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DISABLING SECLUSION

Malika Walele, 2015



an integrated job empowerment and skills development
centre for persons with intellectual disabilities

Disabling Seclusion

An integrated job empowerment and skills development centre for persons with intellectual disabilities

Bis-mil-laahir Rah-maanir Raheem
In the name of the Lord, the most Gracious, the most Merciful

"Rabbi Zidnee Ilmaa"
"My Lord, increase me in knowledge!"

Quran 20:114

Declaration

I, Malika Walele 478809, am a student registered for the course ARPL 7003 in the year 2015.

I hereby declare the following:

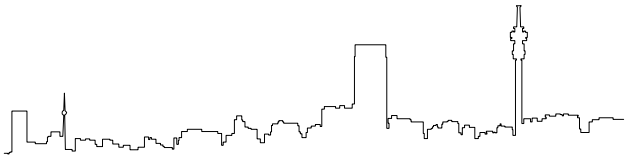
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_____

Malika Walele
30th October 2013

This document is submitted in partial fulfilment for the degree:

Master of Architecture [Professional] at the University of the Witwatersrand,
Johannesburg, South Africa, in the year 2015.



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To my parents, thank you for the unconditional support and encouragement, for believing in me and for making all that was impossible, possible. Thank you for exposing me to only the best this world has to offer and for all the incredible opportunities which has undoubtedly gotten me to where I am today. Thank you for all your hard work to give me an education that I am eternally grateful for. Mum, thank you for all the hours you put into being grammar police and for making sure my English is 'well'. Dad, thank you for all the times you came to check up on me to see that all was alright and for the encouragement.

To my siblings, thank you for all the distractions and help along the way. Yumnaa, thank you for all the food and hugs! I can only hope to be as much of a distraction to you during your university experience, as you were for me. Mohammed Zubair, thank you for being such an inspiration and for all the love, food and massages!

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Mohammed Yaseen, thank you for being the ultimate tech support, smoothing out all the bumps along the way and for having my back whenever I needed you! The biggest thanks for the crazy hours you spent helping me during the final stretch!

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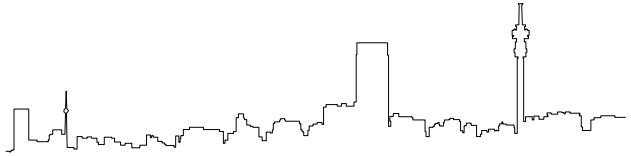
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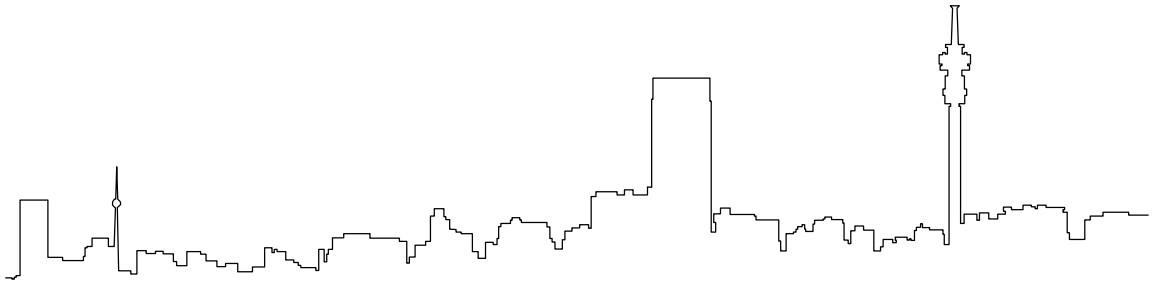
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ABSTRACT

People with intellectual disabilities are considered to be marginalised in our society. They continue to face prejudices, stigmas and are discriminated against resulting in social exclusion.

This thesis develops a framework and methodology for pursuing inclusive environments and viable productivity within the workplace for persons with intellectual disabilities. The lack of opportunities within the workplace for individuals with intellectual disabilities intensifies their exclusion from society.

The road to achieving inclusivity within the workplace has become a challenging one to navigate, as previous strategies which were developed to enable equality are far removed from what was intended. More often than ever before, employers are challenged from both a legal and political perspective for failing to diversify the workplace. Equality advocates as well as those who attempt to diversify their companies face obstacles within the workplace, namely inadequate resources or uncertainty about their appropriate role or approach in dealing with minorities.

The building will serve as a learning hub, used by both persons with intellectual disabilities and people who are commonly referred to as able bodied. It will function as a level between education (if any) and the period before entering the workplace. The learning hub will afford persons with intellectual disabilities the opportunity to explore their capabilities in environments similar to that of a workplace and gain knowledge and experience prior to entering the workplace.

The program envisaged in this thesis will demonstrate that this intervention is mutually beneficial to a company and the individual with an intellectual disability. In the first instance, the employer acquires knowledge and skills to act as a catalyst in enabling the transition of a person with an intellectual disability into the workplace to augment inclusivity. Secondly, the person with an intellectual disability through the program will be clothed with knowledge and expertise enabling meaningful participation amongst able-bodied employees.

The transformation within workplaces as a result of the knowledge gained through this centre should create an enabling environment that incorporates the individual's needs or one that best satisfies their needs. The support by the employer is vital in the outcome and success of integrating people with disabilities into the social framework.

The building is developed around a range of interactive programs between those with intellectual disabilities and people acting as the supervisors from workplaces. The supervisors, through training will be best placed to oversee progression and be empathetic toward staff with intellectual disabilities. This will enable them to transfer their knowledge and expertise of dealing with and accommodating employees with intellectual disabilities to their respective workplaces. A mock work environment will form the basis of the experiential training ground and in conjunction with job sampling will establish where a user will be best suited within the work environment. Public facilities encourage members of the public to become active participants within the space providing exposure and understanding towards those with intellectual disabilities.

The centre is expected to be both accessible and lasting and will mediate experiential training and aligning it to workplace practices. The centre will be a vital space to enhance inclusion and for producing sustainable change for this marginalised group of persons.

The building is located within an educational precinct on Melle Street, Braamfontein. The site which is in close proximity to the Central Business District allows for the centre to feed into businesses and vice versa. The location also allows for easy access to people from all over Johannesburg utilising various transport methods. The site being amid universities and schools ensures integration and optimum use, for educational facilities to link into this program. It also allows for social cohesion through exposure between the users of the building and other students in the surrounding area.

INSPIRATION

My knowledge and insight into intellectual disabilities has always been that of a personal nature. From a social perspective, I was able to clearly see the lack of accommodation and understanding in almost all realms of life faced by a person with an intellectual disability. I was very aware and disturbed that so many people, even those who are fortunate enough to be well educated, continue to be ill- informed or unsure of how to engage with persons with intellectual disabilities. However, friends and family members whom I have approached were open to discussions regarding people with intellectual disabilities and through conversations I learnt that generally there was minimal exposure to people with intellectual disabilities. I realised I was in a unique position through my personal experiences where I had in a small (but significant) way started to change their perception which is ultimately a step towards changing the lack of current inclusion of those with intellectual disabilities.

My personal experience and exposure to persons with intellectual disabilities allows a unique approach to the issues underlying the thesis. The exploration of this topic through the thesis has the ability to advance my understanding of the topic. This would not only be to my benefit, but also to so many other people who have not been exposed to similar circumstances.

I began the exploration of my thesis with the broad concept of social inclusion of persons with an intellectual disability. It opened a world of opportunity and gave me insight into the various issues persons with intellectual disabilities face. I felt that it would be useful to focus in on a particular aspect where social inclusion could be achieved through an intervention.

My brother, who has Down syndrome, graduated from The Living Link School at the end of 2014 and was lucky to have had the opportunity to join a family business following his education. Many of the students who also graduated at the time, were not as fortunate and were not successful in finding a job after their training at The Living Link. It is a serious challenge that many people with intellectual disabilities face huge difficulties in securing employment. This amplifies their exclusion from the broader society. Through my personal experiences, I identified the workplace as an area that needed a critical intervention where all people could be included within the workplace and play a significant role in society.

It is important to acknowledge that the physical presence of people with intellectual disabilities within a community does not result in such persons being successfully socially included or for them to meaningfully contribute to society, as it requires something more to participate in a profound way. There must be meaningful involvement by those with people with intellectual disabilities with able-bodied people, and in so doing it will encourage and allow for social integration to occur.

Proponents of social inclusion for persons with intellectual disabilities believe that such persons should be part of mainstream environments in all aspects of their lives. Opponents of this idea believe that in certain instances specialised environments are the most suitable for a person with an intellectual disability. There are many different views as to how and whether either of these situations will result in the best outcome for the person with an intellectual disability.

From my personal experience, I have a view, having seen my brother who was part of both a mainstream environment as well as specialised schools that the ideal is an environment that bridges the gap between these two distinct branches of learning environments.

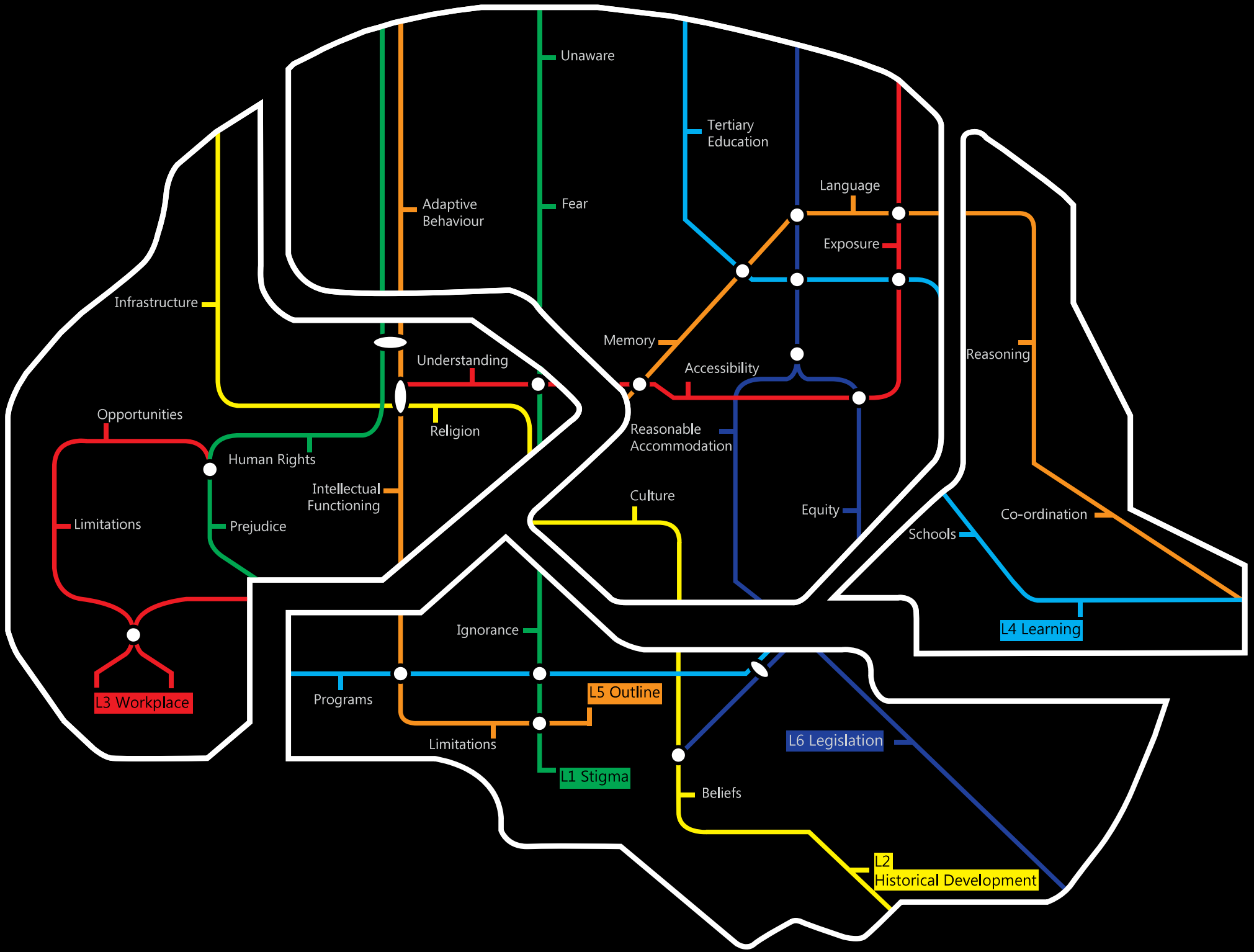
Although my brother at a young age was able to cope in mainstream schools, it was noted that as he grew older the gap to cope in the mainstream environment became more difficult and something more was required for

him to reach his full potential. He then attended a specialised school that was geared toward managing varying abilities to allow him to reach his full potential as well as deal with the disability in an appropriate manner. He was also part of various cultural and sporting activities within the schools. As much as this environment was to his benefit, it ultimately did not result in his exposure or inclusion in mainstream environments. It is imperative that people with disabilities are exposed to mainstream environments, not only for their own benefit but especially for those who are able-bodied. In being exposed to a person with a disability, one's perception of what is 'normal' changes, removes the stigma and the prejudices previously held and supports the view that those with disabilities should actively participate in mainstream activities.

My view of the most successful environment for a person with an intellectual disability is one that enables the person to reach his or her full potential. If this is not possible within a mainstream environment, then a specialised environment should only be encouraged if it ensures that the person would be ultimately included within the mainstream environment as a result of the learnings within those specialised environments.

It is vital to respect the differences and abilities of persons with intellectual disabilities. When one acknowledges these differences, one is able to interact with persons with intellectual disabilities at a much deeper level. In understanding their differences, one is able to recognise and accept that such a person may need more intensive attention to afford the opportunity of reaching his or her full potential and ultimately may be active participants within mainstream environments.

This thesis does not aim to eradicate exclusion through the workplace alone, but rather to develop an understanding of how one can create the catalyst with the intention of promoting it further in other areas of life, and in turn people are exposed to and become aware of those with intellectual disabilities and their incredible potential to contribute meaningfully to the lives of others and societies.


Unaware
Tertiary Education
Adaptive Behaviour
Fear
Language
Exposure
Infrastructure
Memory
Understanding
Accessibility
Reasoning
Opportunities
Religion
Reasonable Accommodation
Human Rights
Intellectual Functioning
Culture
Equity
Co-ordination
Limitations
Prejudice
Schools
L4 Learning
Ignorance
L3 Workplace
Programs
L5 Outline
Limitations
L6 Legislation
L1 Stigma
Beliefs
L2 Historical Development

DOCUMENT STRUCTURE

This thesis consists of two parts. The first being a theoretical approach to the topic, and the second is the architectural response to this.

The theory is further divided into two parts. The first exploration is that of a social one. It explores the ideas of intellectual disabilities, social inclusion and equality in the workplace. The second theoretical exploration is that of an architectural one. A language and understanding is developed through precedents which are regarded as most valuable to a person with an intellectual disability and will guide the design process.

Chapter One:

-A brief overview of intellectual disabilities will be explored to develop an understanding of who the users of the building will be, their level of disability and age. This is also important for a person with limited knowledge of intellectual disabilities.

-The second part of this chapter will attempt to unpack the history of seclusion of people with intellectual disabilities within the society at the time. One can map the parallels of the current exclusion of people with disabilities from this history. Through a time line one gets an insight into how society traditionally viewed people with intellectual disabilities and also gain an understanding where the current exclusion stems from. The focus of this historical exploration will be based on literature reviews that explore the timeline of the social development of people with intellectual disabilities. Beliefs, culture and religion has had an effect on the views held by society toward persons with intellectual disabilities and how they are treated in the social realm.

Chapter Two:

-The second chapter looks at social inclusion for a person with an intellectual disability, what this means and to what extent it is currently being implemented.

- It looks at employment within the workplaces in a South African context and the legislative framework relevant to the topic and how it assists in the transformation of the workplace.

-The final part looks at how integration in the workplace could occur and the possibilities surrounding the implementation thereof.

Chapter Three:

-This chapter deals with case studies in South Africa which has relevance to this thesis. The focal case study is The Living Link, a centre operating in Parkhurst, Johannesburg, where I conducted interviews as well as sat in on classes. The main aim and focus of The Living Link is to implement a program that is directed at skills development and the integration of young adults with intellectual disabilities into the workplace.

Chapter Four:

-This chapter is an overview of the design charrette which dealt with the experience of space through light, colour and texture.

Chapter Five:

-This chapter is an introduction to architectural theories. The first part explores inclusion through design.

-The second part begins to develop a theory of architecture regarding intellectual disability.

Chapter Six:

-This chapter, with the use of precedents, looks in detail at buildings that have been designed specifically for persons with intellectual disabilities. An architectural language is developed through this exploration. The focus in this chapter is the use of the senses which is important for a person with an intellectual disability.

Chapter Seven:

-This chapter, also through the use of precedents, looks at spatial layouts and way-finding to develop an idea of how the design could respond to the needs of a person with an intellectual disability.

Chapter Eight:

-This chapter focuses on two precedents that were looked at due to the nature of its relationship to the landscape which has relevance to this thesis.

Chapter Nine:

-An introduction to the site along with mapping and site explorations.

Figure 1: Metro map of the brain, outlining the objectives, topics discussed and essay structure
By Author





Chapter 1

Intellectual Disability

Understanding an Intellectual Disability
Understanding the Social Development of Intellectual Disabilities Through a Historical Investigation

Figure 2: By Author. Joubert Street, Johannesburg

Understanding an Intellectual Disability

An intellectual disability (formerly known as a mental disability or mental handicap), is defined as a significant limitation in both intellectual functioning and adaptive behaviour. Intellectual functioning is recognised to be an IQ of less than 70-75 and identified by the reduced ability to understand new or complex information. (Gates & Barr, 2009) Intellectual abilities that could be impaired are memory, language, abstract thinking, reasoning and co-ordination. The adaptive behaviour is related to everyday social and practical skills such as communication, self-care, social, interpersonal and functional adaptive skills to name a few. The deficits are most commonly diagnosed by eighteen years of age. (Gates & Barr, 2009)
Examples of intellectual disabilities are Down Syndrome, Autism, Cerebral Palsy and Fragile-x Syndrome.

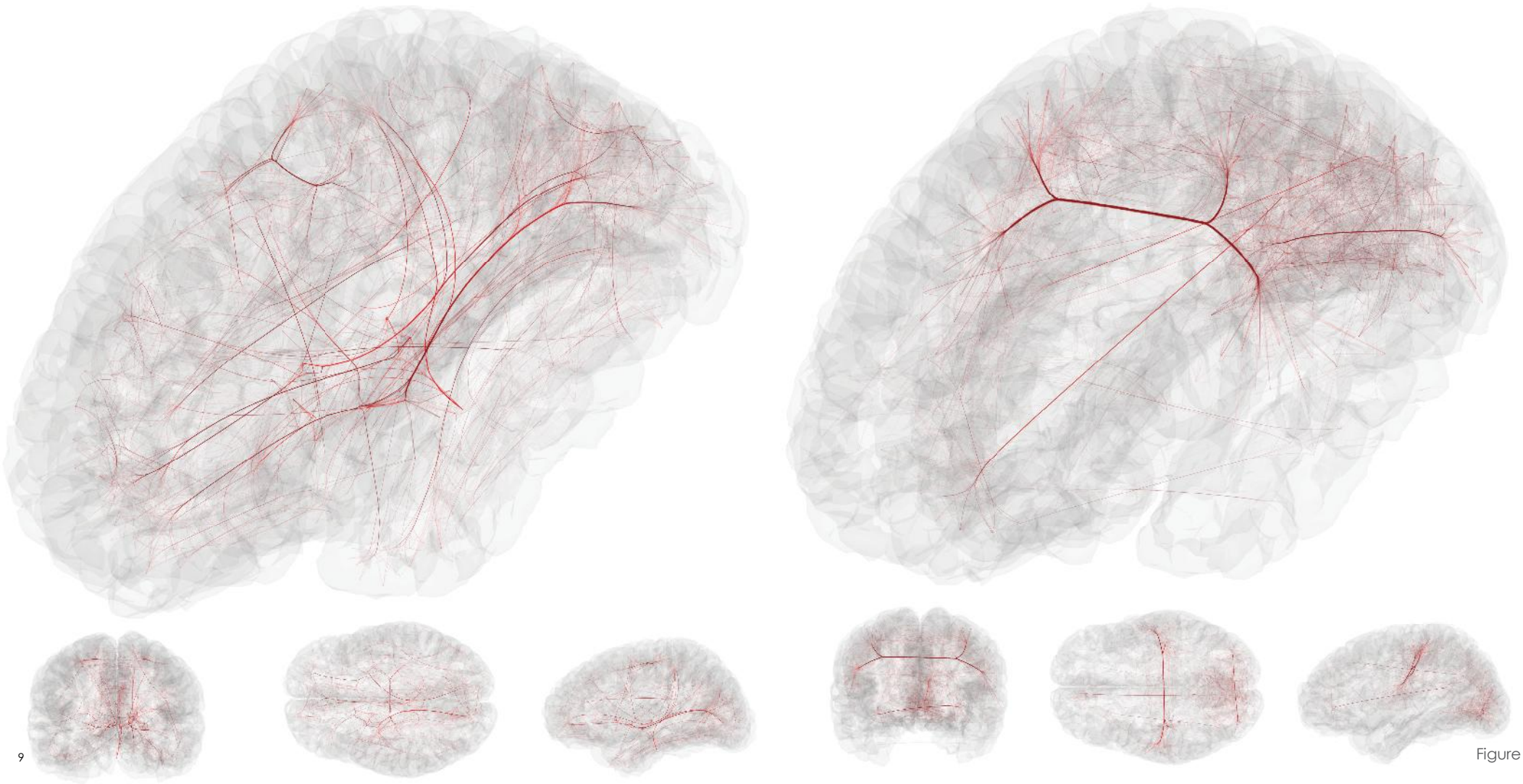


Figure 3

The phrase "intellectual disability" has changed multiple times over the years and differs within various countries. The term is subject to the euphemism treadmill which means that the word chosen for the condition, is eventually perceived as being offensive. The words 'idiot', 'moron' or 'imbecile' were once neutral terms used, but later were perceived to have negative connotations and so the terms were replaced by 'mentally retarded'. This too was eventually viewed as derogatory and politically incorrect, and was often used as an insult towards a person. The term 'intellectually disabled' as used today has replaced (what was also seen as politically incorrect) being 'mentally disabled' or 'mentally handicap'. The change in uses of terms for intellectual disabilities as a result of negative connotations is quite expressive of the attitudes of society about the condition. (Reynolds & Dombeck, 2013)

An intellectual disability can be divided into two categories: a syndromic intellectual disability and a non-syndromic intellectual disability. A syndromic intellectual disability is characterised by other physical, medical and behavioural signs and symptoms being present in addition to the intellectual disability, for instance Fragile X syndrome and Down syndrome. A non-syndromic intellectual disability is characterised by no other apparent abnormalities in addition to the intellectual disability. (Gates & Barr, 2009)

Typically, people with intellectual disabilities do not appear as though they are disabled. Where there are distinctive appearances attributed to people with intellectual disabilities, it is only applicable in a minority of cases, all of which are syndromic. The most common signs and symptoms of intellectual disabilities are behavioural. (Gates & Barr, 2009)

Intellectual disability can be classified as mild, moderate or severe as varying degrees of the disability. A mild intellectual disability is identified by an IQ of 50 to 69 in early childhood. In many cases the disability will not be obvious and will only be recognised during school and become apparent from poor academic performance. Further assessments need to be conducted to distinguish between a learning disability, emotional or behavioural disorder and an intellectual disability. Persons with mild intellectual disabilities are able to carry out social and practical skills such as cooking, cleaning and using public transport. They are typically able to live independently and be employed. (Gates & Barr, 2009) Persons with mild disabilities can perform a wide range of jobs. It appears that people with intellectual disabilities do not disclose their disability to employers despite having the ability to perform successfully due to their fear of not being offered jobs or not being treated equally within the workplace.

A moderate intellectual disability is identified by an IQ of 35 to 49. It is almost always apparent within the first few years of a child's life. Substantial support in schools, homes and in the community are necessary for people with intellectual disabilities in order to participate fully in all realms of life. A person who has a moderate intellectual disability will have limited academic potential, however they can learn basic everyday life skills and are able to participate in social activities. Often persons with a moderate disability would need assisted living, either by living with their families, in community homes or semi-independently with support. (Gates & Barr, 2009) It is not common for people with moderate intellectual disabilities to be employed in the workplace. This is due to the lack of knowledge and skills that employers have in order to interact with people with intellectual disabilities, inexperienced support staff and other supervisors, difficulty accessing facilities and a lack of amenities for people with intellectual disabilities. (Abbott & Mc Conkey, 2006, p. 275) Persons with intellectual disabilities are able to learn, even though at a slower rate and have the ability to perform tasks within companies, albeit the smaller aspects of the job. With the correct mentorship and practice they are able to reach their full potential and excel with the given tasks.

Figure 4

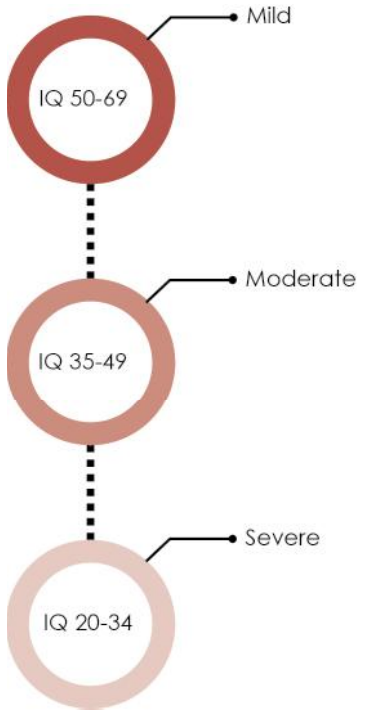


Figure 3 : This image is part of an exhibition which showcases prizewinners in the 2012 Brain-Art Competition held by the Neuro Bureau that honors outstanding visualizations of brain research data. The Neuro Bureau believe that pushing the interface between art and science presents a valuable opportunity for the neuroscience community. It is indicative of the progress that has been made in the field of neuroscience and how humans are able to translate that knowledge into various forms beyond science. The leaps that have been made in neuroscience have allowed us to understand intellectual disability like never before.

Figure 4: Classifications of intellectual disability by Author

A severe intellectual disability is indicated by an IQ level of 20 to 34. A person with a severe intellectual disability needs more intensive support and supervision throughout their lives. People with severe intellectual disabilities may be able to learn very basic skills but ordinarily would not have the capacity to engage meaningfully and actively participate in the work environment. (Gates & Barr, 2009)

The causes of intellectual disabilities are unknown in up to half of all cases throughout the World. The most common known causes of disability are due to genetic conditions of which the dominant genetic conditions include Down syndrome, Fragile X syndrome, Williams syndrome and Klinefelter's syndrome. Disabilities can be caused during pregnancy by developmental problems of the foetus, when a pregnant woman consumes alcohol (alcohol- foetal syndrome) or if the mother contracts an infection like rubella. If a person is exposed to certain diseases such as meningitis, or poisons such as lead or mercury, it may result in an intellectual disability. Iodine deficiency and malnutrition are also known causes of intellectual disabilities. (Albrecht, et al., 2001)

Intellectual disability and mental illness is often confused and interchanged as if the same but it is important to distinguish between the two conditions. The onset of an intellectual disability as previously mentioned is before the age of eighteen, assessed by a psychologist and is a lifelong condition that cannot be cured. (Albrecht, et al., 2001) On the other hand, a mental illness is diagnosed by a psychiatrist and is defined by a person having disturbances in thought process and perception and may experience hallucinations and delusions. It manifests as depression, schizophrenia and anxiety disorders. These conditions can occur at any stage in a person's life and may be temporary. (Porter & Bynum, 1997) A person with a mental illness may need mental health care but in general will have no intellectual impairment and can lead a normal life when the mental illness is controlled. In some cases, a person with an intellectual disability, like any other person, may develop a mental illness as well. These should be treated as separate conditions.

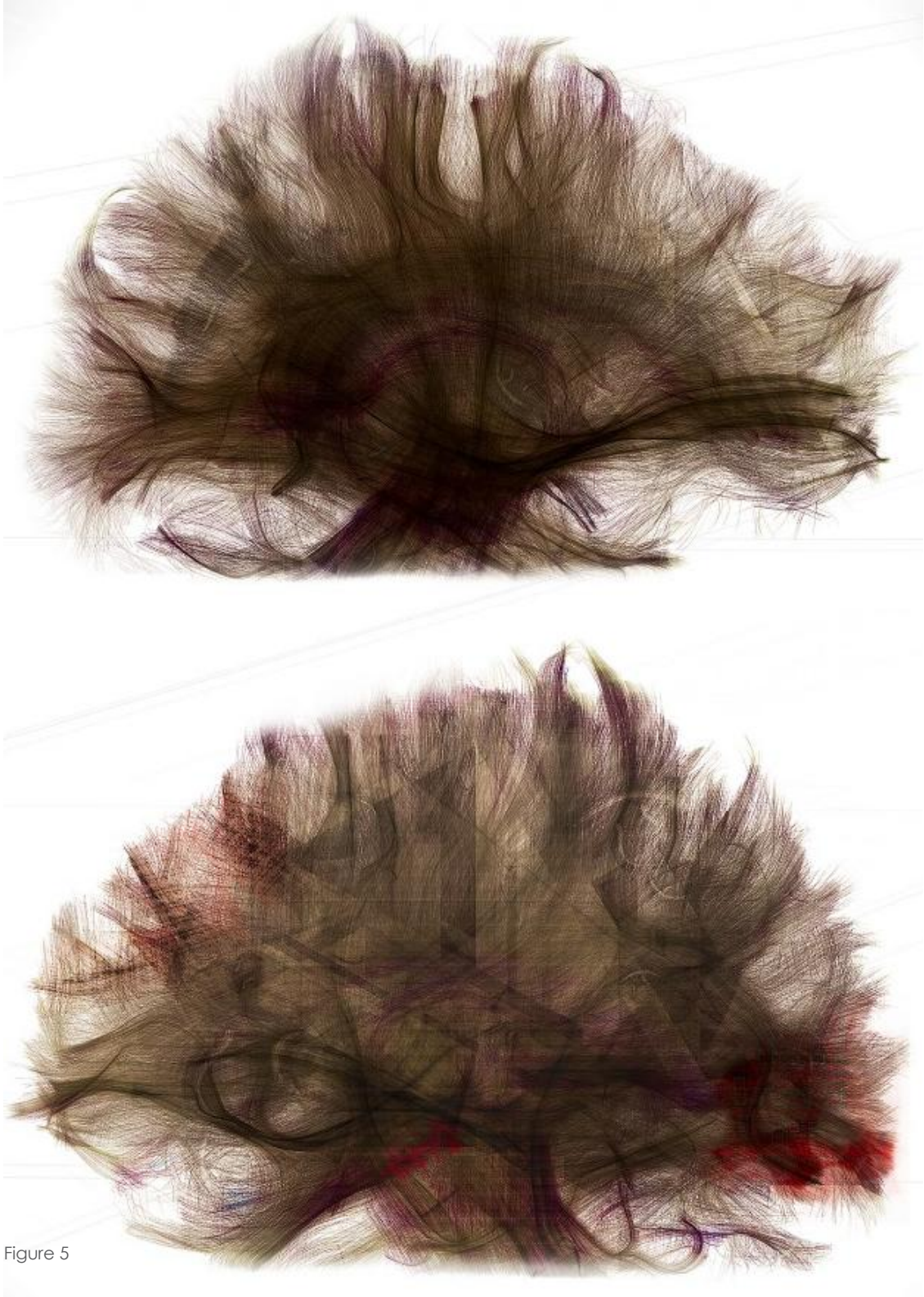


Figure 5

Understanding the Social Development of Intellectual Disabilities Through a Historical Investigation

It is through the knowledge of the past abuse and neglect of people with intellectual disabilities that one gets insight into how this has shaped how such persons are presently perceived and how people have treated them. In understanding the history of seclusion and the root causes of it, one can start to understand the conditions that such persons are presently facing. The beliefs, culture and societal norms greatly affect how people with intellectual disabilities are viewed by a society and this in turn affects their opportunities to be included in that society. Stigma is generally the breeding ground that allow people to become marginalised members of a society and keeps feeding the process of seclusion.

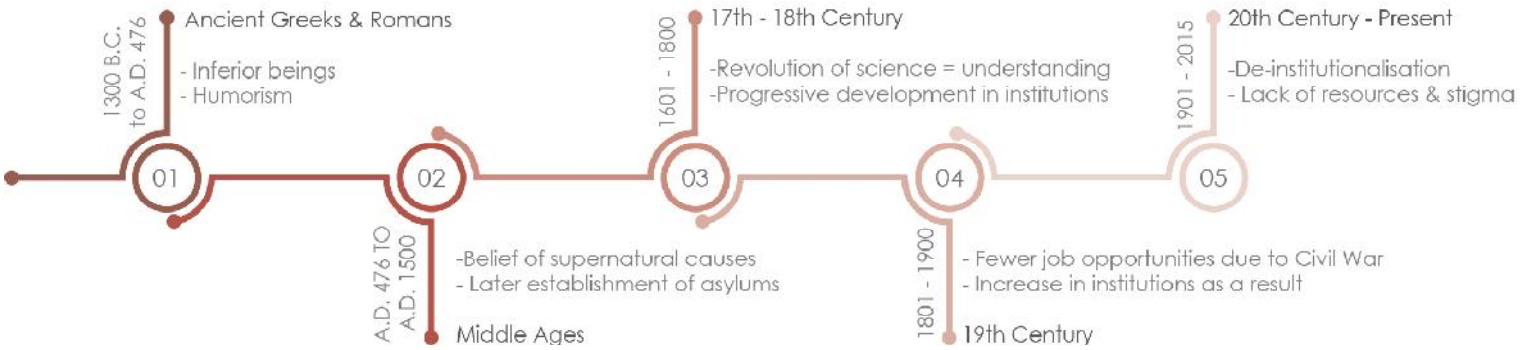


Figure 5

Throughout history, civilisations have held prejudices against people with disabilities in various forms and in many cases these people were objectified. People were and to a large extent still are unable to acknowledge that any person whether they are disabled or not, have varying abilities and limitations. Despite these limitations, people are given opportunities to succeed and live a meaningful life. Similarly people with disabilities should be given similar opportunities to reach their full potential in all aspects of their life. If anything, this makes a person with a disability more alike than unlike to an able-bodied person. (Reynolds & Dombeck, 2013)

Greater prejudices are held by communities who believe intellectual disabilities are a cause of supernatural forces than those who believe that it was a result of natural causes. However, even in the circumstances where people believed intellectual disabilities were a result of natural causes, the lack of knowledge of the disabilities often caused people to confuse it with mental illnesses. This resulted in people with disabilities being treated medically and psychologically incorrectly. (Reynolds & Dombeck, 2013)

Ancient Greeks and Romans (1300 B.C. to A.D. 476)

Ancient Greek and Roman philosophers maintained and valued reasoning abilities as well as physical perfection and therefore regarded people with disabilities (both intellectual and physical) as an inferior being. (Harris, 2006) In the ancient Greek world, there was no distinction made between those that were mentally ill and those that had intellectual disabilities. Even people with hearing or visual impairments were regarded to be intellectually disabled as the Greeks did not view it as a sensory impairment and were assumed to be incapable of bearing legal responsibilities and were politically marginalised.

Figure 5: Brain Art
Figure 6: Timeline of the social development of people with intellectual disabilities

A common view held by the Greeks was that disabilities was a result of the Gods being angered by parents and were the product of parents who have sinned, or even at the worst times seen as omens and signified religious pollution. (Yong, 2007)

The Romans referred to babies born with disabilities as 'monstrous births' and were a sign that the commitment to the Gods had been broken and in most cases infanticide was practiced on babies who were born with disabilities. (Albrecht, et al., 2001)

The Greek physician, Hippocrates of Kos (believed to have lived between 460 and 370 BC) was recognised as one of the most exceptional individuals in the history of medicine. Today, he is regarded as the 'Father of Western Medicine'. He was the first person to believe that diseases are caused naturally being the product of diet, living habits and environmental factors, and not because of superstition and punishment inflicted by Gods. (Smith, 2014)

Hippocrates incorporated the theory of humorism into his works and thereafter it became the most commonly held understanding of the human body amongst the Greek, Roman, Persian and European physicians until the introduction of modern medical research in the nineteenth century. (Yong, 2007)

Humorism is the system of medicine where the human body is made up of four distinct bodily fluids called humors. The four humors are "blood, phlegm, yellow bile and black bile" and were thought to directly influence a person's temperament and health and when they were in balance a person was healthy and an excess or shortage of one of the four humors would cause diseases and disabilities.

Middle Ages (A.D. 476 TO A.D. 1500)

There is evidence of more positive attitudes during these times despite known superstitions. Some European countries held the view that people with intellectual disabilities were the children of God and "innocents" who were to be taken care of by religious sects. (Albrecht, et al., 2001) In several countries such as Turkey, France and Syria, hospices inspired by monasteries were established as refuge for people with disabilities. The Arabs believed that intellectual disabilities were divinely inspired and was not demonic in origin and therefore care for people with disabilities was of a compassionate and sympathetic nature. They established asylums for people with intellectual disabilities in Baghdad, Morocco, Damascus and Cairo in the eighth century and ensured that the care was compassionate. (Albrecht, et al., 2001) It was said that through the fifteenth and eighteenth centuries these asylums were the World's most humanely and wisely administered institutions. (Albrecht, et al., 2001)

During the fourteenth to sixteenth centuries there was a gradual shift in attitude and belief that promoted the idea that intellectual disabilities was a result of biological causes as set out by Hippocrates. There were efforts to treat or cure disabilities but the methods were based on the primitive understanding of the anatomy and physiology of the human body as established by Hippocrates. Physicians would drill a hole in the skull of the patient (medically known as trepanning) or remove a substantial amount of blood from the patient in order to remove the black bile which was thought to be the cause of intellectual disabilities and mental illnesses. (Albrecht, et al., 2001)

The Bethlem Royal Hospital (formerly known as the Bethlem Hospital) which is still in existence and the oldest mental hospital in Europe, was established to support the physically disabled as early as 1330 and subsequently began caring for the intellectually disabled.

Figure 7: A person with an intellectual disability confined in chains at Chittagong Railway Station, Bangladesh.



8

The care for people with intellectual disabilities eventually overtook care for people with physical disabilities. (Harris, 2006)

Seventeenth and Eighteenth centuries

The enlightenment resulted in revolutions in science, philosophy, society and politics which allowed for new approaches to care and treatment of people with intellectual disabilities.

De Condillac, a French philosopher, proposed a theory of knowledge that disregarded the primitive ideas and biblical views of punishment as a cause of disabilities. He was also a proponent for the improvement of human society through social and environmental modifications. Subsequent to this philosophy, there was a noticeable change in attitude that brought about new groups concerned about disability and new institutions were formed. The English statesman and philosopher, Francis Bacon believed that supernatural and speculative philosophies did not contribute to the advancement of knowledge. He suggested that the collection of empirical data should be the basis of all experiments and published the book "The Advancement of Learning, Divine and Humane" to disprove the idea that intellectual disabilities were a cause of divine punishment.

The English Poor Law set out provisions for the relief of communities but ironically this brought about social stigma and ensured that others would care and be responsible for people who were unable to provide for themselves and their condition. If the poor, or a person with a disability could not arrange their own accommodation, the responsibility would fall on the person's family. If the family could not support the individual then the community would be responsible to provide for that person. This practise was carried into American colonies where responsibility by the communities had become common. Community support gradually increased and people with intellectual disabilities lived with their families' amongst the community. (Harris, 2006)

A significant shift occurred where people with mental illnesses were treated differently to those with intellectual disabilities and were removed from their homes and put into correctional facilities. In the United States and England, between 1652 and the 1820's, there was a progressive development in

institutions for people with intellectual disabilities and respect for these individuals increased.

Nineteenth Century

Switzerland introduced structured programs to educate people with intellectual disabilities based on the progress of understanding disabilities and this spread to other parts of Europe and the United States as well. The programs were thought to have been successful and many people with intellectual disabilities were able to enter the workforce. However, due to the Civil War and the economic recession that followed, there were fewer job opportunities available for people with intellectual disabilities. Training schools that were established also began to change significantly during this period where less emphasis was put on education and little support was given by families, social services and workforces.

There was an increase in institutions being built for people with intellectual disabilities as this became a solution to social problems and social changes. These institutions were often built in remote areas and with this, negative attitudes towards persons with intellectual disabilities persisted. The institutions were typically self-sustaining due to the residents being given work within the institutions in workshops, laundry rooms and on the farmlands. (Harris, 2006)

Twentieth Century

The classifications of intellectual disability had commenced since intelligence testing had been established in the early twentieth century and psychometric testing that would categorize children based on their abilities and help diagnose intellectual disability. The tests kept advancing and this led to Intelligence quotients (IQ) which was agreed to be an accurate and adequate measure of intelligence. There was also an increase in interest of eugenics, and together with the development of intelligence testing, there was an emphasis on the study of the heredity of intellectual disability.

Many people started to view people with intellectual disabilities as socially deviant and a menace. People wanted to be protected from these 'burdens' and so the number of institutions sky rocketed, increasing repression and social

Figure 8, 9: Images of sites which were old asylums and rehabilitation facilities now neglected and run down.



9



control of people with intellectual disabilities. Institutions became increasingly structured: windows were barred and individual living units were locked, resulting in institutions becoming a lot more like hospitals than a place of education for people with intellectual disabilities.

With the advent of the Great Depression widespread unemployment and poverty resulted, and so families turned to institutional care for family members who had intellectual disabilities. This in turn promoted more institutions to be built and overcrowding was common within the institutions. Persons with intellectual disabilities became targets for medical experiments because of their widespread segregation in institutions, however the testing was often dangerous and in some cases even illegal.

After the Second World War changes in the community's attitudes again emphasised educational facilities for people with intellectual disabilities. (Harris, 2006)

From the 1970's onwards there were proposals for the downsizing of institutions and increase of community services, which allowed for more opportunities to be given to people with intellectual disabilities to be part of communities. By the 1990's de-institutionalisation had occurred through most parts of the world. Presently the placement of people with intellectual disabilities into inclusive settings is supported by professionals and families.

In South Africa there are challenges and limited resources available, although on a global scale there are increasingly more programs, schools and facilities available for people with disabilities. Parts of Europe are advocating for complete integration where community living and segregated schools are completely done away with. (Harris, 2006) The political ideology known as "Apartheid" in South Africa had a devastating effect on further exclusion and marginalisation of people with disabilities based on race. This contributed to South Africans with disabilities being severely discriminated towards and under-utilised within the workplace. According to a report by Global Business Solutions (GBS, 2001), persons with intellectual disabilities account for less than 1% of the total workforce in South Africa.

Unfortunately due to a history of disparaging attitudes towards people with intellectual disabilities, there continues to be prejudice and stigmas which are irrational and stem from a lack of knowledge and understanding. The greatest challenge that society faces today is to change their own attitudes toward people with intellectual disabilities and to allow such persons to be fully included in the society. A great deal of work needs to be done in order for us to achieve this.

Figure 10: The photographs by Jen Ackerman illustrate the abuse and neglect people with intellectual disabilities and mental illnesses face in institutional settings. Often people are wrongfully held against their will. A lack of understanding and knowledge has resulted in people with intellectual disabilities being placed into mental health institutions.


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Chapter 2

Social Inclusion and the Workplace

Understanding Social Inclusion for a Person with an Intellectual Disability
Employment in the Workplace in Regard to Persons With Intellectual Disabilities
Integration in the Workplace

Figure 11: By Author, Melle Street, Johannesburg





Understanding Social Inclusion for a Person with an Intellectual Disability

Social inclusion describes the value attributed to all people in a society, respecting differences, ensuring that the needs of people are met, and allowing everyone to contribute and participate fully in the society. Social inclusion is based on the notions of belonging, recognition and acceptance.

Social exclusion is another phenomenon and is described by Silver (2007) as, "A multidimensional process of progressive social rupture, detaching groups and individuals from social relations and institutions and preventing them from full participation in the normal, normatively prescribed activities of the society in which they live." This renders a society dysfunctional. Social exclusion can be thought of as a process and not an end result. On an individual level, social exclusion can be seen as the individual's lack of access or opportunities in a society, and from a collective point of view, social exclusion may be seen to sever the bond that holds a society together.

Social inclusion enhances the quality of the life of any person and in relation to people with intellectual disabilities, it can be defined as a person having greater community involvement and contribution as well as participation both economically and socially. This can occur through education, school activities, sporting and cultural activities and involvement in the workplace or exposure to job opportunities.

A society can never truly reach its full potential if individuals are excluded on account of its disability and consequently from making a valuable contribution. The authors, Boushey, Fremstad, Gragg and Waller, observed in their paper on social inclusion published in 2007, "*Inclusion demands goals and policies that avoid separating us. Inclusion calls on us to strive for a nation in which everyone lives with purpose, dignity and satisfaction.*" This philosophy is enshrined in the Constitution of South Africa.

It is believed that when a person feels that he or she is socially accepted within a community, they positively contribute to the sustainability of that community. There is an improvement in the enjoyment of life as well as the individual's mental and physical well-being. In turn, the community is able to reap the benefits of the individual's success.

Inclusivity is not a concept that can be taught but needs to be internalised through experience in order to understand and appreciate the importance thereof. When a person is in an environment amongst people with disabilities, one's perception of what is 'normal' or 'the norm' can change resulting from this interaction. When given this opportunity for change, inclusive environments become the new 'normal' and results in equal participation amongst all.

Traditionally, the view held of disability is that the individual with the disability was the 'problem'. This view is known as the 'medical model' and can be explained as persons with disabilities requiring medical attention and who need to be cured or rehabilitated to fit in amongst 'normal' people. This view resulted in people being placed into special or separate spaces outside of community life because they were unable to be 'cured'. On the other hand, the "social model" of disability flips the "medical model" where society is the 'problem'. Through people's attitudes and behaviour, regulations and spaces created, segregation and separation is the result and it creates barriers for people with disabilities. Therefore, through the social model, spaces are created that can be used by all and avoids special facilities or segregated living. Inclusive design emerged from this idea. [TCPA, 2012)

The ideology of inclusion dominates education and workplace policies. Proponents of inclusive environments believe that appropriate and properly implemented inclusive environments are the ultimate answer to education and other programs. (Pakula, K. 2011)

There is a definite need and advantage for people with disabilities to be placed in mainstream environments. There is no doubt that any person with a disability should receive a constructive and effective education or other opportunities in an accessible environment.
However, that being said, inclusive practice is far from ideal (especially in educational settings). Evidence shows that even the most ideal mainstream environment does not always meet the needs of every individual with a disability and therefore may not be in the best interest of every individual. The integration of a person with a disability into mainstream environments needs to be appropriate for that particular individual and at their level of ability. (Pakula, K. 2011)

Consideration should be given to the abilities, potential, skills and behaviour of each individual together with an assessment to what degree learning or experience would allow the person to easily integrate into a mainstream environment. In some cases, more intensive and focused teaching within a specialised environment is more likely to yield the highest level of acquired skills- especially where the learning experience incorporates real-world exposure. This level of learning and ability to develop these skills is not always possible within a mainstream environment. (Pakula, K. 2011)

In South Africa, very few mainstream schools and other learning environments have evolved to the extent that allows for full inclusion of all people. Resources are not appropriately allocated to these mainstream environments which diminishes the possibility of people with disabilities reaching their full potential.

There continues to be a need for specialised environments but only if in the appropriate context. If these specialised environments ultimately result in a person with a disability being positively and appropriately integrated within an inclusive environment as a result of the intensive training, then it is a step in the right direction and allows for people to subsequently participate equally in society. Therefore, a view for consideration is that the most effective measure of education and the environment within which it occurs, will produce an inclusive outcome that allows the individual to work and live independently.

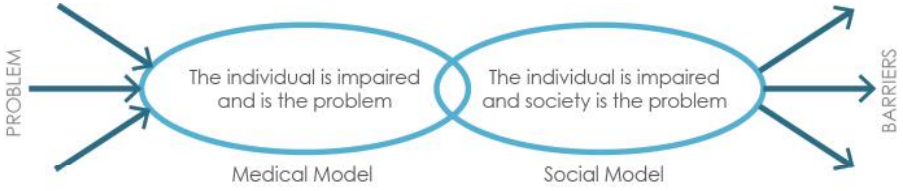


Figure 13

Figure 12: The photographer equates a close-up shot of tree branches to the 'inside of the brain' depicting the relationship between nature and the human body.

Figure 13: Diagram of the medical model vs the social model of intellectual disability

Employment in the Workplace in Regard to Persons With Intellectual Disabilities

The legislative framework in South Africa protects it's citizens from unfair discrimination and measures have been introduced to enhance those persons who have previously been disadvantaged on account of various grounds. These measures are known as affirmative action measures. Unfortunately, despite the legislation, discrimination is still prevalent within the workplace which results in high unemployment rates for people with disabilities.

Many factors come into play that perpetuate unfair discrimination towards those employees with disabilities and which hampers their integration in the workplace. A major emphasis needs to be placed on appropriate training for people with disabilities and in most cases is currently non-existent within the workplace. The unfortunate reality is that there continues to be a bias and stigma associated with people who have disabilities and this in turn adds to the already difficult position people with disabilities find themselves in.

The legislation covers areas such as rehabilitation, accessibility, equality and non-discrimination of the disabled in the workplace. Although legislation alone will not ensure that difficulties faced by people with disabilities are overcome, it can set the basis in understanding the measures to address these difficulties. The legislation will be outlined to guide this acknowledgment and the understanding.

The Bill of Rights, Chapter 2 of the Constitution of the Republic of South Africa Act 108 of 1996, specifically prohibits direct and indirect discrimination against anyone on the basis of their disability. The legislative framework that supports the empowerment of persons with disability include the Government's "Integrated National Disability Strategy"; the UN International Convention on the rights of persons with disabilities; the Employment Equity Act 55 of 1998, and it's "Code of Good Practice on the management of disability in the workplace".

The Disability Act that is presently in a Bill form is intended to deal with the enforcement and non - compliance of the UN Convention on the rights of persons with disabilities. South Africa being a signatory to the United Nations Convention on the Rights of Persons with disabilities imposes an obligation to comply therewith. The Gauteng Provincial Government under the then Premier Nomvula Nkonyane recognized that a disability rights policy had to be developed for the empowerment of persons with disabilities in order to achieve an equitable and harmonious society.

There is data to suggest that disability is a significant impediment to work opportunities. (Swedish International Development Authority, 1995). A survey commissioned by the Department of Health and conducted by the Community Agency for social enquiry, was reported by the Mail and Guardian in an article titled "SA disabled face crippling unemployment" on 4 February 2000. It showed that persons with disabilities have the least employment opportunities. It further showed that employers are likely to be more prejudiced toward disability than they are toward race or gender. Seemingly, employers, unless compelled by law are less likely to be disposed toward accommodating a disability.

As discussed, there are numerous factors that play a role in the discrimination towards people with disability and their experiences in the workplace. Several amendments to the legislation and even increasing the fines that may be imposed on an employer in the event of non-compliance are a means to attempt to resolve these challenges and transform the workplace into an inclusive environment.

The Employment Equity Act, 55 of 1998 (the Act) is the principal piece of legislation introduced by the democratic government to ensure that people with disabilities, a marginalized group in society, are not discriminated against in the workplace. This statutory regime regulates employment opportunities

for people with disabilities. Section 6 of the Act "prohibits any unfair discrimination of an employee in any employment practice or policy on the ground of disability". The aim of the Act is "to avoid discrimination on the prohibited grounds in the Constitution" and to avoid segregation and perpetuate inequality of socio economic opportunities. The legislation provides for a mechanism known as "affirmative action measures" that advances the provision of opportunities that would otherwise not be available to the disabled person. (Section 6 (2), The Employment Equity Act no 55 of 1998)

Section 54 (1) of the Employment Equity Act outlines the Code of Good Practice on key aspects of disability.
The following is stated under the aims of the Act: "1) no one may unfairly discriminate against a person on the grounds of disability; 2) The Act serves as a guideline for Employers and Employees and is aimed at promoting equal opportunities and fair treatment for persons with disabilities in accordance with the Employment Equity Act; 3) The rights and obligations of both Employers and Employees are set out to promote certainty and the understanding of the Code".

The definition of disability in terms of section 5 of the Employment Equity Act provides as follows:

(i) "Long term or recurring";

(ii) "Having a physical or mental impairment";

(iii) "An impairment which substantially limits an individual".

Section 5.1.2 describes an impairment as 'physical or mental'. "A mental impairment means a clinically recognized condition or illness that affects a person's thought processes, judgement or emotions".

Section 5.1.3 defines an impairment as "substantially limiting if in the absence of reasonable accommodation by the Employer, a person would be either totally unable to do a job or would be significantly limited in doing the job. An assessment is carried out on whether the effects of the impairment are substantially limiting".

Paragraph 3.4 in the Code "encourages Employers to develop, implement and refine disability equity policies and programmes to suit their workplaces and its needs".

Employers should have a disability management strategy and policy in the same way it has other human resource policies. The programme should clearly identify the jobs that could reasonably accommodate persons with intellectual disabilities. The concept of fair and equal treatment will be maintained with the added rider that each person be treated as an individual who needs to be reasonably accommodated in the workplace. To this extent the legislation ensures inclusivity.

The company from a legislative perspective will be seen as inclusive and progressive when its principles are in line with managing diversity, perpetuating a culture of acceptance and equal treatment to all irrespective of their status. The flip side of this is that employees soon learn that the person with intellectual disability may work differently but ultimately gets the job done.

The bias that is often expressed consciously or unconsciously by other employees takes a back seat when they are exposed to persons with a disability and this in turns adds to the social value to the Company. All in all, the benefits to the Company by ensuring participation of persons with intellectual disabilities in the workplace exceeds the adjustment and accommodation initially required to be introduced by the company.

Significant communication and awareness of inclusion and integration by the leadership of the company assures acceptance by the employees in

the workplace and removes the stigma and perceptions held by employees.

The term "reasonable accommodation" is defined by the Employment Equity Act as "adjustment to a job or to the working environment that will enable a person from a designated group (women; disabled or black people) to have access to or participate or advance in employment." The accommodation is aimed to reduce the impact of the impairment of the person's capacity to fulfil the essential functions of the job.

This "reasonable accommodation" as stated by the Act, may be required at various stages of the employment such as "during the recruitment and selection process; in the working environment; in the way work is usually done and evaluated and rewarded; and in the benefits and privileges of employment".

Section 6.4 of the Code of Good Practice provides that "The obligation to make reasonable accommodation may arise when an applicant for work or an employee with a disability voluntarily discloses a disability related accommodation need, or when such a need is reasonably self-evident to the Employer.

Employers must also accommodate employees with disabilities when work or the work environment changes or the impairment varies which affects the employee's ability to perform essential functions of the job.

The particular accommodation will depend on the individual, the impairment and its effect on the person as well as on the job and the working environment." Some examples of "reasonable accommodation" for the person with an intellectual disability would include "changing training and assessment materials and systems for better understanding; and providing specialized supervision, training and support such as a job coach or mentor".

"The ILO in its approach to managing disability in the workplace advocate equal opportunities for job seekers with disabilities but also advise that Employers "consider providing work experience opportunities to job seekers to enable them to acquire skills, knowledge and work attitude required for specific jobs in the workplace". This no doubt gives the person with disability an opportunity to increase its work skills and training." (ILO Code of practice – Managing disability in the workplace)

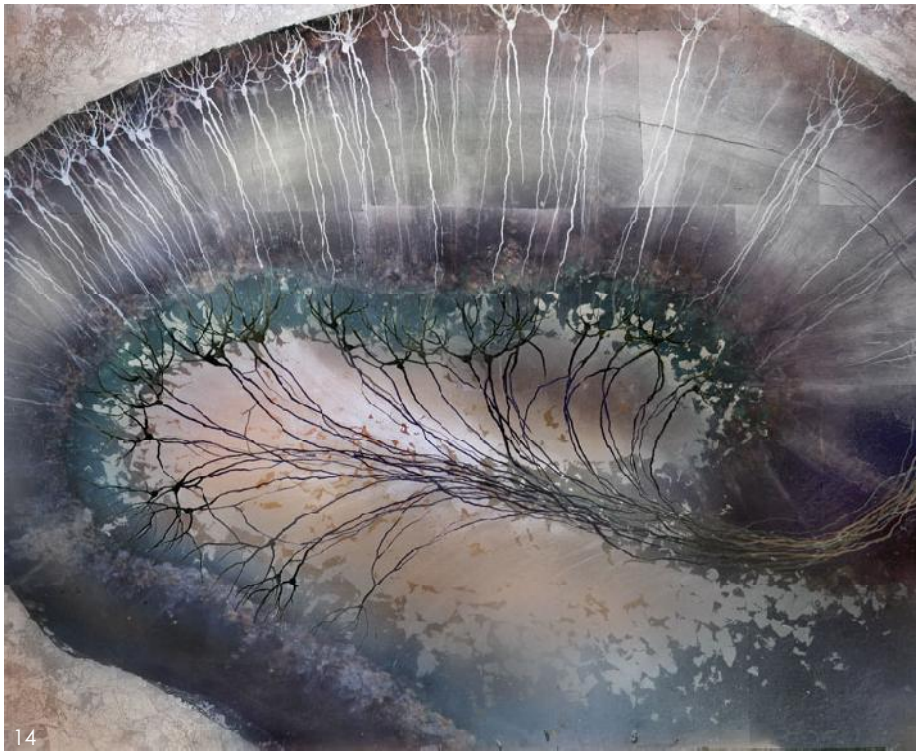

14

Figure 14: Greg Dun a neurologist and visual artist creates paintings based on Asian painting styles where he describes how it collides with neural forms. "The branching form of a dendrite is nearly identical to the form of a branching tree, a series of cracks in the pavement, the movement of rivers and streams as viewed from space, or a lightning bolt."

Integration in the Workplace

There continues to be high unemployment rates amongst those with disabilities and there have been marginal improvements since the enactment of the relevant legislation. A greater effort by employers is required to improve employment opportunities for persons with intellectual disabilities.

It is reasonable to presume employers do not hire people with disabilities due to their own lack of experience and interaction with people with disabilities. There is a general uncertainty of how to incorporate these employees into the working environment and in most instances employers have limited resources to do so. A further disadvantage job seekers with disabilities experience, are instances where they are being placed through a job agency into inappropriate positions- either because the agency did not know the full extent of the job seeker's capabilities or due to a communication or social barrier in relation to the individual.

A report published by the U.S. Department of Labour, Job Accommodations Network stated that workplace accommodations that needed to be implemented in most cases were of low cost and yielded a high return within the companies. In fact, many companies informed the Department of Labour that the accommodation implemented was of no cost to the company. In these cases, the changes constituted scheduling flexibility, allowing the employee to sit or stand where necessary or even allowances were made in dress codes. They established that accommodating those with disabilities had a positive impact in the workplace. (Owen, J. 2012)

Employers noted that the employees with disabilities were rarely absent from work and had long employment service. They reported that employees with disabilities were extremely loyal, hardworking and reliable. The added advantage of having a diverse workforce led to an overall positive workplace environment. (Owen, J. 2012)

Inclusive work environments should be viewed as a strategic intervention that adds value to the workplace. When this approach is taken, Employers' perspectives change and allow for opportunities for people with disabilities. Equality within workplaces develops an ethos of respect amongst Employers and Employees. Equality within a workplace can also improve the public image of a company as it improves the internal morale and will be viewed as a socially responsible company. (Owen, J. 2012)

Sarah Hall, through her research on social inclusion of people with intellectual disabilities, discusses conditions that could help integrate people into the workplace. Research shows that both formal and informal training and a support system within the workplace have significantly increased the integration of people with intellectual disabilities into the workplace. (Hall, S. A. 2010)

A job coach or a supervisor at the workplace could allow for supportive guidance such as reminders of appropriate behaviour and coaching on social skills. The level and ability of social interaction of persons with intellectual disabilities is very different to that of an able-bodied person. Often people with intellectual disabilities are seen to be unclear of boundaries and are even at times unwilling to interact with others. (Hall, S. A. 2010)

Persons with intellectual disabilities should be given job opportunities with a greater variety where there is access to training, continuous support and supervision to assess progression. Assessments ensure that a person is correctly placed in a position which suits their abilities and in positions in which they are able to reach their full potential. (Hall, S. A. 2010)

Figure 15: The photographer takes a photo of a tree and describes the shape as being similar to that of the human brain.


Image 1


JOBURG THEATRE



Chapter 3

A Case Study

Programs and Schools Available for People With Intellectual Disabilities in South Africa

The Living Link as a Case Study

My Practical Experience Working with *The Living Link*

Figure 16: By Author, Hoofd Street, Johannesburg

Programs and Schools Available for People With Intellectual Disabilities in South Africa

There are several specialised schools and programs available for people with intellectual disabilities in South Africa. They range from schools, homes as well as a few programs aimed at adult skills development. However, the most successful programs are early developmental and stimulation training aimed at children and specialised schools. Fewer programs are available that equip young adults in integrating into society after schooling.

Further Education and Training colleges (FET) cater for practical training where practical work is essential for the occupation and were created to fill the gap between learners who had not attained the admission to a university. Implicit in this is that the student had not achieved a prescribed educational level for admission to a university. In principle, an adult with intellectual disability is no different in this regard as they equally have not met the requirements for admission to tertiary education, yet they are not being catered for at FET colleges. It is clear that there is a lack of educational facilities available to people with intellectual disabilities.

Current schools and programs in South Africa which are aimed particularly at catering for people with intellectual disabilities and that have been the most successful thus far are:

-Sparrow Technical School- education aimed at people with disabilities who come from disadvantaged homes (Johannesburg);



Figure 17

-Atholhurst School- specialised school for a range of disabilities and learning difficulties (Johannesburg);
-Unity College- primary and secondary level education for people with disabilities and learning difficulties (Johannesburg);
-Camphill South Africa (Cape Farms)- Residence and skills/work development (sheltered)
-Oasis Association (Western Cape)- Residence and skills/work development (sheltered)
-Western Cape Forum for the Intellectually Disabled- training and skills development;
-Sunshine Association (Johannesburg)- aimed at early developmental training;
-McClelland Adult Centre for the Intellectually Impaired (East London)- Residence and protected workshops;
-Aurora (Port Elizabeth) - Developmental school;
-Training Workshops Unlimited (TWU)- aimed at skills development (Western Cape);
-Beyond Ability Talent Solutions- recruitment and placement of persons with disabilities into formal employment (Johannesburg);
-The Living Link- training centre aimed at integrating young adults into the mainstream of Society (Johannesburg)

The Living Link as a Case Study

The Living Link Training Centre was chosen as the focal case study as an appropriate initiative on account of the program and users that it accommodates. *The Living Link* as a precedent allowed for a more concentrated investigation and understanding of the user group and their needs which has a similar focus in this research.

The research was conducted through interviews with the Director of the Organisation and two staff members who conduct the program. I sat in on a class to observe the kind of activities they do, but also to understand how the students interact with the teacher and their fellow learners. Another important element which guided me through my design charrette was how space was used by these learners, in particular in the classroom and at break time. This gave me insight into the kind of spaces required for the intended purpose and how spaces could potentially be adapted to accommodate the needs of the students.

The Living Link is a non-profit organisation that provides for people with intellectual disabilities regardless of race, gender and religious background. The training centre aims to encourage, enhance and support the development of adults with intellectual disabilities in order to attain a high quality of life. (The Living Link, 2015)

The Living Link focuses on areas of integration and additional skills training to help navigate into mainstream society. They work towards challenging the stereotypes and stigma that are associated with people who have intellectual disabilities. The training program further provides the students with the necessary tools and skills to successfully enter into mainstream workplaces. (The Living Link, 2015)

The Living Link's aim is to challenge barriers that people with intellectual disabilities face by advocating for and working towards economic participation, inclusion and social justice and thereby enabling them to participate in mainstream society. The centre has two training programmes, namely, a one year adult integration programme and a six month work readiness programme. These programs entail various workshops and training that are provided to the learners, employers and co-workers. Other areas that are covered by the Centre is employment placement; independent living; social clubs and skills development.

On-site training (internships) allow students to experience different types of tasks within companies where they are through job sampling exercises exposed to the realities of the working world. The students are rated by the supervisors in the respective department against real key performance criteria (The Living Link, 2015). The criteria gives the centre insight and understanding of the areas where the young adults need more coaching to enhance their work performance skills (The Living Link, 2015). The on-site training occurs at Ernst & Young, Alexander Forbes, Sparrow Technical School and Dischem. Highlighted in discussions with the centre, although there is a positive outcome from these internships, a need for training prior to the internships at these companies is essential in their progress.

Through research and understanding of how *The Living Link* operates, I was able to develop an understanding of how my own Centre could be operated. I conducted research into how the centre was established, how the site was chosen and the financial aspects of how the operations of The Living Link are conducted.

*names changed for ethics purpose

The Living Link was founded in 2000 by Jules* and Elizabeth* who were respectively the sister and mother of Nadia* who has an intellectual disability. They were concerned about the limited services and support for adults with intellectual disabilities and so with dedication and perseverance they taught Nadia essential living and social skills. This input contributed to Nadia's remarkable

Figure 17: "School's Out in Bo Kaap"

level of independence and intellectual growth. She now lives and works independently. (The Living Link, 2015)

The Living Link was thereafter established by Jules* and Elizabeth* who were inspired to share their knowledge and experience to allow other young adults like Nadia* to become valuable members of society.

Rand Epileptic Employment Association (REEA) was established in 1935 as a non-profit organisation caring for people with epilepsy, physical as well as mild intellectual disabilities after returning from the Second World War and who could not be accommodated into a normal family environment at the time. The association owned the property currently where *The Living Link* is situated. There was a medical arena and housing on the property. Eventually, the inhabitants who lived on the property died or moved into old age homes and there was no longer a need for REEA to continue its establishment. REEA with the need to continue to assist in whatever ways possible, approached *The Living Link* as their program is aimed at marginalised individuals. A decision was taken to hand over their property to *The Living Link* at no cost, and as a financial aid to a non-profit organisation.

Presently, the main method of marketing the Centre is through social media and word of mouth networking. *The Living Link* makes use of a Facebook page, an online website and sends emails to various companies, schools and individuals whom they believe are their appropriate target markets. *The Living Link* often makes guest appearances at schools and companies where they do presentations to inform people of the need of such a program and of the opportunities available to those who need to be part of such a program. *The Living Link* also makes use of media marketing such as local newspapers, TV shows and radio programs.

The Living Link is made up of a board of directors none of whom are owners or shareholders (as no one may own a Section 21 company). All decision making is made by the board of directors and it is controlled and managed by them for the benefit of its users at the Centre. The Director of the Centre as well as the staff at the school are paid a salary in order to attract the best professionals for the respective positions. The training program itself is managed by one of *The Living Link*'s Directors who oversees the registration of students, recruitment and management of trainers, the development and improvement of training materials and the effectiveness of the program.

The Living Link ensures a strict and co-ordinated management of its funds through financial procedures set up by the board of directors thus complying with reporting and auditing requirements; monitoring of the activities and income expenditure by the Management and Board of Trustees. The day to day finances are the responsibility of an accountant who reconciles the accounts on a monthly basis. The financials are audited annually by an auditing firm Van Niekerk Roos.

The main source of income of *The Living Link* is from external sources and the organisation obtains its income from members and sponsors in order to achieve sustainability. Membership to *The Living Link* attracts a membership fee for services offered and the organisation secures external sponsorships. Any person can become a member of *The Living Link* by paying a basic annual membership fee of R850, 00. This money goes towards operating costs of the centre and toward the cost of the services that it offers. These members are invited to all the social events of the centre and help contribute towards the operation in any way they deem fit. They are given regular updates on the development and running of the programme as well.

Various forms of sponsors and donations are accepted by *The Living Link*. The first form of sponsorship is through individuals and companies who support *The*

Living Link through sponsorship of goods, services and funds and are Joburg Theatre; ADRS – Advanced Debt Recovery Solutions; Trainiac; ABSA; Inseta; The National Lotteries Board; Nomads Golf Club; Just Footprints Foundation; Deutz Diesel Power; Ernst & Young; Rand Water; CRS Computer Services; Transnet; Forever Resorts Loskop Dam; Engen; Johannesburg Civic Theatre; AM Solutions; Dial-A-Nerd; The Johannesburg Zoo; The Mad Network; ApexHi Charitable Trust; Xstrata; Walkerville Pharmacy and Waterhouse Pumps.

The Living Link has set up an initiative called the "Sponsor-a-Student Initiative". This initiative was introduced with the aim to support a student who cannot afford the annual fees and would ordinarily be from a disadvantaged background. Anyone can commit to sponsor a student for the year at *The Living Link*. This money can also go towards a second initiative known as the 'gap project' aimed at graduates who are placed into a temporary work environment to harness their skills until they are permanently employed by any company. *The Living Link* pays each former student a minimum salary. The public may contribute to this initiative as well.

The fee structure of the student is designed so that the organisation meets its commitments. Each student's fees amount to R 45 600 for a 12 month program whether the student's family pays the fees or whether it is paid by a sponsor. *The Living Link* uses part of the fees towards its overhead cost and partly as a contribution towards the expansion of the current training programme, improve the services offered, create a more comprehensive product and increase the capacity of the program.

The Living Link also hosts various fundraising and other events where the proceeds go towards the operating costs of the Centre as well. The Centre updates parents and members of its needs in terms of resources; infrastructure costs so that people may be encouraged to donate money towards these needs and the program.



Figure 19

Figure 18

Figure 18: Living Link Logo

Figure 19: *The Living Link* Site in Parkhurst, Johannesburg, Looking onto the entrance gate

My Practical Experience Working with *The Living Link*

I observed a class being conducted at *The Living Link* which guided me through the design charrette process. The anticipated outcome of this process was firstly to observe how the students interacted with one another within the classroom environment as well as with the educator and secondly to observe and understand how the spaces (classroom and outdoors) were used by the students.

Although I have had significant involvement and interaction with people with intellectual disabilities, experiencing it as a learner amongst the rest of the students was insightful and a new and enlightening experience.

The class was made up of 12 students, all with a range of disabilities. On the particular day, the students were being briefed on the upcoming market day, a project that they were required to manage by themselves. Each student had to make or buy their own food or goods to be sold and were expected to be in control of the financial and marketing aspect thereof. They were required to prepare marketing posters which would be displayed above the stall. They were required to take decisions on the items that they would be selling; and the price it would be sold at bearing in mind the cost thereof with the view to make a profit. This process taught them the function and responsibility of selling goods, how to interact with buyers and the exchange of monies.

The desks in the classroom were set up in a U-format which allowed for optimal interaction between the students and the educator. The students were made to browse through magazines to find suitable pictures to create the posters. They also grouped around the educator's desk to view photos of previous market days held at the centre. The set up in the classroom lacked alternative space which would allow for the different activities beyond the usual desk set-up.

During the break most of the students chose to sit around or to eat their lunch outside. A few individuals chose to stay inside the classroom and ate their lunch at the desk. It is commonly known that some persons with intellectual disabilities prefer not to interact with others and may not be sociable. The classroom set up also did not allow for break-away spaces where the students could just hang-out in an alternative or possibly quieter space separate from the classroom.

The Centre was not entirely physically accessible to all students. The structures initially built by REEA were low-cost and not always wheel-chair friendly. A disabled toilet has since been added to the main classroom and ramps wherever needed were built by *The Living Link*. Parts of the site is sloped and walking down a particular walkway towards the offices proved to be difficult for students who had slight physical disabilities as there were no railings along the walkway and it was not paved.

A lack of funding has precluded *The Living Link* to make major alterations to the buildings. The Director also mentioned that the housing currently occupied by live- in students is too large and thus inappropriate to serve as a training ground or facility. The students are often overwhelmed by the large space and end up hoarding items which reduces the effectiveness of the training program. The Director mentioned that all that is needed for the training to be effective is a basic room with enough space for a bed, a bathroom and a small lounge with room for a couch and desk and an open plan kitchen.

All these accessibility issues were taken into account in my own design. The study of and observations made at *The Living Link* also encouraged me to look at alternative ways in which classrooms could be set up to allow for flexibility or how it could be adjusted to the users' needs in relation to my own design.

Figure 20, 22: Desks that are not occupied by students are used for magazines and newspapers for a project. Students grouped around these tables to find pictures that were suitable for their project.

Figure 21: Students are seated in the class at *The Living Link* in a U-shape format which allows for interaction between students and the teacher.

Figure 23: During a break at The Living Link students head outdoors for lunch. Grouped together are a few students who were socializing together and a few meters away was a student who chose to also eat outdoors but away from the rest of the students.

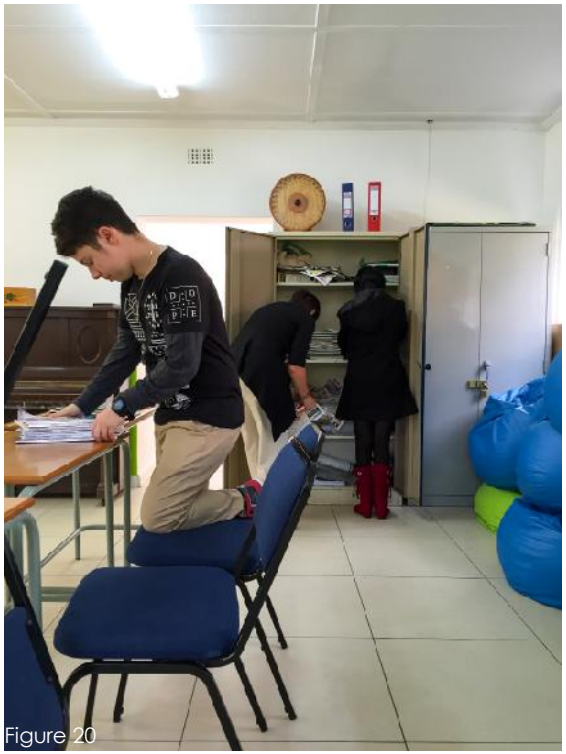


Figure 20



Figure 21



Figure 22



Figure 23

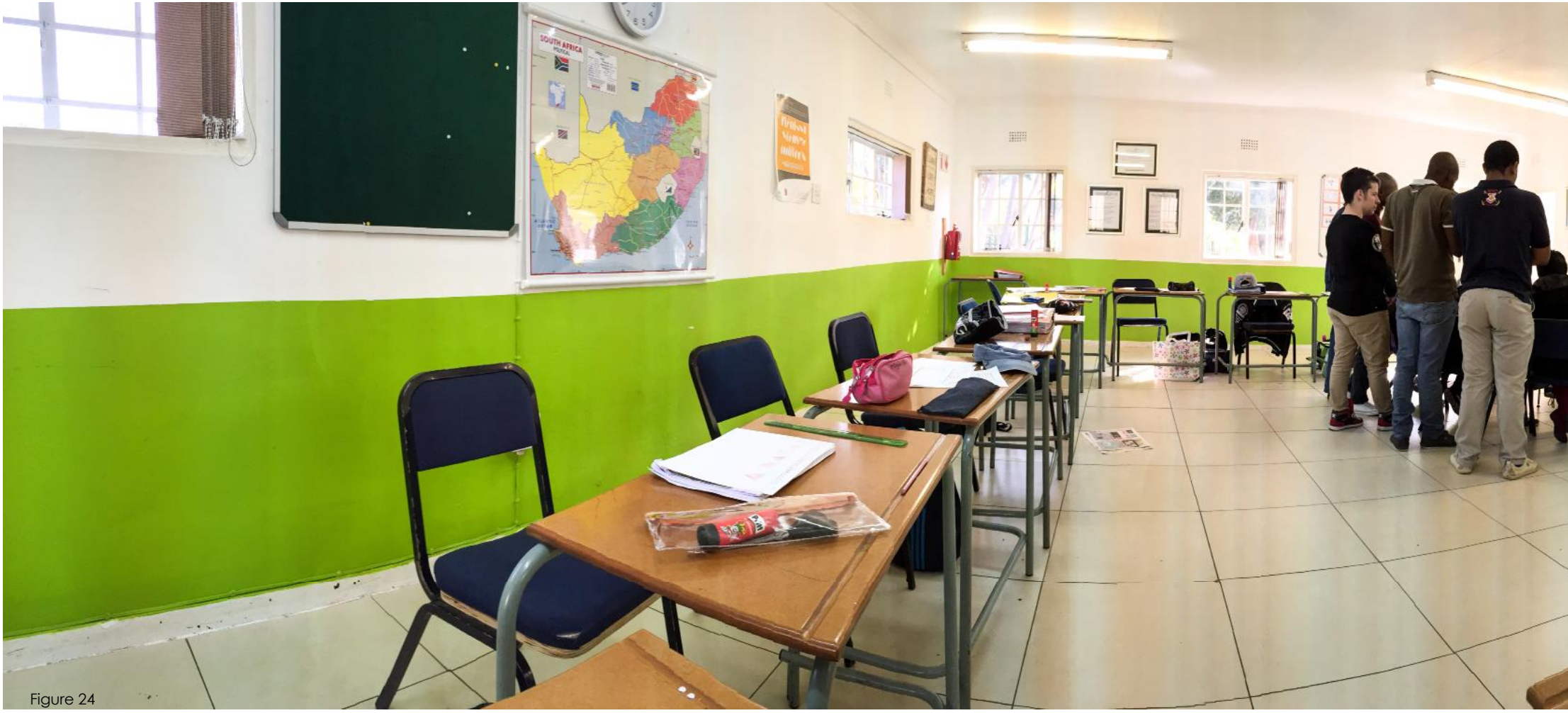
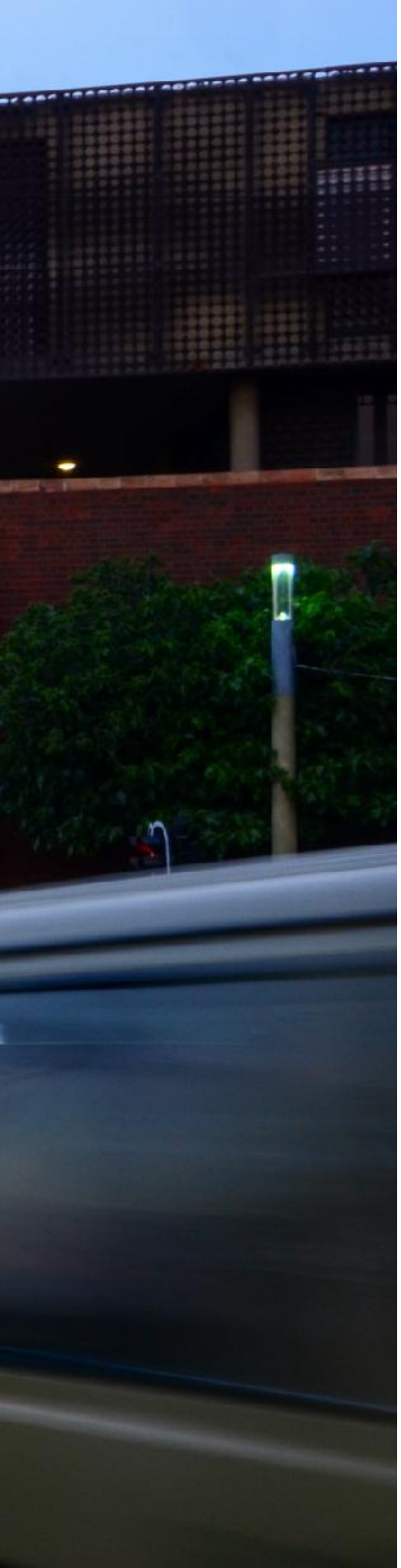


Figure 24

Figure 24: A panorama of a class at *The Living Link* shows the layout of the class. It is evident that varied spaces would be beneficial for different approaches to teaching. Here students are huddled around the teacher's desk to view photos from a previous market day. Bean bags on the one end of the classroom are stacked up.







Chapter 4

Design Charrette

Experiencing Space Through Light, Colour and Texture

Figure 25: By Author, Looking onto Joubert Street, Johannesburg


7 LITRE
ROWAVE
OVEN
26


Pentel
Water Colors
Pentel
Water Colors
27


28

Experiencing space through light, colour and texture

This was an exploration involving watercolor paintings which were painted according to various typologies of space.

A heightened experience in response to the users that would typically make use of these spaces was depicted in the paintings and various colors relating to emotions felt within the spaces.

The water colour paintings were printed on acetate and thereafter overlaid to create new effects.

These images were then mounted on glass and various types of lights shone against it to create a different result.

Various textures were then chosen that were found to be most effective by users of the spaces and then overlaid against the images to reflect through the light created.

The result was colour, light and texture giving an impression that arised from the constant flow of changing and overlapping scenes, which in turn were the result of a complex interaction of various factors: material; surface; form; change; movement and duration.

The combination of these factors create the visible interface between ourselves and the environment.

Figure 26 - 30: The process of painting images according to exaggerated emotions and experiences in spaces experienced by people with intellectual disabilities. This involved feelings of confusion and anxiety in larger volumes; comfort in smaller spaces with relaxed environments; fear or unease in long, tight corridors etc.
The images were printed on acetate and mounted to glass where various textures were held against it and light shone through to create different images.

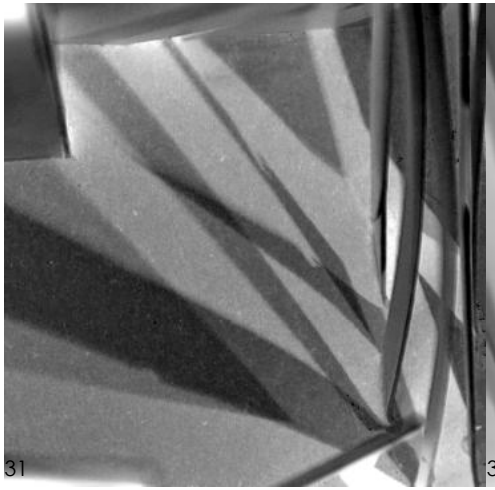


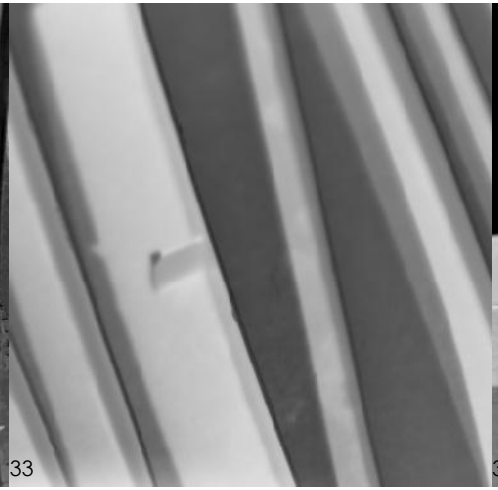


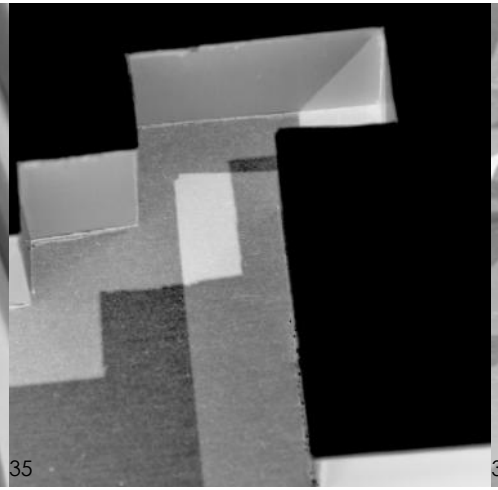
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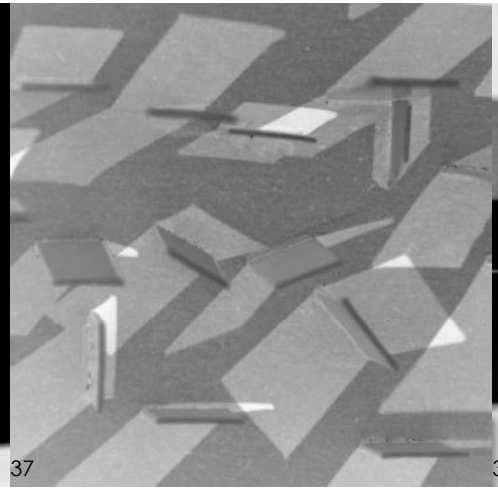


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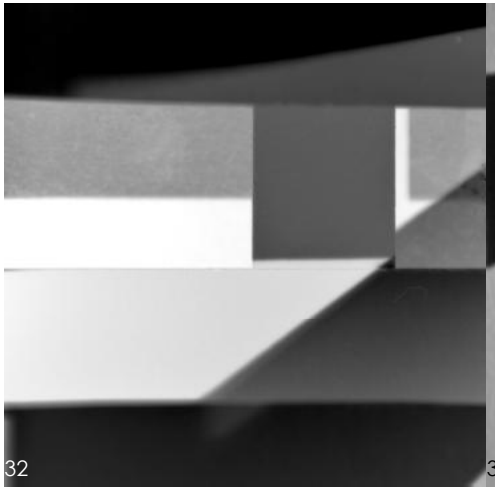

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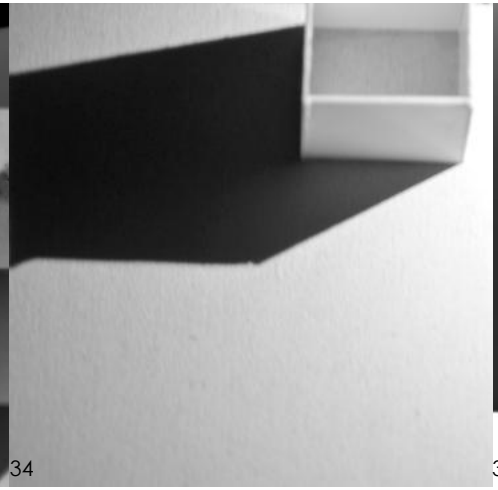

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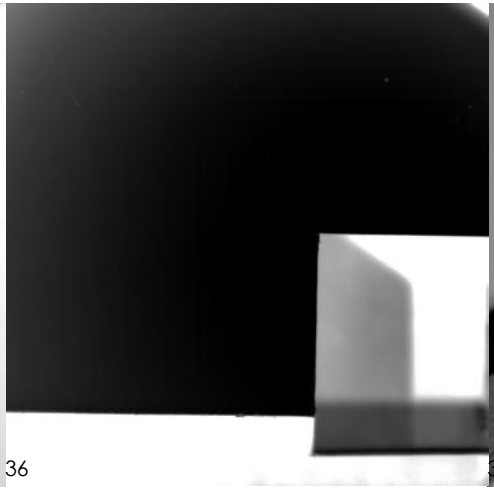

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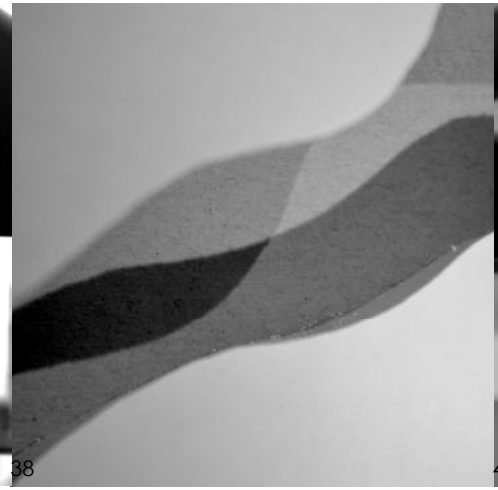

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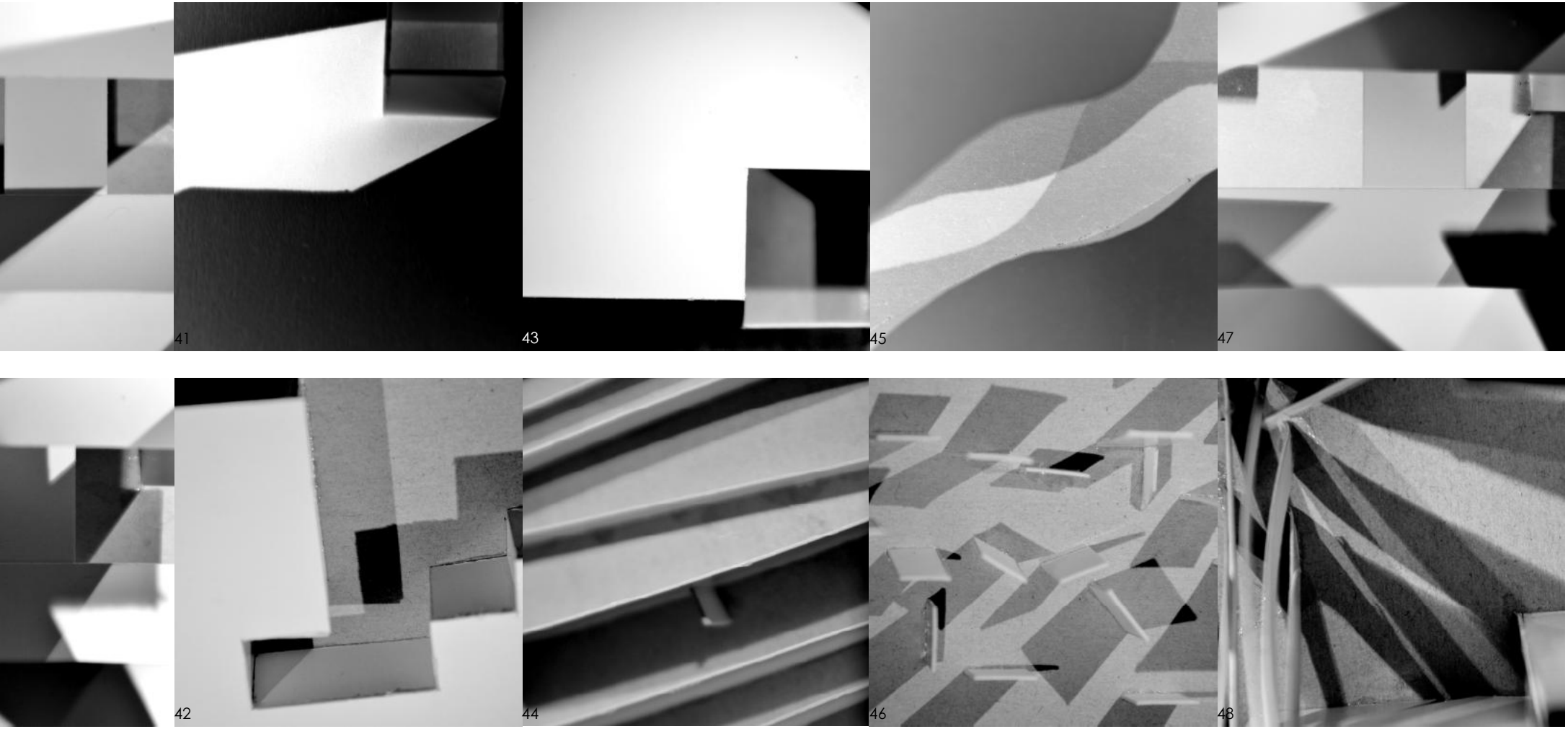

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Figure 31-48: Small models were made of various spaces based on typologies. Light shone through the models show how contrasting light can be created and affect the spaces.





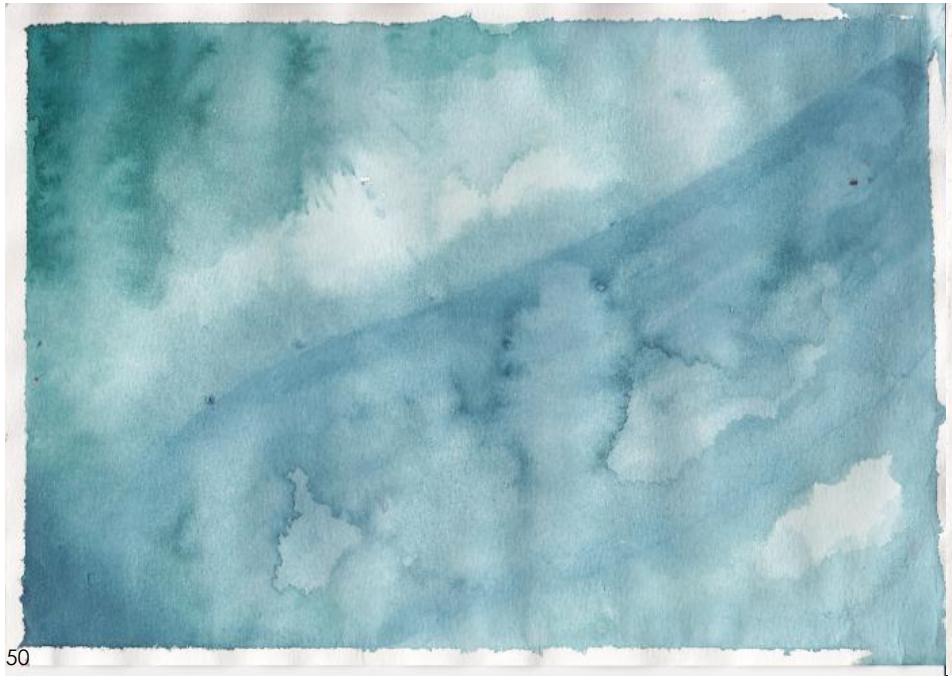
49

Small Spaces



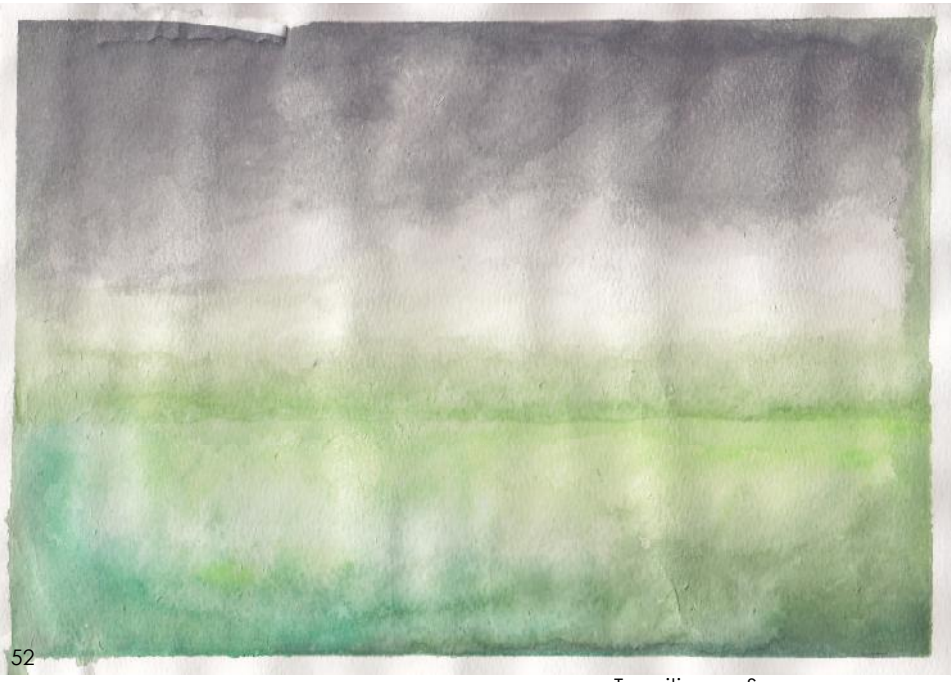
51

Narrow and long spaces



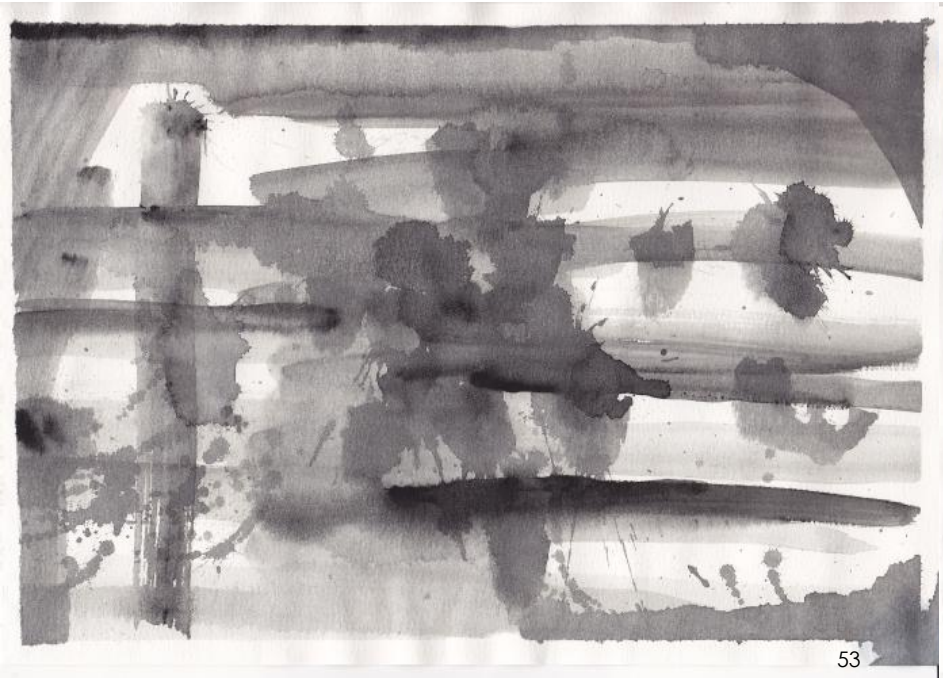
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Open spaces



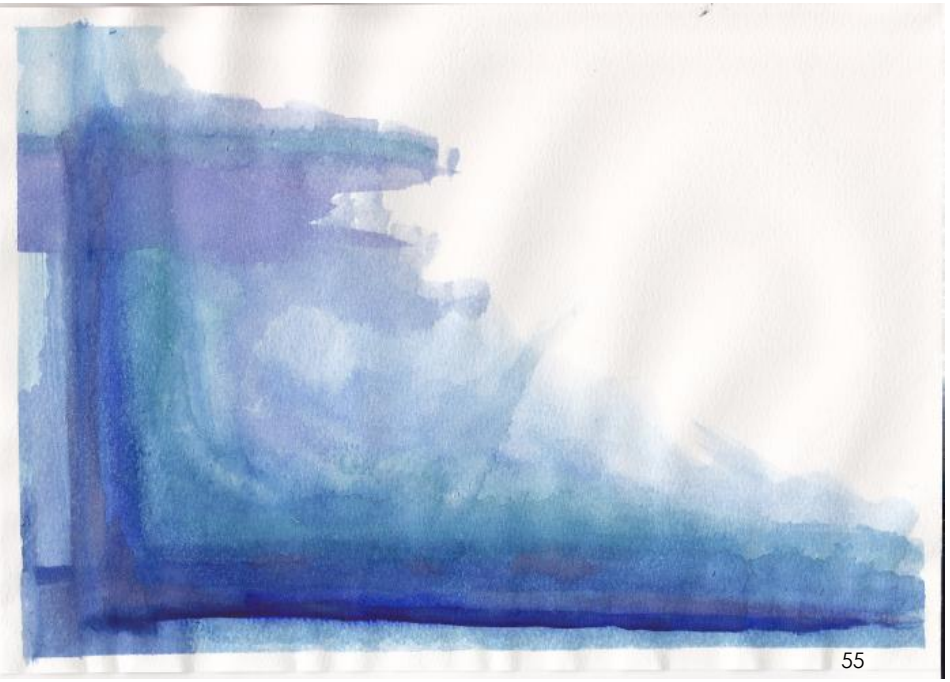
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Transitionary Spaces



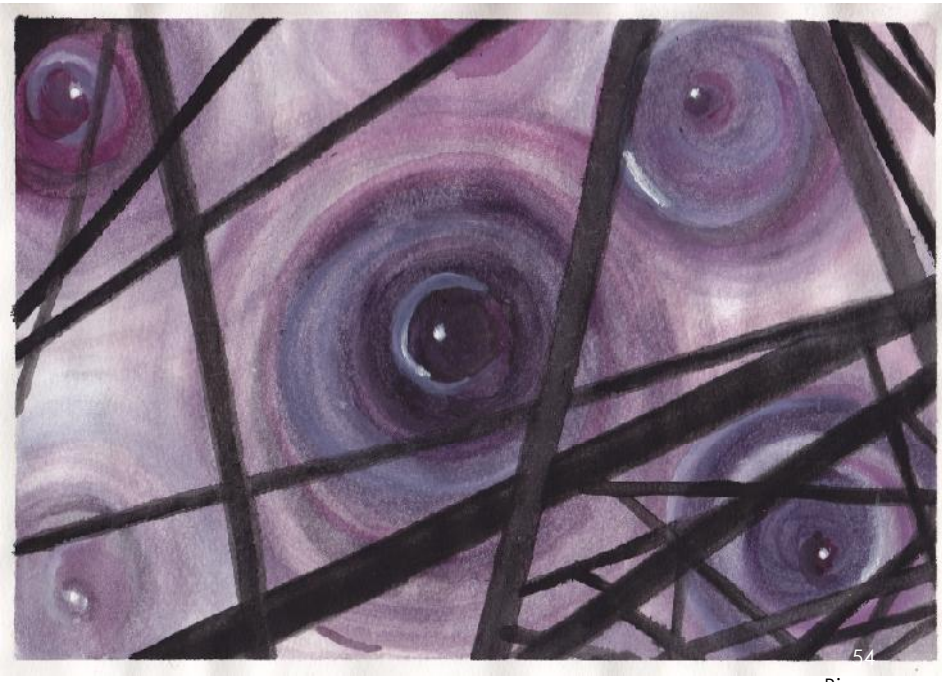
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Closed



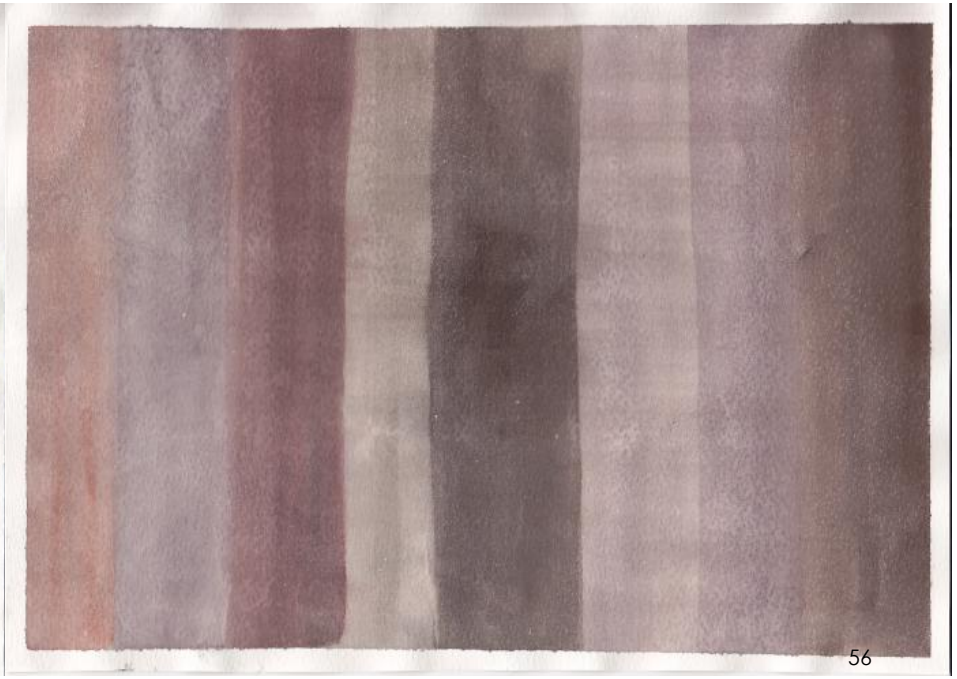
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Secluded Spaces



54

Big spaces



56

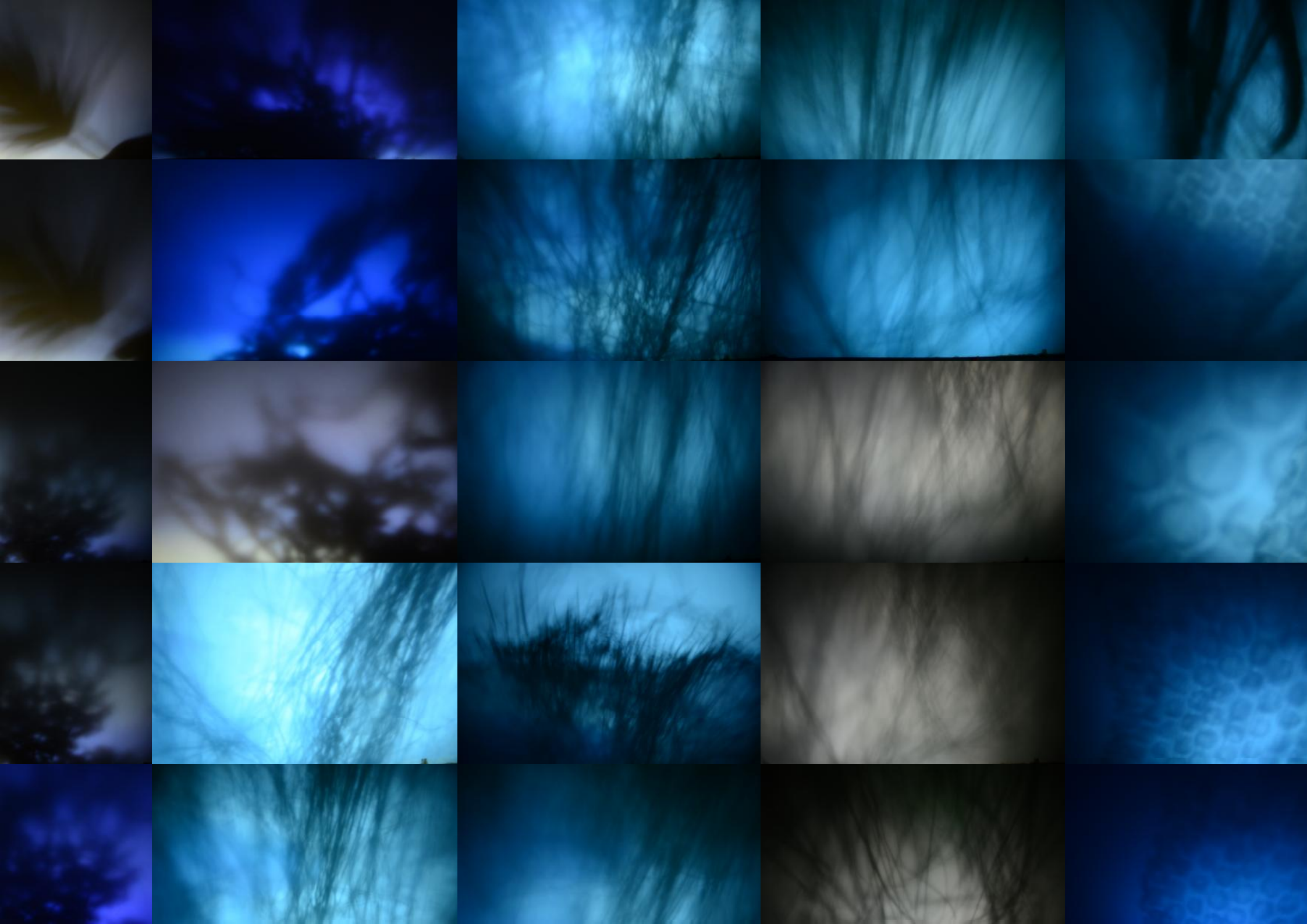
Tall

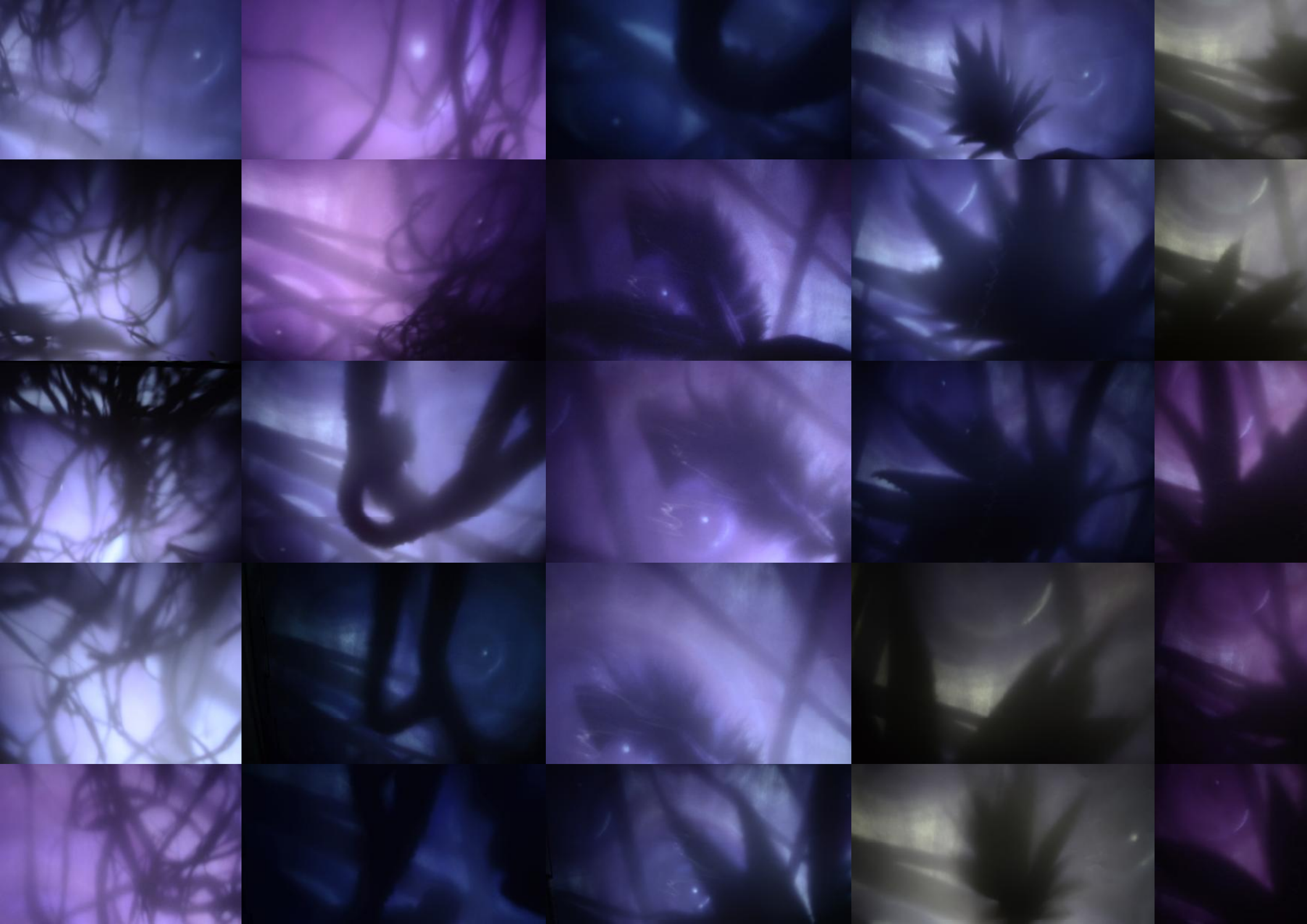
Figures 49-56: Images of the paintings based on a exaggerated experience of spaces through a person with an intellectual disability.

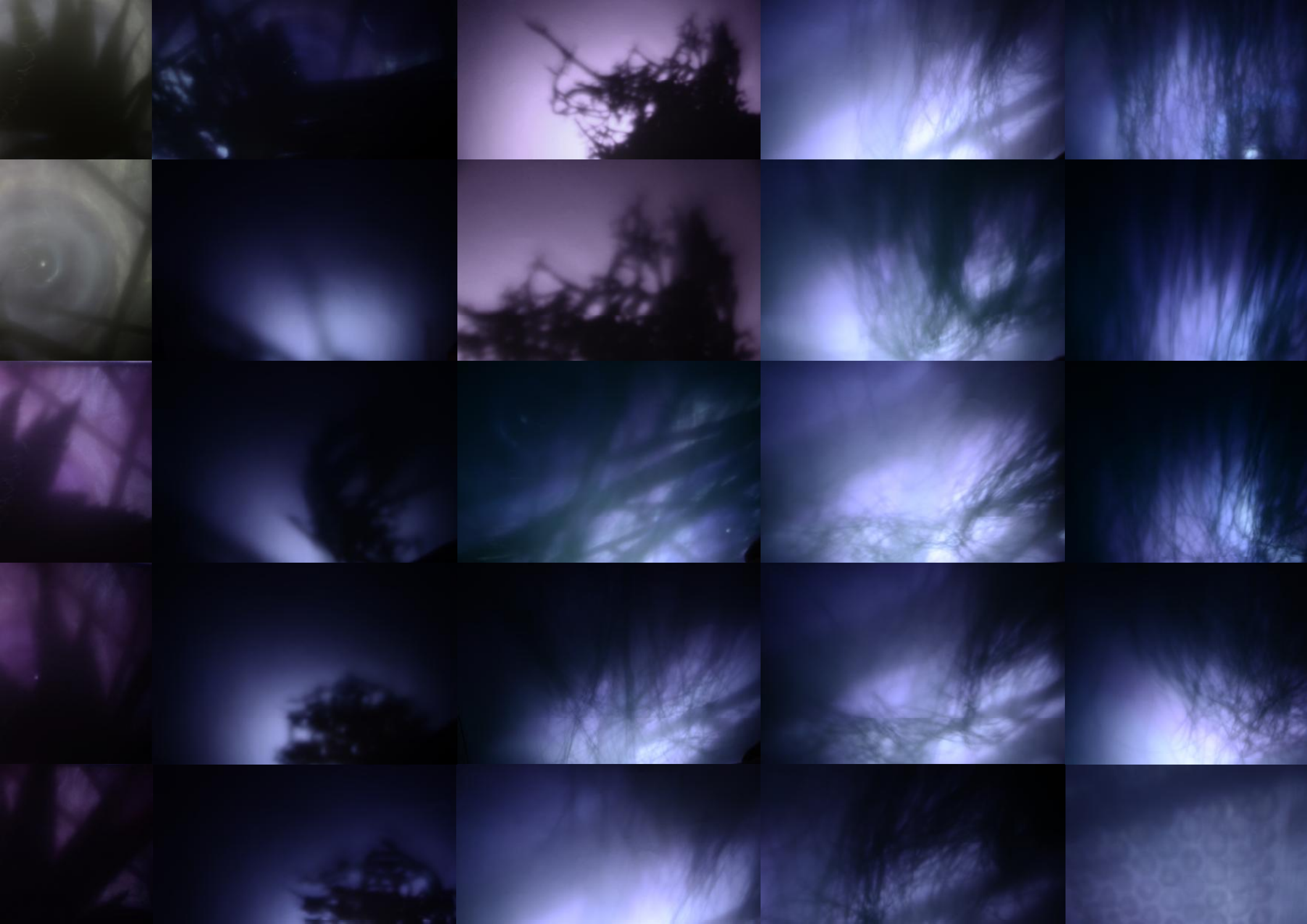
Figures 57-88: Design Charrette final images (Blue Paintings)

Figures 89-133: Design Charrette final images (Blue Paintings)










SCHOOL



Chapter 5

Introducing Architecture

Introduction
Inclusion Through Design
Architecture and the Human Body

Figure 134: By Author, Melle Street, Johannesburg

Architecture has been used as a tool to separate, segregate and discriminate throughout history. It has played a huge role in South Africa's history of human rights abuses, repression, racial segregation, forced removals and poverty. In an ever-changing country, it is our duty as architects to continue to reverse the role that architecture has previously played and create environments that encourage integration, social interaction and respect. These spaces should celebrate diversity and differences amongst individuals instead of being used to divide societies and to allow the seclusion of groups of people. (Oram, M. 2014)

Forms of discrimination is visible in limited access into and through buildings for people with disabilities. It is visible on roads and pavements that are not user friendly for people in wheelchairs or for those who have visual impairments. It is visible in separate 'backyard' quarters and separate entrances for domestic workers. It is visible where anti-homeless spikes have been placed in areas that were previously occupied. Each setting emphasises the differences between 'them' and 'us'.

Our society should strive to continually challenge the perception of what is 'normal'. By challenging this idea or even removing it and replacing it with an alternative, we can broaden our abilities as designers in the built environment and best serve its users. In rethinking aspects of accessibility and inclusion, we are providing a blank canvas and create possibilities for innovation in areas that are not widely addressed in the built environment. Architecture can become something that enables a world where everyone can participate equally, and in order for this to be the new 'normal', societies have to accept that every individual, regardless of circumstance deserve the same opportunities. (Oram, M. 2014)

Figure 135: The photographs by Jen Ackerman illustrate the abuse and neglect people with intellectual disabilities and mental illnesses face in institutional settings. Often people are wrongfully held against their will. A lack of understanding and knowledge has resulted in people with intellectual disabilities being placed into mental health institutions.



Figure 135

Inclusion Through Design


136


137


138

Figure 136-138: These images demonstrate spaces in which have been inaccessible by means of spikes or slanted benches to keep away certain groups of people such as the homeless.

As designers, we have control over how spaces affect people's ability to move, see, hear and communicate effectively. By designing inclusive buildings (spaces that everyone can use) we remove the barriers that may create seclusion between groups of people. People can therefore participate equally within a space, or be given the opportunity to participate equally within societies.

The quality of life of individuals is greatly influenced by the quality of spaces and buildings exposed to on a daily basis. Spaces have the ability to affect people's sense of security, level of mobility, allow or deny access into spaces as well as play a role in their health and well-being. Spaces also have the ability to bring together or divide communities. Levels of accessibility have been considered more than ever over the last ten years and although it has improved, disadvantaged people, whether poor or disabled, bear the heaviest impact as a result of inaccessible environments. (Fletcher, H. 2006)

Designing inclusive spaces is the responsibility of everyone, not only the architects and are thus equally applicable to planners, engineers and developers, to name a few disciplines, within the built environment. Integral of what we do on a day to day basis is to ensure accessibility for all groups of people. We have the ability to be innovative and find solutions to designing spaces for people, considering variability amongst individuals. (CABE, 2008)

Buildings and other public spaces should reflect the diversity of its users. Spaces which are designed well should be accessible to all; and whether the person has an intellectual disability, a mental illness, a visual or hearing impairment, for elderly people, families with children or even groups of people that were previously disadvantaged should be regarded as immaterial. By designing in an inclusive manner, one lessens or possibly eliminate any situations that could cause frustration or difficulty in accessing spaces within the built environment. Any person can benefit directly or indirectly from inclusive design. Inclusive design ensures that people and all their differences are at the heart of the design process. It should ultimately result in communities that are strong, vibrant and sustainable which promote personal well-being and social cohesion. (CABE, 2008)

Designers need to be aware and consider as many needs as possible and by identifying barriers at the initial stage of the design process. In this way one is able to deal with these challenges and find solutions to overcome it. It is important to understand the needs of all users. In many cases designers are aware of the needs of a person who makes use of a wheelchair, but may not necessarily be fully aware of the needs of a person with an intellectually disability. (CABE, 2008)

However that being said, it is not realistic to meet every single need of every person. People with disabilities, both intellectual and physical are far from homogeneous, but by considering variations of their needs and accommodating diversity in the design process, one may benefit most persons in some form or manner. Designing with higher standards in mind and not just meeting the minimum ensures that one is able to embrace as many users within an environment.

Inclusive design should involve every aspect of the user from accessing the building to entering any room within the building, having regard to the mode of transport of the user. This brings forth the importance of location for a building designed specifically for a user group that is disabled or who have impairments. Geographical access is as important as physical access within a building. (CABE, 2008)

It is important to understand how the spaces will be used, and by whom it will be used. In so doing, designers can factor in differences and design spaces

so that they can adapt to the changing users and their needs. Accessibility is not purely about the physical layout of spaces. It also means considering lighting, signage, visual contrast and materials. It is important that a person should have adequate information before leaving home as it gives one an assurance and makes one feel confident enough to access the building or public space. This means that it is not only physical access that needs to be addressed but also 'intellectual' or 'emotional' access. (CABE, 2008)

With all these factors taken into account, people will be able to use buildings and public spaces safely, comfortably, confidently and most importantly with dignity. Individuals will be able to make their own choices on how to use spaces and in the process will not experience separation or discomfort.

Universal design is a concept that evolved from accessible design and establishes seven principles that have been developed to promote the view that new environments and products should be usable to everyone regardless of their ability or the like. This can be applied to architecture used by persons with intellectual disabilities. (Foreman, 2009)

The first principle is 'equitable use'. In the case of a building that would be used by a person with an intellectual disability, the design would need to be useful to diverse disabilities. It should avoid stigmatising or segregating particular users. The second principle sets out 'flexibility in use'. Both the educator and the student should be able to choose how they use spaces through adaptability. The third principle is the 'simple and intuitive use' and it means that the design should eliminate complexity and accommodate a range of abilities. The fourth principle is 'perceptible information'. The design should allow information to be effectively communicated to the user and should be compatible with people who have sensory limitations. The fifth principle is 'tolerance for error'. The design should minimise hazards and avoid unfortunate accidents. A safe environment should be created on all levels of designing the building. The sixth principle is 'low physical effort' which means that the design could be used by people with intellectual disabilities without exerting themselves and could be used efficiently and comfortably. The last principle is "size and space for approach and use" advocating that appropriate sized spaces should be designed for the users. Spaces should be easily accessible and care should be taken that bigger volumes do not overwhelm particular users. (Foreman, 2009)

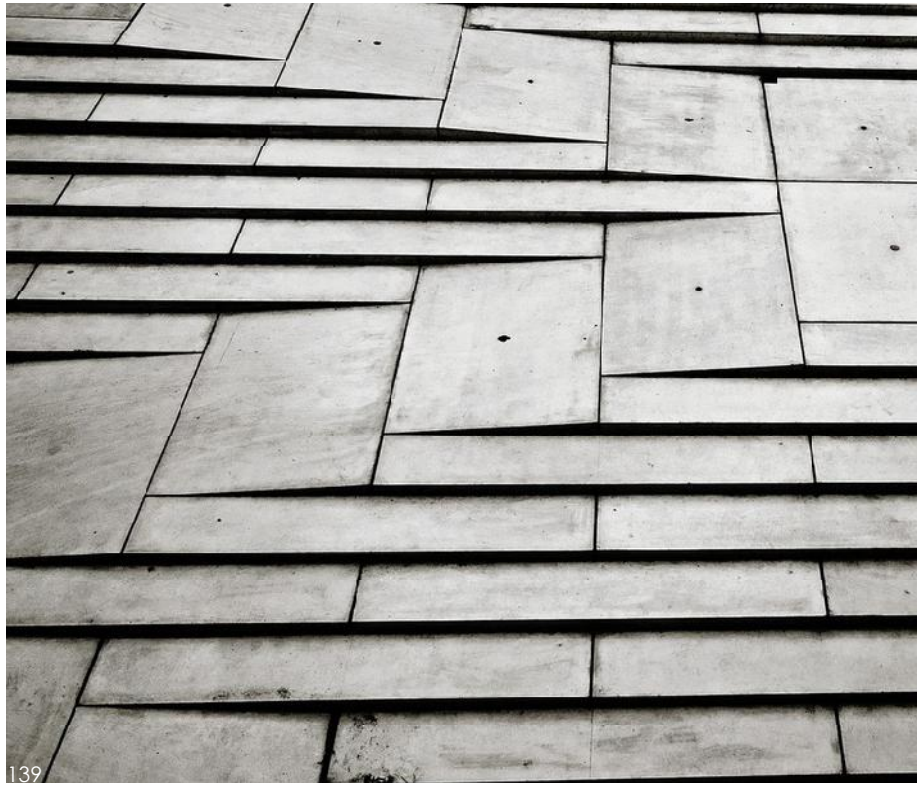

139

Figure 139: A ramp / stair combo in Leuven, Belgium. M Museum. Architect: Stephane Beel.

Architecture and the Human Body

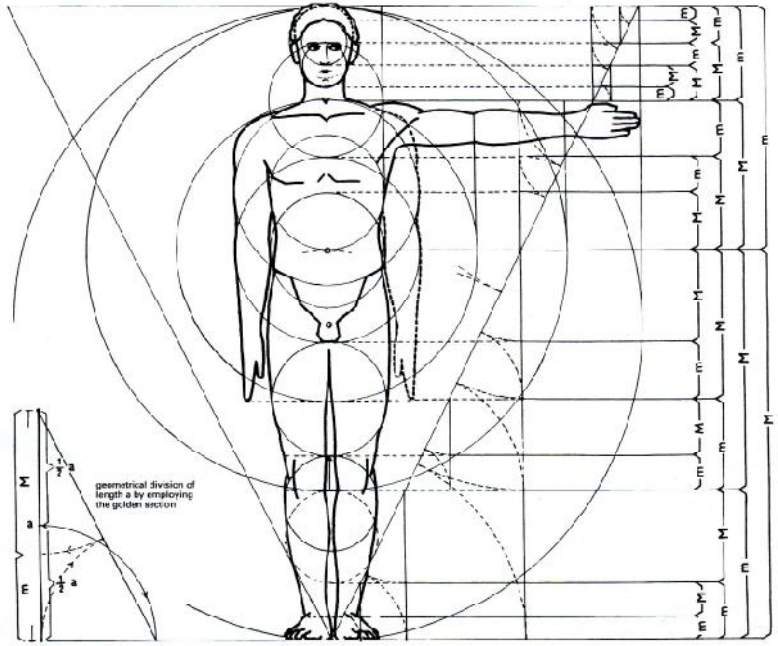


Figure 140

Images 140 - 142: 'physiological norms' as shown in Neufert's and the Metric Handbook. It also outlines the standard for people who are disabled and reduces this to a person in a wheelchair with typical dimensions or standards.

Human psychology is the study of human nature and behaviour which includes both the mind and body. Architecture is the process and product of designing, planning, constructing forms, space and ambiance. Vitruvius explained it as being the art which combines 'utilias', 'firmitas' and 'venustas' or 'function', 'firmness' and 'beauty'. (Shakir, 2014)

The relationship between architecture and human psychology can be directly related. A human being becomes aware of space through a complex interaction of the eye and brain. The form of the building, the function, lighting, colour, materials, landscape, negative and positive spaces have a connection to human psychology from a conscious to subconscious level. (Shakir, 2014)

Vitruvius said that "since the human body is the measure of architecture, it is also that which determines atmosphere qualities. It is the human body that emanates the structural qualities of architecture." A building can become a huge part of a person's life and can in turn impact the consciousness of the user. Vitruvius explains that there is a mutual relationship between the human being and the built environment. Human beings determine and influence the architecture in order to fulfil a need and purpose, and simultaneously the architecture affects our behaviour. When one thinks of architecture in this way, one can consider forms of behaviour and achieve well-functioning buildings. (Shakir, 2014)

The interactions and relationship between people and their surrounding environment involves orientation, spatial perception, experience and thinking. As discussed, professionals within the built environment have the ability to control or affect these aspects through the design of the environment in which people interact with.

The design of the built environment is often a result of architects' understanding of the ideal image or average human being as understood as 'physiological norms' shown in Neufert's and the Metric Handbook. It also outlines the standard for people who

are disabled and reduces this to a person in a wheelchair with typical dimensions or standards. (Imrie, R. 2001) Consequently, there is no consideration for variety of physiological abilities, difference and diversity. (Ryhl, C. 2010) In the same way, a person with intellectual disabilities or sensory impairments are often not considered in the built environment.

Through designing inclusive environments, one is acknowledging and mindful of the differences amongst people and creating an environment in which everyone can participate and benefit from equally.

When a designer acknowledges that a person's environment plays a role in their everyday life, one is able to design responsively to everyone's needs and allow for people to interact within their environment meaningfully. (Lehman, M. L. 2012)

The conditioning process of a person with an intellectual disability should be an on-going process no matter the age or ability. The education of a person with an intellectual disability cannot be separated from problems of behavioural modification. Often people with intellectual disabilities will face some kind of challenge in relation to social development or behavioural perspective and conditioning this behaviour is crucial. (Ware, 1994)

Groups of people are of the opinion that emphasis needs to be placed on the interaction by a person with an intellectual disability within the environment. It is thought that this interaction allows for development through engaging and mastering experiences in their surroundings. It is important for this interaction to allow for interpersonal development to assist the person in achieving a sense of confidence and self-efficiency. (Albrecht, et al., 2001)

A building, specifically a place of learning, should encourage intellectual, social and physical growth. Design decisions in relation to colour, the light entering the building and how the spaces are used, produces a positive learning environment that can maximise a successful learning environment. (Ware, 1994)

The functional component to a building can affect behaviour of the building's users. For example, limitations set in a building through its access points, controlling the users' movement through the site and into the building, or chairs set up in a classroom in rows where there would be limited interaction amongst students. (Ware, 1994)

Social relations between users of the building can be defined by the physical environment and therefore relationships between the environment and its user have symbolic as well as personal meanings. The physical environment is designed to control the user and portray a behaviour that is expected from those who interact with the spaces. (Ware, 1994) Learning spaces can be designed to promote different kinds of outcomes whether they are in the more traditional set up or in a flexible set up where students can move around or interact freely. Some learning areas can be designed to avoid distractions whether through lighting or sound.

When designing spaces in which persons with intellectual disabilities occupy, one must pay careful attention to how spaces may impact upon them. People with intellectual disabilities are not homogeneous. A person who has Down Syndrome, may have a hearing impairment as well, just like a person who has Cerebral Palsy may have a physical disability. This is a crucial aspect to understand and needs to be acknowledged when one is designing inclusively.

For many people with intellectual disabilities, navigating basic day to day activities, communication and managing their surroundings can prove to be difficult. It may require additional input from their surroundings.

Figure 142

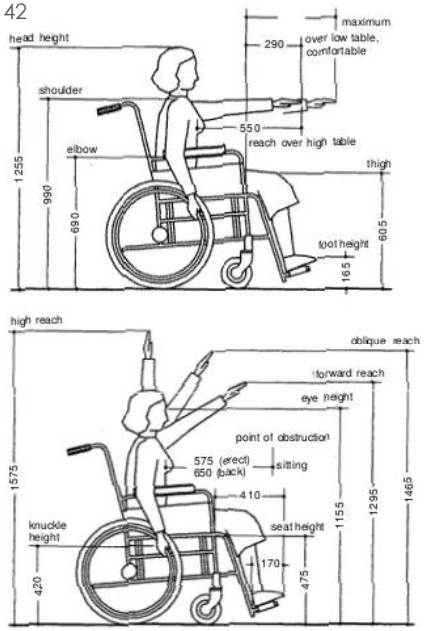
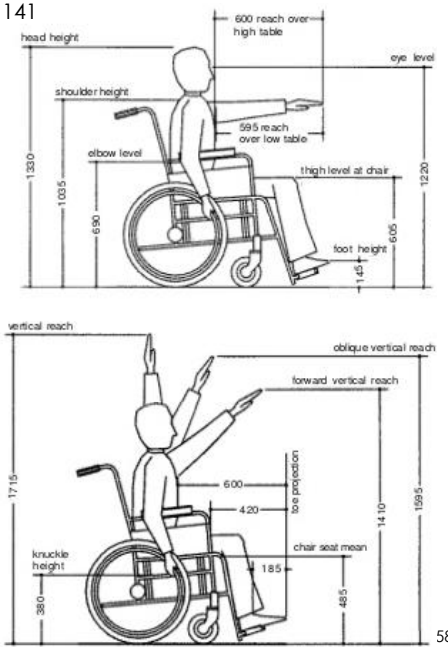


Figure 141



If designers acknowledge the primary issue for people with intellectual disabilities pertaining to the way they cope and respond to their sensory environment, then designers should recognise the major influence architecture has on their lives. (Mostafa, M. 2013)

Sound, light, colour, texture, spatial configurations and ventilation are the sensory input features that can be manipulated to benefit users of the building who have intellectual disabilities. The built environment provides the majority of sensory input.

The methods in which all users with diverse disabilities may benefit from, need to be established and environments that do not overwhelm or confuse them need to be provided. A clear path with no unnecessary or inappropriate sensory input from the surroundings can make it easier for a person with an intellectual disability to respond, communicate, learn and interact.

Through well thought-out strategies, architects can establish which spatial stimuli work and which are not suitable, but also consider that a variety of disabilities and impairments need to be accommodated. By focusing on fewer elements that cover all the senses that can benefit all users, one is able to create an environment where there is clear communication and achievement of skills in the particular environment without overwhelming the users. This yields an environment which is capable of helping its users to function to their maximum potential.

Not all people with intellectual disabilities are as sensitive or affected by their environment in the same way. If architects apply inclusive design principles to the way in which spaces are designed, then users who are most sensitive to their surroundings will be at ease and users who are not as affected can still positively benefit and possibly thrive in the conditions.

Figure 143: This image is part of an exhibition which showcases prizewinners in the 2012 Brain-Art Competition held by the Neuro Bureau that honors outstanding visualizations of brain research data. The Neuro Bureau believe that pushing the interface between art and science presents a valuable opportunity for the neuroscience community. It is indicative of the progress that has been made in the field of neuroscience and how humans are able to translate that knowledge into various forms beyond science. The leaps that have been made in neuroscience have allowed us to understand intellectual disability like never before.

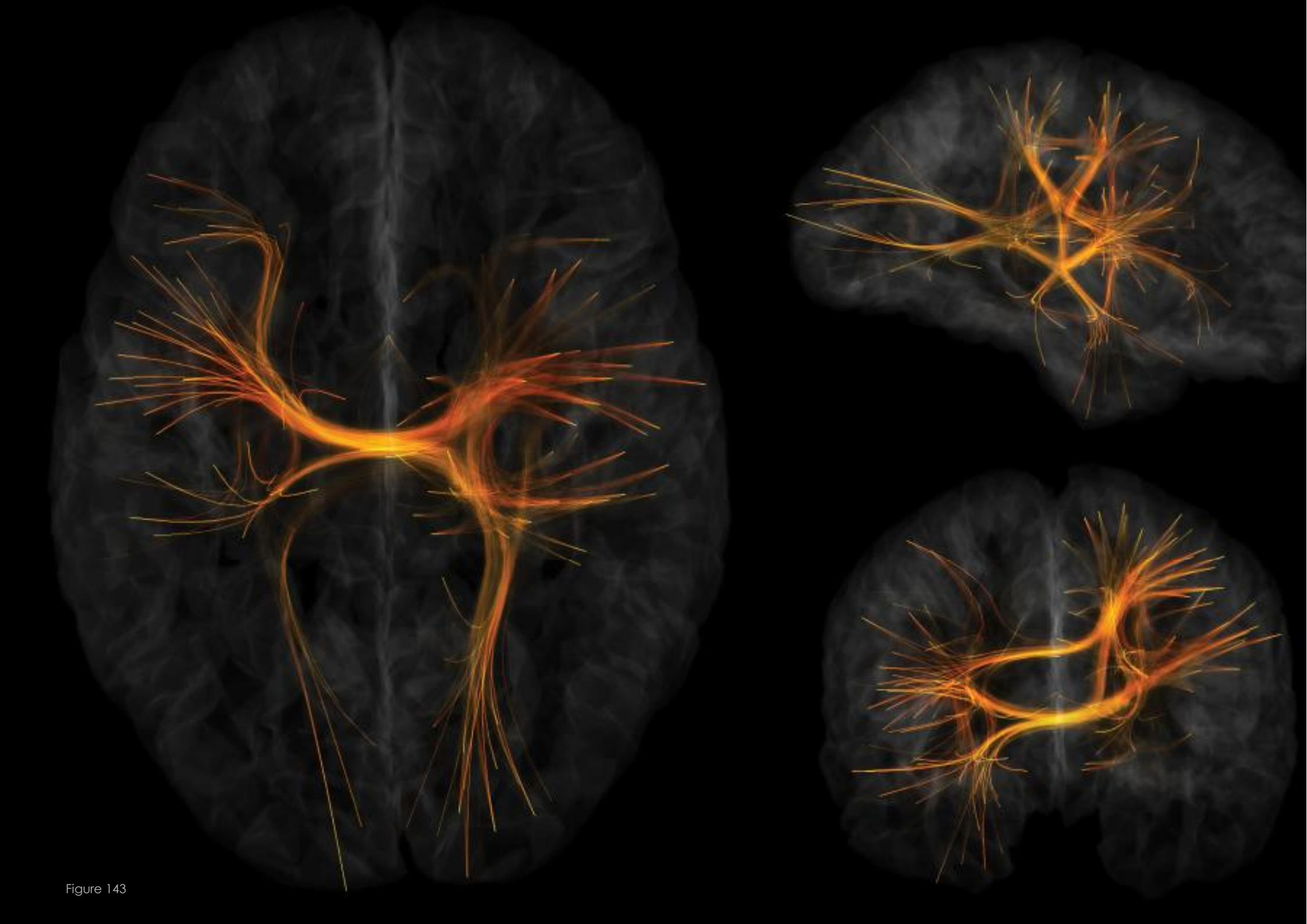
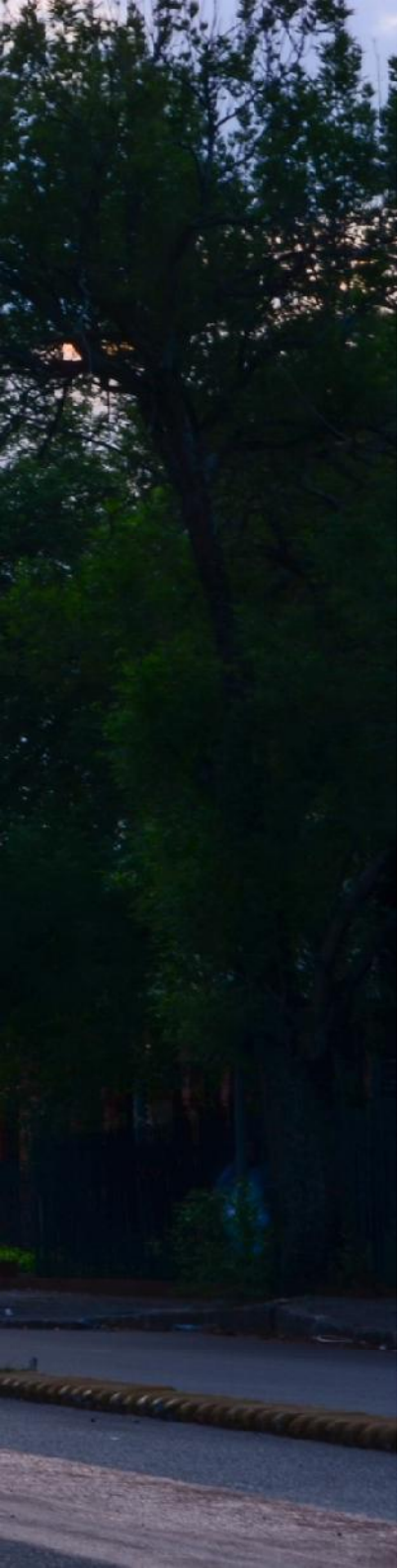


Figure 143





Chapter 6

The Senses

Understanding the Environment Through a Person with an Intellectual Disability

- Sight
- Colour
- Sound
- Touch
- Smell

Mosca - a precedent

Figure 144: By Author, Hoofd Street, Johannesburg

Understanding the Environment Through a Person with an Intellectual Disability

Sight

Whether consciously or subconsciously, human beings constantly take in information about their surrounding environment. Our senses continuously absorb details linked to our perception of space, whether we are active or inactive in the process. (Vavik, T. 2009)

The process of visual abortion for those without visual impairments is the primary sense how people process information. It is closely connected to touch and hearing because although vision is superior, people often confirm the information they are receiving through touch and hearing. (Vavik, T. 2009)

Sight is the most prominent sense in which an environment can be understood by a person with an intellectual disability. It is associated with way-finding, colour and light. A person with a hearing impairment will heavily depend on sight to guide him or her through the environment. People with intellectual disabilities have an increased sensitivity to visual stimulation.

Typically people are able to adjust effortlessly to varying light whether reflected or direct. However, a person with an intellectual disability may have an impairment which affects the ability of the eye to adapt to different light conditions. The disability could also mean that there may be damage to the optic nerve which carries visual information to the brain.

This may result in a difficulty for a person with an intellectual disability to navigate between sudden changes and **contrasts of light.** More time may be needed to make these adjustments and possibly space in which to do so. (Vavik, T. 2009) This indicates that **natural daylighting** is a favourable condition for spaces to be lit. Where artificial lighting is needed, it should be fully controllable.

Attention should be paid to light that is brought into spaces, where the colour **and amount** of light brought into a building can affect the learning process significantly. (Vanston & Rorke, n.d.) Too much light can cause glare, and spaces which are overly lit with artificial lighting can be distracting for a user with intellectual disabilities. (Vavik, T. 2009) Natural daylight is the most favoured source of lighting as it can provide **warmth and comfort** and is especially ideal for people with visual impairments as it provides a tactile experience.

Controlling natural lighting through spaces can be used as a tool for navigation. The changes between **direct light and diffused light** can give the users of the building hints in respect access into spaces and way-finding through buildings.

The openings in spaces should allow for views of the outside for **visual stimulation.** Although care should be taken when doing this in relation to placement, orientation and control of windows as the visual exposure to the outdoors could be a distracting element when high levels of concentration is needed. (Vanston & Rorke, n.d.)



145

Figure 146: Image by Author
Direct natural light penetrates the Mezquita in Cordoba, Spain, pierced by hundreds of columns.
(Originally the Northern wall of the Mosque that opens onto the Orange Tree Courtyard was open allowing the Mosque to be flooded with natural light. Now smaller openings allow light into the Mezquita with additional oil lit lamps.)



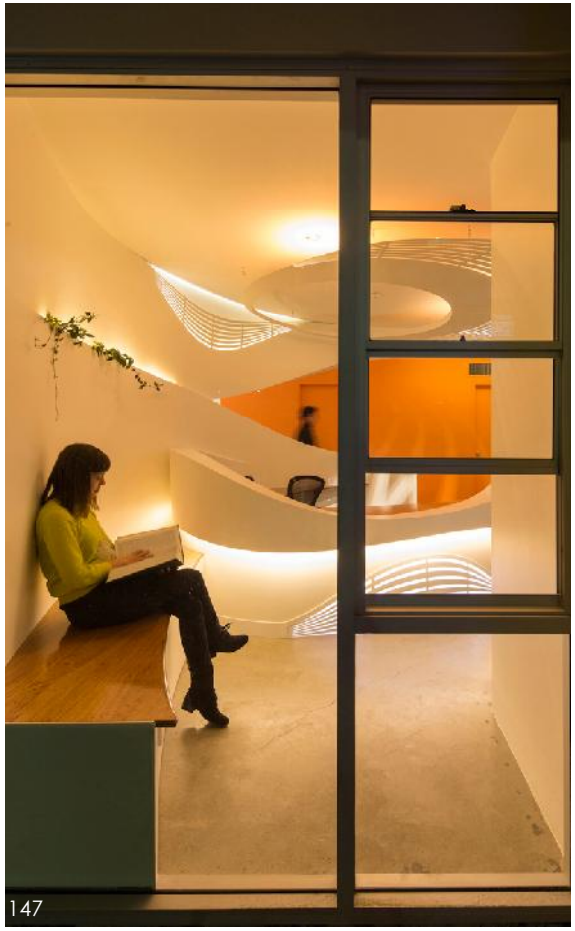
Figure 146: by Author

Colour

The ability to process and integrate visual information regarding colour can be a challenge for people with intellectual disabilities and so generally, single colours which are of low arousal with little or no patterns should be used in buildings.

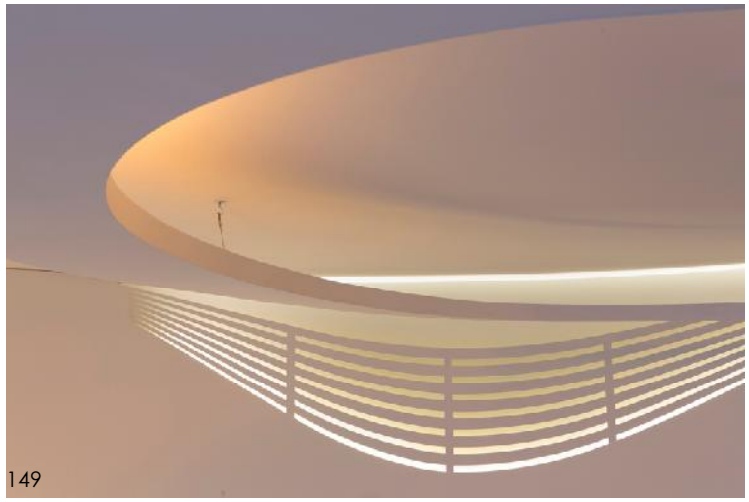
Earth tones have been proven to be the most conducive in environments used by people with intellectual disabilities. The use of particular colours to guide a user in terms of uses of spaces and the navigation through buildings should be strategic and in moderation so that it does not overwhelm or distract the users.

The Edgeclif Medical Centre for autistic children is an example of how light and colour play an important role in shaping the overall feel of the space. The building makes use of indirect light - both natural and artificial which is used to soften the spaces. A neutral palette was chosen and an orange shade which is known for healing properties was used on a feature wall to direct users through the space.


147

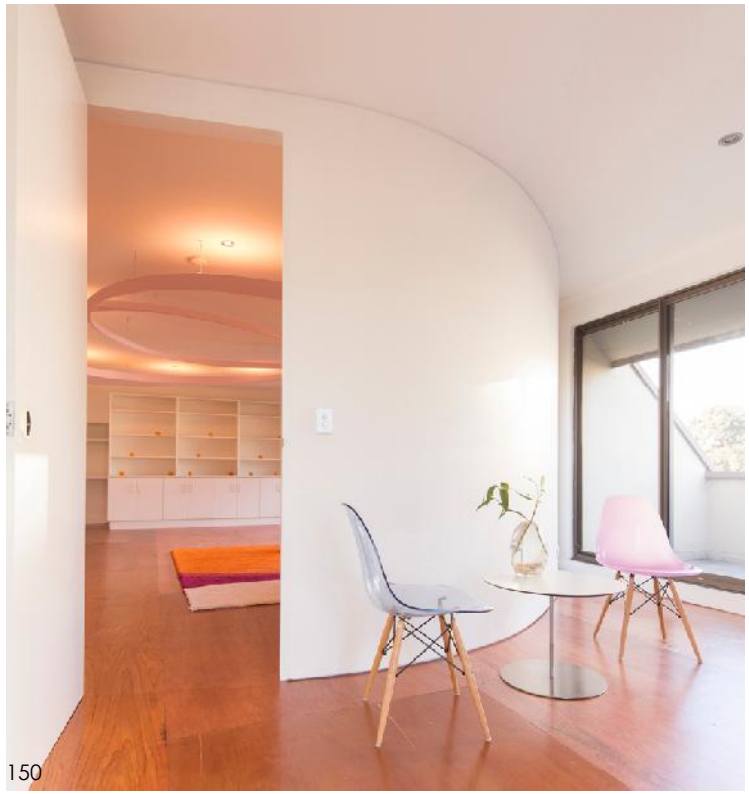

148

Figure 147-148: The reception area - day and night -of the Edgeclif Medical Centre for children with autism.
Indirect natural and artificial light is used with a neutral colour palette and splashes of colour for way-finding and healing.



149

The Edgeclif Medical Centre for autistic children is based in Australia. The final form was a result of consideration of the functions of the spaces as well as a clear understanding of the client's needs. The geometries promote an atmosphere of calm, rest and relaxation. (Enter Architecture, 2012)



150



151

Figure 149, 150, 151: Therapy rooms and cove ceiling of the Edgeclif Medical Centre for children with autism.
Indirect natural and artificial light is used with a neutral colour palette and splashes of colour for way-finding and healing.

Sound

Hearing is an important sense that humans typically use to help orientate themselves, verbally communicate and process their surroundings. Just like the eye, the ear is able to adapt to its surroundings. Human beings are exposed to a huge amount of sound and to deal with the overwhelming amount of sensory stimuli, we subconsciously adapt to focus on particular sounds, or block out a vast majority of sound. (Vavik, T. 2009)

A person with an intellectual disability and possibly an additional impairment could especially be sensitive to acoustics. It can affect both the emotional and physical comfort. A person with an intellectual disability may not have the ability to adapt to surroundings as easily, in order to deal with the surrounding sounds.

Therefore, sound is a vital aspect in the design of a building used by people with intellectual disabilities. Louder noises in other areas could create distractions or disturbances in spaces where concentration may be required. Acoustics should therefore be considered in spaces especially in the corridors, multi-purpose rooms or other locations where there may be excessive noise.

A person with a visual impairment would rely on hearing as their primary sense and the manipulation of sound can benefit the user with a visual impairment and can be done so not to overly stimulate a person with an intellectual disability. The use and change in materials can give clues to help navigate through spaces which can benefit both a person with an intellectual disability as well as one with a visual impairment. (Vavik, T. 2009)

The Centre for the Blind and Visually Impaired

The Centre for the Blind and Visually Impaired is situated in Iztapalapa which is a district in Mexico that has the largest population of people with visual impairments in the Mexican capital.

The Centre is designed by Taller de Arquitectura-Mauricio Rocha which was part of a program by the Mexico City government to provide services to one of the most disadvantaged and highly populated areas of the city. The building makes use of various features to guide users through the spaces. The Centre aims to enhance spatial perception and activates the five sense as experience and a source of information.

One of the main features used as a method of way-finding for the users of the building is a water channel that runs through the Centre of the plaza. The sound of the water guides the users along their way and is flanked by stones which breaks to indicate paths which can be crossed.

A blind wall encircles the complex on its four sides and acts as an acoustic barrier as well as a retaining wall/blank to hold the earth moved from neighboring wasteland areas. (Taller de Arquitectura-Mauricio Rocha, 2011)


152

Figure 152 - 155 : The Centre for the Blind and Visually Impaired. A blind wall along the edge of the complex acting as an acoustic barrier and water channels which guide users through the plaza by means of the sound of water.



153



154



155

Touch

Human beings are able to experience texture, form, structure and temperature through touch. The human body acts as a sensory surface. Touch is fundamental to our perception of our surroundings especially of the physical environment.

Touch is important for people with visual impairments as it compensates for the lack of sight. It is also important for a person with an auditory impairment as one is able to pick up on vibrations especially when it is not within sight.

Textured finishes are especially helpful for people with intellectual disabilities and impairments where tactile clues offer guidance in orientation.

Some persons with intellectual disabilities may be overly sensitive to touch and so an environment should be created where touch can benefit those that need it but not interfere with those that are overly sensitive. Strategic placements of texture on the ground and walls can benefit those with visual impairments without imposing on users who may become overwhelmed with sensory input. (Vavik, T. 2009)


156


157

Figure 156-157 : Hazelwood School in Glasgow maximises on tactile clues to help students with dual sensory impairments navigate and orientate through spaces in a safe and independent manner.

Hazelwood School

Hazelwood School is situated on the edge of Bellahouston Park, Glasgow. It is a school for children between the ages of two and eighteen who have dual sensory impairments i.e. people who are blind and deaf. Many of the children have physical disabilities and have some degree of a cognitive impairment.

The design of the building needed to meet the needs of a range of disabilities or impairments and ensure that the students have some level of independence at the school.

Therefore the design incorporated tactile clues to help guide a student through the building. The main circulation space acts as a 'street'. The wall is cork-clad and doubles up as storage space to house the students' equipment. The design of the wall integrates a 'trail rail' which helps students clearly and safely navigate the building through tactile clues. Each wall is individually shaped which helps orient the length of circulation space in the school.

The building incorporates signage that is redundant- Braille, pictures and Moon (a system made up of lines and curves including some ordinary letters in simplified form) which has proven effective for the communication of students.
Subtle colours, contrast and adaptable light maximises use of the students' residual vision.
This building goes beyond ordinary Universal Design to ensure safety and independence for the users. (Alan Dunlop Architect Limited, 2011)

Smell

Persons who have intellectual disabilities and additional sensory impairments are often known to have an increased awareness of smell. The sense of smell is the strongest tool for recollection. Therefore, by tapping into the sense of smell, it can be used as a method of orientation. This helps with way-finding essential for people with intellectual disabilities or impairments.

The Centre for the Blind and Visually Impaired makes use of scented trees and plants along the main plaza as additional way-finding for the users of the building. Six types of fragrant plants and flowers in the perimeter gardens act as constant sensors to help orientate users within the complex. (Taller de Arquitectura-Mauricio Rocha, 2011)

The Art of Scent, Museum of Art and Design, New York City
Diller Scofidio + Renfro (who worked on the High Line in New York) created an installation at the Museum of Art and Design which was the first major exhibition to focus on fragrance as an artistic medium rather than just a consumer product controlled by luxury brands. The artworks which were 'invisible' were designed to evoke memories as well as affect the thought patterns of the visitors, based on the idea that smell is the sense used for recollection and reminiscence. The artwork was made up of fragrances emanating from a series of subtle dimples and pleats within the gallery walls. (Diller Scofidio + Renfro, 2012)

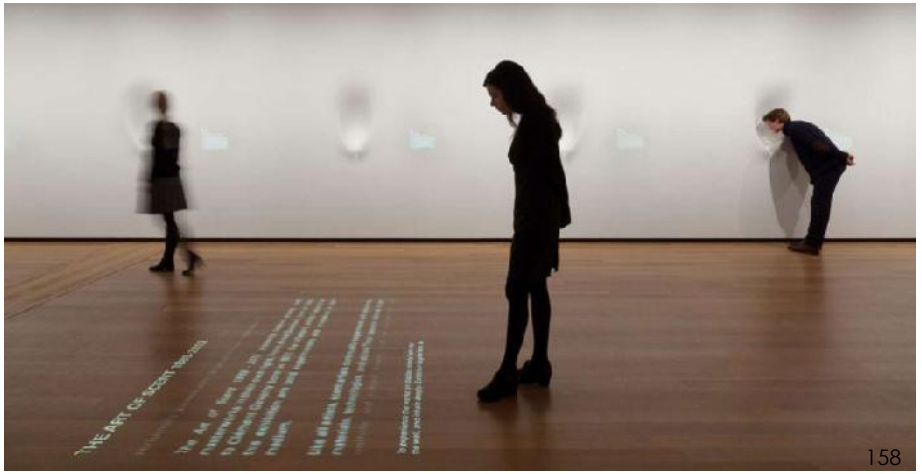

158

Figure 158-159 : The Art of Scent, Museum of Art and Design, New York City. Fragrances emanating from a series of subtle dimples and pleats within the gallery walls to evoke memories and affect the thought patterns of the visitors.

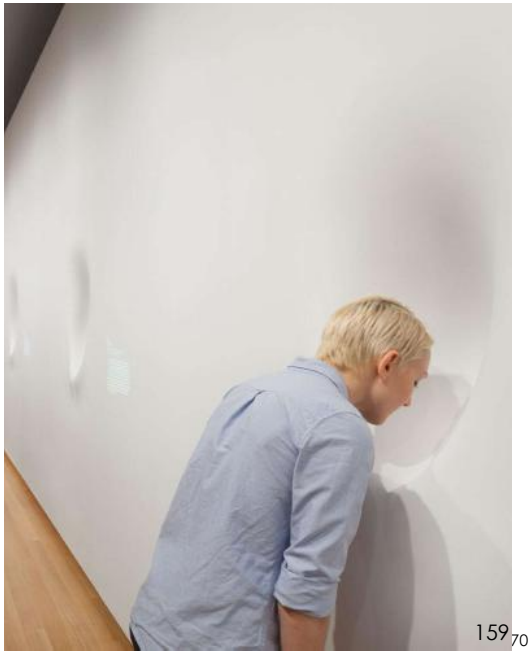

159





Figure 160

MOSCA - *58th Edition of Girona Temps de Flors*

*"58 springs have passed, with May bringing **vibrant color** to the Jewish district in Girona. The flowers blossom atop the old stones, refreshing the city.*

This year, our proposal lies within the yard of the house Sambola, its floral history dripping from the stones of its boundary walls.

The intervention is an implementation of the traditional elements that are part of Girona's collective imagination:

- The flies, narcissistic saviors of the French siege of Girona.
*- The curtains that flank many doors, unforgiving barriers for the flies, their **musical chimes** welcoming us.*
*- The **lavender that has scented** the Mediterranean lands since humans first dwelt there.*

*At 13, Carrer de la Força, flies circle relentlessly but the golden curtains will not let them pass. They **filter the view** of the interior, varying it's transparency according to the position of the viewer. The continuous **sound of the curtain** as people pass through them fuses with whispers about what they believe they **glimpse** and what they suspect to **smell**. Beyond the vibrant limits, the curious eyes discover the blooming lavender fields, which keep the pesky insects away.*

*The curtains are placed to redirect the gaze to the architectural elements of the courtyard. It becomes a place of **discovery and recovery**, a vibrant backdrop, an improvised photocall, a bucolic setting, a place for inhabitation, and the games of children.*

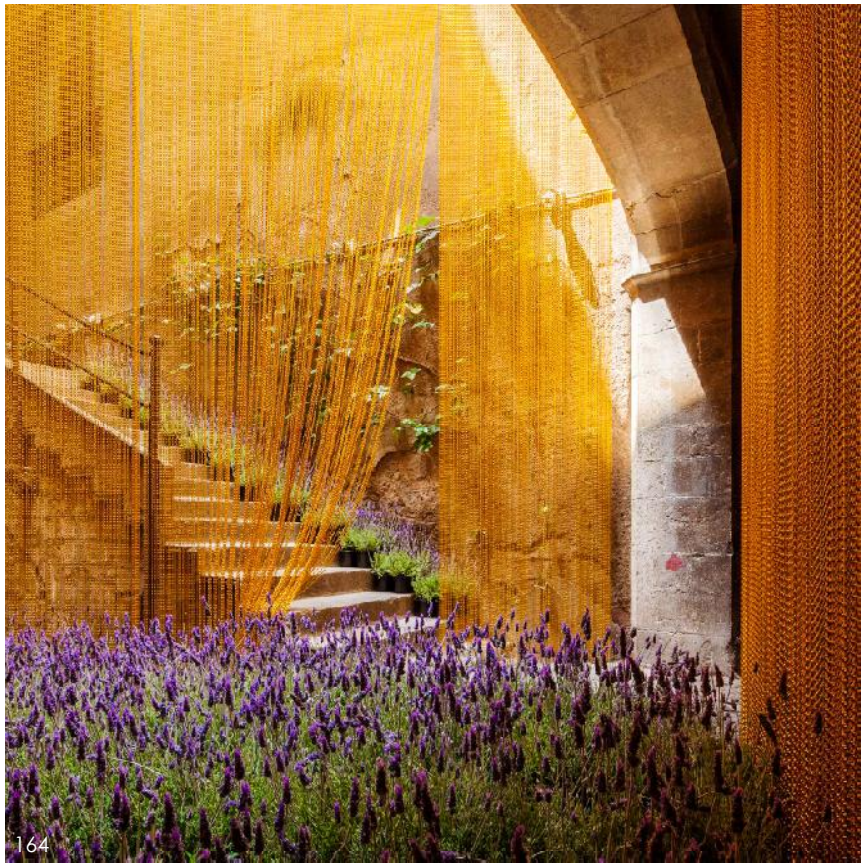
And finally, getting out, you glimpse up in the door a history lesson.

OMNES SOLUM FORTI PATRIA EST -
(THE WHOLE EARTH IS HOME FOR THE STRONG MEN)
Poet Ovidi (43aC-17dC) from his exile in Constantia"
(Fàbregas, P.S., 2013)



161









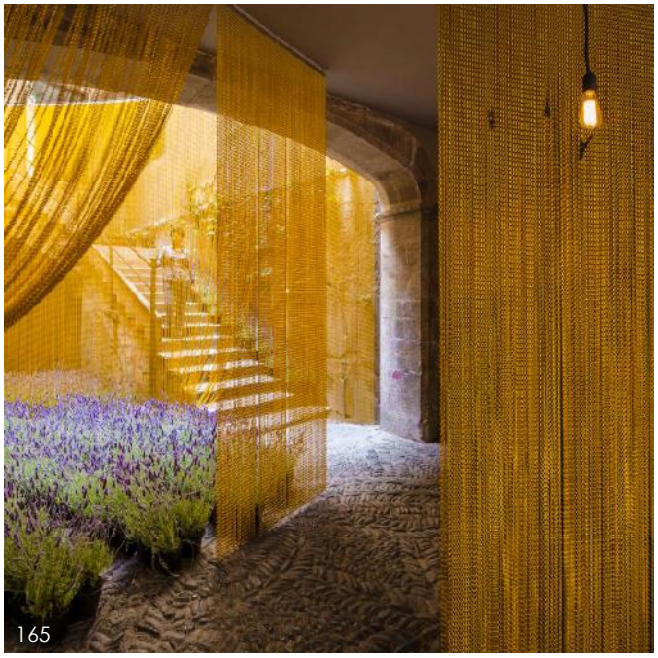
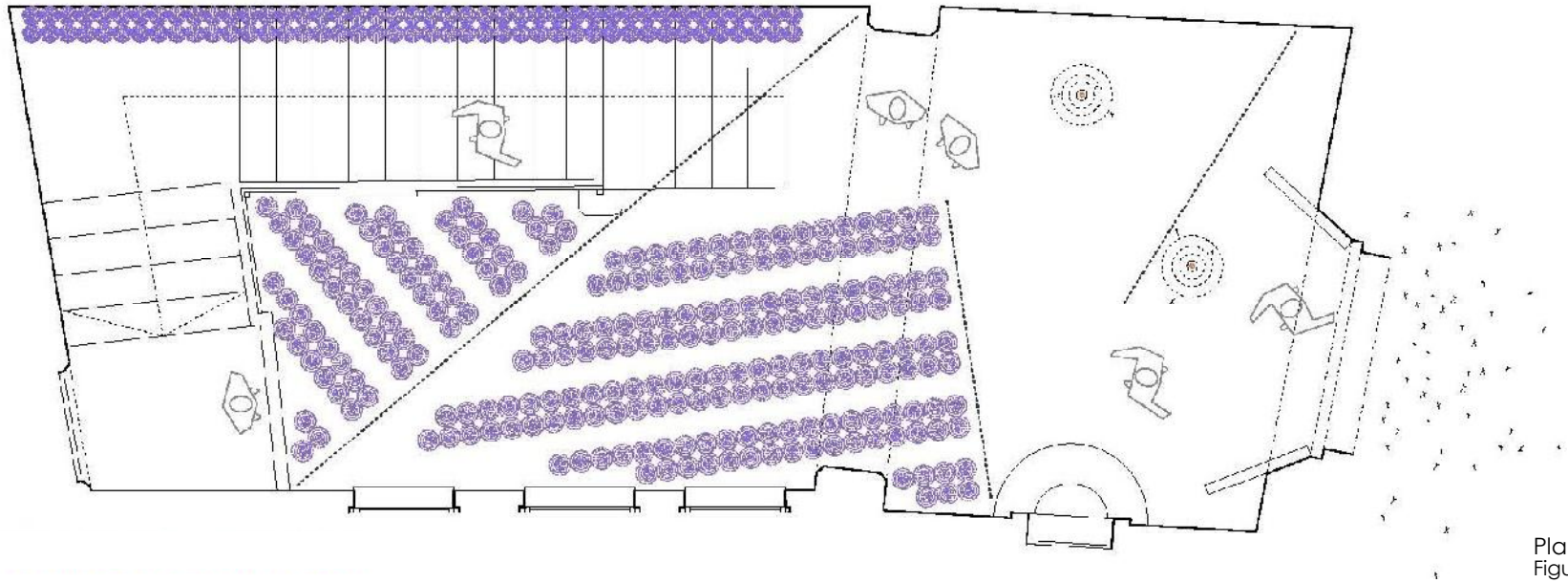


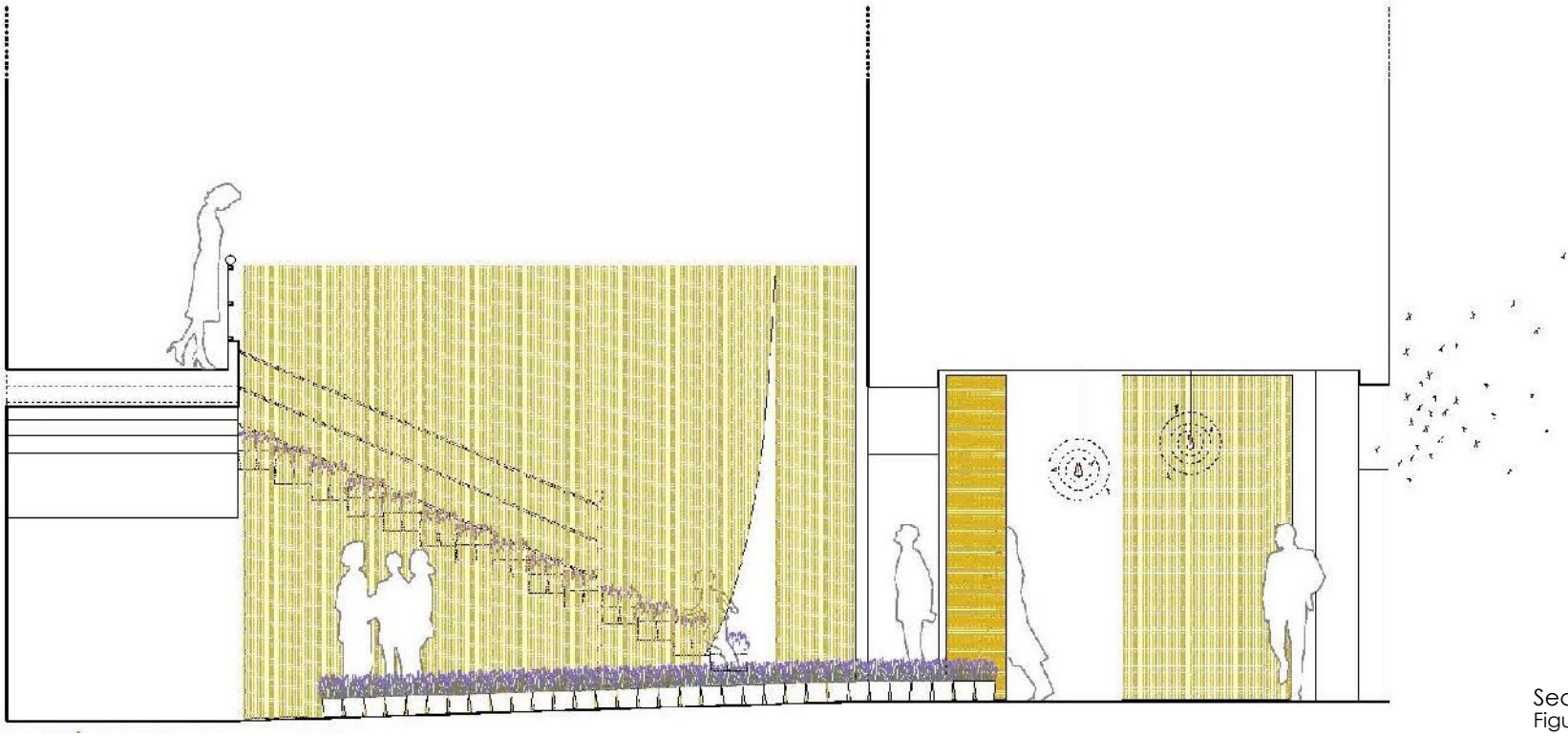
Figure 16-166: "Mosca" was part of the 58th Girona de Temps de Flors which is a popular flower festival held in Spain during May.

The Spanish Architects Pau Sarquella Fábregas and Carmen Torres created an installation at 13, Carrer de la Força, Girona which successfully plays with the senses. It boasts colour, smell, touch , sound, sight as the user passes through the installation.

The user is encouraged to discover the spaces through glimpses of the installation from various locations. (Pau Sarquella Fàbregas, 2013)



Plan
Figure 168



Section
Figure 169





Chapter 7

Space

Way - finding
Spatial Layout
A Case Study Based on Magda Mostafa's Research

Figure 170: By Author, Hoofd Street, Johannesburg

Space

Way Finding

Navigating through a building or public spaces may not be particularly difficult for a person who is able-bodied, but a lack of information through spaces or knowledge about the whereabouts may disorient or confuse such a person to some degree.

This is a significant aspect for a person with an intellectual disability in relation to accessing spaces on a day to day basis. Information regarding methods to get to public transport; entering a railway station; locating oneself in a railway station; determining the route to the location; disembarking at the correct stop; finding one's way from the drop off to the desired location; accessing the building and finding one's way through the building are all aspects which an able-bodied person may take for granted because of the ability to process information quickly. (Arthur, P. 1992)

However, these aspects can be particularly difficult and stressful for a person with an intellectual disability. As discussed previously, there are two levels of accessibility for a person with an intellectual disability, namely, **'emotional accessibility'** and **'physical accessibility'**. Both are equally important. The method of accessibility in which orientation or navigation eases the difficulty thus results in a positive emotion for a person with an intellectual disability when accessing such an environment.

The physical layout should be addressed as well as appropriate signage that is efficient, safe and easily legible. Spatial organisation is the primary tool in setting out an environment and creates ease for a user to navigate and cognitively map out the setting. Distinctive architectural features can define areas and help create orientation points. Destination zones like an amphitheatre, public restaurant or other centralised spots can help with orientation. (Salmi, P. 2008)

A major movement spine should be developed that is clear and straightforward, and can allow for other movement networks to branch off from it. (Arthur, P. 1992) Tools that are developed for sensory input can be methods in which way-finding can be established as well. These are colours, lighting, textures, sounds and smells. These sensory tools are most helpful in the recollection of a location for a person with an intellectual disability.

Centre for Scottish War Blinded by Page\Park

The Centre for Scottish War Blinded was designed by Scottish architects Page\Park in Wilkieston, Scotland and is for blinded sailors, soldiers and airmen.

The building's program incorporates a day care centre which is a comfortable and social environment. It also provides rehabilitation and life-skills assistance for ex-serviceman who are now visually impaired.

Inclusive design was at the forefront of the design process but due to the nature of the users of the building, the team needed to go much further than simply meeting basic requirements.

The building was designed greatly around the idea of way-finding where the users would need clues for orientation and navigation. The plan focuses on one generous circulation spine flanked by open plan arrangements. The circulation spine is placed near the external walls with smaller spaces which required enclosure for privacy and acoustic insulation in the centre of the plan.

The plan was designed to be as simplistic as possible so users could form a mental picture of the building which would allow straight forward navigation.

Figure 171: Way-finding graphics on the floor of The University of Technology Sydney.
Way-finding graphics are a common tool used to give information to a user on where they are and where they want to go. Colour coding can be used or alternatively Simplistic graphics can be used for people with intellectual disabilities which are easy to read and uncomplicated.



Figure 171

Other way-finding techniques were the use of bold colours (for those with slight visual impairments) and architectural gestures at doorways and changes in direction to further assist the users of the building.

The circulation spine which was made to be generous to allow for social activity to occur within it, has a continuous handrail down the one side to provide support and to act as a guide for the users of the building. (Page\Park, 2011)



Figure 172



Figure 173

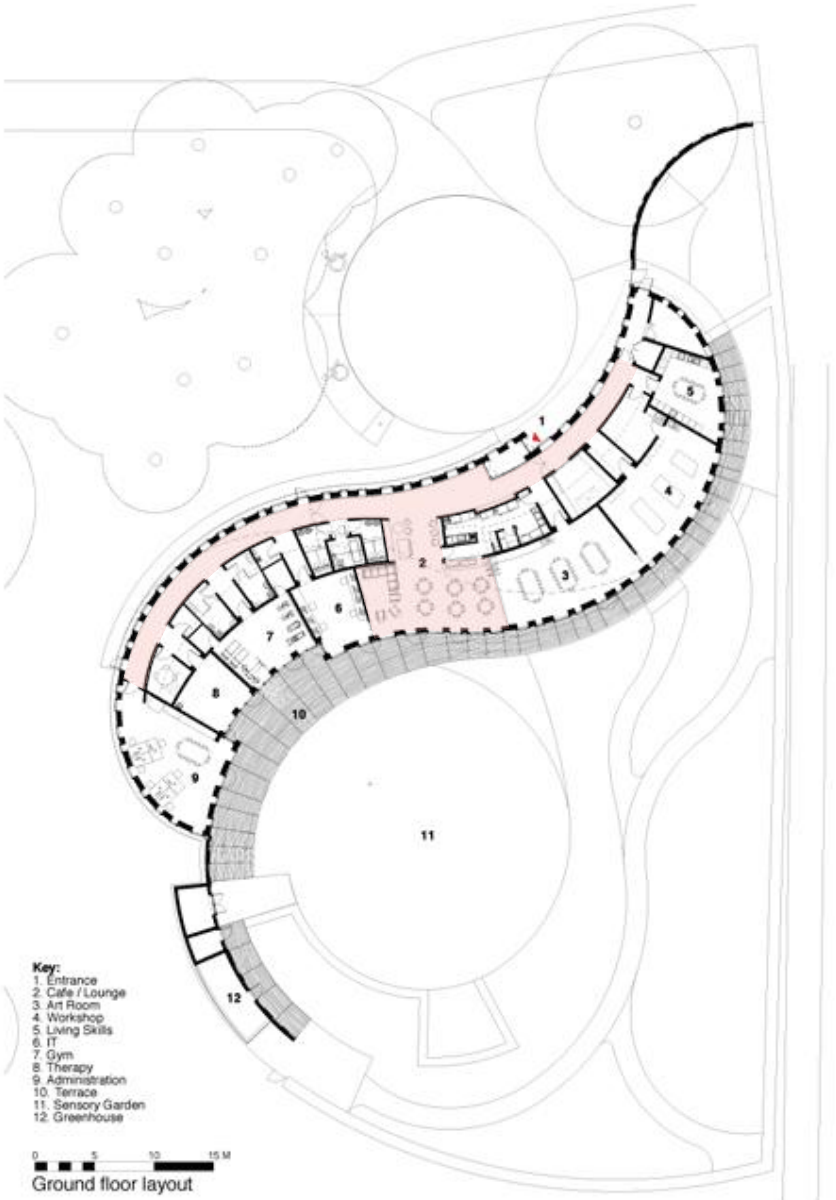


Figure 174

Figure 172, 173: The main circulation spine in the Centre for Scottish War Blinded which uses colour and breaks to help guide the users. It also has a continuous handrail to help with navigation through the building.

Figure 174: The plan highlights the main circulation spine with a communal social space breaking off from it.



Figure 175

Figure 175: A plan of Hazelwood School which was discussed under the section 'touch', indicates how the architect made use of one circulation spine which acts as a 'street'. The circulation spine makes use of a cork-wall (as discussed) and the main spine allows for easy and clear navigation and orientation through the building.

Spacial Layout

The design of a building that would be used by a person with an intellectual disability should create an environment appropriate for their needs, abilities and impairments. Emphasis should be on the design of certain aspects of the building in relation to creating stimuli conducive to learning, growth and development within the environment.

Spatial proportions need to be carefully considered for a person with an intellectual disability and a sensory impairment. Larger volumes may overwhelm users and affect their ability to navigate spaces. The increase in volume has a perceived negative acoustic quality. A person who has a visual impairment is unable to process and 'read' a larger space and this can cause confusion and disorientation. (Vavik, T. 2009)

An effort should be made to avoid designing a building with a distinct institutional quality to it and instead the design should encompass spaces that have an informal environment where the users can engage with one another in various ways. This can be done by avoiding rigidity in the planning as well as through the use of materials, colour, various stimuli and form.

Another method to avoid institutional qualities could be by incorporating **landscaped areas** through which users of the building transition into different spaces within these landscaped areas. It is an aid wherein outdoor spaces are especially favoured and found amenable by people with intellectual disabilities. It reinforces social interaction between the users distinctive from the stricter learning environment. As much attention should be given to the design of the outside spaces as is given to the interior spaces. (Vanston & Rorke, n.d.) Exposure to outdoor spaces have been shown to allow for easier adjustment to mainstream environments. The outdoors have also been shown to restore mental focus. The use of courtyards can help users with intellectual disabilities to easily transition between the inside and outside. It can act as a pause area to adjust or to break away from inside spaces.

Green spaces can be defined by designing a series of multiple buildings that still have the potential to link to one another. A greater variety of spaces can be designed by creating more than one building where intentional programming can occur within the different spaces. It also provides an opportunity for public and private programming to be separated but still be accessible by all. (Latini, C. C. 2012)

Green Sweetwater Spectrum Housing

Green Sweetwater Spectrum Housing was designed by Leddy Maytum Stacy Architects and is located just outside of downtown Sonoma, California. The housing addresses the domestic and social needs of adults with autism, allowing these individuals to develop and gain independence. Sweetwater Spectrum provides housing for sixteen adults and has a pool, community centre, an orchard and organic gardens.

The architects are aiming for LEED Gold certification for the project, which is also a PG&E Zero Net Energy Pilot Project that will produce all its own energy to operate the buildings. The buildings' design makes use of natural ventilation, daylighting, high R-value insulation in walls and roofs, high-performance insulated windows, low-reflective "cool" roofs, solar tube skylights at interior halls, solar shading, energy efficient lighting, appliances and mechanical systems, induction cook tops, and a building management system. The onsite organic gardens helps provide food for the community and sustainable landscaping with drought tolerant plants and bioswales minimizes water use and runoff.

The concept behind the design of the building was to design a place of serenity and clarity with a strong connection to nature. Not only would this significantly benefit users who have autism, these are universal principles that any person could relate to and benefit from. The building makes use of non-obtrusive thresholds where the users can interact at levels in which they find most comfortable.

The design is focused around courtyards and open gardens. These spaces allow for progression between public, semi-private and into private spaces. Benches within the gardened areas allow the users of the buildings to make use of the outdoor areas, either alone or with company but in a way that allows for conversation without eye-contact if the user chooses against it. (Leddy Maytum Stacy Architects, 2015)



SITE PLAN
1 WELCOME BUILDING **2** PARKING **3** HOUSE **4** STORMWATER TREATMENT BIO-SWALE **5** COMMUNITY CENTER **6** THE COMMONS: PLAZA & LAWN
7 THERAPY POOL & SPAS **8** ORCHARD **9** TRASH **10** STORAGE BUILDING **11** IRRIGATION WELL **12** GREENHOUSE **13** ORGANIC FARM **14** FIRE ACCESS ROAD

Figure 176

Figure 176: A plan of Green Sweetwater Spectrum Housing in California was designed around courtyards and open gardens to allow for a strong connection to nature which would benefit users with autism. The courtyards create transition zones between public, semi-private and private spaces.













Figure 177-181: Green Sweetwater Spectrum Housing in California was designed around courtyards and open gardens to allow for a strong connection to nature which would benefit users with autism. The courtyards create transition zones between public, semi-private and private spaces.

Consideration should be given to whether the building would need to be changed after time, so that it may accommodate more users or a greater range of users, or possibly changes or expansion of the programme. (Vanston & Rorke, n.d.)

Safety through design decisions need to be well thought out as people with intellectual disabilities may not be as responsive to emergency situations, or may not be able to follow directions as quickly as an able-bodied person. In particular, special consideration should be given to the exits for evacuation and discharged as close to the ground as possible to minimise the amount of steps required.

Materiality and finishes need to be functionally appropriate in the areas involved. The materials used for a building for an able-bodied person need not differ greatly to that of users with an intellectual disability and care should be given to the colour and feeling to create meaningful stimuli. The floor finishes should be such that avoid slipping and are important consideration for people with intellectual disabilities who may have physical impairments as well.

Persons with intellectual disabilities are most productive and comfortable where there is a sense of structure and stability in their surrounding environment and lends itself to familiarity and ease. The change in an environment, new situations and shifts in routine can disorientate and distract a person with an intellectual disability. This means that the structural layouts and the activities or program that occur in the different parts of the building should be fixed notwithstanding the need for **versatility** within the spaces. Educators would be able to rearrange spaces at the start of the year to fit in with the needs of the students and thereafter little changes should be made. It can also allow for one space to have a variety of functions such as classroom which has the usual desk layouts, and then additional areas where group activities could occur within that space. (Latini, C. C. 2012)

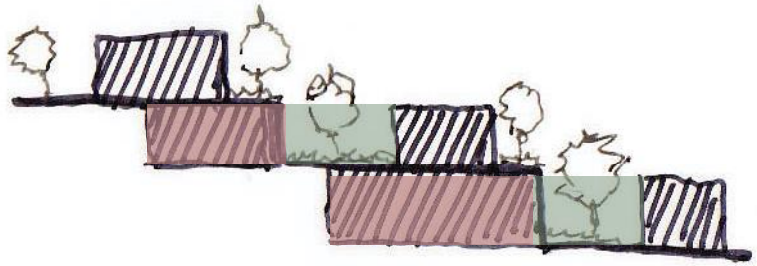
The 'Cells & Bells' model for learning follows a design principle that classrooms are organised along the edge of a linear corridor. (Latini, C. C. 2012) Architecture has since transitioned from this model where a school or other educational facility should be a small learning community. This implies that the corridor now becomes a **'learning street'** where communal gathering occurs. A well-articulated 'corridor' is fundamental for people with intellectual disabilities in **way-finding** where it indicates the direction of movement to avoid confusion. The **break-away spaces** can be created along the corridor. These spaces can be used for various programs where learning could break away from the stricter classroom set up and occur within these gathering spaces. This allows for diverse educational practices ideal for users who have intellectual disabilities. These communal gathering spaces within the corridors should however not differ greatly from one another as it can cause confusion or disturb the students. Standard layouts of these communal spaces, breaking off of classrooms that connect to the main circulation spine can be used as pause spaces or alternatively as spaces where learning activities could occur. This has been proven to be most beneficial for learners with autism. (Latini, C. C. 2012) The informal break-away spaces along the corridor can also allow for engagement between students and act as areas in which students can gather during breaks as an alternative to the outdoor area.

The use of **escape spaces** within classrooms is also essential. A person with an intellectual disability may become overwhelmed at some point during the course of the day. A more relaxed space can be created where the user could 'escape' to and regather his or her thoughts before returning to the classroom and is especially important for a person with autism. The space is best suited to be informal with casual seating which could alternatively be used as a social space or a more private space during lunch breaks for people who want a more intimate setting to relax in.

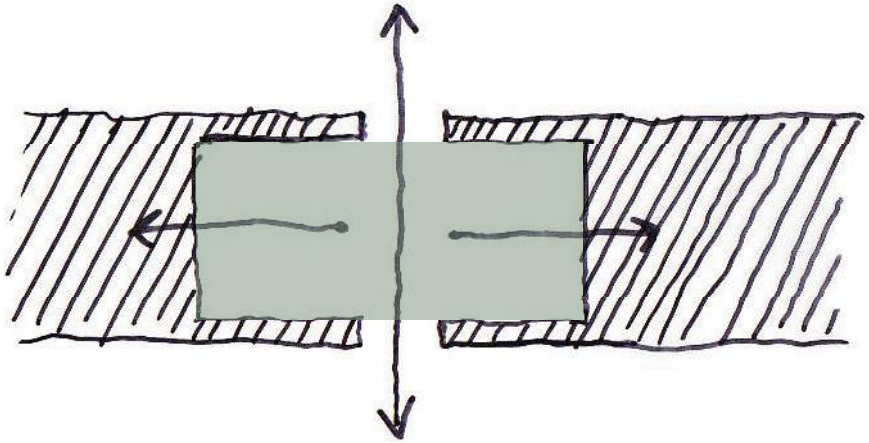




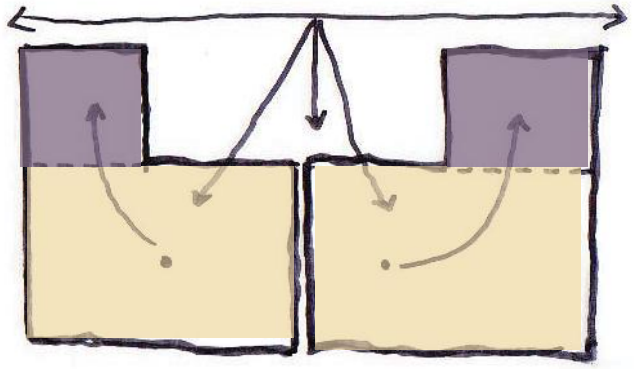
Figure 182, 183:
Green Sweetwater Spectrum Housing. The design incorporates spaces in which users can 'escape' to that are quieter where they are able to relax, read and are not forced to interact with others (Image 205). Image 208 shows a communal social space that breaks off from the main circulation spine that runs through the building.



Landscaped areas between buildings allowing for a connection the natural environment



The use of courtyards can help users with intellectual disabilities easily transition between the inside and outside.



The use of escape spaces within classrooms. A more relaxed space can be created where the user could 'escape' to and regather their thoughts before returning to the class.

Advance School for Developing Skills of Special Needs Children in Qattameya, Cairo

Magda Mostafa was commissioned in 2002 to design Egypt's first educational centre for persons with autism. After extensive research she was faced with the challenge of virtually no guidelines and accessibility codes outlined and that was not expected as it is estimated that one in every 88 children falls within the autism spectrum.

Mostafa was forced to establish her own guidelines through evidence gathered throughout her studies. She named these guidelines 'The Autism ASPECTSS™ Design Index" and was completed in 2008. It was one of the first design criteria set out in a prospective. The guidelines were aimed at users who had difficulty integrating sensory information and dealt best with aspects such as consistency and routine. (Mostafa, M. 2013) This meant that not only users who had autism would benefit from it, but a range of people with intellectual disabilities as well.

The criteria set out by Mostafa are as follows: acoustics; escape spaces; spatial sequencing; transition spaces; compartmentalization; sensory zoning and safety. (Mostafa, M. 2013)

An important factor to keep in mind is the integration into mainstream environments after being exposed to environments that are favourable for people with intellectual disabilities. Mostafa deals with this within the Index where she addresses how users may thrive in the environments designed for their needs but then fall apart and lose their skills when integrated into 'normal' environments. She proposes a gradual weaning-off of the application where it is no longer strict but allows the users to gradually adjust their skills in less controlled environments. (Mostafa, M. 2013)

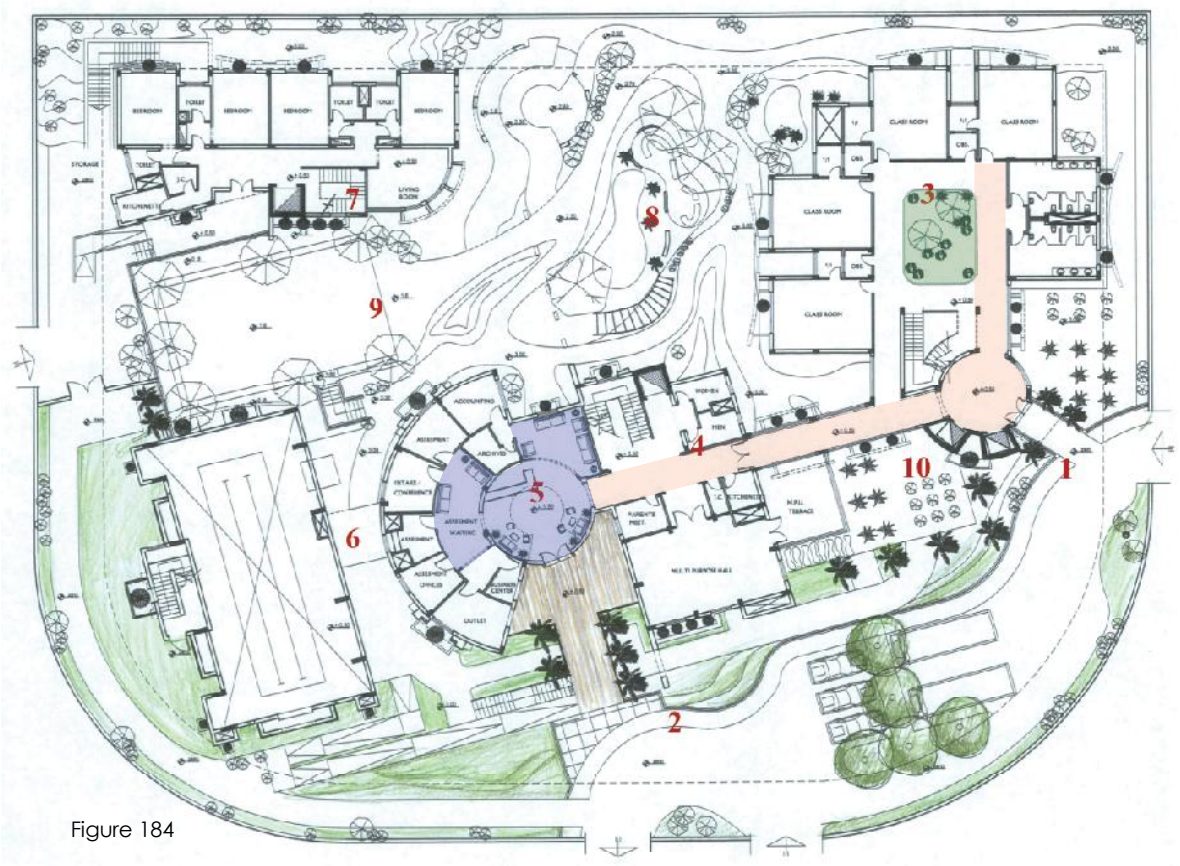


Figure 184

Figure 184: Drawing for the Advance School for Developing Skills of Special Needs Children in Qattameya, Cairo, the first building worldwide to be designed using the Sensory Design Theory and its consequent Autism ASPECTSS Design Index. Image Courtesy of Progressive Architects, Cairo.
Red highlights the circulation route.
Blue highlights social space leading onto therapy rooms.
Zone 5- High Stimulus
Zone 3- Low Stimulus
Zone 8- Transitional (Sensory Garden)


MELLE
ST



Chapter 8

The Site

Introduction to the Site
Urban Analysis
Context Analysis
Site Analysis

Figure 185: By Author, Melle Street, Johannesburg

Introduction to the Site

The site is located on Melle Street, Braamfontein. The site is between National School of the Arts and Rand Meisie Skool where it is currently an unused sports field.

Braamfontein is situated north of the city centre. It is the fourth largest node supplying office space in the city of Johannesburg. It is inked to Newtown by the Nelson Mandela Bridge which forms the "Cultural Arc".

The site is situated on the edge of the two suburbs, Braamfontein and Parktown where it acts as a bridge between various contextual conditions. The Braamfontein Management District has ensured a significant renewal of Braamfontein which is part of the central cultural precinct in Johannesburg.

Located in Braamfontein are several educational institutions ranging from primary to tertiary and other educational programs. The site sits in heart of these educational institutions.

The main factors which were taken into consideration on selection of site were: accessibility to the site from all parts of Johannesburg; the connection to a business district so that companies could plug into the centre and vice versa; and a connection to other educational institutions whereby the centre would be in close proximity to universities and schools to allow for integration and for optimum use, whereby education facilities could link into this program. This will allow for social cohesion through exposure between the users of the building and other students in the surrounding area.

The site which was eventually selected complied with all the relevant requirements. It links to the Johannesburg CBD which allows for exposure to many companies, both public and private and will especially be accessible to government institutions. The site could be accessed by various transport modes all through Johannesburg. The site is immediately surrounded by the National Arts School, Rand Meisieskool, Johannesburg Hospital School, Parktown Boys High School and Helpmekaar College. University of the Witwatersrand is a few blocks away from the site and there are various other colleges and programs within Braamfontein.

Large scale commercial development was highly encouraged in Braamfontein during the apartheid era. Following the end of apartheid there was an exponential deterioration of the area. This brought about a need for intervention where the City of Johannesburg and large corporate businesses under the name of Braamfontein Management District jointly agreed to create an urban renewal project within Braamfontein. The area now sits as a major corporate district, cultural hub and educational centre.

The site is bordered by Empire Road to the north, Hoofd Street to the South, Jan Smuts Avenue to the west and Joubert Street to the east.

The site being on the Braamfontein ridge overlooks onto Parktown, with a view of both the Sentech Tower and the Hillbrow Tower. Glimpses of northern suburbs are visible from various angles on the site. The site boasts opportunities to make full use of these magnificent views of the city.

Figure 186: Africa
Figure 187: South Africa
Figure 188: Gauteng
Figure 189: City of Johannesburg



Figure 186: Africa

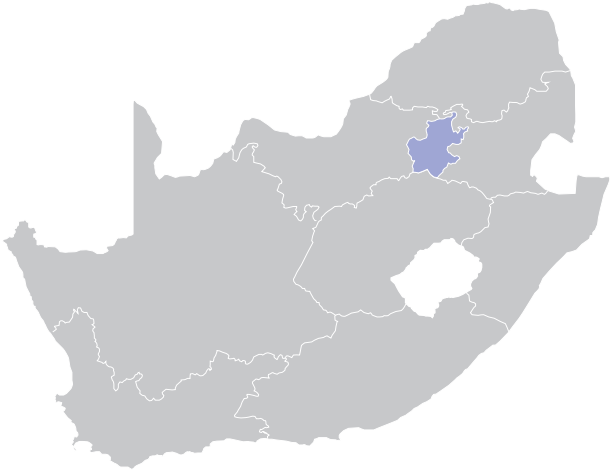


Figure 187: South Africa

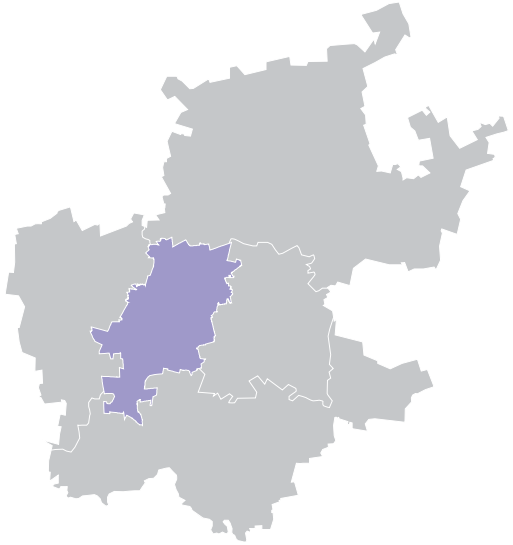


Figure 188: Gauteng

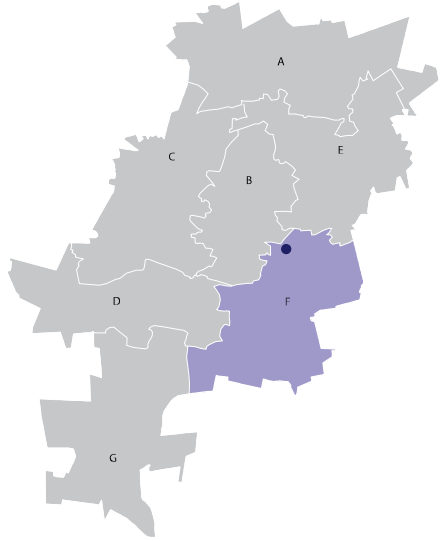


Figure 189: City of Johannesburg



Figure 190

Connectivity in the city of Johannesburg

This map shows the transport connections through the City of Johannesburg. It is clear that the Johannesburg CBD and surrounding areas are best connected and easily accessible to people all through Johannesburg. Both National roads, main roads and railway lines pass through or near to the Johannesburg CBD as well as Braamfontein.

The various layers of information were gathered from the GCRO GIS layers; Stats SA; Maps Alive;
Sources:

Unemployment rates- Cencus 2011, Maps alive presented by Statistics-South Africa

http://www.world-data-atlas.com/statssa/

Roads and Railway- GCRO GIS through the course ARPL 7001(Advanced Digital Applications)

Employment Status in the city of Johannesburg

This map indicates the rate of unemployment in the City of Johannesburg. The University of Johannesburg's Centre for Social Development in Africa (CSDA) released data that showed 68% of adults who have a disability in South Africa have never gone out to seek employment and many persons who have found work are in many cases exploited. According to the CSDA, persons with intellectual disabilities continue to face challenges in finding employment similarly to that of the past. There is a huge need for fair and equal opportunities for people with intellectual disabilities to enable integration into the working world.

The map highlights areas where employment opportunities are high and indicates that the Johannesburg CBD feeds into a context that is largely employed. The Northern suburbs as shown in the map, is increasingly transforming into the business and financial district and has the highest employment rates although it is not as well connected to other parts of Johannesburg in terms of transportation and distance. The most southern areas have much higher rates of unemployment and are poorly connected to other surrounding areas.

The social and economic issues that arise from the high rates of unemployment in Johannesburg are to a great extent visible and bear a heavy burden on the city. Permanent employment in the formal sector is vital for sustainable improvement in the standard of living as well as all forms of integration in the society. Economic growth throughout Johannesburg should also allow for an improvement in the distribution of income.

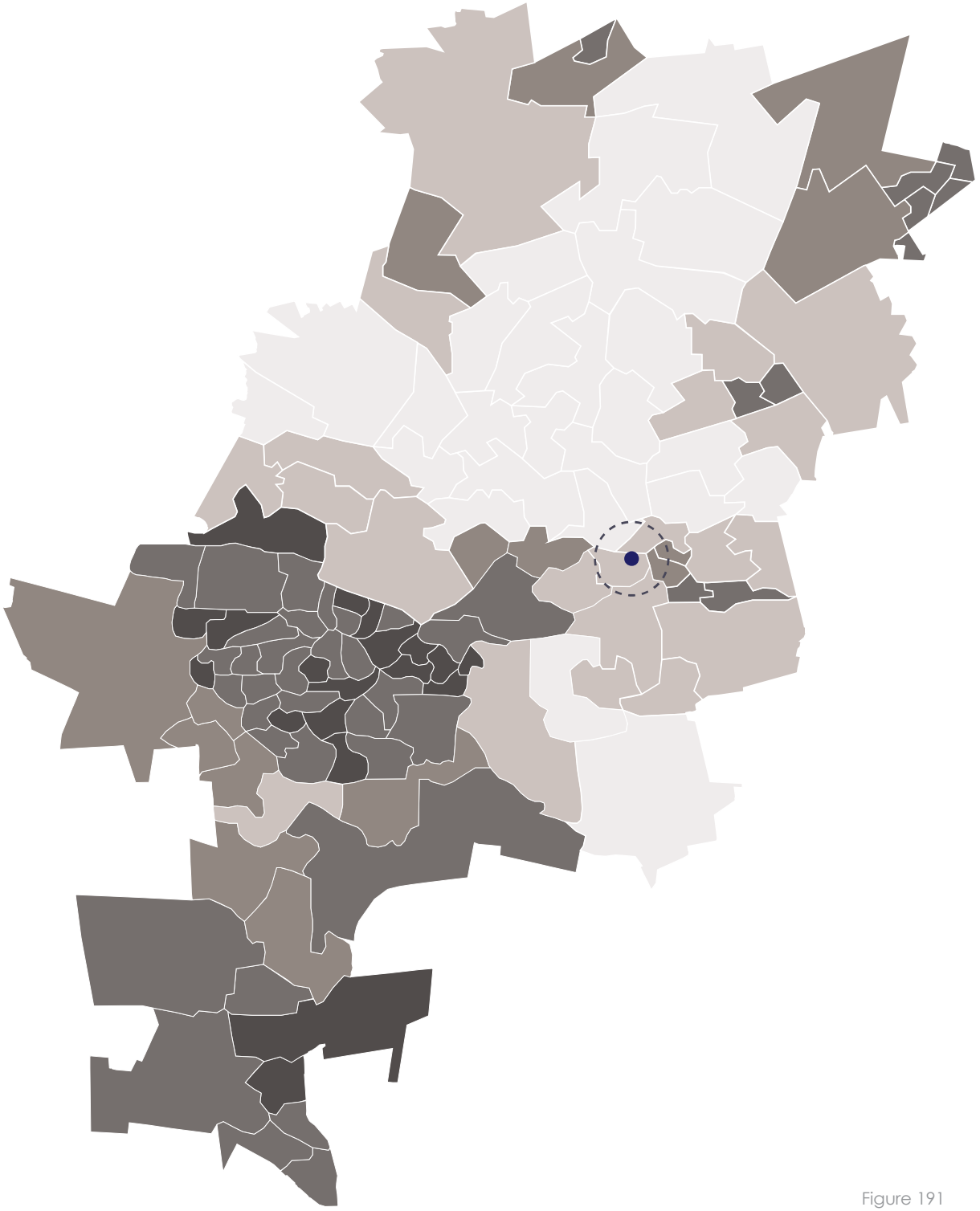


Figure 191

Built Form

The building's placement within Braamfontein allows accessibility throughout Johannesburg both visually and physically. It is accessible to all students in the surrounding area, educators, employers, employees and any other person of the public. The building is situated amongst several educational institutions.

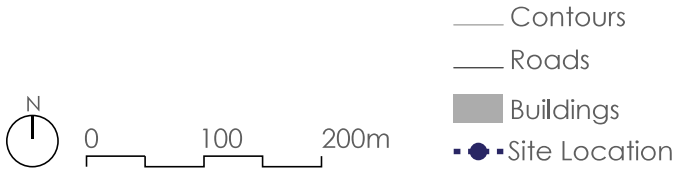


Figure 192



Figure Ground

The buildings in the immediate surroundings of the site are all of educational typologies. The configuration of these buildings allows for much more space between it and it also makes way for the sports fields used by the schools. This is especially clear to the north of the site. To the west of the site is University of the Witwatersrand where the buildings are much larger. More dense buildings are visible to the south of the site as they spread further into the inner city. Larger buildings are to the east of the site making up Constitutional Hill.

The site is situated in what is currently an open space (unused sports field).



Figure 193



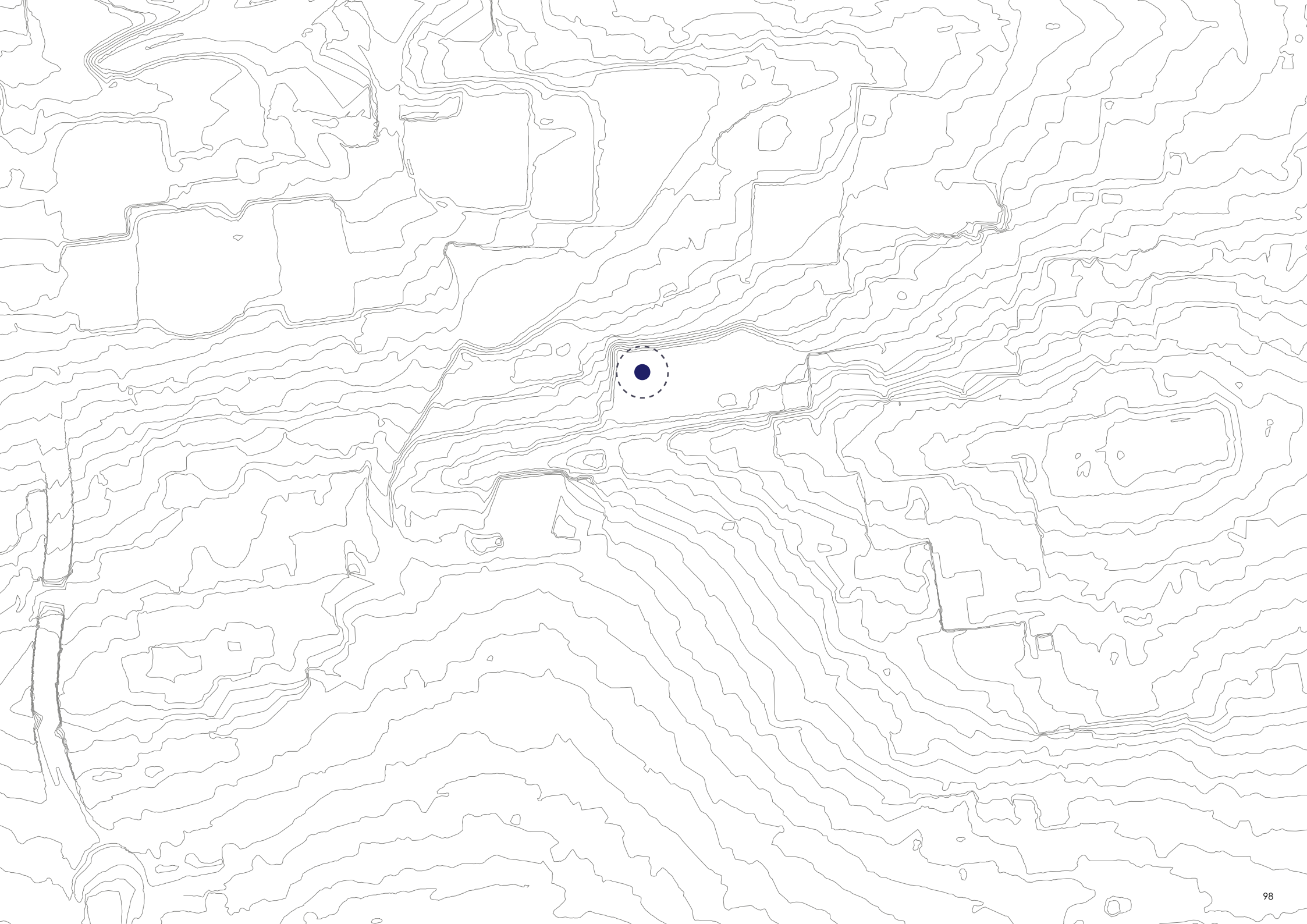
Topography

The site is situated on the Braamfontein ridge. The contour pattern surrounding the edges of the site is very abrupt because the site was made flat for the intention of a sports field for NSA. The field is however not made use of.

The highest point of the site is to the South of the site, and a large embankment runs along the west and north of the site. Other areas which are relatively flat within the immediate context are also for the use of sports fields by the surrounding schools.



Figure 194



Road Network

The map outlines the accessibility to national roads as well as important roads within the immediate context of the site. To the west of the site is the M1 highway. The site is situated between important road networks which makes is easy to access. It is also close to Park Railway Station and connected via the Rea Vaya (urban transport) to other parts of the city.

The M1 highway is the primary vehicular link between the north and the south. It links Braamfontein and surrounding areas to Rosebank, Sandton, Midrand and Pretoria. Other primary links are Jan Smuts Avenue – Nelson Mandela Bridge leading onto Ntemi Piliso Road (formerly known as West Street) because it links the CBD and Braamfontein to the Northern suburbs and for its link to the M2 highway towards the south. Harrison Street and Queen Elizabeth Bridge are also north-south connectors as it connects the city to Braamfontein, Metropolitan centre and the High Court and for its link to the M2 highway towards the south. Rissik Street connects the Gauteng legislature to the Metropolitan centre.

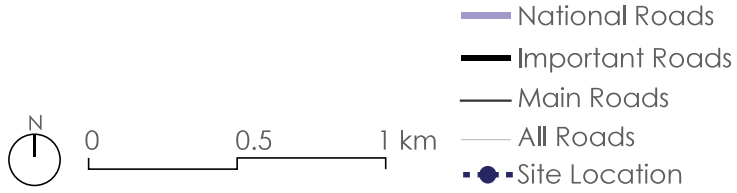
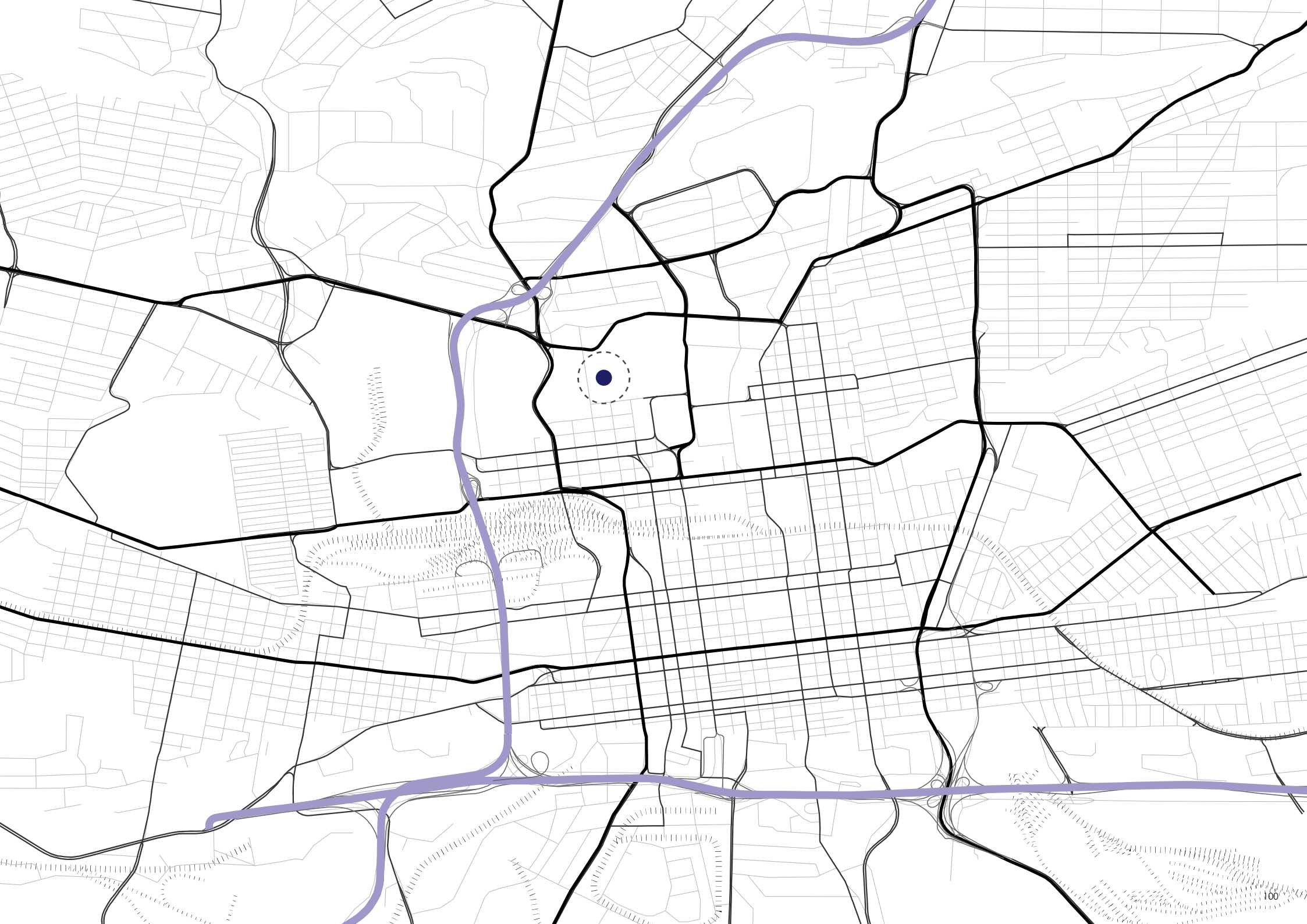


Figure 195

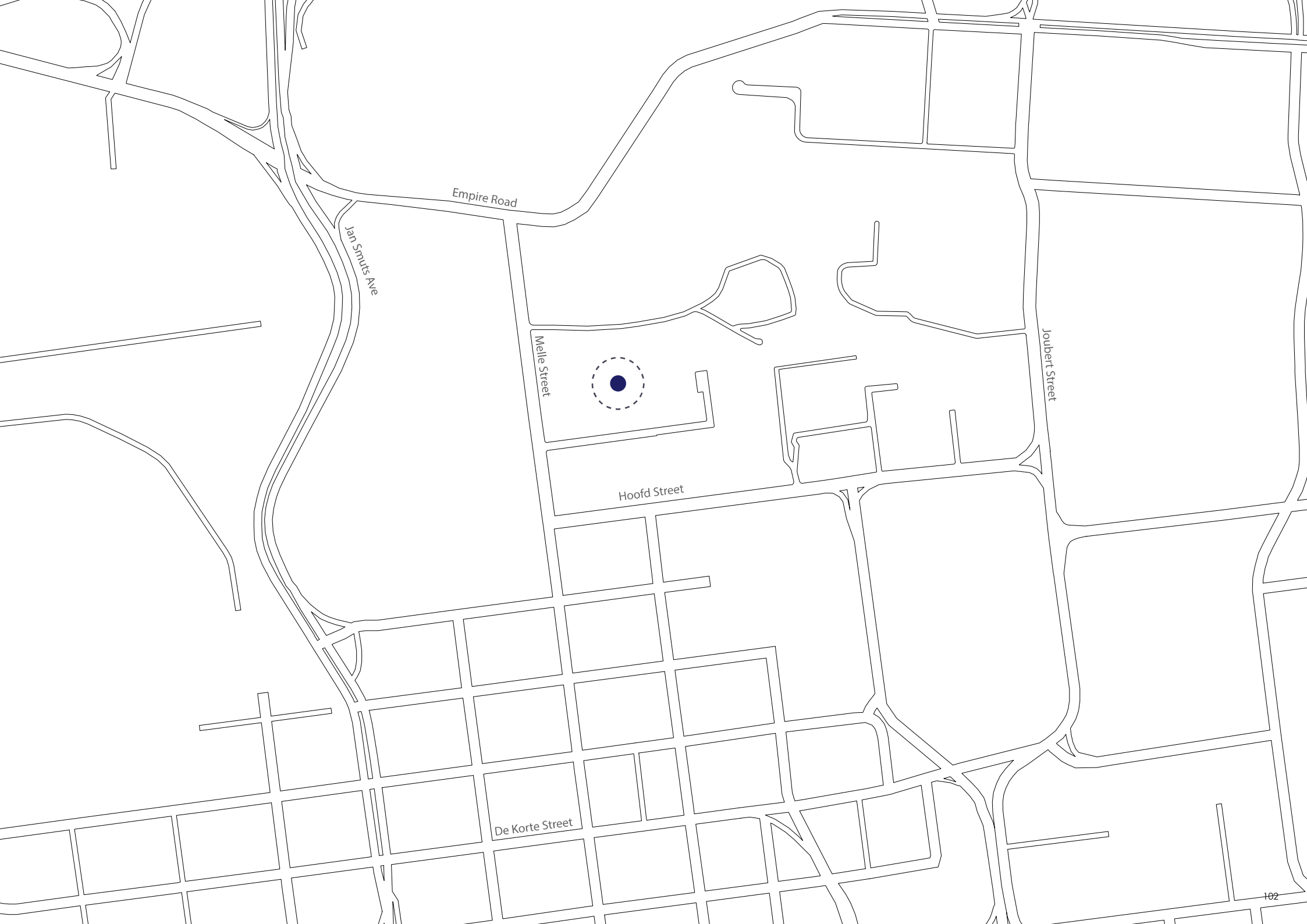

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Vehicular Accessibility

The buildings placement on Melle Street ensures total accessibility for anyone arriving by a vehicle. The site is easily accessed by cars, buses, taxis, bikes from all parts of Johannesburg onto Melle Street. The main roads which give access to the site are Empire Road and Jan Smuts Avenue.



Figure 196


Empire Road
Jan Smuts Ave
Melle Street
Joubert Street
Hoofd Street
De Korte Street

Urban Edges

The main urban edges along the site is Empire Road to the north, De Korte Street to the south, Jan Smuts Avenue to the west and Joubert Street to the east.



Figure 197



Pedestrian Movement

The buildings placement on Melle Street ensures total accessibility for all students, employers or employees as well as anyone of the public. It is within walking distance from several bus and railway stations. There is a high level of pedestrian activity all through Braamfontein where people access public transport to all parts of Johannesburg. It is expected that many of the people who use the building would access the building at some point on their journey via foot. Since the site is surrounded by schools it has a high population of scholars walking in the area.

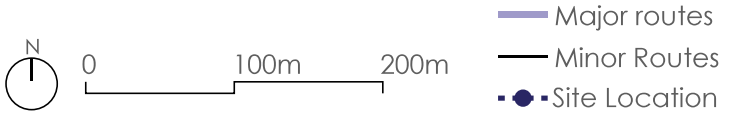


Figure 198



Public Transport Movement

The site is within a few meters walking distance from various public transport stops. The main vehicular movement on public modes of transport is taxis and buses. There are several bus stops in close proximity such as Metro stops, Rea Vaya terminus as well as Gautrain terminus. Public transport is used largely by the people working in and around Braamfontein; Park Station is a few blocks away from the site.

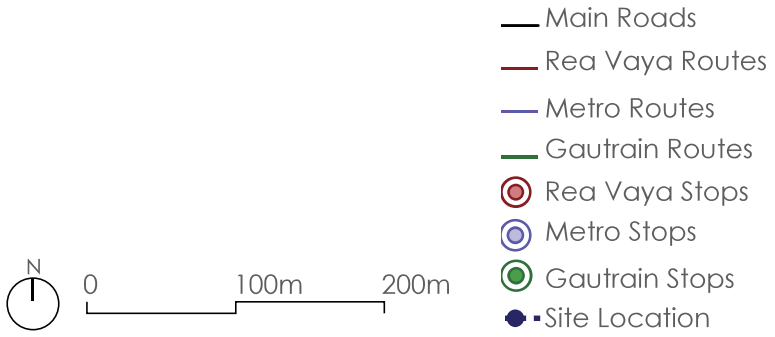
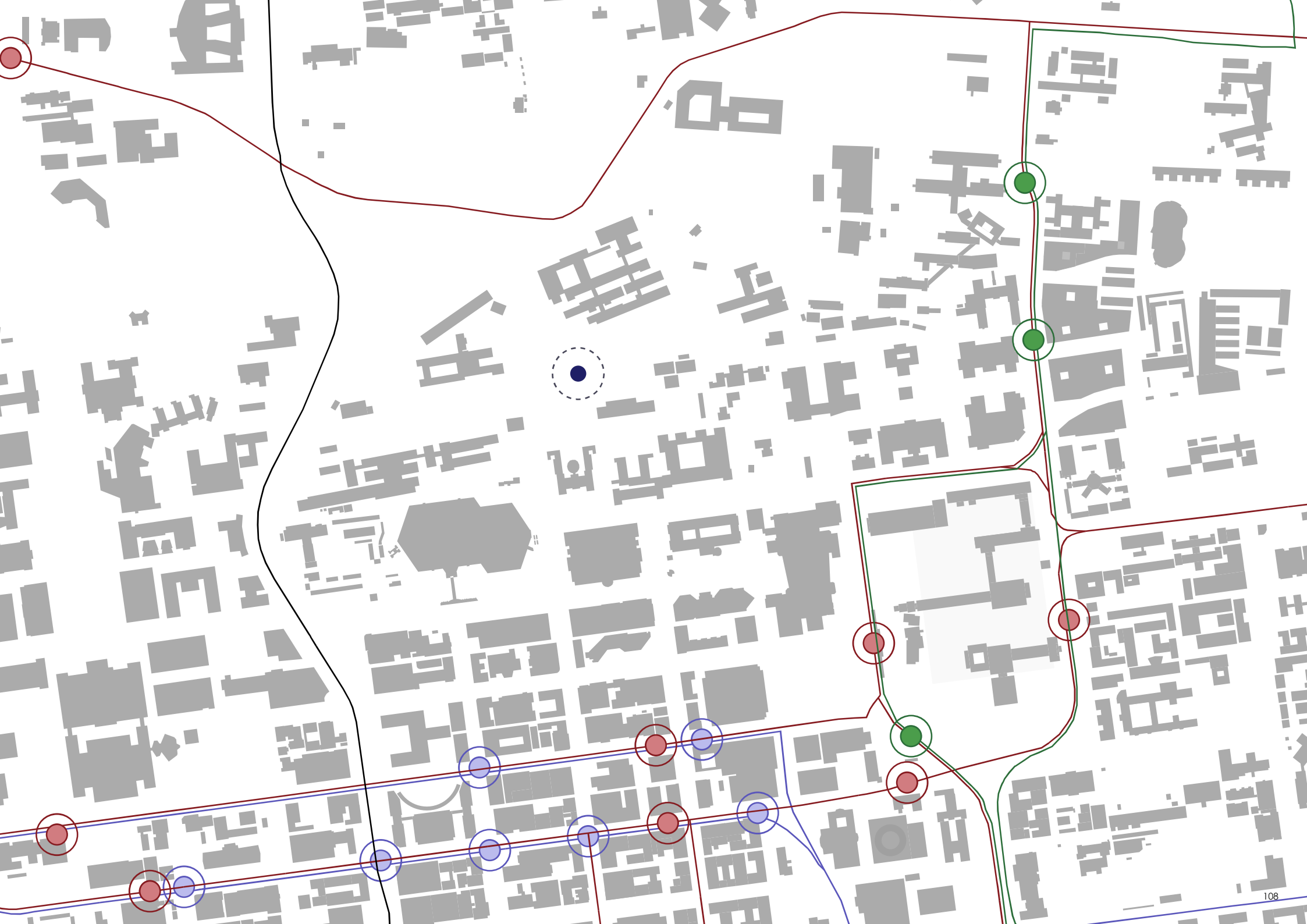


Figure 199


108

Zones

The Constitutional Hill precinct houses important heritage buildings such as the Old Fort. It is made up of the Constitutional Court, accommodation for the Constitutional Commissions and commercial space for retail and hospitality activities. The precinct also hold super-basement parking bays and bus and taxi holding and drop off facilities. Internal streets have been upgraded and various cultural activities have been made available within the precinct.

City of Johannesburg Metropolitan Municipality is situated within the civic precinct in Braamfontein along with the Braamfontein Public Park and the Johannesburg Civic Theatre Complex.

The Hillbrow Health precinct is a medical research precinct. It focuses on STDs, HIV/AIDS and TB, family planning and support services for children, primary care services and legal and social services. The project has been a partnership between the City of Johannesburg, Gauteng Health Department and the University of the Witwatersrand.

The Braamfontein Management District (BMD) is an area identified as part of the regeneration initiative by the Johannesburg Development Agency and property owners. Through the establishment of the BMD, the area has been transformed into a safe and very active corporate district, educational centre and entertainment and arts hub.

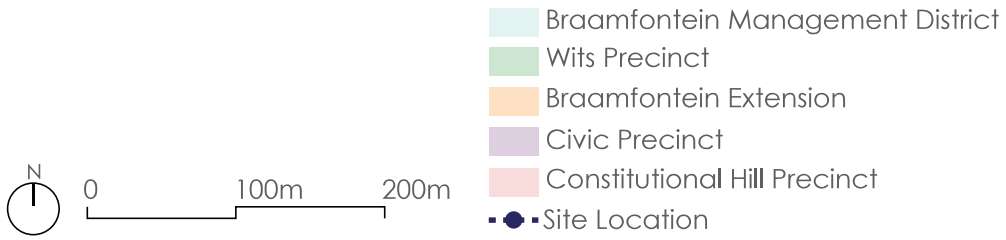
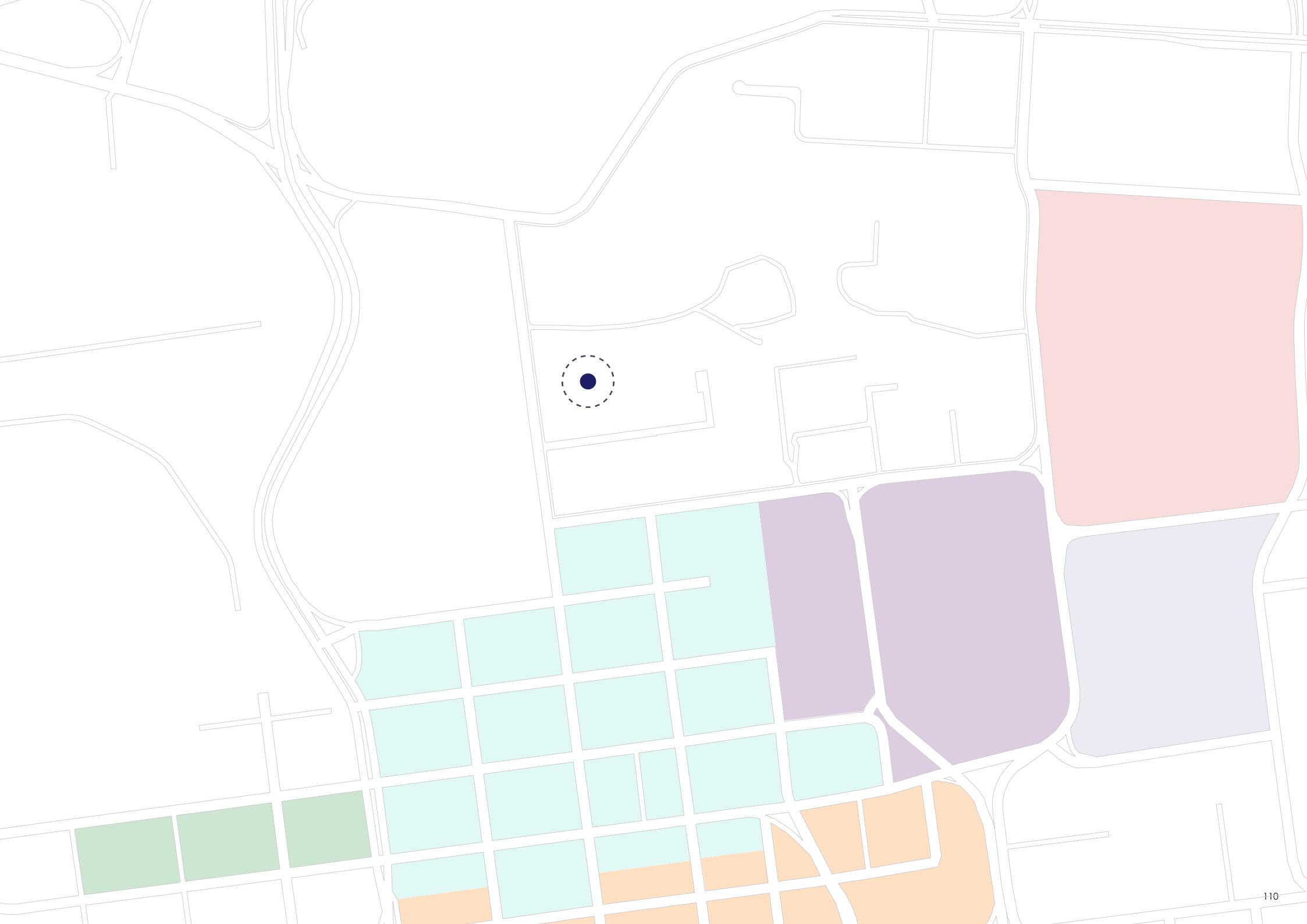


Figure 200



Buildings of Importance / Educational Institutions

1 - University of the Witwatersrand
2 - Supreme Education Campus
3 - Education Lab
4 - Vaal Technology Institute (Pty)
5 - Spectrum Graduate School of Business
6 - Richfield Graduate Institute of Technology (PC Training & Business College)
7 - Johannesburg Institute of Engineering and Technology
8 - Sexual Harassment Education Program
9 - Lyceum College
10 - Profound Tutoring and Career Guidance
11 - Damelin
12 - Johannesburg City College
13 - Boston City Campus
14 - Helpmekaar College
15 - National School of the Arts
16 - Rand Meisie Skool
17 - Parktown Boys High School
18 - Johannesburg Hospital School
19 - Children's Memorial Institution
20 - Parktown Primary School
21 - Roseneath Primary School
22 - Liberty Centre, Head Office
23 - The Joburg Theatre
24 - Johannesburg City Council
25 - Constitutional Hill
26 - Damelin School of Banking

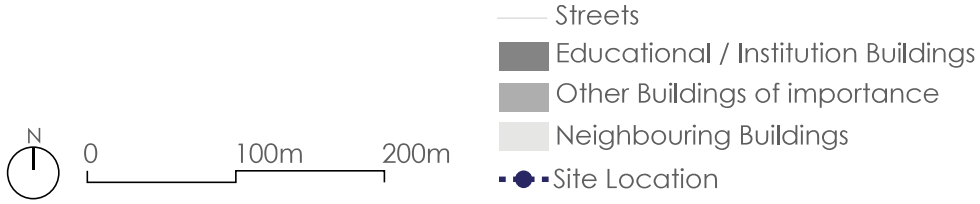


Figure 201


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Site Analysis

As discussed the site was chosen for its integration into an already educational setting, it's proximity to the Central Business District and the accessibility to Braamfontein from most parts of Johannesburg.

The site, which is currently underutilised and left neglected, boasts the potential to become a focal point in the area. Through the current conditions of the site being the topography and the views that are allowed of Johannesburg, the building can maximise on these factors which also ensure that the needs of the users are respected and taken into consideration when designing.

The site has a serene feeling to it due to the expansive views of Johannesburg from the edge of the site. It has the potential to create a safe environment for its users, but also ensure that the building allows for integration and access to everyone of the public which promotes inclusion. It can become a focal point along the Braamfontein ridge where it becomes visibly accessible as well as physically accessible to all.

Figure 202: Collage of site- sports field of NSA on Melle Street, Braamfontein.




Northern edge of site looking onto Rand Meisieskool
National School of Arts
Johannesburg City Council
Joburg Theatre
Bidvest Bank
NSA
Drama Department of NSA
Stairs and Seating leading onto site from NSA
Apartments
Libridge Building
Entrance to NSA
Fence along Melle Street

Figure 203

Topography

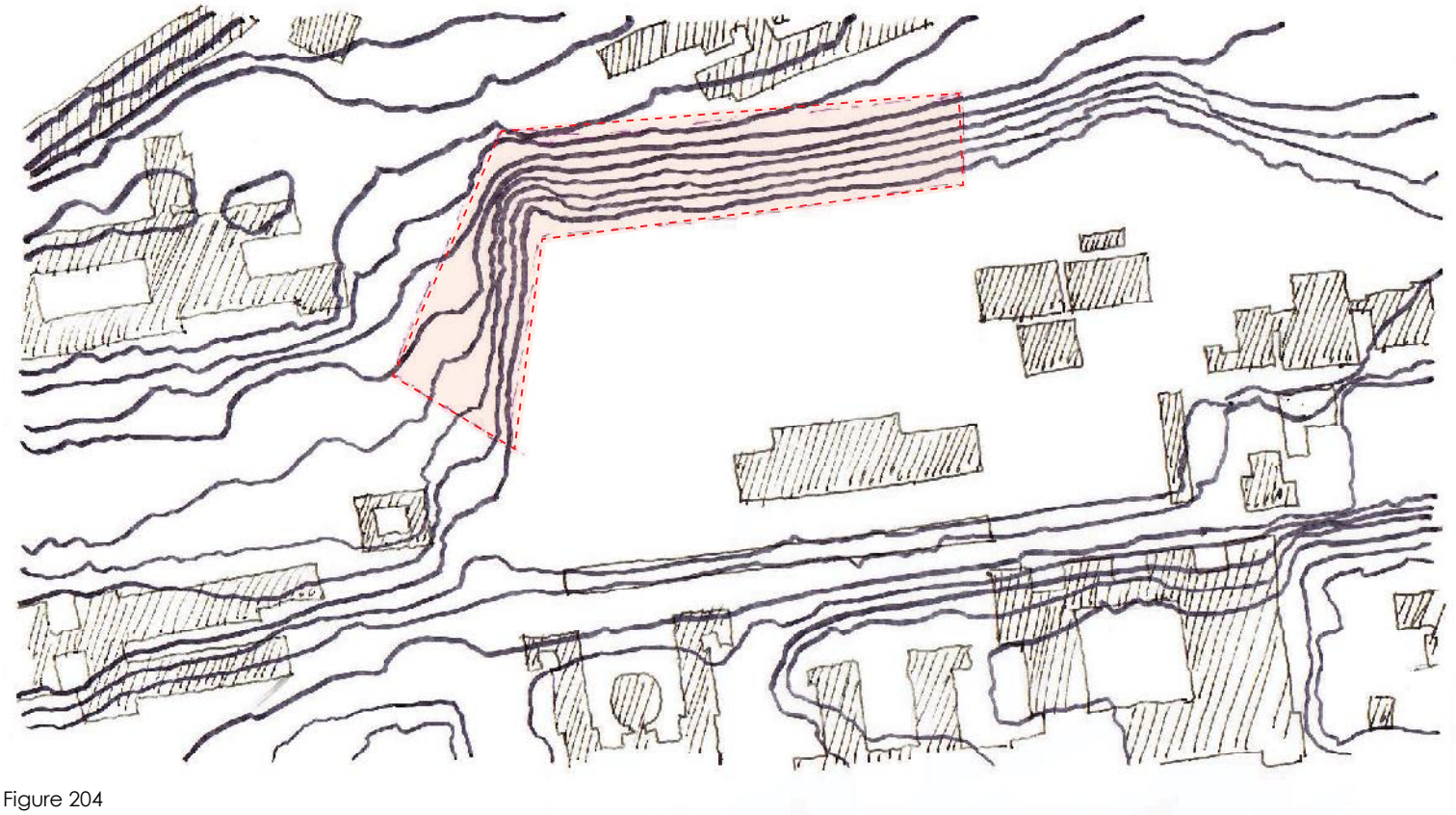


Figure 204

The map highlights the edge of the site where there is an embankment. It is currently fenced off for the safety of students. This edge is neglected but carries the potential to become a significant design driver.

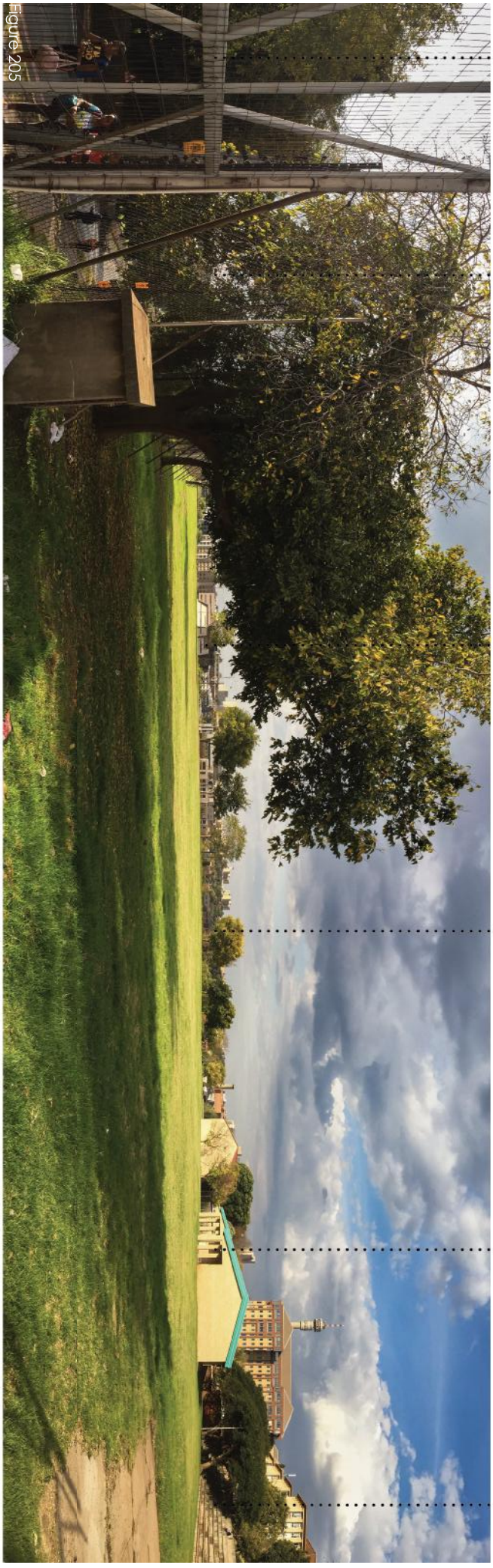
From the entrance on Melle Street, as one walks along the field, you are given the views of extensive greenery where buildings rooftops peek amoungst the tops of trees. The topography allows for magnificent views of Johannesburg towards the north, west and east of the site.
One almost begins to feel as though they are no longer in a built city because they are amoungst immense greenery.

The topography has the potential to be a significant element that starts to speak of what the building could become on the site. How this edge is made use of without imposing on the existing field or the surrounding field is an important factor.

Figure 203: Panorama of site looking south over the sports field and NSA.

Figure 204: Topography, site analysis

Figure 205



Existing entrance onto site from Melle Street

Fence along edge of embankment on Melle Street

Northern edge of site

Panoramic views looking North of Johannesburg

Drama Department (NSA)

Stairs and seating along southern edge of site

Site Analysis

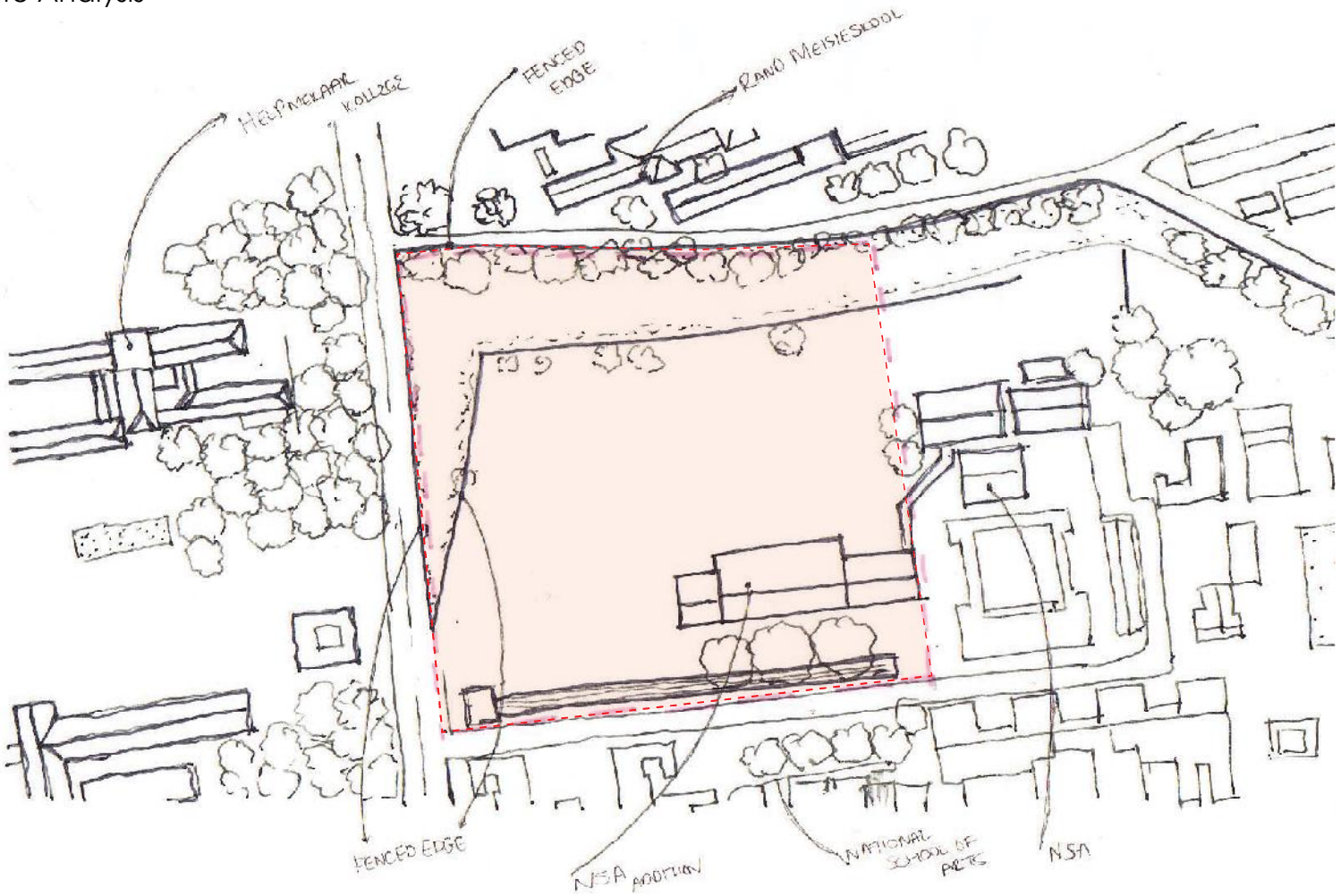


Figure 206



This site sketch highlights the site boundaries within its context. The site is a sports field part of the National School of Arts. On the southern end of the site is the addition of classrooms which are part of the Drama Department.

The sports field is not being used by the students for sporting activities as the school does not offer any sports. The field is only used during break times for students to hang out. In the case that a sports field would be needed, the surrounding schools offer the opportunity to make use of their sports fields.

To the north of the site is Rand Meisieskool. There is an access road that cuts of the two sites along the embankment.

Helpmekaar College is to the west of the site. Along the western edge of the site on Melle Street, the site is fenced off as well as along the top and bottom of the embankments.

There is no fence on the Eastern edge of the site- students are allowed free access from the school onto the field.

Figure 205 : Panorama taken from the entrance of the site across the field, capturing the edge of the site, the drama department and the stairs on the southern most edge of the site.

Figure 206: Sketched site analysis

Street going up towards Hoofd Street
Helpmekaar College
Existing entrance gate into site

Figure 207

Site Edges

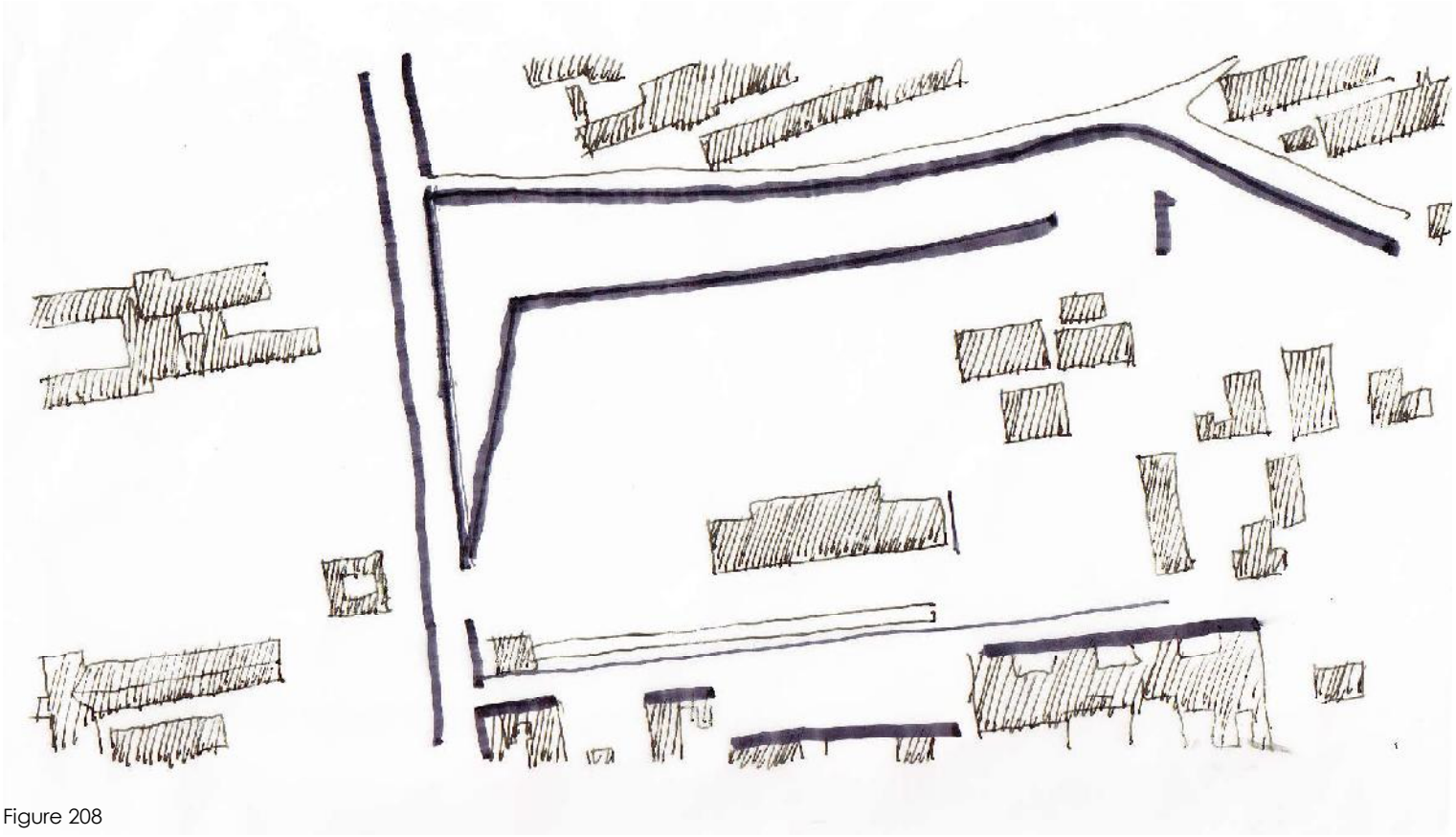


Figure 208

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The sketch of the site highlights the hard edges which are currently inaccessible.

Along the northern edge of the site, the embankment creates a boundary which is also fenced off. The steep drop cuts the site off from its neighbouring site.

Along both the top and bottom ends of the embankment there are fences making it inaccessible to anyone of the public.

Along the western edge of the site on Melle Street, there is a fence along the embankment. There is also a fence across the road along Helpmekaar College.

The School and apartments on the southern edge of the site create a hard edge making a boundary between the buildings and the field.

Figure 207: Panorama taken from the entrance of the site looking onto Melle Street, with Helpmekaar College across the road.

Figure 208: Site sketch of the hard edges along the site.

Figure 209


Northern edge of site looking onto Rand Meisieskool
Drama Department of NSA
View of Hillbrow tower on Eastern end of site
National School of Arts
Stairs and Seating leading onto site from NSA
Bidvest Bank
Apartments
Libridge Building
Entrance to NSA Theatre

Site Boundaries and Permeability

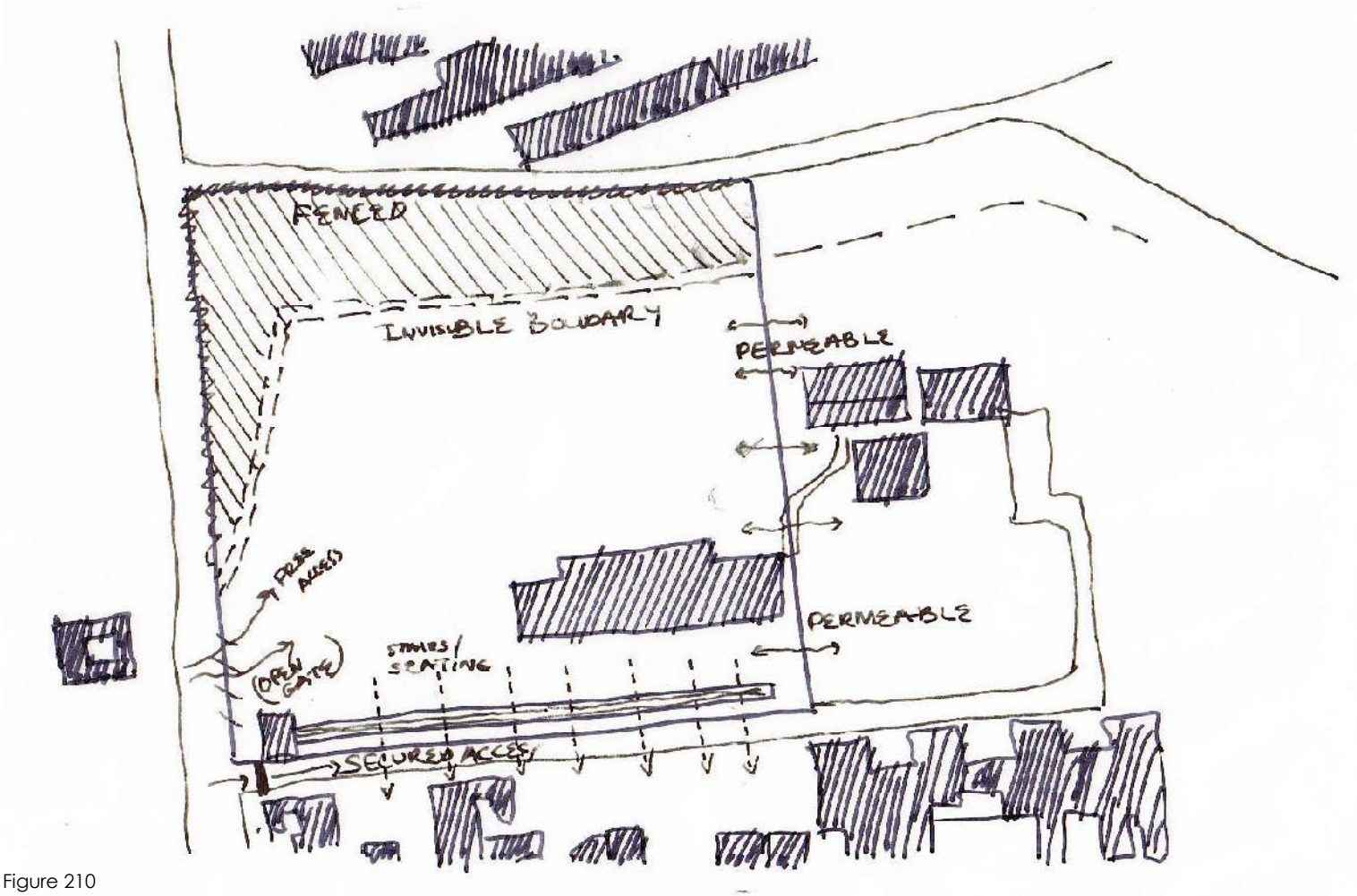


Figure 210

The sketch of the site highlights permeability and boundaries across the site. The northern edge of the site is completely inaccessible where it is fenced off along the embankment.

There is total permeability along the eastern edge of the site where students have free access from the school onto the sports field.

The gate along the western edge allows for access onto the site. There is a security access onto the road leading to the theatre of NSA. Stairs create a boundary along the field onto this access road which may be inaccessible to particular users.

Figure 209: The panorama was taken on the sports field along embankment on Melle Street.

Figure 210: A site sketch showing boundaries and permeability across the site.



Figure 211



Figure 212

Site Views

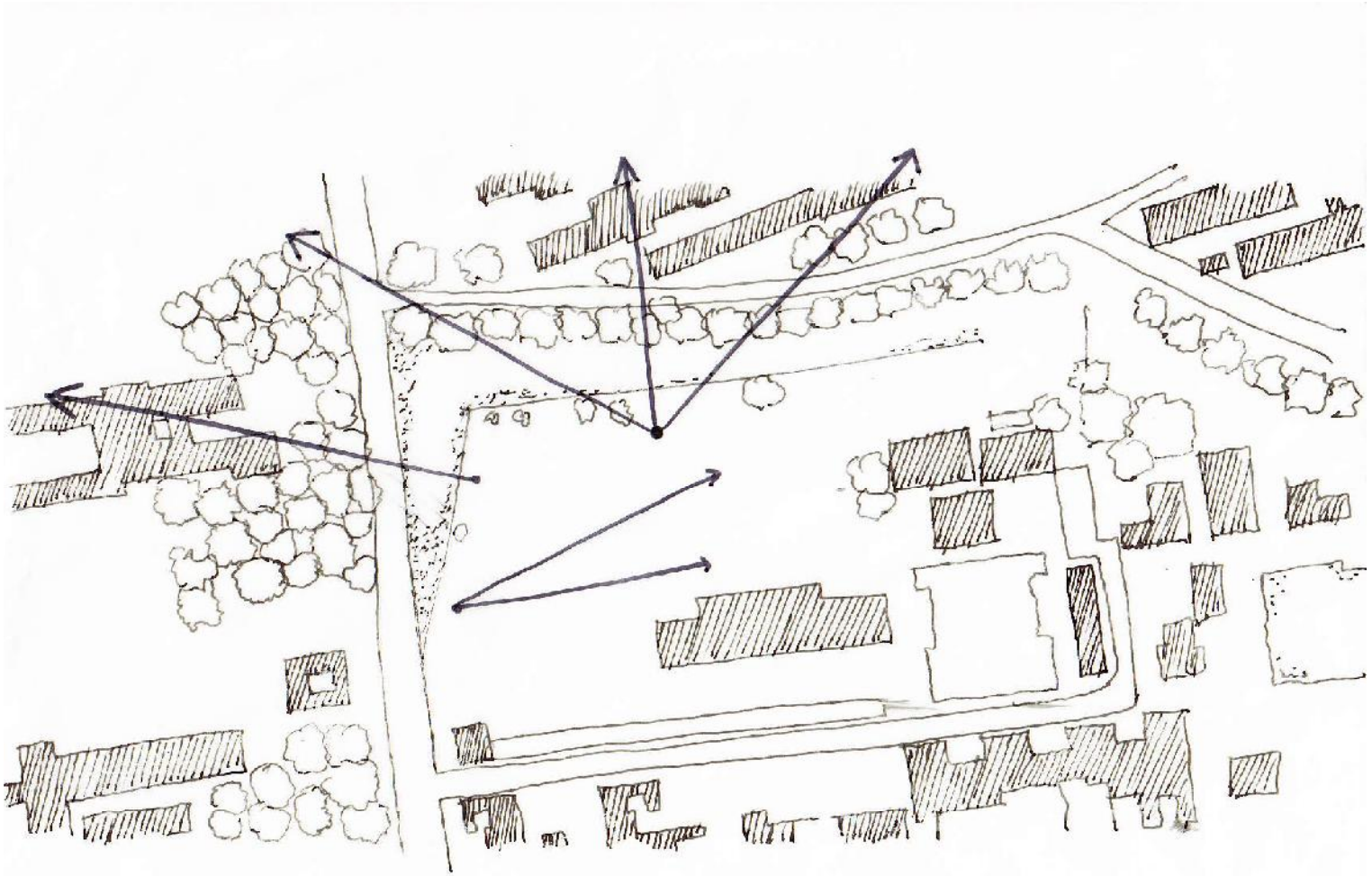


Figure 213



The sketch of the site highlights the most prominent views from particular points of the sports field.

When walking across the sports field from the entrance, one is given a glimpse of the tops of trees and rooftops. The serenity of the site is heightened by the expansive views of greenery.

A full view of the Hillbrow Tower is visible from all part of the site. From the Western edge along the fence on Melle Street you are able to see the Sentech Tower.

The northern edge boasts the best views of the north of Johannesburg.

The views from the site are also elements that can become design drivers for how the building should sit on the site.

Figure 211, 212: Photos from the edge of the site looking north over Johannesburg.

Figure 213: Sketch of important views from the site.

Views of Johannesburg From the Site

Figure 214: View from west edge of embankment, along Melle Street, looking north- west onto Johannesburg

Figure 215: View from west edge of embankment, along Melle Street, looking west onto Johannesburg. Overlooks Helpmekaar College as well as the Sentech Tower.

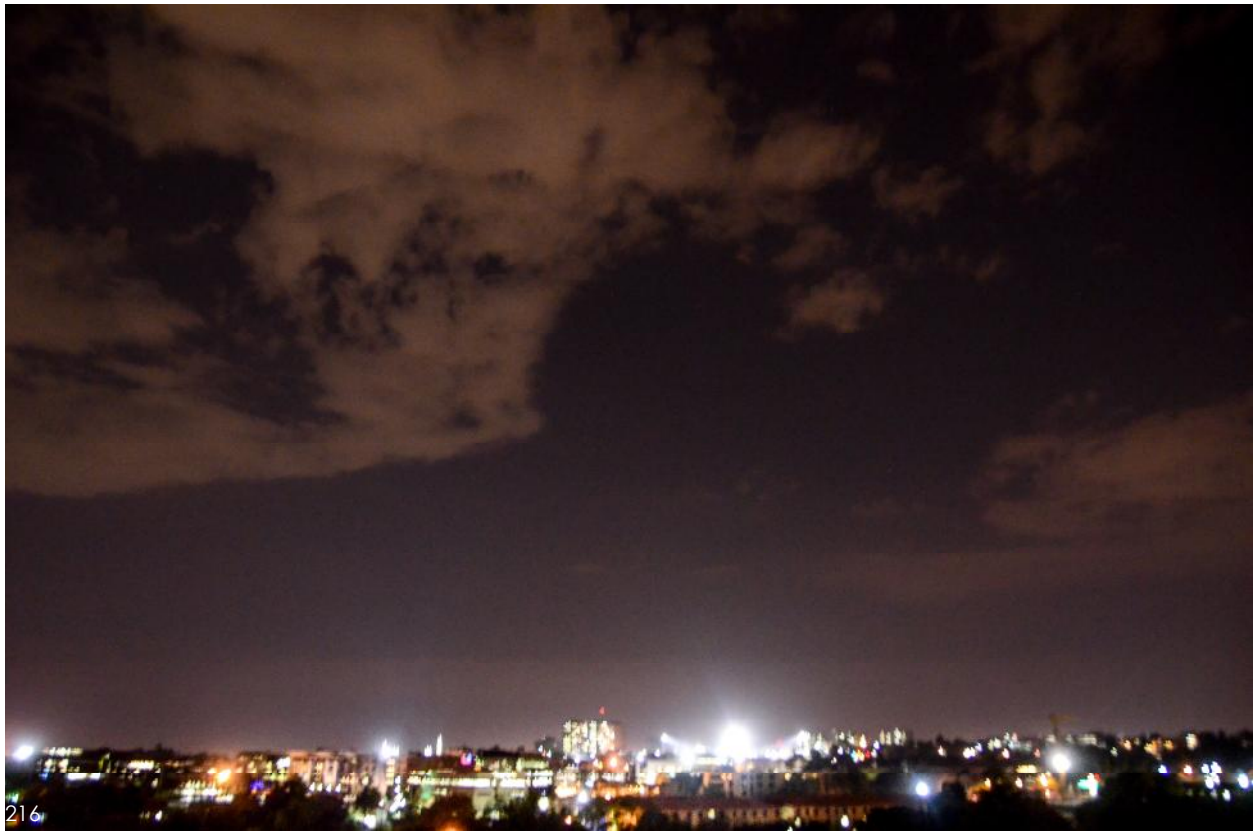
Figure 216: View from north-west corner of embankment, along Melle Street, looking north onto Johannesburg.

Figure 217: View from north-west corner of embankment, along Melle Street, looking north onto Johannesburg.

Figure 218: View from north-west corner of embankment, along Melle Street, looking north-east onto Johannesburg.


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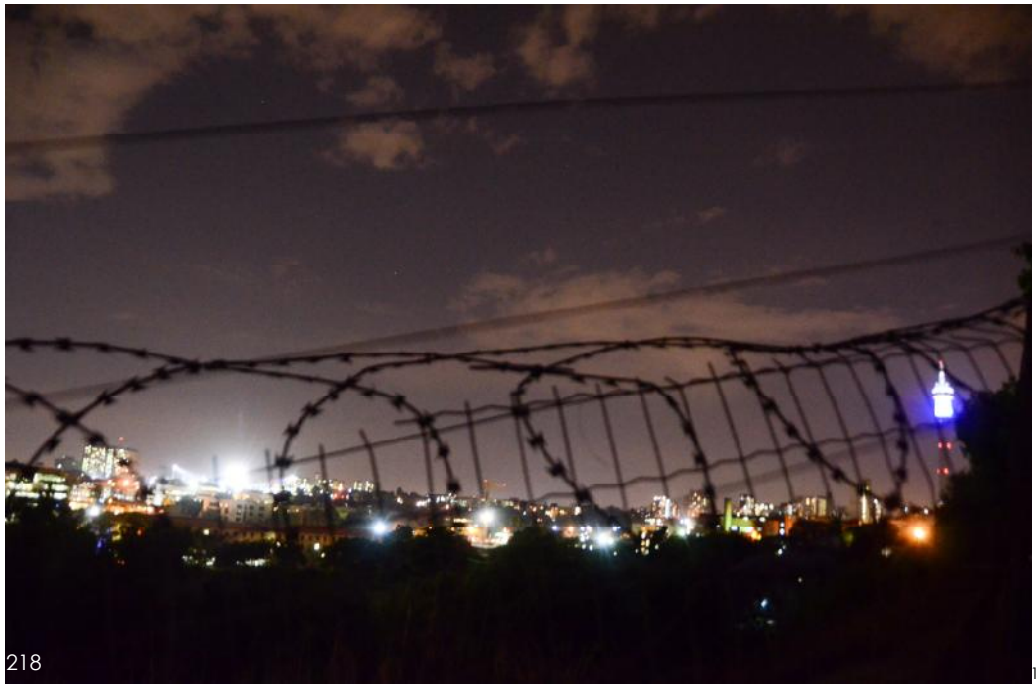

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Figure 219, 220, 221: The National School of the Arts have along the embankment of the sports field, planted a vast variety of plants. The plants do in some way soften the harshness of the embankment. The school has fenced off this entire edge of the embankment as there have been reports of many people who steal the plants.

Lavender is grown the most and this could be used within the new building complex as part of the way-finding strategies. Paths along the embankment make it possible to access and walk along the embankment however it is very steep and caution is needed. Even from lower parts of the embankment one is able to catch glimpses of the Hillbrow Tower and along this edge of the embankment the Sentech Tower is always visible.

When walking through the plants along the embankment, you get the same feeling of serenity as when walking along the field with the views of Johannesburg. You are engulfed amoungst the plants and to some degree no longer feel as though you are in a big, active city.

Image 279 - 284: Photographs taken from the top of Melle Street (southern end of the site), Braamfontein. The site is especially visible from the top of the street (most southern end of the street) where you are able to see the sports field. Access onto the site (sports field) is via a gate at the top edge off of Melle Street.

The street is very active with vehicles and pedestrians, esp. school children

Planting on Embankments & Melle Street


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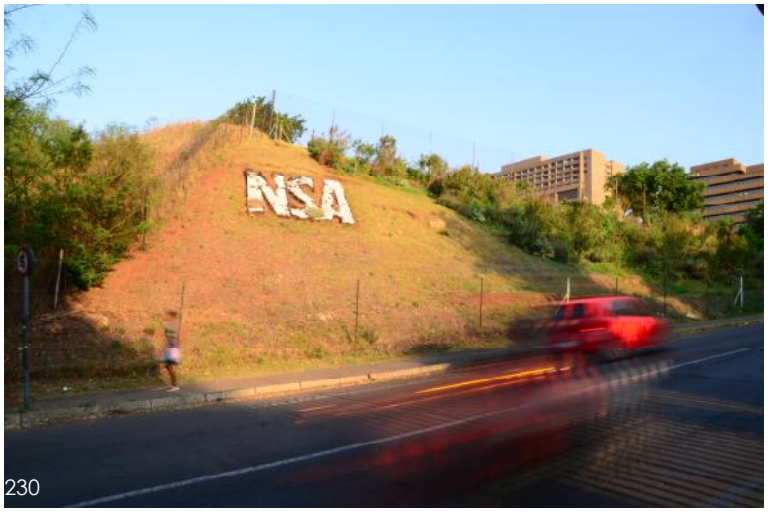

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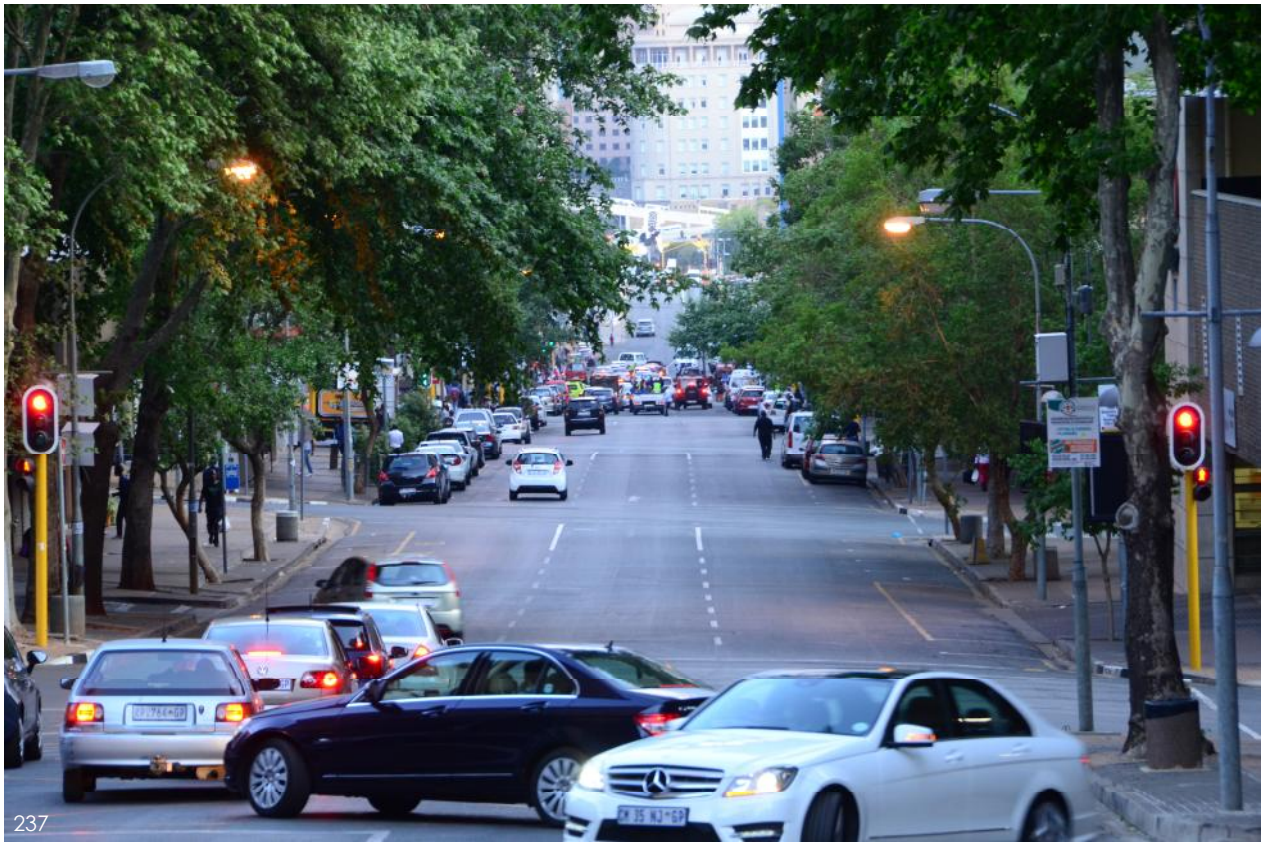

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Melle Street

Figure 228-234: Photographs taken from the bottom of Melle Street (northern end of the site), Braamfontein. The embankment is especially visible from the bottom of the street (most northern end of the street)
The street is very active with vehicles and pedestrians, esp. school children



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Figure 235, 236: Hoofd Street

Figure 237: Photograph taken on Hoofd Street looking down Biccard Street

Figure 238: Hoofd Street, view of the Joburg Theatre.

Figure 239-241: Joubert Street, Constitutional Hill. View of the Womens Jail, the Tower of Lights and the Hillbrow Tower.





Chapter 9

Precedent

The Sancaklar Mosque
The Thermal Baths- Peter Zumthor

Figure 242: By Author, Melle Street, Johannesburg

The Sancaklar Mosque

The Sancaklar Mosque was designed by Emre Arolat Architects in Buyukçekmece which is a neighbourhood in the outskirts of Istanbul. The Mosque is separated from the surrounding neighbourhood by a busy highway, and the use of high stone walls surrounding the park creates a boundary between the noisy streets and peaceful park.

The Sancaklar Mosque successfully depicts the essence of religious space where it distances itself from traditional mosque design which focuses on form, symbols and decorations. The building expresses spirituality through contrasts in light, shadow, materiality and aesthetics to produce a space which allows the users to contemplate a deeper connection with the divine in absolute solitude.

The mosque accentuates the rawness of design to produce a simple and humble place of worship capturing the essence of the Islamic faith.

The building buries itself into the landscape where the user leaves behind the outside world and becomes immersed in the landscape. The building completely blends in with the topography where the only visible architectural elements are the minaret which is stone and a long concrete canopy which houses the prayer space.

The prayer space is cave-like which draws its inspiration from the 'cave of Hira' where it is believed Prophet Muhammad (Peace be upon Him) received the first revelation of the Quran. This space through the use of light becomes a dramatic and awe-inspiring place to pray.

Daylight is indirectly filtered through a ribbed concrete wall that slopes back which runs along the front of the mosque and supports concrete beams below the skylight. The use of light here enhances the direction of the prayer space and allows daylight to filter into the mosque.

The building constantly plays off the tension between man-made and natural. Pieces of stone are set into the sloping terrain which create rows of long earthen steps leading down to the entrance of the building. Grass which has grown around the stonework helps integrate the steps and roof into the landscape. The dual relationship between natural and man-made is reinforced through the natural stone steps which are in stark contrast to the thin reinforced concrete slab spanning six meters to form the canopy. (Emre Arolat Architects, 2014)

This building is a helpful precedent as it demonstrates how a building is able to respect the natural landscape and not be based solely on its external appearance but rather on the success of fulfilling its function through use of material, light and simplistic aesthetics.

Figure 243



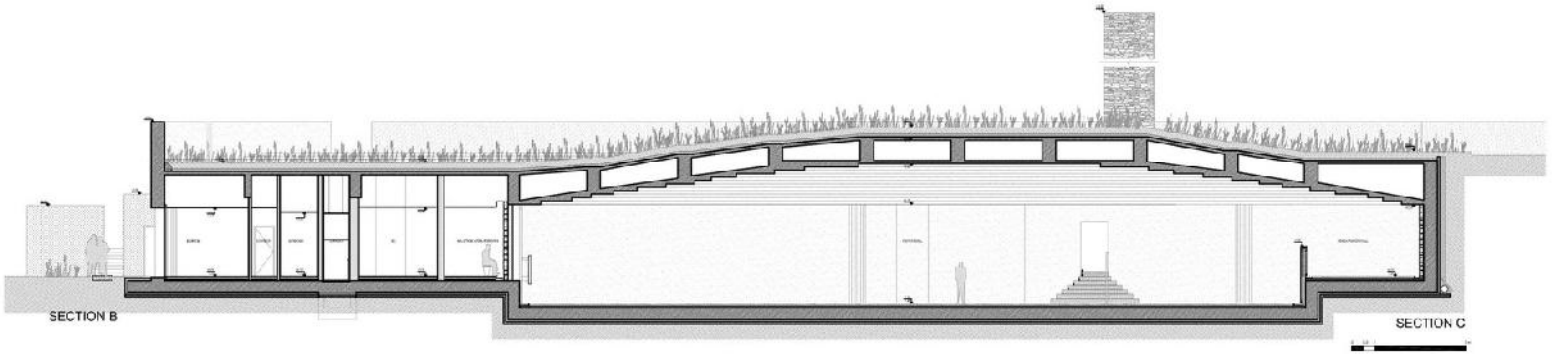


Figure 244

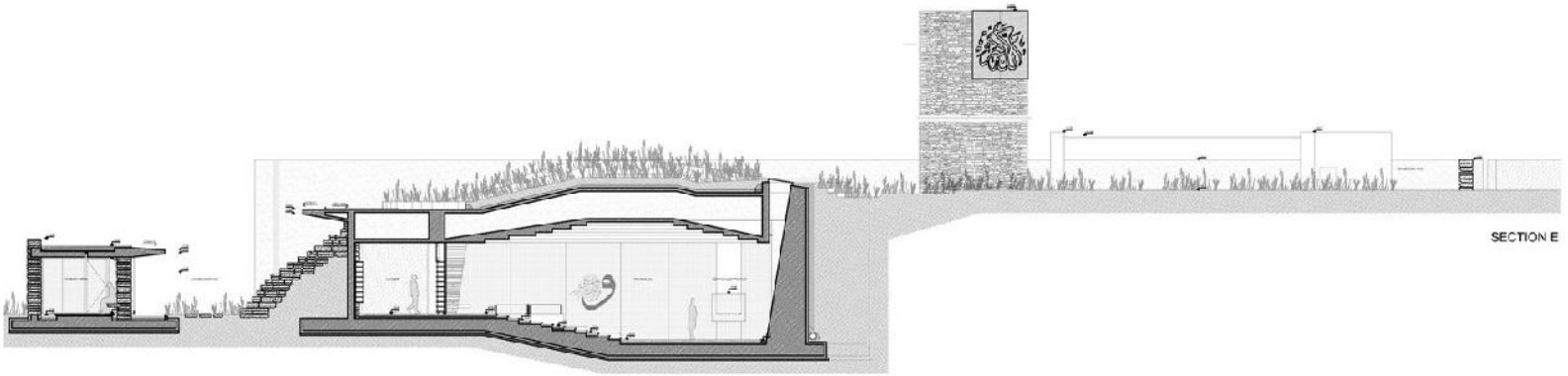


Figure 245


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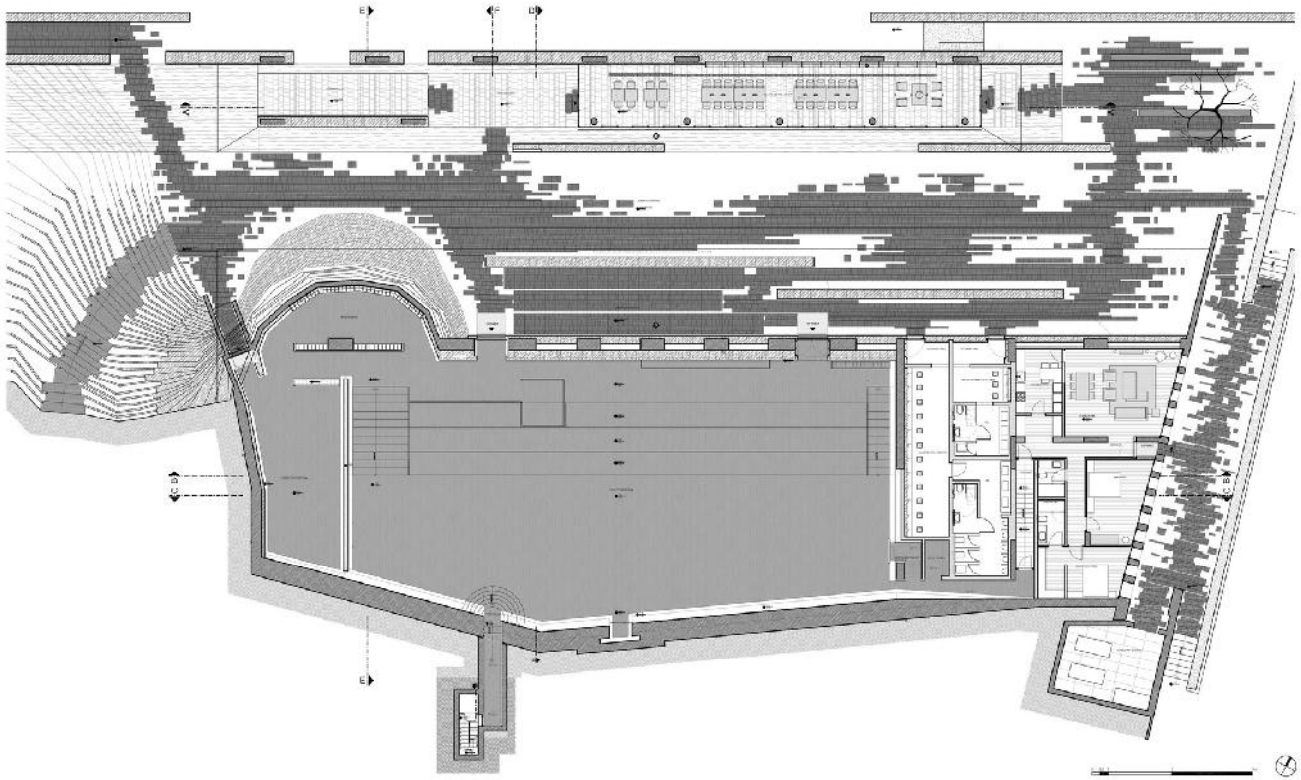


Figure 253



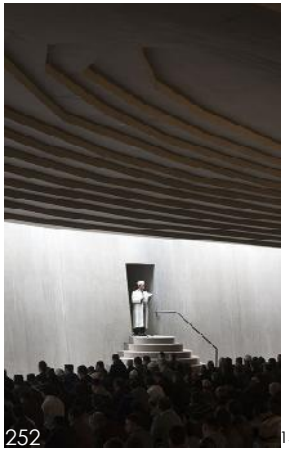
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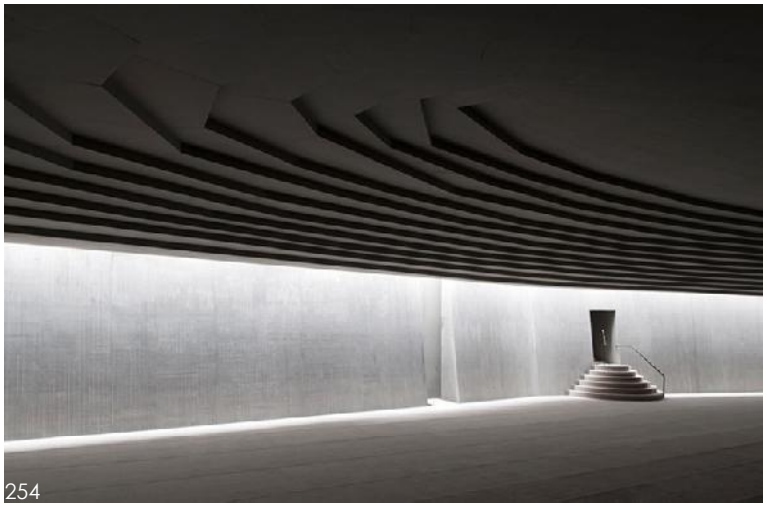


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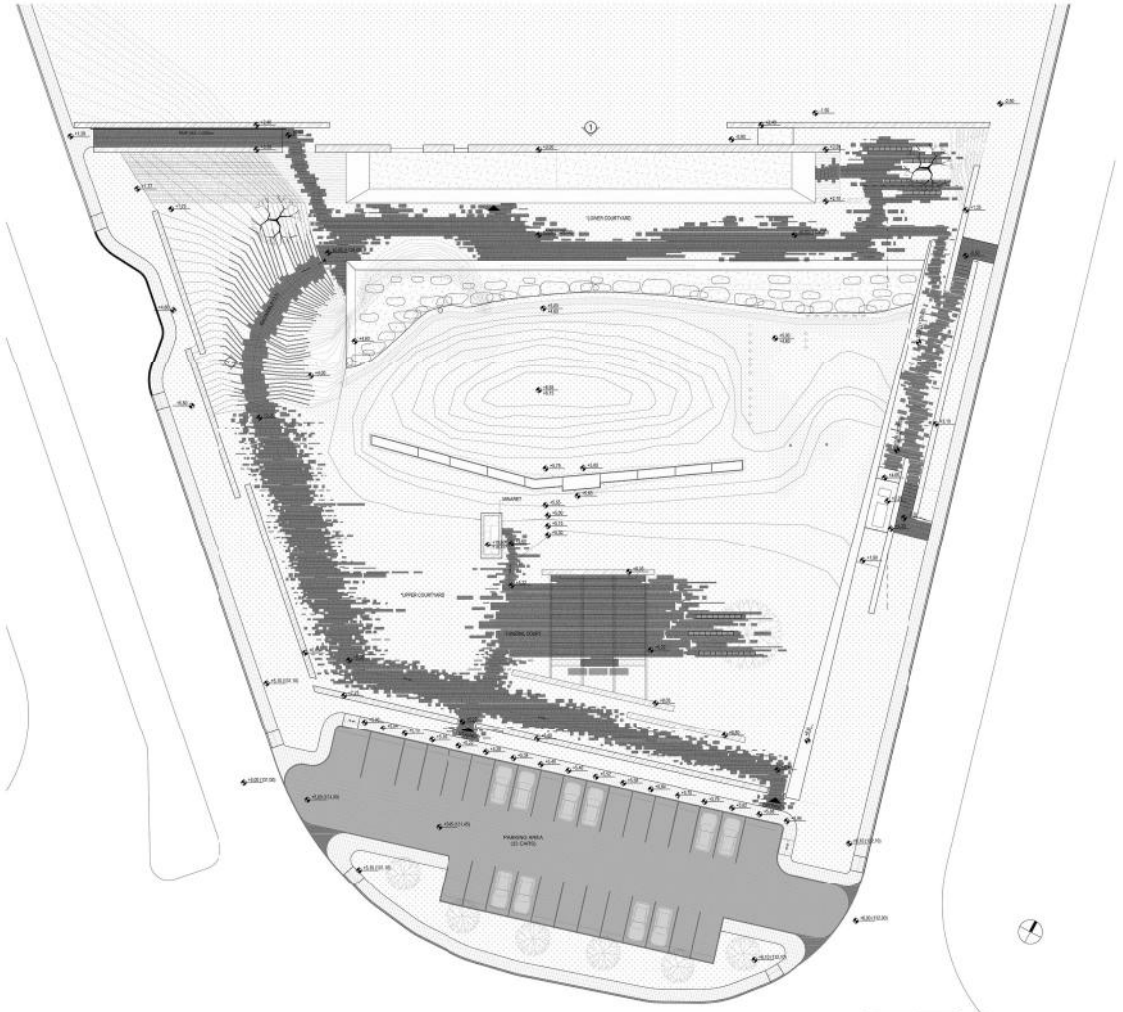


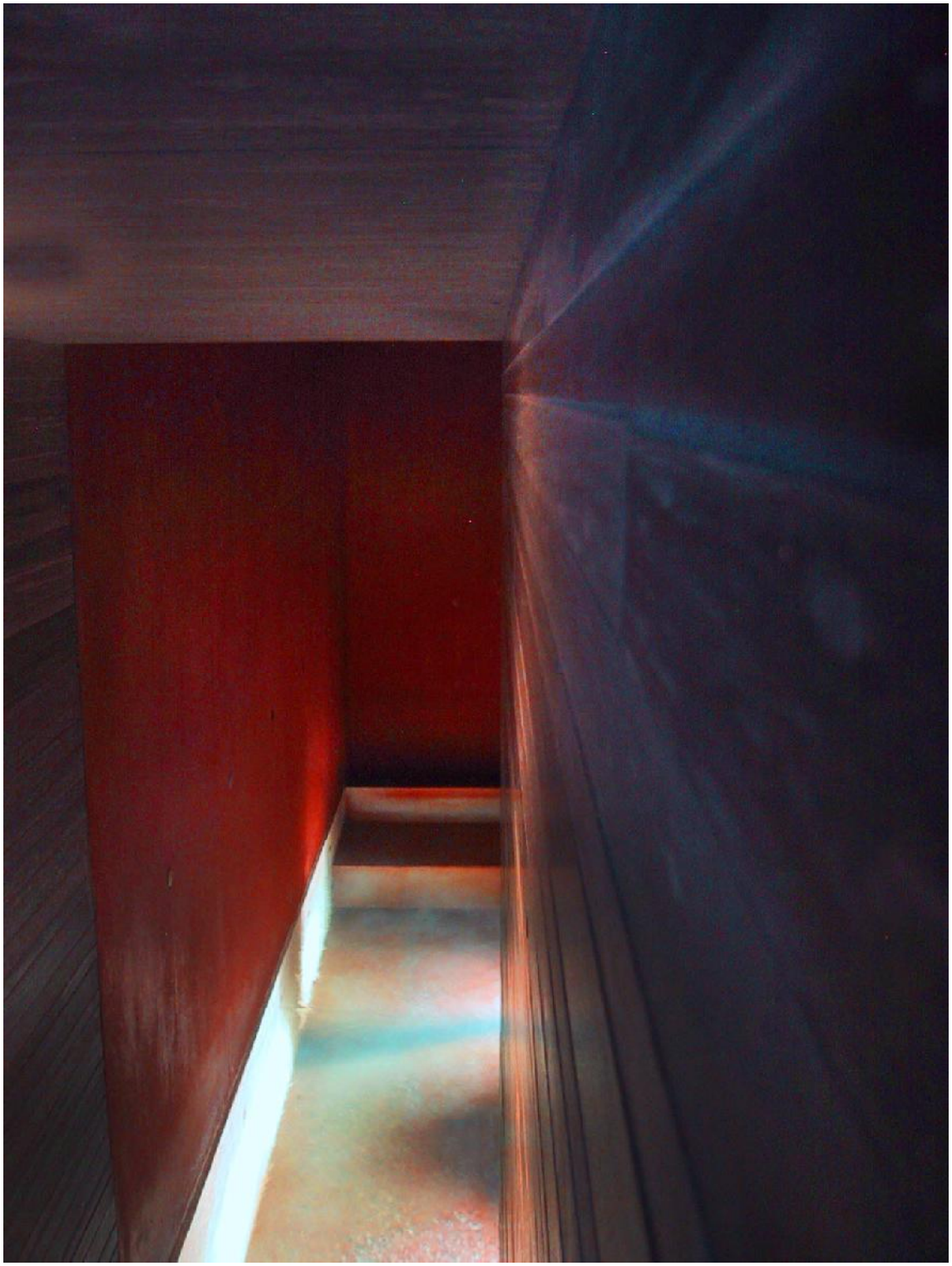
Figure 257



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The Thermal Baths- Peter Zumthor

"Mountain, stone, water – building in the stone, building with the stone, into the mountain, building out of the mountain, being inside the mountain – how can the implications and the sensuality of the association of these words be interpreted, architecturally?" Peter Zumthor

The Thermal Baths by Peter Zumthor is located in the Graubunden Canton in Switzerland and built over the only thermal springs in the area. The building is a hotel and spa in one which was built to allow people to rediscover the ancient benefits of bathing.

The building is monolithic in form which is derived from the image of the mountains framing the valley. The concept of the building is an extension of the mountains where architecture bridges the gap between the natural and man-made. The building is moulded by the landscape but also lodges itself into the landscape. By burying itself into the landscape, the building becomes a cave like structure with the bath rooms laying below a roof structure that is part of the landscape.

The stone used for the construction of the building was locally sourced and became the driving inspiration of the design.

The layout of the building was informal with a circulation route that led users to particular spaces but also allowed them to explore areas of the building along the way. Perspectives throughout the building were always controlled which either ensured or denied views. Zumthor played with light and shade, open and enclosed spaces and linear elements to create a sensuous and restorative experience.

Zumthor's work aims to evoke emotion and memories through triggering the senses which any person is able to experience. The notion of a world of stone built into the mountain, the constant play of dark and light, the reflections of water, the feeling of the steam saturated air, the sound of the bubbling water in the stone, the feeling of warm stones were all elements that guided the architect from the very beginning. (Peter Zumthor, 2009)

Figure 260

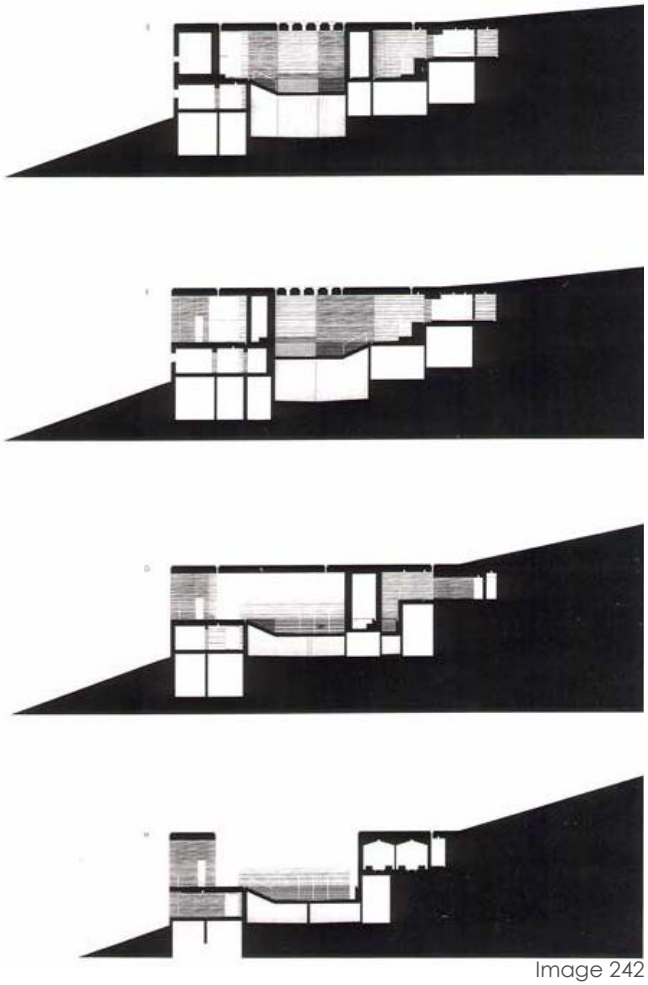
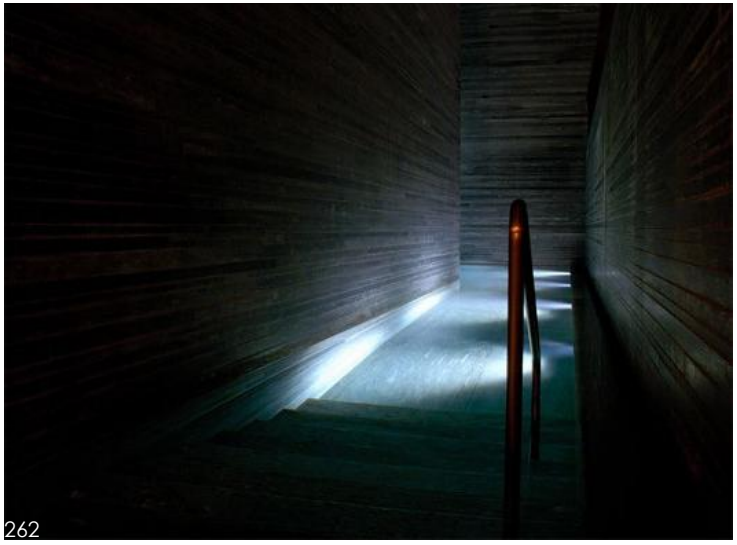


Image 242



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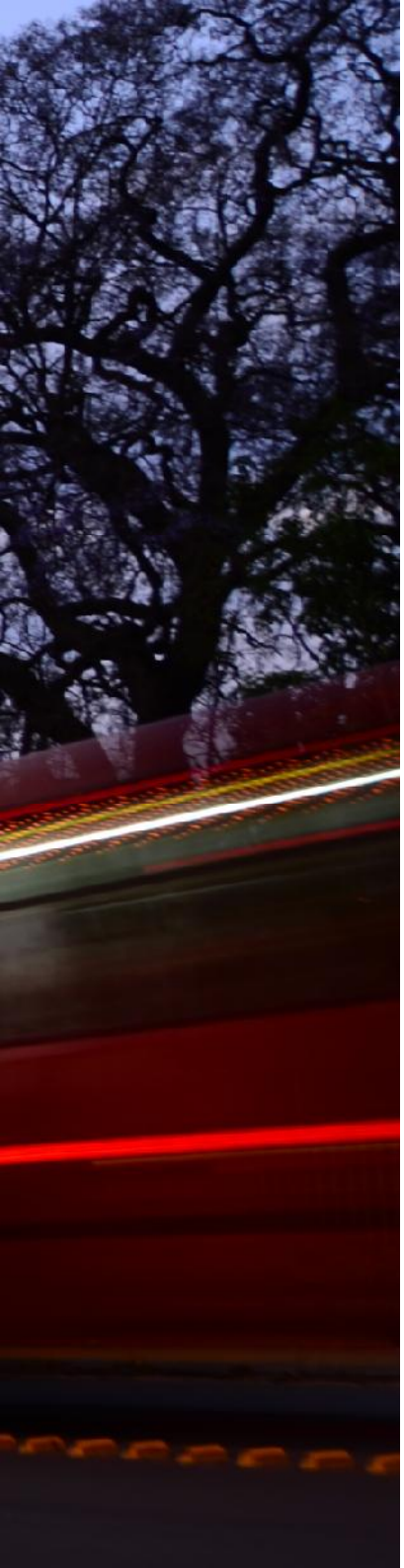


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Chapter 10

Project Brief

Introduction to the Project
Project Brief
Program
Users
Project Feasibility

Figure 267: By Author, Joubert Street, Johannesburg

Introduction to the Project

The road to achieving workplace inclusion has become a challenging one to steer and previous strategies which were developed to enable equality cannot be fully relied upon. More often than ever before, employers are challenged from both a legal and political perspective for the lack of transformation and the corresponding efforts to achieve diversity in the workplace. Equality advocates as well as those employers who attempt to diversify their companies, face obstacles within the workplace in the form of inadequate resources or uncertainty about their appropriate role or approach in dealing with minorities. (Sturm, S. P. 2006)

Advocates and employers need to readdress their typical approaches to matters of equality with particular emphasis on follow-through tactics to ensure long-lasting changes within the workplace. Additional support or legal protection alone do not produce significant change, as is noticeable in workplaces currently. Workplace equality can however be achieved by practical applications with one on one attention between the employer and the 'minority' to fill in the gap of uncertainty or unawareness. (Sturm, S. P. 2006)

The barriers to full participation and the elements for removing these impediments that allow for increased participation within the workplace need to be carefully identified and considered as it allows for increased participation within the workplace. One should interrogate the reason for current under-participation and the causes thereof as that may be indicative of a problem. It needs to be addressed and given considered public attention. One needs to explore the ways in which accountability of decision makers vital for the implementation of change may be introduced in order to ultimately achieve inclusivity within workplaces. This challenge brings about a significant need for new approaches and frameworks to establish and justify equality initiatives. The framework which will be established to jumpstart and sustain meaningful transformation need to allow room for adaptability and encourage experimentation due to its pioneering nature.

The centre I have created develop a methodology and a program for an inclusive environment to ensure that it yields viable productivity for its users. This intervention is focussed on improving the conditions that are instrumental to workplace experiences and opportunities for the person with intellectual disabilities. It also ensures that employers are educated on how easily persons with disabilities can be integrated into the workplace. It is expected that the local centre will expand to other areas within Johannesburg and eventually connect to national networks. The centre can simulate how individuals participate in the workplace and it could manage the relationship and views of people with intellectual disabilities in relation to the broader work environment, other disciplines and society. The centre is expected to be both accessible and lasting and will mediate experiential training in aligning it to workplace practices. The centre will be a vital space to enhance inclusion and for producing sustainable change for this marginalised group of persons.

An inclusive workplace engenders a discrimination-free workplace and sets the basis of an enabling environment. Equal opportunity is given to people with and those without intellectual disabilities to realise their capabilities and achieve their full potential. It further enhances an understanding between the two user groups that dispel the preconceived notion of the abilities of an employee with an intellectual disability when given a chance to participate fully in an inclusive workplace.

All individuals with intellectual disabilities should at the very least be given the opportunity to discover their potential and participate fully in the workplace.
The centre should ultimately be a means to allow for social inclusion resulting in individuals having not only an improved lifestyle but also to ensure that each individual earns an income in return for being a valuable asset to the workplace. This centre will therefore promote social well-being and strive to build a fairer

and more sustainable society.
The centre does not aim to eradicate exclusion all together, but rather acts as one element within the greater picture that shows how exposure and inclusion can be developed through interventions over time.

Project Brief

The Project was initiated due to the excessive lack of facilities, opportunities and interventions for people with intellectual disabilities and most particularly in the employment sphere. This is due to a lack of necessary resources, skills, education and a limited knowledge of both employers and its employees about persons with intellectual disabilities.

The design of the Centre should stimulate social interactions both intentionally and unintentionally in an innovative way and create a spatial environment that is capable of engaging with its users in a sensitive manner regardless of whether they are disabled or not. The building should encourage skills development as well as social development in preparation for employment. The environment should be such where there is a constant interaction between users to allow for inclusion and acceptance to the mutual benefit of both parties. The building must incorporate a program that involves public involvement to encourage social inclusion of people with intellectual disabilities and create cultural interests around the difficulties, realities and opportunities for people with intellectual disabilities.
The building will be designed to incorporate architectural principles that have been shown to be most beneficial for a person with an intellectual disability. These principles will ensure that an environment is created so that a person with an intellectually disability is able to process information easily which will aid in learning. The environment will ensure that a person with an intellectual disability is comfortable to the extent that they are they are able to reach their full potential and develop all the necessary skills through training. Thereafter, they are able to put their skills to use within the workplace. The supervisors through training programs would be able to manage and supervise the skills transfer within the workplace and would have obtained the knowledge of how to manage employees with an intellectual disability.

Although work environments are not designed to the same degree and extent as the proposed building, it is hoped that the employers and employees who come for training will gain the necessary skills to facilitate the transition into mainstream environments. They will also acquire the knowledge to accommodate any necessary adjustments as they would have had interactions with persons with intellectual disabilities and will have an understanding of their needs. The transition within the workplace can occur by gradually introducing employees with disabilities to different environments within the workplace as outlined by Magda Mostafa's research on the 'greenhouse effect'. She proposes that a person should be exposed to different levels within the workplace where they can slowly adjust to the environment.

Program

The building will serve as a learning hub, used by both persons with intellectual disabilities and people who are commonly referred to as able bodied. It will function as a level between education (if any) and the period before entering the workplace. This intermediary level is necessary due to the lack of appropriate higher learning opportunities, vocational training and disciplines that could accommodate the intellectually disabled when entering the workplace. The learning hub will give people with intellectual disabilities the opportunity to explore their capabilities in environments similar to that of a workplace and gain knowledge and experience prior to entering the workplace.

A major emphasis will be placed on the relationship between people with intellectual disabilities and those without and is instrumental for the effectiveness of the program. The space will constitute a place where a person acting as a supervisor and a select few employees from companies will attend specified workshops, skills and training programs to acquire the knowledge of the process to integrate people with intellectual disabilities into the workplace. Supervisors and employees will through the program interact with people with disabilities within these workshops, and obtain the relevant expertise and will take this knowledge back to their respective companies.

The learning hub will be used by people with intellectual disabilities for job skills development and more importantly toward the enhancement of life skills. An additional programme in the form of job sampling will mirror the typical workplace and be as if the person with intellectual disability is placed in a real life situation. Each student will sample out aspects of identified jobs so it can be determined where the person would be best suited in a working environment and therefore would apply for similar jobs. It is within the job sampling environment that they will interact with the supervisors who will be in training; and so there will be constant interaction between both the enabler and the enabled to the mutual benefit of both parties.

The program incorporates training facilities of both a practical and theoretical nature. A person with an intellectual disability will be trained in a usual classroom environment but also have the opportunity to be exposed to a workshop environment consisting of practical training. This practical training will comprise of mock work situations and students will be involved in job sampling activities. The employers and employees acting as supervisors and students respectively will interact with each other to impart their knowledge and experience of the workplace.

The program which will involve interactive use between the users should result in supervisors and employees being best placed to monitor, supervise and be empathetic toward staff with intellectual disabilities. The main purpose of the skills empowerment is to place these supervisors in a position so that they are able to transfer their knowledge of dealing with and accommodating employees with intellectual disabilities in the workplace. In turn, the users of the building with intellectual disabilities should gain sufficient experience and obtain significant skills in preparation for the workplace. The programme will entail training and skills development in areas such as life skills; lifestyle management; personal empowerment and entrepreneur skills. The Job sampling initiative will involve various areas of responsibilities in the workplace such as document control; building services; mailroom offices; canteens; computer rooms and libraries. This will serve as a microcosm and training ground of actual workplace activities.

There will also be a Career Counselling Centre where professionals such as occupational therapists and other relevant disciplines can work hand in hand with the trainers and supervisors at the Centre to monitor the progress of the students in order to facilitate their progression. These specialists will also be in a position to correctly place a student within the workplace according to their skills, progress and ability.

The Career Counselling Centre should also encourage people who are not part of the program to come for appropriate job placements. This creates a holistic approach to able bodied job seekers who are unable to further their education or who have graduated but in need of assistance in securing an appropriate job. Government incentives should be offered to businesses that will in turn encourage companies to get involved and send their employees to the Centre.

On - site independent living is part of a second phase development which could be extended from what is proposed or further designed. The intention of the live-in environment is not intended to be permanent living. The purpose of the on-site accommodation is temporary and it could be part of the life-skills program for students who are in most need of this training and supervision. The on-site living will be supervised by a trainer would be able to help establish aspects of financial security and skills and with the purpose a support network. An important and added dimension to this is to incorporate living skills, such as meal planning; grocery shopping; budgeting; home maintenance; safety and security.

It is apparent through research of other schools that an average of one in twelve students would take part in this live - in training and most of whom would be from distant areas of Johannesburg. The independent living could work with students being on a rotational basis to allow for shorter periods of training and spread across a greater distribution of the students.

Accommodation:

Training: mock work environments; workshops/classrooms for students and employees; Wood Centre

Administrative: reception; Executive Director's office; Secretary; Offices; Meeting Room; Kitchen / Staff Lounge; First Aid room

Career Counselling: Reception; Kitchenette; Offices; Occupational therapist office and studio space; meeting room

Public Interface: Restaurant with fully built in kitchen; Study/ reading room and Media centre; Auditorium; Conference Room, outdoor amphitheatre

Temporary Living: Temporary Accommodation- Bedroom; Kitchen / Living; Bathroom

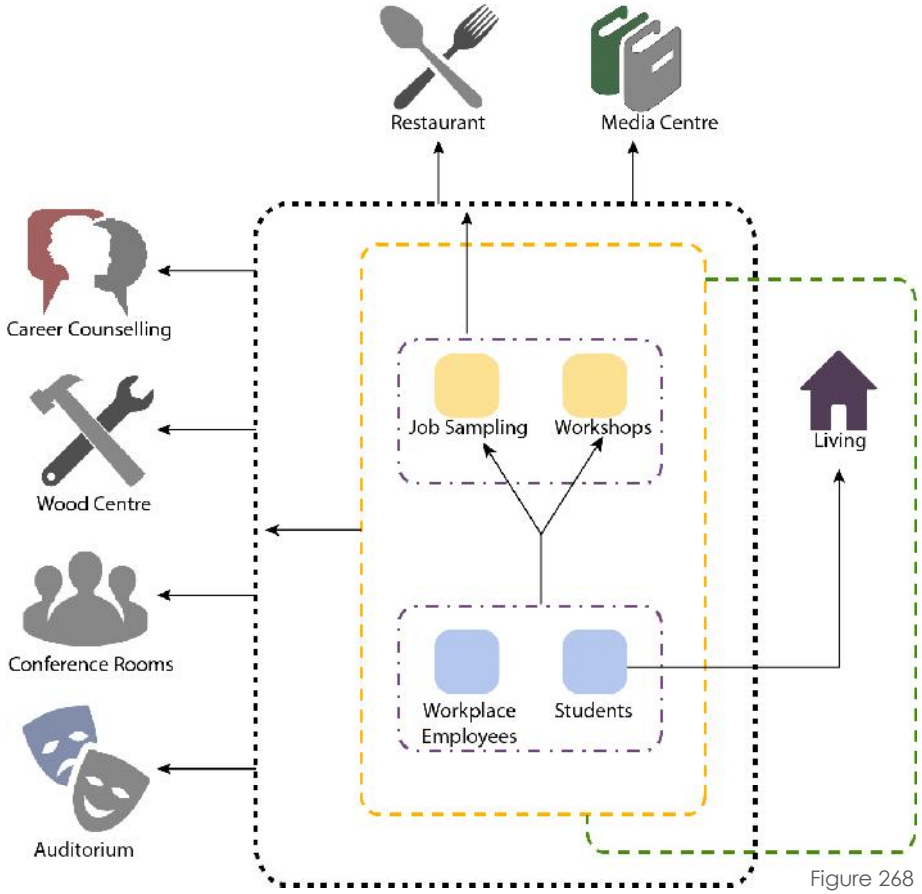


Figure 268

Figure 268 : The diagram illustrates the program in relation to the users. The students and employers take part in workshops and job sampling. Students have access to temporary living. All users, including the public can use facilities such as the restaurant, media centre, career counselling, wood centre, conference rooms and auditorium.

Users

Proposed Users

It is expected that the centre will attract a range of users, both able-bodied as well as persons with intellectual disabilities. The centre is aimed at persons who have a moderate intellectual disability which is the mid-range of disabilities (IQ 35-49).

An intellectual disability is grouped under conditions of cognitive deficits. Learning disabilities are also a sub division of cognitive deficits. Although technically constitute different conditions each with its own limitations, a person with a learning disability would equally benefit from this training centre. Although they may cope in the working environment, they may need further assistance and supervision with learning and skills development, making their participation in the programs at the centre ideal. The program is aimed at young adults between the ages of 18 to 35.

The students will be selected by an occupational therapist at the career counselling centre through a process of assessment to establish the range and level of abilities. If no selection criteria is set, the variants may result in educators being unable to give each student equal assistance and the system will fail.

The idea of the centre is that of a catalyst and act as a starting block for expansion. It is hoped through expansion the centre could eventually enrol students with a variety of levels or it can expand to other parts of Johannesburg where it can escalate in terms of its program and users.

The other users would be from companies who would send groups of employees for training as well as individuals who would act as supervisors to work with those who have intellectual disabilities.

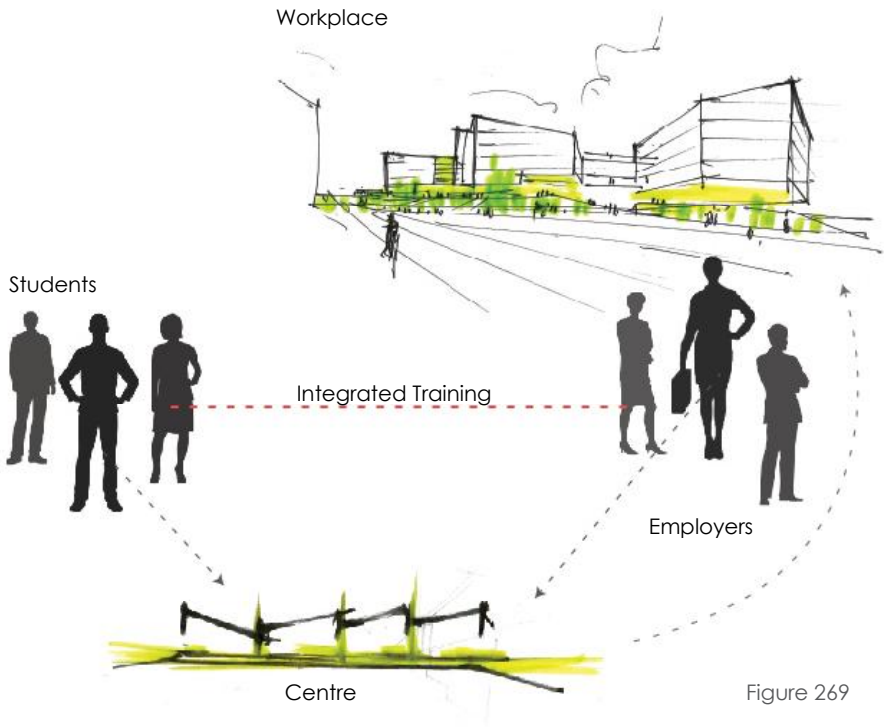


Figure 269

Figure 269 : The diagram illustrates employers and employees from workplaces coming to the centre where integrated training occurs with students who have intellectual disabilities.

Proposed client

The proposed client for the project is The Living Link Training Centre. The Centre was discussed in chapter three. The Living Link is a suitable client as they currently run a program, amongst many others, that is aimed at skills development in the workplace for people with intellectual disabilities. The Living Link is in dire need of a new facility with the emphasis on a new location that will be to the benefit of their training centre. There were no major changes made to the existing buildings at The Living Link and they were unable to make the existing structure and facilities suitable for the training centre's needs due to the lack of funding. The location is not well placed as it has no relation to a central business district where it could feed into workplaces and vice versa.
The proposed centre could accommodate the training schools program with appropriate spaces to enhance the program and fulfil the intention of the Centre.

Legal constitution of the Client

The corporate identity of the client will be constituted as an NGO and as a Non-Profit Company (NPC). An NPC is defined as "a trust, company or other association of persons established for a public purpose and of which its income and property are not distributable to its members or office bearers (except as reasonable compensation for services rendered)". The Centre will thus not exist primarily to make a profit. In the case where there is a surplus shown, it is non-taxable as it cannot be distributed to the members as capital. The surplus will be used in the following period to meet the objectives of the Centre.
Although registration of a NPC with the Registrar of Companies under the Companies Act is compulsory it may voluntarily register under the NPC Act. The founding documents of such an entity are called the Memorandum of Agreement and Articles of Association. The importance of registering this project as an NPC is to enhance the credibility of the Centre as it will report to a public office which holds all information about registered NPC's that the public may access. This ensures that the Centre is transparent to the public and increases the accountability of the Centre. It also allows the organisation to open a bank account and helps the Centre with tax incentives. The purpose of NPC's must comply with the requirements of the NPC Act which improves the corporate governance of an organisation. Although registering a Non-Profit Company is entirely voluntary, it is an important factor in securing funding. A requirement for funding and donor agencies is for the organisation to be a registered NPC.

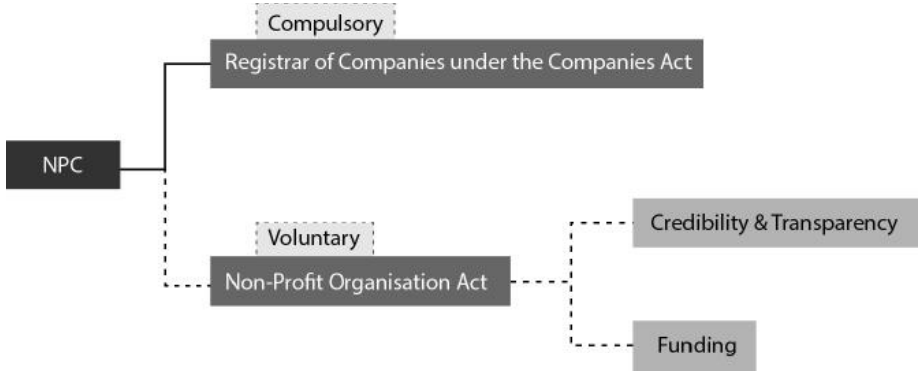


Figure 270

Figure 270: The diagram illustrates the legal constitution of the client

Feasibility

There is a huge gap in the market for a Centre such as this for people who are unable to further their education or job seekers who may seek assistance. It is known to be a universal concern, but particularly in South Africa where we are not geared towards creating enabling environments for people with intellectual disabilities. It is apparent that whilst other countries are working towards providing more opportunities for people with disabilities, South Africa has limited knowledge and resources presently and so this Centre could be pivotal in the transformation of the country. Many companies and organisations aim to improve their skills development and job opportunities portfolio and as part of their mission, there will be a wide variety of interest to financially support this Centre. This is proven through The Living Link Training Centre that operates based on a basic fee and sponsorships as its funding model. With an innovatively expanded program and involvement from major companies and the community, the need for this Centre could be easily reasoned and funded.

Economic Impact- In the long run, this Centre will be contributing to a vulnerable group of the population who have mostly been denied jobs on account of their intellectually disabilities . By introducing a platform for job creation, the Centre is providing a means of economic growth. Through research conducted, there are numerous sponsors who are definitely capable of providing the money that will be needed during the construction phase as well as the additional sponsors who will provide the operating costs of the Centre. Both national and international funding will be accepted for the construction of the project and the various organisations were chosen specifically for the types of grants that they provide. The funders have within their scope and business profile the objectives that are covered by this Centre. The grants they provide are aimed at initiatives such as this Centre and it is integral to their mission statement.

Environmental impact- The proposed Centre should ensure that the program addresses land use within which the most efficient strategy is implemented. It should minimise negative effects and impact on the immediate and greater context. The design of the building should involve strategies that are sustainable such as natural lighting, ventilation, heat control etc. to minimise the buildings consumption of energy use. Through green-star rating, the building can cut down on construction costs. The choice, usage and disposal of materials must be sensitive to the context of the project.

Social Impact- the proposed Centre should allow for community involvement, in particular relation to job creation. The process should involve transferring of new construction skills and creating an awareness around sustainable development strategies and methods. The greater the emphasis on job creation the better the chance of securing more funding from companies who have an interest in the outcomes of the Centre. During the operational phase social integration is the aim of the Centre, so a huge impact will be made both within workplaces and outside of the workplace.

Skills development- The possibility is for a skills program to be implemented through the construction period aimed at techniques and sustainable approaches. During the operational phase the Centre aims at furthering skills of all levels and types of individuals, for both people with intellectual disabilities and those without.

Market investigations into the viability of the Centre

- Assessing the need for an intervention
- Considering the demand for this Centre in Braamfontein, Johannesburg
- Considering the number of users the Centre would attract
- Assessing the practicality of Companies sending employees to the Centre
- Assessing the feasibility of construction costs
- Investigating the viability of operation and implementing the job sampling
- Generating strategies to market the Centre
- Assessing the feasibility of running the Centre

Organisational Structure

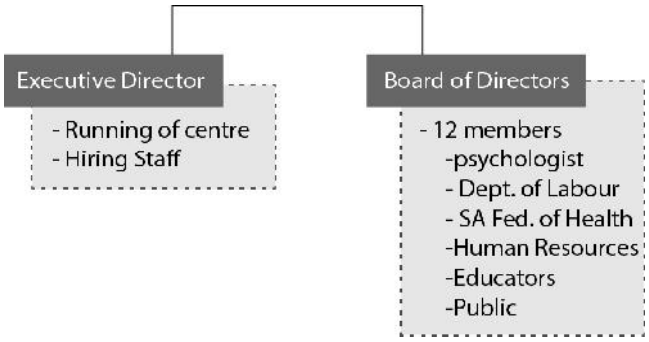


Figure 271

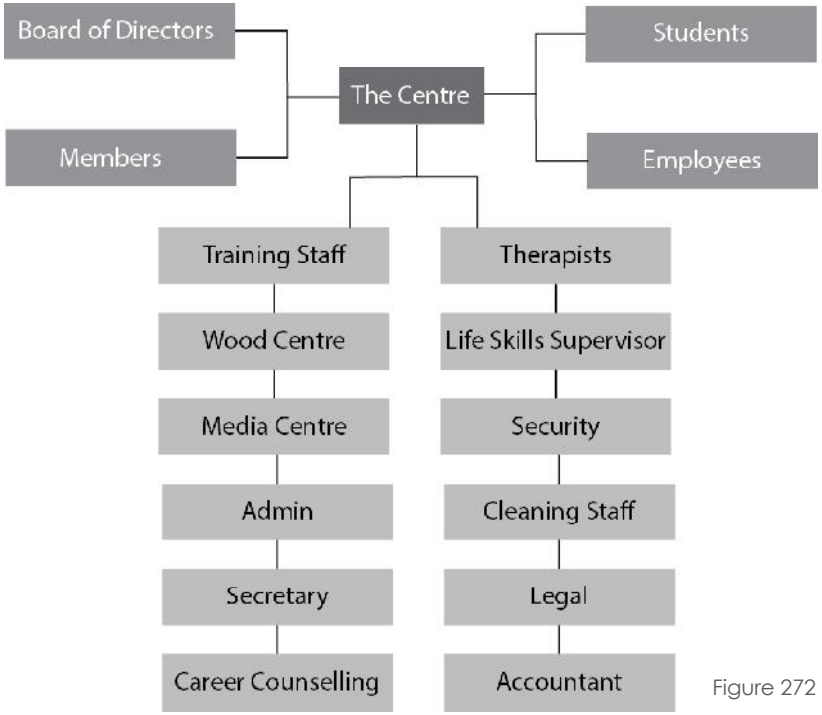


Figure 272

Figure 271, 272: The diagram illustrates the organisational structure of the centre

Funding Mechanisms and Source of Income

The members on the Board of Directors have a fiduciary duty toward the organisation. They will be responsible for approving budgets and ensuring that the organisation operates within its financial means.

Operational Costs and Funding

A major responsibility of the Board members will be to raise money for the organisation. They will pay an annual membership fee that will go towards the cost of the operations of the Centre and the services offered. The Board members will continuously approach companies and individuals for sponsorships in order to secure finances for the Centre. They will also be expected to attend fund raising events and volunteer at functions to ensure its success.

Because the Centre is an NPO it will be reliant on external funding. The funding model of The Living Link is another method where the funding by the members, members of the public especially those of the families of the students, former students and employees at the Centre could be secured. The members will pay an annual fee which will go towards operating costs of the Centre.

The second means of funding is support in the form of sponsorships. Initially, The Living Link as the client will bring along with them its sponsors. This form of funding is through individuals and companies who support The Living Link through sponsorships of goods, services and funds which were previously listed in chapter 3.

Further operational costs will be covered by a fee structure paid per student. The fee will be determined in relation to operating costs to ensure that the organisation meets its commitments. An initiative will be set up at the Centre, similar to the existing initiative existent at The Living Link and will be known as the "Sponsor-a-Student Initiative". For those students who are of a disadvantaged backgrounds, anonymous funding by any member of the public will be accepted, and will finance the annual program fees. Bursaries will be made available through Government funding.

Employees and Supervisors sent by their employers to participate in the program at the Centre will also pay a fee that will be used in the same way. A fee will be payable by the public who attend training programs and workshops at the Centre as a source of funding.

A public restaurant and media centre will be part of the program which will be used by the public, students as well as employees. Students will work in the restaurant and media centre as part of their job sampling activities. The restaurant and media centre will be a source of income for the Centre as well. Other facilities, such as the Wood Centre can be used by the surrounding schools or by the public at a fee. The Conference rooms and an auditorium can be rented out by the public at a cost and the activities associated with it will be part of the job sampling program for the students. The Centre should host fundraisers and events which will act as a marketing opportunity for the Centre and the proceeds will go towards operating costs of the Centre.

Construction

Below is an outline of the various organisations which will provide grants that could be used towards the construction of the Centre

In March 2011, The Social Security and Development Sector Education and Training Authority (SSD SETA) was established under the ETDP SETA (Education, Training and Development Practices Sector) which in reference to this project covers Non-Governmental Organisations. This SETA promotes and facilitates

development and improvements of skills that will enable the relevant employers and employees to benefit from it. SETA's aim to help people with disabilities so that they benefit from skills development. It is possible to get a discretionary grant from the SETA which could go towards the funding of the Centre as it covers many key objectives that the SETA hopes to achieve. Regulations set out by SETA's require 80% of funds to be spent on pivotal programs that address scarce and critical skills. SETA's could identify this Centre and its cause as eligible for a discretionary grant as they look at priority scarce skills where learning will be of a theoretical as well as a vocational and practical nature. Both these aspects are covered in the Centre.

USAID (U.S. Agency for International Development) supports various South African development initiatives through programs that seek to strengthen enterprises, create employment and improve learning and job-skills to name a few. USAID provide a grant opportunity under the Department of Labour and Employment and Training Administration called Disability Employment Initiative.

The International Labour Organisation (ILO) has "a longstanding commitment to promoting social justice and achieving decent work for people with disabilities". The Organisation is mindful that "special measures are often required to prepare individuals with disabilities for the world of work, and to adapt the workplace for disabled workers". The access to job opportunities for the disabled may require additional measures to secure same. The ILO has noted an increasing interest in identifying "effective measures for promoting employment opportunities for disabled persons in Central and Eastern European countries, as well as developing countries in Africa, Asia and Latin America". The ILO provides grants for new developments such as the proposed centre.

The Government's Jobs Fund supports initiatives that generate employment in innovative ways. The Jobs Fund offers once-off grants that the Centre could use towards construction.

The Department for Women, Children and Persons with Disabilities (DWCPD) was established in May 2009 to "emphasise the need for equity and access to development opportunities for vulnerable groups within South African society". The DWCPD provides grants towards institutions that aim to create enabling environments for marginalised groups of people in the proposed Centre.

Various public-private sponsors in terms of their corporate social responsibilities will make up a globular sum of grants which could be used towards construction costs. Such sponsors are The Disability Rights Fund; UN Enable; Momentum; PetroSA; Coca-Cola South Africa; Anglo American Chairman Fund. Each of these sponsors have grants available for new NPC buildings being constructed towards disability; education or employment.

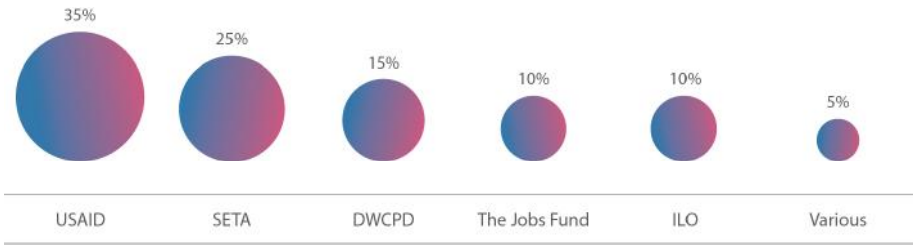


Figure 273

Figure 273: The diagram outlines the various organisations that could contribute towards rge construction of the centre, and based on figures given for grants, a possible percentage towards these funding.





Chapter 11

Design Development

Introduction to the Project
Project Brief
Program
Users
Project Feasibility

Figure 274: By Author, Melle Street, Johannesburg

Concept Sketches

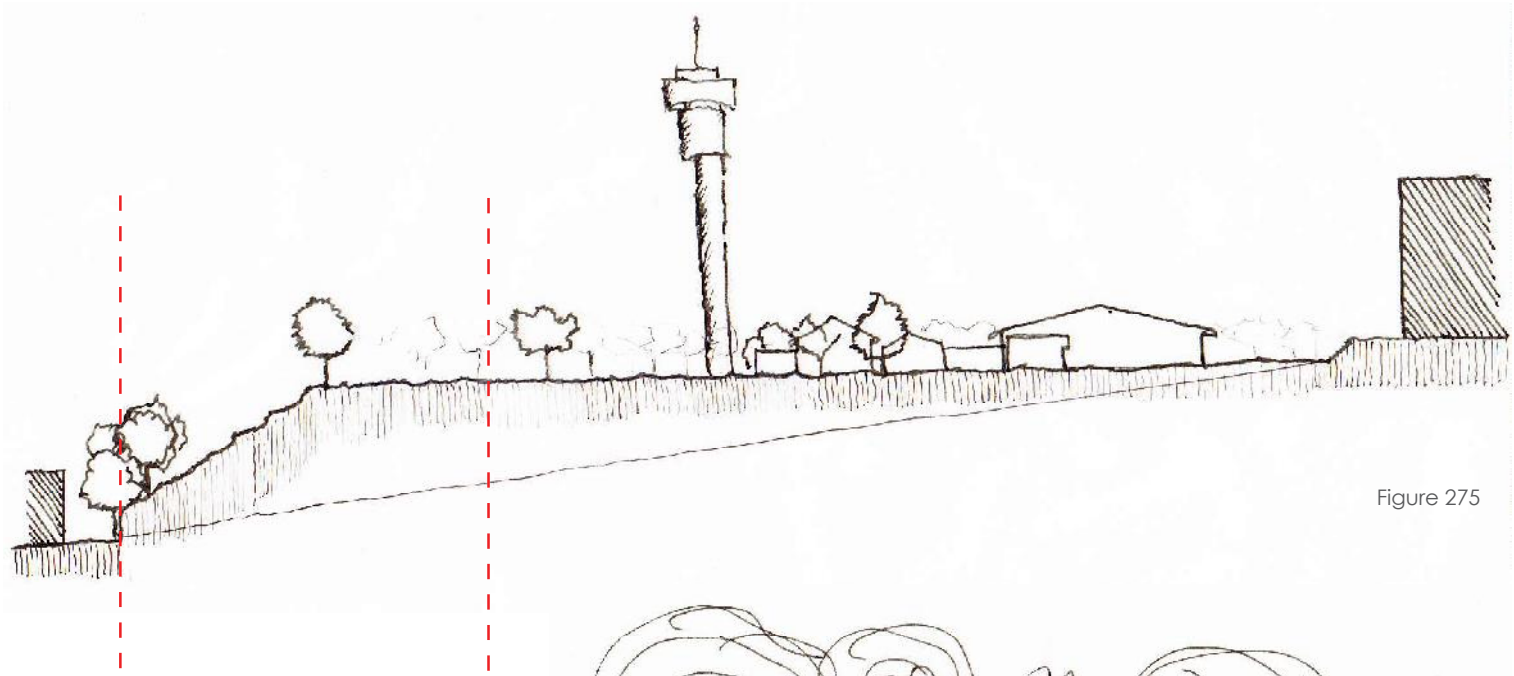


Figure 275

The section through the site shows The drama department buildings towards the right and the unused sports field along side the drama classes. From the sports field a clear view of the Hillbrow Tower is visible.

A decision was made in which the entire site would not be used. Instead, the building would be designed on the very edge of the site along the north end. The embankment is harsh and currently fenced off. As the site currently stands this edge is left neglected. The design would aim to revive the edge of the site. The building would feed in from the existing entrance along the west edge of the site It allows for magnificent views towards the North of Johannesburg.

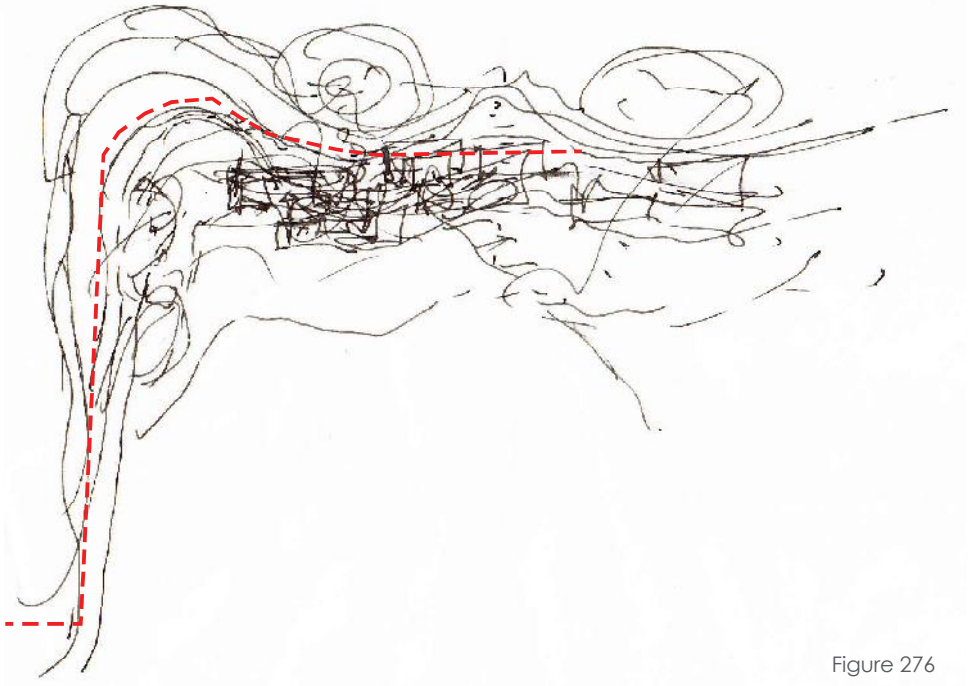


Figure 276

Figure 275: Sketch section through the site highlighting the edge on which the building would be designed

Figure 276: A concept sketch showing how the building would sit on the edge of the site and begin to respond to the contours

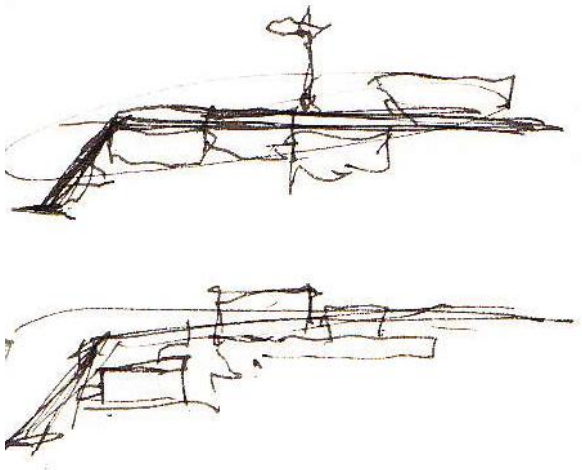


Figure 277

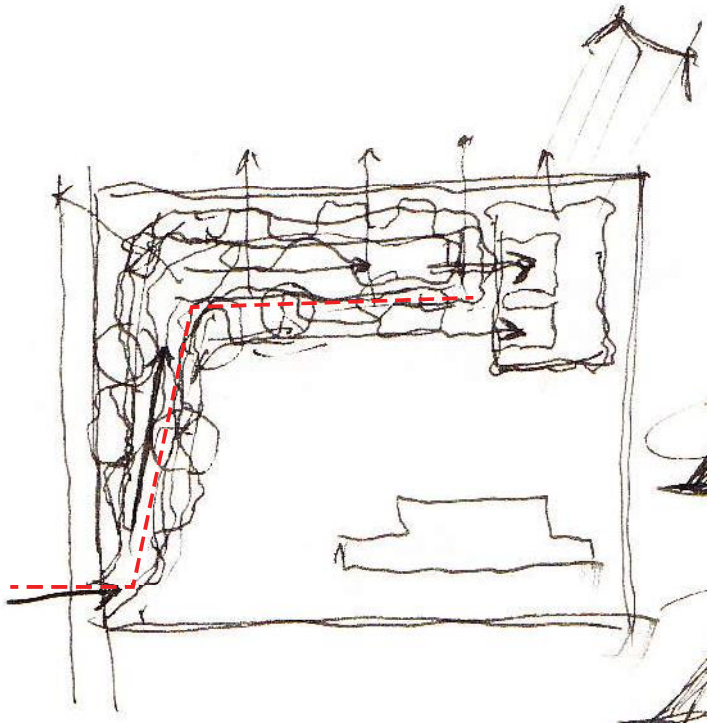


Figure 278

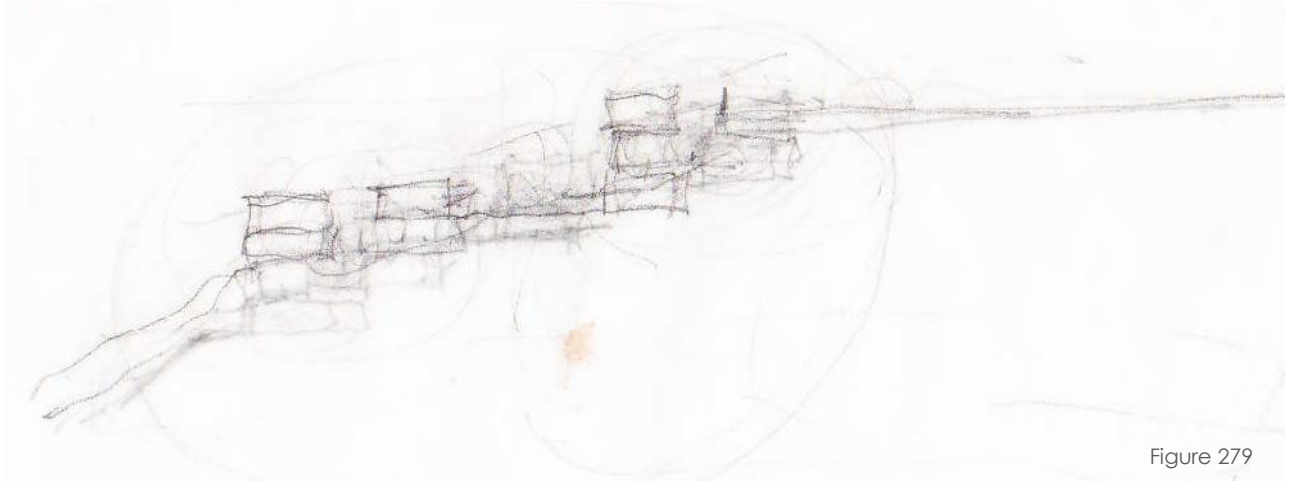


Figure 279

Figure 277: An early conceptual sketch section showing how the building would be built into the landscape along the edge of the site.

Figure 278: An early conceptual sketch plan showing how the building sits on the edge of the site and maximises on views of Johannesburg.

The building starts to feed from the existing entrance

Figure 279: An early sketch section showing how the building sits in the landscape and steps down along the embankment.

Initial Site Responses

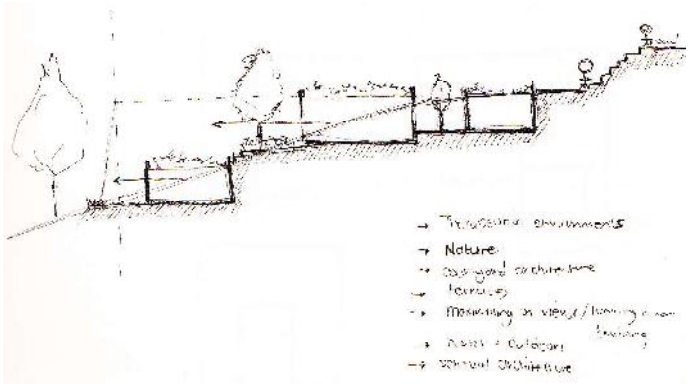


Figure 280

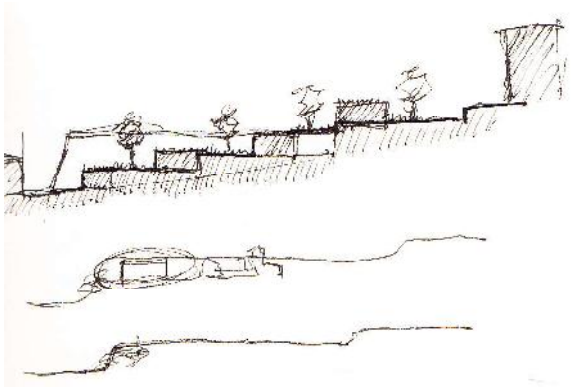


Figure 281

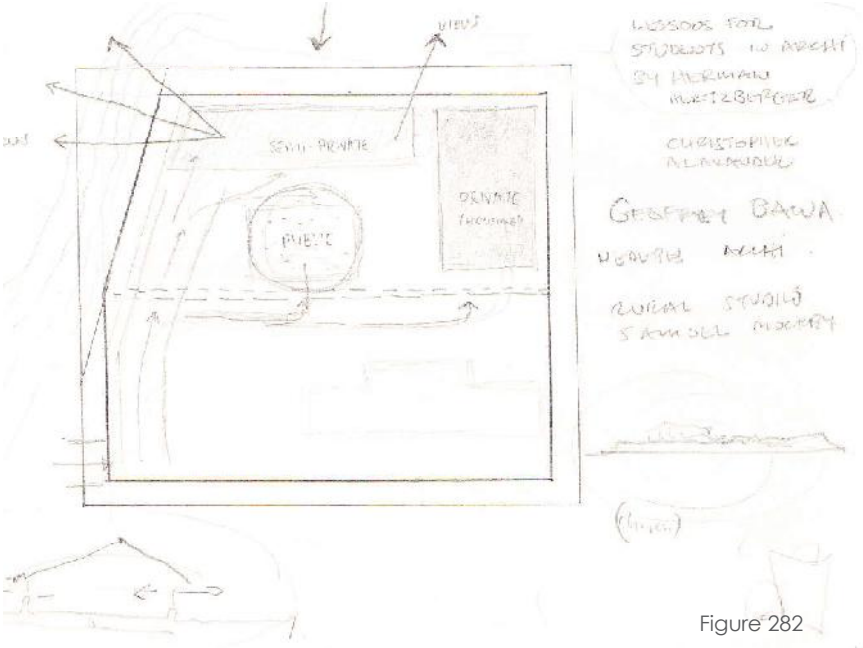


Figure 282

Early explorations showed how the building could make use of the edge of the site. Concepts such as 'therapeutic environments; nature; courtyards; terraces; maximising views/ looking over buildings; water and outdoors and sensual architecture were all ideas that were brought into the conceptual phase at the very beginning.

An exploration into how the site would distinguish program and spaces according to public, private and semi-private. The private spaces would consist of housing; public would be the career counselling and semi-private would be the workshops.

Figure 280 & 281: conceptual sketch sections
Figure 282: Conceptual site response to the program

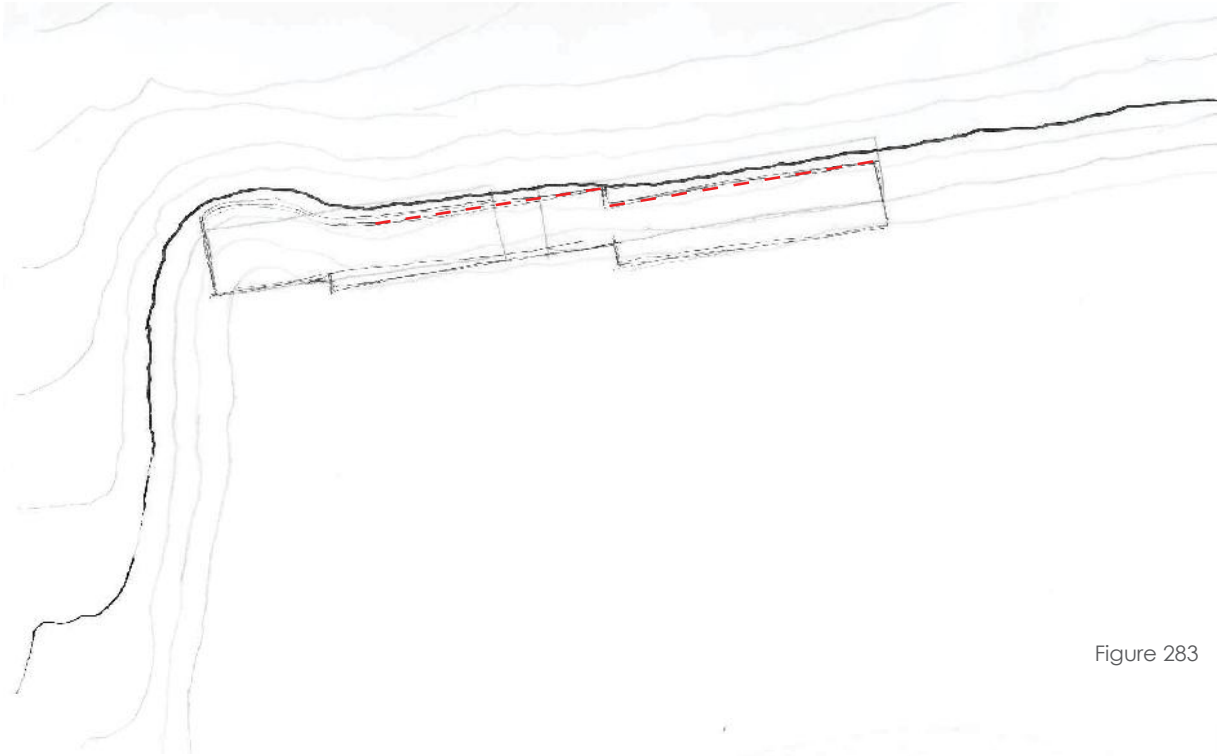


Figure 283

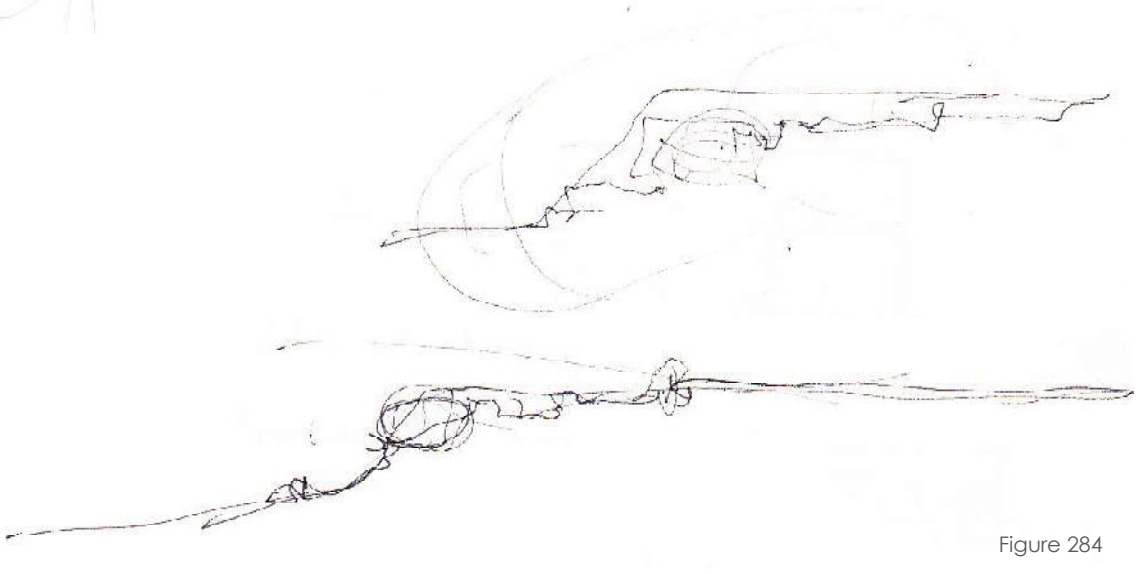


Figure 284

The plan shows how the form was developed through the existing contours of the site where it curves with the topography and steps back towards the eastern edge.

Figure 283: Contours informed the way the building sits within the landscape on the edge of the site.

Figure 284: Conceptual site sections where the building sits within the embankment of the north edge of the site

Initial Site Responses

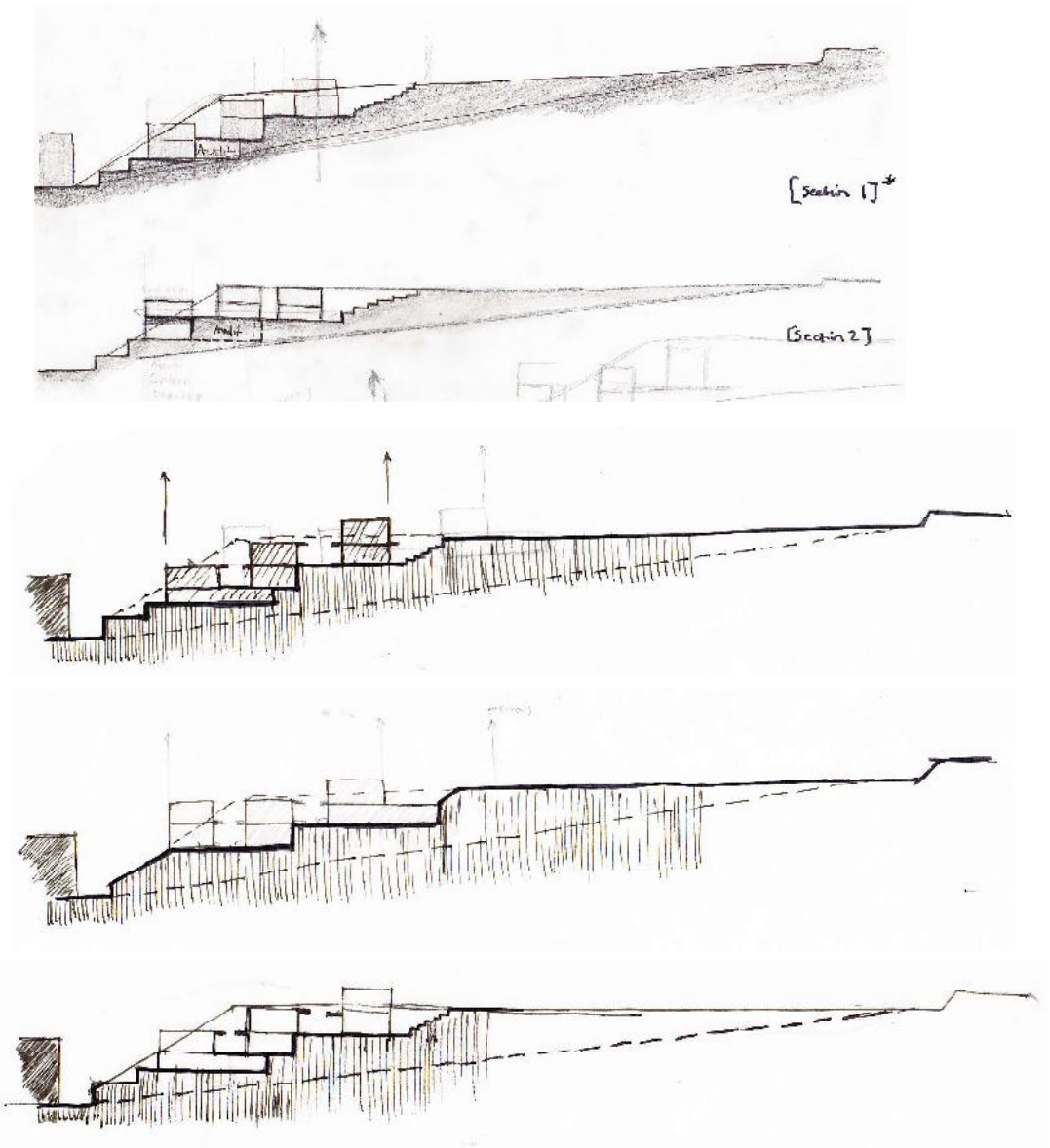


Figure 285: The initial design process was done through a considerable amount of sections to explore the heights of buildings, the relationships of spaces and open spaces between the buildings

Figure 285

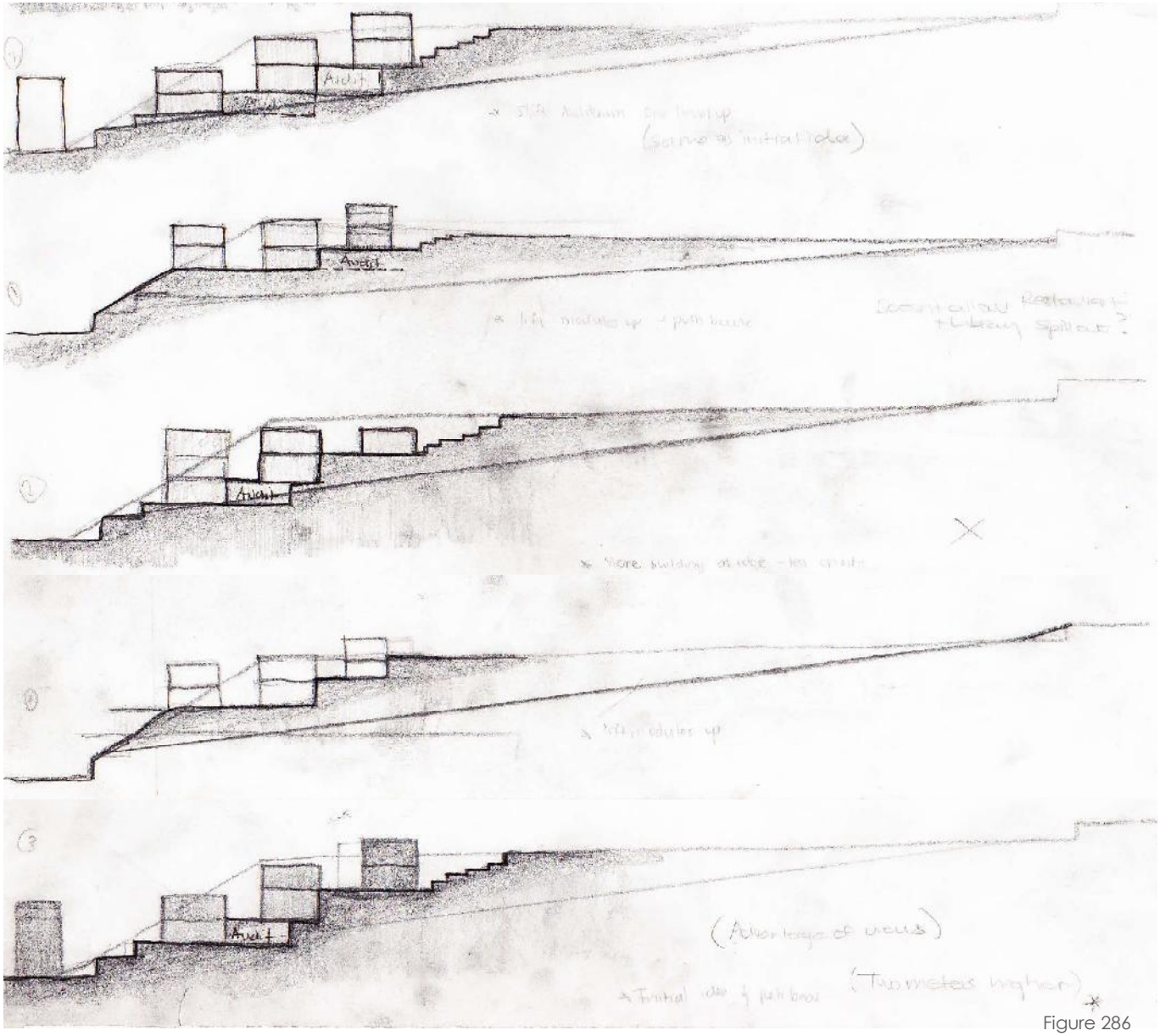


Figure 286

Figure 286: Further exploration through sketched sections on how buildings relate to one another and their corresponding heights

Sketch Development

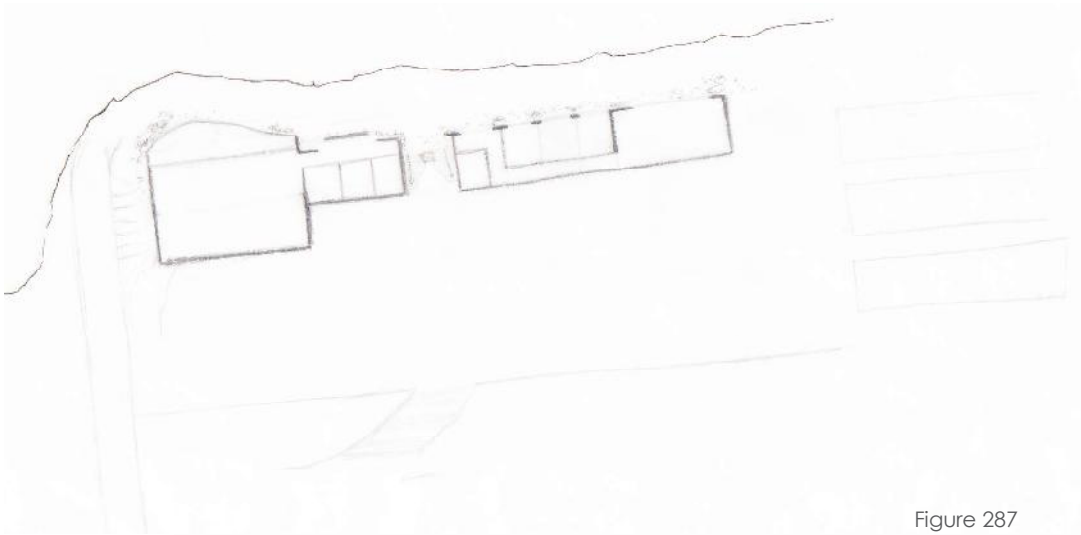


Figure 287



Figure 288

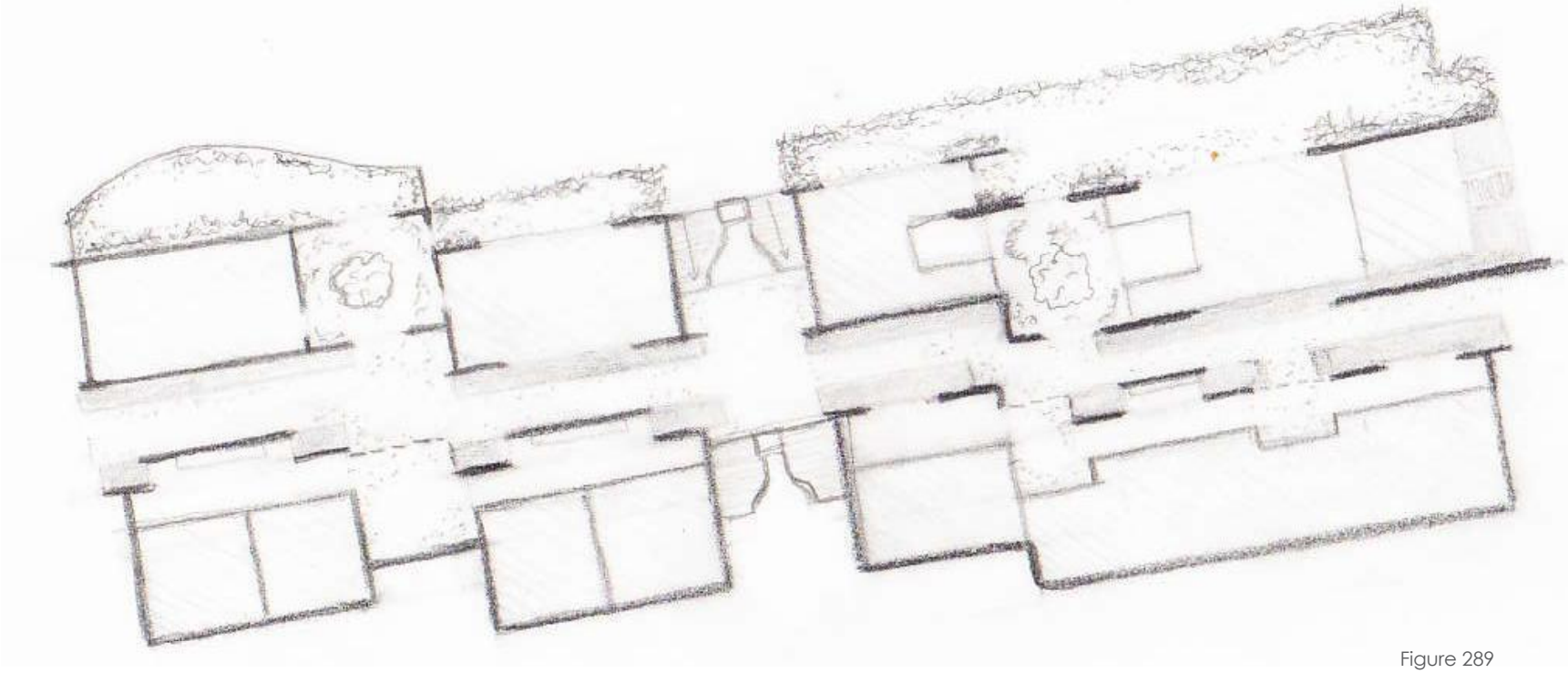


Figure 289


Figure 290

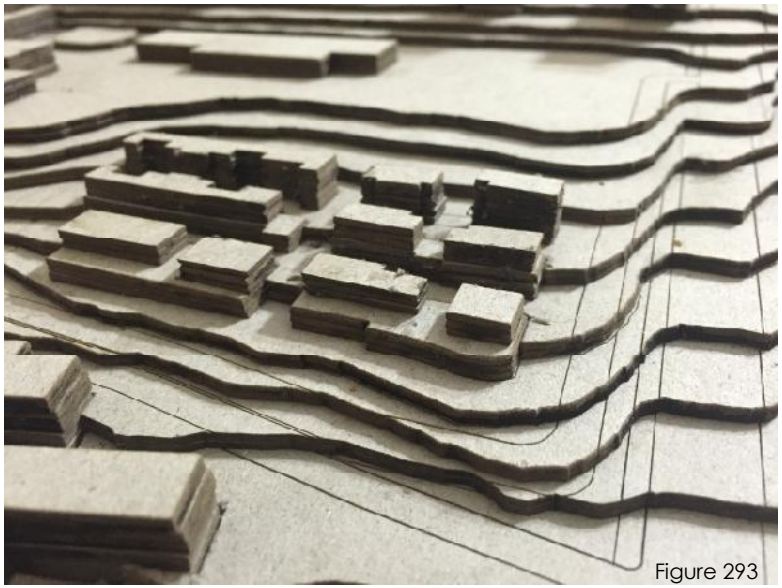

Figure 293


Figure 291


Figure 294

The sketch development drawings show how buildings were broken up to create courtyard spaces. This design failed to respond to the site as initially explored where the start of the building would feed from the main entrance and wrap around the contours on the edge of the site. This design however, did respond to building into the site and gave a feeling of how the buildings would be built into the landscape and step down.

Figure 287-294: Design development drawings and mass model exploring courtyard spaces and building into the landscape.

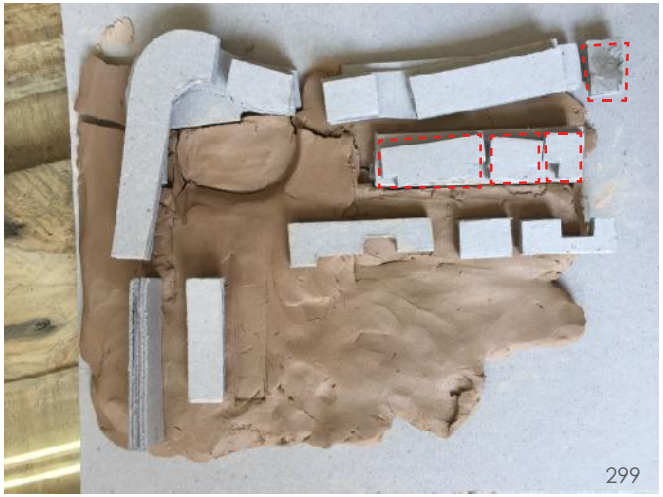
Explorations Through Models



Models were used to further explore different arrangements and forms



This exploration responded to the site as laid out by the initial conceptual drawings.



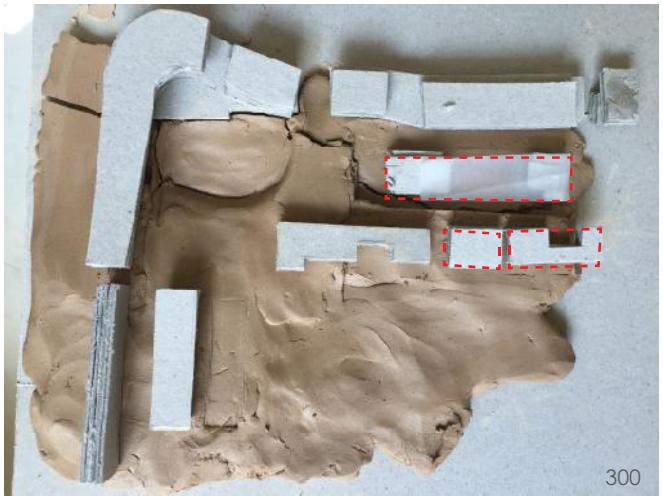
Further ideas were explored where an outdoor amphitheatre would become a central social space



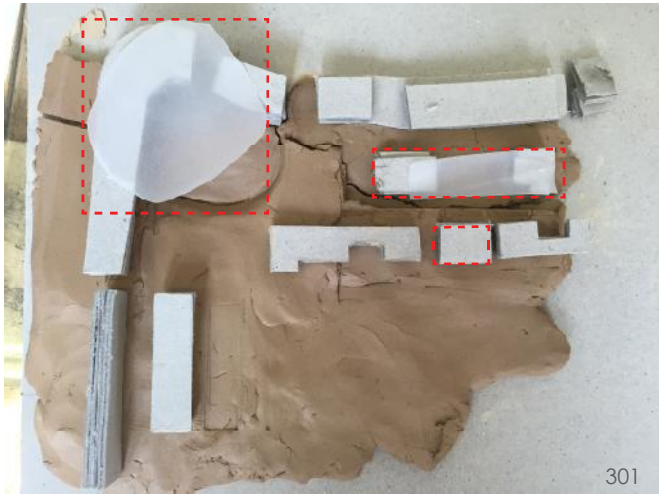
The relationship between courtyards, open spaces and the various programs could easily be explored through models.



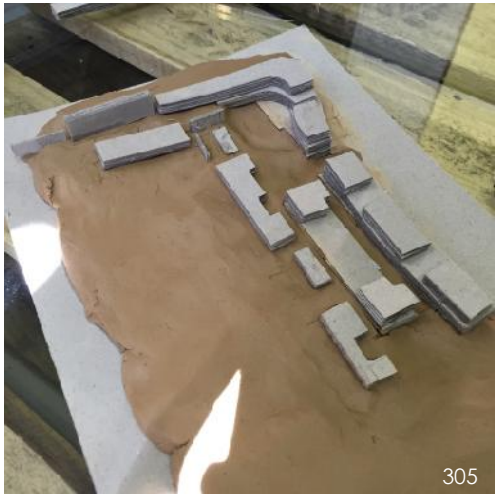
The building was fed in from the entrance of the site and was then built into the landscape along the edge of the site.



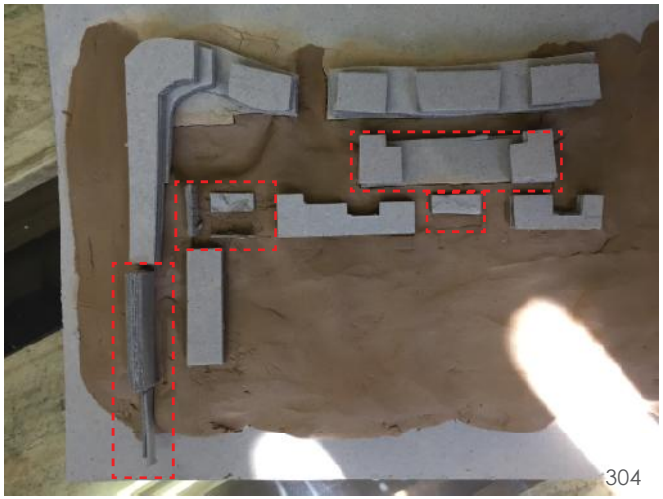
Various roof coverings were looked at as well as how they would relate to the courtyard spaces











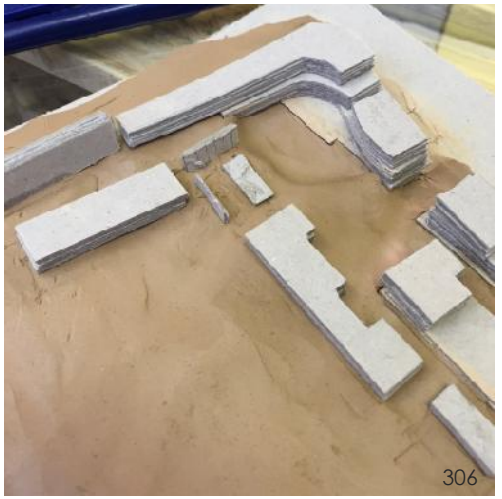
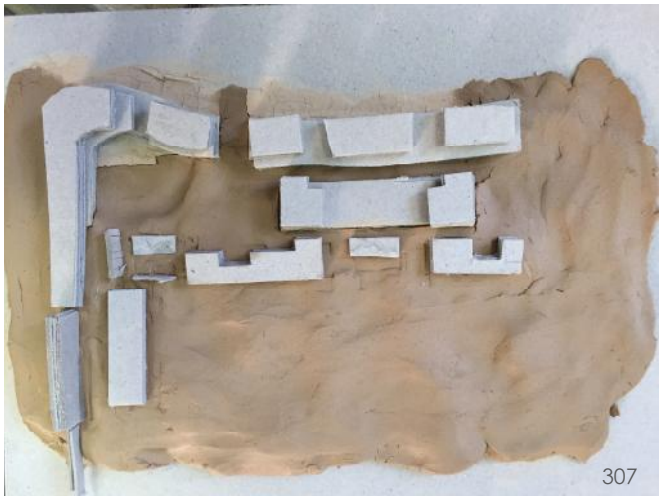
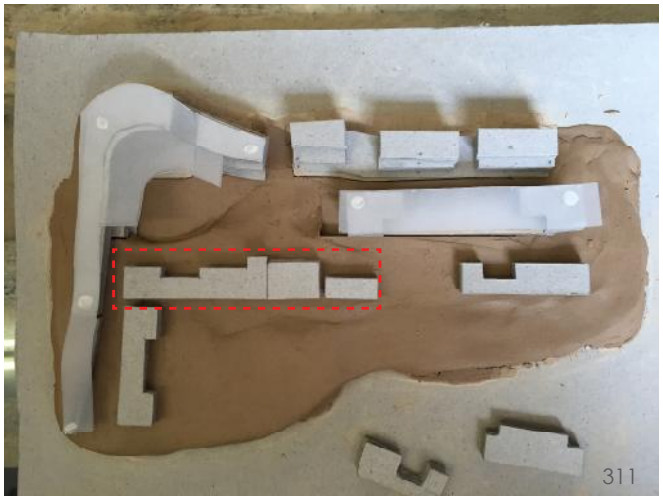
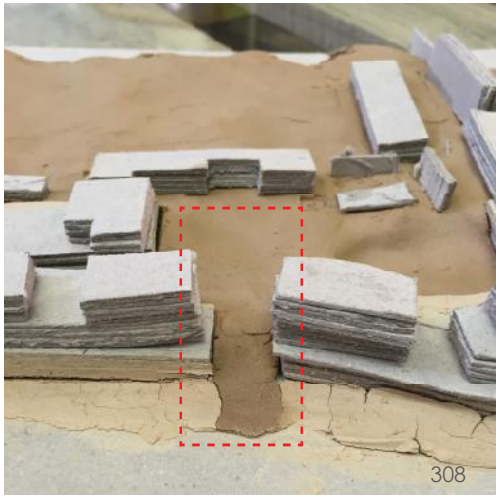


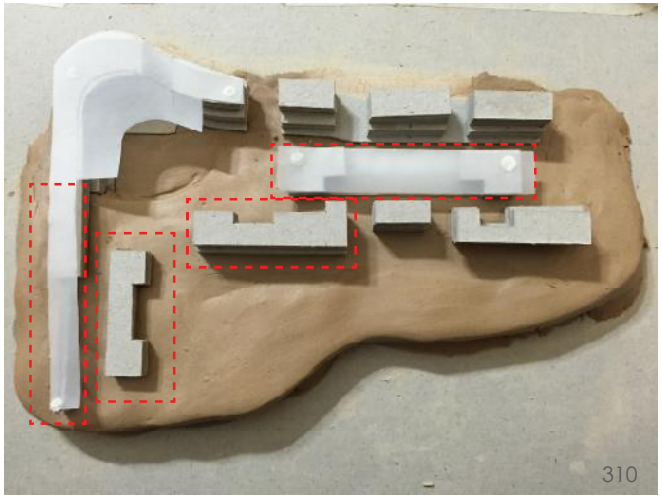
Figure 295- 306: Exploration of forms, outdoor spaces and arrangements through models

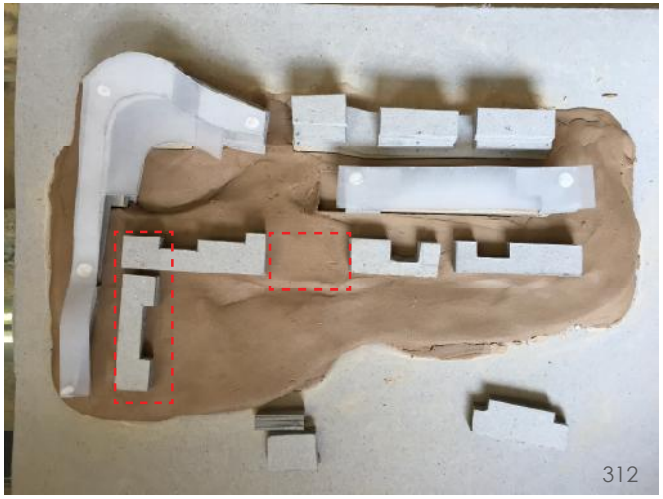

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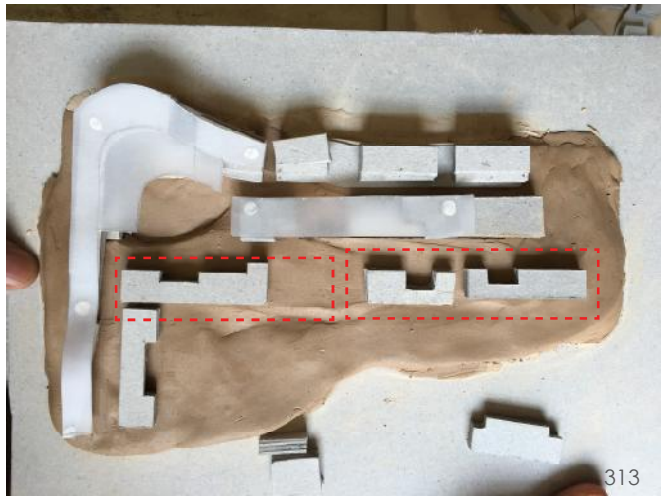

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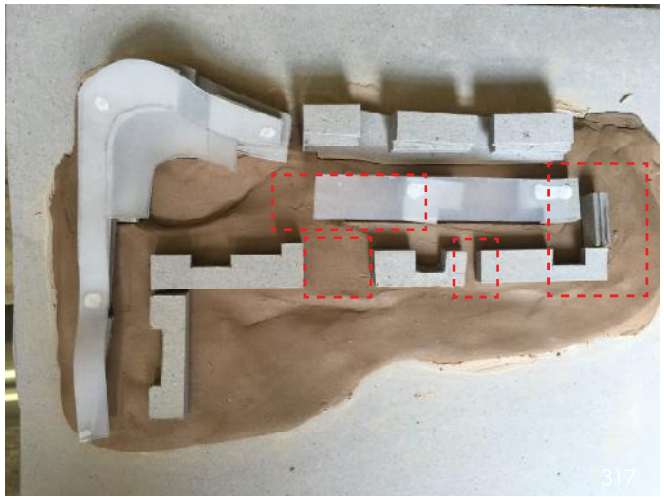

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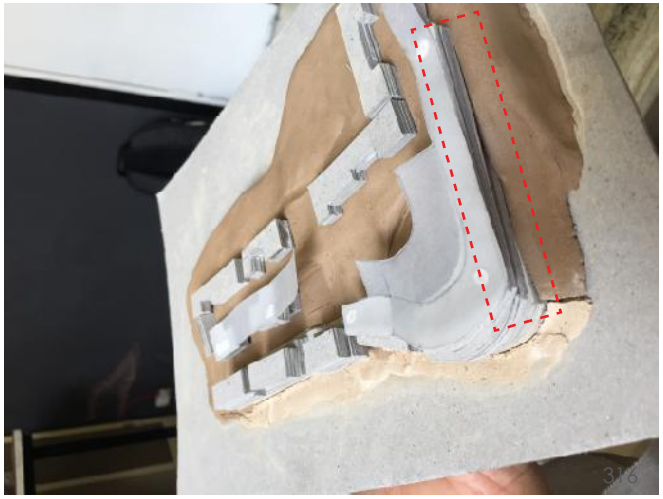
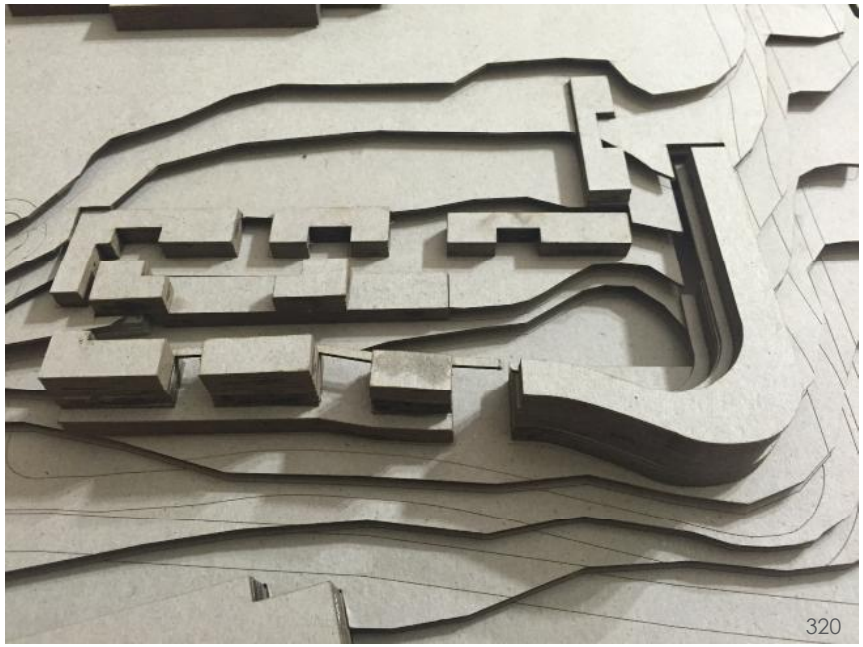


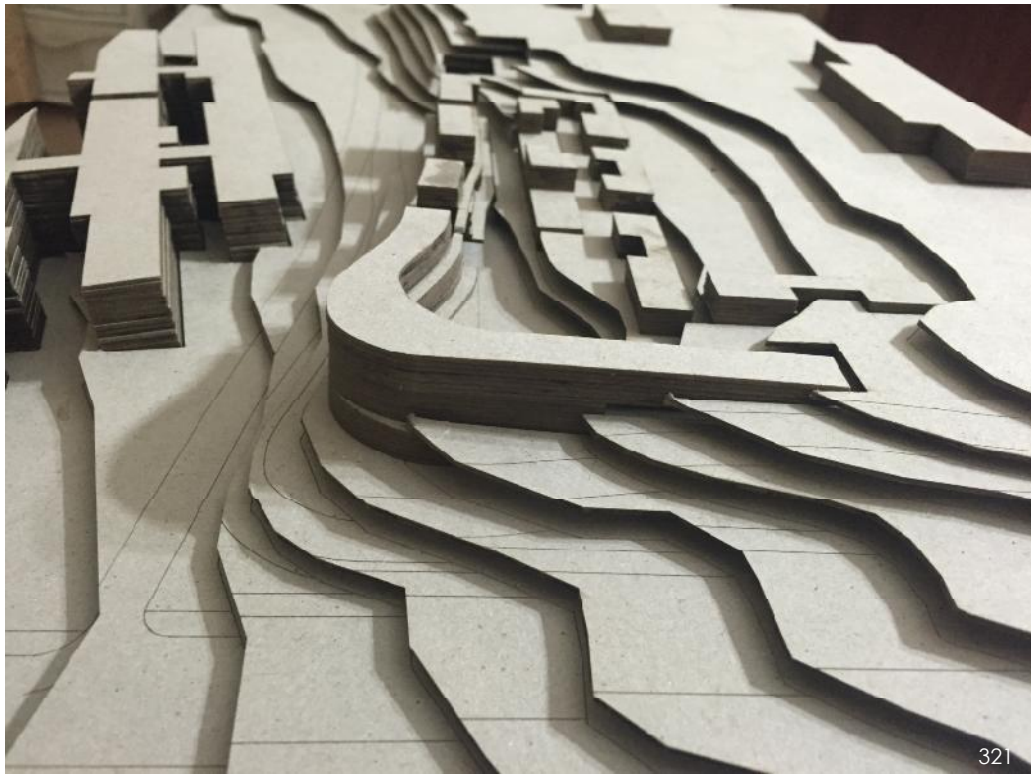


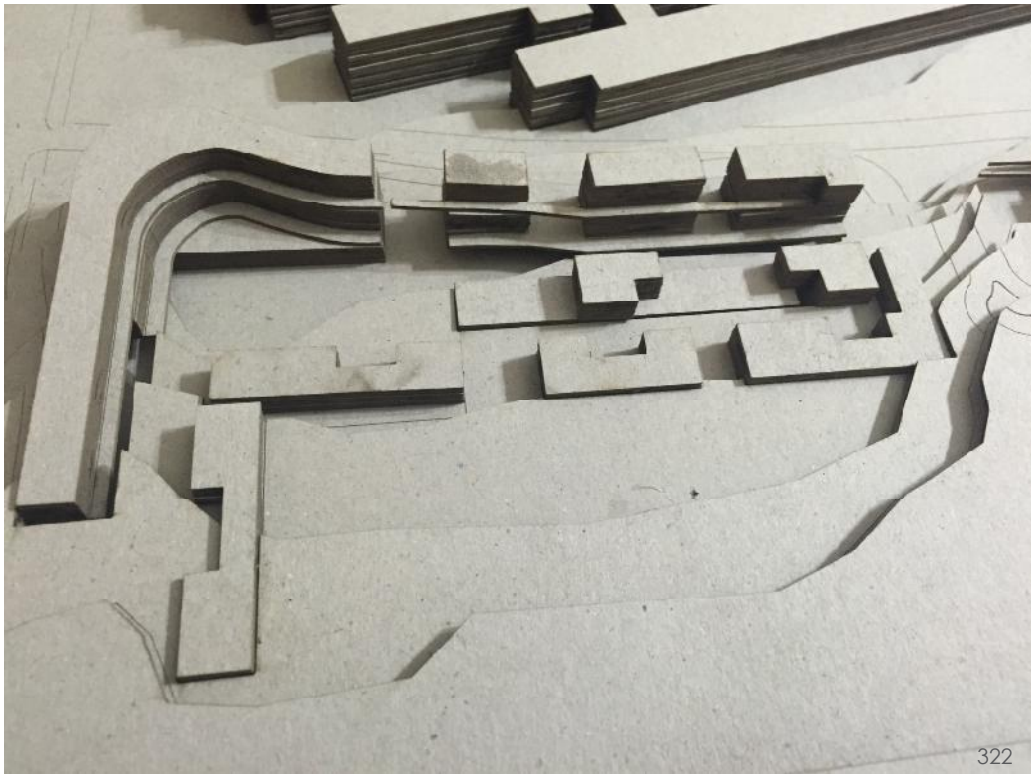
Figure 307-318: Exploration of forms, outdoor spaces and arrangements through models

Explorations Through Models


320


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321


322

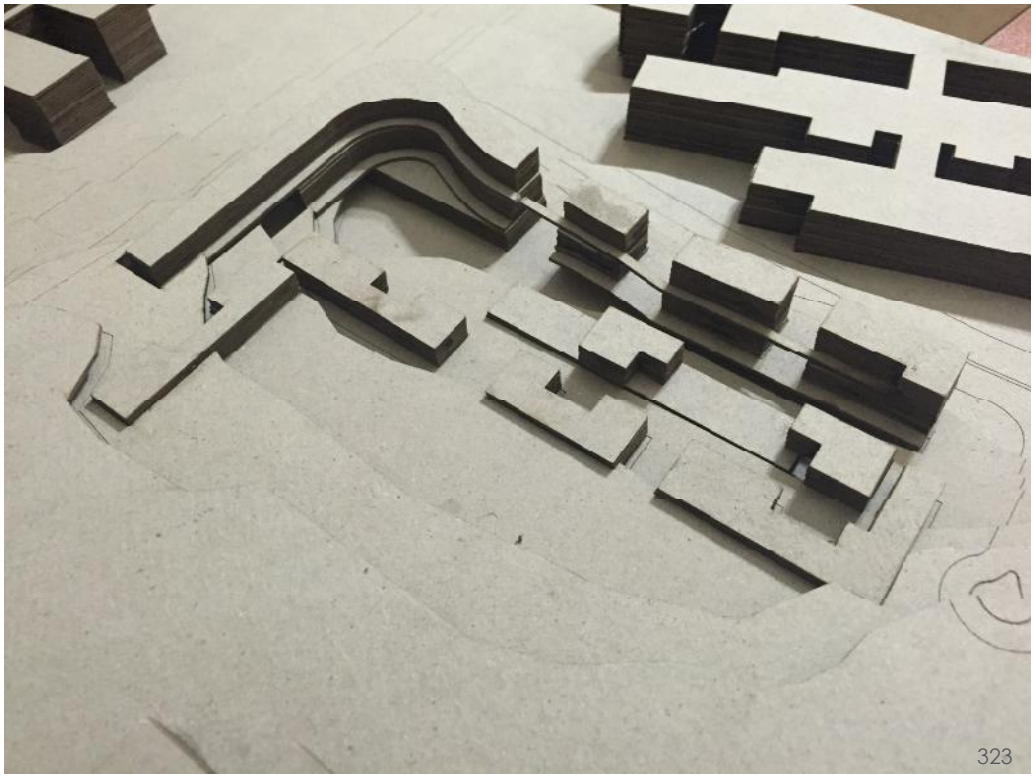
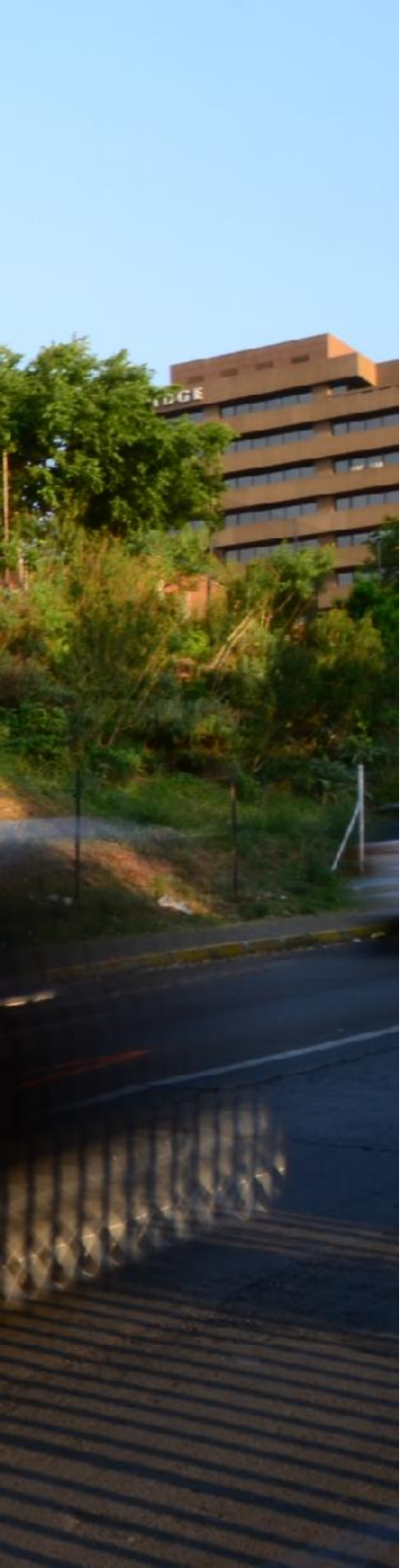

323

Figure 319- 323: Through a mass model, a further exploration of the site was developed where the building responded to the natural contours and seemed to sit within the site.
This idea was further explored in the final design and adapted to better suit the context.


NSA



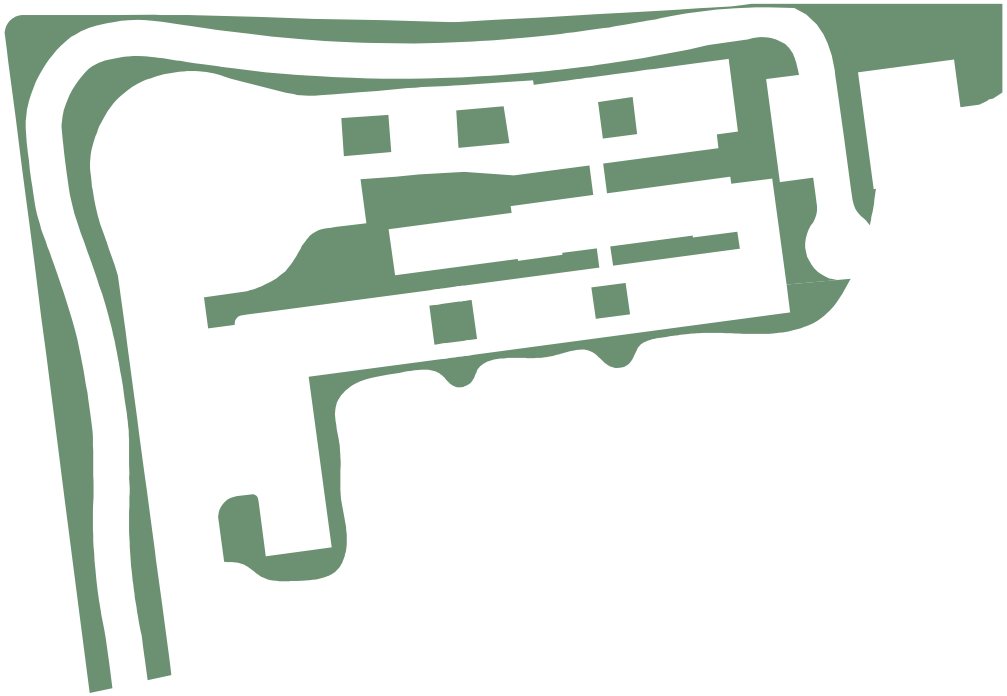
Chapter 12

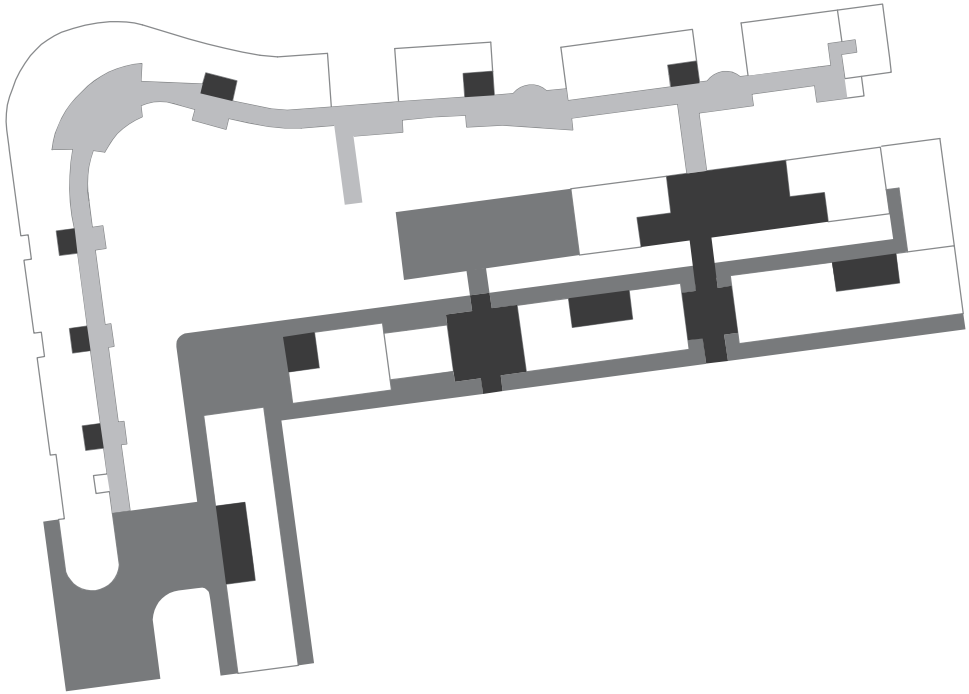
Final Design

Design Principles
Final Drawings

Figure 324: By Author, Melle Street, Johannesburg

Design Principles





Green spaces are a fundamental aspect in the design of the building. It laid out how the buildings would sit in relation to courtyard spaces.

The entrance to many of the spaces happen within courtyard spaces which aids in transition between the inside and outdoor spaces. These spaces also act as retreats for students who feel the need to be in a relaxed environment.

The connection the natural environment was a leading design feature where the building was built into the landscape.

Green roofs allow the building to blend into the surrounding context and blend into the landscape.

Differing tactile floor finishes serve as a method of wayfinding for navigation and transition into spaces.

The networks of buildings and paths also make use of different floor finishes.



Plants along the main circulation spine aid in way-finding and navigation. The plants would differ in the various areas for recollection of spaces and where things are situated. Lavender would be one of the main plants used as it is already been planted along the embankment of the site by the National School of Arts.

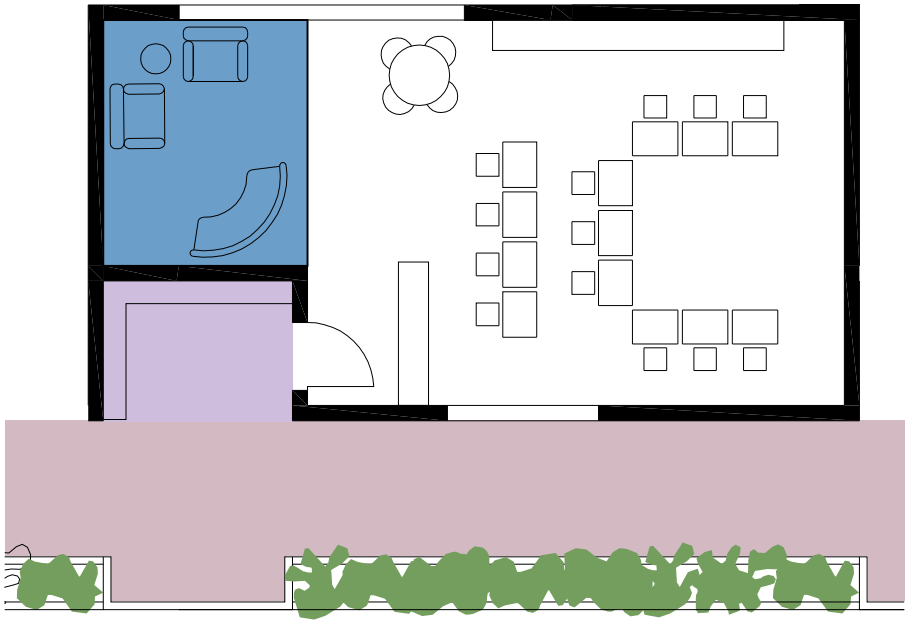
Water along the edges of the workshops aid in way-finding by means of sound.



Purple- Public facilities made up of the career counselling offices and studios are located at the entrance of the building by the reception to allow for easy access to members of the public who may use it.
Blue- semi-public: workshops used by both students and employers /employees for job coaching and job sampling.
These spaces are very large allowing various activities to occur within them.

Pink- Private classrooms for students
Green- Private temporary residence

Design Principles





All access to classrooms and workshops take place on the upper most level for ease of access and way-finding.

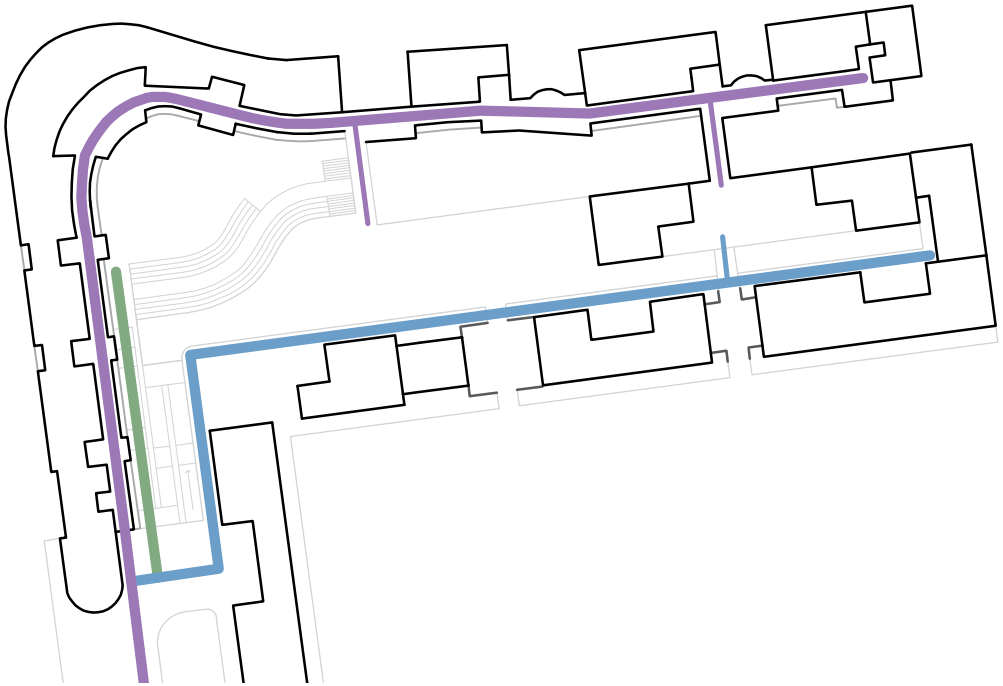
The corridor leading onto classrooms act as a 'street' where activities can occur.
Blue: Break-away spaces occur along the corridor which leads into the classrooms. Social activities can happen within these spaces.
Green: Escape spaces which are informal, relaxed spaces within the classrooms allow for students to retreat to.

Classrooms are large to allow variation of activities within them. Desks can be arranged to the educators needs and there is space for grouped tables for different activities within the classrooms to occur. Storage is available within the classrooms for students. Desks are bigger to accommodate for variety of uses and users.

Classrooms allow for views looking over Johannesburg both to the west and north.
Subtle colours will be used throughout the building. Bolder colours may be used at entrances of spaces

Circulation occurs along the main spine of the building.

Red: Movement of students to the classrooms.
Blue: Ramps to Level 2
Green: Movement by students and employers/ employees which use workshops.

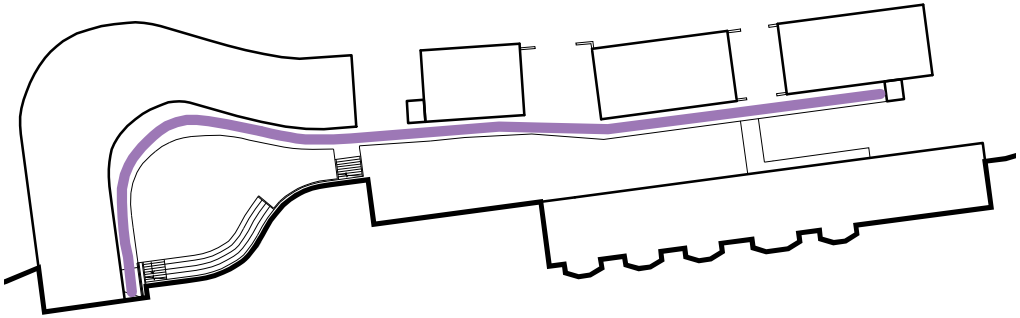


The Diagram highlights the main circulation spine on the upper level which ensures easy way-finding and access for all the students.

Branching off from this is access to the circulation spine on the level below and a path leading to the workshops which also connect to the classrooms.

Corridors are very wide allowing various activities to occur and ease of movement for all the users.

Textured wall finishes to help with way-finding- they differ through customization at different parts of the building to help orientate users

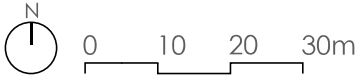


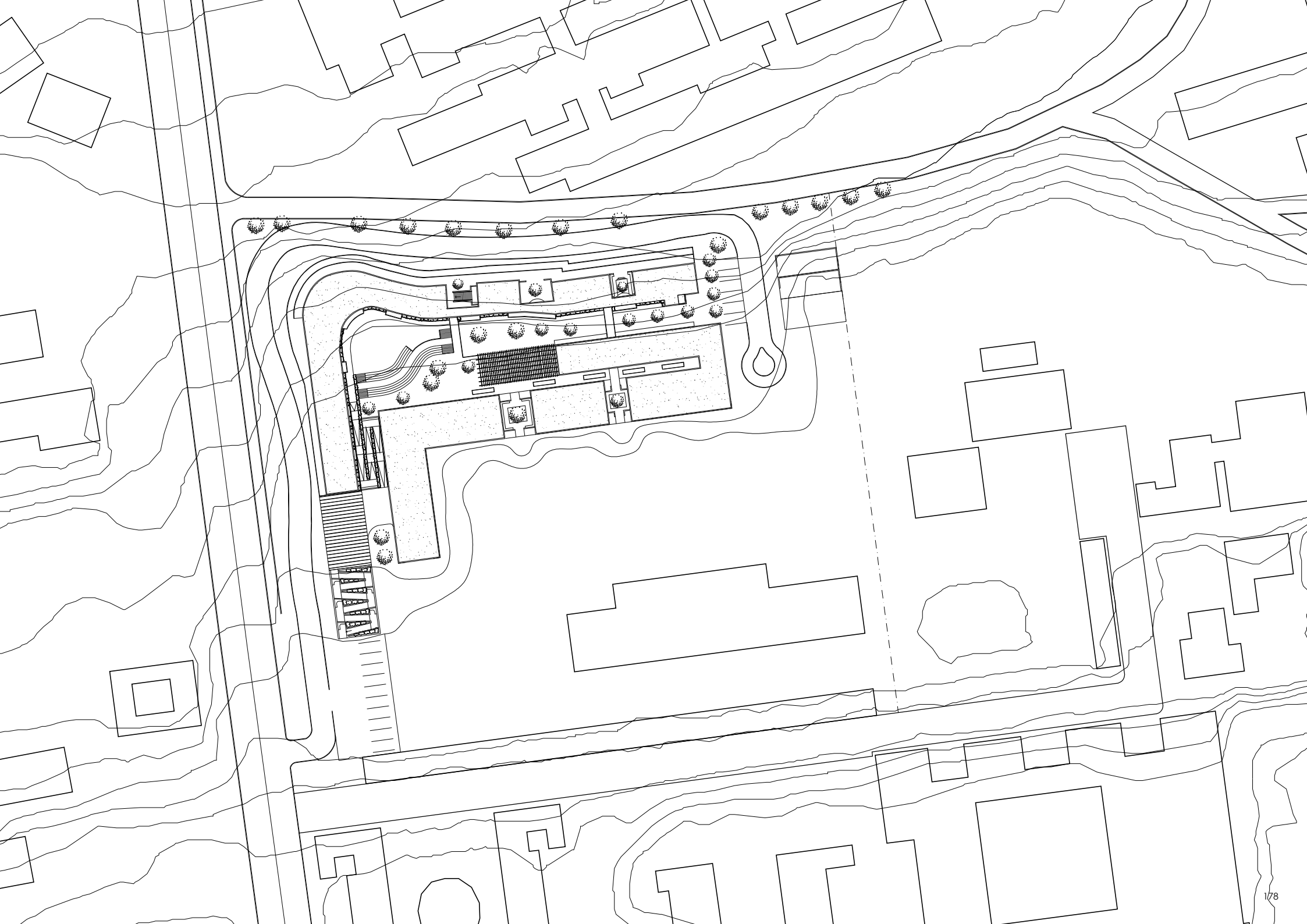
The circulation spine on the level 2 mimics that of the upper level. This ensures ease of access and way-finding.

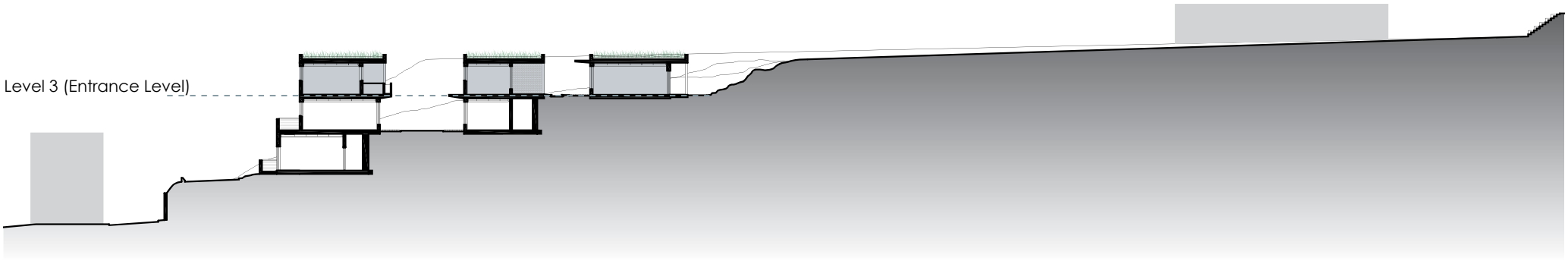
The outdoor amphitheatre acts as heart of public and private connection within the building.

Final Design Drawings

Site Plan 1:1000









LEVEL 3
1 :500

1 Entrance Ramp
2 Reception
3 Career Counselling- Offices and Studios
4 Ramp to Level 2
5 Covered Seating Area
6 Workshops - Mock Work Environments and Skills Development
7 Covered Social Area
8 Covered (Pergola)
9 Courtyard Below (Level 2)
10 Break- away spaces in Corridors
11 Escape Spaces
12 Classrooms
13 Storage Room
14 Temporary Living
15 Ground Cut Line

Access into the building happens at level 3, which is the highest point of the site. The building then steps down to the other levels. A reception area aids in navigation to the various spaces which is located at the entrance by the ramps.

This level is made up of the most important spaces used by a person with an intellectual disability. It is therefore easily accessible to the students. All classrooms are on this level along the 'main street' or main circulation spine.

The Career Counselling spaces are at the entrance by the reception making it easy for persons of the public to access.

The workshops in which skill development and the mock work environments would happen are also on this level and also connect to the classrooms.

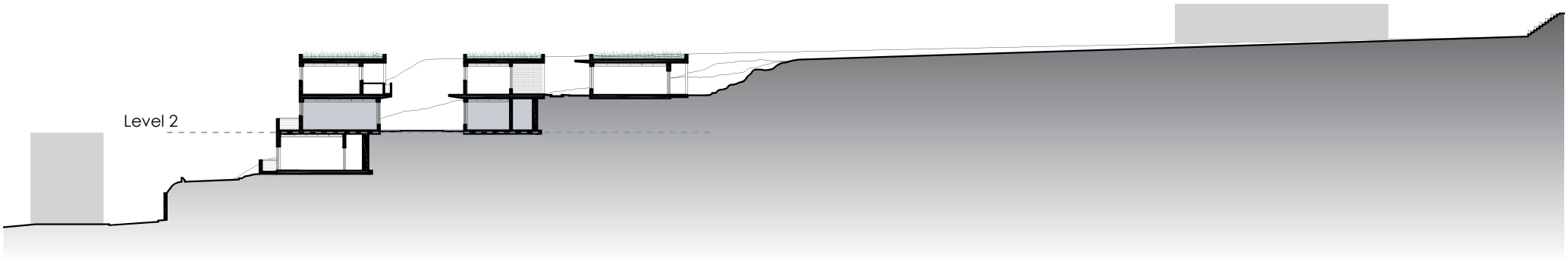
Courtyard spaces allow for break-aways from the learning spaces and also aid in transition from one space to the next.

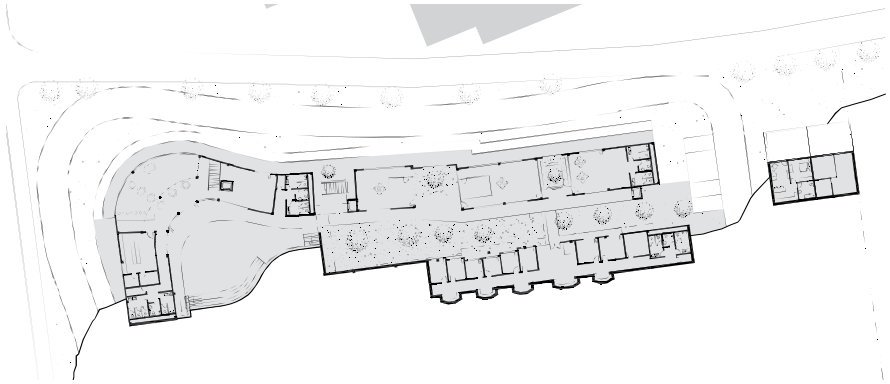
The building ramps down to level 2, or alternatively by steps along the outdoor ampitheatre.




A
B
C
13
11
14
12
9 Courtyard Below
8 Pergola Above
6
7
6
15 Ground
Cut Line
10
6
6
11
5
3
10
4
3
2 Reception
1 Entrance Ramp

LEVEL 3
1 :500





LEVEL 2
1 :500

1 Outdoor Ampitheatre
2 Level 2 Spine Walkway
3 Training Kitchen
4 Restaurant
5 Entrance and Foyer to Auditorium
6 Courtyard
7 Media Centre & Reading/ Study Rooms
8 Escape Spaces
9 Courtyard
10 Administration - offices
11 Ground Cut Line
12 Temporary Living

On level 2 there is a restaurant, where training would also occur. This space acts as the entrance point into the auditorium below which makes it a focal social space.

Level 2 is accessed by ramps from the level above. There are alternatively stairs along the outdoor ampitheatre which allow access onto level 2.

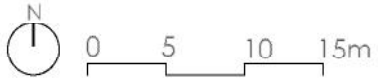
The restaurant opens onto an outdoor ampitheatre. These spaces make this level the hub in which social activities would occur. Level 2 therefore becomes the heart of the building.

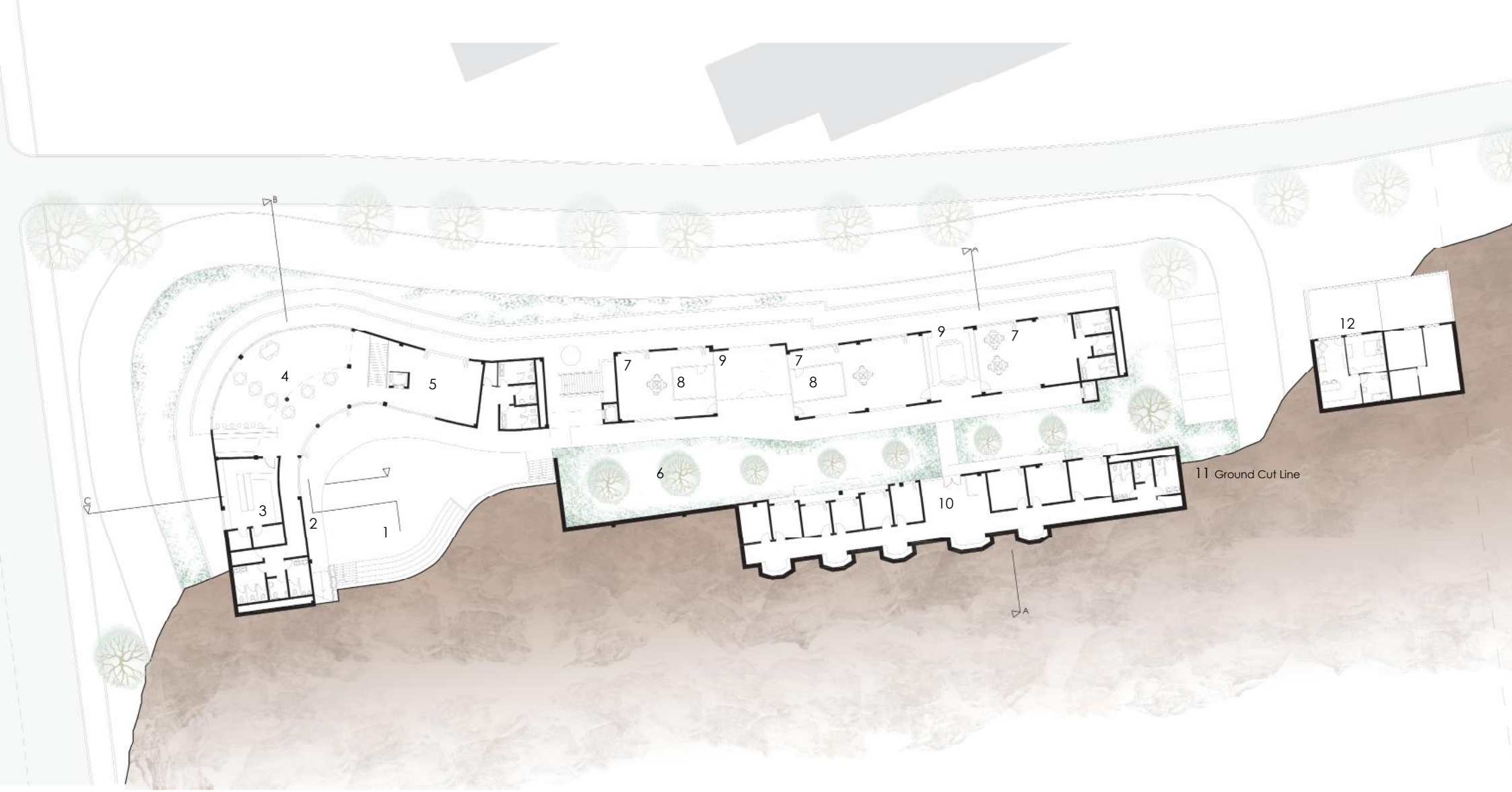
A media centre and reading/studying rooms are on this level which are accessible to both the public and students.

Administration offices are located on this level along the courtyard.

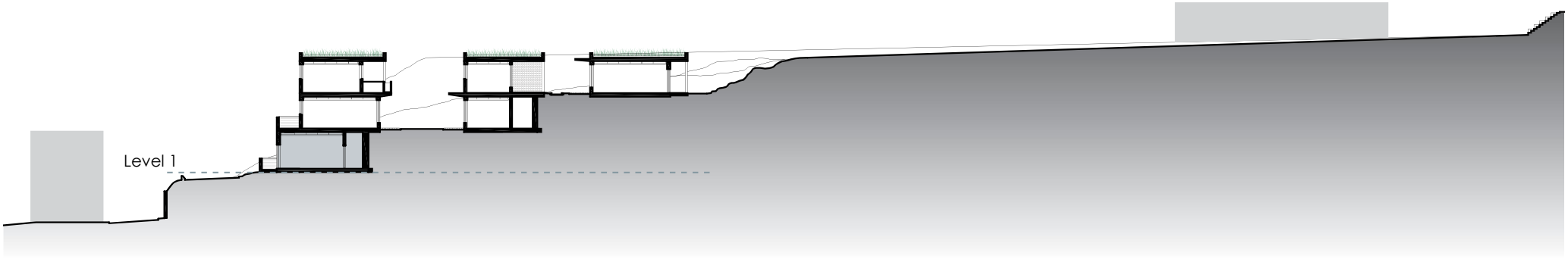
The courtyard between the media centre and administrative block can be a relaxing social space where students can retreat to.

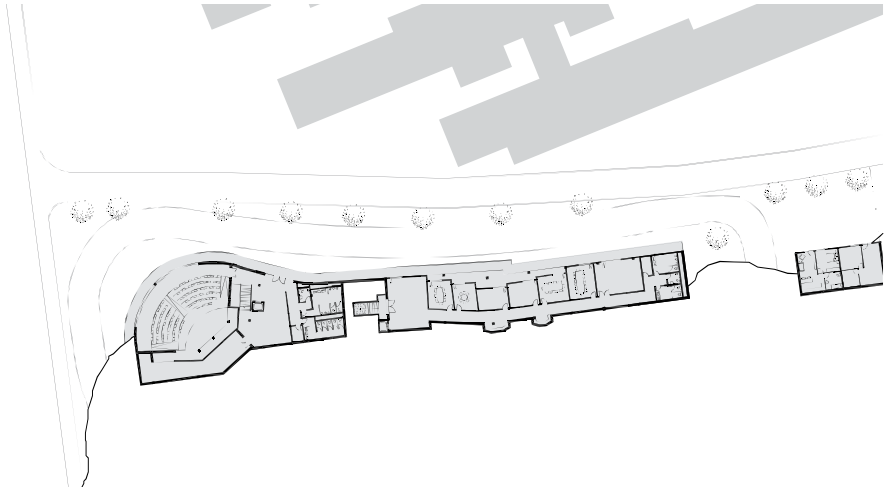
The media centre has 'escape spaces' where students have more privacy. The media Centre and reading/study rooms open onto courtyard spaces.





LEVEL 2
1 :500



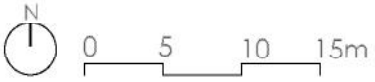


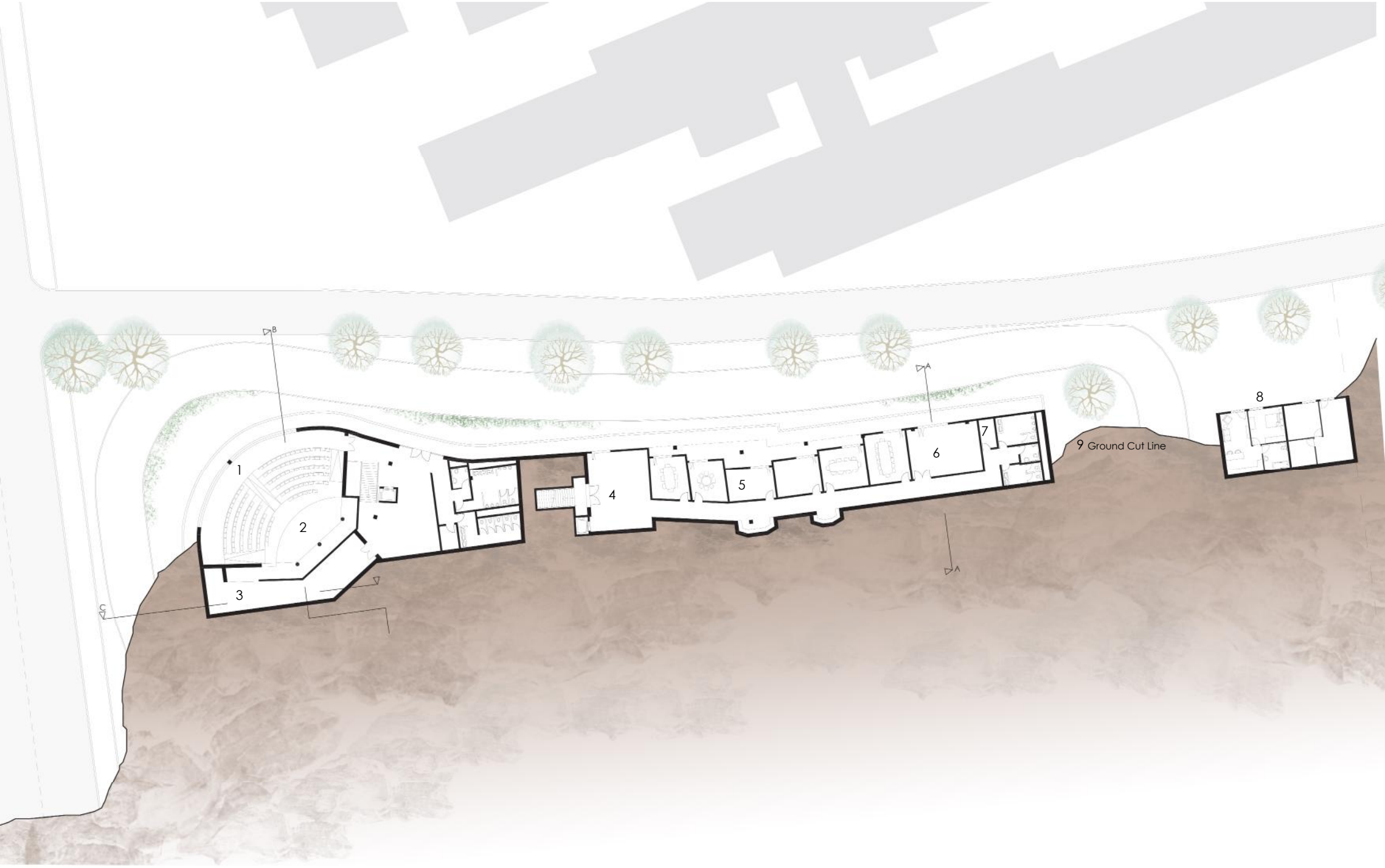
LEVEL 1
1 :500

1 Auditorium
2 Stage
3 Back Stage
4 Entrance to Conference Rooms
5 Conference Rooms
6 Wood Workshop
7 Cleaning Storage
8 Temporary Living
9 Ground Cut Line

Level 3 houses the main auditorium which is accessed through the restaurant and foyer on the level above.

This level also has conference rooms and a wood workshop. These facilities can all be used by both the public as well as employers and employees.





LEVEL 1
1 :500



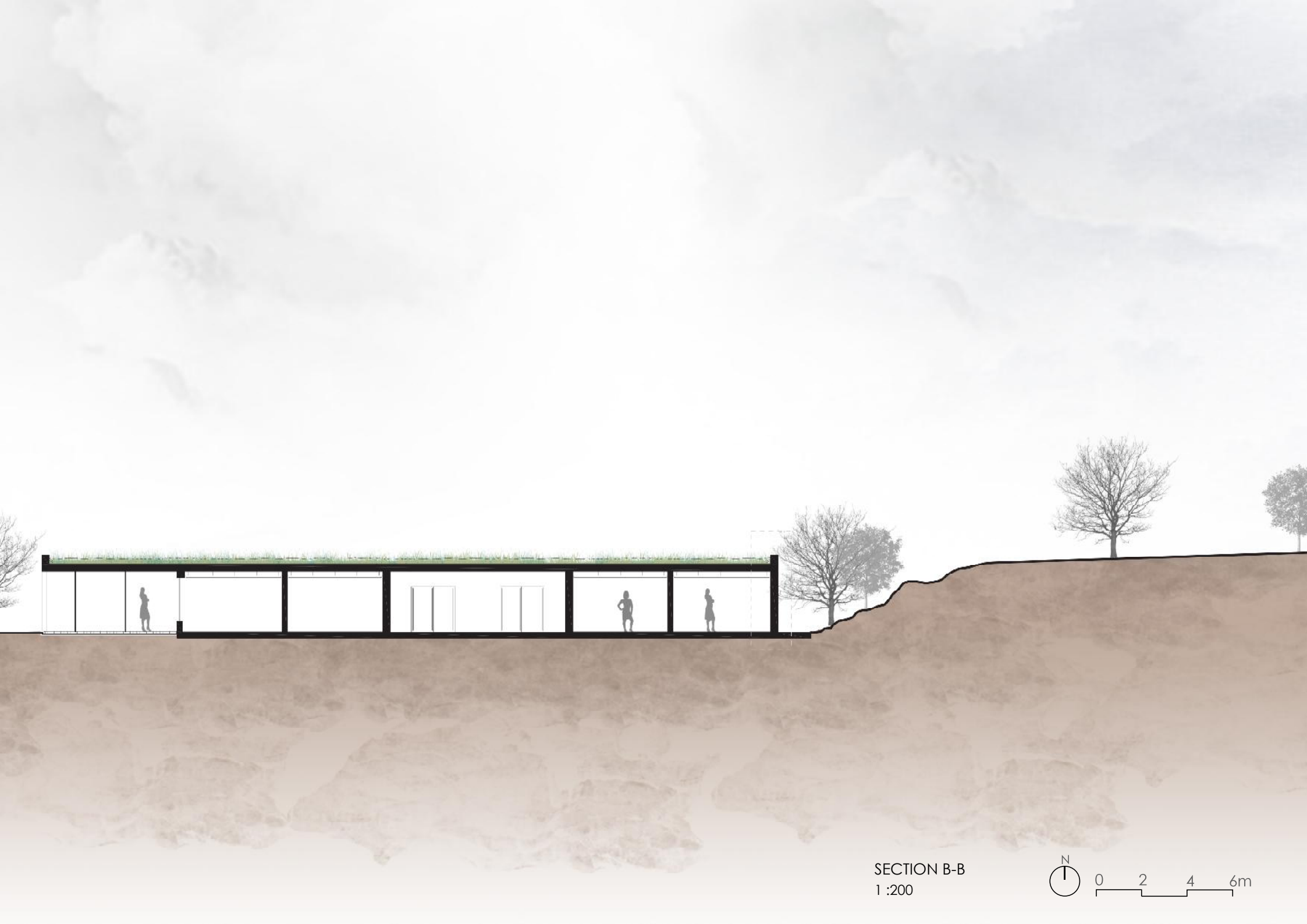


SECTION A-A
1 :200

N

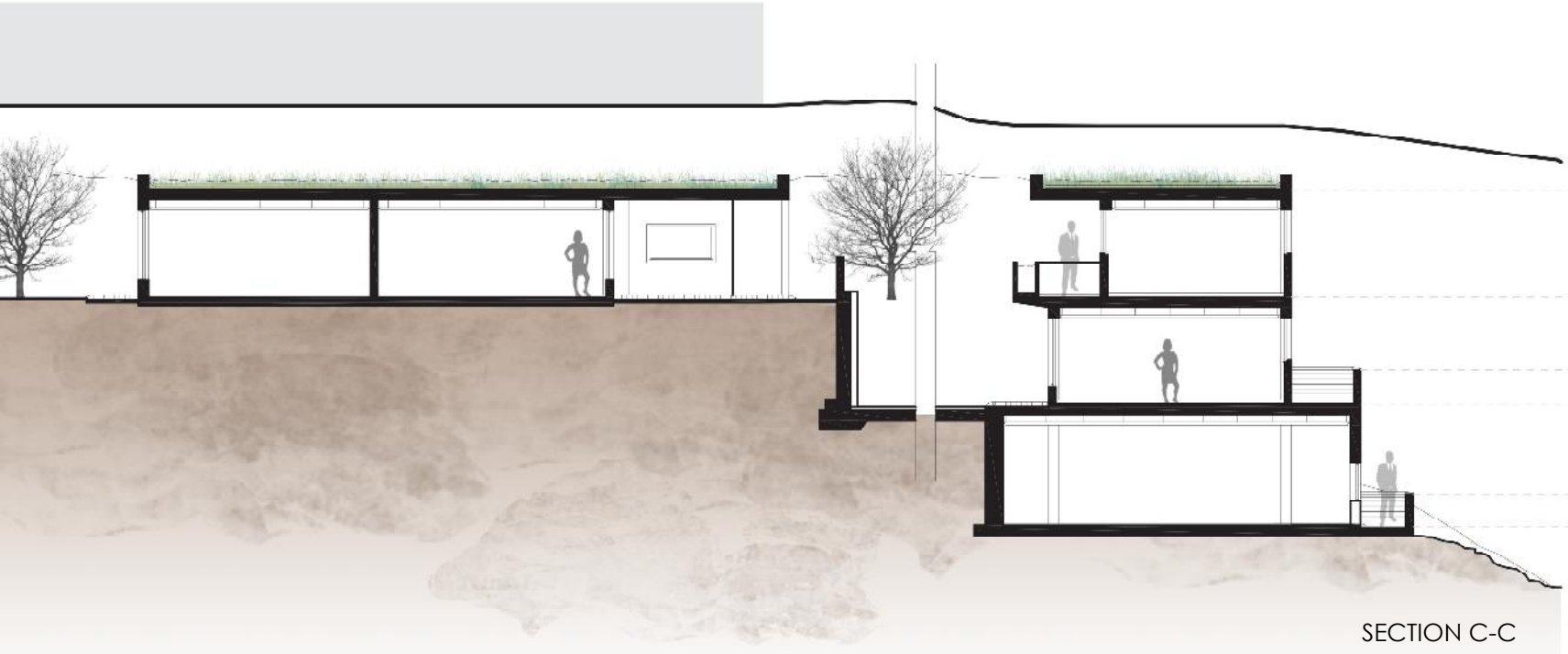
0 2 4 6m





SECTION B-B
1 :200

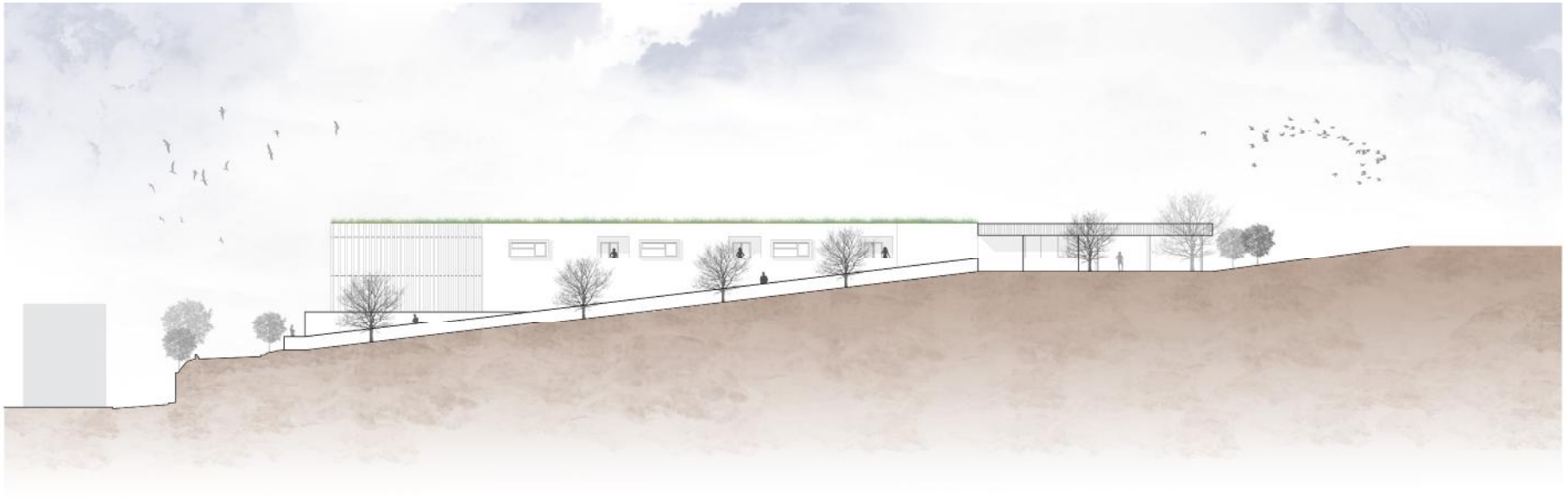




SECTION C-C
1 :200

N

0 2 4 6m



West Elevation
1:500

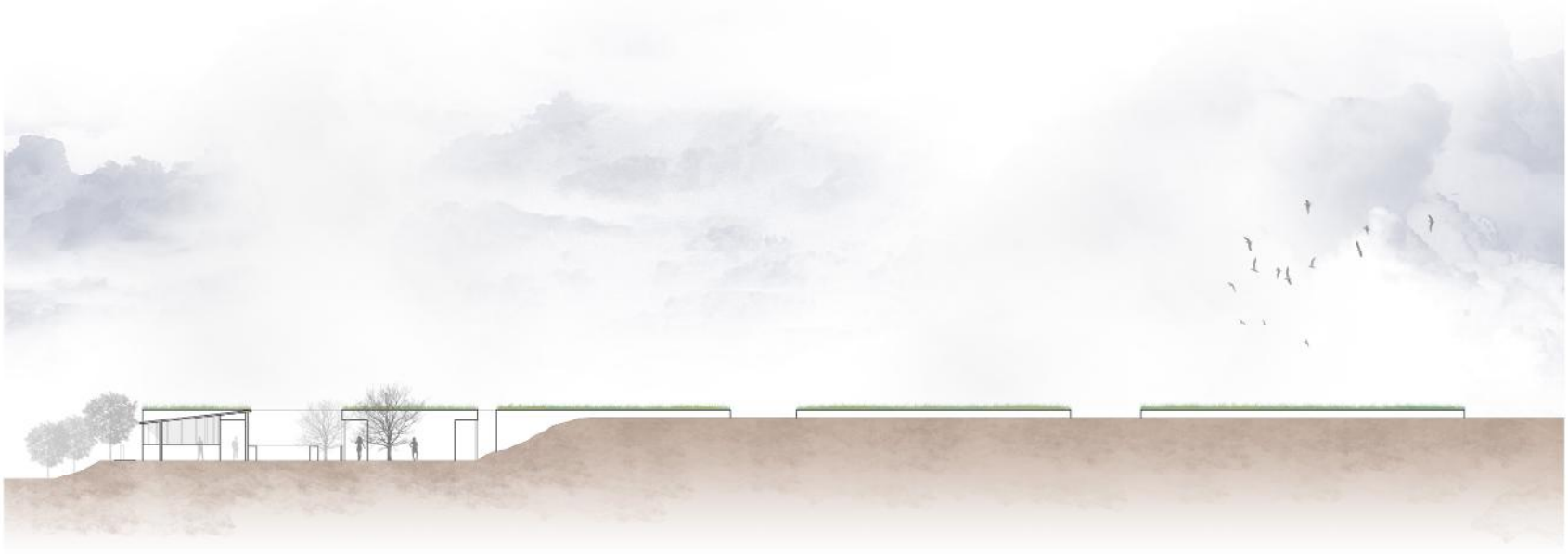


East Elevation
1:500

0 5 10 15m



North Elevation
1:500



South Elevation
1:500

0 5 10 15m





Courtyard

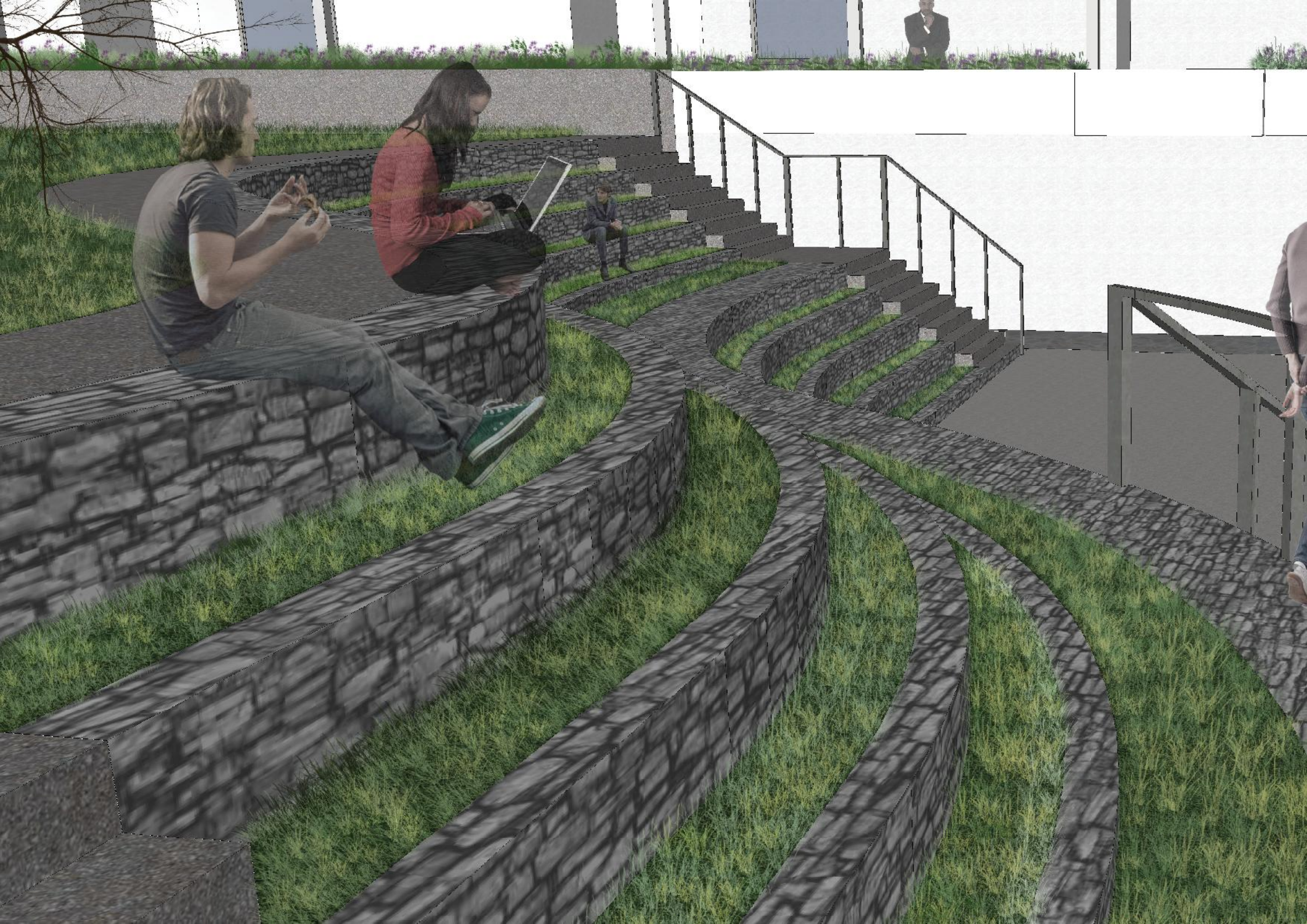


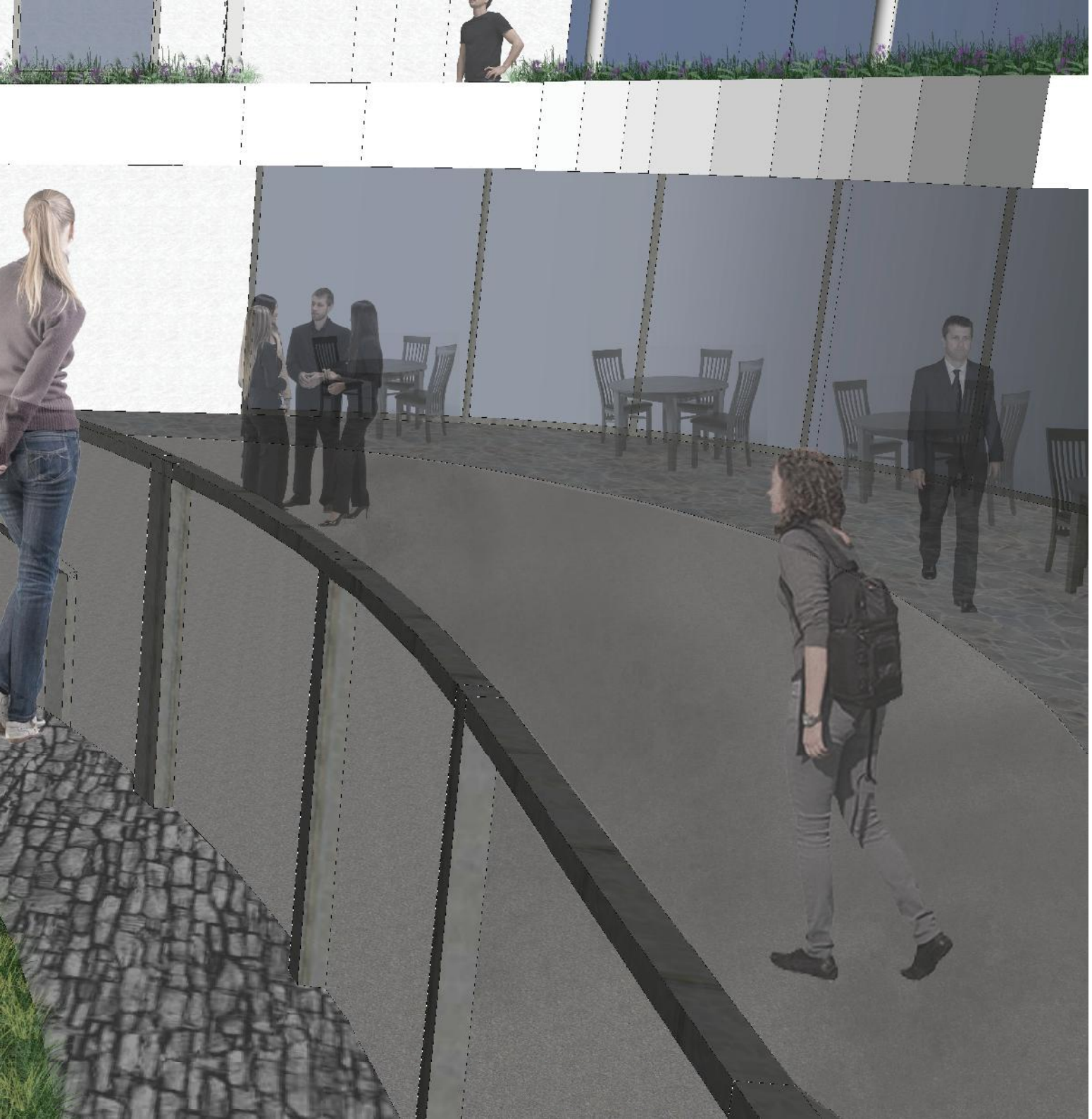




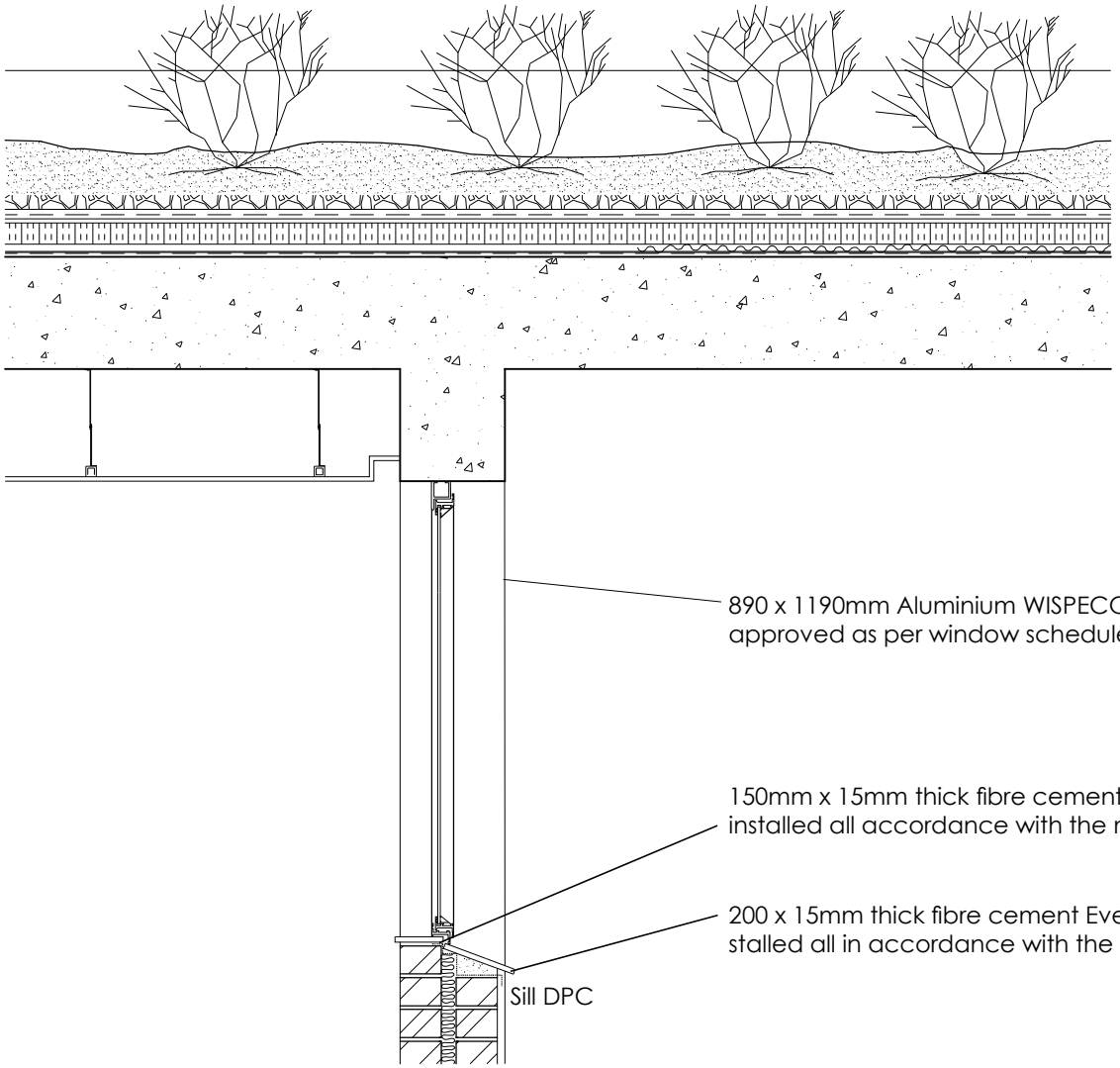


Classroom Break-aways

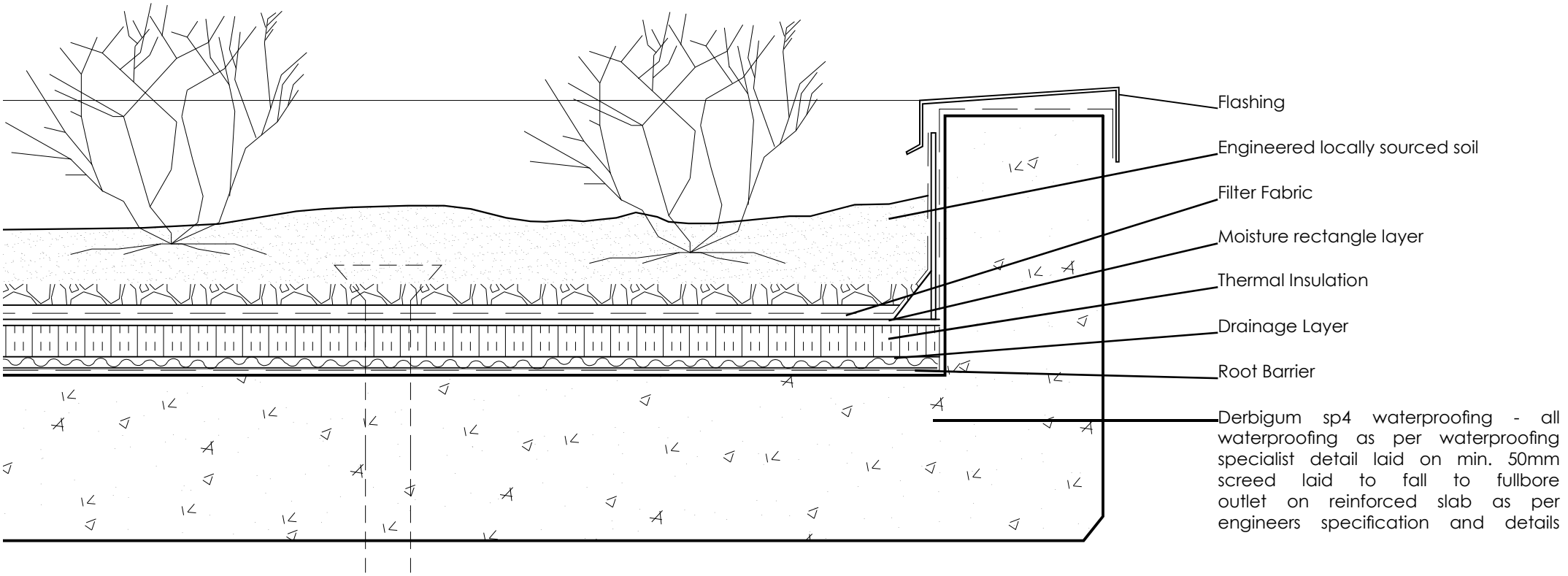




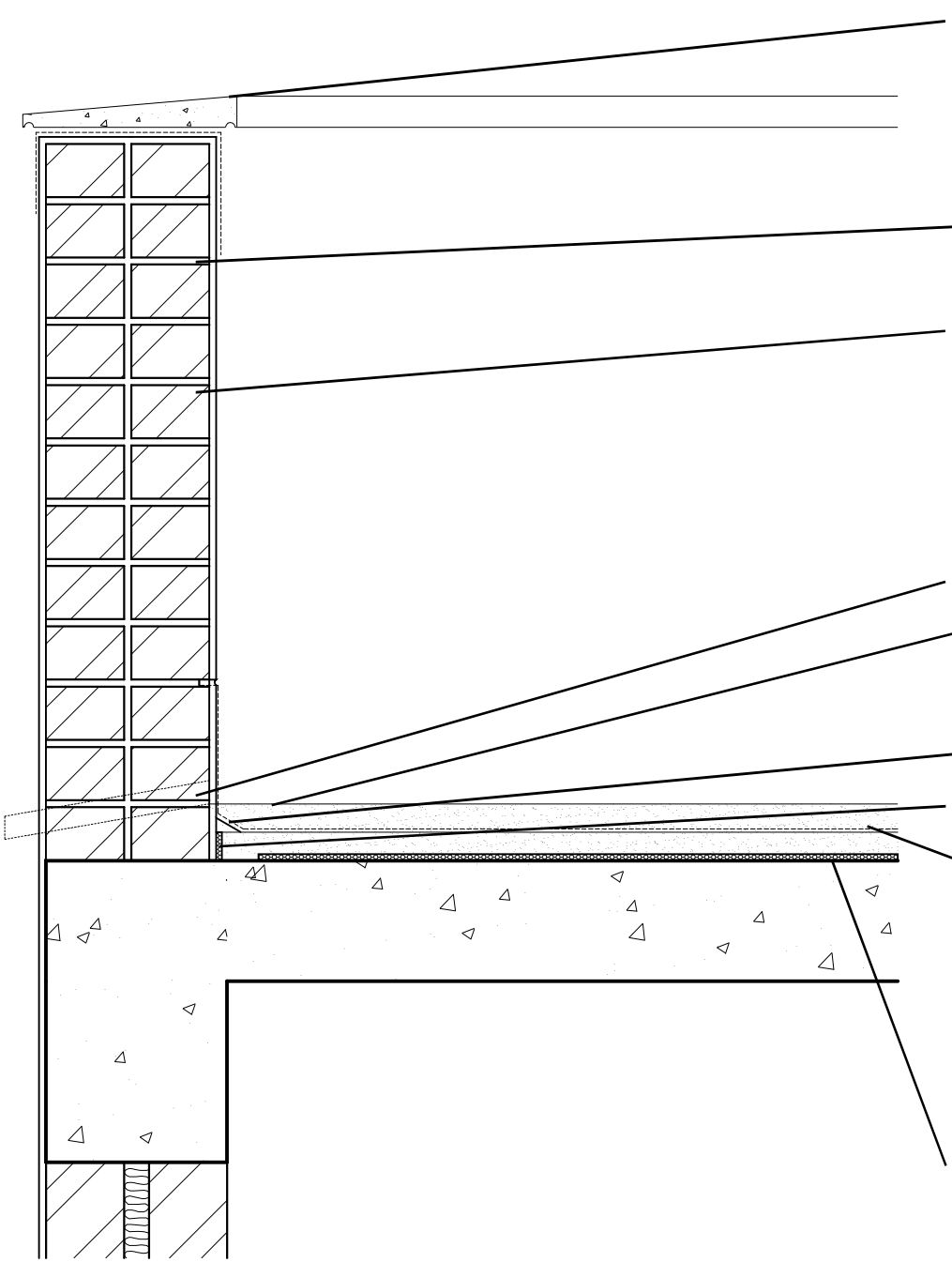
Outdoor Ampitheatre



Detail 1
Scale 1:20



Detail 2
Scale 1:10



205 x 1490mm Betcrete precast polymer concrete wall coping with drip(code MBWC 205)or similar approved, bedded in 2:1 mortar with cementitious bandage by specialist

220mm thick brick balustrade wall with brick force every course

Plastered approved clay stock brick

Waterproofing membrane taken into reglet and fully bonded to plaster and screed to fall, to manufacturer's requirements and flood tested for 24 hours as directed

Spout

Screed laid to 1:50 fall with a steel float finish, with a min thickness of 35mm, on RC Slab to engineers detail

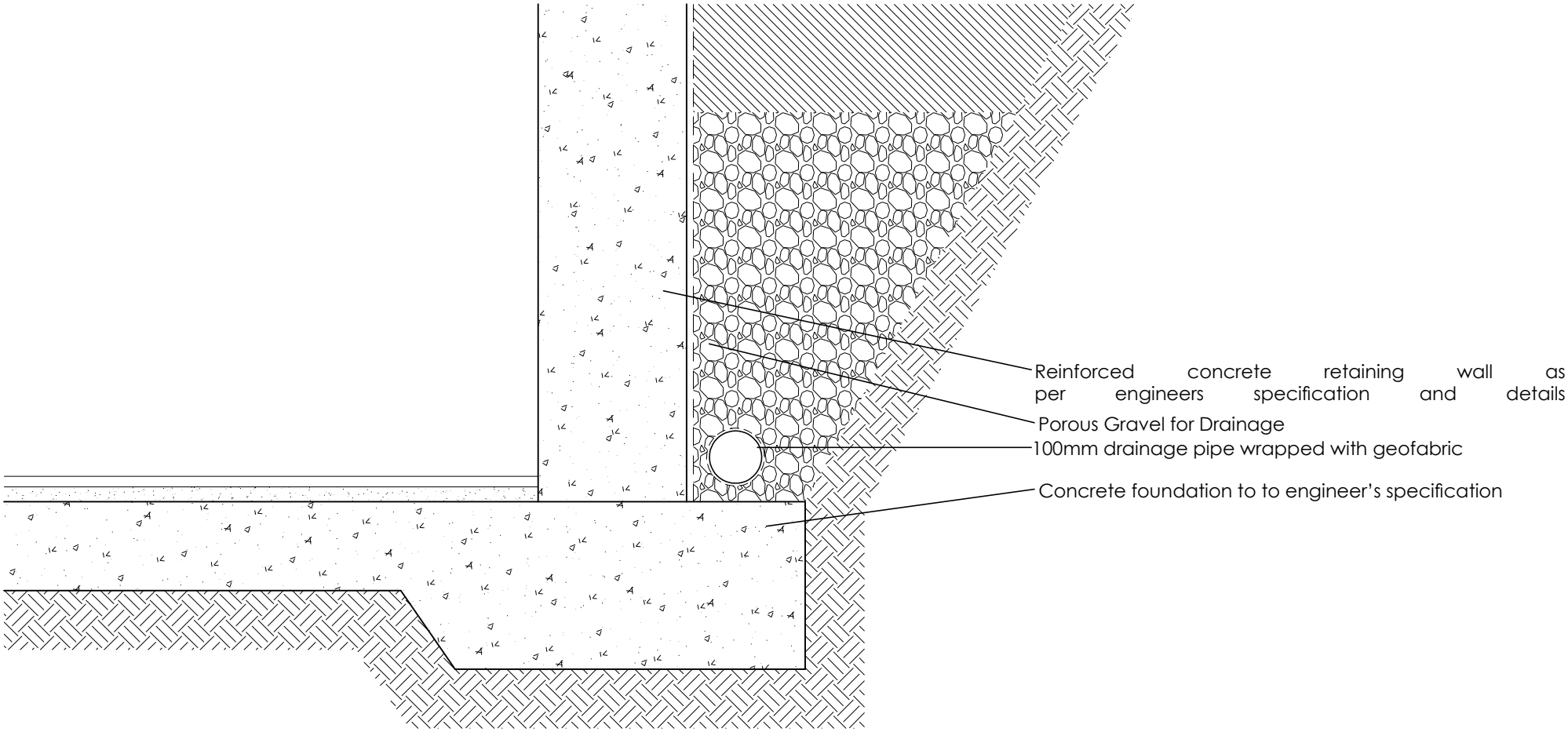
75x75mm mortar fillet

12mm Polystyrene joint filler

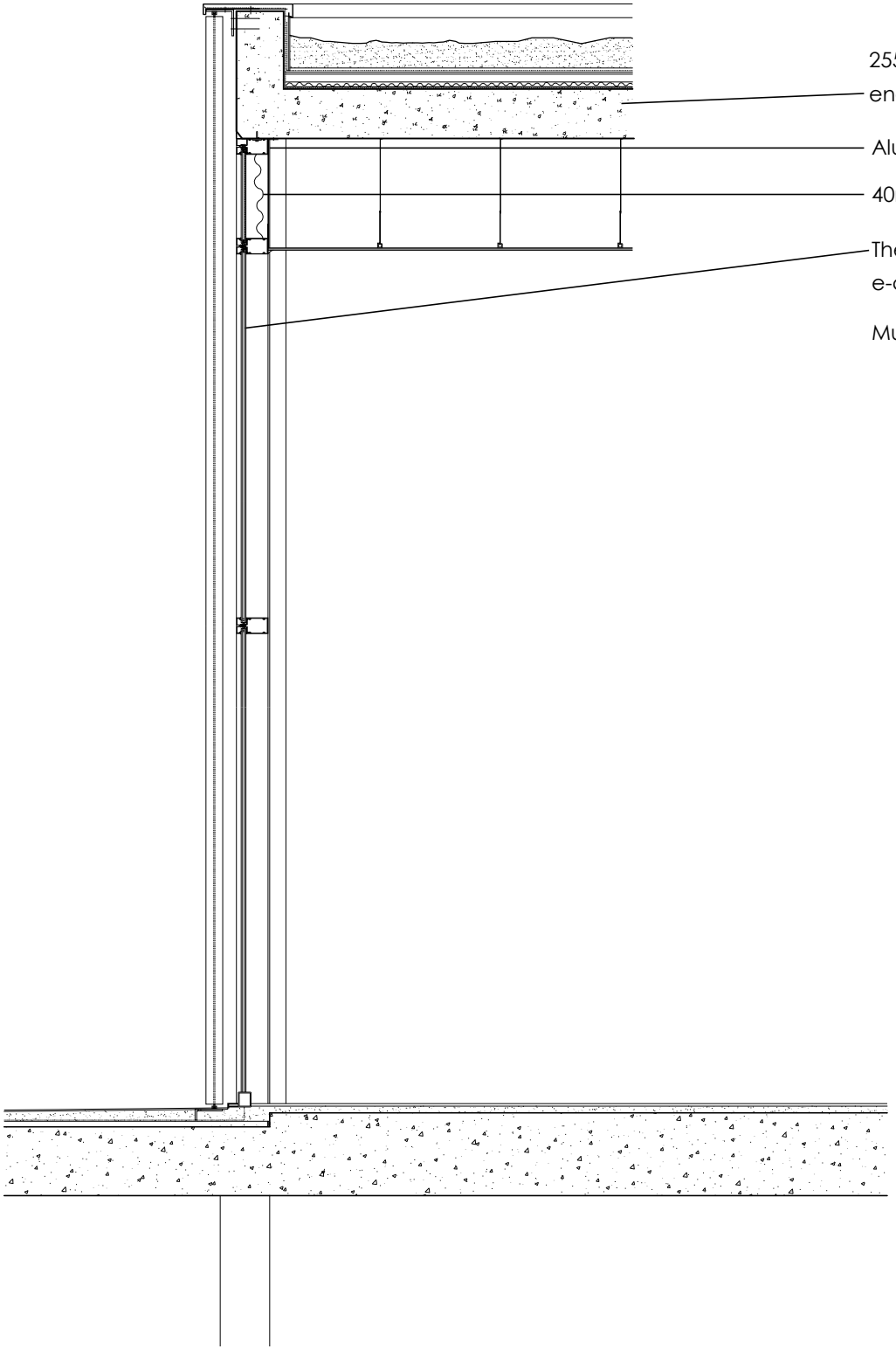
Derbigum SP3, with 75mm side laps, sealed to primed surface and dressed over Derbigum turn-up and finished with two coats of white Roofcote acrylic paint by specialist (or similar approved and10 year guarantee)on minimum 35mm screed laid to fall on 255mm RC slab

Ploystyrene Insulation panels glued to slab with 100mm gaps between panels.

Detail 3
Scale 1:10



Detail 4
Scale 1:10



255mm Reinforced concrete downstand beam to engineers specification

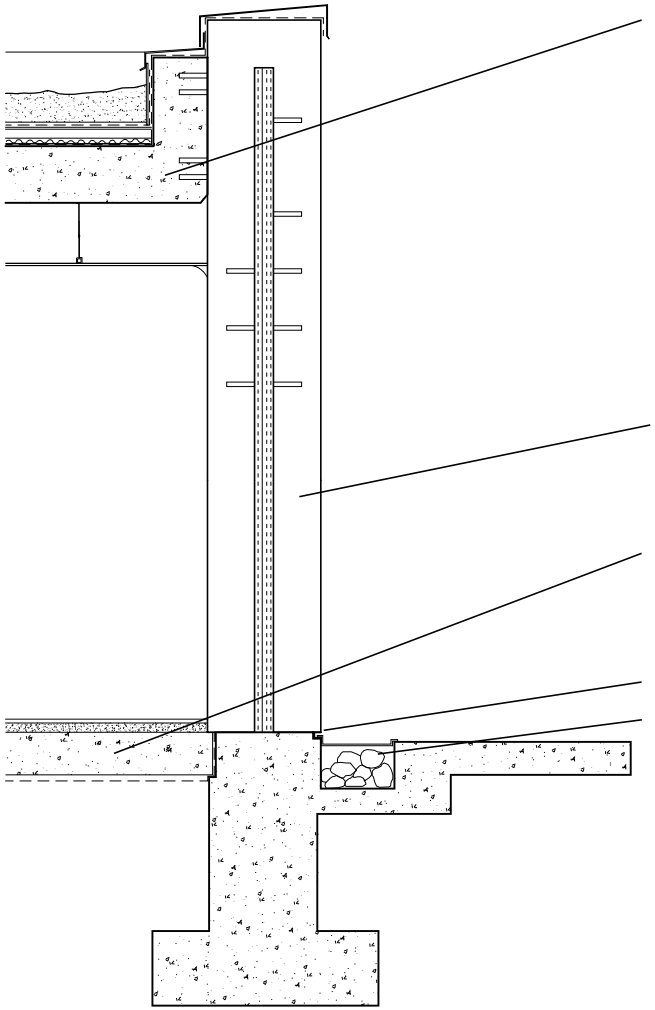
Aluminium Flashing for fire barrier

40mm Neopor EPS insulation.

Thermal Glazing: 10mm laminated safety glass with low e-coating and 10mm glass with low e-coating

Mullion allows for 20mm Stack Joint for creep

Detail 6



Derbigum sp4 waterproofing, all waterproofing as per waterproofing spacilaist detail laid on min 50mm screed laid to fall to fullbore outlet on reinforced concrete slab as per engineer's specification and details

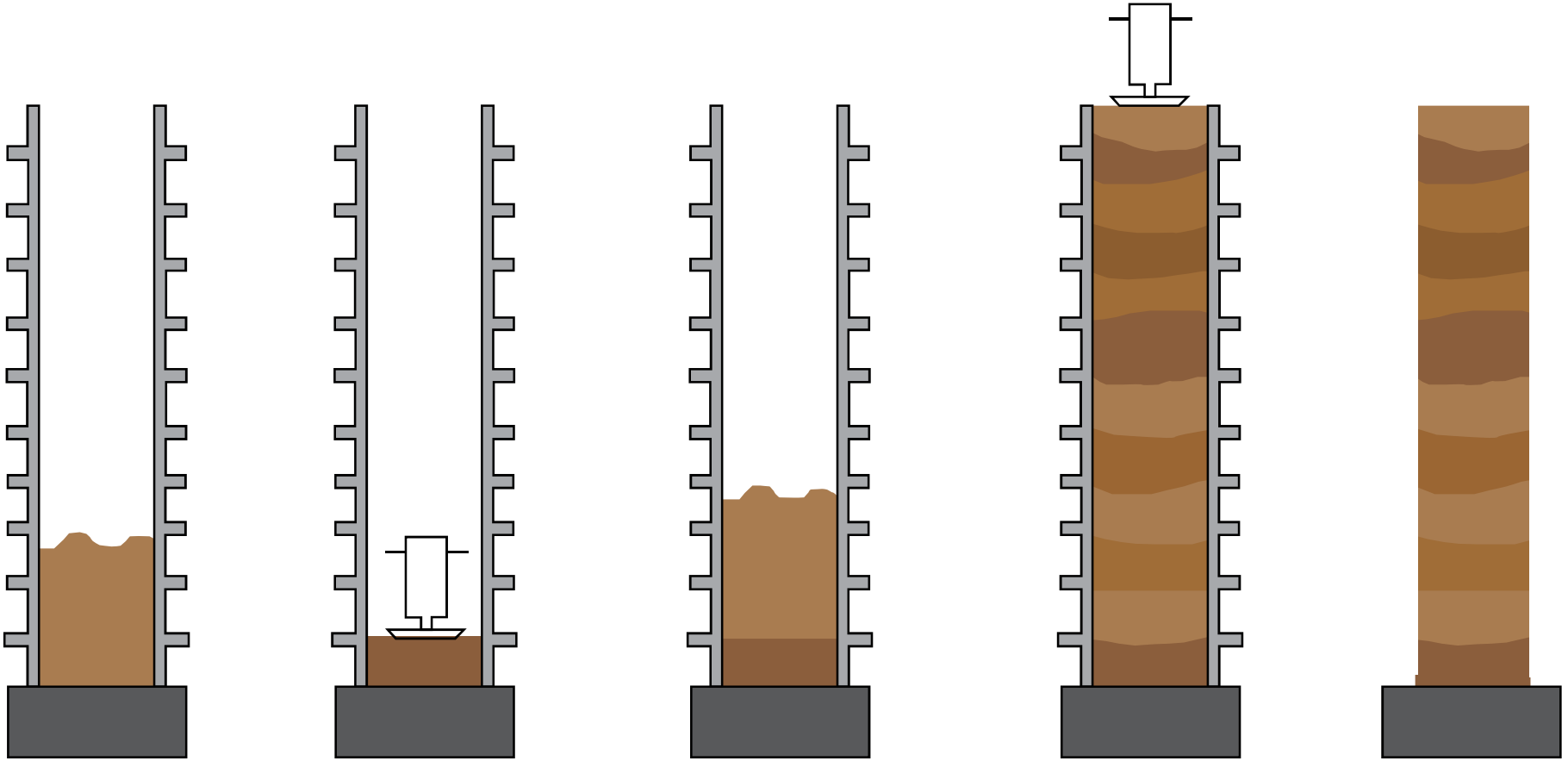
Reinforced rammed earth wall to specialist spec with two 100mm polystyrene insulation

50mm rigid insulation
255mm RC surface bed on vapor bed on gravel base on 150mm of well compacted earth fill to engineer's spec

Drip Detail

Sloping continuous water trough

Detail 6



Framework built and layer of moist earth filled in

Layer of moist earth compacted

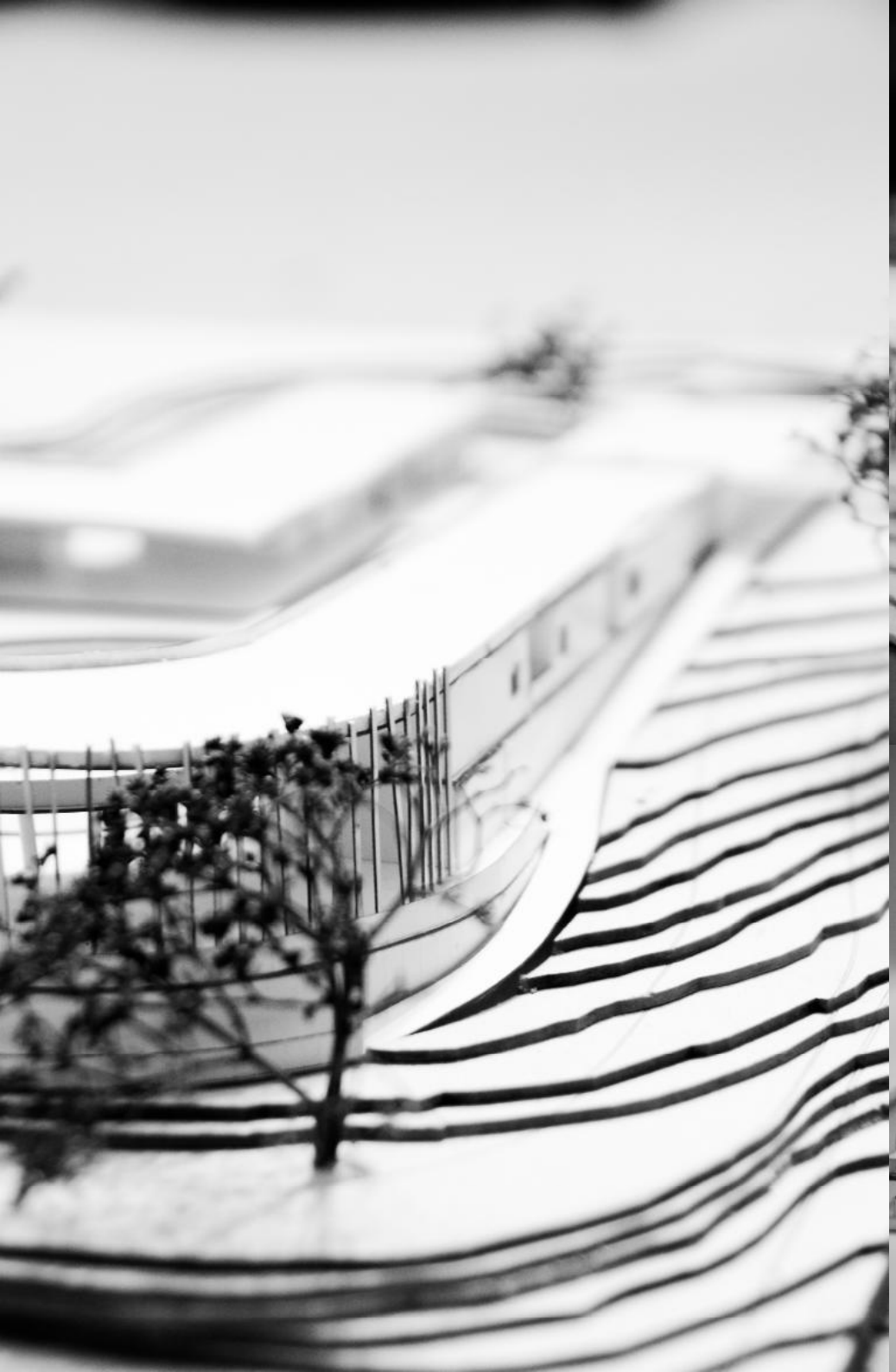
Next layer of moist earth is added

Successive layers of moist earth are added and compressed

Framework is removed leaving rammed earth wall

Rammed Earth Diagram









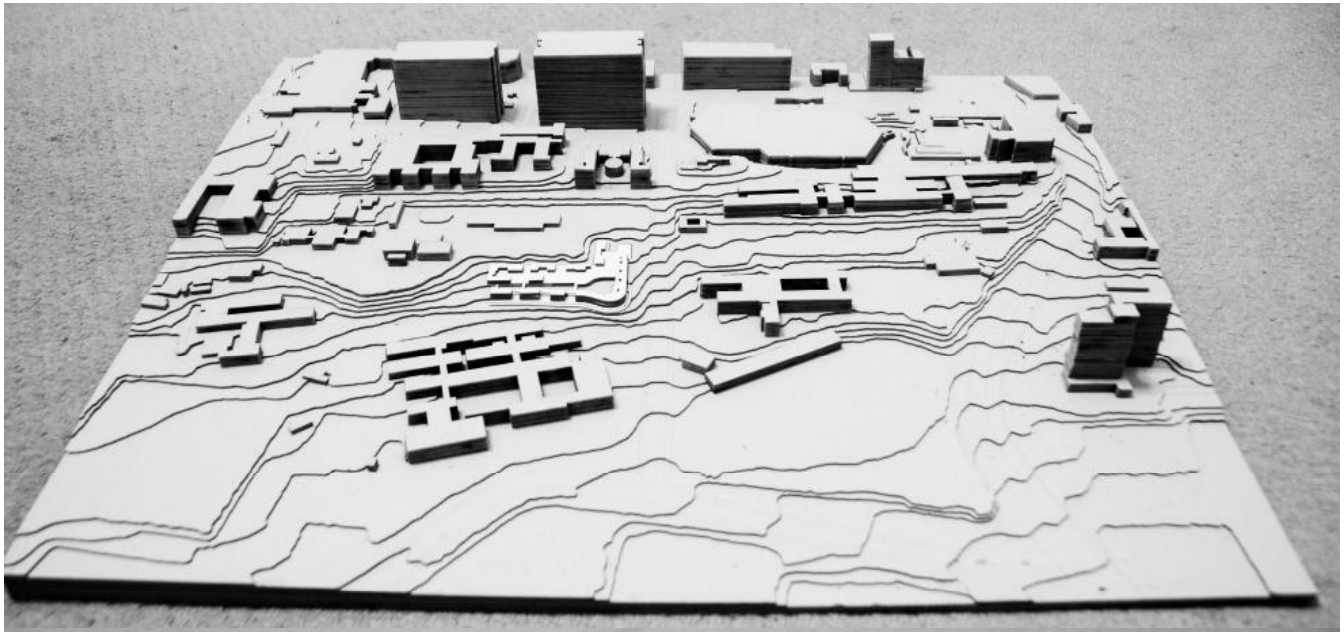


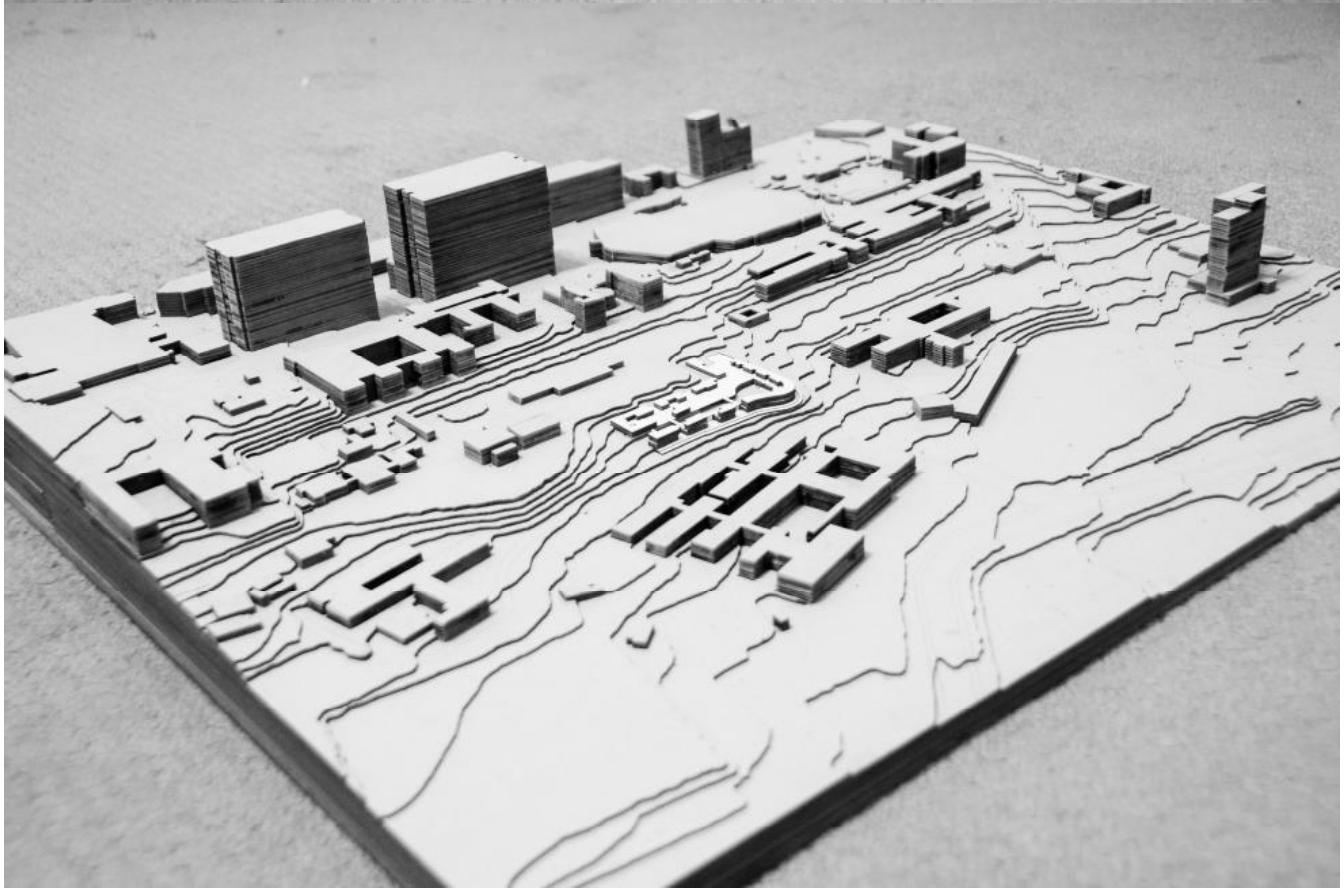


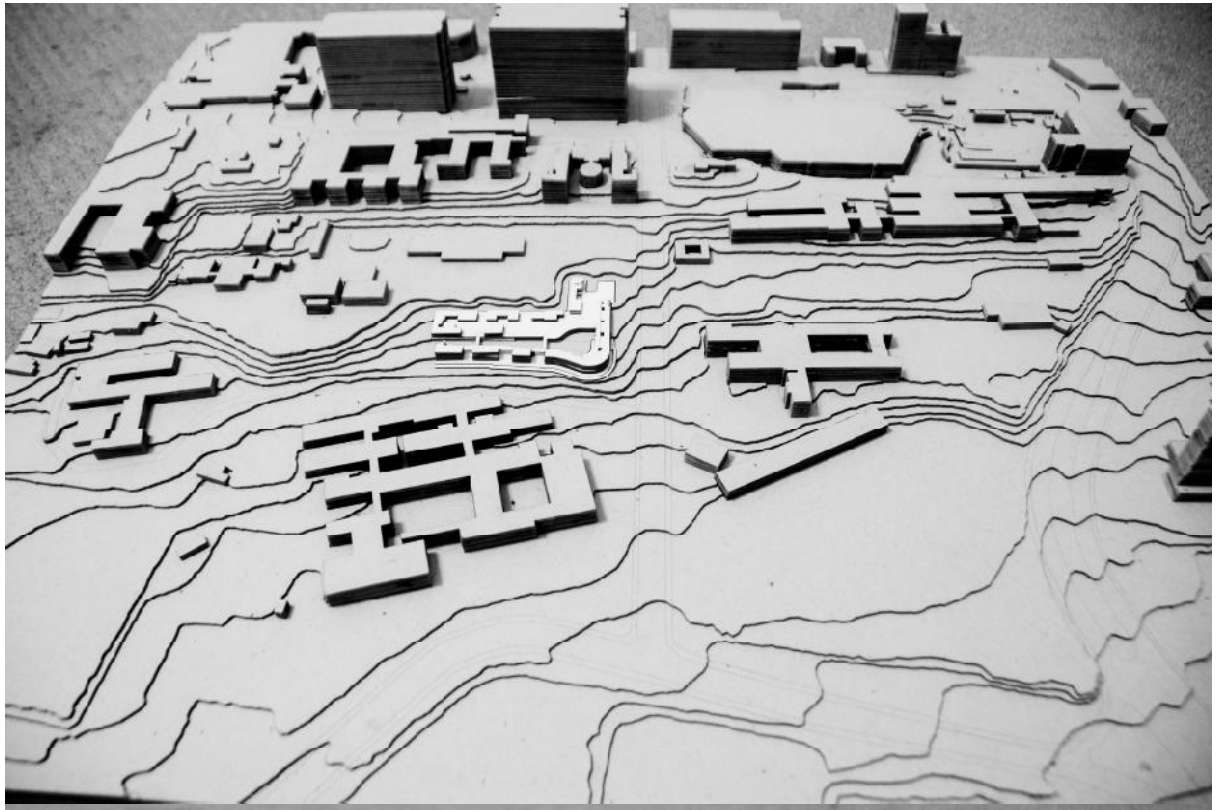


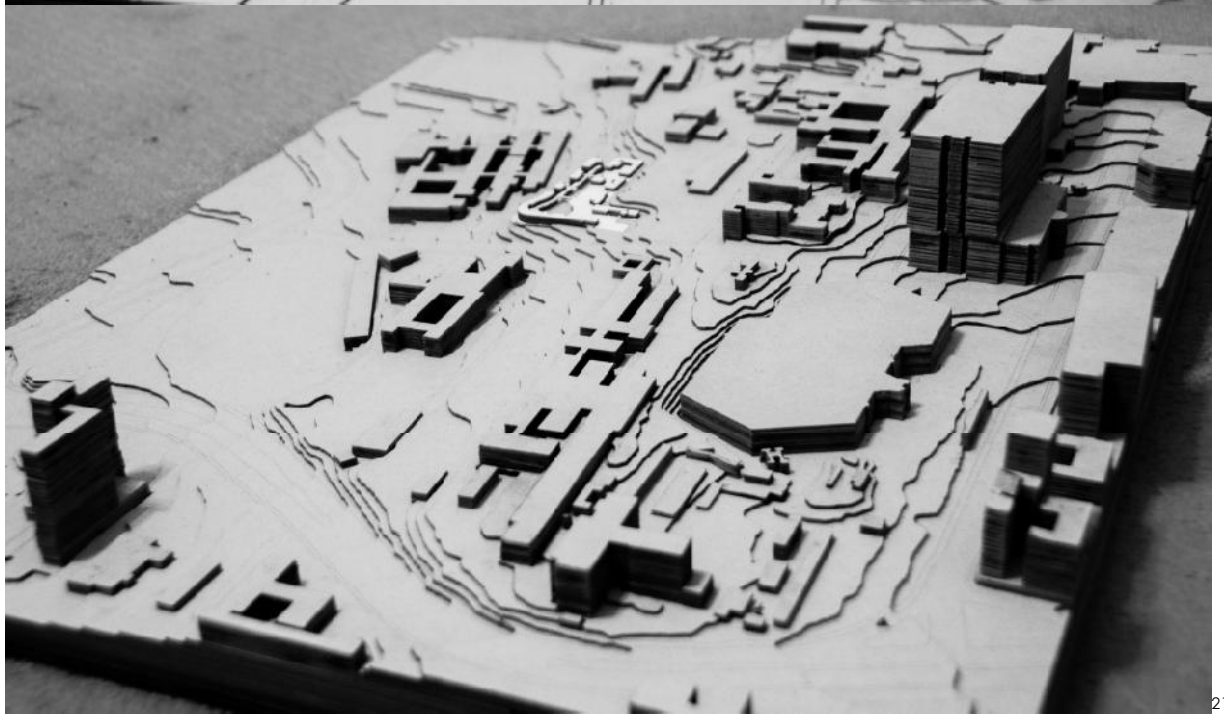
















Chapter 12

References

Text references
Figure references

Figure 325: By Author. Hoofd Street, Johannesburg

References

Abbott,S. Mc Conkey, R. (2006). *The Barriers to Social Inclusion as Perceived by People with Intellectual Disabilities*. Journal of Intellectual Disabilities. [Online] academia.edu 10 (3). p 275-287. Available from: http://www.academia.edu/1110982/The_barriers_to_social_inclusion_as_perceived_by_people_with_intellectual_disabilities. [Accessed 3rd March 2015].

Adnams, C.M. (2010) *Perspectives of Intellectual Disability in South Africa: Epidemiology, Policy, Services for Children and Adults.* Curr Opin Psychiatry [Online] PUBMED 23. p 436-440. Available from: http://www.ncbi.nlm.nih.gov/pubmed/20683179 [Accessed 15th April 2015].

Golembiewski, J. (2014) *Building a Better World: Can Architecture Shape Behaviour? The Conversation.* [Online] Available from- http://theconversation.com/building-a-better-world-can-architecture-shape-behaviour-21541

Harris JC. (2006). *Intellectual Disability: Understanding its Development, Causes, Classification, Evaluation, and Treatment.* New York: Oxford University Press. p. 42-98.
Bynum, W.F. Porter, R. (1997) Companion Encyclopedia of the History of Medicine. London: Routledge. P. 281-308

Gates, B. Barr, O. (2009) *Oxford Handbook of Learning and Intellectual Disability Nursing.* New York: Oxford University Press. p 1-24

Ware, C.W. (1994) *Educational and Recreational Facility for the Mentally Handicapped.* Texas: Texas Technical University. p 1-10

Craighead, W.E. Nemeroof, C.B. (2001) *The Corsini Encyclopedia of Psychology and Behavioural Science.* Third Edition, Volume 2. New York: John Wiley & Sons, Inc. p. 510
Weiten, W. (1997) Psychology: Themes and Variations. Third Edition. Pacific Grove: Brooks/Cole Publication. Co. p. 150-181

Lang, J. (1987) *Creating Architectural Theory.* New York: Van Nostrand Reinhold Co. p. 100-108

Yong, A. (2007) *Theology and Down Syndrome: Reimagining Disability in Late Modernity.* [Online] Texas: Baylor University Press. Available from: http://www.worldcat.org/title/theology-and-down-syndrome-reimagining-disability-in-late-modernity/oclc/191747947?referer=di&ht=edition [Accessed 9th April 2015]

Albrecht, G.L. Seelman, K.D. Bury, M. (2001) *Handbook of Disability Studies.* [Online] London: SAGE Publications Inc. Available from- https://books.google.co.za/books?id=xP-p0AwAAQBAJ&dq=bacon+(1605)+and+disability&source=gbs_navlinks_s [Accessed 12th April 2015]

Foreman, P. (2009) *Education of Students with an Intellectual Disability: Research and Practice.* [Online] Information Age Publishing Inc. Available from https://books.google.co.za/books?id=LDKRKTpzj_AC&dq=architecture+for+intellectual+disability&source=gbs_navlinks_s [Accessed 15 April 2015]

Smith, W.D. (2014) *Encyclopaedia Britannica.* [Online] Available from: http://global.britannica.com/EBchecked/topic/266627/Hippocrates [Accessed 3rd March 2015]

Hall, S. A. (2010) The Social Inclusion of Young Adults with Intellectual Disabilities: A Phenomenology of their Experiences. Dissertation The Graduate College at the University of Nebraska [Online] Available from: http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1018&context=cehsedaddiss p. 3-12,18,30

Swedish International Development Authority (1995) *Poverty and Disability: A Position Paper* [Online] Available from: http://bvsde.per.paho.org/texcom/cd048370/poverty.pdf

Department of Labour. *Technical Assistance Guidelines on the Employment of People with Disabilities.* [Online] Department of Labour. Available from: http://pmg-assets.s3-website-eu-west-1.amazonaws.com/docs/120726ahlad_0.pdf

Modules and Systems: Architecture for Social Inclusion - A Lecture by Giancarlo Mazzanti (2013) ArchDaily [Online] Available from: http://www.archdaily.com/435068/modules-and-systems-architecture-for-social-inclusion-a-lecture-by-giancarlo-mazzanti/ [Accessed 15 April]

Kaufman, L. (2010) *The Genetic Basis of Non-Syndromic Intellectual Disability: A review*. PMC [Online] Available from: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2974911/ [Accessed 16 September]

Sturm, S. P. (2006) *The Architecture of Inclusion: Advancing Workplace Equity in Higher Education.* Harvard Journal of Law & Gender, Vol. 29, No. 2, June 2006; Columbia Public Law Research Paper No. 06-114. [Online] Available from SSRN: http://ssrn.com/abstract=901992/ [Accessed 11 September 2015]

Jones, T. F. (2012) *Psychiatry, Mental Institutions, and the Mad in Apartheid South Africa*. New York: Routledge. p. 4-11

Imrie, R., Hall, P. (2001) *Inclusive Design: Designing and Developing Accessible Environments*. New York: Spon Press. P 10-26
Ryhl, C. (2010) *Accessibility and Sensory Experiences: Designing Dwellings for the Visually and Hearing Impaired. Nordic* Journal of Architectural Research. Volume 22 no 1/2, 2010. Norway: SINTEF Academic Press. p. 5

Nordic Journal of Architectural Research Volume 22, No 1/2, 2010, 14 pages Nordic Association for Architectural Research Camilla Ryhl

Lehman, M. L. (2012) *How Sensory Design Can Help Responsive Architecture Be More Effective*. Sensing Architecture [Online] Available from: http://sensingarchitecture.com/8778/how-sensory-design-can-help-responsive-architecture-be-more-effective/ [Accessed 18 September 2015]

Mostafa, M. (2013) *An Interview with Magda Mostafa: Pioneer in Autism Design.* ArchDaily [Online] Available from: http://www.archdaily.com/435982/an-interview-with-magda-mostafa-pioneer-in-autism-design [Accessed on 16 April 2015]

Vavik, T. (2009) *Inclusive Buildings, Products and Services: Challenges in Universal Design.* Norway: Tapir Academic Press. p. 107-125

Arthur, P., Passini, R. (1992) *Wayfinding: People, Signs, and Architecture.* New York: McGraw-Hill, Inc. p. 42-60; 63-74

Sachs, N. (2011) *Outdoor Environments for Children with Autism and Special Needs.* Informe Design: A website for Design and Human Behaviour Research. [Online] Available from: http://www.informedesign.org/_news/april_v09-p.pdf [Accessed 19 September 2015]

Salmi, P. (2008) *Wayfinding Design: Hidden Barriers to Universal Access.* Informe Design: A website for Design and Human Behaviour Research. [Online] Available from: http://www.informedesign.org/_news/aug_v05r-p.pdf [Accessed 19 September 2015]

Heylighen, A., Van Doren, C., Vermeerch, P-W. (2013) *Enriching Our Understanding of Architecture Through Disability Experience.* [Online] Academia. Available from: http://www.academia.edu/4045851/Enriching_our_understanding_of_architecture_through_disability_experience [Accessed 19 September 2015]

Latini, C. C. (2012) *Transitioning Education: Building Opportunities for Individuals with Intellectual Disabilities.* Dissertation The Faculty of the Graduate School of the University of Maryland, College Park. [Online] Available from: http://drum.lib.umd.edu/handle/1903/13761 [Accessed 12 April 2015]

Pakula, K. (2011) *Should Children with Special Needs be Taught in a Mainstream Class?* The Age [Online] Available from: http://www.theage.com.au/it-pro/should-children-with-

special-needs-be-taught-in-a-mainstream-class-20110701-1gv3a.html [Accessed 8 September 2015]

Applying Inclusive Design Principles to Eco-Town Development Eco-Town. (2012) TCPA. [Online] Available from: http://www.tcpa.org.uk/data/files/ecotwsinclusion.pdf [Accessed 8 September 2015]

Owen, J. (2012) *The Benefits of Disability in the Workplace*. Forbes [Online] Available from: http://www.forbes.com/sites/judyowen/2012/05/12/a-cost-benefit-analysis-of-disability-in-the-workplace/ [Accessed 5 September 2015]

Oram, M. (2014) *Health/ The Future of Architecture?* Inclusive Design. ARUP. [Online] Available from: http://thoughts.arup.com/post/details/384/the-future-of-architecture-inclusive-design [Accessed 31 August 2015]

Fletcher, H. (2006) *The Principles of Inclusive Design.* (They Include You.) The Commission for Architecture and the Built Environment. [Online] Available from: http://webarchive.nationalarchives.gov.uk/20110118095356/http:/www.cabe.org.uk/files/the-principles-of-inclusive-design.pdf [Accessed 8 September 2015]

CABE (2008) *Inclusion by Design: Equality, Diversity and the Built Environment.* The Commission for Architecture and the Built Environment. [Online] Available from: https://www.designcouncil.org.uk/sites/default/files/asset/document/inclusion-by-design.pdf [Accessed 8 September 2015]

Research regarding the Living Link via interviews or the website: The Living Link (2015) [Online] Available from: http://thelivinglink.co.za/

Good, L. R. (1965) *Therapy by Design: Implications of Architecture for Human Behaviour*. Springfield, Illinois: C.C. Thoma

Noor, M. (2010) *Health Care Architecture in the Netherlands.* Rotterdam: NAI Publishers

Bell, A. (2009) *[Psyche]*. Dissertation University of the Witwatersrand, Faculty of Engineering and the Built Environment, School of Architecture and Planning.

Sadowsky, J. H. (1999) *Imperial Bedlam: Institutions of Madness in Colonial Southwest Nigeria.* Berkeley: University of California Press

Jolly, R. J. (2010) *Cultured Violence: Narrative, Social Suffering, and Engendering Human Rights in Contemporary South Africa.* Liverpool: Liverpool University Press

Perspectives on Mental Handicap in South Africa (1990) Durban: Butterworths

Payne, C. (1968) *Asylum: Inside the Closed World of State Mental Hospitals.* Cambridge, MA: MIT Press

Residential Facilities for the Mentally Retarded. (1970) Chicago: Aldine

Sinason, V. (2010) *Mental Handicap and the Human Condition: An Analytic Approach to Intellectual Disability.* London: Free Association Books

Yanni, C. (2007) *The Architecture of Madness: Insane Asylums in the United States.* Minneapolis: University of Minnesota Press

Enter Architecture (2012) *Edgecliff Medical Centre*. ArchDaily. [Online] Available from: http://www.archdaily.com/278890/edgecliff-medical-centre-enter-architecture/ [Accessed 2 Oct 2015.]

Taller de Arquitectura-Mauricio Rocha (2011) *Center for the Blind and Visually Impaired.* ArchDaily. [Online] Available from: http://www.archdaily.com/158301/center-for-the-blind-and-visually-impaired-taller-de-arquitectura-mauricio-rocha/ [Accessed 2 Oct 2015]

Alan Dunlop Architect Limited (2011) *Hazelwood School. Architizer.* [Online] Available from: http://architizer.com/projects/hazelwood-school/ [Accessed 21 September 2015]

Diller Scofidio + Renfro (2012) *Arquitectura invisible.* Domus [Online] Available from: http://www.domusweb.it/es/design/2012/12/20/arquitectura-invisible.html [Accessed 21 September 2015]

Fàbregas, P.S. (2013) *Mosca*. PAUSF [Online] Available from: http://www.pausf.com/mosca [Accessed 01 October 2015]

Page\Park (2011) *Centre for Scottish War Blinded.* Dezeen Magazine [Online] Available from: http://www.dezeen.com/2011/06/30/centre-for-scottish-war-blinded-by-pagepark/ [Accessed 27 September 2015]

Emre Arolat Architects (2014) *Sancaklar Mosque / Emre Arolat Architects.* ArchDaily. [Online] Available from: http://www.archdaily.com/516205/sancaklar-mosque-emre-arolat-architects/ [Accessed 25 August 2015.]

Leddy Maytum Stacy Architects (2015) *California Housing by Leddy Maytum Stacy Addresses the Needs of Residents with Autism.* Dezeen Magazine [Online] Available from: http://www.dezeen.com/2015/06/05/california-residential-housing-sweetwater-spectrum-community-adults-with-autism-leddy-maytum-stacy-architects/ [Accessed 31 September 2015]

Peter Zumthor (2009) *The Therme Vals / Peter Zumthor.* ArchDaily [Online] Available from: http://www.archdaily.com/13358/the-therme-vals [Accessed 03 October 2015]

Legislation referred to:

The Bill of Rights in Chapter 2 of the Constitution of the Republic of South Africa no 108 of 1996

Government's Integrated National Disability Strategy

The UN International Convention on the rights of persons with disabilities

The Employment Equity Act and its Code of Good practice on the management of disability in the workplace

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Figure 7. Confinement. Kazi Riasat Alve (2012) Viewed 21 September 2015. https://www.flickr.com/photos/kazi_riasat/8131297885/
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Figure 140. Man's Dimensional Relationships. Inclusive Design: Designing and Developing Accessible Environments. Hall, P., Imrie, H. (2001) p. 11
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Figure 143. Brain Art. Sebastien Dery (2013) Viewed 21st September 2015. https://www.mcgill.ca/brain/sebastien-dery
Figure 144. Hoofd Street. Malika Walele. 2015
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Figure 172-173. Centre for Scottish War Blinded. Page\Park (2011) Viewed 27 September 2015. http://www.dezeen.com/2011/06/30/centre-for-scottish-war-blinded-by-pagepark/
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