Disrupting the Static

A Set Design and Manufacturing Facility for the Film Industry

Hilton, Bloemfontein

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A Set Design and Manufacturing Facility for the Film Industry
Bloemfontein

This dissertation is submitted in partial fulfilment of the requirements for the degree Master in Architecture (Professional).

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Declaration of original authorship

The work contained in this document has not been previously submitted to meet requirements for an award at this or any other higher education institution. To the best of my knowledge, this document contains no material previously published or written by another person except where due reference is made.

Acknowledgements

To Mom & Dad, thank you.

PROJECT SUMMARY

Site description: Old railway warehouse next to the Bloemfontein railway depot.

Programme: A Set Design and Manufacturing Facility for the film industry attempting to reconnect the railway and the community.

Client: Transnet Freight Rail in conjuction with Weta Workshop.

Site location: 11 Long Street, Hilton, Bloemfontein.

GPS coordinates: Latitude $29^0 6' 55.22^0$ S
Longitude $26^0 13' 50.18^0$ E

Research field: Factory Typology in Urban Landcape.

Keywords: Static, Dynamic, Boundaries, Disruption, Railway.

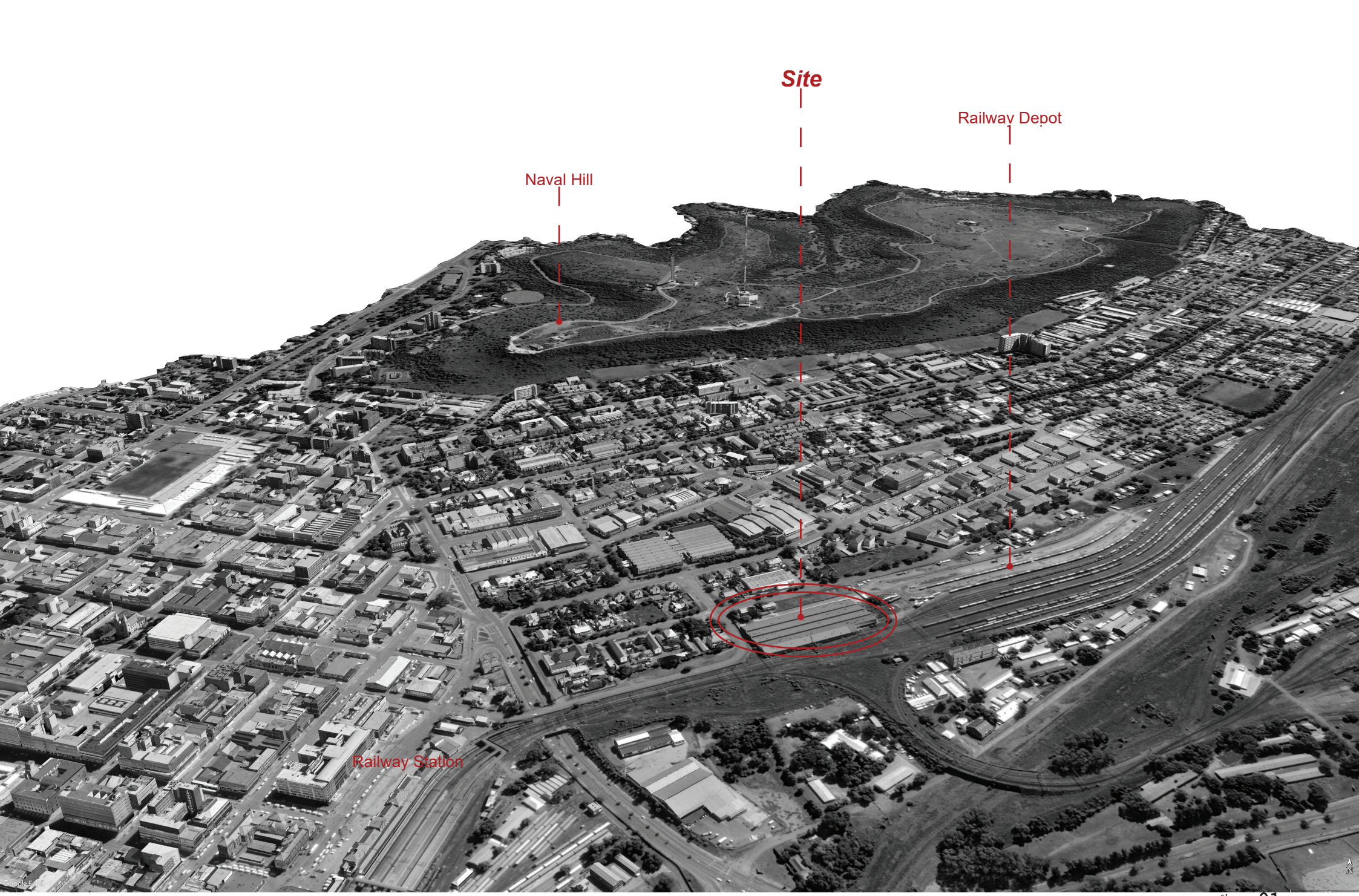

fig. **01**
The site in context

PREAMBLE

This dissertation stems from an interest in the small community of Hilton, Bloemfontein. Hidden between Naval Hill and the railway lines, Hilton has become somewhat of a forgotten space within the city. Conceived as the child of the railway, the community has since then lost all connection with the railway. Hilton has become a static, marginalised community trapped within the legacy of what should be its gateway to freedom.

The dissertation proposes a set design and manufacturing facility in an existing railway warehouse located on the edge between the community and the railway. The project is theoretically explored around the concept of disrupting stable and static objects in an attempt to generate motion. The aim of the dissertation is to re-establish the connection between the railway and the community.

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THE SETTING

01

A BRIEF HISTORY

To this day, there are still conflicting arguments as to how Bloemfontein got its name. However, what is known is that the essence of its name derives from two parts; one part flower, one part water. Its floral legacy is ever present considering the city is also known as the City of Roses. Regarding its historical development as a source of water, it might not seem as obvious for the uninformed individual. It might even seem a bit suspicious. This might be due to the fact that the once glorious *Spruit* which laid the foundations for Bloemfontein was reduced to a concrete canal which seldom displays the power it once had. Other than that, there is no real significant presence of water in the immediate context. It is as if the city has failed to recognise and acknowledge the important role the *Spruit* had in its coming to being. This then begs the question: why is one of Bloemfontein's most iconic landmarks known as 'Naval' Hill, a place usually associated with the presence of a large body of water.

One of the reasons why the British decided to settle in Bloemfontein was the military vantage points that the natural landscape had to offer (Schoeman, 1980: 3). During the British occupation of Bloemfontein, at the time of the Anglo-Boer War, a battery of four naval guns were placed on the hill by the Royal Naval Brigade (Dreyer, 2010: 7). Even after the declaration of peace, the British did not terminate their occupation of Bloemfontein. The Royal garrison remained in the capital of the Free State for another eleven years. By 1904, a British contingent of about 3000 troops was still stationed in cantonments on top of the hill (Schoeman, 1980: 183). Naval Hill became the citadel.

Over the following years, a peculiar range of activities made their appearance on the hill. To a certain extent, modern day Naval Hill reminds one of the ancient Athenian Acropolis. Although on a much smaller scale, what started out as the citadel has become a public space of engagement and remembrance within the city. It has become a beacon within the urban landscape, a place of orientation and a space in which citizens give honour to the gods of the city. There are even instances where the gradual demise of some structures replicates the nature of ruins found at the Acropolis. If the Acropolis and Naval Hill are juxtaposed (henceforth the 'Acropohill"), it reveals interesting imaginative similarities.

fig. **02**
The conceptual development of Bloemfontein

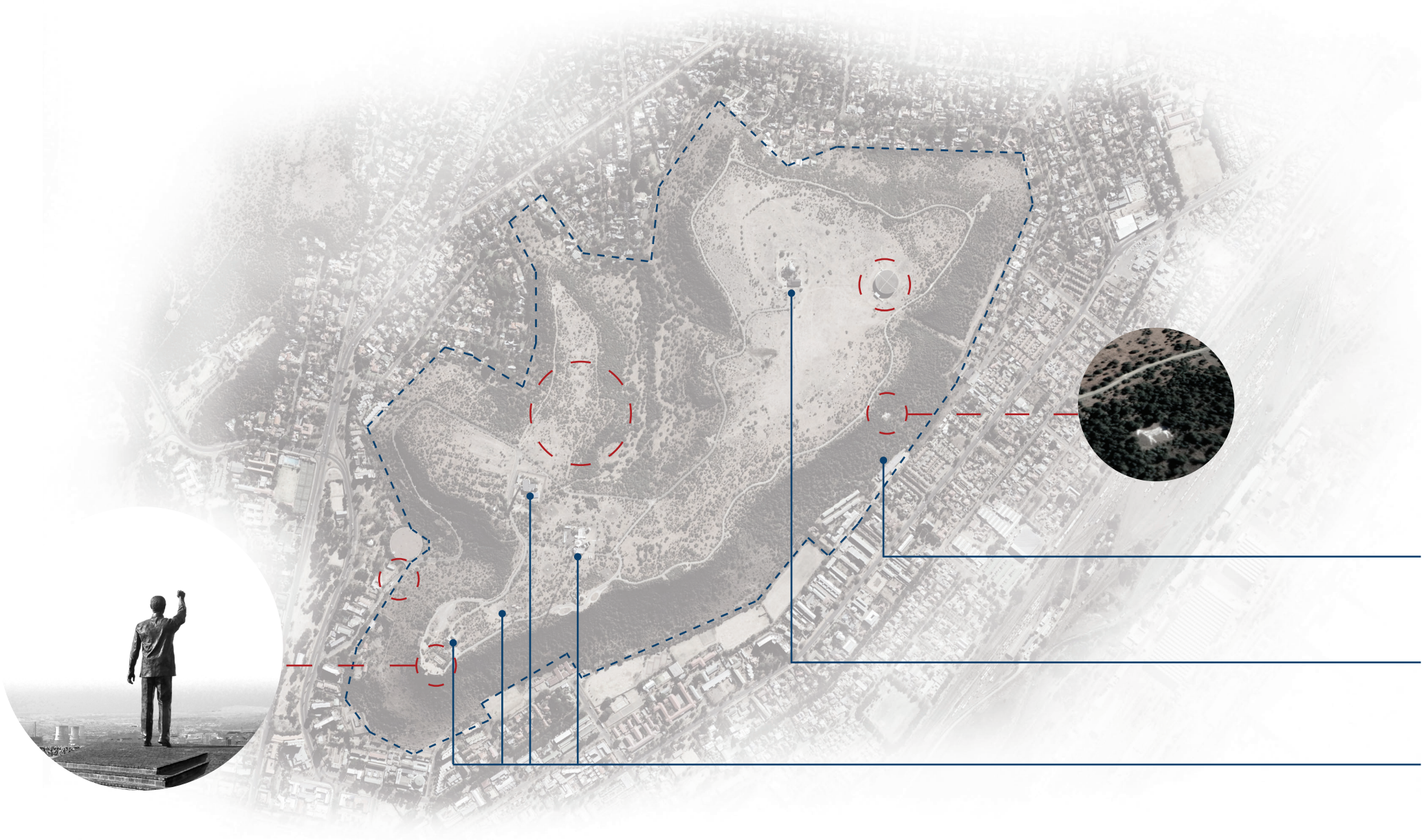


fig. **03**
Naval Hill: The African Acropolis

AN AFRICAN ACROPOLIS

Situated at the bottom of the hill, one passes through the Propylaea to gain access to the Acropohill. Upon entering, one passes the first temple. Dedicated to Poseidon, the Old Reservoir and Pump Station was the first temple to be erected. After many years it was decided that the original temple was not sufficient and a new one was built on top of the hill, visible from miles away. Interestingly enough, Poseidon was not only the Greek god of the sea (or water in general). He was also the god of horses (2014: online). On the eastern slope a shrine was erected in his honour: the White Horse.

Hades was the god of death and king of the underworld. His name is also used to describe the home of the dead (2014: online). Hades is immortalised in Hangman's Kloof. It is here where public executions were performed during the 19th century (Dreyer, 2010: 7) whilst Hades eagerly awaited you on the other side. On the southern edge, the statue of Athena Promachos has made way for the former head of state, Mister Nelson Mandela, a father to the nation. Peering over the city, Mister Mandela has taken over the responsibility of providing wisdom, courage, inspiration, civilization, law and justice.

In an attempt to create a better conceptual understanding of the city surrounding the Acropohill, three specific characters represented on Naval Hill are further explored:

The Theatre of Dionysus Eleuthereus

The Temples for Hermes

The Odeon of Herodes Atticus

The Theatre of Dionysus Eleuthereus

The City as a Theatre

Standing on the edge of Naval Hill, peering over the city, one becomes aware of a certain cinematic quality gradually unfolding in front of your eyes. The mise-en-scène of buildings and open spaces, movement and noises, light and shadows, produce an assemblage of theatrical moments.

The hillside is transformed into an imaginary amphitheatre. Similar to the ancient Greeks, it follows the contours of the natural landscape. In the case of the ancient Theatre of Dionysus Eleuthereus, the city becomes the backdrop to a series of Greek tragedies and comedies. In the case of Naval Hill however, the city does not become a mere backdrop to the play. Instead, the city becomes the stage itself, or rather, a multitude of stages which seamlessly blend into one another. Naval Hill allows for a 360˚ view of the continuously developing story of Bloemfontein.

Scattered across these stages are a number of diverse characters each assigned with their own specific role. It is even possible to distinguish between the protagonists, the antagonists and the extras. Some of these characters are nearing retirement. Having served their city with pride, they are now taking over the role as mentors giving guidance to an ever evolving stage. Other characters are quite new to the scene, still struggling to find their feet. Unfortunately, there are also many characters that have lost their purpose. These characters have become static objects obstructing and prohibiting free flow across the stage.

Up on the stage there is little to no place to hide. The city is exposed and reveals itself and its secrets in ways that are often missed when one is immersed within the stage. One of these secrets seems to have inherited the same challenges that the name of Bloemfontein is facing. As mentioned earlier, ‘Bloem • Fontein’ consists of two parts; one part flower, one part water. Bloemfontein, explored as a theatrical stage, also consists of two parts; the main stage and the backstage.

Both the ‘fontein’ and the back stage face similar challenges in the context of Bloemfontein. Even though it is the water that enables the flower to bloom, it is only the flower that receives recognition. The hard work and effort of the water goes unnoticed. In a similar manner, the backstage serves the main stage without ever being recognised for its contribution. The railway line to the east of Naval Hill seems to act as the boundary between the two stages.

The Main Stage: Onwards, Westwards

Over the years development has shifted away from the traditional city core towards more western and lately even northern parts of the city. All investments are directed in these directions. In 2013, the Mangaung Municipality released a Spatial Development Plan for Naval Hill. Even this proposal seems to ignore the more eastern parts of the city with most of the developments proposed towards the western side.

The Backstage: The not so Easy East

Hidden behind the railway lines, the backstage live to serve. Located even more east is Botchabelo and Thaba Nchu. Many of these residents have to make a daily commute into the city.

The Orchestra Pit: Where is this Even?

There is one part of the stage however that neither seems to fit in with the main stage, nor does it fit in with the backstage. The community of Hilton and Noordhoek seems to be stuck in limbo between the two stages. It is not part of the backstage as it lies west of the railway lines, yet, hidden behind Naval Hill it seems as if the main stage also does not associate itself with this area. This area becomes the orchestra pit. Many people have heard its noises but are unable to pinpoint its location. It has such a significant influence on the play, yet we are never aware of its presence.

fig. **04**
Hermes between his “temples”.

Hermes

Hermes was one of the twelve Olympian Gods. He primarily served as the herald or messenger of the gods (2014: online). A number of temples on the Acropohill is dedicated to him. The radio and television masts serves as a reminder of his legacy as messenger and keeps the citizens of Bloemfontein connected to the outside world. Coincidently, in his role as Herald, it also fell to him to conduct souls to Hades (2014: online). This might even explain the close proximity between the communication towers and Hangman's Kloof.

Among many of his traits, Hermes was also considered as a trickster. This was due to his cunning and clever personality (2014: online). One realises this when studying the stage from above. Cunning as he was, Hermes managed to immortalise himself not only on the Acropohill, but also within the city.

It is said that Hermes was also the god of trade and travellers, as well as boundaries and border crossings, both literal and figurative (2014: online). Considering this, it would be fair to argue that Hermes immortalised his presence and embodied himself within the railway, a footprint that has changed the course of society.

The Railway in Society

The railways are arguably the most potent or dramatic symbol of the Industrial Revolution. It is difficult to determine the precise nature of the economic change the railways brought about, but its impact cannot be denied. Railway transport epitomized technological advance. It was a new method of transporting people and goods speedily and in bulk. It had the ability to unify nations. In the early nineteenth century, the "annihilation of time and space" was the topos used to describe the new situation into which the railroad placed natural space. Motion was no longer dependant on the conditions of natural spaces. Mechanical power created its own new spatiality (Schivelbusch, 1986: 10).

The railway was also associated with progress and civilization. Like many other means of transportation, the railroad provided a medium to move things from one place to another. However, it was the particular way in which it was accomplished that distinguished it from the other means of transportation (Schivelbusch, 1986: 16). The railway was celebrated in art and literature on a scale of imagination and power, something the motor car never seemed to inspire" (Richards, J. & MacKenzie, J.M. 1986: 1). Charles Dickens noted on the Railway Age:

"There were railway patterns in it drapers' shops, and railway journals in the windows of its newsmen. There were railway hotels, coffee houses, lodging-houses, boarding-houses; railway plans, maps, views, wrappers, bottles, sandwich-boxes and timetables; railway hackney-coach and cabstands; railway omnibuses, railway streets and buildings, railway hangers-on and parasites, and flatters out of calculation. There was even railway time observed in clocks, as if the sun itself had given in." (Richards, J. & MacKenzie, J.M. 1986: 2).

Clearly the railway played a significant role in society. The railway station itself however took time to gain recognition for its contribution both to the railway system, as well as to culture and society in general. In every major city, the track terminated in a station (Richards, J. & MacKenzie, J.M. 1986: 3). Richards and MacKenzie describes these stations as "great, echoing halls of glass and iron, colonnaded, canopied, buttressed, and turreted, living temples to the worship of King Steam" (Richards, J. & MacKenzie, J.M. 1986: 3). Even in Bloemfontein, the railway station marked the bottom half of the main axis in the city. It announced the gateway into the country, to the seaside and even the wider world. The railway introduced a new sense of freedom and escape.

The Railway in Bloemfontein

On the morning of December 17, 1890, the first official train arrived at the bottom of Maitland Street, Bloemfontein (Schoeman, 1980: 112). Karel Schoeman writes that the arrival of the railway in Bloemfontein was the most significant event since the discovery of diamonds in 1866 (1980: 111). So much so that the following three days were declared public holidays filled with festivities. The arrival of the railway permanently changed the development of Bloemfontein.

Train travel replaced the old uncomfortable journeys and reduced travel time significantly. This meant many new visitors, and it wasn't only tourists. Amongst these visitors were businessmen and travelling salesmen. Their presence ensured new shops or branches of well established shops. However, the train did not only serve a purely functional service. As a social event, trains were used for picnics and excursions in the immediate context (Schoeman, 1980: 114). The arrival and departure of trains soon became a whole social event in itself. Schoeman wrote:

"…and especially the departure of the evening train became a social event, because then the station became a small enclave of life and light… " (Richards, J. & MacKenzie, J.M. 1980: 114).

fig. **05**
The Bloemfontein railway station.

fig. **06**
The railway lines and its dividing effect.

fig. **07**
Contextual Hilton and Noordhoek

Residential:	Yellow
Industrial/Business:	Red
Green/Open Space:	Green

The Railway in Hilton

Except for the business that it brought along, the railway itself was a big industry. Laid out to the east of Naval Hill, the Railway Camp was established in the area now known as Hilton. Although long gone, its memory is embedded in the urban fabric, its irregularity disturbing the grid pattern of the city. Some of the early corrugated iron semi-detached houses are still found in Long Street. Due to its proximity to the town centre, the railway camp and its surrounding development became a somewhat independent colony detached from the town (Schoeman, 1980: 113). It is only years later that one would realise that it is still, to an extent, a singularity on its own. After a while the Railway Institute was built. With its opening, the Institute boasted with 400 members and eight sport clubs. It was equipped with a library and reading room, a billiard room and a hall that seated 200 people. Only the Town Hall could seat more people (Schoeman, 1980: 113). The railway complex continually expanded and required more land.

The mighty locomotive at the front of a train might perhaps have stirred the mood of the romantic public and evoked dreamy images of remote places in the corners of the country, but it is the railway workshops, often disorderly, ever colourless and everything except picturesque, that made the railway industry possible (DPLO, 1948: 92). As is the nature of many mechanical beasts, the railway system required regular maintenance. The massive workshops that were required was constructed on the eastern side of the railway. Not only did these mechanical workshops repair worn and damaged locomotives, passenger cars, rolling material and other equipment, it also manufactured new equipment. (DPLO, 1948: 90).

Many remnants of the railway and its infrastructure is still scattered across Hilton. One of the most notable is the old railway houses. In November 1937, a housing scheme was brought to life by the South African Railways and Harbours. The aim of this housing scheme was to assist railway servants so that they too can acquire their own homes (DPLO, 1948: 51). These houses are not only found in Hilton itself, it extends north into the neighbourhood of Noordhoek. Located slightly north of Hilton, Noordhoek, or “northern corner”, was at some stage the literal northern corner, or boundary, of the town. Another trait that seems to have survived the evolution was the craftsmanship and workmanship that were practiced in the workshops. Until today, Hilton is zoned as a light industrial area.

Unfortunately, Hermes is the Janus-face. The Janus-face is a type of character found in theatre that possesses two sharply contrasting characteristics. Being the god of boundaries and border crossings, he not only transgressed boundaries, but unfortunately also created them. The railway is no different. As much as it enabled connection between different people and places and diminish distances that were boundaries within themselves, its footprint left a distinct boundary wherever it went. It had the power to divide a landscape into two places. Often these two sides were characterised into the 'right' side and the 'wrong' side. Most people are all too familiar with the saying "living on the wrong side of the tracks". Except for the physical boundary it created, it also created mental boundaries.

Politicians soon realised the potential the railway had as a method of separation and segregation. During the reign of Apartheid, the Group Areas Act of 1950 forced the municipality to build new residential areas for the city's black population. All these areas were located on the eastern side of the railway line. Since then the city has stuck to this pre-determined layout and proverbial backstage was created.

The railway had another disadvantage. The increase in population and development unfortunately also meant an increase in the number of people with low moral values. Crime increased dramatically, so much so that Bloemfontein required a new prison (Schoeman, 1980: 115). The old prison, located towards the centre of the town, west of the railway, was moved to the eastern side of the tracks. This again reinforced the idea that there was a 'right' side and a 'wrong' side of the track. Those who were deemed wothy of society, and those who were deemde not.

"The station became at one and the same time one of the principal forces in society for order, regulation, and discipline, and a new focus for violence, crime and immorality" (Richards, J. & MacKenzie, J.M. 1986: 94).

The Railway Today

As Hermes suggested, the railway possesses both good and bad. As messenger and god of travels he succeeded in diminishing time and distance and connected Bloemfontein with the outside world. At the same time he brought the world to Bloemfontein. He played a massive role not only as a method of transport, but built and supported a socially sustainable community. Thèophile Gautier noted this about the railways:

"These cathedrals of the new humanity are the meeting points of nations, the centre where all converges, the nucleus of the huge stars whose iron rays stretch out to the ends of the earth."(Richards, J. & MacKenzie, J.M. 1986: 3)

Today however, the situation is dire. With the gradual demise of the South African railway system, the role the railway played in society, with specific reference to Hilton, has completey vanished. The connection shared between the railway and the community of Hilton has seized to exist. The absence of the railway in the community has left a huge hole. Ironically, this hole is in actual fact a boundary. Hilton has become trapped in the in-between, neither part of the main stage, nor part of the backstage. It has become a forgotten, marginalised community. Although there are roads and bridges constructed to cross the boundaries, the real challenge lies within escaping the mental boundary. A boundary disguised as poverty. A boundary disguised as rejection. As god of boundaries and border crossings, Hermes successfully confined Hilton to its circumstances. However, as Nido Qubein said:

"Your present circumstances don't determine where you go, they merely determine where you start." (Qubein, 2019: Online)

Considering the challenges posed by Hermes's behaviour, how would one be able to escape or transcend past the boundaries? The third character explored, the Odeon of Herodes Atticus, aims to shed light on this question.

fig. **08**
The “Odeon Of Herodes Atticus”: The Naval Hill Planetarium

The Odeon of Herodes Atticus

The Illusionist

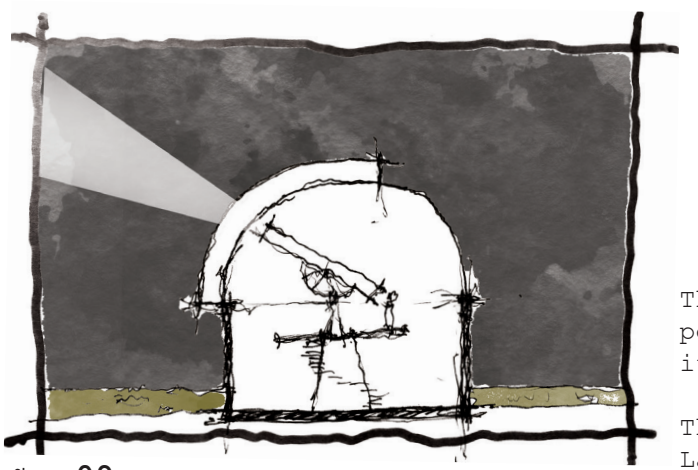


fig. **09**
An observatory.

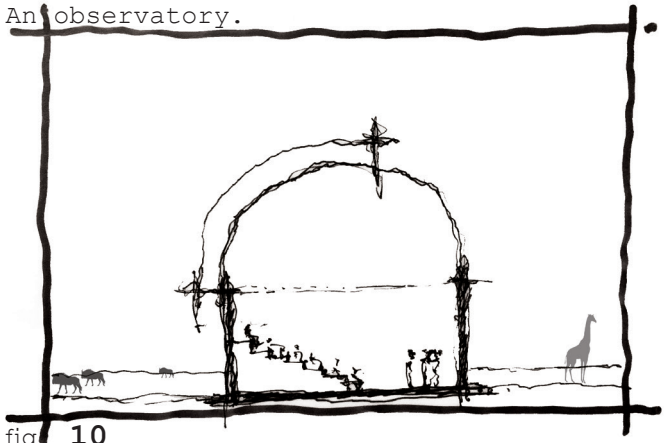


fig. **10**
A theatre.

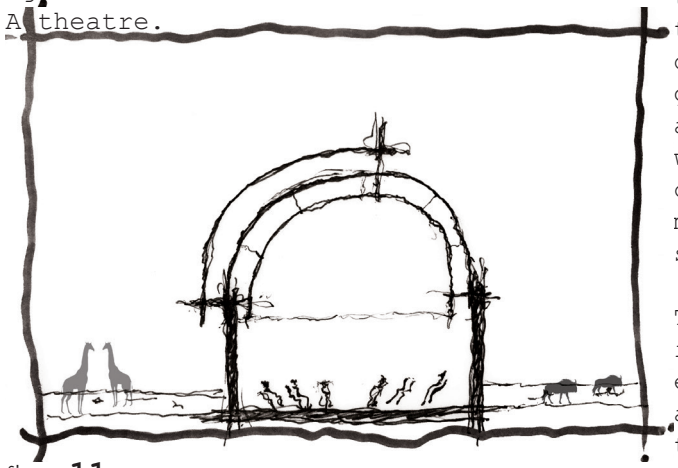


fig. **11**
A planetarium.

The Odeon of Herodes Atticus was used as a theatre in which musicians and orators performed and competed. Unlike the Theatre of Dionysus, the Odeon did not extend itself into the urban landscape; it was more of an enclosed space.

The Naval Hill Planetarium is identified as the proverbial Odeon. Conceived as the Lamont-Hussey Observatory, the Planetarium was originally built in 1927 by the University of Michigan (Schoeman, 1980: 247). Due to its location within the city, light pollution soon became a problem as the city expanded. After the closure of the astronomical observatory in 1974, the University of Michigan gave the building to PACOFS in 1976. During the curatorship of PACOFS, the building became one of South Africa's most unique theatres (2019: Online). This too came to an end. In 2013, after another refurbishment, the building opened its doors as the Naval Hill Planetarium, the first digital planetarium in Africa south of the Sahara (UFS,2019: online).

Over a period of 92 years the building hosted three different functions. The first one was the observatory. The observatory was used to study outer space, to map stars and to discover what was hidden behind the boundaries imposed by earth. As one observed the night sky, the telescope had the ability to momentarily transport one into a world unknown. Even though physically one's body was fixed in a static position, on a game reserve, in the middle of a city, one's mind was transported to a different world. It transcended the immediate boundaries.During its tenure as theatre, it demonstrated the same spatial quality. Whilst a play was in action, the theatre had the ability to disregard the normal constraints of time and space. Confined to a static chair, on a game reserve, in the middle of a city, the stage had the ability to create a setting anywhere in the world into which one could get lost. Over a period of 60 minutes, a whole year could've transpired in front of one's eyes. Again, the immediate boundaries or limits were temporarily transcended. Now hosting the planetarium, the function is much of a combination between the first two functions: a digital screening of outer space. Inherently, it shares the same spatial quality of the first two.

The Odeon of Herodes Atticus reveals that it is possible to momentarily escape your immediate surroundings without ever physically leaving ones confinements. This is essentially what the community of Hilton would require. Moving everyone physically across the boundaries would create a sense of displacement. What is needed is a temporary mental escape until the circumstance of the immediate environment improves.

Research Question

How can an investigation into theatrical movement disrupt static space?

THEORETICAL UNDERSTANDING

02

The Railway and the Cinema

The exploration of Heredes Atticus revealed that film, or theatre, is not the only method of escape. The railway, with specific reference to the train, possesses similar qualities, it shares the cinematic experience. During its voyage, the traveller experiences a moment of "in-betweeness'. Although fixed to a static place within the compartment, the train itself is neither at its point of departure, nor at its arrival. Michel Foucault identifies this space as a heterotopian space.

In an effort to explain these heterotopian spaces, Foucault starts by creating an understanding of a utopian space. A utopian space is a site with no real place. Fundamentally is does not exist in reality, utopian spaces are unreal. It is merely an imaginative space in which society is perfected, or at least, represents society upside down (Foucault, 1986: 24). He then offers a space he describes as a type of counter-site, a space in which the idea of the utopia becomes enacted (Foucault; 1986: 24). This space is known as a heterotopia. Even though it might be possible to indicate their location in reality, places of this kind are outside of all places (Foucault, 1986: 24). This is because these places are distinctively different from all the sites that they reflect and speak about (Foucault, 1986: 24). According to Foucault, there are six principles of heterotopia. The third principle explores the heterotopias of juxtaposition. In a single real space, heterotopias are capable of juxtaposing this space into several spaces. In effect, the third principle refers to the Odeon of Heredes Atticus. In the singular real space under the dome, one is able to experience several spaces.

Finally he refers to a ship to describe the ultimate heterotopian space (Foucault, 1986, 25). It is a floating space that is not fixed to one position; it is a space without place. The train shares the same qualities. The only difference is that the train is bound to a track. Its predetermined route might steal some of its magic, but nonetheless, it is a place that constantly moves through a series of different places. Understanding the idea of heterotopia, it becomes evident that the community of Hilton and Noordhoek is a heterotopian space as well. The community is a physical space which one can inhabit. It is the compartment of the train, as well as the seats in the cinema. At any given time, one is able to pin point its exact location. However, as with the train or film, it is between two places. It is neither part of the main stage, nor does it fit with the backstage. This place is distinctively different from all the sites that it reflects and speaks about. It possesses the qualities of the backstage, a place of hard work and manufacturing, but it is located on the "right" side of the track. It is situated within the main stage, yet hidden behind Naval Hill. In this is becomes a place outside of all places.

So, if all three of these characters exhibit the same spatial quality, why is that only the train and the cinema can be regarded as dynamic spaces, whilst the community remains a static space? The answer to this question lies in the presence or absence of motion.

Dynamism in Theatre

Film and theatre haven't always been regarded as dynamic. Whisk yourself away to the year 1920. World War One has only ended two years prior. Up until now, film space has been described and treated as dead and static. However, that was soon to be changed. German expressionists have taken to the stage with the likes of Das Kabinett des Dr. Caligari, Von Morgens bis Mitternacht and Der Golem. Critics described these films as a new "stereoscopic universe" and the end of the "crude phantasmagoria" of earlier films. A new space has been brought to life, a space of movement and conscious expression. This space was described as a fourth dimension that has evolved from the "photographic cosmos" (Vidler, 2000: 103). According to German art critic and New York Times correspondent, Herman G. Scheffauer, film began to extend what he called "the sixth sense of man, his feeling for space or room, his Raumgefühl" in such a way as to warp reality itself. (Vidler, 2000:103). Architecture was no longer only a background as it became an integral part of the very emotions of the film. The surroundings were no longer a mere backdrop to the actors; it conveyed its own presence as part of the experience. Similarly, with the Theatre of Dionysus, the city doesn't serve as a mere backdrop to the play, it becomes the stage itself. The "fourth dimension" of time is able to extend space into depth (Vidler, 2000: 104). Scheffauer refers to Caligari to describe a veritable phenomenology of spaces:

"… a corridor in an office building, a street at night, an attic room, a prison cell, a white and spectral bridge, the marketplace; all constructed out of walls that are at once solid and transparent, fissured and veiled, camouflaged and end endlessly disappearing, and presented in a forced and distorted perspective that presses space both backward and forward, finally overwhelming the spectator's own space, incorporating it into the vortex of the whole movie." (Vidler, 2000: 104)

This architectural approach allowed Caligari to produce an entirely new space, a space that embraces and absorbs depth and movement.

The concept of the fourth dimension is further explained through Michel de Certeau's distinction between place and space. According to De Certeau, place can be defined as "the order by which elements are distributed in relationships of coexistence" and thus "a place is the instantaneous configuration of positions and implies stability (Nikolov, 2008: 42). Here place refers to the physical container of the theatre or the cinema, or even your living room in the instance of a television. Space, on the other hand, determines certain limits or boundaries whilst taking movement, direction and time into consideration. This means that space is a composition of mobile elements. It is activated by the assemblage of movements that is deployed within these limits (Nikolov, 2008: 42). Here, space refers to the movement, direction and time that occur within these borders or boundaries, for example, the stage in theatre, the screen in cinema, or the television in a living room. The fourth dimension is the boundary that separates place from space. However, when this movement, direction and time start to disrupt and move beyond these set boundaries, the fourth wall is broken. The difference between subject (space) and object (place) becomes blurred. Stable, or static, becomes dynamic. The 1999 cult classic, Fight Club, as well as the more recent Deadpool, released by the Marvel Cinematic Universe in 2016, both showcase examples where the fourth wall is broken. Actors recognise the presence of the audience which allows a new form of engagement and creates an active dialogue between the two. A dynamic connection is created between stage (space) and audience (place).

Standing on Naval Hill with the stage down below, a member of the audience might easily feel removed from all the action and drama that unfolds down below. However, being a citizen in the theatrical play of the city, one is able to step down onto the stage and immerse oneself in the different scenes the city has to offer. These theatrical moments form the backdrop to many people's daily lives. The movement have disrupted the traditional boundaries and moved beyond them creating a dynamic relationship.

Dynamism in Trains

A train's ability to produce dynamic movement is a lot easier than it is in film. The dynamic space it creates is purely thanks to a mechanism that powers the train into motion. In a stagnant position, the train loses most of its spatial characteristics. The question is, how do we disrupt architecture

Disruption in Architecture

The question remains: how does one disrupt a stable object?

Mark Wrigley writes that architecture has always been valued for its provision of order and stability. Architects have dreamt of producing architecture of pure form, objects from which all instability and disorder have been removed.(Wigley, 1988: 10). The approach was simple: combine simple geometric forms into stable ensembles. These geometric forms were not to distort one another. There were compositional rules to avoid any conflict. All the forms had to contribute harmoniously to create a unified whole (Wigley, 1988: 10). Formal purity was regarded as structural stability. Any deviation from structural order, any impurity, was regarded as a threat towards the values of harmony, unity and stability.

In a brief moment in about 1918-20, the same time Das Kabinett des Dr. Caligari, Von Morgens bis Mitternacht and Der Golem made a shift in the way we perceive film, Russian Constructivism have made headway. This movement started to question pure form. The traditional way of thinking was placed in doubt through the exploration of disturbing possibilities. The Russian Avant-Garde posed a threat to the traditional way of thinking about form. It broke the classical rules of composition. The existing pure forms were used to create “impure” and skewed geometric compositions (Wigley, 1988: 11). Artists such as Malevich and Tatlin placed simple forms n conflict. This produced unstable and unsettling geometric compositions. There was no single axis or hierarchy in any of the forms. Rather, there eas a series of conflicting axes amd forms.

Eventually the idea moved from the arts to architecture. Tatlin’s monument, (in which pure geometric forms become trapped in a twisted frame) seemed to announce that the revolution has entered the world of architecture as well (Wigley, 1988: 12). A series of advanced designs soon followed this announcement. Rodchenko’s radio station. Krinskii’s communal housing project: the frame has completely disintegrated and the forms no longer had any structural relationship. It seemed to have exploded from within. However, the more committed they became to exploring the architectural narrative, the more the instability that marked earlier work seemed to disappear (Wigley; 1988: 12). This lead to none of the structure ever being realized

The Vesnins's Palace of Labour

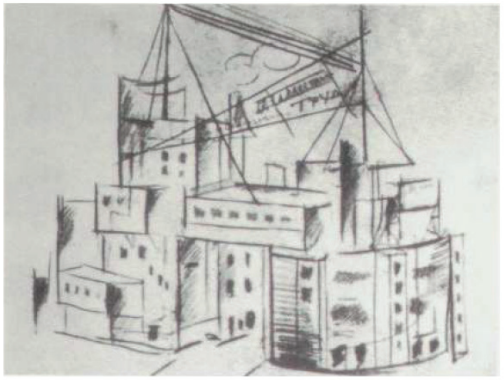


fig. **12**
The Vesnins Palace: An early sketch.

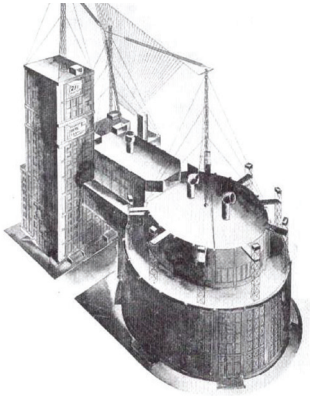


fig. **13**
The Vesnins Palace's final design: A safe reality.

Deemed as the inauguration of a new age in architecture, the distinctive geometry of earlier work is evident only in the overhead wires. From early sketch to the final design, it changed from a dangerous fantasy to a safe reality (Wigley, 1988: 15). The actual structure remained undisturbed.

Wigley writes that the instability had been marginalised (1998: 15). The ideal only fully came into being in other art forms such as art or theatre sets, arts that was exempted from the structural and functional requirements that architecture had to offer. The instability of the earlier work was never proposed as a structural possibility, it was only imaginative. The aim was purely focused to unsettle the pure form. Structural stability was not a concern. Wrigely wrote "their explorations were understood as dynamic relationships between forms floating in space rather than as an unstable structural condition intrinsic to the forms themselves (1998: 15). Attempts to turn early experiments into actual, contorted architectural structures, caused dynamism to be transformed into instability. This caused the inability to disturb the traditional condition of the architectural object (Wigley, 1988: 15).The inability to convert these explorations into built architecture caused architecture to remain an agent of instability.

In order to achieve this, irregular geometry has to be understood again as a structural condition, rather than as a dynamic formal aesthetic. The disruption should no longer be only a conflict of pure forms, but rather produced from within. The forms themselves should be infiltrated and distorted. This approach would allow the traditional condition of the architectural object to be radically disturbed.

Deconstruction diagnoses certain structural flaws within the apparently stable structure, but these flaws do not lead to the structure's collapse. Deconstruction gains all its force by challenging the very values of harmony, unity, and stability. It proposes a different view on the structure, the view that the flaws are intrinsic to the structure. A deconstructive architect is therefore not someone who dismantles a building, but one who locates the inherent dilemmas within buildings. The deconstructive architect puts the pure forms of the architectural tradition on the side and identifies the symptoms of a repressed impurity. The impurity is drawn to the surface by a combination of gentle coaxing and violet torture: the form is interrogated (Wigley, 1988:15). The disturbance should not be from an external violence, but rather disturb from within. It is not merely a case of dismantling or damaging a building from the outside. This approach would only act as a decorative effect, an aesthetic of danger, the structure itself would be no less the same.
An internal disturbance incorporates the internal structure, the construction itself. Wigley compares it so a parasite that has infected the form itself and distorted it from within (1988:15).

Rooftop Remodel

It appears as if the form has been distorted by some alien organism. It is particularly disquieting because it seems as if it belongs to the form, as if it's been latent within the form until the architect released it. The form is distorting itself. Internal distortion does not destroy the form. Somehow the form remains intact. Wigley describes this as an architecture of disruption, deflection, deviation and distortion. It is not an architecture of demolition, decay, decomposition or disintegration. (Wigley, 1988:17). It challenges the stable.
Considering the immergence of the latent parasite, it would seem as if the perfection has harboured imperfection. Wigley describes it as a certain congenital flaw that is only now becoming visible (1998: 17). The challenge is the find the unfamiliar within the familiar.

It would be a nearly impossible task to physically disrupt the whole of Hilton. This means that a site has to be identified that embody not only the spatial characteristics of Hilton, but the history as well. This site will act as a representative of the community. Its aim is to become a dynamic space within the static Hilton. If this is achieved, the site can act as the mechanism, the locomotive of the train that puts the whole community into motion.
On the corner of Charles and Long Street a site is identified to become the fulcrum of the community. This site is also located in the in-between. The north-eastern and the south-eastern side are bordered by the railway. The north-western and south-western side both border the Hilton community. There is an existing structure on the site. The 1972 map of Bloemfontein indicate that this building used to be the old market building. Traces of old railway lines

Architecture acts in a similar manner. Buildings are the proverbial stage, whilst the users and the by-passing public become the audience. The challenge herein is as in film or theatre: to break the fourth wall, acknowledge each other's presence and engage with one another to create a dynamic connection.
However, this was not the first interaction between the "two spatial arts". Architecture and film have always been intertwined. Architecture has an obvious role in the construction of film sets, whilst film possesses the ability to "construct" its own architecture. Cinema possessed architectonic properties and the architectural metaphor was deemed an essential character to the filmic imagination (Vidler, 2000: 101).

Bloemfontein

A Timeline of Disruption

It is the year 1840. Hereinto, Bloemfontein was nothing more than a farm. You are part of the first British troops to arrive in this desolated landscape. You find your way up to the highest point and scout over the flat plains of the Orange Free State. The arrival of the British troops come a disruption to the once peaceful farm of Mr Brits. In the familiar Bloem Spruit, the unfamiliar potential of the spruit is seen as a place to settle. A static place becomes dynamic.

The British realise that if they wish to safeguard their new outpost, they would need a military outpost, one that offers the opportunity to see the enemy approaching from far away. The “koppie” just north of the town is christened Naval Hill, a seemingly dull hill’s latent potential is disrupted and exposed.

1890. Bloemfontein has evolved into a small village, but was about to be disrupted again. The arrival of the railway. Another disruption that unearthed the latent potential of a town.

Many years have gone past. Naval Hill returned to its dormant state. That is until December 2012 with the arrival of former Head of State, Nelson Mandela, on the redeveloped Naval Hill, keeping a watchful eye over the city. Another disruption awoke Naval Hill from its dormant state and into the dynamic gallery it now is.

Sitting on the gallery, it becomes apparent that a lot of spaces within the scene of the city have also gone back into their dormant state. One of these is the railway.

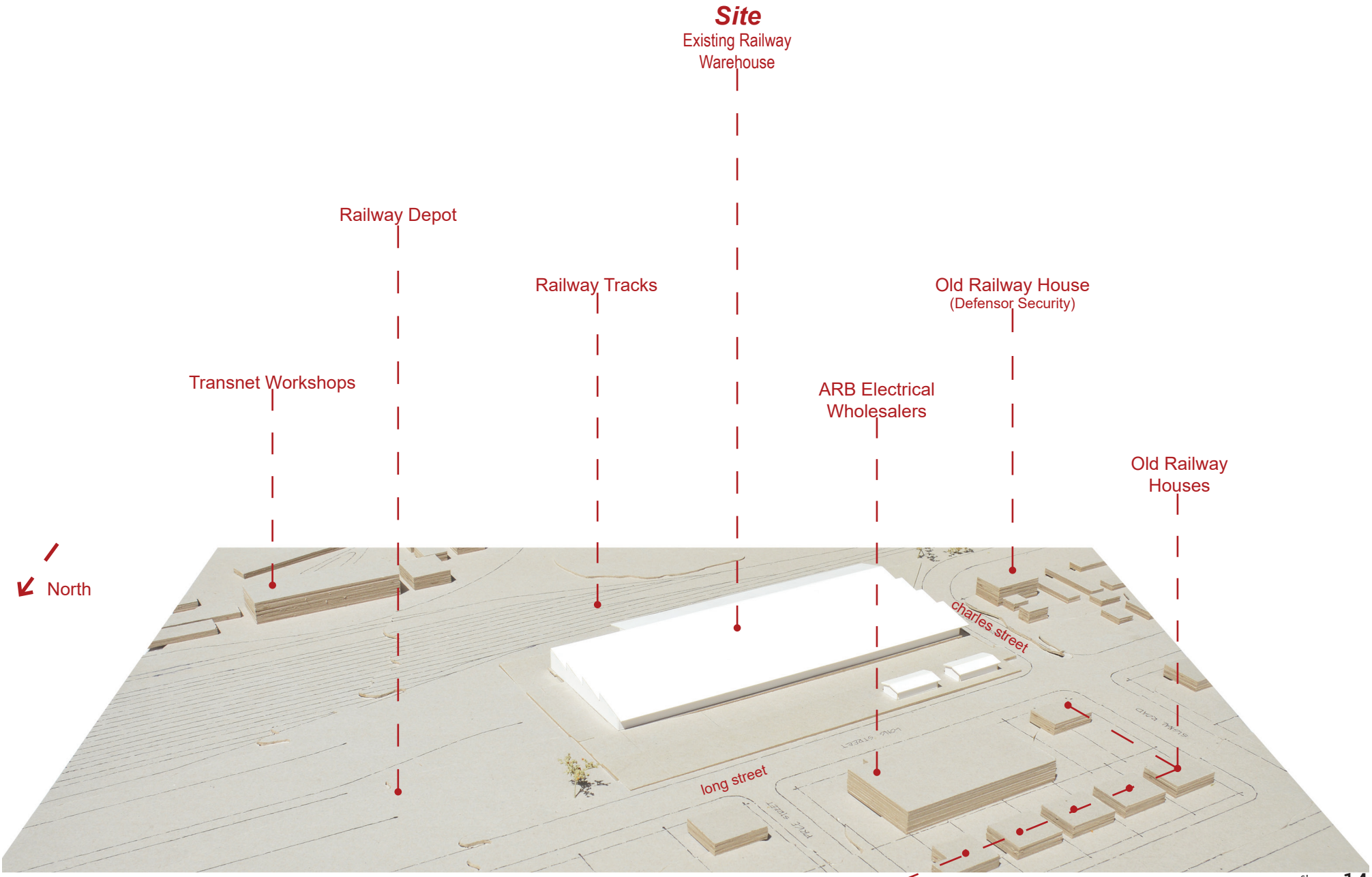


fig. **14**
Exploring the site and its immediate context.

Disrupting a Static Site

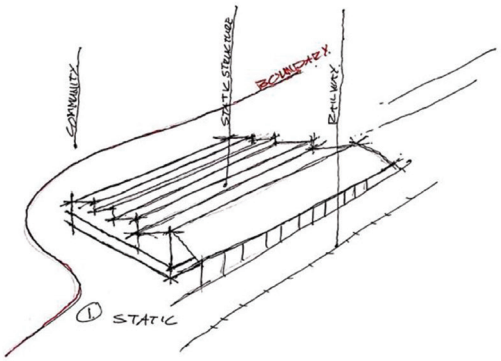


fig. **15**
A static site.

The site is identified as the first unfamiliar within the familiar. In its static stage , its location in terms of the community and the railway has always had the latent potential of becoming a gateway from which the community can find escape. Disruption from within can activate the space.

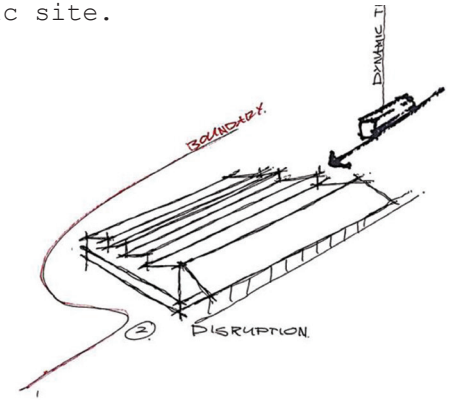


fig. **16**
The presence of the railway as a potential dynamic disruption.

The train is the second unfamiliar within the familiar. The traces of the railway within the site and within the structure allows for it to become the parasite thats been latent over the passt years. The introduction of the train as part of the structure as well as the programme causes a disruption in the static and its potential can be unleashed.

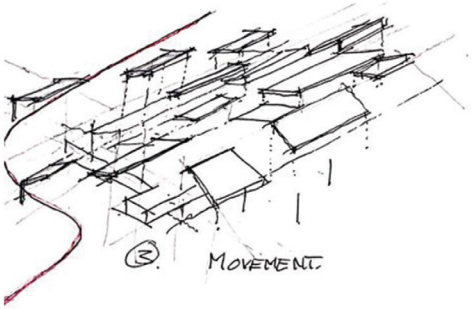


fig. **17**
Disruption from within, the latent potential is set free.

The disruption is not an external force. It is generated through the train that has always been part of the site. It disrupts from within. This disruption challenges the existing structure. The existing roof trusses become a design generator for the project.

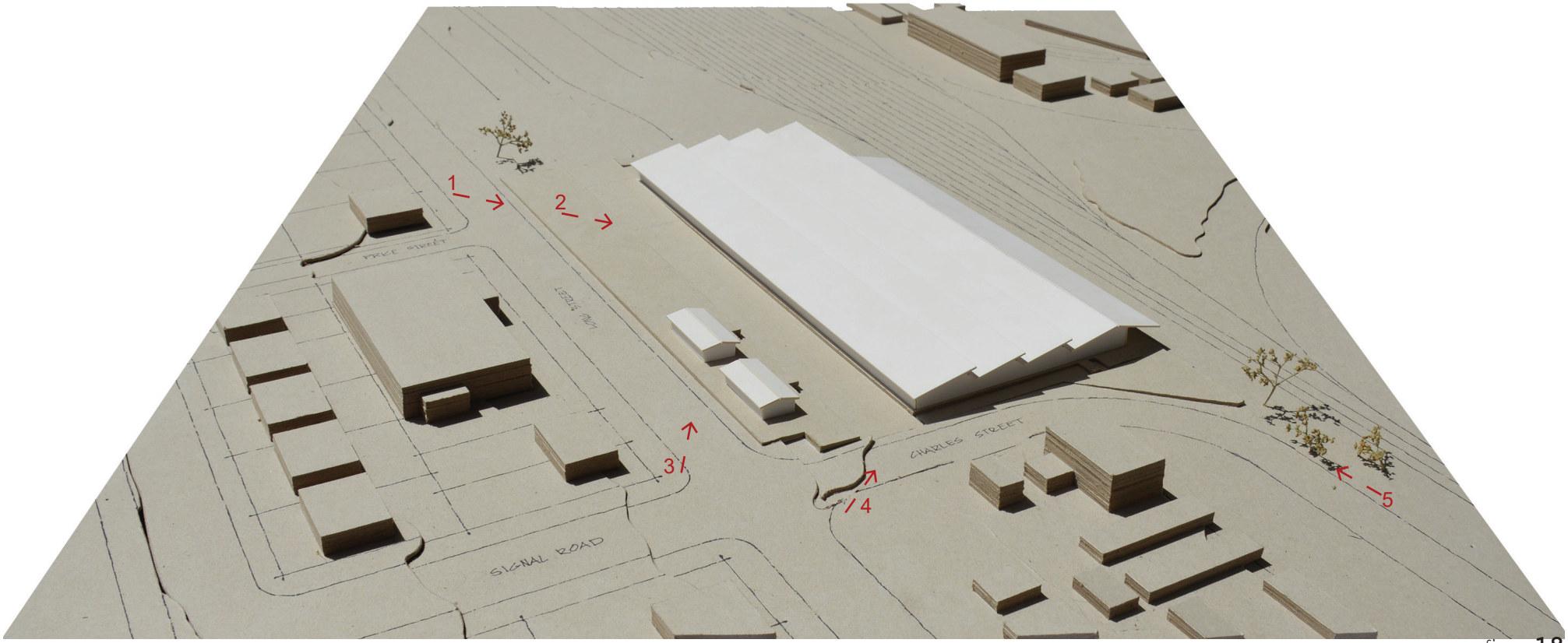


fig. **18**
Understanding the site.

fig. **19**
Site entrance.

fig. **20**
Looking towards the south.

fig. **21**
Street view from Long Street.

fig. **22**
Street view from Charles Street.

fig. **23**
Street view from Charles Street.

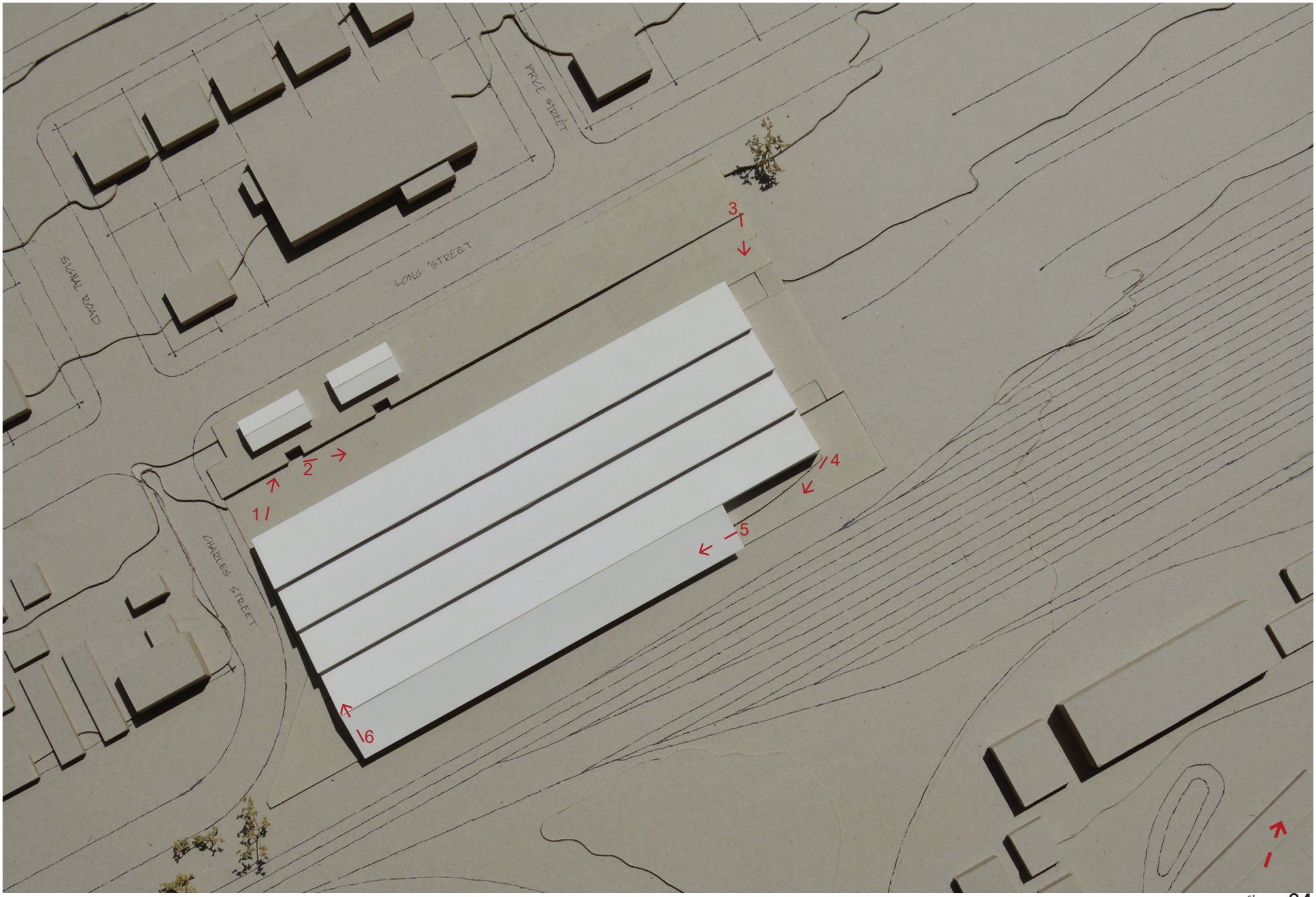


fig. **24**
Understanding the site.

fig. **25**
Existing stairs to admin building.

fig. **26**
North-western facade.

fig. **27**
North-eastern facade.

fig. **30**
Remnants of an old railway line entering the building visible.

fig. **29**
South-eastern facade.

fig. **28**
Part of South-western facade.

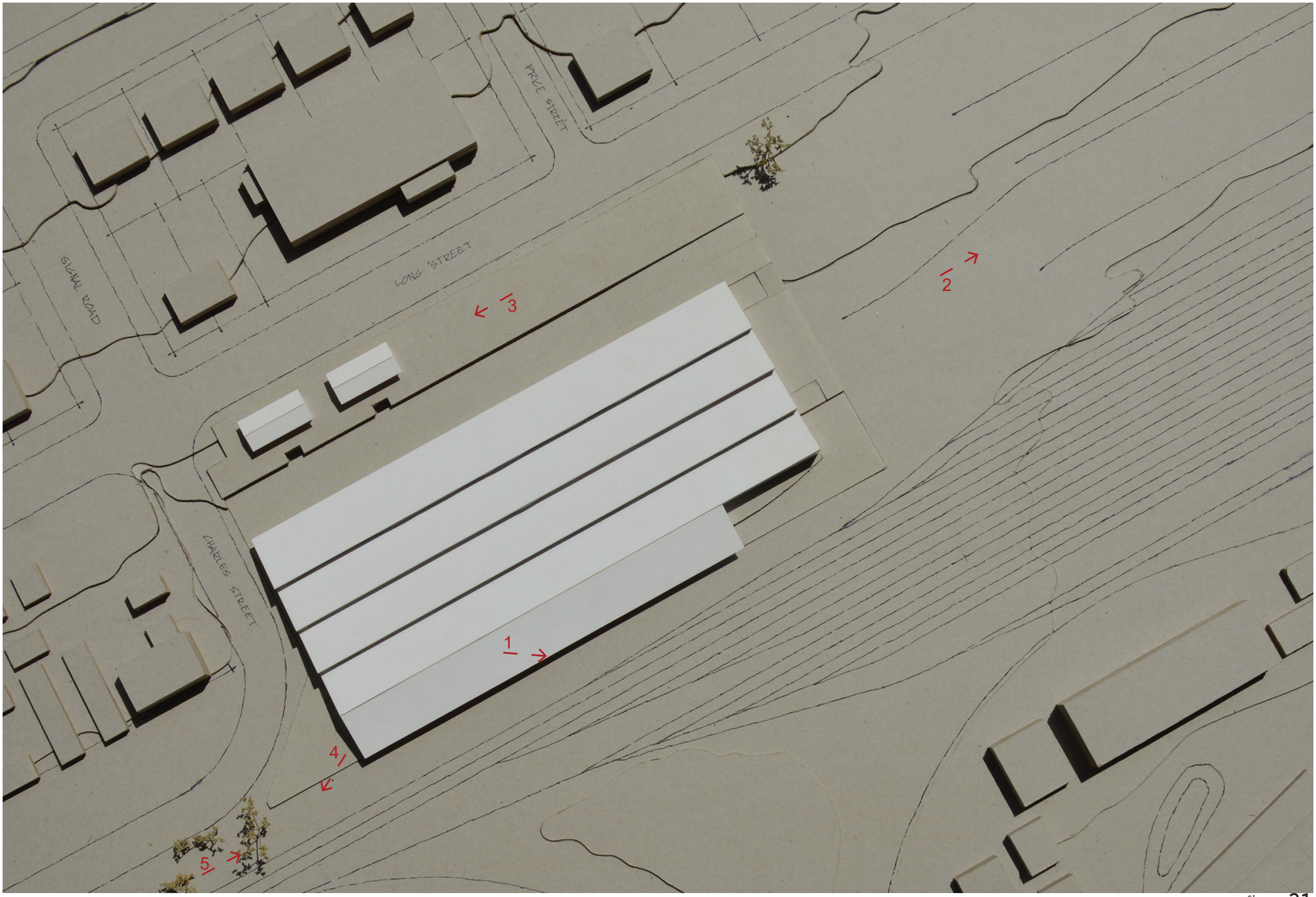


fig. **31**
Understanding the site.

fig. **32**
Railway view from site.

fig. **33**
Railway depot towards North-east.

fig. **34**
Cooling towers seen from site.

fig. **35**
The existing structure & the railway.

fig. **36**
An admin building next to Long Street.

fig. **37**
A view down Long Street.

fig. **38**
Different levels.

fig. **39**
Interior view of existing s

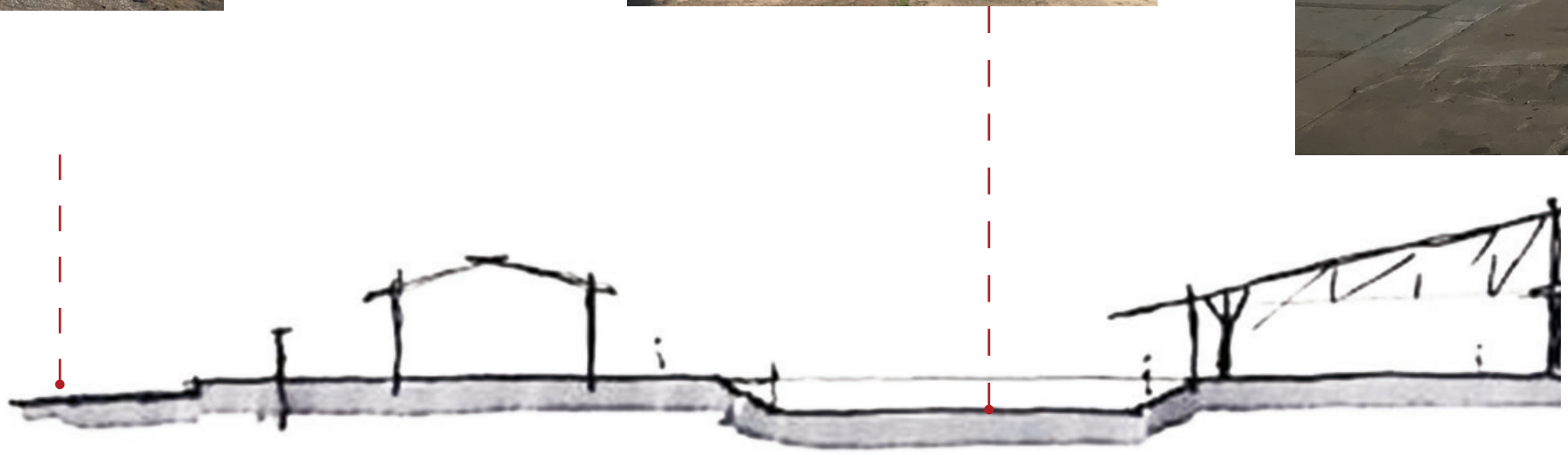


fig. **42**
A section through the site showing the existing structures and level differences.

structure.

fig. **40**
The railway "alley".

fig. **41**
The railway tracks.

CLIENT & BRIEF

03

TRANSNET

The Instigator

Transnet describe themselves as the custodian of ports, rail and pipelines in South Africa. Their objective is to ensure a globally competitive freight system that enable sustained growth and diversification of the country (TFR, 2019: online). Transnet operates as an integrated freight company and is formed around a core of five operating divisions. These five divisions are supported by a number of company-wide specialist units.

Transnet Freight Rail (TFR) describes them self as being proudly placed to dramatically alter the South African rail industry. According to TFR this enable them to play a positive and active role in the transformation of the South African society (TFR, 2019: online).

Transnet Group Capital
Transnet Property
Transnet Foundation

Transnet Freight Rail
Transnet Rail Engineering
Transnet National Ports Authority
Transnet Port Terminals

Weta WORKSHOP

The Accomplice

PORTFOLIO OF WORK INCLUDE...

The Lords of the Rings Trilogy

King Kong

The Chronicles of Narnia

Avatar

District 9

The Adventures of Tintin

Elysium

The Hobbit Trilogy

Weta Workshop is a multi-award winning design studio and physical manufacturing facility based in Miramar, New Zealand. It is a leader in the world's entertainment and creative industries. The company engages in projects from the earliest stages of technical analysis and creative design through to the manufacturing across all departments and final delivery on set to anywhere in the world. Richard Taylor, the Design and Effects Supervisor have more than 27 years of experience. These 27 years include five Oscars.

Weta Workshop is a 60 000 square metre multi-disciplinary facility. Housed under one roof is the equipment infrastructure and capacity to create anything from hand-made weapons, costuming, make-up effects and creature suits through to full scale tanks, aircraft, miniatures of any scale and vehicle construction. Weta workshop also has a 22 person creative design team capable of delivering on a creative brief to bring to life any project to world class standards.

The department encludes:

3D Modelling, Corporate services, Costume and Leatherworking
Consumer Products, Design Studio, Electronics & Animations, Engineering & Metal Shop Hair, Imaging, I.T. Department, Make-Up. Prosthetics and Creatures, Smithy, Sculpting, Tourism, Weapons, Publishing, VIP Visits, Miniatures, Model Making and Props, Molding, Paint Shop

DESIGN STUDIO SERVICES

Weta Workshop's world class Design Studio provides ground breaking conceptual ideas an design for the entertainment and creative industries with a core focus on film, television, gaming, digital assets and themed environments. There large team of highly creative and dynamic concepts artists, art directors and creature designers work hand in hand with the clients across a broad spectrum of design for any project and genre.
Services include:

Key Scene Illustrations
Environments
Fantasy Armour & costume
Weapons – Hand Weapons
Fantasy & Historical Props
Character & Creature Design
Science Fiction Armour & Costume
Weapons – Guns & Armaments
Science Fictions Props & Tech
Vehicles, Ships, Mechs
Graphics, Logos & Heraldry

MANUFACTURING SERVICES

Manufacturing services
Utilising traditional handcraft skills within their blacksmith and leather studios through the most cutting edge hi-tech 3D milling, printing and laser cutting technologies, they can deliver any genre of armour and costume from a single outfit to equipping entire armies.
Services include
Fantasy Armour & Costume
Plate & Chain Armour
Leather Armour
Shields
Sci-fi Armour & Costume

MEDIA PRODUCTION SERVICES

Weta Workshop provides a range of creative and technical services for the publicity and the marketing of film, television and online properties. An experience and talented team is able to capture all facets of the filmmaking process. The team includes storytellers, camera folk, editors, producers, motion graphic artists, animators and personnel experienced in the world of virtual reality. From pre-production to release, they combine stories visuals and sound for a complete audience experience.

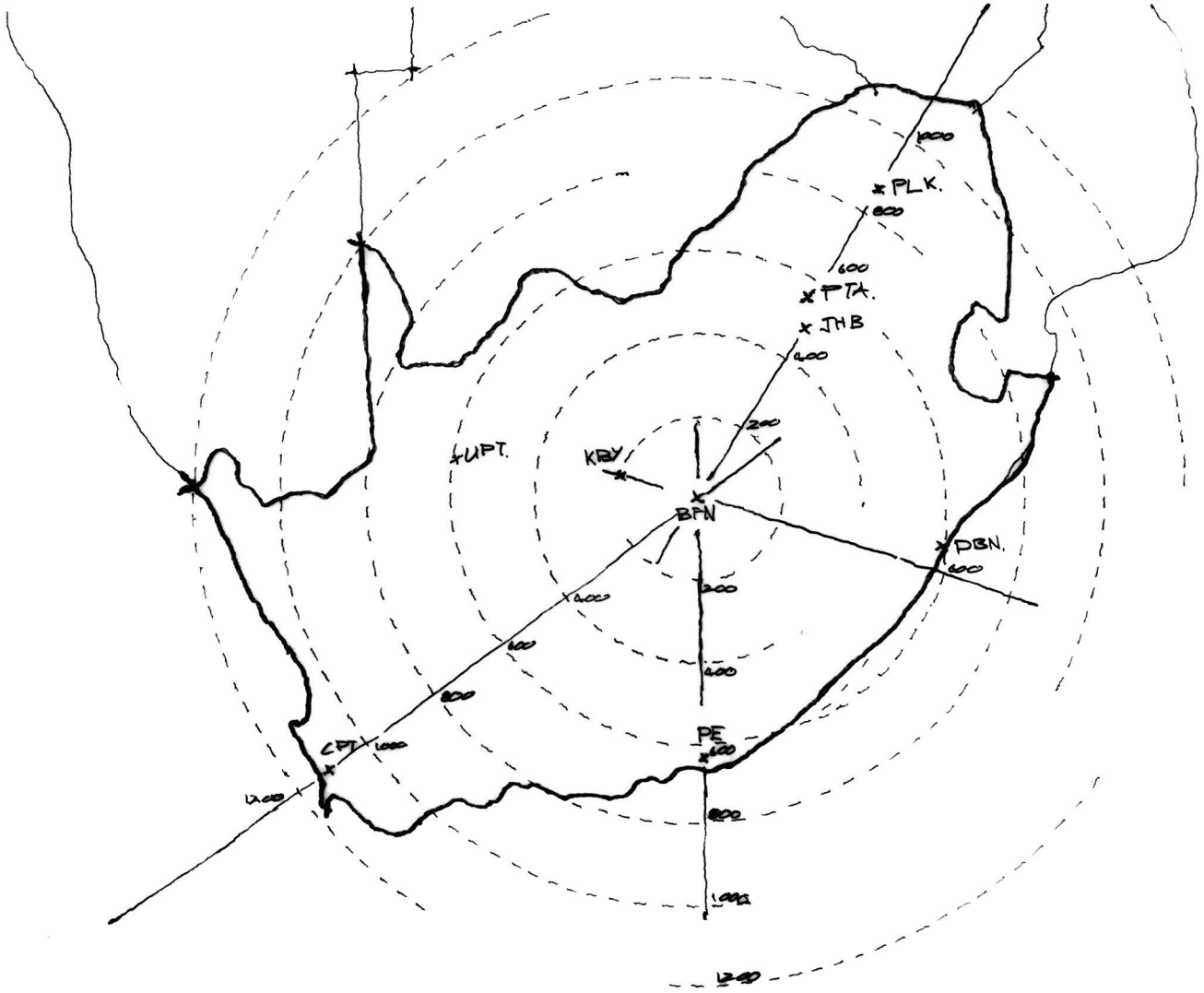


fig. **43**
Bloemfontein in relation to the rest of South Africa.

BRIEF

The development of the railway system across South Africa led to the existence of many communities that was directly dependant on the railway. With the demise of the railway system, many of these communities have been left behind, forgotten and marginalised. Transnet Freight Rail acknowledges this history and aims to take back their social responsibility towards the South African railway community, as well as the general public. Together with the Transnet Foundation, they have identified Hilton as a struggling railway community in need of upliftment. The project aims to employ the skills that are already present in the community and provide the opportunity to further develop these skills. As an industrial community, most of them are skilled in craftsmanship.

Weta Workshop, the New Zealand based company, is aiming to expand their skill to Africa. South Africa has been identified as a country with a rapidly growing film industry. South Africa's wide array of biomes and diverse landscapes also offers the opportunity to film in nearly any location without any serious travel implications. Bloemfontein has been identified as a central node within the country. Weta has also been looking at alternative methods of transporting their sets. The extensive latent railway network present in Bloemfontein offers to opportunity to incorporate the transport direct into their manufacturing facility.

Together, these three institutions aim to mobilise the railway network to accomplish their objectives. This will be done through the design of a set design studio and manufacturing facility. The site, which is located within the Bloemfontein railway depot, offers immediate access to the railway, allowing Weta to transport their sets anywhere in the country. Transnet Freight Rail will provide the necessary railway infrastructure. Weta in return provides job opportunities for the community. The workshops make use of the craftsmanship within the area. The wide scope of work that Weta deals with, also allows for the opportunity of skills transfer. The Transnet Foundation aims to use this opportunity to empower communities through the power of film
The building requires an administration area, workshops and platforms for public engagement.

CONCEPTUAL EXPLORATION

04

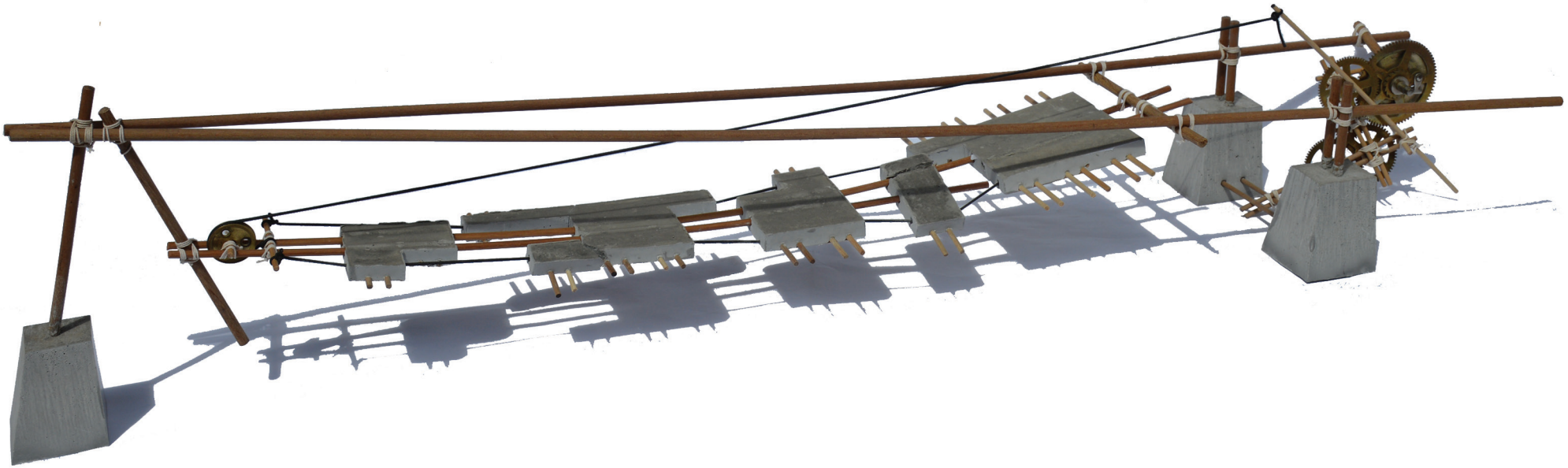


fig. **44**
The touchstone: A mechanism used to pull boundaries apart.

TOUCHSTONE

The First Form of Interrogation

This is a mechanism used to pull boundaries apart. It is inspired by the dynamic nature of trains and films, with specific reference to how it is achieved. As a static object, the train only achieves motion once a mechanism is activated. Film in turn, is a series of static moments which only becomes dynamic once these static moments are consecutively forced through a mechanism.

The two footings at the back represent the train and film. Between them they share a mechanism. If this mechanism is used in conjunction with the community, which is represented by the front footing, it is able to disrupt the static island hanging in the in-between.

In order to create this disruption, the train, the film and the community have to work together and each employ their own unique set of skills and/or characteristics.

fig. **45**
The gears of a mechanism: The gears can’t operate as singularities, only in unison.

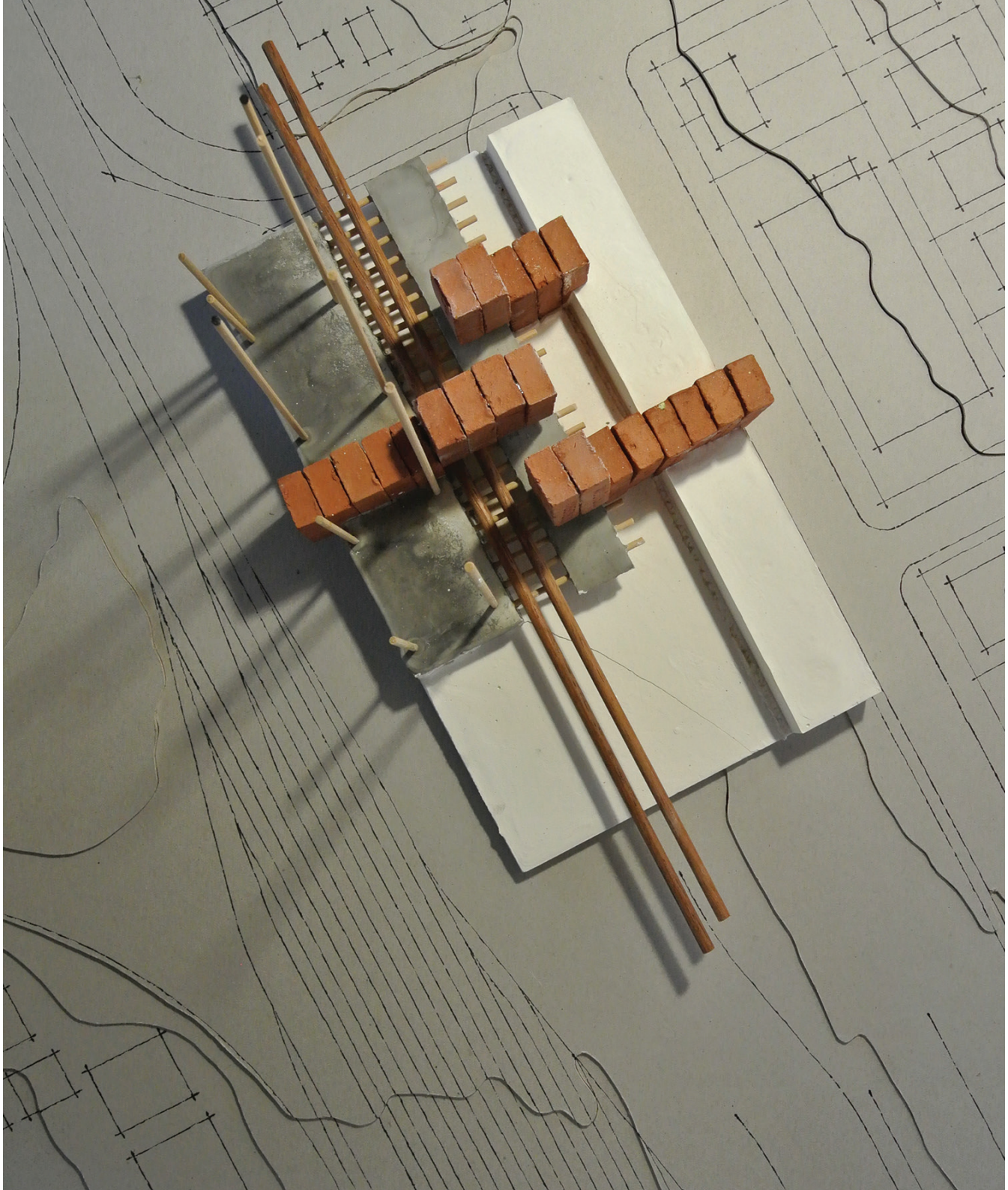


fig. **46**
Concept 01: The Lock

THE LOCK

Concept 01

The first concept explores another mechanism, the lock. A lock has the ability to open or close a space. In order to unlock it, the key has to cause a disruption of the pins on the inside. When all the pins are aligned, only then the lock is opened. It is a disruption of the static.

In a conceptual approach, the site and its existing building becomes a gateway. If it is unlocked, it has the potential to free the community. The train is the missing key that has to be reintroduced. In the mean time, architecture becomes the locksmith who picks the lock. The locksmith has to disrupt the pins from within and align them in order to unlock this mechanical assemblage and in turn unlock the community.

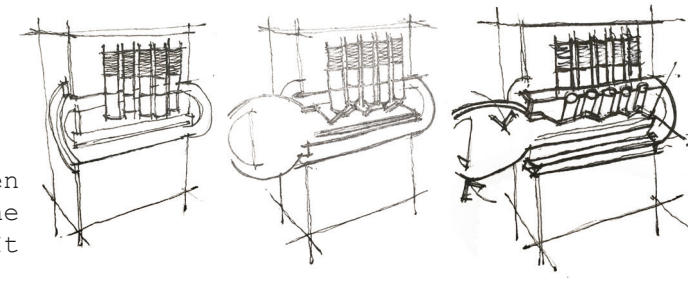


fig. **48**
Understanding a lock: Allignment of pins.

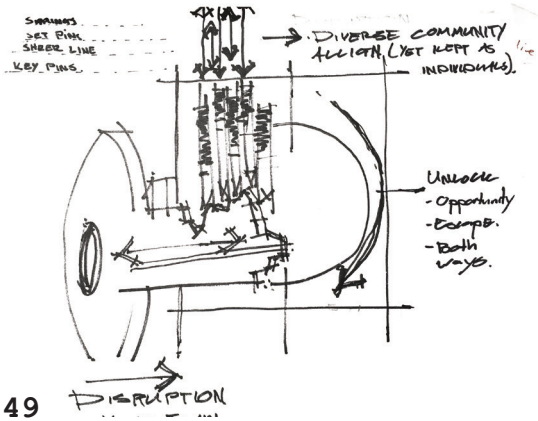


fig. **49**
Key as internal disruption.

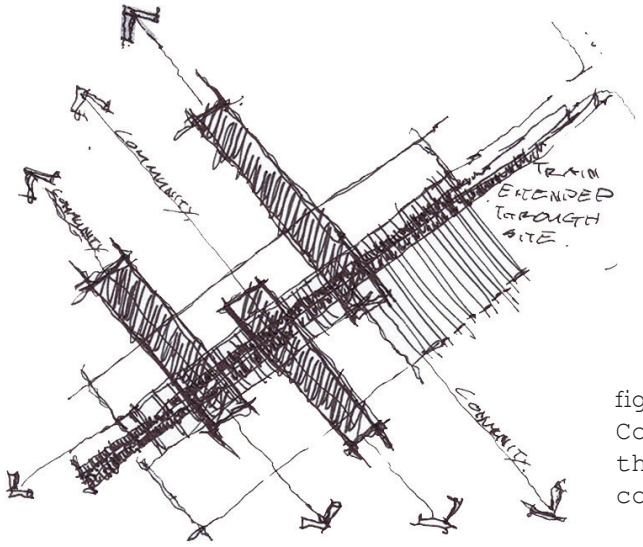


fig. **47**
Conceptual sketch illustrating the site as the lock, the railway as the key & the community as the pins that has to allign.

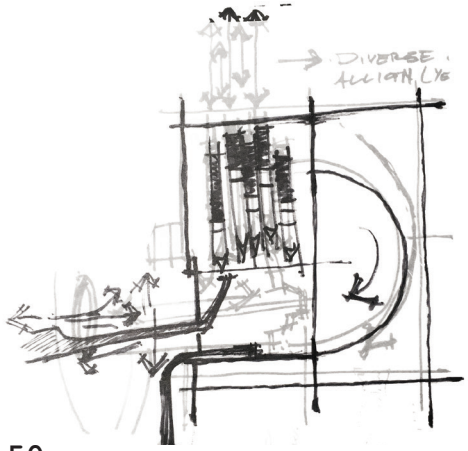


fig. **50**
The locksmith as internal disruption.

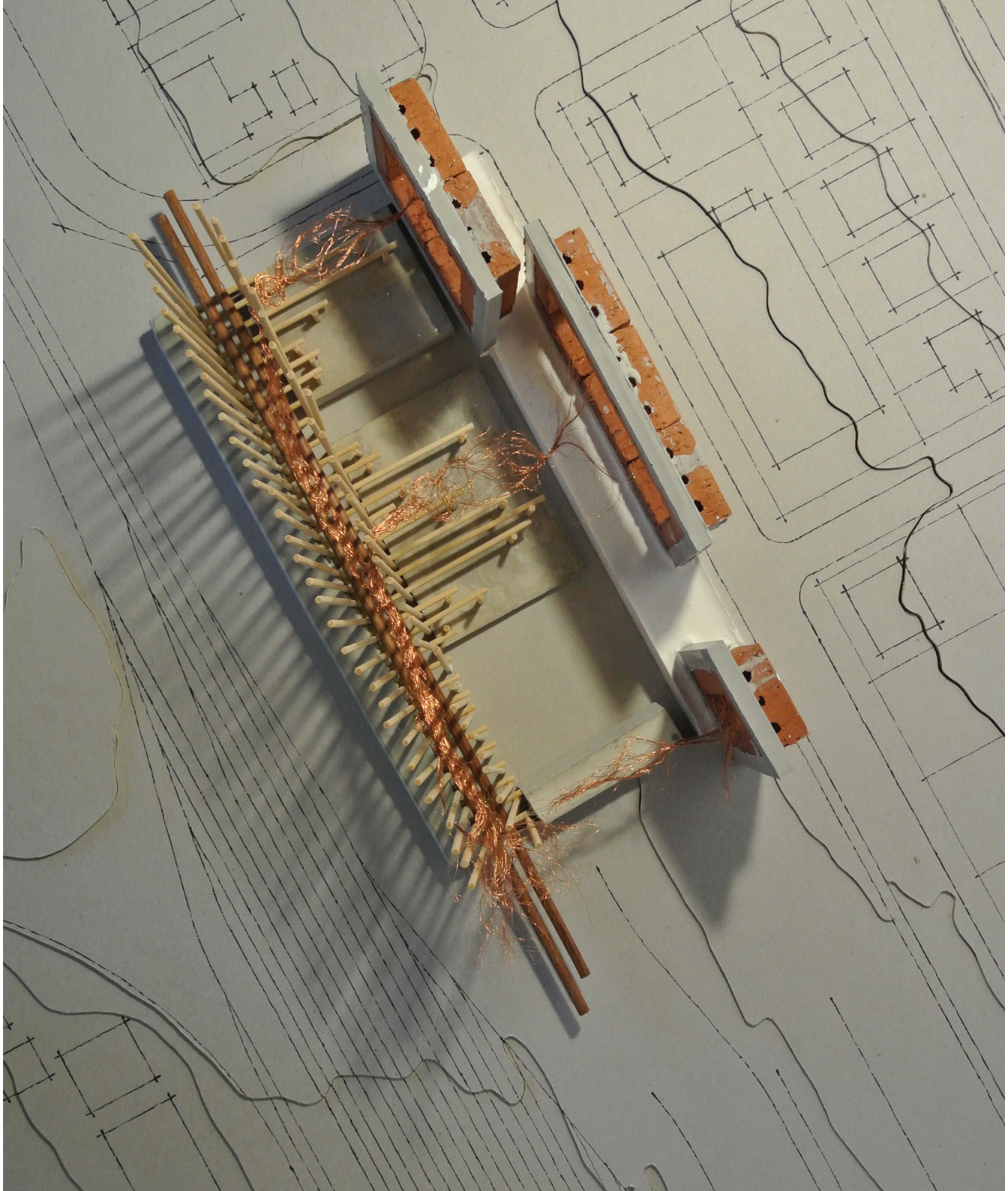


fig. **51**
Concept 02: Billboards & Posters

BILLBOARDS AND POSTERS

Concept 02

This concept explores the relationship between the billboard and the poster. The function of billboards is to put something on display. Movie posters however never reveal the whole plot. It's suggestive and creates curiosity. It invites you in to explore further.

Set construction usually happens behind the scenes, in the backstage. The concept challenges this notion through the idea of the billboard. This would allow the backstage to become as important as the end product. With that, the building itself becomes a theatre, a heterotopia of juxtaposition, as place of temporary escape. It also allows the community to gain importance through the display of their skill.At the same time, the contribution of the poster creates curiosity and invites you in to explore and experience the other theatres the building has to offer.

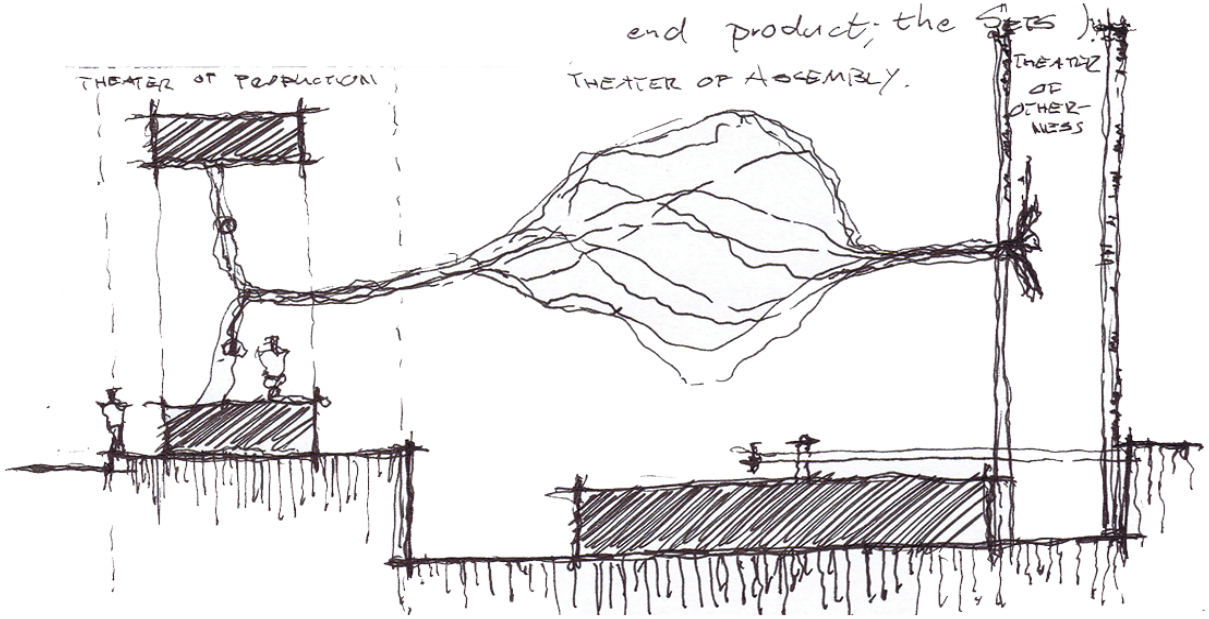


fig. **52**
Concept sketch exploring the building as a series of theatres:

-The theatre of production.
-The theatre of Assembly.
-The theatre of otherness.

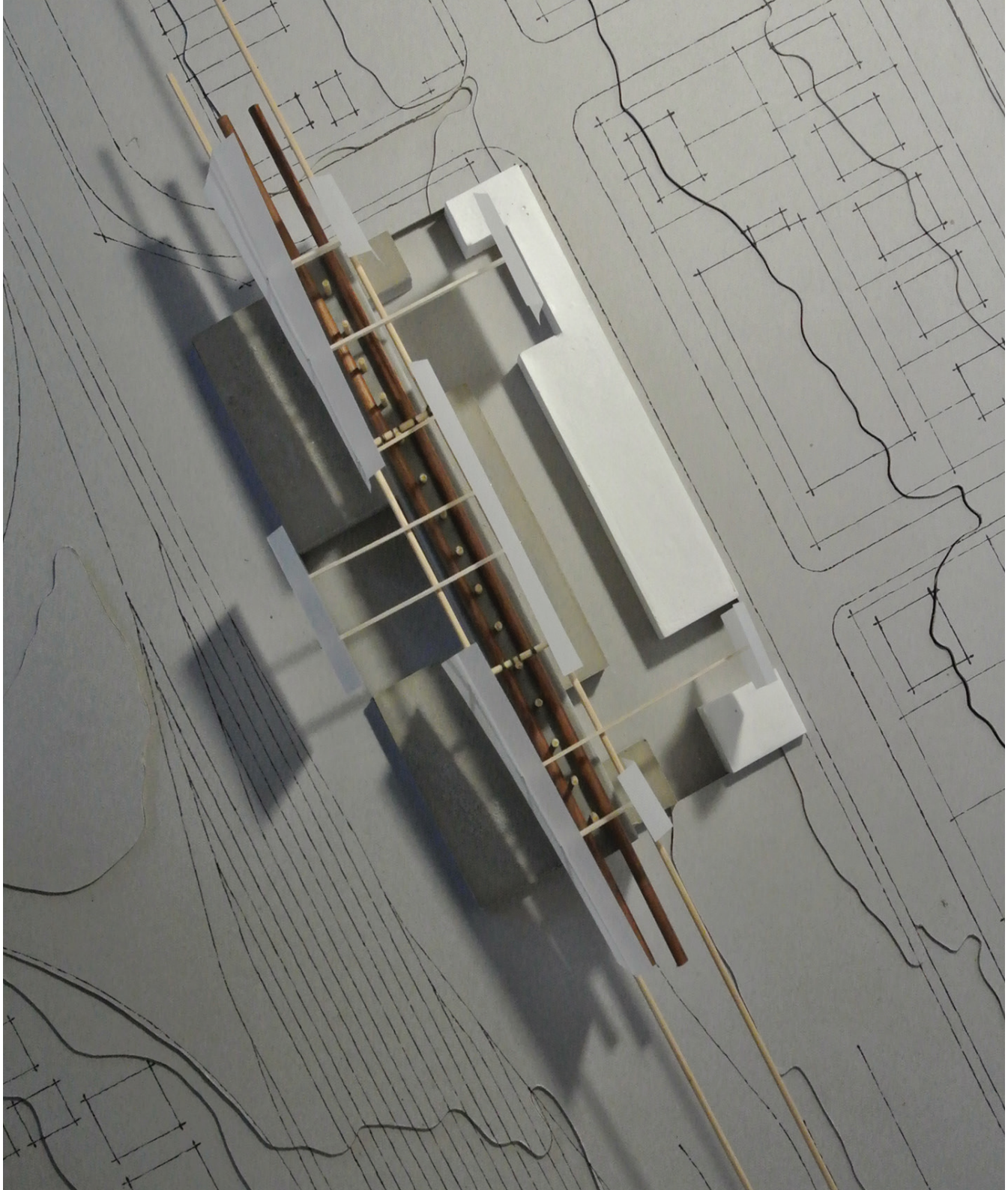


fig. **53**
Concept 03: The Portal

THE PORTAL

Concept 03

The third concept explores the building as an extension of the train. As discussed earlier in chapter two, Foucault regarded the boat as the ultimate heterotopia. However, even bounded to the track, the train comes in close second. This heterotopian quality offers the opportunity of otherness. The building as an extension of this otherness the train has to offer becomes a temporary escape from the immediate context and its challenges. The building becomes a portal to another/other place. The morphology of the concept came as a result of the disruption of a train.

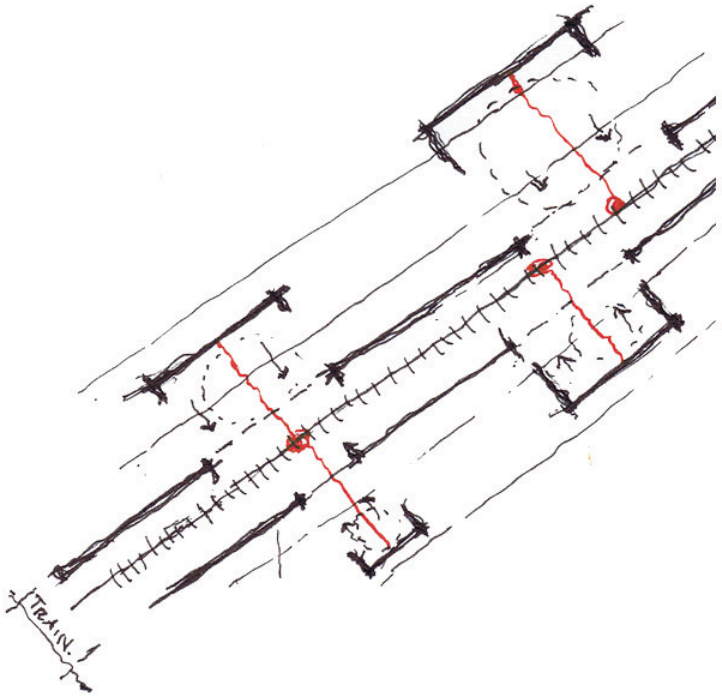


fig. **54**
Conceptual sketch illustrating the disruption of train spatiality into the community to create spaces of otherness.

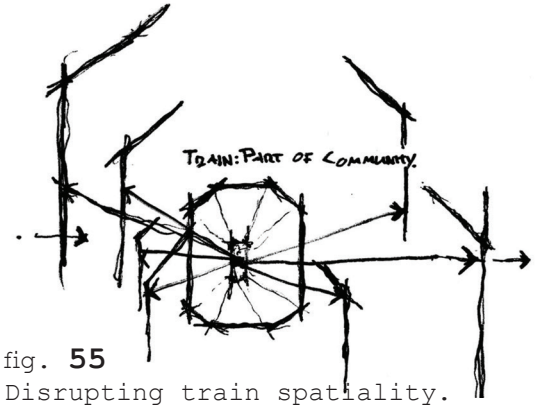


fig. **55**
Disrupting train spatiality.

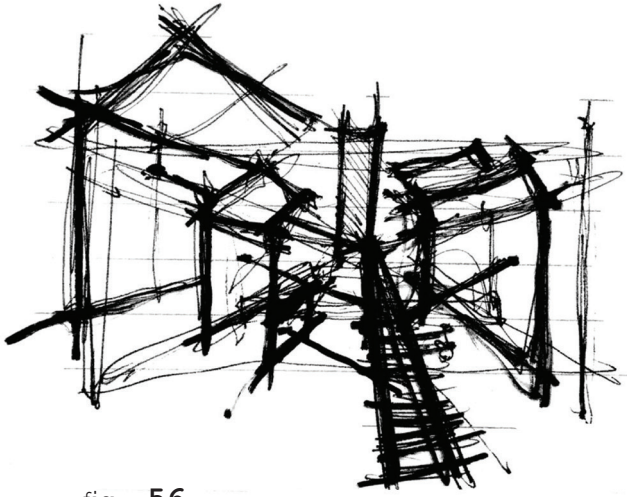


fig. **56**
"Otherness" extends into community.

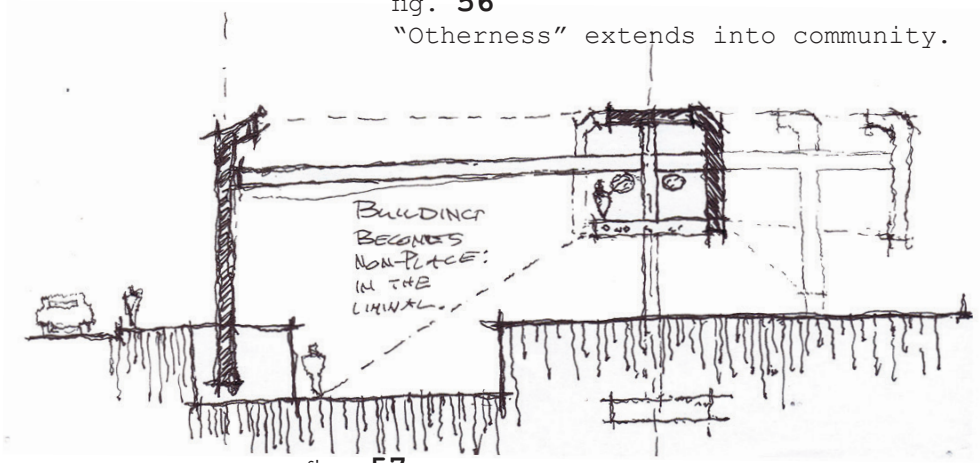


fig. **57**
Conceptual section: building creates spaces of otherness.

DESIGN DEVELOPMENT

05

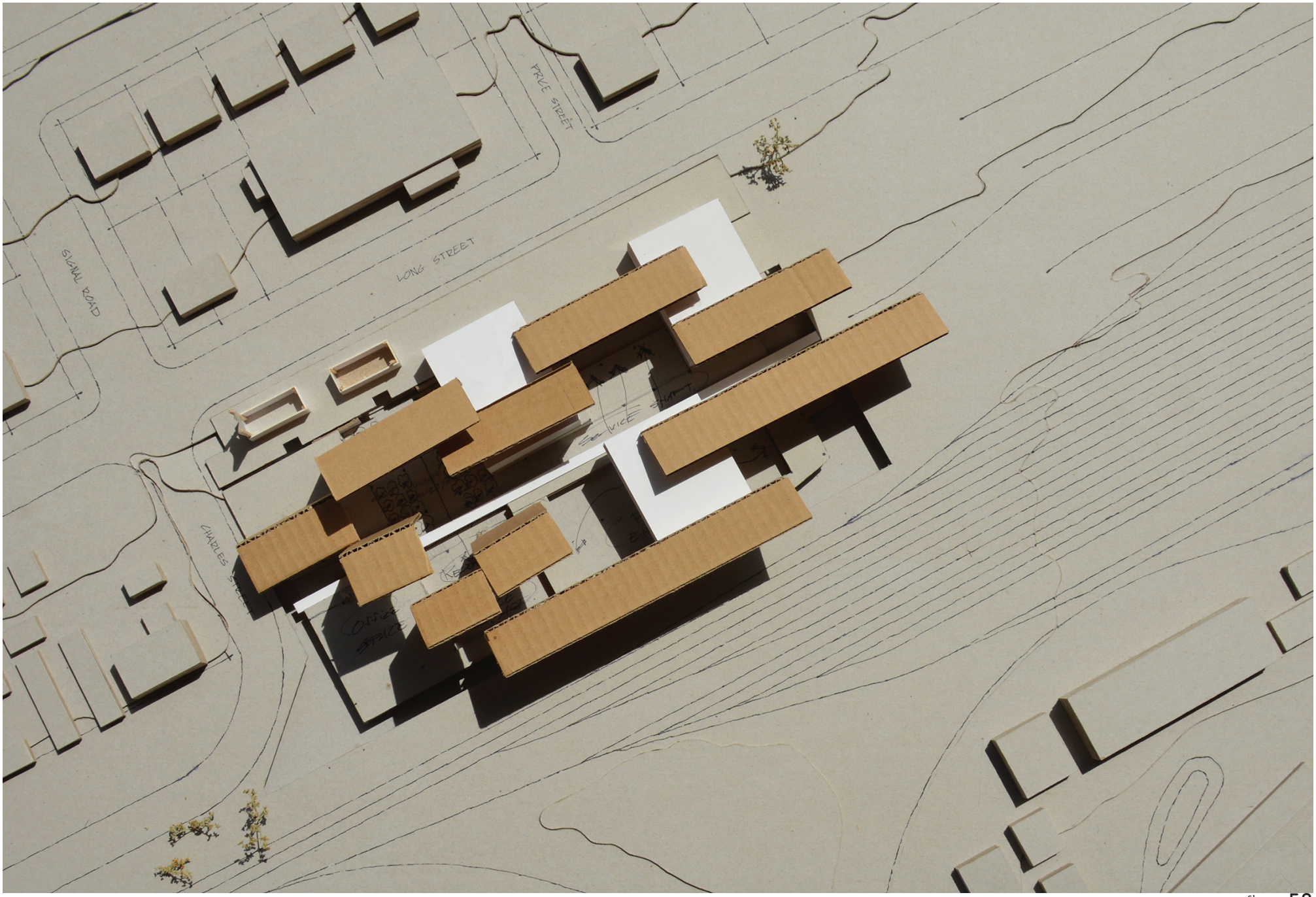


fig. **58**
Top view of first design approach.

FIRST APPROACH

fig. **59**
Northern perspective of design 01.

fig. **60**
South-eastern perspective of design 01.

fig. **61**
Plan: Design 01

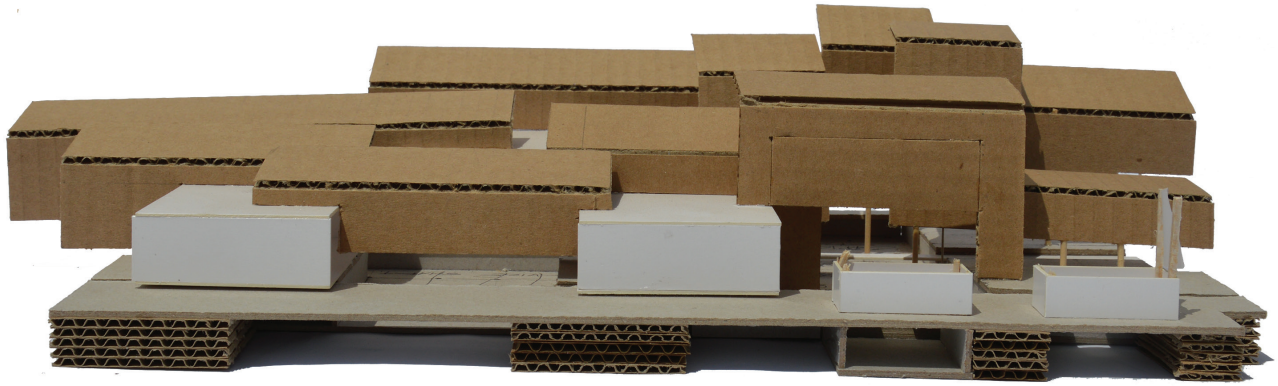


fig. **62**
North-western Elevation.

fig. **63**
South-western Elevation.

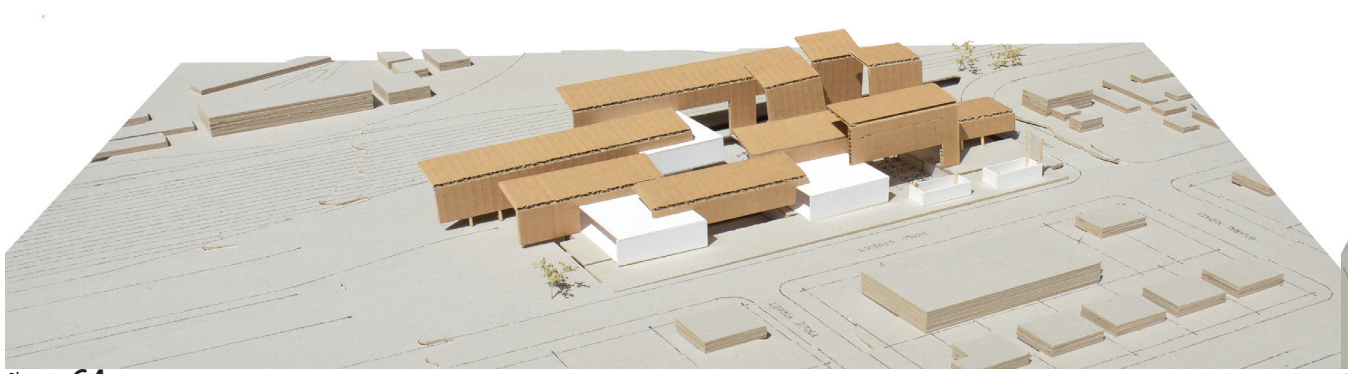


fig. **64**
Bird’s eye view from the north.

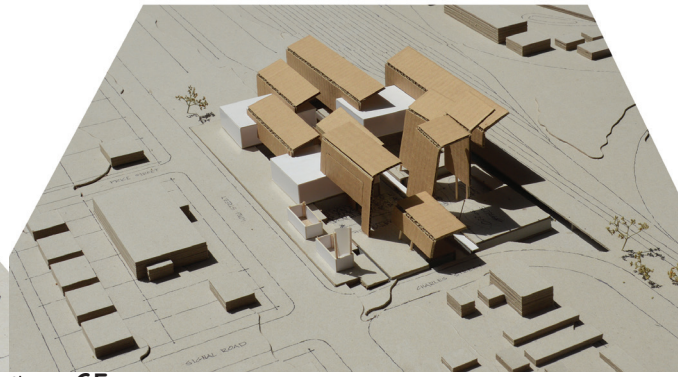


fig. **65**
Bird’s eye view from the west.

fig. **66**
Section through existing.

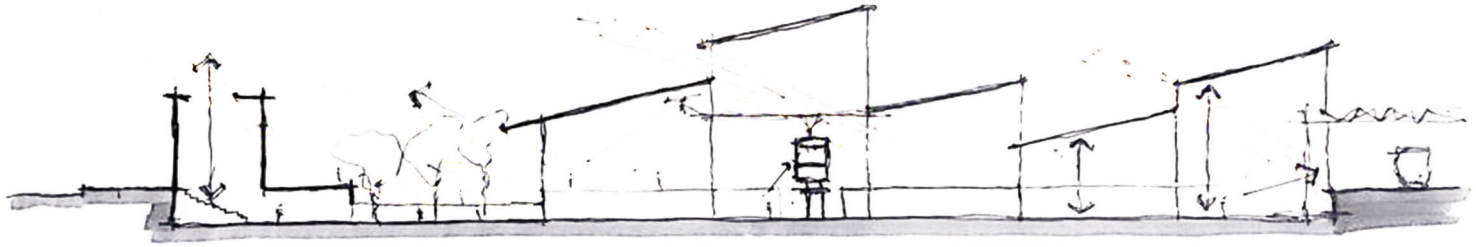


fig. **67**
Sectional exploration 01

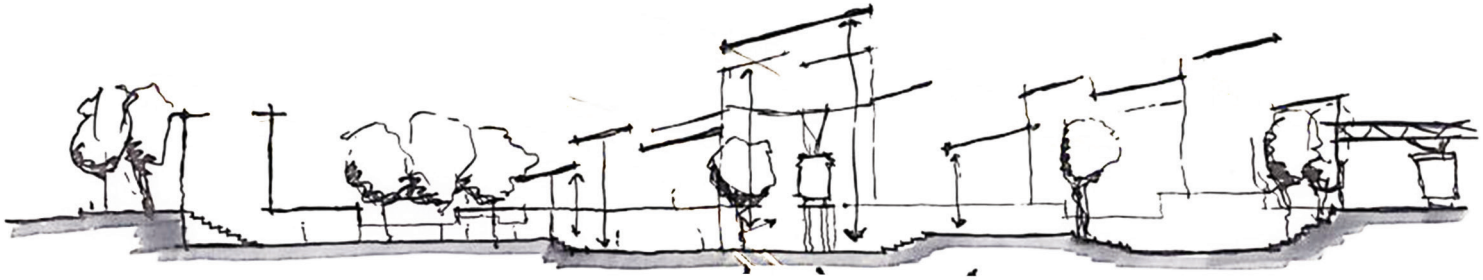


fig. **68**
Sectional exploration 02.

fig. **69**
Sectional exploration 03.

SECOND APPROACH

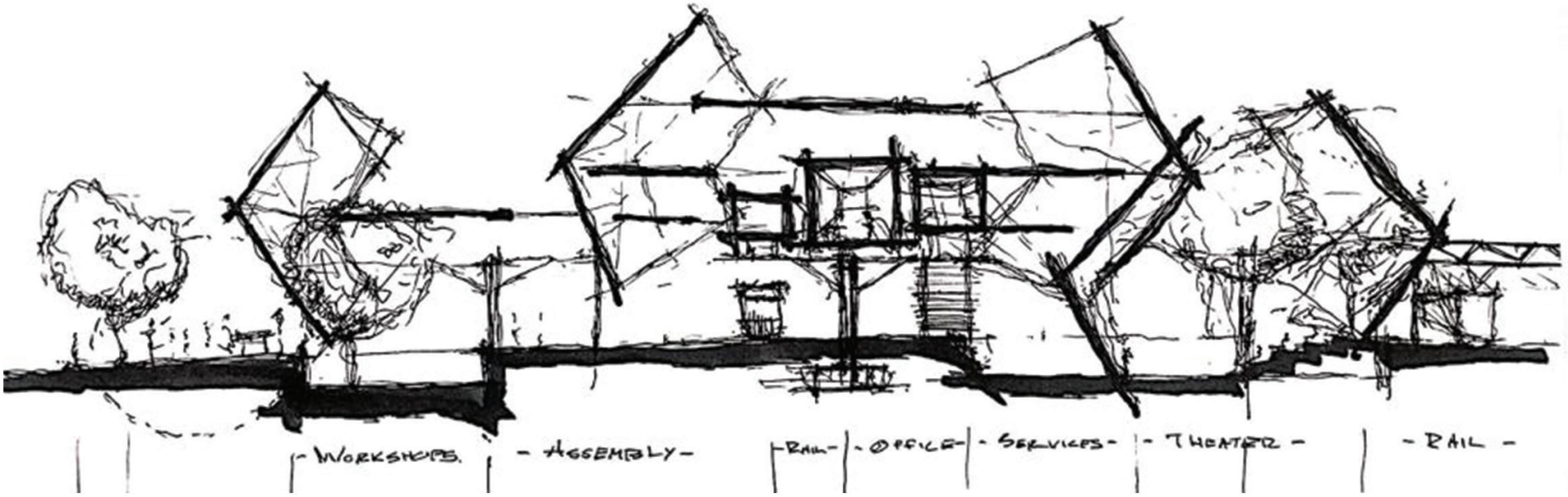


fig. **70**
Sectional exploration 04.

fig. **71**
Top view of second design approach.

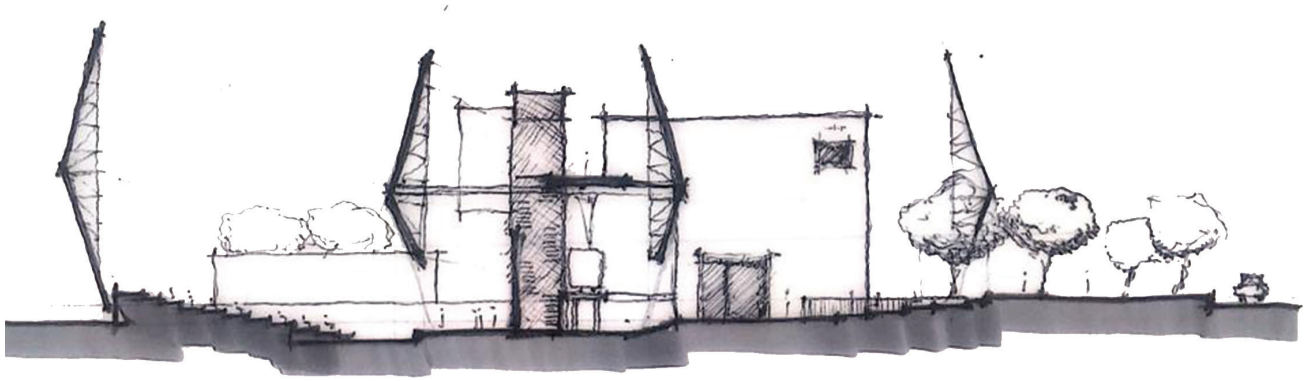


fig. **72**
Section exploring different spaces defined by re-used trusses.

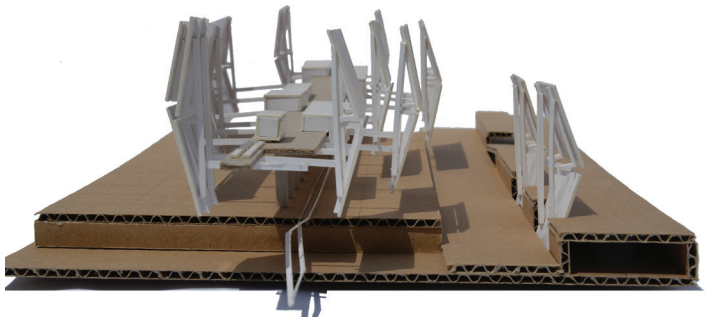


fig. **73**
South-western Elevation.

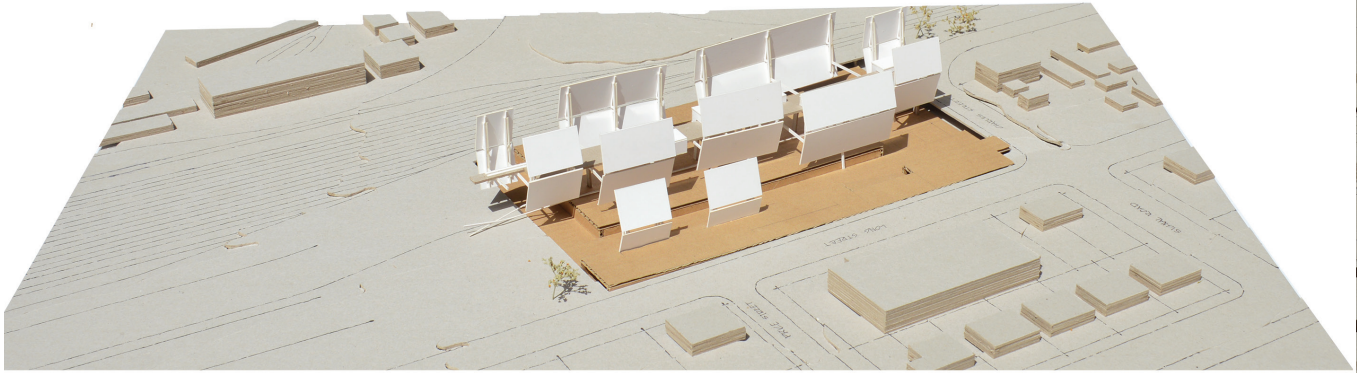


fig. **74**
Bird's eye view from the north.

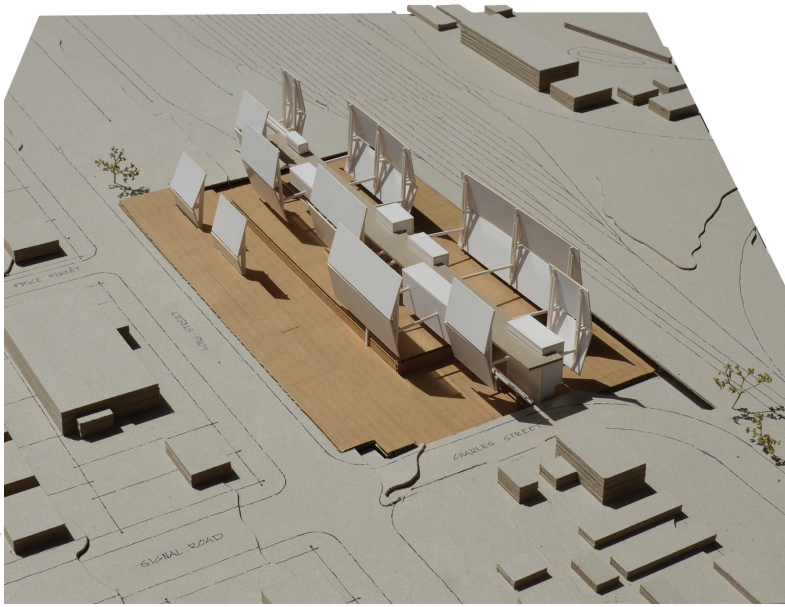


fig. **75**
Bird's eye view from the south.

fig. **76**
Top view of third design approach.

STAGE ONE

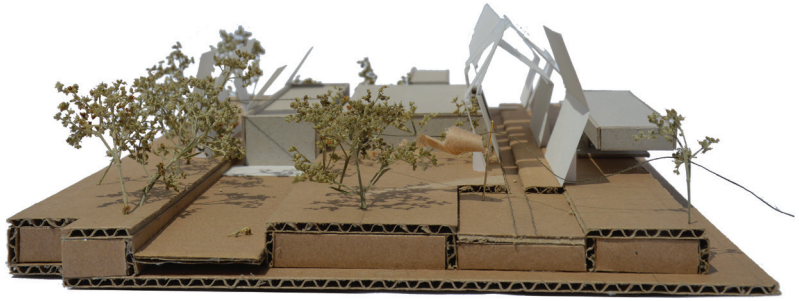


fig. **77**
South-western Elevation.

fig. **78**
North-western Elevation.

fig. **79**
Bird’s eye view from the west.

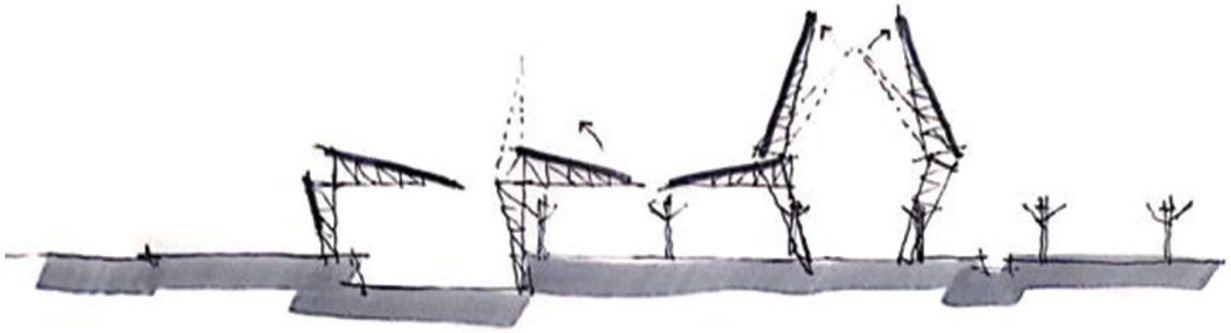


fig. **80**
Roof truss configuration exploration.

fig. **81**
Roof truss configuration exploration.

fig. **82**
Roof truss configuration exploration.

fig. **83**
Top view of fourth design approach.

STAGE TWO

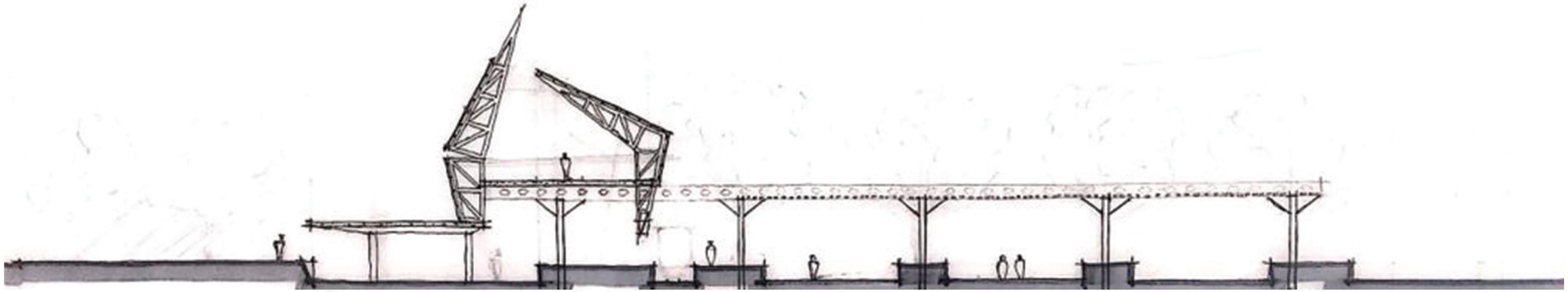


fig. **84**
Section 01

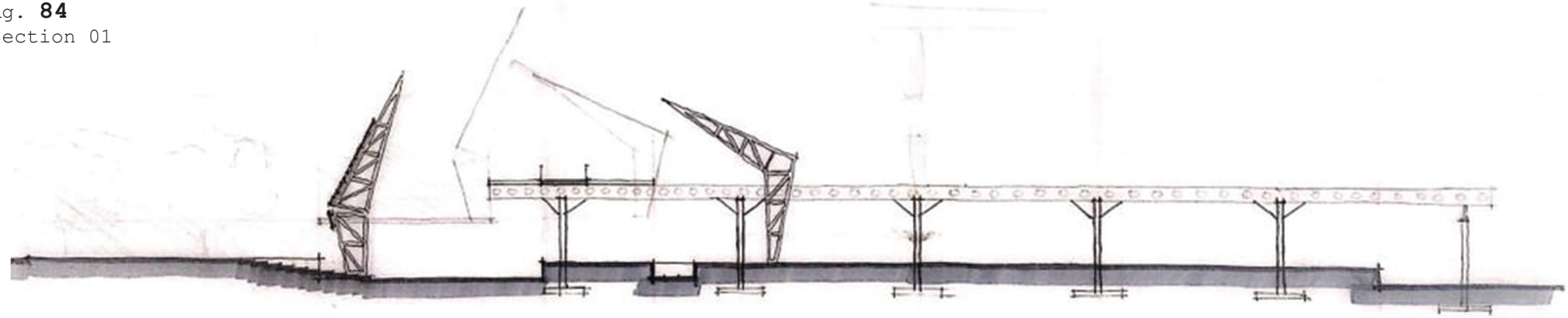


fig. **85**
Section 02

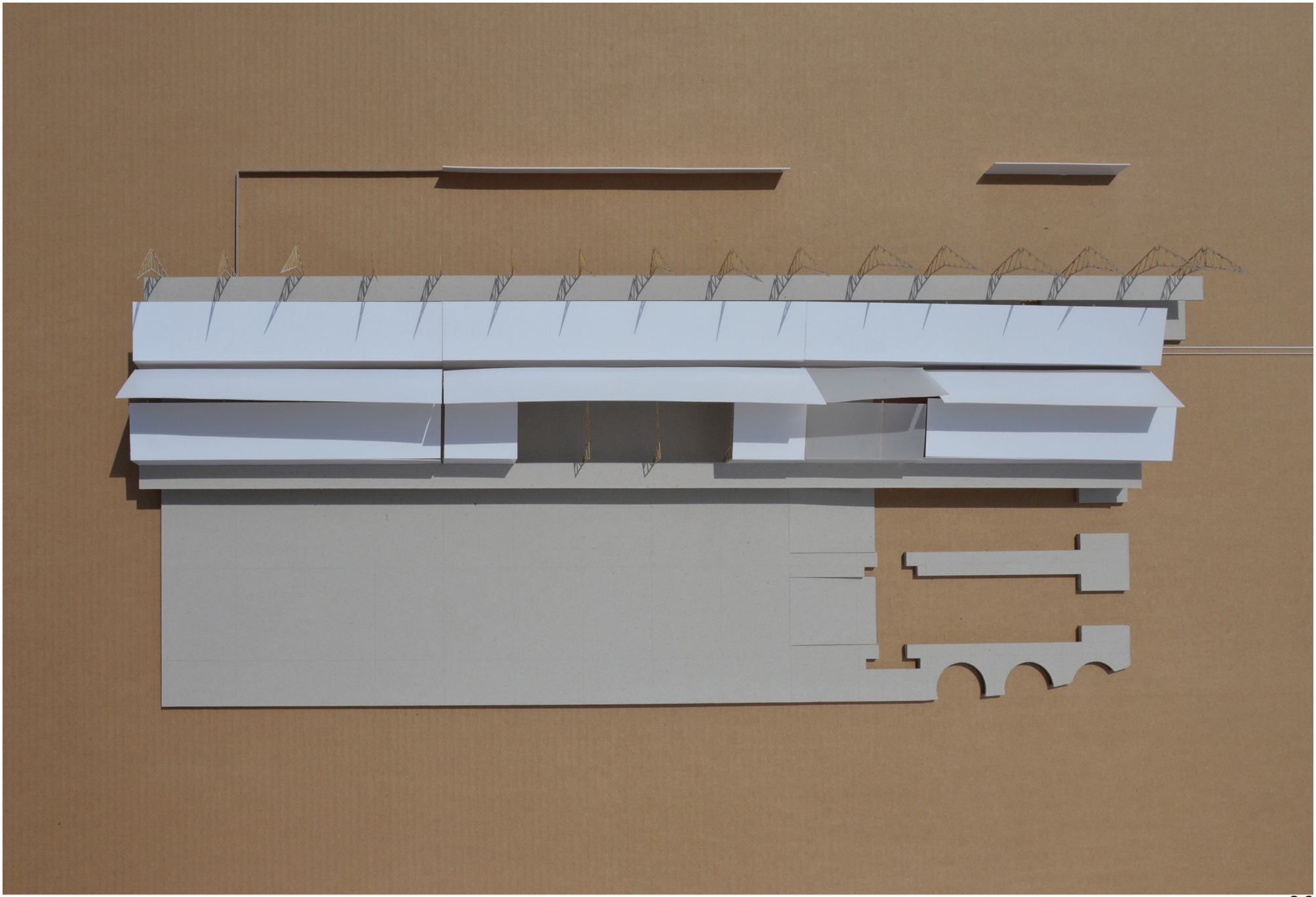


fig. **86**
Top view of fifth design approach.

STAGE TWO

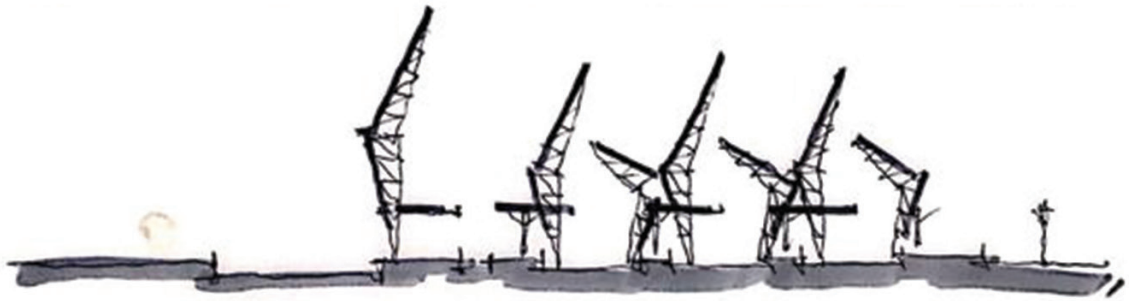


fig. **87**
Section 01

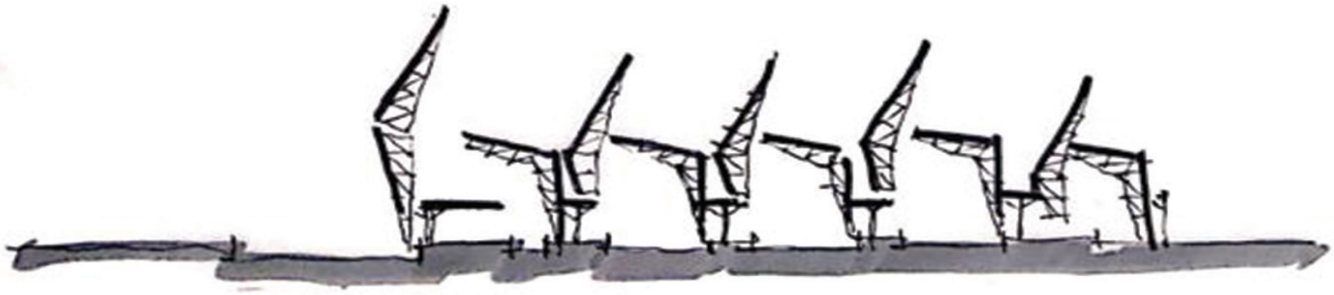


fig. **88**
Section 02

fig. **89**
Section 03

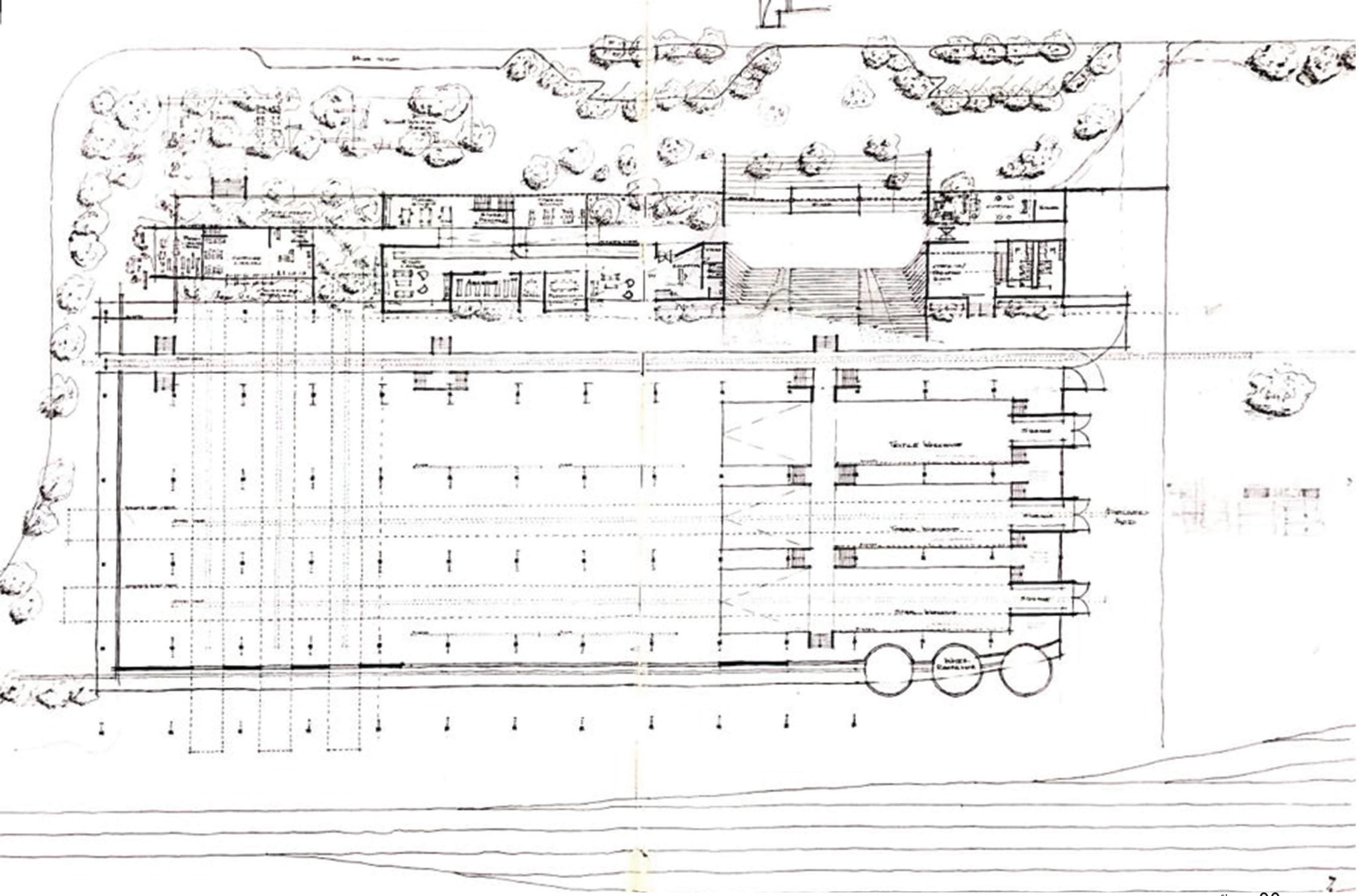


fig. **90**
Plan | Ground Floor

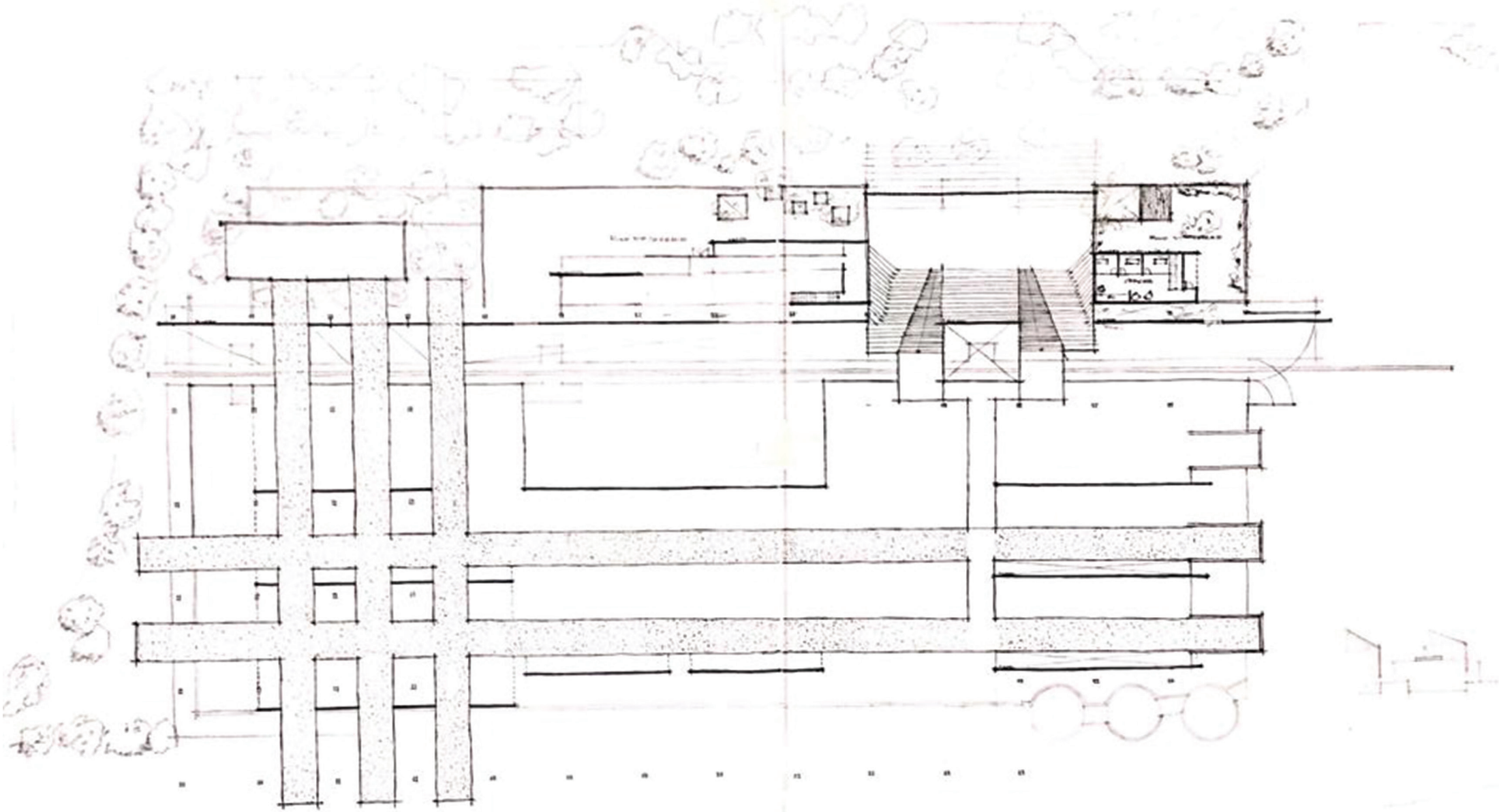


fig. **91**
Plan | First Floor

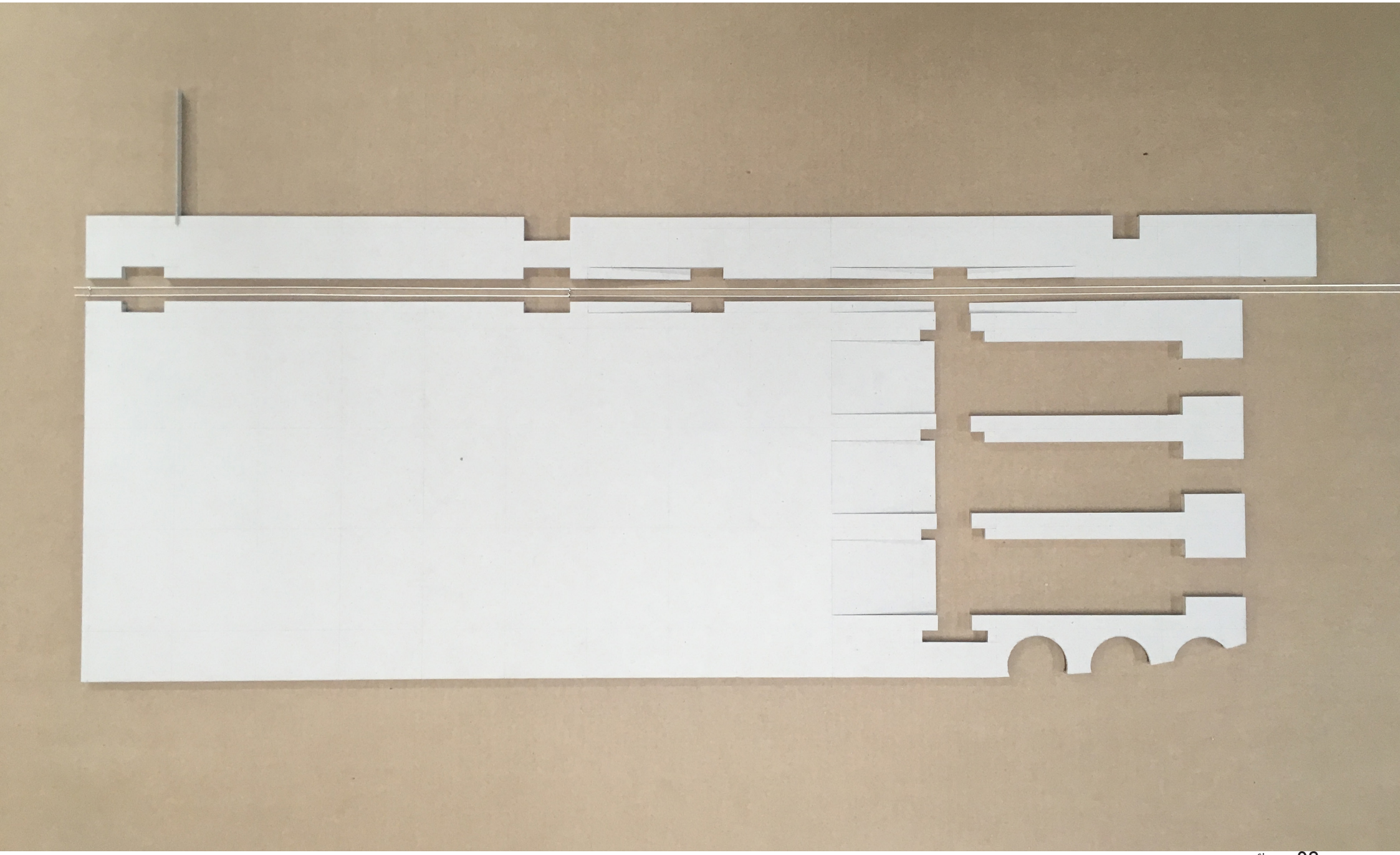


fig. **92**
"Plinth" Level

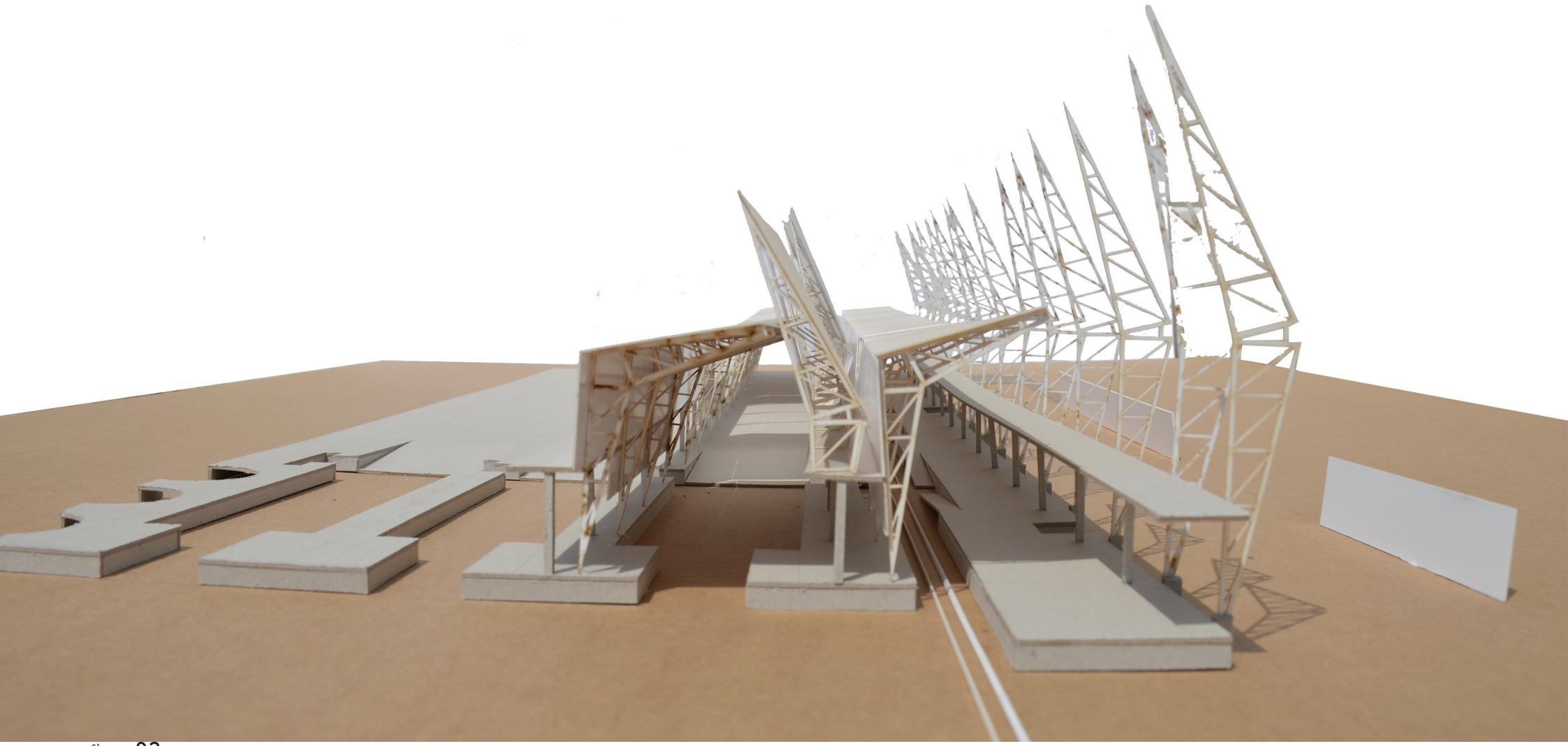


fig. **93**
North-eastern Elevation.

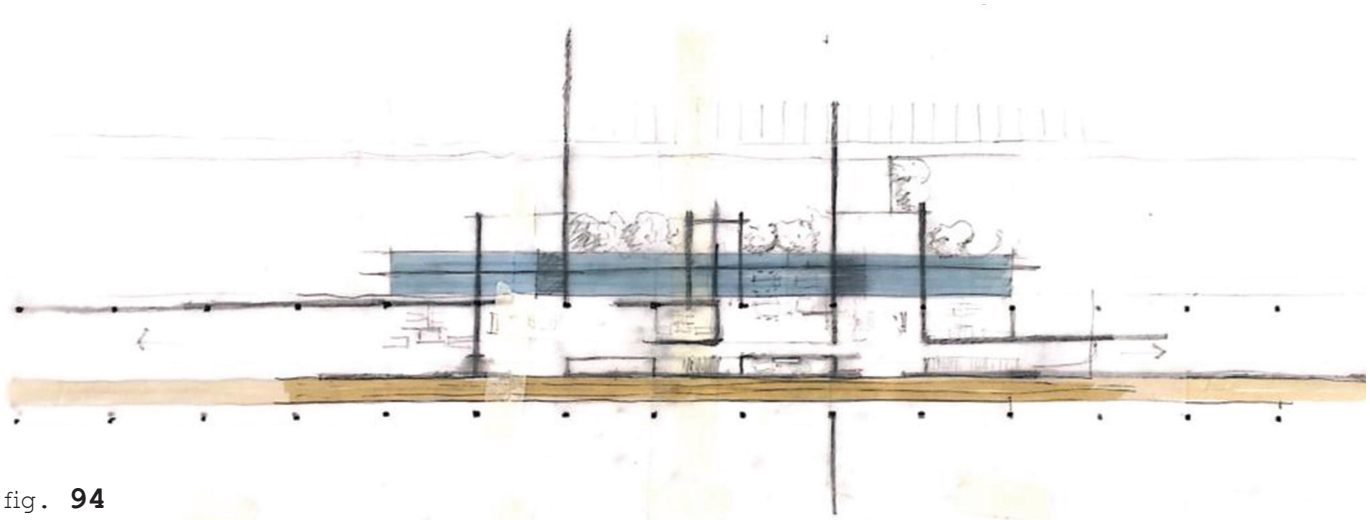


fig. **94**
Designing as a singular.

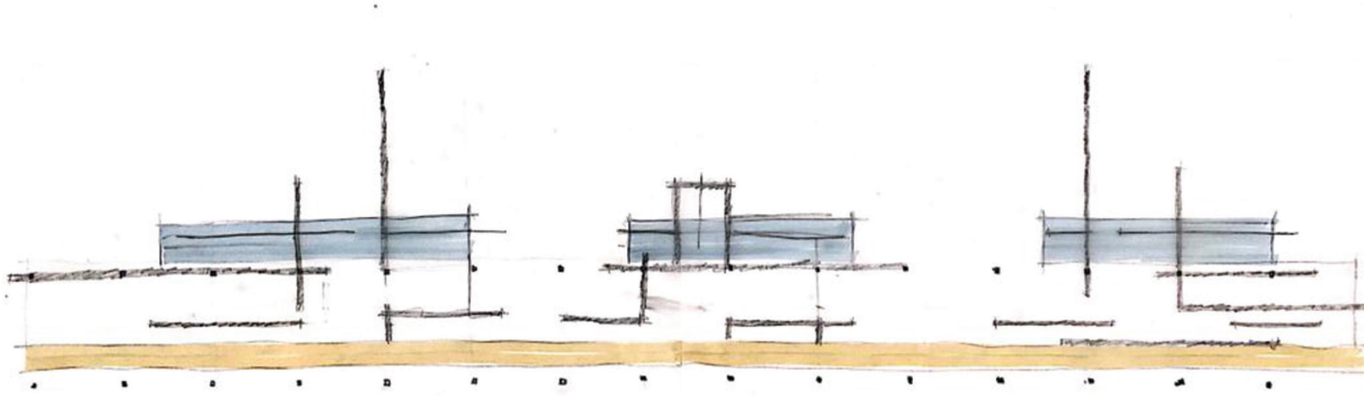


fig. **95**
Extruding the singular.

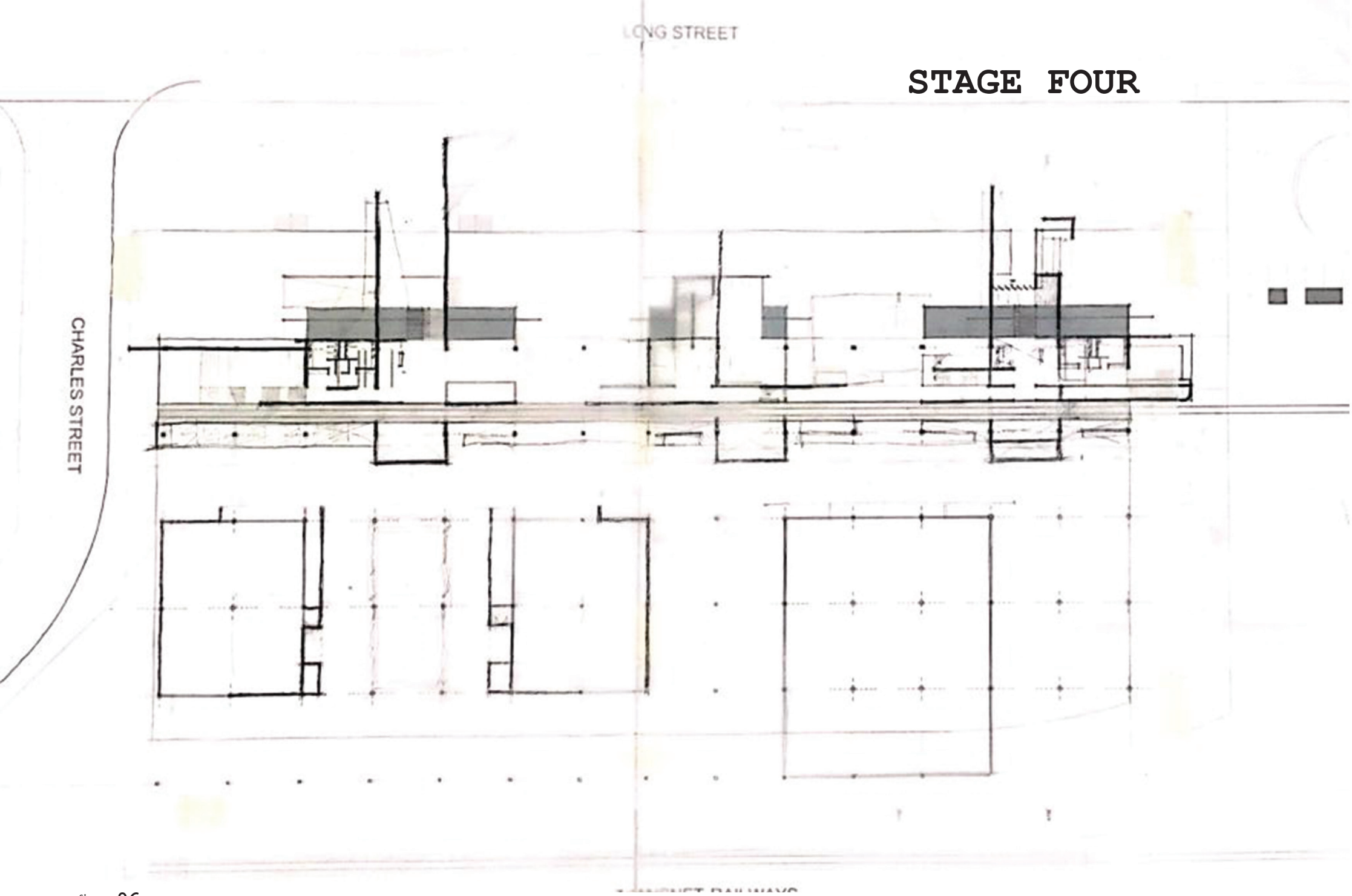


fig. **96**
Plan | Ground Floor

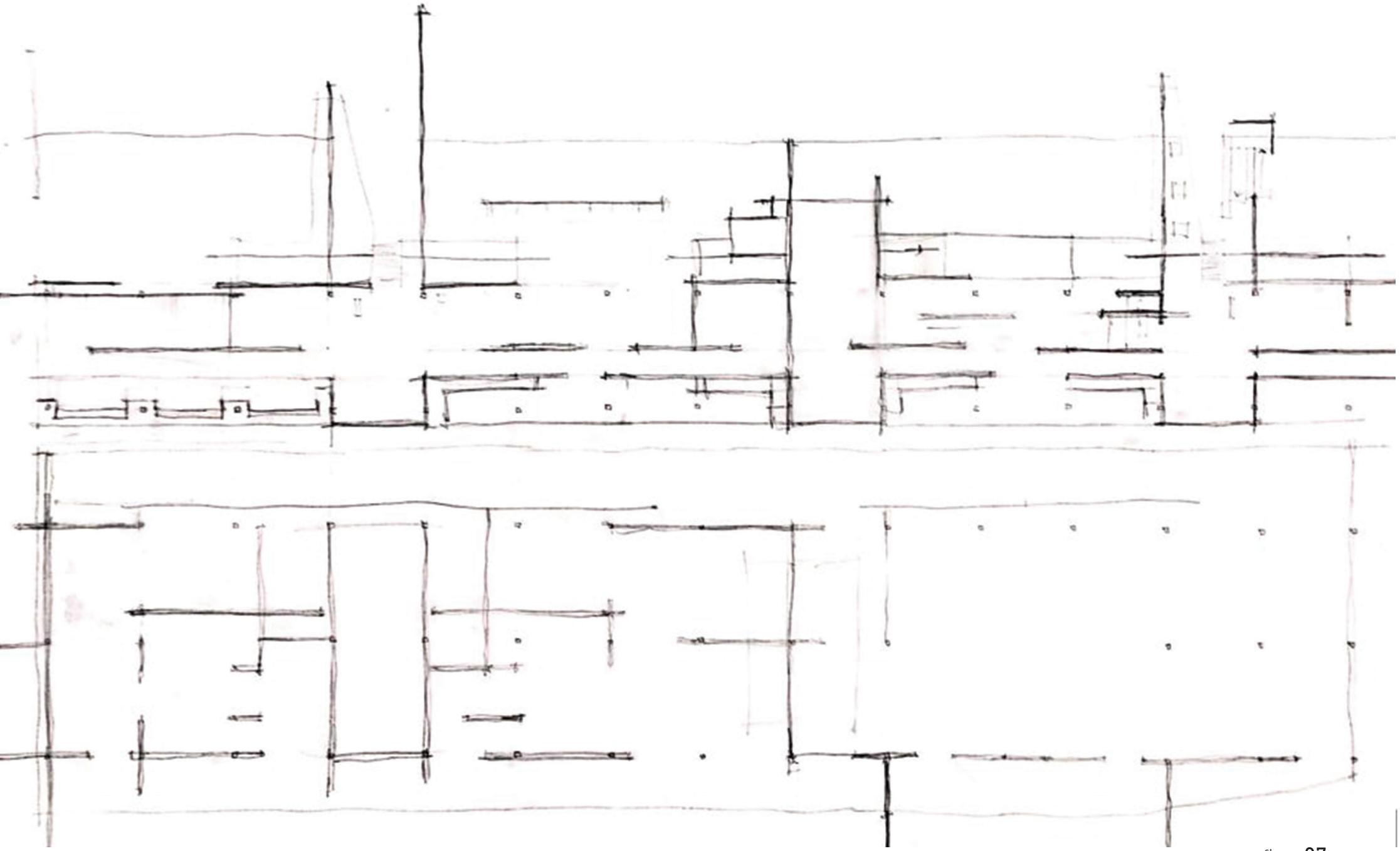


fig. **97**
Plan | Ground Floor

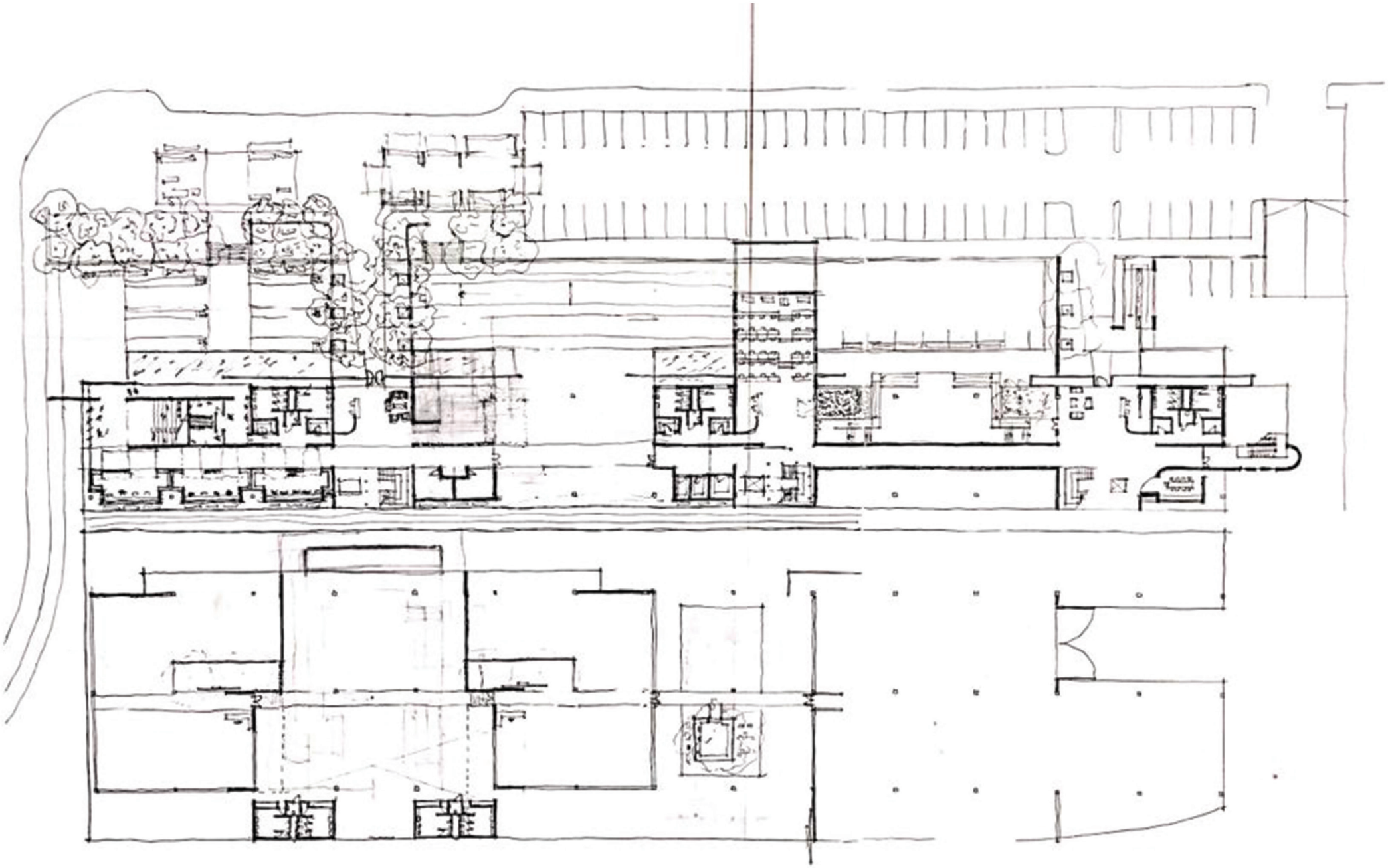


fig. **98**
Plan | Ground Floor

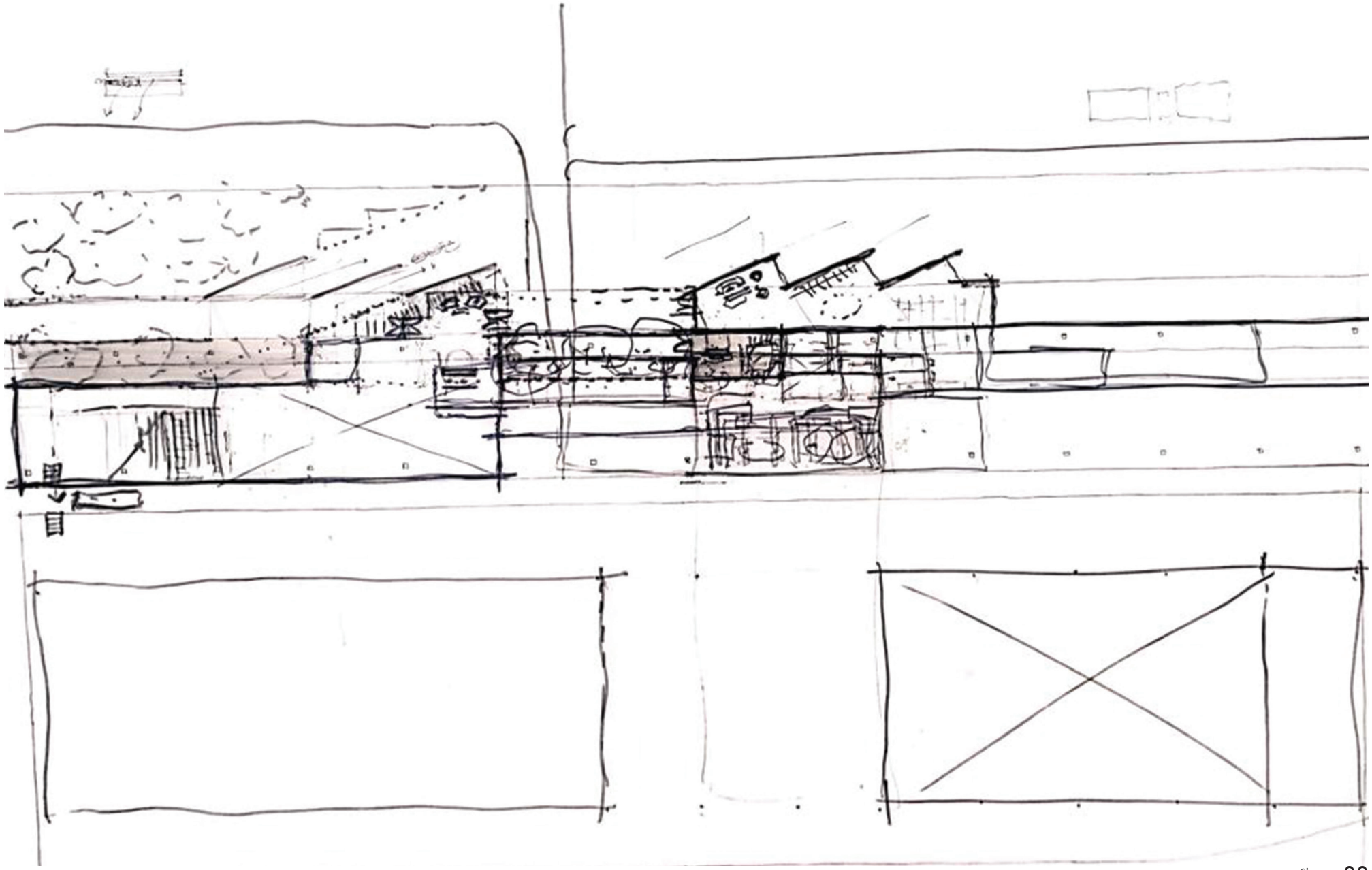


fig. **99**
Plan | Mezzanine

STAGE FIVE

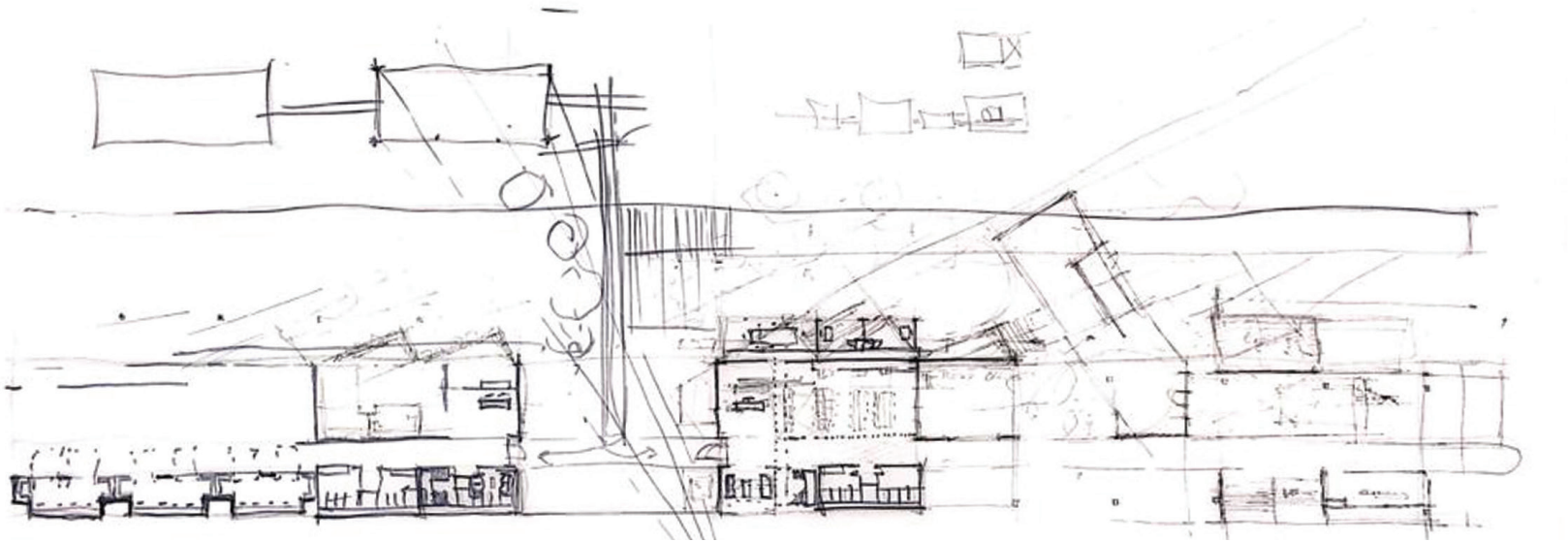


fig. **100**
Plan | Ground Floor

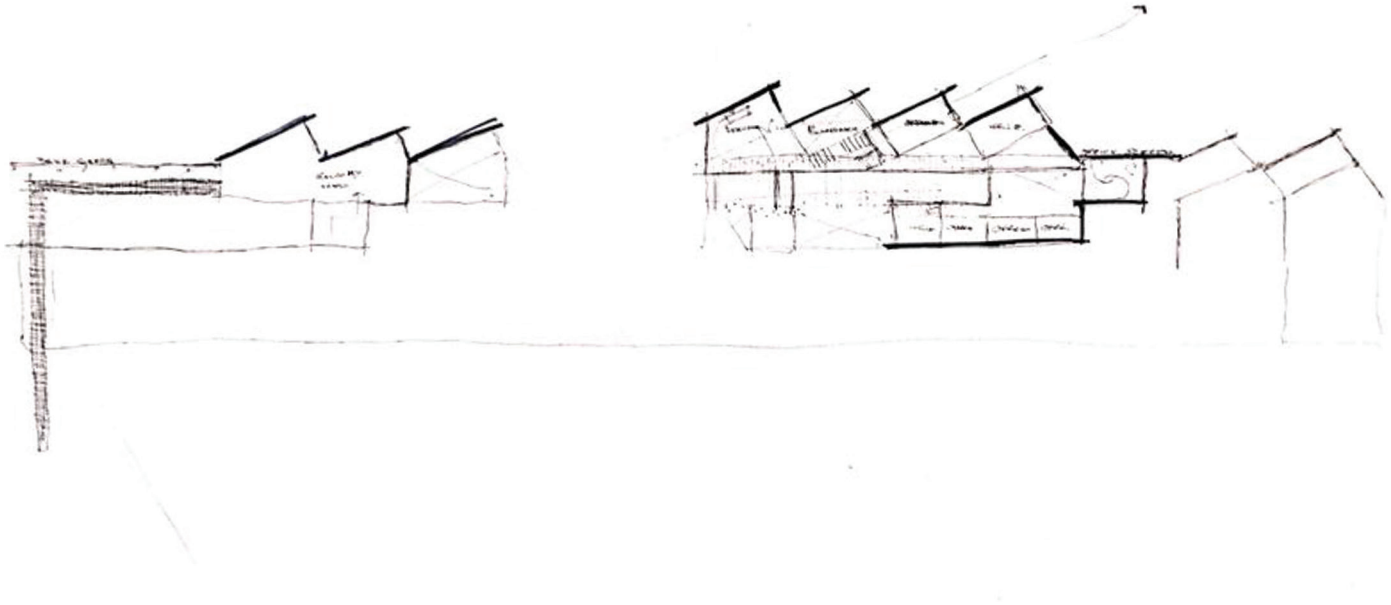


fig. **101**
Plan | First Floor

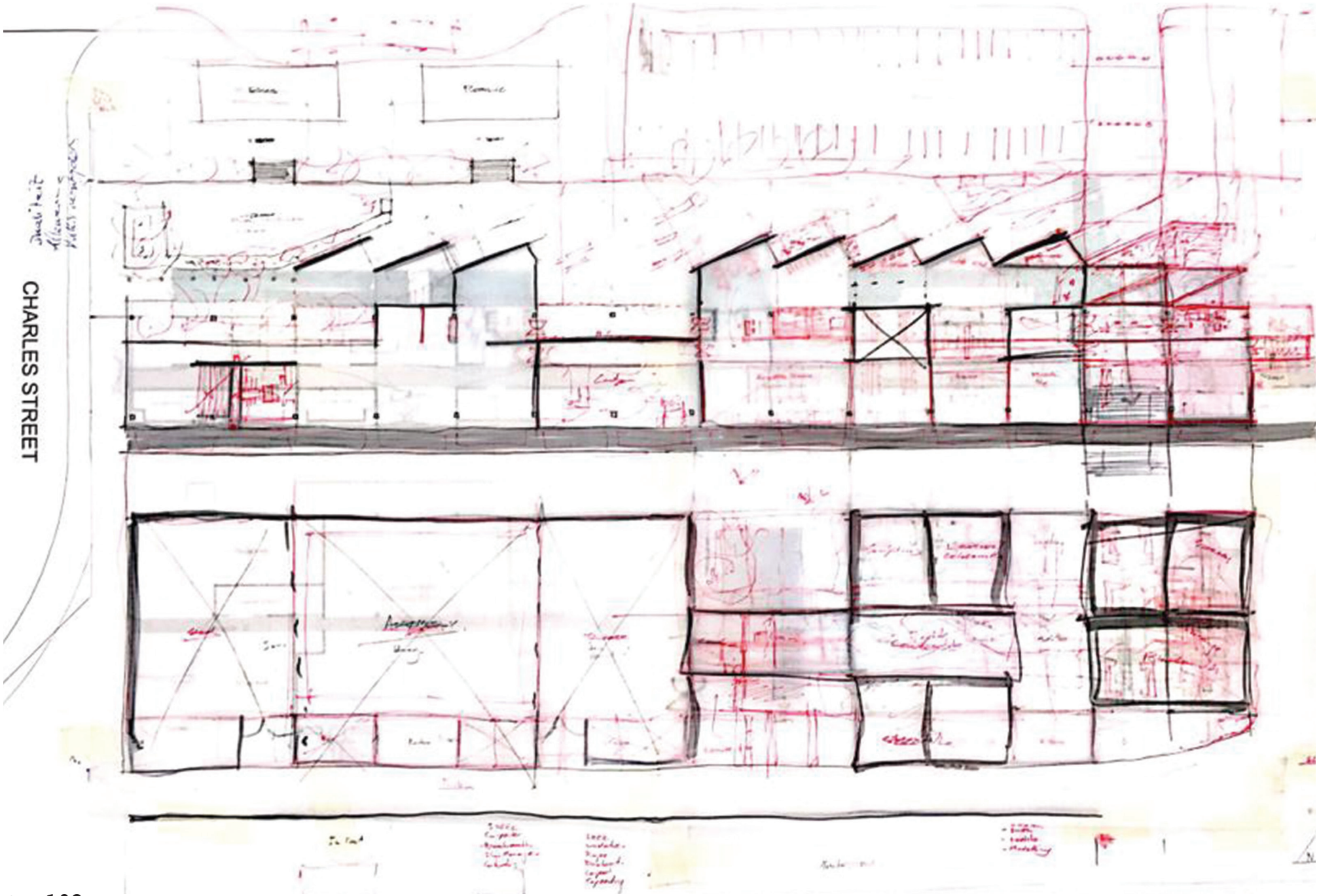


fig. **102**
Plan | Ground Floor

DESIGN SYNTHESIS

06

Admin

1. Reception
2. Offices
3. Boardroom
4. Computer lab
5. Library
6. Hot desks
7. Exhibition
8. Atelier
9. Canteen
10. Recreation

Manufacturing

Craftsmanship

11. High density foam
12. Jewellery
13. Black smith
14. Leather
15. Sculpting
16. Textiles

Assembly

17. Steel workshop
18. Wood workshop

Services

19. Toilets
20. Ablutions
21. Deliveries
22. Refuse

Ground Level

Admin

1. Reception
2. Offices
3. Boardroom
4. Computer lab
5. Library
6. Hot desks
7. Exhibition
8. Atelier
9. Canteen
10. Recreation

Manufacturing

Craftsmanship

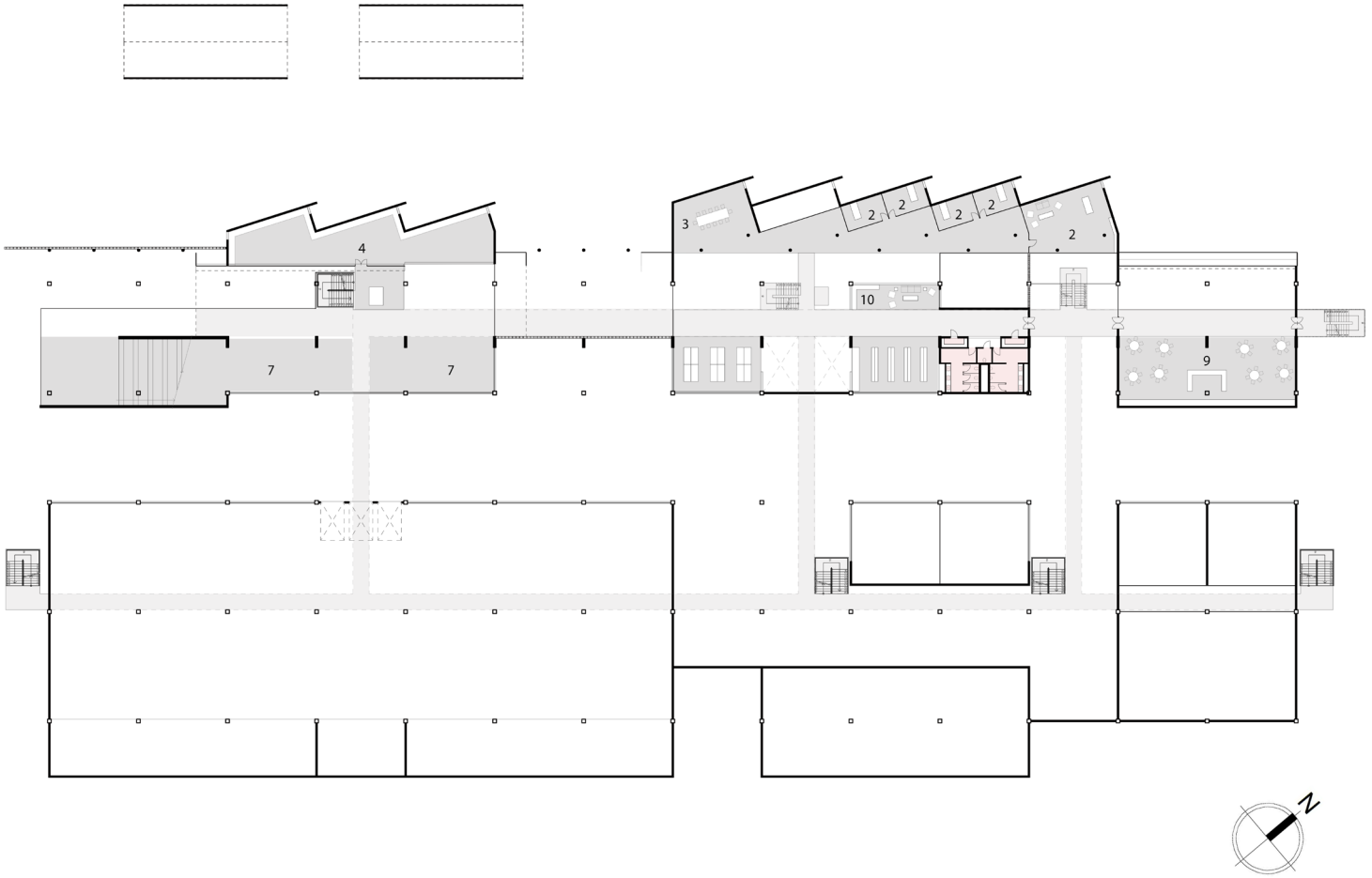
11. High density foam
12. Jewellery
13. Black smith
14. Leather
15. Sculpting
16. Textiles

Assembly

17. Steel workshop
18. Wood workshop

Services

19. Toilets
20. Ablutions
21. Deliveries
22. Refuse



Mezzanine Level

Admin

1. Reception
2. Offices
3. Boardroom
4. Computer lab
5. Library
6. Hot desks
7. Exhibition
8. Atelier
9. Canteen
10. Recreation

Manufacturing

Craftsmanship

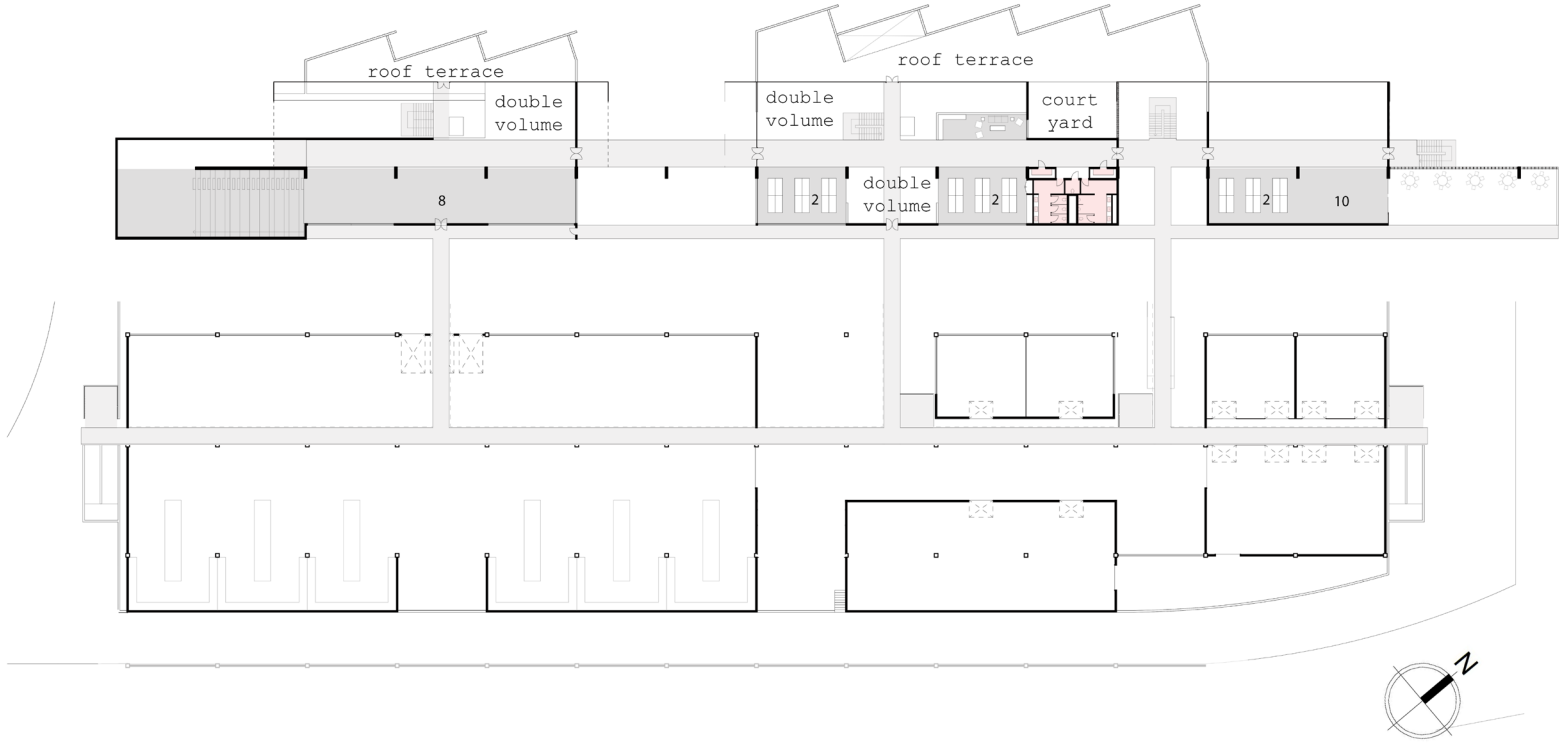
11. High density foam
12. Jewellery
13. Black smith
14. Leather
15. Sculpting
16. Textiles

Assembly

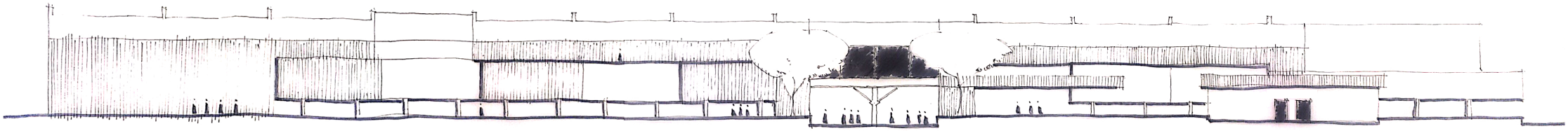
17. Steel workshop
18. Wood workshop

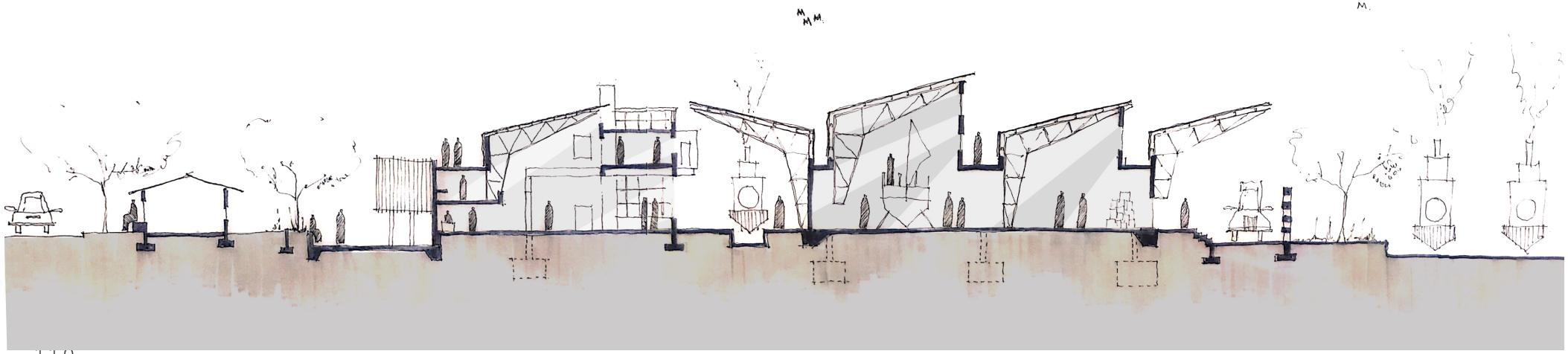
Services

19. Toilets
20. Ablutions
21. Deliveries
22. Refuse


roof terrace
double volume
roof terrace
double volume
court yard
double volume
8
2
2
2
10
N
0
5
10
20
50

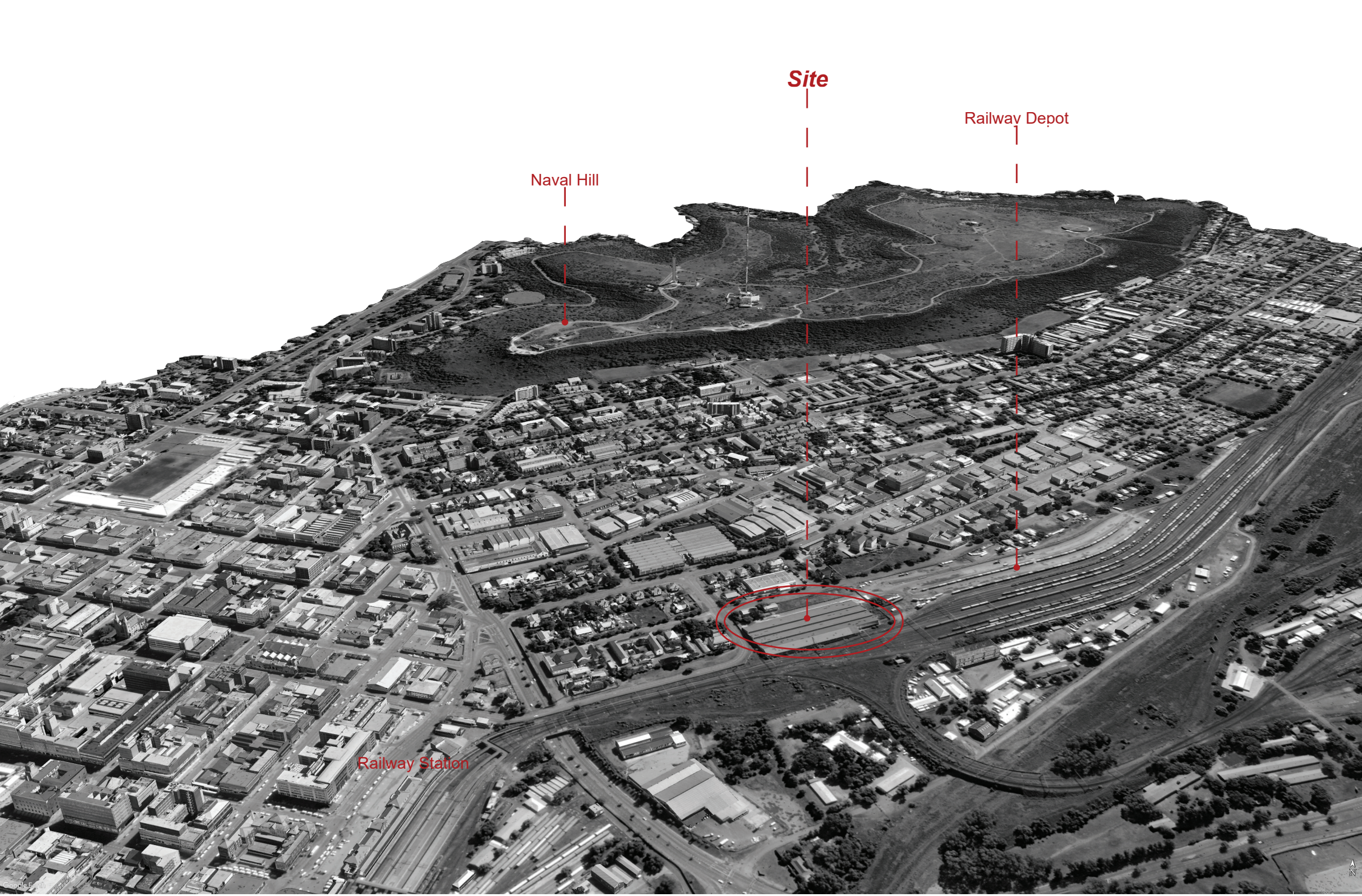
First Level





TECHNICAL EXPLORATION

07


Site
Railway Depot
Naval Hill
Railway Station

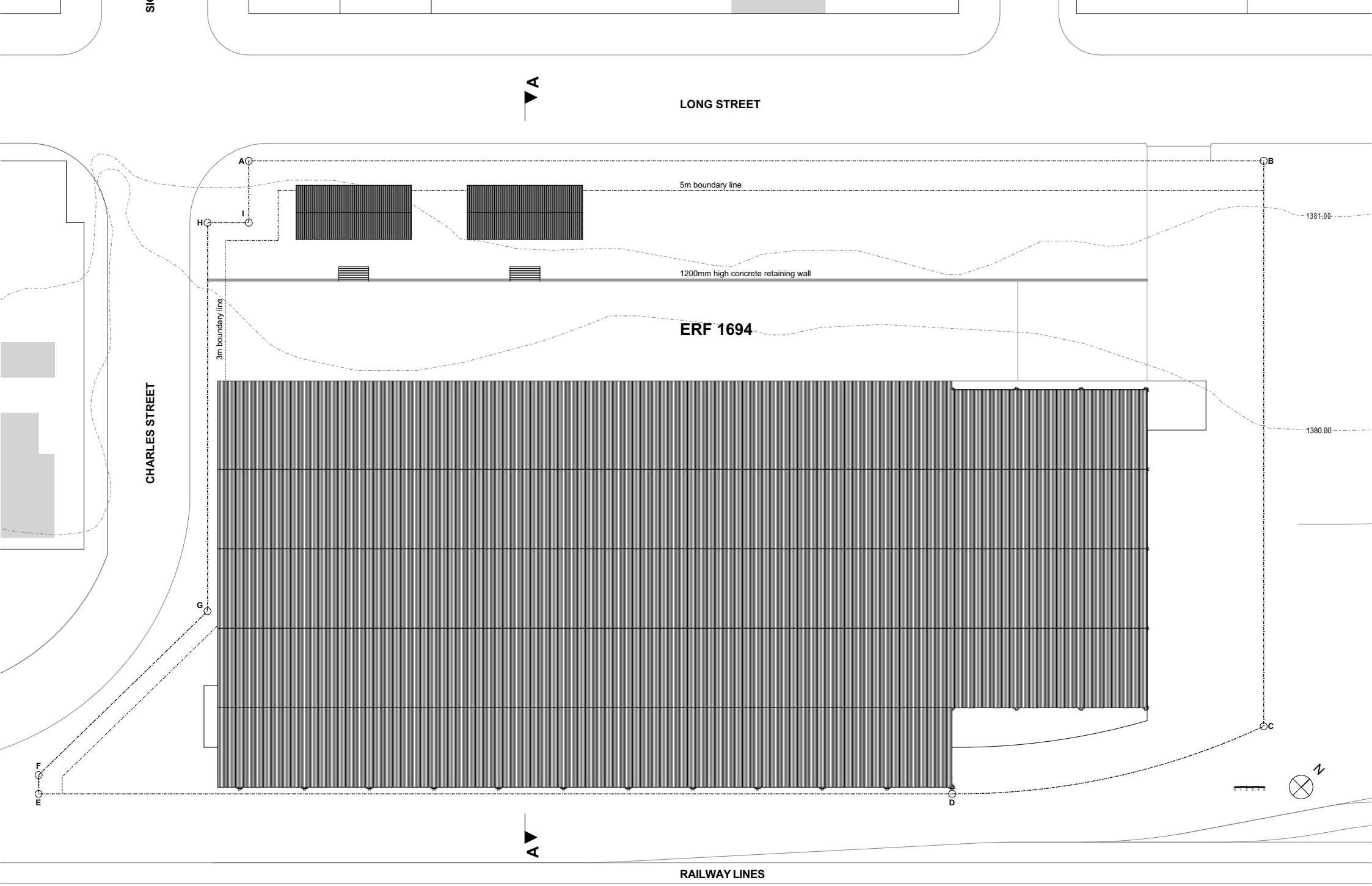
TECHNICAL REPORT

The project proposes a design studio and physical manufacturing facility catering for the film industry, both local and international. The site, an existing railway warehouse, is located south of the Bloemfontein railway depot. This area forms part of Hilton, a neighbourhood compiled of light industrial and residential buildings.

With the arrival of the railway in 1890, this space was designated as the railway camp. Over the following years the railway camp developed into an integrated railway community comprised of housing, adminstration and recreational buildings, most of which was owned by the railway. Today, this relationship between the community and the railway has completely disintegrated and created a marginalised community. The aim of the project is to re-establish this connection that once existed between the railway and the community.

The project is theoretically explored around the concept of disrupting stable and static objects in an attempt to disturb existing boundaries and re-estahblish the connection between the railway and the community.

The technical report explores the existing site, as well as the existing structure and a means re-interpret and re-use the existing structure.


LONG STREET
A
B
C
D
E
F
G
H
I
5m boundary line
1381.00
1200mm high concrete retaining wall
3m boundary line
ERF 1694
1380.00
CHARLES STREET
RAILWAY LINES
N

CADASTRAL INFORMATION

Address:

11 Long Street
Hilton
Bloemfontein
9301

Erf number:

1694

Zoning:

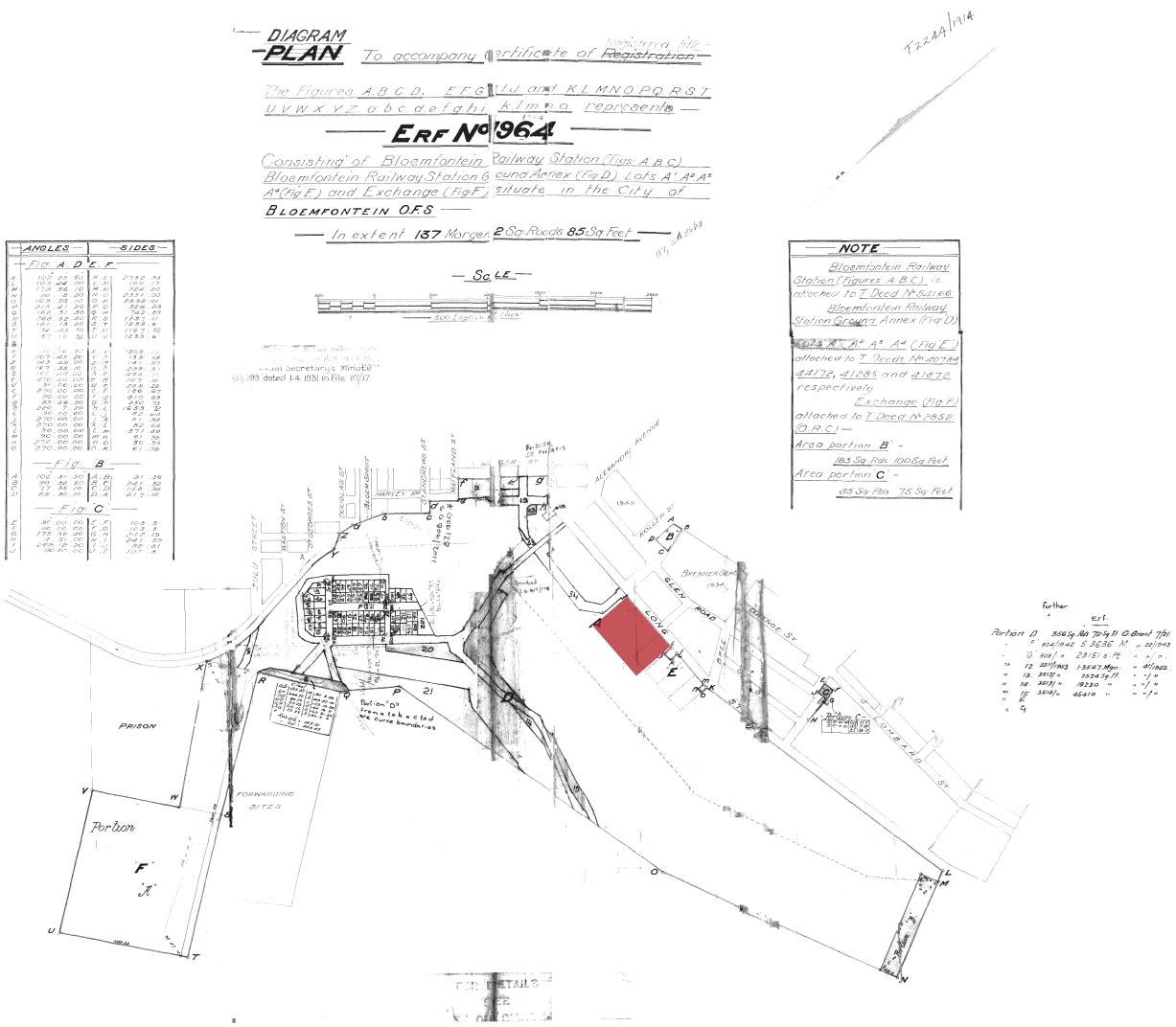
Light Industrial

Building Lines:

5m Setback Long Street
3m Setback Charles Street

Servitudes:

None

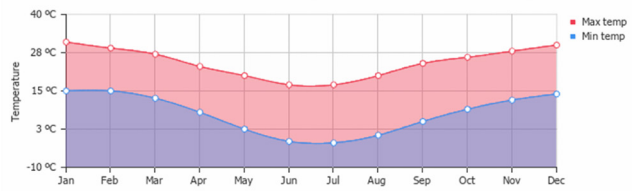


SG Diagram

The site (indicated in red) forms part of a large portion of land that is currently owned by Transnet.

CLIMATE

Bloemfontein

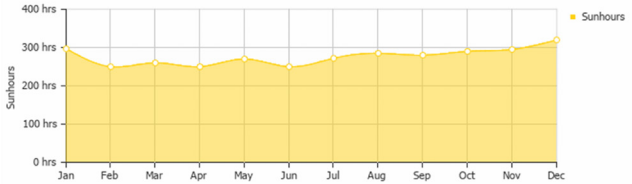


Average Temperature

Bloemfontein is classsified under the Grassland Biome (Koedoe, 2019:Online). One key environmental variable influencing the functioning of the grassland ecosystem is rainfall variability. Bloemfontein is situated in a semi-arid region, which means that precipitation is low and highly variable (Koedoe, 2019:Online). Semi-arid regions typically receive substantial precipitation for at least a few months of the year, a lack of adquate rainfall for many months may also prevail (Koedoe, 2019,Online).

Environmental Sustainability

The environmental sustainability would focus on the response towards the natural context, climatic conditions of the area and the issues raised by the intended program of the building. The areas that will be focused on are: Water, orientation, natural ventilation and vegetation.

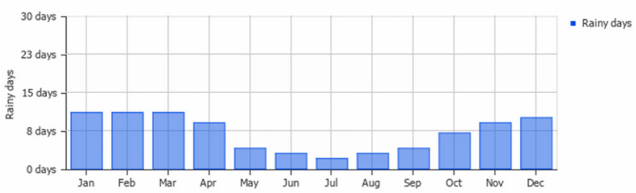


Average Monthly Sunhours

Water

Over the past few years Bloemfontein has experienced unknown droughts and scarcity of water. This means that the design should allow for the harvesting of as much as possible water. Considering the site's position in the area in terms of contours, it would suggest that the site is a relatively low lying point. This could mean that a lot of storm water makes its way through or past the site. Possibilities to harvest this water should be investigated.

It is also important to understand the rainfall in Bloemfontein. It is seldom that it rains for prolonged periods. Bloemfontein experiences thunderstorms where a lot of rain falls over a short period of time. A lot of rainwater harvesting techniques doesn't allow for this rapid income of water, resulting in water being lost. Techniques to address this issue should be investigated.



Average Rainy Days

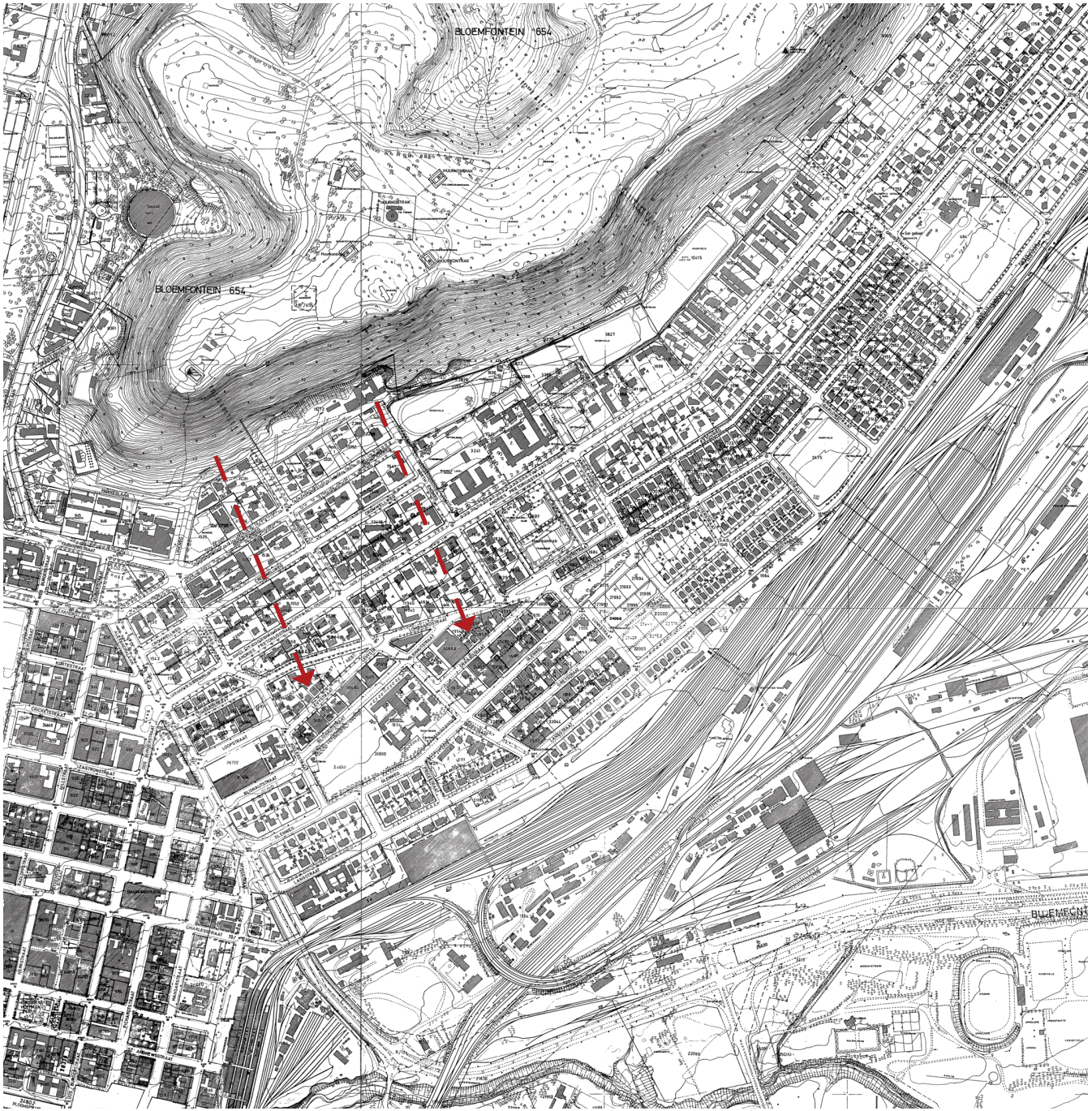
Currently the site has very little natural draining. Most of the area that isn't built on is either paved or tarred. This should also be addressed. The challenge would be to find the balance between harvesting water and allowing the natural landscape to filtrate the water back in to its natural systems.

Water

Over the past few years Bloemfontein has experienced unknown droughts and scarcity of water. This means that the design should allow for the harvesting of as much as possible water. Considering the site's position in the area in terms of contours, it would suggest that the site is a relatively low lying point. This could mean that a lot of storm water makes its way through or past the site. Possibilities to harvest this water should be investigated.

It is also important to understand the rainfall in Bloemfontein. It is seldom that it rains for prolonged periods. Bloemfontein experiences thunderstorms where a lot of rain falls over a short period of time. A lot of rainwater harvesting techniques doesn't allow for this rapid income of water, resulting in water being lost. Techniques to address this issue should be investigated.

Currently the site has very little natural draining. Most of the area that isn't built on is either paved or tarred. This should also be addressed. The challenge would be to find the balance between harvesting water and allowing the natural landscape to filtrate the water back in to its natural systems.



Orientation

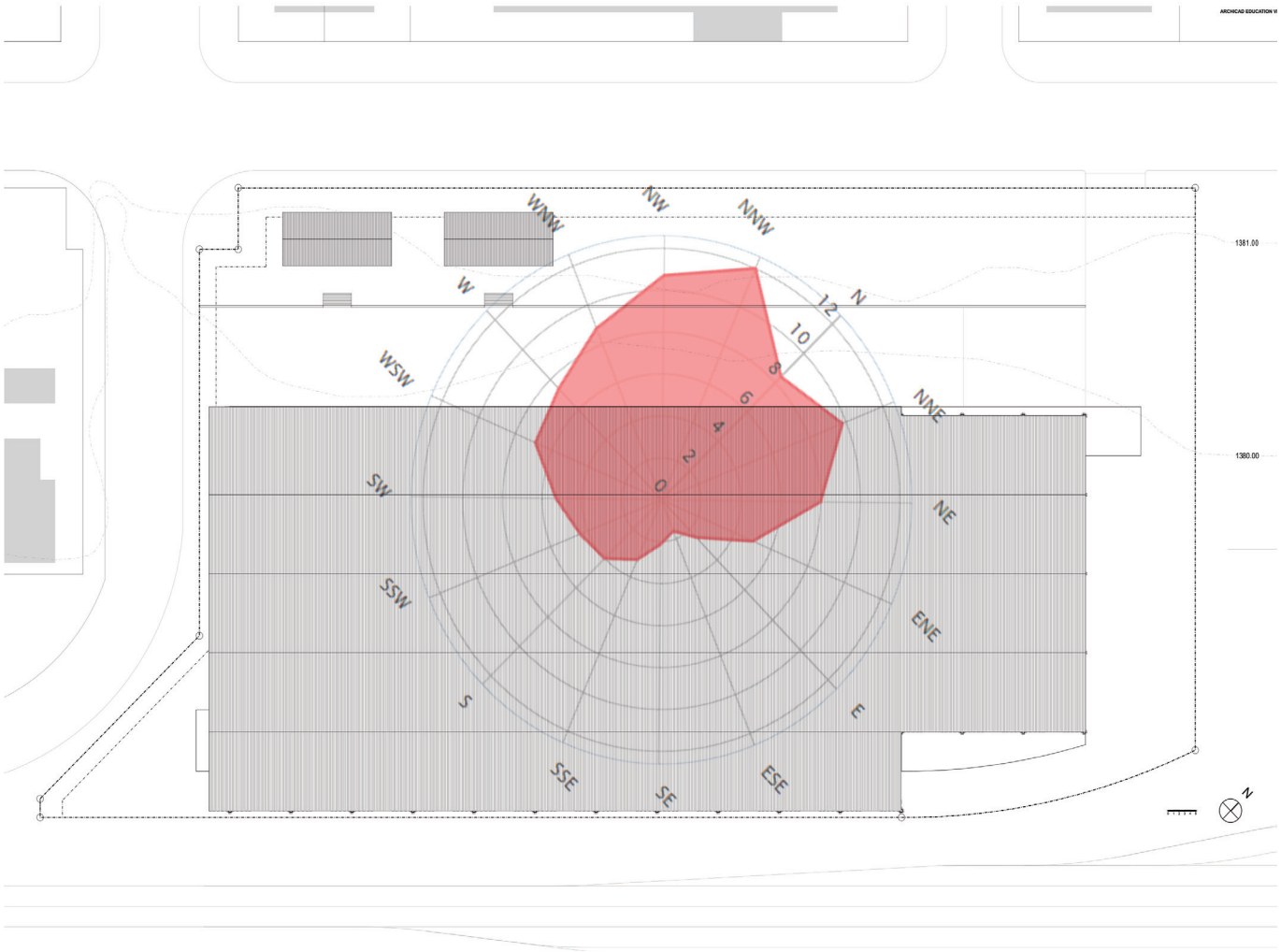
The existing structure is orientated north-west, which isn't exactly ideal when addressing the Bloemfontein winter and summer conditions. The design should respond in such a way to adapt the existing structure to a more optimal orientation which could cool the building in the hot summer conditions and retain as much heat as possible in the cold winter seasons.

Natural Ventilation

Considering the program of the building, the workshops are spaces of intense labour that would possibly generate quite a lot of heat. Considering the social conditions of the community, mechanical ventilation would be very expensive and unsustainable. Natural ventilation and passive cooling systems should be incorporated in the design.

Vegetation

The incorporation of the correct type of vegetation, as well as the correct placing of the vegetation would have at least two benefits. Firstly, as mentioned under Natural Ventilation, work spaces might become very hot. The correct placement of vegetation could add in the natural cooling process off theses spaces. However, as mentioned, the correct vegetation is important. The Bloemfontein climate is quite a harsh environment and only the correct vegetation would survive. Also, considering the extremes between the Bloemfontein winter and summer, it would be wise to consider how vegetation would act differently during winter and summer to assist the cooling, as well as the heating of the building.The workshops also produce a significant amount of unwanted sound/noise pollution. The correct vegetation, as well as the correct placement of vegetation would assist as a natural sound barrier that absorbs the noise. This should be incorporated in the design and not added as an afterthought.


WNW
NW
NNW
N
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WSW
NNE
SW
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ESE
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2
4
6
8
10
12
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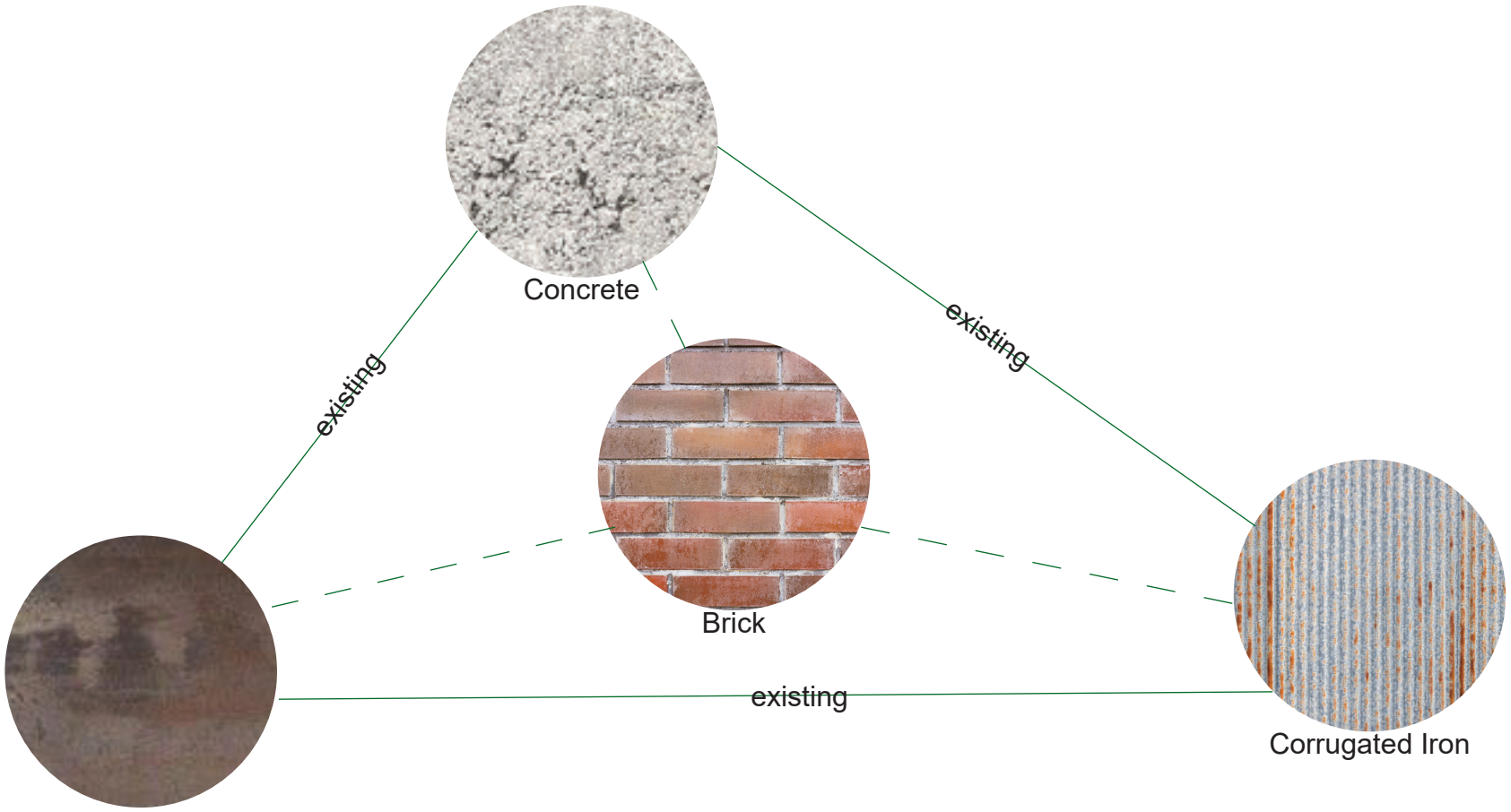
1380.00


Concrete
existing
existing
Brick
existing
Corrugated Iron

MATERIALITY

Social Sustainability

Hilton is a poor, industrial community. Locals of the area are mostly skilled in workmanship. Designing an architecture that would allow the community to be involved and implement those skills during the construction stage would create an opportunity for further skills transfer and job creation. The involvement of the community could also create a bigger sense of ownership, resulting in a more invested community and a building that is integrated with its urban fabric and its people. Michael Murphy's talk Architecture that's built to Heal, with specific reference to The National Memorial for Peace and Justice, located in Montgomery, Alabama, would serve as a precedent to achieve this.

The program of the building revolves around the construction of film sets. The construction of the film sets consist of a number of different workshops. The main workshops being steel, timber and material/textile orientated. Considering the community's skill sets, this allows the community to stay on as part of the building, after the construction is completed, creating a socially sustainable space.

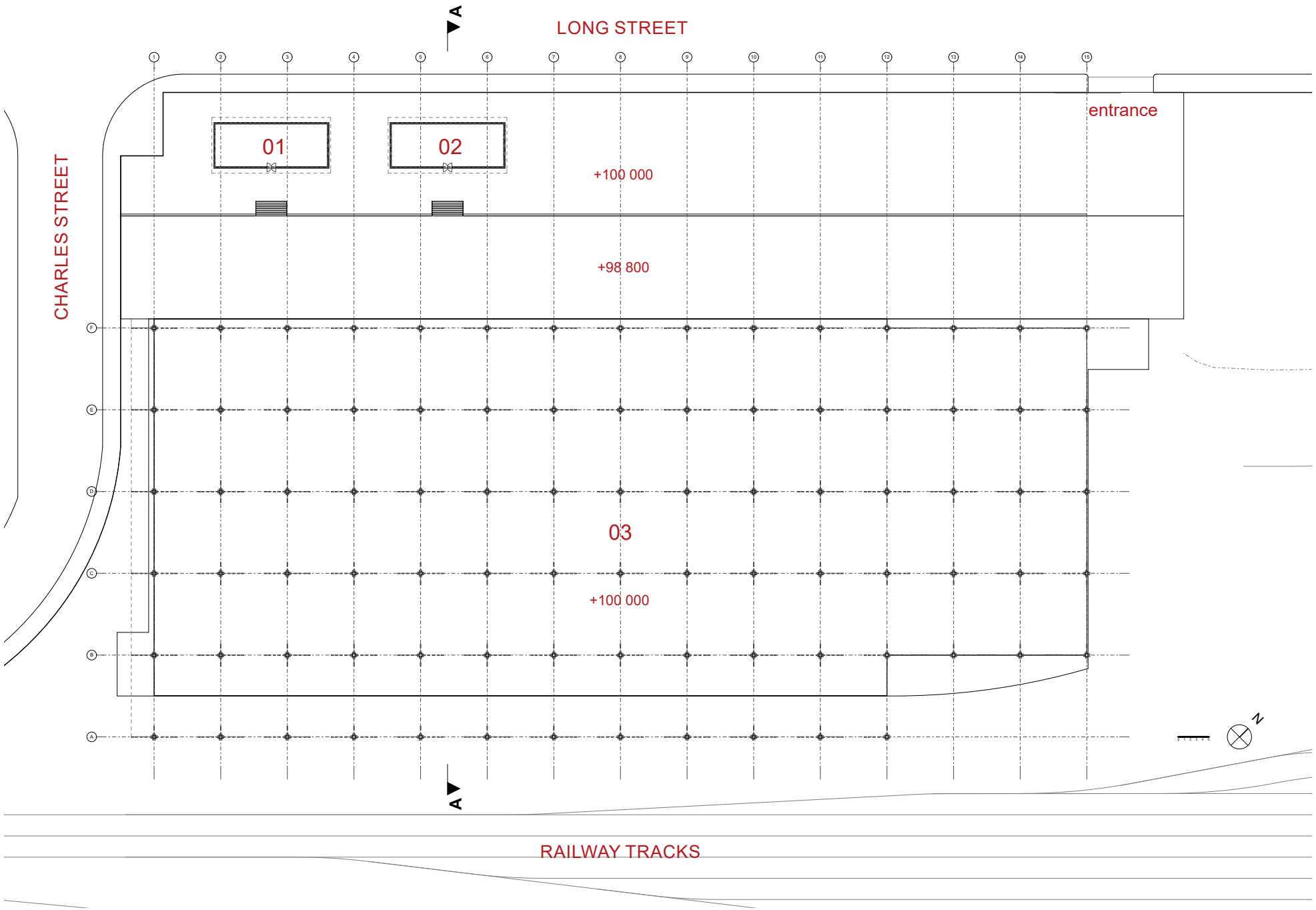
Considering the building would in essence be a factory, it is fair to assume there would be by-products or leftover products from the constructed sets. Designing spaces that would allow for the re-use or recycling of these leftover products into sellable goods, would provide another opportunity for the community to gain from this project. Not only would the set construction operate in a sustainable way, but the community would also benefit from it.

Material Sustainability

There are mainly two typologies found in Hilton:

The industrial factory typology, which are either:
Geometrical steel structures, most probably portal frame structures, cladded with corrugated iron or a similar material.
Geometrical column and beam structures with face brick infill walls.

The railway house typology:
These residential structures were originally built by the railway for their employees. The red face brick houses with their corrugated iron roofs are characteristic of the area.
Due to the strong architectural characteristics of the area, there are two material challenges that have to be addressed. The first would be to re-interpret these materials in a contemporary way that would not be foreign in its context. The community should be able to identify with it and be able to partake in the construction thereof. The second challenge relates to the sustainable qualities of the materials itself. Neither the bricks, nor the steel, especially the steel cladding, has exceptional sustainable qualities, except for durability. The challenge would be to use these materials in innovative ways in order to accommodate the function of the structure in its specific context, with reference to the climate as well as the community. With reference to the use of corrugated iron as a secondary structure, the work of Francis Kéré could serve as a precedent.

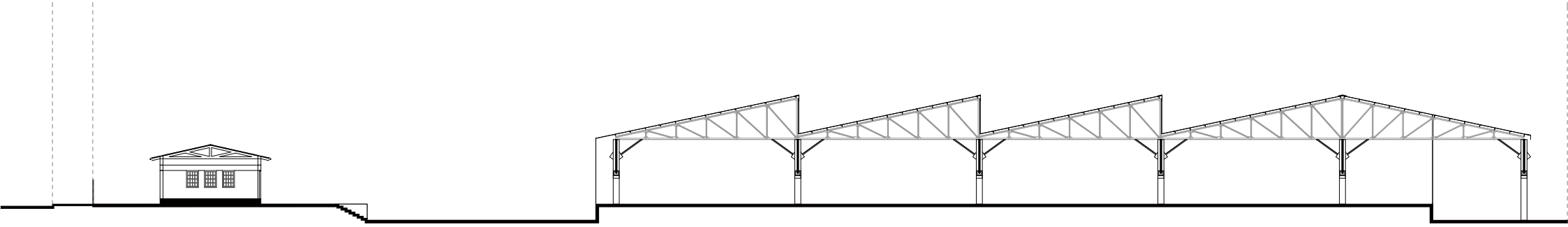

LONG STREET
A
CHARLES STREET
entrance
01
02
+100 000
+98 800
03
+100 000
A
RAILWAY TRACKS
N

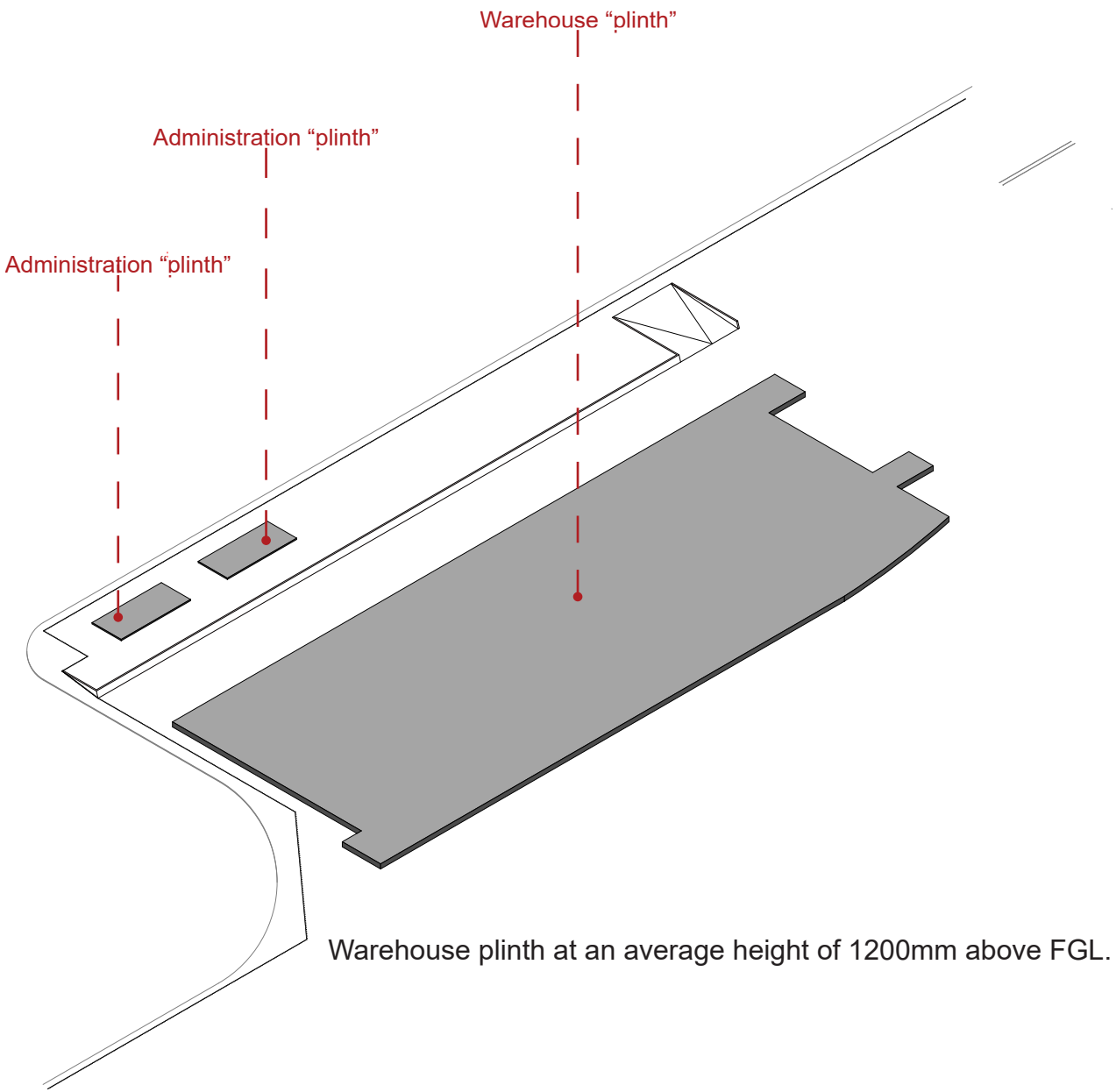
EXISTING STRUCTURE

Economic Sustainability

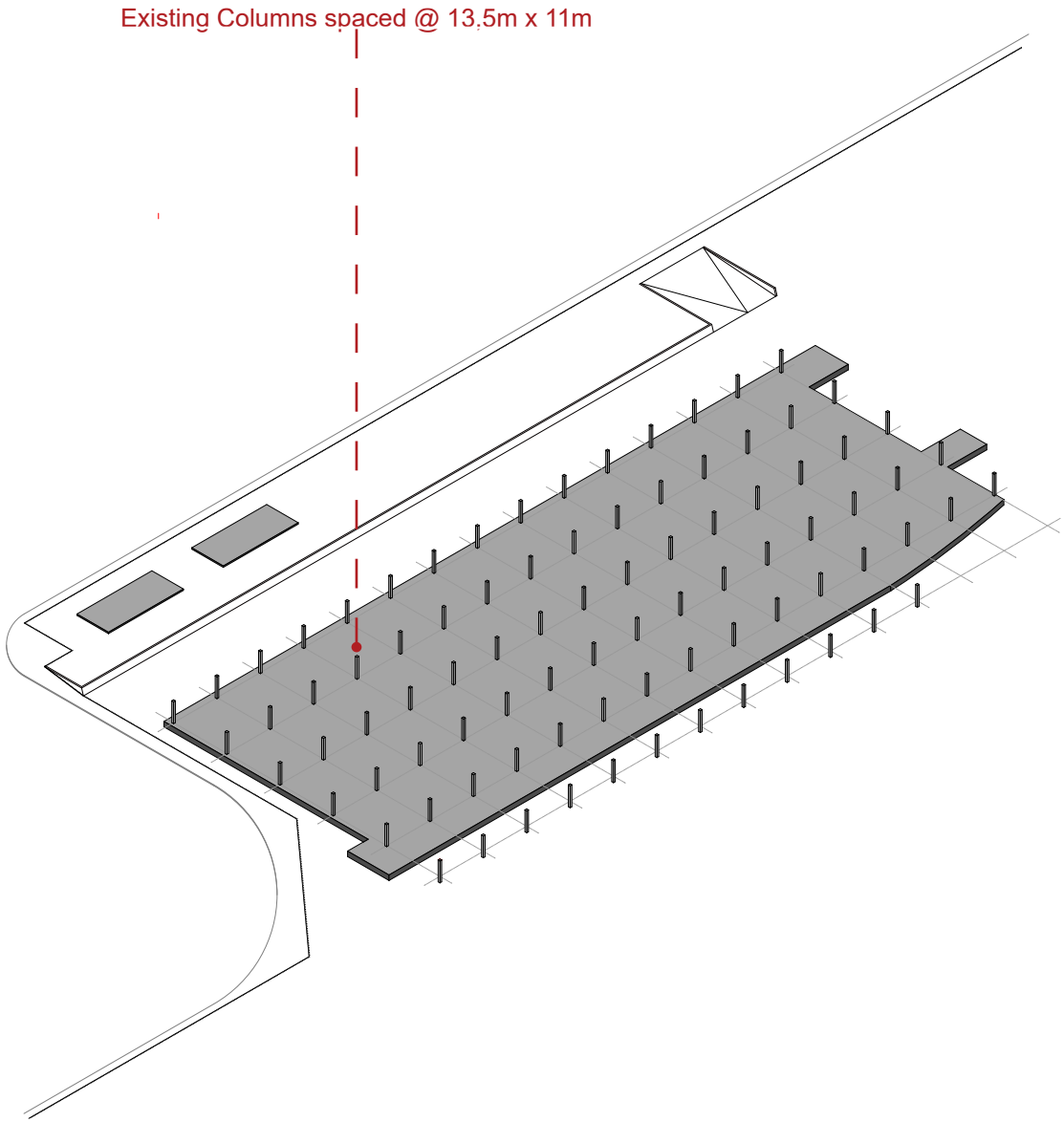
As discussed under Social Sustainability, the Hilton community is a poor industrial community. This poses some challenges in terms of financial feasibility. However, this also creates opportunity in addressing the issue. Being an industrial community, and being situated in the larger industrial area of Bloemfontein, means that building industries are scattered all over in close vicinity. Mapping the relevant industries and their proximity to the site would not only reduce additional transport costs, but it would also allow capital to be invested in the local and surrounding communities.

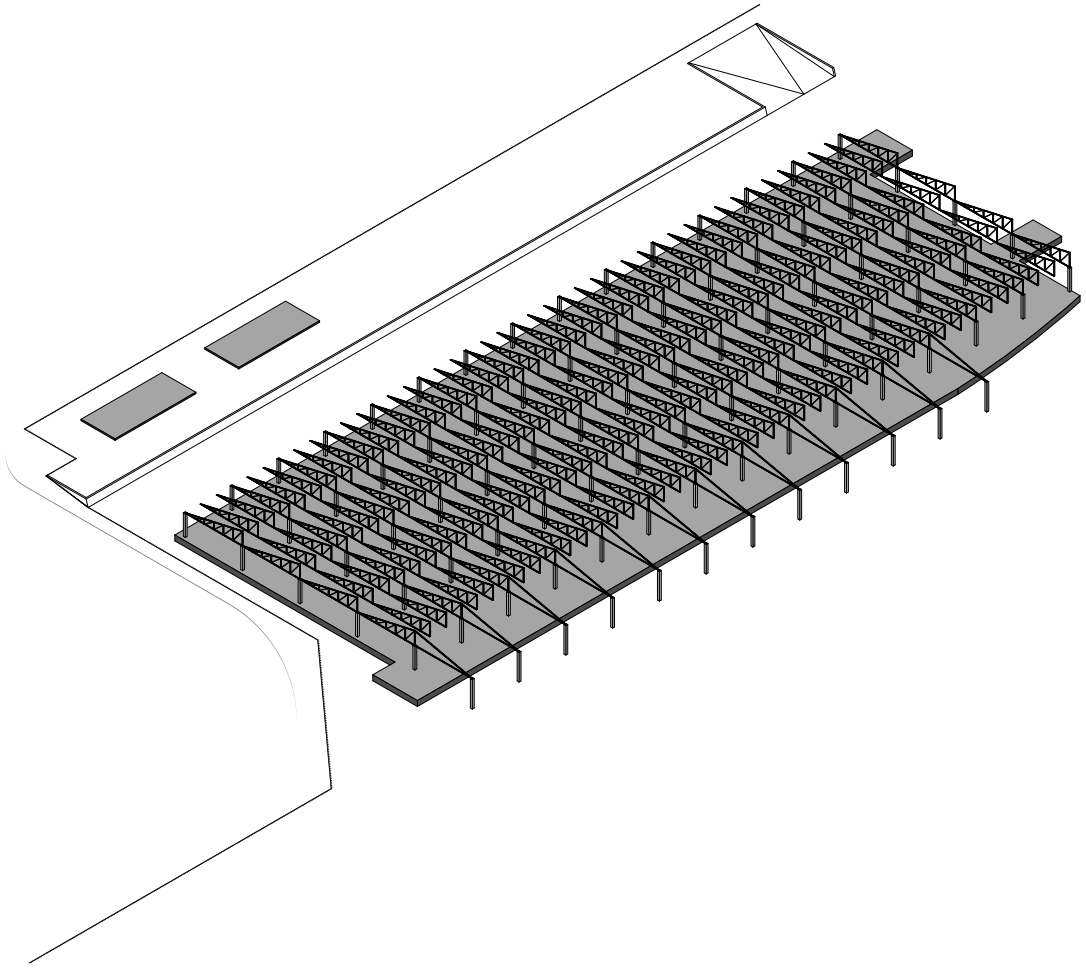
The allocated site has an existing structure. It is quite a large structure (about 9300m²) built with concrete columns, steel trusses and corrugated iron cladding. The structure rests on a type of concrete plinth. This creates an opportunity to re-use and adapt the existing structure to suit the intended structure. The challenge in this would be to find the financial balance between re-using/adapting the existing structure and building new additional structures, whilst at the same time not compromising the intended use of the building to suit the existing structure.

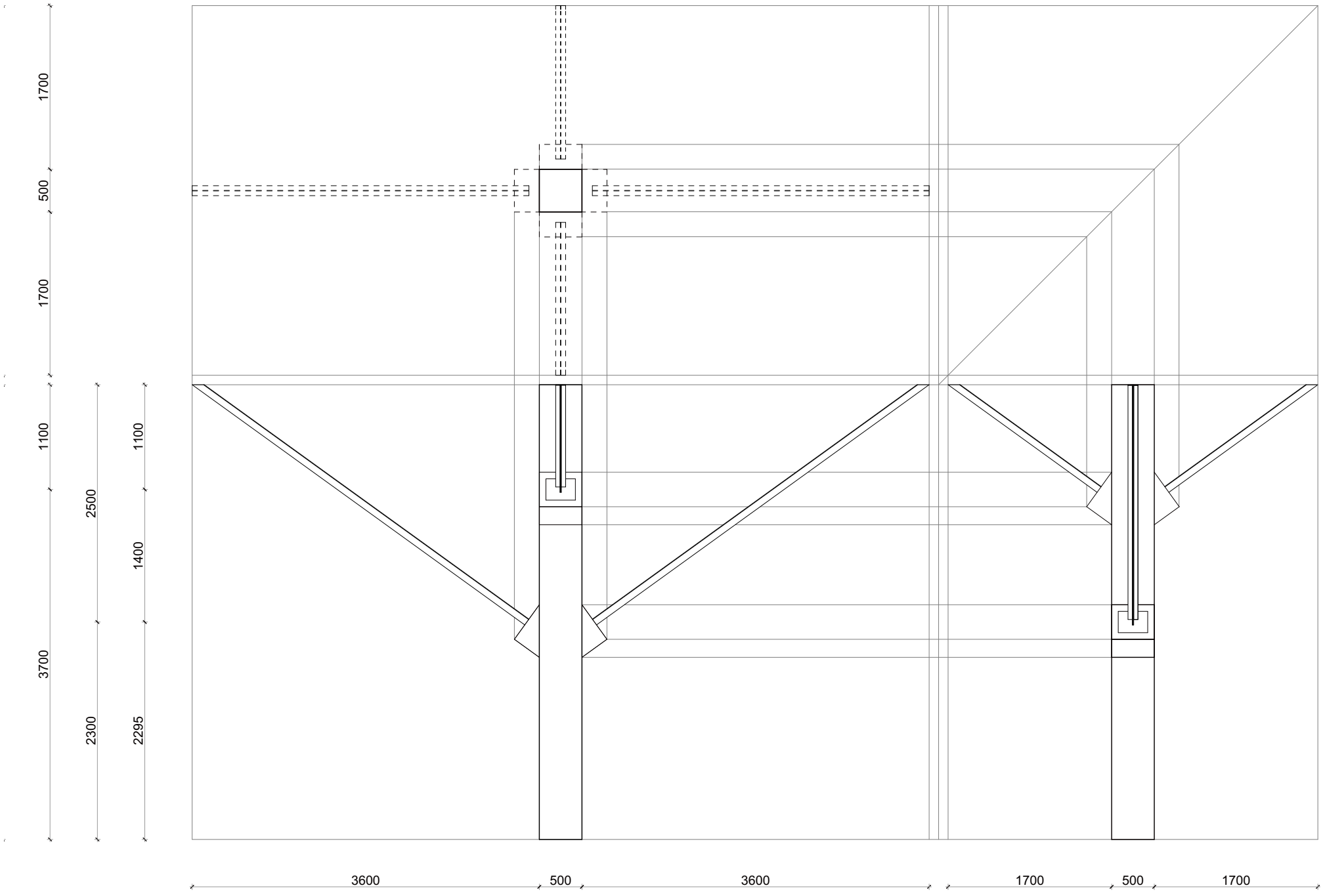




Warehouse plinth at an average height of 1200mm above FGL.


Existing Columns spaced @ 13.5m x 11m

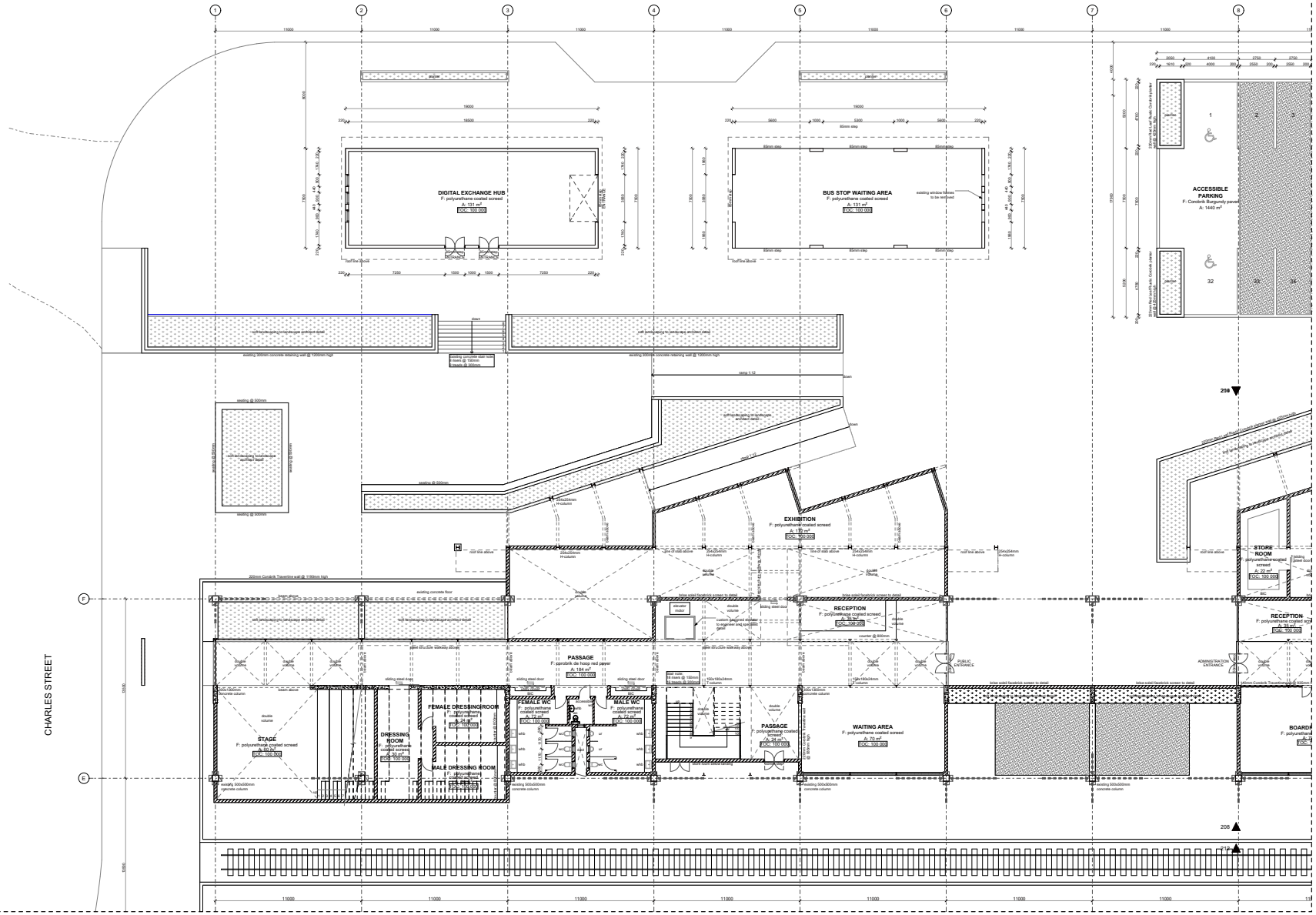



1700
500
1700
1100
3700
2500
2300
1100
1400
2295
3600
500
3600
1700
500
1700

EXISTING STRUCTURE

Concrete & Steel Columns

Existing columns of 500x500mm.



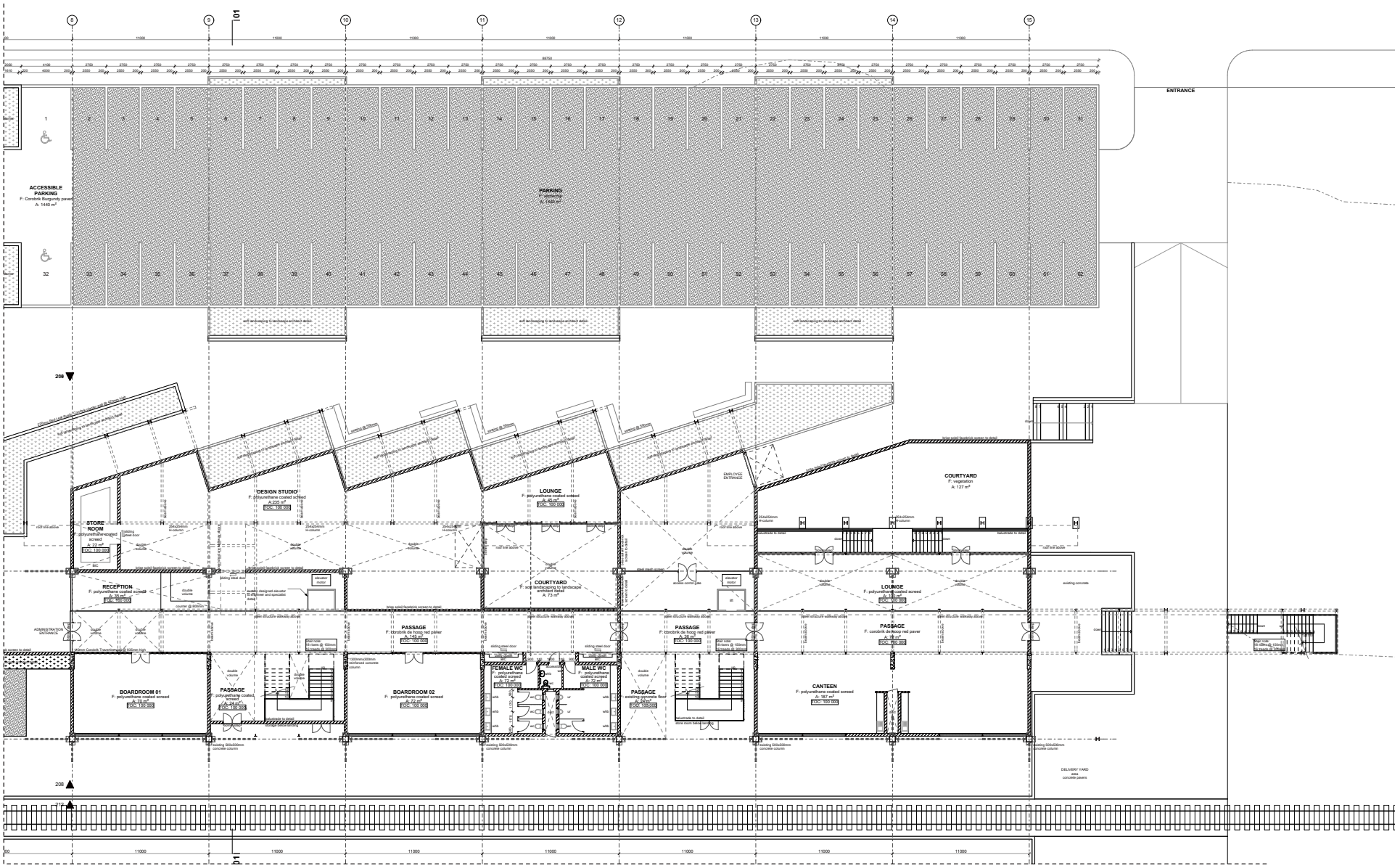
GROUND FLOOR PLAN | A
SCALE 1:100

Set Design & Physical Manufacturing Facility
FOR : Transnet Freight Rail
ON ERF 1964, 11 Long Street, Hilton, Bloemfontein

GROUND FLOOR PLAN | A

series GA | type 100 A

jan willem **RAS** | 2012 04 11 39



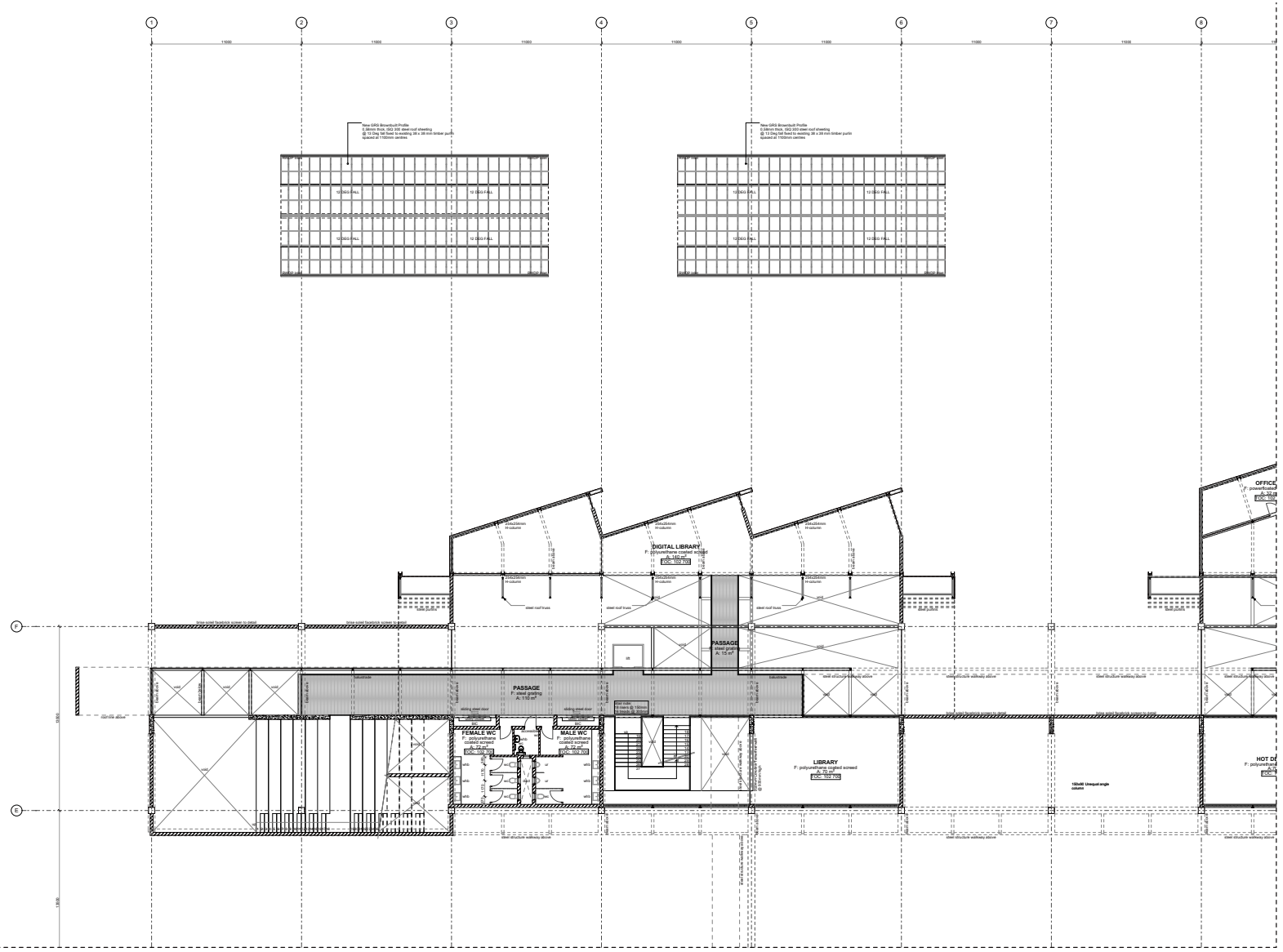
GROUND FLOOR PLAN | B
SCALE 1:100

Set Design & Physical Manufacturing Facility
FOR: Transnet Freight Rail
ON ERF 1964, 11 Long Street, Hilton, Bloemfontein

GROUND FLOOR PLAN | B

stage: GA | type: 100 B

jan willem **RAS** | 2012 04 11 39



MEZZANINE FLOOR PLAN | A
SCALE 1:100

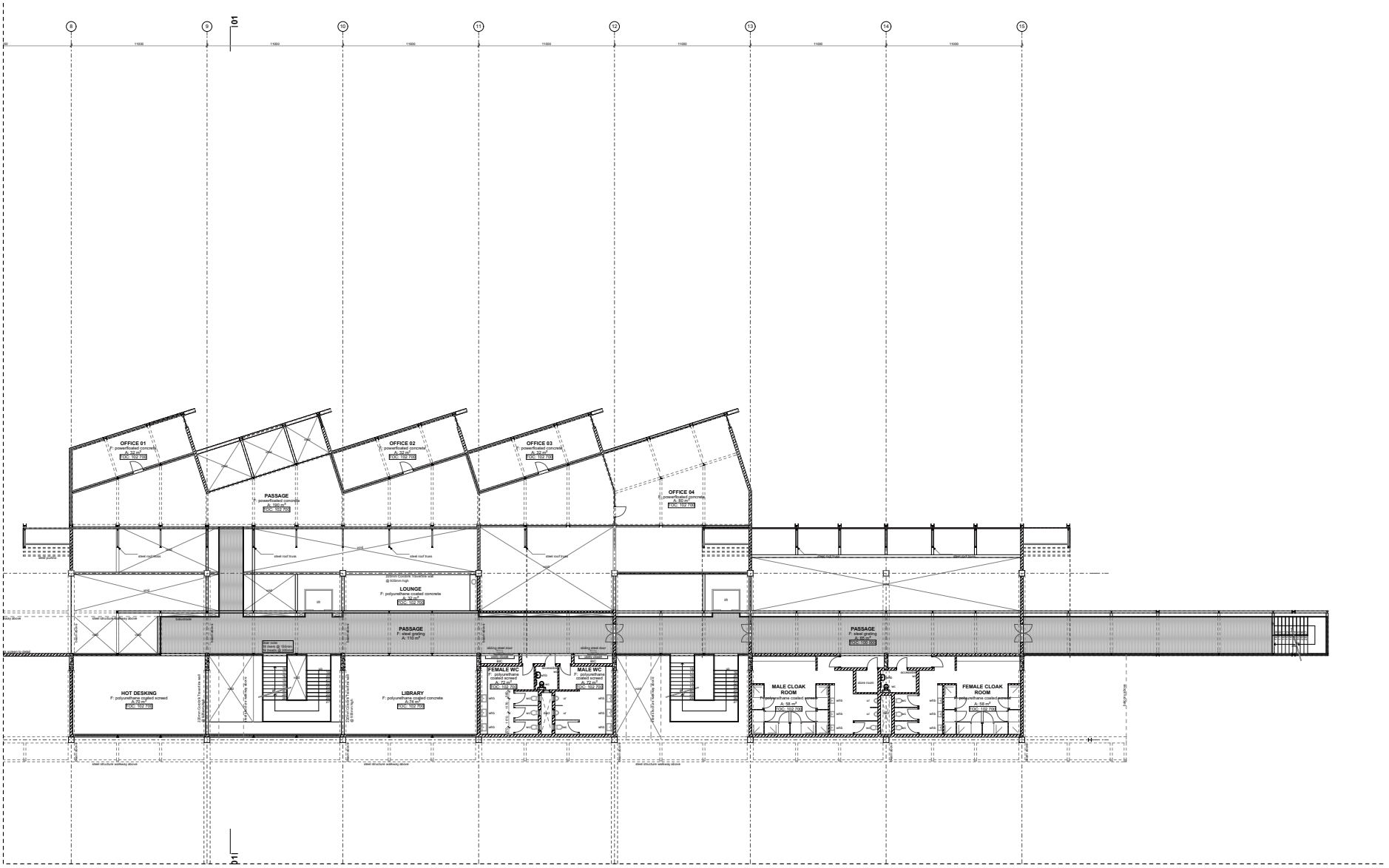
Set Design & Physical Manufacturing Facility
FOR : Transnet Freight Rail
ON ERF 1964, 11 Long Street, Hilton, Bloemfontein

MEZZANINE FLOOR PLAN | A

areas
GA

type
101 A

jan willem **RAS** | 2012 04 11 39



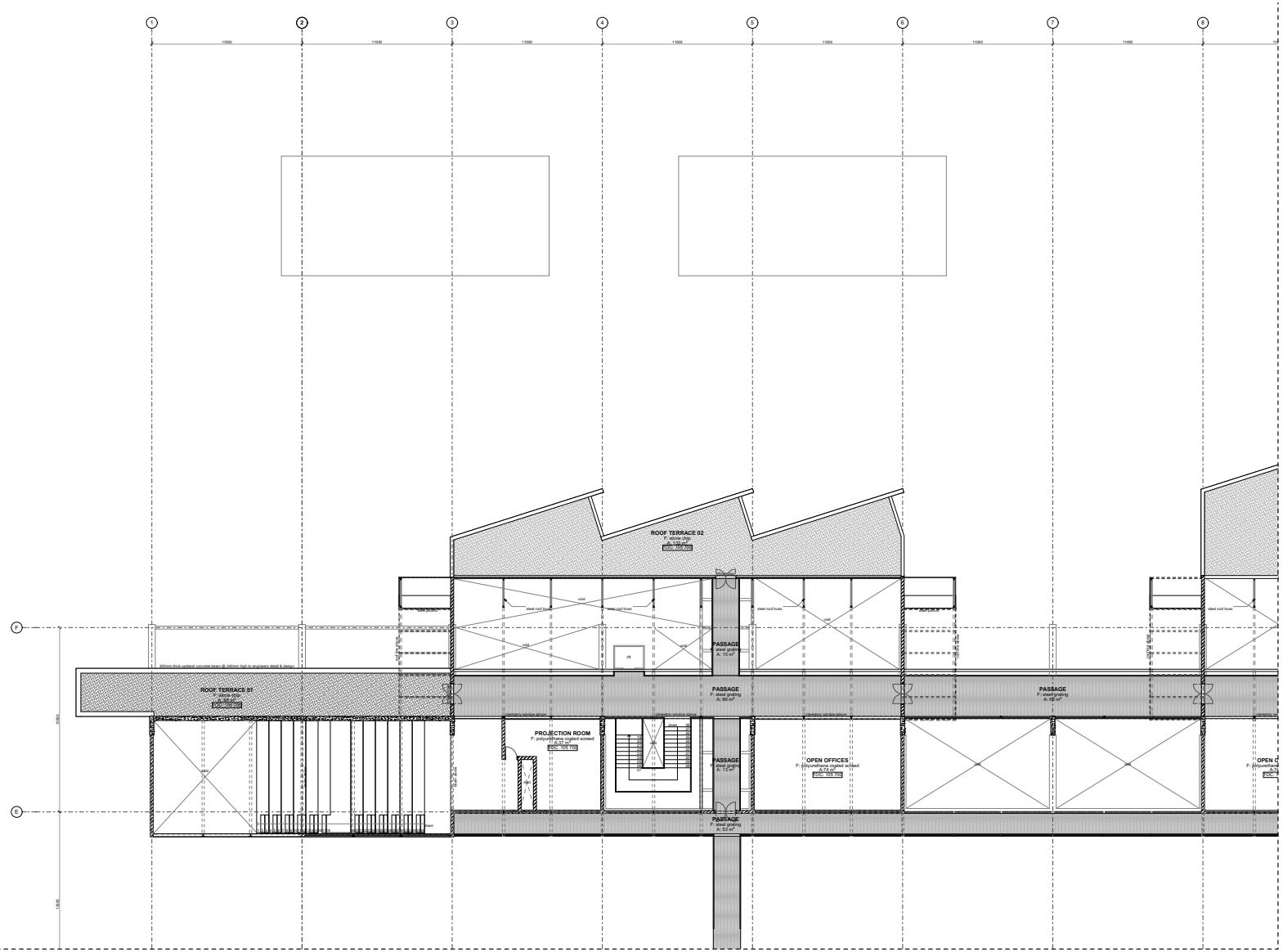
MEZZANINE FLOOR PLAN | B
SCALE 1:100

Set Design & Physical Manufacturing Facility
FOR : Transient Freight Rail
ON GRF 1964 11 Long Street, Hilton, Bloemfontein

MEZZANINE FLOOR PLAN | B

SERIES GA | TYPE 101 B

jan willem **RAS** | 2012 04 11 39



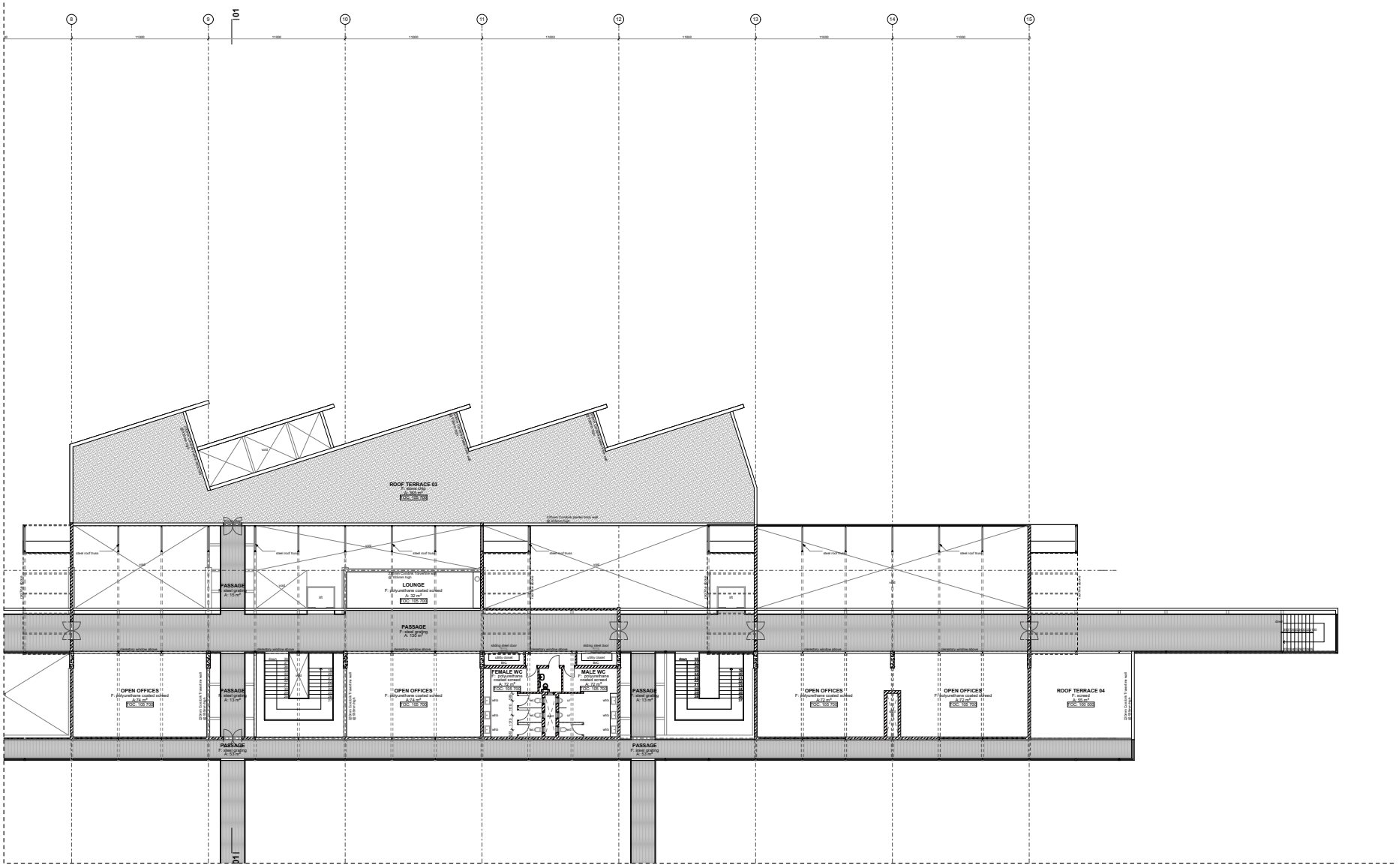
FIRST FLOOR PLAN | A
SCALE 1:100

Set Design & Physical Manufacturing Facility
FOR : Transnet Freight Rail
ON ERF 19644, 11 Long Street, Hilton, Bloemfontein

FIRST FLOOR PLAN | A

ASSESS: GA | TYPE: 102 A

jan willem **RAS |** 2012 04 11 39



N

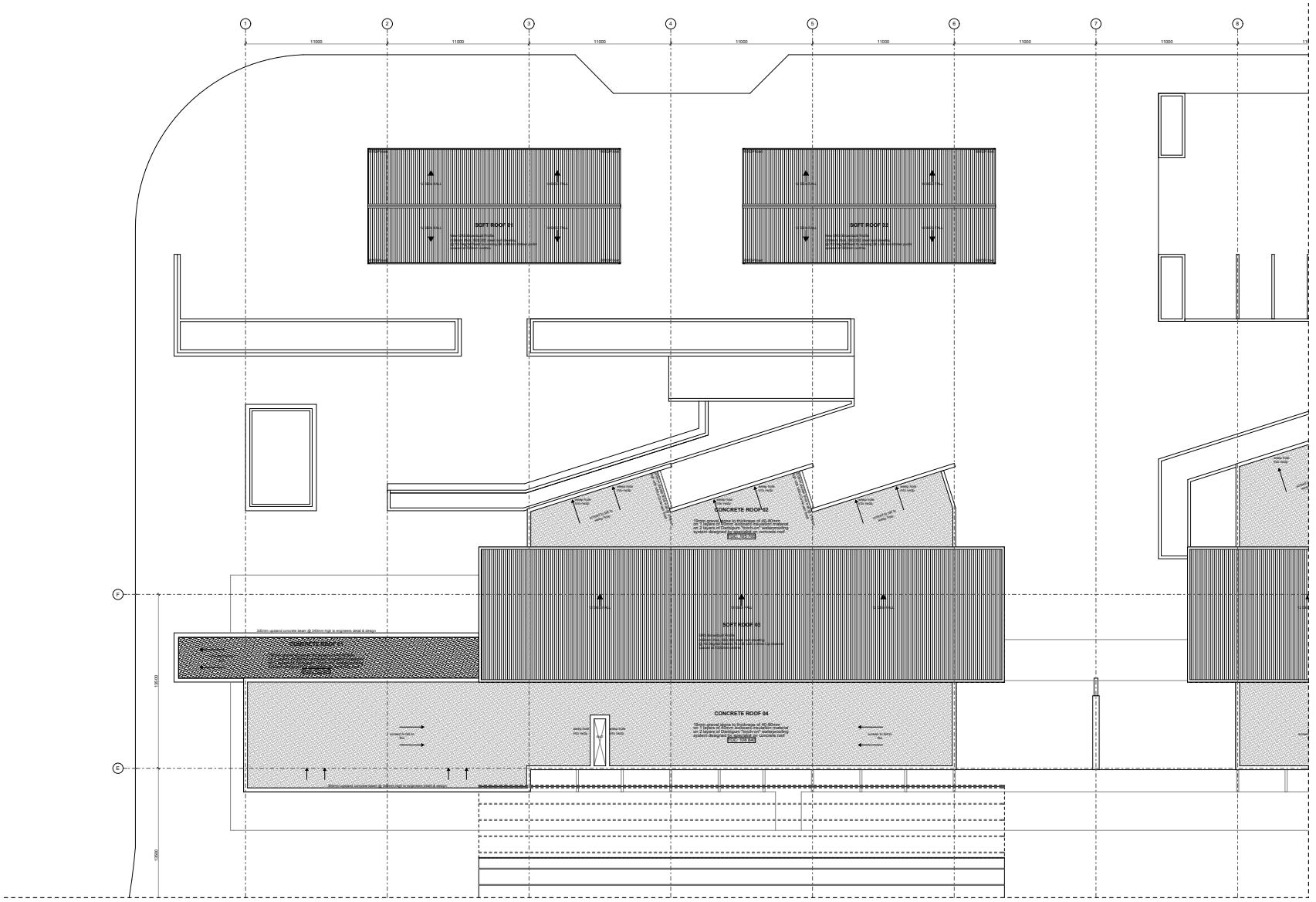
FIRST FLOOR PLAN | B
SCALE 1:100

Set Design & Physical Manufacturing Facility
FOR : Transnet Freight Rail
ON ERF 1964, 11 Lang Street, Hilton, Bloemfontein

FIRST FLOOR PLAN | B

sheets GA | type 102 B

jan willem **RAS |** 2012 04 11 39



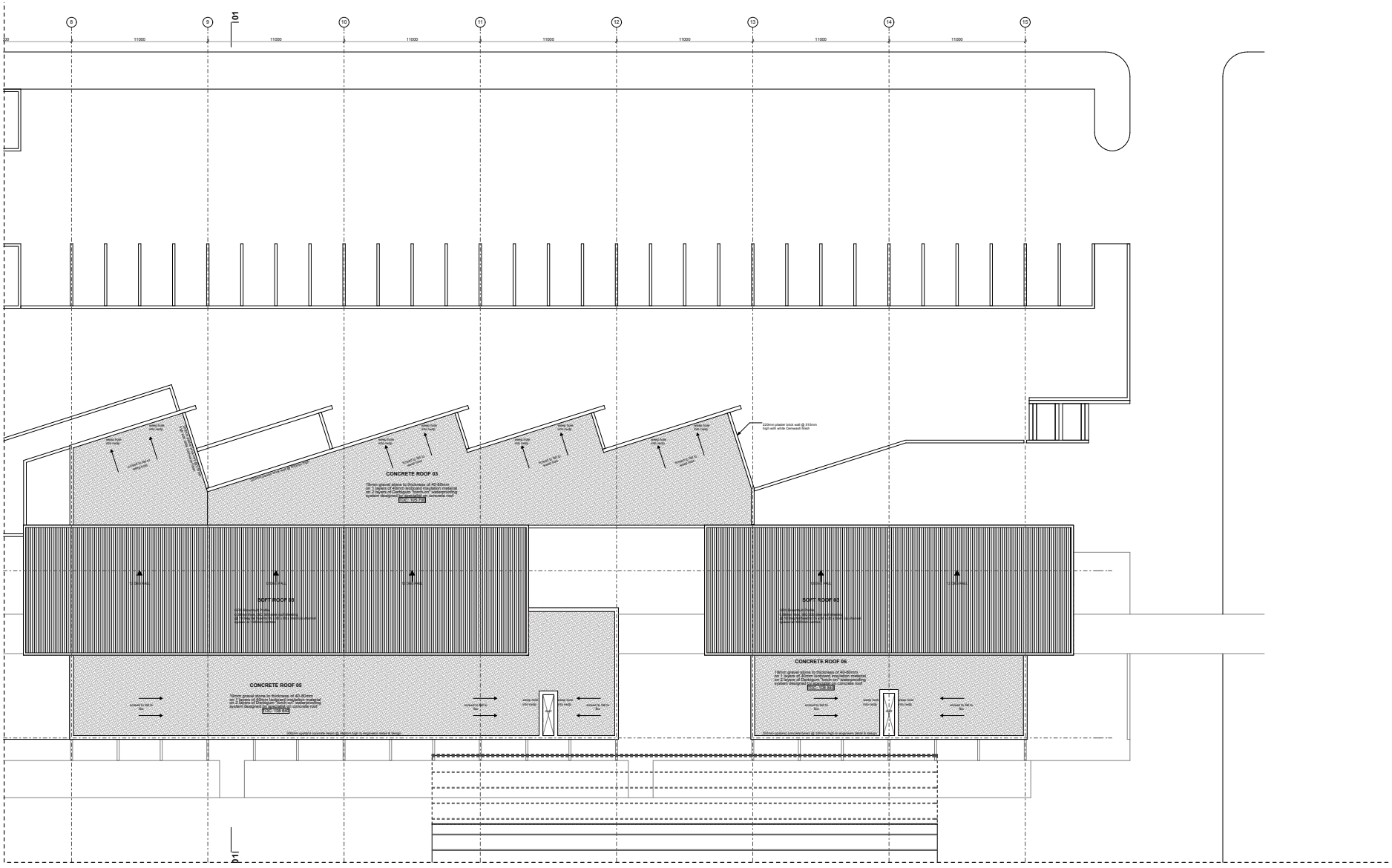
ROOF PLAN | A
SCALE 1:100

Set Design & Physical Manufacturing Facility
FOR : Transnet Freight Rail
ON ERF 1944, 11 Long Street, Hilton, Bloemfontein

ROOF PLAN | A

GA | 103 A

jan willem **RAS |** 2012 04 11 39



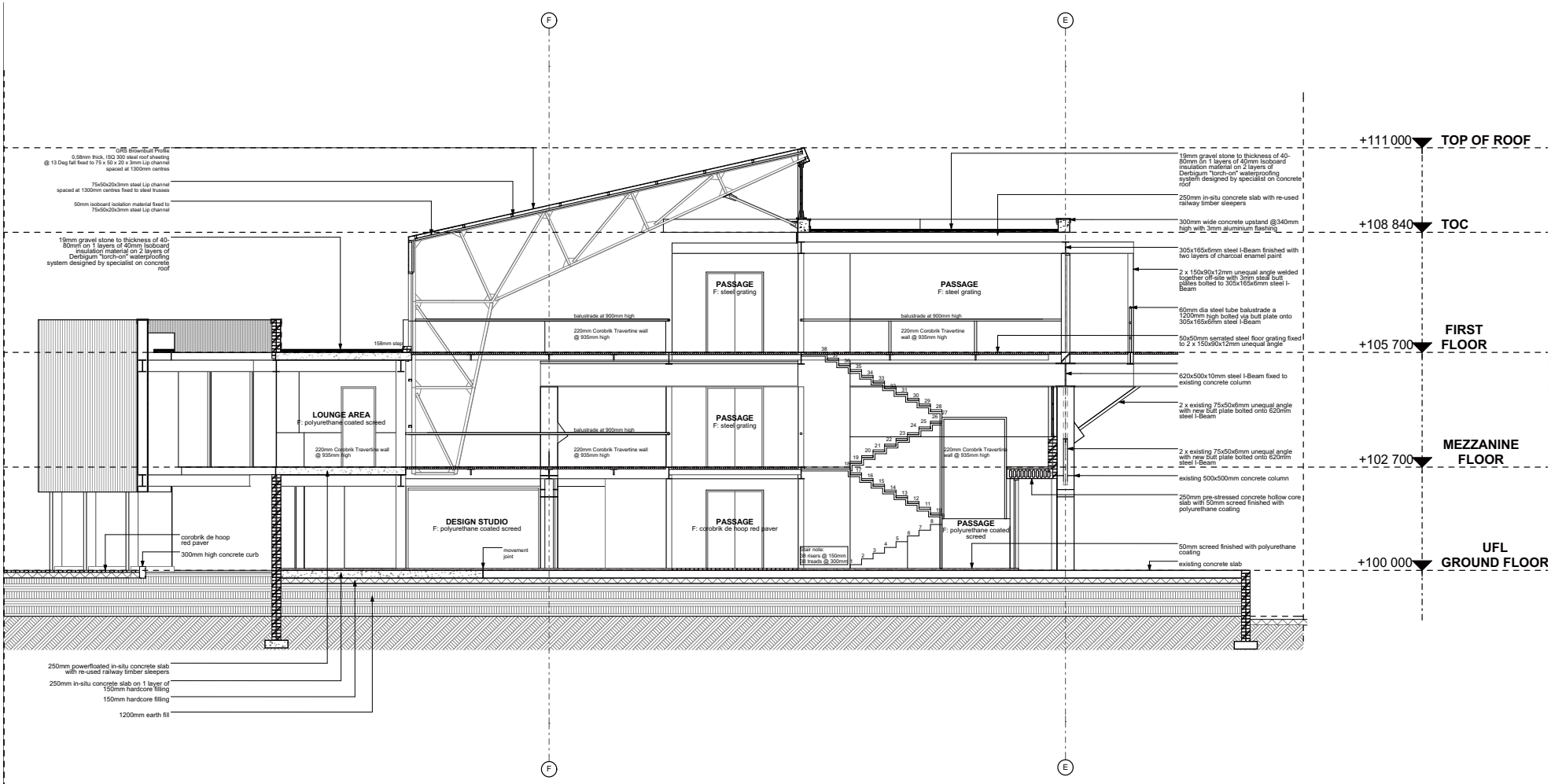
ROOF PLAN | B
SCALE 1:100

Set Design & Physical Manufacturing Facility
FOR : Transnet Freight Rail
ON ERF 1964 , 11 Long Street, Hilton, Bloemfontein

ROOF PLAN | B

SERIES GA | TYPE 103 B

jan willem **RAS |** 2012 04 11 39



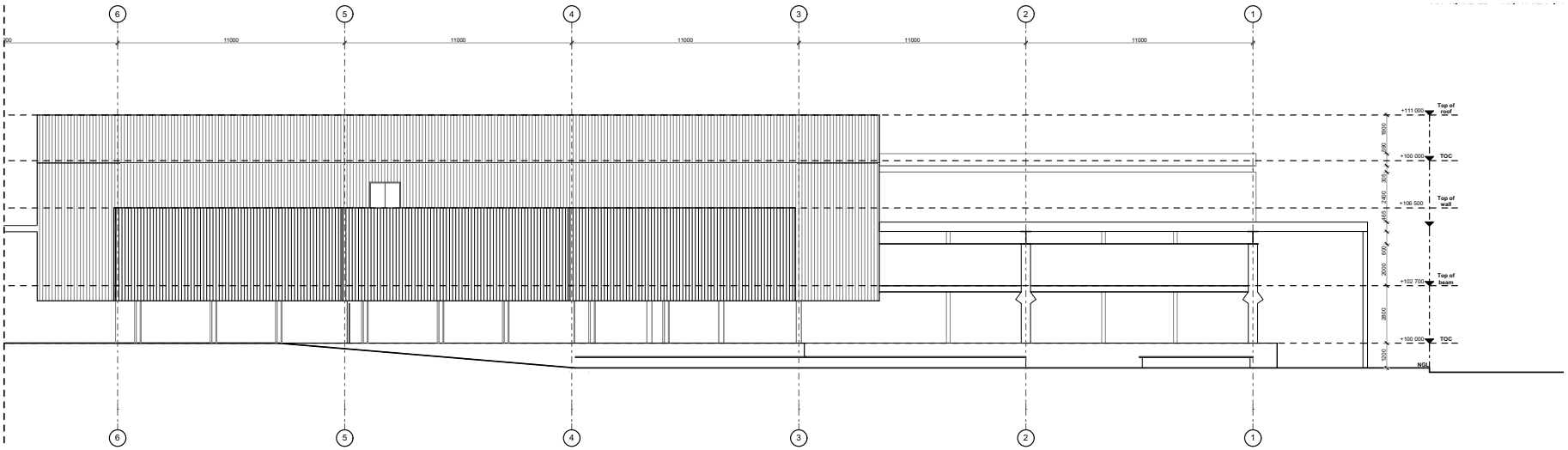
SECTION | 01
SCALE 1:50

Set Design & Physical Manufacturing Facility
FOR : Transnet Freight Rail
ON ERF 1964, 11 Long Street, Hilton, Bloemfontein

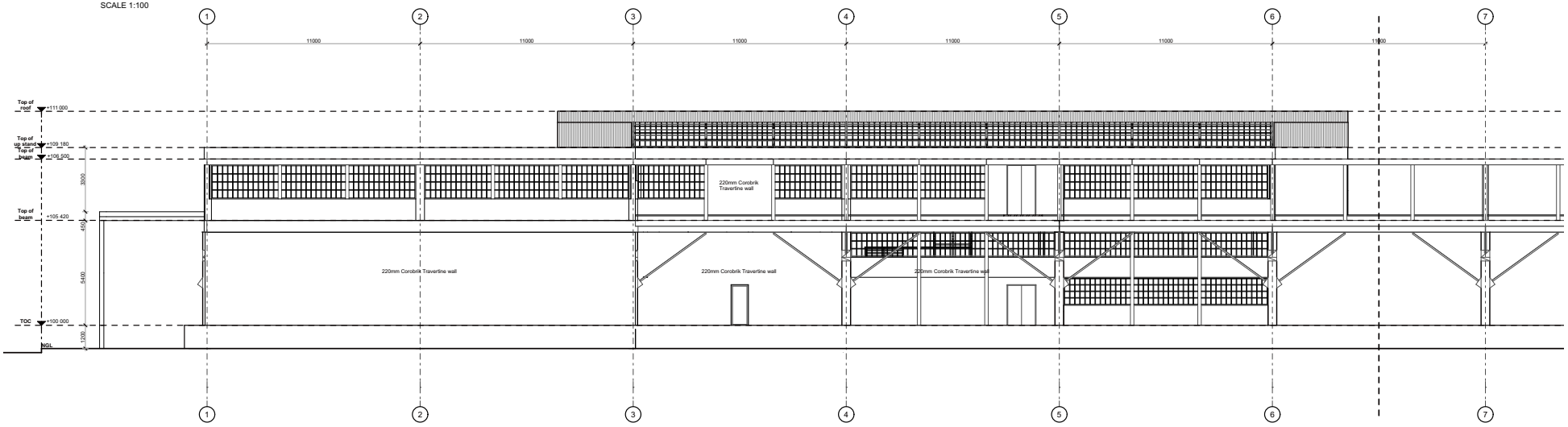
SECTIONS

2018.11.20 | SERIES GA | TYPE 200 |

jan willem **RAS** | 2012 04 11 39



WEST ELEVATION
SCALE 1:100



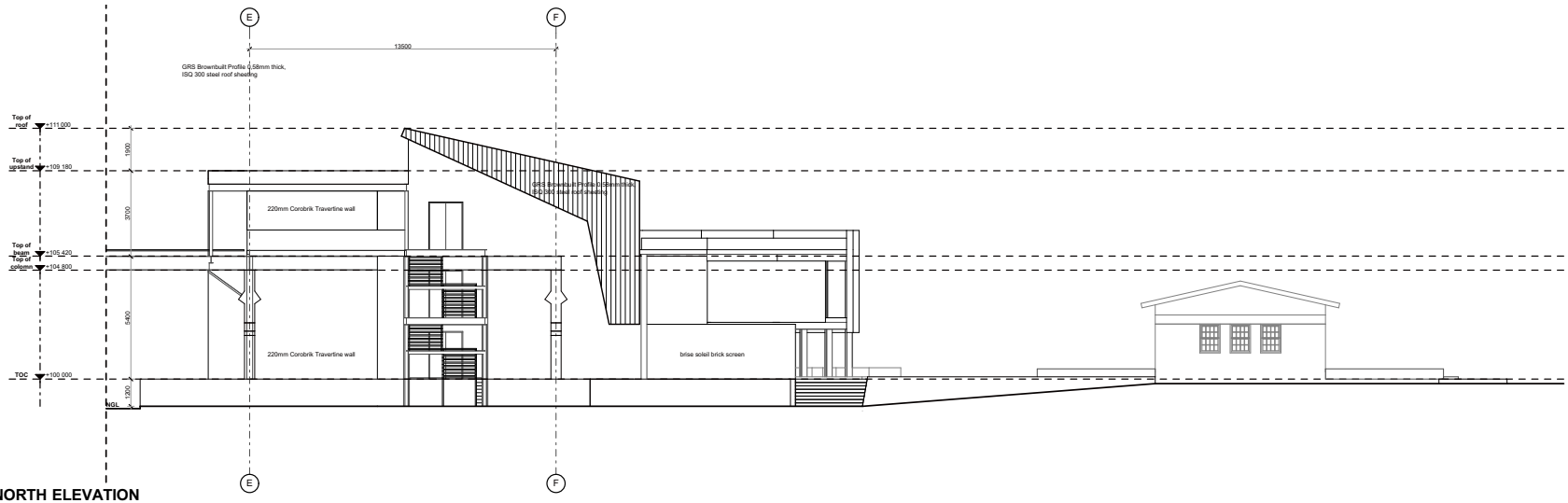
EAST ELEVATION
SCALE 1:100

Set Design & Physical Manufacturing Facility
FOR : Transnet Freight Rail
ON ERF 1964, 11 Long Street, Hilton, Bloemfontein

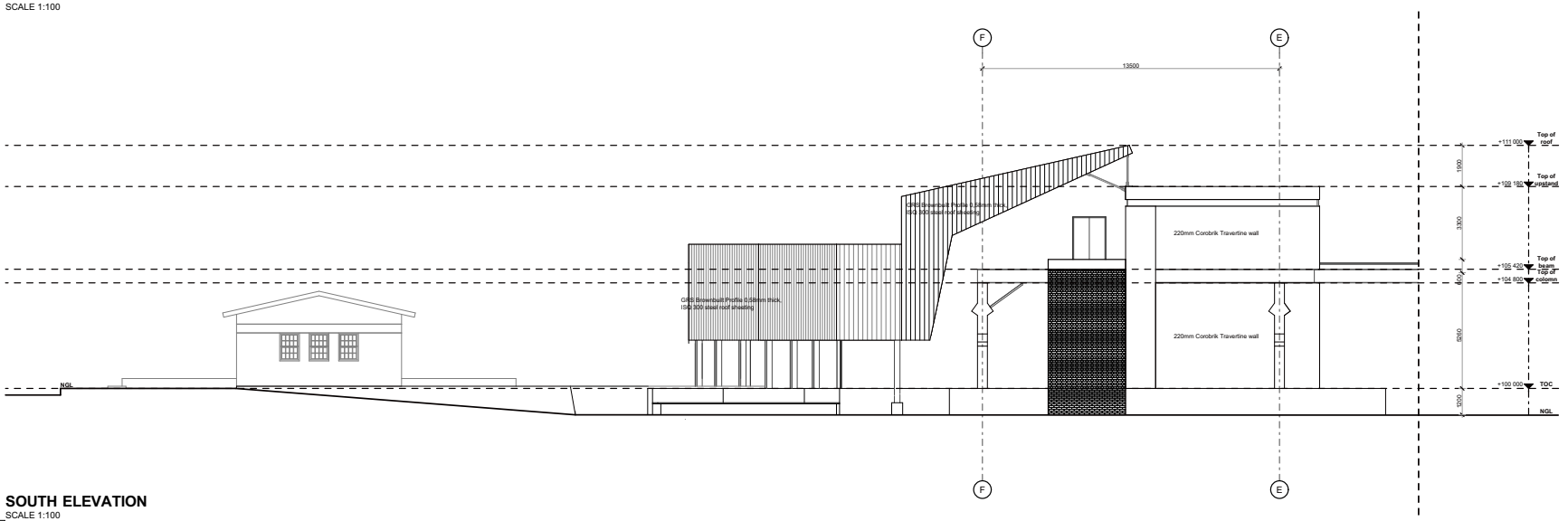
EAST & WEST ELEVATION

2019.11.20 | SERIES GA | TYPE 220 |

jan willem **RAS** | 2012 04 11 39



NORTH ELEVATION
SCALE 1:100



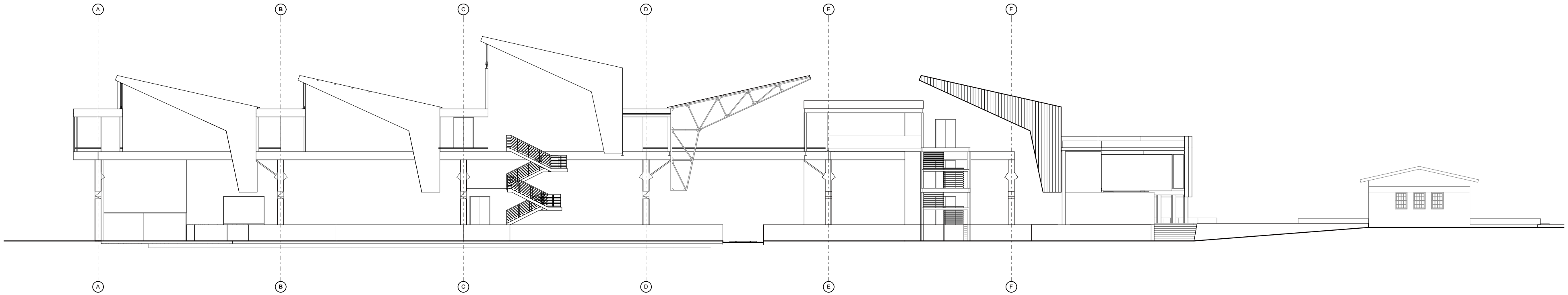
SOUTH ELEVATION
SCALE 1:100

Set Design & Physical Manufacturing Facility
FOR : Transnet Freight Rail
ON ERF 1964, 11 Long Street, Hilton, Bloemfontein

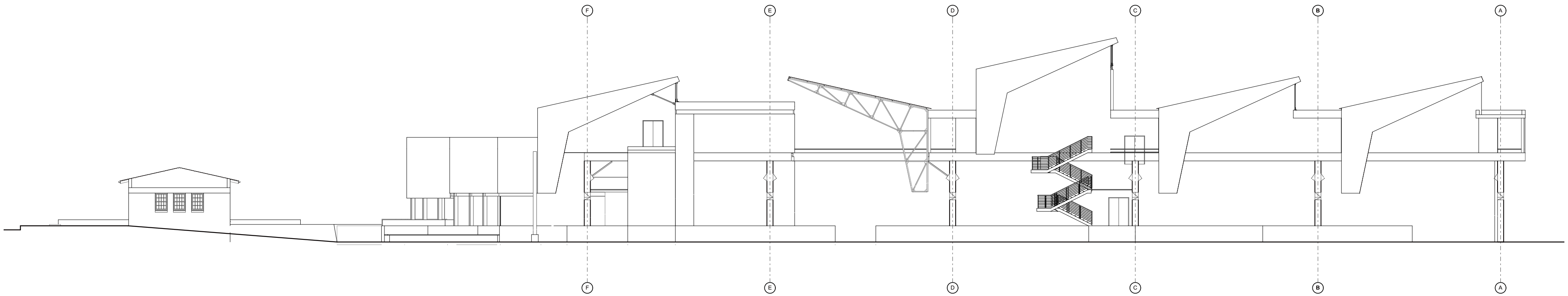
NORTH & SOUTH ELEVATION

2019.11.28 | SERIES GA | TYPE 221 |

jan willem **RAS** | 2012 04 11 39



NORTH ELEVATION
SCALE 1:100



SOUTH ELEVATION
SCALE 1:100

Set Design & Physical Manufacturing Facility

FOR : Transnet Freight Rail
ON ERF 1964, 11 Long Street, Hilton, Bloemfontein

ELEVATIONS

2019.11.20 | SERIES GA | TYPE 221

jan willem **RAS |** 2012 04 11 39

CONCLUSION

08

Reflection

Revelations

The design process has revealed that it is possible to create a temporary escape through the conceptual exploration of theatrical space. Theatrical space is not limited to cinemas and theatres. The challenge was in understanding how these spaces are created. The conceptual exploration of Bloemfontein as a theatre helped to understand this as well as how to recreate them under different circumstances.

I am thankful that the chosen site was not a virgin site as I think that would have complicated the conceptual approach of disruption.

Challenges

The biggest challenge was as the theoretical exploration revealed; to create a disruption that is still structurally sound. It became such an issue, especially with the roofs, that it became a situation of the tail waggin the dog. The actual design process was halted many times in an attempt to transform the conceptual explorations into architecture. It was a back and forth process. As soon as the space seemed to be working, there would be structural problems, and vice versa. All in all it was a good challenge to see how far one can push the limits.

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