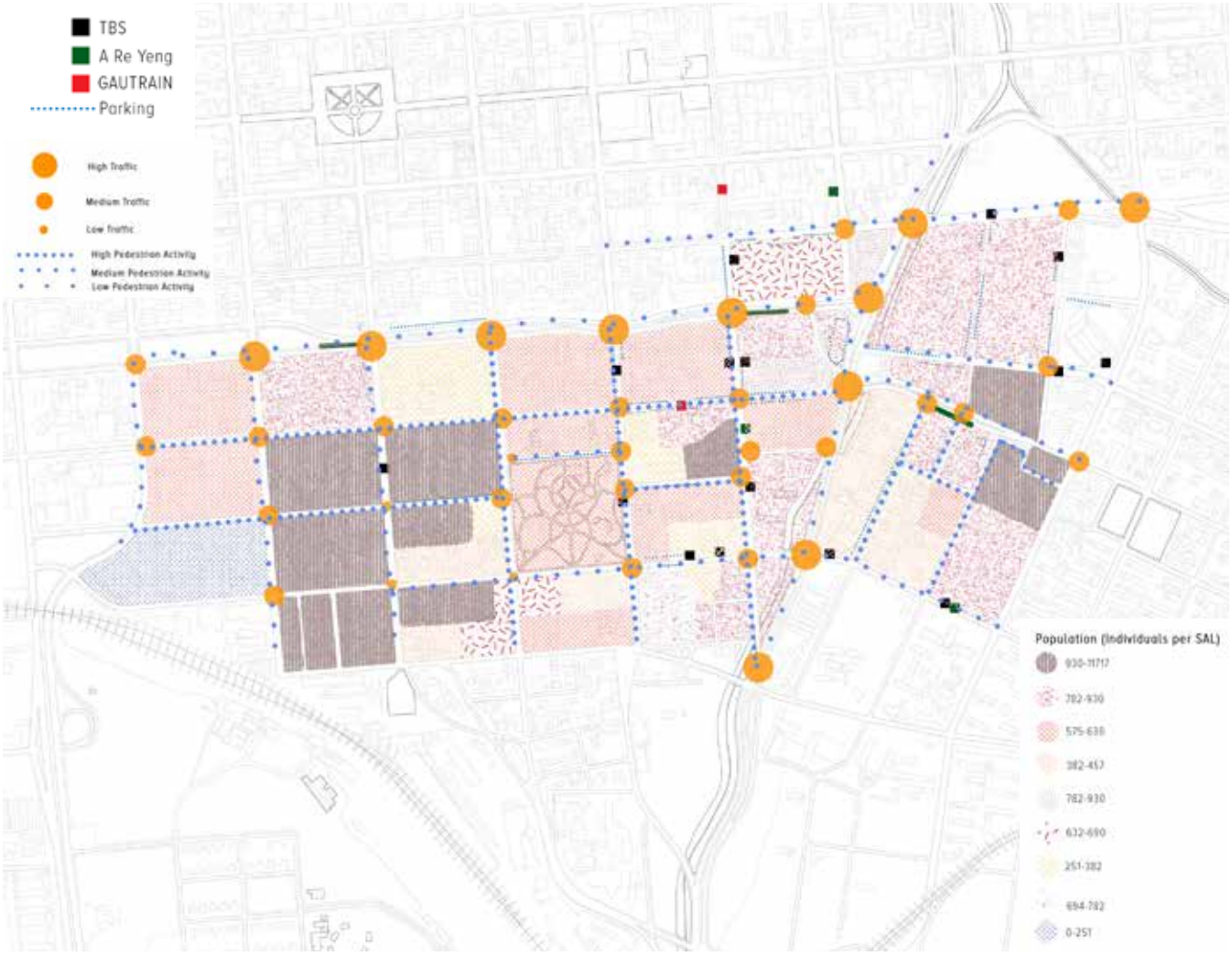


Figure26: Wellbeing strip investigations (Author 2019)

2.8 Investigation of the various criteria

What is seen is the concentration of population in and around the Pretoria CBD. This obviously has a similarity to the residential density, with being highly populated in Sunnyside it also has a higher density moving north of Sunnyside into the CBD. This could relate to maybe higher numbers of people working in the area throughout the day and the average number of people living in a residential unit. It was also found that between the Northern border of Nana Sita Drive and the Southern border of the railway tracks it was more residential with a Western border of more business related activities, thus the identified strip is a prime location for wellness and wellbeing as these are the general living environments of people as opposed to business related. There is also a strong schooling and cultural district as identified in the mapping.

2.9 Opportunities on Site

Figure27: Block site opportunities (Author 2019)

CONNECTION

Qualitative - Quantitative social connections
Talking | Lingering | Casual encounters | Spontanious More than fleeting

POSSIBLE ARCHITECTURAL OUTCOME

Clean and safe homes, schools | Circular spaces | Comfortable | well lit Art | Music (soundproof/open workspace)

POSSIBLE ARCHITECTURAL OUTCOME

Clean and safe homes, schools | Circular spaces | Comfortable | well lit Art | Music (soundproof/open workspace)

TAKE NOTICE

mindfulness | tranquility | meditative

2.10 Activity on Site

Figure28: Block site activity (Author 2019)

POSSIBLE ARCHITECTURAL OUTCOME

Open arts | Greenery | Wildlife Seating to observe diverse public spaces and/or enclosures | Hard and soft landscapes

PSYCHOLOGICAL WELLBEING

Ethnicity in area | learning comfort | access to education | residential typologies | formal education | informal education | education levels | events

KEEPING ACTIVE

Physical activity (access and circulation)
Walking | Cycling | Sports (indoor and outdoor)
Proximity to residential and schools

2.11 Vehicle and Pedestrian

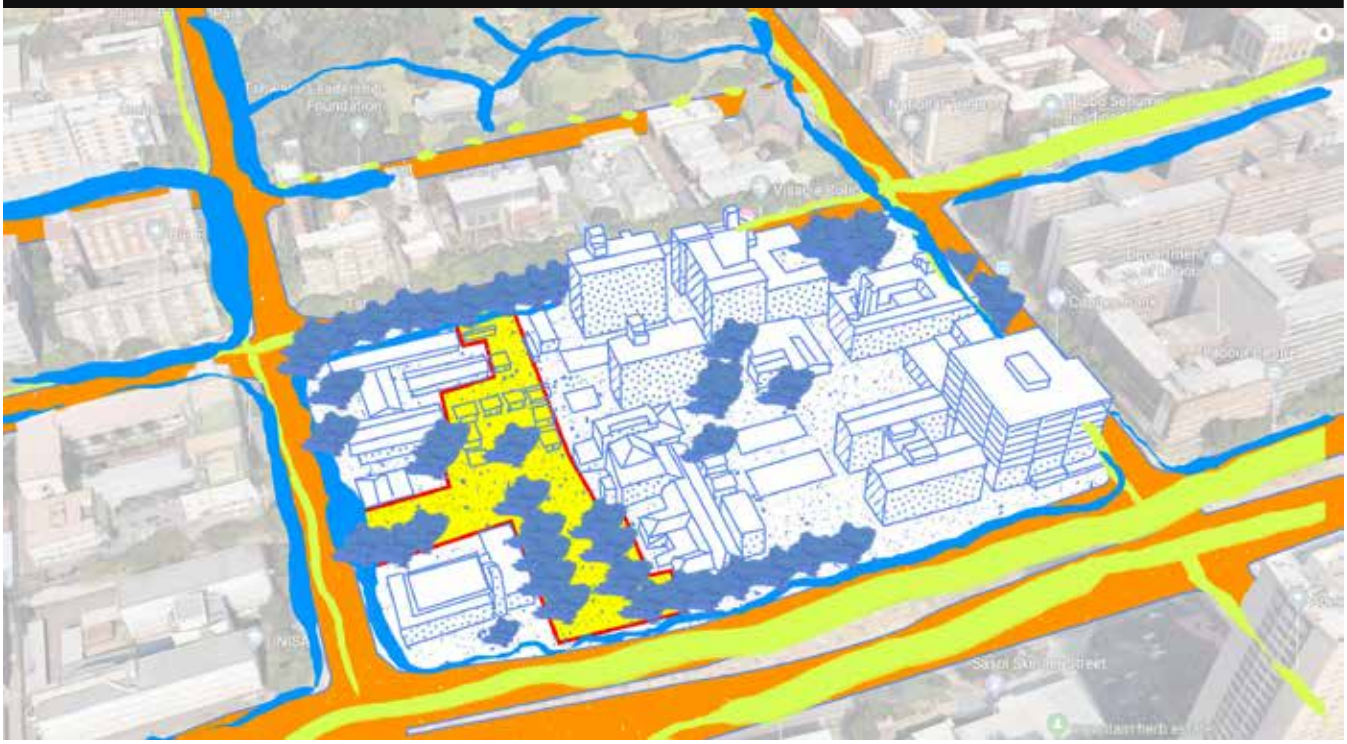


Figure29: Site transit activity (Author 2019)

Pedestrian

Orange - The road network as a density mapped in relation to the focus block as well as the surrounding blocks. The lime green network overlay relates to the vehicle volume activity in which it is evident that larger access roads have the most traffic while arterial roads have lower volumes. It is no surprise then that the arterial roads are narrower and have higher volumes of parked cars along the edges of the sidewalks. The parked cars create a barrier to pedestrian activity in areas where pedestrian activity should be encouraged as a relation to the public space parks, green spaces, residential areas, churches and school district. These areas have high volumes of pedestrian activity as evidenced by the blue overlay, that indicates that in lower vehicle traffic areas, pedestrians feel more comfortable moving around. The high pedestrian gathering zones as indicated in black relate to areas where trees or open spaces are prevalent on the focus block. These areas can be enhanced to promote pedestrian comfort and enjoyability.

2.12 Sensory Experience

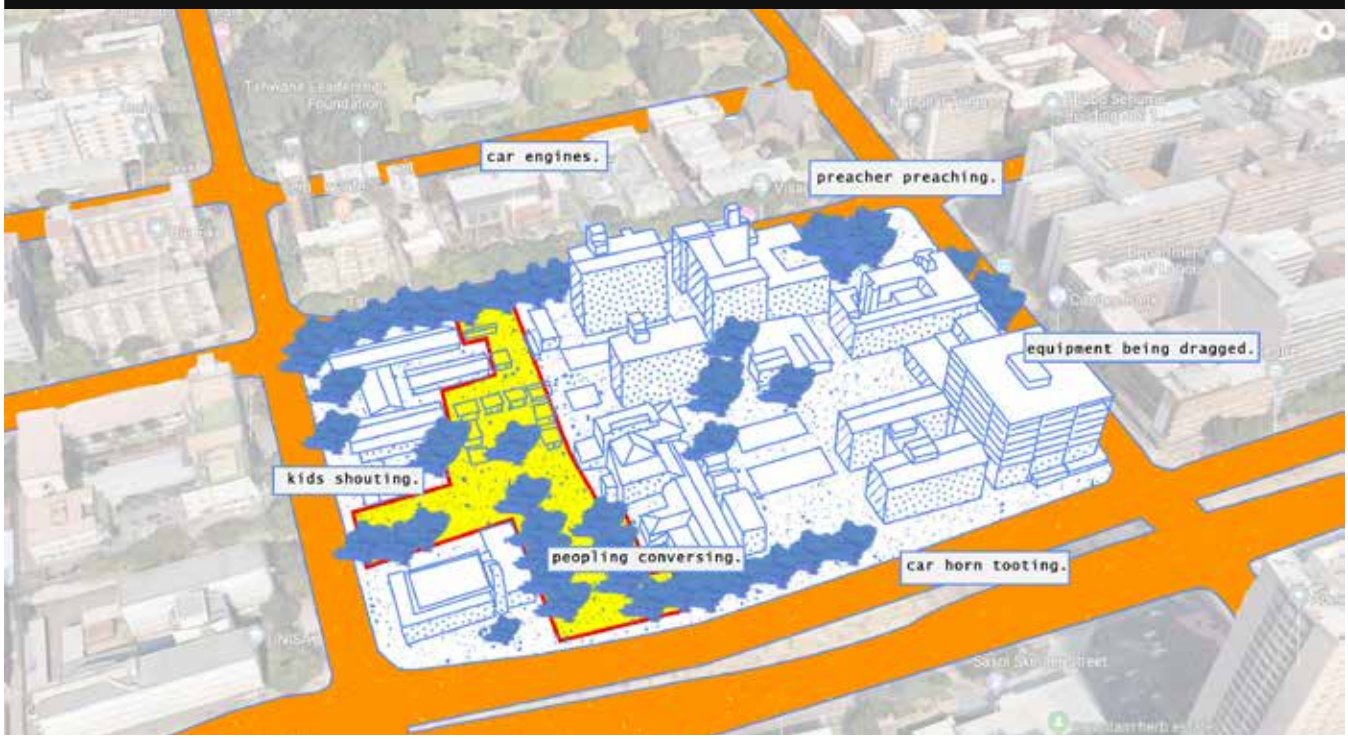


Figure30: Site sensory experiences (Author 2019)

Footprint

The block in blue and white indicates density of the site in relation to the surrounding blocks. It can be seen that in blocks where there is a lower density and more open space/tree zones there are higher volumes of people and thus a better connection for communities. On edges where there is high traffic volume, there is less pedestrian activity, thus the focus needs to be shifted towards edges that have less traffic and can then be altered to be more pedestrian friendly by means of full street alteration or threshold alterations as explored in the precedent studies.

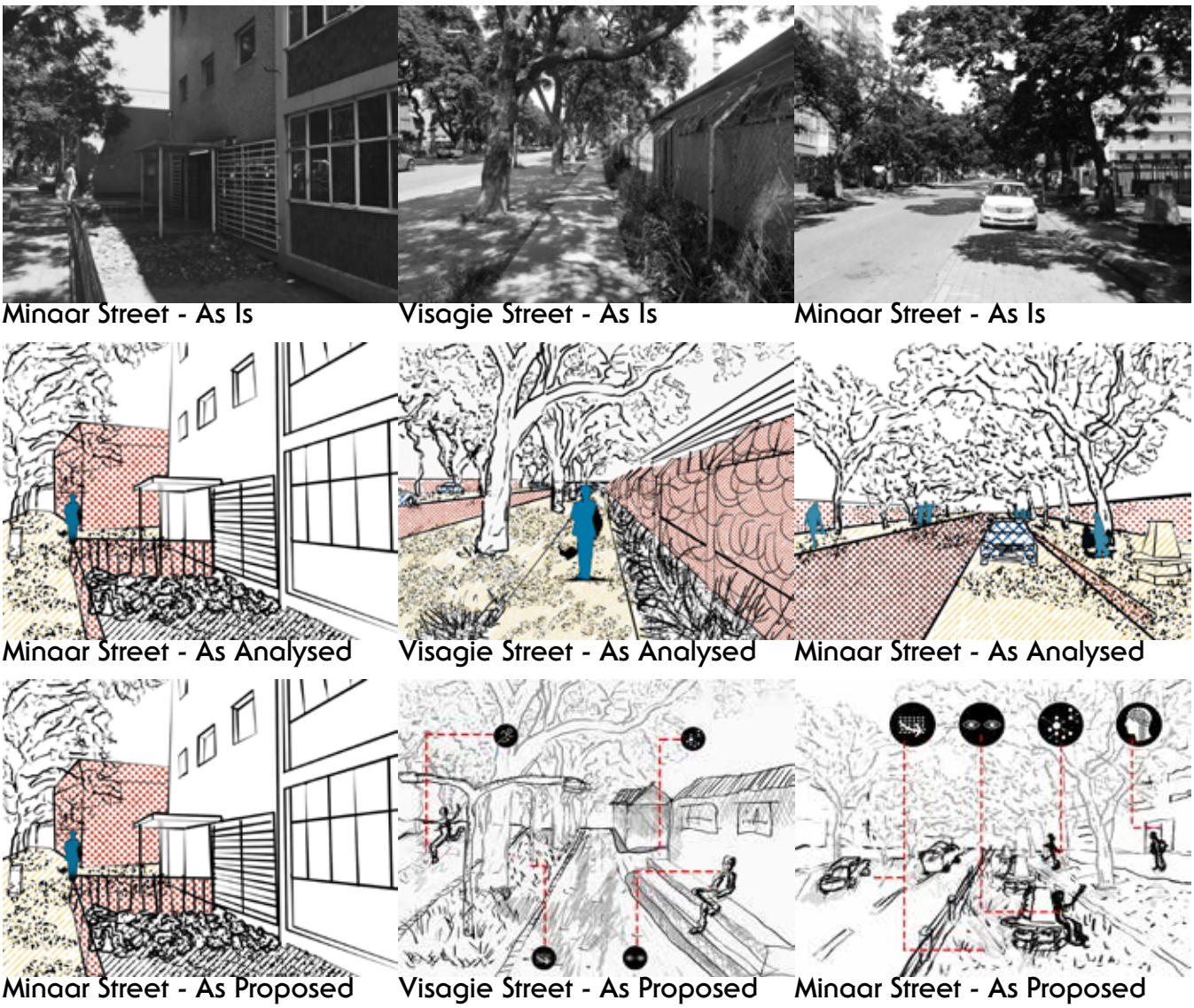


Figure31: Street Investigations (Author 2019)

2.13 Testing Vision

The red dot zones indicate areas that are unfriendly towards pedestrians and could be altered to be more friendly. These areas can then relate back to wellness by means of creating a network that encourages physical, mental and educational wellbeing through pedestrianised zones, threshold alterations to minimise vehicle and pedestrian confrontation and finally, resource sharing to encourage connections between various communities within the “wellness” zone south of the CBD. Yellow indicates pedestrian friendly zones that work well in the current setting, whereby they can either be enhanced or use the same lessons in areas that aren’t as well understood or developed.

2.14 Site Exploration

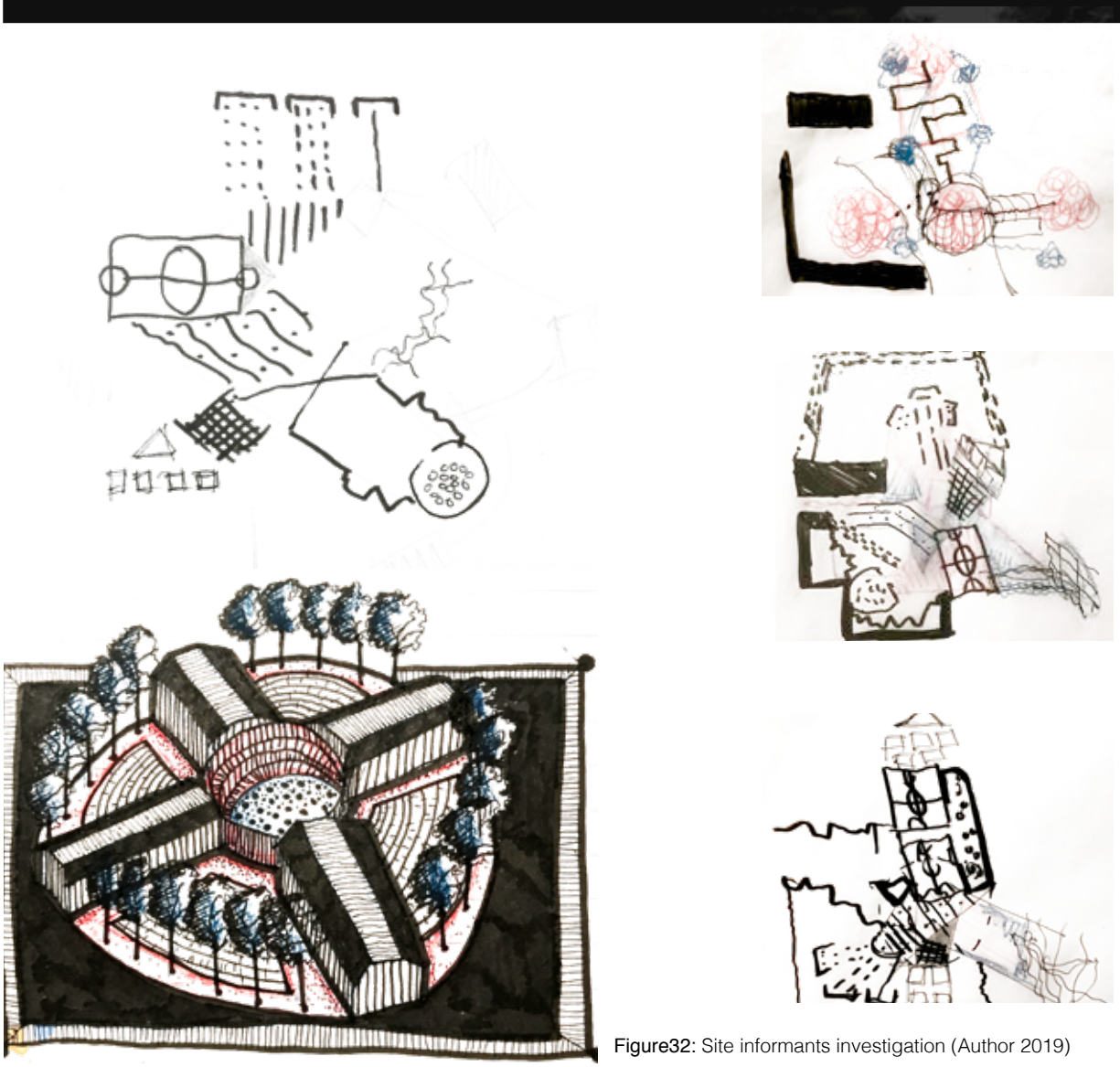


Figure32: Site informants investigation (Author 2019)

Site Possibilities - Informants

Function - Alternative resources for surrounding schools | Multiple Identities (Intelligences)

Technology - Building as educator

Theory - Continuum of global & South African educational theories | Affordances | Behaviourism | 21st Century Skills

Form - Building wants to be program | Building is a creative outlet physically

Context - Surrounding school typologies | Surrounding heritage in form & culture

Wellness - Does it contribute to the urban framework

Creator Precedent - Casey Neistat's 368 in New York

2.15 Programme and the need for Creative Education

The following points were derived from the EDSYS article “Role and Importance of Creativity in Classroom” (EDSYS 2017) and articulated as it would apply to the proposed design.

1. Learn with fun - Activities such as skits and practical experiences allow for learning without pressure. It gains the interest of the learners as learning moves away from the monotony of a uniform class environment as well as it being easier for learners to learn in groups and from peers than direct transfer of knowledge.
2. Freedom of expression - Opposed to conventional teaching methods and allows for learners to express their individuality. It creates positive connotations to learning and a sense of satisfaction. It creates learners that are more open to puzzles and a desire to accomplish a problem.
3. Emotional Development - It is very important to enhance emotional development from a younger age as children are very impressionable, therefore a learning environment that is flexible and includes learning from older peers through experience is better than an environment that is singular and monotonous. Large flexible learning spaces within which smaller, intensified spaces can be found are a way of enhancing this type of development. Learners need a space that allows them the freedom to explore surroundings and it is important not to set strict boundaries. This enables support for learners to build their confidence.
4. Enhances thinking capability - Creativity can stimulate imaginative thinking capability in students, therefore a space that is constantly changing and presenting different creative stimuli greatly affects a learners ability to deal with core subjects. Creative outlets also have the ability to teach difficult or uninteresting but important lessons in a fun and easy way. The connection between information and images is stronger than direct information. It is important to find a happy medium for younger students in this, while older learners have the base knowledge to express themselves more in creativity without having to worry about core knowledge which they should already have. It is important for learners to have creative responses to open-ended questions rather than homogenous responses.
5. Reduced stress and anxiety - Creative education reduces stress from standard ways and manners of learning. A state of relaxation and wellbeing enables learners to prepare well for other activities which can be incorporated within a resource sharing centre. It is crucial for these learning environments to be hands on, visual and flexible.
6. Boosts problem solving skills - Brainstorming activities, puzzles etc. stimulate problem solving skills, therefore communal spaces which allow for activity between users is crucial. Creative pedagogy enhances approaches that are optimistic in nature to presented problems. Innovation and imaginative thinking needs to be encouraged to support learners thinking outside the box while problems need to be redefined by the student in order for the solution to be innovative.
7. Improves focus and attention - The average attention span of children is only a few minutes, which means that learning environments need to be educational in form in order for children to learn experientially while older learners’ environments can be more ordered and catered to their specific needs. Short bursts of learning are required for younger children in cooperation with creative methods to increase the attention span. This can be done architecturally by changing the standard classroom environment into an environment that actively encourages the student visually to seek knowledge in their own time and through their own process. A flexible environment needs to be set to allow for this.
8. Better communicators - Creativity improves one’s ability to communicate effectively and to stimulate innovative thinking. It is important for learners to verbalise their thinking within an environment that allows equal expression between peers. The environment needs to place learners within the same realm rather than setting a strict hierarchy. This triggers group learning, problem solving and shared experience. This better allows users to understand and welcome others’ world views. It enables opposing view points to be heard and common ground to be found.
9. Follow passions - A learner’s individual passion and identity should be catered for which in turn makes the user more likely to work harder. Music, dance, poetry, drawing and a number of other creative outlets

need to be incorporated with some sort of interaction between them. A happy mind within a wellbeing framework is more likely to free the mind to approach other topics. Research has shown that students that follow creative approaches tend to excel in life.

10. Future opportunities - A learner's goals need to be visualised within a timeline in order to encourage consistent progress and this influences the manner in which users approach tasks in the future. Creativity then enhances the possibility of future opportunities and allows applicants in interview situations to have an advantage in knockout rounds rather than conforming to standard responses.
11. Innovative mindset - Open-ended questions and group discussions are popular creative teaching strategies and enable learners to think critically of others ideas and contributions while thinking critically to produce something innovative. Critique of peers' work done in the resource sharing centre is important as it pushes learners to improve. Architecturally speaking, visual access to various works is important to the users as well as passers-by.
12. Drive lifelong learning - Creative learning instills a craving to learn right throughout a person's life and encourages one to keep engaged and active which helps to keep the mind healthy and "young". A curious mind is therefore eager for more information and more likely to solve difficult world problems. An increase in educational apps on mobiles is encouraging individuals to learn that which they want to in a more specific direction. Resources such as Skillshare and Udemy have greatly increased the ability of learners to explore creative opportunities that are not found in their standard learning environments.

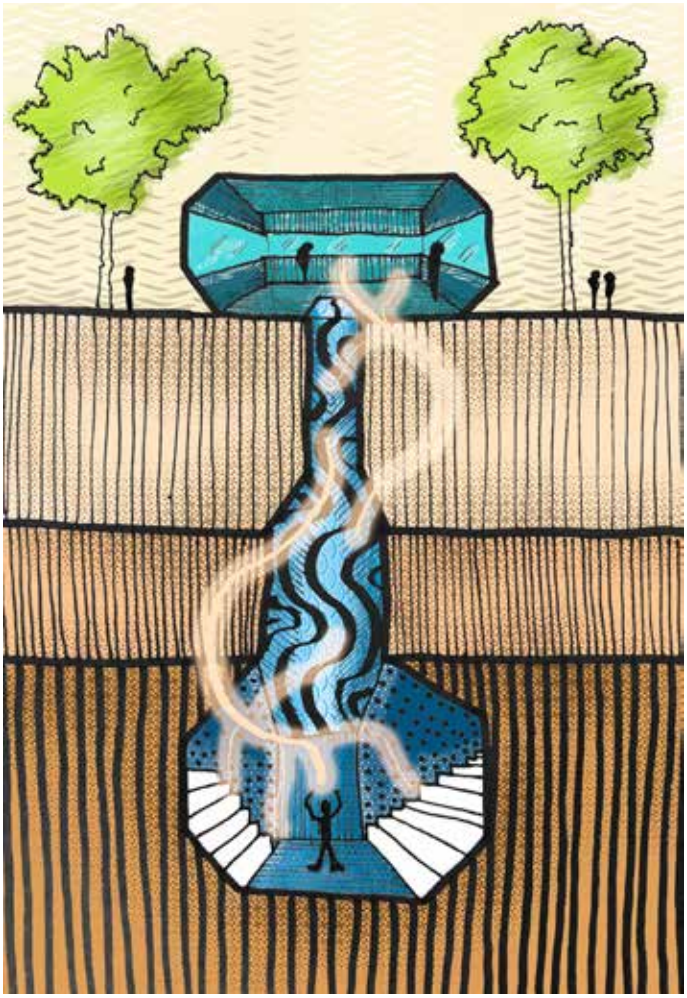


Figure33: Levels conceptualisation (Author 2019)

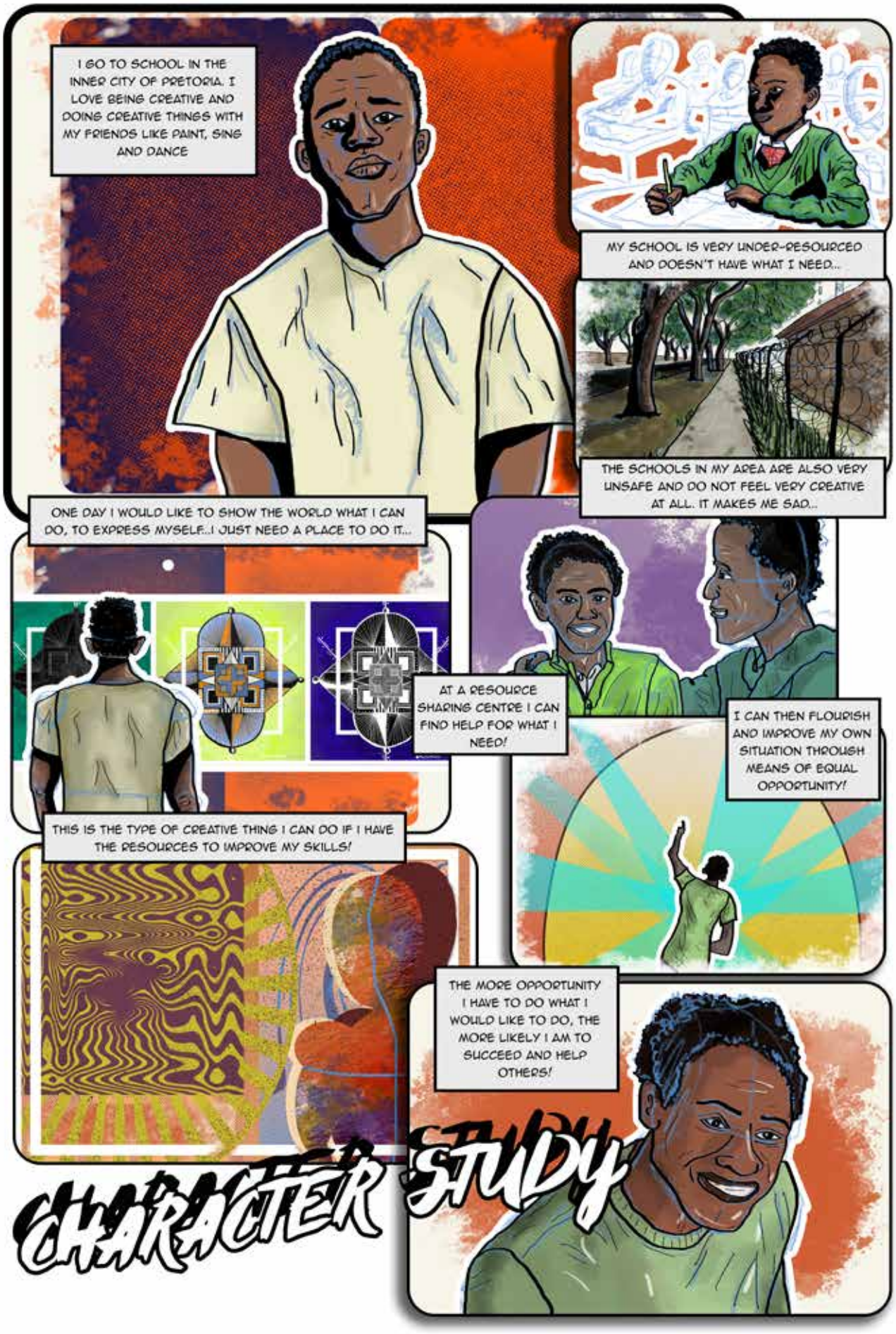


Figure34: User character study profiles (Author 2019)

2.16 Form and Requirements

Derivations of the sourced material is broad and follows a standard educational approach. In order for this to be streamlined and appropriated to a workable and elegant solution for the selected site, the theory or critique of theory called Multiple Intelligences is layered through the lens of creative learning and alternative education to create the form of an alternative resource sharing facility.

1. The relationship between functions such as dance, mini-theatre, art studio, gallery, music studio, computer skills and welfare along with standard amenities is important and is crucial to forming a coherent design that adequately provides for the needs of the users while in of itself being a piece of creativity.
2. The different pieces of the “puzzle” need to fit together and these in-between spaces are the crux of the solution.
3. Level changes between above ground, ground and below ground will allow for visual access to the various functions.
4. There is a sense of duality whereby aspects of the design stand in contrast and play off of other aspects within the whole. Ideas such as heritage/new, public/private, movement/ gathering etc.
5. Links to a larger context of Pretoria is also very important such as links to Burgers’ Park, surrounding heritage on site and surrounds as well as the idea of lost movement within the city on a block scale due to the introverted nature of the current setting.
6. The Little Theatre, Norman Eaton, the church and the overall framework of wellness/ wellbeing strongly dictate the form of the intervention and what sort of relationship it has with the user and the object.
7. Security of the school needs to be maintained but can be done in a way that isn’t exclusionary but passive in nature.

The Physical Environment of a Creative Facility

1. Evidence across a number of studies have proven that spaces within learning environments should be capable of flexibility.
2. Spaces should allow for multiple identities within larger identities.
3. There needs to be an abandonment of specifically themed activities and more interaction between creative disciplines. This allows for greater freedom of the imagination.
4. Community members and users should be actively involved in the creation of and resourcing of spaces within the intervention. If the spaces are dictated by those who use them then they are more likely to be actively involved in the learning experience intended.
5. An overall sense of openness and spaciousness is essential.
6. Furniture that is not specifically required in a space for an activity should be removed or hidden from the space until it is required again.
7. Freedom of movement needs to be encouraged to allow for mixed use of space in different areas. This then encourages the growth of various ideas.
8. Free space can be formed by a formal structuring in conjunction with a looser yet still defined outer edge.
9. Learners who have difficulty learning in their home environments due to them not being conducive to study may find it difficult to find a place within a flexible learning environment. It is therefore important to offer spaces that have more structure.
10. Case studies in schools in Reggio Emilia, showcase the importance of sensory qualities in learning environments such as light, colour, sound and a micro-climate.
11. These qualities influence the perception of the user to think creatively and to innovate within those spaces.
12. Recommendations have been made that the use of smaller spaces within larger spaces should be implemented.
13. These spaces should be acoustically but not visually separated from the larger whole.
14. This enables learners of different skill levels to work independently and then receive feedback on a larger scale from their peers.
15. Visual access is very important and thus the intervention needs to display works in progress to stimulate creativity for users and passers-by.

The Physical

1. Main features should include:
2. Flexible use of spaces;
3. Flexibility and free movement around the spaces;
4. Use of different types of areas within those spaces;
5. Provision of a wide range of high quality, appropriate materials, tools and other resources;

6. Working in outdoor environments such as museums and galleries;
7. Forest schools are an example of schools that embody good physical environment qualities.

The Pedagogical

1. Research suggests that to enhance creativity, learners should be given a portion of control over their learning.
2. It is important to find a balance between freedom and structure.
3. Learners should be allowed to work at their own pace.
4. Dialogue and the opportunity to work collaboratively with peers.

The Role of Partnerships beyond the learning environment

1. Collaboration and involvement with outside agencies is important such as:
2. Local business communities
3. Wider sports and arts communities
4. Community organisations
5. Critical creative events involving collaborations with dancers, artists, sculptors, actors and environmental workers
6. There is importance placed on the links within the wider community in relation to the development of children's creativity.

2.17 Precedent Studies

2.17.1 Imbali Visual Literacy Project

1. Created as part of the Women for Peace initiative in 1988 and came from the realisation and recognition from a children's national art competition that learners with little to no access to art or creative resources had poor perceptual skills which ties in with current global theories on creative education and its impact on a learners ability to acquire and use knowledge effectively.
2. It attempted to address inequality in basic visual literacy of learners and deals with strategies for teachers with no artistic background to effectively implement creative education in under-resourced schools. It has also responded dualistically by combatting poverty through means of production of arts and crafts that help fund the project. This effectively shows how adapting to changes in education creates new opportunities.
3. The project helps with creative skills development and training through specific income generating activities. Learners and teachers create through arts and crafts while not restricting themselves to one medium but exploring many different avenues as well as many different manners of teaching. This ties in with the idea of multiple intelligences being the lens to explore alternative options rather than the standard, uniform teaching approach.
4. The organisational structure of the project is important in that it displays how a formal management structure can form the framework needed for free-flowing education to take place. The structure involves a board, management committee, director, project manager and then the permanent specialist employees that see to the everyday running of things. It is therefore important to allow the design intervention to account for this structure in a physical sense and in an intangible sense in order to allow for the development of a structure that that can accommodate multiple intelligences in a managed system (Imbali 2015). The project is a Non-Profit Organisation registered with the Department of Social Development and relies heavily on funding from outside donors as well as self funding as mentioned previously. It is therefore important to tie into existing systems surrounding the site in order to provide a service from them that encourages investment back into the design.
5. There have been a number of success stories coming out of the project such as:
6. In 2013 the project was commissioned by NUMSA Research and Development Institute to make 200 laptop bags whereby students earned an income from the project as well as an understanding of creative education and how perception can influence decisions in other fields such as business and innovation.
7. The project has also benefitted from CSI Initiatives from companies such as Masana Petroleum Solutions to upgrade their equipment and facilities. This is beneficial in that it allows for expansion on creative production which in turn allows for bigger opportunities. The cycle is a positive one and is positively reinforced at each step (Imbali 2015).

Figure35: Imbali Visual Literacy character study (Author 2019)

Figure36: Imbali teacher study (Author 2019)

2.17.2 Roseway Waldorf School

“It is the supreme art of the teacher to awaken joy in creative expression and knowledge” - Albert Einstein

“A human being is more than an academic test result on a sheet of paper.” - Waldorf School

The Waldorf school believes and encourages the idea that a learner is composed of mind, body and soul and relates back to the theory of multiple intelligences that dictates that one cannot focus on one aspect of the triangle but each one needs to be equally encouraged and affects the other two in turn (Laaks 2017).

The Waldorf Vision for Creative Education learners is as follows:

1. Learn with enthusiasm
2. Strive to become independent and creative thinkers
3. Are free to find their true destiny in life
4. Work with purpose, reverence and love
5. Are confident that they will make a difference

As can be seen, the general ethos of the Waldorf school is focused on the individual and their own path as opposed to the idea of the collective and uniform outcomes-based assessment as found in government guidelines and legislation.

The Waldorf Way states that learning is tailored to the specific way young people learn at each stage of their growth. In 1919, Emil Mott and Rudolf Steiner founded the first Waldorf School and merged their respective concepts of education and economy. The Roseway School in KZN was then founded in 1985 based on the creative education concepts envisioned above by these two men. The manner of education is based around the intellectual, manual and creative. A Buton Study found that their was proof in the idea that artistic children performed better and were more successful than children with little to no artistic background.

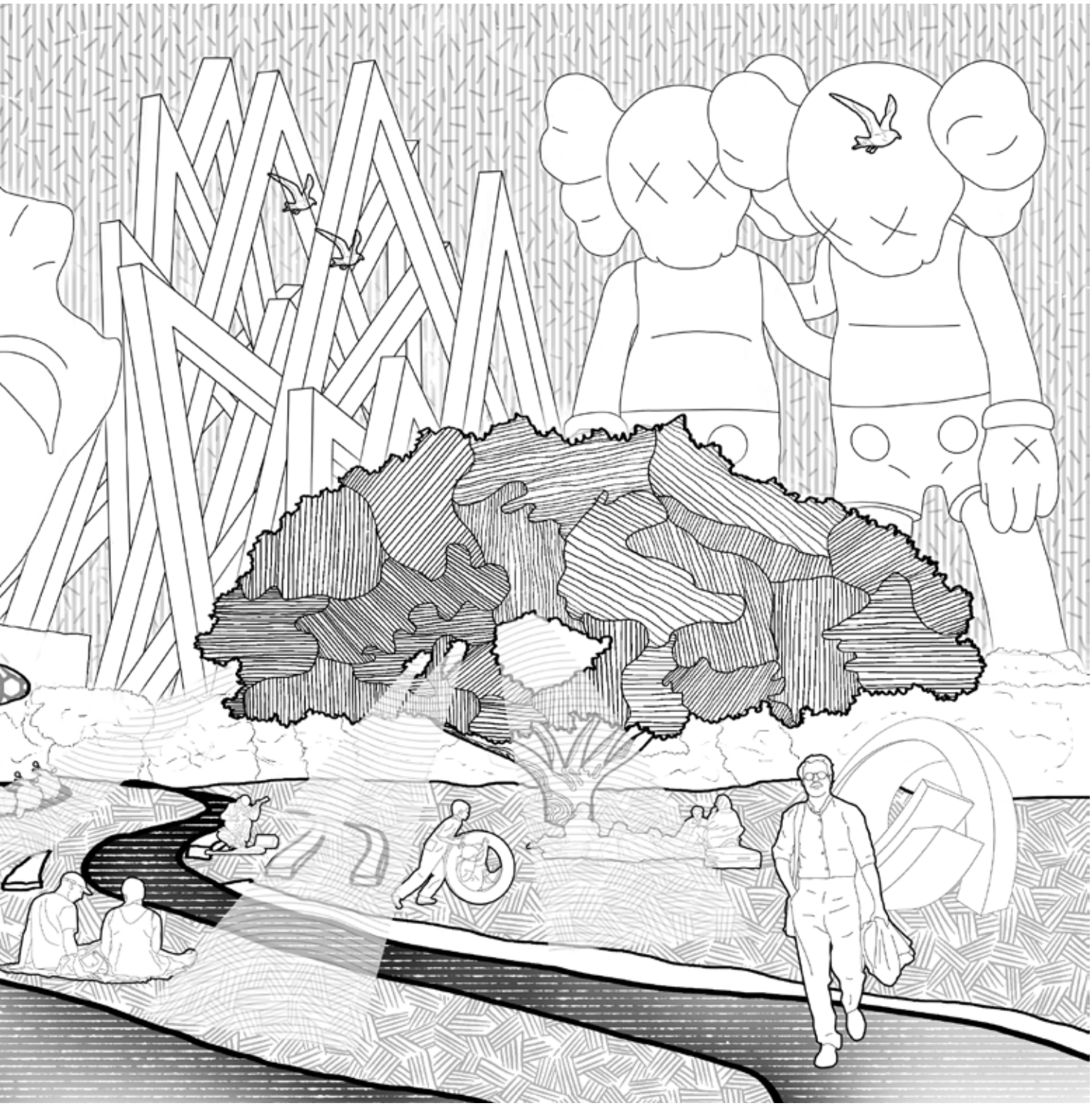


Figure37: Tatu City conceptual visualisation (Author 2019)

2.17.3 Centraal Beheer

The Central Beheer building in Apeldoorn, Netherlands is a corporate office complex designed by Herman Hertzberger and consists mainly of precast concrete and masonry units. The building has a rough, uncovered material palette and allows for the user to impart their own identity and finishing onto the building. This in turn allows the building to develop over time and changs with the user as the framework allows for flexibility of multiple options. The building consists of multiple equal spatial units that make up the whole. On an even finer scope the units that make up the spatial units too are consistent and build up the larger whole. There is therefore consistency in the make-up of the structure that can be read at 3 different levels, from micro to macro to the whole. The constant changes of organisation in the building are accommodated by the spatial layout and framework provided by a unit-type system (Buildings, 2019a).

1. Multiple thresholds of the same type and intensity building to the whole form of the building
2. Minimal finishes encourages user to impart own identity on the design
3. Singular entry point for even lighting at all levels due to stepping of building
4. Multiple communal spaces gathered in a modular system with narrow in between spaces

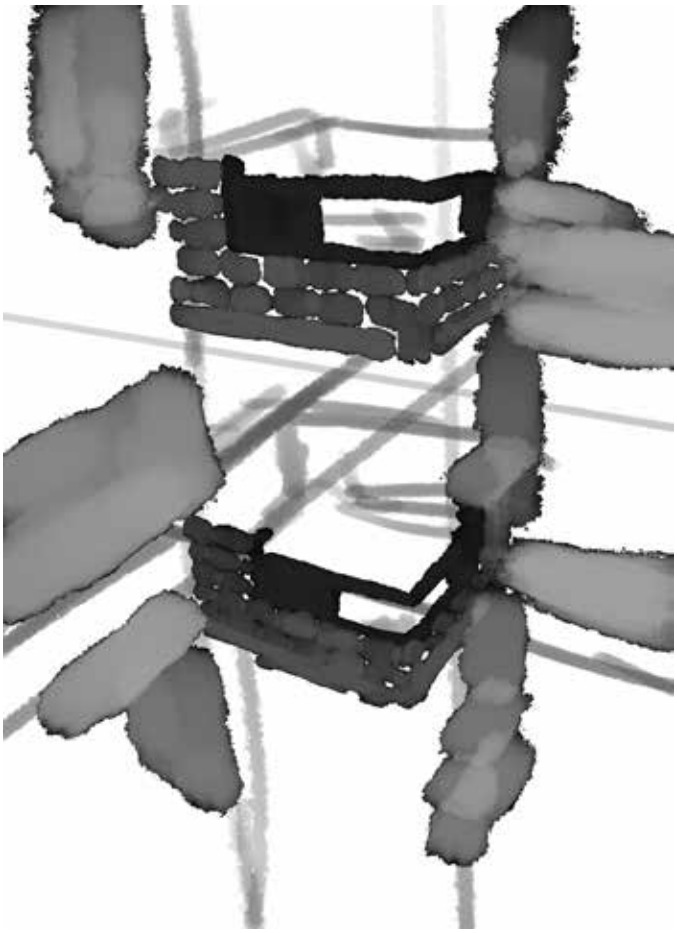


Figure38: Colour Investigation (Author 2019)

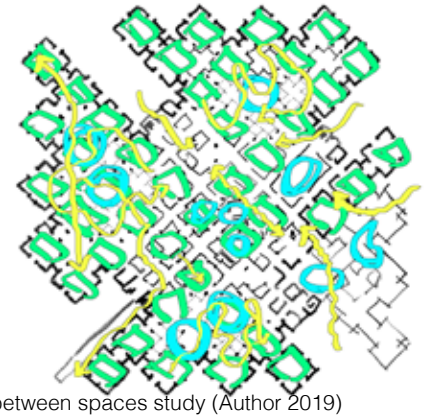


Figure40: Inbetween spaces study (Author 2019)

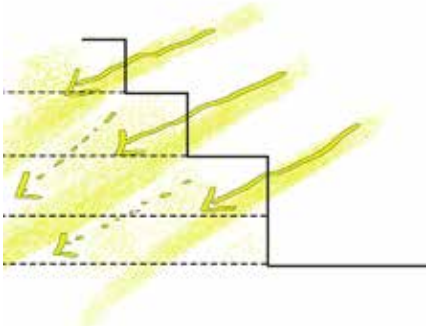


Figure39: Lighting study (Author 2019)

Figure42: Materials study (Author 2019)

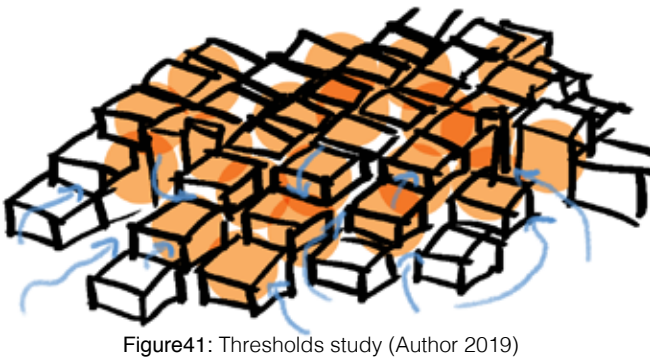


Figure41: Thresholds study (Author 2019)

2.17.4 Delft Day Care Centre

The Delft Day Care Centres designed by Noero Wolff Architects have proved how low-cost construction and design can make a meaningful difference in a bleak environment. There is a strong layering approach to the site from a distance, to the threshold between interior and exterior and then within the individual learning spaces. Tall brick pylons act as landmarks from afar and provide a sense of sanctuary and way finding. Flexibility comes into play when the vertical elements transfer to the horizontal plane to become seating and waiting areas. The threshold thus becomes a usable space rather than a defined boundary between exterior and interior. The flexibility is further exemplified in the interior by means of movable partition walls and central learning spaces with smaller unit sized off-shoots for children. The interventions have shown how important it is to have flexible spaces that cater for learning not only in a classroom setting but also in the lived and experienced spaces outside of the conventional environment. The use of colour is also very important in that it helps identify different areas from one another (Artefacts, 2019).

1. Resting and waiting space is provided at main threshold which becomes barrier between inside and outside
2. Large expanses of solid colour differentiate the function of the building from the surroundings. Local material/cheap
3. Multiple different light sources create spaces within the form for specific functions
4. Rigid forms creating more fluid in between spaces

Figure47: Materials study (Author 2019)

Figure43: Colour Investigation (Author 2019)

Figure44: Lighting study (Author 2019)

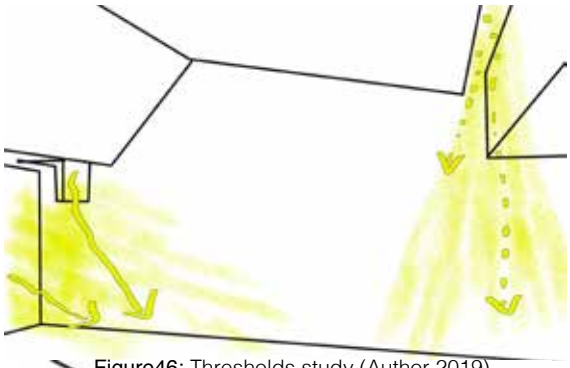


Figure46: Thresholds study (Author 2019)

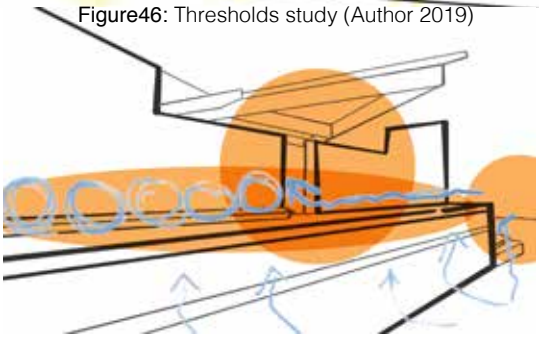


Figure45: Inbetween spaces study (Author 2019)

2.17.5 Katlehong

The Katlehong Resource Centre designed by Noero Wolff Architects follows a similar design strategy to that of the Delft Day Care Centres in that it uses minimal materials and colour to differentiate space to reinforce the idea of community engagement. It follows the spatial organisation of central spaces that branch off into smaller, focused spaces that contribute and add value to the larger whole. There is a strong focus on lighting in the sense that the building form is aligned and shaped to provide uniform and focused lighting according to the programme of the various areas and spaces. The hierarchical organisation is accentuated in the horizontal and vertical planes and guides the user passively to approved learning spaces. Again the idea of blurring the threshold between interior and exterior spaces is done to allow for learning in multiple spaces that changes the perception of taught learning in designated spaces as is the current norm in standard classroom environments. Corridors are not just merely circulation routes but contribute to learning through experience and interaction between users in line with the multiple intelligences viewpoint of learning theory. The site also encourages usage from various different types of users which encourages learning through experience from different viewpoints rather than a uniform approach that is, as mentioned, the current norm (Architects, 2019a).

1. Level changes indicate changes in function and programme
2. Cheap, local material used in new ways
3. Even lighting from either side of the building for mono-programmatic functions
4. Radial in between spaces branching off from a central space

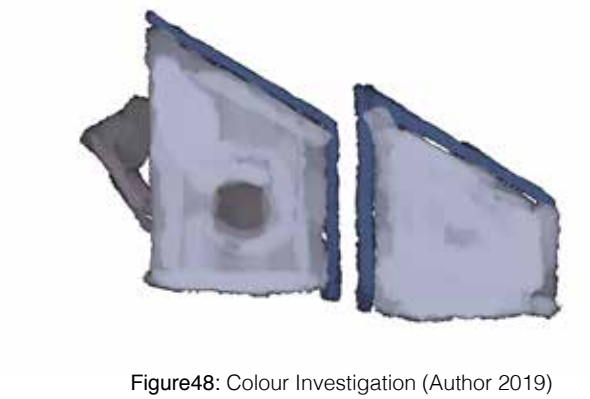


Figure48: Colour Investigation (Author 2019)

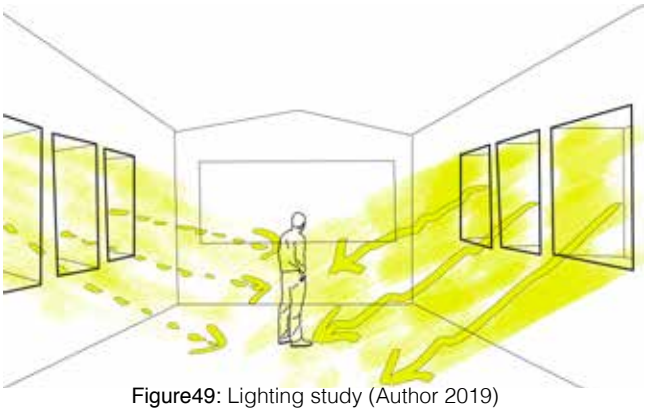


Figure49: Lighting study (Author 2019)

Figure51: Thresholds study (Author 2019)

Figure50: Inbetween spaces study (Author 2019)

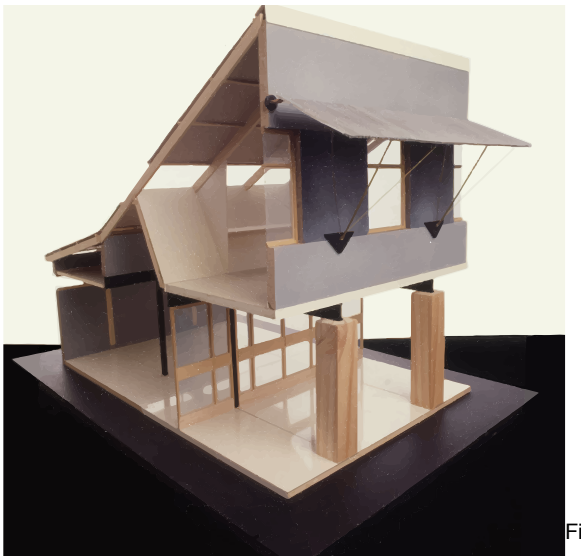


Figure52: Materials study (Author 2019)

2.17.6 Mount Angel Library

The Mount Angel Library designed by Aalvar Alto in Oregon is a steel framed building with a brick exterior with a strong focus on sight lines throughout that encourages visual access to learning at all times. The curving atrium expresses this to form the whole while simultaneously providing uniform and specific lighting at various points which allows for larger learning spaces and smaller learning spaces without the need for designated areas built up by an architectural barrier. There is a strong emphasis on structural expression while the facade extends the courtyard edge which allows the building to embed itself in the context. This grounding of the form encourages the user to experience the building from the approach all the way to the smaller learning spaces. The idea of approach and movement is expressed through the circulation from the inner facade into the atrium. The uplifting power of the central arc reinforces the idea of learning and the mind. Lighting is the central feature in Alto's interpretation for the site and is evident in how he separates spaces with light and creates feeling by simply altering the angle and intensity of the penetration. The steel framework allows for flexibility in the building and for future expansion which is crucial for a developing notion such as learning which cannot and will not stay constant or uniform (Buildings, 2019b).

1. Radial thresholds between horizontal and vertical plains create a sense of unity
2. Warm materials used on interior as opposed to exterior
3. Large overhead light source for diffused even lighting in a large space
4. Spaces revolve around centres of activity and interconnect on a number of levels

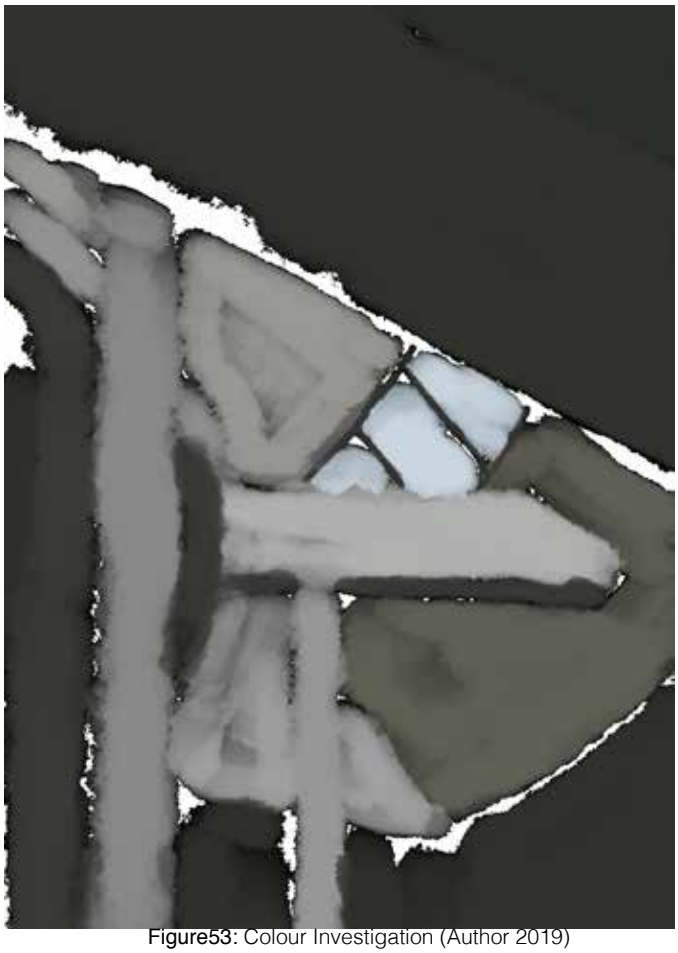


Figure53: Colour Investigation (Author 2019)

Figure54: Lighting study (Author 2019)

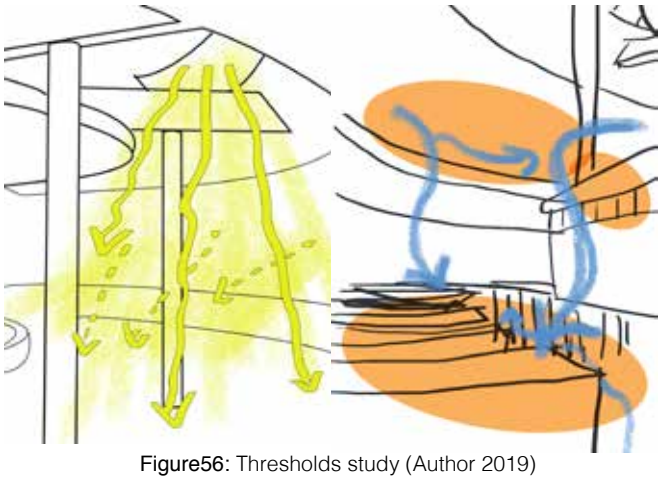


Figure56: Thresholds study (Author 2019)

Figure55: Inbetween spaces study (Author 2019)

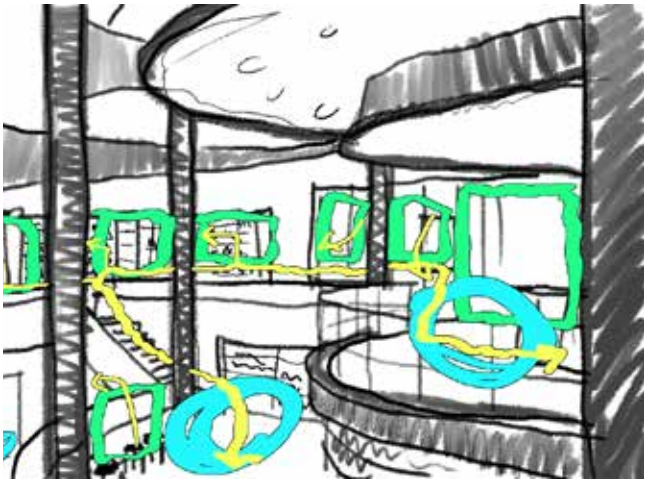


Figure57: Materials study (Author 2019)

2.17.7 Roseway Waldorf School

The Roseway Waldorf School in Kwa-Zulu Natal is an example of a school that embraces creative education in every facet of the form of the building as well as the manner of teaching. Thresholds within the school are used as intermediary learning spaces and corridors are focused on smaller group interaction rather than circulation. These then lead into larger outdoor gathering spaces with a strong emphasis on interaction with nature and experiential learning. The use of natural materials allow the structure to embed itself in the ground and context to allow for the blurring of the lines between “learning” and “playing”. The loose arrangement of the buildings reinforces the idea of a willingness to learn rather than a forced learning environment. Learners are encouraged to be curious and find things that they are interested in rather than being forced into a uniform building setting and told what to learn (School, 2019).

1. Thresholds are layered for multiple functionality
2. Natural materials to blend into the landscape and in line with education ideology
3. Lighting reinforces the idea of central communal activity
4. Spaces are loosely collected around a form that encourages communal activity

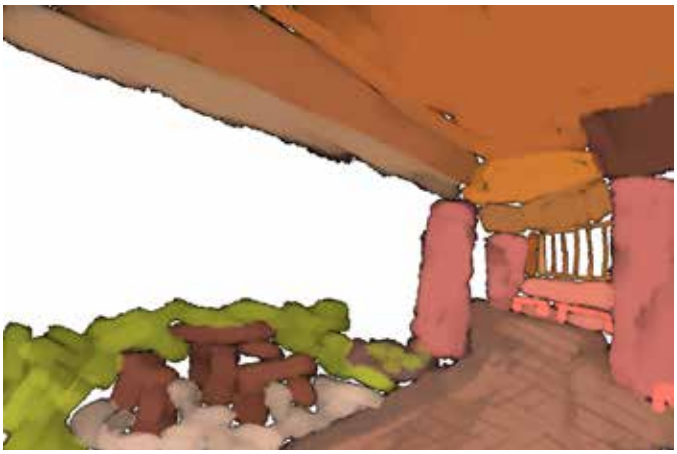


Figure58: Colour Investigation (Author 2019)

Figure59: Lighting study (Author 2019)

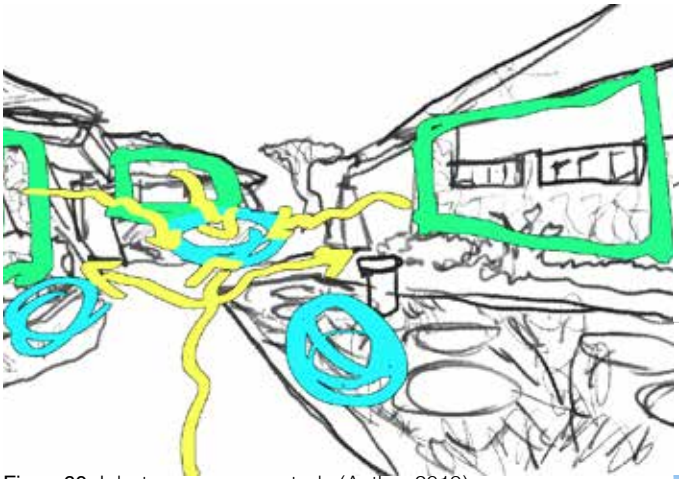


Figure60: Inbetween spaces study (Author 2019)

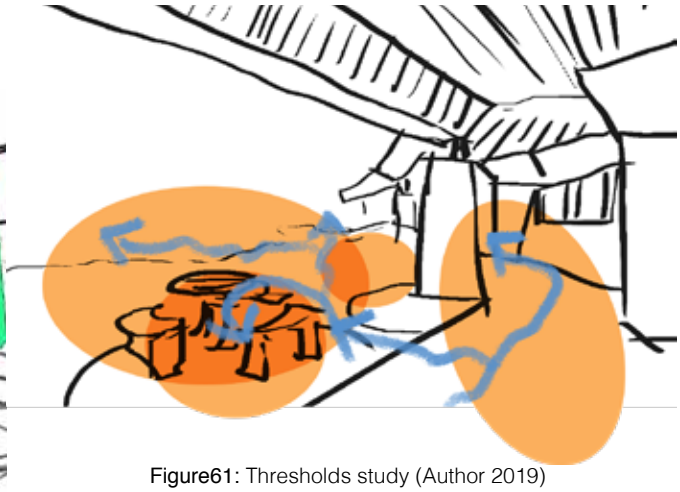


Figure61: Thresholds study (Author 2019)

Figure62: Materials study (Author 2019)

2.17.8 Soweto Careers Centre

The Soweto Careers Centre designed by Noero Wolff Architects is an example of a building that teaches as well as accommodates learning in a conventional sense. The building was designed and developed as a physical form of the learning that takes place within. Natural ventilation and lighting is crucial in the building and minimises the need for mechanical equipment. This in turn encourages users to take note and develop their own methods of ventilation and lighting within a context that is their own. This type of learning is experiential and far more valuable than learning from a textbook. The emphasis is yet again placed on smaller group learning that surrounds a communal aspect while the material choices and exterior treatment reinforces the idea of making the site unambiguous and relevant to the users seeking it. This in conjunction with the use of specific lighting leaves the spatial and design strategy with no uncertainty and the user passively navigates the site without confusion (Architects, 2019b).

1. Sizes of thresholds indicate hierarchy of space
2. Pattern use creates identity and differentiates from surroundings
3. Lighting differentiates between circulation and forms surrounding activity space
4. Forms dictate that spaces are guided in specific directions

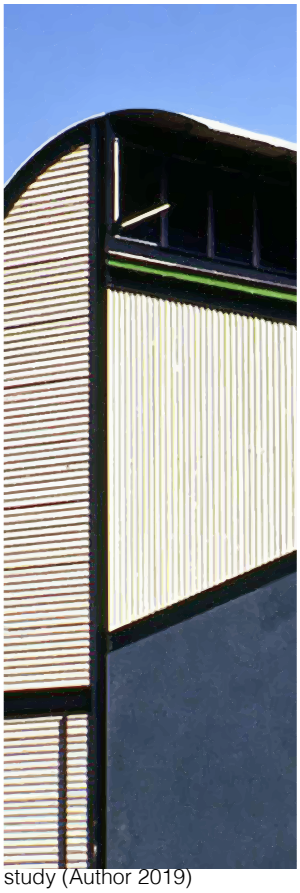


Figure67: Materials study (Author 2019)

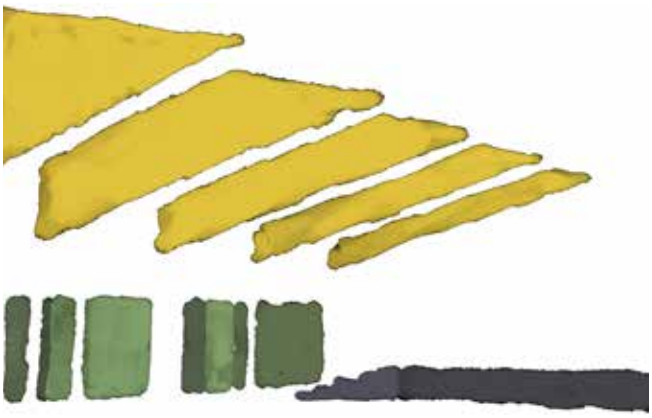


Figure63: Colour Investigation (Author 2019)

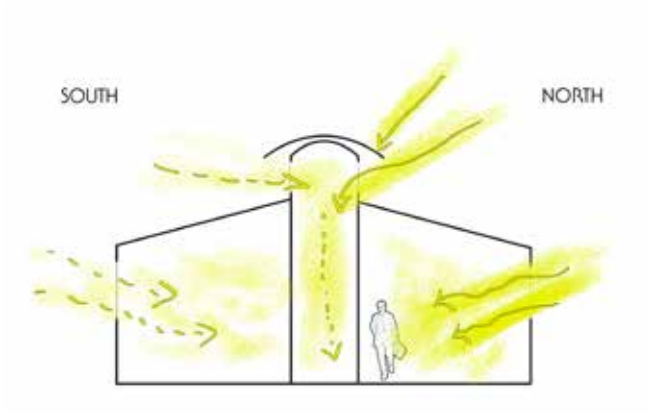


Figure64: Lighting study (Author 2019)

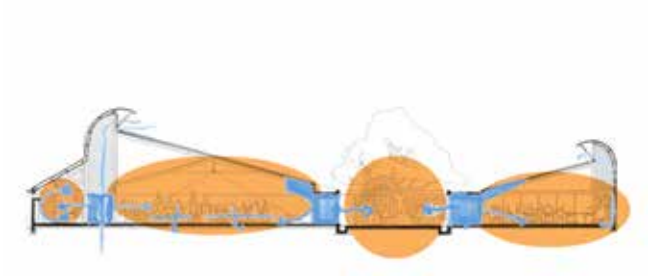


Figure66: Thresholds study (Author 2019)

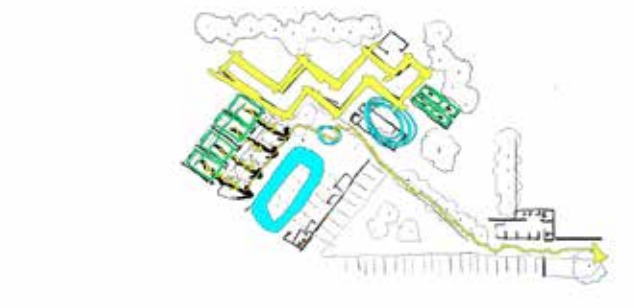


Figure65: Inbetween spaces study (Author 2019)

2.17.9 Neue Staatsgalerie

The Neue Staatsgalerie designed by James Stirling in Stuttgart, Germany is a stone cladded art museum that features complex, unusual forms and undulating walls to encourage movement and to tell a story that relates to the artwork exhibited within. Colour is used to draw attention to the building and helps the user navigate the many different spaces and movement paths. The unusual forms encourage movement and take the user around a central space with smaller offshoot spaces that supplement the main form. This natural progression works well for the art museum as the user navigates the space at a leisurely pace and is encouraged to stop and admire at any point, rather than having direct sight access to an exit point, which would in turn encourage the user to rapidly move through the space and note appreciate every element as intended (Wilford, 2019).

1. Level changes indicate direction and circulation of important elements
2. Circulation spaces indicated in bright colour
3. Lighting indicates where circulation begins and ends
4. Forms create a boundary for space to be gathered in a central location.

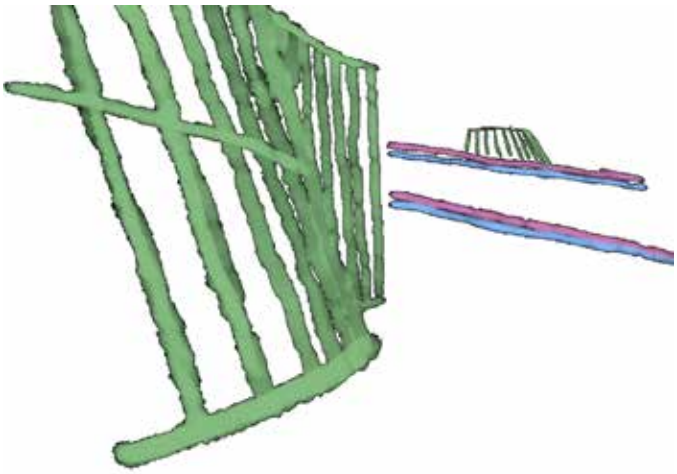


Figure68: Colour Investigation (Author 2019)

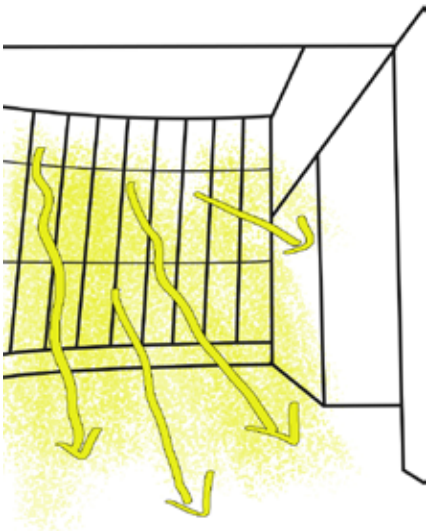


Figure69: Lighting study (Author 2019)

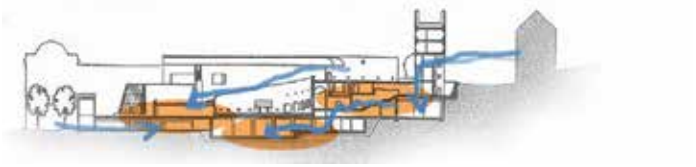


Figure71: Thresholds study (Author 2019)

Figure70: Inbetween spaces study (Author 2019)

Figure72: Materials study (Author 2019)

Figure73: Precedent studies (Author 2019)

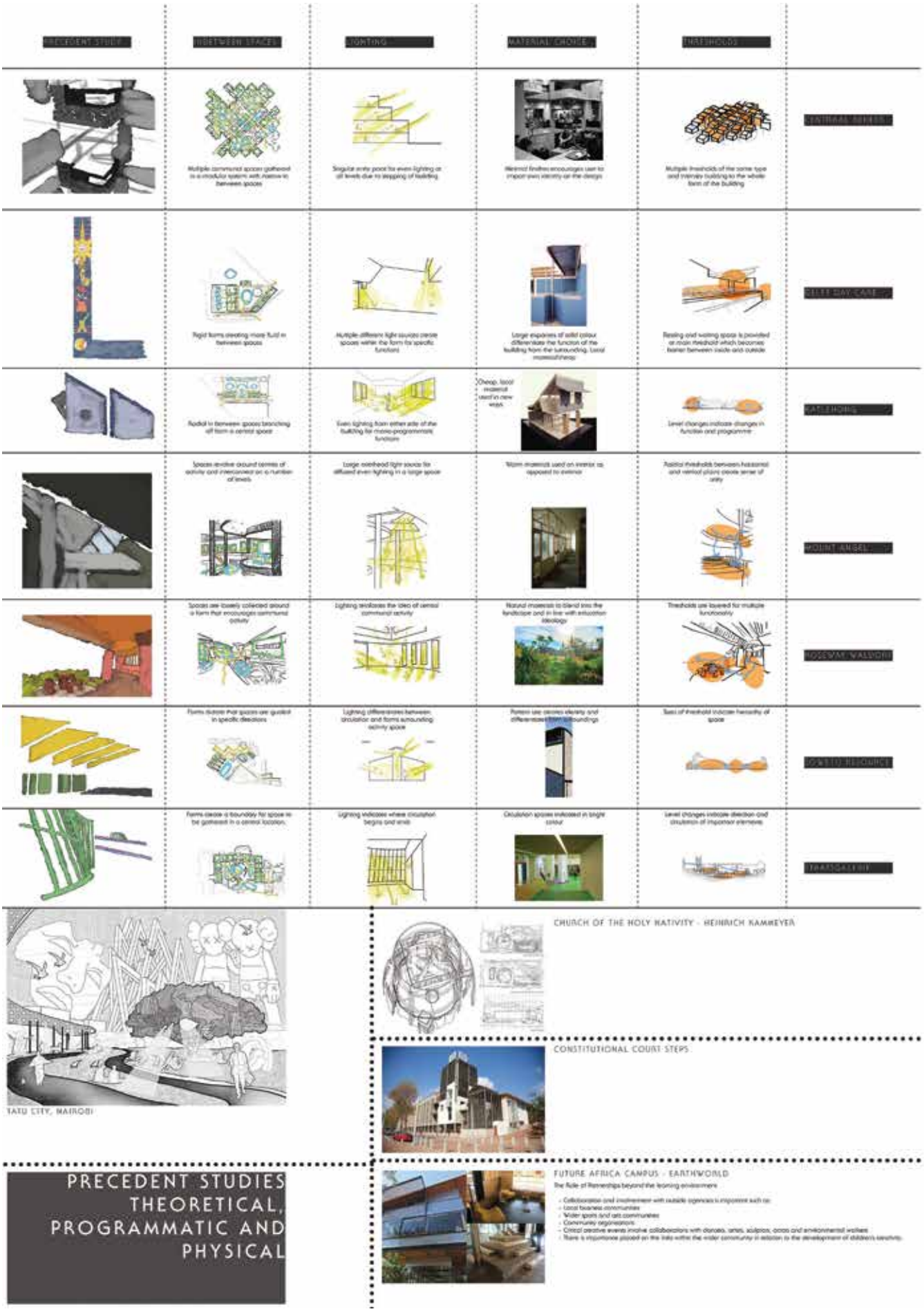


Figure74: Rousseau (Author 2019)

Figure75: Community concept drawing (Author 2019)

Figure76: Comenius (Author 2019)

Figure77: Casey Neistat and Dan Mace at 368 (Youtube 2019)

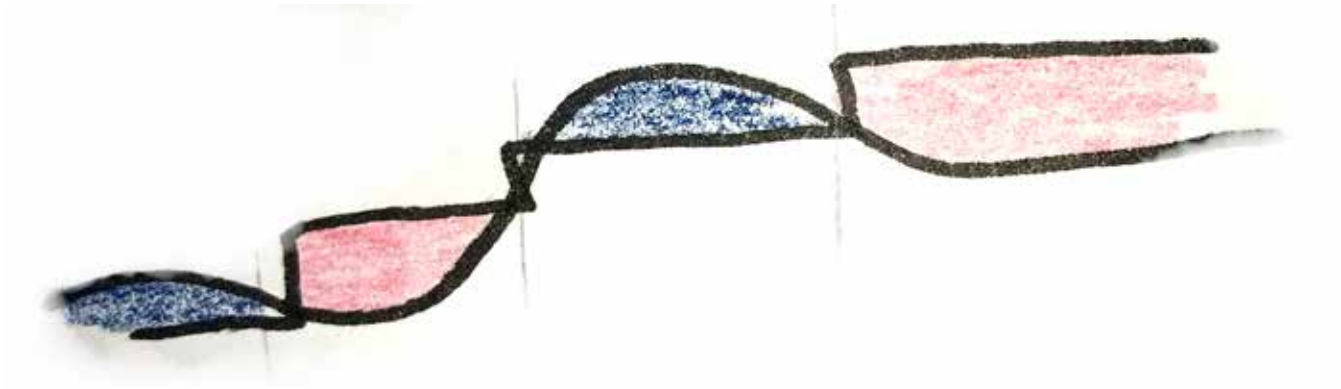


Figure78: Synergy of various elements (Author 2019)

Chapter 3: Conceptual Development

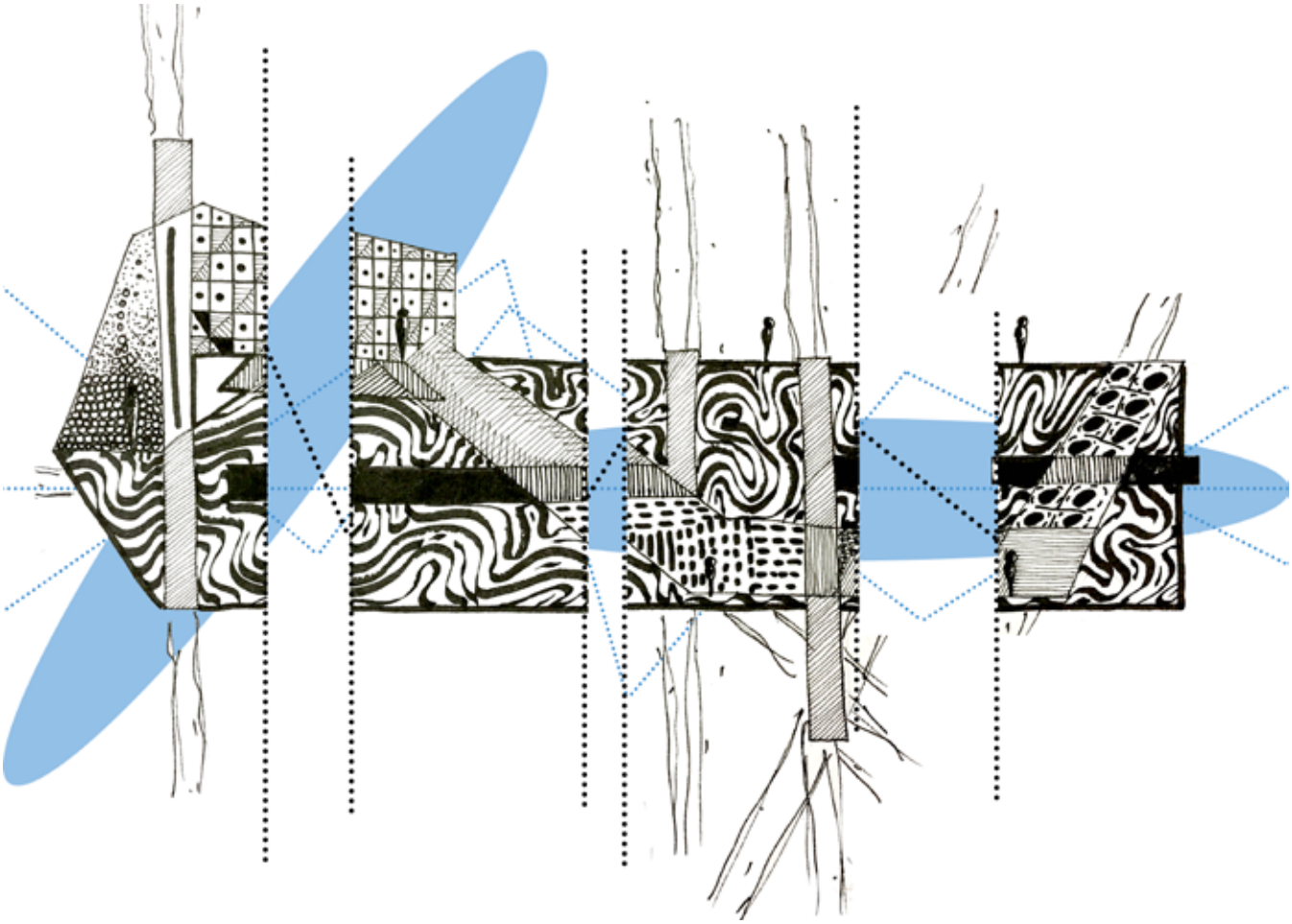


Figure79: Design concept drawing (Author 2019)

Figure80: Global, urban and architectural issues (Author 2019)

3.1 Urban Vision Investigation

The following is taken from the group urban vision investigation done at the beginning of 2019. The slides are taken straight from the group presentation done in conjunction with Hanna Nicola Smith and Amy Van Der Walt. All work was done as a group and compiled as a cohesive argument into which the individual sites and designs will be placed. (Labuschagne et., 2019)

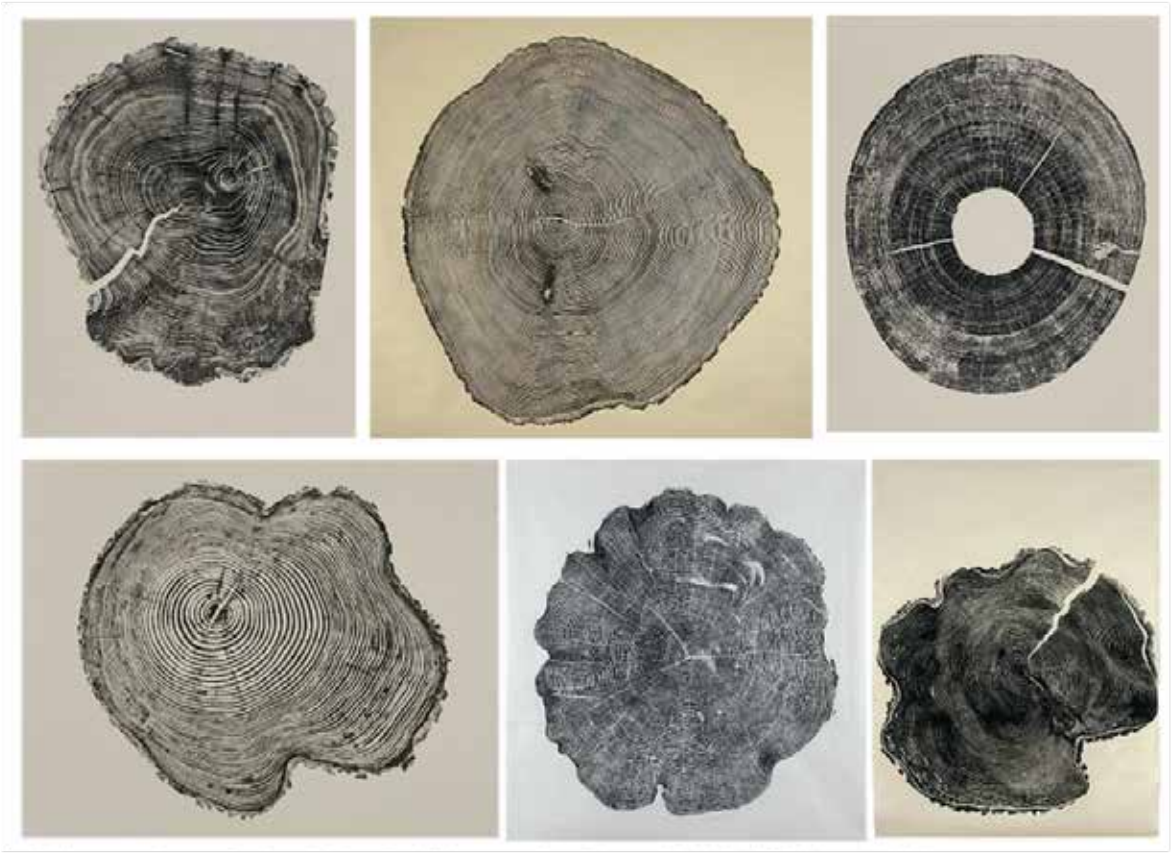
Figure81: Urban Vision Presentation slide (Labuschagne et., 2019)

defining well-being

Edifying the environment of how "people live, play and work" (Buchanan 2016)

When a person is "feeling good and functioning well" in the space that they occupy (Fedrizzi 2015)

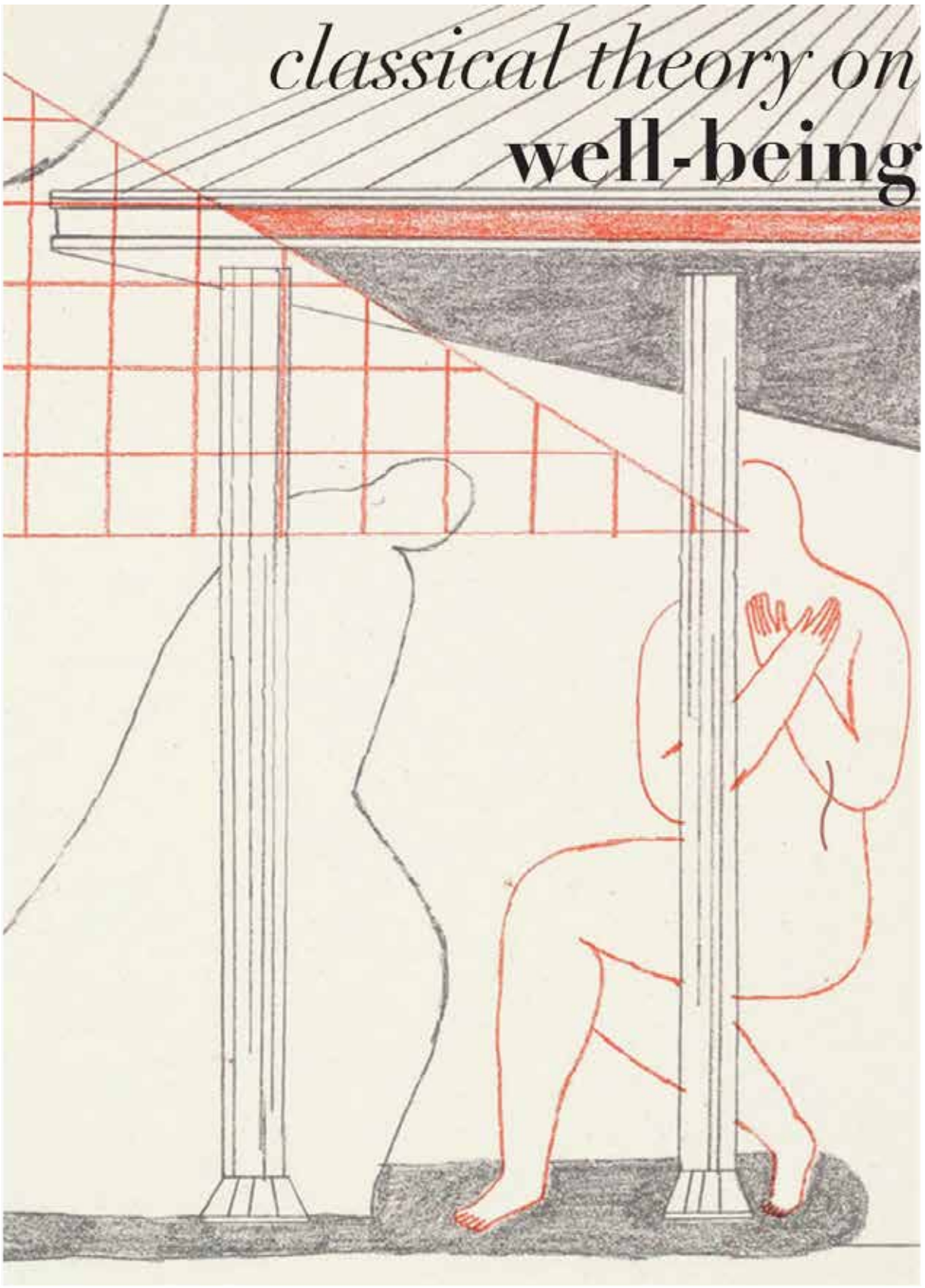
Wellbeing in architecture is the adapting patterns of relationships between people & place



Print wood cuts by local South African artist, Bryan Nash Gill (circa 2015).

Figure82: Urban Vision Presentation slide (Labuschagne et., 2019)

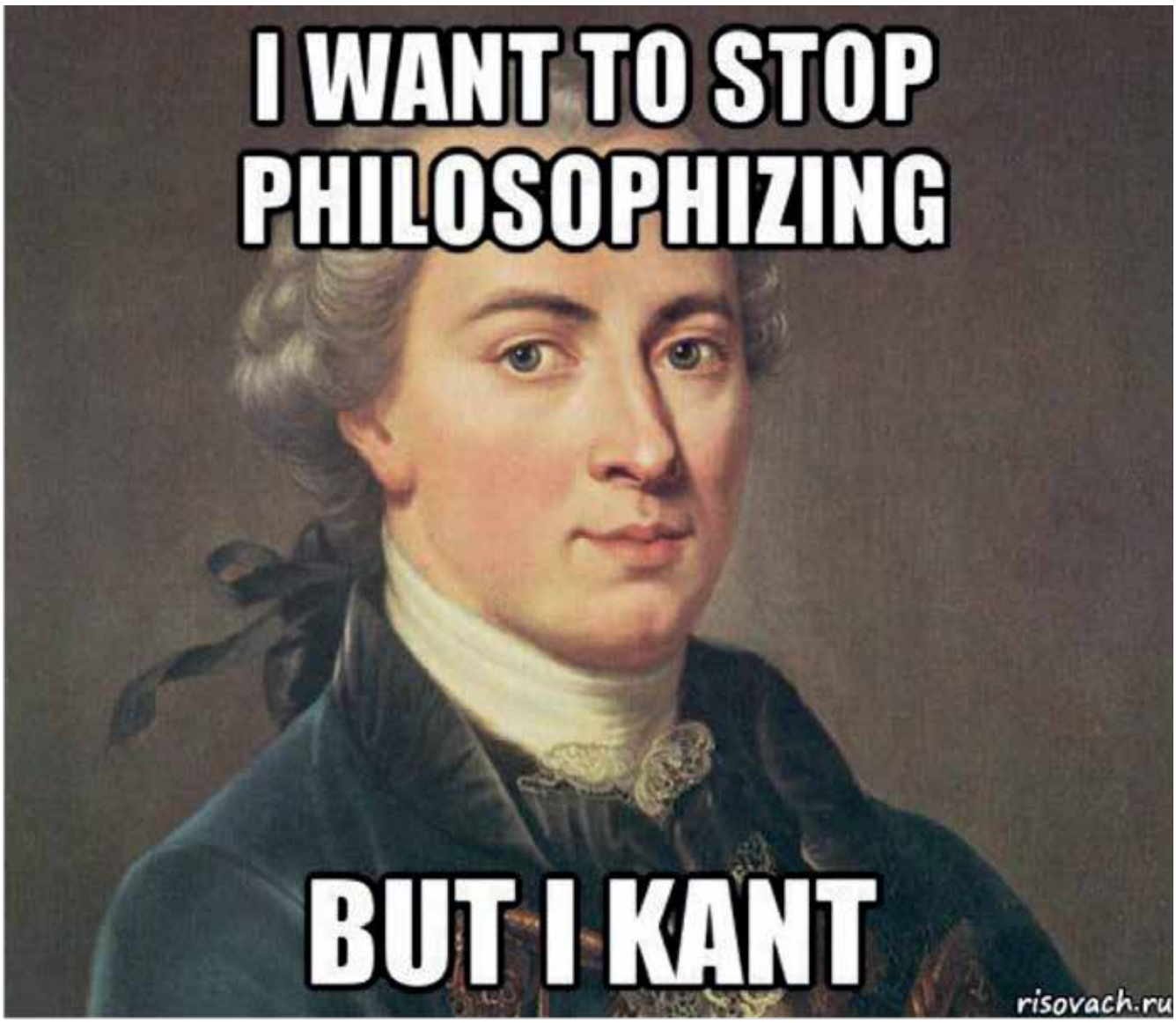
Figure83: Urban Vision Presentation slide (Labuschagne et., 2019)



Creuser le Mal :Synthèse : A La Relation Thérapeutique (Dig the evil: Synthesis: A The Therapeutic Relationship) Art Print by Palefroi, 2017

Imposing Vitruvius and his *tripartite model* of the three elements required for a **well-designed building, "firmitas"** translates to **physical health; "utilitas"** or commodity represents **psychological potential** and **"venustas"** or delight refers to **social production** (Steemers 2018)

Figure84: Urban Vision Presentation slide (Labuschagne et., 2019)



Aristotelian philosophy of eudaemonism (Keyes & Annas 2009: 198) believes **one lives well by virtue** *(Aristotle 1962:4) Contemporary eudaemistic philosopher, Kashdan et. al. translates well-being when a* **human functions well and feels good in the space that they occupy** *(Delle Fave et. al. 2011:7). Future directions in well-being provide theoretical architectural conditions for* **well-being that is measurable on a physical, psychological, social and ecological level** *(?:2018)*

Figure85: Urban Vision Presentation slide (Labuschagne et., 2019)

Analysing 4 *contemporary environmental* well-being *determinants*

Connection with nature improves our well being that enhancing human qualities like learning, empathy and compassion (Louv 2012)

ECOLOGICAL

Rich and meaningful experiences in the environment open people up to work and live better (Buchanan 2018)

PSYCHOLOGICAL

PHYSICAL

Access to healthy and safe spaces enhance the richness of our every functions and rituals (Montgomery 2012)

SOCIAL

Socially is experienced through socially connected environments that establish long term resilience when the environment resonates with its community, context and expresses its/ their values (Buchanan 2018)

Figure86: Urban Vision Presentation slide (Labuschagne et., 2019)

Figure87: Urban Vision Presentation slide (Labuschagne et., 2019)

Pretoria flats, Sunnyside 2011 from a walk-about with the Stadstapper club by Greaham Hall.

Understanding **past, present and future** *conditions* **&** *variables* **of the determinants for well-being; what cause the determinants to change, evolve?**

3 determinants & ‘sub’layers of well-being informants gathered & analysed

PHYSICAL well-being	PSYCHOLOGICAL well-being	SOCIAL well-being
amenities	ethnicity in area	public space
service (health)	learning comfort	rituals in space
crime in block	access to education	activities in space
safety	residential typologies	social patterns
passive surveillance	formal education	routine/time based
neighbourhood support	informal education	recreational activity
physical comfort in building	education levels	cultural diversity
sensory experience in building	events	informal activity
sound/ noise		formal activity
		conversation
		social atmosphere
		events in area

Figure88: Urban Vision Presentation slide (Labuschagne et., 2019)

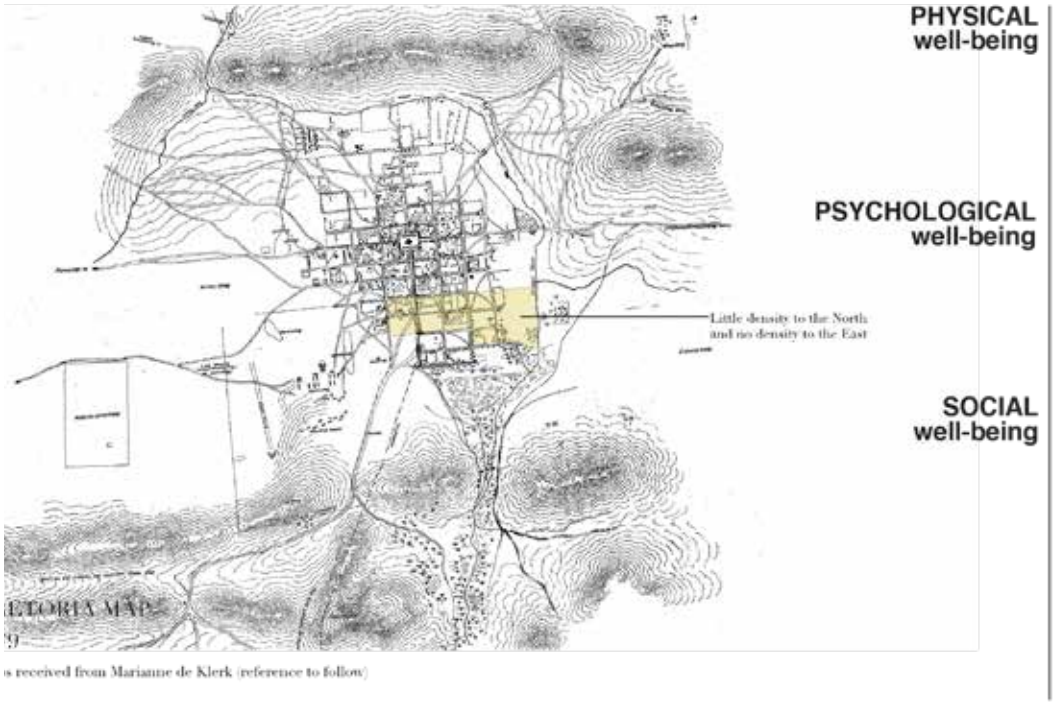
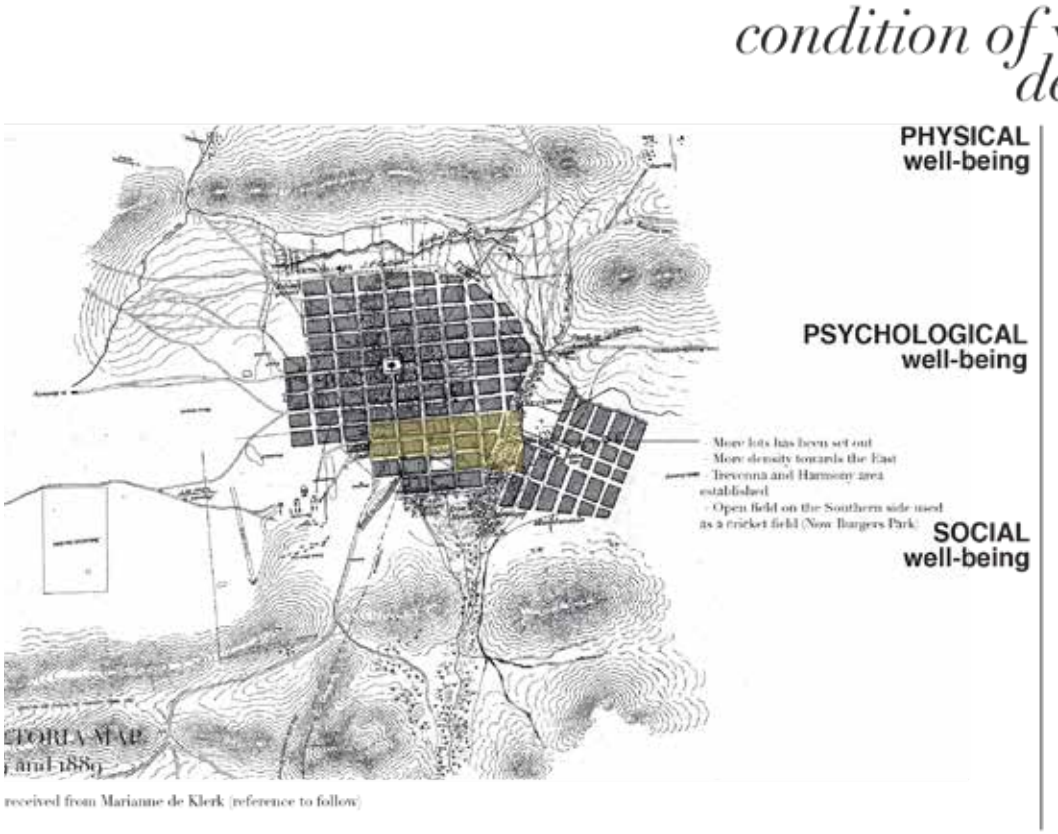


Figure89: Urban Vision Presentation slide (Labuschagne et., 2019)

Figure90: Urban Vision Presentation slide (Labuschagne et., 2019)



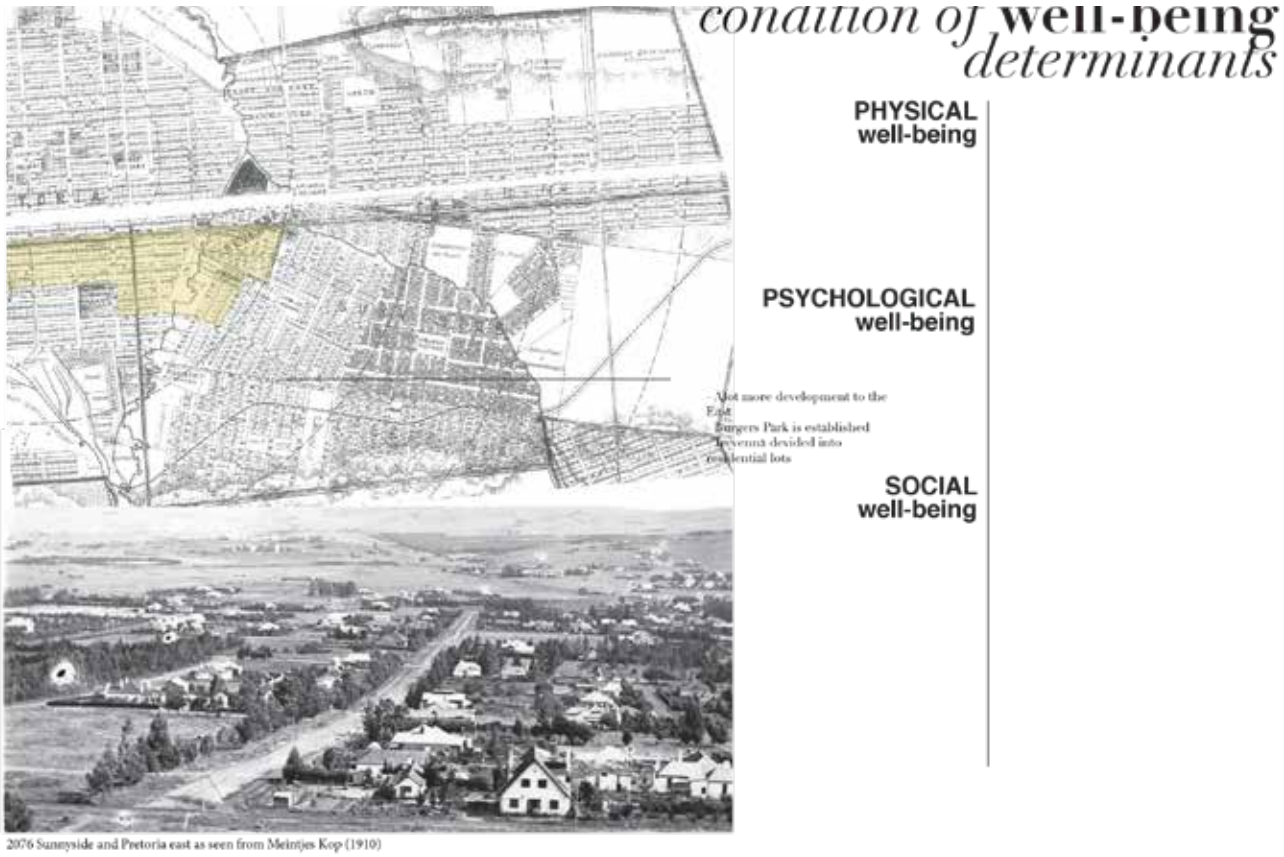
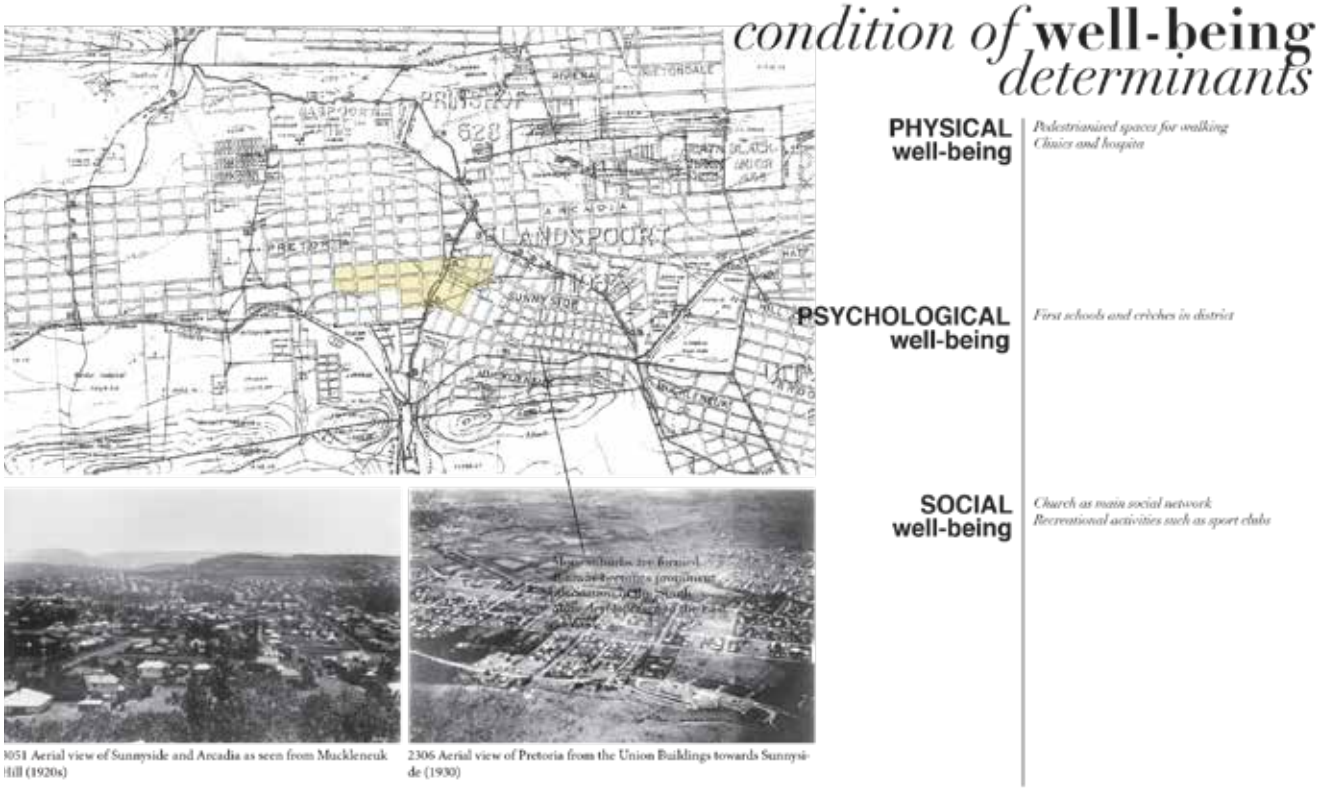


Figure91: Urban Vision Presentation slide (Labuschagne et., 2019)

Figure92: Urban Vision Presentation slide (Labuschagne et., 2019)



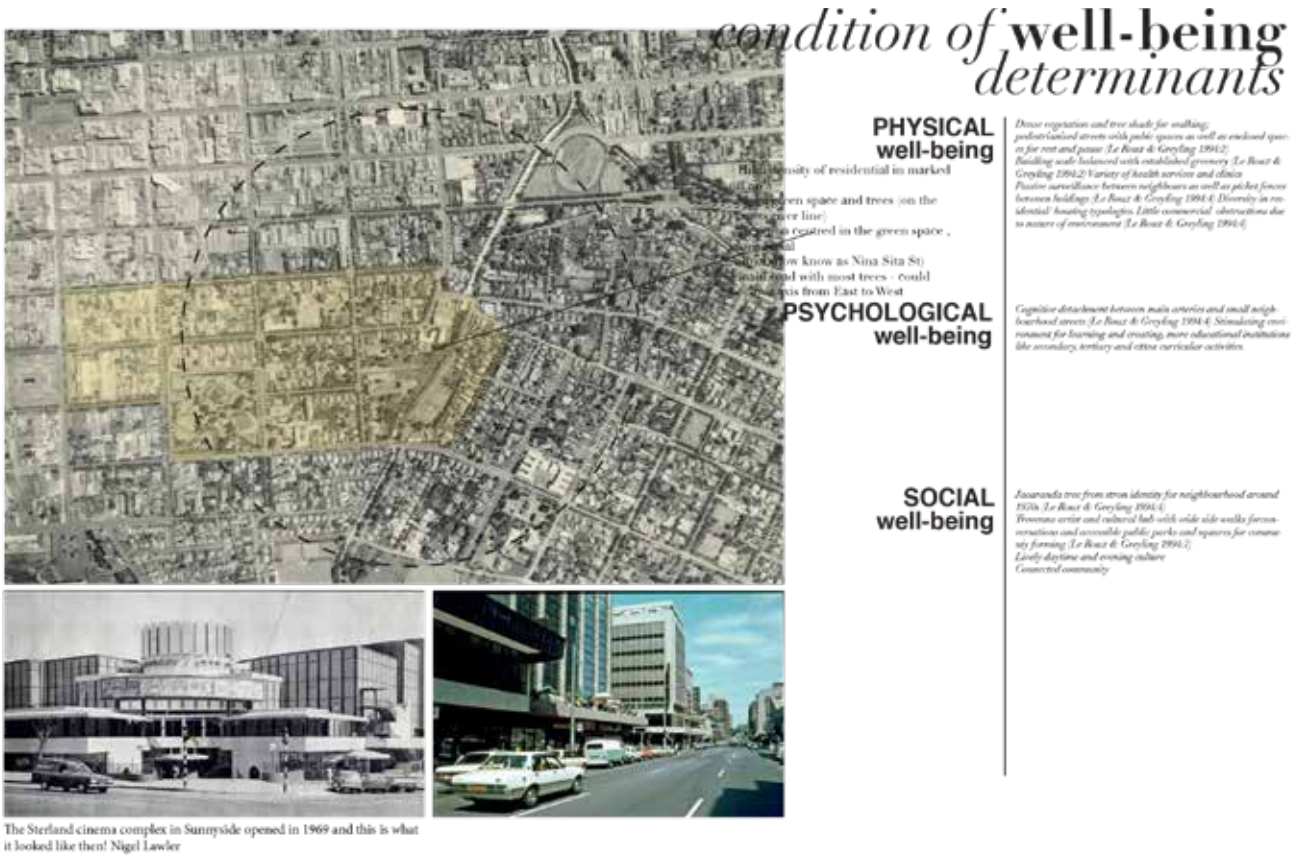


Figure93: Urban Vision Presentation slide (Labuschagne et., 2019)

Figure94: Urban Vision Presentation slide (Labuschagne et., 2019)

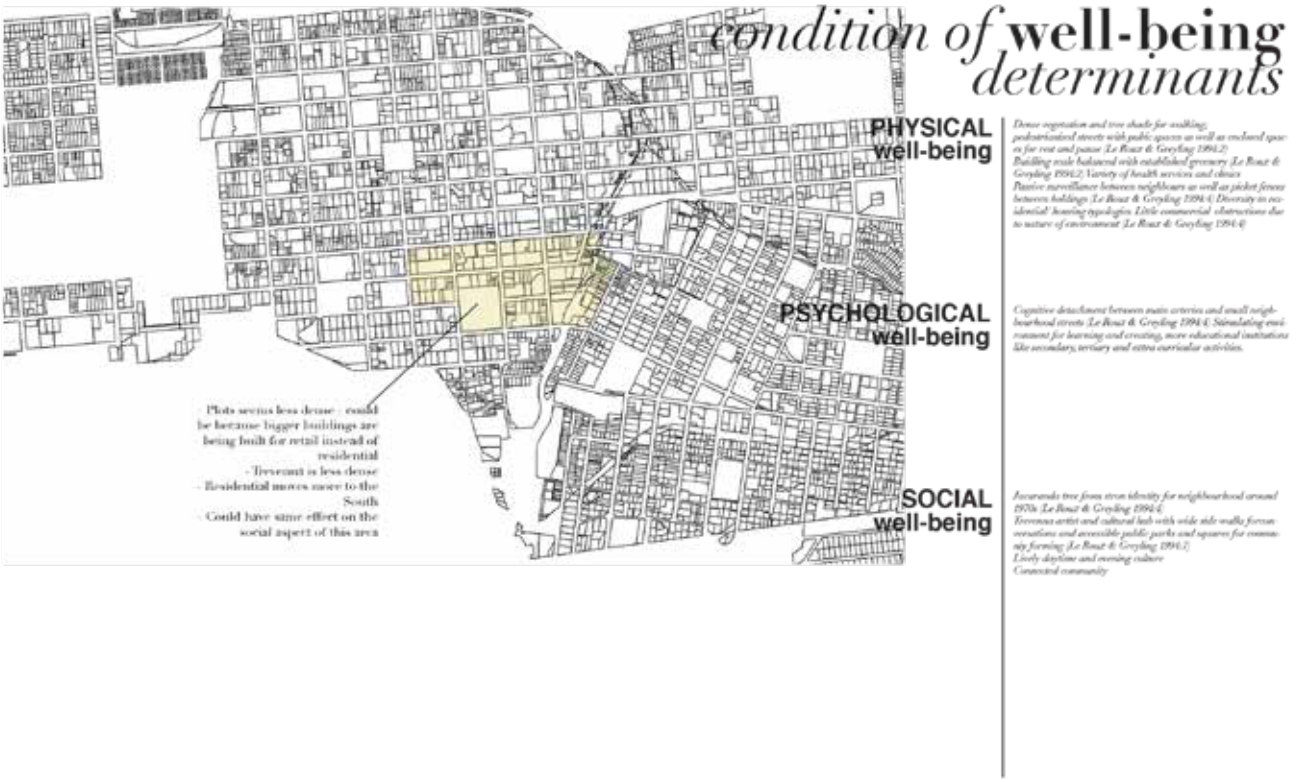


Figure95: Urban Vision Presentation slide (Labuschagne et., 2019)

Figure96: Urban Vision Presentation slide (Labuschagne et., 2019)

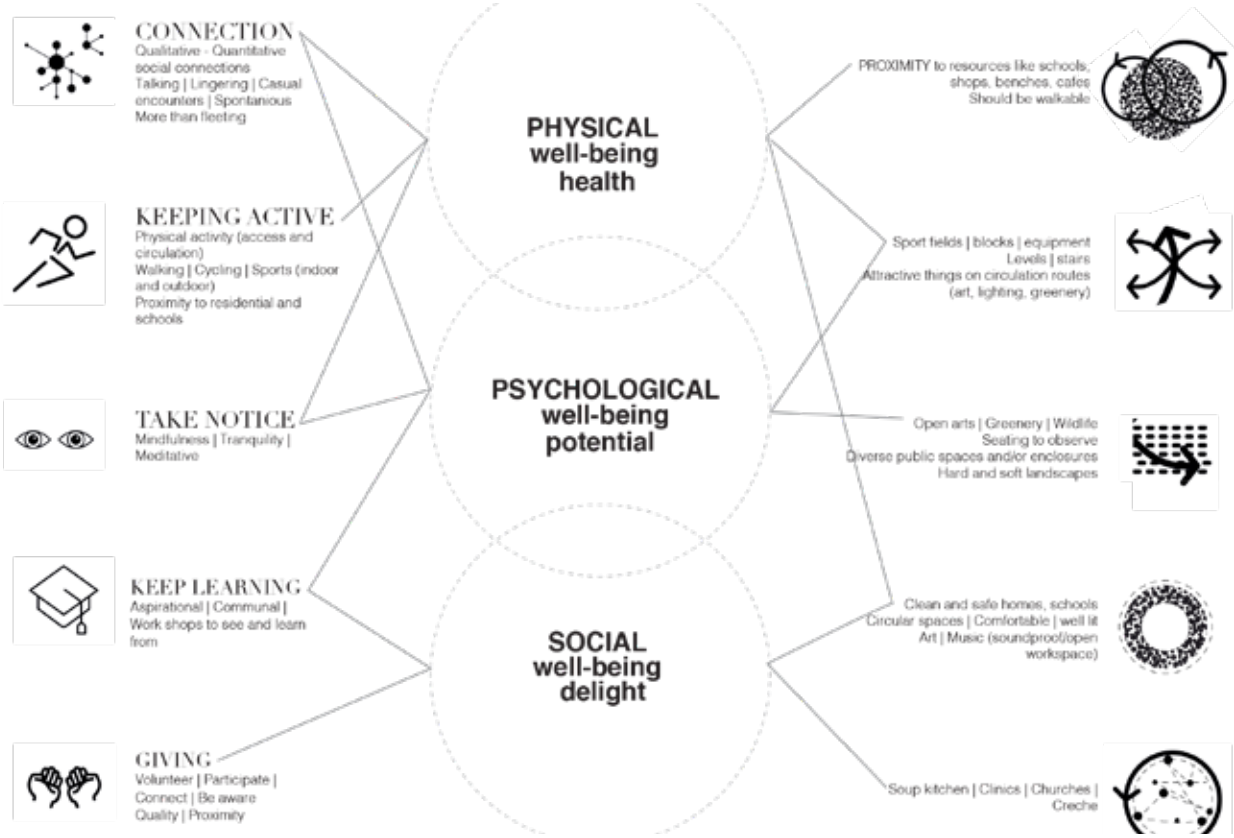


Figure97: Urban Vision Presentation slide (Labuschagne et., 2019)

TSHWANE VISION

AN EQUITABLE CITY THAT SUPPORTS HAPPINESS, SOCIAL COHESION, SAFETY

DRUG AND SUBSTANCE ABUSE:
Our approach will be holistic and multi-disciplinary where our interventions will focus on the social, economic, environmental and governance-related drivers. Importantly, we will work with our partners to fight this war on drug and substance abuse by pooling our resources and implementing a coordinated attack on the drivers of drug and substance abuse.

STRATEGIC ACTIONS:
- Strengthening dialogue networks and programmes with civil society, community organisations and the private sector dealing with drugs and substance abuse, teenage pregnancy, gender-based violence among others
- Develop a multi-disciplinary strategy to address drug and substance abuse, teenage pregnancy, gender-based violence

CONNECTION KEEP LEARNING GIVING

Carne (2019). BBCs terrifying look at south africas nyaope epidemic. [image] Available at: https://www.2oceansvibe.com/2019/01/29/bbcs-terrifying-look-at-south-africas-nyaope-epidemic-video/ [Accessed 20 Feb. 2019].

City of Tshwane (2013). TSHWANE VISION 2055 Remaking South Africa's Capital City. Pretoria: City of Tshwane,

Figure98: Urban Vision Presentation slide (Labuschagne et., 2019)

TSHWANE VISION

AN EQUITABLE CITY THAT SUPPORTS HAPPINESS, SOCIAL COHESION, SAFETY

FOSTERING SOCIAL COHESION:
If the common values are shared by members of a "neighbourhood," then the lack of physical contact or of a shared physical space does not become a deterrent to achieve social cohesion.

STRATEGIC ACTIONS:
- *Enhance the role of the streets as a multi-functional urban space and integrate natural spaces and recreations*
- *Strengthening dialogue networks with civil society, community organisations and the private sector*

CONNECTION KEEP ACTIVE KEEP LEARNING

Chutel, L. (2018). Everyday South Africans. [image] Available at: https://qz.com/africa/1313759/david-goldblatt-south-african-photographer-of-apartheid-era-has-died/ [Accessed 20 Feb. 2019].

City of Tshwane (2013). TSHWANE VISION 2055 Remaking South Africa's Capital City. Pretoria: City of Tshwane,

Figure99: Urban Vision Presentation slide (Labuschagne et., 2019)

TSHWANE VISION

AN EQUITABLE CITY THAT SUPPORTS HAPPINESS, SOCIAL COHESION, SAFETY

PROMOTING A HEALTHY CITY:
The most important game changers for better health and poverty alleviation in the City of Tshwane will be addressing social eterminants and environmental services starting with access to basic services and adequate housing and education.

STRATEGIC ACTIONS:
- Integration of healthy neighbourhood strategies including healthy living campaigns
- Support community-based health initiatives as well as sustainable livelihood projects that focus in food security
- Social assistance to vulnerable groups within our city – indigent register to access city services
- Strengthening dialogue networks with civil society; community organisations and the private sector to promote

CONNECTION KEEP ACTIVE TAKE NOTICE

KEEP LEARNING GIVING

Uys, H. (2014). TRAVEL: MAN ON BICYCLE. [image] Available at: http://www.hannesuys.com/travel-man-bicycle/ [Accessed 20 Feb. 2019].

City of Tshwane (2013). TSHWANE VISION 2055 Remaking South Africa's Capital City. Pretoria: City of Tshwane,

Figure100: Urban Vision Presentation slide (Labuschagne et., 2019)

Figure101: Urban Vision Presentation slide (Labuschagne et., 2019)

Miller Park In Downtown Chattanooga

Architects: Eskew Dumez Ripple, Spackman Mossop Michaels
Location: Chattanooga, Tennessee, United States

To break down the barriers between Miller Park and the existing Miller Plaza across the street, SMM/EDR applied a "shared street" approach. This involved reducing traffic lanes, removing traditional curbs to bring the road and sidewalk to the same level, and planting a flush median strip with native trees to slow down traffic and encourage more pedestrian activity across the entire park. While serving as a green oasis in the city center, the park is also designed to accommodate cultural events and technologically-advanced productions.

ArchDaily (2016). Miller Park In Downtown Chattanooga / Spackman Mossop Michaels + Eskew Dumez Ripple. [image] Available at: https://www.archdaily.com/904078/miller-park-in-downtown-chattanooga-spackman-mossop-michaels-plus-eskew-dumez-ripple [Accessed 25 Feb. 2019].

Parque 6 de Junio - Safe Public Space

Architects: Alcaldía de Quito (EPMMOP)
Location: Marqueza de Solanda, Quito, Ecuador

The "Parque 6 de Junio" is a project carried out with a methodology that aims to emphasize the socio-environmental conditions of the place. The objective is to transform this public space into a tool to combat insecurity, violence, disorder and unhealthiness.

ArchDaily (2016). Parque 6 de Junio - Safe Public Space / (EPMMOP). [image] Available at: https://www.archdaily.com/806837/parque-6-de-junio-safe-public-space-epmmop [Accessed 25 Feb. 2019].

Figure102: Urban Vision Presentation slide (Labuschagne et., 2019)

3.2 Site

Within a 6 block radius surrounding the blocks of the Little Theatre and Burger's park there are around 8 educational facilities catering for primary schooling and tertiary education, however, there are very few to none alternative education options catering for students that don't fit the academic mould conventionally. There is a need for resource sharing facilities for the surrounding educational facilities whereby a multi-use space can be created.

The intention would be to establish a typology architecturally that accurately and adequately provides for the needs of students that they ordinarily would not be able to find within the standard, conventional schooling system.

Informants

1. Alternative resources for surrounding schools
2. Building as educator through technology
3. Continuum of global & South African educational theories
4. Building form through representation of program and identity
5. Surrounding school typologies and heritage aspects
6. Wellness in the urban framework of the residential and school district
7. Examples of creative spaces such as Casey Neistat's 368

The chosen site is located on the Little Theatre block north of Burger's Park between the Little Theater, church, primary school and the apartment buildings to the West. The site is chosen as a prominent opportunity for resource sharing in the programmatic sense as well as the physical sense whereby the various buildings on the site can interact and use the intervention effectively. It is important for the users to interact with each other in an experiential manner in order to maximise the learning potential of the site. On an urban scale the concept proposes a piecing together of missing opportunities by implementing a phased approach whereby various resource sharing centres such as the proposed intervention are implemented to improve the educational infrastructure within the Pretoria CBD. On a block scale the concept is broken down into programmatic "pieces" and physical "pieces" that form a whole which in turn forms the centre pieces for the urban scale product. On a micro scale the technical concept should reinforce the same ideas and thus the construction of the intervention needs to be pieced together and the architecture needs to express this. In a similar manner to the Soweto Careers Centre it is important for the user to experience this when looking at and using the building in order to learn experientially as well as passively.

The schools within the identified area do not have communal facilities such as art classes, cafeterias, music rooms, recording studios, PC labs etc. Thus there is an opportunity to provide communal facilities that cater to every one of these schools while maintaining a cost effective strategy by centralising these centres in order for the usage to be maximised by like minded learners. The site and intervention needs to be flexible in use in line with the requirements for a creative facility and should be able to change throughout the day to cater to various users and through different times of the year.

Figure103: Site from SW corner (Author 2019)

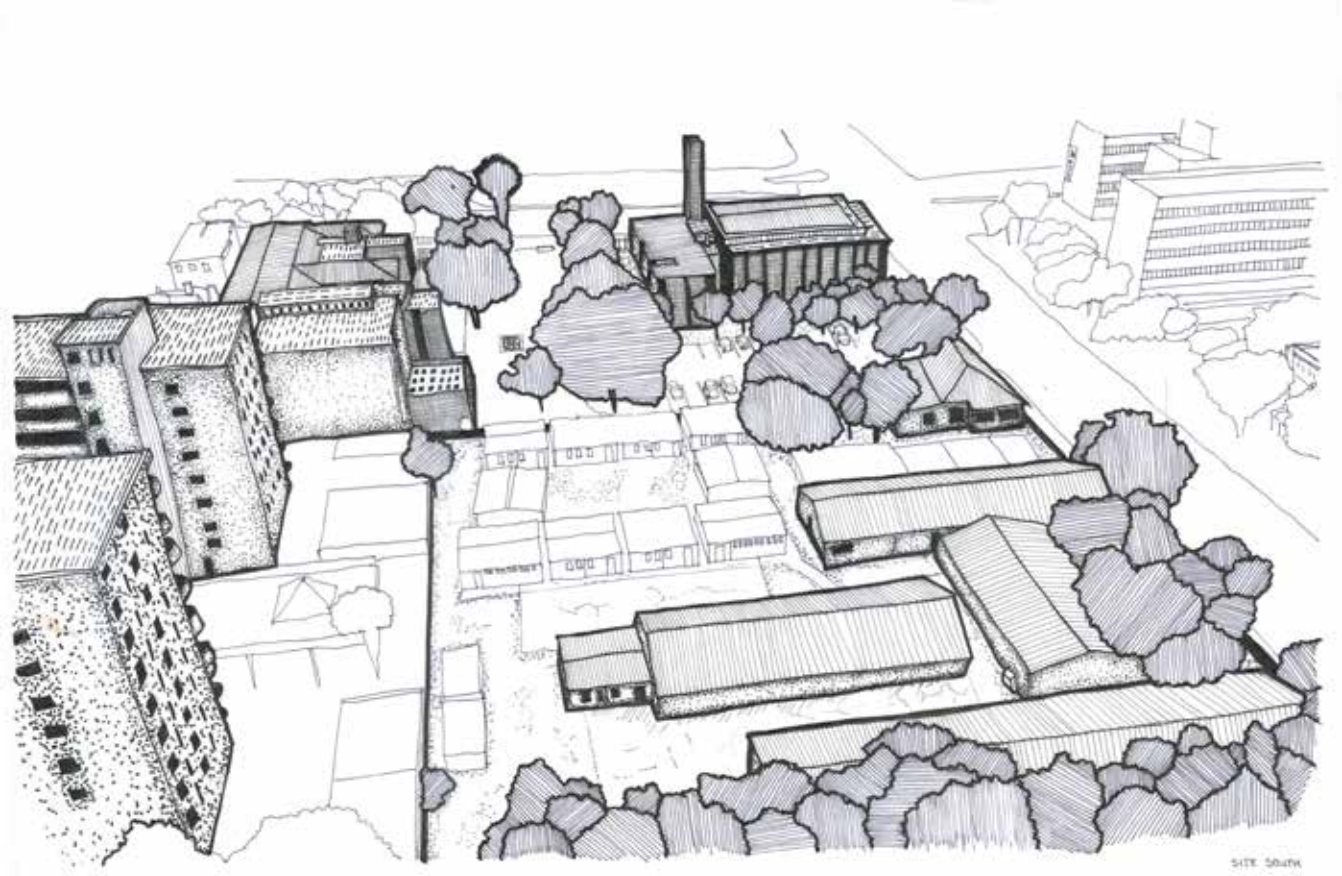
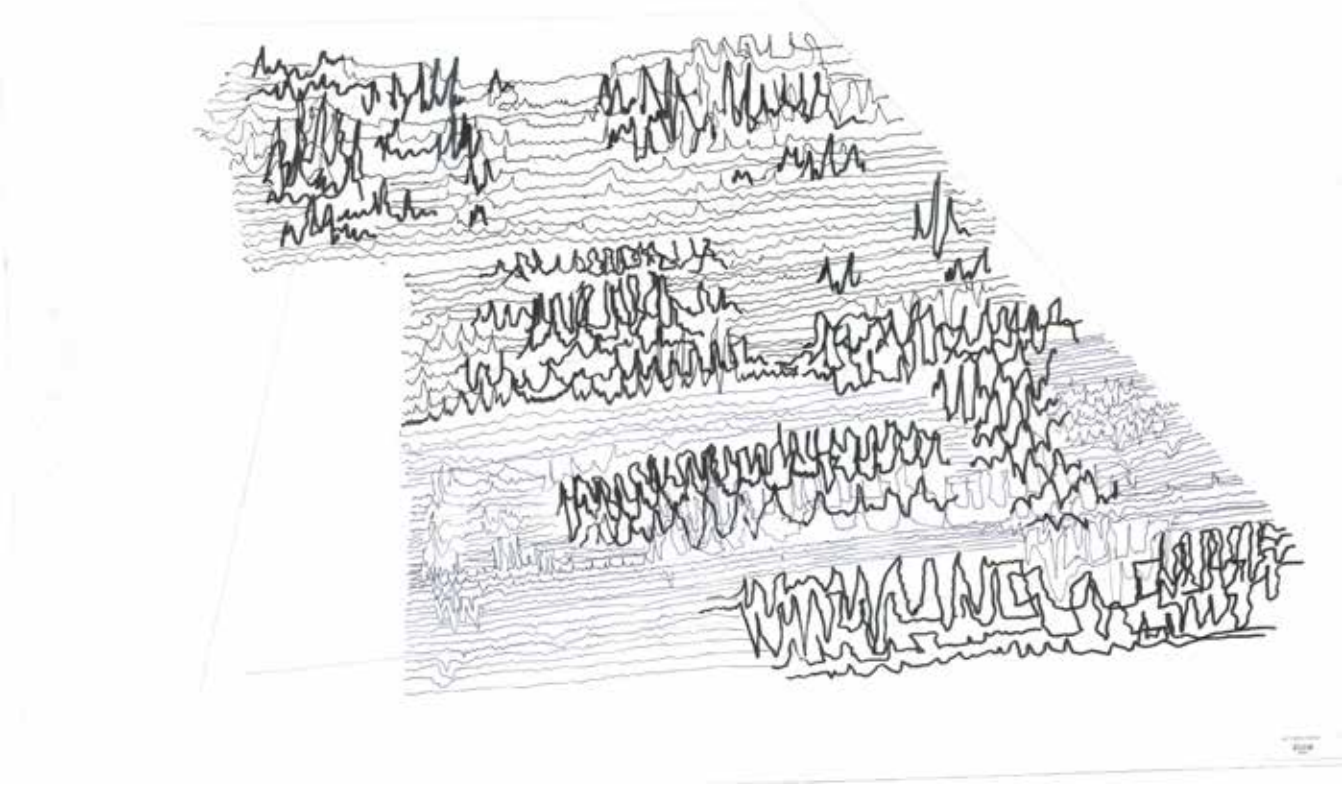


Figure104: Site from SW corner activity frequency (Author 2019)



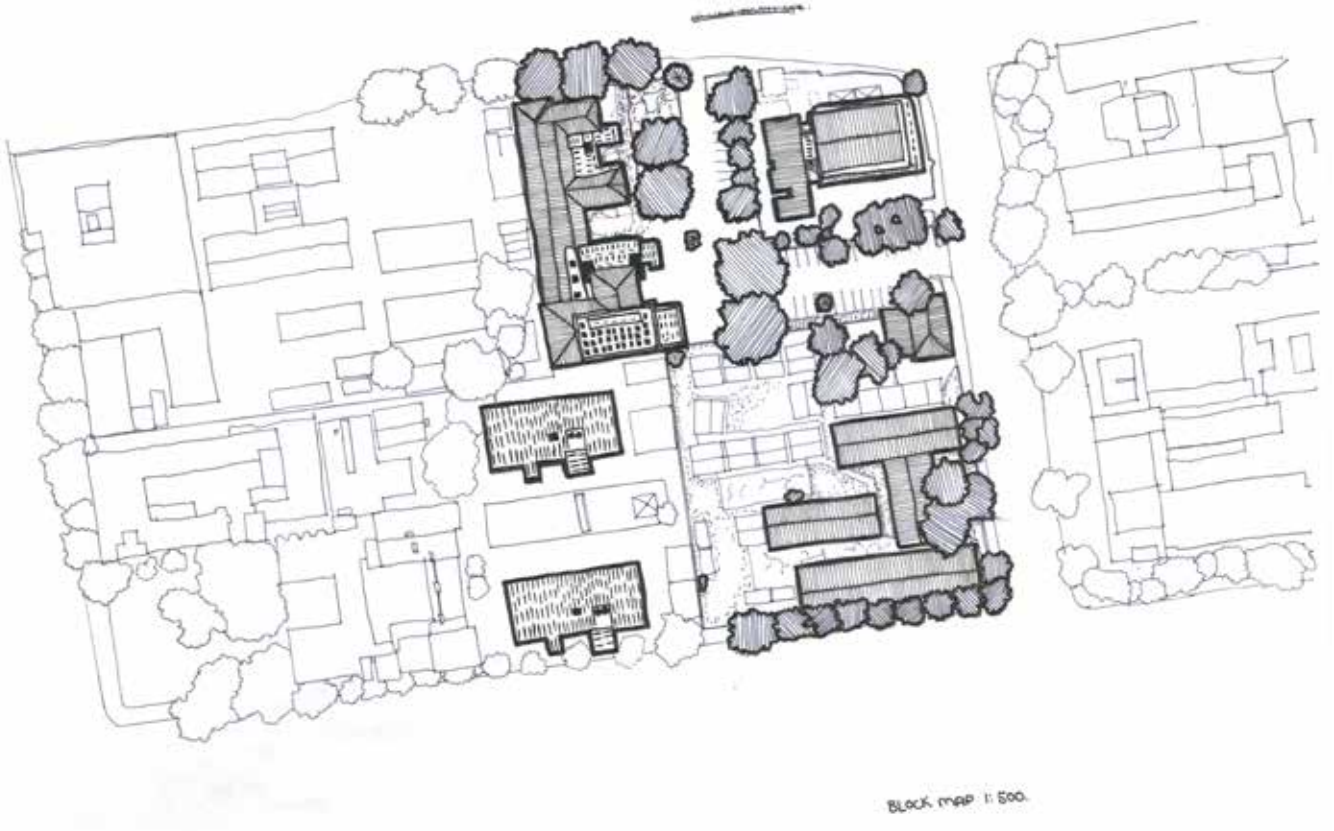


Figure105: Important buildings on site (Author 2019)

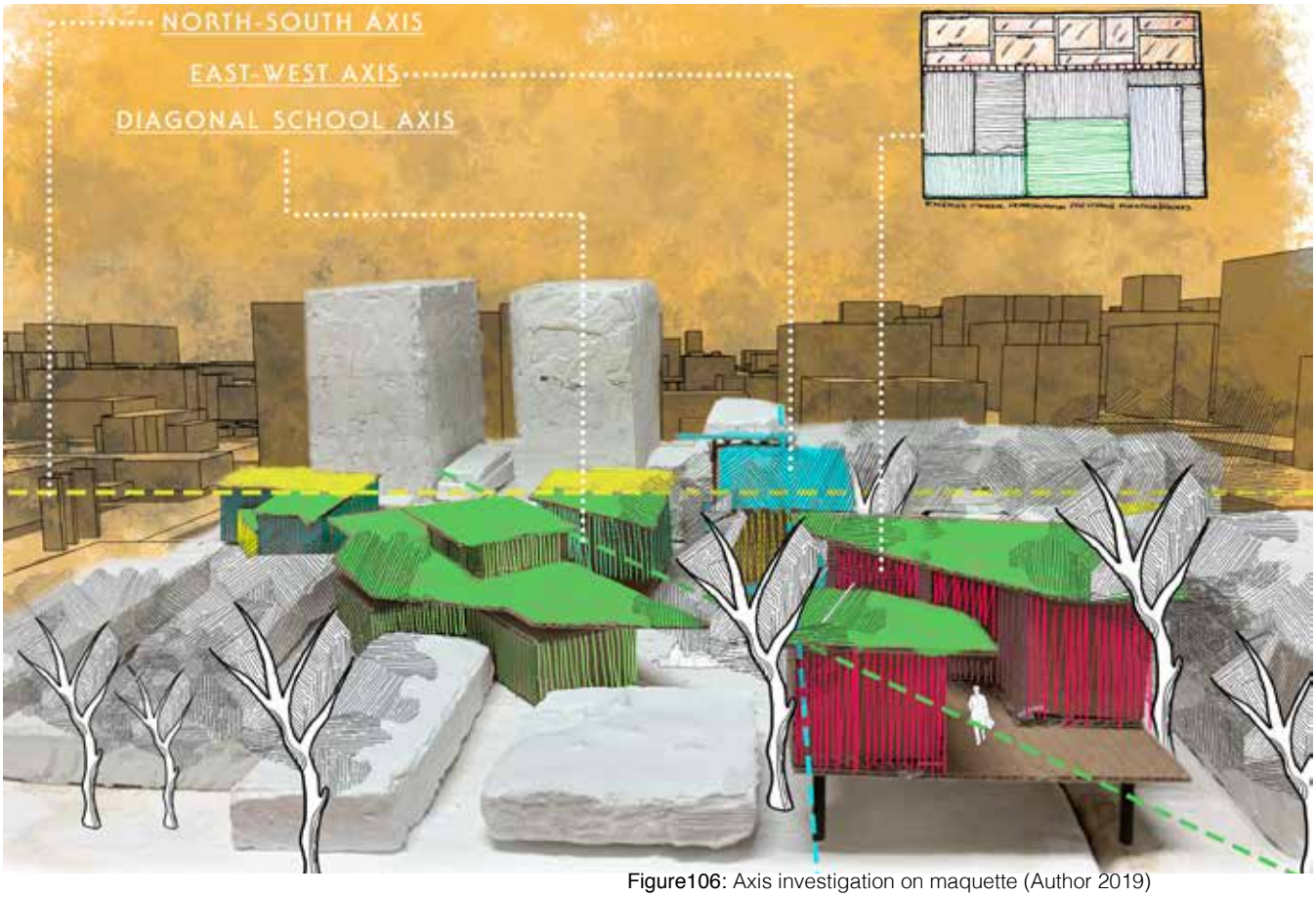


Figure106: Axis investigation on maquette (Author 2019)

Figure107: Axis investigation on maquette (Author 2019)

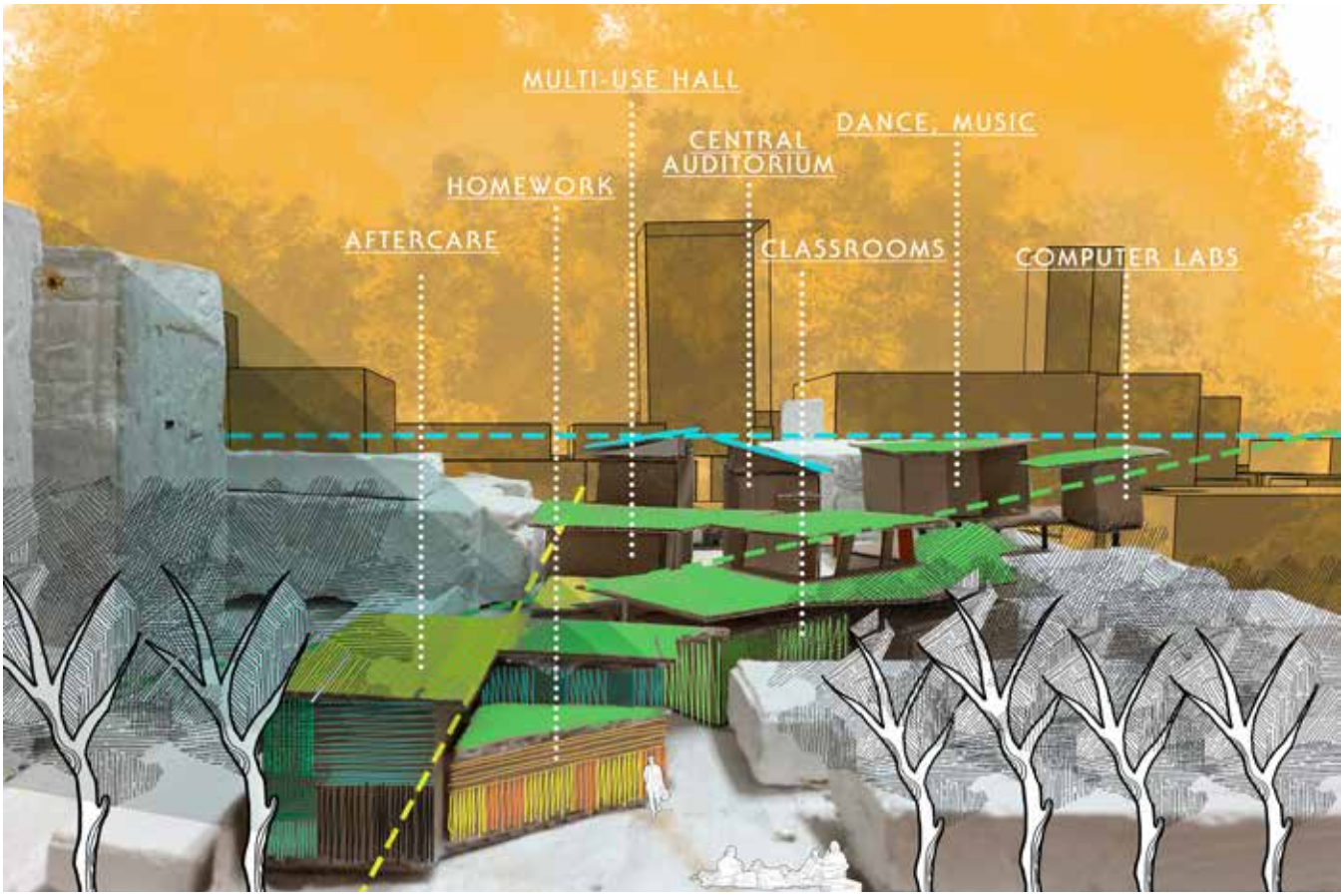


Figure108: Axis investigation on maquette (Author 2019)

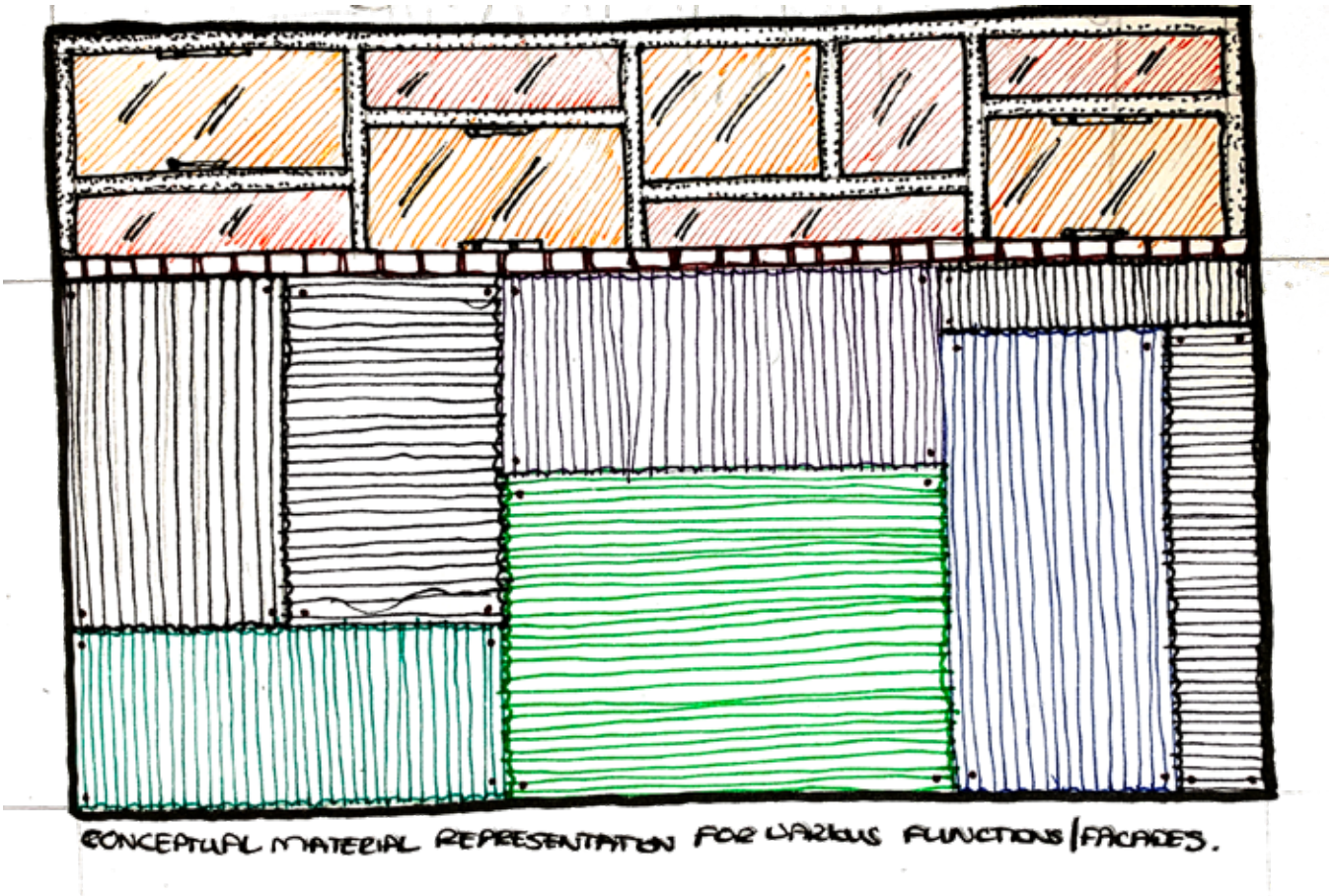


Figure109: Facade patterning investigation (Author 2019)

3.3 Design Concept

The fractured nature of the inner city schooling system lends itself to the opportunity for a filling in and piecing together of missing resources on a macro and micro scale. There are therefore various pieces to the puzzle that need to be pieced together in order to form the whole that in turn becomes a piece in the larger urban network.

These pieces can be defined as programmatic, contextual, physical, user and materials.

3.4 Programmatic

On a programmatic level, there are multiple different missing programmes from these school environments such as art galleries and studios, music studios and recording rooms, computer skills labs, workshops for practical crafts, aftercare facilities and playing areas. These programmes are mainly focussed at being used by the school children but can also be used by any creative willing to use the facilities which incorporates experiential learning between various participants.

3.5 Contextual

On a contextual level, there are many important factors to consider such as the prominence of the Little Theatre and the heritage value it offers, the usage period of the church and its introverted nature, the need for security and interaction with the existing primary school and then the incorporation of the surrounding apartment blocks and the encouragement for interaction with the proposed intervention. These have valuable contributions to make in order to supplement the programmatic resource sharing. By intertwining and giving visual access to the various parts of the whole, the experience of the user is different depending on the time and identity throughout the day.

3.6 Physical

There are multiple programmes on the site and these need to relate to the surrounding context while still maintaining a whole that makes sense and enhances the experience of the user. Therefore the piecing together of the parts (structures) needs to interlink and flow with a sensible quality that ensures the safety of the school children but still allowing some sort of interaction with other creatives in the central spaces. The 3 main parts of the whole (art plaza and workshops, creative classrooms, aftercare and shops) each have a slightly different identity but also interlink with the rest of the site. It is therefore important that the micro scale detailing and material choices act as the mortar that holds together the different pieces.

3.7 Materials

The detailing and micro scale construction of the intervention needs to be an extension of the piecing together of missing resources and needs to be expressed as such, not hidden. It needs to teach and be a part of the experiential learning environment that is created as part of the whole. This will be explained in more detail in the technical concept but the materiality of the site at various points serves to enhance the identity of the parts while the construction maintains the cohesive whole aspect.

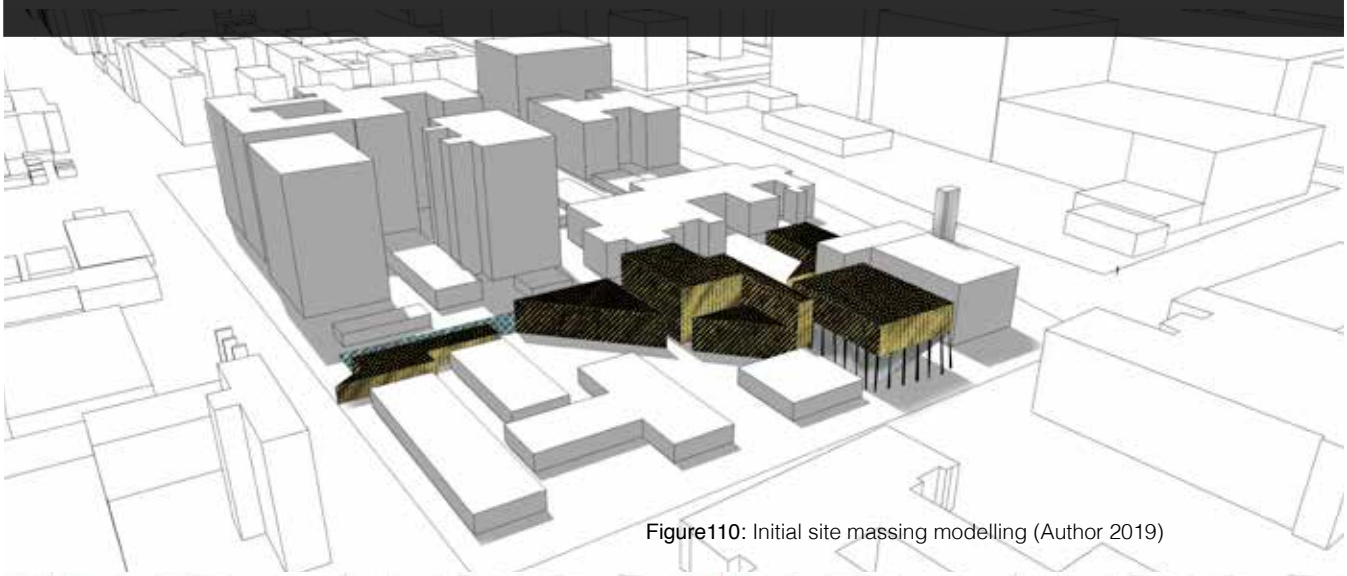


Figure110: Initial site massing modelling (Author 2019)

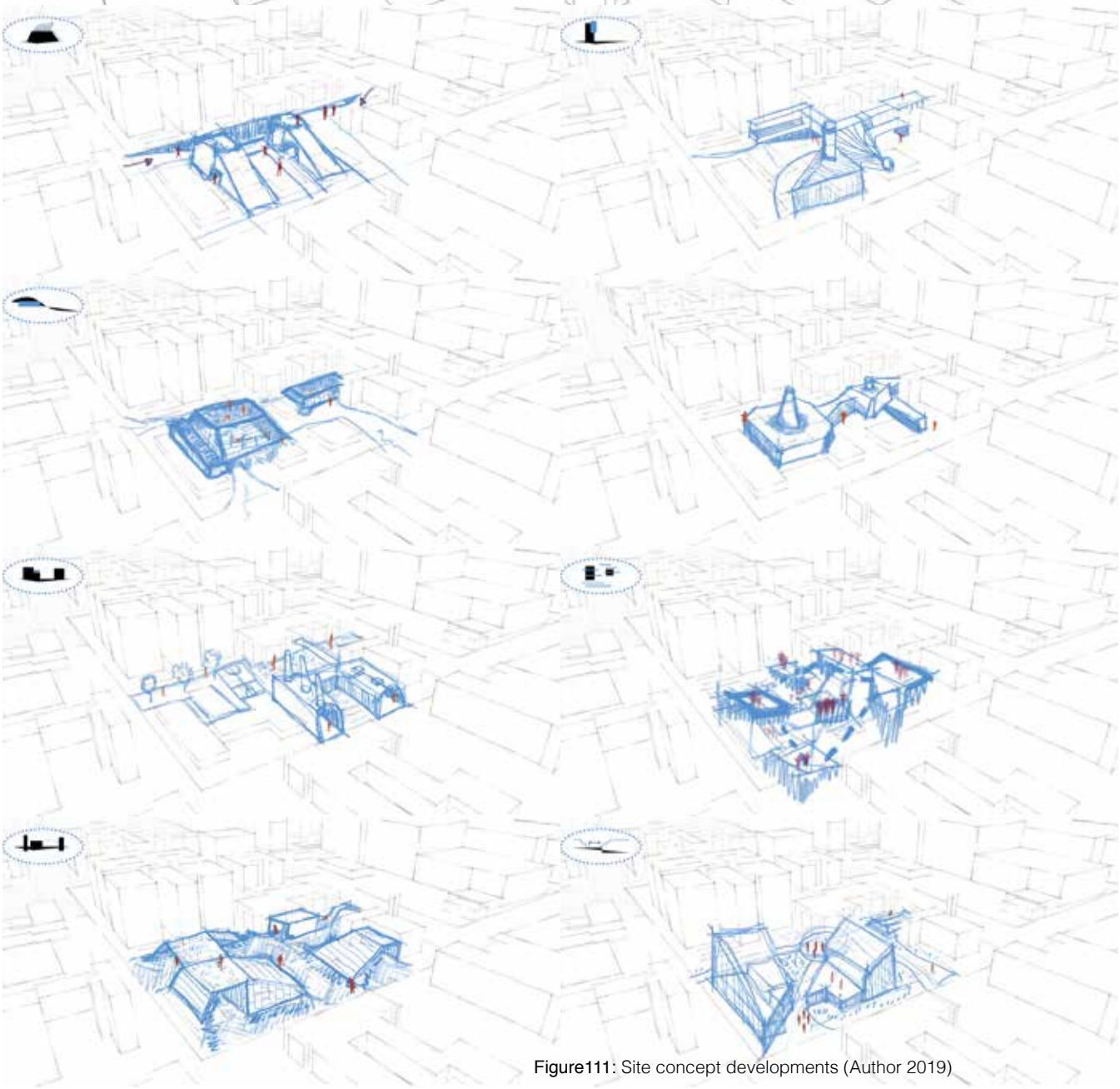


Figure111: Site concept developments (Author 2019)

4.1 Site

The site features a primary school that has very small, temporary structures that act as classrooms for the children. These classrooms are in poor condition and not conducive to effective taught learning, let alone experiential creative learning. There are 4 permanent structures that house classrooms and administration spaces for the users and are in good enough condition to be kept for the time being. The temporary structures are proposed to be demolished and replaced as part of the new resource sharing centre as well as forming a secure barrier between users that is more user friendly than the current concrete wall. The 4 permanent structures are proposed to be replaced in line with the new creative, flexible classroom typology as part of phase 2 of the block development. Phase 1 looks at replacing the temporary structures and implementing the missing resources in the in-between spaces of the context.

There is a very strong North-South axis from Nana Sita Street on the Northern edge to Visagie Street in the South. Visagie street is a quieter street and features more pedestrian movement than the surrounding streets and this is partly due to it being the intermediary space between the chosen site and Burgers' Park to the South. This makes this proposed entry point ideal for an aftercare centre, shops and a secondary access point to the NS "promenade". The Northern edge is very busy and heavily trafficked by vehicles as the road had been widened as part of the BRT expansion network. This makes it unfriendly for pedestrian use but does offer opportunity for a larger visual access and a main point of access between the Little Theatre, the church and the proposed resource centre.

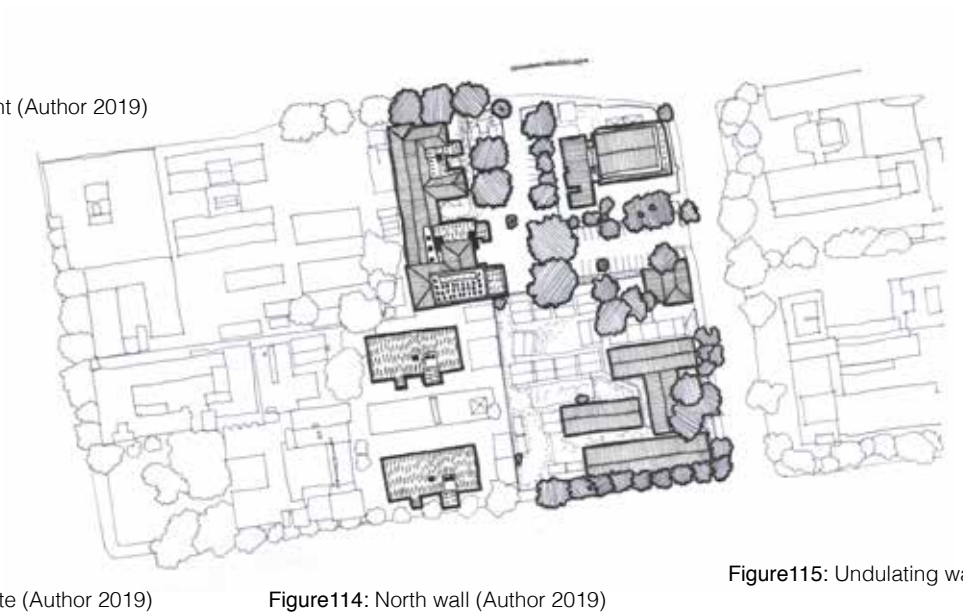


Figure112: Site extent (Author 2019)

Figure113: North gate (Author 2019)

Figure114: North wall (Author 2019)

Figure115: Undulating wall (Author 2019)

Figure116: UW detail (Author 2019)

Figure117: Brick patterns (Author 2019)

Figure118: Adjusted UW (Author 2019)


Figure119: Adult education centre (Author 2019)


Figure120: Apartment blocks (Author 2019)


Figure121: Pedestrian gates locked (Author 2019)


Figure122: Mosaic mural on Little Theatre (Author 2019)


Figure123: Church from parking lot (Author 2019)


Figure124: Church on site (Author 2019)


Figure125: Church on site (Author 2019)


Figure126: Church boundary wall (Author 2019)


Figure127: Little Theatre parking lot (Author 2019)


Figure128: Little Theatre East facade (Author 2019)


Figure129: Little Theatre East facade (Author 2019)


Figure130: View North from primary school side (Author 2019)


Figure131: Service entrance for Little Theatre (Author 2019)


Figure132: Undulating wall end (Author 2019)


Figure133: Little Theatre entrance (Author 2019)


Figure134: Entrance benches (Author 2019)


Figure135: Children's Art Centre entrance (Author 2019)


Figure136: Gap in undulating wall (Author 2019)

Figure137: undulating wall brick details (Author 2019)

Figure138: Undulating wall brick patterning (Author 2019)

Figure139: Brick textures on wall (Author 2019)

Figure140: Roof connection, Little Theatre (Author 2019)

Figure141: Glazing at Little Theatre entrance (Author 2019)

Figure142: Lighting at entrance (Author 2019)

Figure143: Eastern facade (Author 2019)

Figure144: Eastern facade (Author 2019)

Figure145: Eastern facade (Author 2019)

Figure146: Services entrance wall (Author 2019)

Figure147: Norman Eaton brick facade (Author 2019)

Figure148: Stage services entance (Author 2019)

Figure149: Southern border of Little Theatre (Author 2019)

Figure150: Apartments overlooking Little Theatre (Author 2019)

4.2 Iteration 1

The first iteration on the site looked at implementing the raw information acquired during the mapping and researching phases and getting the basic massing of the site in place. The approach followed the fractured nature of the missing resources and implemented them as such on site.
The multiple intelligences lens was used to order the various programmes along the NS axis while trying to maintain an inside-outside relationship with nature being the threshold medium. A strong emphasis was placed on the in-between spaces and allowing visual access to as many aspects of the design as possible while controlling and isolating audio access to key points. Free movement was encouraged for users to move between the different functions and to explore and learn as they so chose to do. Wellness pods were introduced at various points to encourage users to reflect and meditate as they so chose to, in an area that was secluded from the bustling surrounding streets. The intention was for a secondary public space to emerge and passively encourage learning rather than putting learning environments within strict boundaries. The introduced intervention would change during the day and night to suit the applicable function of the time, for example, the art gallery would double up as an exhibition and foyer space to the Little Theatre during the evening.

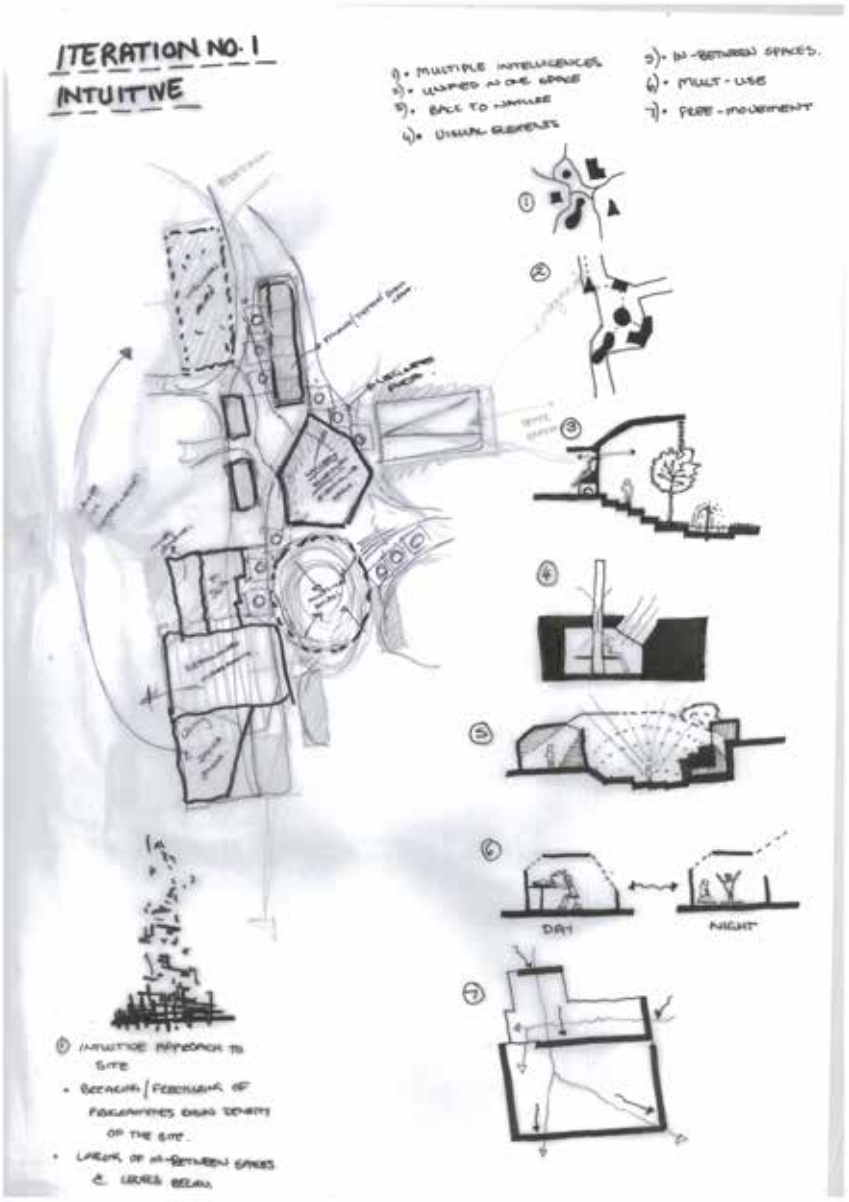


Figure151: Bumf iterations (Author 2019)

4.3 Reflection

Ultimately the main issue with this approach was the need for security measures within the CBD and access control. The wellness pods, while well intentioned, would essentially be under-utilised and would end up being closed off to the public which goes against the intended purpose. Access points would not be controlled as effectively as they could be and the free interaction between school children and public users would need to be better managed. The fractured nature of the various buildings read as such and not as a whole and appeared more as a promenade than a cohesive resource centre for creative excellence. Open space that was taken away as part of the demolition of the temporary structures negated the intended play areas and thus removed a “resource” that was present in the school.

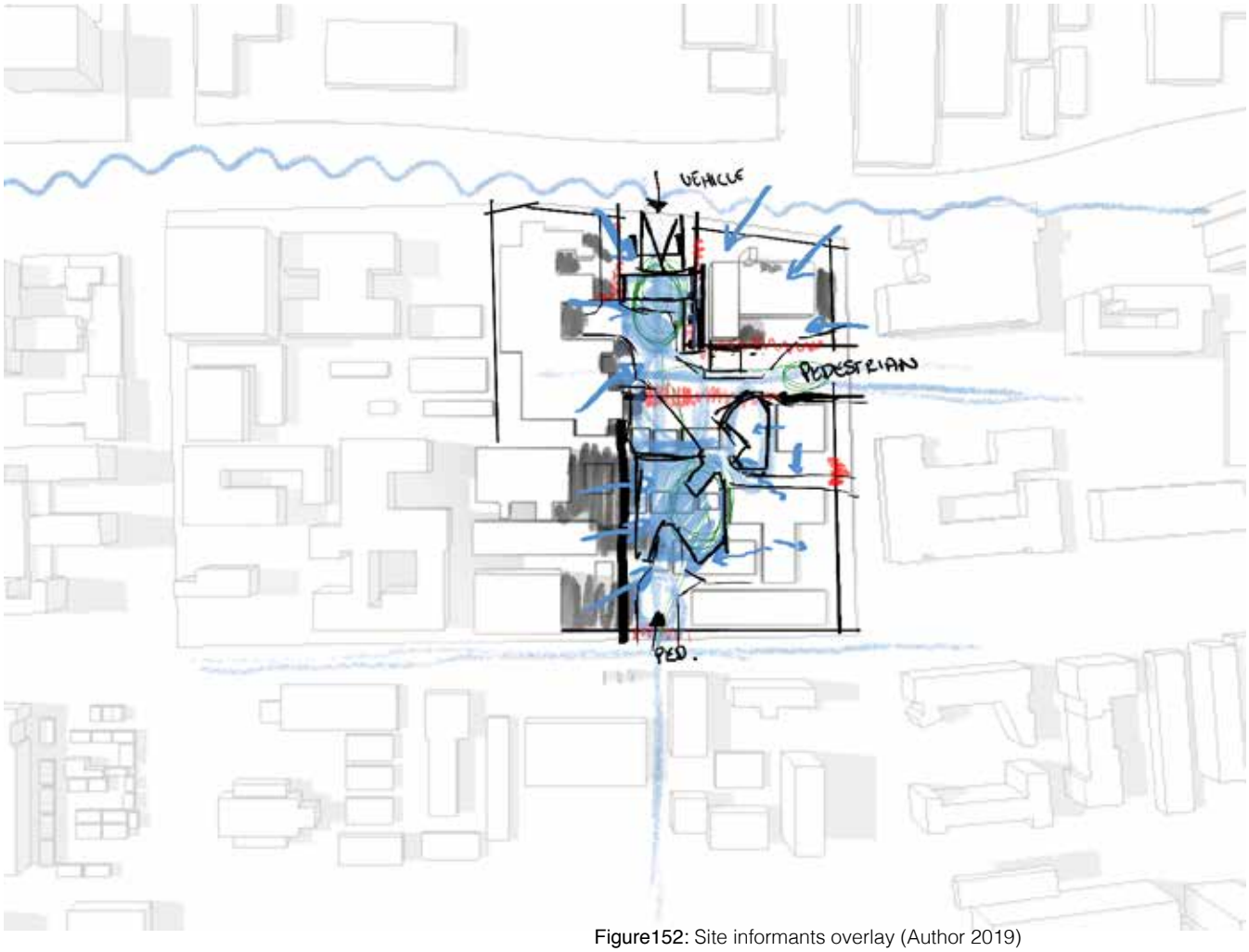


Figure152: Site informants overlay (Author 2019)

4.4 Iteration 2

The second iteration looked at formalising the NS axis further while providing a more rigid approach to security. Movement was a priority and looked at the existing introverted nature of the site whereby the Little Theatre and the Church essentially faced inwards rather than towards the streetscape. The main hub of the resource centre would complete this inward facing nature as a tripartite solution to formalising a public plaza. This then separated the site into a main plaza, a southern corridor and the school edge. It also looked at rotating the NS grid to differentiate the old and the new as well as distinguishing existing movement patterns and the introduced movement pattern intentions.

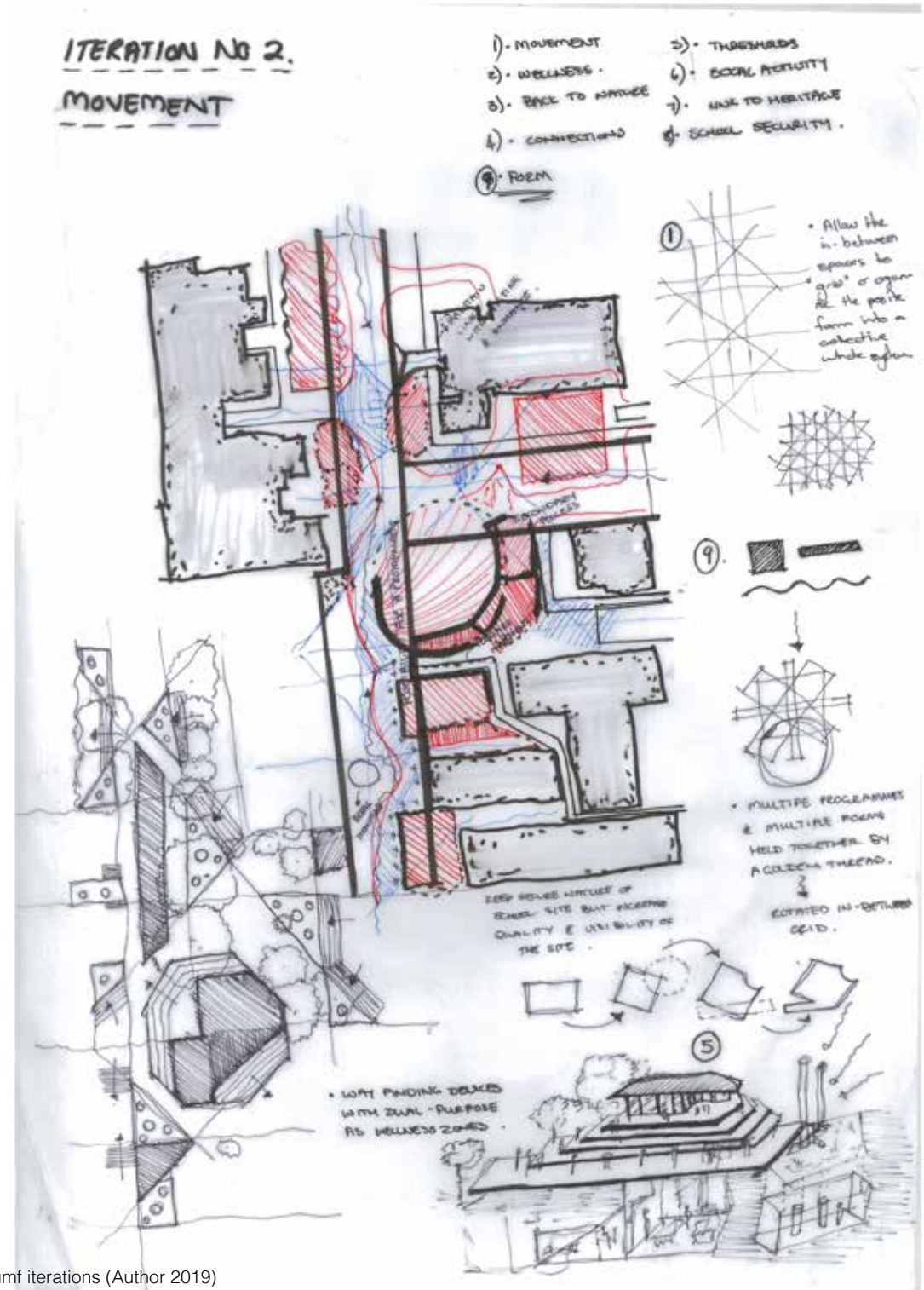


Figure153: Bumf iterations (Author 2019)

4.5 Reflection

The Western edge between the proposed intervention and the adjoining apartment blocks became very rigid as well as becoming a dead end type of space. This goes against the ideas of movement and experiential creativity envisioned. The NS axis and the movement along it was confirmed as an important tool to split the sheer size of the block and to encourage movement through rather than around on the surrounding streets. The undulating wall of the Little Theatre becomes a prominent source of inspiration not only in the lens of movement but also as a source of creative inspiration for pattern use and contextual reasoning. The rotated grid is effective but can lead to the intervention becoming a rotated rigid mass.

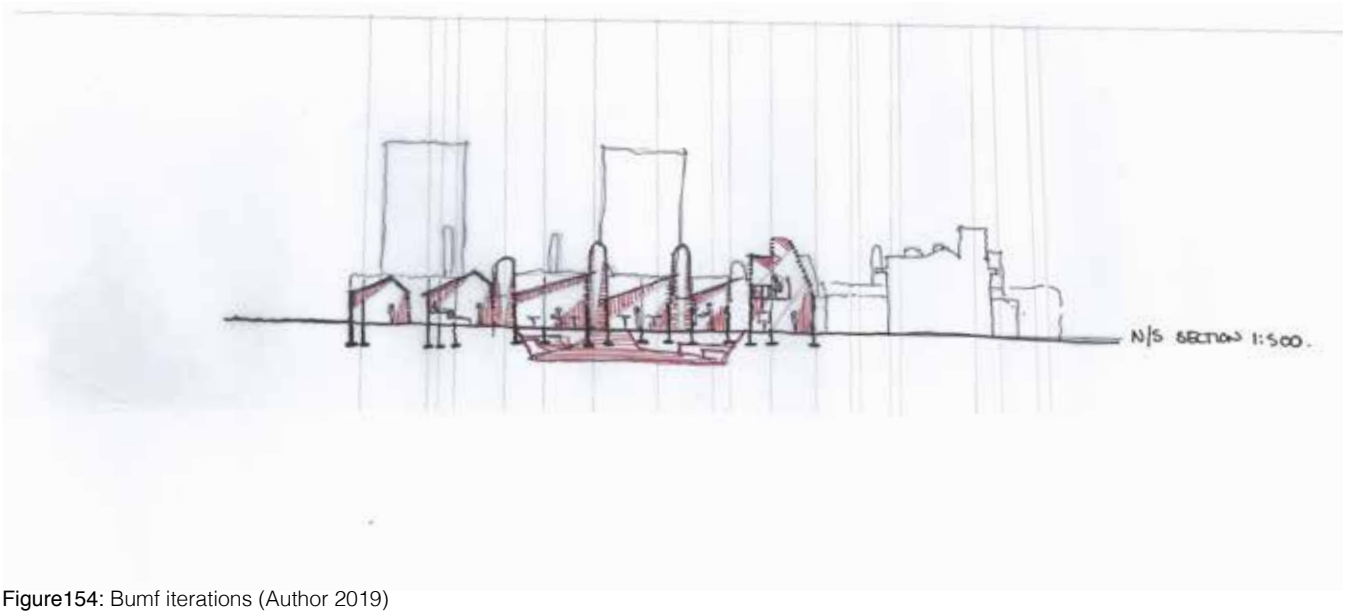


Figure154: Bumf iterations (Author 2019)

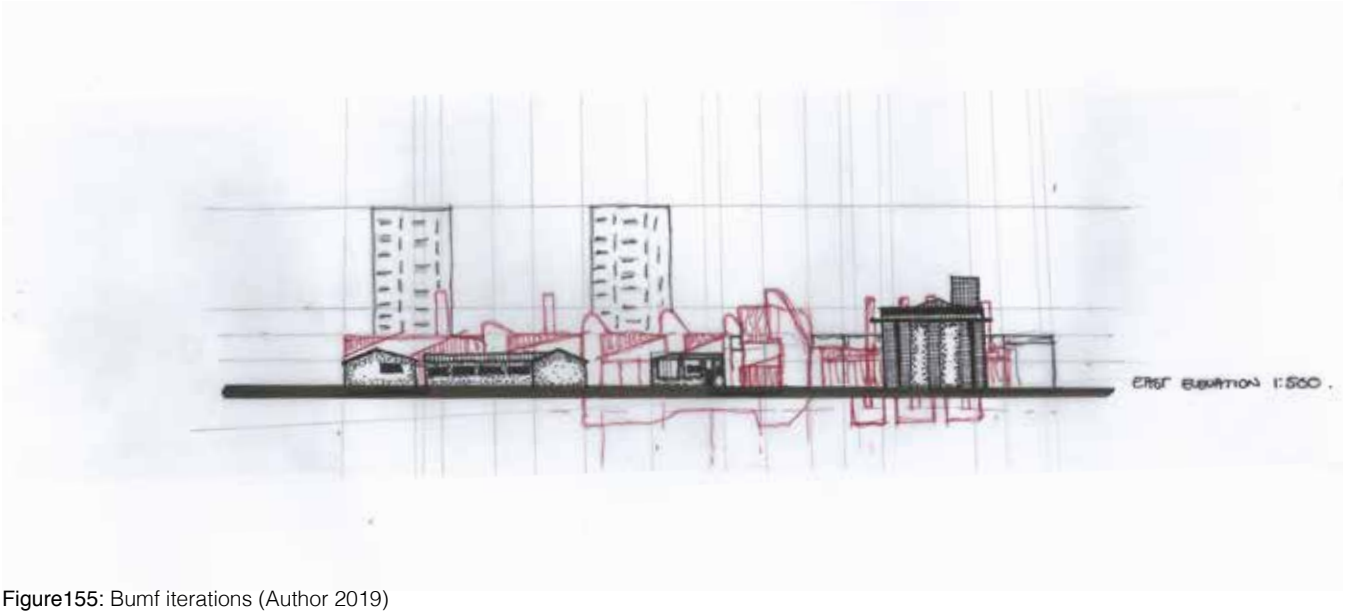


Figure155: Bumf iterations (Author 2019)

4.6 Iteration 3 to 7

These iterations looked at smaller changes rather than larger changes as the main design points have already been implemented on the site as an initial intervention. The refinement strategies looked at level changes in and around the placed masses. By introducing level changes the user experience moves away from the linear and more to the visual and tactile. Hierarchy is therefore placed on more important elements such as the main workshops and PC labs while the new creative classrooms are placed on the same level as the existing classrooms to create continuity of programme. This simultaneously improves the security aspect of the site meaning that the public has visual but not physical access to certain areas of the site. The children then can dictate when they want to use the resource centre without their own space being interrupted by the public. Visual access is yet again a very important part of the intervention in line with creative education theory and creative environment requirements. The East-West connection starts to become an important feature for the movement of the user through the site but is secondary in nature to the NS connection. The urban edge starts to become important and the access points throughout are more controlled and maintained as landmarks for passers-by in the same manner as the Delft Day Care Centres. Responsive Environment principles were implemented at a smaller scale meaning the various points on site started to speak the same language rather than being singular elements on their own. A singular main element that borders the tripartite plaza acts as the central gathering point that then radiates into the more singular, user intensive programmes spread across the site.

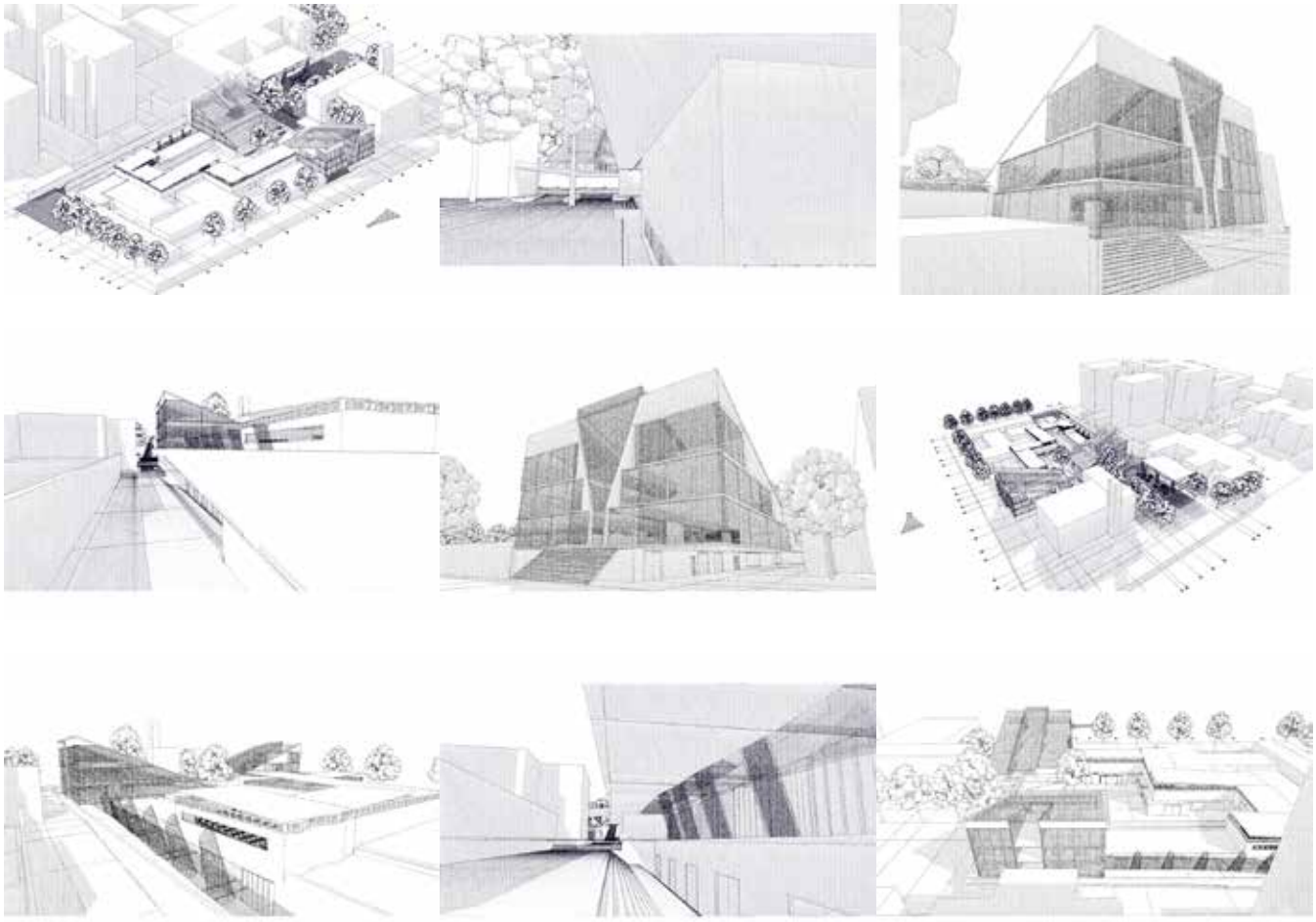


Figure156: Archicad perspectives of design (Author 2019)

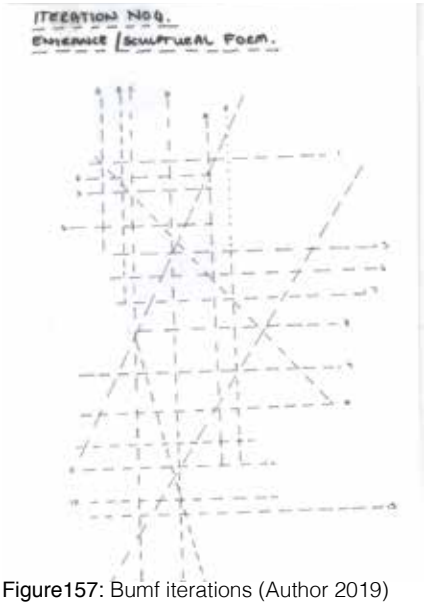


Figure157: Bumf iterations (Author 2019)

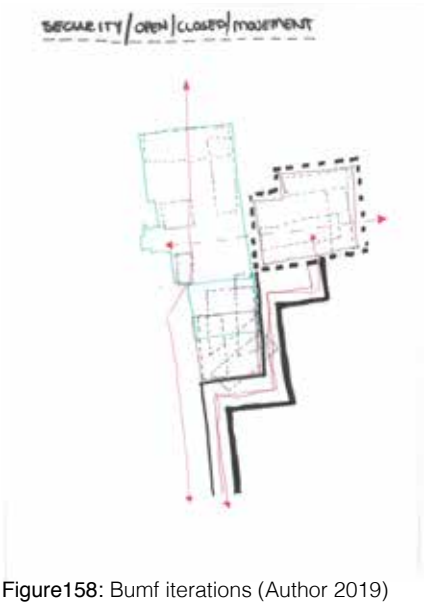


Figure158: Bumf iterations (Author 2019)

Figure159: Bumf iterations (Author 2019)

Figure160: Bumf iterations (Author 2019)

Figure161: Bumf iterations (Author 2019)

Figure162: Bumf iterations (Author 2019)

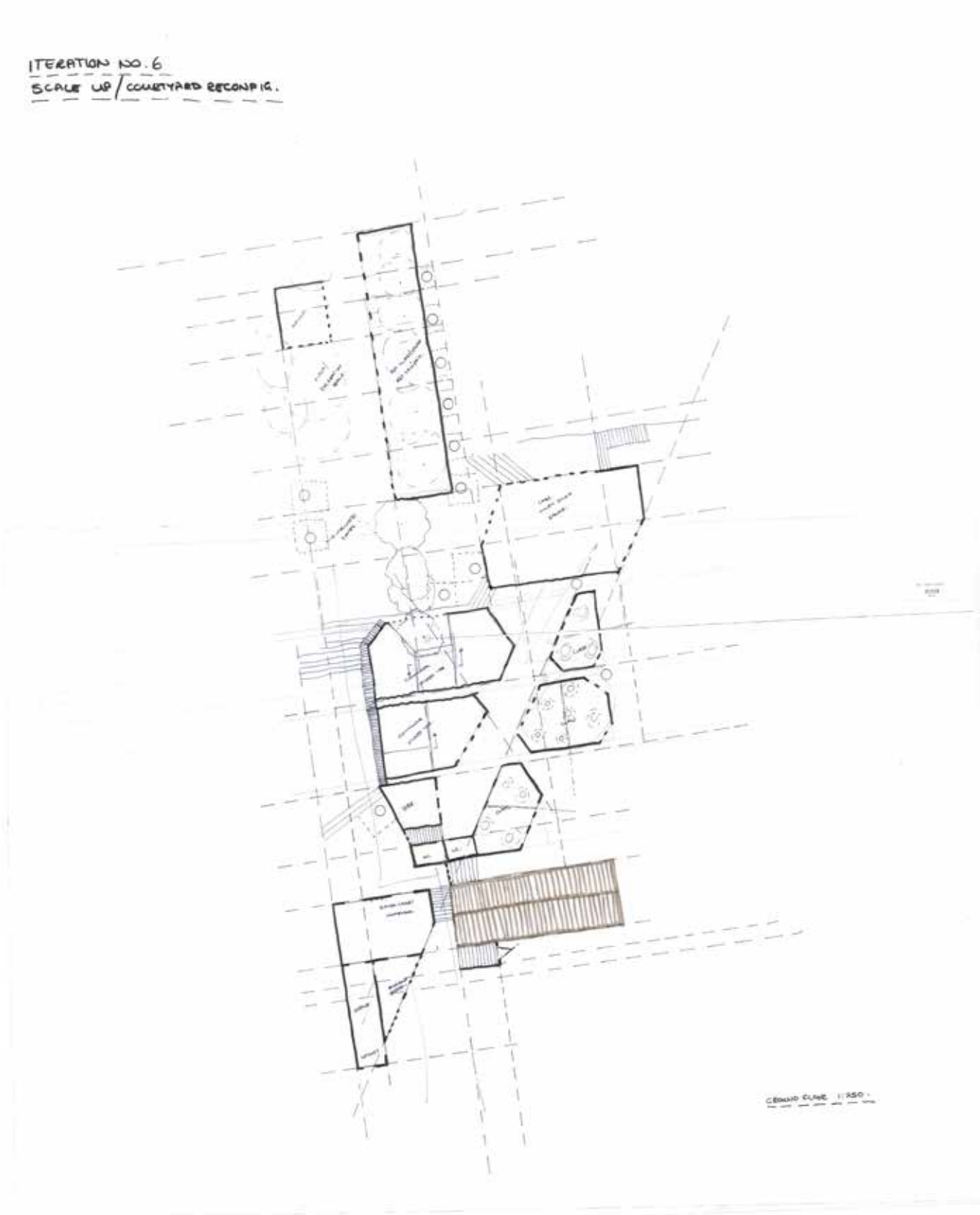


Figure163: Bumf iterations (Author 2019)

Figure164: Bumf iterations (Author 2019)

4.7 Reflection

Stacking of programmes and separation between functions became a problem as a result of the level changes and went against the piecing together of a whole entity. Volumes and areas were completely separate and needed to be overlapped in some way to preserve the essential theories and requirements of a creative learning environment. Forms and material choices were in stark contrast to the surrounding context which in principle wasn't a problem but as a whole needed to be addressed in a manner that is subtle and considerate of the heritage of the area. Norman Eaton's legacy is immensely important and a reflection of this significance would add a layer of refinement in line with the creative ethos of the intervention.

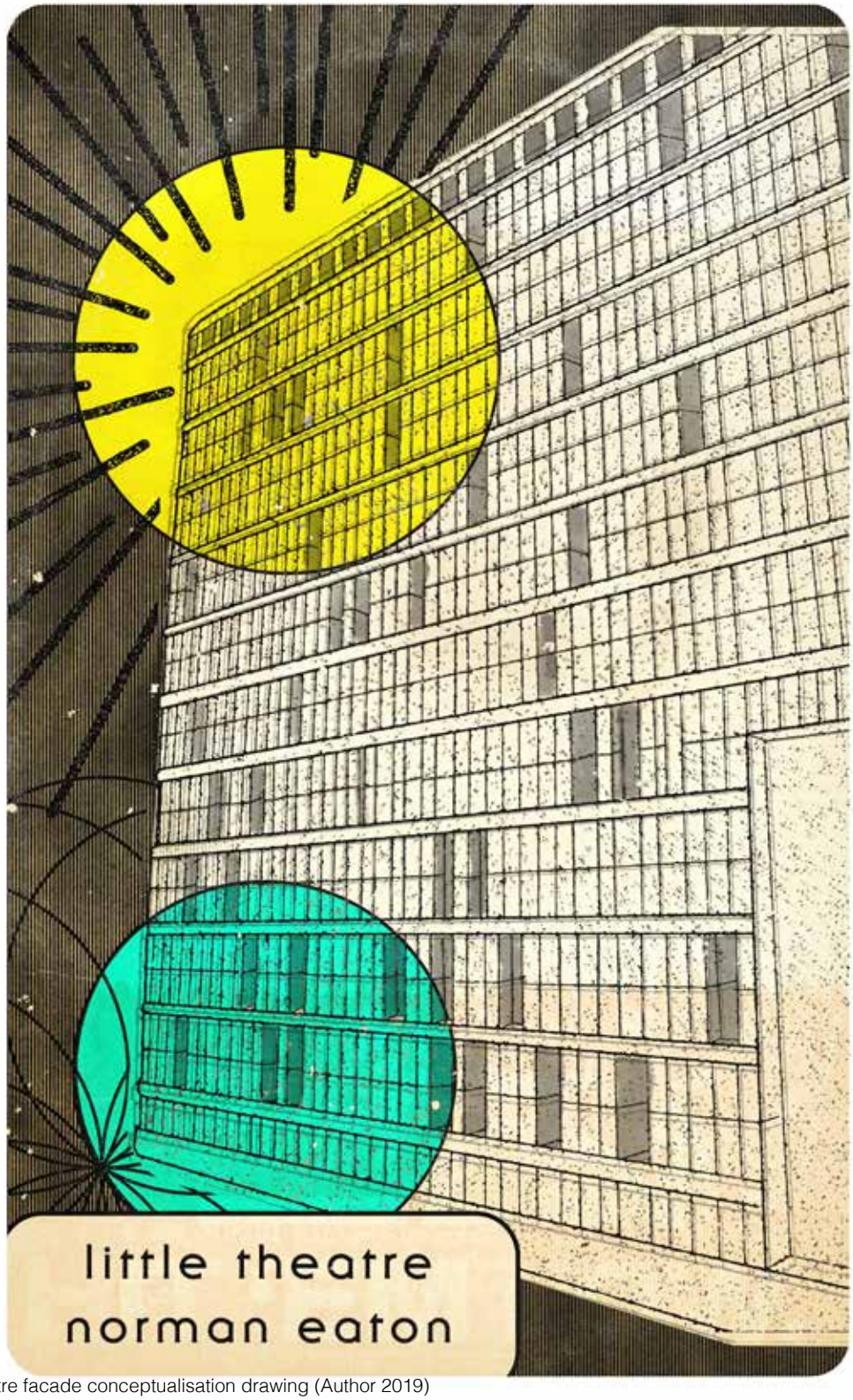


Figure165: Little Theatre facade conceptualisation drawing (Author 2019)

4.8 June Design Crit Iteration

The central hub was envisioned as a gateway between the school environment and the public plaza with the NS axis becoming a promenade-type environment that houses various sub-programmes. The new creative classrooms bordered the edge between the school and the wellness corridor where shops that supplement the programmes on site were housed. The art gallery floated over the undulating wall which became a back drop for the art work within the general space and subsequently became an artwork on its own. A triple storey library towards the east became the Eastern urban edge which staggered the EW connection and movement path. Recording studios and PC labs were housed on the Western edge with a sky-link joining the two main elements of the gateway. Public seating and in-between learning spaces started to be introduced as a means of linking inside and outside spaces.

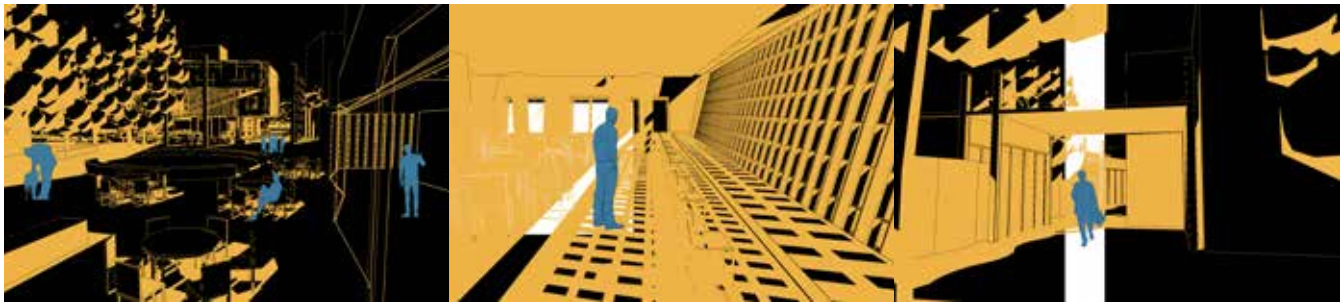


Figure166: Shadow and lighting studies (Author 2019)

Figure167: Shadow and lighting studies (Author 2019)

Figure168: Shadow and lighting studies (Author 2019)

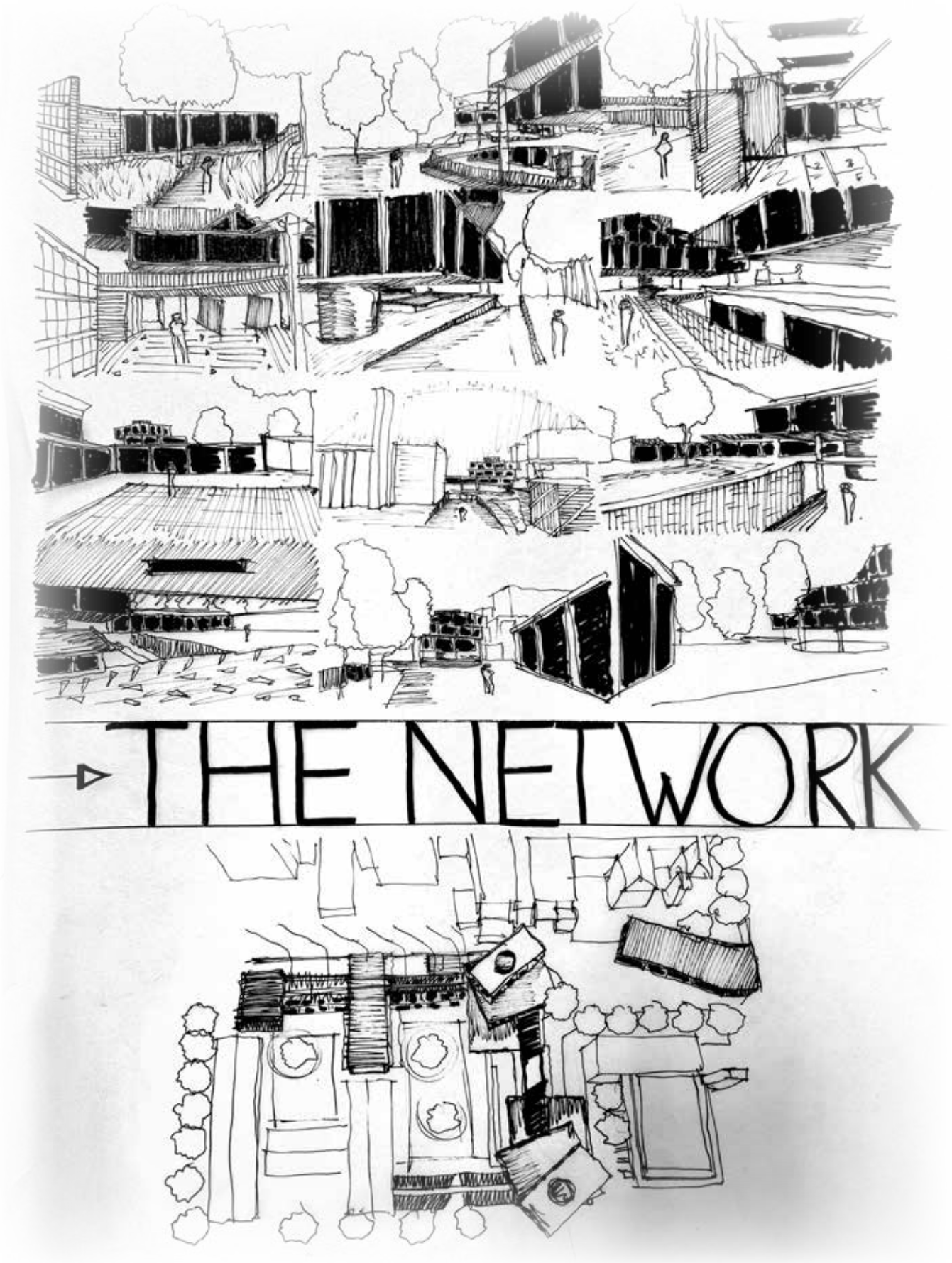


Figure169: Site identity investigation (Author 2019)

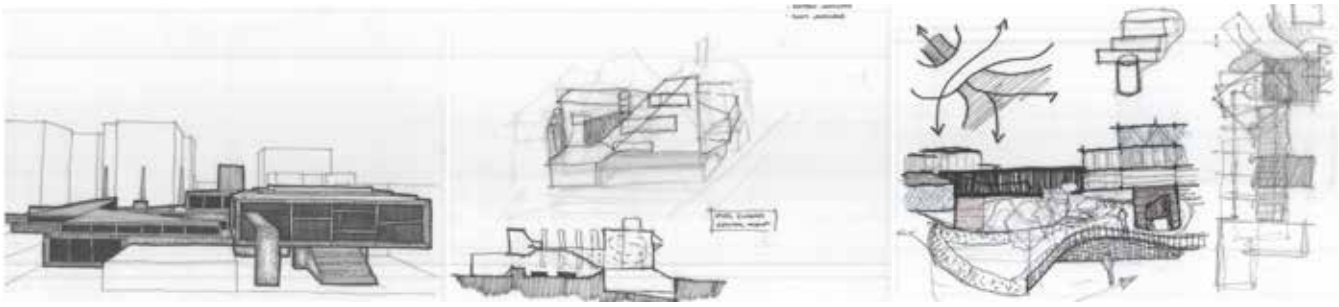


Figure170: Bumf iterations (Author 2019)

Figure171: Bumf iterations (Author 2019)

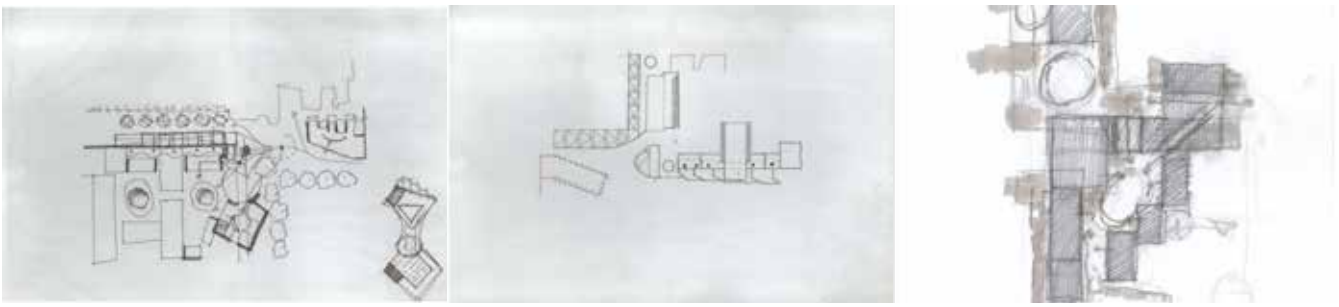


Figure172: Bumf iterations (Author 2019)

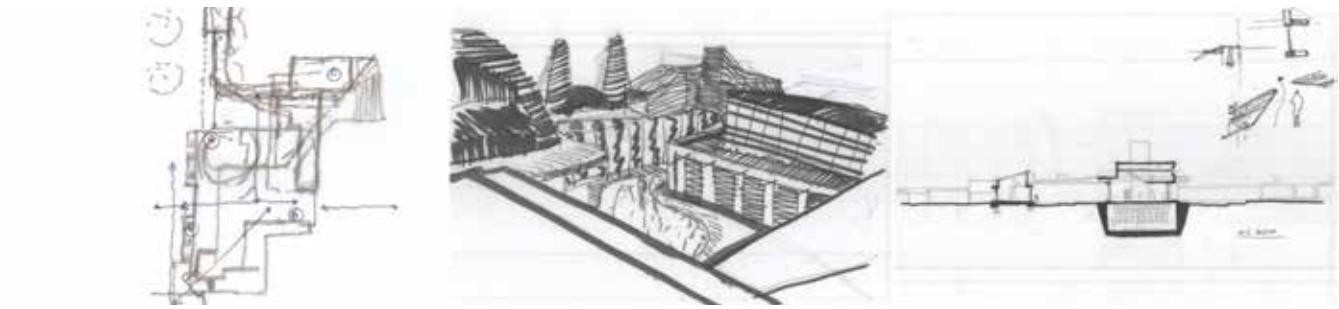


Figure173: Bumf iterations (Author 2019)

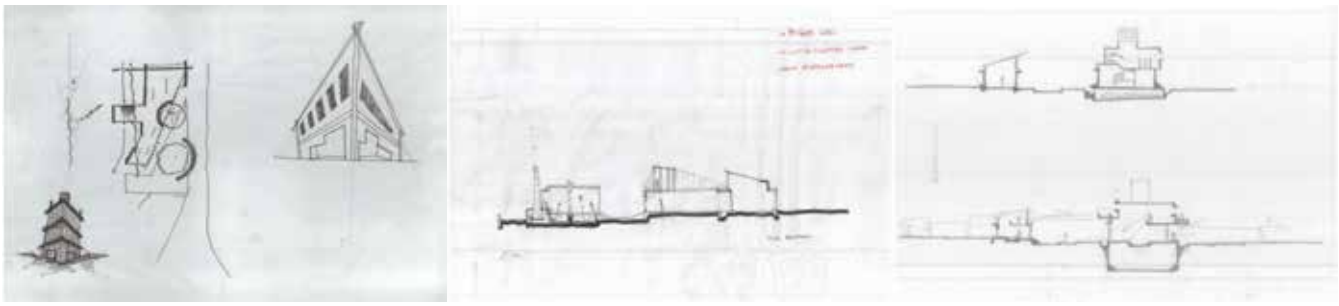


Figure174: Site mvoement and activity drawing (Author 2019)

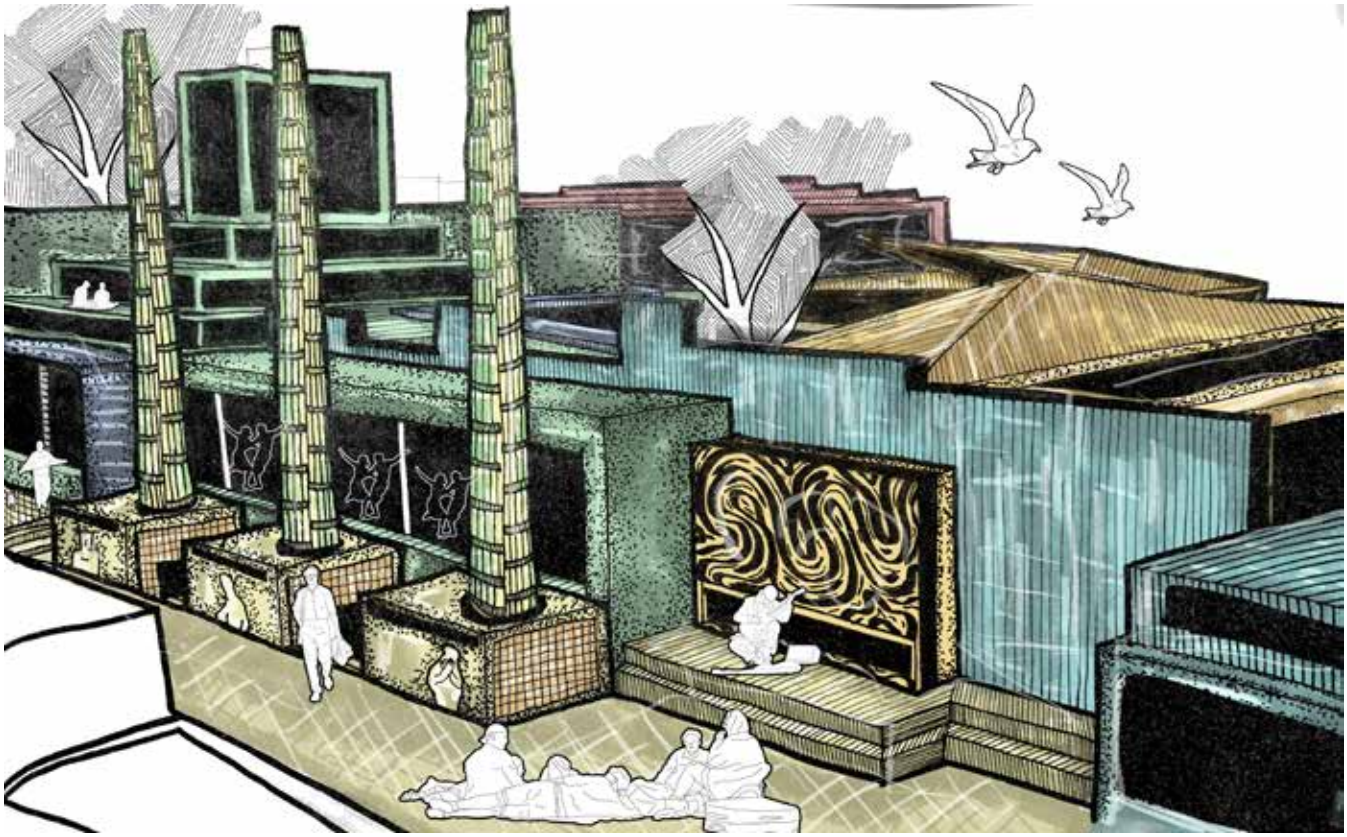


Figure175: Site perspective exploration (Author 2019)

Figure176: Archicad perspectives of design (Author 2019)

Figure177: Archicad perspectives of design (Author 2019)

Figure178: Archicad perspectives of design (Author 2019)

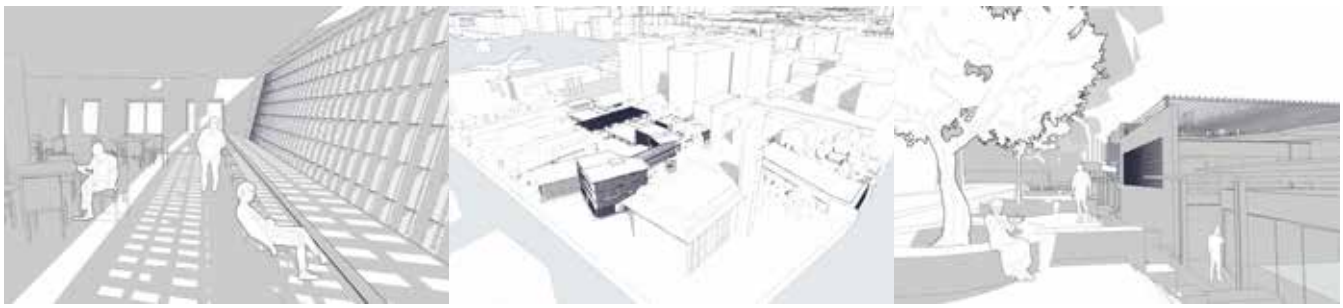


Figure179: Archicad perspectives of design (Author 2019)

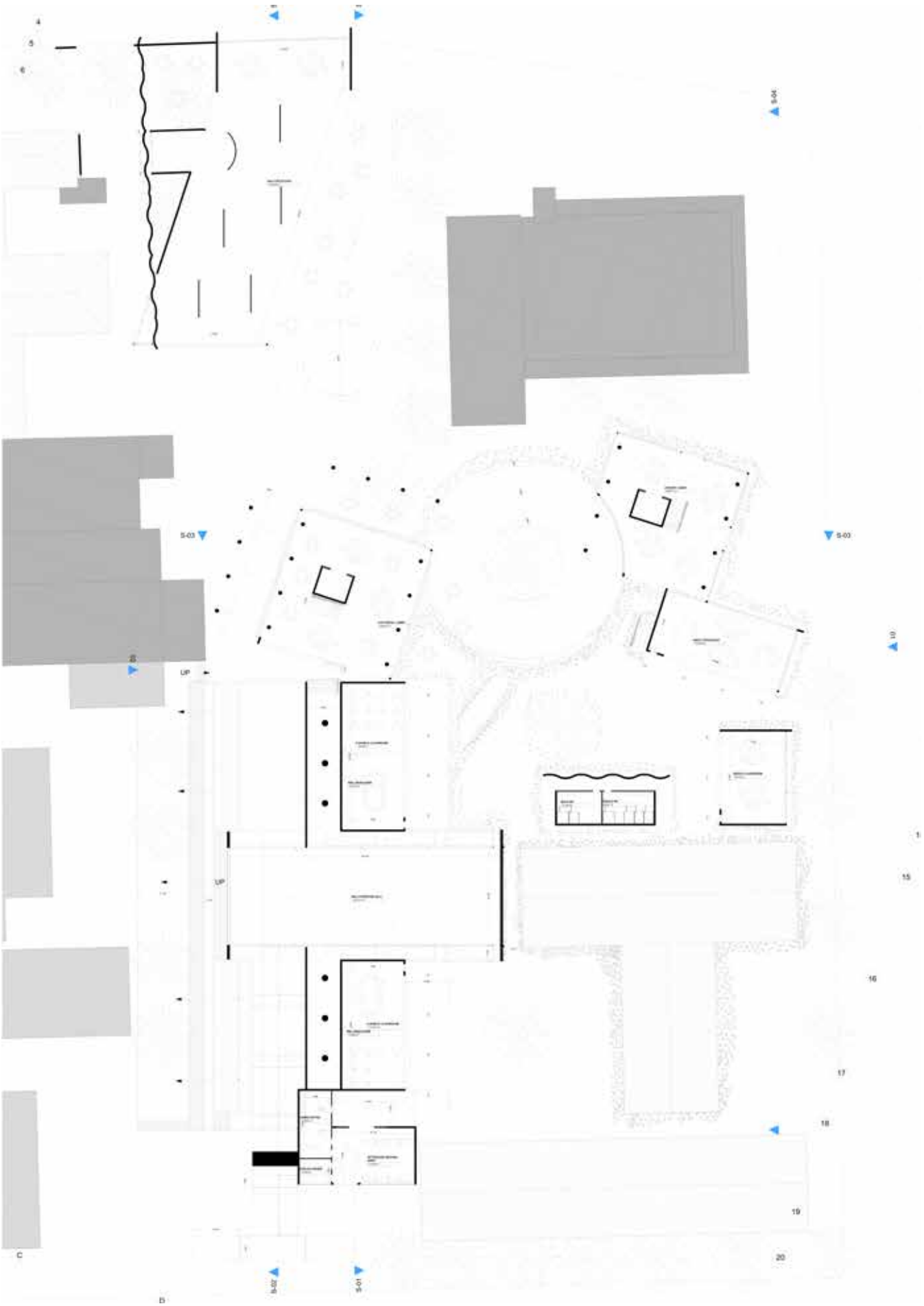


Figure180: Archicad ground floor (Author 2019)

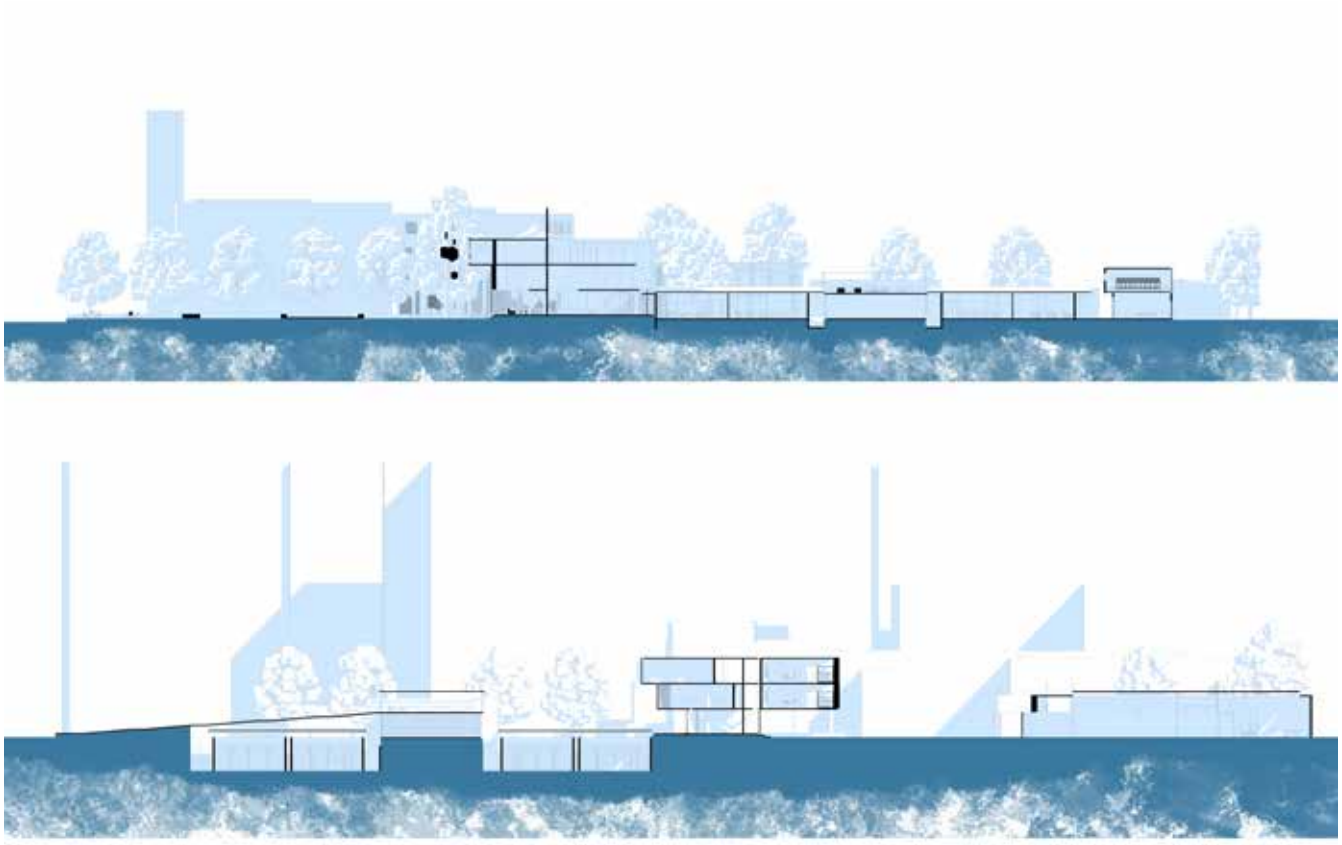
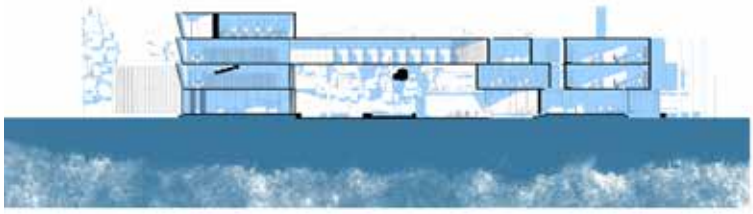


Figure181: Archicad sections (Author 2019)



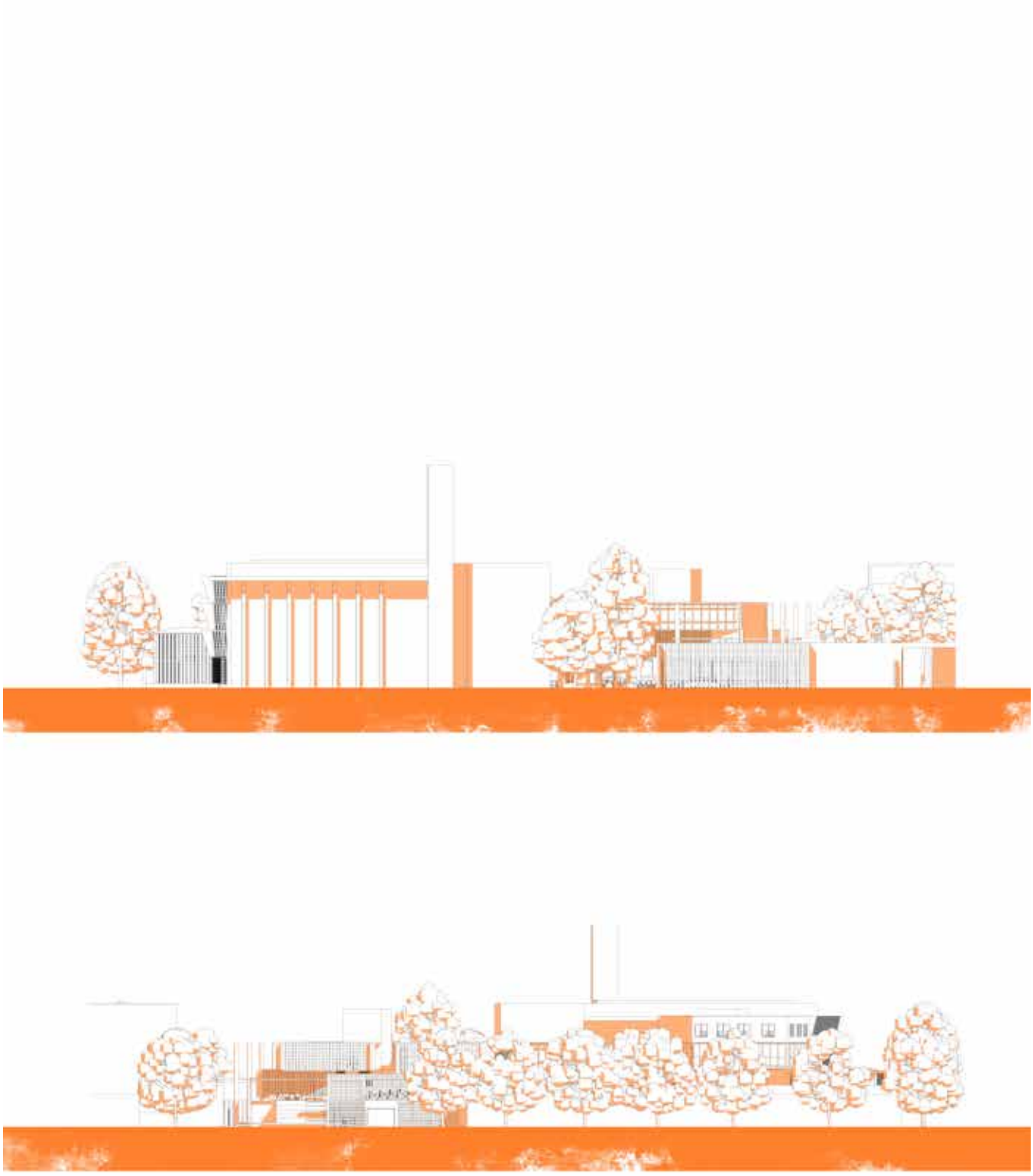


Figure182: Archicad elevations (Author 2019)

4.9 Reflection

The library closing off the eastern edge negatively affected movement patterns and went against the idea of bridging inside and outside spaces. The proposed buildings resulted as objects in the landscape rather than pieces forming a collective whole. The programmes chosen and implemented were outdated and didn't speak to the intended resource excellence centre typology. The architectural language was in contrast to that of the context which diverted attention from the user experience and resulted in the intervention scarring the landscape rather than improving it substantially. Access and movement of users through the service channels did not read effectively and resulted in a confusing relationship between where users were supposed to go and which areas they needed to use. Management spaces were missing and needed to be implemented to supplement and serve the creative functions of the site. External space making was rudimentary and did not speak to the creative nature and threshold relationship between the inside and outside spaces. Creative classrooms were rigid and not flexible in accordance with creative educational theories and requirements.

4.10 Undulating wall of the Little Theater

The undulating wall of the Little Theater has a strong background that embodies the nature of Norman Eaton's work by means of movement, symbolism, pattern and materiality.

"The pedestrian walkway and undulating wall of the Little Theatre (c.1940-1950) forge a connected surface of patterned masonry, that sets up an imaginative dialogue of ever-changing patterns and shadows – again reminiscent of Belo Horizonte." (Pienaar, 2017)

"Brick surface 'carpets' bound inside and outside space in his later work, documented in carefully crafted hand drawings, again recalling African motifs of weaving and making to emulate woven textures as documented in his travel sketch books." (Pienaar, 2017)

The original wall featured Eaton's ideas surrounding patterned masonry and creating surfaces with a symbolism that related to his travel diaries . Unfortunately the wall was demolished as part of the renovations of the Little Theater in the 1990s. The wall was rebuilt (DATE) with similar bricks but with changes to the build up of the structural support ends and the patterning of the surfaces. From the plans it can be seen that the wall was also shortened significantly (Appendix) and thus the physical meaning and significance of the wall was diminished. The original intentions are, however, still relevant and the current iteration manages to convey at least some of that. The story of the site is thus evident and forms part of the continuum of the vernacular of Pretoria. To ignore the narrative of the wall would be naive and illadvised, therefore the proposed intervention needs to address this intention and build upon the rich architectural continuum of not only the physical but also the legacy of Norman Eaton.

The ideas (set forward) of piecing together elements to tell a story, to form a framework for an infill and to express movement through a site all remain relevant and crucially important to the experience of the user in the existing spaces and the new spaces to be created.

"Eaton responded to the sub-tropical environment of Durban, by peeling the skin of the building away, so that it became a layered façade appropriate to the climate. He described the resultant screen on his drawings as an 'open sun protection screen built up of glazed reinforced tiles'40 – an adapted brise soleil. Hollow bricks of the green glazed sunscreen that wrap around three sides of the building were made to special measurement and individually glazed to a colour determined by Eaton himself through a long process of experimentation. The bricks were threaded vertically onto steel rods – the entire construction suspended from the flat roof. Details are repeated on various scales in the building so that texture becomes like a continuous field." (Pienaar, 2017)

A similar screening device was developed on the northern facade of the Children's Art Centre to control sun access to the building. This layering approach to facades is an important aspect of Eaton's work and the experience of the user from outside to inside spaces. The proposed intervention revolves around the user's creative experience of the various "pieces" and thus a layered approach can be used to tell a story of the various functions taking places at different times.

"It seems that Niemeyer's Belo Horizonte had had a profound influence on Eaton – despite him never having been able to visit it first-hand. The curvilinear site bounding elements of Casa do Baile (1943), Pampulha, Belo Horizonte seemed to have inspired Eaton – perhaps he recognized the affinity between Niemeyer's free-flowing, sensuous curves and African organic plasticity." (Pienaar, 2017)

Movement is rarely a linear process which means that in order for a building to enhance the movement experience of a user through a space, the space-making elements need not be fully linear. In a creative African context, this is especially relevant and needs to be created as such.

Circa 1950

Figure183: Norman Eaton's undulating wall at the Little Theare circa 1950 (Pienaar, 2017)

2019

Figure184: Norman Eaton's undulating wall at the Little Theare 2019 (Author 2019)

Proposed

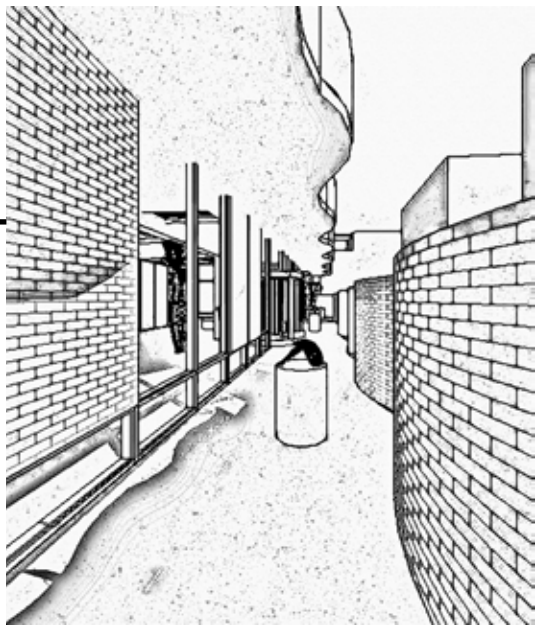


Figure185: Norman Eaton's undulating wall at the Little Theare as part of art gallery (Author 2019)

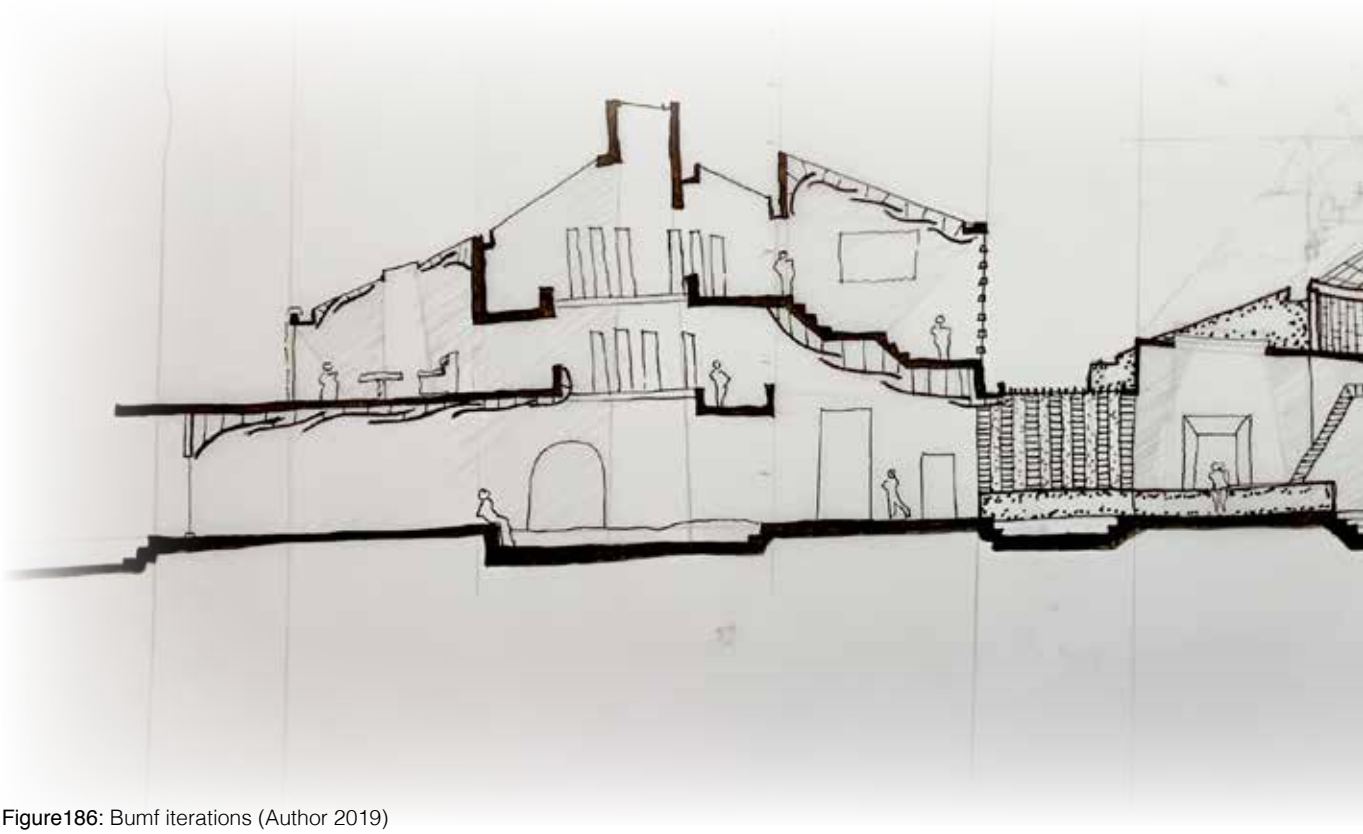


Figure186: Bumf iterations (Author 2019)

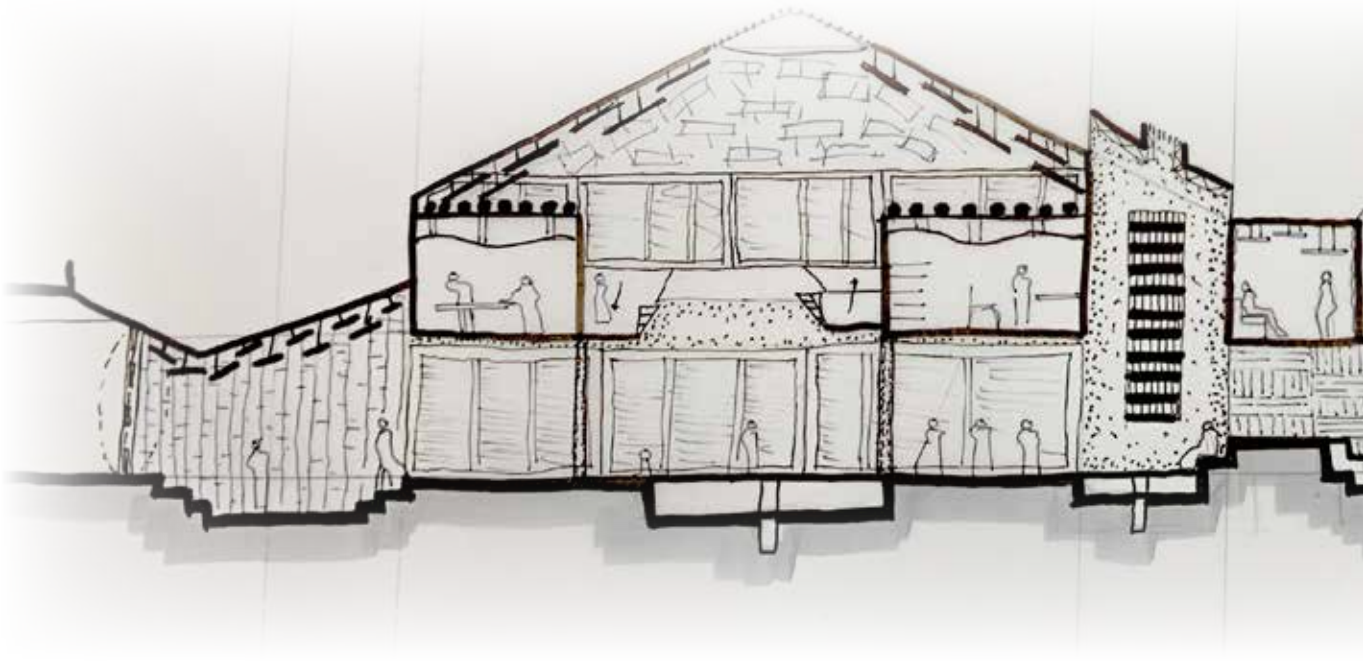


Figure187: Bumf iterations (Author 2019)

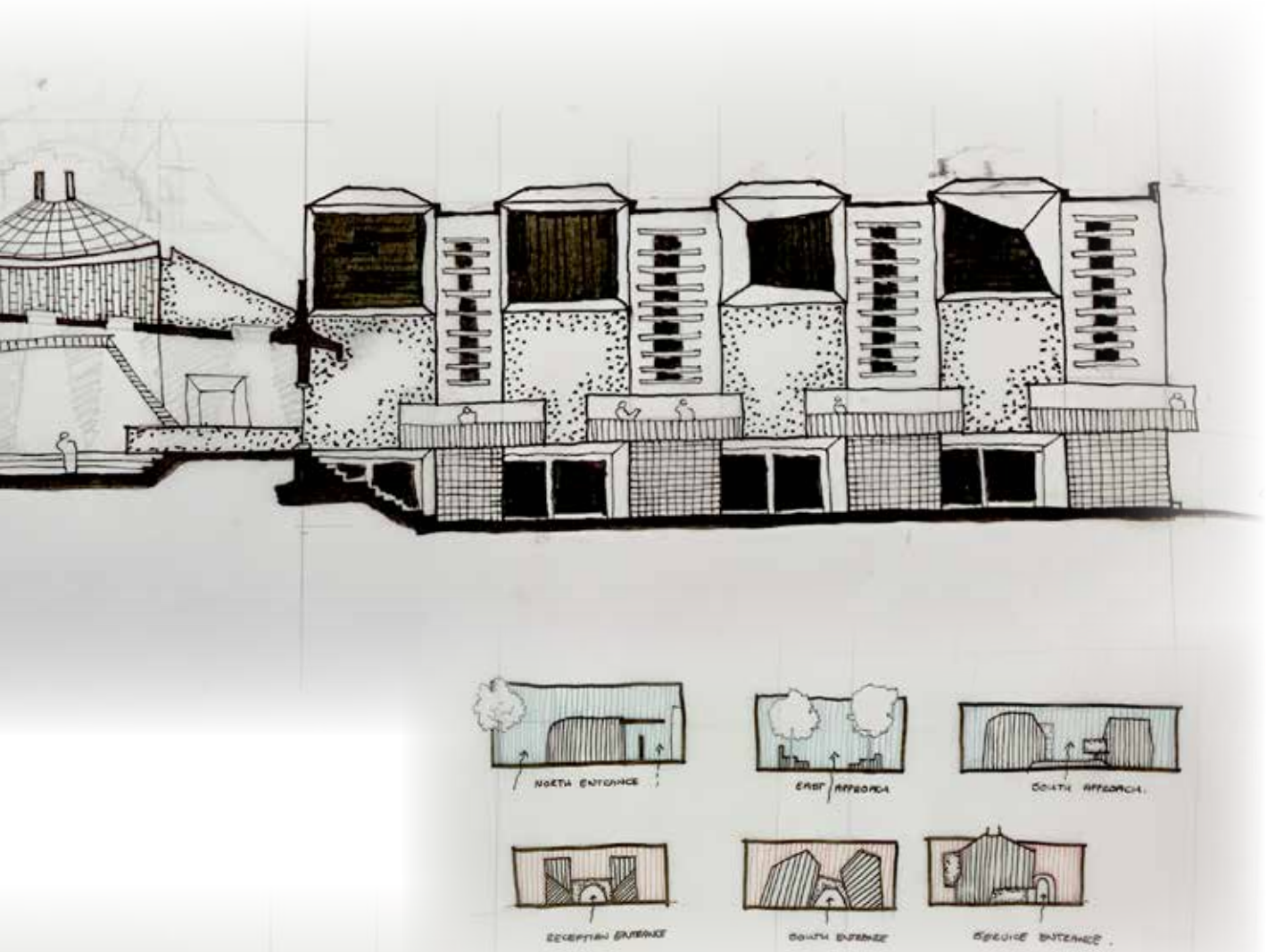
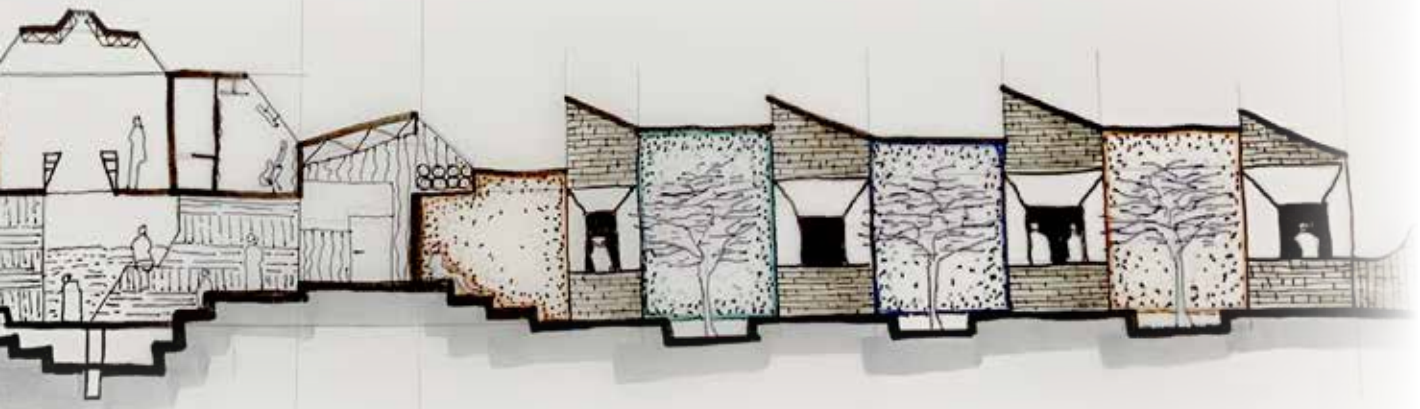


Figure188: Bumf iterations (Author 2019)



4.11 Final Design

The final design iteration combines the positive as well as negative lessons learnt as part of the iterative process. It looks at using the educational theories researched requirements for creative environments, SANS regulations, contextual responses, urban scale, block scale, micro scale and user experience throughout the site.

The northern edge of the site houses the art gallery and exhibition spaces situated on the eastern edge of the undulating wall of the Little Theatre. The undulating wall is an important design element and informant for the strategies used in the intervention for the site. Having been rebuilt after an accidental demolition, the wall isn't exactly the same as the original wall but still maintains the methodology and inspiration of the original by Norman Eaton. Thus to ignore it would be an insult. The undulation naturally relates to human movement patterns, which isn't always linear while the brick patterning contextualises the structure in a manner studied by Eaton in his sketchbooks while on his expeditions throughout the African continent. It is particularly contextualised as an important element in Pretoria where brick work is a common building pieces. Brick, being an extremely versatile material, can be used in a multitude of colours, patterns and sizes to tell a story aesthetically while the space making properties are ideally suited to the Pretoria climate. The art gallery aims to respect this connection to the past by allowing the wall to have its space to shine and become a part of the new. The art gallery is the first point of contact for any visitor entering from the North and acts as a general gallery during the day, showcasing and selling pieces of art made in the workshops of the central hub. At night the building changes slightly and becomes an exhibition/foyer space for users to interact with before entering the Little Theatre, church or coffee shop. The PC labs have a connection with the gallery in a digital sense by means of digital art, videos and other media being created in the central hub and projected on the northern face of the gallery onto Nana Sita Drive. This counteracts the "dead"

sidewalk of the current context and brings to life a moving element within a stationary context. It speaks to artists already using the edges of Nana Sita Street to voice their identity, as a current Third Year Architecture student at the University of Pretoria had already done directly across the site. Public seating and interaction with the thresholds between inside and outside, is strongly addressed in this iteration as a means of counteracting current typologies of programmes only occurring in select areas closed off to other programmes. This means that the art gallery can interact with the coffee shop, the public benches and greenery, the smaller pedestrian path on the western edge of the undulating wall and the entrance to both the Little Theatre and the Children's Art Centre.

The central hub in the middle of the block houses probably the most important functions of the intervention and thus the architecture speaks to that. With the world moving into evermore digital based mediums in all fields of study and work, it is vitally important that learners start to learn these skills at a young age. Unfortunately these sorts of facilities are generally in the domain of private education and either non-existent in governmental schooling or lacking funding to stay updated. The PC labs serve as a central space for learners of the surrounding schools to use and interact with digital creatives that can guide and teach learners about the possibilities of self-improvement through these devices. This allows learners to experience on a day to day basis, the ability one has to invest in and shape their own opportunities without having to be provided with a standard education that does not cater to their individual needs. The PC labs are not only for learning, as social media has taught us that self development can happen in any shape or form but the means to do so need to be present. The example of Casey Neistat's 368 in New York City is evidence of this in that a singular facility can be used by many creatives and change its functionality in order to suit the user. The PC labs can house learning, graphic design, gaming competitions, video creation and architectural learning on a digital platform with real life evidence within the building itself in order to bridge the gap

Figure189: Revit site drawing (Author 2019)

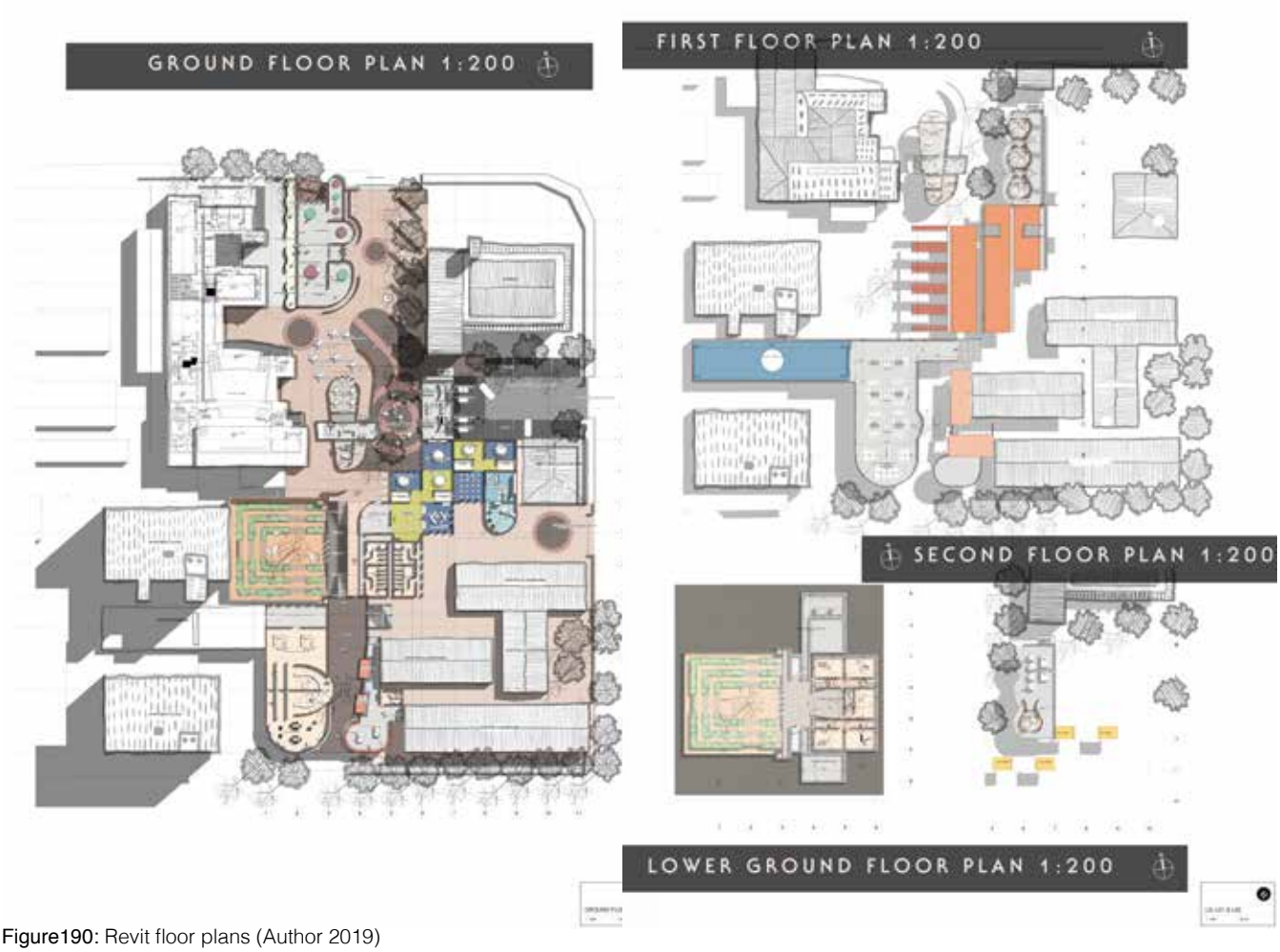


Figure190: Revit floor plans (Author 2019)

between virtual and actual. Furthermore, the ground floor houses the coffee shop which acts as a leisure aspect to the plaza and the users of the building as well as public visitors. This interaction is important in that it provides transparency to the occurrences of the site and invites activity to a site that is currently under-utilised. The workshops in the eastern block are just as important as the PC labs in that initiatives such as the Imbali Visual Literacy project have shown just how important creative, hands-on endeavours are to a sense of well-being and self improvement. The materials for the craft and art making in these workshops is provided by means of a drop-off zone at the Eastern access entrance which doubles up as church parking on weekends. The workshops have visual access to them from the central courtyard space for any visitors or users of the facilities in order to create the link from the gallery, final and process. The central courtyard is important as an external space that links the northern plaza with the southern promenade space. It serves to slow down the user and centre them in their surroundings to take cognisance of the heritage value of the Eaton brickwork in the Little Theatre framed by the new innovation hub that speaks to the continuum of creative thinking already present on the site. The central hub also serves as a landmark in the urban fabric that pieces itself nicely into the strip of creative, residential and educational buildings within the identified urban vision strip.

The new creative classrooms that have replaced the temporary structures on the site are based on the design principles used by Herman Hertzberger in that the spaces are multifunctional and cater for activities such as formalised teaching, large group learning, smaller focus groups, informal reading and creative exercises, as well as being able to change into a large assembly hall for larger school gatherings. The use of flexible movable partitions and light chimneys separates the spaces while providing visual access but not audio access. The lighting is also more focused towards the different spaces as a means of space making without physical architectural forms derived from the lessons learnt from

Aalvar Alto's manipulation of light. A new headmaster's office and reception had been implemented that formalises the designated entrance to the school and allows the user to orientate themselves better within the space. The intervention is rather larger and thus a lot of open space was lost for school children to play in break times and after school. The covered parking lot between the two apartment buildings on the western edge provides a solution to this problem by creating a small sports field and rooftop recreational space for the children that is not accessible to the general public. This visual interaction with the public, however, is important in that the children are able to witness creative activities taking place in the public courtyard, recording studios, shops and Visagie Street. The existing permanent structures of the school are to remain as part of this phase of the block vision with the idea being that a secondary phase would allow these buildings to follow the example of the new classrooms in becoming more flexible and cater towards the needs of creative education. The school would then act as a catalyst for innovation for the surrounding schools to implement strategies appropriate to their own context.

The recording studios are found below ground as a means to sound proof effectively without over designing the architectural barriers. This also means that temperature control and mechanical ventilation is kept to a simplistic solution as the surrounding ground temperature ensures an even temperature throughout the year. The public courtyard is on the same level and allows for interaction between the users of the studios and the general public and even some impromptu public performances. Access control is implemented at the ground floor level before entering the lower ground level to ensure the safety of the equipment and the users. On this level the after care centre for the school can be found on the eastern edge and the supply shops on the western edge. This arcade typology allows children in the after care centre to have a safe space to witness the happenings of users in the shops while providing a formalised pick up point for parents on the street that is less busy than the current point of Lillian

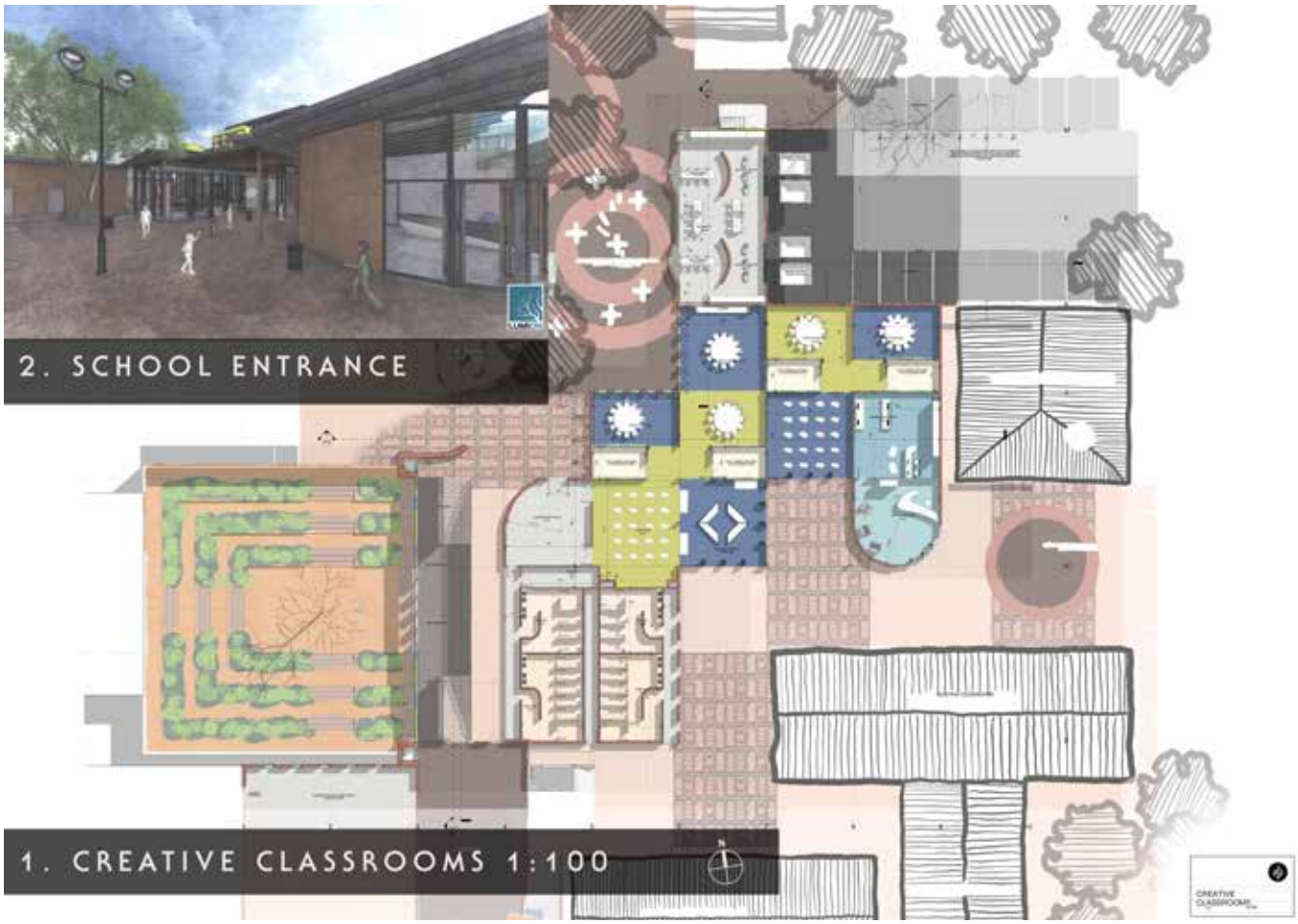


Figure191: Revit drawing (Author 2019)

Figure192: Revit drawing (Author 2019)

Ngoyi Street. The shops are centred round the need for supplies in the various creative programmes on the site and making it easily accessible for anyone with the desire to pursue a creative endeavour. As a whole the block is made up of the intervention, the Little Theater, the church, the school and the two apartment blocks. The intervention is pieced together by the central hub, art gallery, creative classrooms, recording studio and courtyard and the southern arcade. The external spaces and in-between spaces between these elements joins the site together and makes it a whole.

Furthermore each of the spaces are pieced together on a micro level in line with the conceptual intentions of the intervention, block and urban environments.

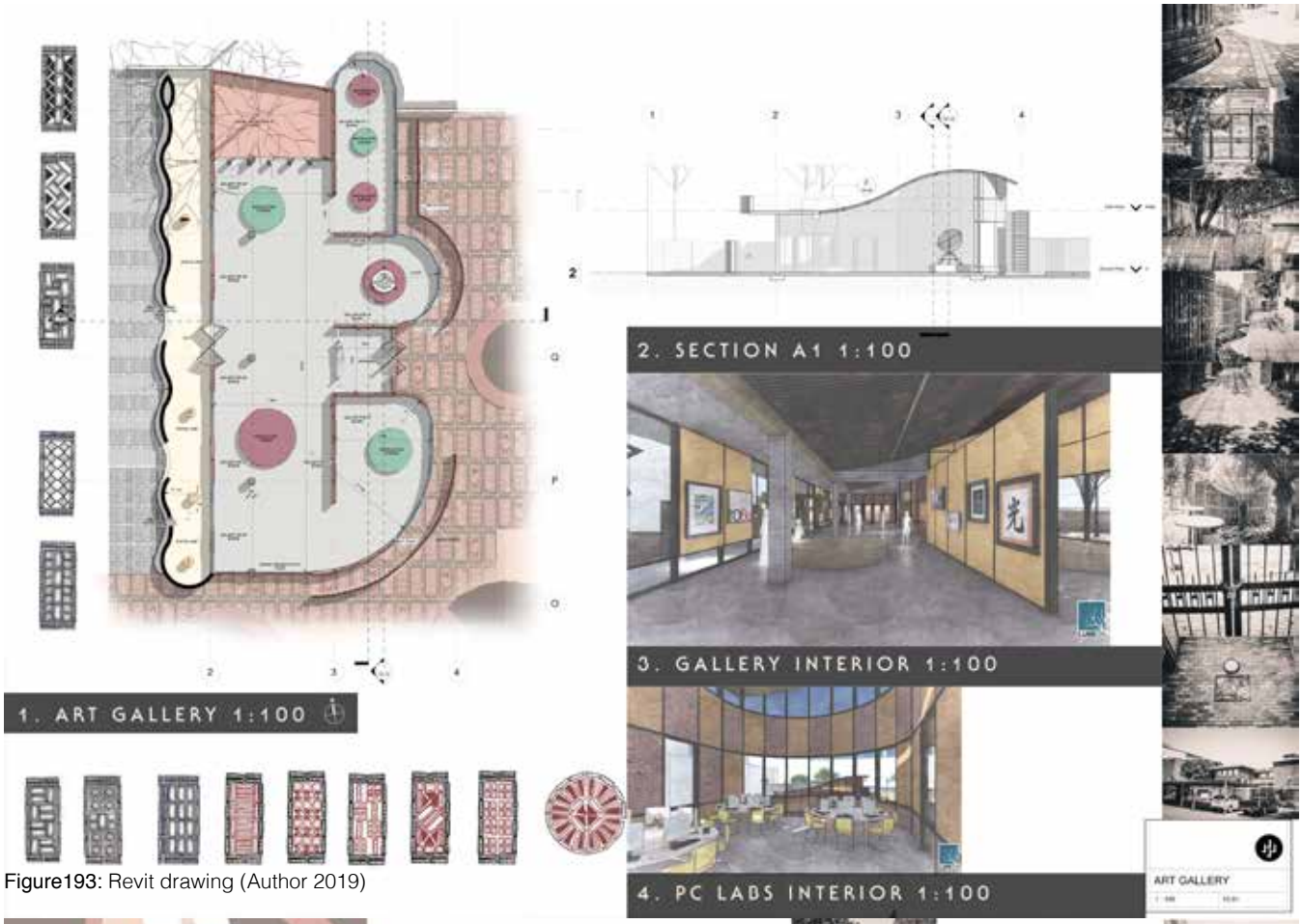


Figure193: Revit drawing (Author 2019)

Figure194: Revit drawing (Author 2019)

Chapter 5: Tectonic Development

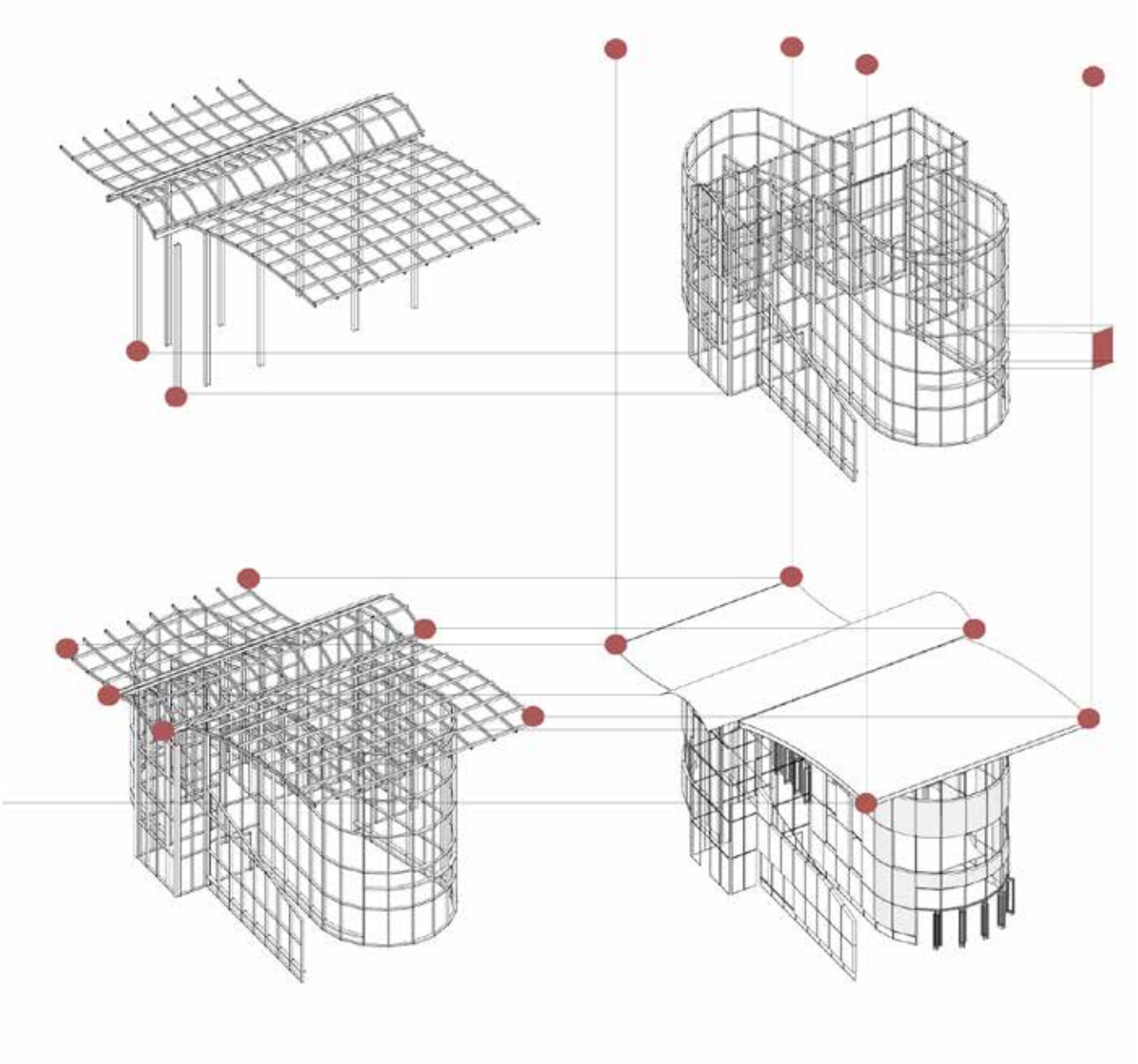


Figure195: Technical concept diagram (Author 2019)

5.1 Technical Concept

Architecture has the ability to piece together missing pieces within an urban context. This project aims to piece together missing resources in a collective form that serves multiple users and primarily school children of the Pretoria CBD. Thus the tectonic concept is derived from this piecing together or stitching together of various identities.

The architecture thus symbolises and educates the layering of different ideas and identities within the structure, infill and aesthetic. The tectonics represent the users in a collective whole.

Brickwork within a framework is an interpretation of the standard Pretoria material usage that embeds the project within the context.

5.2 Structure

The primary structure lays the framework for the various “identities” to fill in and piece together. A structure of steel columns and framework allows for this and for future expansion and flexibility.

The secondary structure relates to the infill of various materials responding to the climatic conditions and spatial requirements of the various functions and programmes.

The tertiary structure relates to the aesthetic and symbolic nature of the site derived from the precedent set by the Little Theater by Norman Eaton and the idea of patterning giving life to identity. Hierarchial progression on plan is expressed in section as well as massing of construction.

5.3 Systems

Water retention and recycling is an important feature to feed the bio-wall of greenery that serves to educate users of the need to look after a building and give it life to further educate in the future. Solar considerations allow for flexibility of space within the building and allow it to live differently at various times of the day in conjunction with the various users of the site throughout the day.

5.4 Technological application in intervention

The art gallery's construction consists of mainly brick work and glazing so as to maximise ideal lighting conditions for the artworks while the brickwork aims to add to the continuum of Eaton's Little Theatre. The contrast between very light glazing and heavy brickwork is indicative of the piecing together concept and the contrast between old and new, heavy and light, physical and digital. Connections are expressed freely and unhidden in order to enhance the experience of elements meeting each other, which in turn passively teaches the user about the building as a whole. The new structure's brickwork uses a stack bond pattern so as to create a uniform texture that does not detract from the expressive patterning of the undulating wall and thus driving attention to it and the artworks in front of it. Lighting becomes the main technology system within the space as general, uniform lighting is required with specific pockets of focused lighting separating the larger area. For the digital exhibition spaces the need for lighting is less concerning and therefore brickwork barriers can be used liberally in order to frame that which is digital. The floor consists of a polished concrete surface typical of art galleries and is chosen because of its durability and temperature control.

The central hub consists of the main structural concept ideas whereby a strong system of steel columns acts as the framework for an infill of various panels. These panels come in different variations of patterns and materials, unique to the identity of the programme it surrounds. The secondary structural system consists of smaller C-channels and hollow channels that act as support struts for the main system as well as the layout framework for the panels to fit into. The tertiary system consists of the panels themselves. Within the Western hub the panels consists of insulated brickwork layers in various patterns and depths as well as glazing panels for lighting solutions. The Eastern hub consists mainly of standard running bond brick work surrounded by green wall panel

Figure196: Revit drawing (Author 2019)

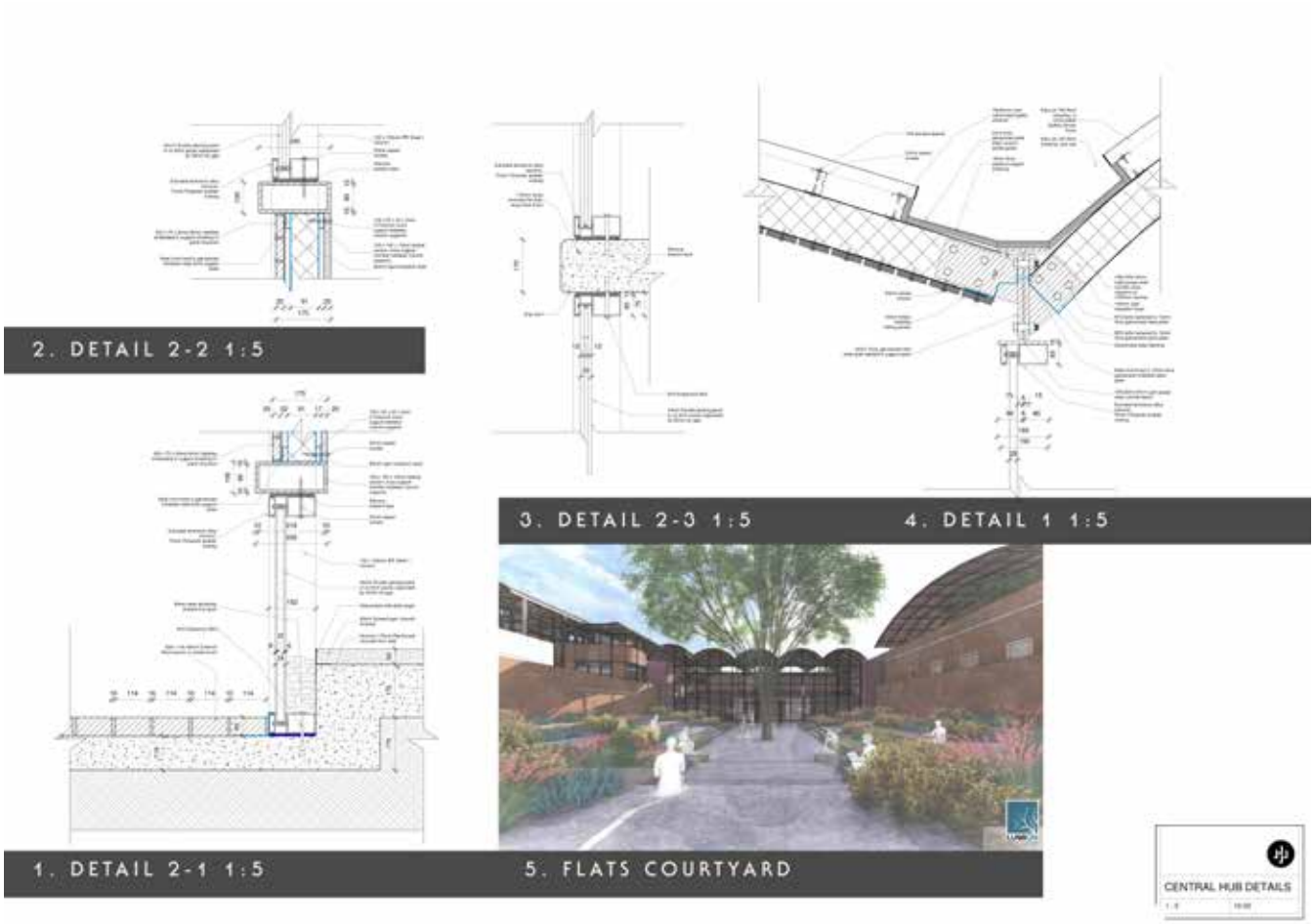


Figure197: Revit drawing (Author 2019)

system that allows for shading and learning of plants throughout the admin offices. The roofs and walls follow the movement continuum of the undulating wall. The roofs are lightweight corrugated sheeting on a secondary framework of C-channels, similar to that of the walls, and an interior skin of insulation and warmer materials such as timber slats. Patterning is vitally important throughout the site and particularly in the central hub as a means of expressing identity. The panels are interchangeable, which means that the building's identity can change over time depending on the ever changing flexibility of programme and innovation. Water runoff from the roofs above the eastern hub is contained in water tanks, filtered and pumped back into the green wall system. Ground water runoff is contained in a basement level below the western hub and is filtered and pumped back out into the landscaped greenery.

The creative classrooms follow more of a standard Pretoria construction method by following standard brick work practices in the walls, with the lightweight corrugated roofing slanted at various angles to allow in light in a similar manner to the art gallery, to separate spaces without physical barriers and to encourage creative learning. Sound proofing of partitions is important to keep noise out from the office spaces and smaller focus spaces when in use. The bathrooms follow the same technological principles as the classrooms.

The recording studio below ground uses a ventilation system of larger fans and ducts in order to minimise whistling of air that could affect sound recording. Thick retaining walls with a cavity in between allow for placement of these ducts as well as providing an even temperature between the rooms and minimising any noise from the surroundings. Surfaces are sound proofed with absorbent materials while ceilings follow the same principles. The studios are set back from the walkway to the eastern side and the large double glazing allows for light to come in along the circulation route but does not overheat due to shading from surrounding buildings and the new tree in the courtyard.

The central NS route from the southern access point to the northern gallery follows the principles of Norman Eaton's Polley's Arcade and the pathway next to the undulating wall whereby a brickwork patterned "carpet" gives identity to a specific circulation and tells the "story" of the site and the intervention. The entrance to the shops and aftercare follow the same principles of piecing together, albeit in a manner that grounds the two buildings as a gateway into the "arcade" more than the rest of the site. The structure allows for future expansion and is able to support the recreational area above the shops and the parking lot.

On a micro scale the construction detailing follows the piecing together principles by layering various materials and ensuring that connections are visible and unhidden from the user's eye. It is important for the user to experience the coming together of various elements on the three different scales of interaction.

Figure198: Revit drawing (Author 2019)

Figure199: Revit drawing (Author 2019)

Figure200: Revit drawing (Author 2019)

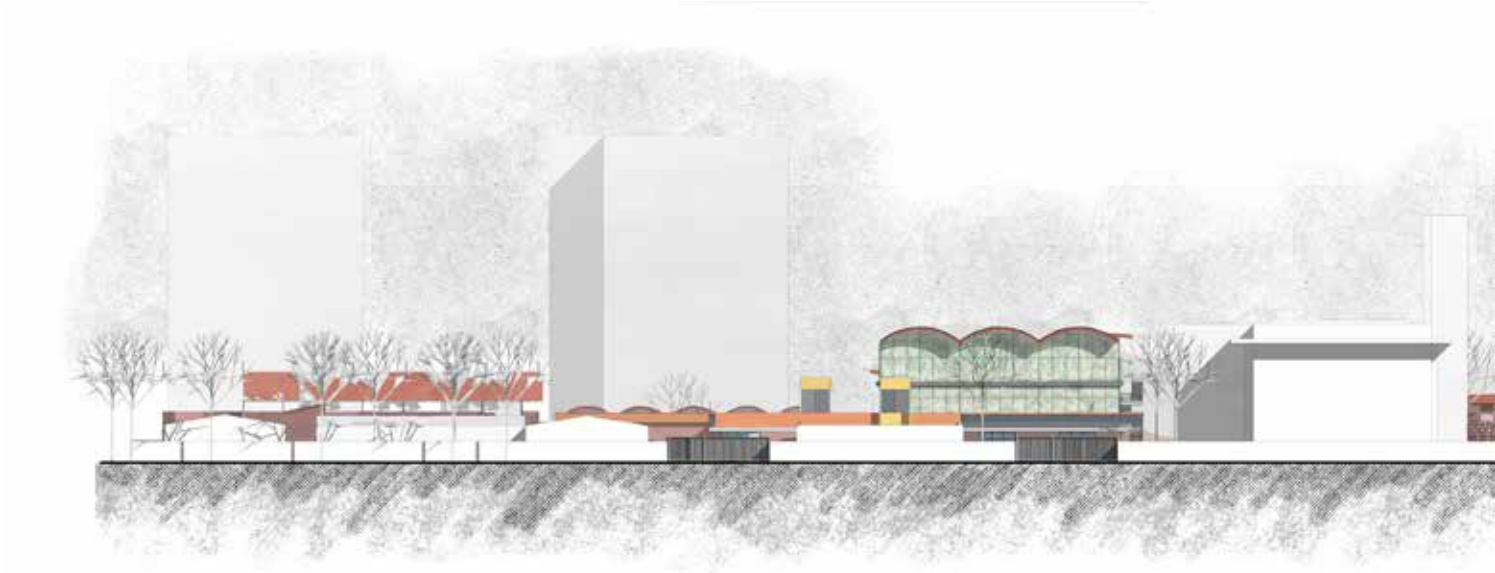
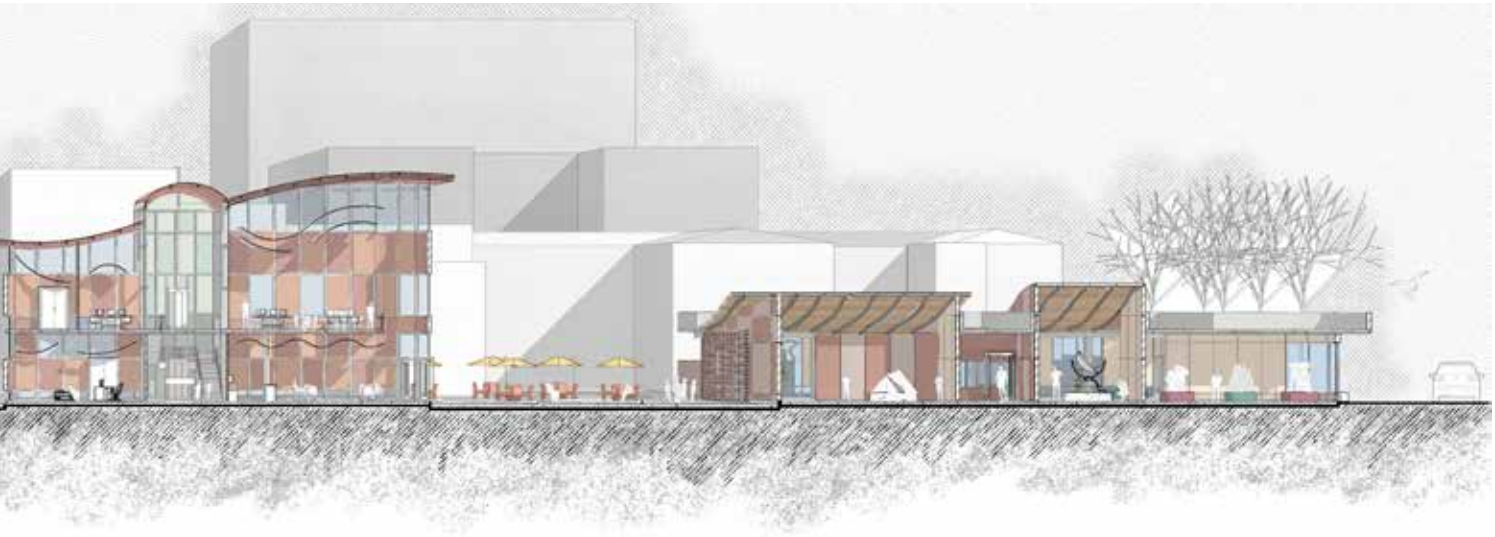
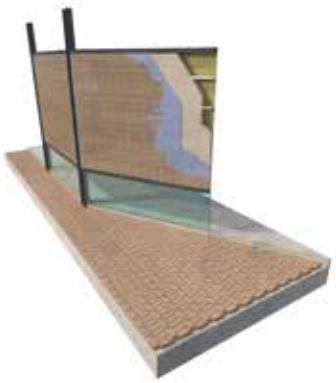
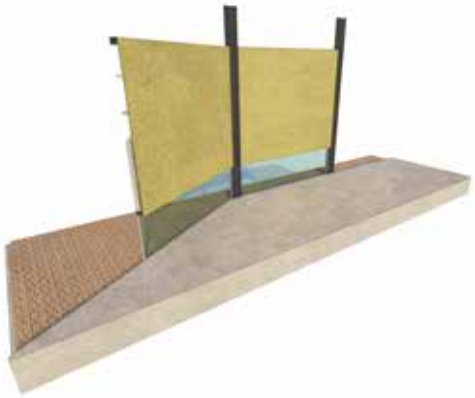


Figure201: Revit drawing (Author 2019)

Figure202: Revit drawing (Author 2019)







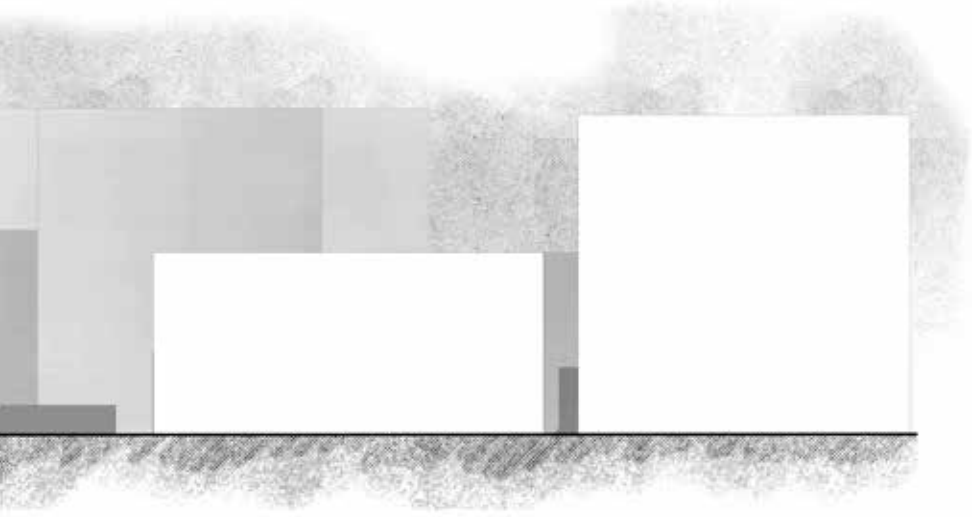


Figure203: Finished Model (Author 2019)

Figure204: Sectional Model (Author 2019)

Figure205: Pre-Crit (Author 2019)

Figure206: Crit (Author 2019)

Figure207: Post Crit (Author 2019)

Sefaira Lighting Investigation

5.5 Iteration 1

Iteration 1 investiagtes the lighting effect on the initial design with a basic promenade screening, basic glazing and minimal overhang. The northern, western and eastern edges all received plenty of sunlight while the central spaces were mostly underlit. The overall space had an average DF of 4.24%, an sDA of 99% and ASE of 64%. The lighting as a base test was sufficient for the requirements of a naturally lit gallery space but more specific lighting in certain areas and some shading solutions was required to prevent overheating of some of the spaces. The LEED benchmark of >75% for sDA was surpassed quite easily while the ASE benchmark of <10% was surpassed, meaning the design needed to incorporate materials that prevent glare and provide more shading on the edges of the facades.

Figure208: Sefaira shading elements (Author 2019)

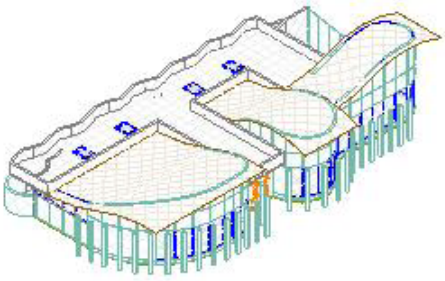


Figure209: Sefaira Daylight Factor (Author 2019)

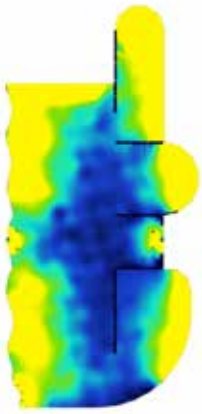


Figure211: Sefaira investigation (Author 2019)

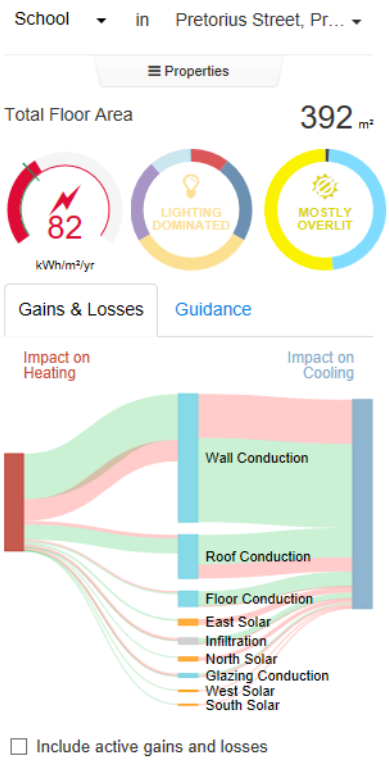
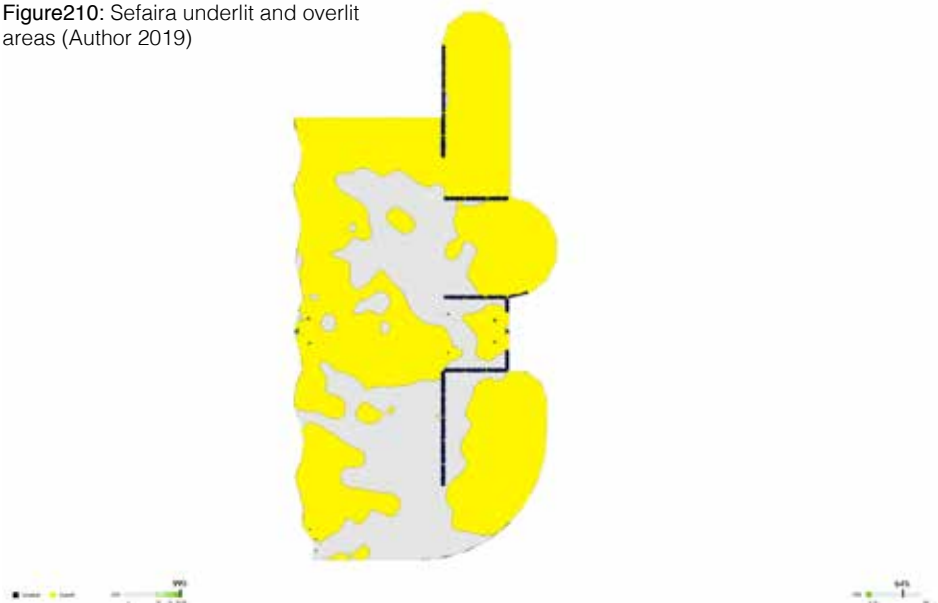


Figure210: Sefaira underlit and overlit areas (Author 2019)



5.6 Iteration 2

Iteration 2 investiagtes the lighting effect on the initial design without a basic promenade screening, the addition of central skylights and a minimal increase in the overhang of a few roof edges. The northern, western and eastern edges all received plenty of sunlight while the central spaces improved with the introduction of the central skylights. The overall space had an average DF of 4.91%, an sDA of 99% and ASE of 64%. The lighting as a base test was sufficient for the requirements of a naturally lit gallery space but more specific lighting in certain areas and some shading solutions was required to prevent overheating of some of the spaces. The LEED benchmark of >75% for sDA was surpassed quite easily while the ASE benchmark of <10% was surpassed, meaning the design needed to incorporate materials that prevent glare and provide more shading on the edges of the facades.

This iteration improved lighting in the central spaces, but the overall shading devices needed to be improved to prevent discomfort for the user. The lighting as a whole is, however, more than sufficient to view creative arts within the larger space.

Figure212: Sefaira shading elements (Author 2019)

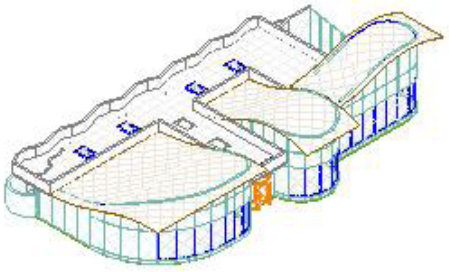


Figure213: Sefaira Daylight Factor (Author 2019)

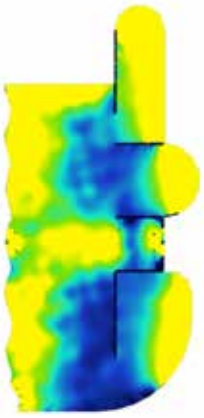
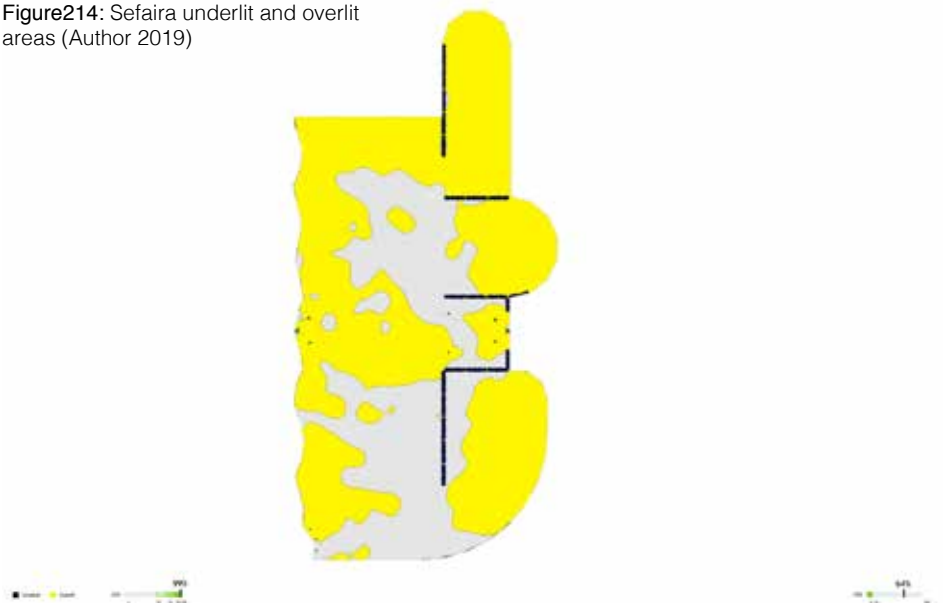


Figure215: Sefaira investigation (Author 2019)

Figure214: Sefaira underlit and overlit areas (Author 2019)



5.7 Iteration 3

Iteration 3 investiagtes the lighting effect on the initial design with a complex promenade screening based on Norman Eaton's Netherlands Bank in Durban as well as the screen in front of the Children's Art Centre, specific glazing and improved overhangs. The northern, western and eastern edges all received plenty of sunlight while the central spaces were suffieciently lit for separation of areas without physical barriers. The overall space had an average DF of 4.23%, an sDA of 99% and ASE of 58%. The lighting as a base test was sufficient for the requirements of a naturally lit gallery space with the southern digital projection space being dark enough to project during late afternoona nd evening. The screening device worked effectively in preventing glare on surfaces while still providing sufficient backlighting for installations. The LEED benchmark of >75% for sDA was surpassed quite easily while the ASE benchmark of <10% was surpassed, meaning the design needed to incorporate materials that prevent glare and provide more shading on the edges of the facades.

Interior materials such as timber sheeting, ceiling slats and matte flooring will contribute to a better user experience. The northern installation space's roof will change to a lower flat roof with a larger overhang to counter the northen sunlight.

Figure216: Sefaira shading elements (Author 2019)

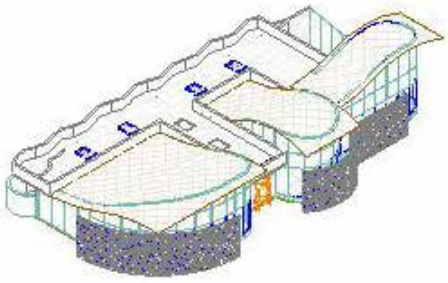


Figure217: Sefaira Daylight Factor (Author 2019)

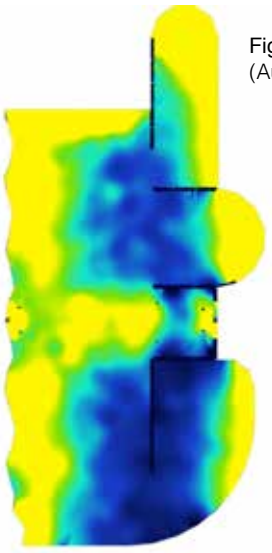


Figure218: Sefaira underlit and overlit areas (Author 2019)

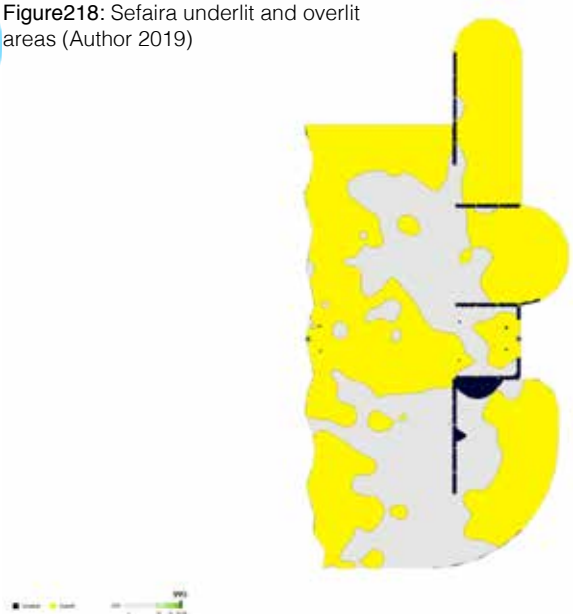
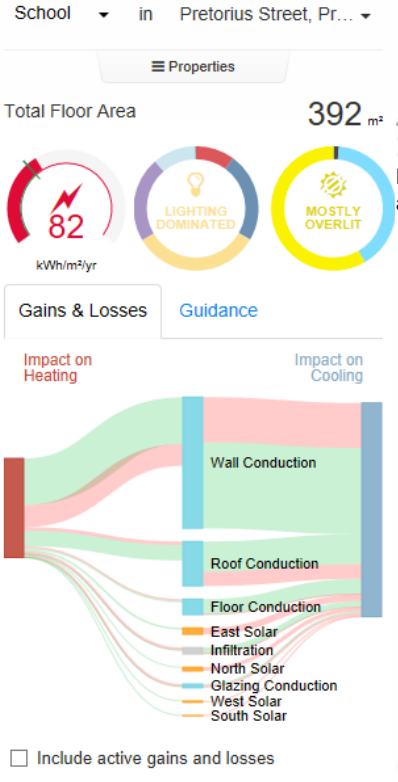


Figure219: Sefaira investigation (Author 2019)



5.8 SBAT Rating

The Sustainable Building Assessment Tool (SBAT) aims to support sustainability performance improvements in buildings. The tool was used to asses the final iteration of the design and achieved a final rating of 4.1. The building thus provides a positive contribution to the social, environmental and economic factors of the community.

SUSTAINABLE BUILDING ASSESSMENT TOOL RESIDENTIAL
1.04

		Target	Achieved
BI	**Building Information**	**5.0**	**4.1**

BI 1	**Building Targets**	**Target**	**Achieved**
EN	Energy	5.0	2.1
WA	Water	5.0	3.6
WE	Waste	5.0	3.0
MA	Materials	5.0	4.5
BI	Biodiversity	5.0	2.7
TR	Transport	5.0	5.0
LE	Local Economy	5.0	3.5
MN	Management	5.0	5.0
RE	Resources	5.0	5.0
SP	Services and Products	5.0	5.0
AC	Access	5.0	3.9
HE	Health	5.0	4.0
ED	Education	5.0	5.0
IN	Inclusion	5.0	4.6
SC	Social Cohesion	5.0	5.0

BI 2	**Priority Key (Not Performance Key)**	
VH	Very High	5.0
HI	High	4.0
ME	Medium	3.0
LO	Low	2.0
VL	Very Low	1.0
NA	None / Not Applicable	0.0

BI 3	**Project Name**	
	The Network	
BI 4	**Address**	
	287 Nana Sita St, Pretoria Central, Pretoria, 0003, 25.750 S, 28.192 E	

SUSTAINABLE BUILDING ASSESSMENT TOOL RESIDENTIAL
1.04

	Achieved
EN Energy	**2.1**

Objective
built environment is energy efficient and uses renewable energy.

Indicators		Potential	Achieved
EN1	**Orientation** Buildings are orientated within 15 degrees of North.	1	1
EN2	**Building Depth** Building depth does not exceed 10m.	1	1
EN3	**Roof Construction** Roof construction achieves a minimum total R-value of 2.7 K•m²/W and the roof color has solar absorbance of 0.55, or less.	1	1
EN4	**Wall Construction** Wall construction achieves a minimum R-value of 1.9 K•m²/W.	1	1
EN5	**Floor Construction** Floor construction is explosed high thermal mass material such as tiles or concrete.	1	1
EN6	**Window to Wall Ratio** Glazing is less than 40% of the North and South elevations and less than 20% of the East and West elevations.	1	1
EN7	**Ventilation openings** A minimum of 10% ventilation opening area per room floor area is provided for each useable room.	1	1
EN8	**Daylight** Over 90% the useable room area within the building is within 2h, where h is ht of head of window and internal light reflectance values 80 to 89 % the useable room area within the building is within 2h, where h is ht of head of window and internal light reflectance values are met.	2 1	1
EN9	**Internal Lighting** Internal lighting power density within the building does not exceed 5W/m2.	1	1
EN10	**External Lighting** External lighting power density within the building does not exceed 0.75W/m2, or is totally powered by renewable energy.	1	0
EN11	**Installed Equipment Power Density (not including lighting)** 0-4W/m2 installed equipment power density. 5-14W/m2 installed equipment power density. 15-19/m2 installed equipment power density. 20-24W/m2 installed equipment power density. 25-29W/m2 installed equipment power density.	5 4 3 2 1	0
EN12	**Food Cooking** A solar cooker, biogas stove or a hotbox is provided to support reduced energy consumption associated with food cooking.	1	0
EN13	**Water Heating** All hot water heating requirements met through renewable energy sources with no electrical back up. All hot water heating requirements met through renewable energy sources with electrical back up.	4 2	2
EN14	**Renewable Energy Generation** Points are double for non-grid tied system (grid tied are the lower figure) 20+ Wp of renewable energy generation per m2 15-19Wp of renewable energy generation per m2 9-14Wp of renewable energy area generated per m2 5-9Wp of renewable energy area generated per m2	 5 or 10 4 or 8 3 or 6 2 or 4	2

SUSTAINABLE BUILDING ASSESSMENT TOOL RESIDENTIAL

1.04

WA Water	Achieved 3.6

Objective

The building minimises the consumption of mains potable water.

Indicators		Potential	Actual
WA1	**Toilets** Non-waterborne sanitation system is used or only grey/rain harvested water used All toilets are dual flush with maximum flush rates of under 3L (half flush) and 4.5L (full flush)	2 1	2
WA2	**Wash Hand Basins** All taps have a maximum flow rate of less than 6L/minute	1	1
WA3	**Showers** All showers have a maximum flow rate of less than 10L/minute.	1	0
WA4	**Hot Water** The distance between the source of hot water and useage does not exceed 6 running metres.	1	0
WA5	**Landscape** Landscaping does not require irrigation or all requirements met from grey/rain water harvested water. No swimming pools or all requirements met from rainwater harvesting.	1	1
WA7	**Rain Water Harvesting**		
	40+ L of rainwater harvesting capacity per m2 of GIA	5	
	30-39 L of rainwater harvesting capacity per m2 of GIA	4	
	20-29L of rainwater harvesting capacity per m2 of GIA	3	
	10-19L of rainwater harvesting capacity per m2 of GIA	2	
	5-9L of rainwater harvesting capacity per m2 of GIA	1	4

SUSTAINABLE BUILDING ASSESSMENT TOOL RESIDENTIAL
1.04

WE Waste	Achieved 3.0

Objective
The building minimizes emissions and waste directed to landfill.

Indicators		Potential	Actual
WE1	**Recycling Area** Covered recycling area of at least 1 x 0.5 x 0.5m provided in, or near, the kitchen.	1	1
WE2	**Recycling Collection** Recycling depot within 2000m of site on regularly used route or at location such as a school / shopping centre / post office / sports facility.	1	1
WE3	**Organic Waste** Organic waste is recycled on site and a 1 x 1 x 1m space for composting provided per household.	1	0
WE4	**Sewage** Sewage is treated on site, or in within the neighbourhood, to provide useful by-products such as irrigation water and fertilizer.	1	0
WE5	**Construction Waste** Contract documentation and refurbishement policies require at least 50 % of construction waste to be recycled or reused on site.	1	1

SUSTAINABLE BUILDING ASSESSMENT TOOL RESIDENTIAL
1.04

BI Biodiversity	Achieved 2.7

Objective
The building supports biodiversity.

Indicators		Potential	Actual
BI1	**Brownfield Site** Site has already been built on and a green-field site is avoided	4	1
BI2	**Municipal Boundary** Site is within a defined municipal boundary	2	1
BI3	**Vegetation** Vegetation area equivalent to over 60 % of site area Vegetation area equivalent to 50 - 59% of site area Vegetation area equivalent to 40 - 49% of site area Vegetation area equivalent to 30 - 39% of site area Vegetation area equivalent to 20 - 29% of site area Vegetation area equivalent to 10 - 19% of site area	6 5 4 3 2 1	4
BI4	**Ecosystems** Vegetation area has over 10 species of plants	1	1

SUSTAINABLE BUILDING ASSESSMENT TOOL RESIDENTIAL
1.04

TR Transport	Achieved 5.0

Objective
The building supports energy efficient transportation.

Indicators		Potential	Actual
TR1	**Pedestrian Routes** Dedicated,safe and easily used pedestrian paths are provided from public highways to main entrance of the building	1	1
TR2	**Cycling** At least one covered bicycle parking spaces with locking point is provided per unit	1	1
TR3	**Public Transport**		
	Building is within 400m walking distance of public transport node	3	
	Building is within 800m walking distance of public transport node	2	
	Building is within 1200m walking distance of public transport node	1	3

SUSTAINABLE BUILDING ASSESSMENT TOOL RESIDENTIAL
1.04

RE Resource Use	Achieved 3.5

Objective
The building makes efficient use of resources.

Indicators		Potential	Actual
RE1	**Site Density**		
	Site density is equivalent to 150 + persons per hectare	3	
	Site density is equivalent to 125 -149 persons per hectare	2	
	Site density is equivalent to 100 -124 persons per hectare	1	3
RE2	**Area per occupant**		
	Gross internal area per occupant is 10 - 19 m2	3	
	Gross internal area per occupant is 20 - 29 m2	2	
	Gross internal area per occupant is 30 - 39 m	1	3
RE3	**Renewable Energy Generation**		
	Renewable energy generation equivalent to over 5 % of site area	2	
	Renewable energy generation equivalent to over 2-4% of site area	1	1
RE3	**Food Production**		
	Food production area equivalent to over 10 % of site area	2	
	Food production area equivalent to over 5% of site area	1	0

SUSTAINABLE BUILDING ASSESSMENT TOOL RESIDENTIAL
1.04

	Achieved
MN Management	**5.0**

Objective
The building is managed to support sustainability.

Indicators		Potential	Actual
MN1	**Manual** Building manual developed and applied.	2	2
MN2	**Energy Metering** Energy meter provided for each unit and can be readily accessed and read.	1	1
MN3	**Water Metering** Water meter provided for each unit and can be readily accessed and read.	1	1
MN4	**Recording** Monthly management reporting system	1	1
MN5	**Residents Association** Residents association with a mandate to manage or to influence the management of the local area is in place.	1	1

SUSTAINABLE BUILDING ASSESSMENT TOOL RESIDENTIAL
1.04

	Achieved
LE Local Economy	**5.0**

Objective
The building supports the local economy.

Indicators		Potential	Actual
LE1	**Locally Sourced Materials and Products**		
	80+% of the materials and products by value are from the country.	4	
	60-79% of the materials and products by value are from the country	3	
	40-59% of the materials and products by value are from the country	2	
	20-39% of the materials and products by value are from the country	1	4
LE2	**Small Enterprise Support**		
	One small enterprise is supported every 5-9 units.	5	
	One small enterprise is supported every 10-14 units.	4	
	One small enterprise is supported every 15-19 units.	3	
	One small enterprise is supported every 20-24 units.	2	
	One small enterprise is supported every 25-30 units.	1	5
LE3	**Construction Workers** Contract documentation and maintenance policy requires 80% of construction and maintenance workers employed on site to live within	2	2

SUSTAINABLE BUILDING ASSESSMENT TOOL RESIDENTIAL
1.04

SP Services and Products	Achieved 5.0

Objective
The building supports use sustainable products and services.

Indicators		Potential	Actual
SP1	**Fruit and Vegetables** Fresh fruit and vegetables produced within the country are available within 2000m walking distance of the building.	2	2
SP2	**Bakery Products** Fresh locally baked bakery products are within 2000m walking distance from the building	1	1
SP3	**Bean and Pulses** Beans and pulse products are within 2000m walking distance from the building	1	1
SP4	**Milk and Eggs** Milk and eggs produced within the country are available within 2000m walking distance of the building.	1	1
SP5	**Clothing** Locally made hard wearing clothing available within 4000m walking distance of the building.	1	1
SP6	**Furniture** Locally made hard wearing furniture available within 4000m walking distance of the building.	1	1
SP7	**Equipment Hire** Gardening and maintenance equipment available for hire within 2000m walking distance of the building.	1	1
SP8	**Notice Board** Physical notice board at central location which advertises local products and services and is within 2000m walking distance of the building.	1	1

SUSTAINABLE BUILDING ASSESSMENT TOOL RESIDENTIAL
1.04

AC Access	Achieved 5.0

Objective
The building supports access to facilities.

Indicators		Potential	Actual
AC1	**Internet Access** Low cost or free internet access is provided.	1	1
AC2	**Banking** ATM or Bank can be accessed within 2000m.	1	1
AC3	**Groceries** General food groceries can be purchased within 2000m.	1	1
AC4	**Post Office** Post office services are available within 2000m.	1	1
AC5	**Creche** Creche facilities are available within 2000m.	1	1
AC6	**Primary Schools** Primary schools are available within 2000m.	1	1

SUSTAINABLE BUILDING ASSESSMENT TOOL RESIDENTIAL

1.04

	Achieved
HE Health	**3.9**

Objective

Built environment supports a healthy and productive environment

Indicators		Potential	Actual
HE1	**Excercise** Excercise facilities are available within 2000m.	1	1
HE2	**Health facility** Health facilities are available within 2000m.	1	1
HE3	**Fruit and Vegetables** Fresh fruit and vegetables produced within the country are available within 2000m walking distance of the building.	2	1
HE4	**Bean and Pulses** Beans and pulse products are within 2000m walking distance from the building	1	1
HE5	**Milk and Eggs** Milk and eggs produced within the country are available within 2000m walking distance of the building.	1	1
HE5	**Water** Clean drinking water is available within or near the building.	3	1
HE6	**External Views** All useable rooms have glazing on external walls which provide a view (no obstructions within 5m of the window).	1	1
HE7	**Daylight** Over 80% the area within the building is within 2h, where h is ht of head of window.	2	1
HE8	**Openings** A minimum of 10% opening area per internal useable floor area is provided in each room respectively.	1	1
HE9	**Roof Construction** Roof construction must achieve a minimum total R-value 4.1 K•m²/W	1	1
HE10	**Wall Construction** Wall construction must achieve a minimum R-value for walls of 2.8 K•m²/W	1	1
HE11	**Volatile Organic Compounds** No paints, varnishes, glues or carpets that include Volatile Organic Compounds are used.	1	1
HE12	**Formeldehyde** Materials, such a timber based boards, that contain, or use formeldehyde in their production, are not used.	1	1
HE13	**Construction Worker Health** Construction contract / refurbishment policy requiring all construction workers to have received comprensive health and safety training including a component on HIV/AIDs	1	1

SUSTAINABLE BUILDING ASSESSMENT TOOL RESIDENTIAL
1.04

ED Education	Achieved 4.0

Objective
The building supports education.

Indicators		Potential	Actual
ED1	**Primary Schools** There is a primary school within 2000m walking distance from the building.	2	1
ED2	**Secondary Schools** There is a secondary school within 2000m walking distance from the building.	1	1
ED3	**Ongoing education** There is a facility for ongoing learning within 2000m walking distance from the building.	1	1
ED4	**Internet** Low cost or free internet access is provided.	1	1
ED5	**Noticeboards** Physical notice board at central location with notices about education course and opportunities and is within 2000m walking distance of the	1	1
ED6	**Space for Learning** An equipped space of at least 2m2 space within the buliding is available to support learning.	2	1
ED7	**Building User Manual** Comprehensive building user manual has been developed	1	1
ED8	**Construction Worker Education** Contract documentation requires contractors to ensure that all construction workers receive accredited training for a minimum of 5% of working hours	1	1

SUSTAINABLE BUILDING ASSESSMENT TOOL RESIDENTIAL

1.04

		Achieved
IN	**Inclusion**	**4.6**

Objective

The building is inclusive of diversity in population.

Indicators		Potential	**Actual**
IN1	**Public Transport** Accessible walking route of less than 400mm to public transport node.	1	1
IN2	**Groceries** Accesible walking route of less than 400m to food grocery retail.	1	1
IN3	**External Routes** Accessible walking route within site, from public highway to entrance of the building.	1	1
IN4	**Entrances and Exits** Entrances and exits into the buildings are accessible	1	1
IN5	**Lobby** A space of at least 1500 x 1500mm is available immediately inside front door from which main rooms can be accessed.	1	1
IN6	**Window, door and lighting controls** All controls, such as light switches and door and window handles are within accessible locations and are 1000 - 1200mm from the finished floor level.	1	1
IN7	**Doors** All doors between rooms have accessible controls and a minimum clear opening width of 750mm.	1	1
IN8	**Bathroom** The bathroom is a minimum of 1500 x 1500mm and is accessible.	1	1
IN9	**Inclusive Employment** Construction worker includes at least 10% women, 20% youth and 1% people with disabilities.	1	1
IN10	**Kitchen** The kitchen is a minimum of 1500 x 1500mm and is accessible.	1	1
IN11	**Affordability** Housing is affordable. Affordable housing is located within 2km of site.	2 1	1

SUSTAINABLE BUILDING ASSESSMENT TOOL RESIDENTIAL

1.04

	Achieved
SC Social Cohesion	**5.0**

Objective

The building supports social cohesion.

Indicators		Potential	Actual
SC1	**Occupants** Space where all occupants of the building can be seated for communal meals.	2	2
SC2	**Community space** Covered space that is available for community events within 2000m of the building and can accommodate 5% of the population who live within 2000m.	2	2
SC3	**External Facilities** Open space that is available for community events within 2000m of the building and can accommodate 5% of the population who live within 2000m.	1	1
SC4	**Residents Association** There is an active residents association.	1	1

SUSTAINABLE BUILDING ASSESSMENT TOOL RESIDENTIAL

1.04

Achieved

SB SBAT REPORT 4.1

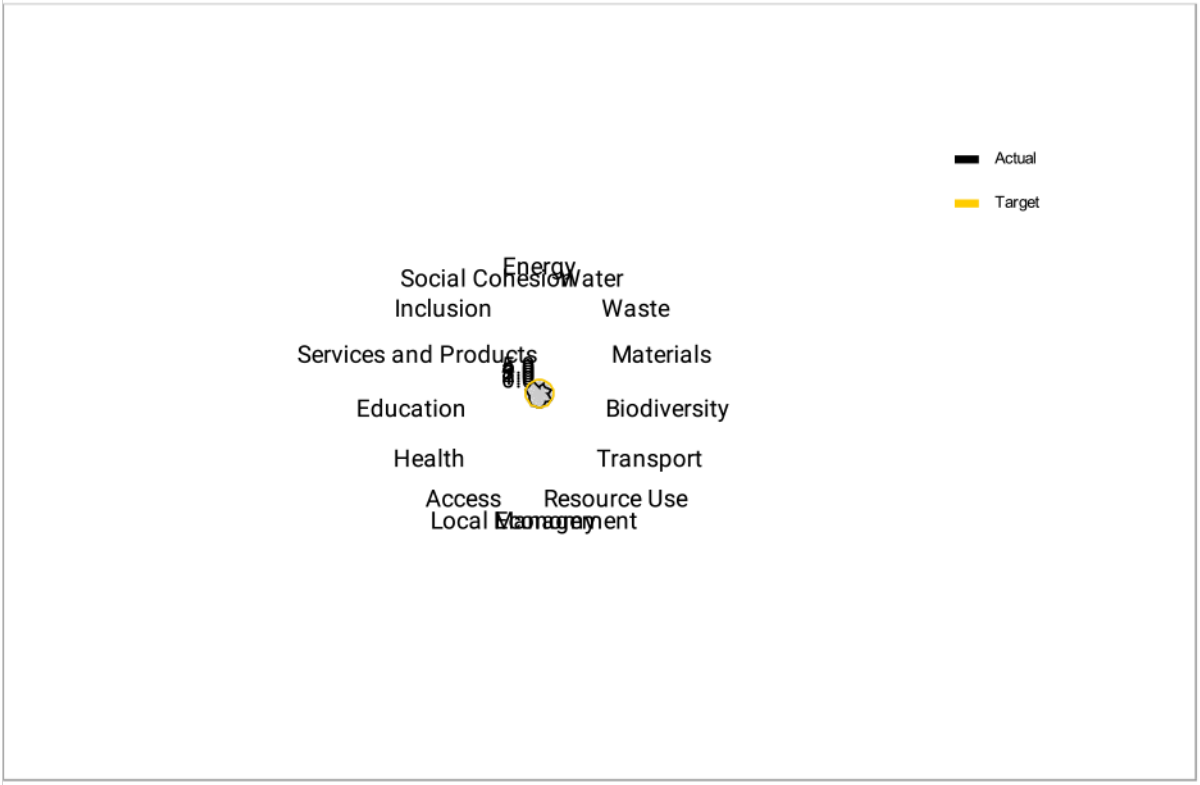
SB1 Project

The Network

SB2 Address

287 Nana Sita St, Pretoria Central, Pretoria, 0003, 25.750 S, 28.192 E

SB3 SBAT Graph



SB4 Environmental, Social and Economic Performance	Score
Environmental	3.2
Economic	4.7
Social	4.5
SBAT Rating	4.1

SB5 EF and HDI Factors	Score
EF Factor	3.7
HDI Factor	4.4

Conclusion

The most valuable contribution to educational architecture in the Pretoria CBD revolves around the implementation of centres of excellence that cater to multiple users to then go back to their respective environments and achieve their goals. Architecture that speaks to the community, to sharing of resources and an understanding of spaces that consistently encourage learning at an experiential level rather than a directly taught manner. Multiple theories on education and educational architecture across almost 400 years have indicated that this is the direction required, yet governmental implementation of these is sub-standard. There is a need for communal activity in the schooling and creativity system and architects such as Herman Hertzberger have proven that it is possible to achieve these architectural forms and spaces in order to cater for these needs in a manner that does not exclude but rather includes and encourages the perceptive growth required to excel in other fields.

It remains to be seen whether a network or interconnected system of these types of resource sharing centres will improve the educational system passively or whether it directly impacts the space making methods of existing centres. What is known, however, is that there is a plethora of information and studies that indicate that the discussion surrounding communal experiential learning is the way forward and that architecture such as the Centraal Beheer are physical forms that allow for these types of activities to take place.

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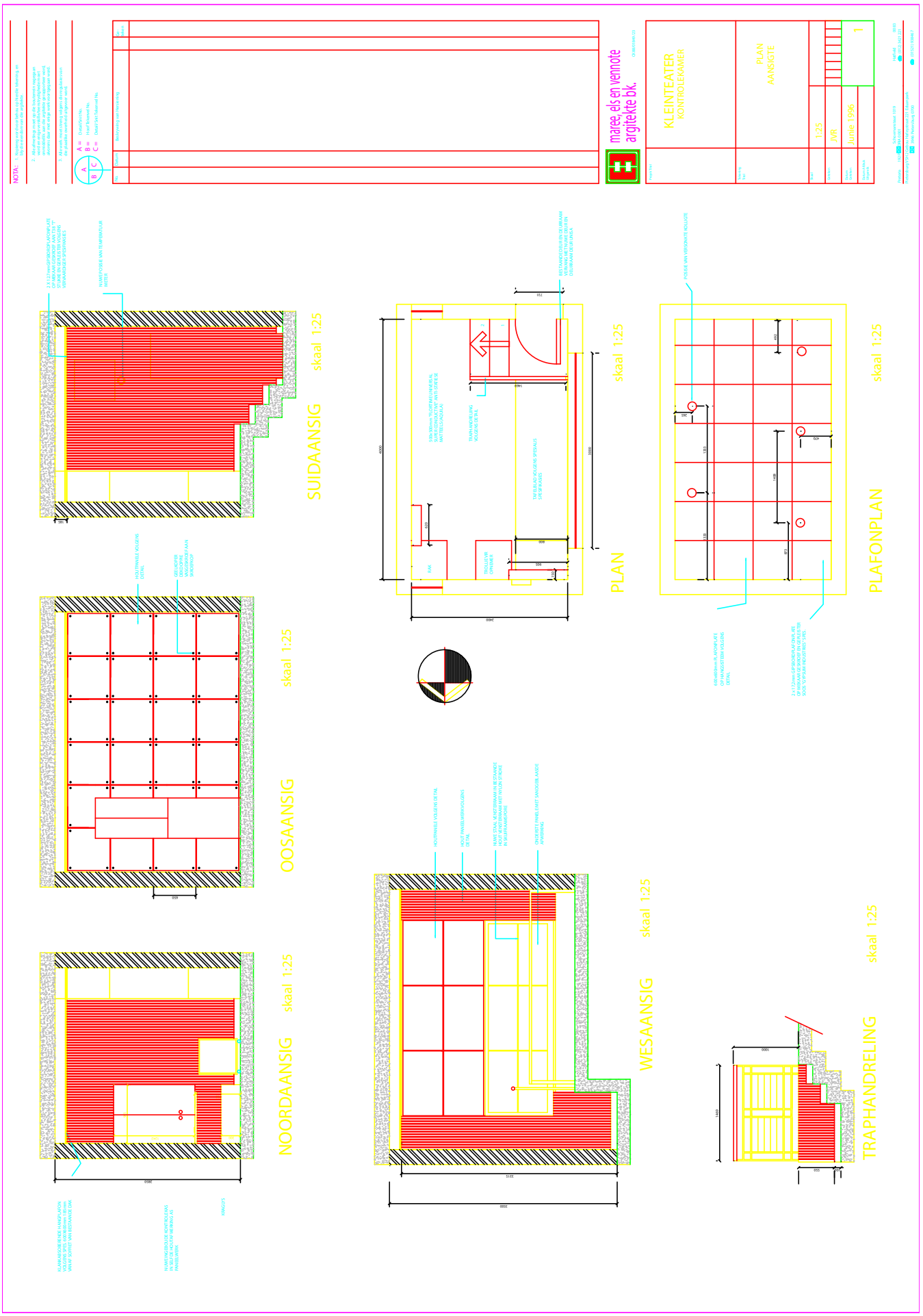
In accordance with Regulation 4(e) of the General Regulations (G.57) for dissertations and thesis, I declare that this thesis, which I hereby submit for the degree Master of Architecture (Professional) at the University of Pretoria, is my own work and has not previously been submitted by me for a degree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

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

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

Breniann Labuschagne

Appendix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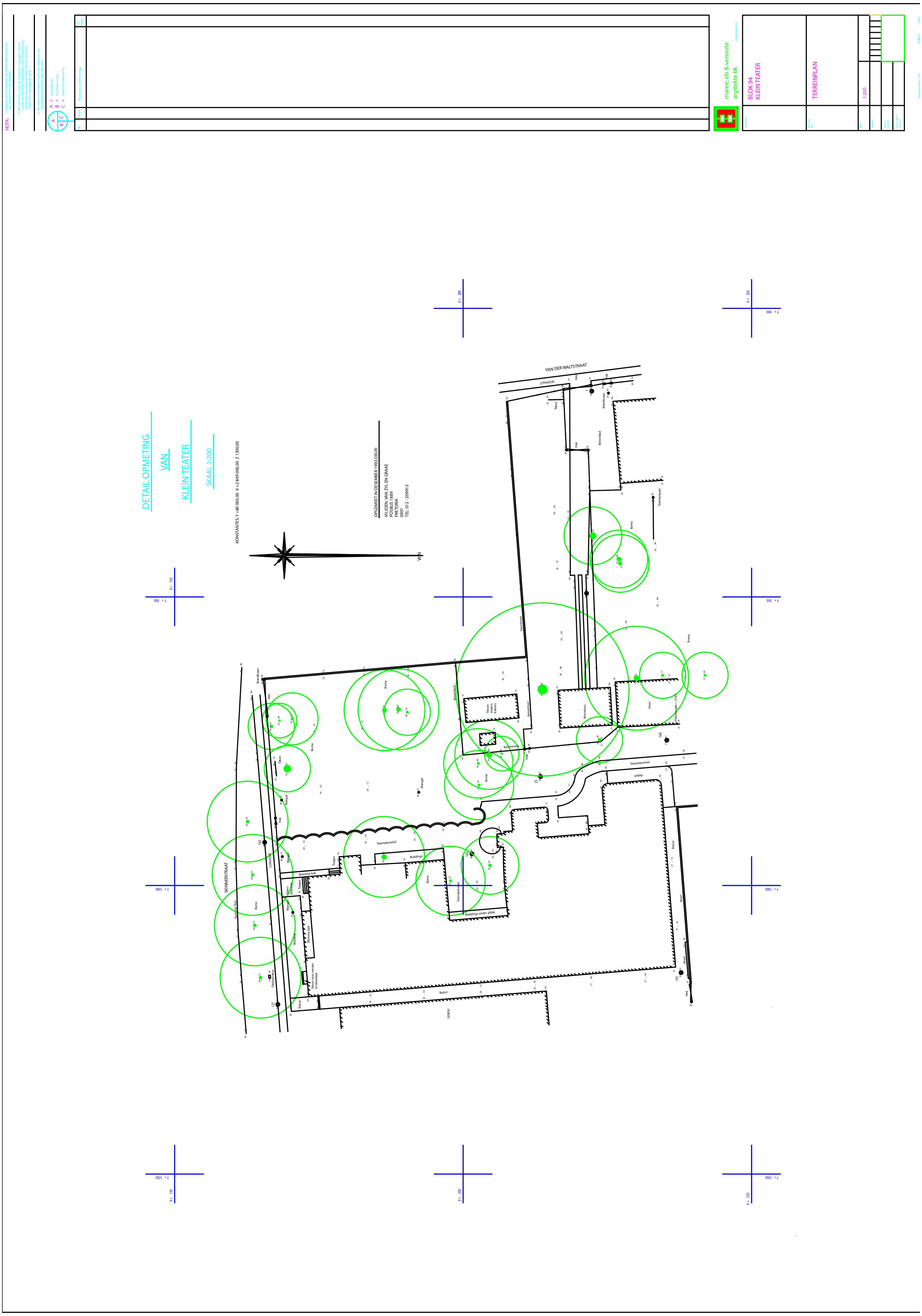
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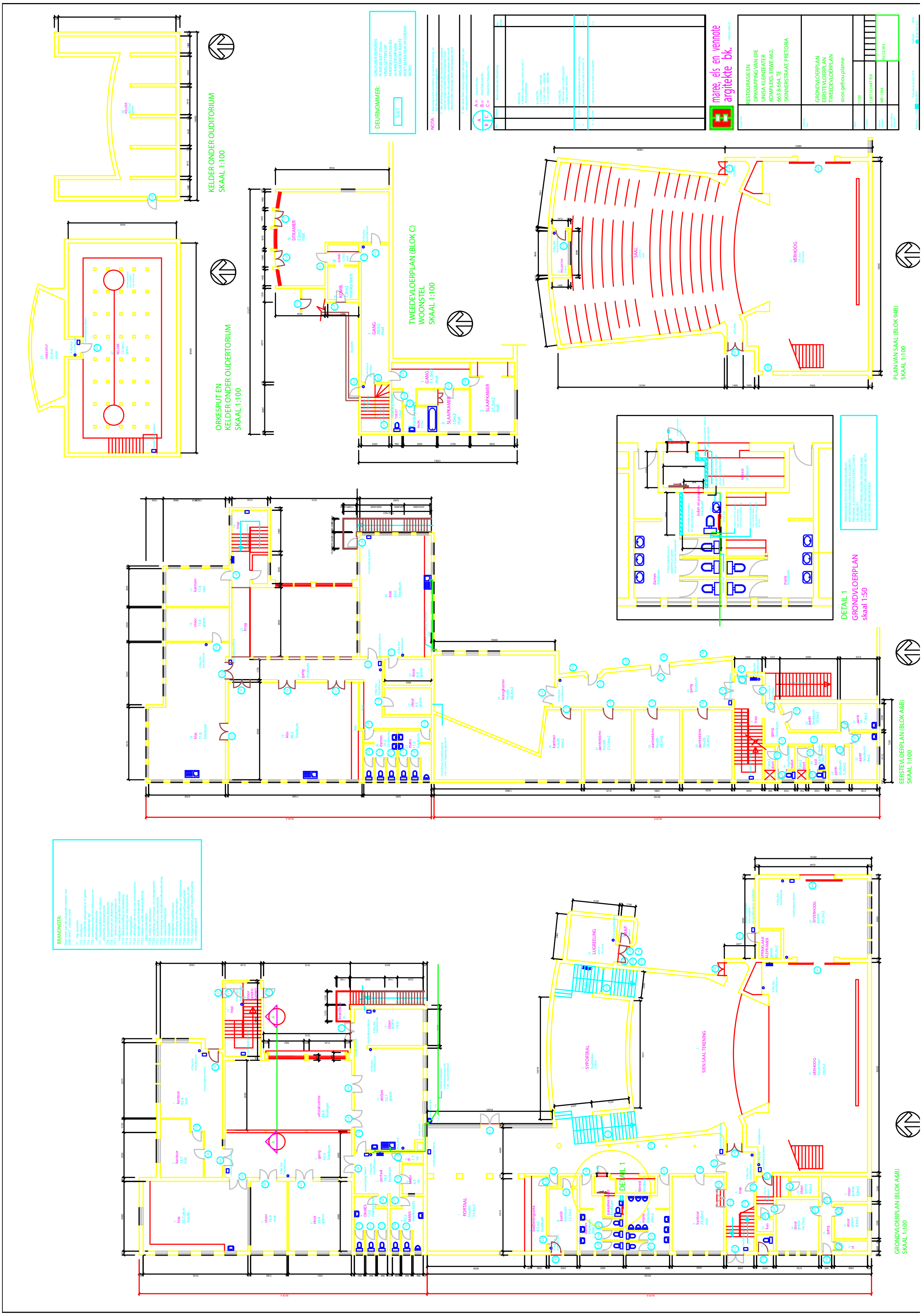
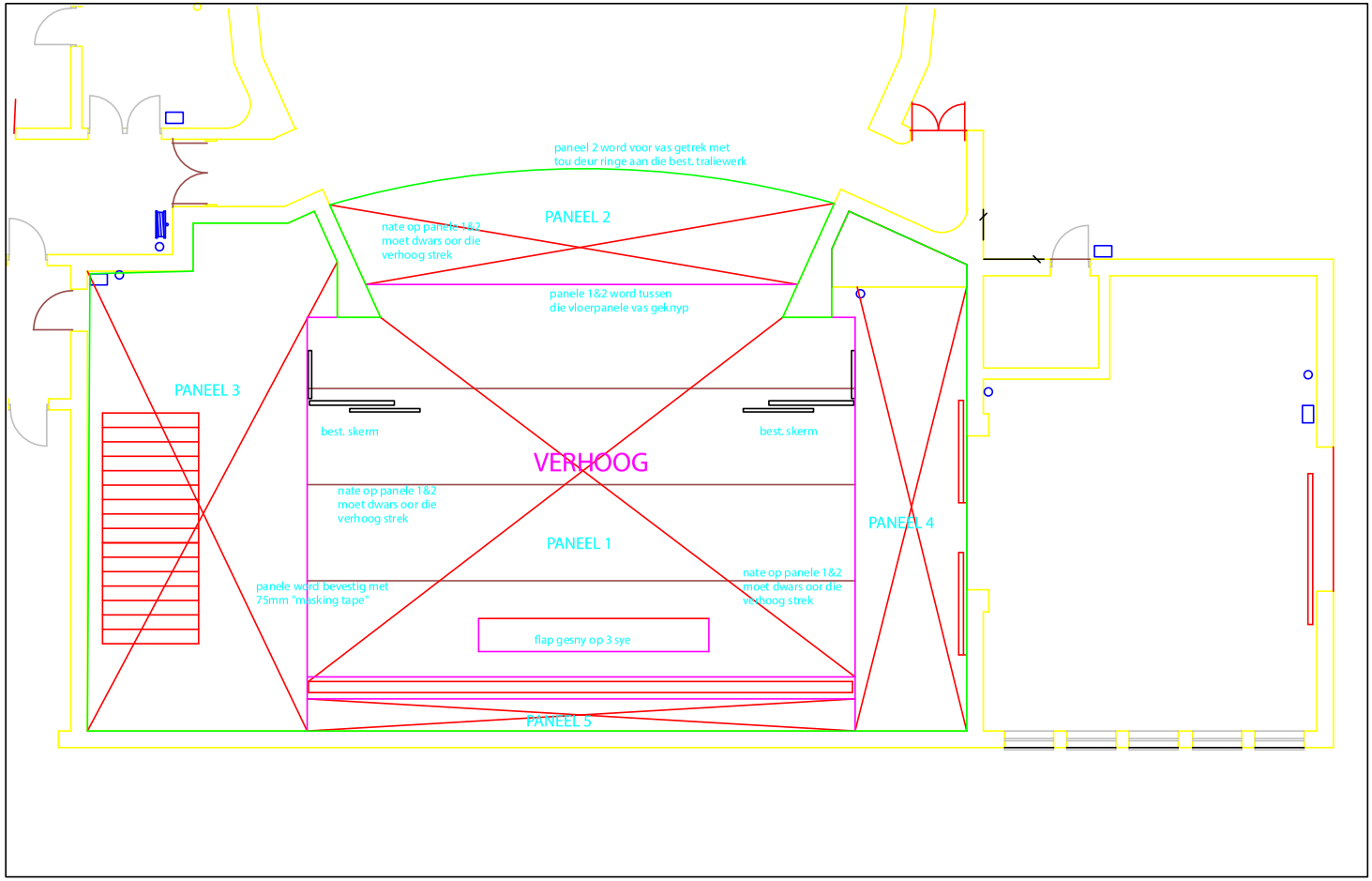
TERREINPLAN
1:200


KELDER ONDER OUDITORIUM
SKAAL 1:100
ORKESPUT EN
KELDER ONDER OUDERTORIUM
SKAAL 1:100
TWEEDEVLOERPLAN (BLOK C)
WOONSTEL
SKAAL 1:100
PLAN VAN SAAL (BLOK 948)
SKAAL 1:100
DETAIL 1
GRONDVLOERPLAN
Skaal 1:50
EERSTEVLOERPLAN (BLOK A&B)
SKAAL 1:100
GRONDVLOERPLAN (BLOK A&B)
SKAAL 1:100
maree, els en vennote
argitekte bk.
GRONDVLOERPLAN
EERSTEVLOERPLAN
TWEEDEVLOERPLAN
DEURNOMMER:
NOTA:
BRANDNOTA:



VERHOOG PLAN SKAAL 1:100

NOTA:
1. Kopiereg word voorbehou op hierdie tekening, en bly die eiendom van die argitekte.
2. Alle afmetings moet op die bouterrein nagegaan word en enige verskille/teenstrydighede moet onmiddellik aan die argitekte gerapporteer word, alvorens daar met enige werk voortgegaan word.
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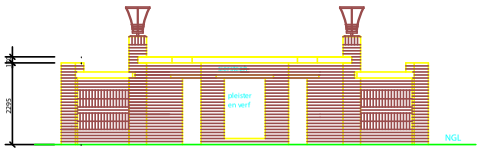
B = HoofTekenvel No.
C = Detail/Snit Tekenvel No.

No.	Datum	Beskrywing van Hersiening	Ge-teken

maree, els & vennote
argitekte bk
CK88/01849/23

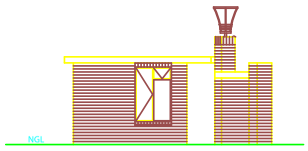
Projek Titel	RESTOURASIE VAN DIE UNISA KLEIN TEATER TE SKINNER STRAAT, PRETORIA
Tekening Titel	VERHOOGMAT PANELE
Skaal	1:100
Geteken	CRS
Datum Getekon	MRT 1995
Datum Afdruk Uitgereik	
	93/22/W7

Pretoria 192 PRE A 0001 Schoemanstraat 1019 Hatfield 0083 (012) 3421221



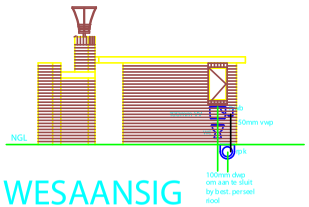
SUIDAANSIG

skaal 1:100



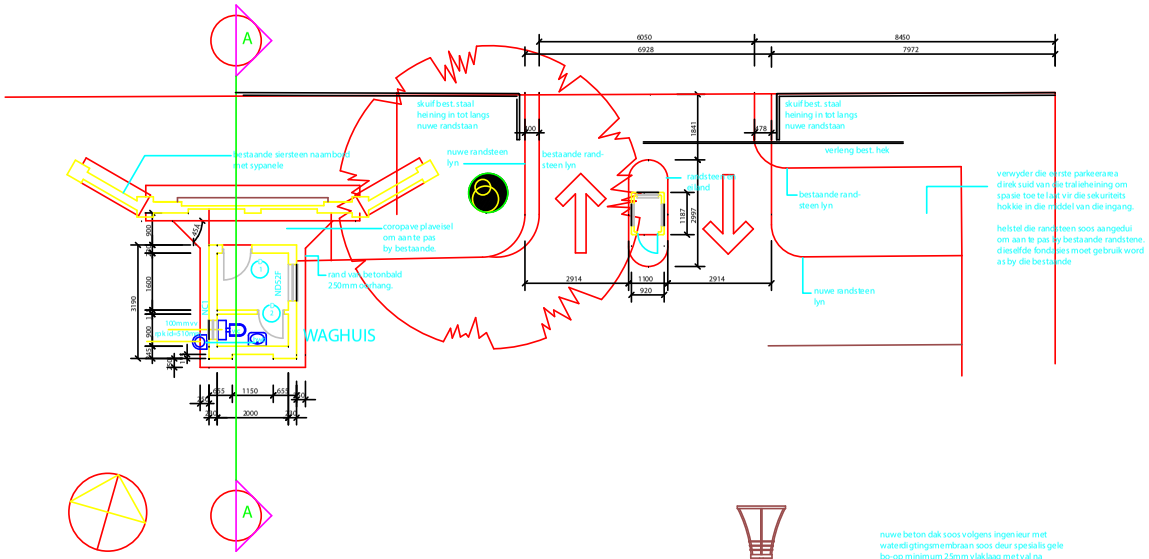
OOSAANSIG

skaal 1:100



WESAANSIG

skaal 1:100

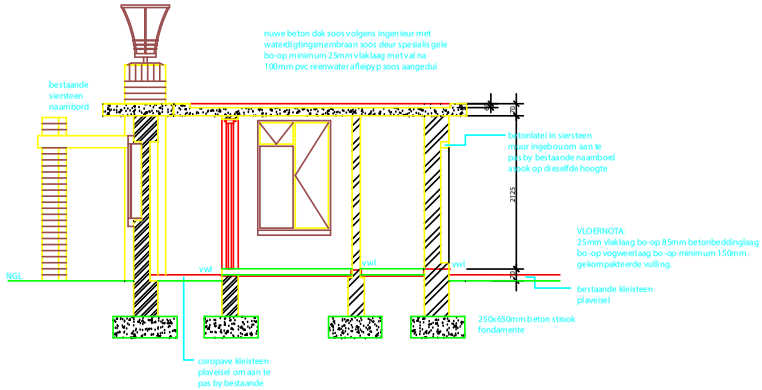


GRONDVLOERPLAN

skaal 1:100

SPESIFIKASIES EN AFWERKINGS:

1. BETAALHOKKIE: 'ATTENDANTS BOOTH' 920x1187mm SOOS DEUR CONTROL INSTRUMENTS (TEL.NO.012-323 9550) KLEUR: ROOM
2. TOILET: VAAL 'DAHLIA' 104 GRADE UITLAAT KODE 772000 EN 710011 BAK KLEUR: WIT
3. HANDEWASBAK: VAAL 'BANTAM' KLEEDKAMERWASBAKTEEN MUUR GEMONTEER KLEUR: WIT
4. KRAAN: EEN 'COBRA' 1/2" WASBAKKRAAN KODE 111-15
5. BINNEMURE: PLEISTER EN VERF.
6. VERF: WEND AAN EEN LAAG "PLASCON MERIT PLASTER PRIMER (UC 56)" 20% VERDUN MET MINERALE TERPANTYN. LAAT 16 URE TOE OM TE DROOG.
   SKUUR OPPERVLAK.
   WEND AAN TWEE LAE "PLASCON DOUBLE VELVET" (WIT), LAAT 16 URE TOE OM TE DROOG TUSSEN LAE.
7. VENSTERRAME: WEND AAN TWEE LAAG PLASCON "NAMELCOAT SYNTHETIC METAL PRIMER (UC 53)". LAAT DROOG EN SKUUR WEND AAN EEN LAAG "PLASCON VELVAGLO POLY URETHANE ENAMEL (VLO)" KLEUR: WIT.
8. TE LS: "VITRO" ONGEGLASUURDE 160x160mm TERRACOTTA TE LS
9. PLAFON: SOOS VIR MURE (NO.6)
10. VLOERLYS: MERANTI VLOERLYS MET KWARTRONDE.
11. DAK: WATERDIGTING SOOS DEUR "CES" KLEUR ROOM, OM AAN TE PAS BY BESTAANDE BETON BLAAIE
12. DEUR NO.1: SOLIEDE HOUT DEUR OM AAN TE PAS BY BESTAANDE DEUR NO. G22 (BLOK A) MET SOOTGELYKE BESLAG
13. DEUR NO.2: SEMI SOLIEDE DEUR IN STAALRAAM GEVERF MET "PLASCON PINK WOOD PRIMER (UC 2)" EN TWEE LAE "PLASCON VELVAGLO POLY URETHANE ENAMEL (VLO)" WIT
    BESLAG: UNION
    CZ682-245C HANDVATSEL
    2277-785S DRIEKLAWERSLOT



SNIT A-A

skaal 1:50

NOTA:

1. Kopiereg word voorbehou op hierdie tekening, en by die eiendom van die argitekte.
2. Alle afmetings moet op die bouterein nagegaan word en enige verskille/teenstrydighede moet onmiddelik aan die argitekte gerapporteer word, alvorens daar met enige werk voortgegaan word.
3. Alle werk moet streng volgens die regulasies van die plaaslike owerheid uitgevoer word/

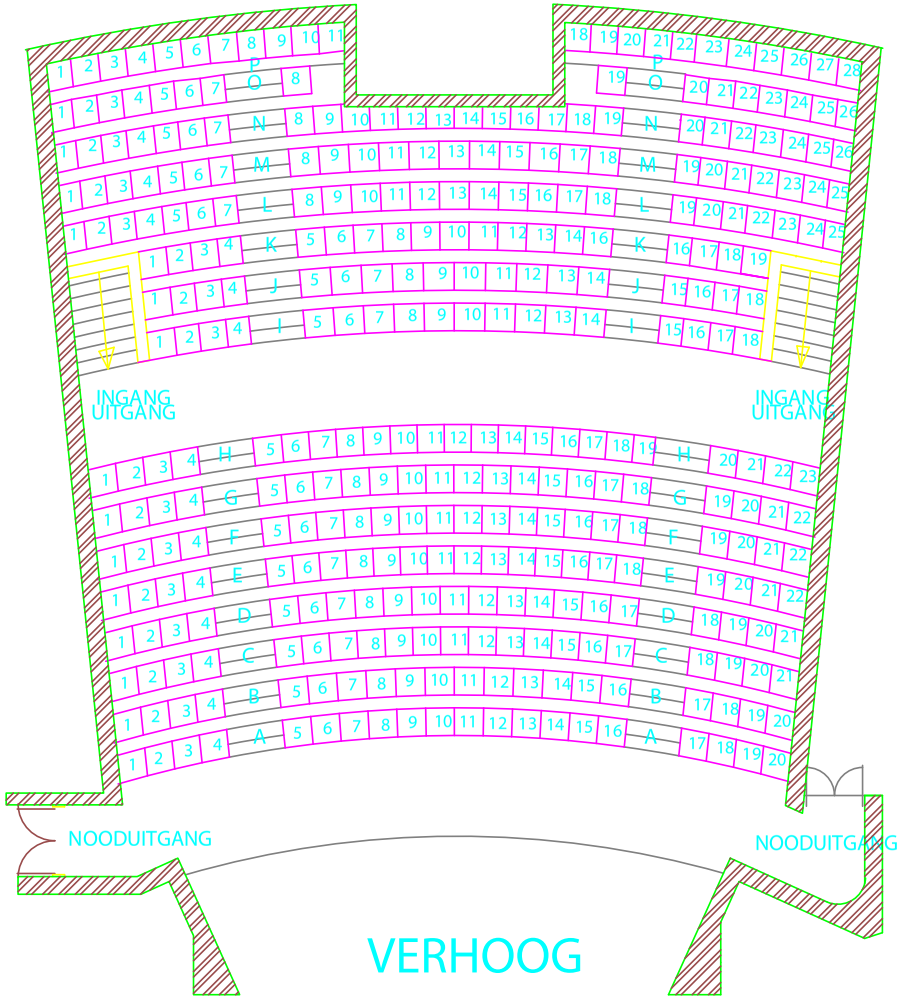
A = Detail/Snit No.
B = Hoof Tekenvel No.
C = Detail/Snit Tekenvel No.

No.	Datum	Beskrywing van Hersiening		Ge-teken

maree, els en vennote argitekte bk.
CK88/01849/23

ProjekTitel	NUWE SEKURITEITSKAMER VIR DIE UNISA KLEINTEATER TE SKINNERSTRAAT, ERF NO. 3427, PRETORIA
Tekening Titel	GRONDVLOERPLAN SUIDAANSIG OOSAANSIG WESAANSIG SNIT A-A
Skaal	GETOON
Geteken	CR SCHNITTER
Datum Geteken	JULIE 1995
Datum Afdruk Uitgereik	93/55/18

Pretoriusstraat 1163 Hatfield 0083



TEATERUITLEG

TOTAAL: 340 SITPLEKKE

NOTA:
1. Kopiereg word voorbehou op hierdie tekening, en bly die eiendom van die argitekte.
2. Alle afmetings moet op die bouterrein nagegaan word en enige verskille/teenstrydighede moet onmiddellik aan die argitekte gerapporteer word, alvorens daar met enige werk voortgegaan word.
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B = HoofTekenvel No.
C = Detail/Snit Tekenvel No.

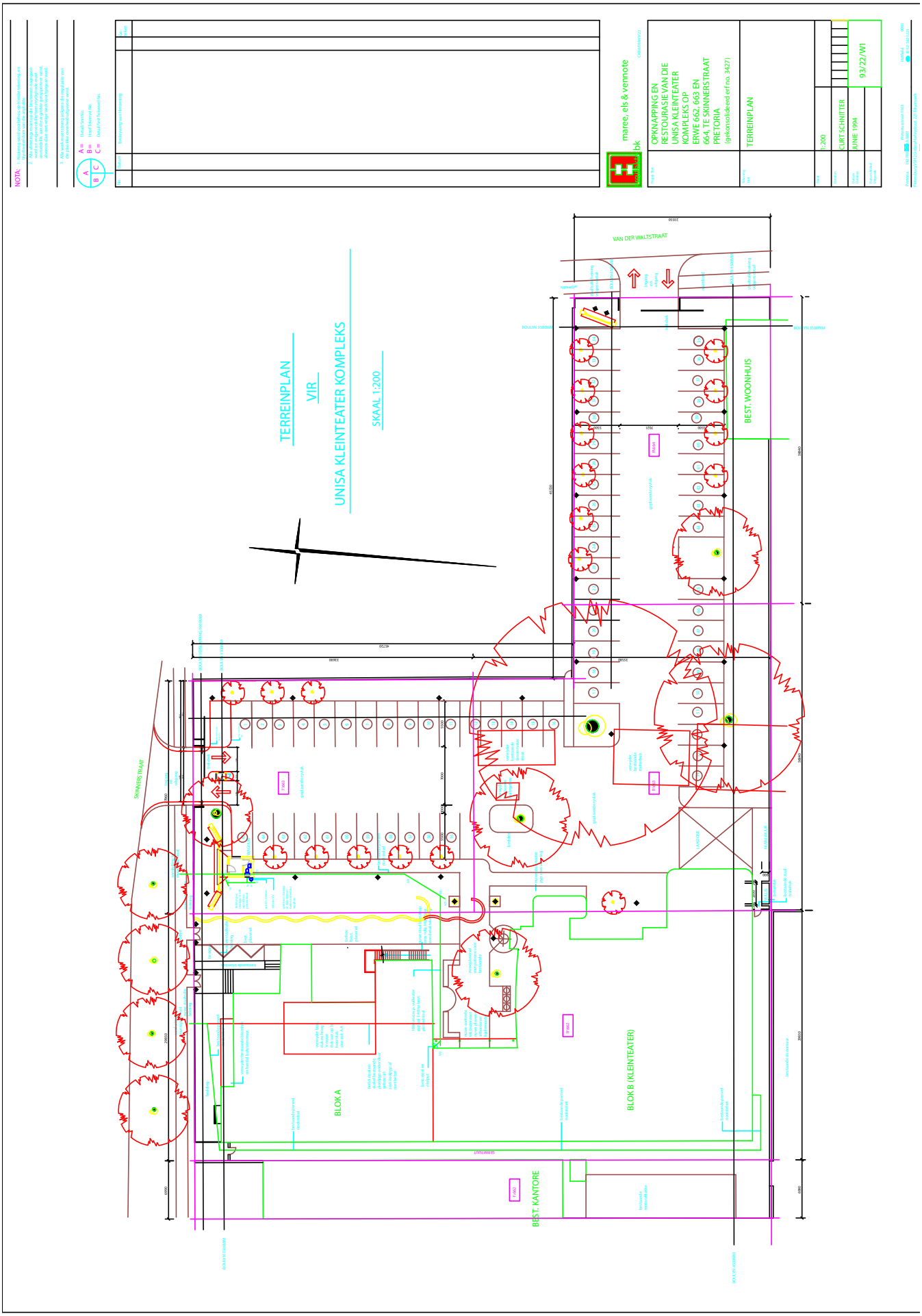
No.	Datum	Beskrywing van Hersiening		Ge-teken

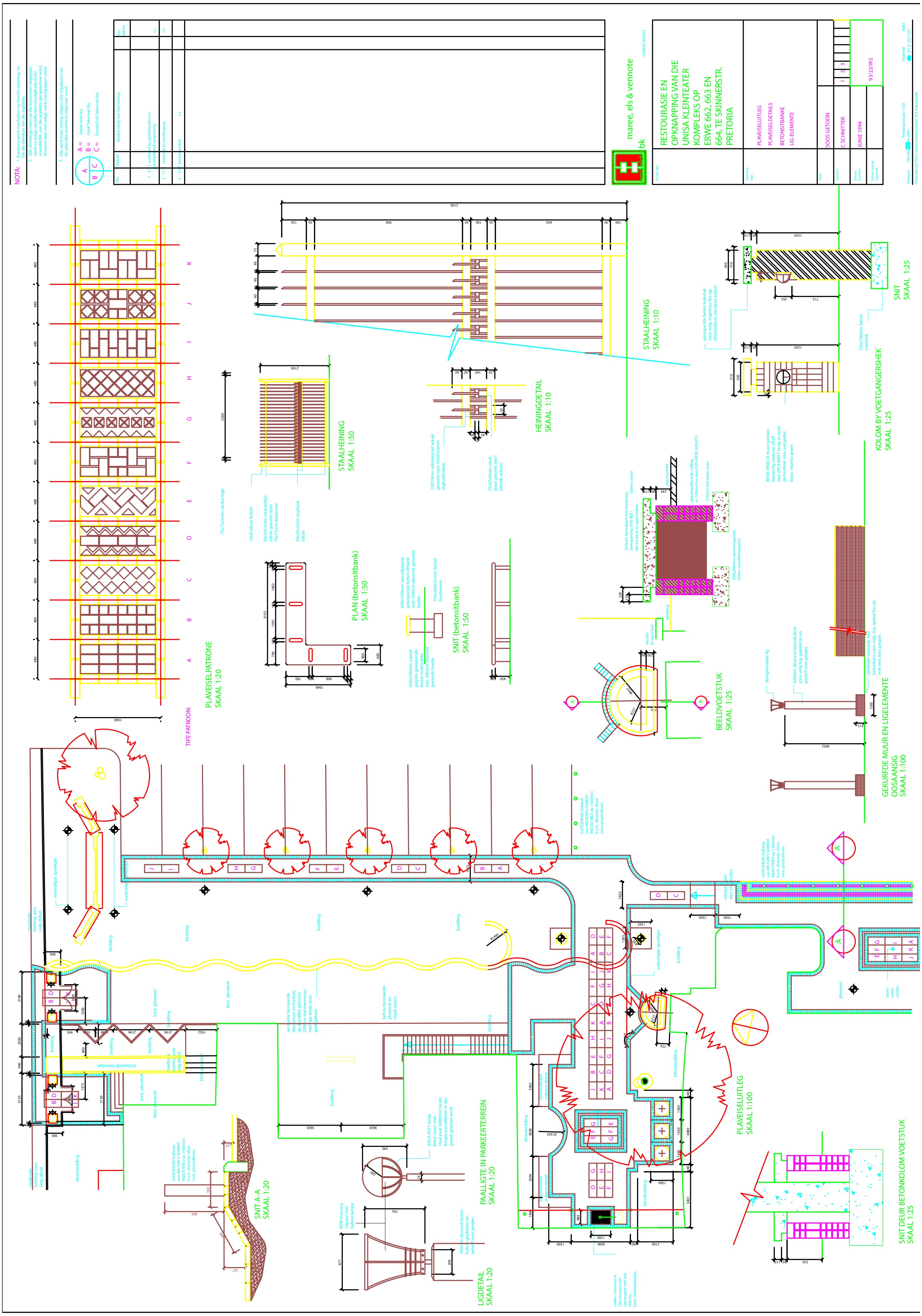
maree, els & vennote
argitekte bk
CK88/01849/23

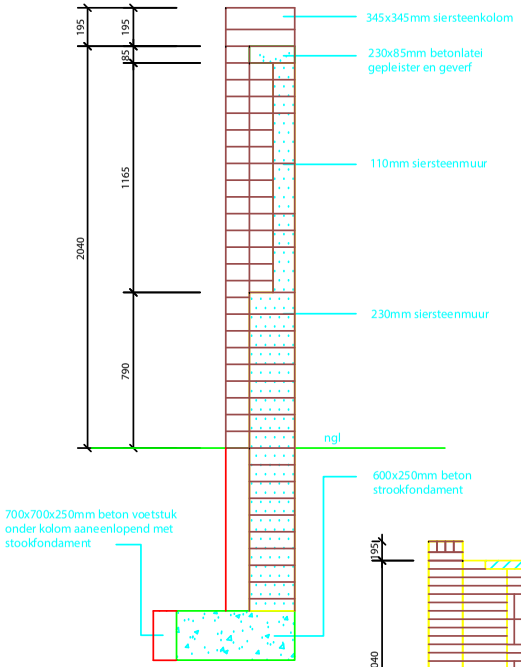
Projek Titel	UNISA KLEINTEATER
Tekening Titel	TEATERUITLEG
Skaal	1:100
Geteken	CS
Datum Geteken	10/94
Datum Afdruk Uitgereik	

93/22/W9

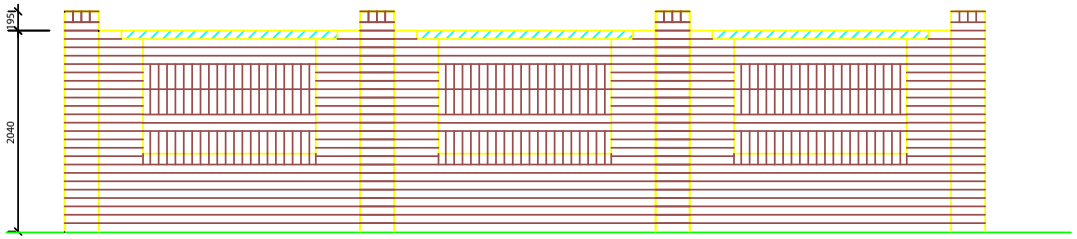
Schoemanstraat 1019
Pretoria 192 PRETORIA 0001
Hatfield 0083
(012) 3421221


TERREINPLAN
VIR
UNISA KLEINTEATER KOMPLEKS
SKAAL 1:200
VAN DER WALTSTRAAT
SKINNERSTRAAT
BEST. WOONHUIS
BLOK A
BLOK B (KLEINTEATER)
BEST. KANTORE
maree, els & vennote bk
OPKNAPPING EN RESTOURASIE VAN DIE UNISA KLEINTEATER KOMPLEKS OP ERWE 662, 663 EN 664, TE SKINNERSTRAAT PRETORIA (gekonsolideed erf no. 3422)
TERREINPLAN
1:200
CURT SCHNITTER
JUNIE 1994
93/22/W1

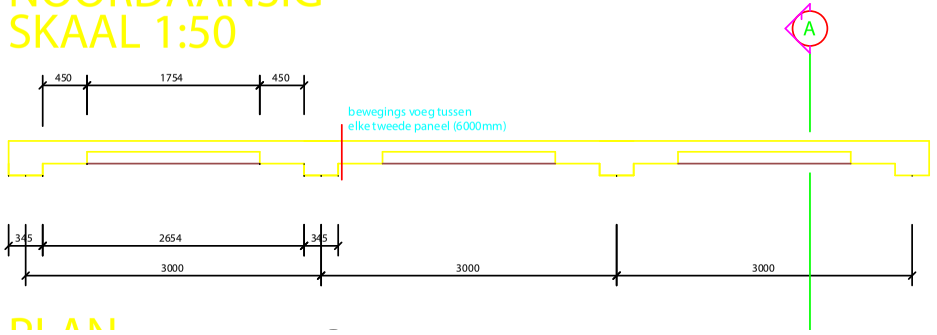

RESTOURASIE EN OPKNAPPING VAN DIE UNISA KLEINTEATER KOMPLEKS OP ERWE 662, 663 EN 664, TE SKINNERSTR. PRETORIA
maree, els & vennote
PLAVEISELUITLEG
PLAVEISELDETAILS
BETONSITBANKE
LIG-ELEMENTE
C SCHNITTER
JUNIE 1994
93/22/W2
NOTA:
PLAVEISELPATRONE SKAAL 1:20
TIPE PATROON:
STAALHEINING SKAAL 1:10
STAALHEINING SKAAL 1:50
HEININGDETAIL SKAAL 1:10
PLAN (betonsitbank) SKAAL 1:50
SNIT (betonsitbank) SKAAL 1:50
SNIT SKAAL 1:25
KOLOM BY VOETGANGERSHEK SKAAL 1:25
BEELDVOETSTUK SKAAL 1:25
GEKURFDE MUUR EN LIGELEMENTE OOSAANSIG SKAAL 1:100
PLAVEISELUITLEG SKAAL 1:100
SNIT A-A SKAAL 1:20
PAALLIGTE IN PARKEERTERREIN SKAAL 1:20
LIGDETAIL SKAAL 1:20
SNIT DEUR BETONKOLOM VOETSTUK SKAAL 1:25



SNIT A-A
SKAAL 1:25



NOORDAANSIG
SKAAL 1:50



PLAN

NOTA:
1. Kopiereg word voorbehou op hierdie tekening, en bly die eiendom van die argitekte.
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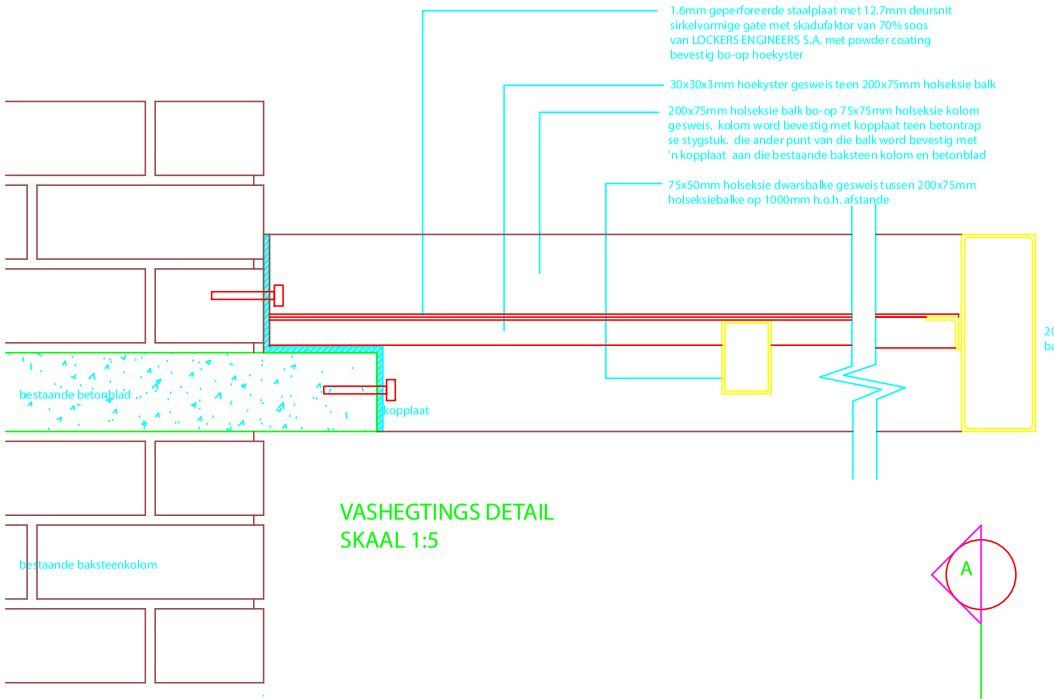
C = Detail/Snit Tekenvel No.

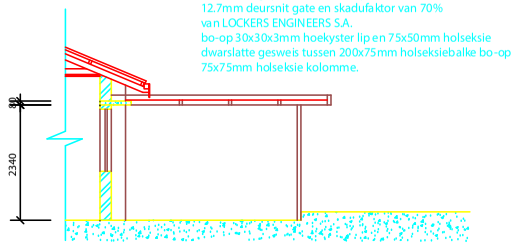
No.	Datum	Beskrywing van Hersiening		Ge-teken

maree, els & vennote
argitekte bk
CK88/01849/23

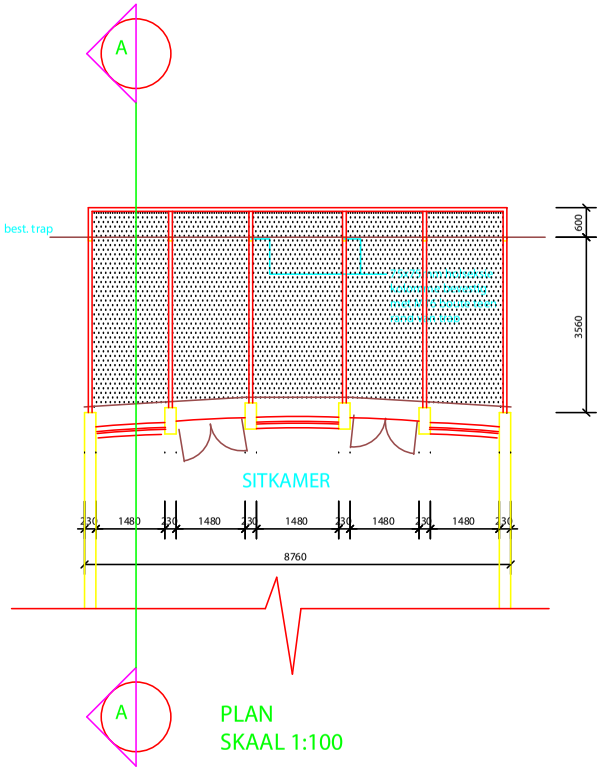
Projek Titel	UNISA KLEINTEATER
Tekening Titel	SUIDELIKE ERFGRENS MUUR
Skaal	SOOS GETOON
Geteken	C SCHNITTER
Datum Geteken	NOV'94
Datum Afdruk	93/22/11



VASHEGTINGS DETAIL
SKAAL 1:5



SNIT A-A
SKAAL 1:100



PLAN
SKAAL 1:100

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C = Detail/Snit Tekenvel No.

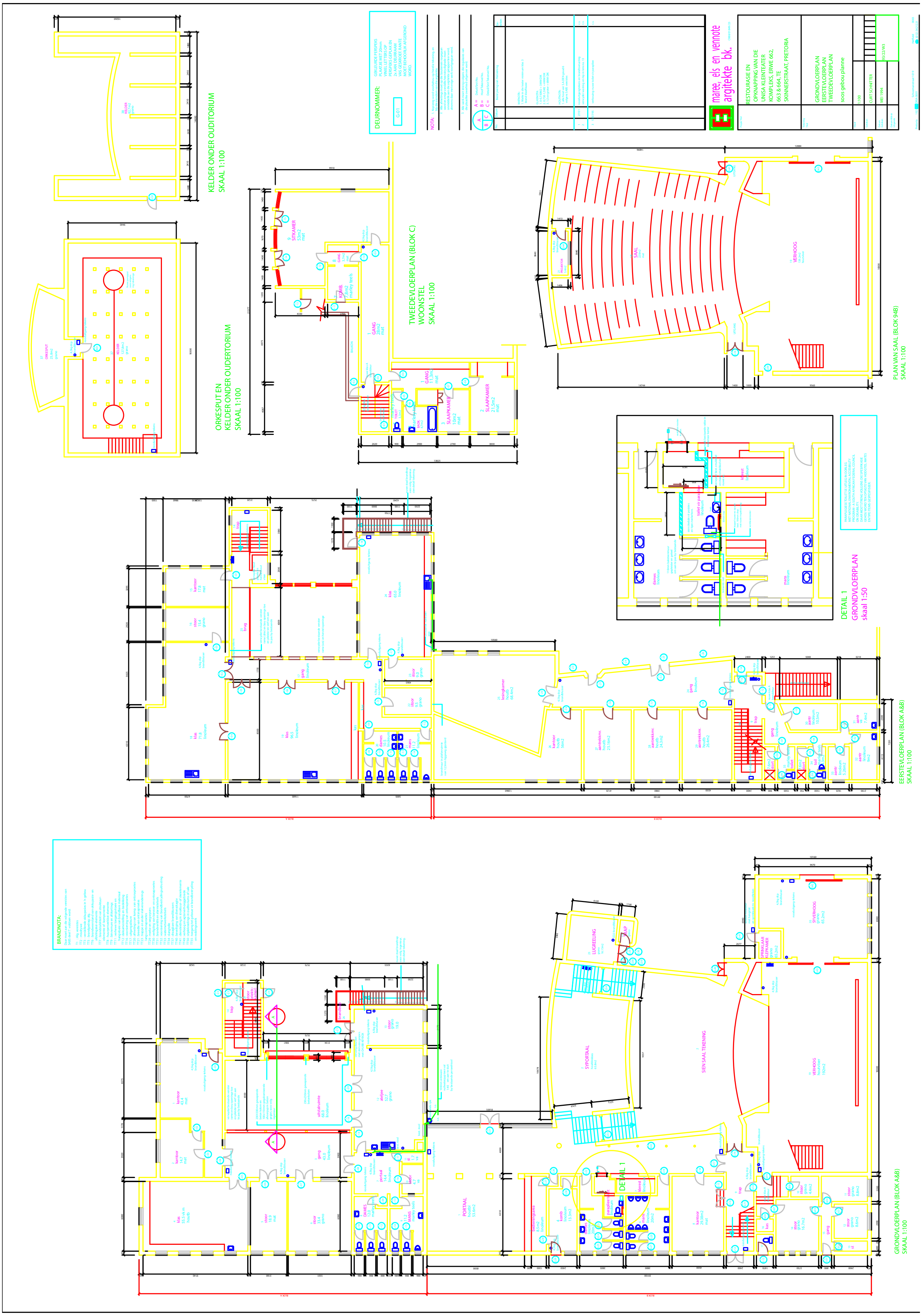
No.	Datum	Beskrywing van Hersiening		Ge-teken

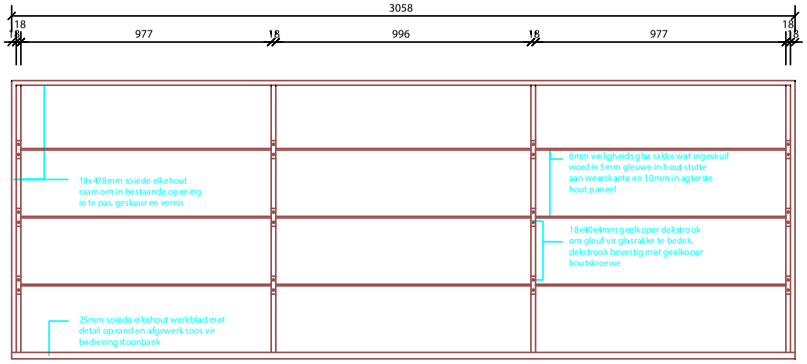
maree, els & vennote
argitekte bk
CK88/01849/23

Projek Titel	UNISA KLEINTEATER
Tekening Titel	PRIEELDETAIL (WOONSTEL)
Skaal	GETOON
Geteken	C.SCHNITTER
Datum Geteken	10/1994
Datum Afdruk Uitgereik	
	93/22/W10

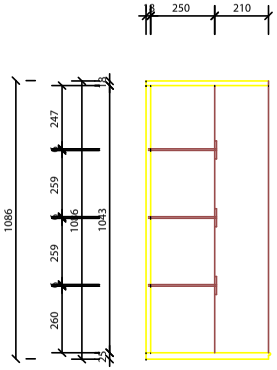
Pietoria 192 PRETORIA 0001
Pietoriustraat 1163 Hatfield 0083
(012) 3421221
Pietersburg VSH 2 Gebou Harleystraat 221 Eduanpark
3946 Pietersburg 0700
(01521) 938467


RESTOURASIE EN
OPKNAPPING VAN DIE
UNISA KLEINTEATER
KOMPLEKS, ERWE 662,
663 & 664, TE
SKINNERSTRAAT,
PRETORIA
SKEDULE VAN VRY EN
DEKKING
1:200
C.SCHNITTER
SEPTEMBER 1994
93/22/W8
maree, els & vennote
bk
KELDER ONDER OUDITORIUM
SKAAL 1:100
ORGESOUT EN
KELDER ONDER VERHOOG
SKAAL 1:100
TWEEDEVLOERPLAN (BLOK C)
WOONSTEL
SKAAL 1:100
EERSTEVLOERPLAN (BLOK A&B)
SKAAL 1:100
GRONDVLOERPLAN (BLOK A&B)
SKAAL 1:100

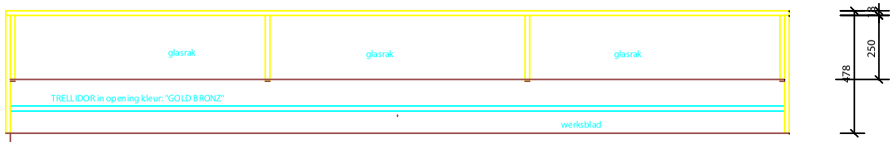

KELDER ONDER OUDITORIUM
SKAAL 1:100
ORKESPUT EN
KELDER ONDER OUDERTORIUM
SKAAL 1:100
TWEEDEVLOERPLAN (BLOK C)
WOONSTEL
SKAAL 1:100
PLAN VAN SAAL (BLOK 94B)
SKAAL 1:100
DETAIL 1
GRONDVLOERPLAN
Skaal 1:50
EERSTEVLOERPLAN (BLOK A&B)
SKAAL 1:100
GRONDVLOERPLAN (BLOK A&B)
SKAAL 1:100
maree, els en vennote
argitekte bk.



AANSIG
1:20



SNIT
1:20



PLAN VAN SNOEPWINKEL RAKKE
1:20

NOTA:
1. Kopiereg word voorbehou op hierdie tekening, en by die eiendom van die argitekte.
2. Alle afmetings moet op die bouterrein nagegaan word en enige verskille/teenstrydighede moet onmiddelik aan die argitekte gerapporteer word, alvorens daar met enige werk voortgegaan word.
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C = Detail/Snit Tekenvel No.

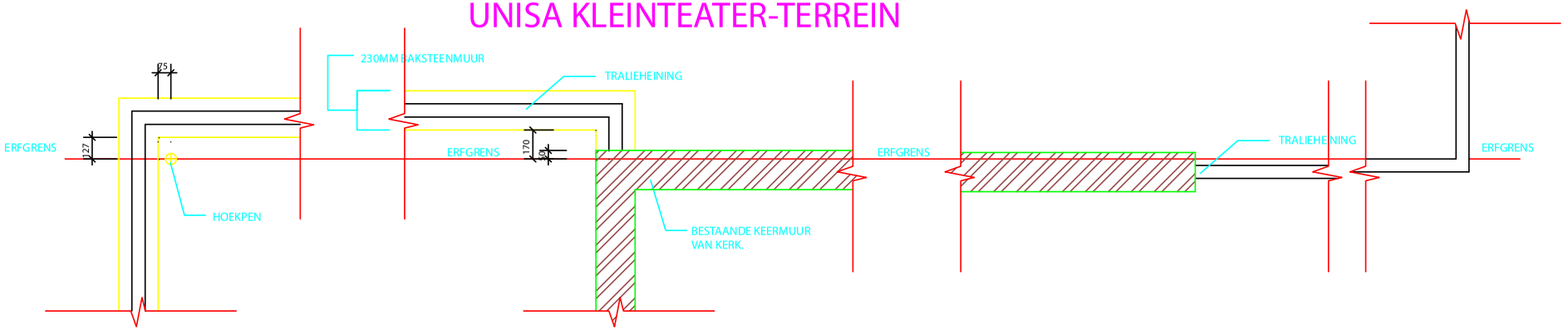
No.	Datum	Beskrywing van Hersiening		Ge-teken

maree, els & vennote
argitekte bk
CK88/01849/23

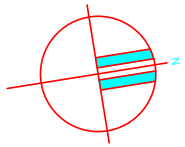
Projek Titel	RESTOURASIE EN OPKNAPPING VAN DIE UNISA KLEINTEATER KOMPLEKS, TE ERWE 662, 663 EN 664, TE SKINNERSTR. PRETORIA
Tekening Titel	SNOEPWINKEL-RAKKE
Skaal	C.S
Geteken	NOV.1994
Datum Getekend	JUNIE 1994
Datum Afdruk Uitgereik	
	93/22/W14

Schoemanstraat 1019 Hatfield 0083
Pretoria 192 PRE A0001 (012) 342 1221

UNISA KLEINTEATER-TERREIN



KERK-TERREIN



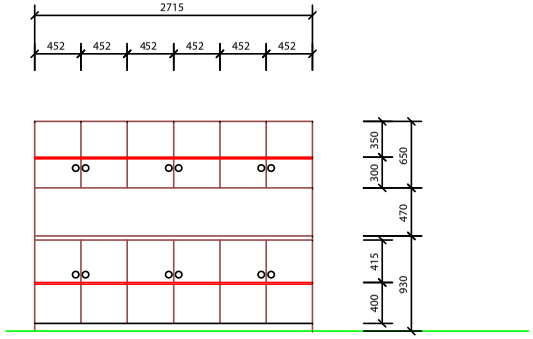
ERFGRENS-DETAIL

skaal 1:25

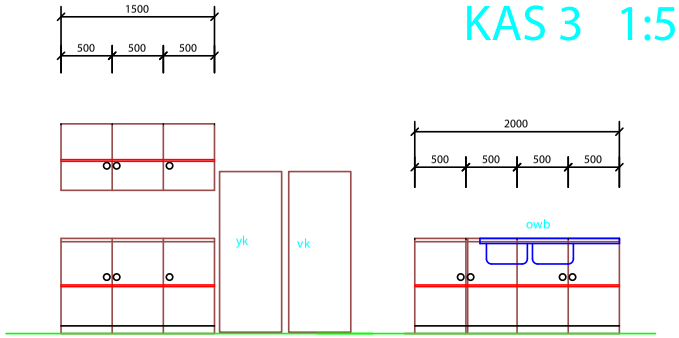
maree, els & vennote
argitekte bk
CK88/01849/23

Projek Titel	RESTOURASIE VAN DIE UNISA KLEINTEATER OP ERF 3427(KONS), SKINNERSTRAAT 291, PRETORIA.
Tekening Titel	ERFGRENS-DETAIL
Skaal	1:25
Geteken	CRS
Datum Getekon	APRIL 1995
Datum Afdruk Uitgereik	93/22/W17

Pretoria 192 PRETORIA 0001 Schoemanstraat 1019 Hatfield 0083 (012) 3421221

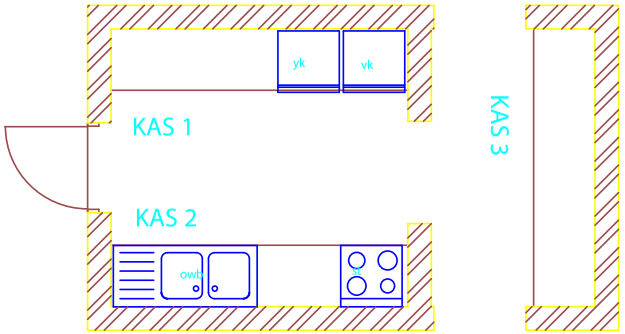


KAS 3 1:50

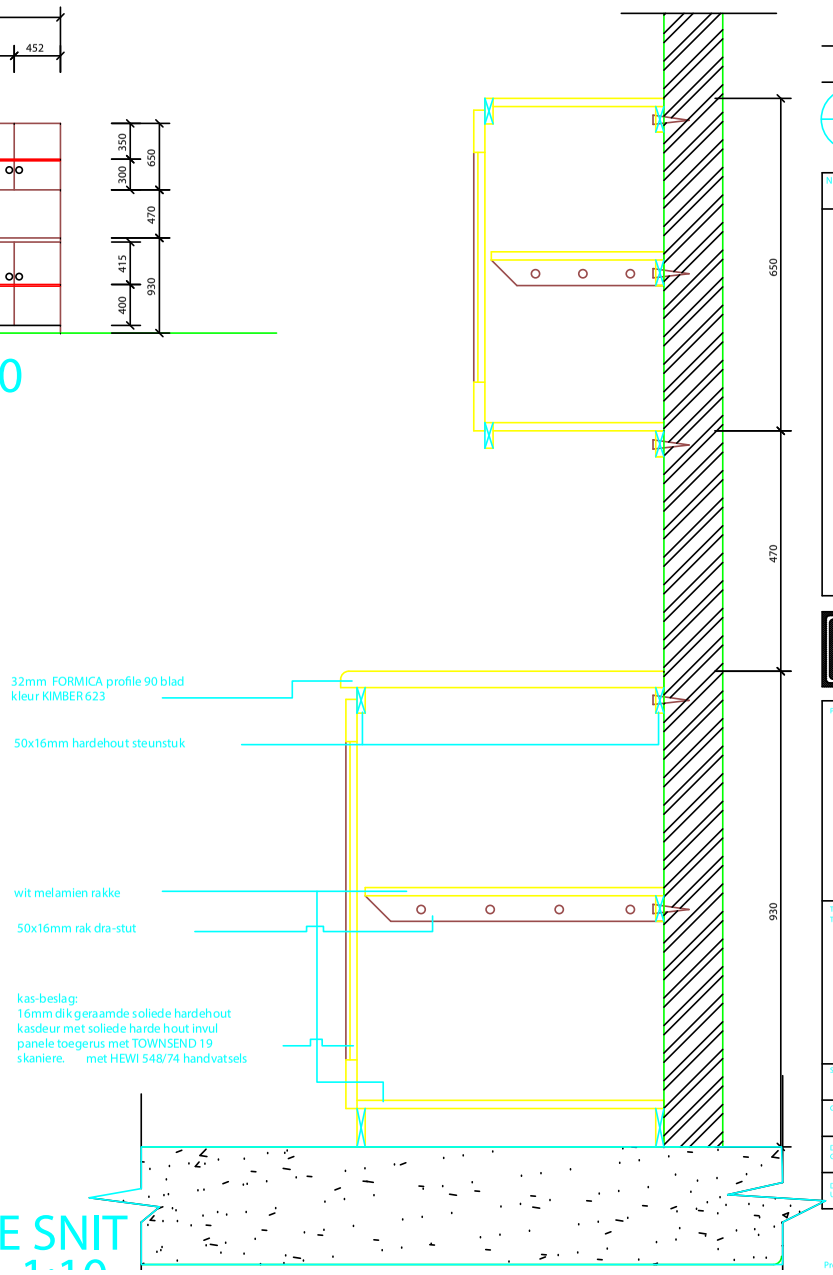


KAS 1 1:50

KAS 2 1:50



KOMBUISPLAN
SKAAL 1:50



TIPIESE SNIT

NOTA:
1. Kopiereg word voorbehou op hierdie tekening, en bly die eiendom van die argitekte.
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A =
B =
C =
Detail/Snit No.
Hoof Tekenvel No.
Detail/Snit Tekenvel No.

No.	Datum	Beskrywing van Hersiening		Ge-teken

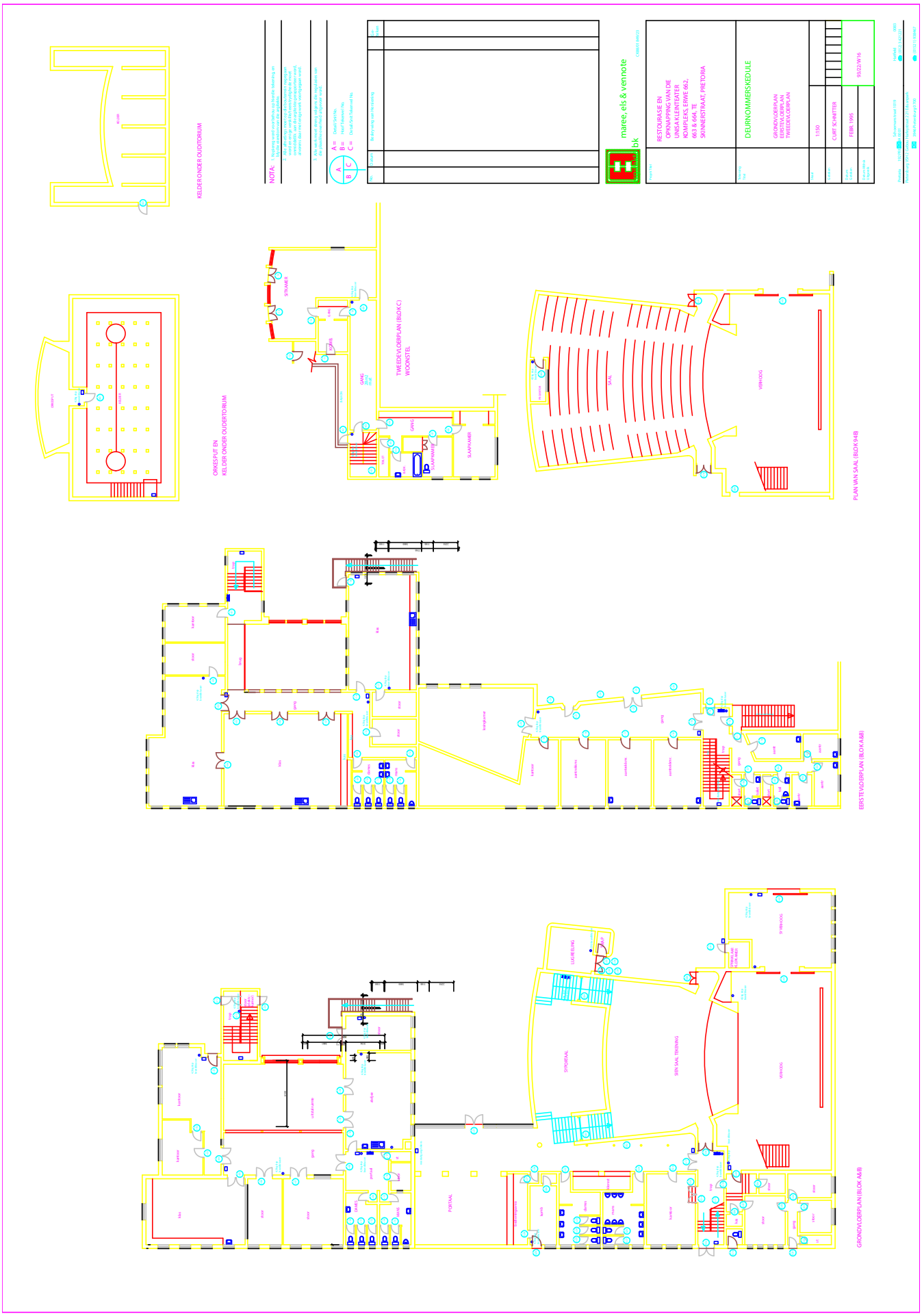
maree, els & vennote
argitekte bk
CK88/01849/23

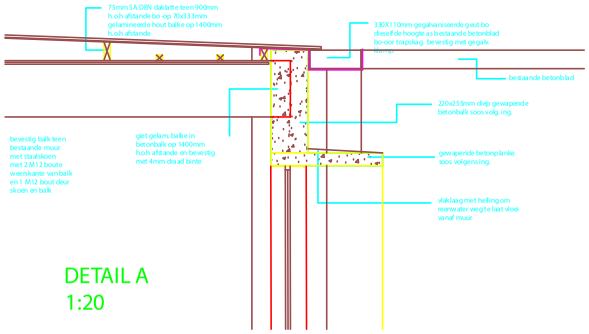
Projek Titel: UNISA KLEINTEATER

Tekening Titel: KOMBUIS KASTE (WOONSTEL)

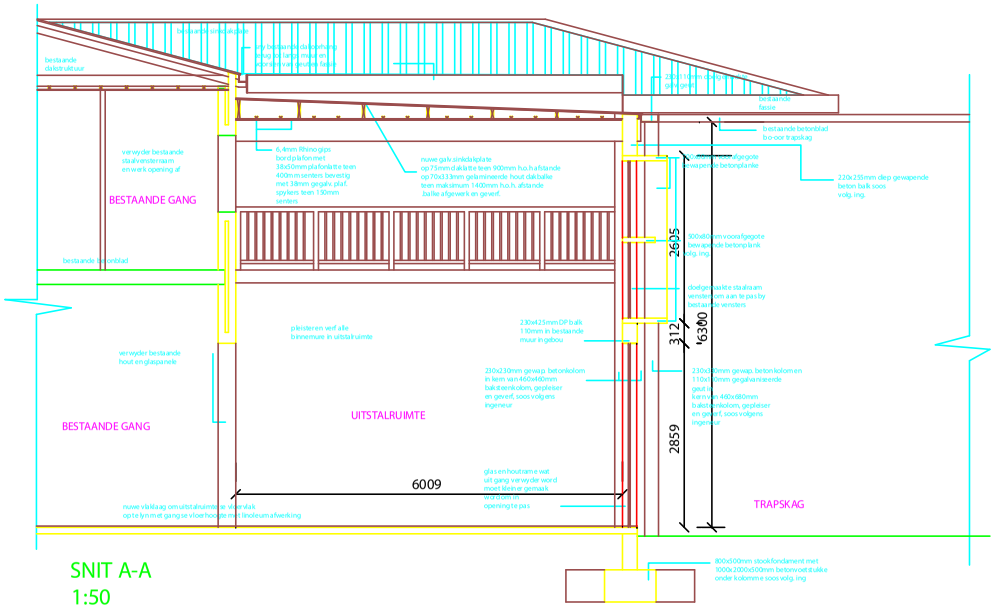
Skaal	1:50/1:10	
Geteken	C.R.S	
Datum Geteken	NOV. 1994	93/22/W12
Datum Afdruk Uitgereik		

Pretoriusstraat 1163
Hatfield 0083
Pretoria 192 PRETORIA 0001
(012) 3421221


KELDER ONDER OUDITORIUM
ORKESPUT EN KELDER ONDER OUDITORIUM
TWEEDEVLOERPLAN (BLOK C)
WOONSTEL
PLAN VAN SAAL (BLOK K4B)
EERSTEVLOERPLAN (BLOK A&B)
GRONDVLOERPLAN (BLOK A&B)
maree, els & vennote
RESTOURASIE EN OPKNAPPING VAN DIE UNISA KLEINTEATER KOMPLEKS, ERWE 662, 663 & 664, TE SKINNERSTRAAT, PRETORIA
DEURNOMMERSKEDULE
GRONDVLOERPLAN EERSTEVLOERPLAN TWEEDEVLOERPLAN
FEBR. 1995
93/22/W16



DETAIL A
1:20



SNIT A-A
1:50

NOTA:
1. Kopiereg word voorbehou op hierdie tekening, en bly die eiendom van die argitekte.
2. Alle afmetings moet op die bouterrein nagegaan word en enige verskille/teenstrydighede moet onmiddellik aan die argitekte gerapporteer word, alvorens daar met enige werk voortgegaan word.
3. Alle werk moet streng volgens die regulasies van die plaaslike owerheid uitgevoer word.

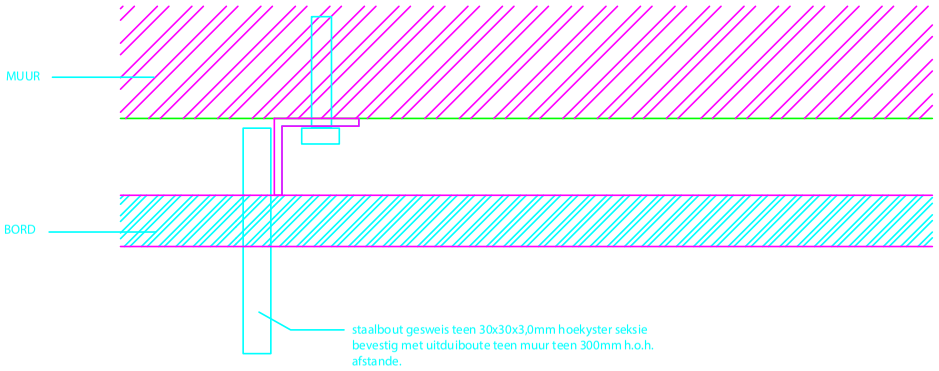
A = Detail/Snit No.
B = Hoof Tekenvel No.
C = Detail/Snit Tekenvel No.

No.	Datum	Beskrywing van Hersiening		Get-eken

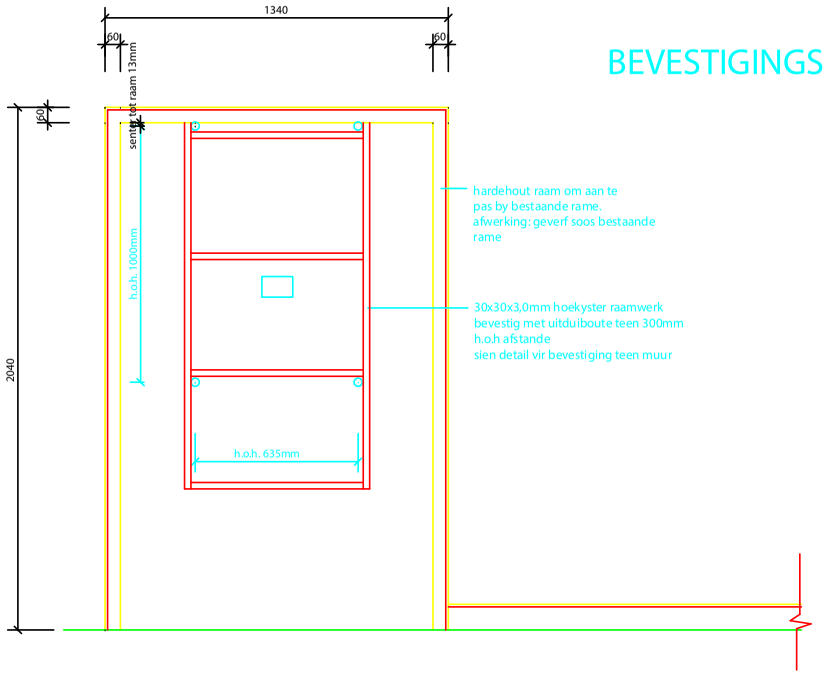
maree, els & vennote
bk
CK88/01849/23

Projek Titel	RESTOURASIE EN OPKNAPPING VAN DIE KLEINTEATER KOMPLEKS TE ERWE 662, 663 EN 664 TE PRETORIA
Tekening Titel	UITSTALRUIMTE: SNIT & DETAIL
Skaal	GETOON
Getek-en	CURT SCHNITTER
Datum Getek-en	AUG 1994
Datum Afbruk Uitgereik	93\22\W7

Pretoriusstraat 1163
Hatfield 0083
Pretoria 192 PRETORIA 0001
(012) 342 1221
Pietersburg VSH 2 Gebou Harleystraat 221 Eduanpark
3946 Pietersburg 0700
(015211) 938467



BEVESTIGINGS DETAIL 1:2



TELEFOONBORD AANSIG SKAAL 1:20

NOTA:
1. Kopiereg word voorbehou op hierdie tekening, en bly die eiendom van die argitekte.
2. Alle afmetings moet op die bouterrein nagegaan word en enige verskille/teenstrydighede moet onmiddellik aan die argitekte gerapporteer word, alvorens daar met enige werk voortgegaan word.
3. Alle werk moet streng volgens die regulasies van die plaaslike owerheid uitgevoer word/

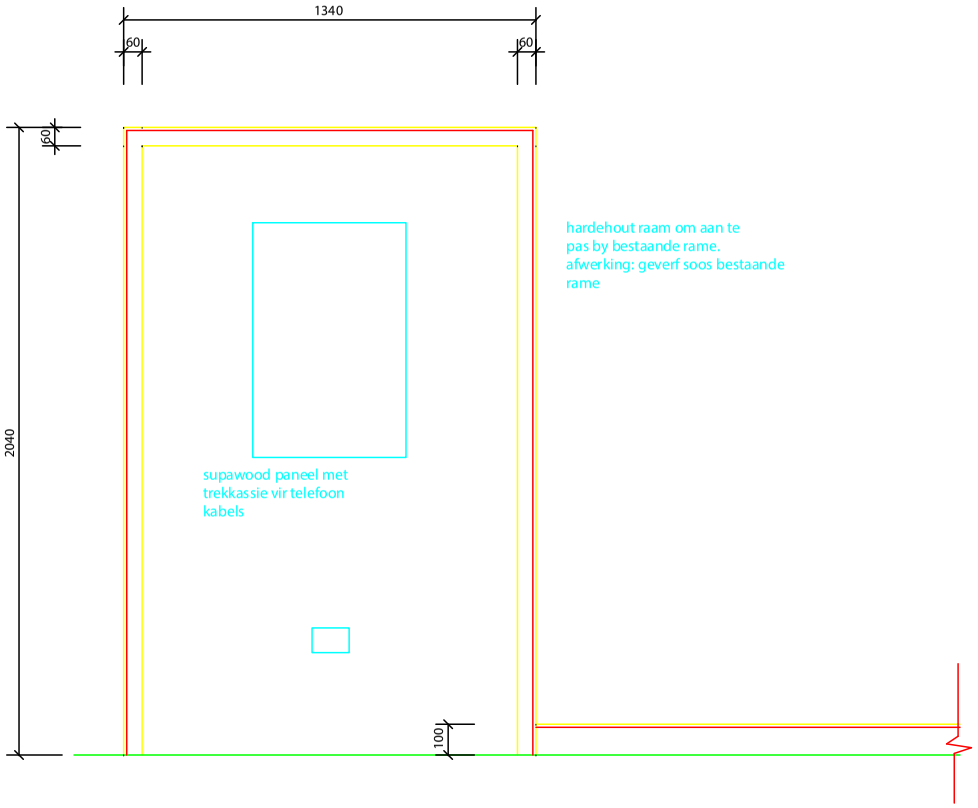
A = Detail/Snit No.
B = HoofTekenvel No.
C = Detail/Snit Tekenvel No.

No.	Datum	Beskrywing van Hersiening		Ge-teken

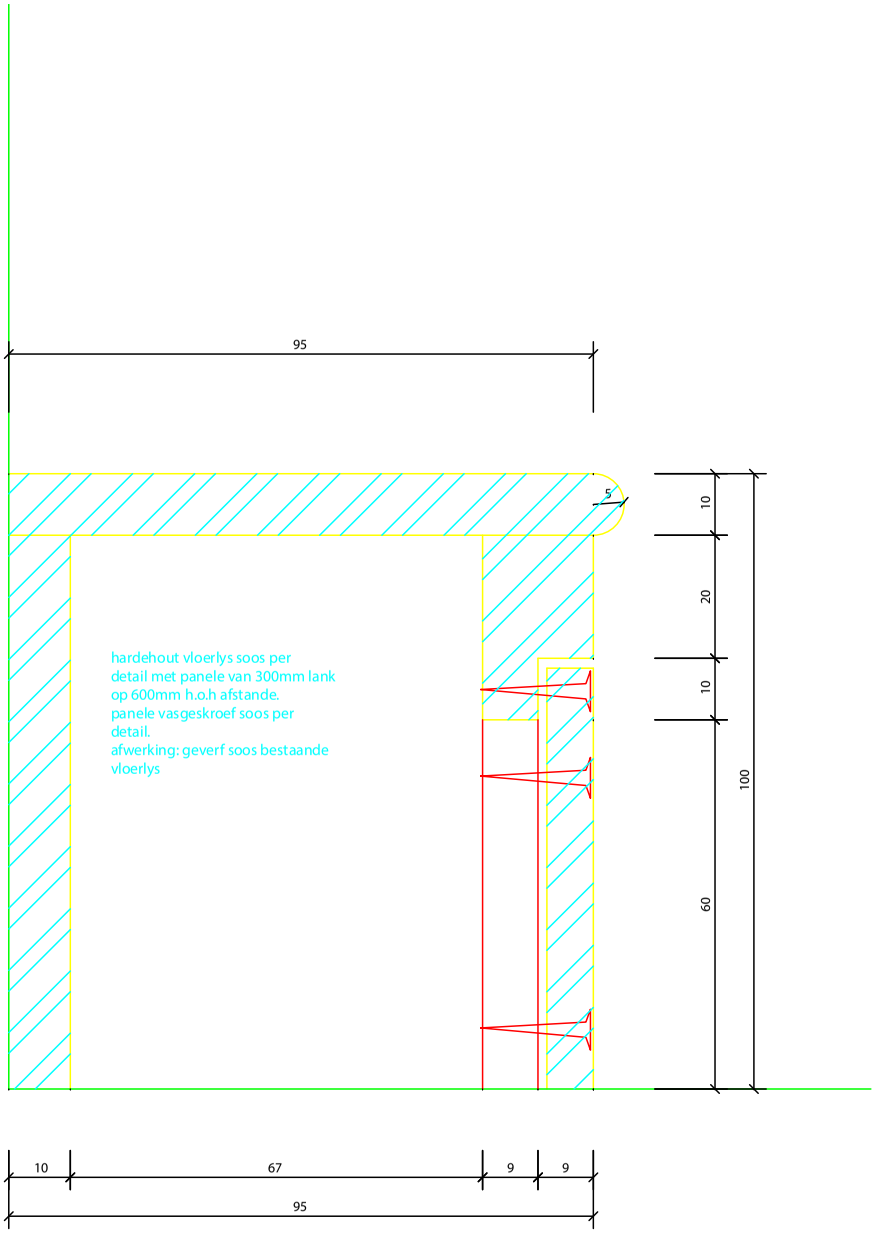
maree, els & vennote
argitekte bk
CK88/01849/23

Projek Titel	UNSIA KLEINTEATER
Tekening Titel	TELEFOONBORD
Skaal	GETOON
Getaken	CRS
Datum Getaken	APRIL 95
Datum Afdruk Uitgereik	93/22/18

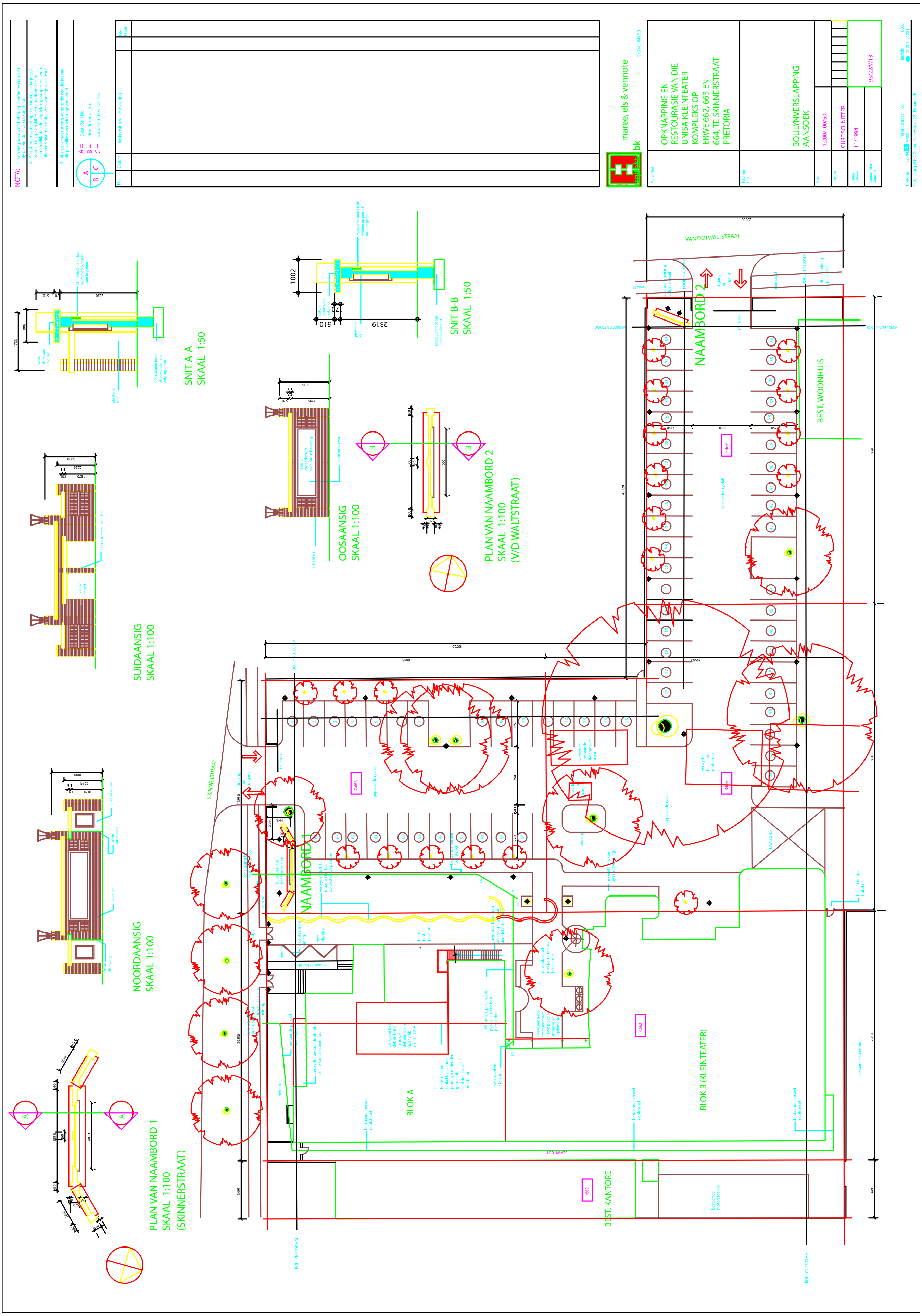
Pretoria 192 PRETORIA 0001 Schoemanstraat 1019 Hatfield 0083 (012) 3421221

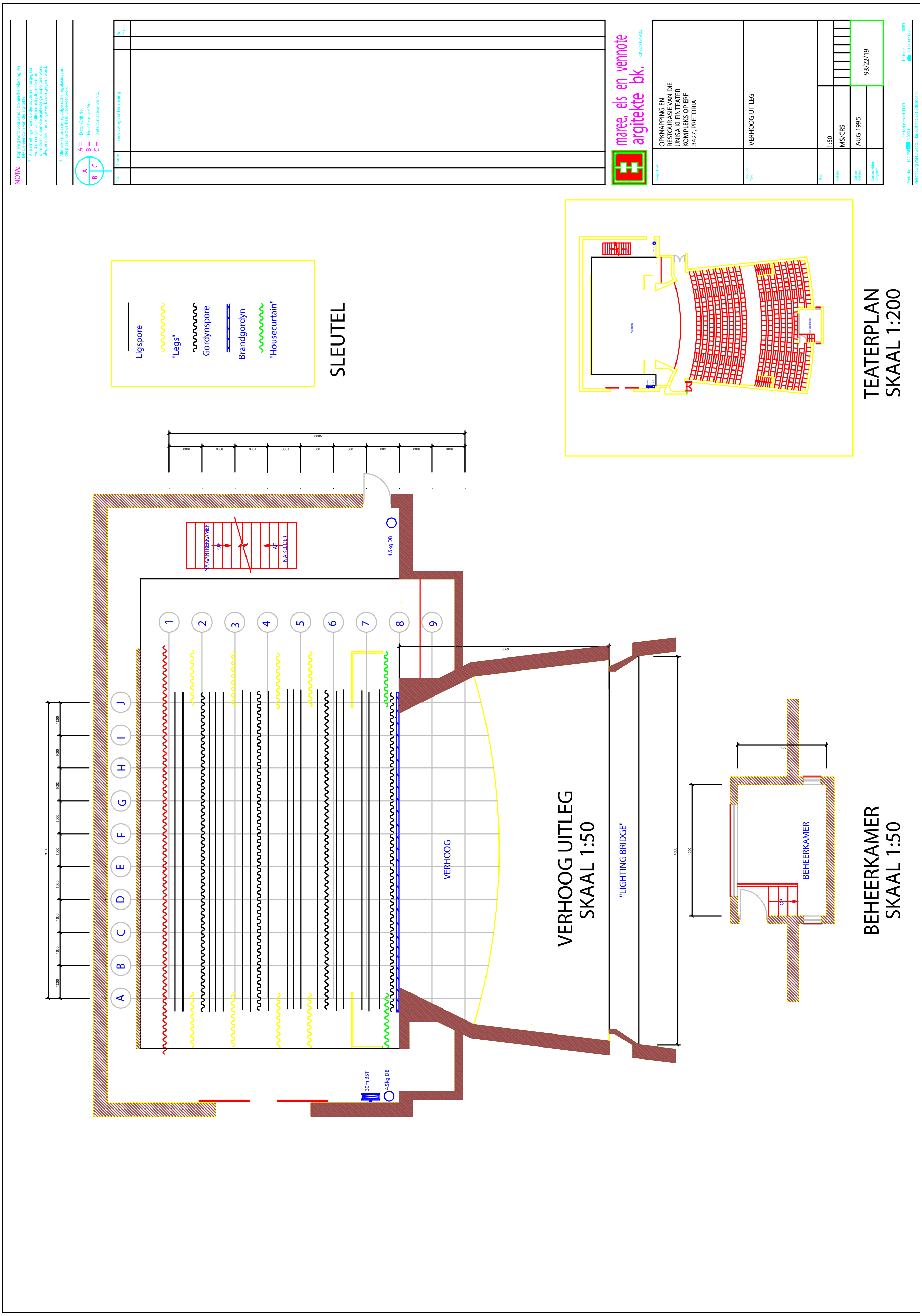


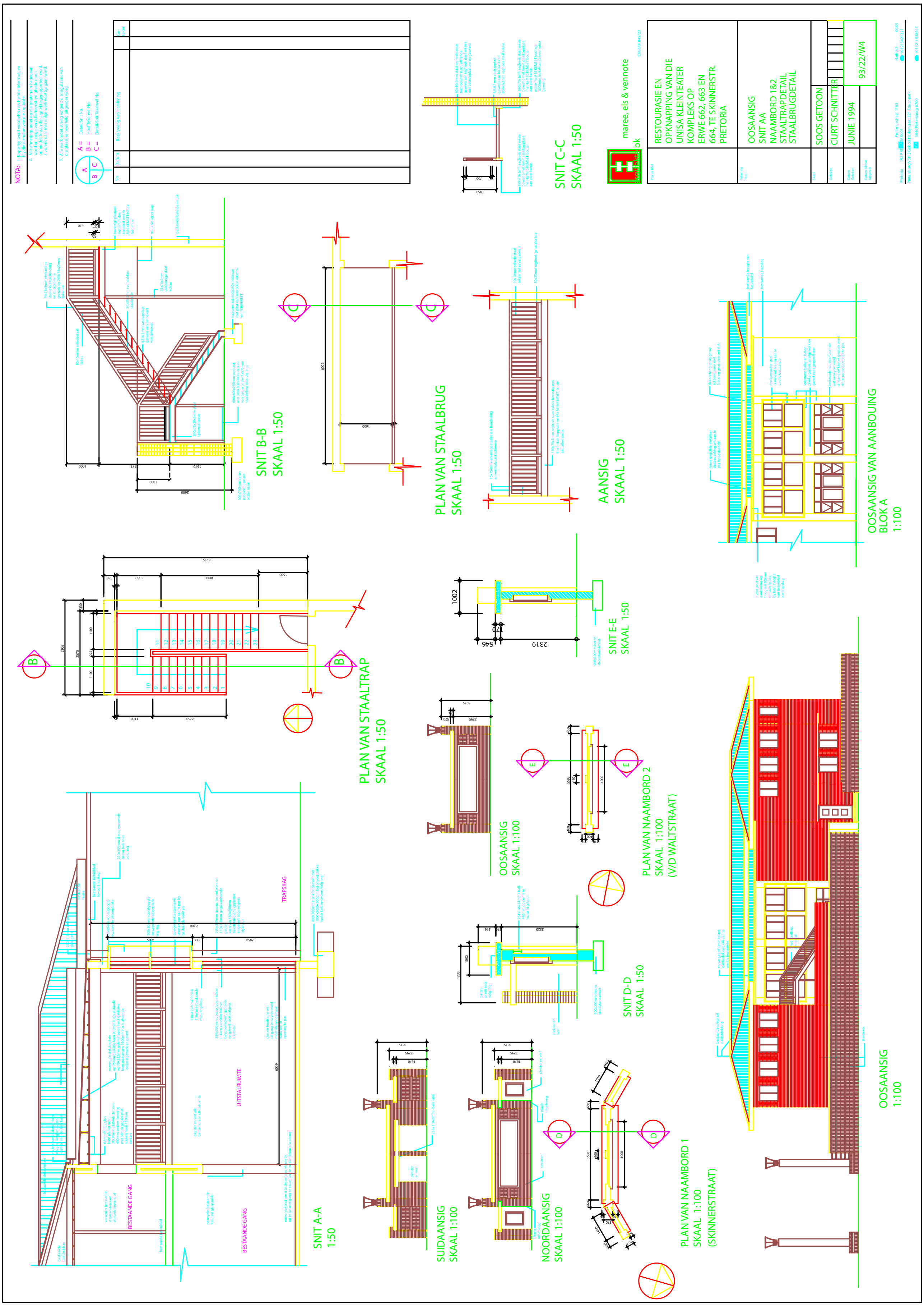
TELEFOONBORD AANSIG SKAAL 1:20



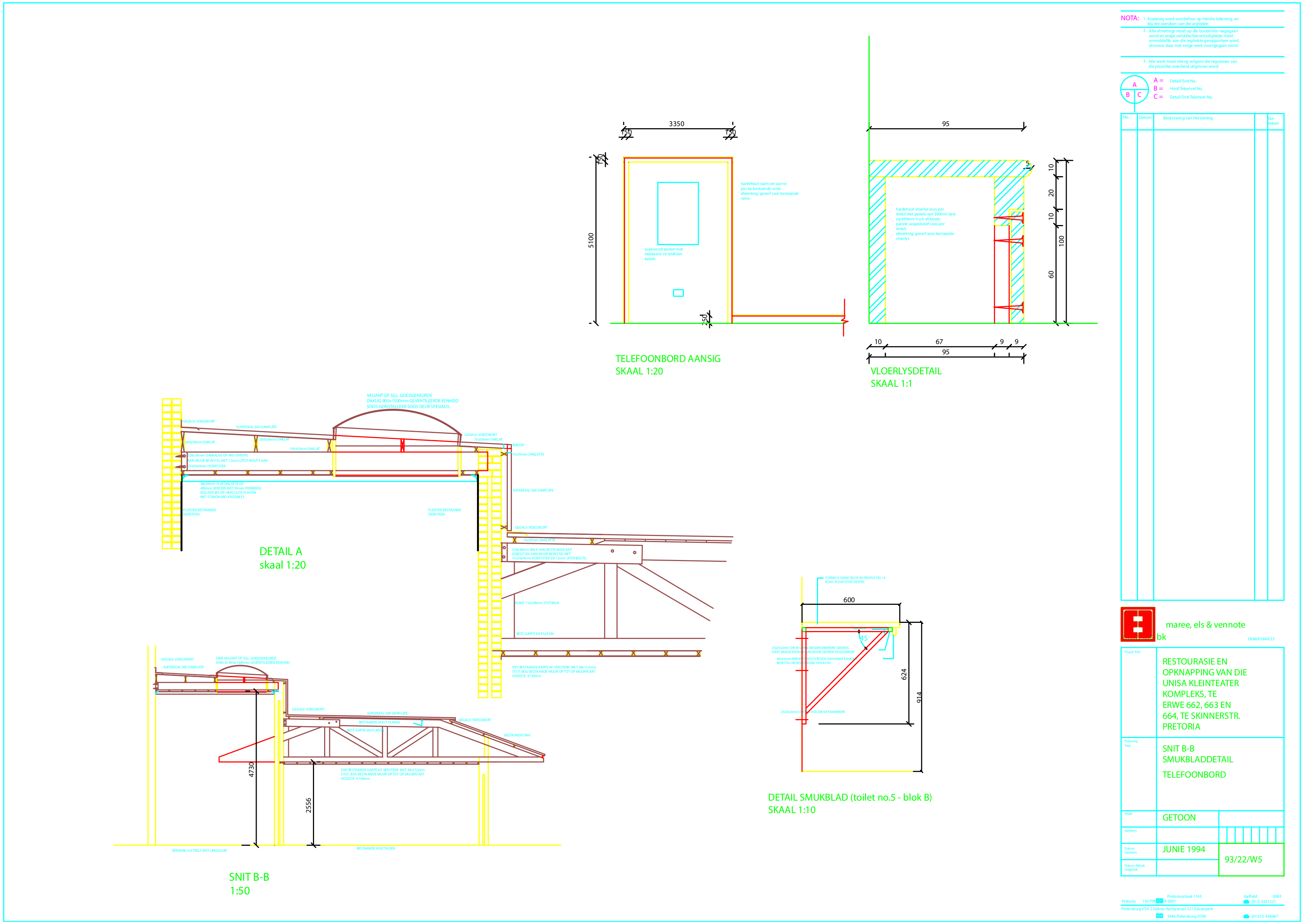
VLOERLYSDETAIL SKAAL 1:1


NOTA:
maree, els & vennote
OPKNAPPING EN RESTOURASIE VAN DIE UNISA KLEINTEATER KOMPLEKS OP ERWE 662, 663 EN 664, TE SKINNERSTRAAT PRETORIA
BOULYNVERSLAPPING AANSOEK
1:200/100/50
CURT SCHNITTER
11/1994
93/22/W13
SNIT A-A SKAAL 1:50
SUIDAANSIG SKAAL 1:100
NOORDAANSIG SKAAL 1:100
PLAN VAN NAAMBORD 1 SKAAL 1:100 (SKINNERSTRAAT)
SNIT B-B SKAAL 1:50
OOSAANSIG SKAAL 1:100
PLAN VAN NAAMBORD 2 SKAAL 1:100 (V/D WALTSTRAAT)
VAN DER WALTSTRAAT
SKINNERSTRAAT
NAAMBORD 1
NAAMBORD 2
BEST. WOONHUIS
BLOK A
BLOK B (KLEINTEATER)
BEST. KANTORE


NOTA:
maree, els en vennote
argitekte bk.
OPKNAPPING EN
RESTOURASIE VAN DIE
UNISA KLEINTEATER
KOMPLEKS OP ERF
3427, PRETORIA
VERHOOG UITLEG
1:50
MS/CRS
AUG 1995
93/22/19
Ligspore
"Legs"
Gordynspore
Brandgordyn
"Housecurtain"
SLEUTEL
TEATERPLAN
SKAAL 1:200
NA AANTREKKAMER
NA KELDER
4,5kg DB
30m BST
VERHOOG
VERHOOG UITLEG
SKAAL 1:50
"LIGHTING BRIDGE"
BEHEERKAMER
BEHEERKAMER
SKAAL 1:50



NOTA:
SNIT A-A
1:50
SUIDAANSIG
SKAAL 1:100
NOORDAANSIG
SKAAL 1:100
PLAN VAN NAAMBORD 1
SKAAL 1:100
(SKINNERSTRAAT)
OOSAANSIG
1:100
PLAN VAN STAALTRAP
SKAAL 1:50
OOSAANSIG
SKAAL 1:100
SNIT D-D
SKAAL 1:50
PLAN VAN NAAMBORD 2
SKAAL 1:100
(V/D WALTSTRAAT)
SNIT E-E
SKAAL 1:50
SNIT B-B
SKAAL 1:50
PLAN VAN STAALBRUG
SKAAL 1:50
AANSIG
SKAAL 1:50
OOSAANSIG VAN AANBOUING
BLOK A
1:100
SNIT C-C
SKAAL 1:50
maree, els & vennote bk
RESTOURASIE EN OPKNAPPING VAN DIE UNISA KLEINTEATER KOMPLEKS OP ERWE 662, 663 EN 664. TE SKINNERSTR. PRETORIA
OOSAANSIG
SNIT AA
NAAMBORD 1&2
STAALTRAPDETAIL
STAALBRUGDETAIL
SOOS GETOON
CURT SCHNITTER
JUNIE 1994
93/22/W4


NOTA:
A = Detail/Snit No.
B = Hoof Tekening No.
C = Detail/Snit Tekening No.
maree, els & vennote
bk
RESTOURASIE EN OPKNAPPING VAN DIE UNISA KLEINTEATER KOMPLEKS, TE ERWE 662, 663 EN 664, TE SKINNERSTR. PRETORIA
SNIT B-B SMUKBLADDETAIL TELEFOONBORD
GETOON
JUNIE 1994
93/22/W5
TELEFOONBORD AANSIG
SKAAL 1:20
3350
5100
VLOERLYSDETAIL
SKAAL 1:1
95
100
67
DETAIL A
skaal 1:20
DETAIL SMUKBLAD (toilet no.5 - blok B)
SKAAL 1:10
600
624
914
SNIT B-B
1:50
4730
2556