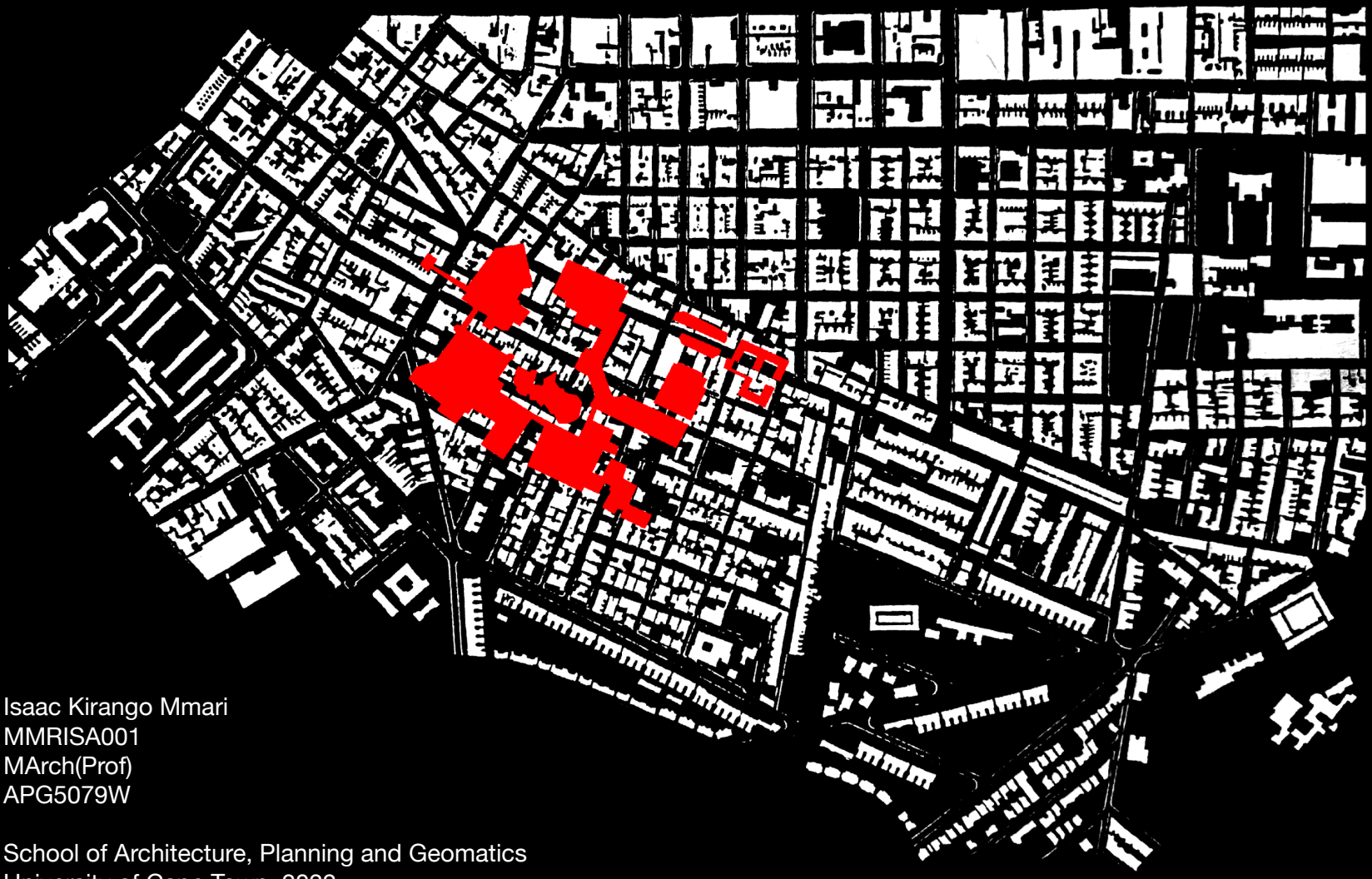
CPUT & District Six

Bridging The Gap



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Acknowledgements

This dissertation is dedicated to

My best friend, inspiration, role model and mother:
Joyce Mmari.
None of this would be possible without you. Your love, guidance, and support have nurtured me into the man that I am today, and for that I am forever grateful.
I love you Mrs Mom!

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Amanda, Benjamin, Irene and Walter.
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Abstract

Through focussing on and contrasting historical and contemporary District Six, this dissertation aims to uncover relevant and innovative ways of integrating the Cape Peninsula University of Technology (CPUT) to the District Six community by means of alterations and additions in order to bridge the gap between its past and its present. Within the context of the District Six Development Framework, this investigation seeks to uncover potential opportunities for both social and spatial integration of the educational institute to the district such that a mutually beneficial relationship is formed between the two.

As a means of providing necessary historical context to the document, the first section focuses on the district's contentious history, the urban qualities and principles that allowed it to thrive, as well as its negative relationship with the more recently established CPUT. The document then focusses on the history of CPUT and its architectural heritage. Next, the document focuses on storytelling as a form of human expression and, through unpacking theories on architectural semiotics and the use of architecture as a storytelling medium, I show how storytelling manifested itself into the built fabric of historical District Six. This, in combination with Richard Florida's theories on the "Creative Class", are used to illustrate the possible significance of storytelling in the future reintegration of the district Six community. The third section focuses on architectural alterations while the fourth focusses on architectural parasitism as a means of extracting lessons for transforming CPUT's inward-looking architecture into one that allows it to expand it into its surrounding context. Finally, the lessons extracted from precedents of parasitic architecture and architectural interventions, as well as those uncovered in the historical community's methods of storytelling, are combined in order to form the design principles used to further the proposals of the development framework and rewrite the story of CPUT's relationship with its community.

Contents

Figure 01: Aerial view of Cape Town's Foreshore area in relation to District Six (red).
The areas surrounding District Six developed and grew while District Six faced destruction - all at the hands of the apartheidgovernment.

Introduction

Strewn throughout South African history are stories of the forceful removals of non-white groups from the city. Collectively, these removals have driven millions of people into peripheral zones in favour of whites, leaving behind historical land upon which a tabula rasa approach is subsequently adopted for these areas' redevelopment. This has repeatedly created gaps in the history of place, leaving room for architecture that makes no reference and pays no homage to the previous users of the land while creating disconnected cities. Several events of this kind have occurred throughout South African history in communities such as Sophiatown (Johannesburg), South End (Port Elizabeth), Lady Selborne (Pretoria) (Davids, 2018), as well as the focus area of this thesis: District Six (Cape Town).

Much controversy has surrounded District Six for the nature of its initial development as well as for its subsequent demise that came in the form of the government-imposed forced removals and demolitions. Today, the area is but a shadow of its past, with vacant lots and CPUT's dominating structures acting as strong reminders of the atrocities committed by the apartheid government. A seemingly untraversable gap exists between the district's pre-erasure and contemporary conditions; a gap that this investigation aims to help bridge. The history of the district holds within it various lessons and principles which can be extracted in order to pave the way for the integration of CPUT into its broader historical and contemporary context as a positive asset, allowing it to promote dual engagement from

both within and without its physical boundaries.

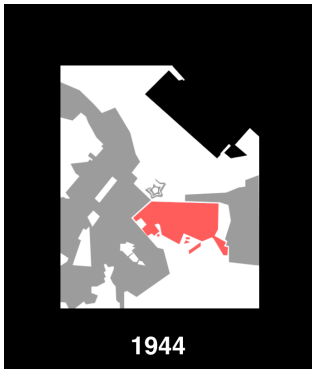
This design dissertation situates itself within the context of the District Six Development Framework that was designed by NM & Associates and Lucien Le Grange Architects and Urban Planners for the City of Cape Town. This real-life urban framework provides a well-strategized approach for the redevelopment of the community, making it possible for claimants and their descendants to return to the area in the coming years. The relevance of this research lies in developing creative and useful methods of consolidating gaps in the history of places and spaces affected by forced removals, demolitions and disaster, and in the development of a responsive architecture that can help transform (through alterations) badly designed buildings that are seemingly divorced from their urban contexts into outward-looking spaces of social interaction.

The primary questions that this research will aim to address pertain to uncovering a successful approach towards integrating CPUT into its context:

1. how does CPUT in its current form hinder the potential reestablishment of a vibrant community in District Six;

2. what architectural approaches can be implemented in order to render CPUT an integral part of the Development framework and allow it to have a mutually beneficial relationship with the returning community while honouring the memory of the district's past, and
3. what could act as a catalyst for the community's growth in the context of the Development Framework while also making a connection between the community's past and its present?

History Of District Six



Located east of the original cape colonial settlement is the City of Cape Town's sixth municipal district (Todeschini, 2008), otherwise known as District Six. Much controversy has surrounded this area both for the manner and nature of its initial development and for its subsequent demise that came in the form of the forced removal of its inhabitants and the demolition of its built environment. Originally, development in the area was born from a demand for urban housing in the 19th century, which was met by a response from speculative builders who began to construct the area's first rowhouses. The location of this new residential area just east of the original Cape Colonial settlement, as well as the supporting market located along Sir Lowry Road, made it a prime spot, with freed slaves, Jewish, Malay and Indian immigrants all moving in to turn it into the most culturally diverse area in the expanding settlement (Bezzoli, Marks, Kruger, 2002). What was previously called Kanaladorp and, later, District Twelve, was officially established as the city's sixth district in 1867 when the municipal area of Cape Town was divided into six, hence the name "District Six" (Bezzoli et al., 2002). The inrushing inhabitants were very socially mixed, with tradesmen, merchants, artisans, butchers, retailers, gunsmiths, domestic servants, labourers and prostitutes all calling the area home, many of them living and working in the same building or, alternatively, living in close proximity to their place of work. While the community's population was 'drawn from all over the world', the largest component was coloured (Bickford-Smith as cited in Maingard, 2017, pg 19). The diverse group of

individuals, coupled with the mixed-use nature of the area, made for an extremely rich and vibrant community. The close proximity of different races, cultures, languages and backgrounds along with the shared social and economic conditions helped to generate a high level of interdependence which resulted in strong community bonds.

The first forced removals in District Six came in 1901 with the guise of the local authorities' attempt at "slum clearances" due to the outbreak of Plague, with black Africans being moved to Uitvlugt, known today as Ndabeni (SAHO, n.d). From this point onwards, several subsequent measures began to be put in place that enforced racial segregation across both Cape Town and South Africa as a whole. By the mid-20th century, the city's housing crisis was only worsening with overcrowding and poor maintenance. The government found further reason to develop informal settlements on the outskirts of the city and relocate non-white groups to these areas, easily allowing them to enforce their plans to divide the city on racial grounds and disenfranchise non-white groups (fig 04).

In 1950, the Group Areas act was put into place by South Africa's apartheid government (Davids, 2018), harshly enforcing the spatial segregation of races such that it was illegal for different ethnic groups to inhabit the same areas. As such, District Six was seen as a threat to the apartheid government due to its high heterogeneity. Its proximity to the city centre, which was its primary reason for growth, development and cosmopolitanism, was thus also a defining factor in its subsequent demise. In 1966 the government had declared it a whites group area under the Group Areas Act, an announcement that alarmed the area's largely non-white population. Though faced with protests from both the community and the City Council, the apartheid government was unyielding in its decision to execute the plan that would devastate the lives of thousands and dramatically shape the course of urban development in Cape Town. Beginning in 1968, just two years after the declaration of the area as a whites group area, mass forced removals and demolitions began to take place in District Six, lasting about 10 years (Argent, 2020).
The life of the community was destroyed, with members being torn from the land that they had known before being placed in large, monotonous dormitory suburbs and townships that failed to satisfy the housing requirements for the large populations of displaced communities.

Rubbing salt in the wounds of evictees was the construction of the Cape Peninsula University of Technology (CPUT), a domineering yet introverted institute that was erected in District Six in the 1980s despite the widespread controversy that came with it being built on stolen land (Bezzoli et al., 2002). Today, the CPUT campus, with its Brutalist architecture, stands out upon the largely barren wasteland, failing to make reference to the history of the land nor to its current context. Despite the social issues, negative ideological conception, and the symbolism inherently attached to the institute and its history, it being an urban campus means

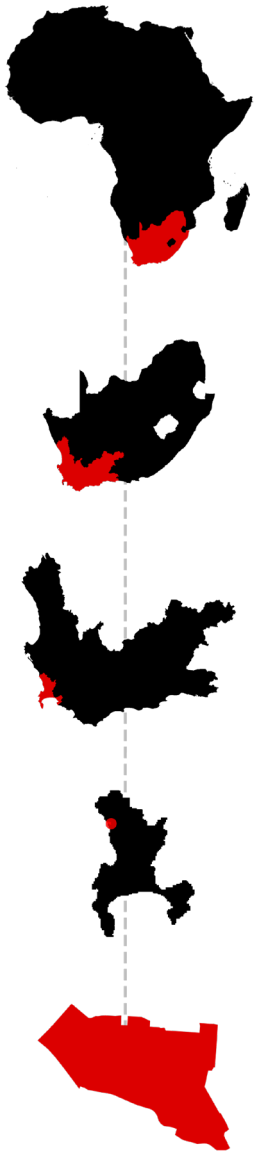


Figure 02: Diagram showing locality of District Six.

Figure 03:

Diagramatic timeline of District Six's growth and destruction.

Note how the growth of the rest of the city runs parallel to the destruction of District Six.

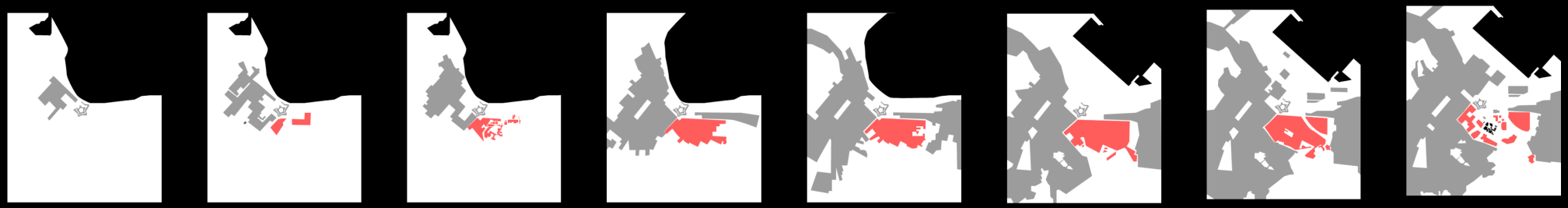


Figure 04: Diagram showing areas that victims of District Six forced removals were relocated to.

that it has the potential to play an immensely positive role for the surrounding community. It is necessary to understand its history as well as the political nature of its architectural style in the South African context in order to determine a possible approach to integrate it into the current and future District Six community.

Figure 05: Photograph of Hoarstley Street before the forced removals.
Source: https://www.youtube.com/watch?v=iEzydbcVWV4

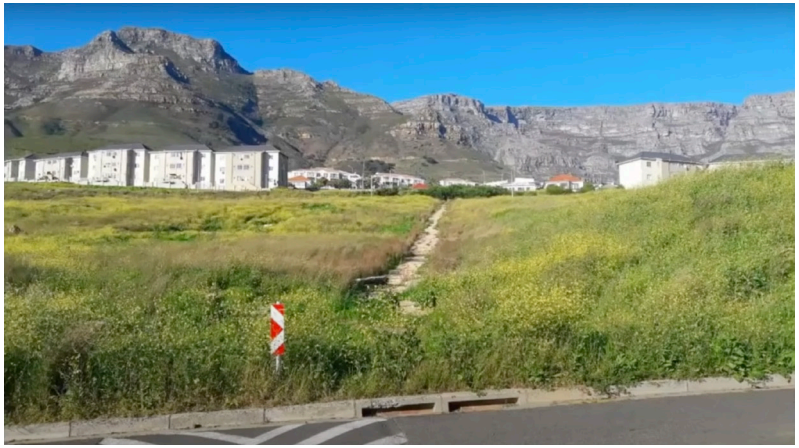


Figure 06: Photograph of Hoarstley Street today.
Source: https://www.youtube.com/watch?v=iEzydbcVWV4

Brutalism & CPUT

CPUT

The Cape Technikon was established in the 1920s as a whites-only institute for the study of technology in the City of Cape Town (Barnes, n.d). After the first phases of the Group Areas Act's forced removals in District Six, the government proposed the relocation of the Technikon from Longmarket street to its current District Six site (Master Plan Report, 2014) (Barnes, n.d). The announcement came to the dismay of thousands of inhabitants yet to be displaced from the area. Approximately 348 houses, 354 families and 2500 individuals lived in homes where the campus currently stands (Barnes, n.d). Despite the protests by citizens that nothing be erected on District Six land after the unjust forced removals; despite the pressure that was put on entrepreneurs not to embark on ventures in the area; despite the identification of alternate sites on which the campus could be relocated and despite the countless pleas by architects, planners and sociologists that were accompanied by evidence as to why the campus should not be built in the district, construction of the Technikon began in the 1980s (Barnes, n.d). The decision to position the then whites-only institution in the heart of historical District Six, taking up approximately 25% of the area's land, was an insult to those that had been removed from the area; an insult to anyone who had opposed the apartheid state and what it stood for (Bezzoli et al., 2002). The architectural firm known as INTERPLAN that was responsible for some of the campus's designs has since disbanded. In the years that followed the Technikon's construction,

Figure 07: CPUT in relation to District Six.

District Six remained largely barren with very few inhabitants primarily consisting of staff members employed by the institute (Barnes, n.d). After a plea to the government in 1987, the regulation on the quota for black students was lifted, however, it remained a largely 'white institution' for several years following this change (Barnes, n.d). In 2005 the Cape Technikon merged with the Peninsula Technikon, a coloureds-only technical institution located in Bellville, to form the Cape Peninsula University of Technology. The type of architecture used for the design of CPUT's buildings, which seemed to be utilised in many government institutional buildings of the era, drew inspiration from the Brutalist movement. Although CPUT's buildings do not portray all the qualities of typical Brutalist structures, they still visually communicate their dominance and power. To understand the nature of the institution's architecture, it may be important to understand the nature of South Africa's political agenda at the time of its construction.

Brutalism

Brutalism emerged as an architectural trend after the second World War. Its origins can be traced back to the United Kingdom, however, it quickly gained in popularity and began to spread around the world in the 1960s and 1970s (Niebrzydowski, 2021). The style began to decline in the 1970's which many saw as a direct consequence of its unwelcoming nature, with many of its critics pointing to its "harsh" and "dehumanising" qualities, blaming its use for the antisocial nature of many cities (Design Buildings, 2022; Mould, 2017). After the widespread destruction and horror caused by the war, individuals in creative fields such as art, music and architecture began to reject previous principles and doctrines in search of different forms of expression amidst the new post-war reality. In architecture, this resulted in a radical design style that has given us some of the world's most visually expressive buildings of the 20th century: Brutalism. Generally, the movement is characterised by monolithic structures, often produced in concrete and having little engagement with the external world or the broader urban environment. Because of the qualities of Brutalist buildings, it became synonymous with civic and administrative functions, with many countries' governments and institutions adopting the style for the design of their new buildings (The Guardian, 2015). However, many well known religious and residential projects also drew on

Figure 08: Le Corbusier's Unité D'habitation.

Brutalist qualities, Breuer's St. John's Abbey Church and Le Corbusier's Unité D'habitation being famous examples.

On the African continent, the trend's popularity coincided with the independence of several countries, leading the newly formed governments to erect their administrative buildings with this new architectural language as a way of signifying the rise of an era of 'freedom' in African history (Snyder, 2015). While the adoption of Brutalism in Europe was sparked by the post-war reconstruction of devastated cities, Brutalist buildings in Africa spoke to the idea of the continent "emerging out of centuries of nonhistory", despite the style still being a foreign architecture (Lokko as cited

in Snyder, 2019). For South Africa, however, the narrative was slightly different. The apartheid state came into power in 1948, 3 years after the end of World War II and 3 years prior to the construction of Unité D'habitation, one of the earliest and most well known Brutalist buildings (Henley, 2017). While modernists were adopting Brutalism, South Africa was adopting modernism (Stringer, 2019); while Brutalism was spreading across the world, South Africa's apartheid state was finding more ways to disenfranchise non-white racial groups across the country, utilising various methods including the design of their cities. Its use in the South African context was not due to large-scale post-war reconstruction, nor was it a means of signifying freedom from foreign rule. According to Lesley Lokko (as cited in Snyder, 2019), "the apartheid state employed the style's cold rationality as a technocratic disguise for evil". The political intentions behind the incorporation of modernism and its subsequent offshoots in apartheid South Africa are still considered suspect by many. The grandeur and visually overpowering effect of Brutalist architecture was, as it were, adopted by the South African government as a means of instilling the idea of white-supremacy, an idea that the apartheid government would promote for 46 years. The spatial practices of the apartheid regime are still evident in the landscape of South Africa's built environment in the form of highways, shopping centers and spatial segregation. Because the style's use was popular in large public buildings (which were almost always used exclusively by South Africa's white population), it was associated with the apartheid government. These buildings followed modernist themes of separation and exclusion. One such example is Sandton City in Johannesburg. The original Brutalist language that was common in South Africa in the 1970s was sometimes described as "apartheid architecture" (African Property News as cited in Stringer, 2019, pg 35). As Stringer (2019) succinctly states, "If apartheid was carried out through various discriminatory spatial practices, then surely the public structures built during its oppressive tenure are still bound to it in some way or another". Since the end of apartheid, some of South Africa's "apartheid buildings", such as The Trust Bank Building, the Carlton Center, the Ponte City Apartments, and the IBM Tower in Johannesburg have all undergone largely superficial changes to their images as a way to move away from the architectural trend that became symbolic of South Africa's apartheid era, but due to the deep-rooted nature of segregational architecture, this has not done enough to make them more accessible to or accepted by the disenfranchised population.

According to Mould (2017), Brutalism "is based on an architectural ethics that is about the power of the image, its clear and transparent exhibition of structure, and the value of the materials 'as found'". 2 of these 3 "architectural ethics" are evident in CPUT's design.

Power of the Image

Brutalist buildings (with a few exceptions including Alison and Robert Smithson's Hunstanton School) are intentionally designed to take on the appearance of dominating, monolithic structures, ushering in the arrival of a "different kind of city" (Henley, 2017). Altogether, the style was concerned with the creation of an "affecting" image (Banham as cited in Stringer, 2019, pg 15). This attribute of Brutalist buildings goes hand in hand with the use of materials "as found", because "a trueness to material does not create a pleasing image, but an affecting one" (Stringer, 2019, pg 15), falling in line with the aesthetic of anti-beauty that forms part of the movement's intrinsic ethics (Mould, 2017). These buildings were designed to be eye-catching.

Figure 09: Interior of Breuer's St. John's Abbey Church.

Having been built surrounded by almost nothing but the bare land upon which an entire community was razed, the campus initially stood out for its size amidst the empty landscape (Barnes, n.d). Today, more structures occupy some of the community's land, but the campus still stands out due to its

visual qualities. Its oversized, inscrutable structures make no attempt to connect to the surrounding landscape, in keeping with the Brutalist concept of separated sculptural forms. With its harsh edges and limited interior-to-exterior interaction, the campus has a powerful image with evocative visual qualities. The use of thick concrete shading screens, a monotonous colour palette, rigid forms, and non-engaging facades (refer to figures 8, 9 and 20) make it more of an object than a building.

Clear exhibition of Structure

In keeping with the style's general lack of ornamentation was the Brutalists' desire to leave the building's structural components bare and visible to the eye. If steel was used as a primary structural element (though rarely done in Brutalist architecture, one of the very few examples being the Smithsons' Hunstanton School), this was articulated clearly. Many Brutalist buildings expressed their functional structure through the use of bold overhanging solids and varying textures (Niebrzydowski, 2021)

The majority of CPUT's buildings make use of a concrete frame structure, and in many of these buildings, key components of this structural system (columns, beams and concrete floor slabs) protrude from their facades (fig 11).

Truth To Materials/"as found"

To mirror the realities of everyday life, Brutalists largely disregarded any form of ornament, making use of materials in as raw a form as possible. This resulted in rough textures, heterogeneous

Figure 10: The campus from a bird's eye view.

Figure 11: The facade of the campus's student center makes use of a concrete brise soleil that also performs a structural role.

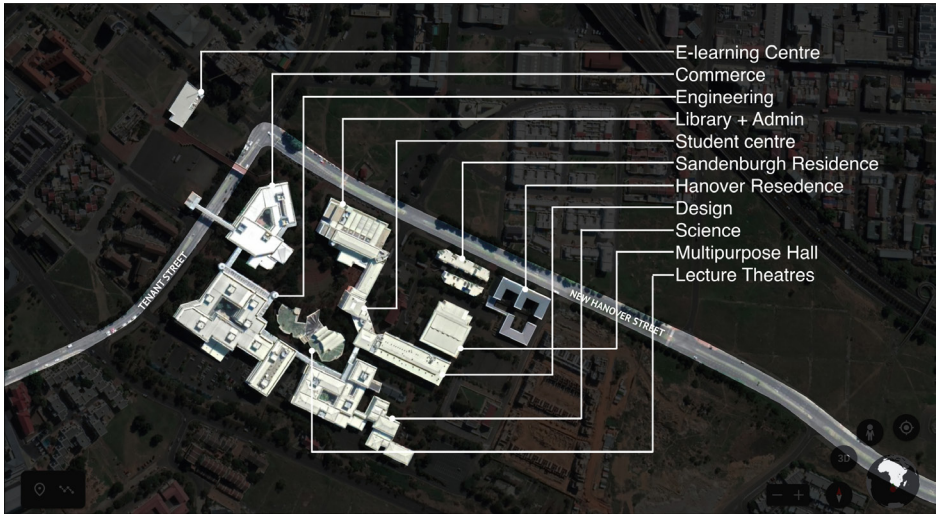


Figure 12: Functions of the campus's various buildings.

surfaces and unresolved defects, adding sensuality and uniqueness to their buildings. This attribute of Brutalism is often referred to as "truth to materials" or "as found" (Mould, 2017). The resultant sensuality was, according to Mould (2017), intended to relate the building's inhabitants to its production, and to celebrate materials authentically.

Due to being designed towards the end of the Brutalist movement, the intensity of Brutalist qualities is less at CPUT than what one would find in a typical Brutalist building. The campus's design seldom makes use of raw and exposed materials.

CPUT Design Flaws

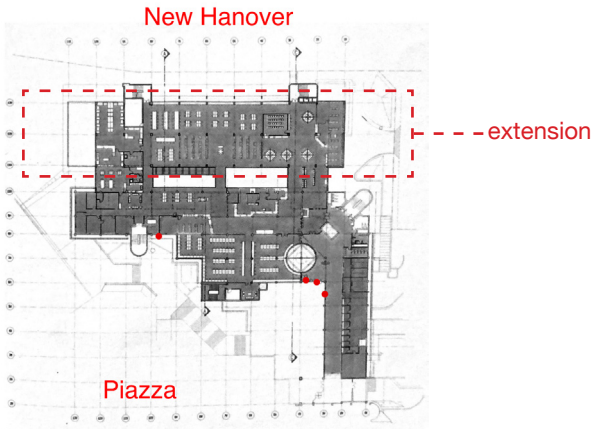


Figure 13: 2000 extension to CPUT's admin building.

The following have been identified as some of the campus's architectural flaws:

Accessibility

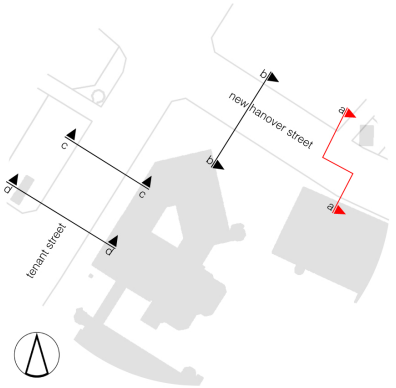
One of the most recent additions to the campus was the extension of its administration block (figure 13) that was completed in the year 2000 by MLH Architects and Planners (South African Architect, 2001). This addition to the original administration block reduced the building's distance from the street and was an attempt at "giving a humanist face to the public flexible enough to embrace future change in street use patterns" (South African Architect, 2001, p. 51). The building's semi-basement and first levels are used for parking and, according to the architects, are intended to allow for the possible future lease of street frontage. However, parking remains the program of this structure's first two floors, creating an inactive, inaccessible street edge along the area's most historically active street. Being the "face" of the campus, one would expect clear and obvious access points that allow and promote the exchange of foot traffic to and from the street. However, this building along with the campus's other structures have entry points located on their inner facades in an introverted manner, only accessible from the central piazza. There was great potential to better connect the campus to the public through the construction of this building extension, but this opportunity was missed.

Street Definition

The setting back of the campus's buildings was a means of the architects following modernist design principles of the time, however, it greatly limits the campus's ability to interact with its current context and weakens the street definition around the campus. The resultant isolated structures thus contribute very little to street activity, and, in fact, make pedestrian life unsafe. This is in direct contrast to the fine-grained urban fabric of historical District Six whereby buildings sat very close to the street edge with mediating elements such as stairs and stoops.

The structure illustrated below is the campus's administration building. Its first two floors are used for parking, which worsens the negative pedestrian experienced caused by the wide street.

(Building plans on pages 28-32).



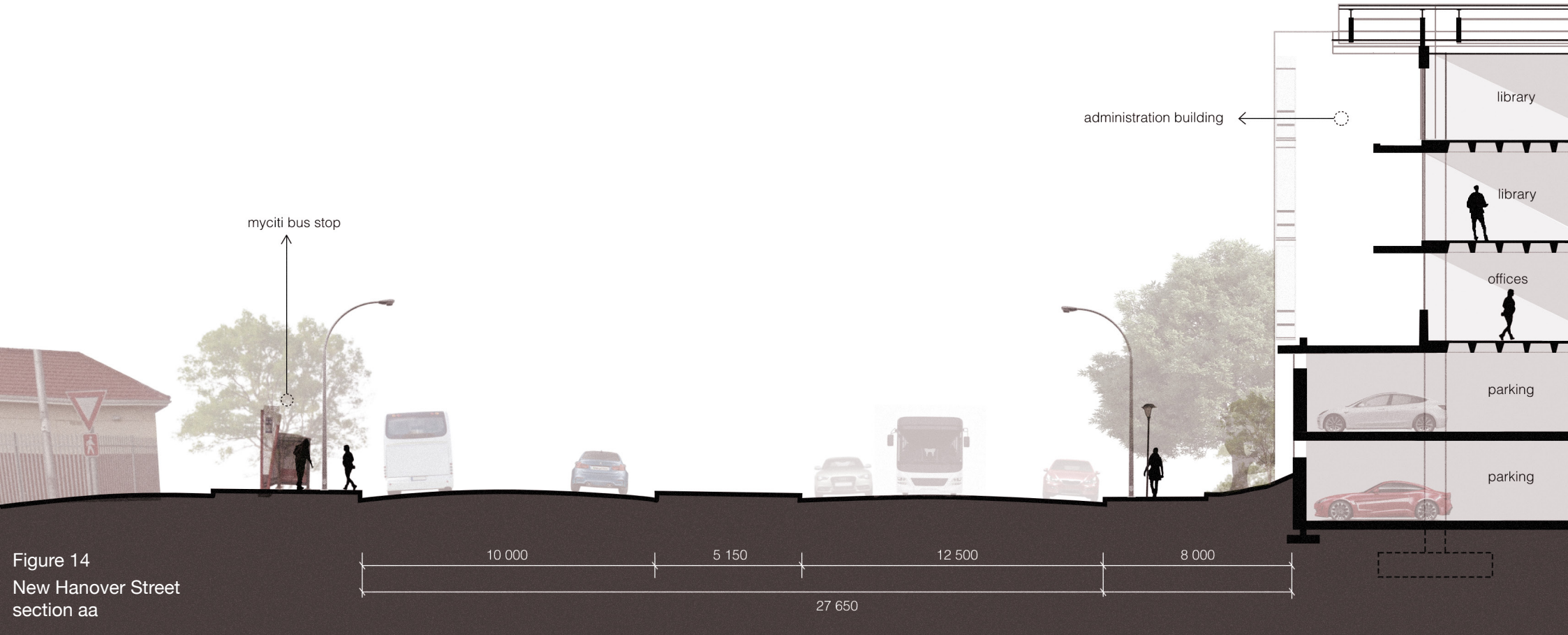
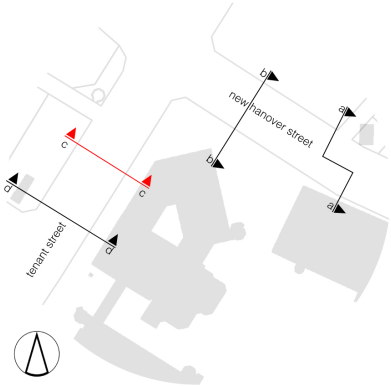


Figure 14
New Hanover Street
section aa

Figure 15
New Hanover Street
section bb

Lack of Mediating Elements

On an urban scale, CPUT lacks sufficient elements to mediate between the institution and the broader public sphere. As already demonstrated, these architectural story-telling elements allowed historical District Six to thrive by creating boundaries that encouraged social interaction and soft transitions between public and private. In place of transitional spaces are non-engaging facades of the admin building and the commerce building that are found along New Hanover and Tenant Streets.The potential impact of the campus's largest mediating element, the central piazza, is diminished due to the campus's failure to draw the public in.



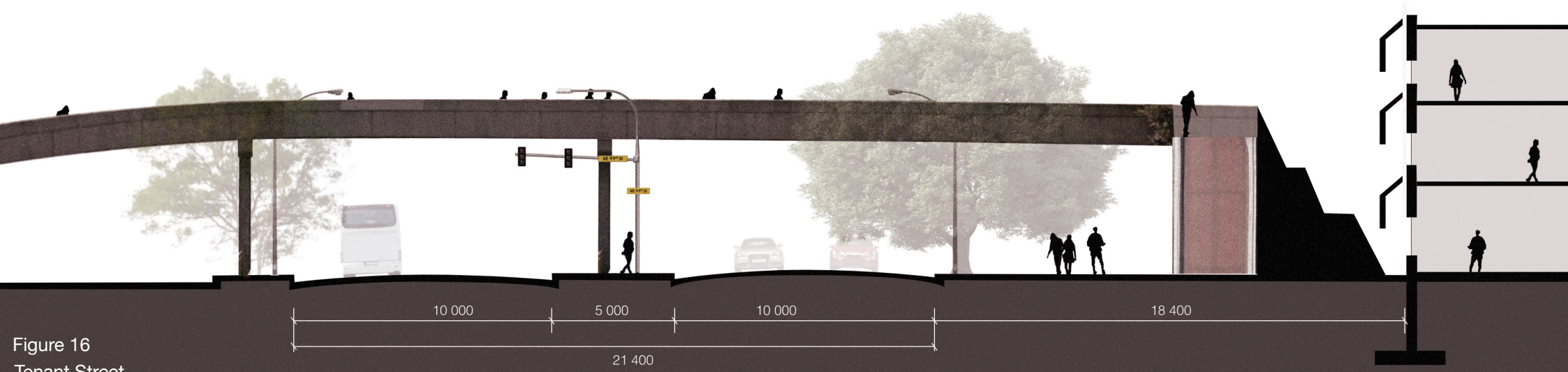
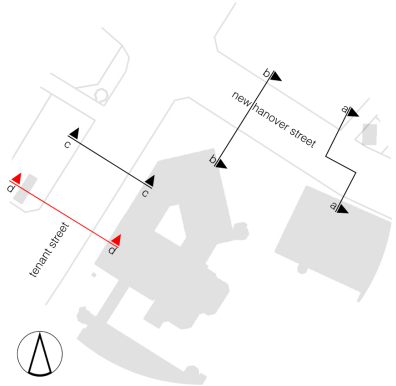


Figure 16
Tenant Street
section cc



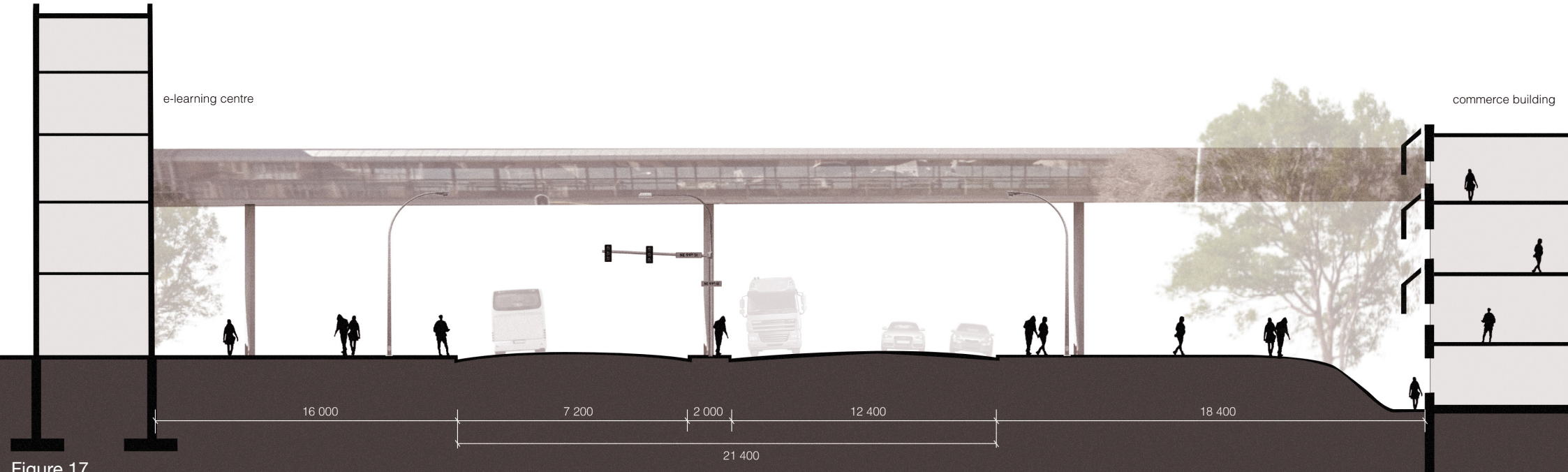


Figure 17
Tenant Street
section dd

Scale

The scale of the campus is out of proportion with the largely barren landscape, with some of its isolated structures reaching up to 6 stories (approximately 20 metres) in height. The campus's design has been unsuccessful in mediating between the new lot sizes and the human scale in that its facades consist of large spans of non-interactive, uniform edges, making for an unsafe pedestrian experience. The scale of the plots planned for the district during the implementation of the Group Areas Act is monumental in comparison to that which contributed to the diversity once seen in the community (fig 19). The fine grained historical urban fabric once rendered the area highly walkable and safe, and contributed to the diverse range of amenities along the street edges. The pedestrian has since been made to take the back seat, with Hanover and Tenant Streets each spanning 25 and 20 metres in width respectively, despite these distances feeling even greater due to the setting back of the campus's buildings.

Figure 18: Scale of CPUT in comparison to the current urban fabric of Disrtict Six.

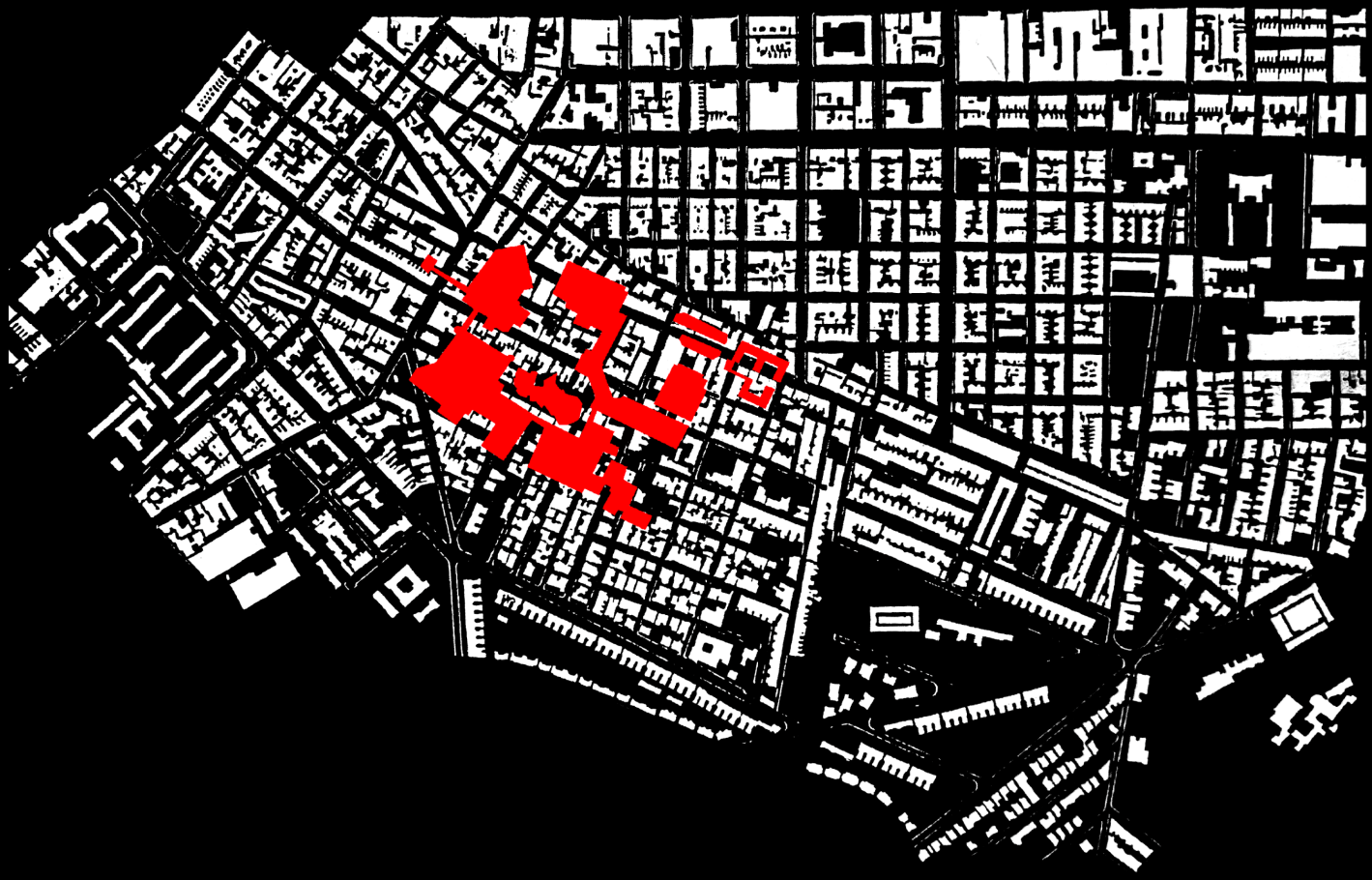


Figure 19: Diagram showing CPUT's mass juxtaposed onto the urban fabric of Historical District Six. The difference in scale is clear.

Introversion

Collectively, the institution is introverted with each mass largely focussing its activities around interior courtyards, inward facing programmes and a central piazza while offering nothing to the street. Generally, courtyards can be an effective way of allowing a sense of privacy in an otherwise public setting, as might be required by certain buildings on an urban campus. However, when coupled with the other introverted aspects of the design, the courtyards only act to strengthen the campus's rejection of public life. Further instilling the campus's introverted nature are the overhead gangways that work to remove pedestrian activity off of street level, giving priority to the automobile. This design approach has proven detrimental to street life and pedestrian activity in general as many of its buildings are connected via these bridges (fig 20).

The campus remains an alien in District Six's landscape, separated from its context through the above mentioned architectural qualities. These are the very attributes that will have to be tackled if the campus is to be integrated into the community.

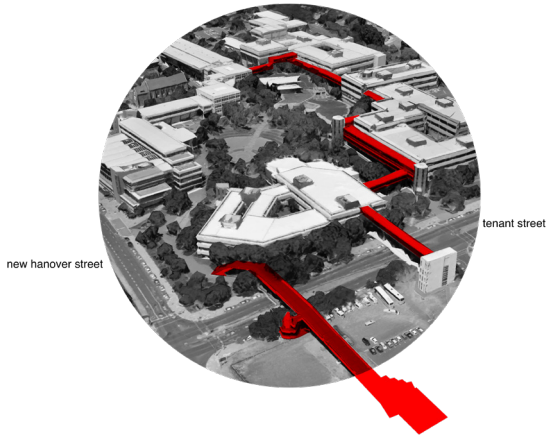


Figure 20: Diagram highlighting overhead gangways at CPUT.

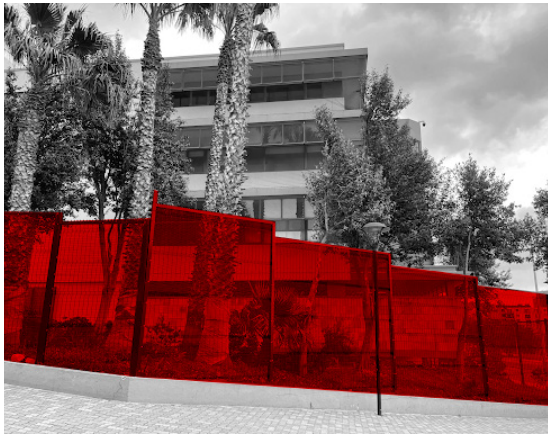


Figure 21: Images highlighting introverted nature of CPUT.
(From left to right) Ground and first floor of the administration building are reserved for parking, and the facade at these two levels does not engage with the street in a way that enhances the experience of the pedestrian.
A fence surrounds the entire campus, making pedestrian movement around the campus very rigid, restricting access to only a 3 areas.
Overhead bridges and gangways intended for student and staff use surround the campus. This reduces pedestrian activity from ground level.

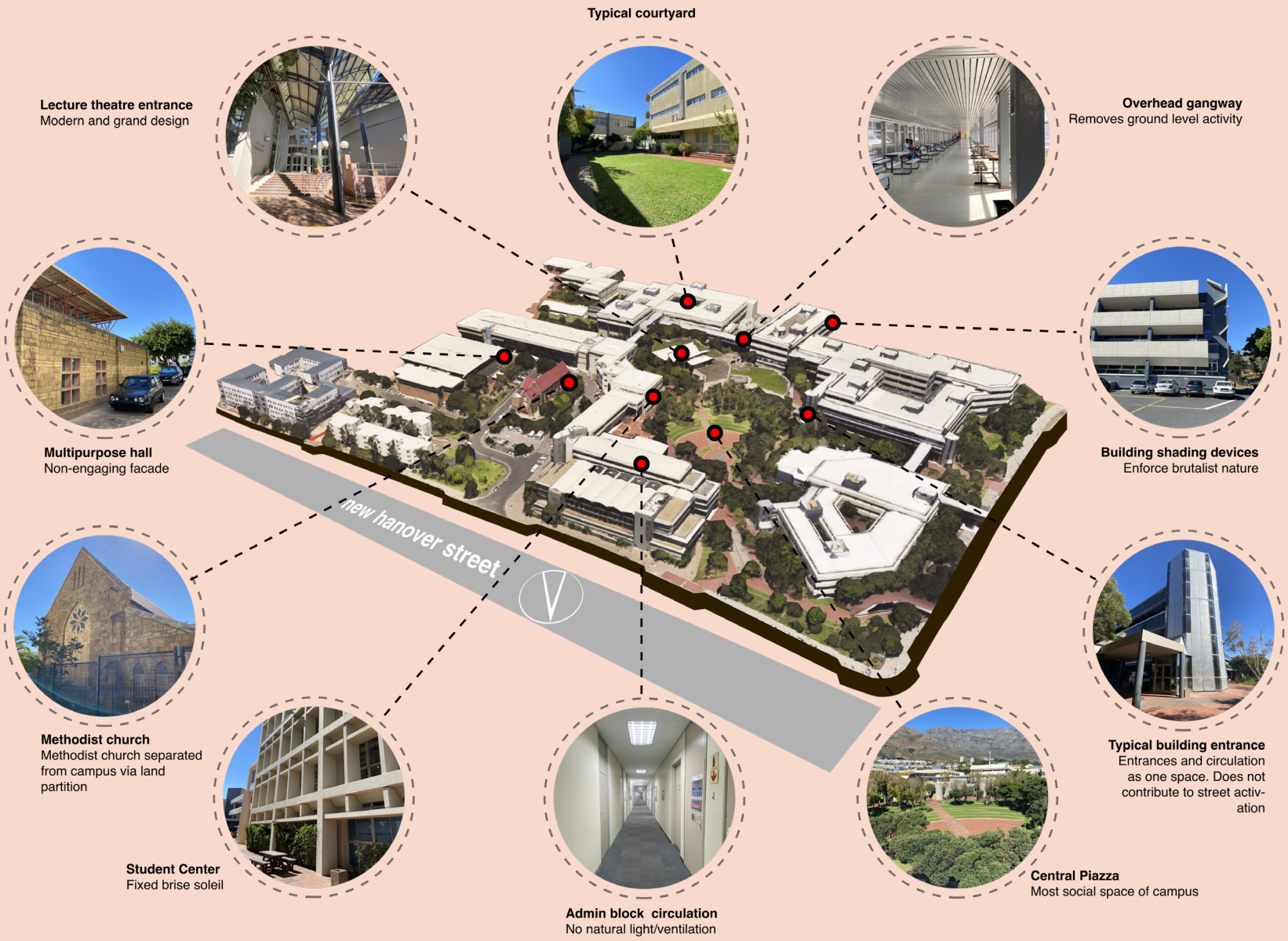
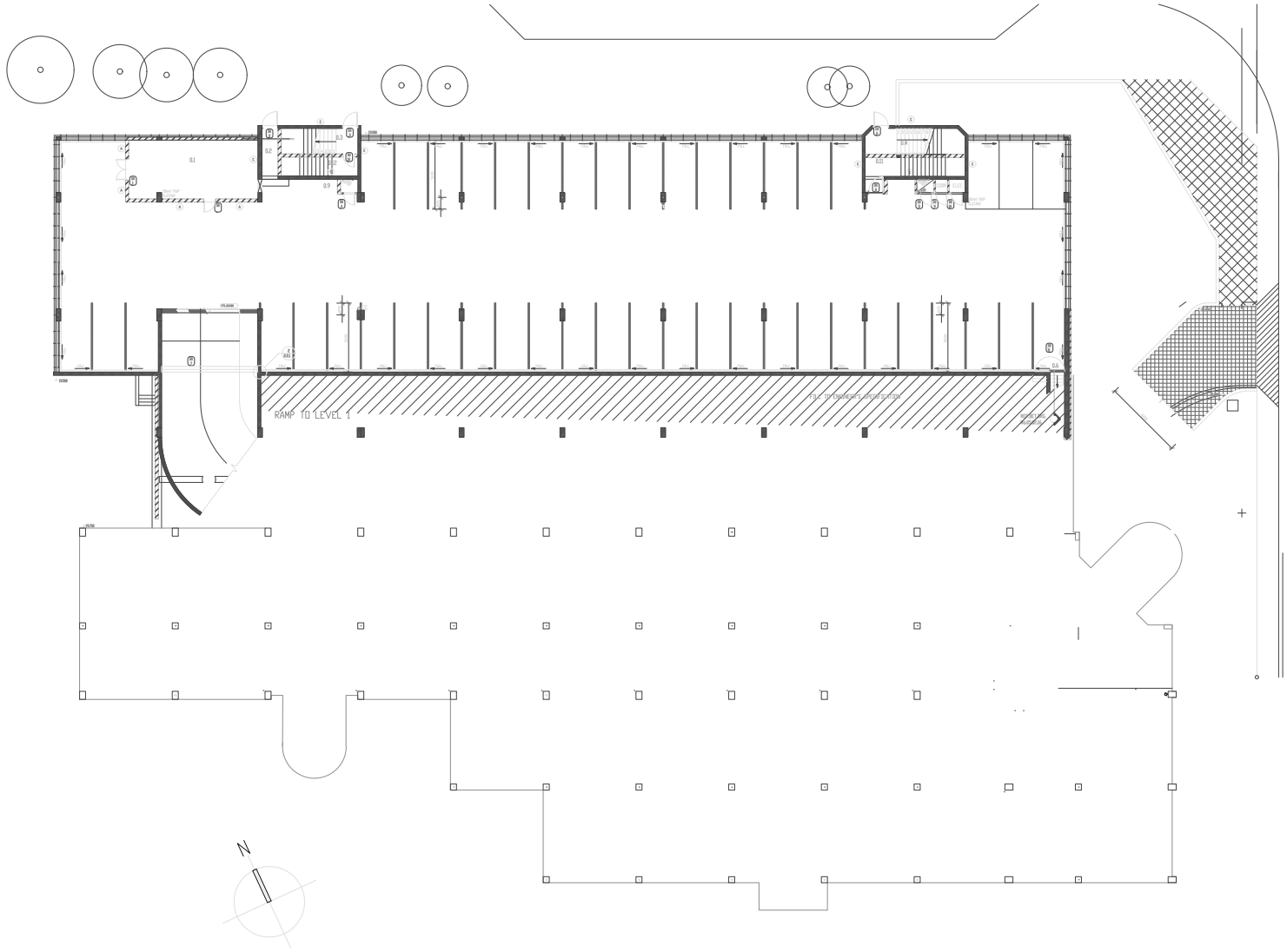


Figure 22: Map of the physical qualities of CPUT's campus.

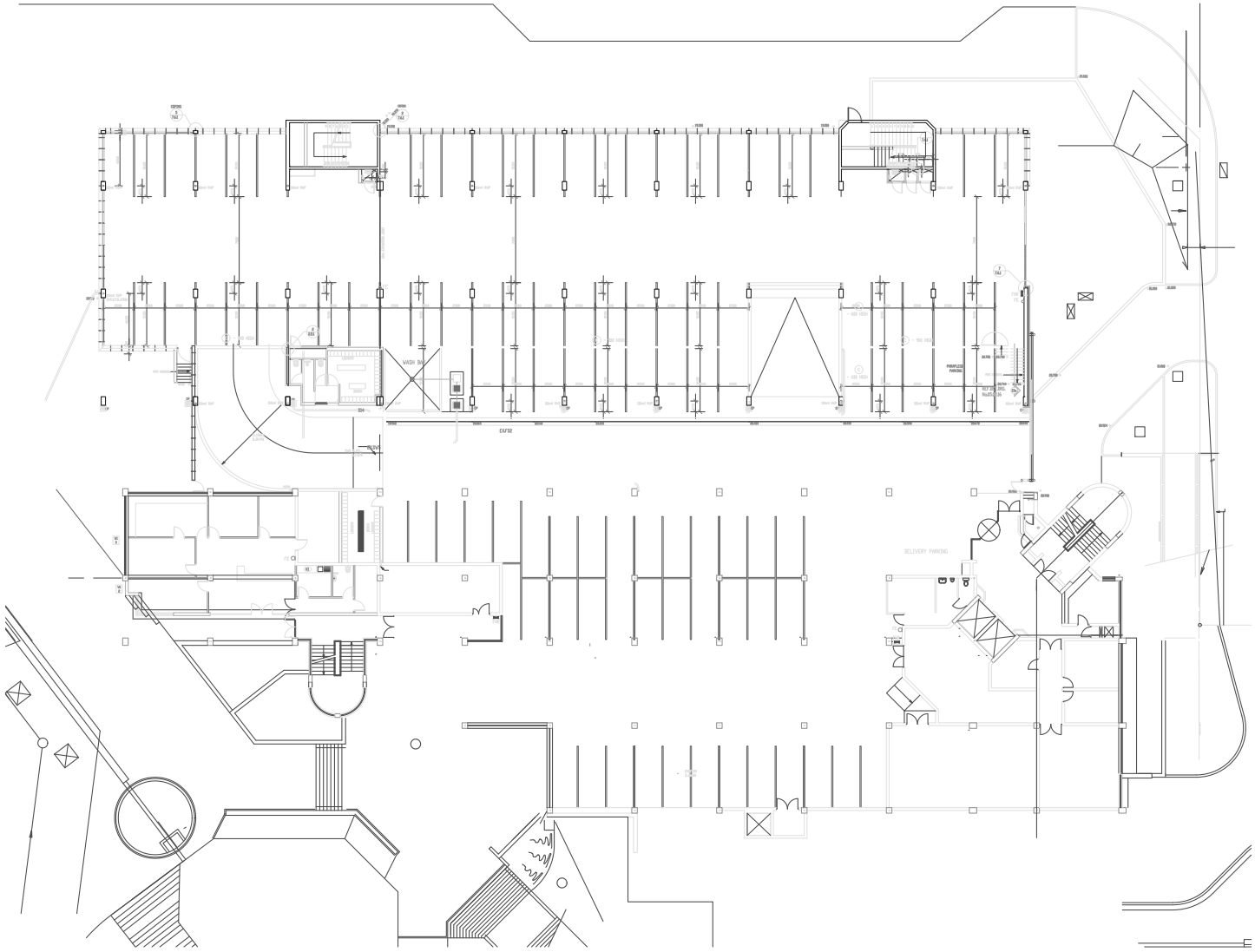
Admin Building Ground

The ground floor of CPUT's administration building is a semi-basement car park. Being situated along the area's most active street, New Hanover Street, this edge presents an oppotunity.



Admin Building Ground First

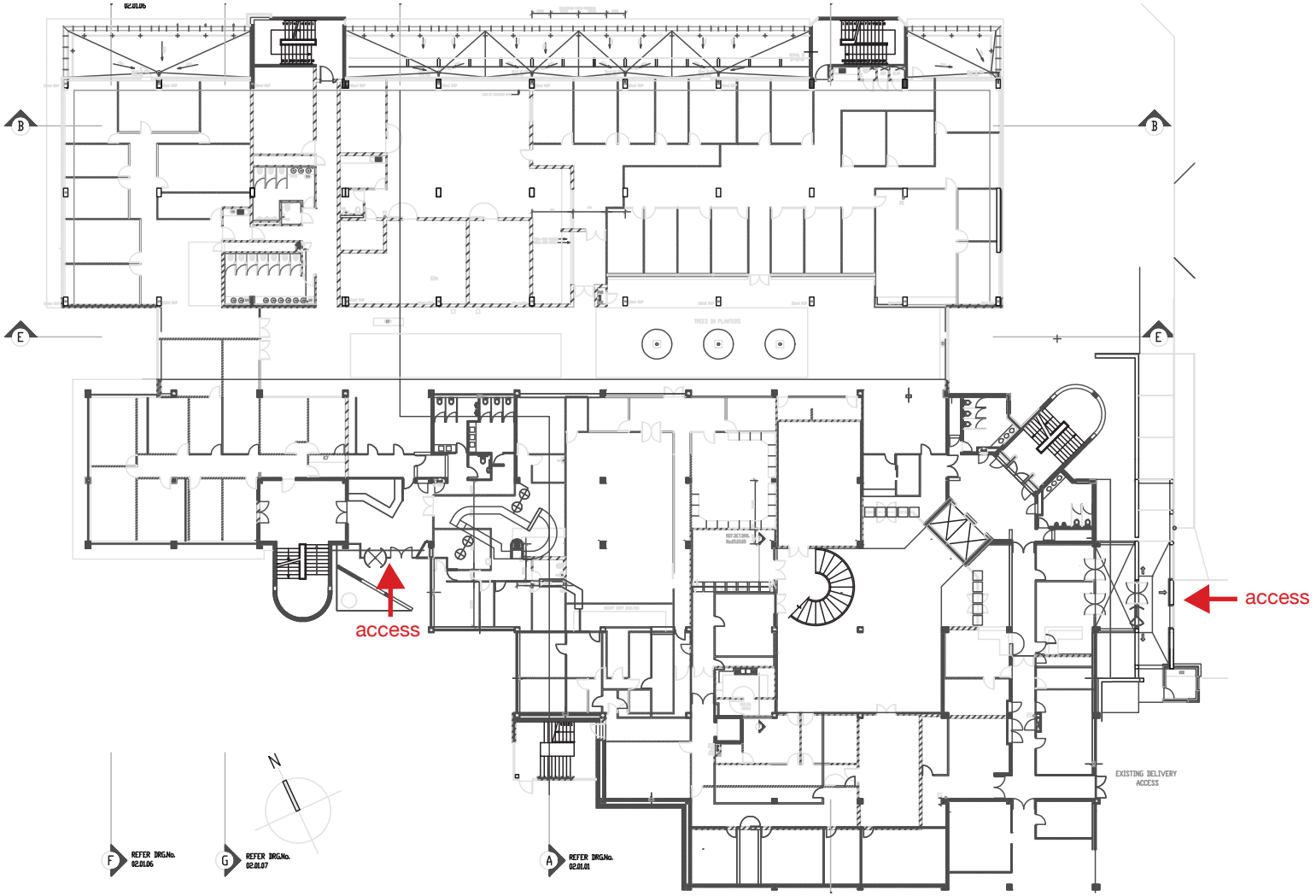
The first floor of the administration building is also used as a car park, highlighting the preference that is given to the motor-vehicle instead of to the human. The decision to use ground and first floors as sheltered parking has had a negative impact on the pedestrian experience around this building.



Admin Building Second

This floor hosts the building's administrative functions, with the majority of its spaces being used as various kinds of offices. Many of the rooms are internal and therefore receive little to no passive ventilation or natural light, nor do the corridors that are formed in between them. The building's access points are on this level, on the South and East facades, away from New Hanover street.

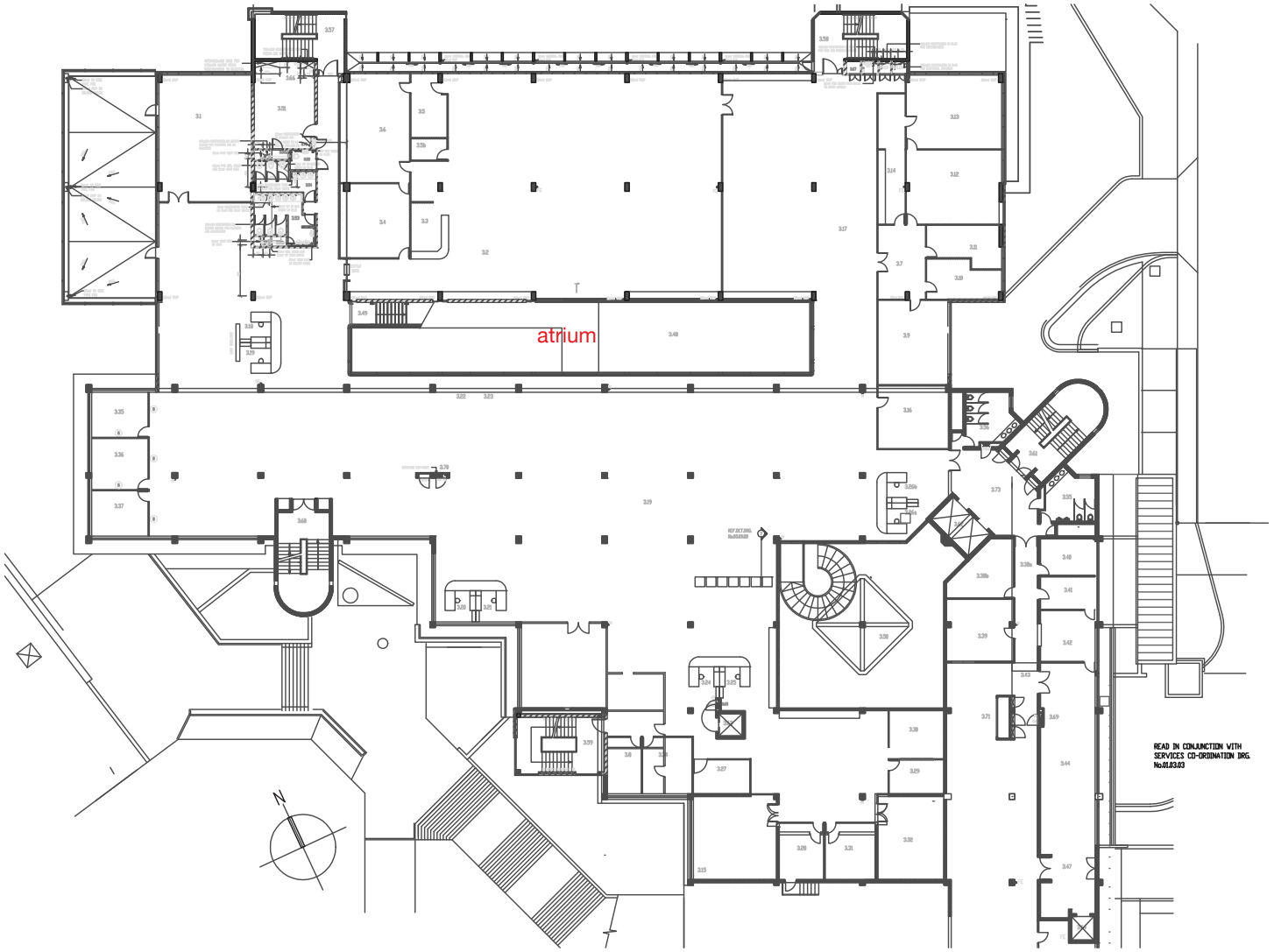
New Hanover Street



Admin Building Ground Third

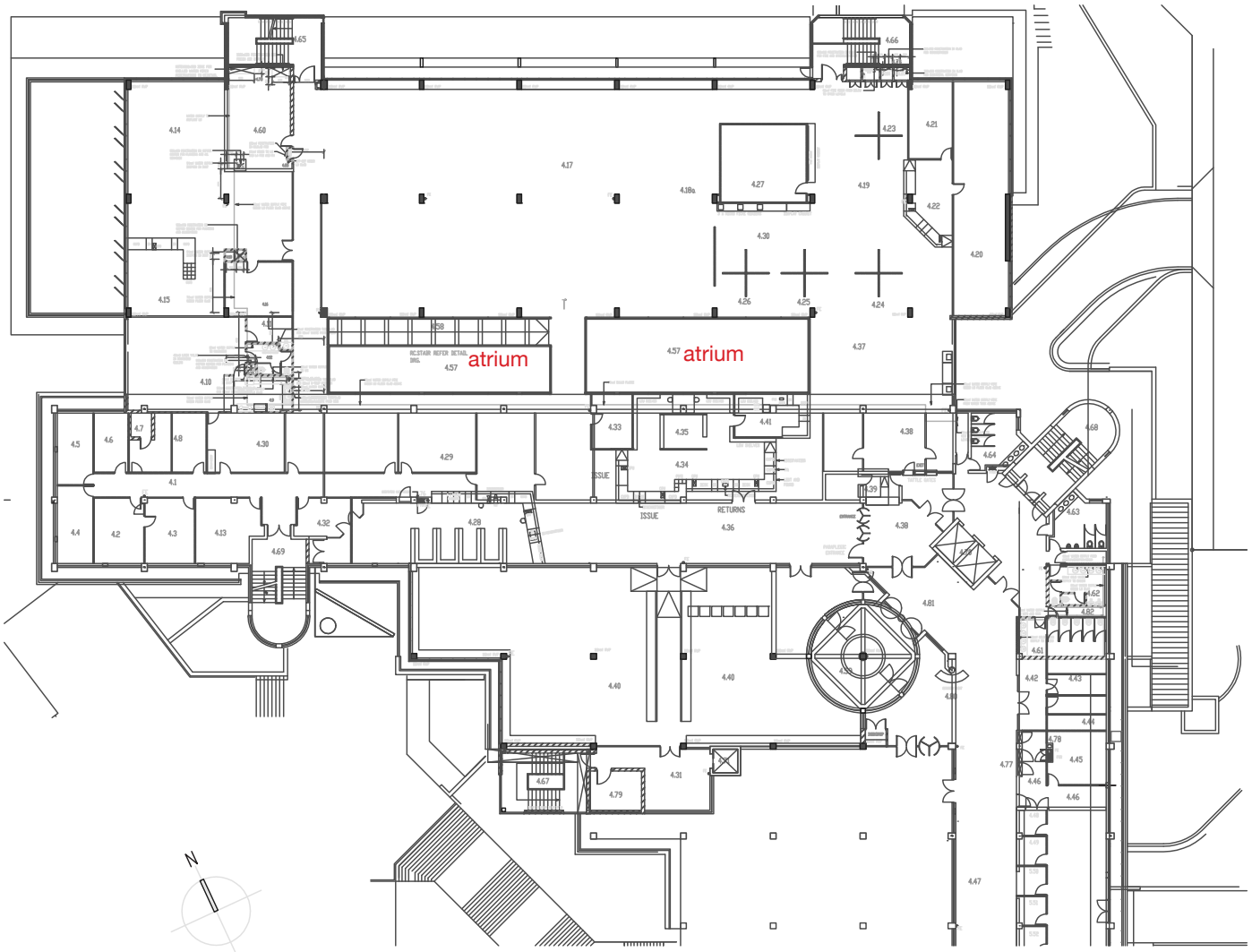
Third floor is used as the student library that takes up two floors (3rd and 4th). Because of its function, this level is much more open than the one below, and an atrium is incorporated at the point where the building extension meets the original structure.

New Hanover Street



Admin Building Fourth

This floor is used for both administrative functions (towards the south) and the student library (towards the north).



Story-Telling

A defining human trait that separates us from other forms of life is our ability and inclination to engage in the act of storytelling. It is through this practice that cultures and traditions were able to be passed down between generations (Young, 2012), and that various communities were able to shape and hold onto their identities. Today, storytelling takes place in many different shapes and forms, and with the advent of wireless technology, we each engage with more stories on a daily basis than ever before. For the purposes of this paper, I propose the reintroduction of the word "storytelling" as "story-telling", intended to encapsulate more than the denotative meanings of the two separate words. When used in the context of this paper, the term is intended to portray not only the verbal or textual communication of tales, but also the communication and expression of cultural identity and creative expression. In other words, the use of these words in this paper is inclusive of all forms of expression, inclusive of all possible mediums such as spoken word, music, visual arts, film, live performance, etc. The reason for this decision is to portray the link between the traditional form of "storytelling" and other forms of "story-telling" in that they share similar benefits to the development of community, and in that they inherently derive from [wo]man's desire to express creatively, as will be discussed below. This section of the paper aims to discuss that which compels us to the practice of story-telling, and what its relevance is to the history and potential future of District Six.

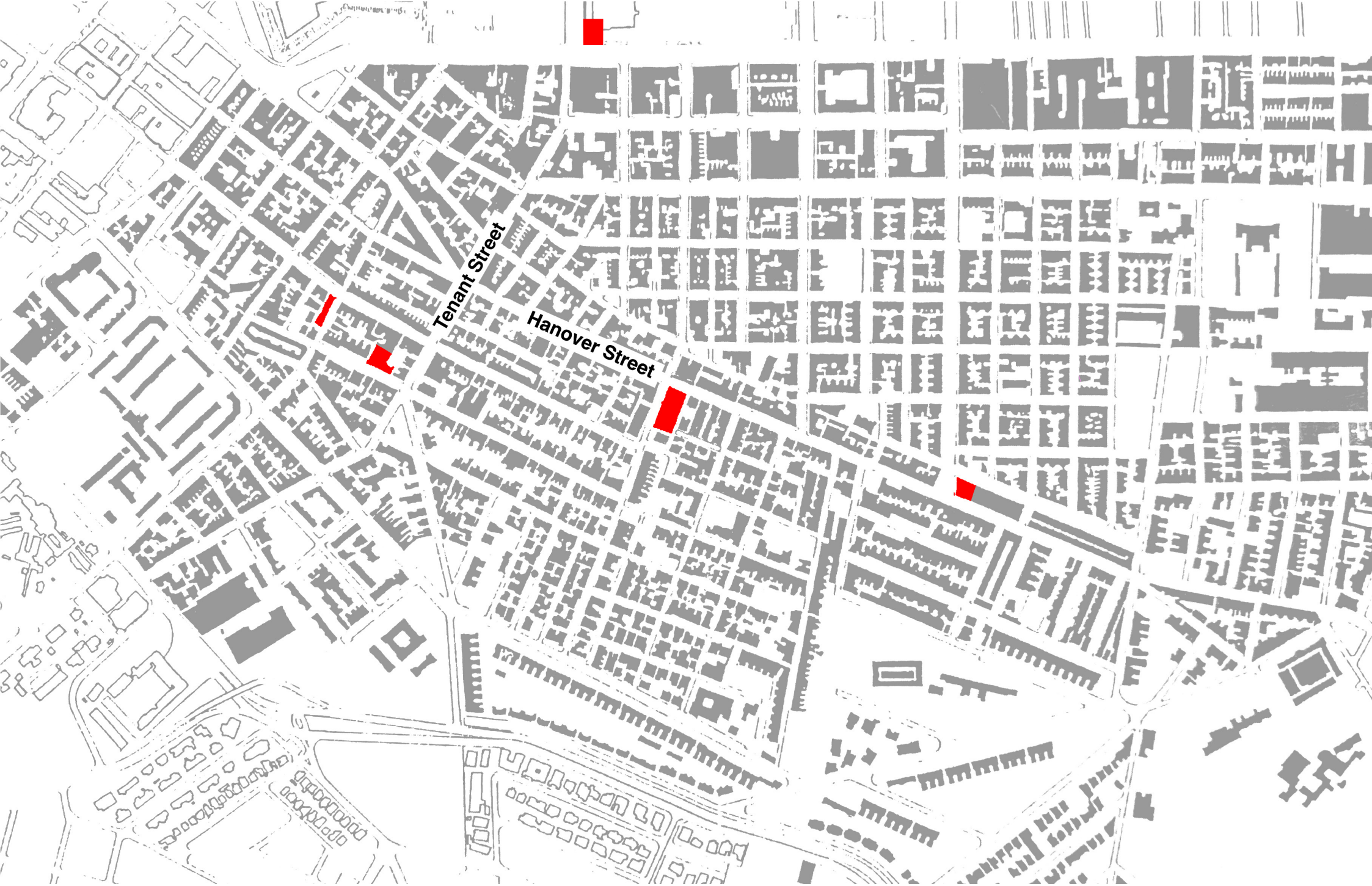


Figure 23: Diagram mapping the location of cinemas in Historical District Six.

In general African culture, storytelling has been used to pass on traditions, codes of behaviour and to help maintain social order by instilling cultural values in listeners (Utley, n.d.). In the periodic journal entitled "Story, Self, Identity", storytelling is said to play a fundamental role in human development. According to the authors, it is a medium that allows individuals to connect with one another, helping to establish communal bonds and trust (Sobol, Gentile, Sunwolf, 2004). Hennebury (2008) states that the reason for this lies in the fact that humans share a similar array of emotions, and that when these emotions are evoked through stories, they create a connection between the teller, the portrayed character(s) and the listener due to allowing them to recognize their inherent similarities. Similarly, the communal expression of identity, henceforth referred to as "story-telling" is an effective builder of community (Lang, Desai, Desai, 1997), sparking and helping to maintain bonds between those who share both similar and different identities. This was demonstrated in a study conducted by SIAP (2002) in Pennsylvania, USA, that deduced that community arts activity can be a driving force behind the revitalization of neighbourhoods and the strengthening of community ties. It is important to remember that District Six's population was culturally diverse, and so the benefit of story-telling was twofold: it helped to strengthen the identity and bonds amongst the members of the same groups, and it also helped to strengthen the bonds between different groups. Stories can be communicated through many different mediums, such as music, visual art, film and live performance for example, and according to Blatchford and Young (2019), communal acts of creative expression can be a successful strategy in achieving social cohesion amongst groups.

Story-Telling & Cinema

The chief leisure-time activity in District Six was cinemagoing. Most residents, both young and old across all cultures, enjoyed this form of entertainment on a regular basis (Bezzoli et al., 2002). The high concentration of cinemas (four) in the district speaks to the popularity of the activity and of cinema as an important story-telling mechanism (fig 23). Cinema in the global south, however, was dominated by American films and thus American identity. In the context of historical District Six, this allowed the largely non-American cultures to mix and bond over the common activity of watching popular foreign stories that did not necessarily appeal to any one particular group largely represented in the district's population, contributing to its popularity.

In order to better understand the influence and impact that cinema had on the historical community, an article by Jaqueline Maingard looks at transcribed life history interviews conducted by Bill Nasson, Shamil Jeppie, Thulani Nxumalo and others from between 1986 and the early 2000s as a means of conducting a micro investigation on cinemagoing in District Six. These transcribed interviews are part of the memory work done by the District Six Museum. Of the 67 transcripts, 76% make mention of the words 'bioscope' or 'bioskoop', while 70% of Nxumalo's subset include the keyword 'bioscope' (Maingard, 2017). These figures make clear the extent to which cinema was intertwined in the daily lives of District Six residents, so much so that it may even be looked at as having existed alongside other everyday activities such as domestic chores, work, school, and political activity. As one of the respondents to the interviews said, "our way of life was based on bioscope" (Maingard, 2017, pg 17). The study also shows that, because of their popularity in the district, cinemas became landmarks in their own right, being used as points of geographical reference in several of the transcribed interviews:

In recounting a story of a friend arrested by the police for not carrying his 'pass', one informant comments, 'They arrested him, then he said no, he's got his ID, his pass so they took [him] up to Searle Street. Searle Street was right up, you know, you pass Avalon Bioscope'. (Maingard, pg 22, 2017).

Although the cinemas were primarily used for screening films, they were also home to many other story-telling mediums such as talent shows, concerts, theatre performances, and dances. On many occasions, international stars would perform or simply make appearances, which added to the "magic of the cinemagoer's experience (Maingard, pg 29, 2017). The cultural impact that cinema had on the community is further evidenced by the emulation of various American icons in the District's famous 'Coon Carnival', an annual large scale story-telling event that takes place

on January 2nd whereby minstrel troops parade through the city starting in District Six before its demolition. Members of troops often dress up in attire resembling that of famous film icons, especially those that were popular at the time of District Six's thriving cinema scene.

Story-Telling & Architecture

For stories to be conveyed, some form of communication has to be at play. District Six's organic growth holds within it the many stories of those that gave life to its streets, speaking to the nature of the community and their values, but how is it possible for story-telling and communication to occur in the built environment? How can architecture tell stories and how is this important for the redevelopment of District Six? Despite communication not being a primary function of architecture, Umberto Eco (cited in Havenga, 2018, p. 28) argues that it still holds the power to act as a form of mass communication, and that through symbolic and associated meanings it can assist in the production of culture and identity. Eco (1997) makes a distinction between architecture's primary and secondary functions in that the former is denotative (architecture performing as a functional object) whereas the latter is connotative (architecture performing as a symbol). To better show this, Eco (1997) provides a relevant example of a prehistoric man who takes refuge in a cave amidst bad weather. In the example, the man's inclination to take shelter in the cave comes as a need for protection, with the cave's primary function being shelter. Over time, however, and with continuous use, an 'idea of the cave' (an abstract model) takes shape in the man's head, allowing him to recognize the benefits of not only this cave but of other caves as well. He begins to associate the cave with its primary function, as well as the possibilities that the cave allows: possibilities of safety, protection, and security. The very image of a 'cave' (actual or represented through the means of graphic expression) is now able to communicate to the man the function to be fulfilled. Over time, the image of a cave begins to connote "security", "family" or "familiar surroundings", thus introducing the cave's secondary function (i.e. its symbolic meaning; its ability to be used as a story-telling medium) (Eco, 1997). The model functions well enough that, from a distance, the caveman can recognize a good cave, a bad cave, someone else's cave, and understands that caves can assume various appearances because the model of the cave has become codified. The architectural code of the cave would generate an iconic code, and "the 'cave principle' would become an object of communicative intercourse" (Eco, 1997, pg 175). Though this is a hypothetical model of the development of prehistoric architecture, it is still applicable to the architecture of our everyday lives.

In "Architecture and Independence", Lang et al., (1997) state that meanings can be attached to architecture through its inherently symbolic nature, describing it as "an important, non-verbal medium for the communication of values about ways of life, aesthetic aspirations and, more generally, cultural ideologies" (Lang et al., 1997). Cramer and Breitling (2012, pg 18) describe architecture as "the genius loci, the spirit and identity of a place", while Rapoport (cited in Lang et al., 1997, p. 3) suggests that the meanings and identities that we associate with patterns of built form are either learned through education or through human experience. This is made evident in a study conducted by Havenga (2018) that aimed to identify whether there exists a link between the exclusive nature of gated communities in the Stellenbosch region and their use of cape vernacular architecture. Through the theoretical lens of Umberto Eco's writing on architectural semiotics, Havenga's (2018) study identifies the Stellenbosch area's gated communities' use of cape vernacular architecture as a result of the developers' desire to promote the exclusivity of certain areas. This architectural style is historically linked to the white colonists that first settled in the Cape, a group who believed in white superiority. The connotations attached to this style of architecture thus come out of its historically exclusive use by the country's white population, and its use today in the context of gated communities further promotes the exclusivity to which it is already associated.

Lang et al., (1997) suggest that the relationship between a symbol, its meaning and what it is associated with can be represented through the Semiological Triangle (fig 24). The symbolic meaning of an architectural pattern depends not only on the architecture, but also on the context in

which it is used. Taken a step further, Fritz Heider's balance theory model suggests that whether an associated meaning is seen as "favourable" or "not favourable" (i.e. good or bad) depends on a symbol, a referent, and a person or group (fig 25). The theory states that people have a tendency to seek and maintain balance in the relationship between the three elements in the triangle. For example, if one person has a negative attitude towards a specific group of people, then they would also have a negative attitude towards the symbols associated with that group of people. It is also for this reason that victims of the District Six forced removals would inherently associate negative connotations with the Cape Peninsula University of Technology in District Six.

It is at this point that I wish to bring forth the forms of story-telling that were evident in historical District Six's built environment; architectural elements that communicate the district's stories of heterogeneity and cosmopolitanism; stories of an inclusive community that continue to echo in the memory of ex-members. These architectural stories contributed to the success of the community and communicated the values that allowed the district to thrive. These stories point to elements that can be adopted into CPUT's current architecture in order to better integrate it to its context while also linking it to the history of the community.

Street as Social Space

Apart from Trafalgar Park, there was not much public space set aside for the District Six

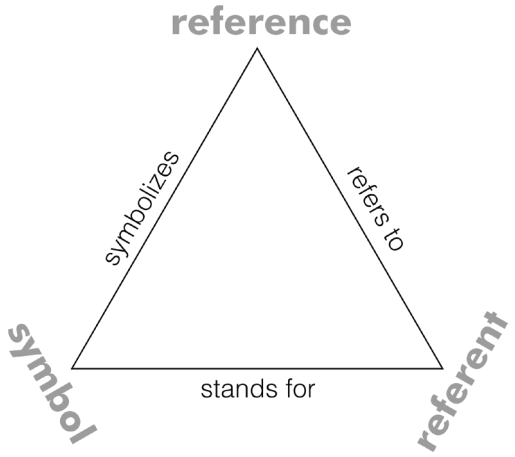


Figure 24: Diagram of the semiological triangle.

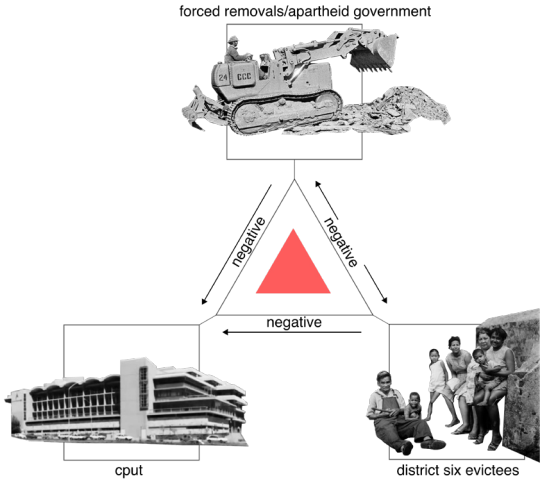


Figure 25: Diagramexplaining Fritz Heidinger's Balance Theory Model in relation to the victims of District Six's forced removals.

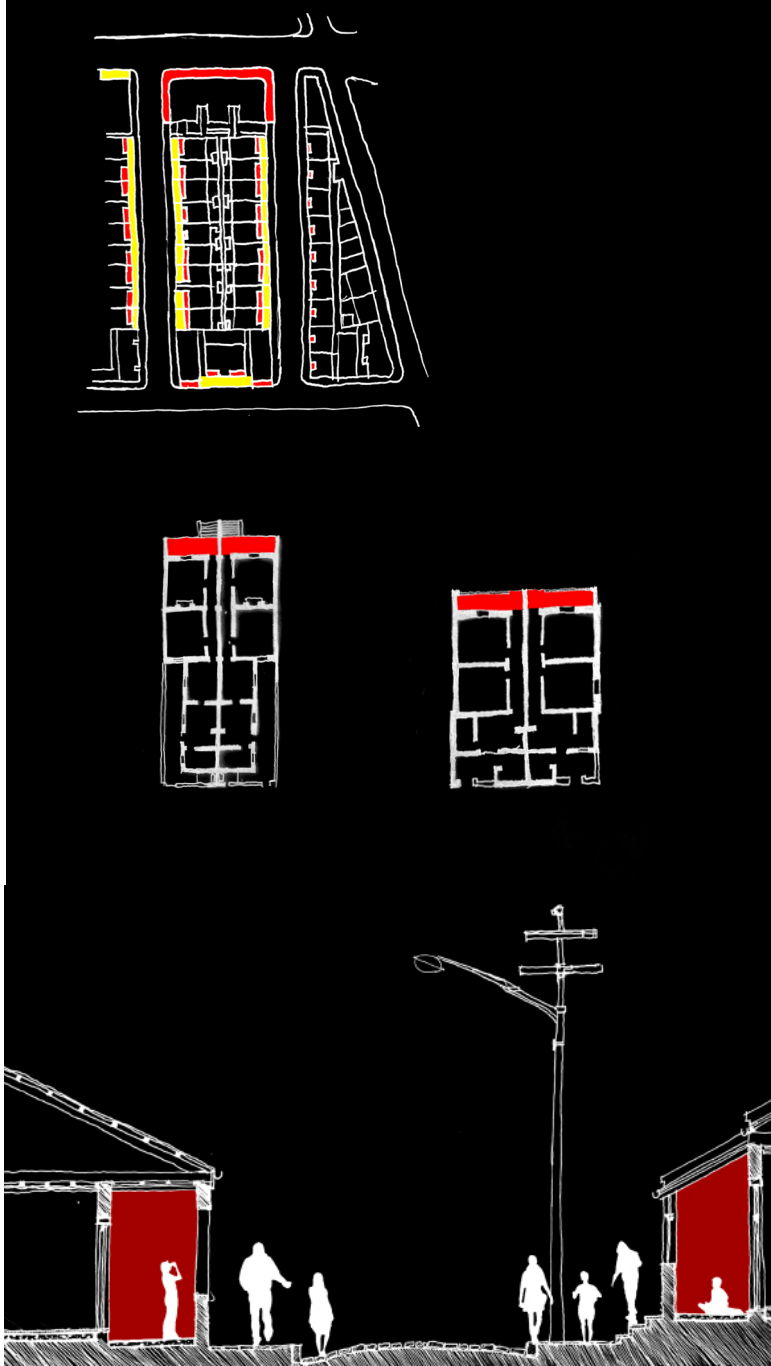
community, which was further exacerbated by the eradication of Woodstock Beach after the construction of the foreshore (Bezzoli et al., 2002). The district's limited open, public space forced its streets to become social, recreational spaces. Many of the buildings in District Six stood either shoulder-to-shoulder or very near one another with minimal gaps. This, coupled with the fact that plot sizes were not oversized, helped in the formation of a richly textured "urban wall" that defined the street (Bezzoli et al., 2002). Housing was the predominant building type in District Six, and the manner in which houses fronted onto the street varied. In some cases, houses fronted directly onto the street, creating a hard edge, while in other cases, transitional spaces mediated between house and street. It was the act of building along common building lines that helped to establish the cohesive "urban wall" and, in turn, the definition of the street. This urban wall together with the thin width of the street and the low height of the single and double storey buildings allowed the streets to become defined spaces of their own. The motor vehicle had not yet taken priority over the pedestrian, and so pedestrian activity was allowed to spill out onto the streets. They became places of incidental meetings, celebration and general socialising. This was further bolstered by the transitional spaces that mediated between the public life of the streets and the private buildings or homes that lined them.

Transitional spaces

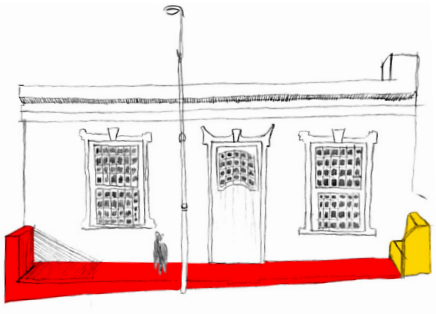
Transitional spaces were a vital part of public interaction in the community. Some examples include front yards, verandahs, balconies and, a very common element in the historical community, stoops. Stoops are raised platforms at the front of houses similar to what the western world refers to as porches. They help define a private territory for the houses to which they are connected while still keeping contact with the street (Bezzoli et al., 2002). In some cases stairs were incorporated due to the natural slope of the land, allowing for a more complex transition from street to house. Low walls, another mediating element, helped to articulate the boundary between the street and the site and made small front yards a possibility. In multi-story buildings, projected balconies provided shelter to the level(s) below while also creating interactive spaces above the street, thus allowing a connection between the street and the upper level(s). These different transitional spaces allowed interaction between ground floor and second floor; house and street; public and private, and altogether speak to the cosmopolitan community that was District Six. These elements were a big part of District Six's built environment, abundantly featuring in various types of buildings.

Similar to the hypothetical model of the caveman and the cave, District Six's streets and transitional spaces had both primary (denotative) and secondary (connotative) functions. The primary functions of these architectural elements were privacy, shelter, access, and the articulation of boundaries, but they also became symbolic of

Figure 26: Diagrams showing the use of stoops (red) and front yards (yellow) in typical historical District Six housing.



security, family, familiar surroundings and social bonds. Let us use the example of the stoep, for example. Their very image developed positive connotations in the context of the community due to the possibilities that they allowed. The concept of the stoeps worked well enough in the community that one would easily be able to recognize a good stoep, a bad stoep, someone else's stoep, and understand that stoeps can take various appearances, just as with the aforementioned hypothetical model. The abundance of these architectural elements in the historical community speaks to their importance and the impact that they had on the development of communal bonds, and boldly incorporating them into CPUT will aid in its integration into the community while also making reference to the historical built environment.



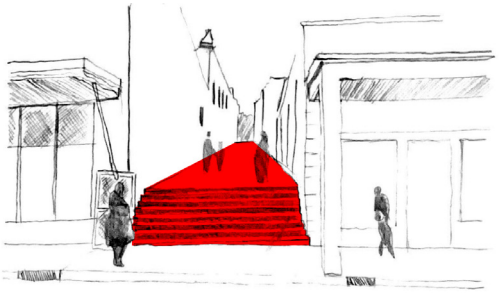


Figure 27: Diagrams showing mediating elements in historical District Six.

Overhead balconies created thresholds that sheltered the pedestrian activity below. These balconies and the covered walkways they created act as elements that mediate between the private and public realms.

Stoeps were a common architectural element in District Six.

Story-Telling & The Creative Class

In the future redevelopment and repopulation of District Six, a key historical attribute that may be of direct relevance is the availability of story-telling amenities. Urbanist Richard Florida's studies on what promotes urban and economic growth in contemporary cities includes the presence of amenities such as those that were abundant in District Six. Florida (2005) has termed a new class of people who are responsible for said economic and cultural growth as the "creative class": individuals engaged in "creative" fields of work including "artists, designers, musicians, entertainers, media workers and cultural creatives" (Asheim; Florida; Gertler; Mellander, 2013, p. 1), but also including scientists, technologists, innovators and entrepreneurs. Members of this class are supposedly very mobile, and seek living conditions that are in line with their ideals, such as a tolerant society, openness to minorities, and a diversity of cultural life (Eckert et al., 2010). According to Florida (2005), creative expression has become the principal driving force in the growth and development of cities, regions and nations" (Florida, 2005, p. 1), arguing that attracting the "creative class" to a certain city or region will result in substantial economic and population growth in that area. The significance of this theory to the redevelopment of District Six lies in the possible connection between the area's history of cultural richness and a potential future of both population and economic growth. District Six can never be what it once was, but look-

Figure 28: Collage showing the vibrant nature of the mix of cultures and cultural interactions in Historical District Six, with the street taking up the role of a social space.

ing to the past can provide pointers for possible contemporary solutions that may be implemented in a way that both honours the memory of the district while propagating its growth. According to Florida (2005), traditional research points towards economic opportunities being the reason for population growth (evidenced by District Six's initial development due to the availability of job opportunities), but contemporary research, including Florida's, suggests that it is the availability of "lifestyle amenities" that attracts the creative class. While 'hard' location factors, such as a suitable labour force and office space for example, were once regarded as significant in an area's ability to grow, it is 'soft' factors that have gained in popularity as the explanation of the patterns of businesses and people in contemporary cities. A lively cultural scene is one such 'soft' location factor to which Florida's theory refers, a characteristic of historical District Six and perhaps a characteristic that may contribute towards the growth and repopulation of future District Six. By virtue of basic transitive law (if a = b and b = c, then a = c), a diverse community coupled with amenities that promote and make story-telling possible will result in both economic and population growth (Cited in Asheim et al., 2013, pg 1; Eckert et al., 2010).

Prior to being demolished, the District Six community would have been an ideal example of an environment that is likely to foster and maintain urban growth as per Florida's theory. The significance of this, yet again, lies in the possibility of establishing a connection between a future District Six and historical District Six by means of contemporary solutions, making possible the development of a community that honours its memory. Florida's theory is of great importance in the proposals for the area's redevelopment. As shown in fig 30, members of the community had a variety of choices of amenities such as cinemas, places of worship, and educational institutions, contrasted to what currently exists. Putting in place architectural elements that can help foster a sense of community and belonging for returning victims is of great importance. As already expressed, communities require spaces to develop, interact, and express; spaces to tell their stories and spaces to write new ones. Story-telling promotes the formation of bonds between people and allows individuals to traverse gaps created by their perceived differences, and so the design and incorporation of public facilities that provide an environment for this to happen will be to the benefit of the returning community.

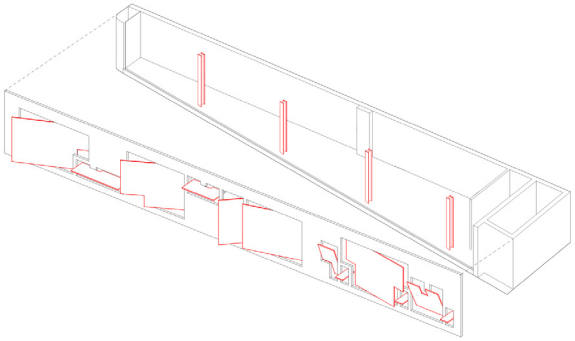
Figure 29: Images showing cultural activities of Historical District six. Kaapse Klopse marching band (top), casual music in the street (middle), music concert (bottom).

Cinemas:

Schools:

Churches:

Architecture In Existing Fabric



Today, the complete demolition of old buildings is increasingly being viewed as an ecological waste. According to Cramer and Breitling (2012), 50% to 70% of all construction work today concerns work on existing buildings, which speaks to the importance of densification, reuse, adaptive reuse and the preservation of existing buildings. The built environment is now expected to have the ability to adapt through time, of which the benefit is a sense of continuity, bridging the past to the future. It is important to remember that regardless of how fair the complete demolition of CPUT's District Six might seem, it would be a wasteful approach. It is more worthwhile to question how the campus can be transformed in such a way that allows it to be well integrated into the day-to-day lives of the members of the District Six community.

Entire cities and regions are often defined by the type of architecture (or the variety and texture of buildings) that they contain. Our built environments naturally become the bearers of our personal and collective memories (Breitling, Cramer, 2012). Our incessant need to reaffirm our existence and identity through architecture is particularly great after periods of devastation such as wars and disasters. After the great fire of 1871 in Chicago, what followed was the recreation of the city as well as the definition of a specific local architectural language. Similarly, after the damage in Warsaw caused by the Second World War, the city was rebuilt on the same historic building plots, making use of a contemporary language while still making reference to what

existed historically (Breitling, Cramer, 2012). This was the approach adopted by NM & Associates and Lucien Le Grange Architects and Urban Planners. Where possible, the redevelopment of District Six occurs directly on historical plots, but the architecture used is not a carbon copy of the historical fabric. What existed has been translated into a contemporary language. In the case at hand, however, CPUT has already been constructed on a site where great disaster took place, and as already discussed, the building's design makes no such reference to history. The massive scale of its buildings prompts one to look for strategies that can work to shape its relationship with its context.

When developing a design in the context of an existing building, there are 3 strategies that one can employ: intervention, insertion, and installation (Brooker, Stone, 2018). Each of these comes with their own advantages and disadvantages.

Insertion involves introducing a new element into the existing building. The addition is generally identifiable and fits within the confines of its host. This strategy does not alter the existing structure to a great degree and the difference between the existing and the new is quite evident.

Installation is a strategy that adds new elements to the host building without altering its structure. The additions can be removed without a trace of their existence. This method is useful in historic buildings where conservation is of a high priority.

The strategy of **intervention** involves a great level of amalgamation. The existing building is altered by the new element such that it loses its original integrity. This may involve either additional, newly constructed features or subtractive features (the removal of parts deemed to be unnecessary), or a combination of the two. This strategy is especially useful in buildings that require great changes in order to facilitate the new use (Brooker, Stone, 2018). It is therefore the strategy to be used in this design dissertation.

According to Brooker and Stone, when the strategy of intervention is used there are two processes that need to be followed. The first involves stripping back parts of the existing structure that have been deemed unnecessary to the new concept. For this process, it is important to understand the structural capacity and integrity of the original structure. A comprehensive survey of the load-bearing structure, its characteristics and potential capacity is essential. The second involves the insertion of the new elements that are in line with the new concept. In certain cases, these additions may provide the structural stability that was compromised during the first process. These new elements communicate in an architectural language of their own time and place and distinguish themselves through their materiality, structural concepts, and design approaches that act as an expression of the present, and of the future to emerge from it. What is to be stripped from and inserted into CPUT's campus is to be discussed further in the document.

Storefront for Art and Architecture

Steven Holl, Vito Acconci | Manhattan, USA | 1993

In 1993 Korean-born American architect and artist Kyong Park commissioned the redesign of his inner city gallery space known as Storefront for Art and Architecture. The non-profit organisation hosts temporary exhibitions, performances, conferences, lectures, seminars, competitions, screenings, and special events and was founded in 1982 (Bianchini, 2021). Architect Steven Holl and artist Vito Acconci worked collaboratively to create a more interactive facade for the street-side exhibition space.

The gallery is situated on the ground level of a residential building at the intersection of Chinatown, Little Italy and SoHo in Manhattan, USA. Its wedge-like footprint measures 1 metre wide at its thinnest and 7 metres at its widest, making its long facade its most dominant structure (Steven Holl Architects, 2022). Prior to the redesign, the space's wooden facade was a windowless solid architectural element that enveloped the interior space. The facade was often used by artists and curators to bring the contents of the inner exhibition to the street, however, the constraints of having a solid, flat facade limited artists' ability to do this. Holl and Acconci's collaborative effort helped to transform the facade into a dynamic element made up of pivoting panels that expand the building's interior

Figure 30: Altered facade of Storefront for Art and Architecture highlighting the newly created apetures.

space onto the sidewalk, creating a permeable room where the line between the private and public realms is blurred (Bianchini, 2021). In this instance, the sidewalk becomes a transitional space similar to the stoeps of District Six, acting as mediator between the interior space and the rest of the public realm. A hybrid mix of concrete and recycled fibres was the chosen material for the renovated facade, making it sturdy enough to act as an exterior face of the gallery and light enough for its rotating panels to be operated with ease (Steven Holl Architects, 2022). When open, the space's floor area increases from 75 square metres to 189 square metres, turning the narrow room into an inviting, open space with blurred boundaries.

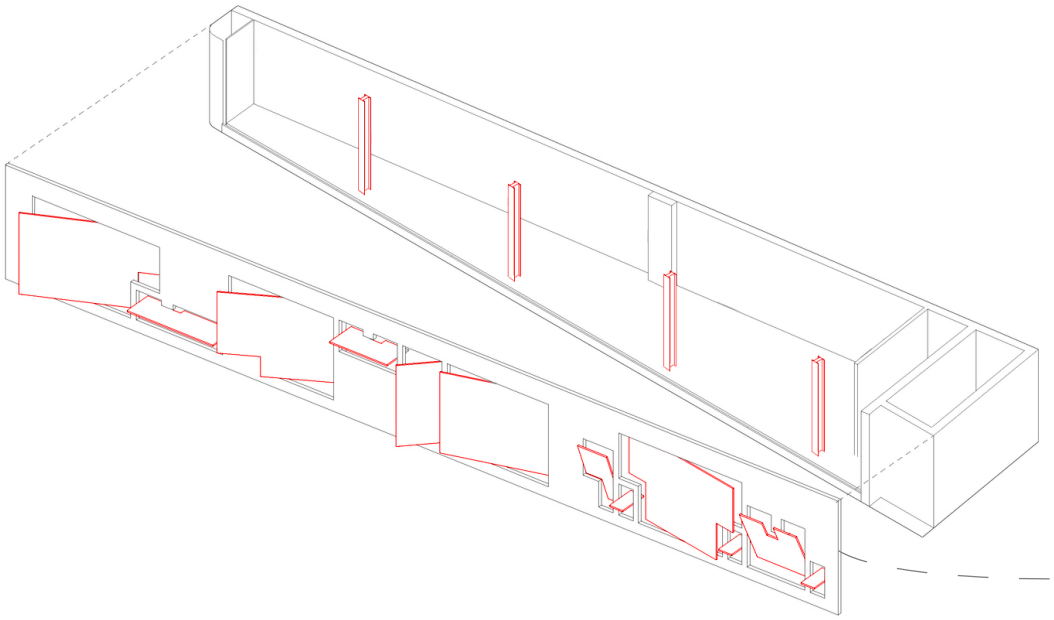


Figure 31: Axonometric showing the free facade of Storefront for Art and Architecture and its structure.

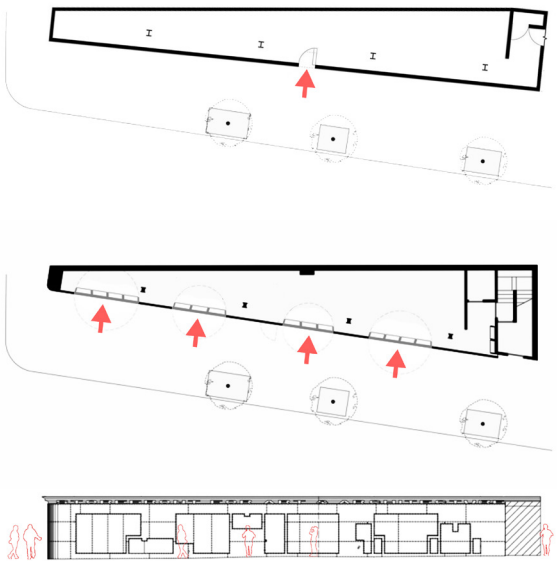
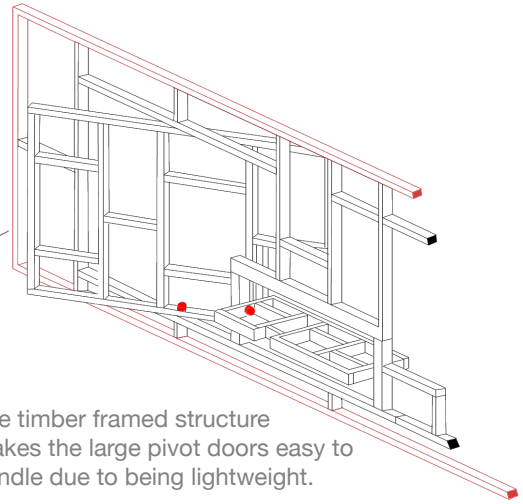
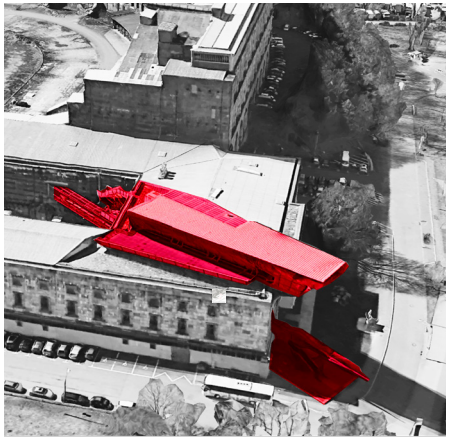


Figure 32: Old floor plan (top) vs new floor plan (middle) of Storefront for Art and Architecture. The difference that the new apertures makes is evident. The variety of the shapes of these apertures is shown in the elevation (bottom).



The timber framed structure makes the large pivot doors easy to handle due to being lightweight.

Parasitic Architecture



Parasitism is an architectural term that is often regarded as being synonymous with the word "addition", though in actuality it implies a more complex idea (Given, 2021). The term is derived from the biological definition of a parasite: "an organism that lives in or on an organism of another species (its host) and benefits by deriving nutrients at the other's expense" (Oxford, 2022). In architectural terms, the relationship between host and parasite can manifest itself in various ways, including that between an existing structure and an extension; an existing structure and an installation; an existing structure and its superstructure (which are largely surface level. Such relationships can thus be referred to as ectoparasitic, working, at their best, to expand their host spatially and programmatically, or to change the aesthetic nature of their host); and an existing structure's adaptive reuse (Baroš; Katunský, 2020). Urban acupuncture, as referred to by Baroš and Katunský (2020), is a form of parasitic architecture whereby micro interventions are made in the urban environment so as to improve its conditions and the overall functioning of the urban organism. The term derives from the medicinal treatment of acupuncture which relieves stress and tension in the body. Similarly, urban acupuncture relieves stress in the urban environment through a series of micro interventions that transform the larger urban context. For the design project, each of these kinds of parasitism will be considered for their individual benefits.

Documentation Centre

Günther Domenig | Nuremberg, DE | 2001

Due to apartheid, South Africa has been left with many traces of a highly exclusionary and segregated past. Similarly, Nazi rule in Germany resulted in the European country being strewn with a number of historic artefacts that speak to Nazi ideals. One such example is the congress hall at the Nazi Party Rally Grounds in Nuremberg, Germany. The domineering structure at the grounds bears witness to the extent of the effort put into Nazi propaganda shows, with the grounds themselves spreading over 4 square kilometres (museums.nuernberg.de, n.d). After the German government's decision to preserve the grounds and its buildings, and to incorporate a documentation centre into the site's unfinished congress hall, an international competition was held whereby architects submitted their proposed designs. The winning design by Günther Domenig has much to offer the world in terms of its approach to address a negative past in a contemporary context.

The existing structure made use of a symmetric, axial design that speaks to the formality and rigidity of Nazi ideals (Handa, 2017). According to Breitling and Cramer (2012), "Hitler considered architecture to have strong didactic potential and thus used it for propaganda purposes. The architecture of the Third Reich was intended to symbolise power and perpetuity of the German

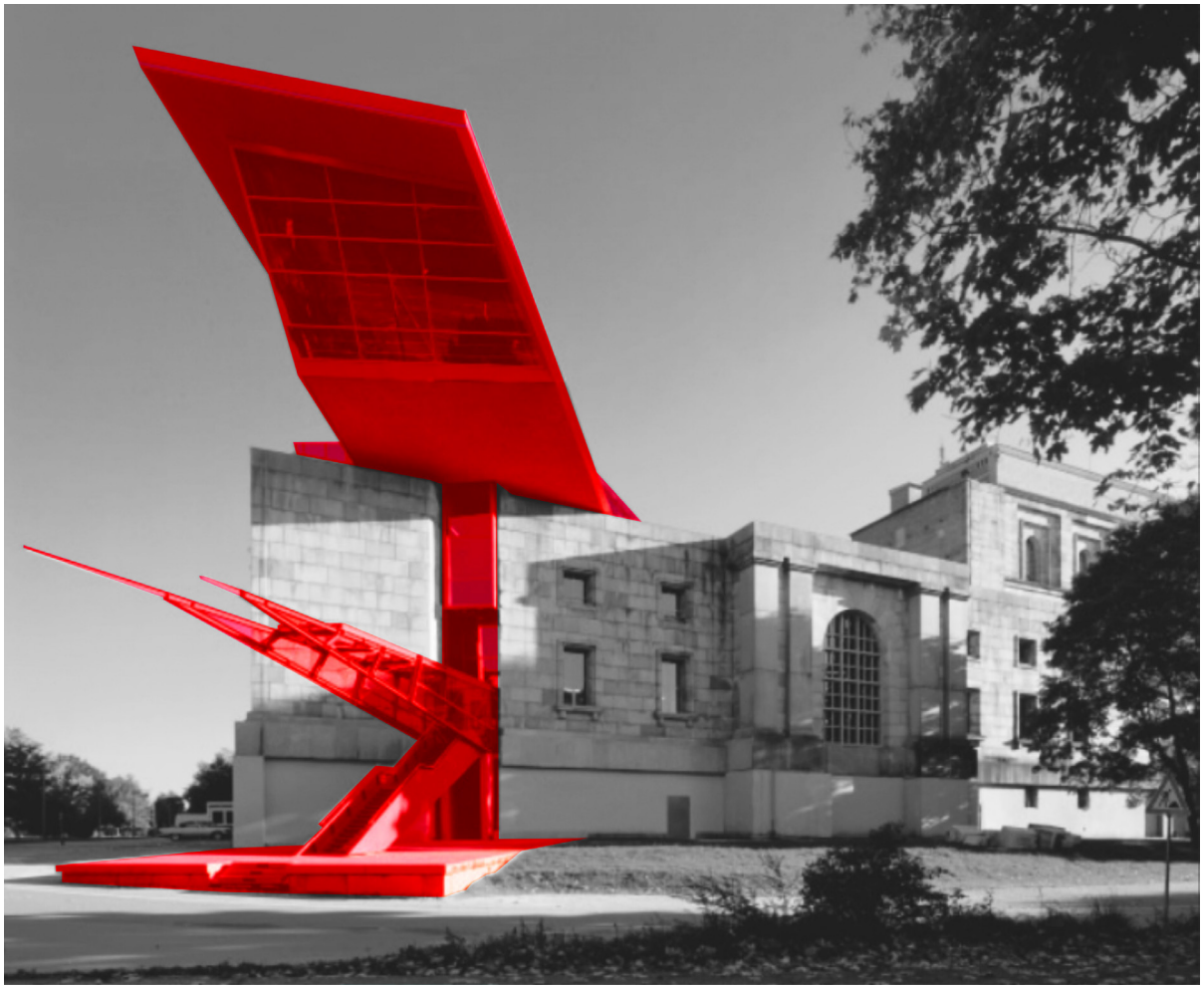


Figure 33: Image highlighting the Documentation Centre addition to the Nazi Rally Grounds' Congress Hall.

state". Its access points and circulation all fell along the axial grid on which it was designed and as a bold statement against the concepts that birthed this structure, Domenig's design drives a steel and glass stake through the heart of the existing building in order to make up the documentation centre. The design completely rewrites the right angled-circulation that existed before and carries one through the building diagonally (Handa, 2017). Visitors enter at ground level at one end of the intervention and move through the exhibition with the backdrop of the interior spaces of the existing structure visible through the glass walls of the stake. Placed within the existing building are a sequence of exhibition halls including a new film theatre that seats 500. Atop the existing structure is a new education forum and that, with an artificiality in form, contrasts the monumentality of former Nazi building built in brick, stone and concrete (Handa, 2017).

The significance of this structure as a case study lies in its application of a new design within a pre-existing building at which significant historical events took place, albeit negative. It directly relates to the past of Nazi Germany, similar to CPUT's direct relation to apartheid South Africa and the whites-only Cape Technikon institution, and is thus an agent of countering the Nazi past. According to Handa (2017), remembering a past of extreme difficulty is not just worthwhile but also a civic duty, allowing members of a society to understand and grow from historical events.
Several lessons can be learned from Dominig's approach to addressing negative historical events in Germany through the alteration of an existing structure, but it is also important to look elsewhere in order to have a broader understanding of possible approaches to add onto and open up the existing fabric of CPUT's campus. The following case studies are of smaller structures than the documentation centre.

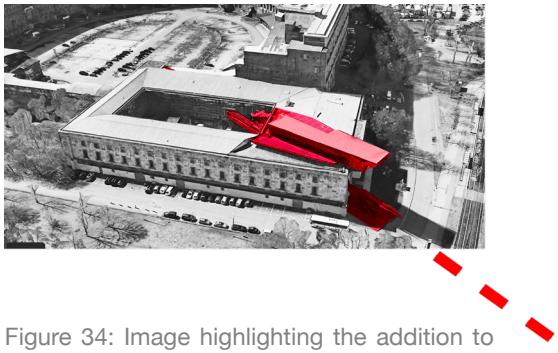


Figure 34: Image highlighting the addition to the Nazi Congress Hall.

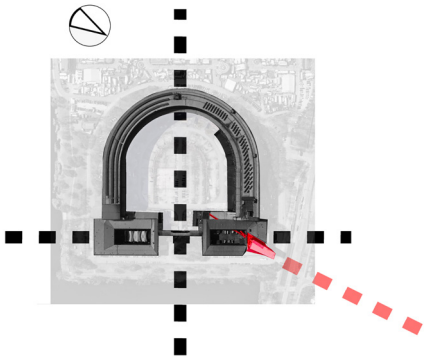
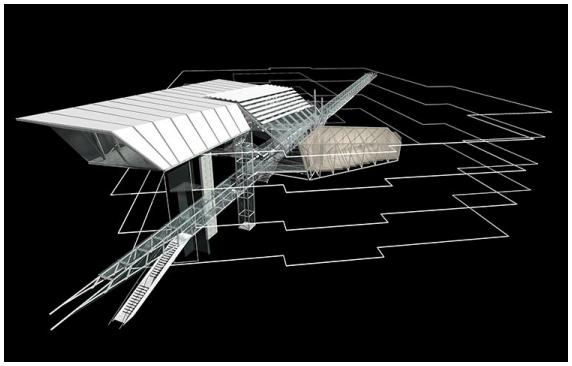


Figure 35: Diagram showing the contrasting axes of the new and existing structures.



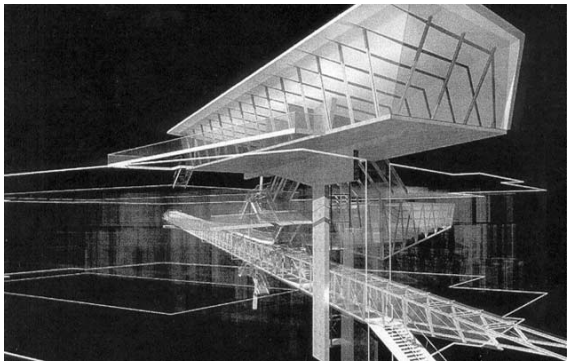


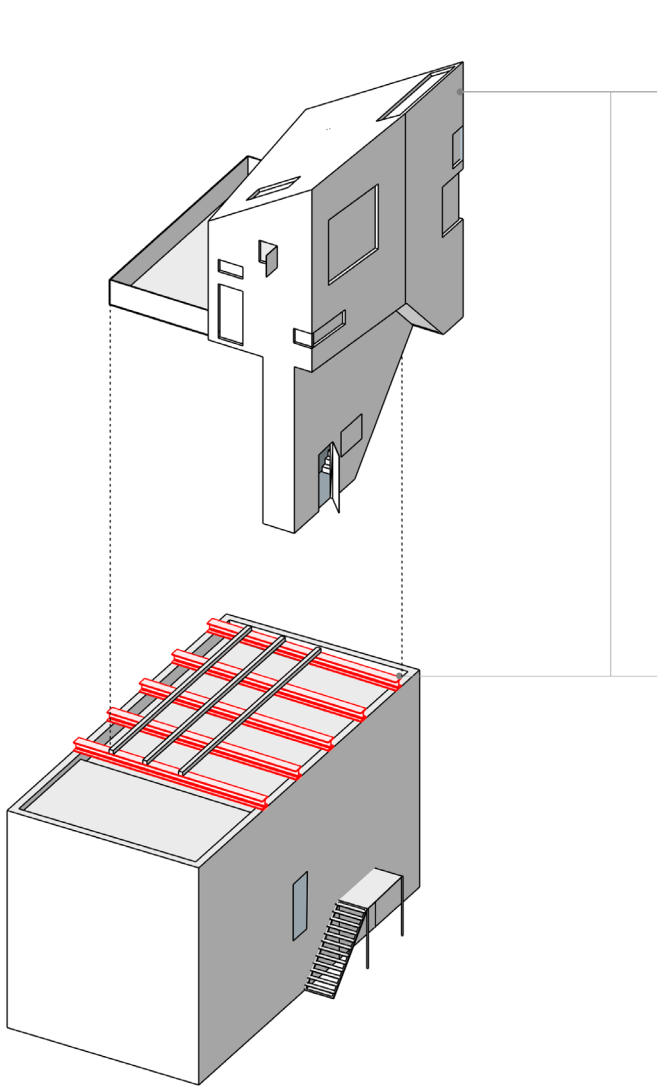
Figure 36: Digital models of the addition of the addition of the parasitic addition to the Nazi Congress Hall.

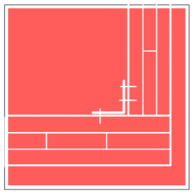
Las Palmas Parasite

KSA | Rotterdam, NL | 2001

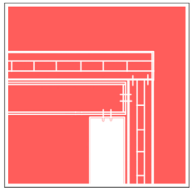
In 2001 Rotterdam was the European Capital of Culture (ksa.nl, n.d). The European Capital of Culture is a city designated by the European Union that is required to host a series of cultural events. While Rotterdam played host to this year-long event, it held an exhibition that showcased the innovative design of structures that could be placed in unused urban sites, acting as parasites to existing infrastructure. The exhibition was thus entitled "Parasites" and included designs and their small-scale portrayals by various international architects. Las Palmas Parasite, designed by Rien Korteknie and Mechthild Stuhlmacher of Korteknie Stuhlmacher Architecten, was built to full scale. The intervention is located at the Port of Rotterdam, Netherlands, and sits atop an unused warehouse that lent its large, industrial spaces to the public for various exhibitions. The bright green addition acted as both a full-scale prototype of one of the designs shown at the exhibition as well as an advertisement for the year-long event (ksa.nl, n.d). The design combined dwelling technology and prefabrication technology as a means to demonstrate the possibility of bringing life to otherwise unused urban space, thus promoting sustainable approaches of urban design.

Figure 37: Image highlighting Las Palmas Parasite perched atop its host.





CLT members are fixed together with the use of steel angles and plates. Due to the method of cross laniation, the CLT panels offer structural stability to the parasite, making up the wals, floor and roof of the addition.



Steel I-beams provide a secure surface on which the CLT structure can meet and attach to the existing structure. The versatility of the steel allows it to easily be connected to the concrete of the existing structure and the timber of the addition.

Figure 38: Axonometric drawing showing the steel connections atop which the parasitic addition rests.

By virtue of the nature of parasitic architecture, the use of lightweight materials is, more often than not, the most feasible approach, as was the case with Las Palmas Parasite. Being attached to the lift shaft of the warehouse, the project needed to take into account the strength of the existing walls, thus the choice of Cross Laminated Timber as the construction material (Hoogenboom, S., 2021). The walls, floors and roof of the design were each assembled off site before being hoisted by a crane and placed atop the lift shaft. Another important construction element was the steel members that were used to fix the parasite to its host.

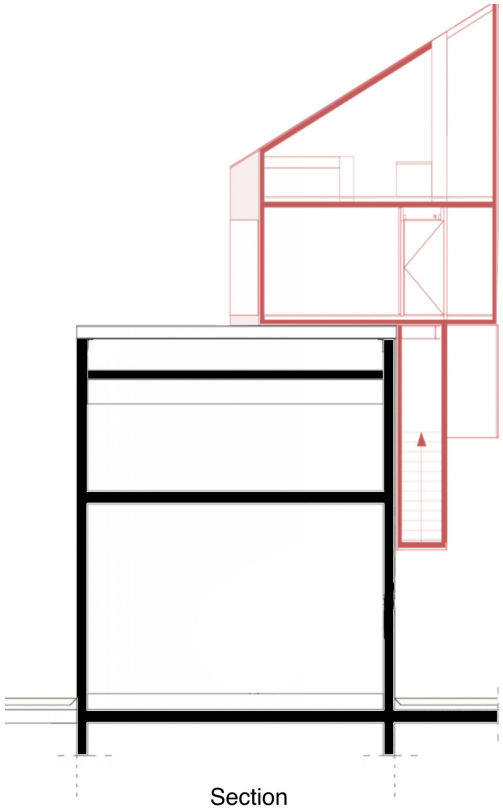


Figure 39: Section through Las Palmas Parasite and its host structure.

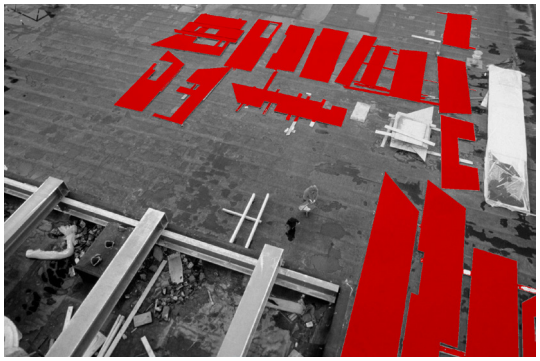


Figure 40: Prefabricated elements are transported (top left) to site.

Figure 41: The parasite is constructed directly onto its host by lifting the prefabricated elements with a crane.

Figure 42: Las Palmas Parasite fully constructed.

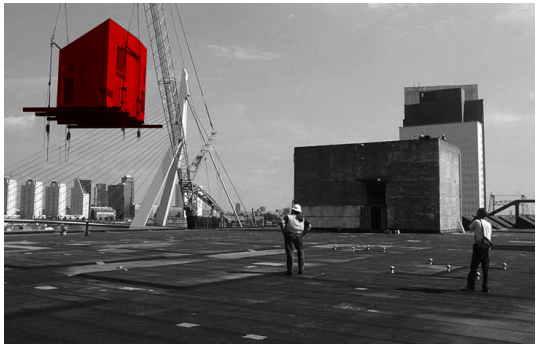


Figure 43: Las Palmas Parasite being transported to a different host structure.

Rucksack House

Stefan Eberstadt | Bamberg, DE | 2003

Rucksack House is a mobile parasitic addition designed by Stefan Eberstadt intended to provide more space to cramped inner-city residential buildings (Meinhold, 2012). The small addition fixes to the facade of its host, expanding the interior space of the adjacent room horizontally and thus offers a way of improving housing quality on a small scale (Architectuul, n.d).

The design's interior has 9 square meters of open space that can be used as a bedroom, studio, office or living area with built-in, fold-out furniture that make it versatile, dynamic and highly usable (Meinhold, 2012). As is the case with most examples of parasitic architecture, Rucksack House is constructed of lightweight materials so as to be able to attach to its host without compromising its structural integrity (Architectuul, n.d). Eberstadt's design makes use of a welded steel cage clad with a weather resistant plywood finish on its exterior, while the interior is clad with a light-coloured veneered plywood that makes the small space feel slightly larger than it is. Its surfaces are punctured by plexiglas inserts that allow natural light to flood the interior. The structural steel cage of the parasite is secured to its host with anchor bolts as well as with steel cables that can be anchored to either the facade or the roof of the host building, and it is secured

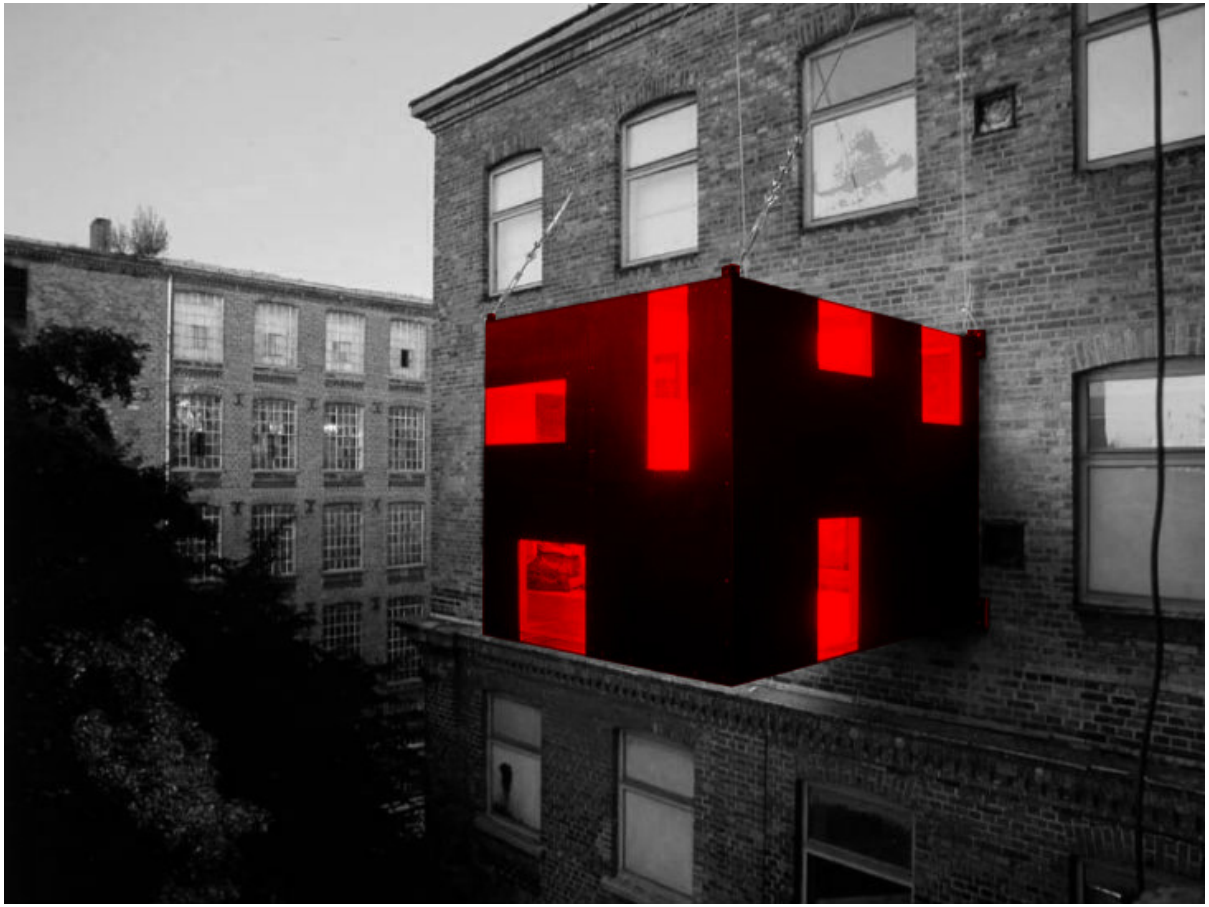
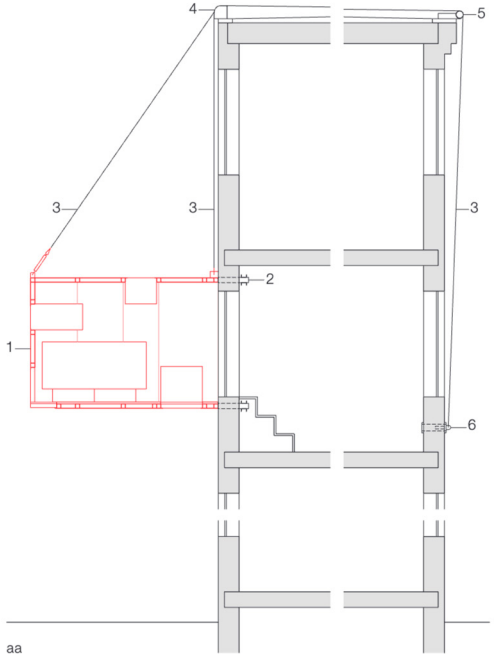


Figure 44: Image highlighting Rucksack House on the facade of the host structure.

over an existing aperture such as a window so as to allow entry from the existing building into the addition. Because it is lightweight and easy to install, the box is mobile and can move as the resident moves. The original unit has had three hosts in three different locations across Germany (Meinhold, 2012)

Figure 45: Rucksack House on host.

Figure 46: Images showing Rucksack House being lifted by crane during installation (left) and the interior view of the addition (right).



1. Rucksack House
2. Anchor bolts
3. Steel cable, diam. 16mm
4. Square timber deflector
5. Tubular steel deflector
6. Rear anchorage in masonry

Figure 47: Section showing Rucksack House's connection to the host structure.

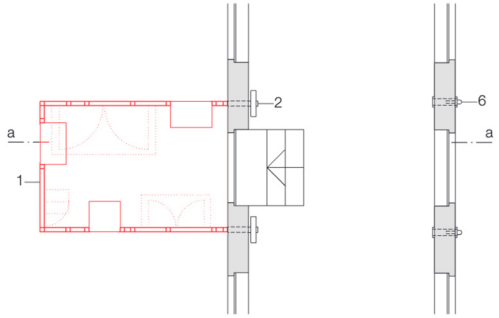
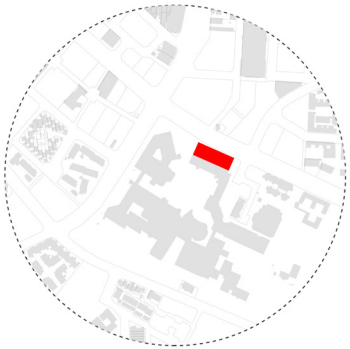


Figure 48: Plan of Rucksack House.

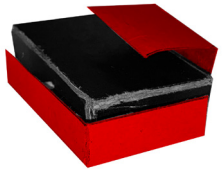
Design Rationale

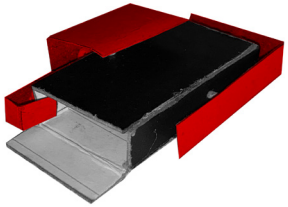
(Design Iterations 01 - 03)



Concept models

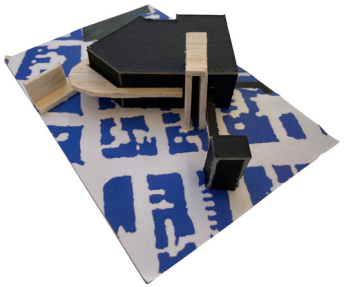
Figure 49

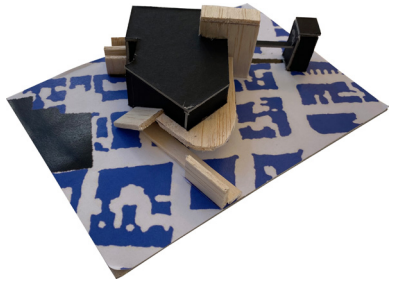




Artefact 01
This artefact was created after having decided on the topic of choice for the dissertation. The desire to incorporate parasitic interventions has been a running idea from the very beginning.

Concept model 01
This model was designed to represent the key concept of the project: the adding onto and breaking up of an enclosed mass, exposing and revitalising the activities held therein in order to render it more accessible and interactive.





Concept model 02
This model was designed with the concept of overlaying CPUT onto the historical urban fabric of District Six as a way of positioning new openings and parasitic additions.

Analysis

The campus's most public facilities situate themselves towards New Hanover Street, and these are the administration building and student center (left), and the multipurpose hall (right).

The pedestrian experience around CPUT is generally unsafe. Buildings are accessed from an internal piazza, rendering their edges very antisocial despite there being high pedestrian activity along the edges of the campus. This provides an opportunity to create mediating elements along the CPUT's edges that allow this activity to funnel into the campus.

A lot of focus is placed on the vehicle and as a result there are large spaces designated as car parks in and around the campus. This creates dead edges and unsafe zones.

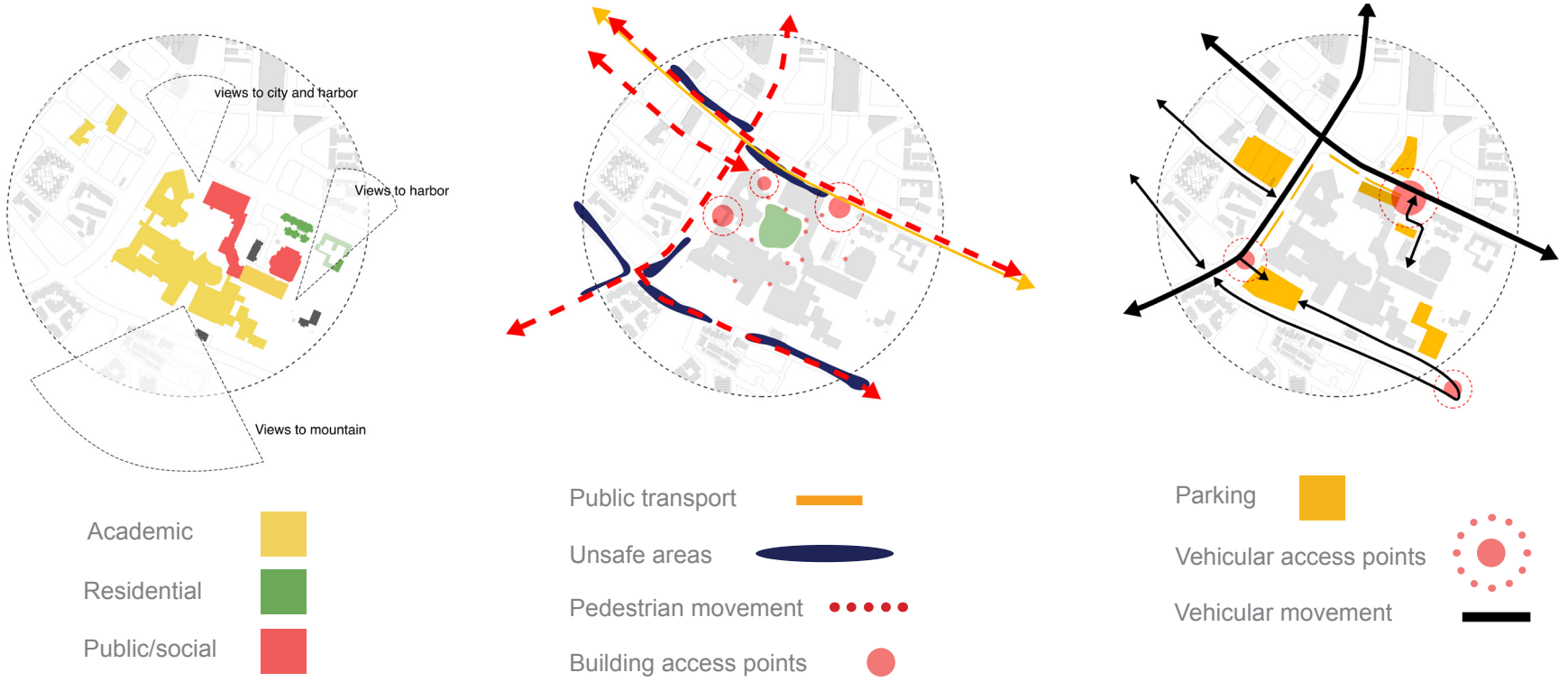


Figure 50: Diagrams showing analysis of building functions, movement, access and safety in and around CPUT.

Building Choice

The campus's admin block along New Hanover Street is the only building to have had a substantial addition to its original form. The addition was done by MLH Architects in an attempt to meet the requirements of the growing student body whilst also providing a "humanist face to the public flexible enough to embrace future changes in street use patterns". Rightly described by MLH, the building acts as the campus's "face to the public" as it sits along the area's most prominent and historical street while also hosting all of the institution's administrative functions, giving it the ability to be the most publicly engaging building on the campus. Adding more potential is the library that occupies this building's third and fourth levels. However, the library has no direct access from New Hanover Street, and its only access points are situated from the central piazza. The semi-basement and ground levels of this building are currently used for parking, meaning that street engagement and pedestrian safety along New Hanover Street are currently low. Overall, the building fails to engage with New Hanover Street and only works to further separate the institution from its surrounding context due to its introverted nature. It is thus the building of choice for the addition of publicly accessible amenities through parasitism and alterations.

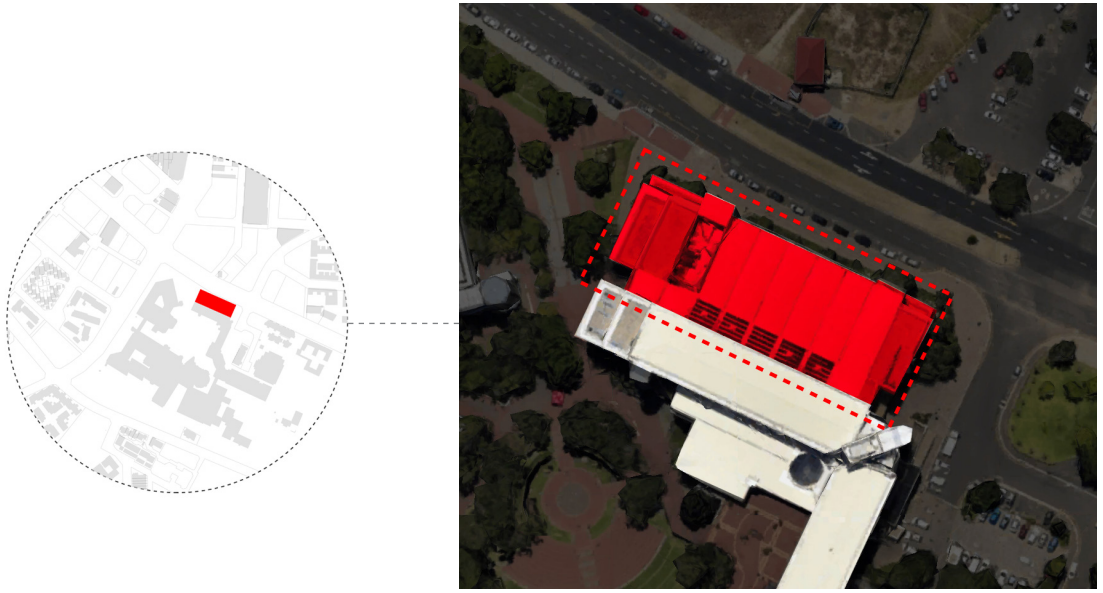


Figure 51: Diagram showing the building choice for the design dissertation.

Concept Sketches

Design Iteration 01

Figure 52

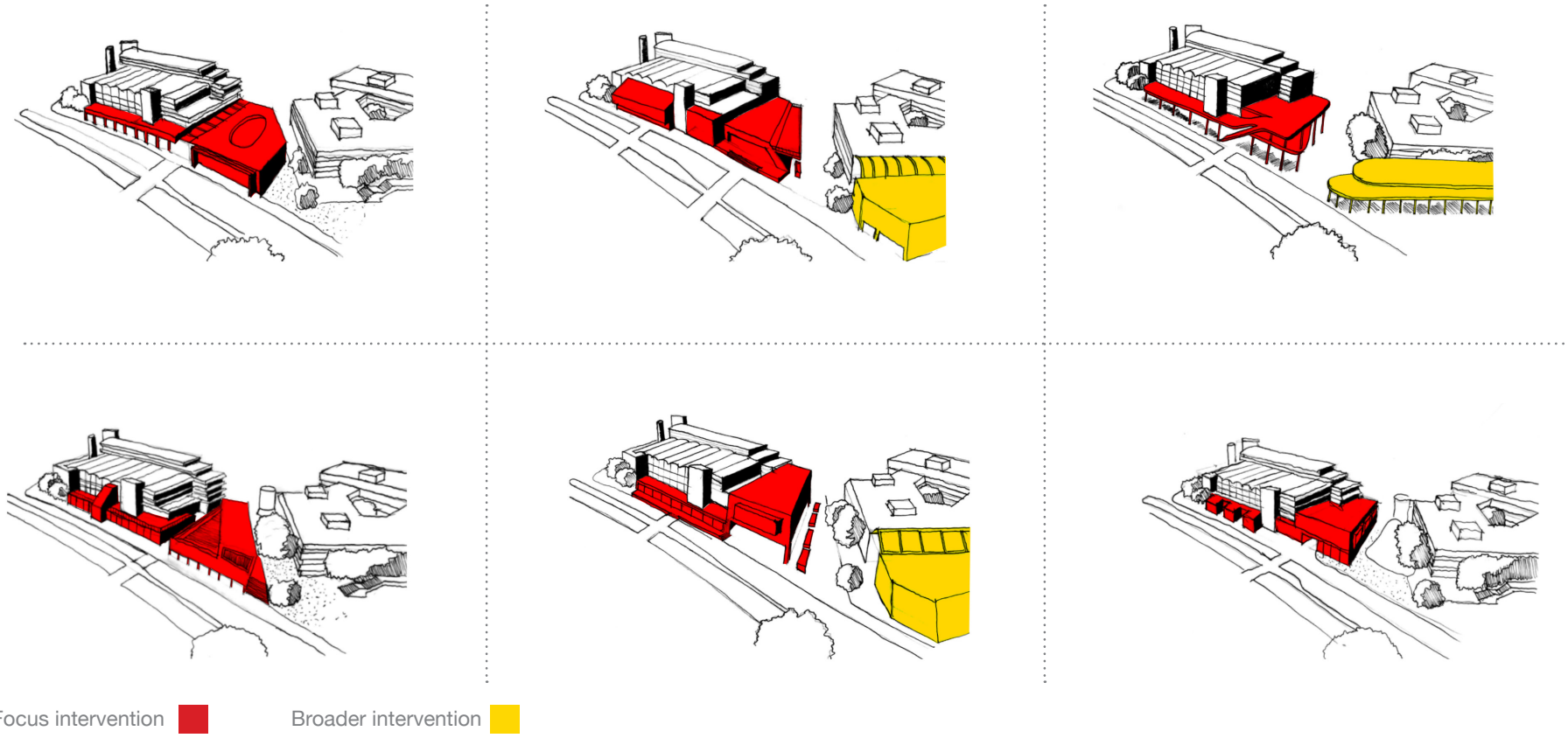
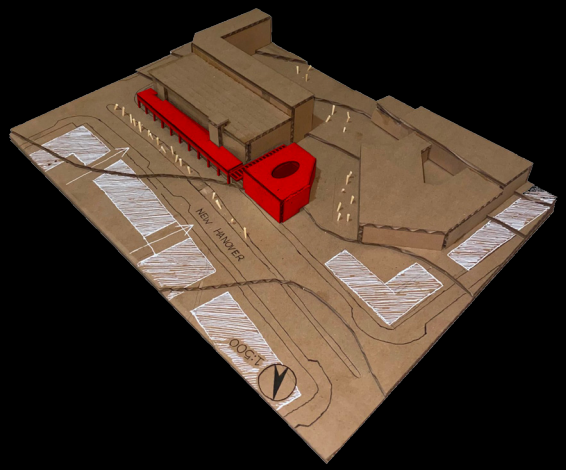


Figure 52: Initial concept sketches showing a variation of ways that the parasitic intervention could attach to its host building. Eah of these illustrate a thin strip along New Hanover Street and a larger space intended to have cultural functions..

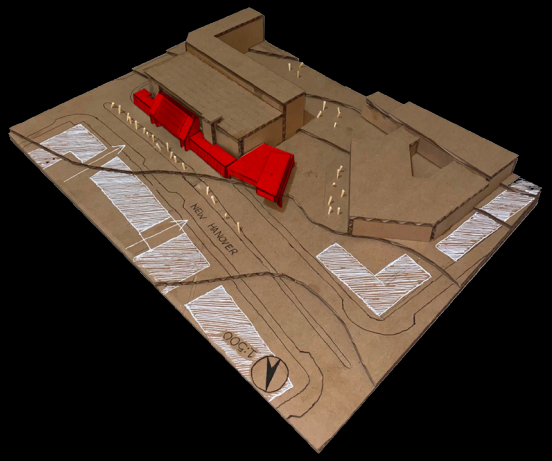
Concept Models

Design Iteration 01

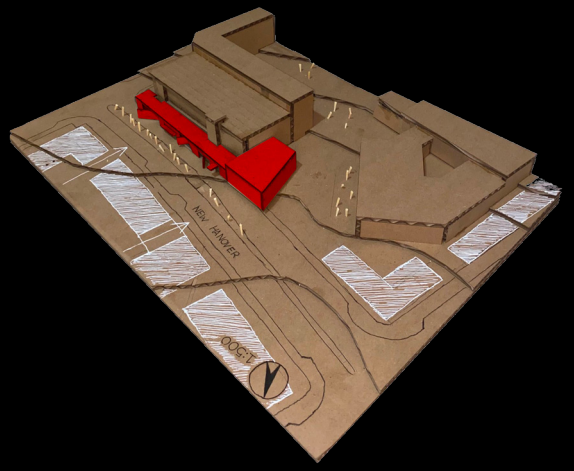
Figure: 53



All the models are a variation of a "commercial strip" along New Hanover Street with the crescendo centered around a large cultural space.



This concept model plays with the idea of creating a pronounced entrance to the library via the commercial strip. The cinema/theatre of the cultural space is also pronounced via an extrusion on its upper level.



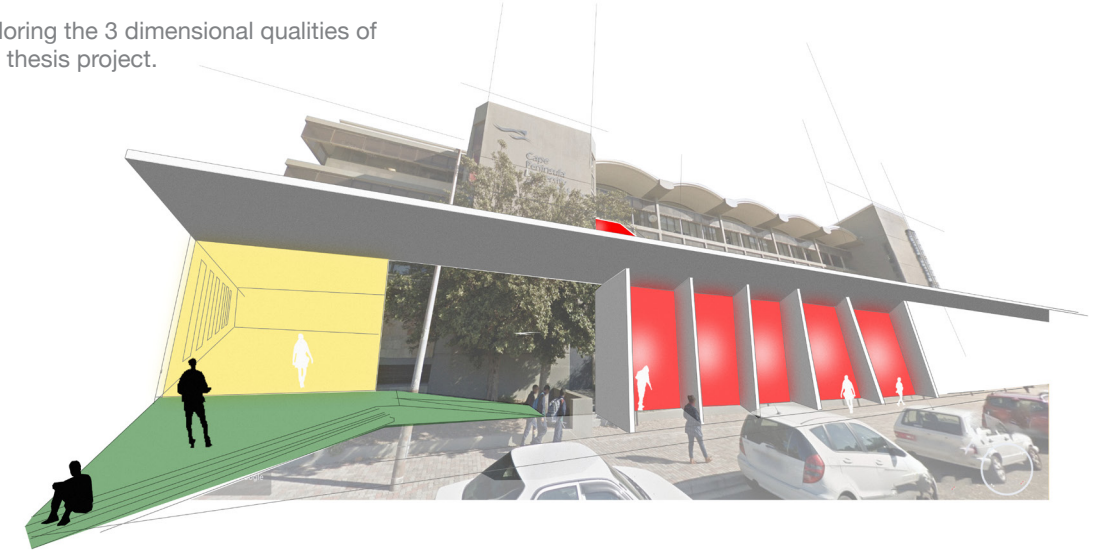
This concept model plays with the idea of creating a diverse range of openings along the commercial strip which, like the facade of Steven Holl's Storefront for Art and Architecture, allows for a dynamic facade depending on how the interior spaces are being used.

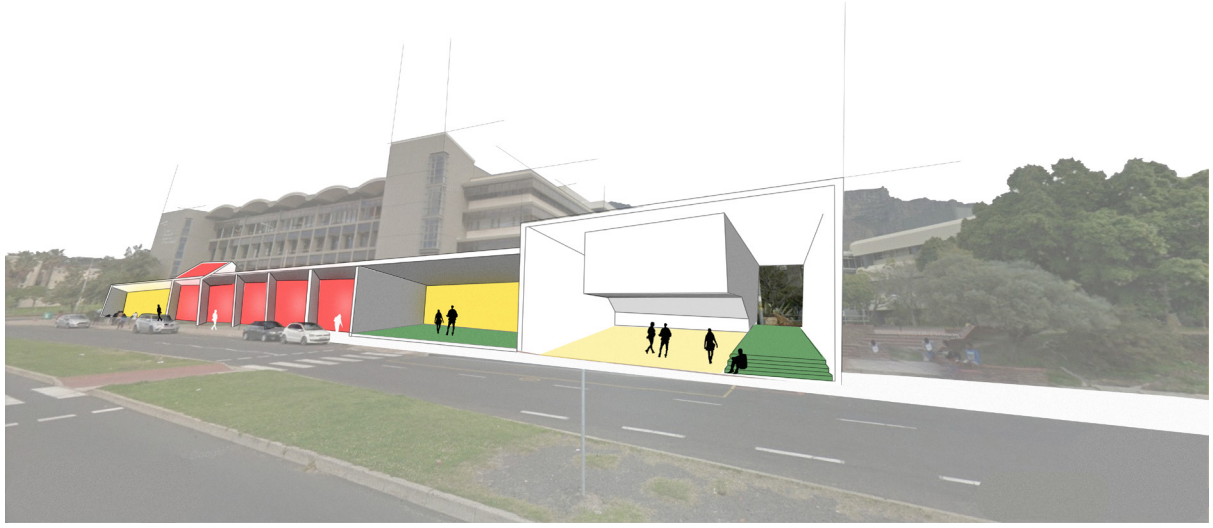
Concept Drawings

Design Iteration 01

Figure: 54: Concept drawings exploring the 3 dimensional qualities of the the first design iteration of this thesis project.

Cultural
Commercial
Transitional elements





Principles

The architectural principles to be incorporated in the design are been taken from the historical fabric in order to give present-day District Six similar qualities that defined Historical District Six. These include:

Transitional spaces
Overhead balconies, large-scale public stoeps as well as the existing piazza will be incorporated so as to improve the public environment of the campus. These spaces will be utilised to mediate between the campus and the urban context in order to improve pedestrian life.

Richly Textured Urban Wall
One of the defining qualities of the historical built environment was the presence of "urban walls". These delineated the street as a space of its own and helped in the formation of richly textured facade-scapes that made for a positive pedestrian experience.

Accessibility
The fine grained urban fabric of historical District Six rendered it highly walkable. Due to its scale and introverted nature, CPUT does not contribute towards the walkability of the current urban environment. Therefore, the principle of accessibility will be incorporated in the design of the intervention. This will be done through the inclusion of several on-street entry points and pedestrian pathways that work to fragment the bulky masses of CPUT's built form.

Heritage
The fourth principle to be incorporated into the design is that of heritage. The design aims to (re) insert elements that respond to what existed in Historical District Six as a way of honouring the memory of the community's past.

Programme

Cultural amenities are to be included in the design so as to link it to the memory of the historical community. As already explained, the incorporation of these spaces will help foster bonds amongst community members and aid in the campus's reintegration into the community. Furthermore, as per Florida's theory, cultural spaces and amenities will attract members of the creative class and thus promote the community's economic and population growth.

The programme is as follows:

- Auditorium
- Art studio
- Dance studio
- Art gallery
- Library
- Commercial strip
- Cafe
- Restaurant
- Print shop

Strategy

The design relies heavily on the memory of the historical community. The project's overarching intention is to look back at the past so as to make changes in the present for a better future. In order to do this, the design will explore the notion of a palimpsest. In literal terms, a palimpsest is used to describe something that is reused or altered though still bearing traces of its earlier form (Herrington, 2017). This layering is often evident in historical cities, with traces of former times being evidenced by the built environment. In the case of District Six, however, very few physical traces of the past remain. Through looking at the history of District Six, this dissertation focusses on storytelling as a medium of expression that can be used to strengthen communal ties. By exploring the notion of palimpsest, this design dissertation aims to *tell* the *story* of the historical community through uncovering historical routes as a way of bringing the memory of the District to the fore. The design strategy is to overlay the historical street grid of the community onto the present-day street grid.

Both additional and subtractive alterations will be used so as to juxtapose the campus onto the historical layout of the built environment as it were before the demolitions. Penetrating the existing building with historically relevant pedestrian links along which publicly accessible cultural spaces are placed will render it a positive asset to the broader community whilst also allowing the newly created amenities to become active social nodes. This will

result in the administration building becoming the prime mediator between the campus and the public.

A subtractive approach has been taken in order to link CPUT's current urban footprint to the historical urban footprint of District Six by carving out Old Hanover Street and Hanover Lane from the administration building. This concept has been combined with the redevelopment framework to generate the framework shown to the left. CPUT's overhead gangways are removed, forcing pedestrian activity in and around the campus to increase. A new pedestrian pathway (shown in yellow) has been incorporated so as to accommodate the pedestrian activity.

The pathway will contain stalls and commercial activity and acts thoroughfare, linking the university and the new additions, as well as the university and the broader urban context. The focus of the pathway is to reinstate the fine grained, walkable fabric of historical District Six, reinforcing foot traffic and a rich pedestrian experience.

Furthermore, public squares will be placed around the historical religious buildings so as to better celebrate them.

Strategy

CPUT

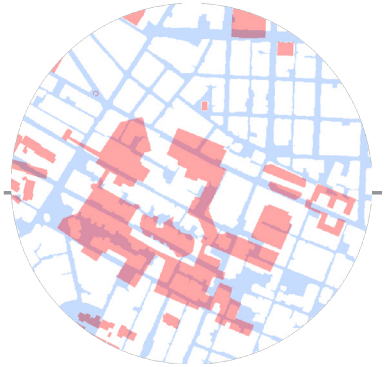
CPUT's overscaled urban fabric

+

Historical grid

The streets that made up the fine grained urban fabric of historical District Six.

=



Juxtaposition

The juxtaposition of CPUT onto District Six's historical street grid as a way of locating important pathways and nodes.

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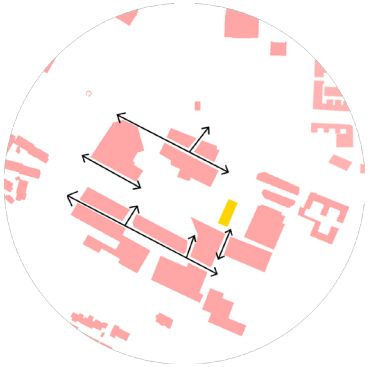


Carved

The carving of these historical streets from CPUT's mass is a way of honouring the memory of the district.

Design Principles

Transitional spaces

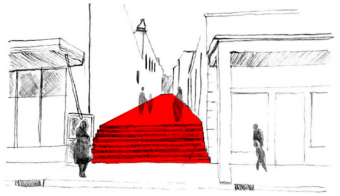
The streets that made up the fine grained urban fabric of historical District Six.

Richly textured urban wall

The streets that made up the fine grained urban fabric of historical District Six.

Accessibility

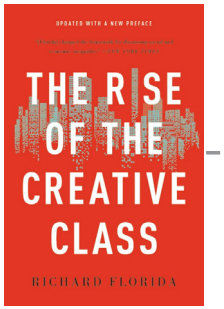
This principle is taken from the fine grained urban fabric of historical District Six. This will be incorporated through the inclusion of several on-street entry points and pedestrian pathways that work to fragment the campus's bulky mass.

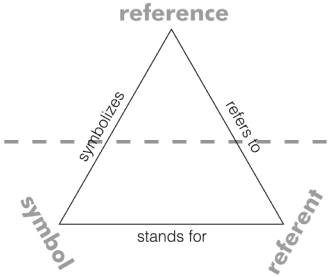


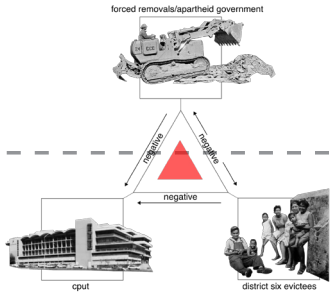
Heritage

The design aims to reinsert elements that respond to what existed in historic District Six as a way of honouring the memory of the community's past.

Theoretical Principles







Programme

Auditorium I Art studio I Dance studio I Art gallery I Library I Commercial strip I Auditorium I Restaurant I Cafe

Figure 55: Diagram showing design strategy, theoretical and design principles.

Figure 56: Diagram of CPUT in relation to its immediate urban fabric.

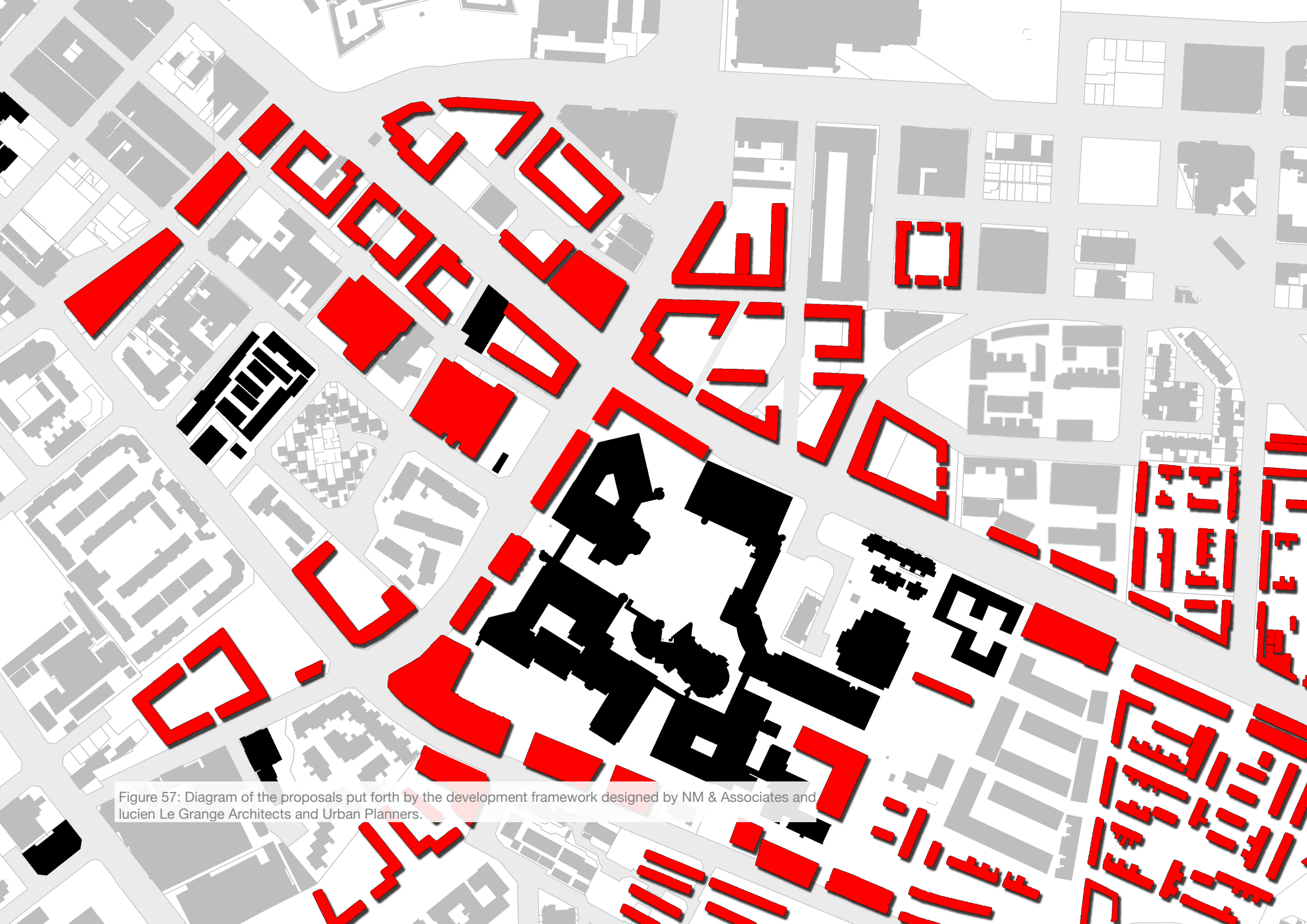
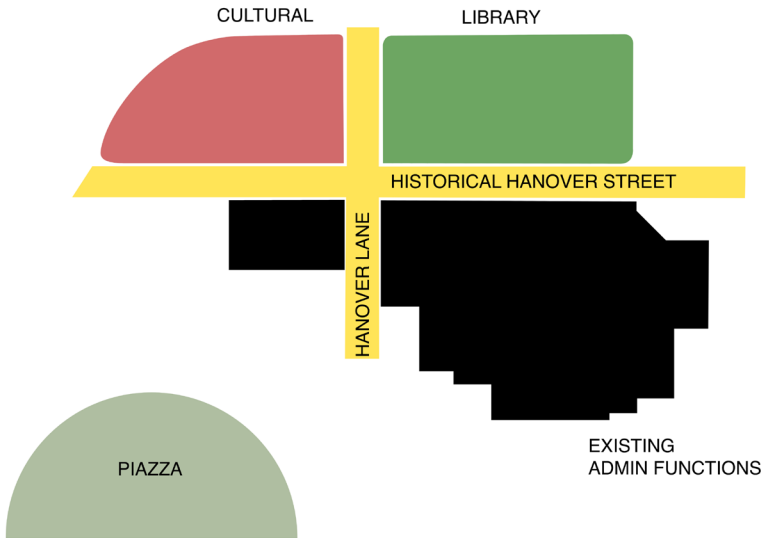
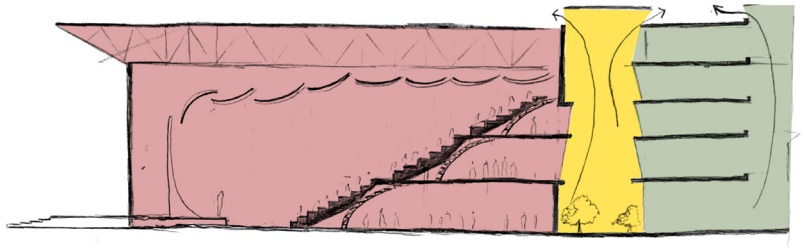


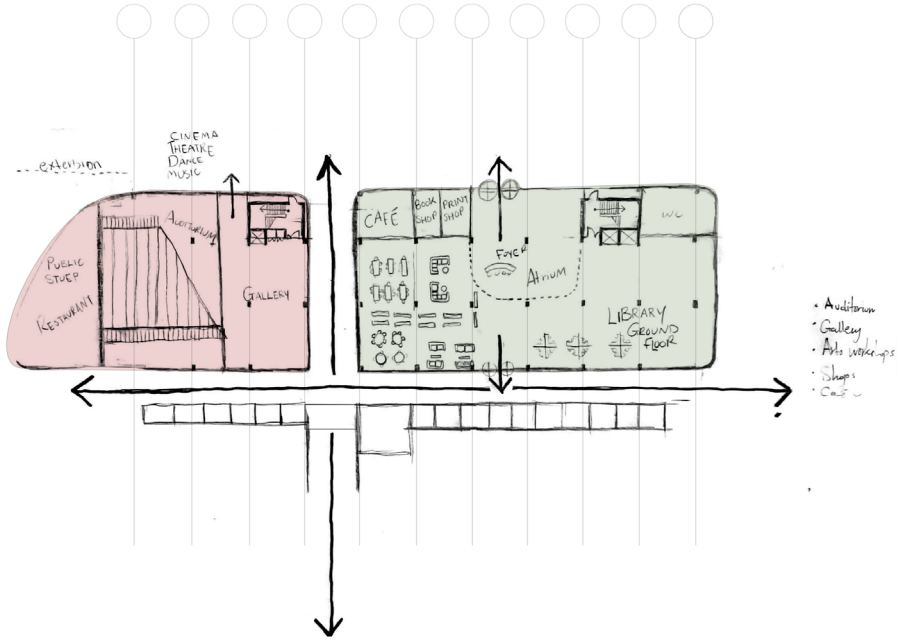
Figure 57: Diagram of the proposals put forth by the development framework designed by NM & Associates and lucien Le Grange Architects and Urban Planners.


CPUT
Development Frameworks
Historical Street Grid
City Blo
1. Residential
2. Mixed Use (comemercial + residential)
3. Mixed Use (commercial +informal trade)
4. Public
New Hanover Street
Old Hanover Street
4
3
2
2
1
Old Hanover Street
Pedestrian link to Cape Town CBD
New Hanover Street

Figure 59: Diagrams showing division of functions in initial sketch design.





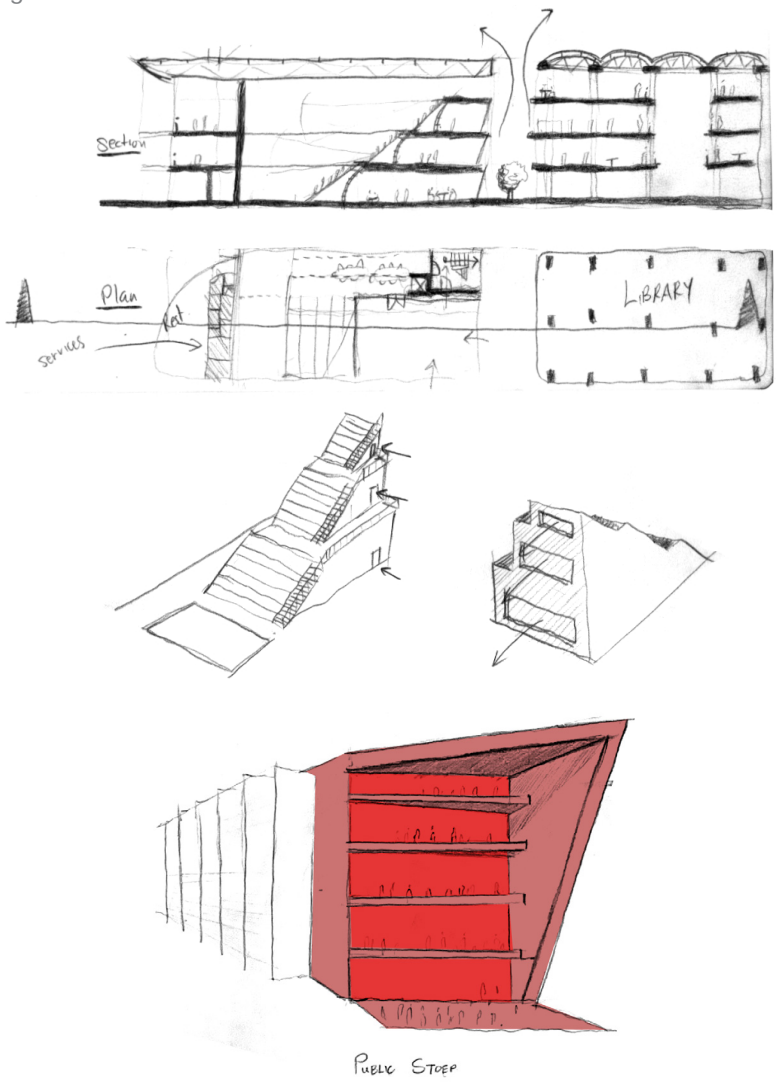


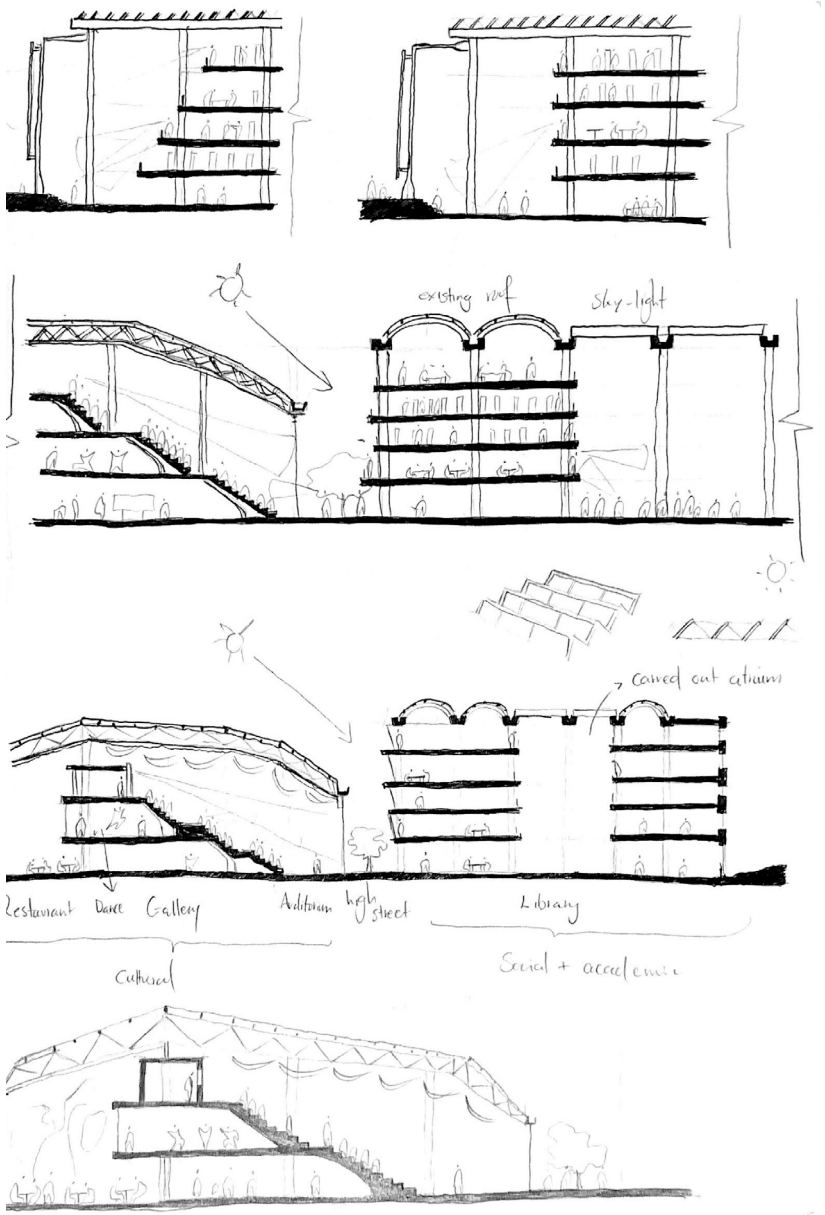
Looking closer, the admin building is cut into four sections by carving out historical hanover street and hanover lane from its mass. These paths will act as active pedestrian routes that directly link the campus's piazza to the public, while also creating a thoroughfare that renders the admin building a public node. The area highlighted in green will be dedicated to a library while the area highlighted in red will be dedicated to new cultural facilities such as a gallery, a dance studio, an art workshop and an auditorium for gatherings, cinema-going and informal theater.

Design Sketches

Design iteration 02

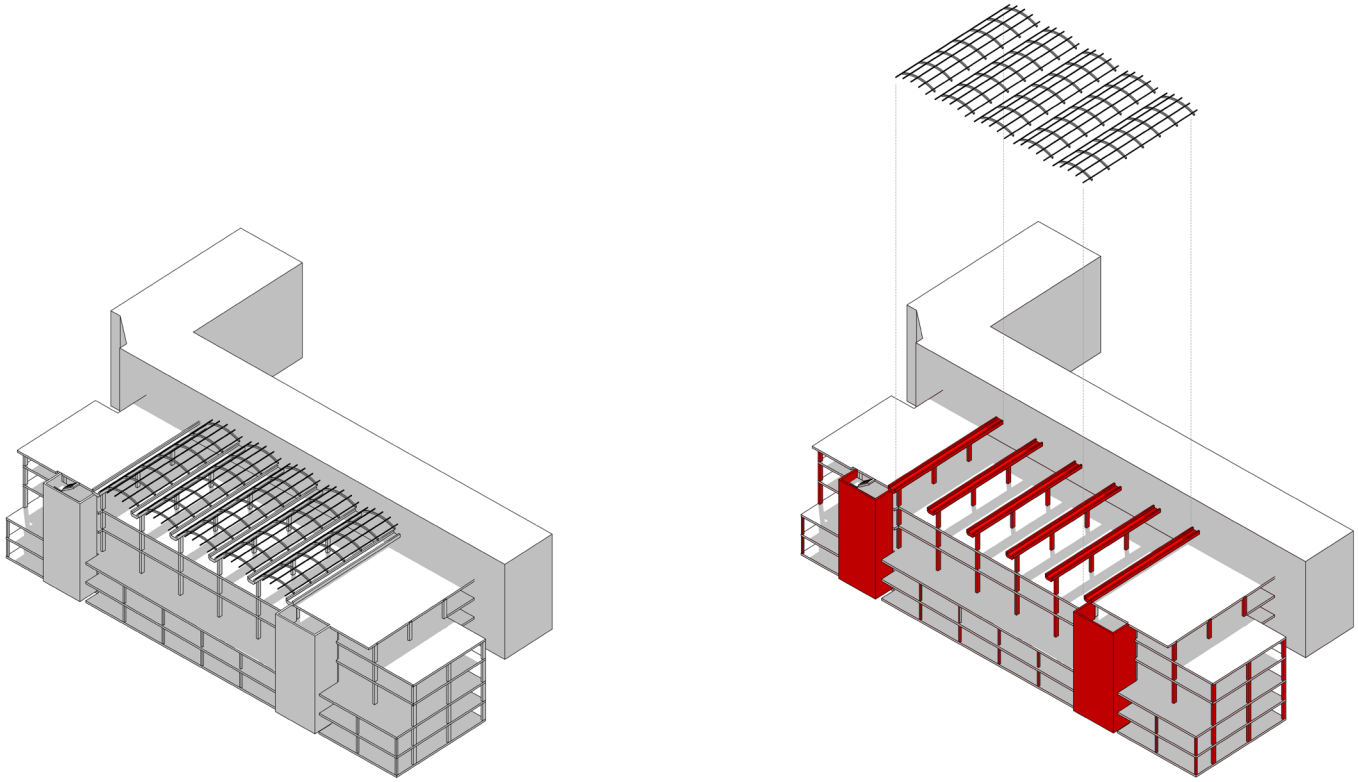
Figure 60





Existing Structure

Figure 61

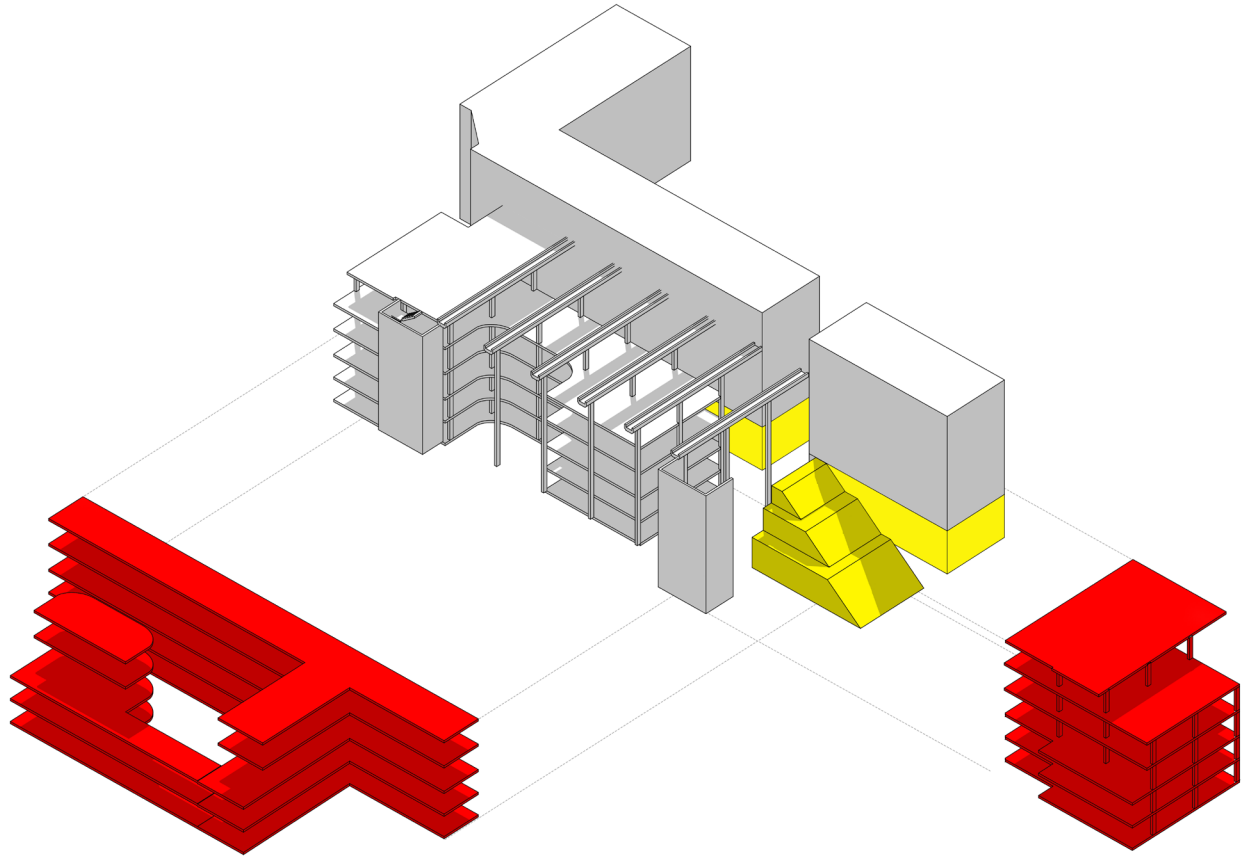


The campus's admin building is constructed using a concrete frame system, with concrete stairwells acting as shear walls. The arched steel-framed roof is supported by concrete box gutters. Due to this method of construction, alterations are possible so long as the primary structure of the section of the building that is to be altered, is not compromised.

Carving

Desig iteration 02

Figure 62



Carved out

Inserted

This diagram highlights the sections of the building that are to be carved out. This will allow the addition of the aforementioned pedestrian paths. An additional element to be carved out of the admin building is an atrium in order to allow the space to be more public, with multi-level interactions and sightlines. A further chunk of the building, shown to the right, is removed in favor of the addition of the cultural section that will include an auditorium, while a strip of commercial functions are added towards the back as a means of activating the pedestrian path.

Technical Model

Design iteration 02

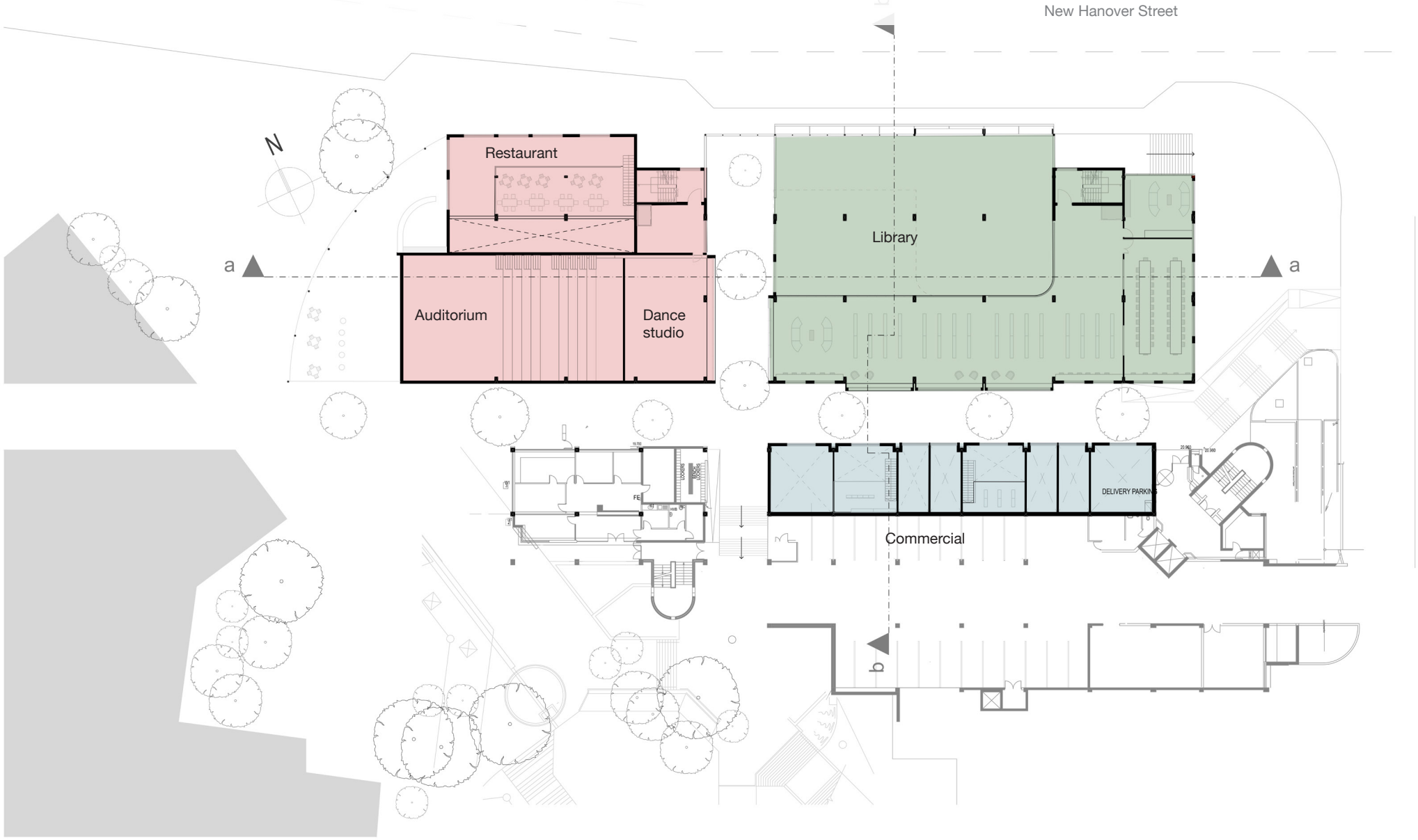
Figure 63

Ground

The ground floor shows how the building has been broken up to appeal to pedestrian activity. The library's ground floor is open to the public, with reading rooms, public computers, a cafe and a print shop. A strip of shops lines the rear of Old Hanover Street, and a restaurant is situated at the front of the cultural section along New Hanover Street. Sitting behind this restaurant is an auditorium and lying beneath its raked seating is a gallery.

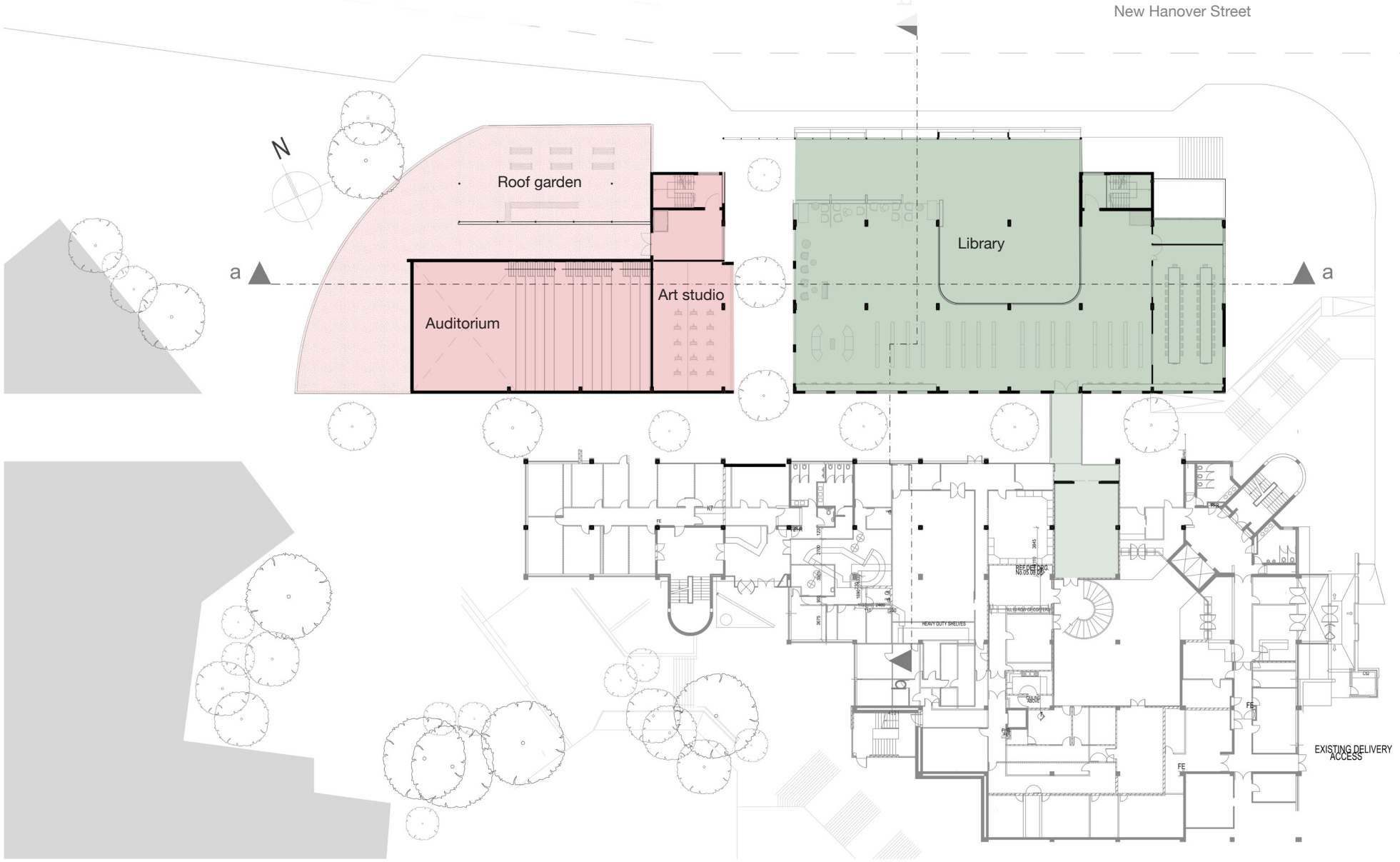
First

Above the gallery on the first floor is a dance studio which juts out ever so slightly.
This jutting out gesture is achieved through using clad steel frames that form boxes that are fixed to the edges of slabs (FIGURE), and this is a common theme throughout the design, being symbolic of the richly textured urban wall in historical District Six.

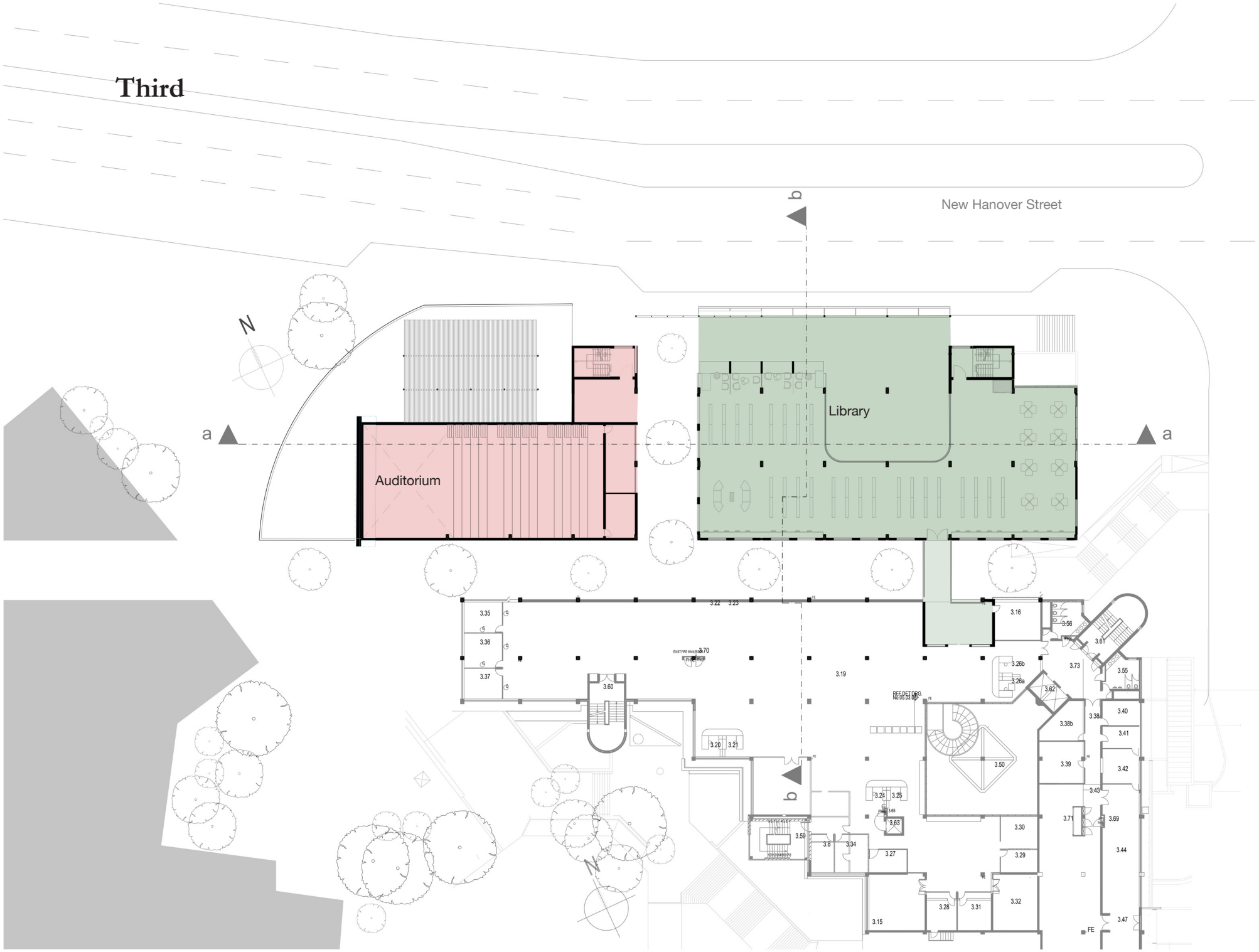


Second

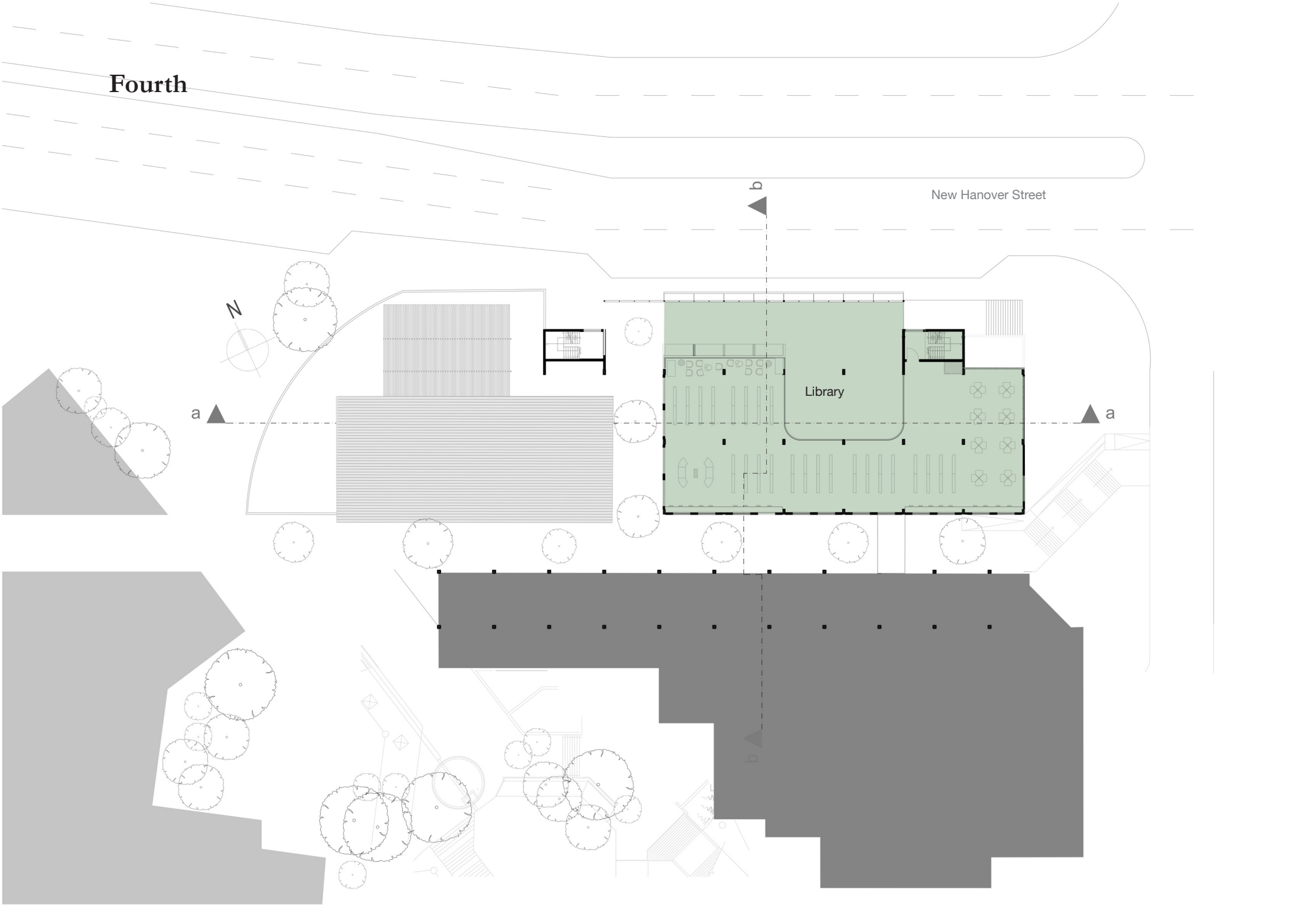
On the second and third floors the library prioritizes the student body, with a bridge that links the altered building to the unaltered part of the building to the south. In the cultural section, an art studio takes up the space under a portion of the raked seating, and a roof garden occupies the north west section of the structure.



Third

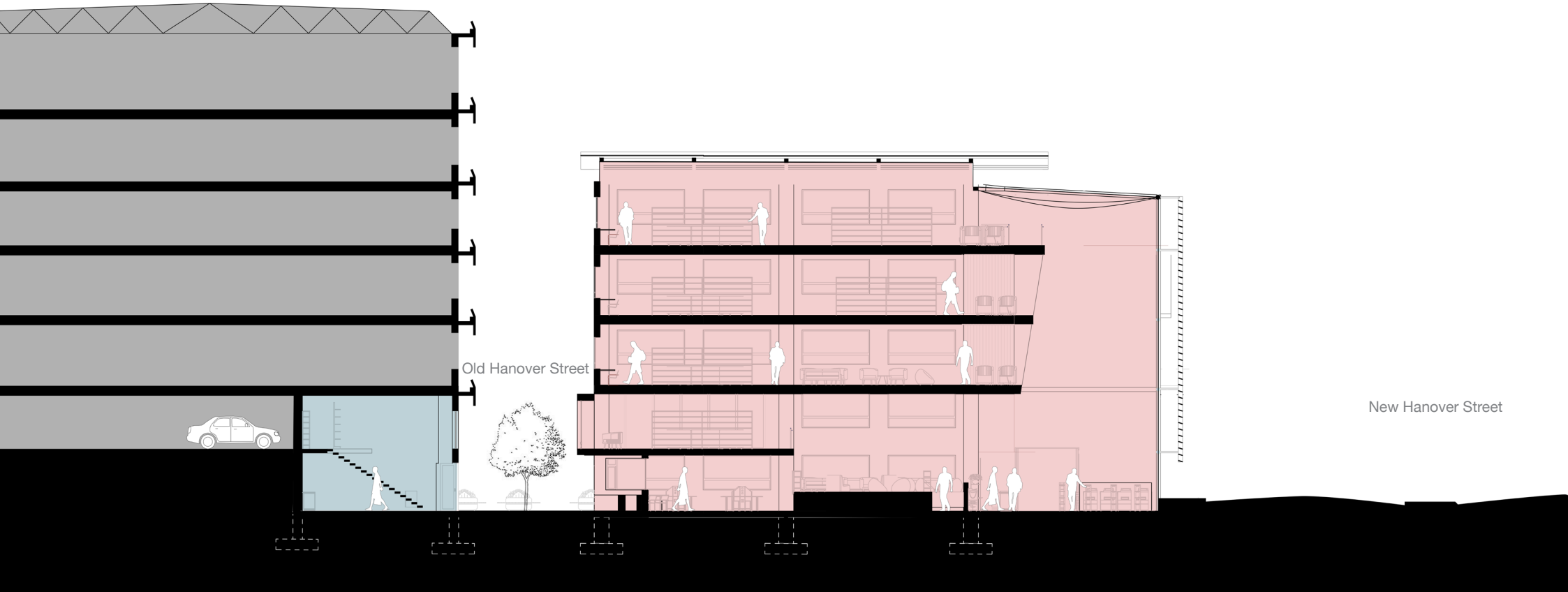

New Hanover Street
N
a
a
b
b
Auditorium
Library
3.35
3.36
3.37
3.22
3.23
3.70
3.19
3.60
3.20
3.21
3.16
3.56
3.61
3.26b
3.26a
3.73
3.62
3.55
3.38b
3.38a
3.40
3.41
3.39
3.42
3.50
3.43
3.24
3.25
3.63
3.71
3.69
3.30
3.59
3.8
3.34
3.27
3.29
3.44
3.28
3.31
3.32
3.15
3.47
FE

Fourth



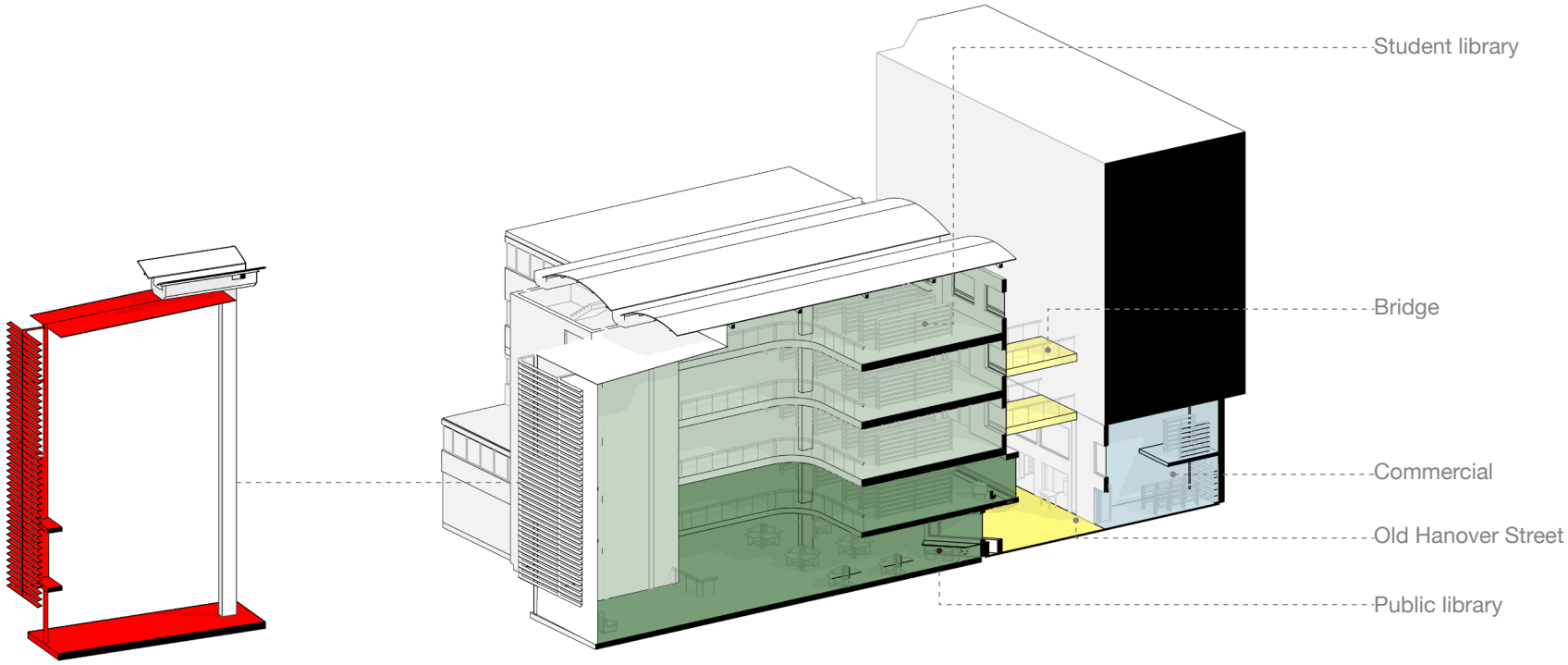
Section bb

At the front of the library, a curtain wall is used to extend the building in such a way that creates a transitional space, similar to the transitional elements of Historical District six that mediated between public and private as well as different floor levels. This extension acts as a public stoep, if you will, and wraps around the entire intervention in different forms. In the library section it manifests itself as a curtain wall, while in the cultural section it takes the form of a double volume restaurant and a wrap-around plinth with an overhead roof garden. Due to being north facing, the curtain wall is protected by a brise soleil that will give the facade much of its character. This extension is attached to the existing structure's concrete columns.



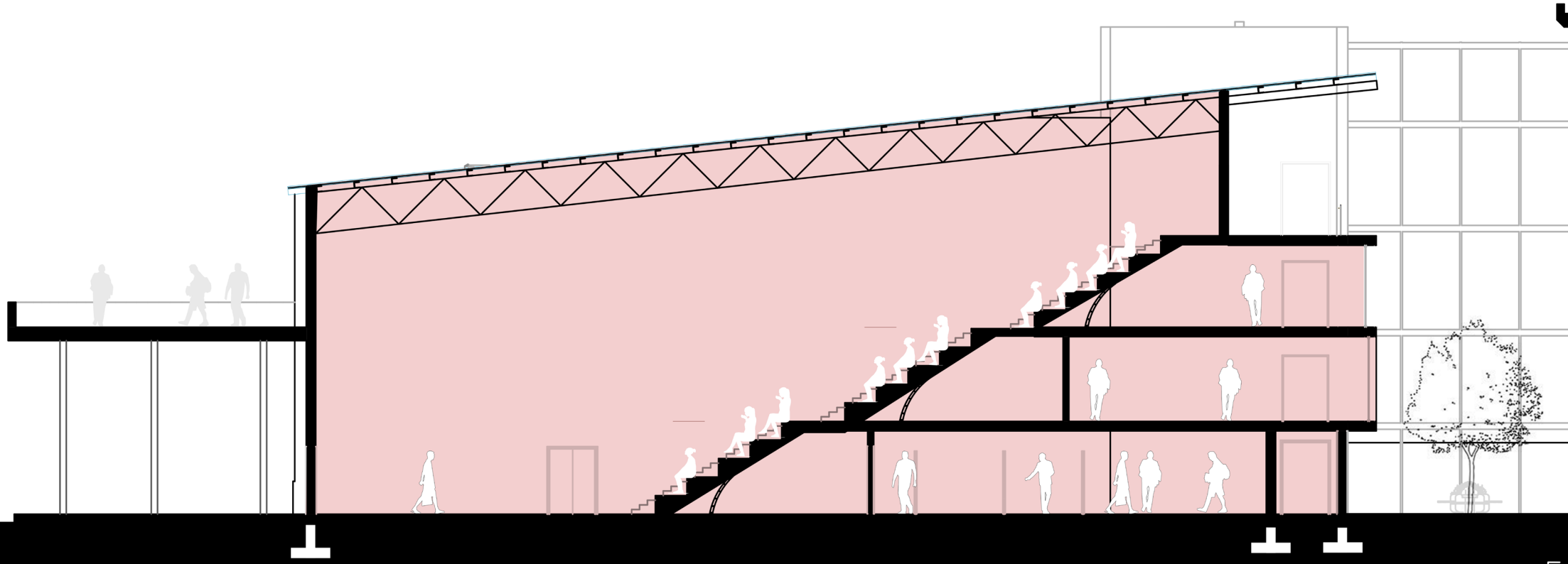
Axo 01

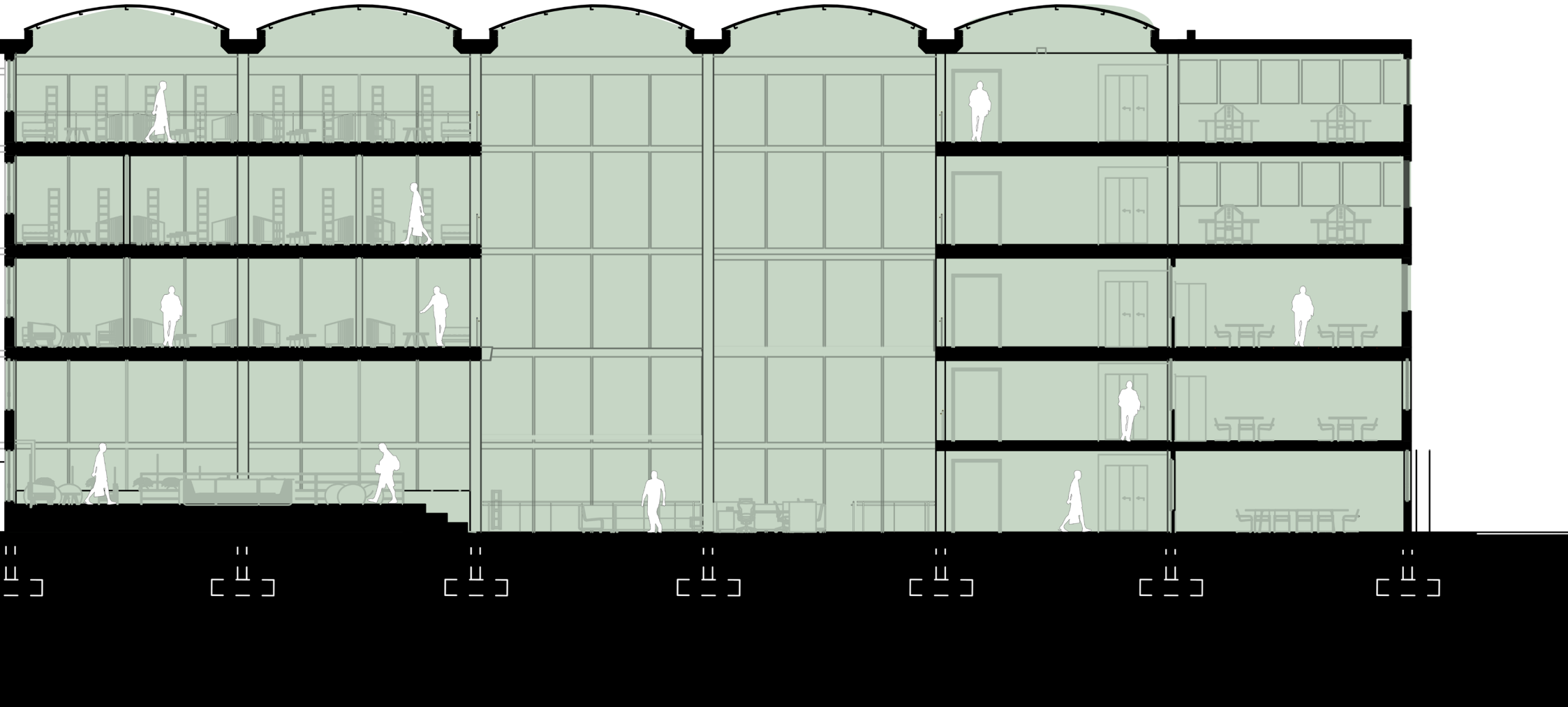
As previously mentioned, the ground and first floors of the library section are reserved for public use, with the upper floors serving a more private, academic purpose. A bridge connects second and third floor of the intervention to the rest of the admin block.



Section aa

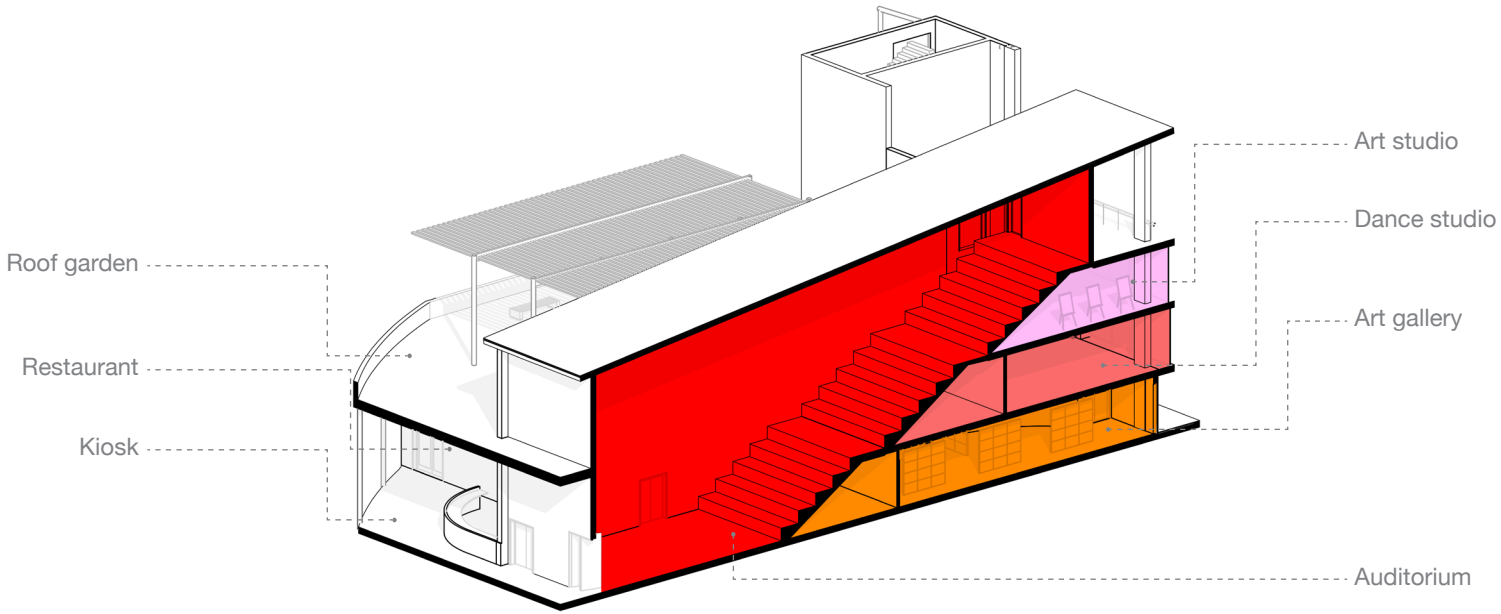
The atrium of the library can be seen more clearly in the longitudinal section, as can the rooms that occupy the spaces beneath the auditorium's raked seating.



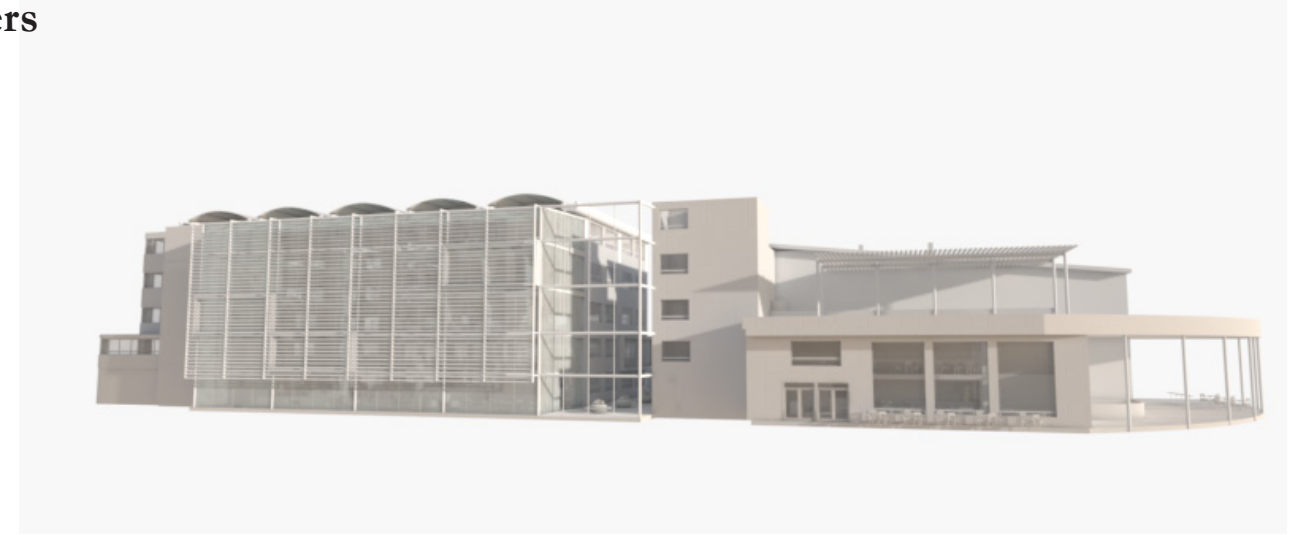


Axo 02

The axonometric section further shows how the cultural amenities and roof garden all come together. A kiosk is placed on the outside of the auditorium where snacks and beverages will be sold before screenings and gatherings, helping to activate the exterior of the auditorium.



Sketch Renders



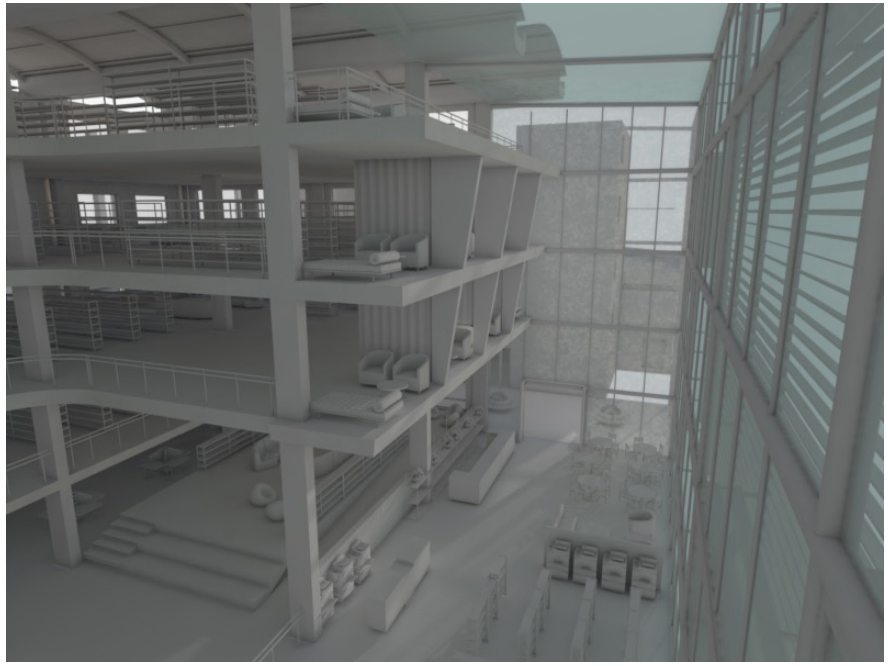
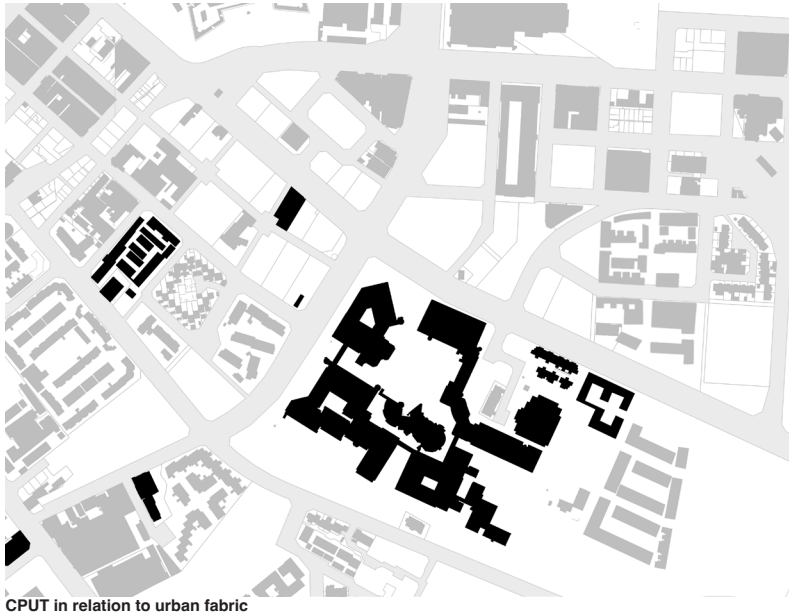


Figure 64: Reworked carving diagrams



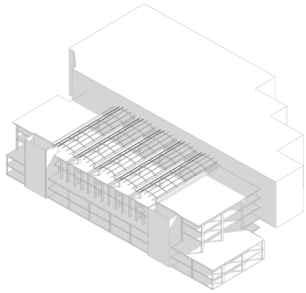
CPUT in relation to urban fabric

CPUT in relation to development framework proposals

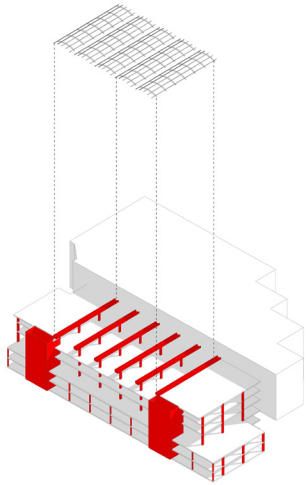
Development framework proposal

Pedestrian links to city

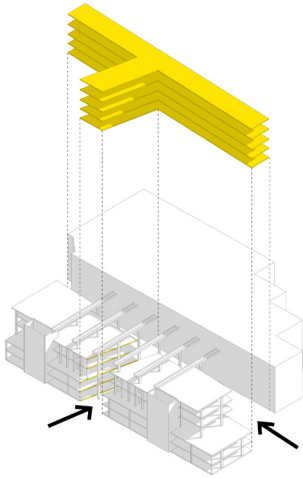
Project site



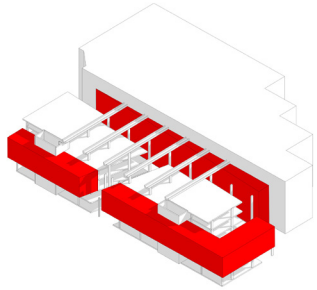
CPUT admin block



Structure
Concrete shere walls + concrete frame

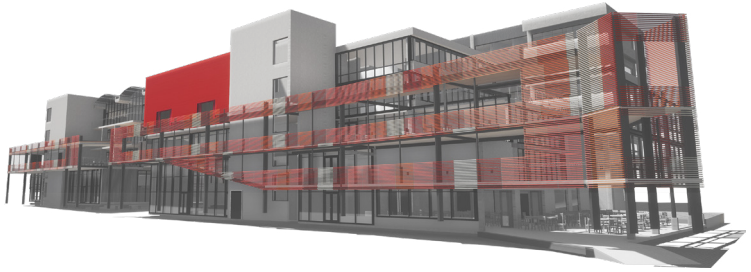


To be carved out



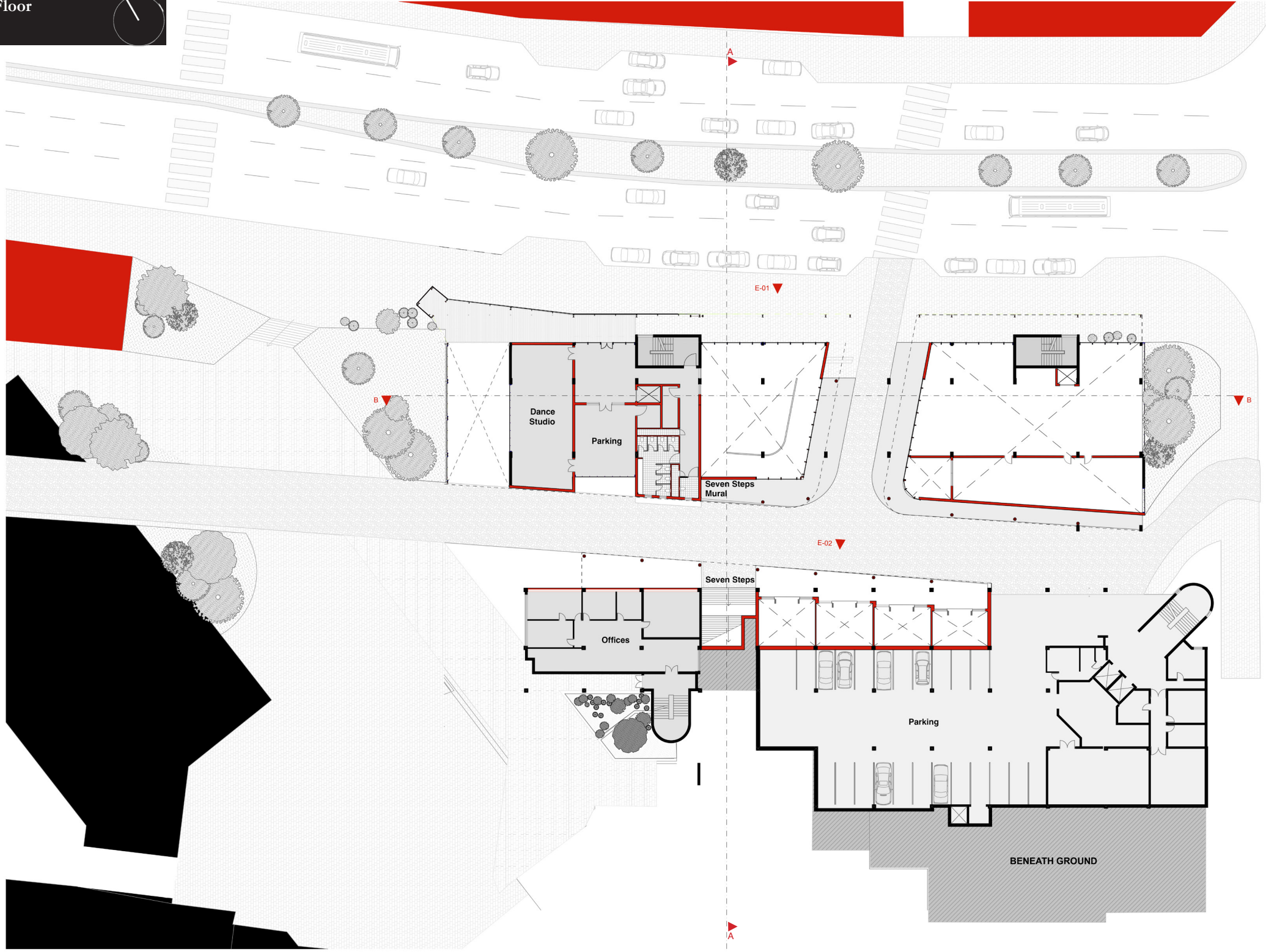
To be added

Final Design



Ground Floor
1:200

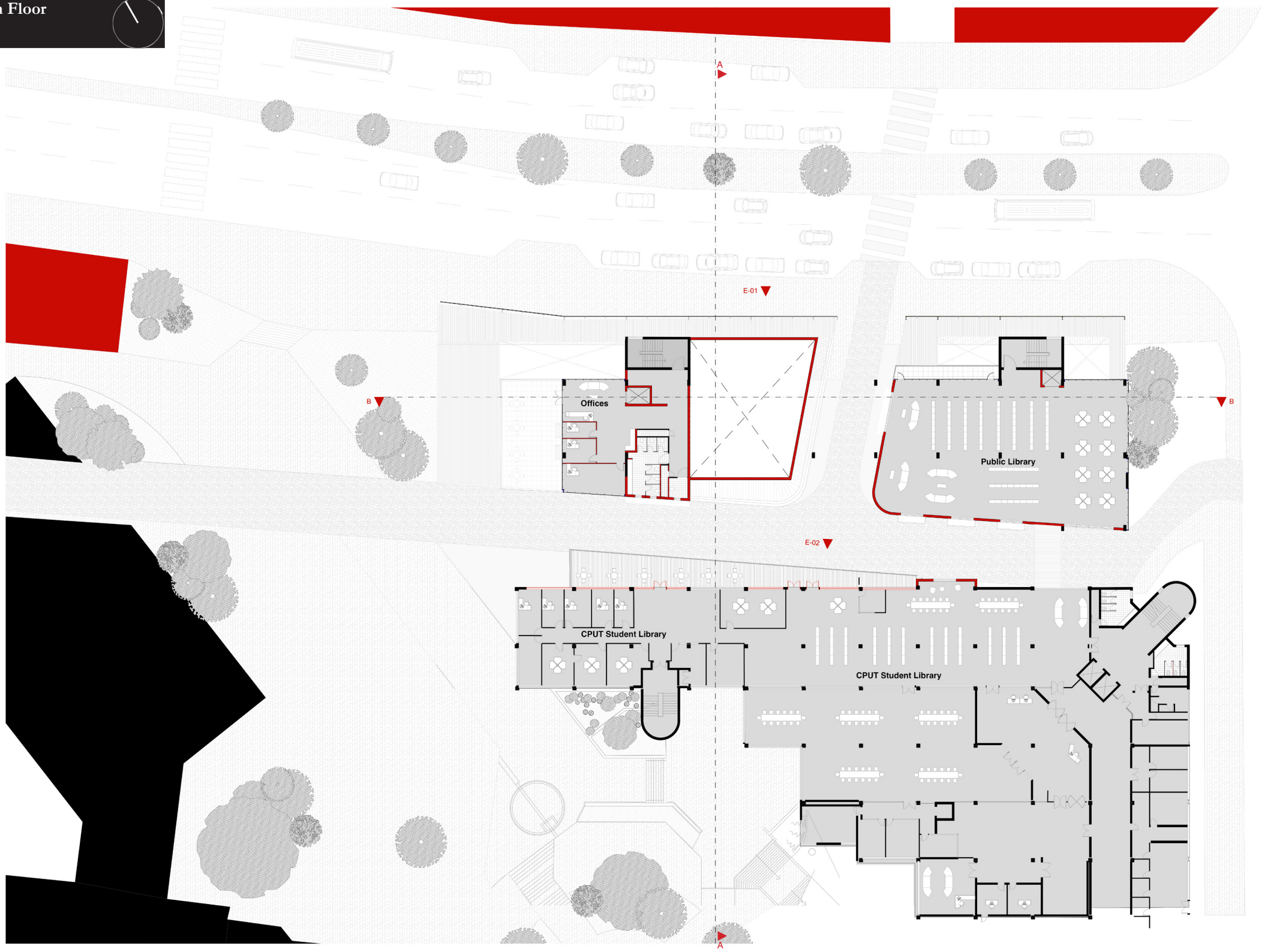
First Floor
1:200

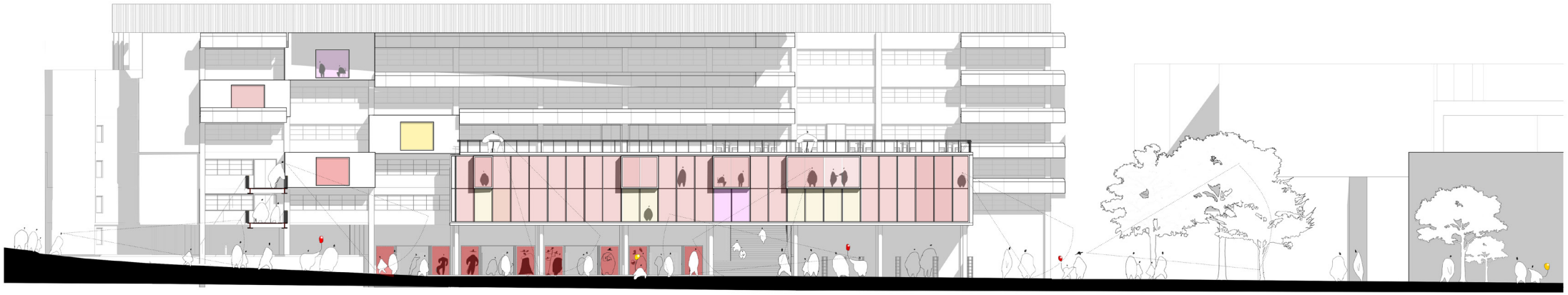


Second Floor
1:200

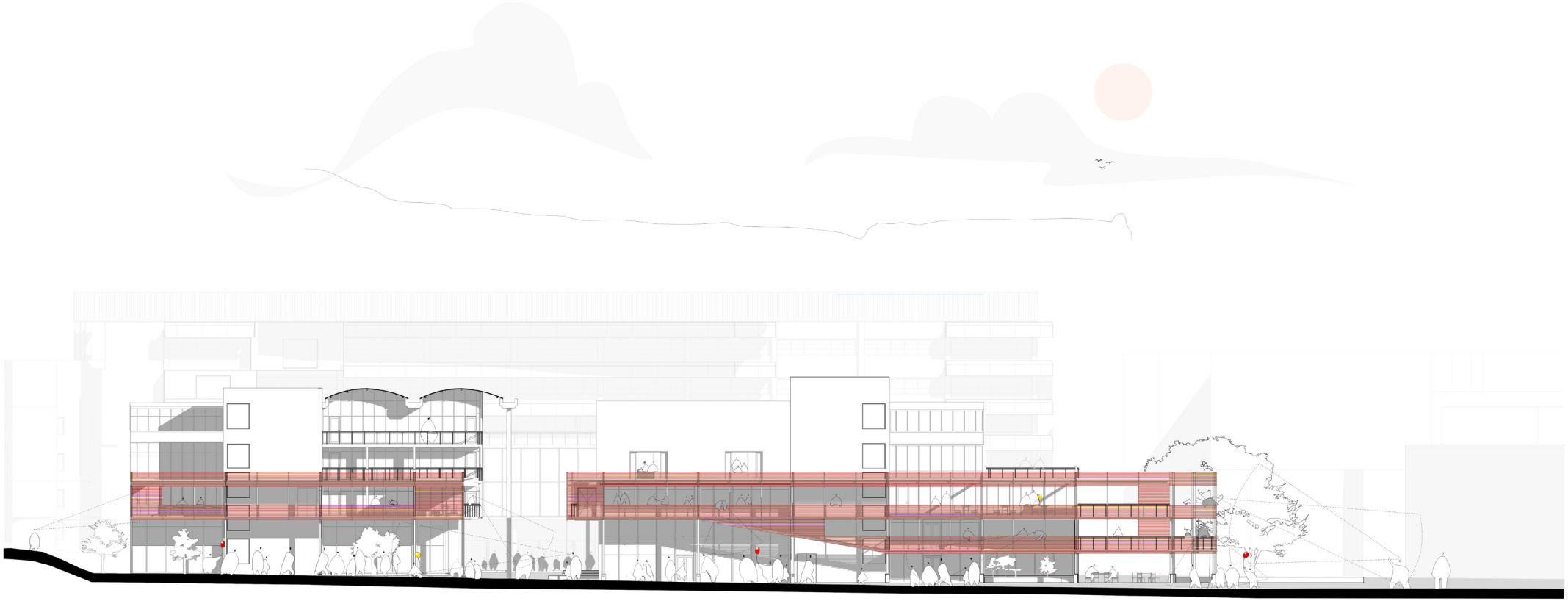
Third Floor
1:200

Fourth Floor
1:200

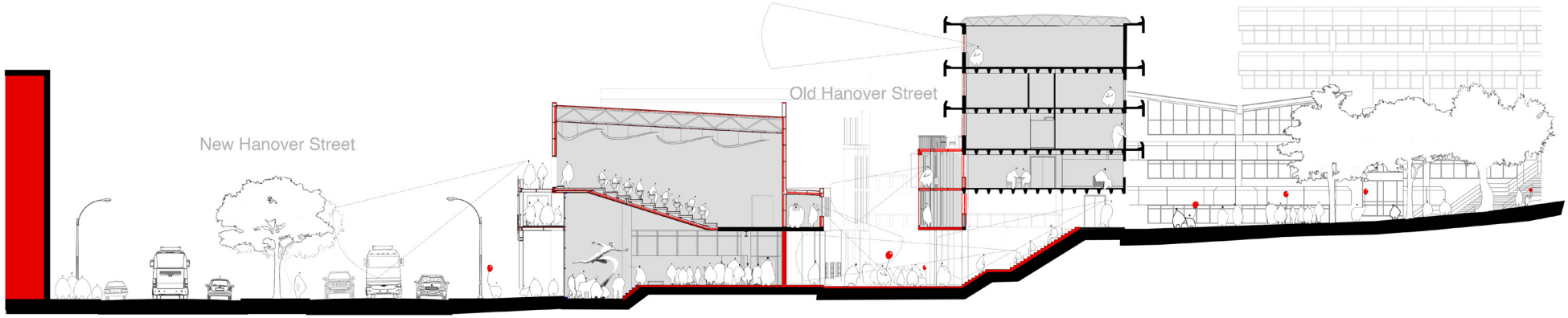




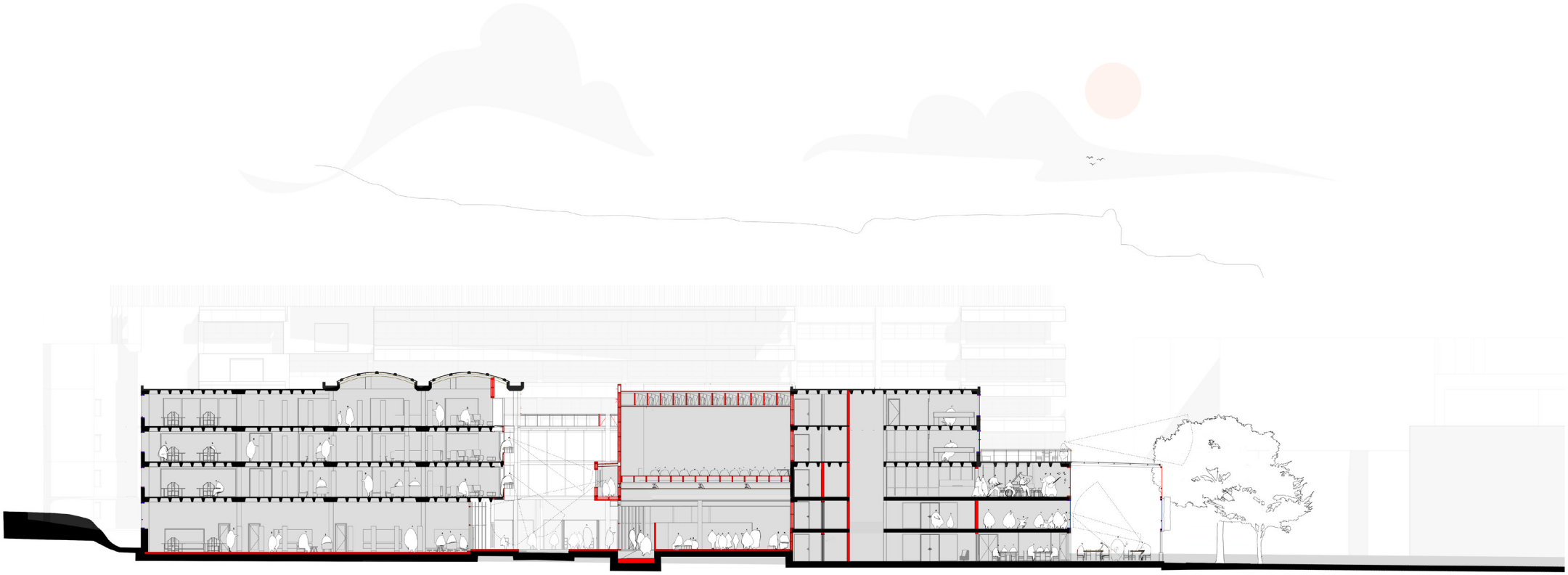
Old Hanover Street Elevation



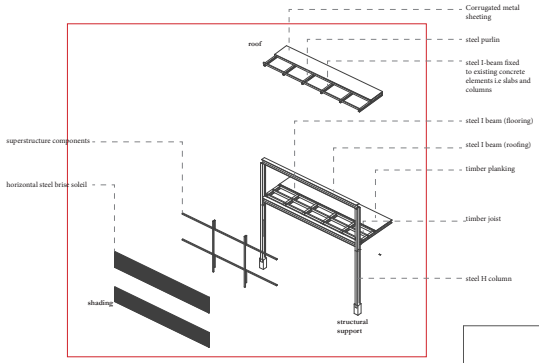
New Hanover Street Elevation



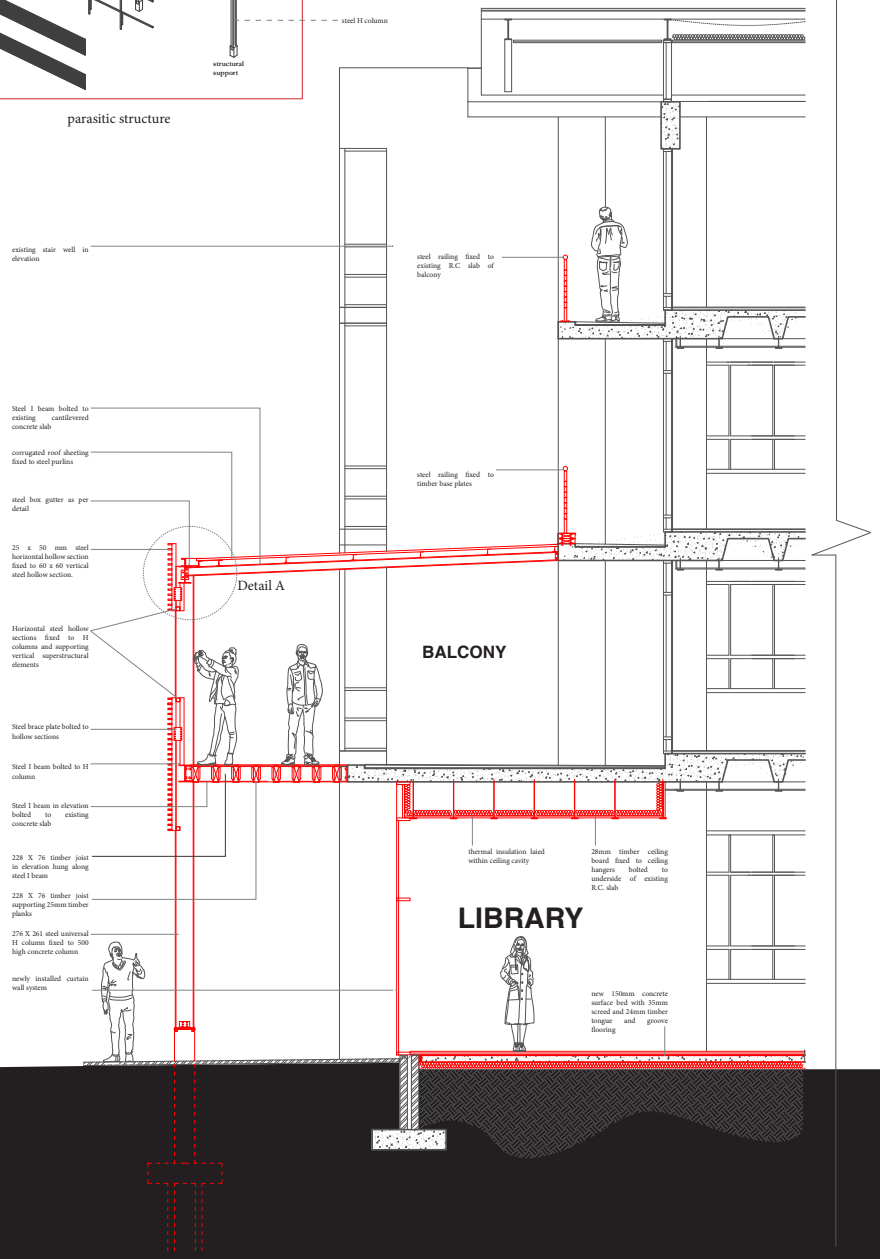
Section AA

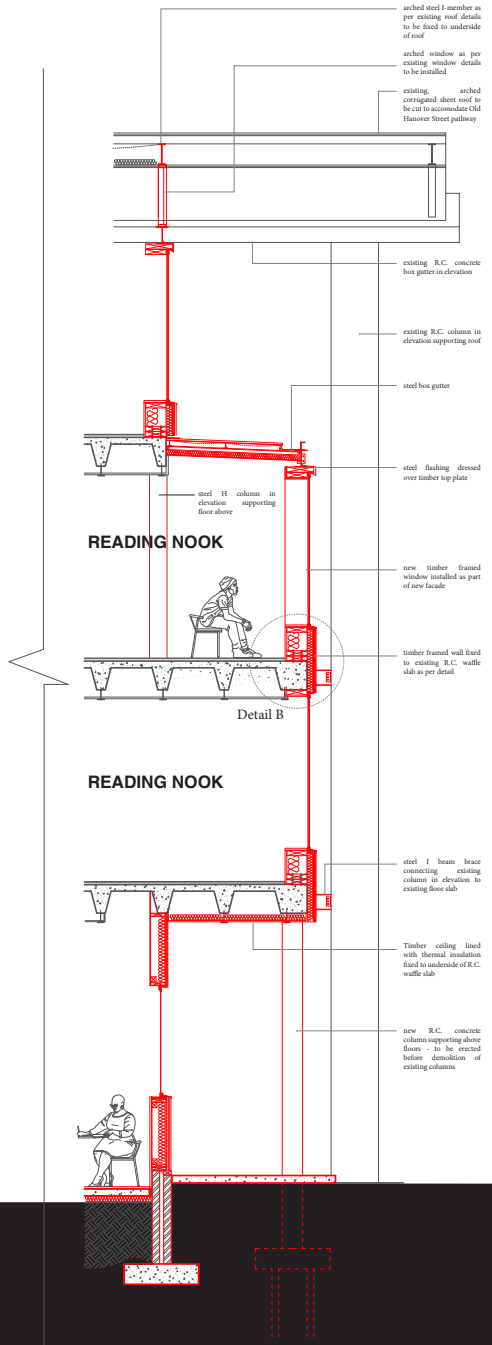


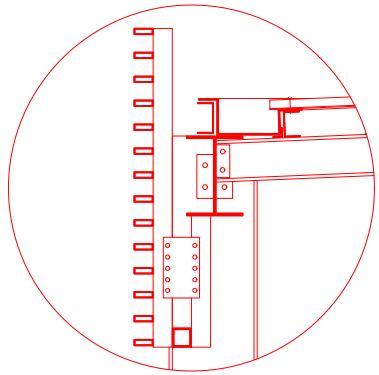
Section BB



parasitic structure

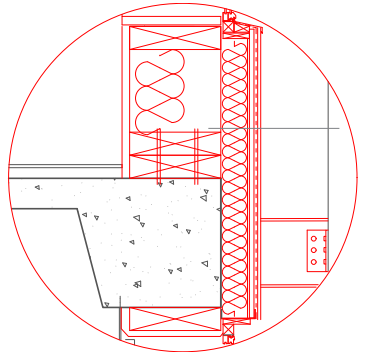






Detail A
1:5

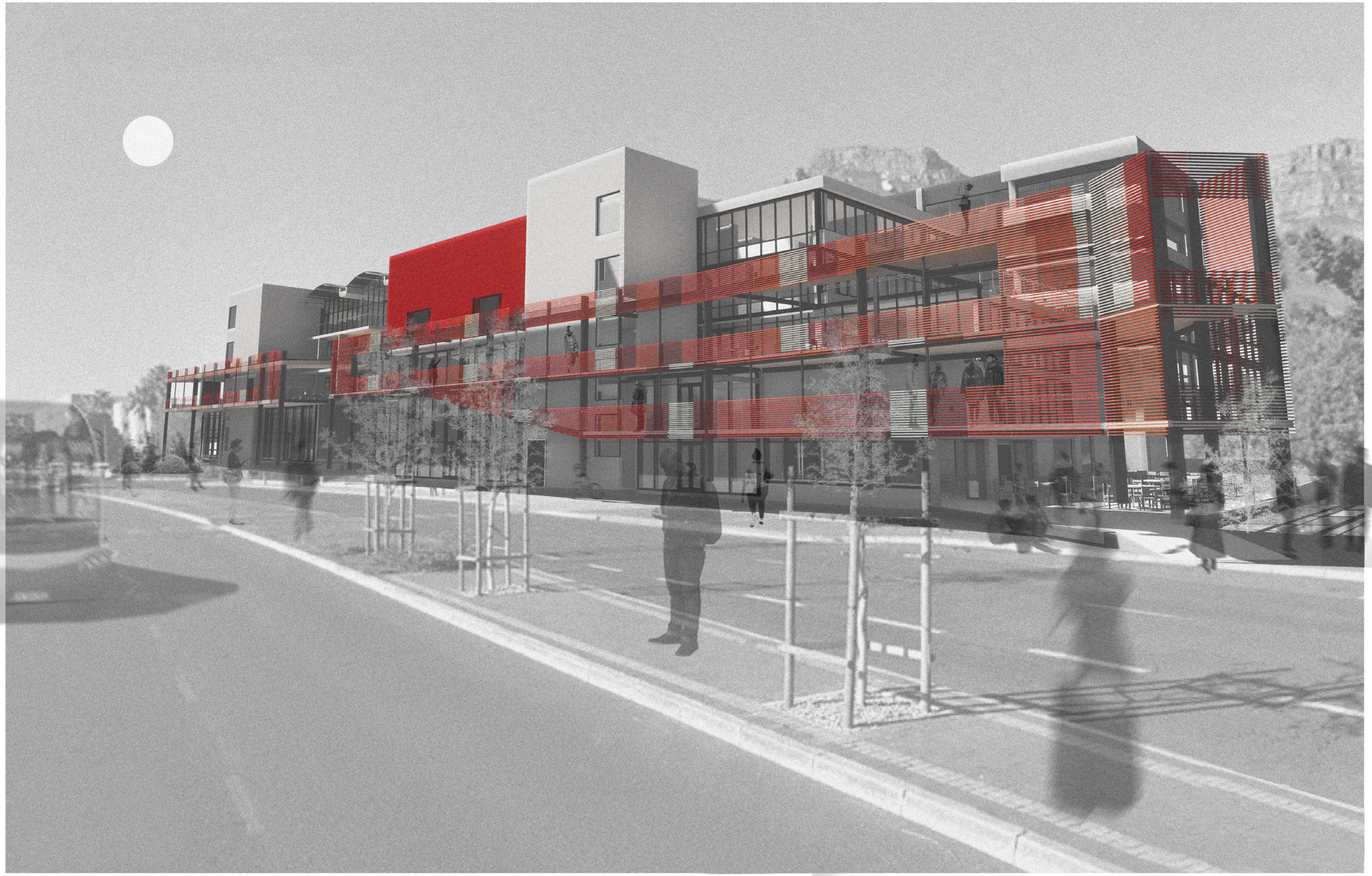
Detailing for the parasitic shading and circulation device is inspired by The Black House by Drew Architects. This design adapts the work of Drew Architects by inversing the side from which the louvres are positioned in relation to the structure. This was done in order to allow for a hidden gutter system



Detail B
1:5

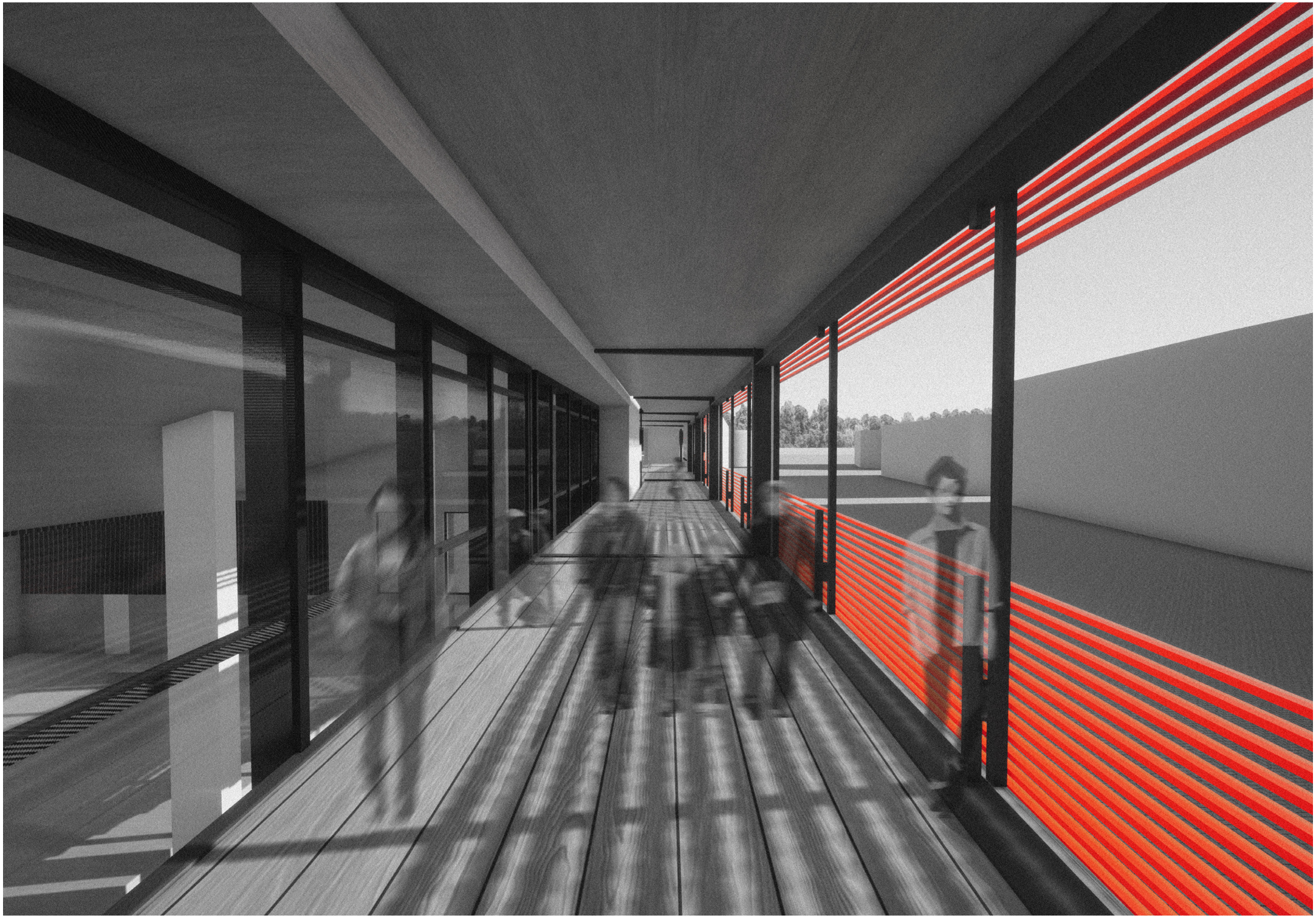
Lightweight solutions were chosen for the additions to CPUT's building. The above detail highlights the connection between new exterior walls and existing floor slabs. A void insulation layer is placed closer to the interior while a thermal insulation layer is offset from the edge of the slab. The timber wall is clad with a standing seem Rheinzink cladding.

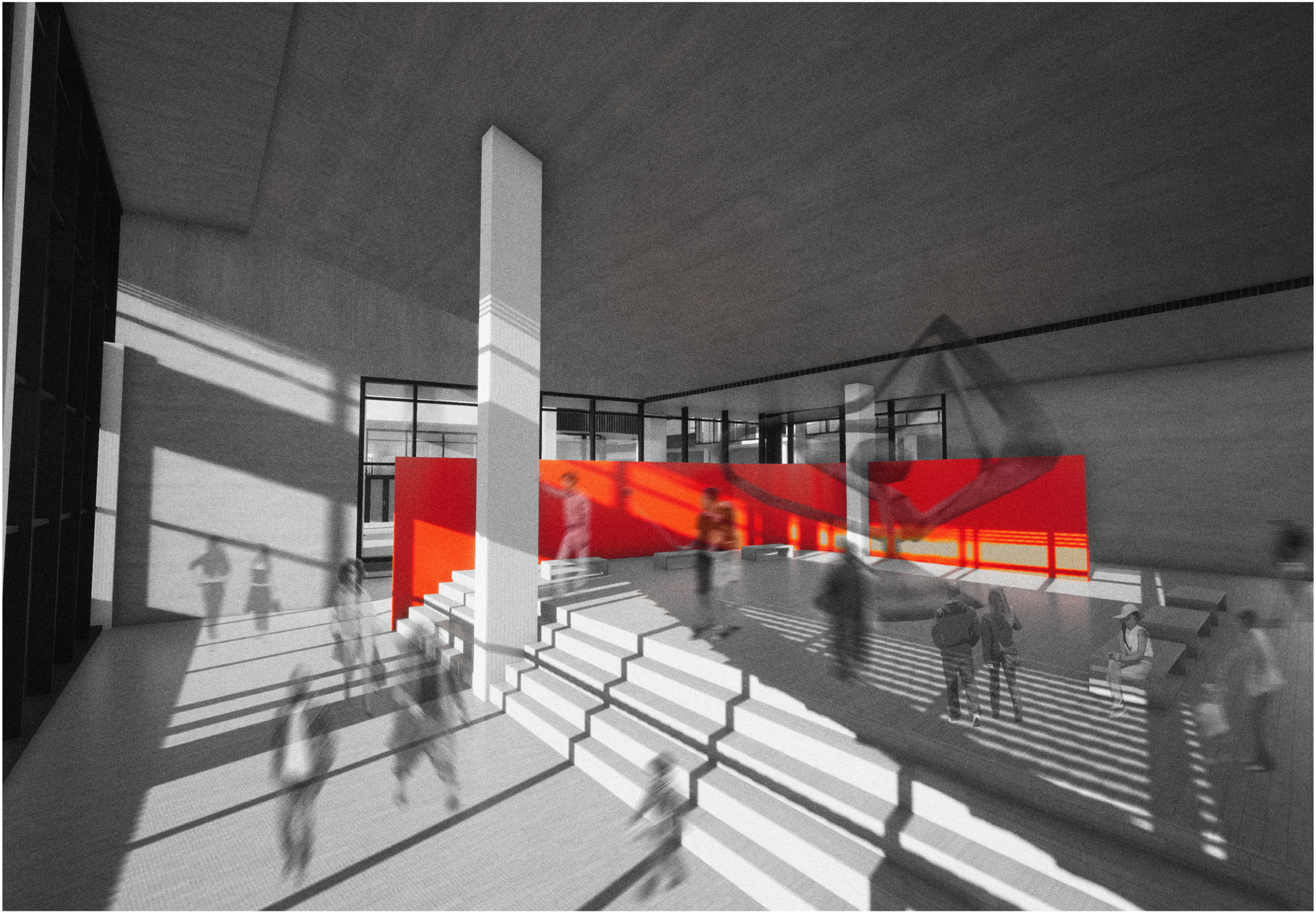
Main Section: **1:20**




D6 CRAFT
Barber


YOU ARE NOW LOOKING AT THE MEMORY OF
THE SEVEN STEPS FROM THE SEVEN STEPS





List of Figures - all images by author unless otherwise stated.

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