

RACHEL
WILSON

ARCHITECTURAL PORTFOLIO

2012-2018



INDEX (TIMELINE)

2013
2014
EDUCATION

Degree
Honours
Masters



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2015
2018
TRAVELS

Africa | Europe
Asia | Australia
America



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2016
2018
WORK

Candidate - Professional

SAOTA

PAGE 25-50

2013
2014
CRAFT

Model Making
Visual Art Studio



PAGE 51-52

EDUCATION

University of Johannesburg

2012-2014



HETEROTOPIA

RDP : Hidden Layers

Alexandra, Johannesburg

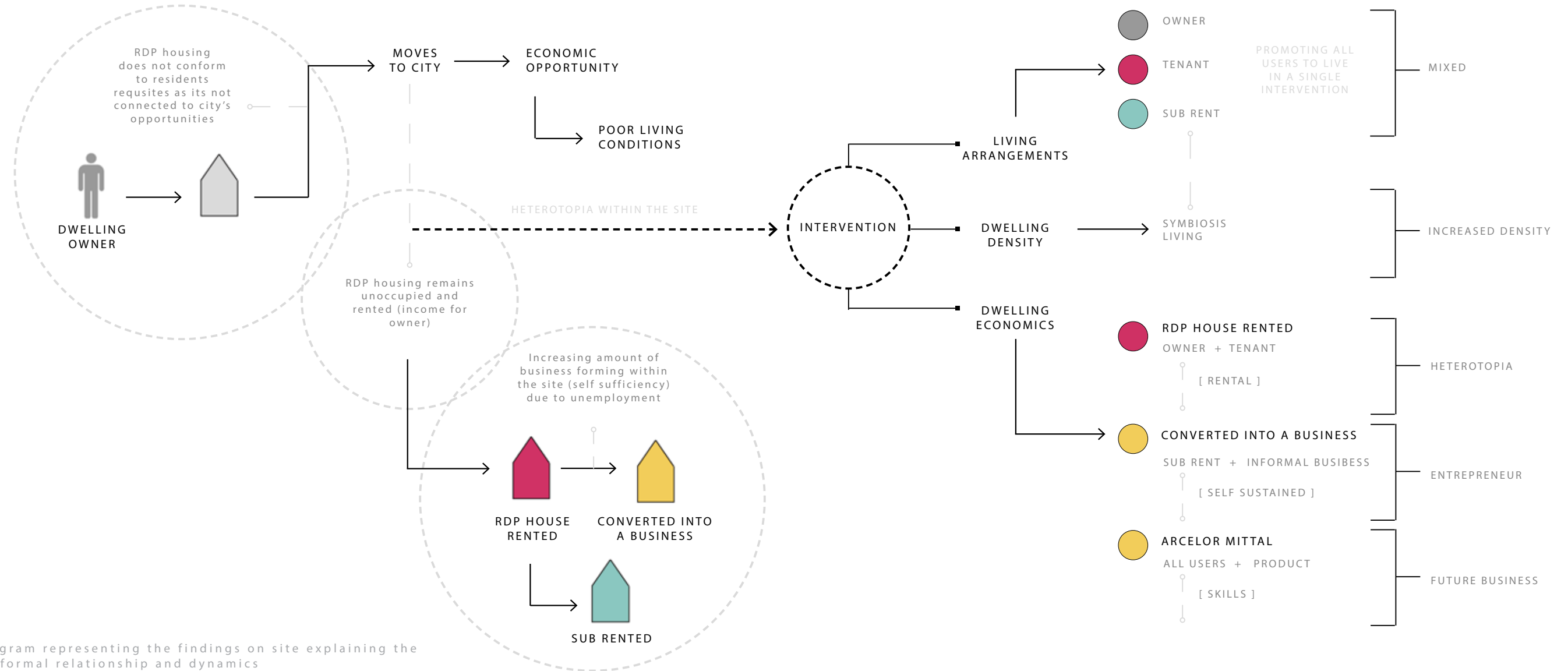
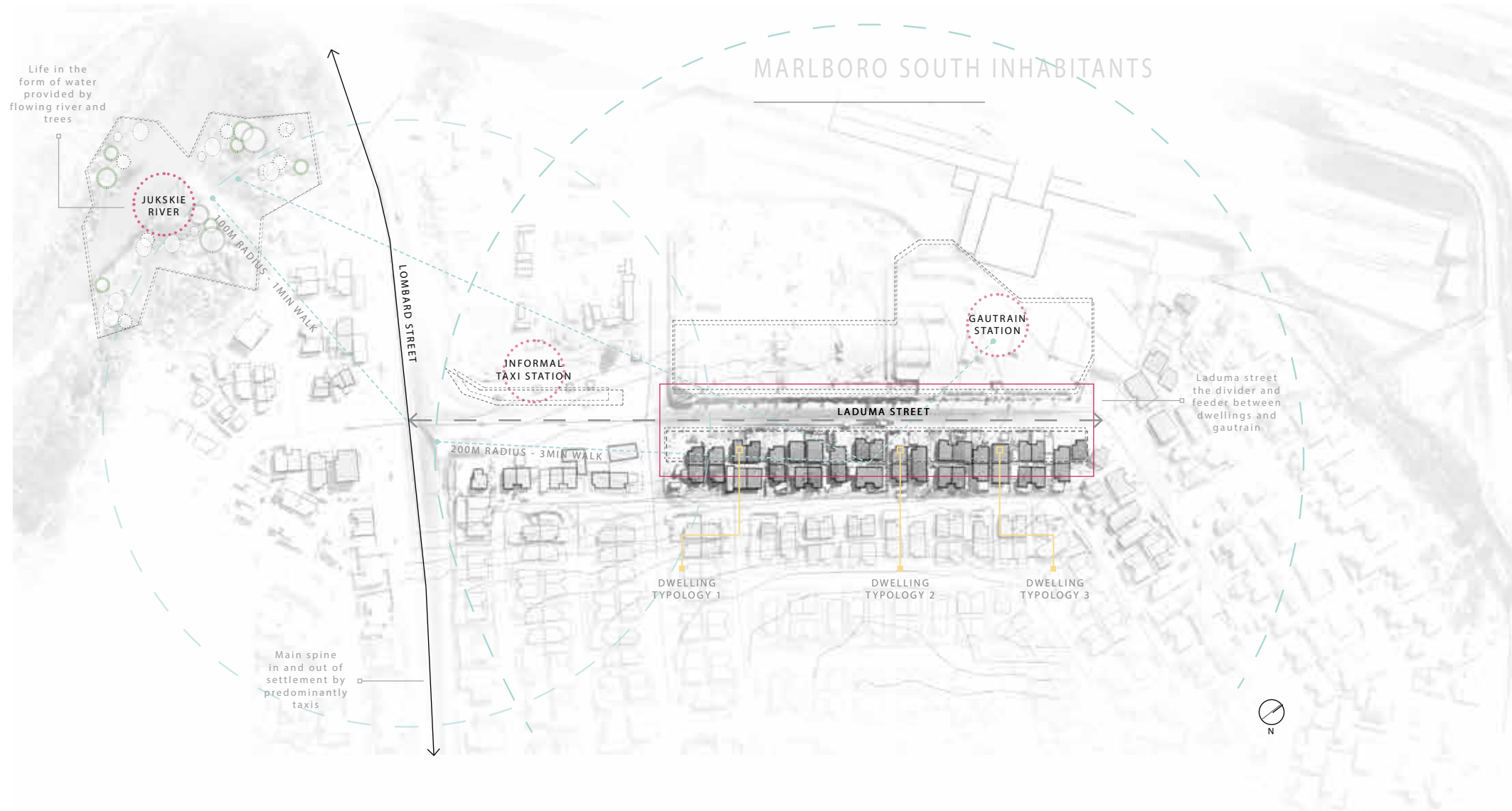


Fig 01: A diagram representing the findings on site explaining the informal and formal relationship and dynamics



ALTERNATIVE NARRATIVES

After the advent of a democratic government and the repeal of restrictive apartheid laws after 1994 the population of Alexandra increased dramatically. People from rural areas in South Africa and neighboring countries searching for employment and economic opportunities around the urban cities of Gauteng province flocked into Alexandra, dramatically overloading an infrastructure already under strain. Congestion in informal settlements, hostels and along the banks of the Jukskei River made living conditions stressful, unhealthy and dangerous. The Reconstruction Development Programme came into existence to rectify this problem and inevitably lead to the upgrading of the area through RDP housing.

This transformation has re-established the function of the housings original purpose, ascertaining a heterotopian space, as majority of these rented spaces are business in a form of either services or retail. Therefore what is perceived as a simple housing community is in actual fact a space of multi-functions and veiled layers known as a heterotopia or an in-between space (a space not conceived as its real function).

CONFORMING TO ASPIRATIONS: INHABITANTS

The architectural intervention takes on a sensitive approach which includes the inhabitants requisites as the core design principle. It is a two phase approach that deals with a short term and a long term intervention. In both cases, on a socio economic level, a degree of densification must be accrued. Most importantly the intervention builds on the existing and accommodates the existing heterotopian systems in place.

The design, having existing structures on site for the owners, builds both vertically and horizontally. Density is introduced to the site by increasing the heights of the buildings as well as volume on the ground floor. The additional ground floor structure provides an opportunity to for the owner to rent out a space whilst still having his own space. This formula intends to promote the owners to stay and be a part of the community as well as offer other families accommodation. This system could possibly be a symbiotic relationship where the tenants repay the owner by money, service or investment.

Social and economic upliftment is a huge factor which needs to be addressed in Marlboro South. Through an attempt to design the peripheral urban landscape with new legal infrastructures, there can be a change from illegal living conditions to a new structure amongst community and government in terms of tenure, ownership or even security. Negotiation and compromise becomes the language of communities, private investors and government.

Alternatives modes of practice which shift the focus on building as a finite product to a process-orientated approach is needed for sites such as this which contain such dynamic layers.

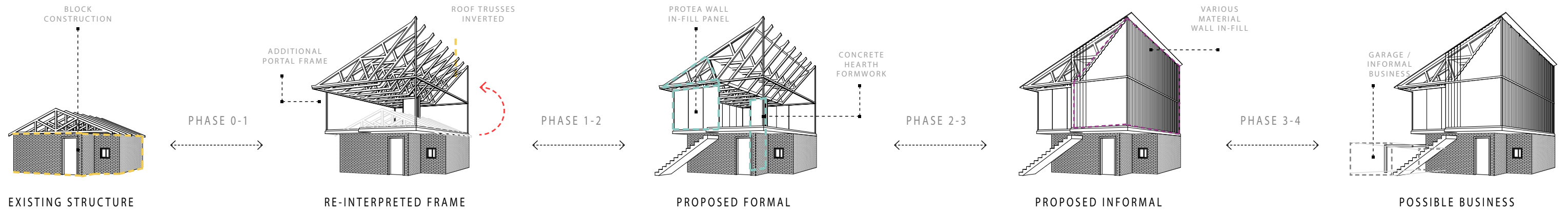
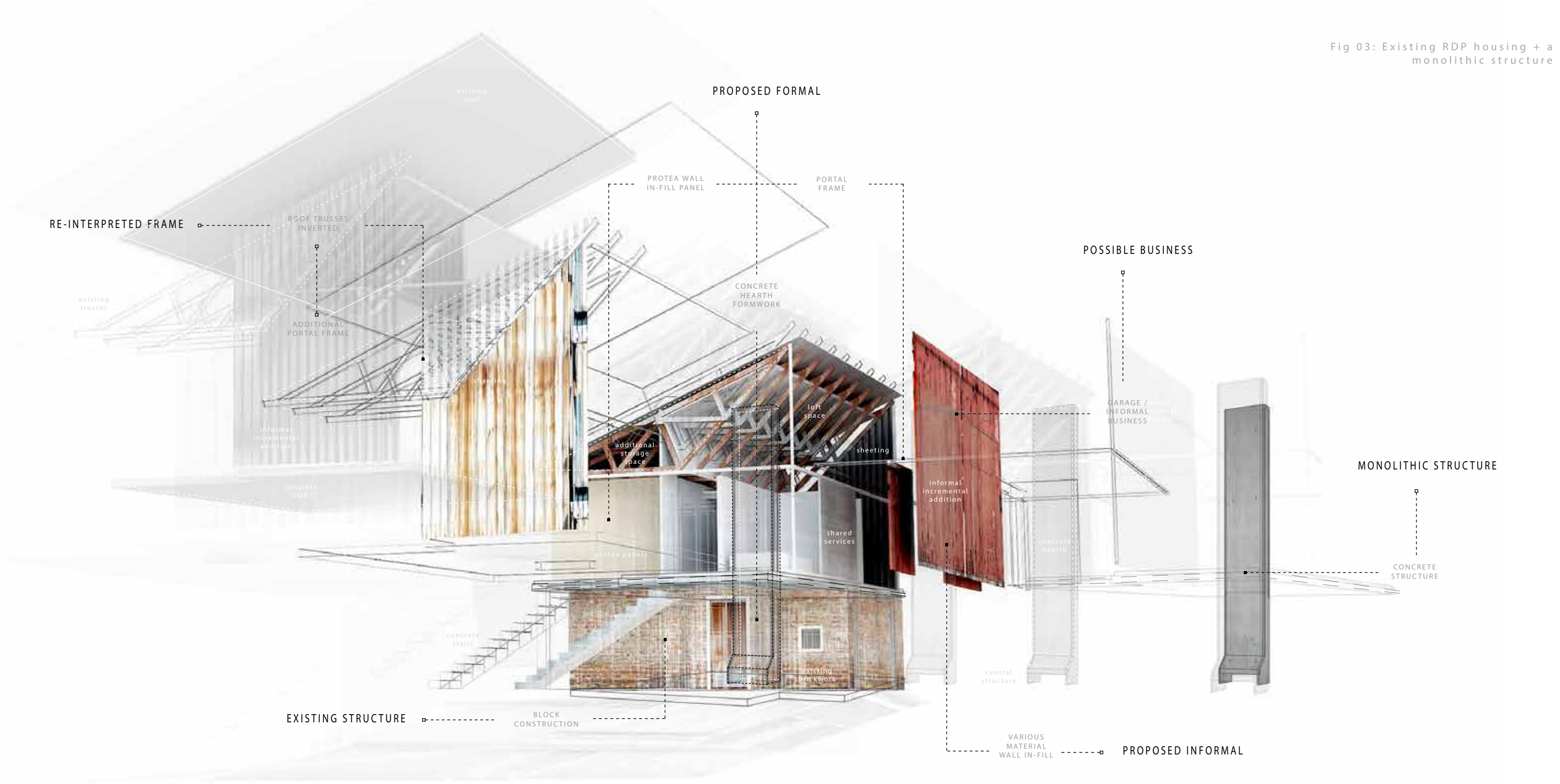


Fig 02: Alternative modes of practice and flexibility in the already existing conditions

Fig 03: Existing RDP housing + a monolithic structure



FIFTH YEAR
Honours



A RE-SCRIPT OF THE CITY

An Identity Tower

Newtown Precinct,
Johannesburg



ARCHITECTURAL BRIEF

The elevated M1 highway running through Braamfontein and Newtown was one of the first sections of the city's new (1975) highway system to be built and required that the western facade of Museum Africa was demolished. It was named the De Villiers Graaff motorway after the leader of the United Party who led the opposition during three terms of the apartheid government. New sections of the highway were commissioned over time.

Just as the Berlin Wall separated East and West Germany, the elevated M1 highway is a physical representation which embodies a complex reference to segregation and historical precedent of apartheid in Newtown. "The motorways, conspicuously, did not connect into the vast black ghetto locations. In part they acted as a visual and movement barrier to reinforce segregation".

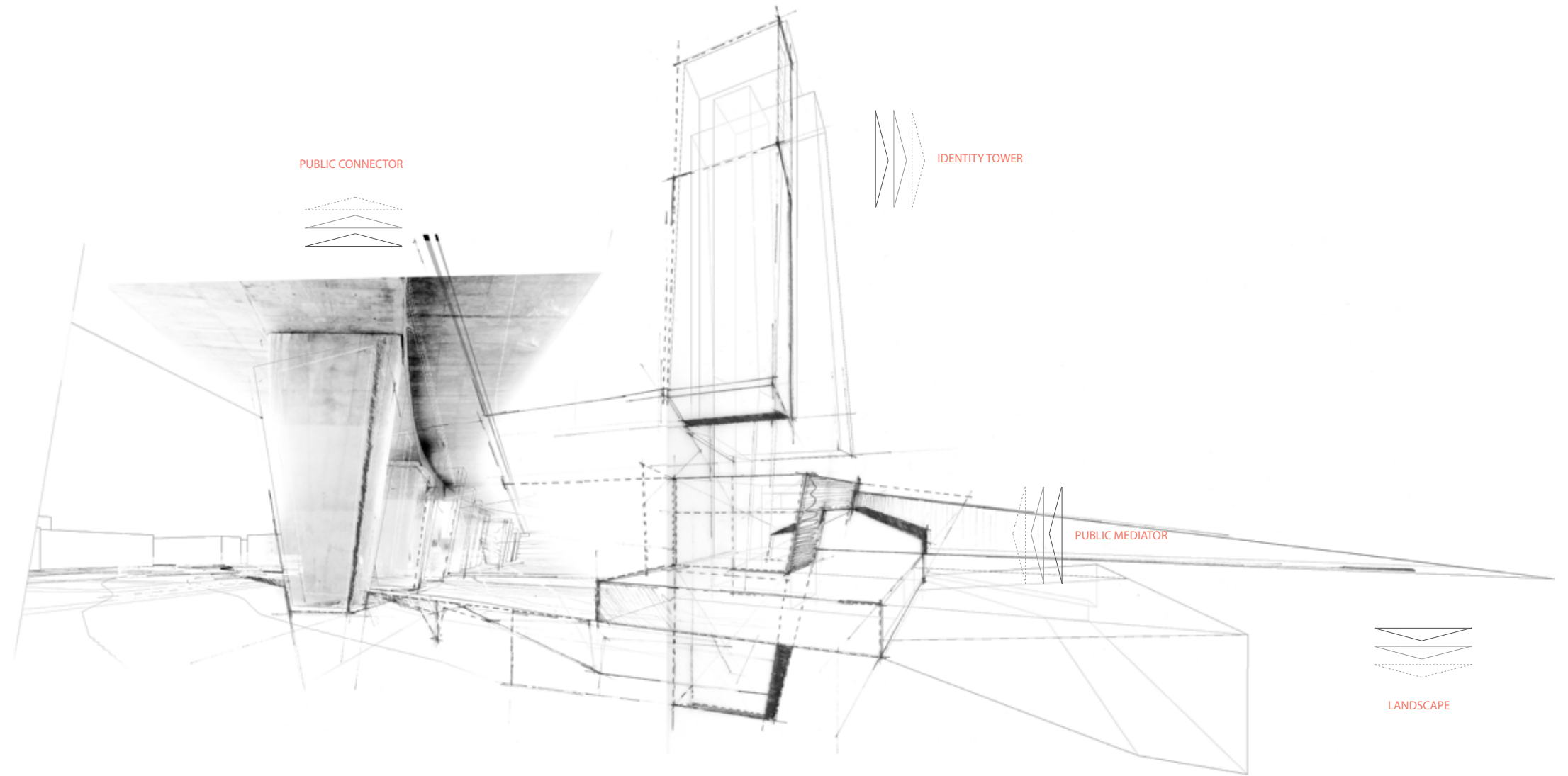
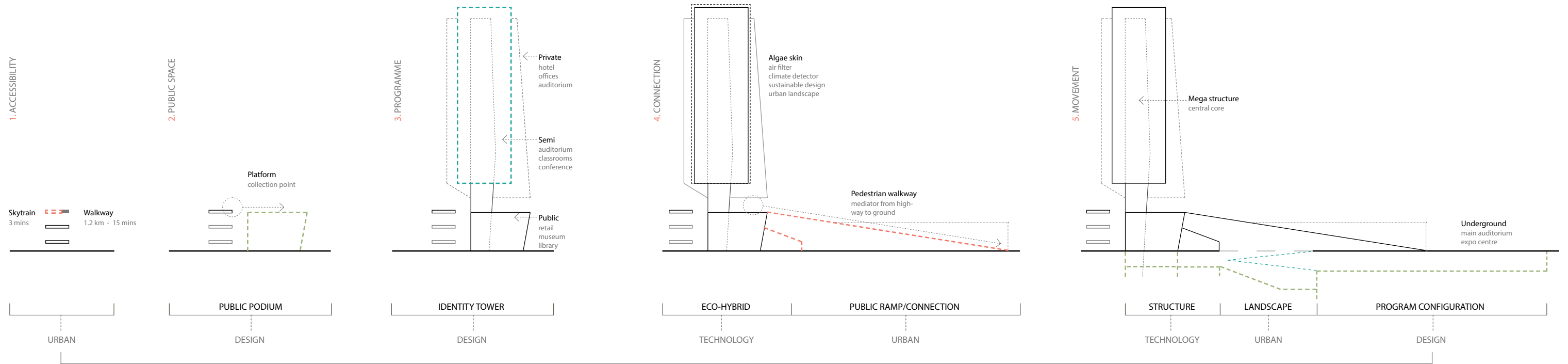


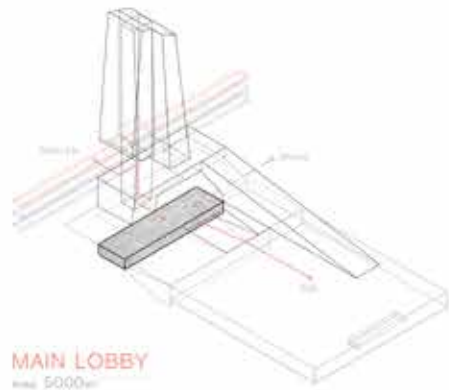
Fig 01: A public mediator between the horizontal elevations

A PUBLIC MEDIATOR

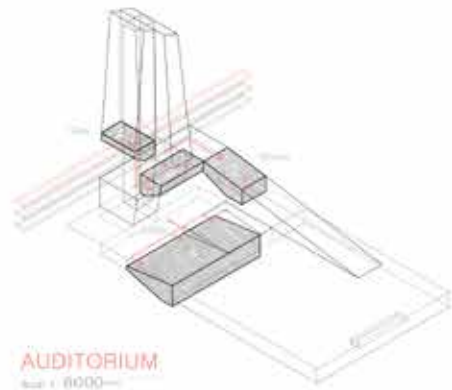
The concept for the design proposal (an identity tower) acknowledges the urban constraints of Newtown (physical separation, poor accessibility and lack of visual direction into the space). The identity tower's intention is to alleviate these constraints by linking the M1 highway, formulating as an urban public transport route, to that of the tower which performs as a landmark (visual beckon), a public podium (drop-off point into Newtown) and a mediator (an object which forms as a gradual circulation) between the horizontal heights. This promotes pedestrian accessibility into the precinct and creates a marker for Newtown.

The identity tower is also expected to create a gateway into the precinct by means of a visual direction indicator and an orientation beckon (like that of the Hillbrow tower). Identity formation and the creation of an urban image is its aim where cultural remembrance and aesthetical reconstruction are a central part in the architectural and urban planning.

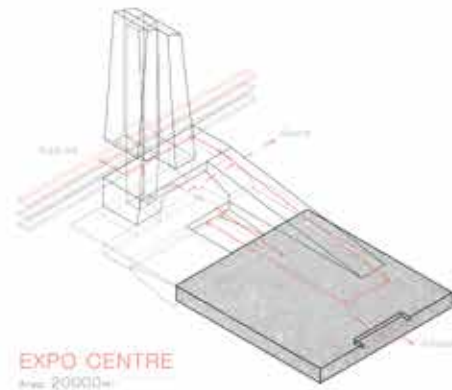




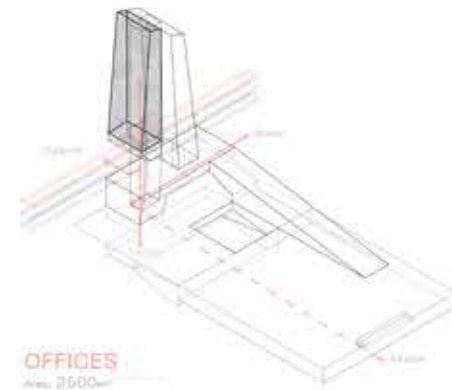
MAIN LOBBY
Area: 5000m²



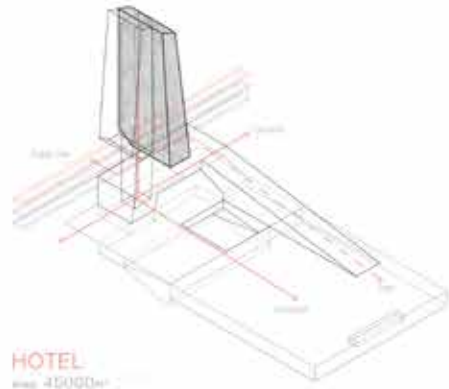
AUDITORIUM
Aud: 8000
Aud: 1500
Aud: 500
Aud: 350



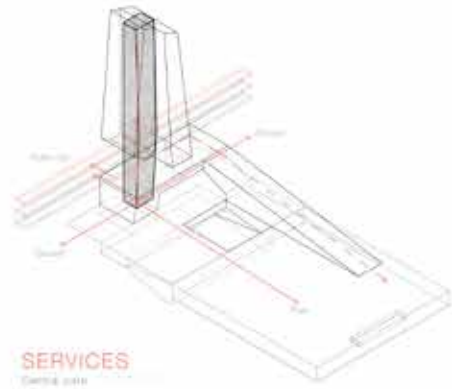
EXPO CENTRE
Area: 20000m²



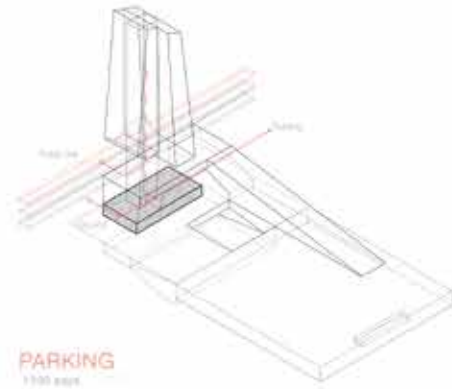
OFFICES
Area: 2500
Area: 8000



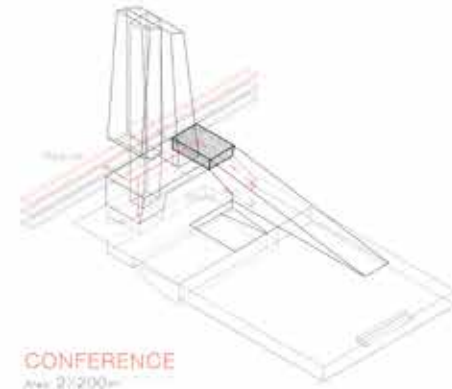
HOTEL
Area: 45000m²



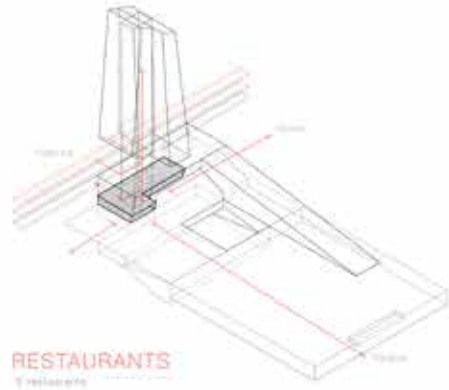
SERVICES
Area: 2000



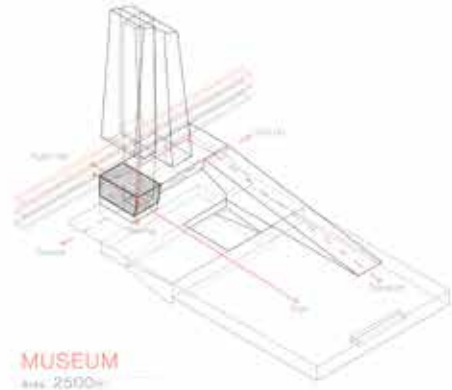
PARKING
1500 spots



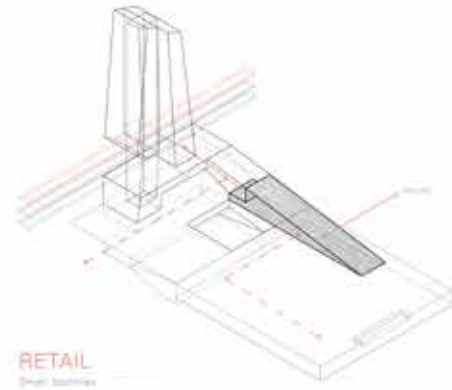
CONFERENCE
Area: 25200
Area: 12580



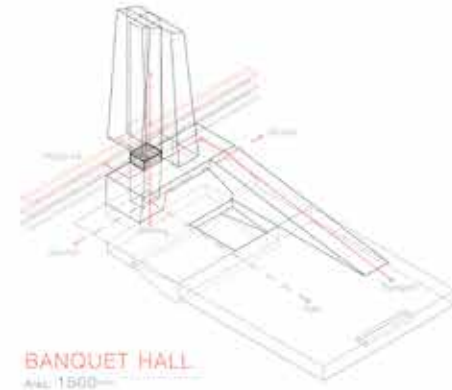
RESTAURANTS
3 restaurants
1.8M 2000



MUSEUM
Area: 25000

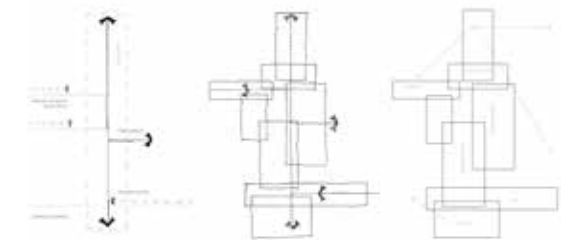


RETAIL
Small boutiques



BANQUET HALL
Area: 1500

Fig 02-03: The sites required programme



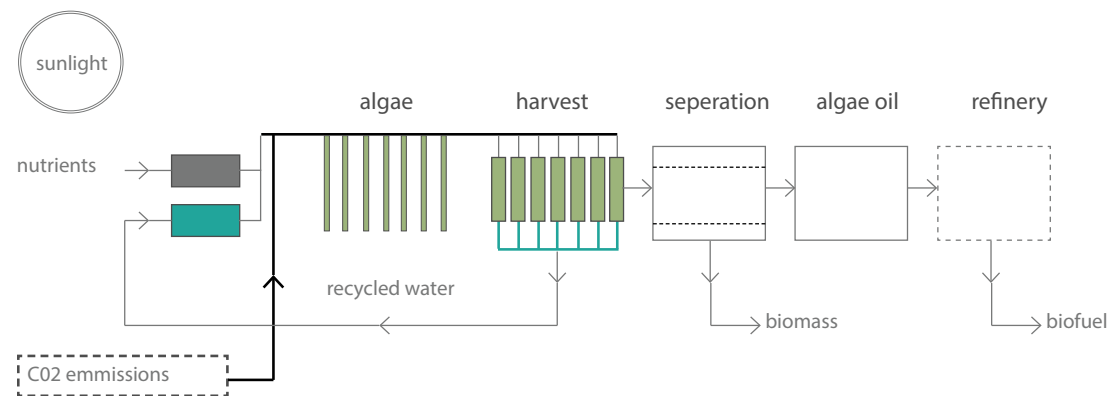
ECO-HYBRID

CO2 and NOx from the car engines on the elevated highway combined with sunlight and rain water collected from the tower provide the sources from which algae can grow. The cultivated algae produces clean water, oil and biomass for use in the production of bio diesel and electricity in the Bio fuel station.

Algae can be used to significantly show the climate variations and changes accruing in our context as well as detects pollution as it changes colours accordingly.

In addition, the algae provides adaptive shading throughout the year; the more intense the sunlight gets, the more algae grows inside the facade and the more shade is provided. Thus photosynthesis enables the facade to react dynamically to changes in solar intensity.

Aside from being able to produce biomass and hydrogen, they can also be used to detect pollution and absorb carbon dioxide while releasing oxygen.



ALGAE GROWTH (EXPERIMENT)

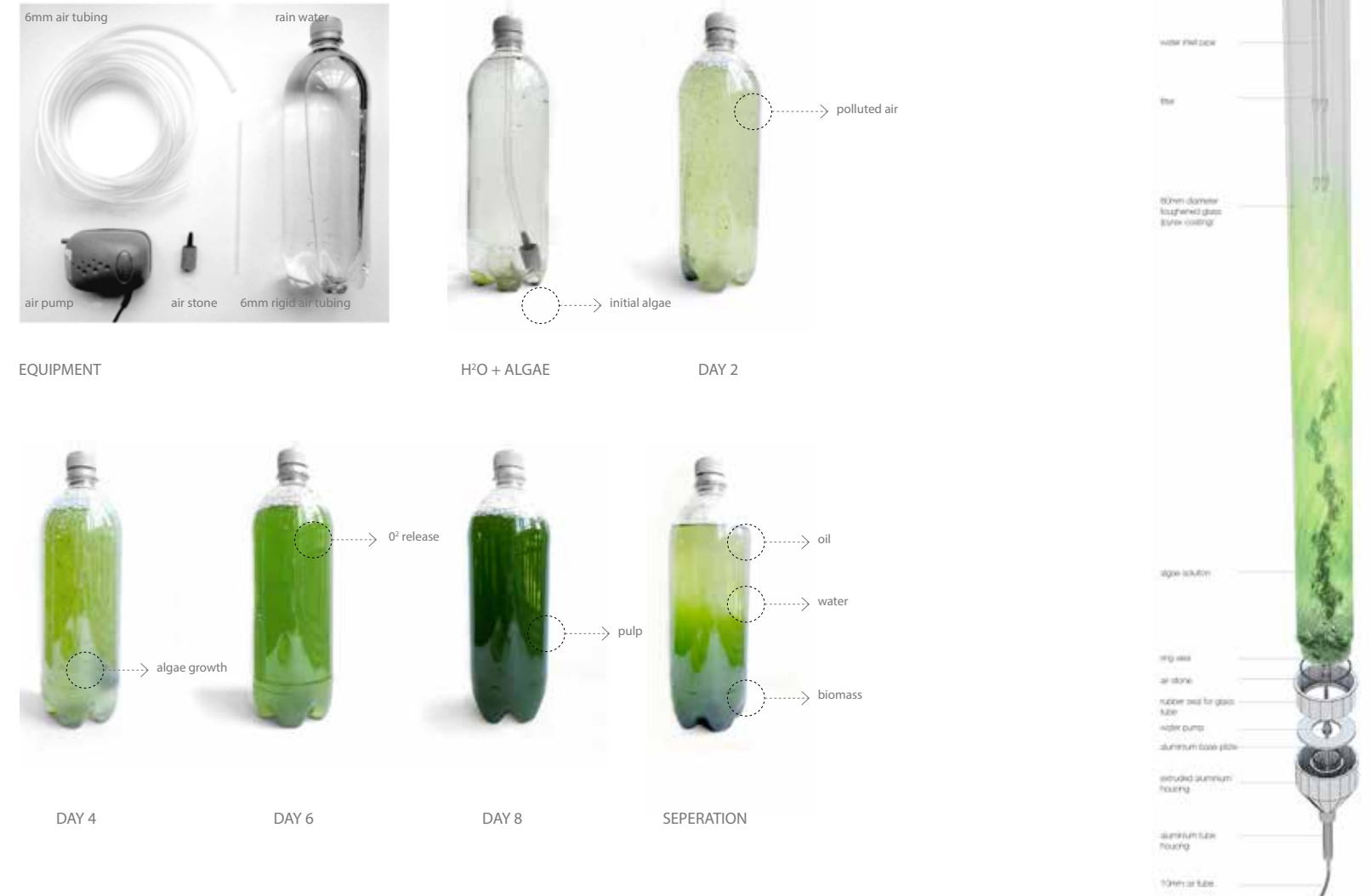


Fig 04: An experiment with algae showing qualities that could potentially be used as a skin/facade

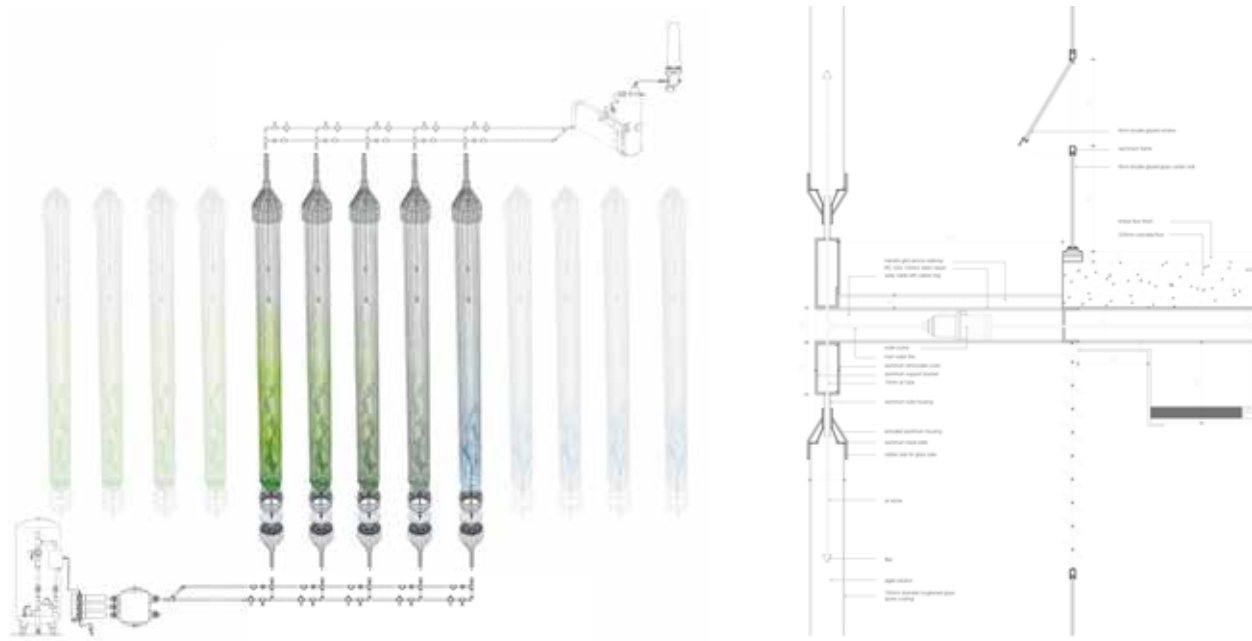


Fig 05: External tube facade detail:
bio-adaptive facade of microalgae

MICRO-ALGAE FACADE

Algae are emerging to be one of the most promising long-term, sustainable sources of biomass and oils for fuel, food, feed, and other co-products. What makes them so attractive are the large number and wide variety of benefits associated with how and where they grow.

The buildings skin consists of a curtain wall cladding with an additional/second skin of hollow glass tubes containing micro-algae farms. Here, the algae floats around basking in the sunlight which hits the structure, while being fed on a diet of carbon dioxide and nutrients by a network of pipes. Photosynthesizing and growing, the algae-pulp can then be periodically harvested and fermented in an external biomass and biogas plant to generate energy. At about the same size as bacteria, microalgae can produce more biofuel per hectare than alternative crops.





RIBA 

WORLD'S BEST GRADUATION PROJECTS AWARDS

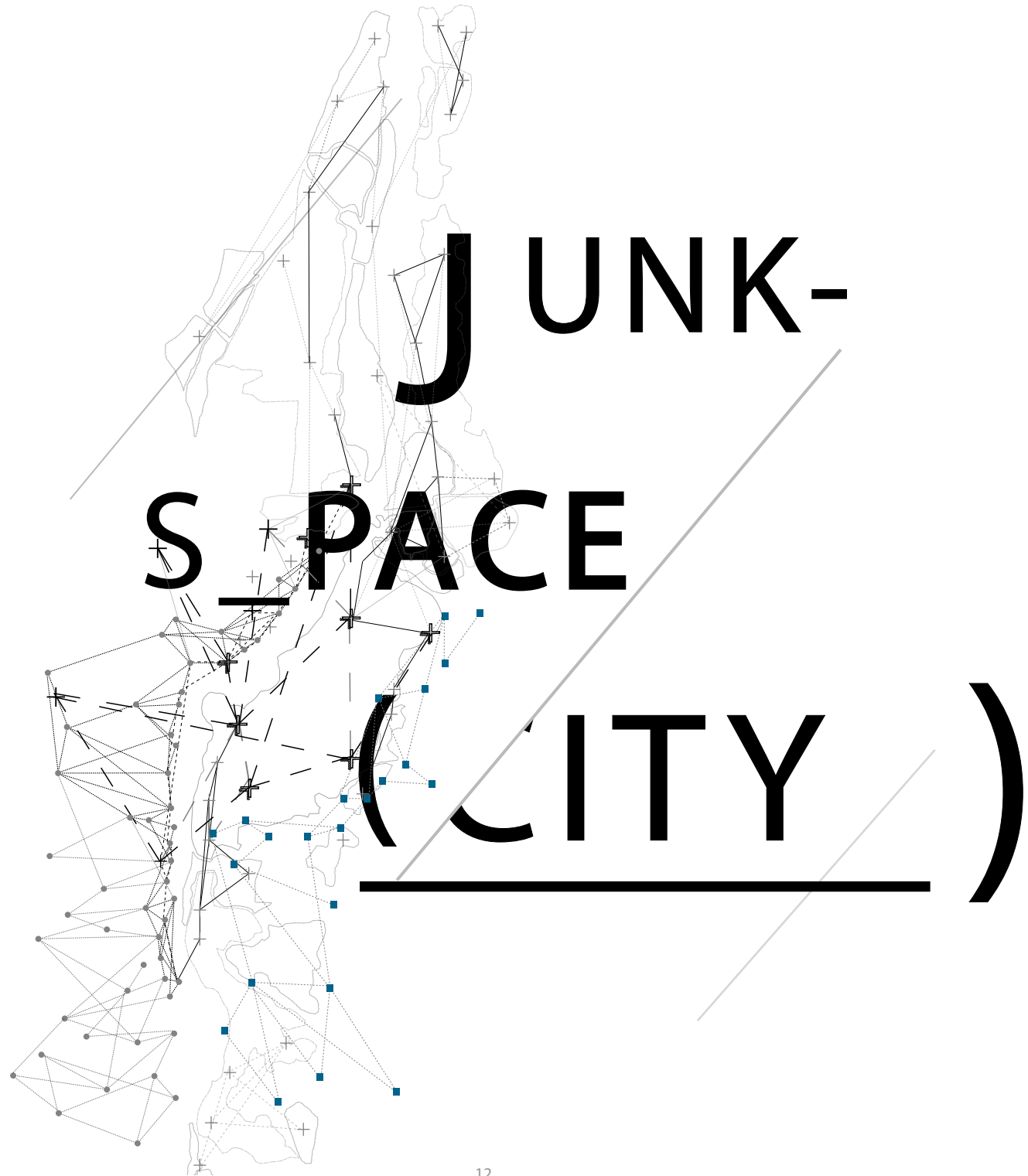
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AMMEDABAD 2017

दुनिया की सबसे अच्छी स्नातक परियोजनाएँ

www.archiprix.org

CEPT UNIVERSITY



K-206 : JUKSKEI RIVER

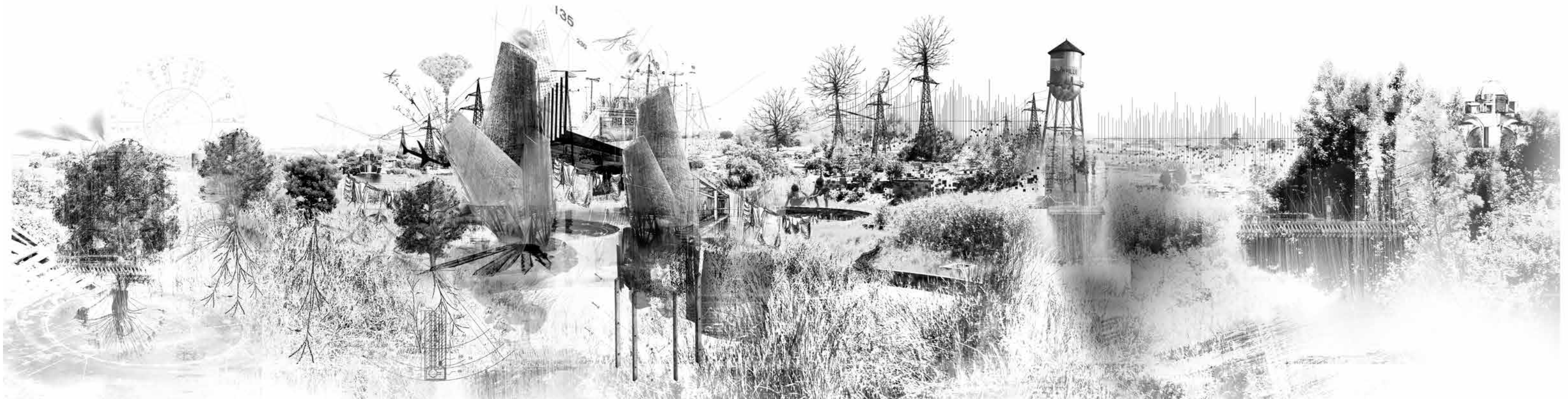
Alexandra, Johannesburg

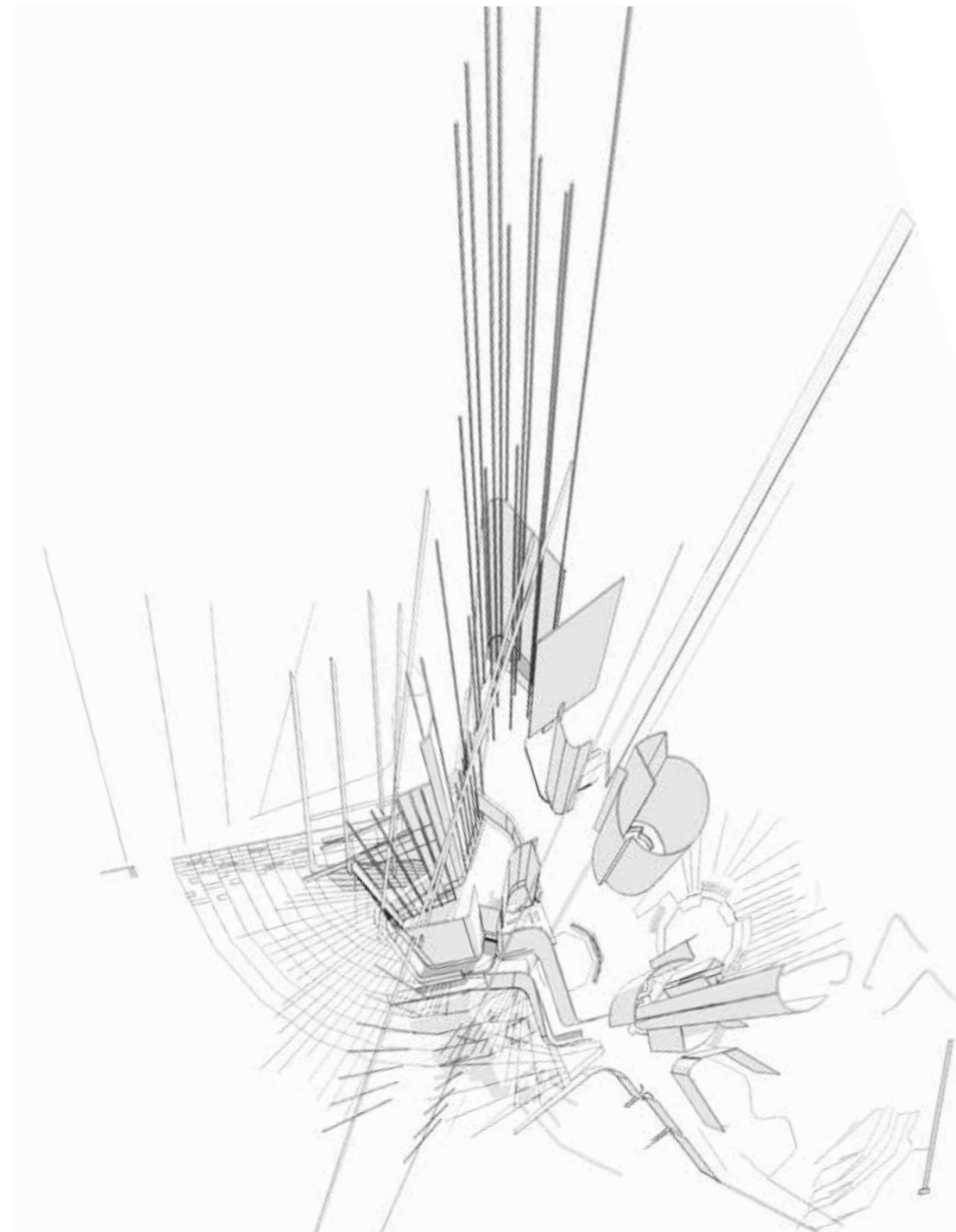


THE INSTITUTE OF POLITICAL ECOLOGY

Alice in Wonderland

The authors imaginary vision of K-206





A SCARRED LANDSCAPE

This dissertation was inspired by the discovery of K-206, a wasteland in the 'Jungle' of Alexandra. The unclaimed territory, an abandoned water treatment plant built along the banks of the Jukskei River in 1918, has been regarded as a scarred landscape of environmental disregard. Symbolic of the context, it now lies silent, its facilities and structure deserted long ago.

Arriving as I did one morning in summer, the Sangomas (shaman ancestor-worshippers), Inyangas (herbalists) and Rastafarian herbalists, who live on site, offered clues into the secrecy and hidden nature of the site, which they use to maximum advantage. A dense blanket of vegetation obscures the cultivation of medicinal plants, a source of economic sustainability for the communities who live in the area. Blurred boundaries of inhabitation, territory, culture, nature and conflict characterise the terrain and its approach. The site unfolds as a hidden wasteland, secretive in nature and somewhat detached from society.

The project responds to the secrecy and hidden nature of the site by 'uncovering' aspects and bringing them 'into the light'. In some cases the project takes full advantage of the play between light and dark, secrecy and open-ness, obscurity and fame.

Fig 01-02: Throughout the thesis images are hidden and clues are revealed by small vignettes.



POLITICAL ECOLOGY

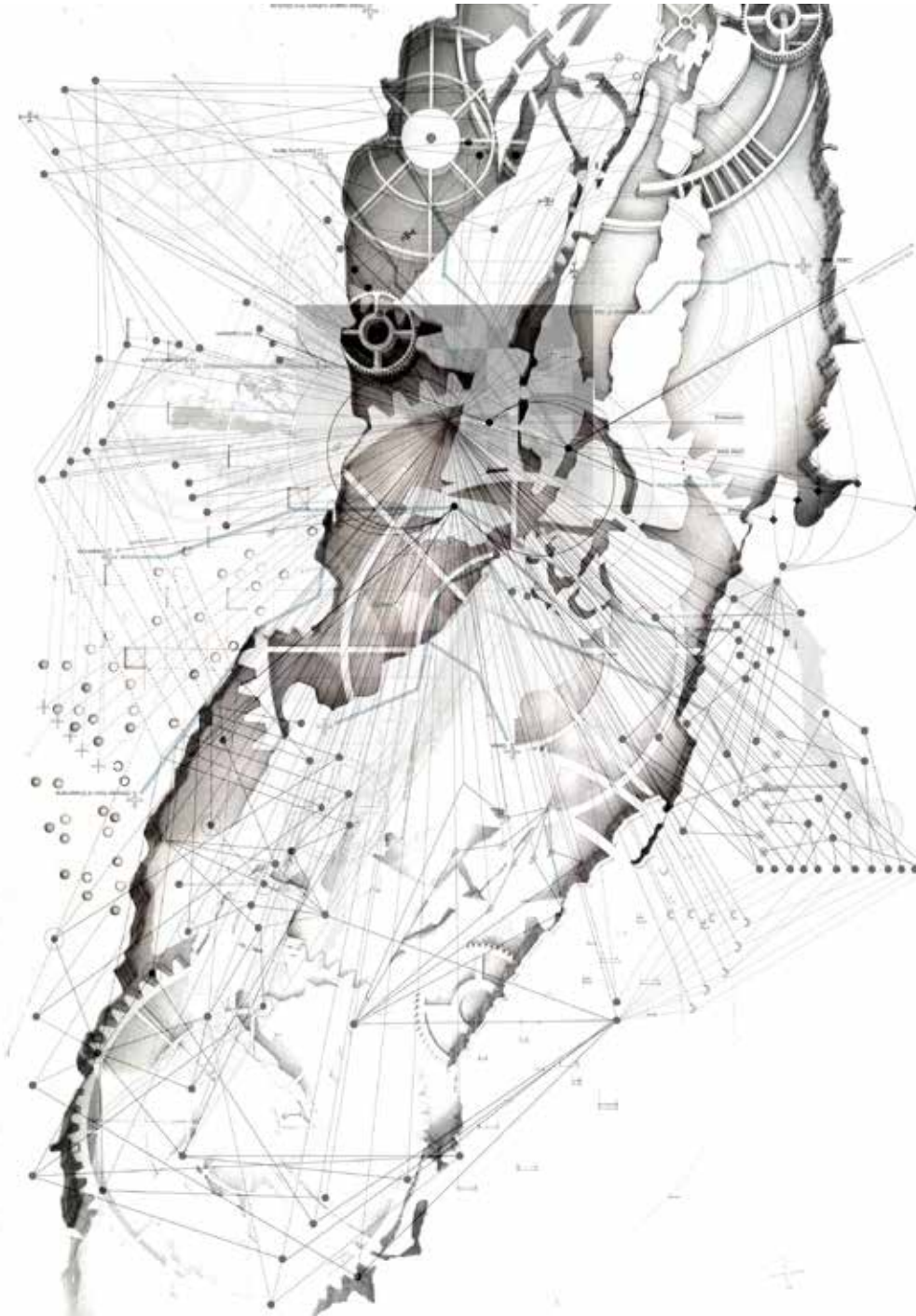
The dissertation investigates political ecology in the South African context on three scales: landscape, intervention and architecture. It explores the ability of any given landscape to become 'territory', ecology in its widest sense and allows for the development of programme based on observation and exploration. Looking at a moment as an architectural metaphor, literally as well as figuratively, the design seeks to engage the user's imagination. Small pleasures, often unnoticed or forgotten, are rediscovered. Taking notice of a particular light-effect, or the smell of a medicinal plant for the first time allows one's consciousness to expand in small but meaningful ways. Perhaps the city itself may be experience through new eyes: what Juhani Pallasmaa refers to as 'architecture of the senses'.

A LAND OF SCATTERED SEEDS

An Anecdotal Market

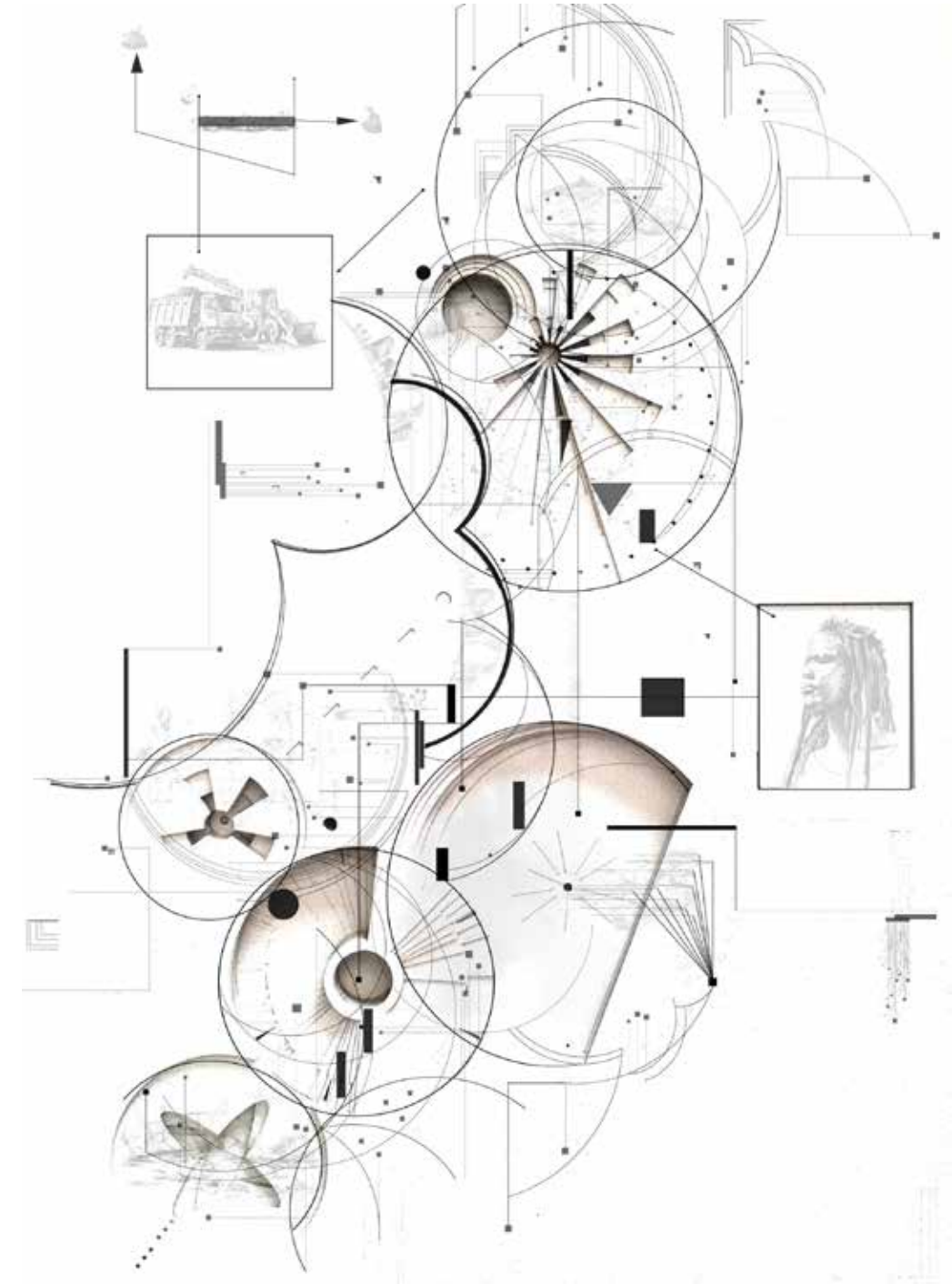
The gossamer and tectonic structure, demarcating programs below it, controls light into the Institute of Political Ecology. Variations of light fall and intensity depends on the program, privacy and activity. The blurring of boundaries into certain spaces are managed by light and shadow allowing secret medicinal practices to occur in private.





K-206's traditional healers take numerous forms, invariably linked to their respective cultural identities. Prominent users include sangomas (shaman ancestor worshipers), inyangas (herbalists) and Rastafarian herbalists. This tradition, called ethnobotany, is the study and practice of plants to a particular area and how the people of that culture use them for food, shelter, clothing, religious ceremonies, rituals, currency, medicine, dye and cosmetic purposes. However, many of these medicinal plants are being threatened by extinction as a result of over harvesting. The extinction of these species will not only result in a loss on recorded medicines, but also in the loss of a cultural heritage. An awareness of the importance of these plants needs to be created for their protection. An instrumental garden, constructed as indigenous architecture, is set within the junkspace of Alexandra's wasteland. This is an imaginary future environment in extreme flux, where elements of the existing landscape are tended by a flock of 'evolutionary machines' that gather soil, seed, moisture and light to sustain the garden's history of alien/unfamiliar cultivation. Land of Scattered Seeds is a Botanical Rooftop, consisting of a Plantation and Harvesting facility. Its hidden and camouflaged landscape provides a private dais for the planting and storing of medicinal plants within the Jungle for resident traditional healers. Land of Scattered Seeds to address such gaps in understanding traditional medicine through exploring the medicines, the healers and the complex healing dynamics involved in South African traditional medicine.

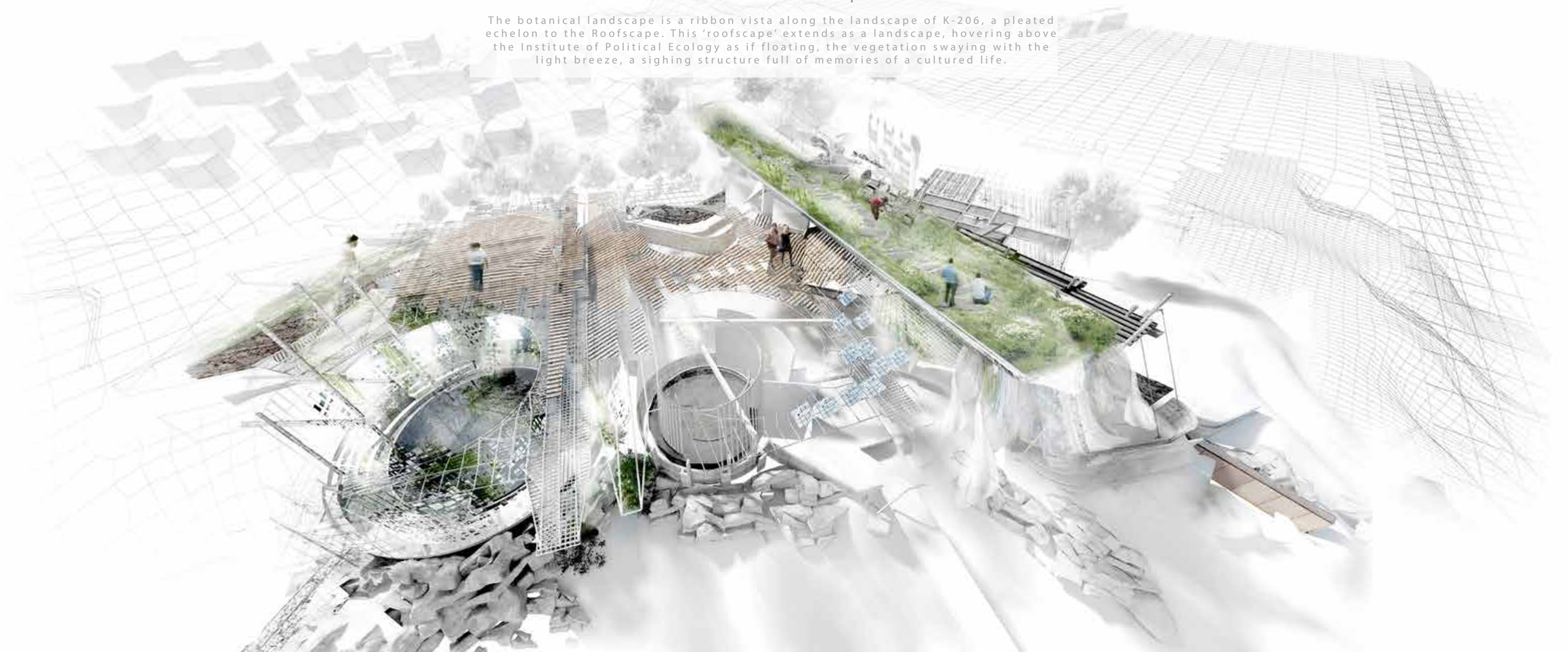
Fig 03-04: SECRECY WITHIN THE JUNGLE - Reveals the secret programmes of the site, whilst the layers above conceal them.

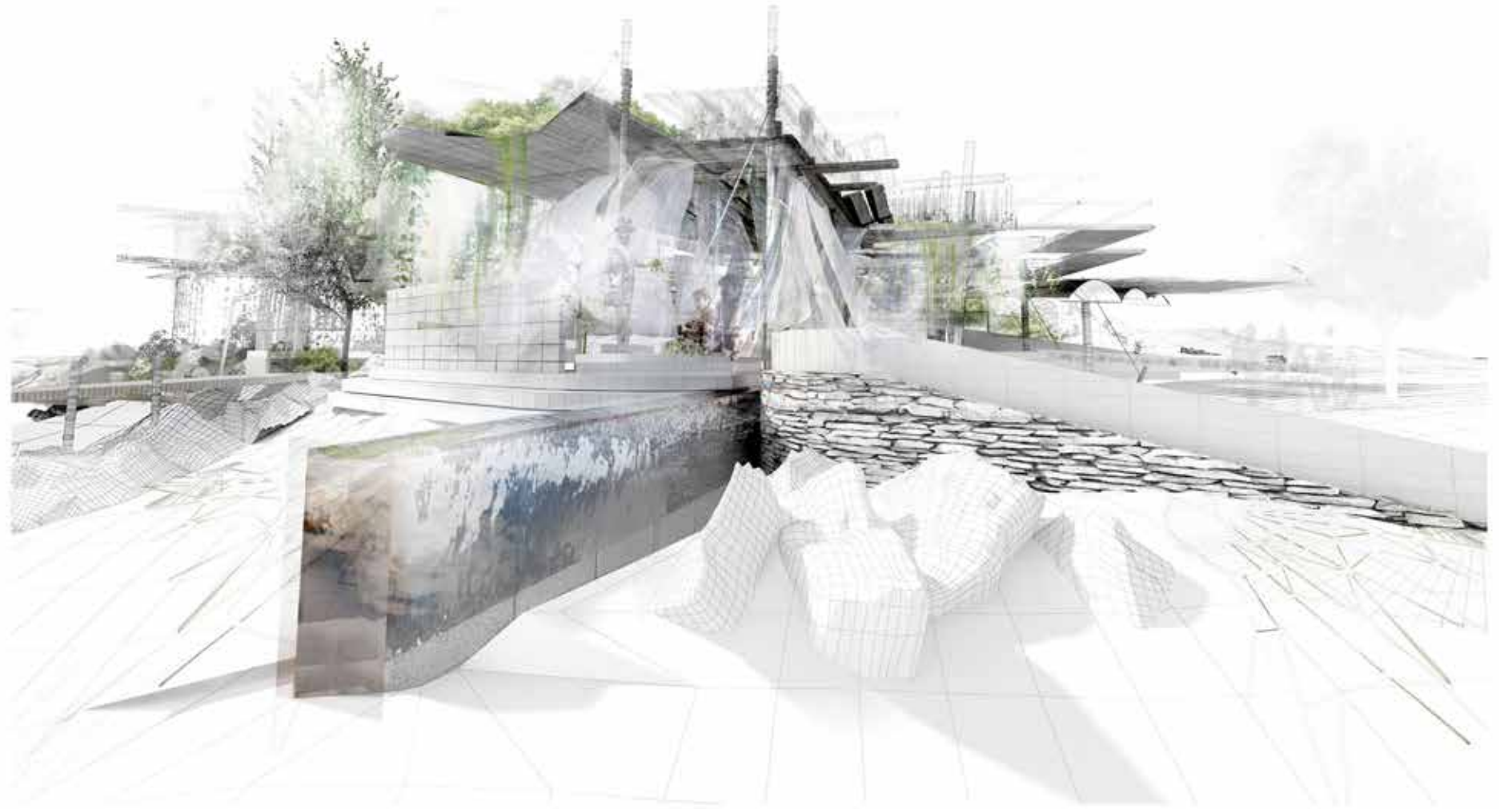
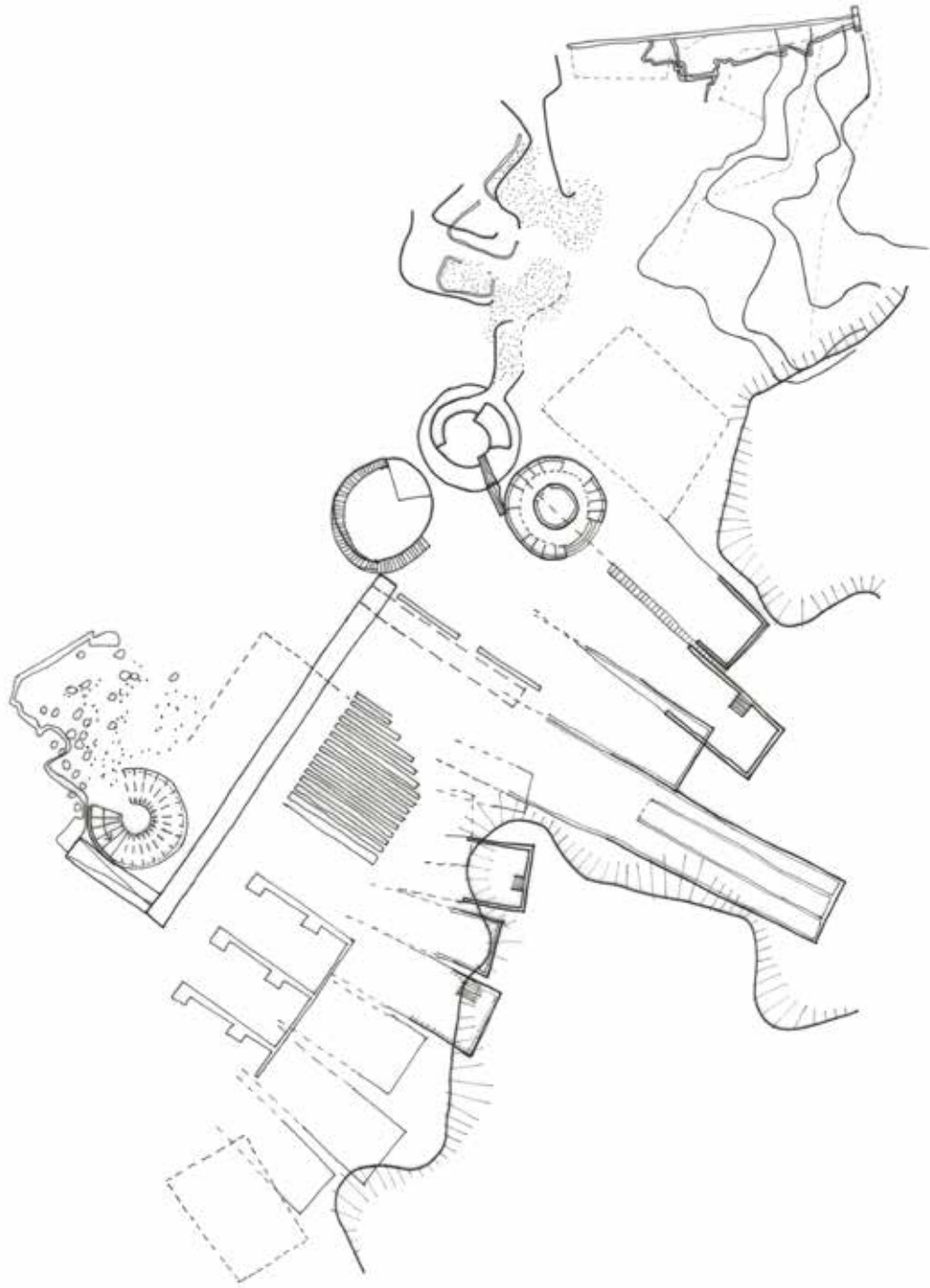


THE BOTANICAL ROOFSCAPE

A Seeded Landscape

The botanical landscape is a ribbon vista along the landscape of K-206, a pleated echelon to the Roofscape. This 'roofscape' extends as a landscape, hovering above the Institute of Political Ecology as if floating, the vegetation swaying with the light breeze, a sighing structure full of memories of a cultured life.





A garden path can become the thread of a plot, connecting moments and incidents into a narrative. The narrative structure might be a simple chain of events with a beginning, middle, and end. It might be embellished with diversions, digressions, and picaresque twists, be accompanied by parallel ways, or deceptively fork into blind alley.

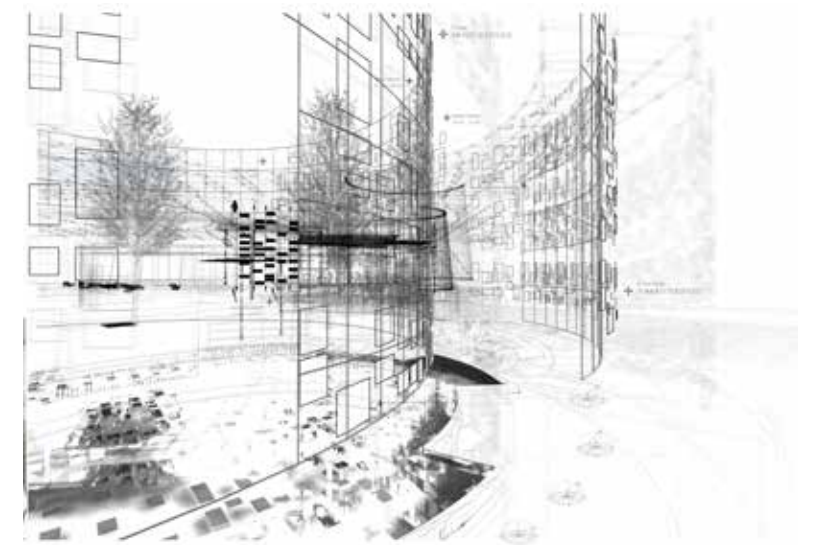


THE WATERSCAPE

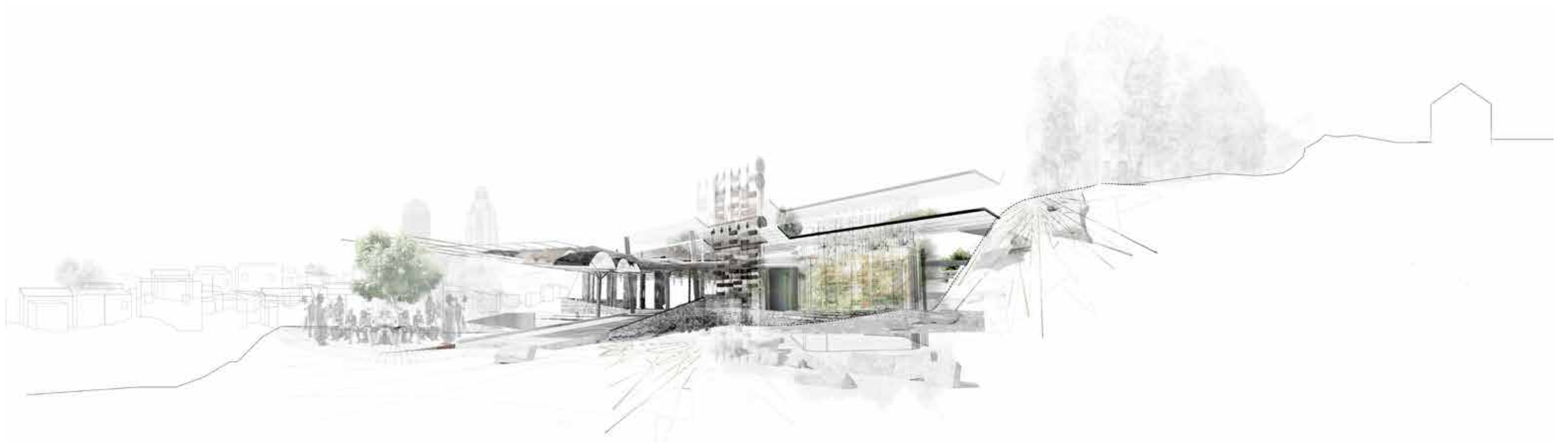
A Seasonal Floodscape

The design recognises floods as a natural resource that offers the ability to serve for different forms of programs related to water. A seasonal wetland, provides infrastructure for fauna and flora to inhabit the site. Some areas of the landscape will be sacrificed to flood

Yearly the site undergoes increasingly convincing test-rounds in anticipation of the river's inevitable seizure of the site. A lock wall manifold introduces water back to the site during seasonal flooding. The 'flood' is choreographed to create a changing landscape that registers the passage of time as the river gradually consumes the site. The extent of the flood depends on the water level. The effects of the flood is used to amplify the atmospheric qualities of the site. Using the kinetics energy of the river flow, the 'Flood House' generates sounds, smells, texture and selected perspectives on the site. The keeper of the 'Flood House' realises that by observing the rise and volume of the mean water level on K-206's lock wall, he is able to gauge wider environmental issues relating to climate change. Recognising this opportunity, the keeper uses the rivers seizure of K-206 to animate a flood warning system. The Flood House is the keepers measuring instrument and diary. It captures and expresses the forces acting on the site at various scales. This calls for a robust, but sensitive structure. It must work with poetic purpose to illustrate the delicate, often unseen, forces that make up the site's character.



"The most beautiful experience we can have is the mysterious. It is the fundamental emotion which stands at the cradle of true art and true science. Whosoever does not know it and can no longer wonder, no longer marvel, is as good as dead, and his eyes are dimmed"



TRAVELS

Not all those who wonder
are lost

2015-2016



EDINBURGH
Transport Museum



PARIS
The Louvre



MILAN
British Pavilion Milan Expo



ISTANBUL
Blue Mosque



ROTTERDAM
Dutch Windmill



BUDAPEST
Glass Palace



BARCELONA
Media TIC



LONDON
Lloyds of London



PARIS
Louis Vitton



W O R K

SAOTA

2016-2018

Urbana_Dubai_UAE

Residential : 1800 sqm

LeSaintGeran_MU

Residential : 1100 sqm

Casuarinia_MU

Residential Complex : 600 sqm

KingsTower_Lagos_NG

Multistory Residential : 3600 sqm

BananaIsland_Lagos_NG

Multistory Residential : 6800 sqm

QueensDrive_Lagos_NG

Residential : 4000 sqm

Lawson_Lagos_NG

Residential : 900 sqm

BeachVilla_Mecca_SA

Residential Complex : 3500 sqm

KingsRoad_Jeddah_SA

Residential/Office Complex : 24000 sqm

KingFahad_Jedda_SA

Residential : 2800 sqm

Kings Residence_Kigali_RW

Residential : 1100 sqm

FEATURED

President Offices_Kigali_RW

Office : 1900 sqm

Villa Nora_Abidjan_IC

Residential : 800 sqm

FEATURED

Villa Reveira_Abidjan_IC

Residential : 1300 sqm

FEATURED

Baudoin_Kinshasa_DC

Multistory Residential : 2500 sqm

FEATURED

Nyamu_Nairobi_KE

Multistory Residential : 2900 sqm

FEATURED

Venus7_CapeTown_ZA

Residential : 700 sqm

FEATURED

Hillcrest_Bloomfontein_ZA

Residential : 900 sqm

FEATURED

Kloof222_Cape Town_ZA

Residential : 800 sqm

Eco City_Chengdu_CHN

Multistory Residential : 6000 sqm



LE SAINT GERAN, ONE & ONLY Mauritius

ADP

-

IDD



TEAM LEADER: Roxanne Kaye

PROJECT TEAM: Jaco Botha, Rachel Wilson, Rowan Bursey

RENDERS BY: Ginger Zu

WEIGHT: 10%

POSITION: Candidate Architect

The One & Only brand, synonymous with luxury and sophistication, is renowned for hotels and resorts that effortlessly integrate into their environments; each property offers a unique look and feel, embracing the local culture of a region.

Inspired by veranda living and traditional Mauritian lifestyle, two villa styles were developed. Style A is founded on a more traditional look and feel, whereas Style B is contemporary in design.





QUEENS Lagos, Nigeria

ADP

-

FDD

TEAM LEADER: Adrian Monger

PROJECT TEAM: Rachel Wilson

RENDERS BY: Jamie Jordaan

WEIGHT: 80%

POSITION: Project Architect

This project is a home in Lagos, Nigeria for a repeat client and a joint venture between SAOTA and ARRCC. The brief was to design a modern home large enough to host banquets that is able to be serviced like a hotel yet is also intimate in parts and appropriate for a family.

Located on a plot that overlooks a creek to the south, the proposed levels of the house were raised to maximise the views while providing basement accommodation without the risk of flooding associated with a high water table. The Upper Ground Floor, predominantly used for entertaining large volumes of guests, celebrates an open plan design which visually spreads out into the large garden.

With large glass openings to the exterior glazing, the landscape filters into and through the building to a more private rear internal courtyard space. Interior spaces are broken up into capsules with the use of sliding screens or slight level changes so that the building allows for variety and can adopt flexibility.

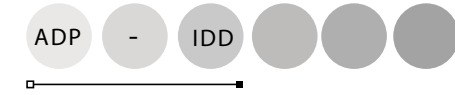








KINGS ROAD Saudi Arabia



TEAM LEADER: Jaco Botha

PROJECT TEAM: Rachel Wilson,
Rowan Bursey

RENDERS BY: Ginger

WEIGHT: 60%

POSITION: Candidate Architect

We had been tasked to design a palace complex comprising of a super luxury residence and the owners integrated company headquarters. The accommodation is stretched across the site with the office section and most public residential functions located on the opposite end of the site. Elaborate spaces, religious courtesy and the Arabic ethos and lifestyle were unfamiliar design encounters. Spaces such as a Diwaniyah, a Cryotherapy and an Arabic Salon were all new and interesting aspects to us. Other interesting spaces included a shooting range, bowling alleys and auto gallery.

The beautifully crafted sculptural staircases define the two main circulation nodes at the residence and bodes well with the client's appreciation of the arts.



-L1_BASEMENT



L0_GROUND FLOOR



L1_FIRST FLOOR



L2_SECOND FLOOR



KR Kigali, Rwanda

ADP - IDC

TEAM LEADER: Adrian Monger

PROJECT TEAM: Ian Cox,
Rachel Wilson,
Puja Patel

RENDERS BY: Jared from
Certain Shades

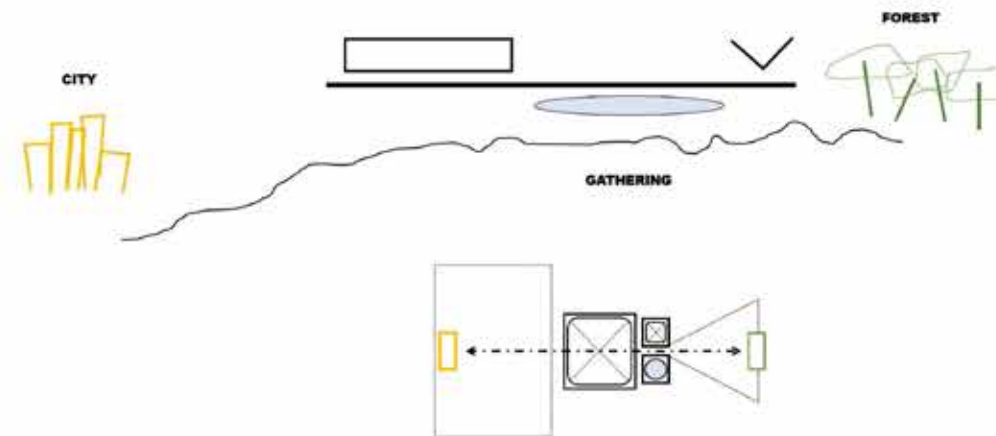
WEIGHT: 10%

POSITION: Project
Architect



Following the completion of two successful concept designs for commercial/mixed use projects in Kigali, we were commissioned to design a private residence.

Reference was made to regional Rwandan structures such as gum pole columns and thatched roofs as well as artisanal patterns that were incorporated into the scheme through the porte cochere columns, inverted cone roof elements clad with woven textures above the indoor pool, triangular pergola roof structures, patterned screen elements and a selection of local materials.





VILLA NOURA

Abidjan, Ivory Coast



TEAM LEADER: Greg Truen

PROJECT TEAM: Anton Barnard,
Melo Manala,
Rachel Wilson

RENDERS BY: Jamie Jordaan

WEIGHT: 5%

POSITION: Candidate
Architect

Villa Noura is the first house that we have been commissioned to design for the same family based in Abidjan, Ivory Coast that have strong links to Beirut, Lebanon. As such, the clients have an eclectic style with influences from the Mediterranean and Middle East.

The design is inherently ordered and inevitably symmetrical which is a considered departure from the neighbouring villas. We have focused on structure, proportion and repetition of materials which are light, clean and crisp but softened with planting to avoid being too austere.





VILLA RIVIERA Abidjan Ivory Coast



TEAM LEADER: Greg Truen

PROJECT TEAM: Anton Barnard, Melo Manala, Rachel Wilson

RENDERS BY: Carla VDN

WEIGHT: 5%

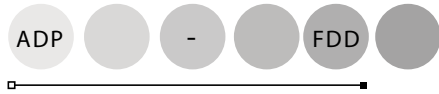
POSITION: Candidate Architect

The building follows a modernist approach with minimalist spaces stretched across the site to allow maximum views. Inspiration is drawn from the long, endless landscape resulting in a design which is driven by strong horizontal lines with a solid, monumental presence.





BAUDOIN Kinshasa Congo



TEAM LEADER: Greg Truen

PROJECT TEAM: Teswill Sars,
Rachel Wilson,
Carla Lange

RENDERS BY: Marius Swart

WEIGHT: 25%

POSITION: Candidate
Architect

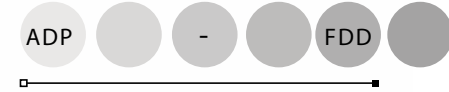
The brief called for a six level, up-market apartment building in Kinshasa with panoramic views of the Congo River, situated only one block away.

There are two apartments per level at 320 square meter per apartment. An emphasis on the design was the terraces and their relationship with the interior spaces. Strong angles and patterned decor reflected the local and traditional rhythms.





NYAMU Nairobi Kenya



TEAM LEADER: Roxanne Kaye

PROJECT TEAM: Teswill Sars,
Rachel Wilson,
Carla Lange

RENDERS BY: Marius Swart

WEIGHT: 25%

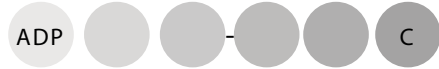
POSITION: Candidate
Architect

The design for Nyamu is striking in the sense that it frames each apartment to give it individuality, yet it still remains open to benefit from the amazing views - retaining a sense of a strong overall contemporary yet modern design concept.





VENUS 7 Cape Town



TEAM LEADER: Jaco Botha

PROJECT TEAM: Ramon Bishof,
Melo Manala,
Rachel Wilson

RENDERS BY: Jamie Jordaan

WEIGHT: 5%

POSITION: Candidate
Architect

Another joint venture between SAOTA and ARRCC, this project was a great design challenge as the client provided us with a contrasting brief: light yet robust, transparent yet private, linear yet soft. The building was to camouflage in the landscape yet stand out. Located on a sand dune along the Atlantic coastline the design intended to take full advantage of all its spectacular views by having as much transparency as possible without compromising the users privacy.





HILLCREST Bloomfontein



TEAM LEADER: Adrian Monger

PROJECT TEAM: Ian Cox, Rachel Wilson

RENDERS BY: Jared from Certain Shades

WEIGHT: 40%

POSITION: Project Architect

Built on a steep slope, Hillcrest comprises of a multistory home with separated programmes on each level. As if floating on glass planes, the building was heavily coordinated with structural engineers to make this possible.





L0_GROUND FLOOR



L1_FIRST FLOOR



L2_SECOND FLOOR



L3_ROOF PLAN

CRAFT

In between everything
else

2013-2014

Model 01-03: 100 layers of paper capturing a landscapes palimpst

