Fig.0.1 Conceptual exploration of theme

"Hier voor my vind 'n wonder plaas: Uit dooie grond sien ek 'n plantjie groei." – C.J.Langenhoven

Translation: Here in front of me is a wonder taking place: Out of the dead earth I see a small plant grow.

COMMUNAL GARDEN COLLECTIVE:

TOWARDS AN EMERGENT LANGUAGE OF LANDSCAPE FOR A COMMUNAL PARK IN BRAAMFONTEIN

by
Conrad Venter

Submitted in fulfilment of part of the requirements for the degree Masters of Landscape Architecture (Professional)
in the
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Preface

A stroll in the garden

On the corner of Baker Street and Oxford Road in Rosebank, in front of the Standard Bank head office, a contemporary landscape is located. On face value, the landscape features a well-executed intervention with striking geometric compositions and contemporary aesthetics meeting most environmental, social and economic requirements as expected of any urban intervention. Sadly, despite all the qualities of this public piazza, upon visiting, I found the landscape experience quite monotonous compared to a residential heritage garden in Pallinghurst, not far from the aforementioned landscape intervention which I happen to have visited the day before. For, although the residential garden featured an early 1900s English colonial design with exotic plant compositions and simple sand-stone walls which can be considered by some as old fashioned, the spatial experience of the domestic garden was still preferred to that of the contemporary landscape design. This personal preference and and difference in the spatial experience of the residential garden as opposed to the contemporary landscape intervention in Rosebank initiated the investigation contained in this dissertation.

Fig.0.2 The Standard Bank head office landscape intervention.

Fig.0.3 The Pallinghurst heritage gardens.

The origin of division

During the 1930s a great need existed for the professionalisation and accreditation of a new form of landscape design called landscape architecture (Imbert 2007:220). Following the lead of two designers, Christophe Tunnard and Jean Canneel-Claes, a group of international landscape designers formed the AIAJM (Association Internationale des Architectes de Jardins Modernistes). Its conference manifesto of 1937 (Imbert 2007:222) was based on the premise that the garden was the matrix of landscape architecture and, by extension, also of urbanism, and that garden architects needed to organise and strengthen their professional status (Imbert 2007:223). Naturally, they initiated the transformation of landscape gardening by borrowing from architectural theory and movements (Imbert 2007:227), thus giving rise to modernism in gardens. Unfortunately this method of 'borrowing' became so ingrained in the way the profession of landscape architecture was being validated and developed that there was a failure to pay attention to the intimate relationship between man and the created landscape, ultimately leading to Achille Duchene's expression "death to the art of gardens" by of the early 1930s (Duchene 1937:1). After the fall of modernism and the rise of the postmodern era, a new wave of interest has recently been sparked in the field of Architecture with representation of systems and the dynamisms thereof , termed "process discourse" by Julian Raxworthy (Raxworthy 2013). According to Raxworthy, contemporary architectural interventions fail to reproduce and understand the natural process of change in the living environment and rather simulate this change, whereas in the case of landscape architecture, the very change of material growth found in plants forms an important part of spatial development and, by extension, the experience of space – as illustrated at the Jardin Botanique de Bordeaux landscape intervention by Catherine Mosbach.

4.3 Le Jardin Botanique de Bordeaux

- Botanical garden
- Place Bardineau, Bordeaux , Gironde, A q u a t i n e , France
- Developed by Mosbach Paysagistes
- Completed in 2003

The precedent study of the Botanical garden illustrates how contrary to architecture with its built form the natural process of a landscape can be manipulated to inform space formation and influence sensory experience. The garden consists of a rectilinear botanical garden of half a hectare that comprises a succession of different plants indigenous to the Aquitaine ecological zones of the Bordeaux region (OMC Design Studios 2019) Located in the centre of the park is the main building, called The Botanic City. The building functions as an enclosure for the creation of an artificial climate to house plant specimens from the Mediterranean area (OMC Design Studios 2019). The landscape surrounding the main building is comprised of smaller gardens, each with an individual theme indicative of the different niches found within the larger Aquitaine ecosystem. The park also features many other species from across the world, culminating in a collection of over 3 000 plants. The park is terminated by the water garden where fragrant traditional herbal and medicinal plants are introduced. At the Bordeaux botanical garden indigenous planting is used in an avant-garde manner, showcasing not only plant species of the region but also demonstrating the different geological and hydrological processes associated with the indigenous ecosystem (Akademie van Bouwkunst [AVB] 2019). This idea of showcasing the biological processes and investigating and perfecting the precision of randomness is an integral idea in the work of Catherine Mosbach. It is best illustrated in the construction details found in the design of the sand dunes and the wooden barriers surrounding the park site. The sand dunes are designed in such a way so as to facilitate the natural decay of the material and, in the process, showcase the emergence of the novel environment found in nature expressed in built form. The same natural process can be seen in the exposed wooden boundary wall of the park where the material is left to decay naturally and, in doing so, small novel niches are created indicative of the region.

Fig.0.4 View of small experiment gardens constructed with biodegradable timber edges, encouraged to decay with the progression of time

Fig.0.5 View of the aquatic garden at the end of the botanical garden

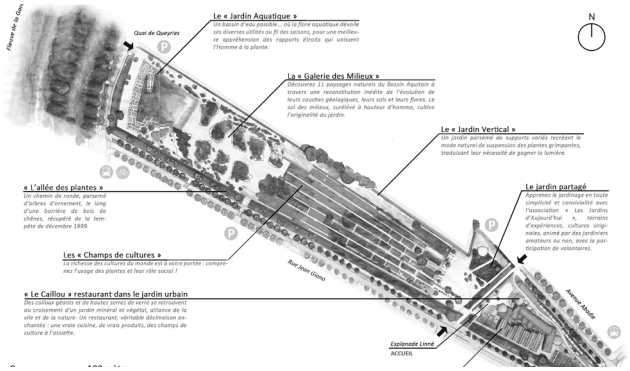


Fig.0.6 Plan of the Jardin botanique de Bordeaux

Normative position

In his book *A history of garden design* (1967), Derek Clifford postulates that all gardens are the product of leisure. Gardens were born not out of necessity but were rather created as "the residual aspects of enclosure" to be enjoyed by the user (Clifford 1967:15). Sadly, this idea of the garden as a place of enjoyment is not as evident in landscape interventions today. With the progression of time and the rise of the modern era, different gardens with different functions were created, for example productive gardens, botanical gardens and zoological gardens, and although these still provide some form of pleasure by appealing to the senses, their main objective has however shifted to the fulfilment of certain material objectives(Clifford 1967:17). The same can be experienced in current landscape interventions, where the emphasis in urban landscape developments seems to be more on objectives such as ecological responses, social justice and economic demands, and where the simple enjoyment of a landscape intervention is viewed as a by-product in the fulfilment of the material objective. Therefore after my years of study my intention is to return to the original intent of landscape, found in the residential garden as my main informant to the development of space and place for this dissertation.

ABSTRACT

Contemporary landscape interventions in Johannesburg are characterised by a monotonous spatial phenomenology contributing to the existing negative stereotypes surrounding the inner-city public domain. In this dissertation an attempt is made to reiterate the importance of spatial phenomenology in the design of open green space in the Braamfontein area in the Johannesburg, through the establishment of an intimate relationship between the urban user and the landscape. Theories of "the viridic" (Raxworthy 2018) will be studied as informants to an alternative form of landscape practice and design, which would incorporate the theoretical understanding of landscape architecture and the practical experience of gardening in the development of a landscape intervention. The aim with the dissertation is also to identify and apply a regional garden practice through the investigation of a regional landscape typology, seven field case study gardens and the relevance indigeneity has towards the expression of cultural identity in gardens of a transforming South Africa. The notion of a landscape intervention as a garden collective, seen as the creation of a landscape of potential, is thus proposed in the dissertation. The proposed programme consists of a phased development of fifty years in which the user is engaged as primary custodian of the landscape in order to improve user participation and ownership of this landscape. The intervention will be initiated with a productive landscape for the pupils of the Johannesburg technical improvement school as first phase followed by a domestic allotment garden system for the surrounding residential users and in the final phase, a public park for the general public of the Johannesburg CBD. Through the identification of a regional garden practice inherent to the surrounding area, and the reinforcement of the intimate relationship between the user and the inherent novelty of the urban landscape, the aim with the proposed landscape intervention is to create a culturally appropriate and sustainable catalyst for urban renewal in order to address contemporary green open space issues in the public realm of the Johannesburg area, reinforcing the notion of 'return to the city' by returning to the garden.

Dissertation Title: Communal urban gardens: The manifestation of the intimate relationship between user and craft to inform outdoor space formation in the Braamfontein area.
Site location: Corner of Smit and Rissik Streets, adjacent to the Gautrain Park Station in Braamfontein Johannesburg CBD.

GPS Coordinates: 26°11'37.53"S, 28° 2'31.78"E
Programme: A series of community gardens to facilitate, small commerce, leisure activities, productive landscapes and a transportation node.

Clients

The churches
The client base consists of two church congregations, namely:
- The Methodist House congregation
- The Good News Community Church

The community
The client base consists primarily of residents of the following:
- Smitshof Mansions
- Fairmont Mansions
- The Student Digzs Residential Complex
- The YMCA apartment block

Commuters
The commuters using the site derive primarily from the surrounding office parks and governmental institutions which consist of:
- The National Health Laboratory Services
- The Department of Health Medical Bureau for Occupational Diseases

Food production initiatives
The clients for the food production initiatives on site are primarily local businesses and governmental institutions that provide specialised food production for Woolworths branches across the Johannesburg CBD. These consist of:
- Rooftop Roots
- The South African Women's Correctional Services

The Gautrain
The client base consists of a representative of the Gauteng Provincial Government (GPG), namely:
- The Gautrain Management Agency (GMA) pertaining to the Gautrain Park Station

Education
The educational clients consist primarily of:
- Central Johannesburg TVET College – Smit Street Campus
- Central Johannesburg TVET College – Hotel School administration office

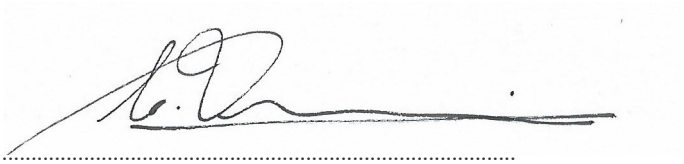
Students
The student client base consists primarily of those attending the following:
- Central Johannesburg TVET College – Smit Street Campus

Tourism
The client base consists primarily of:
- The Johannesburg Tourism Department

Amenities
- Any other client base for amenities has not been specified, as the addition of this client base is speculative; only the general programme conducted by the client is indicated.

Research field: Environment Potential

In accordance with Regulation 4(e) of the General Regulations (G.57) for dissertations and theses , I declare that this dissertation, which I hereby submit for the degree Master of Landscape Architecture (Professional) at the university of Pretoria , is my own work and has not previously been submitted by me for a degree at this or any other tertiary institution. I further state that no part of my dissertation has already been, or is currently being, submitted for any such degree, diploma or other qualification. I further declare that this dissertation is substantially my own work. Where reference is made to other works of other, the extent to which that work has been used is indicated and fully acknowledged in the text and list of references.



Signature: .....

Expression of thanks

First and foremost, a special thanks to my father for all the sacrifices he has made in supporting me, providing me with the opportunity to always follow my dream and never giving up on me. Thank to my mother for all the premade meals, emotional support and love. Thank you to Lt. Col. Whitson for his consistent words of encouragement, support and literary contribution to my studies. . To my friends, a special thanks to Kelsey, Christine, Sarah, Andrew and Josias for supporting me in the way only friends can. Thank you to Miss Prue Johnson and Mrs Stockenstrom for assisting me in my garden case studies and allowing me to visit their private gardens. Thanks to Karlien van Niekerk for all the editing work. Thanks to my mentor Johan N. Prinsloo for granting me the opportunity to be educated under his authority and never-ending guidance and advice. And finally, thank you to my God.

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CHAPTER ONE:
INTRODUCTION

Fig.1.1 Pathway of Shangri-la gardens

1.1 Background

As a result of the difference in the spatial experience, as mentioned in the anecdote, occurring in Johannesburg the intended investigation will be conducted in the same city. Therefore as background the current issues and history of the urban open space of Johannesburg is discussed.

1.1.1 Johannesburg as Privatopia

As a result of the pre-1994 legislation on spatial segregation, certain areas in the Johannesburg CBD were demarcated for white-only residential occupancy (De Vries & Kotze 2016:123); these white suburbs in the inner CBD were seen as experimental ground for new high-modernist urban development (Murray 2011:139). High-density, commercially vibrant development in Hillbrow and Braamfontein quickly sprang out of control which, along with wild real-estate speculations, led to overcrowded residential neighbourhoods which were largely lacking in sufficient parking, greenery and open space for meaningful public congregation (Murray 2011:140). After the dissolution of the Apartheid regime, between 1994-1999 Johannesburg in general suffered great capital losses due to large private investors and property owners relocating to the outer city periphery to new commercial and financial centres like Randburg, Sandton and Midrand (Murray 2011:89). This dramatic decline in property prices and tax income fuelled by an influx of people with lower income inhabiting the already partial vacant areas within the city (Murray 2011:139). Some corporate and financial giants, like Old Mutual, Liberty Life, Sage, Sanlam and Anglo American, had to persevere in fear of sustaining great losses through relocation due to large financial investments they had made in the CBD of Johannesburg, especially in the real-estate sector (Murray 2011:92). This situation gave rise to entrepreneurial urbanism and the adoption of defensive private city space policies, in turn leading to further degradation of the public realm into urban slum-like conditions within the CBD (Murray 2011:91).

1.2 Issues

1.2.1 The failure of an urban revival strategy

Traditionally, strategic public–private space interventions established through partnerships between municipal authorities and big business corporations are encouraged to produce image-driven projects for generating sustained economic growth (Murray 2011:321). This is evident in some of the Johannesburg renewal initiatives encouraging private investments in the CBD, near transportation nodes for high-density residential and corporate investments (Arnoldi & De Bruyn 2018). However, these much needed revitalisation projects ironically achieve the opposite of their initial intentions, leading to capital, employment and state-sponsored investments being accelerated away from the city (Murray 2011:322). Often, these projects import the ethos of suburban exclusivity, homogenization and place-making marketing which ultimately leads to new reinforced spatial imbalances. This practice in turn reinforces class privilege through the utilisation of defensive urbanist strategies, and the sterilisation of urban streetscapes through security-

Fig.1.2 Map indicating spatial segregation in Johannesburg during the Apartheid era

Fig.1.3 Hilbrow in the early 1960s, Clarendon Circle, up from Twist Street

Fig.1.4 Dilapidated apartments and a degraded streetscape in Twist Street, Hillbrow (2018)

Fig.1.5 Privatised streetscape at First National Bank corporate headquarters in Johannesburg. (2018)

obsessed practices in the public domain and open green spaces (Murray 2011:323). Other private residential projects such as the Maboneng Precinct development (Jonathan Liebmann, with Daffonchio and Associates Architects) and the Doornfontein Station renewal have achieved remarkable success as suburban initiatives (De Vries & Kotze 2016:124). However, these pioneering architectural interventions do not extend to new and redeveloped green open public spaces, a critical consideration regarding urban renewal strategies (De Vries & Kotze 2016:124), as these would provide social, psychological, environmental and health benefits to the surrounding communities (Chiesura 2003).

1.2.2 The dilapidated new park

Over the past 20 years the City of Johannesburg has invested an exorbitant amount of capital in the redevelopment of parks and open public spaces within the CBD, to no avail. According to De Vries & Kotze (2016:130) it was noted that the deterioration of open public space and lack of use thereof cannot be attributed to the lack of redevelopment initiatives, but rather to the mismanagement and lack of sufficient maintenance of existing and newly developed open public spaces.

1.2.3 Problem statement

Therefore the following issues present in the Johannesburg open spaces can be summed up as follow

- In public open spaces alienation and segregation of users occur due to time limitations and fenced demarcations as opposed to underutilised private open space only accessible and used by a privileged few.
- The application of poor maintenance strategies that are neither adequate nor frequent enough for the high user numbers in open public spaces in the city.
- Lack of ownership in open public spaces due to poor security and management strategies that increase chances of vandalism and degradation of spaces.

All the factors mentioned above contribute to governmental revitalisation initiatives of urban green infrastructure being reduced to mere fragments of green beautifications efforts (De Vries & Kotze 2016:130).

1.2.4 A collective garden approach

With the establishment of the "Return to the City" movement in Johannesburg, the city has undergone some remarkable developments. The city has taken many measures to reduce the creation of Privatopias, and to address the general dilapidation of outdoor spaces in the public domain with new urban renewal strategies and, in some cases, green open space initiatives. These developments, how commendable and needed they may be, however, does still fail in some cases contributing to an eventual degraded user experience in the public urban area. This dissertation puts forth the idea of a bottom-up approach to be implemented, where open public spaces in the urban environment can look to gardens and how they are created as inspiration for new urban renewal strategies. By creating public open spaces that are more like a collection of small garden spaces, more focus can be placed on ownership and user participation leading to improved user experience in the public domain.

Fig.1.6 Design proposal by GASS Architecture Studios for the new Jewel City precinct development by Atterbury

Fig.1.7 Existing Maboneng renewal development in the Johannesburg CBD

Fig.1.8 Unmaintained open public space, dilapidated and vandalised, at Joubert Park (2019)

1.3 Dissertation statement

1.3.1 Dissertation question

How can an emergent landscape language, derived from a regional vernacular of gardening practice inform outdoor space formation of a communal landscape intervention in an attempt to resolve current postmodern urban landscape issues in Braamfontein, Johannesburg?

1.3.2 Sub-questions

- How can a communal landscape system be implemented to mitigate the creation of privatised open spaces in the Johannesburg CBD and attempt to reverse urban sprawl?
- Can a regional landscape language derived from traditional landscape practices be identified and how can it be applied to inform the design of a collective communal garden to respond to the unique site context?
- How can traditional landscape maintenance and cultivation practices be utilised to inform outdoor space formation that is influence by the inherent dynamic nature of plants over an extended period of time?

1.3.3 Dissertation statement

This dissertation states that, through the application of a regional vernacular of garden practice, an intimate relationship between the urban user and the landscape can be established that can facilitate the renewal of the Johannesburg CBD, and attempt to resolve current postmodern urban issues. This will be achieved through the establishment of a garden collective landscape of potential where the user is enrolled as primary custodian of the communal landscape of potential.

1.4 Methodology

The research proposal is to be conducted in a 'Basic theory driven '(Silva 2015:61-66) context, focusing on qualitative research issues dealing with an alternative landscape renewal strategy founded on an emergent regional vernacular of practice domestic gardens. The investigation will operate under an interpretive social science paradigm (Silva 2015:61-66). This decision is derived from the qualitative approach to the core logic of interpretation found in regional field studies, to assist in an alternative landscape intervention practices to resolve issues in the Braamfontein urban area.

The qualitative interpretation of the identified field studies are focused on the following three objectives:

1. Communality of open public spaces

The investigation will attempt to understand how a communal landscape system can be implemented as an alternative development in the urban environment, taking into account site specific characteristics derived from the site analysis to influence how matters of ownership, program and general management can be resolved. The first investigation will consist of a conclusive site analysis on a macro, meso and micro scale. The second investigation will consist of precedent studies of historic communal garden systems and how they have developed over the progression of time as well as understating the intricate details of management and governance pertaining allotment garden systems.

2. Identifying a regional language

The investigation will attempt a macro-scale analysis of existing regional landscape typologies in the Johannesburg area, taking into account the local practices and processes that have given rise to specific landscape patterns. These will inform a more holistic understanding of a regional identity brought forth by the identification of a regional landscape vernacular of practice. The investigation will consist of a desktop study of five distinct landscape typologies around Johannesburg, analysing land use and settlement patterns to assist in the identification of cultural practices, and to define distinctive landscape characteristics that can be amalgamated into conceptual informants for the design of a new landscape intervention. The second investigation will attempt a qualitative analysis of cultural expression and identity (as found within regional gardens) that add cultural meaning to how outdoor spaces are formed. The investigation will consist of an interpretive analysis of the influence of indigeneity on planting choices, also aiming to understand the importance of traditional practices of landscape formation and caretaking. These two investigations aim to identify a regional landscape vernacular of practice to inform a culturally appropriate regional landscape language.

3. Regional practice as informant to space formation

The investigation will attempt a micro-scale analysis of existing gardening practices in the Johannesburg area, taking into account the methods of forming space, the biology of the growing material to form the space, and the caretaking practices to maintain the space. The study will consist of an on-site investigation of nine distinctive gardens around the Johannesburg area, analysing how the landscape is formed through the articulation of space and the appropriation thereof, the biology of the vegetation that forms the space in terms of vegetation communities, vegetation growth, vegetation groupings, selection and articulation and, finally, the analysis of the practice within the garden through the appropriation of services, implementation and maintenance cycles, maintenance requirements, ornamentation, and security. This enquiry aims to form the basis of the investigation analysis for the dissertation in order to understand the relationship between the caretaker and landscape and how this is manifested spatially, with the aim of determining which concrete conclusions and spatial objectives can be identified.

CHAPTER TWO:
CONTEXT

Fig.2.1 Pond and sculpture in Shangri-la gardens

2.1Historical significance

2.1.1 The beginning of a garden

The location of the proposed design is on the corner of Smit and Rissik Streets in the suburb of Braamfontein in the Johannesburg CBD. The site itself is a bustling pedestrian node, encountering many commuters travelling to the CBD on a weekly basis as well as a great diversity of local residents inhabiting the area. The surrounding suburb is characterised by a new form of urban segregation, with residents obsessed with security measures, and privatisation and sterilisation of public space leading to a lack of ownership within the larger urban area. The site features a rich amalgamation of different programmes located near several large corporate and financial institutions, transportation nodes such as the Park Station metro rail, and cultural centres such as the Johannesburg Theatre located only a stone's throw away from the site. From a historical perspective, the site exhibits a rich mix of both historical and contemporary building styles with an array of programmes ranging from educational, residential, commercial and even religious institutions creating a visual amalgam of pre- and post-social Apartheid eras. The site also boasts one of the last remaining exposed natural ridge lines indicative of the natural Johannesburg typography, right across from a natural spring located off site and, lastly, offering marvellous views of the larger Johannesburg CBD.

2.1.2 The tale of Braamfontein

The suburb of Braamfontein is one of the five previous mining settlement camps that form the nucleus of the current City of Johannesburg (Leyds 1964:8). The name of the suburb is derived from the brambles growing along the natural spring (Leyds 1964:7) that flows between the current Hillbrow Hospital and Joubert Park (Leyds 1964:52). With the introduction of the railway line and train station to Johannesburg in 1892, the small mining town experienced a major boom in its development (Leyds 1964:34). The town expanded around the train station, with the main urban centre of commerce developing to the south of the station, and the residential development occurring north of the station, a precursor to the suburb now known as Braamfontein (Leyds 1964:64). Situated on the corner of Smit and Rissik Streets, the site was once in the smallest suburb of Johannesburg known as Argyle (or Argyll). It is believed that the name is derived from the commemoration of the Argyllshire Highlanders who were camping on these grounds for several months in 1902 (Johannesburg 1912). After the lease of the area lapsed, being formerly owned by Commandant Daniel Egnatius Schutte who acquired it between 1894 and 1898, the property was bought, divided and sold by Messrs Arthur Barnett & Co on 26 May 1903 (Johannesburg 1912). After 1950 the small suburb of Braamfontein saw rapid transformation with the demolition of part of the northern suburb, adjacent to the natural ridge line, to make way for the current civic centre of Johannesburg (Johannesburg 1912). This set off a chain of redevelopments, erasing the quaint suburb and giving rise to the high-modernist area of today. Adjacent to the site lies the suburb of Hillbrow, which was known for its high-rise apartments and rich nightlife culture. After 1994 and the dissolution of the Group Areas Act, 1950

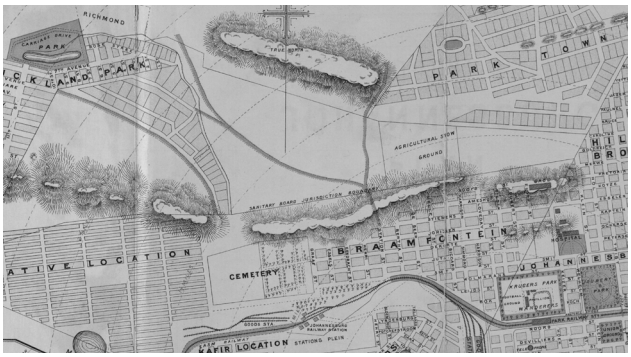


Fig.2.2 Map of the original layout of Johannesburg (1912)

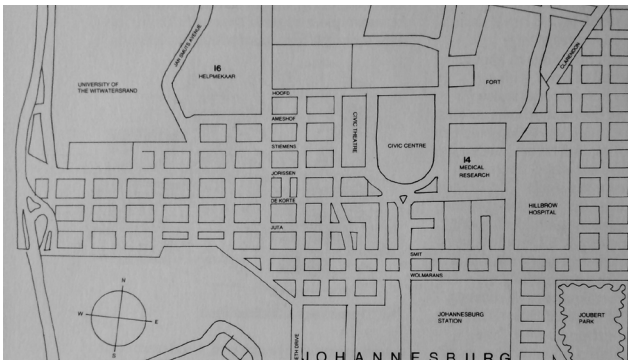


Fig.2.3 The layout of Braamfontein in the early 1900s

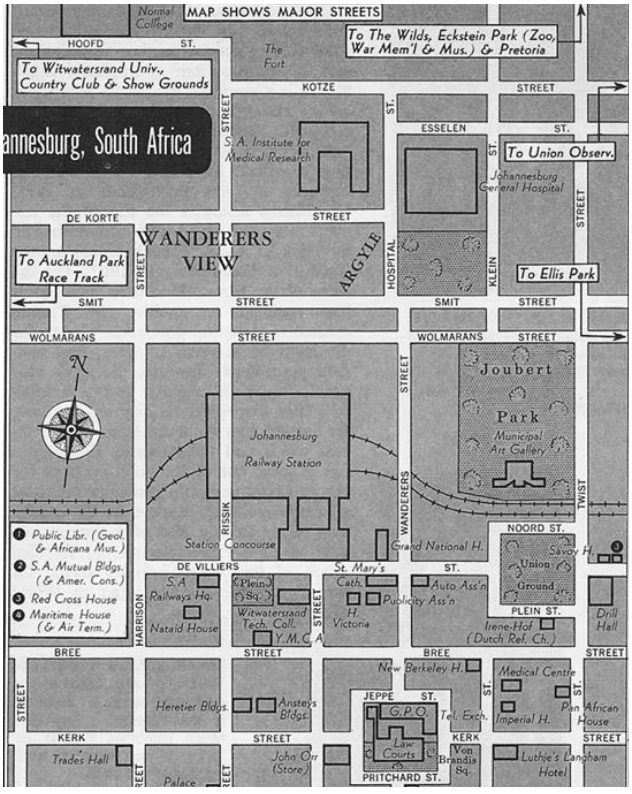


Fig.2.4 Map of the suburb Argyll near the old Wanderers Stadium (1940s)

(Act No. 41 of 1950), the suburb saw a dramatic change, with the influx of lower-income residents (Murray 2011:139) causing a dramatic decline in property prices and tax income in the CBD, slowly stripping it of business enterprises, corporate headquarters and manufacturing entities (Murray 2011:90). Many corporate and financial headquarters remained in the suburb. Today, this district of Johannesburg is well known for its strong corporate urbanism and defensive private city spaces (Murray 2011:93). The former suburb of Argyll has not gone unaffected by the development of the Gautrain system, implemented adjacent to the site on the 2nd of June 2012. Located below the former Johannesburg Technical School was what was to become the Park Station platform which is planned to be extended in future developments, leading to exciting possibilities for urban renewal projects of not only the Braamfontein suburb, but also the larger CBD (The Citizen 2018).

Fig.2.5 Looking north from Wanderers, with Hillbrow in the background (1938)

Fig.2.8 Aerial photo of 2006 when the Johannesburg Technical School was still located on the site.

Fig.2.6 Image of early Braamfontein before civic development (1960)

Fig.2.9 Aerial photo taken in 2009, after the Johannesburg Technical School had been demolished for the construction of the Gautrain Park Station adjacent to the site

Fig.2.7 Braamfontein looking North from the Wanderers (1950)

Fig.2.10 Site aerial of 2012 taken after the completion of the Gautrain Park Station

2.2 Site Analysis

2.2.1 Macro scale site analysis

Fig.2.11 Site Location Map

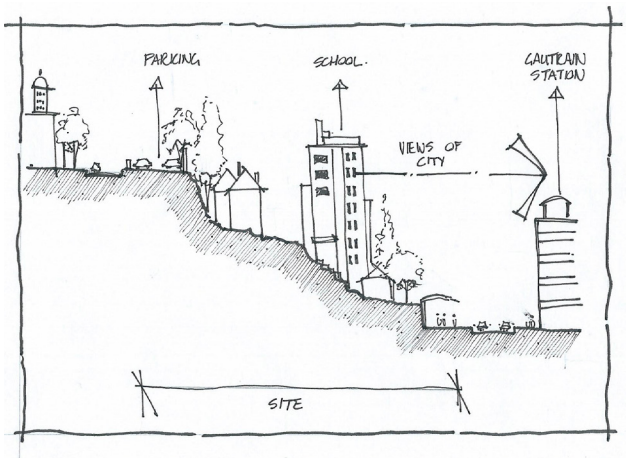


Fig.2.12 Section of site

Fig.2.13 Aerial of site in urban context

Macro scale analysis

Fig.2.14 Macro scale, zoning indication

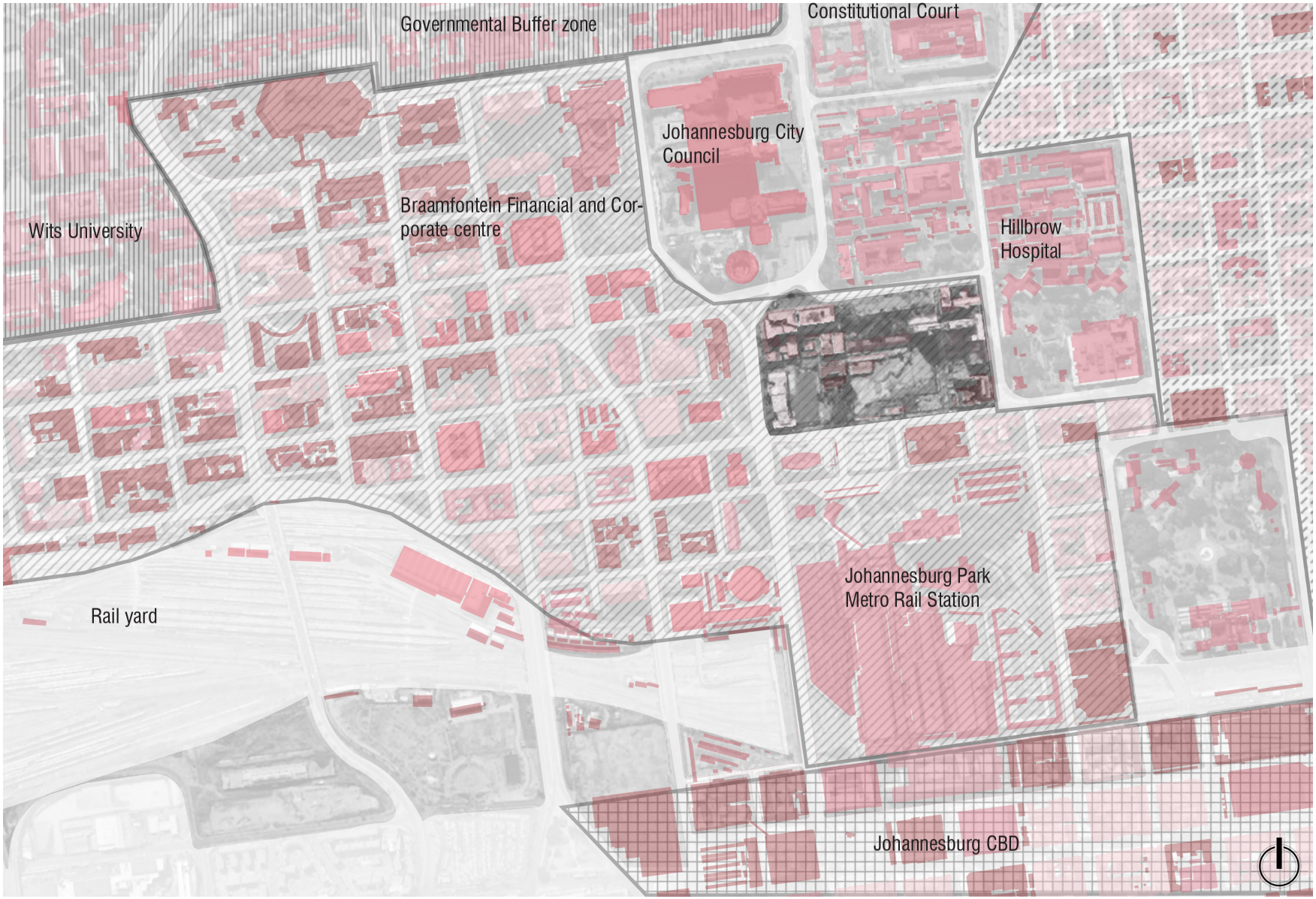


Fig.2.15 Macro scale, General program indication

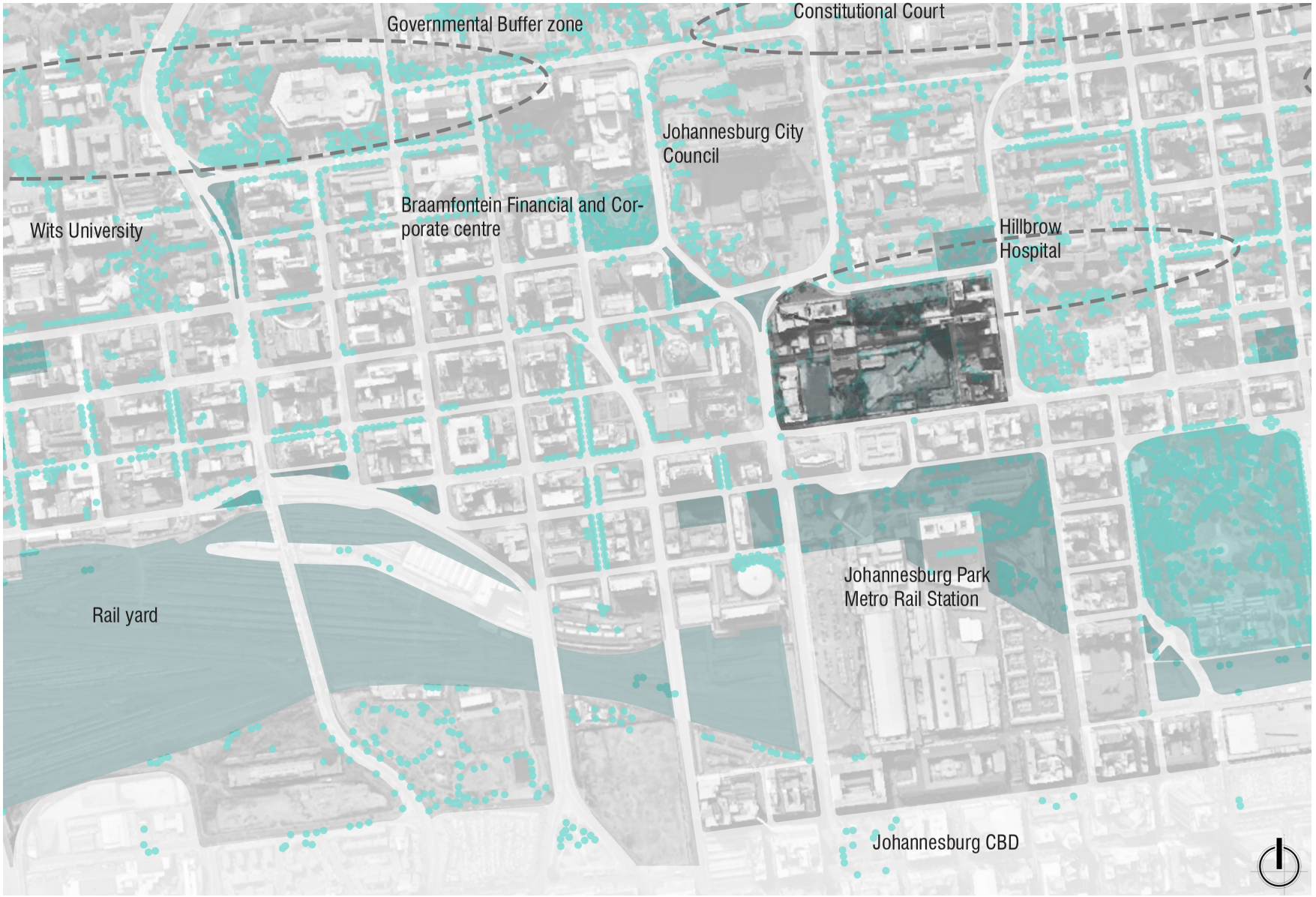


Fig.2..16 Macro scale, Environmental prospect indication

2.2.2 Meso scale analysis

Transportation Infrastructure Observations

Due to the site being located in the inner city, it receives an influx of pedestrian users, with an already established and functioning transportation system in place offering the site endless possibilities for user interaction. It has to be noted that the conditions for pedestrians around the site and the surrounding areas are very poor, with unsafe and dilapidated infrastructure in dire need of being addressed.

- The site is surrounded by a diverse transportation network consisting of vehicular, bus and taxi transportation corridors, with two prominent train stations also located adjacent to the site.
- Although an abundance of transportation methods exist around the site, the integration between the different methods and the pedestrian user is poor.
- The site also encounters high levels of pedestrian traffic around its southern and western sides, with pedestrians generally moving around the site to Braamfontein.
- The sidewalk accommodation for pedestrian movement is inadequate, with no shading structures or protection from vehicles. The sidewalk is also obstructed by informal vendors and unauthorised parking.

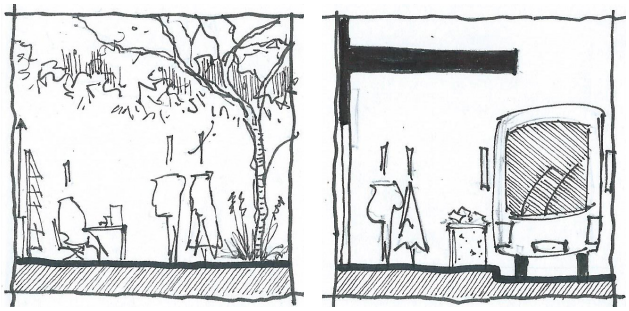


Fig.2.17 General street edge condition around site

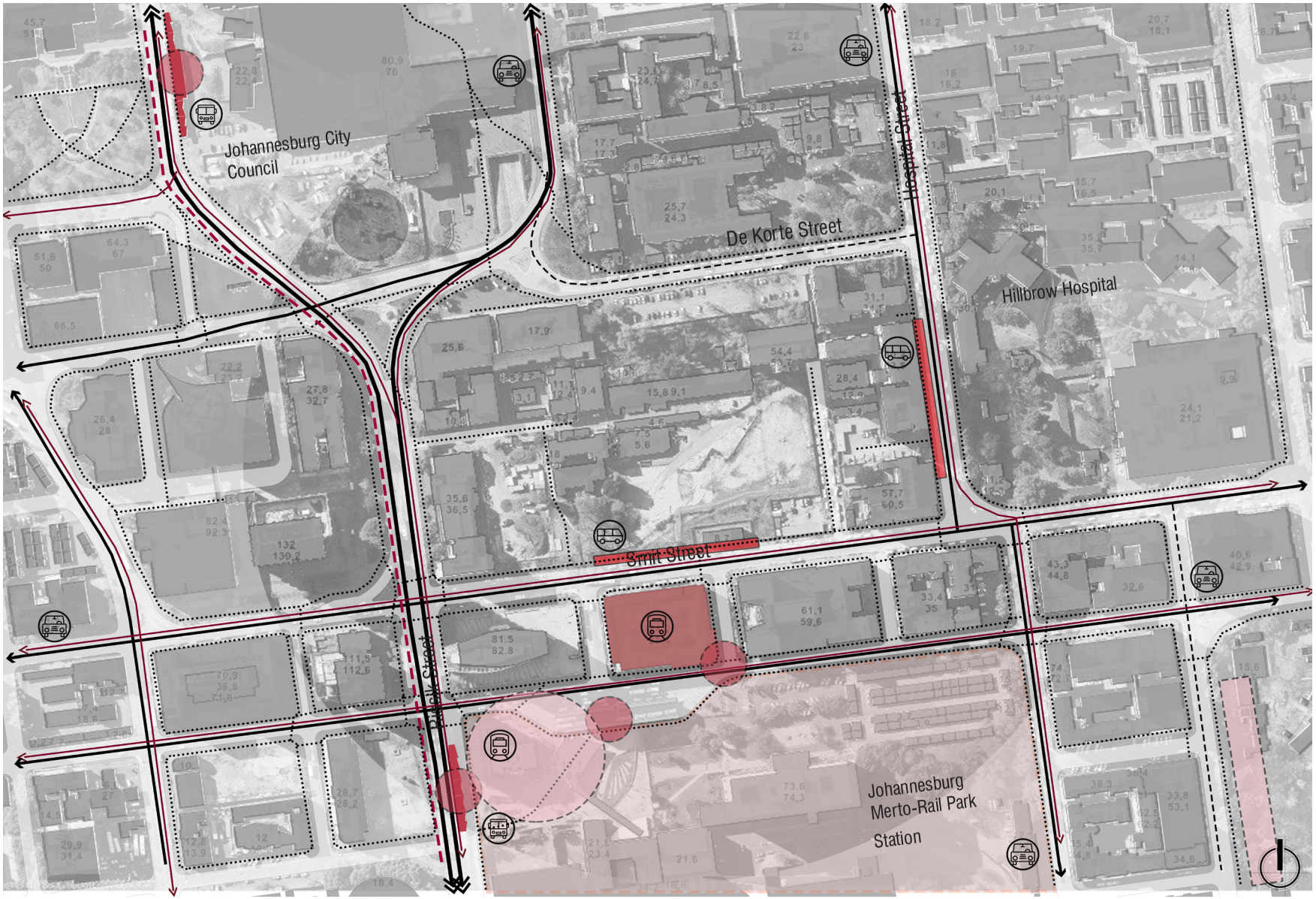


Fig.28. Meso scale, transportation infrastructure indication

Historical and visual interest

Given the rich historical and cultural diversity of the surrounding attractions and open public spaces that can be visited, the site provides ample opportunities for connecting these attractions and incorporating them in the development of the site.

- The site contains two prominent historical buildings: one of the last remaining old Wanderers houses now used as an administration building for a culinary school and, located to the north adjacent to the site, the first medical research laboratory in Johannesburg.
- North of the site many tourist destinations can be found, with the Constitutional Hill precinct located a block away.
- Due to the high inclination of site, the site offers stunning views of the surrounding Johannesburg CBD.

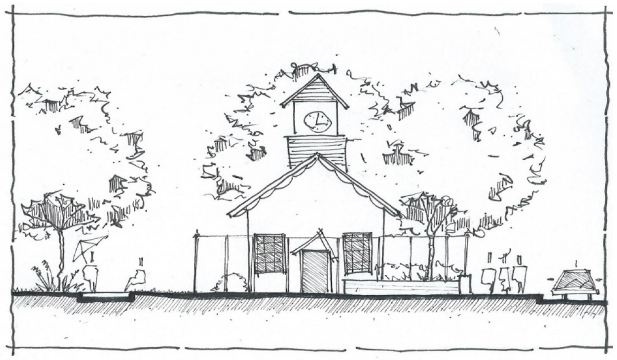
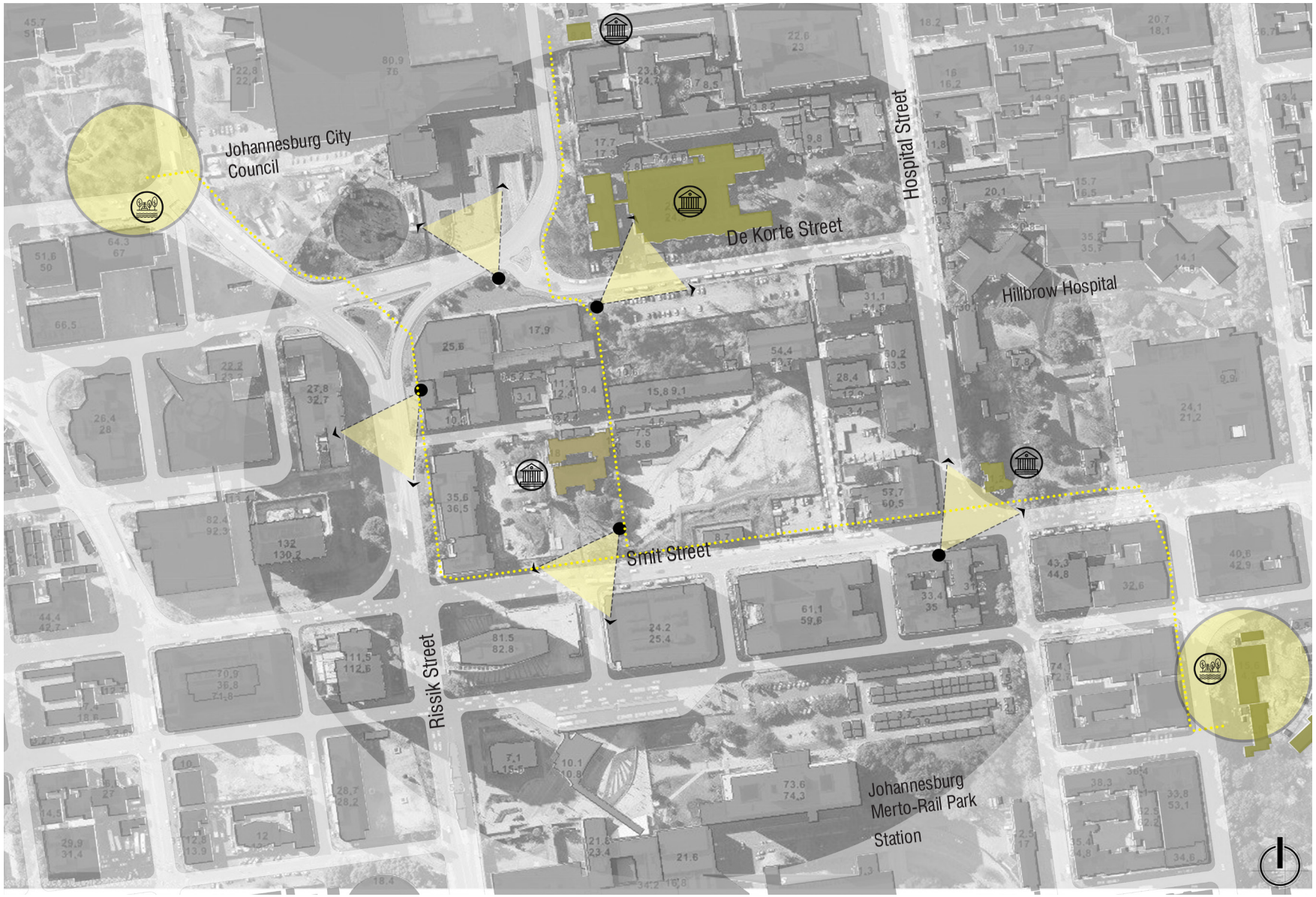


Fig.2.19 Historic Wanderers house attractions on site



Views of Interest

Possible Heritage route

Historically protected buildings

Fig.2.20 Meso scale, historical and visual interest indication

Cadastral and zoning evaluation

The site is located in a unique area where multiple sectors are integrated – from corporate entities, government bodies, transportation nodes and some historical and cultural sites, mixed in with a high density of residential buildings on and around the site. The area offers a unique situation where multiple users provide rich programmatic opportunities on and around the site.

- To the east of the site, in the suburb of Braamfontein, the city typology is high-density, high-rise corporate and financial sector, interspersed with high-rise apartment buildings.
- To the south of the site, in the Johannesburg CBD, the city typology features a mix of corporate and governmental institutions, interspersed with multifunctional residential and commercial programmes.
- To the east and north the site is surrounded by two semi-private entities, one being the Hillbrow Community Health Centre located on Hospital Hill, and the other the department of Health medical Bureau for Occupational Diseases.

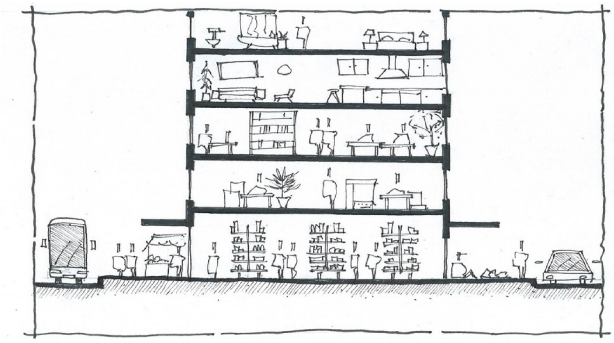


Fig.2.21 Multifunctional building programs

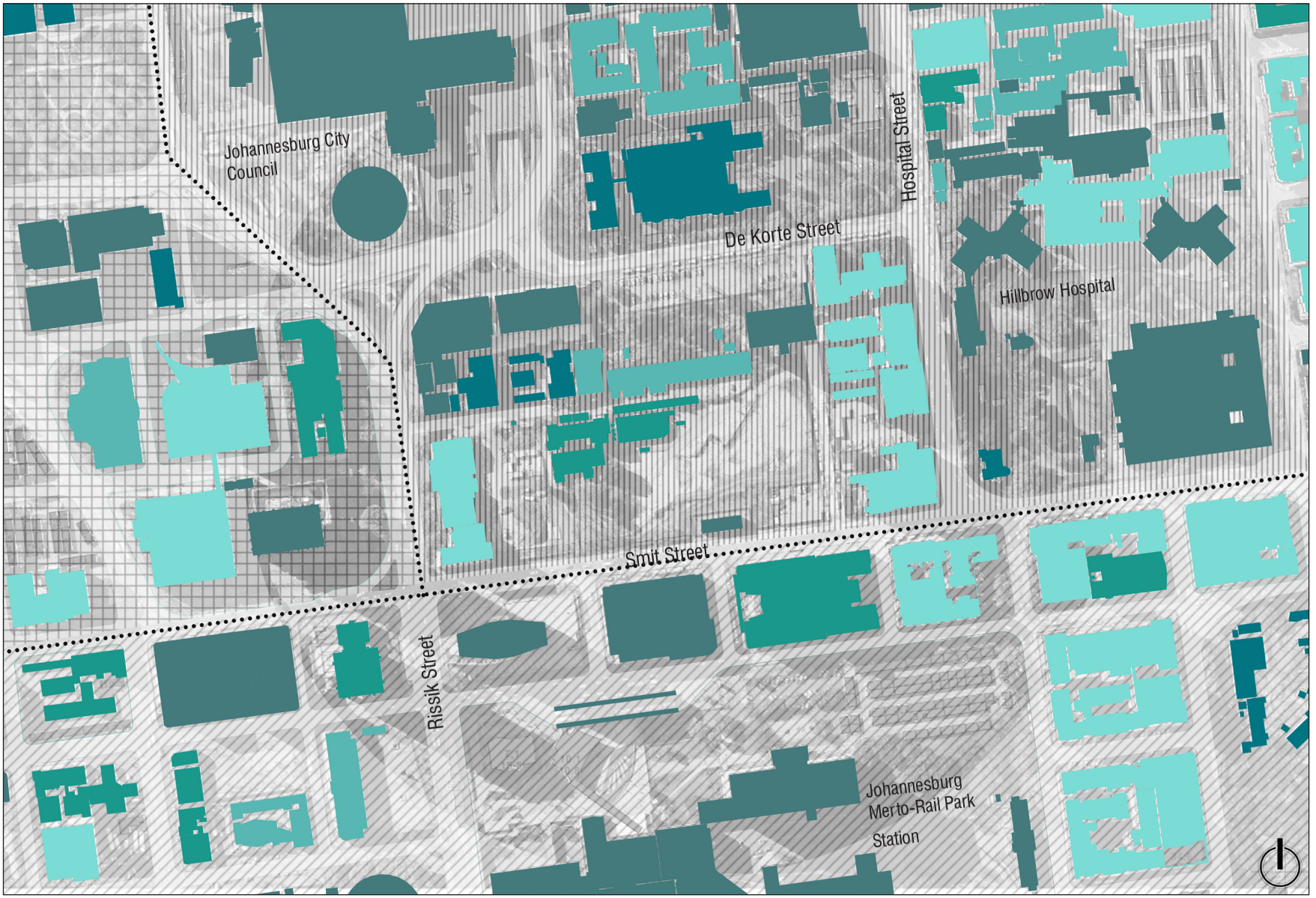


Fig.2..22 Meso scale, cadastral and zoning evaluation indication

Environmental prospect analysis

Although the site does harbour some ecological niches in and around it, none are of real value due to plant communities composed largely of non-indigenous or invasive species; therefore, the site is in need of substantial improvement in ecological plant diversity, with more indigenous plant species required to achieve a sustainable ecology.

- Located to the north of the site is a partially exposed section of the Witwatersrand ridge line. On site is a small residential garden adjacent to the old Wanderers house. This small garden is in poor condition, with a few exotic species still extant and only the large trees, primarily Jacarandas, still in a good condition. The garden itself is not of major significance and does not make an important contribution to the site.
- Street trees located on the western side of the site are in reasonable shape but have succumbed to poor maintenance practices.
- Other areas on site consist primarily of pioneering species, the result of sediment build-up from soil erosion due to construction activities.

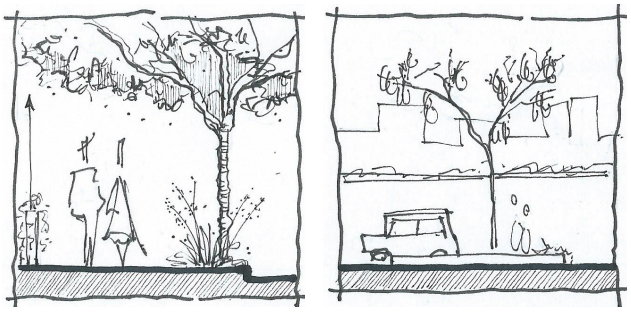


Fig.2.23 Existing greenspaces around site

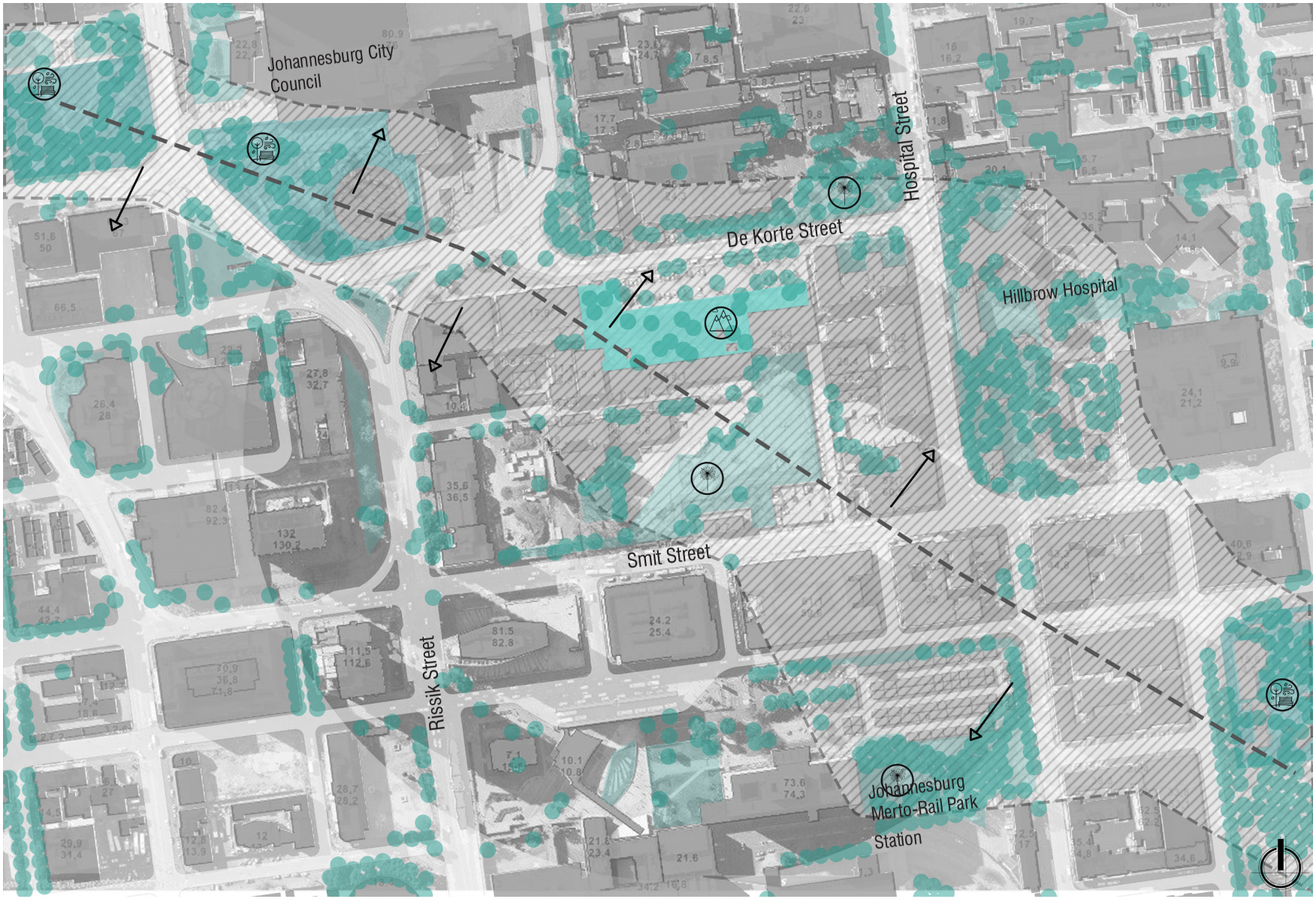


Fig.2.24 Meso scale, environmental potential indication

Public and private spaces

As user movement is largely directed around the site by numerous security measures, the site has sterile and non-engaging edges, representing a missed opportunity where user participation is concerned. The area, partly because of these security measures, has a general air of exclusivity for pedestrians, intensifying their lack of ownership and the vandalism in the area.

- Control of access and user circulation is primarily achieved through defensive urban tactics. The site is situated between two prominent districts, i.e. corporate and governmental to the west, and residential to the east and south, where measures such as surveillance cameras, security guards and fencing are used to control pedestrian movement.
- Pedestrian circulation is restricted to streets where some buildings have small shops on the ground level. Large corporate entities are primarily fenced off, with user interaction being discouraged.
- Entrances to the site consist of small fenced gates and walled-off areas discouraging pedestrian traffic through the site.

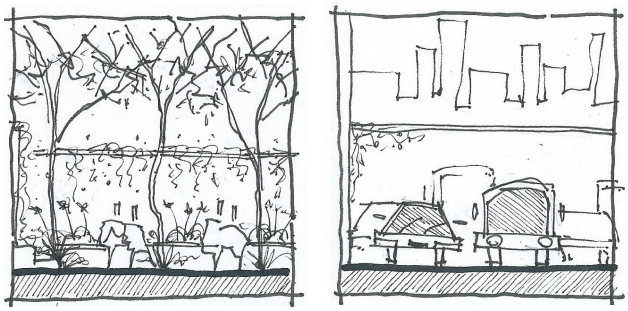


Fig.2.25 Difference between public and private spaces

Fig.2.26 Meso scale, access and permeability indication

2.2.3 Micro scale analysis

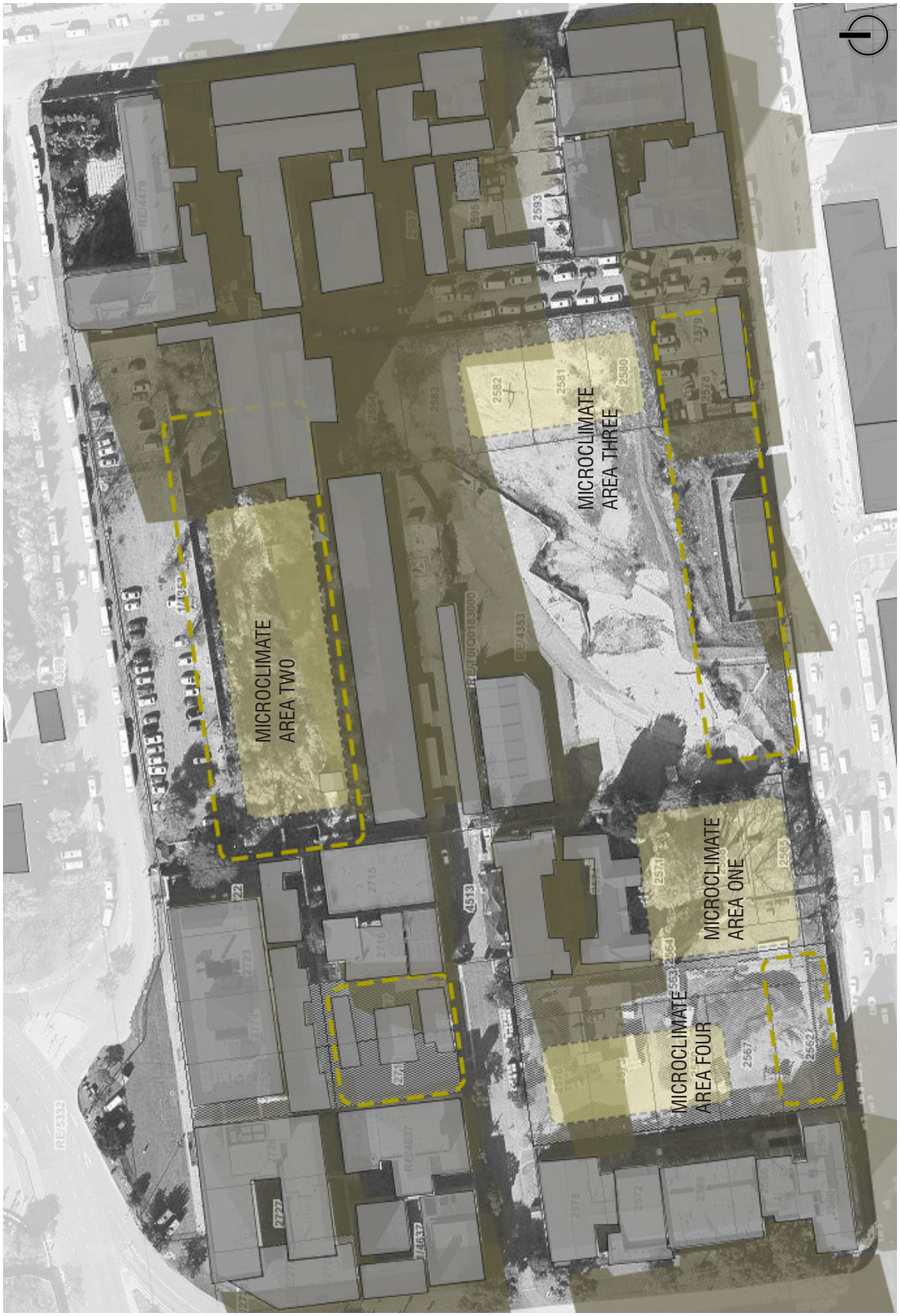
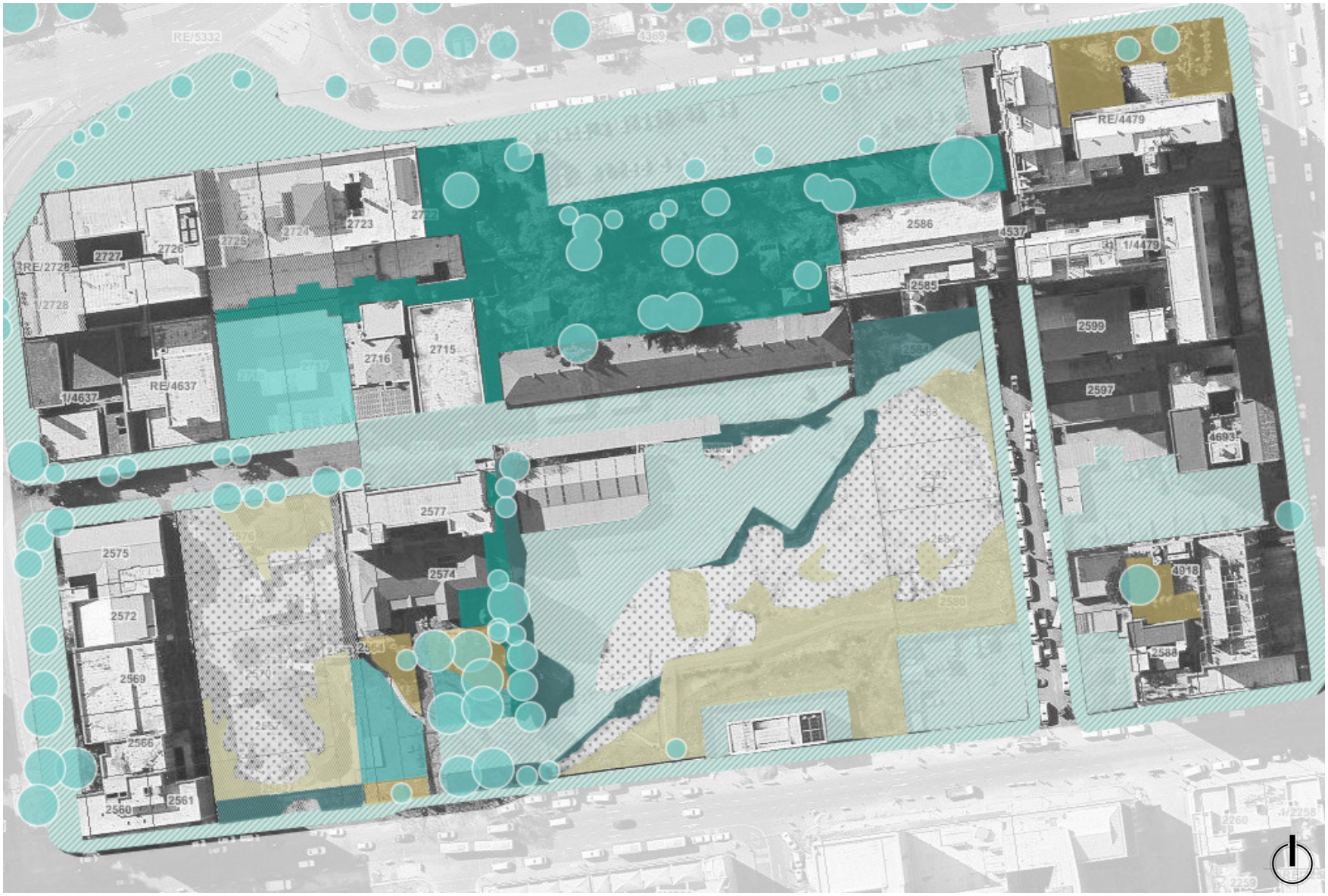


Fig.2.27 Micro scale, Micro climates and shadow paths

Heavy seepage areas
Moderate seepage areas
Low seepage areas
Sediment Build up
Sediment areas

Fig.2..28 Micro scale, Sediment and runoff indications



Novel Ecosystem
Seepage areas
Lawn
Sediment Build up
Established gardens
Trees
Non permiable surface

Fig.2.29 Micro scale, Vegetation

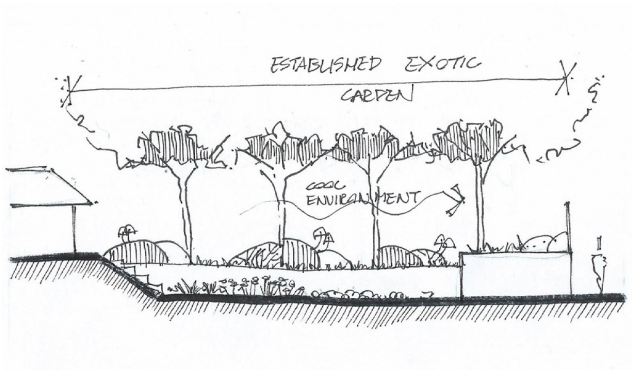


Fig.2.30 Micro scale, diagram of area one, existing garden

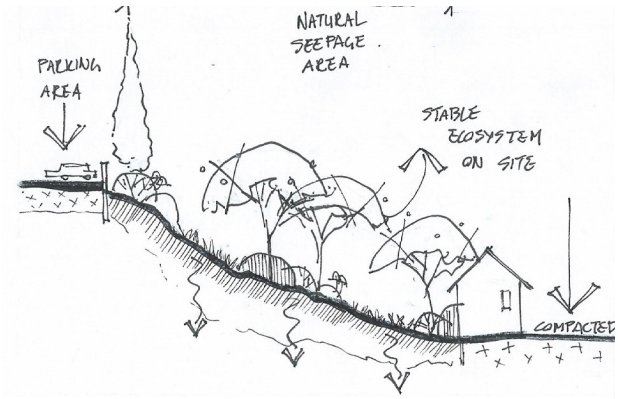


Fig.2.31 Micro scale, diagram of area two exposed ridgeline habitat

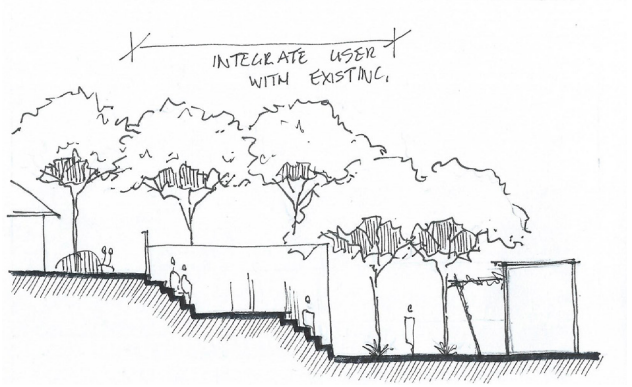


Fig.2.32 Micro scale, diagram of area one, existing garden proposed initial iterations

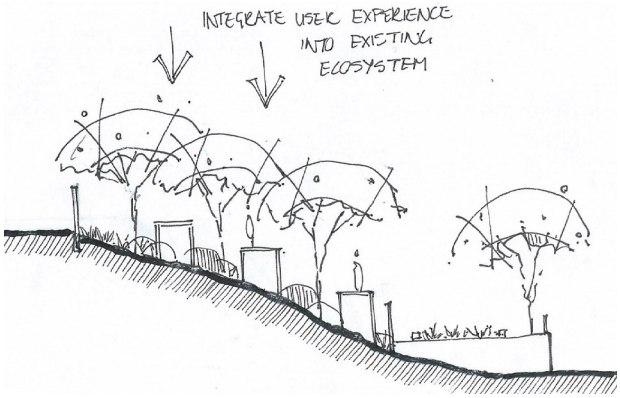


Fig.2.33 Micro scale, diagram of area two exposed ridgeline habitat proposed initial iterations

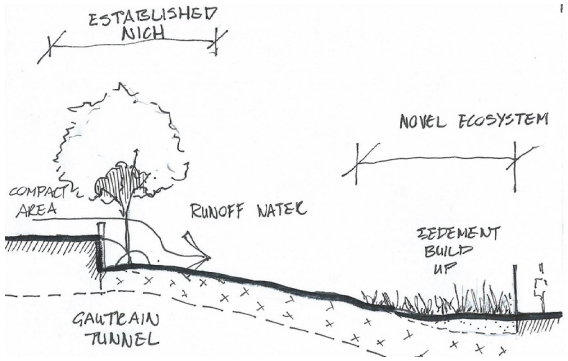


Fig.2.34 Micro scale, diagram of area three, novel ecosystem

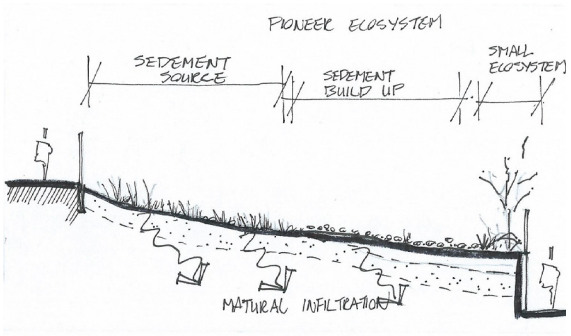


Fig.2.35 Micro scale, diagram of area four, sediment build-up habitat

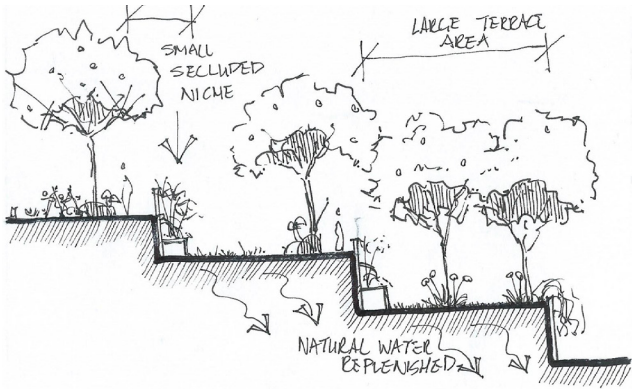


Fig.2.36 Micro scale, diagram of area three, novel ecosystem proposed initial iterations

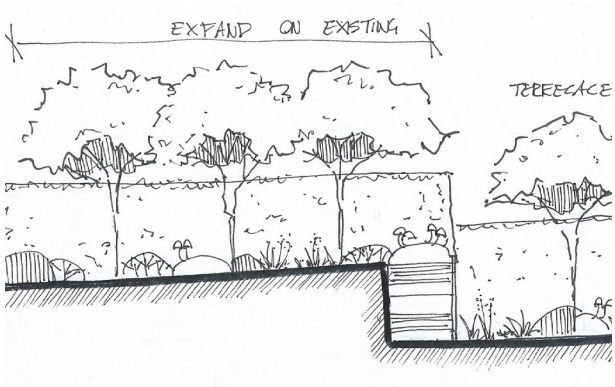


Fig.2.37 Micro scale, diagram of area four, sediment build-up habitat proposed initial iterations

2.3 Site Potential

2.3.1 Towards an anti-Privatopia

With urban renewal the temptation exists to refer to an image driven architectural intervention. Although an intervention in the form of corporate investment or a residential densification scheme might seem profitable, the technical considerations should also be taken into account with the existence of the Gautrain line running underneath the site, making future high-rise development on site considerably more expensive. The site might need a more landscape orientated intervention, as opposed to an architectural one where the built form takes on a static nature merely simulating change. The latter could prove to be counter-intuitive for a country still in its developmental stage. Landscape architecture, on the other hand, with the inherent novelty of growth offered by vegetation, can provide a unique opportunity in this regard in the formation of dynamic space where, just as the country is maturing in its transitional stage, the landscape can develop alongside it, changing as required. Corner (1999) postulates that a landscape should be seen as an active agent in the expression of a culture where landscape architecture extends beyond the idea of the naturalistic and the phenomenological, but also includes the social constituencies, political desires, ecological processes and programmatic demands of an urban environment (Corner 1999:2). City and nature should not be viewed as opposite points of the spectrum; rather, the city should be seen as a continuum of nature, governed by the same natural processes as nature (Spirn 2010:6). Spirn implies that, for an urban landscape intervention to be successful, the relationship between nature and the urban environment should be one of full integration (Spirn 2010). Therefore a communal landscape intervention is proposed for the development of the site:

- An urban landscape intervention that is focused on respecting and reinforcing the inherent culture and history of the site;
- An intervention that is an articulation and reworking of the old social order and that supports the emergence of a vibrant new city culture;
- A park where the sustainable development of the inherent novelty residing in the negative urban space is indicative of the spirit of the urban ecology, and where the novelty of the natural world is protected and enhanced;
- A park that includes and provides spaces for small-scale commercial and leisure activities, resulting in a rich melange of open spaces where new tensions and contradictions that generate fresh conflict are formed, showcasing the diversity and rich identity of the city, and offering an opportunity to make place within an ever densifying and developing urban space.

CHAPTER THREE:
FROM GARDEN TO PARK

The following discussion serve as a response to the question surrounding communal landscape system and the application thereof to mitigate the creation of privatised open spaces in the Johannesburg CBD.

Fig.3.1 View of Vaal River in Shangri-la gardens

3.1 Growing a park from a garden

The programme supports the intention of the dissertation, which is to investigate the relationship between the user and the landscape. This relationship is dependent on the growth of the living material used in the formation of space, a process that occurs naturally over an extended period of time. The programme will also be structured over an extended period of time. The 'process discourse' is best described as the disciplinary proximity that is primarily focused on the understanding and investigation of time and change, both as a theoretical construct and as a practice involving processes that inform form (Raxworthy 2013:17). This theoretical construct is important in understanding the inherent novelty which resides in the natural landscape, in order to best engage with the growth and change of vegetation as a material to form space, as discussed in Raxworthy's theory of the viridic. It is only possible to utilise the inherent growth of plants if the progression of time is actively incorporated in the design development, as vegetation is living and – along with the accompanying processes of the natural environment – in constant flux, changing over the progression of time. Thus, the design proposal attempts to predict and simulate the natural progression of time and its accompanying changes. The site will be developed in a sequence of five phases that span a period of fifty years. Three of these phases (Phase One: a productive landscape development, Phase Two: a domestic allotment garden development and Phase Three: a communal public park) will be iterated as a separate design intervention that responds to the anticipated needs of the site at specific time intervals. The remaining two phases (Phase Two and Phase Four) will function as intermediate phases in which the actions of the clients as can be seen in Fig. 3.4 and the natural growth of the plants on site will be speculated. As it is impossible to predict the exact future of the site, the design attempts to predict the narrative of the site as accurately as possible. Although the prediction and simulation of this narrative may seem fictional to some extent, the purpose with this dissertation is to showcase the progression of time in the design, with the aim of explaining the emergent novelty that resides in the landscape; therefore the focus is not placed on the accuracy of the predictions but rather on the response to the progression of time on site and the growth inherent in the landscape.

3.2 The Company's Garden

- Public park
- Cape Town, South Africa
- Established in 1644

The precedent is investigated as to show how an open public space can develop over time from a series of small gardens to a public park, resulting in certain spatial qualities that are different from conventional designed and constructed urban landscape developments. The Company's Garden was founded by Dutch sailors who settled the garden next to the Fresh River as a food refreshment station for the trading fleet of the Dutch East India Company (Verenigde Oostindische Compagnie or VOC). The garden underwent a series of improvements and formalisations, starting with gardener Henrik Boom appointed on the 29th of April 1652. The greater part of the original garden consisted of a fruit and vegetable garden, but there were also designated areas for herbs and medicinal plants (Brand 2019). After the garden was established and functioning, ornamentation took place with the introduction of non-indigenous tree species. The garden went through a complete transformation in 1679 under the guidance of the then Governor of Cape Town, Simon van der Stel, and his master gardener Hendrik Bernard Oldenland. The primary purpose of the garden as a productive landscape remained the same, but the new layout included an elaborate system of canals and water furrows fed by the Fresh River. It was also during this time that the first buildings were erected on the site, namely the pleasure lodge, church, slave house and hospital. As development went on more buildings were built, the garden gradually shrank to the size it is today (Brand 2019). In 1881 the Company's Garden was developed into a botanical garden by a Professor McOwen, and was taken over by the Cape Town Municipality in 1892. Gradually its character changed once again, as the educational and botanical emphasis diminished and it became a peaceful public leisure park, after the establishment of the Kirstenbosch Botanic Gardens in 1913. The garden has remained the same since then and was finally proclaimed a National Monument in 1962 (Brand 2019). The precedent study informed how a productive landscape garden can develop over an extended period of time, and how the gardener plays an active role in the development of the garden and the spaces within it. The cultural and historical value of this garden is also very high in that it is the first garden ever recorded to have been created in South Africa.

Fig.3.2 Established mature fig trees in the Company's Garden showcase how the park developed from a productive garden to a present-day public park

Fig.3.3 View of Table Mountain from within the Company's Garden, with ornate ponds and memorial statues

3.3 Schrebergarten

- Allotment gardens
- Germany
- Developed by Dr. Moritz Schreber
- Established in 1919

Schrebergarten typically consist of small allotment gardens situated on the outskirts of the city for the primary purpose of gardening. The concept of the Schrebergarten derived from the German professor Dr. Moritz Schreber from Leibzig University who postulated that physical contact with the landscape in the form of food cultivation or gardening formed an integral part in the development of children, opportunities not available for children in larger cities (Karenanne 2019). After the death of the professor the first Schrebergarten was established and more vegetable based planting was incorporated into the allotment garden system (Karenanne 2019). As time progressed these gardens were taken over by the children's parents through leasing and taking ownership of the gardens, complete with gates and small fences (Karenanne 2019). The allotment system was refined in 1919 with the implementation of the first regulations (Karenanne 2019). Although these gardens have been branded as being 'kitch' by some and seen as old fashioned in the late 1980 these gardens have become popular again in recent years (Karenanne 2019). These gardens have specific meaning to these studies in the way the gardens are controlled and regulated. The gardens are not owned but rather they are leased to the community, these allotment gardens are run under very strict regulations that have their own governmental garden acts controlling everything from use, size, location and inheritance (Karenanne 2019). Other smaller matters like when and where certain recreational activities can take place, what maintenance methods should be used etcetera are controlled by local garden committee (Karenanne 2019). The precedence study was investigated as to inform the governance and control of a community garden. The example of management of an allotment garden system directly influences the curation of the allotment garden system in phase two of the design intervention.

3.4 Site management and ownership

Following the example of the Schrebergarten allotment system in Germany, the intention with the management of the site will be as follows: The site will be managed by two bodies that will implement a strict management regime. The first is the legislative body that will be subject to government legislation. The function of the legislative body is to manage all matters concerning ownership – rights to produce resources, use, size, location and inheritance. The second body will consist of a smaller garden committee made up of local residents, investors and members of the school board. The function of this committee will be to manage matters such as preferred maintenance practices, hours of use, what types of recreation practices may take place, and what types of plants may be grown. In the first phase, when the site is functioning as a private landscape development, access will be strictly controlled by the school and its existing security personnel. The site will only be accessible by the Central Technical School and labourers of the productive landscape, except for a single route adjacent to the school that will allow pedestrians to pass through the site. In the second phase, when the site will be functioning as an allotment garden in a semi private landscape intervention with restricted public use, access to the site will be controlled by the school and private investors. The site will be accessible during the day by a series of entrances along its periphery. Access to the allotment gardens will be strictly limited, but open spaces will be made available to the general public. The western side of the park will still only be available to school pupils and labourers. In the final phase, access to the site will be privately controlled with the assistance of the school, government and private investors. The site will function as a privately owned and controlled public park, and will be accessible via many entrances along its periphery during the day. The interior of the site will be open to the general public, except for the western part that will remain restricted to students of the Johannesburg Central Technical School and labourers of the productive landscape.

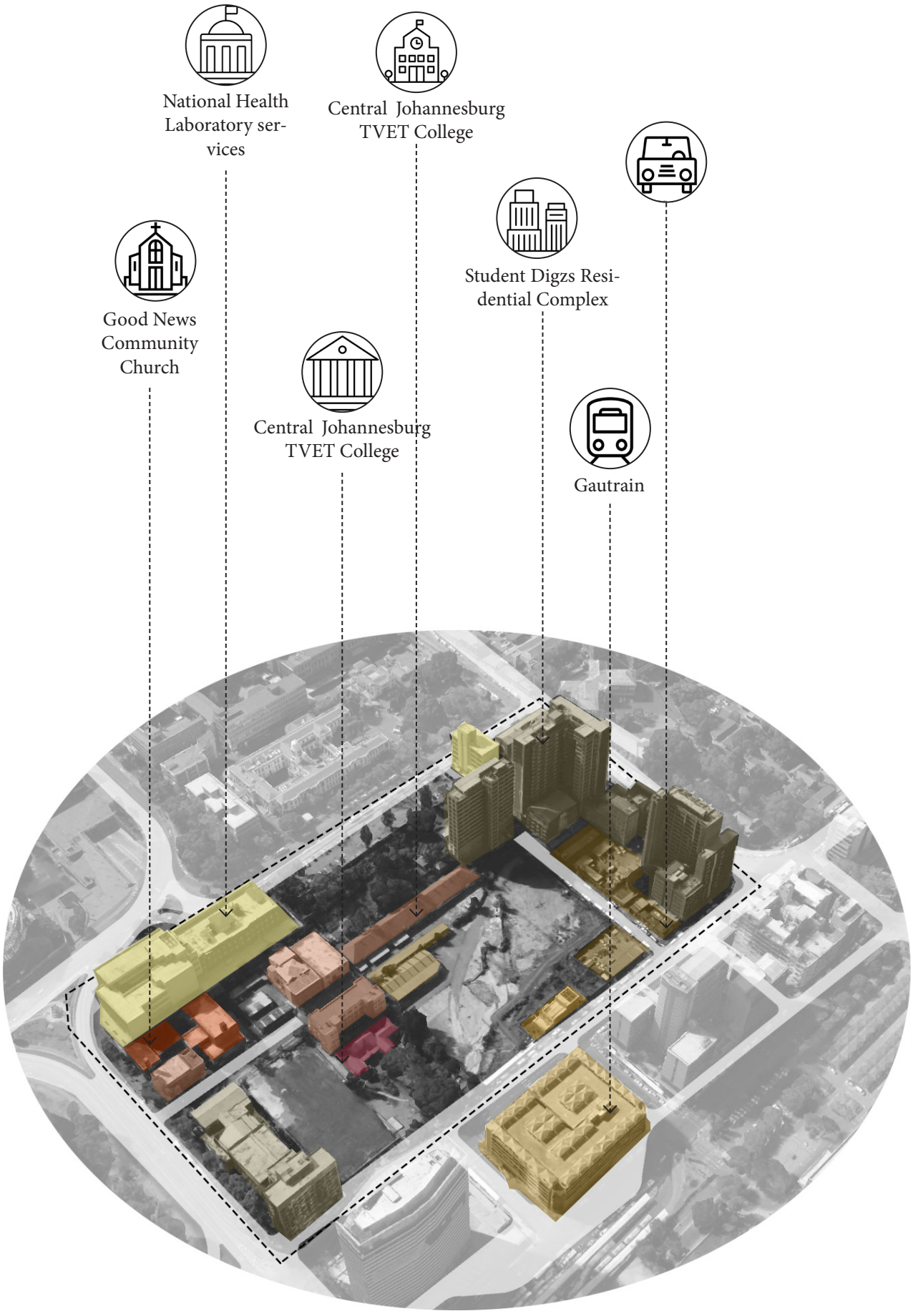


Fig.3.4 Graphic indication of different clients on site

3.5 Die wonder tuintjie

Due to the development of the landscape coinciding with the requirements and input of the everyday user the landscape development was not considered separately but also in consideration of the developing user on site. Therefore the following short story serves as a depiction of the intimate relationship that exists between the user and the landscape and how both entities, together form part of the narrative of the city.

Die wonder tuintjie

In 'n woekerende warrel van grys jasse en skerp hakke, was klein Tukkie uit die donker dieptes van die treintonnel uit getol tot bo-op die verbleikte voorstoep van Johannesburg. Met lapsak en poplap gepak, sambreel van songeel en stewels van roet het sy en pappa die stad van goud aangepak. In 'n vloed van spreilig, in 'n kolk van motor klank, met 'n vinninge voet, vlug hulle na die oorkantste bank. Saam gevleg in veiligheid skarrel die twee saam met pendelaars, gedimpel en gedweë, verby flikkerende liggies en kitskarton gehuggies. Hier en daar 'n boemelaar besig om te prut voor 'n vuur, en nietemin siedaar, neem hulle 'n besondere oomblik waar. Soos 'n rotsskeur in 'n opening het voete van sonlig die plafeisel betree. In 'n oogwink van son blink vergeet hul heeltemal van die stad se weë. Net daar en dan vind 'n wonder plaas, uit die dooie beton groei daar 'n tuintjie. Tussen terrasse van steen en oker, met houtstelasies wat oploer om die son te groet, lê 'n groente tuintjie stil en soet. Saam gehekel in 'n bont lappieskombers van spruit uitjies en glippertjies reg vir pers. In 'n dans van skadu en sonstrale speel die oggendson op die gekarteerde landskap. Met talle tuinjies bymekaar gestring en 'n steenpaadjie wat mens tot by die bopunt uitbring. Jonk en oud is besig om die tuin te proklameer en plant sodanig, haastig vir die komende somer weer . In 'n flits van twee dekades, in 'n oomblik verby soos nou, verskyn 'n jonge dame in vrye vers , 'n vrou. Op 'n pelgrimstog van grootmens wees vind klein Tukkie haarself by dieselfde groot grys monster maar die keer effe met mos genees. In 'n japtrap begelei deur wit zebra strepe het Tukkie die oorkanste sybaapdjie rustig raakgetrap. Op die gleuf van die nou grys groen murasie , soos 'n posseël pikant in die hoek, sien klein Tukkie 'n huisie met n groot dakhoed, versier in kroon van roos en doring, in 'n erewag van Jakkardanda tak was klein Tukkie die dag oortuig om die terrein aan te pak.Die grammadoelas, koel en klam, het haar ingesluk, 'n ritsel, 'n geluid, 'n rinkinkende kwettervink het haar landing getuit en met n plons het n ou man, Oom Gertman, sy opwagting gemaak. Hy vertel toe 'n staaltjie van 'n verlore skat langs die verlate kus, onder die groot groen blaredak. Voor hy groet, gewapen met sambreel het sy weer na die bos van Takkerania gekeer, gevul die keer met 'n vuur vir avontuur. Spikkels van lig en geel glure uit die tuin het 'n muur van loodglas in Tukkie se pad verskyn. In 'n kadelaar van koreklank het 'n optog van mense die bruidspaar kom bedank. Die werf was wyd en die bruilof groot en te danke aan die sop was daar geen hongernood. Met magie vol en beentjies wat snol, trippel Tukkie weg van die sopkombuis, weg van die aroma van roomsop en sampioene opsoek na die belofte van die beroemde miljoene. Soos wakende soldate, paraat vir die perade het Tukkie 'n tydjie gekry om onder die koelte laning haar planne te bedink en dalk nog 'n ogie te wink. Net skuins van die kerkie, links van die merkie, 'n katspoegie, het 'n non toe die staatjie verder vertel van die skat op die verlate kus. Deur die groen gang van die geel peerpoort langs die klein vis fonteintjie, al die pad Noord, bly 'n ou Evangelis, snoesisig in sy nus, hy is die een wat weet waar die verlore sleutel is.By die mond van die oase en met 'n gly van 'n voet, beland klein Tukkie tot in haar gemoed. Met 'n plons van water, in 'n glinsterende skater, verskyn die Evangelis. "In die blommetuin is waar die skatk is en in jou hart is waar die sleutel is." En met n plons van water, in 'n glinsterende skater, verdwyn die Evangelis. Daar op die land, net skuins van die hand, ontmoet Tukkie haar oulike kalant. Nes 'n magnolia wat in eerste lente bot het hul bewondering vir mekaar oopgevou van genot. Voor madeliefies en groen gras het hul, hul eerste tuintjie aangepas. Saam in liefde het hul die tuintjie bewoon en bewerk en van seisoen tot seisoen aangesterk. In 'n flits van twee dekades, in 'n oomblik verby, soos nou, verskyn 'n nuwe jonge dam, die keer saam met 'n ouer vrou. In 'n rits van naweekgangers begelei deur die neurie van straatsangers het ou Tukkie haar poplap kom wys, dat selfs in die grys murasie skuil daar 'n geheime paradys. In 'n kafdraf heel laf en 'n kotteljons met een groot plons het hulle die oorkanste oewer met gemak gemaak. Pas oor die rivier, was hulle gekeer deur die donker groen krans, wat hoog met die wolkies dans. Soos 'n sterrenag in die koudste woestyn het die skemerstad lig begin flikker en skyn. Daar in die kners van wolkekrabbe kranse, so teer soos 'n berghlom, pronk 'n oase. Met begeleiding van die skemerkriek se samesang kon Tukkie haar bekomernisse aan die boomtoppe kom op hang. Deur die gehom van hommeltuie wat soos viervlieggies deur die landskap wip,het 'n koel herfs briesie die tweetjies laat nader aan mekaar sit. Tukkie het toe begin om die storie van die tuin te vertel en van die goeie herinneringe wat haar altyd hier vergesel – Sy vertel van die wonder tuintjie wat groei uit die dooie sand en nou reg staan om vir jou, om jou toekomsdrome te kom plant.

CHAPTER FOUR:
SETTING FLIGHT TO THE EMERGENT LANGUAGE OF THE GARDENER

The following discussion serve to address the question of an appropriate regional landscape language derived from traditional landscape practices that can be applied to inform the design of a collective communal garden.

Fig.4.1 Stone walled sculpture garden in the Shangri-la gardens

4.1 Understanding the caretaker and his/her cultural influences

It is said that the garden (the paradise) is man's depiction of an idealised world, and because humans are representations of the society in which they are placed, naturally the garden can be seen as a representation of the current society's view of the ideal world (Clifford 1967:15). The garden cannot be viewed in isolation from its caretaker; therefore the landscape cannot be viewed without bringing into account the cultural influences of the user. The culture of a nation is to a great extent dependent on its context; its environment depicts the identity of a civilisation. The identity of South Africa in terms of spatial design is depicted in our search for a regional identity. Following in the wake of the postmodern movement and the country's transformation into a new South Africa, the process of reassessing and redefining identity has formed a large part of the design discourse here. Traditionally, this search for an appropriate identity or 'regionalism' in design included the use of regional material obtained from natural sources (Marschall 1998:20). Naturally, in the profession of landscape architecture the same search manifested in the use of regional material, in this case indigenous planting; however, this practice of regionalism was not always prevalent as, traditionally, the idea of the indigenous landscape was approached with great caution during colonisation. It was deemed as exotic and/or frightening, and the natural landscape was viewed as inferior to the established Western approach to gardening (Murray 2006:47). In contemporary South Africa we find that, although indigeneity is supported by international dissemination, environmental policy makers and formal educational institutions that campaign for the benefits associated with the use of indigenous planting – ranging from sustainable resource management and diversity of species to the promotion of 'ecosystems functions' (Clewell & Aronson 2008; Bolund & Hunhammar 1999:300; Harrison 2010) – the importance of cultural views towards "nativeness and exoticism" are not however considered in the general practice of landscape interventions (Hobbs et al. 2009:599-603). As the Comaroffs remark (Murray 2006:51), "controversies over indigenous plants and alien nature permit a vocalisation of anxieties and conundrums not easily addressed by politics as usual". Attempts have been made in the amalgamation of the use of both indigenous and exotic planting material, as illustrated by the development of the Palace of the Lost City botanical gardens designed by Patrick Watson. This amalgamated depiction of an idealised African paradise has been adopted and applied to many other sectors, including the residential market, with traces of this depicted paradise still to be found in many backyards of suburban homes in South Africa.On the other side of the scale we find the application of a regionally endemic planting palette and an active search for an indigenous identity, as exemplified in the design of Freedom Park. Regardless of the cultural appropriation of non-indigenous species, the adoption and popularisation of indigeneity by the formal sector had gained much momentum in the preceding years. Unfortunately, the concept had been reduced to an aesthetic that has failed to develop a style vocabulary of materials and construction methods derived from an appropriate cultural context of

Fig.4.2 Protected Oak tree lane in Victoria Street, Stellenboch

Fig.4.3 Protected Jacaranda tree lane in Pretoria suburb

Fig.4.4 The extensive botanical gardens at the Palace of the Lost City, designed by Patrick Watson, were driven by the reinterpretation of horticultural indigeneity. Indigenous and exotic plant species were used as a means to stage African indigeneity as a commercial national identity (Murray 2006:53)

practice (Murray 2006:53). In the urban environment, these aesthetics are simplified to an indigenous planting palette informed by international trends and styles, without fully engaging with the planting material and its possibilities in the formation of enjoyable spaces for the urban user. However, the cultural and symbolic importance of indigeneity cannot be stressed enough in the transformation of a new South Africa. As suggested by Murray in her article, 'The idea of gardening: plants, bewilderment, and indigenous identity in South Africa' (Murray 2006), "the fantasy of the post-colonial today is to occupy the native's place" (Murray 2006:57). J.M. Coetzee sums it up as "the settler's identification with indigeneity as a projection of consciousness into the alien: into the Africa himself" in (Murray 2006:57). As proposed by Murray, the growing tendency in South Africa in the adoption of the indigenous garden is not only derived from a pure environmentally conscious decision, but also from a cultural response to the current political state of a new nation (Murray 2006). This transformation is not just representative of a post-colonial white population. It is also applicable to many other indigenous South African cultures that are able to embrace new experiential possibilities of indigeneity as a re-appropriation of a once stigmatised, white-dominated ideal that views the residential garden as an extension of a national identity and traditional practice (Murray 2006:56).

Fig.4.5 Conceptual representation of the history of Landscape architectural regionalism in gardening

Caution should be taken in the search for a new identity through the adoption of indigeneity so that the once idealised paradise and the phenomenological experiences associated with it are not lost in the transformation process. The application of indigeneity should not become the simplified use of an indigenous planting palette based on a simplified aesthetic objective. The use of indigeneity should endeavour to establish a new form of practice pertaining to gardening that is freed from representing a set culture or political entity. It should aim to rehabilitate the domesticated garden by adapting and improving its caretaking practices and planting material to simulate an unconcerned pre-nation state of natural wilderness, "recalling a memory of nature beyond the confines of cultivation, an interior wilderness human being that is symbolic of a better self" (Murray 2006:59).

Fig.4.6 Conceptual exploration of theme

CHAPTER FIVE:
VIEWING THE LANDSCAPE THROUGH THE THREE VIRIDIC LENSES

The following discussion serve as a response to the question surrounding traditional landscape maintenance and cultivation practices practiced in a garden and how it can be utilised to inform outdoor space formation.

Fig.5.1 Enterance to Wanderers house on site

5.1 Theory and practice

In landscape architecture the adoption of 'naturalism' (Wiley 2004), or more specifically the aesthetic thereof, has, as a form of representation, become increasingly popular in cities due to a decline in maintenance practices within the global urban realm. Rather, a planting strategy or aesthetic that is less maintenance intensive is favoured (Raxworthy 2013:28), as is specifically evident in urban left-over spaces where areas like car parks and vacant plots exhibit novel ecosystems often referred to as 'weedscapes'. These consist of "spontaneous urban plants" (Del Tredici 2010) with impressive environmental and ecological properties. This concept of naturalism has also become a very strong influence in defining a spesifc landscape language. However, the application of 'naturalism' (Wiley 2004), derived from the process discourse (Raxworthy 2013) and its ecological planting schemes, is not equally applicable to all spaces, especially the spatial realms for human users in a South African context (Botes 2014:32). This best practice philosophy however fails to recognise that the inherent biophysical properties (climate, temperature, rainfall, air composition and soil composition) of the site do not remain the same as the historical condition of the site; that is to say, the biophysical properties are not the same as before urban development took place, as proven by the studies done on heat island effects by Cao, Lee, Liu, Schultz, Xiao, Zhang, et al. (2016), as well as Grimmond (2007), Mirzaei (2015), and Wong and Nichol (2013). This is also not to mention the accompanying specialised maintenance plan required for the regionally endemic planting palette (Botes 2014:32). A further complication is that, although this planting strategy might seem less labour intensive, specialised planting maintenance plans are actually needed (Botes 2014:32), while larger municipal landscape maintenance strategies are often not available (De Vries & Kotze 2016:130). Interestingly, the maintenance and simulation of the process discourse (Raxworthy 2013) do not seem to be problematic in the realm of the garden. In the garden it is acknowledged that plants grow and that gardening is a process (Raxworthy 2013:28). In the garden the notion of naturalism is reduced to ornamentality, a type or style, i.e. the "wild garden" (Raxworthy 2013:28). However, the garden differs from the urban landscape as the ecology and sporadic growth found within the natural environment is controlled and maintained by its active human participant, incorporating elements of the wilderness, the agricultural landscape, and the garden in one harmonious design intervention.

5.2 Bury Court

- Private residential garden
- Jenkyn Place estate, Bentley, Hampshire, England
- Designed by Piet Oudolf
- Established in 1994

As can be seen in the precedent study of Bury Court gardens although the conceptual approach of naturalism is applied to the design of the garden the intimate caretaking regime executed by the gardener ensures the sustainability of the garden and deters the gardens development from an uncared for, or unmaintained landscape appeal. Bury Court is located within the grounds of the Jenkyn Place estate as part of John Coke's Green Farm Plants nursery, with the garden situated among an array of brick and flint buildings (Lacey 2019). The intention with the design of the garden was to apply the then new naturalistic aesthetic of Piet Oudolf's planting palette to the once formal English garden as a response to the surrounding rural countryside. The layout of the garden is very irregular and curvaceous, with contrasting planting mediums. The garden consists of broad, mounded stone paths demarcating the irregular planting beds. These are filled with a combination of formal domed and spiral hedges with colourful swaths of grasses and perennials around swirling lawn areas (Lacey 2019). The curation of the garden and the planting palette was done under the very stern direction of Oudolf himself, in collaboration with the owner. Individual plant species were selected by Oudolf, bearing in mind the broader design objectives of the composition of the garden and the intimate cultivation knowledge of the owner. The understanding of the site conditions amalgamate in a breathtaking landscape design (Lacey 2019). Although the garden was designed under rigorous curation, its maintenance, according to the owner, is not labour intensive, as the correct planning and preparation of the planting palette leads to a self-sufficient, low-maintenance garden (Lacey 2019). The precedent study showcases how both the knowledge of the designer and the overall intention with the spatial experience are gracefully integrated with the practical knowledge of the gardener to produce a very naturalistic and low-maintenance landscape.

Fig.5.2 The Bury Court garden showcases the amalgamation of the traditional English gardening practice of topiary, combined with unaltered grass and flower species. Practical knowledge is applied with the design objective to create a seamless design that is expressive of both theory and practice.

Fig.5.3 View of the garden with sculpted hedges combined with soft grass vegetation, separated by neatly mown lawn pathways.

In essence, the issue does not lie with the theory itself but rather with the application of the theory in terms of long-term maintenance and the formation of space, which does not seem to be the case in garden applications. It is proposed in this study that this phenomenon is due to the existence of a much more rigorous and attentive caretaking process in the application of the garden that is not visible in contemporary landscape interventions in urban environments in South Africa. In order to identify the phenomenological differences between a garden and contemporary landscape interventions, an in-depth understanding and development of the intimate relationship between caretaker and the landscape, and how this intimate relationship differs between the two professions, need to be achieved.

Fig.5.5 The Pallinghurst Heritage Garden: the domestic maintenance of exotic plant species is done by a gardener. The needs of each plant are addressed accordingly, resulting in richly vegetated bedding.

Fig.5.4 The Standard Bank head office landscape: general maintenance practices are performed by commercial landscape maintenance workers. The indigenous grass bedding is not being maintained according to the requirements of the wild grass. The landscape appears untidy and contributes to a displeasing spatial experience.

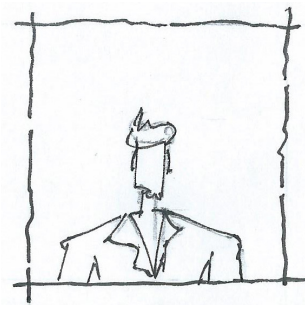
5.3 The gardener and the landscape architect

In her book *Garden Planning and Construction,* Una van der Spuy identifies four principles that need to be adhered to develop the ideal garden (Van der Spuy 1986):

These four basic principles are the following:

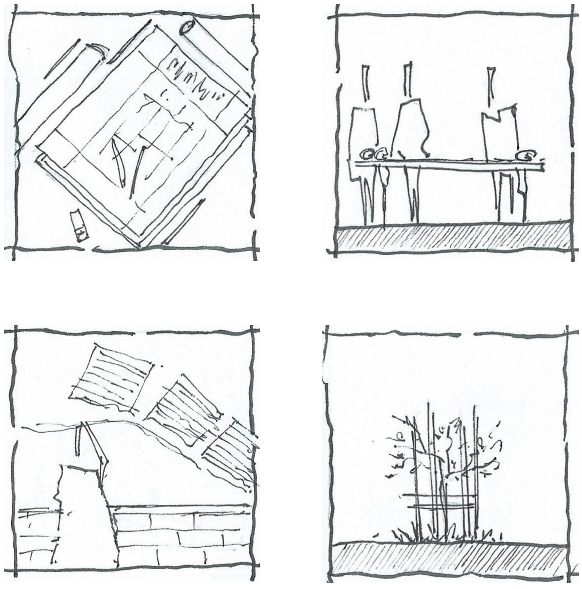
1. "The planning of an attractive picture" (the design of the landscape intervention)
2. "The construction of the garden" (implementation of the design intervention)
3. "The growing of the plants which are to form the picture" (cultivation of the required plants or materials that are to form the landscape intervention)
4. "The maintenance of the garden" (maintaining the landscape intervention) (Van der Spuy 1986).

Landscape Architecture

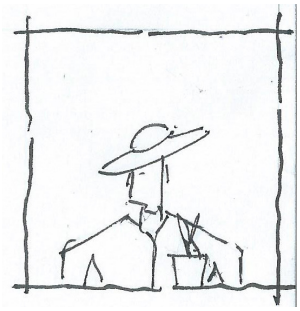


Landscape Architect: "A person who designs outdoor environments, especially harmonizing parks or gardens with buildings and roads" (Lexico Dictionaries 2019).

- Design and implementation capacity
- Formally qualification – theory driven
- Strategic approach
- Short term investment



Gardener



Gardener: "A person who tends and cultivates a garden as a pastime or for a living" (Lexico Dictionaries 2019).

- Cultivation and caretaking capacity
- Technical qualification - practical experience
- Tactical approach
- Long term investment

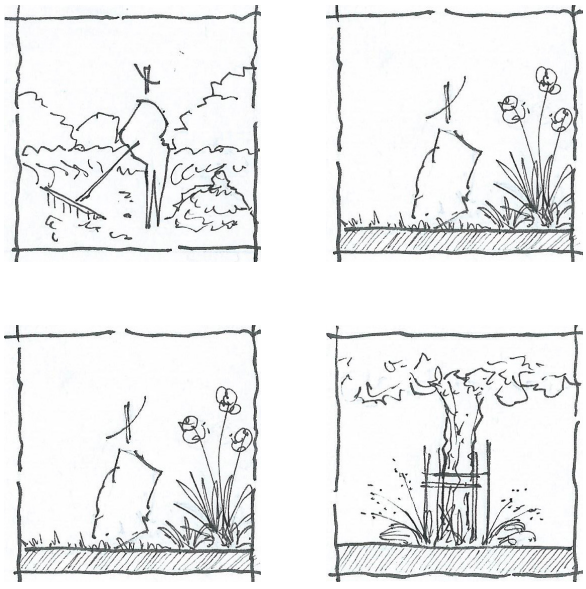


Fig.5.6 A collection of descriptive images of the difference between landscape architecture and gardening

Based on the simplified definition of the role of the landscape architect compared to that of the gardener it is clear that a landscape architect is primarily engaged in a design capacity, specialising in the design and implementation of a landscape intervention, and that the gardener is more engaged in a long-term caretaking capacity, specialising in the cultivation and maintenance of a landscape.This difference in the capacity in which the two disciplines engage with the landscape has a very visible, material outcome, illustrated in the way the material (vegetation) is used to form outdoor spaces in the landscape. *It is proposed that it is this relationship of working with the material, the craft, which has a direct influence on the experiential outcome.*

5.4 Understanding the material and how it is utilised in the formation of space

Plants as dynamic material are critical to understanding the rhetorical question of change in terms of the process discourse (Raxworthy 2013). Vegetation is a living material in constant flux; therefore the material is growth itself (Raxworthy 2018:5). Due to the living nature of the material, the long-term effects of growth, and how it influences the changing of space, are critical considerations in the formation of outdoor spaces. The difference between landscape architecture and gardening can be seen in how the material is utilised to form space, and in the way the growth of the material over an extended period of time is managed to achieve a desired spatial outcome. In a landscape intervention, space is formed through the articulation of vegetation in the landscape, following a pre-determined spatial design. In the case of landscape architecture this is traditionally done through a strategic approach, predicting what the long-term outcome of the growth of the material will be and designing accordingly. In gardening, a more tactical approach to spatial design is preferred, where the gardener merely responds to the current growth of the vegetation and alters or changes it accordingly. It is due to this difference in working with the growth of a living material – vegetation – that some scholars argue that gardens are not formed as in the case of landscape designs following a predetermined design, but rather that gardens are made through the continuous craftsmanship of the gardener (Raxworthy 2018:116). Through the caretaking process, the gardener responds to the growth tendency of the plant with continual feedback in the form of the caretaking process. This process has a profound effect on the way the outdoor space is formed and therefore also has a tangible effect on the difference in the experience of these spaces. Gardens are tailor-made to an individual's specifications, where the contemporary public landscape is mass produced for the populace. In his theory of the viridic, Raxworthy (2018) proposes a series of three lenses that can be utilised to identify this very relationship between the landscape and the caretaker, as manifested in the profession of landscape architecture and gardening, and how the natural growth found within the landscape is addressed in a respectful way (Raxworthy 2018:9). The term "viridic" is "stemmed from the Latin for green 'viridis' which has an implicit connection with vegetation and growth. These three lenses are 'form', 'biology' and 'practice'. The following precedent studies, as discussed in the work by Raxworthy (Raxworthy 2018), serve to explain the meaning of these lenses.

Form

This term relates to the use of plant forms as spatial expression. In landscape architecture the formation of space entails the interaction between mass and void, where "design intentions are manifested through the manipulation of biology by gardening practices" (Raxworthy 2018:9).

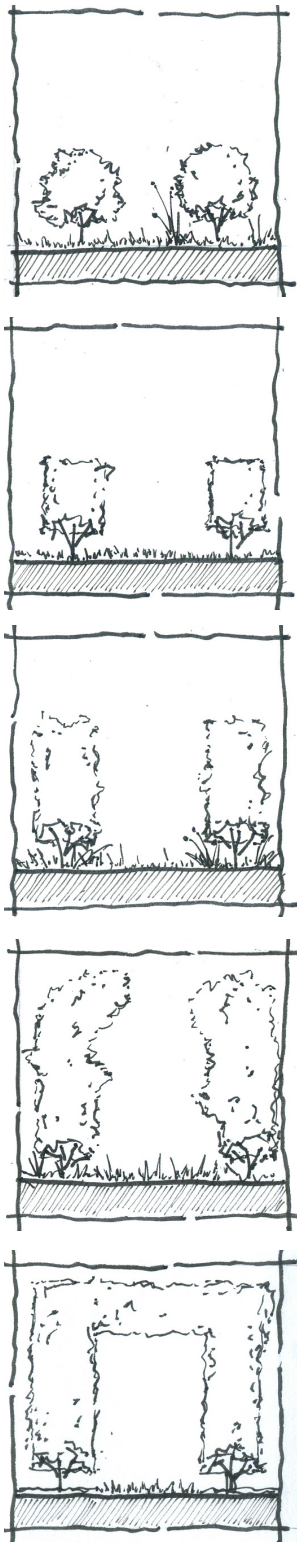


Fig.5.7 Articulation of plants to form space

5.5 The Miller house garden

- Residential garden
- Columbus, Indiana
- Designed by Dan Kiley
- House completed in 1957

The design of the house was commissioned by industrialist and philanthropist J. Irwin Miller in 1953 (Columbus, Indiana Visitors Center 2019). The house has strong ties with the Modernist Ludwig Mies van der Rohe and his international Modernist aesthetic, with an open-layout, flat roof and material grouping of a mixture of stone and glass (Columbus, Indiana Visitors Center. 2019). The rooms are configured around the cruciform steel columns with an array of skylights in the roof (Tclf.org. 2019). The house is situated on a one-hectare property that was designed by the office of Dan Kiley, and is considered a residential masterpiece (The Cultural Landscape Foundation [TCLF] 2019). The garden is divided into a series of outdoor rooms in response to the orthogonal, geometric ordering of the house and its strict geometrical layout (TCLF 2019). The garden is structured according to a strong geometric grid in the landscape, seen through the use of chestnut trees and gridded orchid trees flanking the entrance of the garden (Discovernewfields.org. 2019). This idea is also repeated by the allée of honey locusts that define the western axis along the house to the border of the property (Discovernewfields.org. 2019). The planting material in the garden is used in a very architectural fashion in which the trees serve as objects that articulate the outdoor spaces.

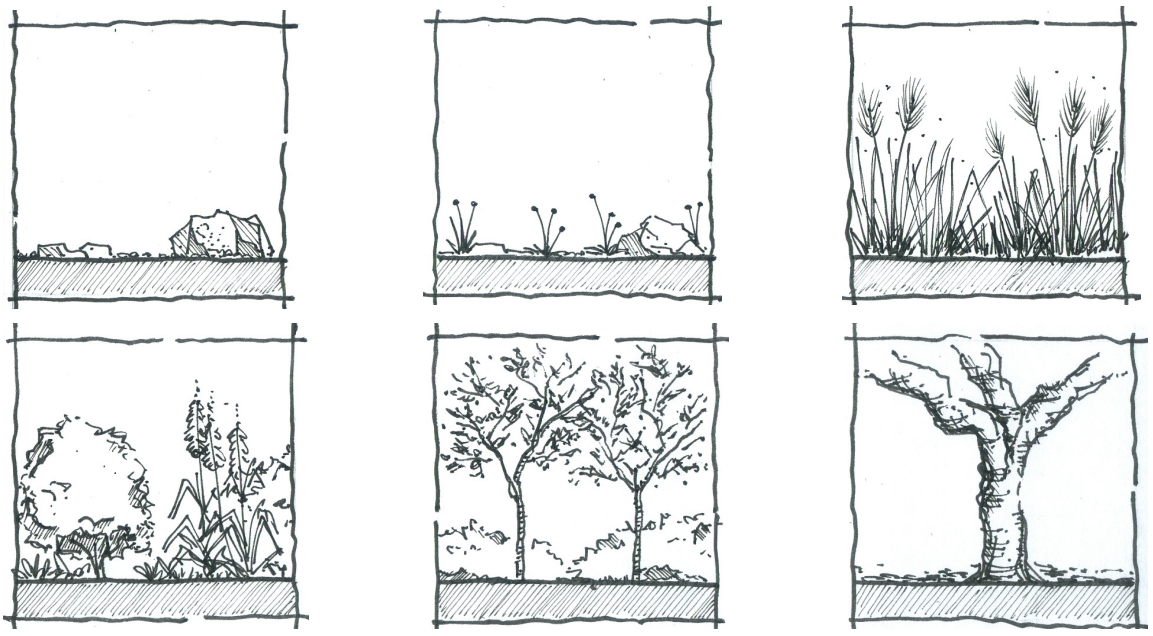
Fig.5.8 Hedges of the same species used to define space through variant pruning techniques

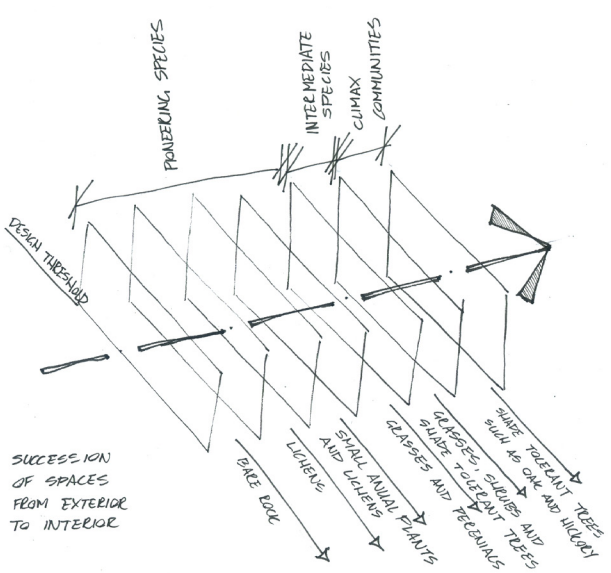
Fig.5.9 View towards the house of the driveway with wild chestnut trees

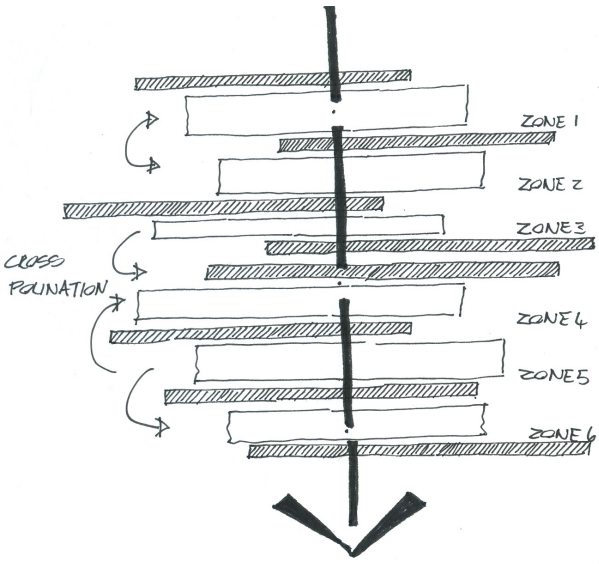
Fig.5.10 View of a sculpture forming a focal point in the garden

Biology

This term relates to understanding the morphological mechanisms by which plants grow in order to understand how they form space. Plants are viewed as organic and individual specimens, but also representations of a whole community where the relationship between tendency and feedback is stressed and brought forth by the involvement and interaction of the user (Raxworthy 2018:16).







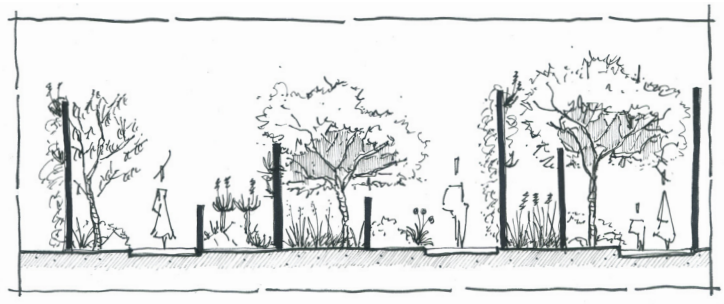


Fig.5.11 Examples of plant succession in the natural environment explored as design informants

5.6 “Garden of Babel”

- Show garden installation
- Schloss Ippenburg, Bad Essen, Germany
- Designed by Klahn + Singer partners

The project consisted of 90 hay bales, harvested from the local fields in the area, that were articulated in half circles two stories high in the landscape. These hay bales were then hydroseeded and left to develop on their own with only minimal irrigation (Raxworthy 2011:79). The project attempted to showcase how decaying plant material can function as a growth material. It showcases the inherent novelty of the project, which lies in the creation of form through the natural process of decay to bring forth life, resulting in a very geometric structure decaying into an organic topographic mass (Raxworthy 2011:79). The articulations of the cylinder forms of the hay bales on top of each other additionally created small niches of water and air. These formed small refuges for spontaneous growth of vegetation to take place through the biological process of decay and succession (Raxworthy 2011:80).

Fig.5.12 Articulation of hay bales in half-circle patterns in the landscape

Fig.5.13 Pioneering grass species taking advantage of the decaying plant material to grow

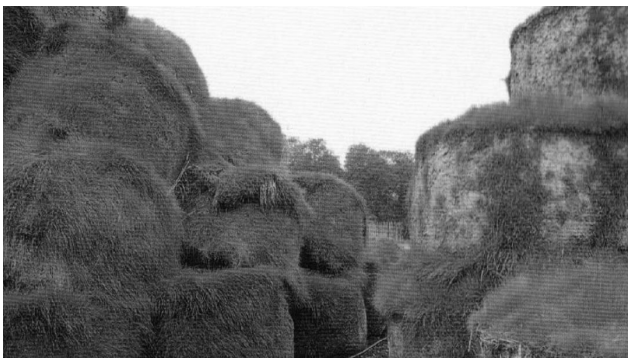


Fig.5.14 Decaying hay bales forming small niches

Practice

This term relates to understanding the interaction between vegetation and user, where the actions of the user direct the production of new plant forms by optimising emergent qualities of the natural environment in a directed performance (Raxworthy 2018:18).

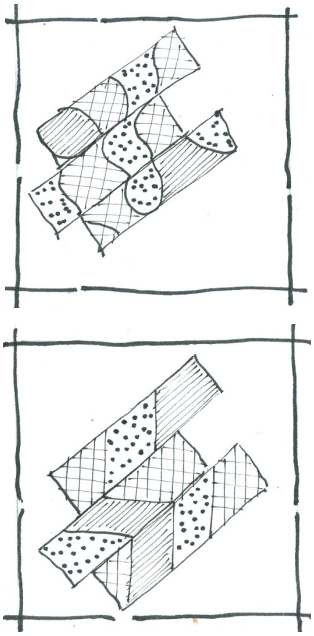


Fig.5.15 Migration of self-seeding annual plants

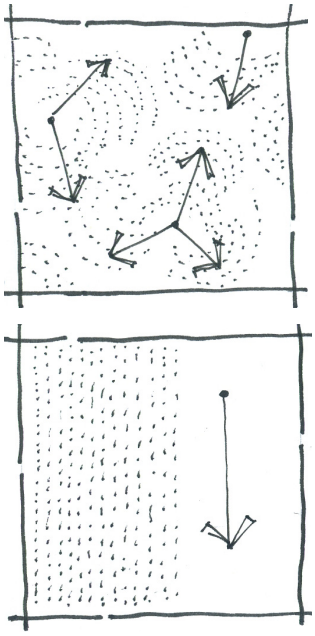


Fig.5.16 Different seeding patterns depending on application

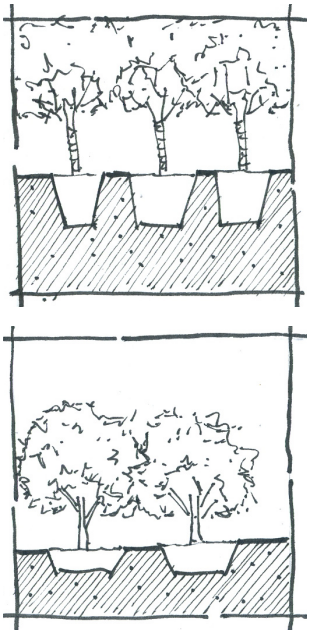


Fig.5.17 The influence of plant depth on plants

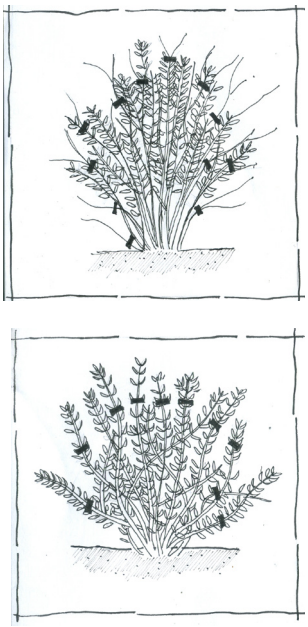


Fig.5.18 Basic pruning of Hawthorn bushes

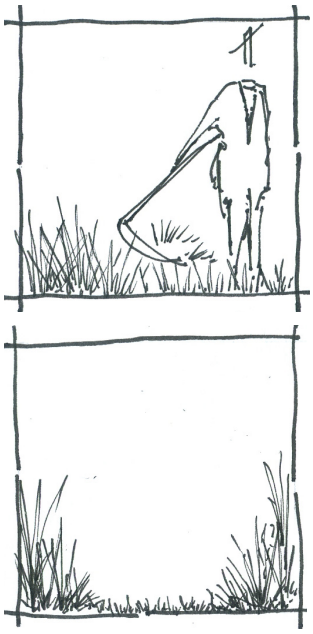


Fig.5.19 Different outcomes of different grass cutting techniques

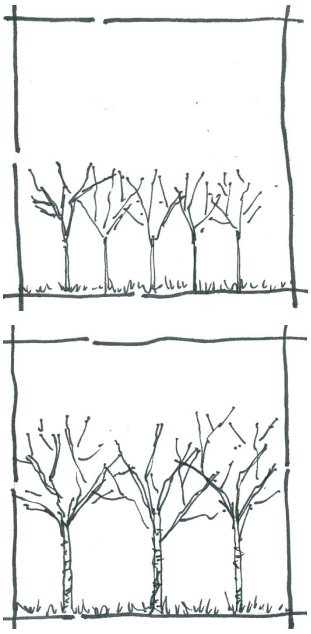


Fig.5.20 Selective foresting for better growth patterns

5.7 The gardens of Marnas

- Designed by Sven – Ingvar Andersson
- Residential garden laboratory
- Skaane, Sweden
- Initial garden was laid out in 1965

The Marnas gardens were created in response to the fact that the profession of landscape architecture was not taking advantage of the inherent novelty that resides within an established garden, due to the nature of the living plant medium and the lack of maintaining the long-term vision of typical landscape architectural interventions (Raxworthy 2011:6). The residential gardens of Sven-Ingvar Anderson in Sweden demonstrate a clever interplay between the theory of landscape architecture and the practice of gardening (Dome.mit.edu. 2019). The garden expresses how the practice of gardening can be utilised over a long-term time scale to maintain and develop the initial vision of the landscape intervention. The garden also showcases how the practice of gardening can actively manipulate the inherent growth tendencies and morphology of plants to produce spatial form, as shown in the pruning of hawthorn hedges in the Hen Yard (Raxworthy 2011:6).

Fig.5.21 Image of hedges being pruned to resemble hens in the Hen yard Marnas

Fig.5.22 A shaded avenue in the garden of Marnas

Fig.5.23 The Hen yard in the Garden on Marnas

Due to the theory of the viridic (Raxworthy 2018) and its application of the three lenses being published relatively recently (in 2018), little application of the theory to a design intervention has formally been attempted. This theory has also not been applied in a regional context, and the distinct differences in garden practices of specific areas, influenced by regional climate, socio-political factors, garden history and regional planting schemes, have been neglected. Due to this relatively new train of thought a unique opportunity of potential exploration and collaboration between the theoretical background of the landscape architect and the practical knowledge of the gardener to be investigated.

Fig.5.24 The hand of the gardener

CHAPTER SIX:
CONCEPT

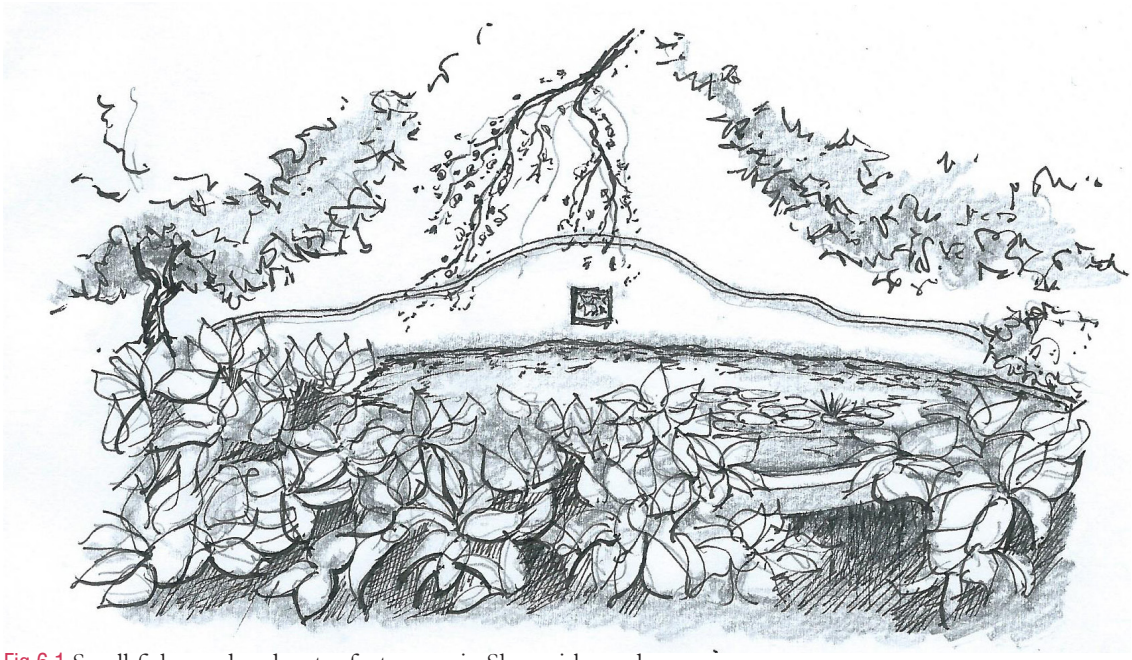


Fig.6.1 Small fish pond and water feature on in Shangri-la gardens

6.1 The beginning of the communal garden collective

As discussed in Chapter One, the dissertation states that the sensory experience of the garden is derived from the intimate relationship that exists between the user and the landscape, which is manifested in the way the landscape is shaped to facilitate the needs and requirements of both the user and the natural living vegetation. Therefore the primary intention with the dissertation is to establish and reinforce this intimate relationship between the landscape and the user. For them to interact, a thorough understanding of the needs and requirements of both the user and the living landscape needs to be established, and this is very much dependent on the context in which the interaction takes place. The conceptual approach to the design is fuelled by the intentions of the design, which respond to the issues identified in the specific site context of the Braamfontein area.

The intentions of the design iterations concerning the specific context are as follows: From a political and social perspective, the aim is to address the current spatial conditions that exist within the Johannesburg CBD with regards to its open green spaces. In a country currently in a transitional phase and actively searching for a fixed representation of a new South African identity, a new landscape intervention could serve as an important catalyst for future transformation. Through the dynamic and universal representative characteristics found in the inherent novelty of growth offered by vegetation, a landscape intervention can provide a unique opportunity in this regard in the formation of dynamic space where, just as the country is maturing in its transitional stage, the landscape can develop alongside it, changing as required. This conceptual generator was explored in the design development as presented in chapter six: Fig 6.33 –3.38 where landscape maintenance practices were explored to inform spatial formation through the use of vegetation as living material.

From a functional perspective, the promotion of the interaction between the urban user and the landscape is achieved by providing a new communal landscape model in response to current ownership and management strategies in the Johannesburg CBD. Here, most areas are owned and controlled by large corporate entities, thus preventing individual interaction, and removing the personal ownership and caretaking responsibilities associated with residential landscapes from the governance of the urban landscape. In reaction to the above, a functional conceptual approach would lead to a new ownership and governance system where, instead of the landscape being owned and controlled by a select few, the landscape would rather be used gradually and be managed by the larger community, specifically focussing on the needs of its immediate members. This communal management system would also extend to the maintenance and caretaking processes of the landscape, where individuals within the community can play an active role, overseen by the larger community. Individual actions would benefit the communal whole, creating a connected community and strengthening the connection between the community and its landscape. From a spatial perspective, the intention is to promote an interactive outdoor spatial environment that can offer a more pleasurable experience for city users, by allowing them to influence how the space is created through daily traditional landscape practices; thus the landscape and the spaces contained within it can cater for the specific needs of the inhabitants of the surrounding area and can be altered to an individual's specifications.

The spatial conceptual approach of the design is focused on the creation of a collective garden landscape. The intention is to provide gardens of potential in the form of a series of garden spaces where users are given freedom to create their own gardens. In doing so, ownership would improve and the landscape would not require external maintenance. This freedom of expression within the gardens, and the custom nature of the gardens, can have a direct influence on the sensory experience of the site, creating a landscape that is pleasurable overall and where the needs of the individual and the general public are catered for. This spatial conceptual approach can be expanded on in the future development of the site, in which the systematic progression in the programme can develop alongside the development of the users within the city through the progression of time. The phenomenological attributes of the site would be retained and an agreeable experience created within the city, with the site being developed from a productive landscape, progressing towards a privatised landscape intervention, and finally serving as a communal public park. This conceptual generator was explored in the design development as presented in in chapter six: Fig 6.27–3.32 and Fig 6.39–6.34 where landscape maintenance and cultivation practices were explored to inform space formation.

In reference to the form of the design, the intention is that the design should allude to the connection between the user and the landscape, and how the practice of caretaking and cultivation influences the form of the landscape. Here, the expertise of the landscape architect and the gardener are intended to be incorporated. Seeing that the landscape in its initial phase would be a productive landscape and that certain large-scale infrastructural and pragmatic requirements would be essential for the cultivation of the plants, the landscape will be articulated to accommodate its agricultural purpose, resulting in a pattern that responds to the specific site conditions – such as elevation, geology and hydrology – with a strong geometric layout. Although the pragmatic infrastructure is needed, the spatial requirements of the user should also be addressed. Here, the expertise of the gardener is intended to influence the form of the design, with a more unregulated and less restrictive articulation of form being advocated. The intention is that the form of the individual spaces should be reminiscent of the craft of the individual from the surrounding community, with the intimate relationship between the users evident in the crafting of space. This conceptual generator was explored in the design development as presented in in chapter six: Fig 6.18 – 3.26 where landscape cultivation practices were explored to inform pattern making that can influence space formation and layout.

6.2 Conceptual approach

The conceptual approach in the design is therefore to create a landscape in which the intimate relationship between user and landscape can be manifested and strengthened. The intention with this manifestation is to affect the way spaces in the urban environment are formed so as to appeal to the individual user, having a direct influence on how the spaces are experienced. This would be accomplished through the promotion and application of regional landscape maintenance and caretaking practices performed by users in the collective garden spaces, where individual expression and traditions in the process of gardening would be facilitated. A landscape of potential would be established that would advocate the intimate relationship materialised through the craftsmanship of the caretaker working with the living environment.

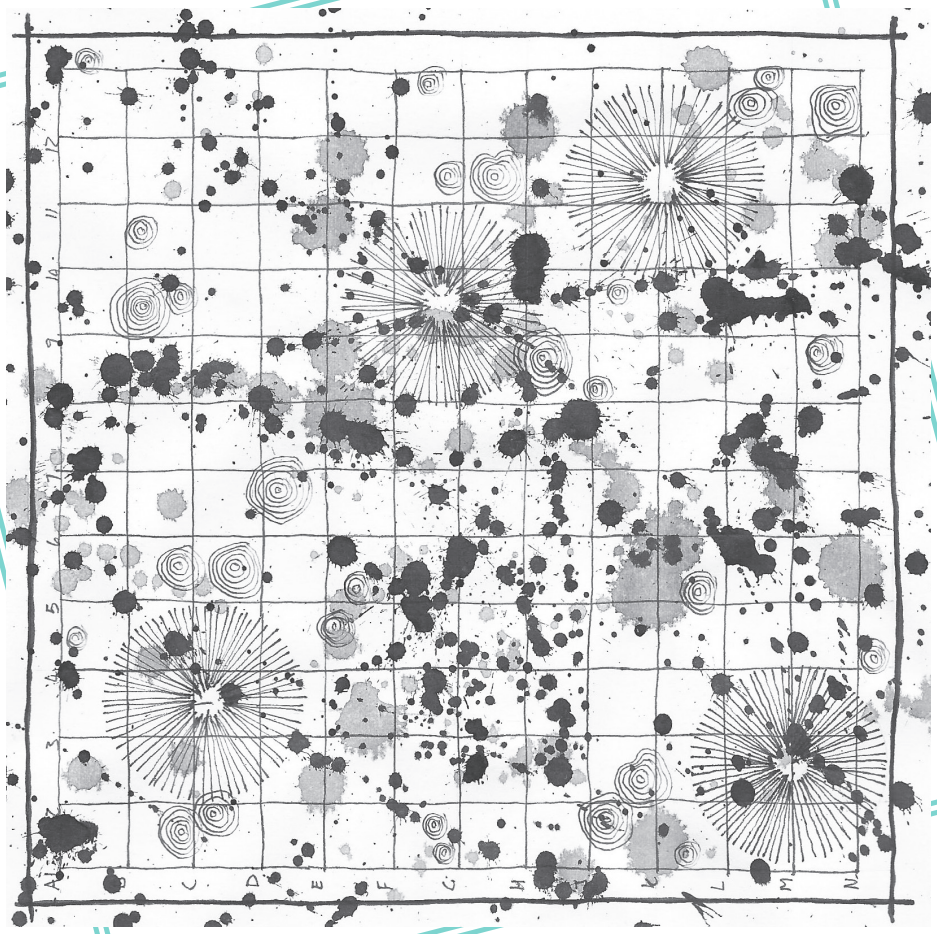


Fig.6.2 Conceptual exploration of novelty in drawing

CHAPTER SEVEN:
DESIGN DEVELOPMENT

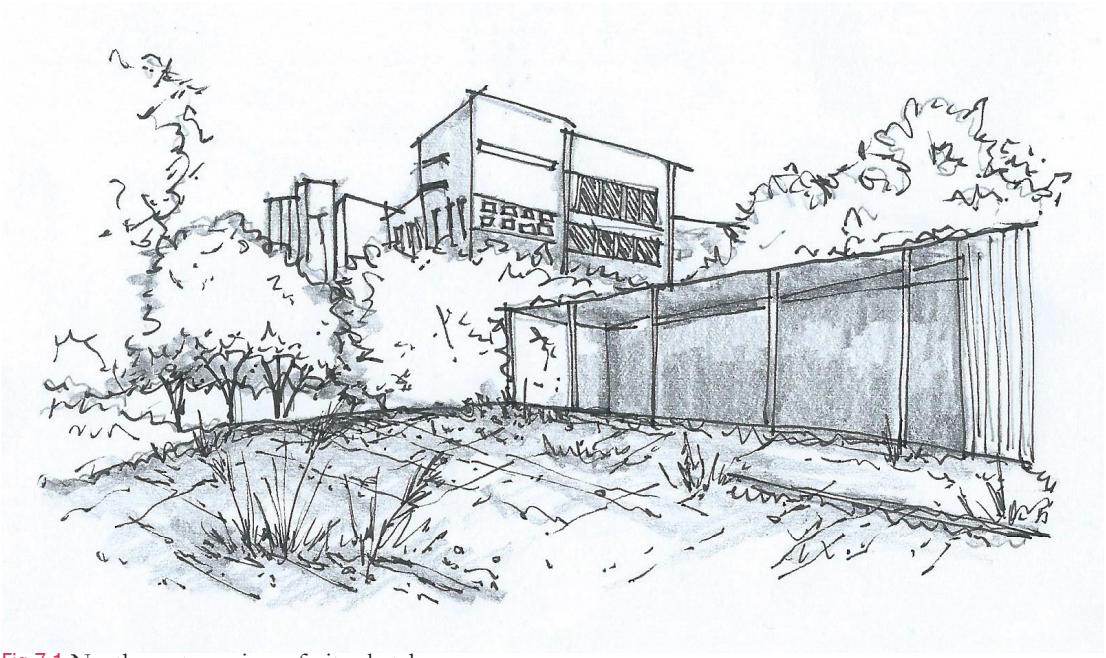


Fig.7.1 North western view of site sketch

7.1 Regional typology investigation

The investigation of regional typology consisted of macro-scale landscape documentation, as well as the interpretation of land use and settlement patterns. The investigation will assist in the identification of gardening and agricultural practices with distinctive landscape characteristics that can be amalgamated into conceptual informants for the design of a new landscape intervention. The investigation was conducted on five different sites in and around the Johannesburg area. The landscapes chosen consisted of a varied programme ranging from a productive landscape and residential gardens to a public park.

The landscapes investigated were:

- Birdhaven, Johannesburg
- Devlin, Soweto
- Eldorado Estate, Soweto
- Houghton Estate, Johannesburg
- Lorentzville, Johannesburg

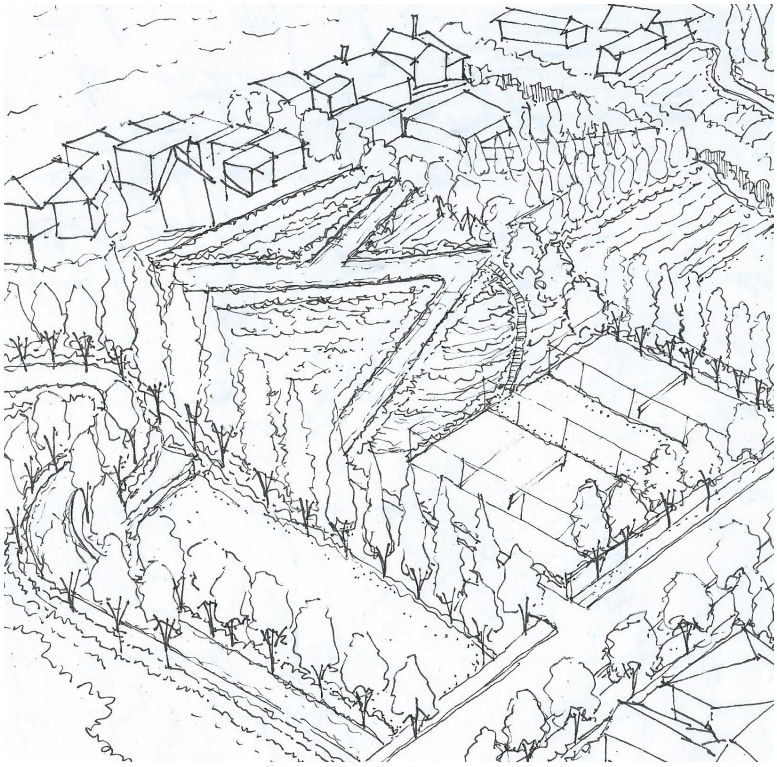
The investigation involved the following:

1. The first step in the typology investigation entailed an isometric depiction of the site being studied, in an attempt to capture the existing regional character of the landscape.
2. The second step entailed the simplified aerial depiction of the layout, isolating the different landscape components.
3. The third step entailed the abstraction of the isometric illustration and the aerial plan into the following diagrammatic interpretations:

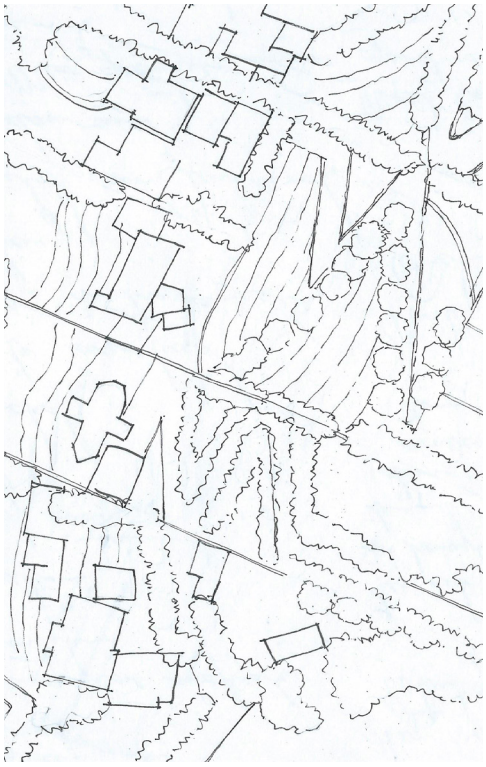
- The building typology in the landscape
- The site topography
- The diagrammatic section of the site
- The conceptual parti of the space formation

From the investigation a final parti was developed to inform the development of the large-scale layout of the proposed site, interpreted according to the practices prevalent in the surrounding sites in the Johannesburg area.

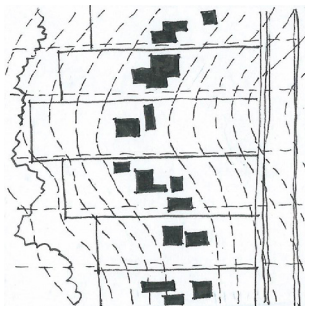
These partis were then interpreted through a three-dimensional representation in the form of contour models, in order to investigate the relation between topography manipulation and the creation of space through the articulation of vertical elements (trees) imposed on the contour models.



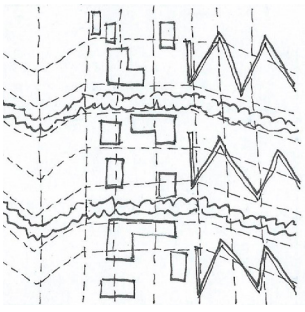
Aerial View of site investigation



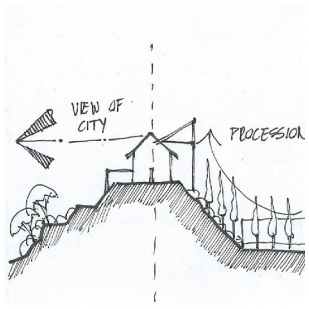
Plan view of site investigation



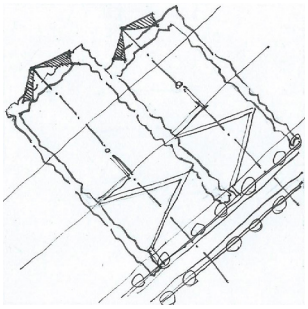
Building typology investigation



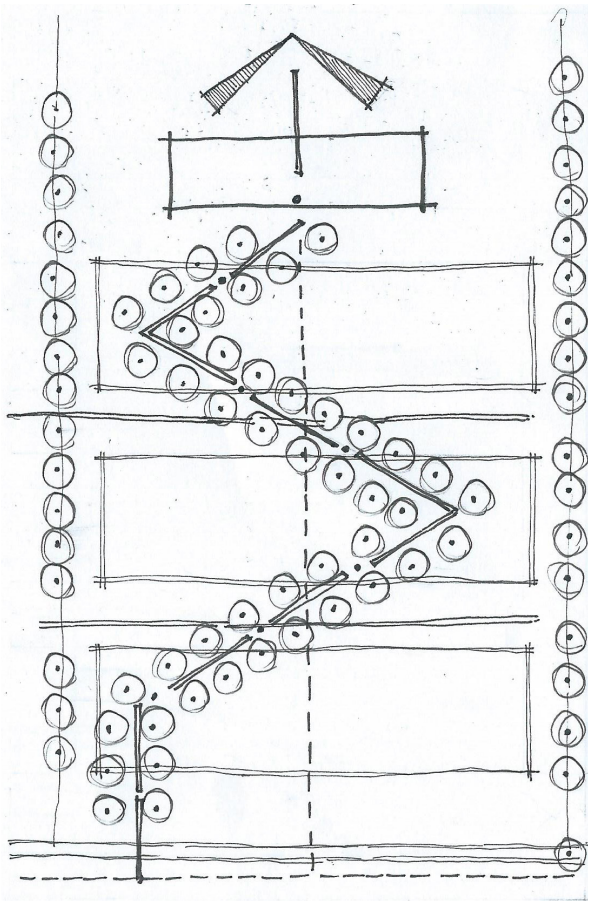
Site typography investigation



Spatial investigation



Conceptual investigation



Conceptual investigation of landscape character

Fig.7.2 Example of a regional typology investigation of a site in the Johannesburg area

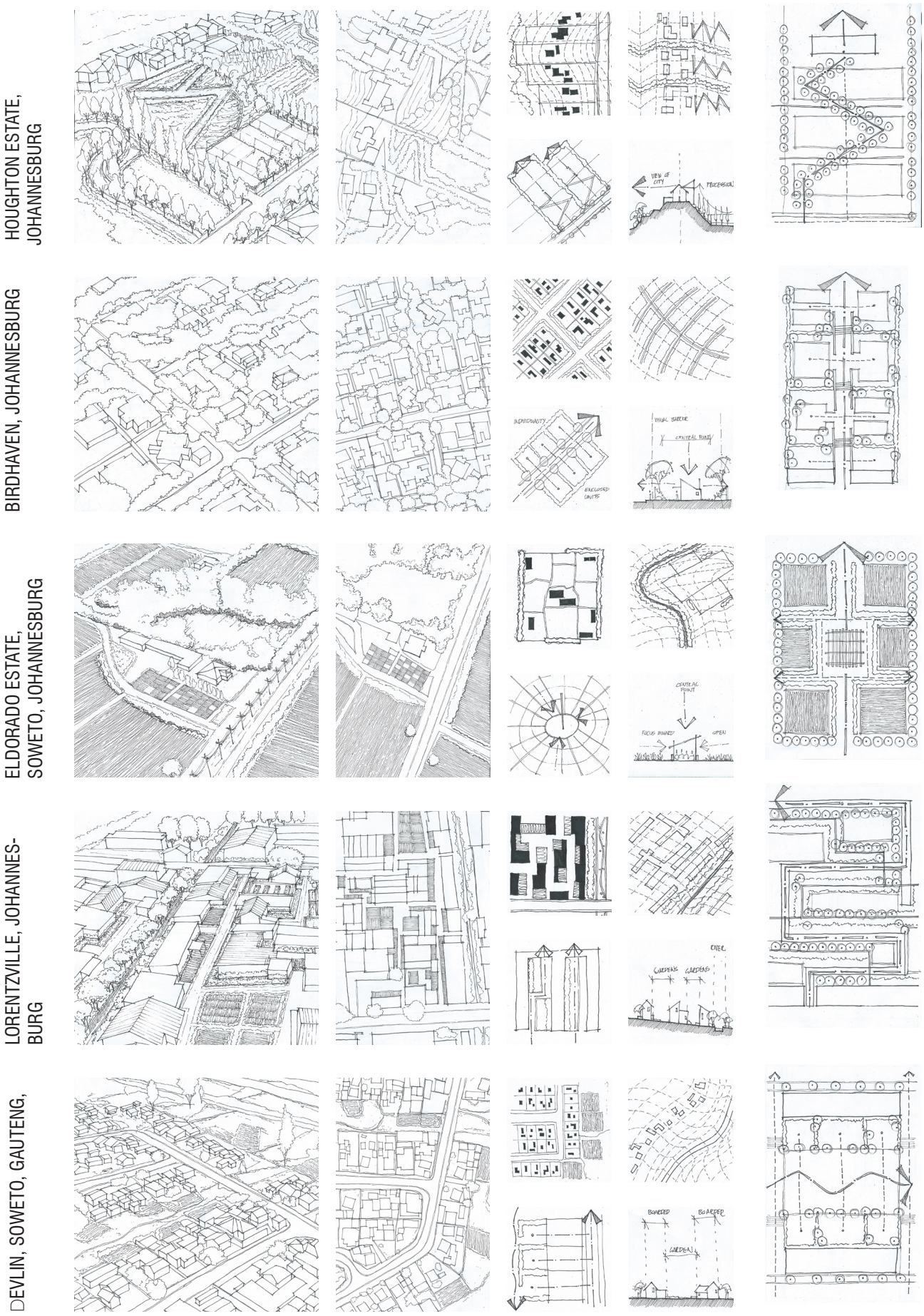


Fig.7.3 Full regional typology investigation of the Johannesburg area

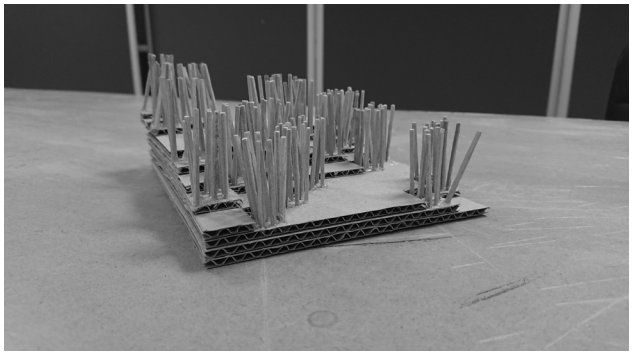


Fig.7.4 Contour typology model A

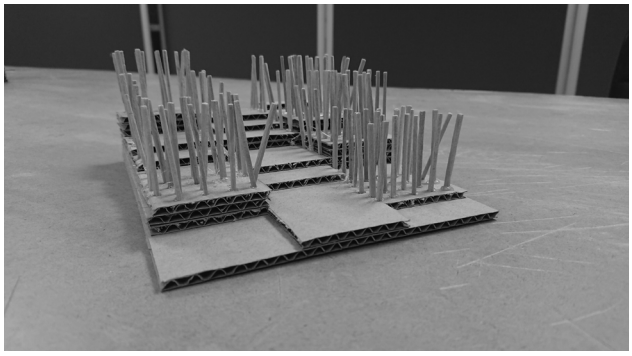


Fig.7.5 Contour typology model B

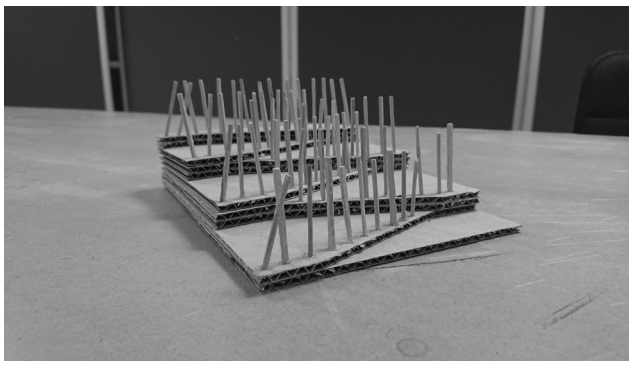


Fig.7.6 Contour typology model C

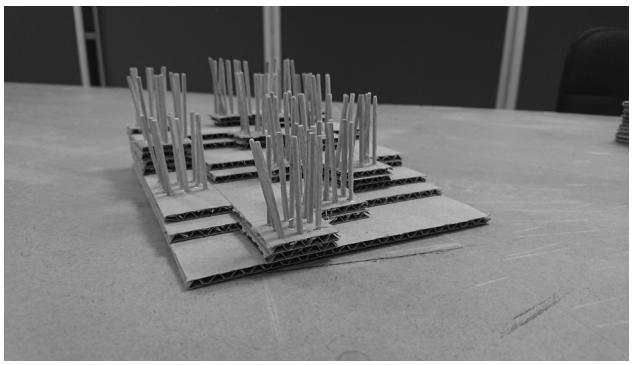


Fig.7.7 Contour typology model D

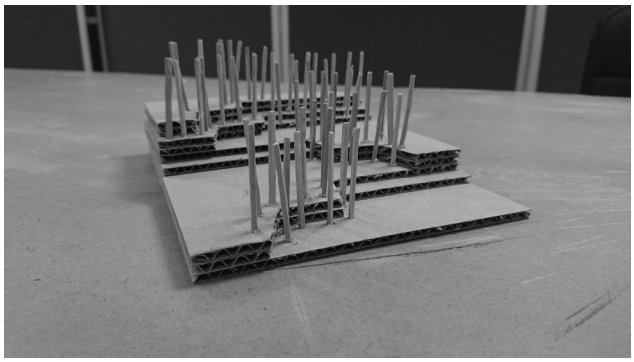


Fig.7.8 Contour typology model E

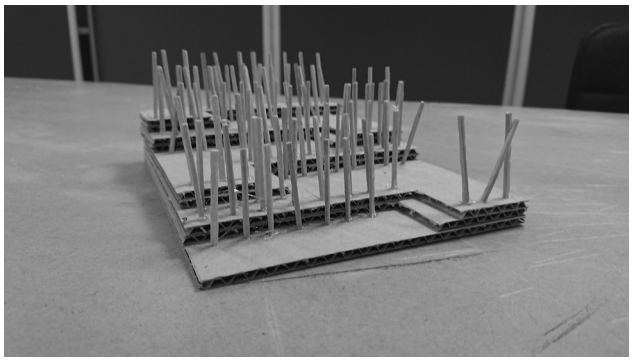


Fig.7.9 Contour typology model F

From these models, three contour typologies were selected to inform the contour manipulation for the proposed project. These consist of a series of built terraces responding to the steep inclination of the site, the functional need for horizontal cultivation areas for crops, and the regional practice of terracing to form outdoor recreational spaces. For the western side, contour model A informed the contour manipulation, as this specific example provided the largest area for crops to be cultivated, while still responding to the natural inclination of the site so as to not create too great a level change for users progressing through the space. For the centre of the site, contour model B informed the contour manipulation by providing a unique opportunity to address user movement through the site and its level changes. This specific model offered a circulation route that provided multiple viewpoints of the site to orientate and entice the user to explore it further. For the eastern side of the park, contour model C presented an example of unique outdoor spaces articulated through the combination of varying terraces and tree groupings to provide diverse habitats and spatial conditions for different plant cultivars and users.

7.2 Field case study investigation

The field case study investigation consisted of a micro-scale analysis of specific gardens and landscape interventions found within the area where the previous macro-scale typology investigation was conducted. These identified gardens serve as case studies for the dissertation to interpret existing landscape practices and to determine if a regional vernacular exists within the area. The gardens were evaluated through the application of the three lenses derived from the theory of the viridic (Raxworthy 2018), namely form, biology and practice.

The seven garden landscape case studies were:

1. House Stockenström, Ravenswood Avenue, Birdhaven, Johannesburg, 2196
2. Siyakhana Gardens, 112 Observatory Avenue, De Wetshof, Johannesburg, 2198
3. Soweto residential garden, Devlin, Soweto, Gauteng, South Africa
4. Standard Bank head office gardens, 30 Baker Street, Standard Bank Centre, Rosebank, Johannesburg, 2196
5. The Wilds Park, Houghton Drive, Houghton Estate, Johannesburg, 2198
6. Victoria Yards, 16 Viljoen St, Lorentzville, Johannesburg, 2094
7. Heritage Garden, 19 Pallinghurst Road, Westcliff, Gauteng, South Africa

The interpretation of the seven garden case studies is intended to be the main informant for the dissertation. Certain deductions about regional gardens can be made regarding the intimate relationship between the caretaker and landscape, and how this relationship is manifested through the processes of maintenance and cultivation that have certain spatial and experiential outcomes.

FORM

Appropriation of space

The garden features the following functional activities:

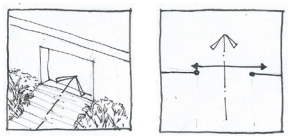
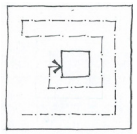
- Driveway
- Large lawn areas
- Rose garden
- Pool area
- Vegetable garden
- Range of small seating areas
- Service corridor
- Maintenance and storage area
- Large boarder gardens




Articulation of Space

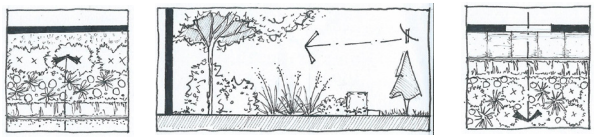
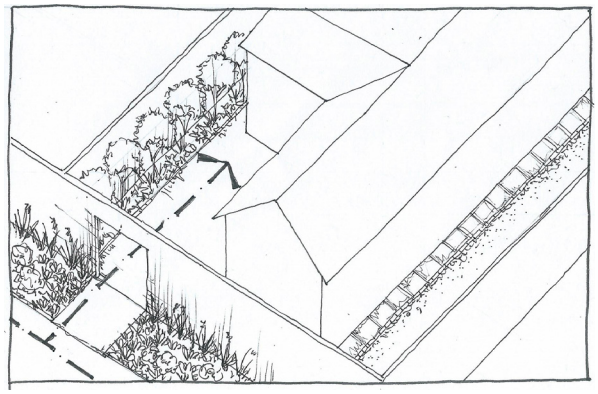
Entrance

The site offers a main entrance for pedestrian and vehicular access. The main entrance can be described as a flush entrance articulated by a formalised overhead masonry structure within the frontal plane of the residence boundary wall, located off centre, transitioning from the exposed street to an enclosed driveway flaked by a boundary wall and the residence.

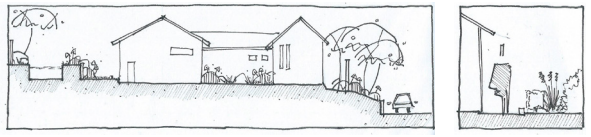
Boundary

The site offers a masonry boundary wall. The boundary can be described as an impervious wall situated on the borderline of the site enclosing a rectilinear garden space. The boundary wall within the garden is enforced with a countervailing vegetation border progressing in a sloped angle from tall vegetation adjacent to the boundary wall gradually declining to the base plane of the garden lawn.

Base plane

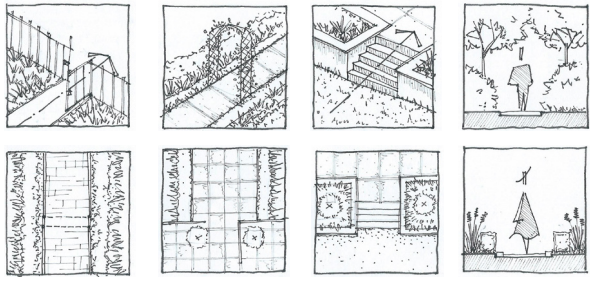
The site offers an inclined base plane. The base plane can be described as a gradual sloping terrain intersected with a free standing one house one plot typology, extending the indoor spaces to merge with the private exterior spaces, enforced with formalised, rectilinear, segmented planting patterns.



Threshold

The threshold can be described as a five step stairwell intersected in an extruded base plane forming the threshold between the main lawn area and the upper pool area. The threshold is accentuated through the use of two garden vases placed in a symmetrical composition on opposite sides adjacent to the thresholds acting as articulation points for the transition of space.

The threshold can be described as a flush threshold articulated by a formalised wrought iron gate within the dividing frontal plane of the side fence, located in the centre, transitioning from the front driveway to an enclosed service pathway.



Circulation

The main circulation routes of the garden consist of a segmented spiral circulation path intersecting ant specific points of interest within the garden.

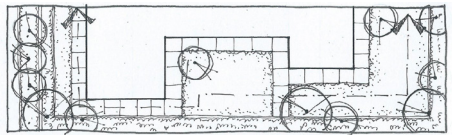


Fig.7.10 Garden case study - form : House Stockenström, Ravenswood Avenue, Birdhaven, Johannesburg

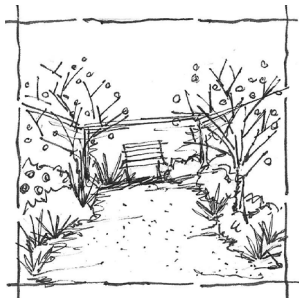
BIOLOGY

Vegetation communities

The site offers a climax community characterised by shade tolerant vegetation communities in the residential garden (Tutorvista.2019). The vegetated ecosystem provides ecosystem services in the form of provisioning, habitat /supportive and cultural services (TEEB. 2019).

Vegetation growth

The site offers a mature, relatively medium growing planting community requiring a maintenance intensive regime. The planting community is subjected seasonal changes enforced by the use of deciduous and annual planting communities.



Vegetation groupings and selection

The planting palette can be described as an amalgamation of indigenous and exotic commercial plant cultivars used primarily for its aesthetic and cultural properties. This entails ground covers, shrubs and trees.

• Habit

Plant groupings in terms of habit feature, semi shade to shaded, drought intolerant, frost intolerant, pest prone vegetation specimens enforced through the use of specialised exotic and indigenous plant species.

• Colour

Plant groupings in terms of colour feature a strong dark muted base colour pallet ranging from dark browns and greens and interspersed with bright warm colours ranging from, reds, yellows, pinks and purples, enforced through the use of mostly evergreen planting specimens used as backdrop foliage and more

• Form

Plant groupings in terms of form feature plant specimens that can be subjected to formalised pruning methods to produce strong geometric plant forms to provide a formalised landscape aesthetic.

• Texture

Plant groupings in terms of texture feature a luxurious rich pallet of textures ranging from smooth, shiny vegetation to soft and delicate vegetation specimens enforced through the use of shade tolerant evergreens and floral annual planting communities.

Prominent plant species

Vegetation articulation

To the border of the site the vegetation articulation can be described a countervailing vegetation border progressing in a sloped angle from tall vegetation adjacent to the boundary wall gradually declining to the base plane of the garden lawn.

To the periphery of the residence the vegetation articulation can be described a low formalised vegetation border bed edge progressing in a sloped angle from border edge gradually inclining in angle and height of vegetation to the centre of the planting bed.

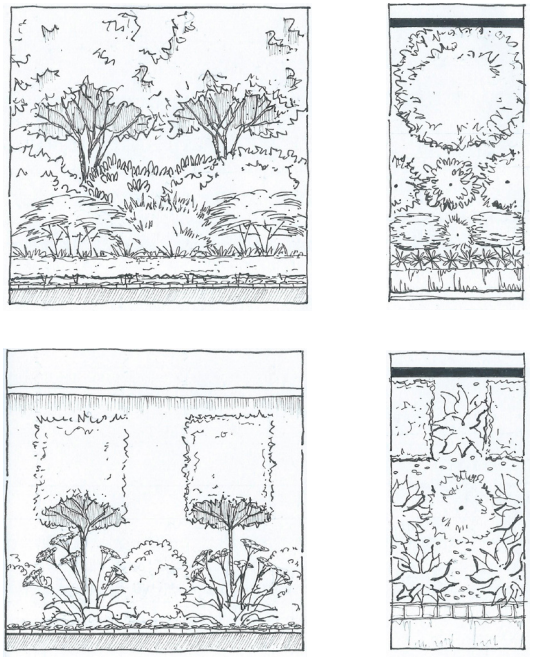


Fig.7.11 Garden case study - biology: House Stockenström, Ravenswood Avenue, Birdhaven, Johannesburg

PRACTICE

Appropriation of space

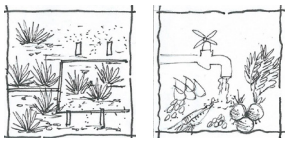
The garden features a domesticated planting implementation and maintenance regime.

Users
Due to the garden being a residential development, the garden features a private open space tradition where the only users of the garden are the residents of the property.

Services

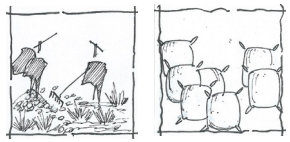
- Irrigation requirements/traditions

The garden is irrigated via a private bore hole, through an automated irrigation sprinkler system on a daily morning cycle, providing water for each plant every second day.



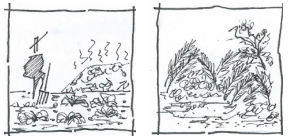
- Soil and nutrient requirements/ traditions

The garden is provided with soil nutrients via commercial compost and nutrient providers purchased by the owner. The compost and nutrients are applied to the garden on an 18 month cycle, applied by employed gardener. Same regime is applied to the application of mulch to the garden.



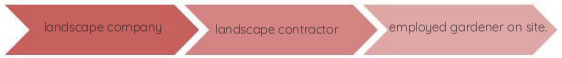
- Waste facilitation/traditions

The garden waste is facilitated and processed by the employed gardener on site on a weekly basis, discarding from unwanted garden material on a monthly basis at a local garden waste dumping facility.



Implementation and management cycle

- Landscape design is contracted to a landscape company
- This is then implemented by a landscape contractor
- The maintenance of the new landscape intervention is conducted by the employed gardener on site.



Pruning requirements/traditions

All garden pruning requirements are facilitated by the employed gardener on site.

- The pruning requirements for shrubbery and hedges are executed on a weekly basis through the use of commercial garden maintenance equipment.
- The pruning requirements for trees are executed on a seasonal basis through the use of commercial garden maintenance equipment.
- The pruning requirements for lawn areas are executed on a weekly basis through the use of commercial garden maintenance equipment.

Pest/ Diseases requirements/traditions

The control of pests and diseases for the garden are executed by the owner of the garden on a seasonal basis or after hail storm events through the use of commercial environmentally friendly pest control chemicals.

Ornamentation

- Topiary

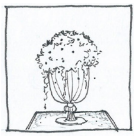
Sculptural ornamentation of evergreen vegetation in the form of topiary feature strongly in the garden, ranging from different platonic solids, enforced through the use of mostly evergreen planting specimens to reveal the platonic form and placed in a symmetrical composition around thresholds acting as articulation points for the transition of space.

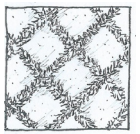
- Garden vases

The ornamentation of the garden in terms of the addition of decorative garden vases, feature two decorative ornate vases, enforced through the use of garden pedestals placed in a symmetrical composition around thresholds acting as articulation points for the transition of space or as focal points within the landscape. The garden vases offer visual interest in the garden as well as providing uniformity in the garden trough the repetitive use or ornate garden vases throughout the garden.

- Walkway

The ornamentation of the garden in terms of walkway ornamentations feature two distinct treatments of paving:





Security

The security measures on site consist of a High masonry wall around the site, electrified fences around the perimeter, CCTV cameras in and around the garden, laser beams around the house, Safety gates and burglar bars and additional gates in the garden separating the main driveway from the rest of the garden and finally an armed response security protection.

Fig.7.12 Garden case study - practice: House Stockenström, Ravenswood Avenue, Birdhaven, Johannesburg

FORM

Appropriation of space

The garden features the following functional activities:

- Small living quarters
- A communal gathering area
- A small mushroom farm shed
- A protected tartan green house for young seedlings
- A greenhouse tunnel for the cultivation of specialised planting
- Storage facilities
- 4 Lavatories for users on site
- Small pond
- Productive food plots

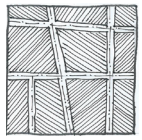



Articulation of Space

Entrance

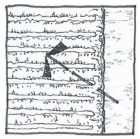
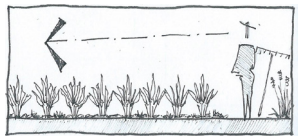
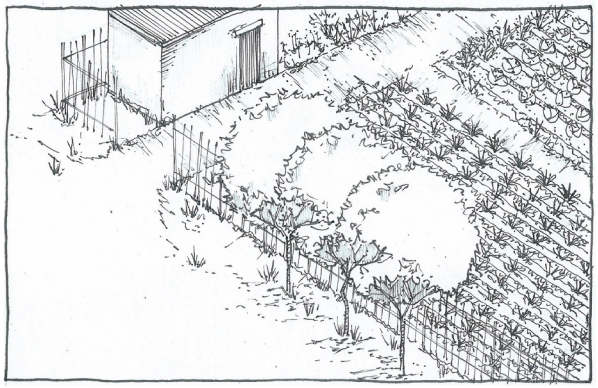
The site offers a small entrance for pedestrian access. The main entrance can be described as a flush entrance articulated by a symmetrical arrangement of informal flower beds within the frontal plane of the garden boundary fence, located off centre, transitioning from the undefined park lawn to an enclosed productive garden.





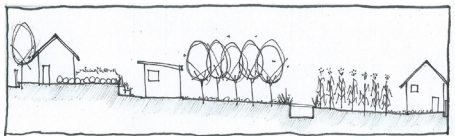
Boundary

The site offers a fenced boundary wall. The boundary can be described as a transparent fence situated on the borderline of the undulating site enclosing a free form garden space. The boundary fence within the garden is enforced with an irregular countervailing vegetation border. Boundary of the site is defined by a large palisade fence surrounding the whole site.

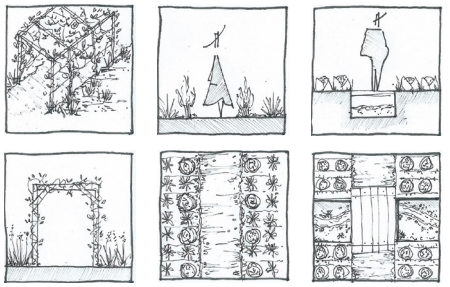
Base plane

The site offers an inclined base plane. The base plane can be described as an inclined terrain intersected with a slight extruded vegetated plane field, articulated in a network condition of a clustered configuration.



Threshold

A recessed threshold articulated by a formalised pergola structure within the dividing frontal plane created by the recessed irrigation channel of the productive landscape, transitioning from the lower productive landscape to the above communal meeting area over the irrigation channel.



Circulation

The main circulation routes of the productive landscape consist of a segmented spiral circulation path intersecting specific points of interest within the garden.

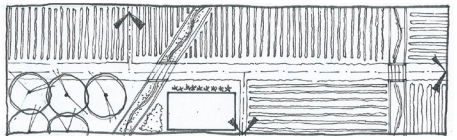


Fig.7.13 Garden case study - form: Siyakhana Gardens, 112 Observatory Ave, De Wetshof, Johannesburg

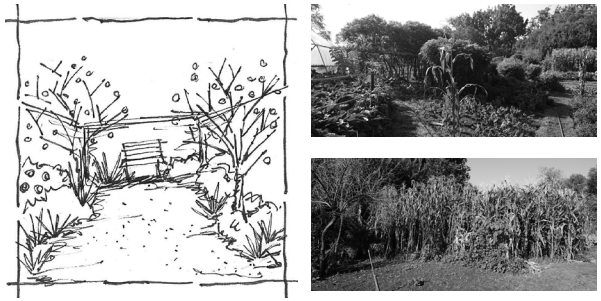
BIOLOGY

Vegetation communities

The site offers a secondary succession community characterised by an annual herb and perennial shrub phase vegetation communities in the productive garden (Tutorvista.2019). The vegetated ecosystem provides ecosystem services in the form of provisioning, regulatory, habitat /supportive and

Vegetation growth

The site offers a relatively medium growing productive planting community requiring a maintenance intensive regime. The planting community is subjected seasonal changes enforced by the use of food production cultivars and indigenous deciduous and annual planting communities.



Vegetation groupings and selection

The planting palette can be described as an amalgamation of indigenous and exotic productive plant cultivars used primarily for food production and supporting ecosystem properties. This entails ground covers, shrubs and trees.

- Habit

Plant groupings in terms of habit feature, full sun to semi shade, drought intolerant, frost intolerant, pest prone vegetation specimens enforced through the use of productive food cultivars and indigenous plant cultivars.

- Colour

Plant groupings in terms of colour feature a strong dark to muted base colour pallet ranging from dark greys and greens and interspersed with warm browns and yellows, enforced through the use of mostly regionally endemic planting specimens.

- Form

Plant groupings in terms of form feature plant specimens subjected to minimal or no pruning methods at all to produce a 'naturalistic' or free form plant forms showcasing the natural planting ecosystems of Johannesburg.

- Texture

Plant groupings in terms of texture feature a rich pallet of contrasting textures ranging from smooth, shiny vegetation to coarse dull vegetation specimens enforced through the use of evergreens and repetitive planting communities.

Prominent plant species

Vegetation articulation

To productive vegetation is articulated in a formalised rectangular repetitive row arrangement, consisting of hedgerow monoculture vegetation perpendicular to the slope of the site. on the periphery of the formalised rectangular row arrangement we the border is defined by system specie of floral or herbaceous vegetation cultivars to assist with systems functions such as pest control and pollination.

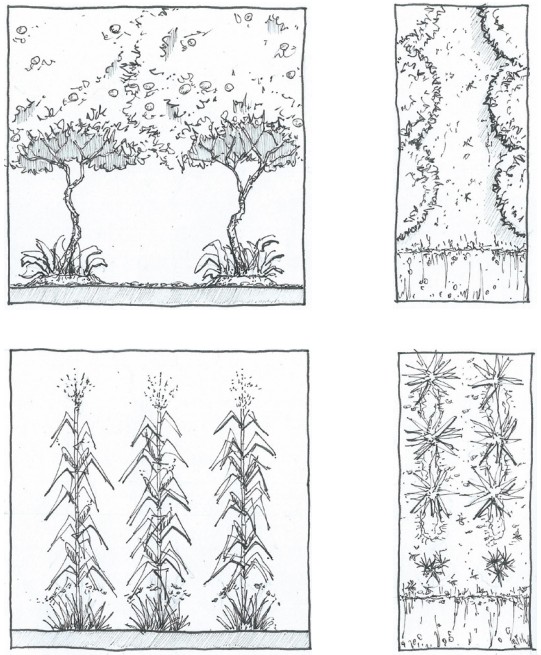


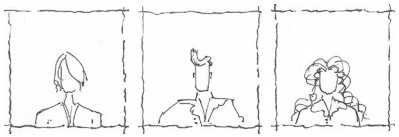
Fig.7.14 Garden case study - biology: Siyakhana Gardens, 112 Observatory Ave, De Wetshof, Johannesburg

PRACTICE

Appropriation of space

The garden features a domesticated planting implementation and maintenance regime.

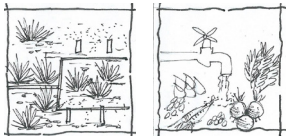
Users
The productive gardens are predominantly open public area that features annual labourers across the week and few visitors and tourists during the weekends.



Services

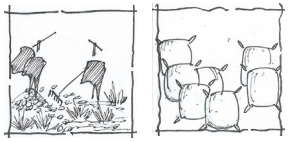
- Irrigation requirements/traditions

The garden is irrigated via municipal water service line of Ellis Park, through an automated irrigation system on a daily basis by employers, providing water for each plant every day.



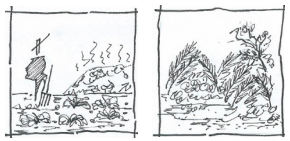
- Soil and nutrient requirements/traditions

The garden is provided with soil nutrients via commercial and private in devours from commercial compost and nutrient providers purchased by the garden manager to an onsite compost heap. The compost and nutrients are applied every season or as required depending



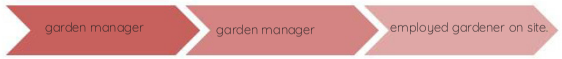
- Waste facilitation/traditions

The garden waste is facilitated and processed by the employed labourers on site on a weekly basis and recycled and reused in the garden, offering a zero waste output.



Implementation and management cycle

- Landscape design is contracted to a landscape company
- This is then implemented by a landscape contractor
- The maintenance of the new landscape intervention is conducted by the employed gardener on site.



Pruning requirements/traditions

All garden pruning requirements are facilitated by the onsite landscape labourers overseen by main Horticulturist and garden manager on site.

- The pruning requirements for shrubbery and are executed on a weekly basis through the use of commercial garden maintenance equipment.
- The pruning requirements for trees are executed on a seasonal basis through the use of commercial garden maintenance equipment.
- The pruning requirements for lawn areas are executed on a weekly basis through the use of commercial garden maintenance equipment.

Pest/ Diseases requirements/traditions

The control of pests and diseases for the garden are primarily dealt with on a more organic or natural system through the incorporation of insect and pest deterring plant species interspersed between the cultivated productive vegetation cultivars.

Ornamentation

The site features no ornamentation in the productive landscape.

Security

The security measures on site consist of a palisade fence around the site with additional passive surveillance by users working on the site.

Fig.7.15 Garden case study - practice: Siyakhana Gardens, 112 Observatory Ave, De Wetshof, Johannesburg

FORM

Appropriation of space

The garden features the following functional activities:

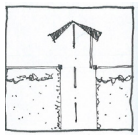
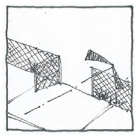
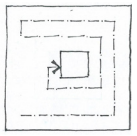
- Driveway
- Large front cleared area
- Vegetable garden
- Service corridor




Articulation of Space

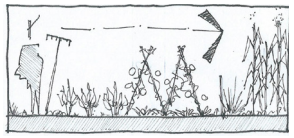
Entrance

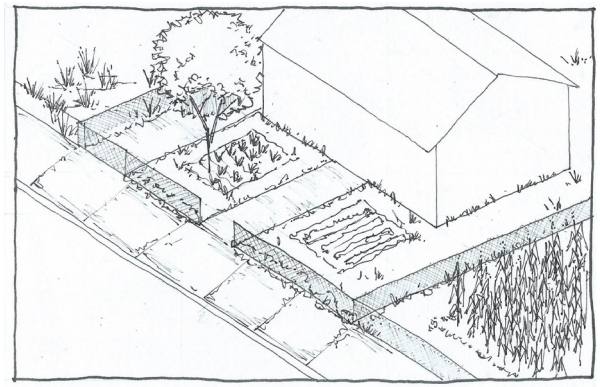
The site offers a main entrance for pedestrian and vehicular access. The main entrance can be described as a flush entrance articulated by a small formalised fenced gate within the frontal plane of the residence boundary fence, located off centre, transitioning from the exposed street to an enclosed driveway flaked by a boundary fence and the residence.

Boundary

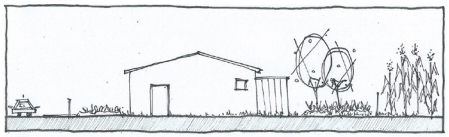
The site offers a low boundary fence. The boundary can be described as a see through fence situated on the borderline of the site enclosing a rectilinear garden space.



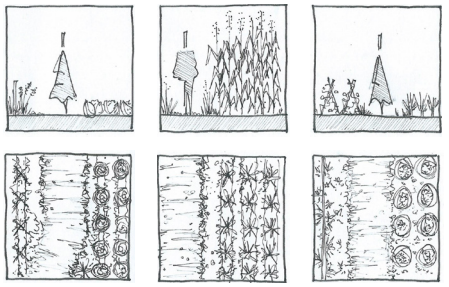
Base plane

The site offers an horizontal base plane. The base plane can be described as a gradual sloping terrain intersected with a free standing one house one plot typology, extending the indoor spaces to merge with the private exterior spaces.



Threshold

The site defines no definitive threshold articulations.



Circulation

The main circulation routes of the garden consist of a segmented spiral circulation path intersecting ant specific points of interest within the garden.

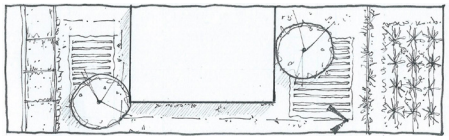
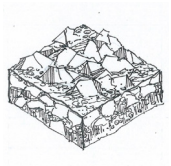
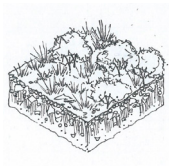


Fig.7.16 Garden case study - form: Soweto residential garden, Devlin, Soweto, Gauteng, South Africa

Vegetation communities

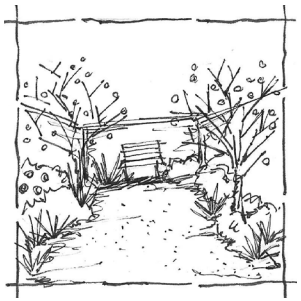
The site offers a secondary succession community characterised by an annual herb and perennial shrub phase vegetation communities in the productive garden (Tutorvista.2019). The vegetated ecosystem provides ecosystem services in the form of provisioning, regulatory, habitat /supportive and cultural services (TEEB. 2019).





Vegetation growth

The site offers a relatively medium growing productive planting community requiring a maintenance intensive regime. The planting community is subjected seasonal changes enforced by the use of food production cultivars and indigenous deciduous and annual planting communities.



Vegetation groupings and selection

The planting palette can be described as an amalgamation of indigenous and exotic productive plant cultivars used primarily for food production and supporting ecosystem properties. This entails ground covers, shrubs and trees.

- Habit

Plant groupings in terms of habit feature, full sun to semi shade, drought intolerant, frost intolerant, pest prone vegetation specimens enforced through the use of productive food cultivars and indigenous plant cultivars.

- Form

Plant groupings in terms of form feature plant specimens that can be subjected to formalised pruning methods to produce strong geometric plant forms to provide a formalised landscape aesthetic.

- Colour

Plant groupings in terms of colour feature a strong dark muted base colour pallet ranging from dark browns and greens and interspersed with bright warm colours ranging from, reds, yellows, pinks and purples, enforced through the use of mostly evergreen planting specimens used as

- Texture

Plant groupings in terms of texture feature a luxurious rich pallet of textures ranging from smooth, shiny vegetation to soft and delicate vegetation specimens enforced through the use of shade tolerant evergreens and floral annual planting communities.

Prominent plant species








Vegetation articulation

To productive vegetation is articulated in a formalised rectangular repetitive row arrangement, consisting of hedgerow monoculture vegetation perpendicular to the slope of the site. On the periphery of the formalised rectangular row arrangement we the border is defined by system specie of floral or herbaceous vegetation cultivars to assist with systems functions such as pest control and pollination.

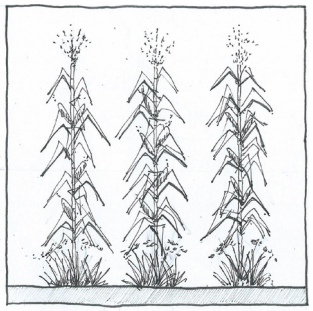
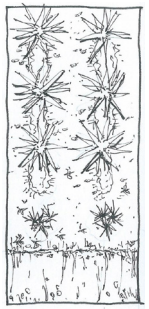
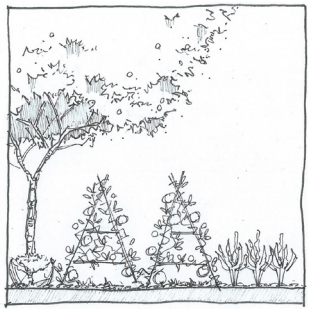





Fig.7.17 Garden case study - biology: Soweto residential garden, Devlin, Soweto, Gauteng, South Africa

Appropriation of space

The garden features a domesticated planting implementation and maintenance regime.

Users
Due to the garden being a residential development, the garden features a private open space tradition where the only users of the garden are the residents of the property.

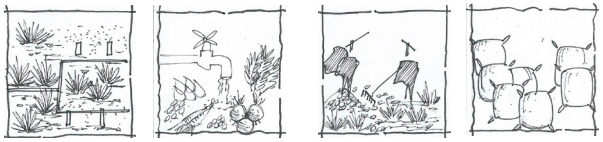
Services

- Irrigation requirements/traditions

The garden is irrigated via a natural precipitation or a local water point manually with watering cans or buckets.

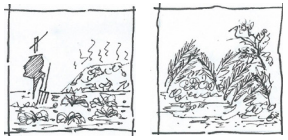
- Soil and nutrient requirements/traditions

The garden is not formally provided with soil nutrients and rather relies on the inherent nutrients of the soil for plant production.



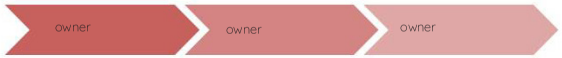
- Waste facilitation/traditions

The garden waste is facilitated and processed by the owner of the gar on site on a weekly basis, discarding from unwanted garden material on a monthly basis near the residence.



Implementation and management cycle

- Landscape design is conducted by owner of the residence
- Landscape alterations are implemented by the owner
- The maintenance of the new landscape intervention is conducted by the owner.



Pruning requirements/traditions

All garden pruning requirements are facilitated by the owner of the site.

- The pruning requirements for shrubbery and hedges are executed on a weekly basis through the use of basic garden maintenance equipment.
- The pruning requirements for trees are executed on a seasonal basis through the use of basic garden maintenance equipment.
- The pruning requirements for lawn areas are executed on a weekly basis through the use of basic garden maintenance equipment.

Pest/ Diseases requirements/traditions

The control of pests and diseases for the garden are executed by the owner of the garden on a seasonal basis through the use of traditional pest control methods.

Ornamentation

The site features no formalised ornamentation.

Security

The security measures on site consist of a low boundary fence and passive surveillance by owners.

Fig.7.18 Garden case study - practice: Soweto residential garden, Devlin, Soweto, Gauteng, South Africa

FORM

Appropriation of space

The garden features the following functional activities:

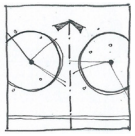
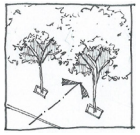
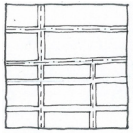
- Series of small indigenous gardens
- Main lawn area
- Main walkway
- Water feature
- Parking area outlet
- Border garden
- Public square




Articulation of Space

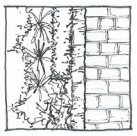
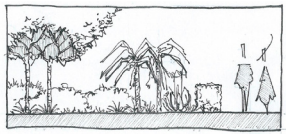
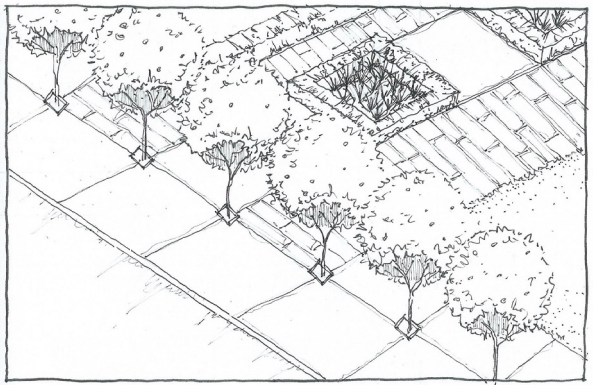
Entrance

The site offers a multitude of entrances for pedestrian access. The entrance can be described as a series of passages through an implied vegetated plane, articulated either by a repetitive tree lane to the east of the site or large vegetated flower beds to the Southern boundary of the site. the entrances offer a seamless transition for the exposed pedestrian sidewalk surrounding the site to a formalised office garden park.

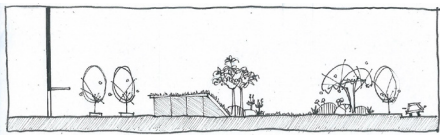
Boundary

The site offers no defined boundary but rather an implied boundary. The boundary can be described as a permeable outer perimeter defined by repetitive planting groupings creating a series of undefined entrances to the park.

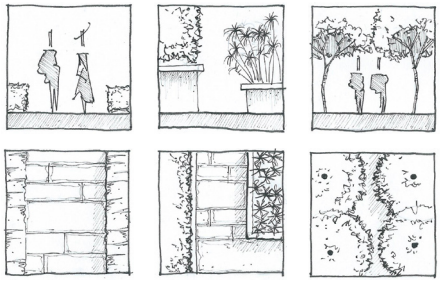
Base plane

The site offers a horizontal base plane. The base plane can be described as a horizontal terrain intersected with a slight depressed vegetated plane field, articulated in an axial condition of a clustered configuration, creating permeable vegetated wall planes to define smaller enclosed spaces in the office gardens. This articulation of space is further enforces with the surface articulation of the terrain with the used of contrasting walking surface materials in the form of differing colours.



Threshold

The site features no formally defined threshold articulation.



Circulation

The circulation routes of the public garden consist of a composite of circulation configurations. To the South of the site we have a spiral configuration of segmented curvilinear pathways around the border of the park encapsulating the main lawn area. In the centre of the site the circulation routes consist of two linear axis mirrored by adjacent secondary grid configuration pathways.

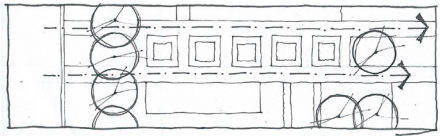
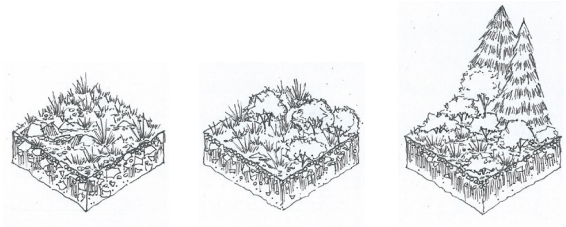


Fig.7.19 Garden case study - form: Standard Bank head office gardens, 30 Baker Street, Standard Bank Centre, Rosebank

BIOLOGY

Vegetation communities

The site offers a secondary succession plant community characterised by perennial herb and scrub planting communities in the landscape intervention (Tutorvista.2019). The vegetated ecosystem provides ecosystem services in the form of regulatory, habitat /supportive and cultural services (TEEB. 2019).



Vegetation growth

The site offers a relatively fast growing planting community requiring weekly maintenance. The planting community is subjected to some seasonal changes enforced by the use of deciduous and evergreen planting communities.

Vegetation groupings and selection

The planting palette can be described as an amalgamation of indigenous South African commercial plant cultivars species used primarily for its aesthetic and robust cultivation and maintenance properties. This entails ground covers, shrubs and trees.

- Habit

Plant groupings in terms of habit feature, full sun, drought tolerant, robust, pest resistant vegetation specimens enforced through the use of indigenous plant species.

- Colour

Plant groupings in terms of colour feature a muted pallet of earthy colours ranging from light browns to dark greens, enforced through the use of mostly evergreen planting specimens interspersed with grassy annuals and very few flowering plant specimens.

- Form

Plant groupings in terms of form feature a contrast between plant specimens that can be subjected to formalised pruning methods to produce strong geometric plant forms and plant specimens subjected to minimal pruning methods to produce a 'naturalistic' or free form

- Texture

Plant groupings in terms of texture feature a rich pallet of contrasting textures ranging from smooth, shiny vegetation to coarse dull vegetation specimens enforced through the use of evergreens and repetitive planting communities.

Prominent plant species

Vegetation articulation

To the border of the site the vegetation articulation can be described a countervailing vegetation border progressing in a sloped angle from tall vegetation adjacent to the boundary along the road gradually declining to the base plane of the corporate lawn.

To the interior of the corporate garden the vegetation articulation in the flower beds can be described a low formalised vegetation border bed edge progressing in a sloped angle from border edge gradually inclining in angle and height of vegetation to the centre of the planting bed.

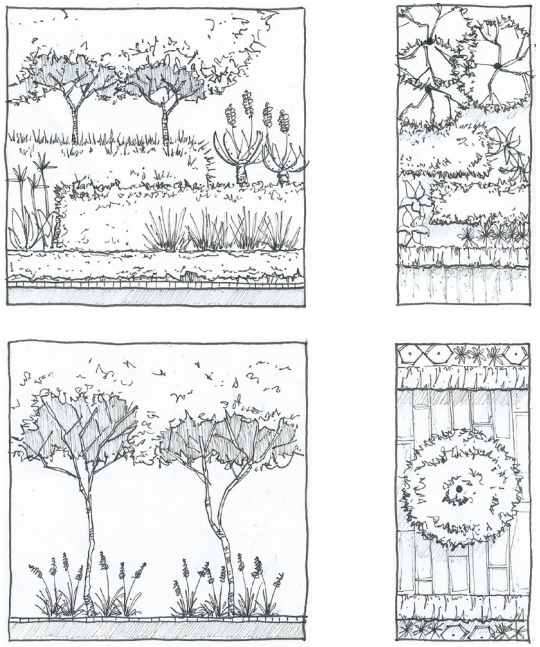


Fig.7.20 Garden case study - biology: Standard Bank head office gardens, 30 Baker Street, Standard Bank Centre, Rosebank

PRACTICE

Appropriation of space

The garden features a domesticated planting implementation and maintenance regime.

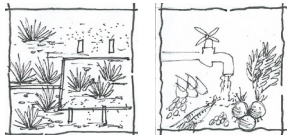
Users

The corporate gardens are an open public area that features many users of the general public. There is however a larger majority office workers from Standard bank that use the facilities the other users of the general public.

Services

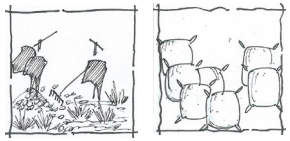
- Irrigation requirements/traditions

The corporate garden is irrigated via municipal water service, through an automated irrigation system on a daily, providing water for all indigenous species every second day.



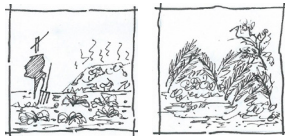
- Soil and nutrient requirements/traditions

The park is provided with soil nutrients via commercial in devours from commercial compost and nutrient providers purchased by the garden manager of the corporate gardens. The compost and nutrients are applied every season for indigenous planting as needed.



- Waste facilitation/traditions

The garden waste is facilitated and processed by the employed landscape labourers on site on a weekly basis, discarding from unwanted garden material on a monthly basis at a local garden waste dumping facility.



Implementation and management cycle

- Landscape design is contracted to a landscape company
- This is then implemented by a landscape contractor
- The maintenance of the new landscape intervention is conducted by the employed gardener on site.

Pruning requirements/traditions

All garden pruning requirements are facilitated by the outsourced privately employed landscape maintenance team.

- The pruning requirements for shrubbery and hedges are executed on a weekly basis through the use of commercial garden maintenance equipment.
- The pruning requirements for trees are executed on a seasonal basis through the use of commercial garden maintenance equipment.
- The pruning requirements for lawn areas are executed on a weekly basis through the use of commercial garden maintenance equipment.

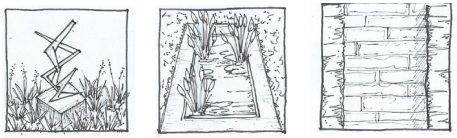
Pest/ Diseases requirements/traditions

The control of pests and diseases for the garden are executed by the outsourced privately employed landscape maintenance team of the office park on a seasonal basis.

Ornamentation

- Topiary

Sculptural ornamentation of evergreen vegetation in the form of formal hedge boarders in the office park, ranging from small to medium height border hedges, enforced through the use of mostly evergreen planting specimens.



- Water features

The ornamentation of the garden in terms of water feature one zero depth water feature with an assortment of small spouts and bubblers, offer aesthetic interest in the corporate park garden as well as soothing water white noise in the background.

- Walkway

The ornamentation of the corporate gardens in terms of walkway ornamentations feature a geometric pattern of repeating vertical assortments between black and white pavers to enhance the contemporary aesthetics of the corporate park.

Security

The security measures on site consist of CCTV cameras in and around the garden, additional security guards and passive surveillance by users on the site.

Fig.7.21 Garden case study - practice: Standard Bank head office gardens, 30 Baker Street, Standard Bank Centre, Rosebank

FORM

Appropriation of space

The garden features the following functional activities:

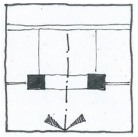
- Walking trails
- Ponds
- Petting zoo
- Lawn areas




Articulation of Space

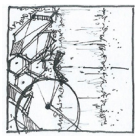
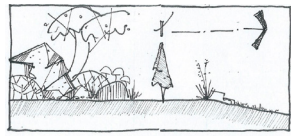
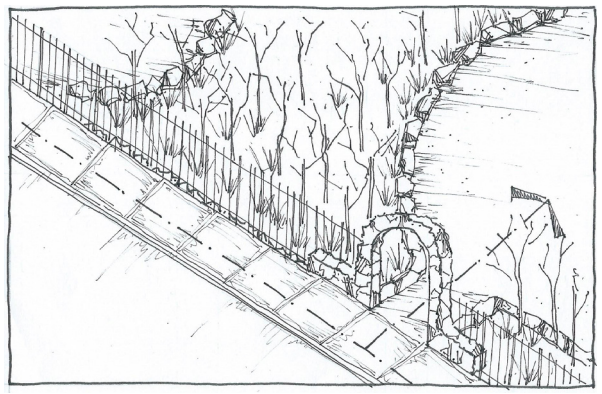
Entrance

The site only has one main entrance for pedestrian and vehicular access. The entrance can be described as a flush entrance articulated by a formalised overhead arching stone structure within the frontal plane of the park boundary fence, located off centre, transitioning from the meandering exposed streetscape to an enclosed space sheltered by an overhead tree canopy of indigenous tree species.



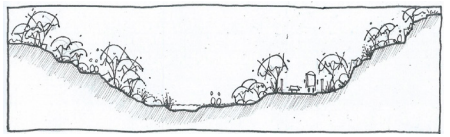
Boundary

The site offers a fenced boundary wall. The boundary can be described as a transparent fence situated on the borderline of the site enclosing a rectilinear productive garden space. The boundary fence within the garden is enforced with an irregular repetitive line of nut trees.

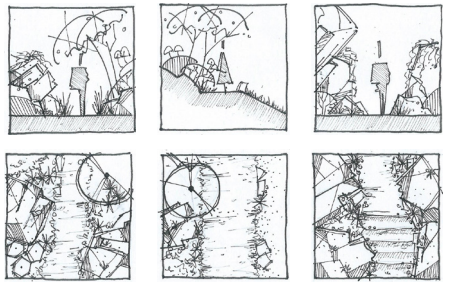
Base plane

The site offers an undulating base plane. The base plane can be described as an undulating terrain intersected with a depressed water plane fields and extruded ridge line fields, articulated in a network configuration of free form planes. This articulation of space is further enforces with the surface articulation of the terrain with the used of contrasting surface treatments and material.



Threshold

The site features no formally defined threshold articulation.



Circulation

The circulation routes of the park consist of a network configuration of curvilinear pathways linking established points within the park to each other.

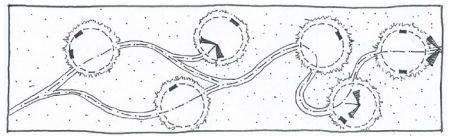
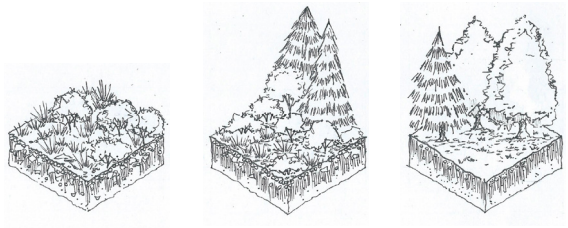


Fig.7.22 Garden case study - form: The Wilds Park, Houghton Drive, Houghton Estate, Johannesburg

Vegetation communities

The site offers a climax community characterised by shade tolerant vegetation communities in the nature reserve and public park (Tutorvista.2019). The vegetated ecosystem provides ecosystem services in the form of regulatory, habitat /supportive and cultural services (TEEB. 2019).



Vegetation growth

The site offers a mature, relatively medium growing planting community requiring a maintenance intensive regime. The planting community is subjected seasonal changes enforced by the use of deciduous and annual planting communities.

Vegetation groupings and selection

The planting palette can be described as indigenous and regionally endemic plant cultivars used primarily for its ecological and cultural properties. This entails ground covers, shrubs and trees.

- Habit

Plant groupings in terms of habit feature, full sun, drought tolerant, robust, pest resistant vegetation specimens enforced through the use of indigenous plant species.

- Colour

Plant groupings in terms of colour feature a strong dark to muted base colour pallet ranging from dark greys and greens and interspersed with warm browns and yellows, enforced through the use of mostly regionally endemic planting specimens.

- Form

Plant groupings in terms of form feature plant specimens subjected to minimal or no pruning methods at all to produce a 'naturalistic' or free form plant forms showcasing the natural planting ecosystems of Johannesburg.

- Texture

Plant groupings in terms of texture feature a rich pallet of contrasting textures ranging from smooth, shiny vegetation to coarse dull vegetation specimens enforced through the use of evergreens and repetitive planting communities.

Prominent plant species

Vegetation articulation

To regionally endemic plant community has no formal plant articulation induced by human interaction but rather features a natural systemic articulation of a mature plant community through natural progression of the planting community's life span.

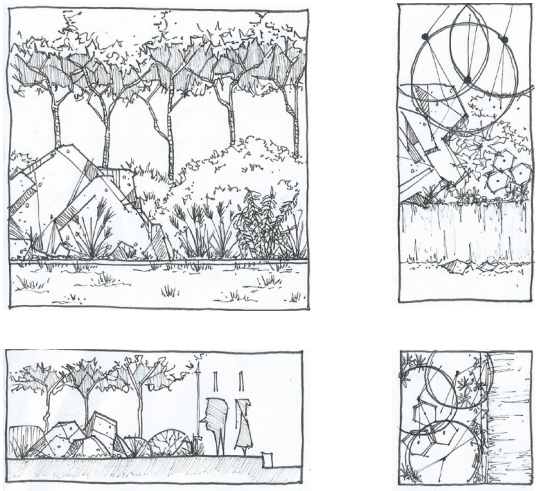


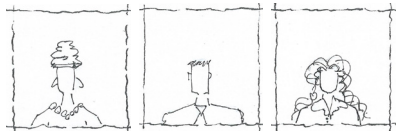
Fig.7.23 Garden case study - biology: The Wilds Park, Houghton Drive, Houghton Estate, Johannesburg

Appropriation of space

The garden features a domesticated planting implementation and maintenance regime.

Users

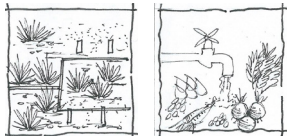
The Wilds nature reserve and park is an open public area that features many users of the general public.



Services

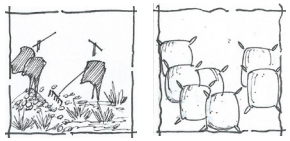
- Irrigation requirements/traditions

The park is irrigated via municipal water service and natural occurring fountains found on site, through an automated irrigation system on a daily, providing water for all indigenous species



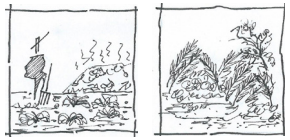
- Soil and nutrient requirements/traditions

The park is provided with soil nutrients via commercial and private in devours from commercial compost and nutrient providers purchased by the Johannesburg city parks and zoo. The compost and nutrients are applied every season for indigenous planting excluding the natural en-



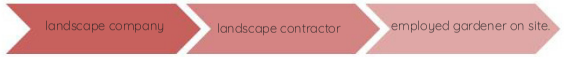
- Waste facilitation/traditions

The garden waste is facilitated and processed by the employed labourers on site on a weekly basis and recycled and reused in the garden, offering a zero waste output.



Implementation and management cycle

- Landscape design is contracted to a landscape company
- This is then implemented by a landscape contractor
- The maintenance of the new landscape intervention is conducted by the employed gardener on site.



Pruning requirements/traditions

All garden pruning requirements are facilitated by Johannesburg City parks and zoo.

- The pruning requirements for shrubbery and are executed on a weekly basis through the use of commercial garden maintenance equipment.
- The pruning requirements for trees are executed on a seasonal basis through the use of commercial garden maintenance equipment.
- The pruning requirements for lawn areas are executed on a weekly basis through the use of commercial garden maintenance equipment.

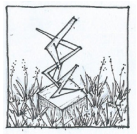
Pest/ Diseases requirements/traditions

The control of pests and diseases for the garden are executed by Johannesburg City parks and zoo on a seasonal basis or after hail storm events through the use of commercial environmentally friendly pest control chemicals.

Ornamentation

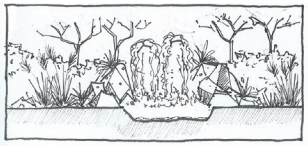
- Sculpture

Sculptural ornamentation feature strongly in the park with commissioned sculptural elements placed within the landscape.



- Water features

The ornamentation of the garden in terms of the addition of water features consist of a series of natural steams and ponds intersecting and divining open leisure areas for park visitors. The water features offer aesthetic interest in the garden as well as soothing water white noise in the background.



Security

The security measures on site consist of a palisade fence around the site with additional security guards and passive surveillance by users on the site.

Fig.7.24 Garden case study - practice: The Wilds Park, Houghton Drive, Houghton Estate, Johannesburg

FORM

Appropriation of space

The garden features the following functional activities:

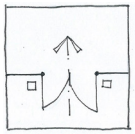
- Artisan studios
- Food market
- Exhibition area
- Art gallery
- Retail shops
- Food gardens
- Event space
- Food stalls

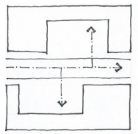



Articulation of Space

Entrance

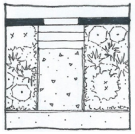
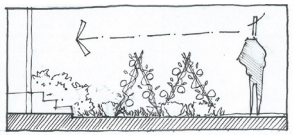
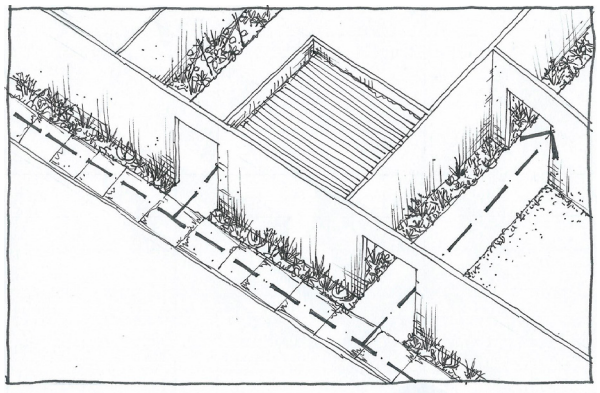
The site offers a multitude of entrances for pedestrian and vehicular access. The main entrance can be described as a flush entrance articulated by a formalised overhead masonry structure within the frontal plane of the precinct, transitioning from the exposed streetscape to an enclosed courtyard space.





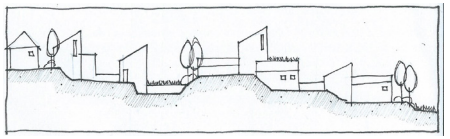
Boundary

The site offers an amalgamation of a masonry boundary wall and exterior building facades as the precinct boundary. The boundary can be described as an amalgamation of a masonry boundary wall and exterior building facades as the situated on the borderline of the site enclosing a series of rectilinear negative spaces interspersed between the built forms existing on site.

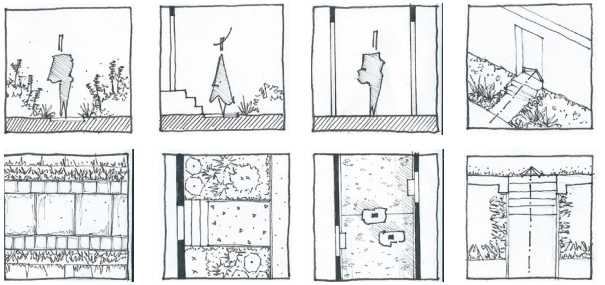
Base plane

The site offers an inclined base plane. The base plane can be described as an amalgamation of gradual sloping terrain interspersed with a clustered pattern configuration of built form defining the positive outdoor space, enforced with small terraces in and around steep inclines of the site.



Threshold

The site features no formally defined threshold articulation.



Circulation

The circulation routes of the precinct consist of a network configuration of segmented pathways connecting established points within the precinct. These segmented pathways also form a composite of a smaller grid circulation network existing in the formalised matrix of the mass and void of the precinct built fabric.

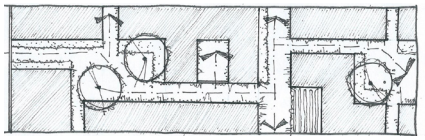
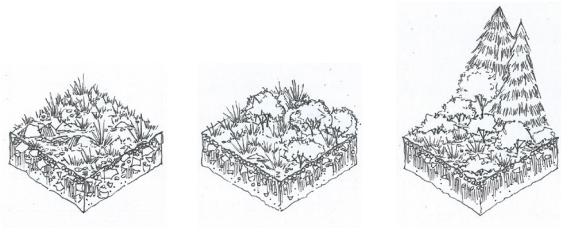


Fig.7.25 Garden case study - form: Victoria Yards, 16 Viljoen Street, Lorentzville, Johannesburg

BIOLOGY

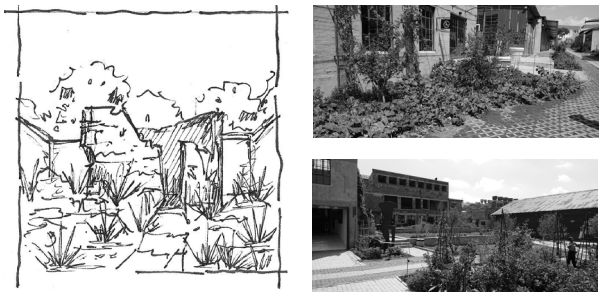
Vegetation communities

The site offers a secondary succession community characterised by an annual herb and perennial shrub phase vegetation communities in the precinct development (Tutorvista.2019). The vegetated ecosystem provides ecosystem services in the form of provisioning, regulatory, habitat /supportive and cultural services (TEEB. 2019).



Vegetation growth

The site offers a relatively medium growing productive planting community requiring a maintenance intensive regime. The planting community is subjected seasonal changes enforced by the use of food production cultivars and indigenous deciduous and annual planting communities.



Vegetation groupings and selection

The planting palette can be described as an amalgamation of indigenous and exotic productive plant cultivars used primarily for food production and supporting ecosystem properties. This entails ground covers, shrubs and trees.

- Habit

Plant groupings in terms of habit feature, full sun to semi shade, drought intolerant, frost intolerant, pest prone vegetation specimens enforced through the use of productive food cultivars and indigenous plant cultivars.

- Form

Plant groupings in terms of form feature plant specimens that can be subjected to formalised pruning methods to produce strong geometric plant forms to provide a formalised landscape aesthetic.

- Colour

Plant groupings in terms of colour feature an array of different colour pallets ranging from dark cool natural tones to bright warm colours ranging from, reds, yellows, pinks and purples, enforced through the use of productive food cultivars specimens that feature as backdrop

- Texture

Plant groupings in terms of texture feature a luxurious rich pallet of textures ranging from smooth, shiny vegetation to soft and delicate vegetation specimens enforced through the use of shade tolerant evergreens and floral annual planting communities.

Prominent plant species

Vegetation articulation

To productive vegetation is articulated in a formalised rectangular repetitive row arrangement, consisting of hedgerow monoculture vegetation perpendicular to the slope of the site. on the periphery of the formalised rectangular row arrangement we the border is defined by system specie of floral or herbaceous vegetation cultivars to assist with systems functions such as pest control and pollination.

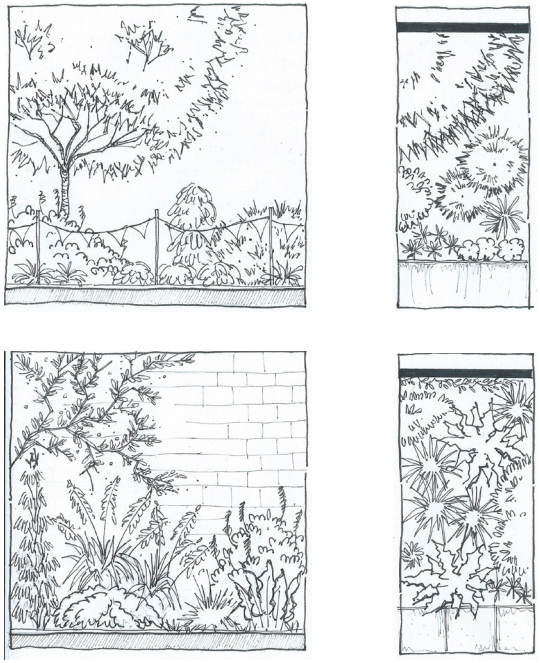


Fig.7.26 Garden case study - biology: Victoria Yards, 16 Viljoen Street, Lorentzville, Johannesburg

PRACTICE

Appropriation of space

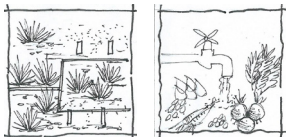
The garden features a domesticated planting implementation and maintenance regime.

Users
Victoria yard is a predominantly open public area that features many users such as local tenants of businesses, employer's daily visitors, tourists etc.

Services

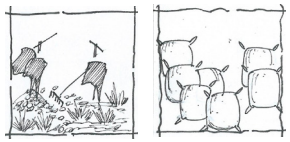
- Irrigation requirements/traditions

The garden is irrigated via rain water harvesting and municipal water service line, through a manual irrigation system on a daily basis by employers, providing water for each plant every day.



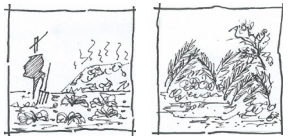
- Soil and nutrient requirements/ traditions

The garden is provided with soil nutrients via commercial and private in devours from commercial compost and nutrient providers purchased by the garden manager to an onsite compost heap. The compost and nutrients are applied every season or as required depending



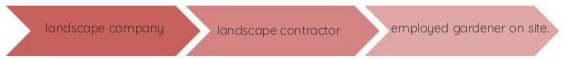
- Waste facilitation/traditions

The garden waste is facilitated and processed by the employed labourers on site on a weekly basis and recycled and reused in the garden, offering a zero waste output.



Implementation and management cycle

- Landscape design is contracted to a landscape company
- This is then implemented by a landscape contractor
- The maintenance of the new landscape intervention is conducted by the employed gardener on site.



Pruning requirements/traditions

All garden pruning requirements are facilitated by the onsite landscape labourers overseen by main Horticulturist and garden manager on site.

- The pruning requirements for shrubbery and are executed on a weekly basis through the use of commercial garden maintenance equipment.
- The pruning requirements for trees are executed on a seasonal basis through the use of commercial garden maintenance equipment.
- The pruning requirements for lawn areas are executed on a weekly basis through the use of commercial garden maintenance equipment.

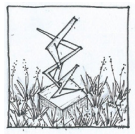
Pest/ Diseases requirements/traditions

The control of pests and diseases for the garden are primarily dealt with on a more organic or natural system through the incorporation of insect and pest deterring plant species interspersed between the cultivated productive vegetation cultivars.

Ornamentation

- Sculpture

Sculptural ornamentation feature strongly in the garden, ranging from commissioned sculptural elements placed within the landscape to raw infrastructure of urban farming utilised as the background for ornamental gardening. These sculptural elements are primarily used as focal points in the garden.



- Water features

The ornamentation of the garden in terms of the addition of water features are derived from the functional nature of the water feature that in turn has an aesthetic outcome. This can be showcased in the addition of Aquaponics where water tanks are exposed and orated with decorative sculpture or fountains. The water features offer aesthetic interest in the garden as well as soothing water white noise in the background.

Security

The security measures on site consist of a high masonry wall around the site with additional electrified fences around the perimeter. Other security measures entail security guard at parking areas and passive surveillance by users visiting the site.

Fig.7.27 Garden case study - practice: Victoria Yards, 16 Viljoen Street, Lorentzville, Johannesburg

FORM

Appropriation of space

The garden features the following functional activities:

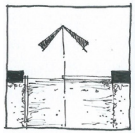
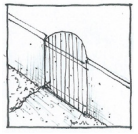
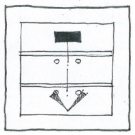
- Driveway
- Main lawn
- Lower lawn
- Rose garden
- Pond
- Folly
- Courtyards
- Service corridor
- Maintenance and storage area
- Large boarder gardens




Articulation of Space

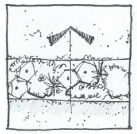
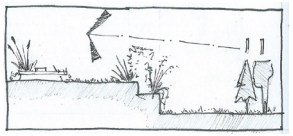
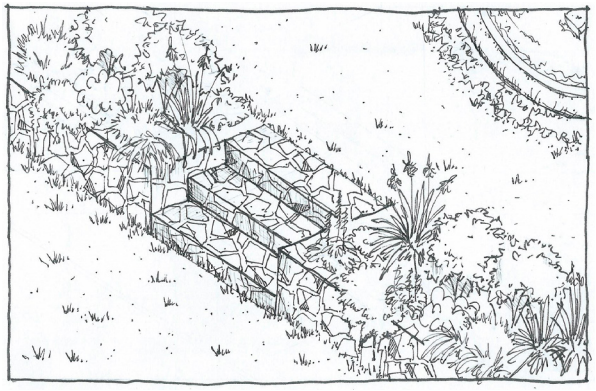
Entrance

The site offers a main entrance for pedestrian and vehicular access. The main entrance can be described as a flush entrance articulated by a formalised stone entrance with a large wooden gate within the frontal plane of the residence boundary wall, located in the centre, transitioning from the exposed street to an enclosed garden driveway flaked by a boundary wall and the residence.

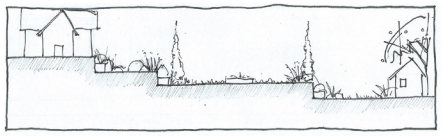
Boundary

The site offers a large stone boundary wall. The boundary can be described as an impervious wall situated on the borderline of the site enclosing a rectilinear garden space.

Base plane

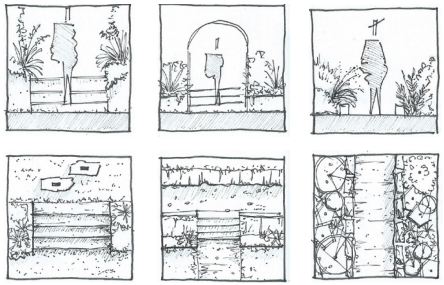
The site offers a terraced base plane. The base plane can be described as steep sloping terrain that has been terraced to form three distinct planes the upper plane consisting of the house and the two bottom planes consisting of the main garden and the cottage garden, enforced with formalised, rectilinear, stone planting borders.



Threshold

The threshold can be described as a stepped stairwell intersected in an extruded base plane forming the threshold between the residence and the main lawn and the main lawn and the lower lawn. The threshold is accentuated through the use of two large cypresses acting as vertical accentuation within the border plane surrounding the main lawn areas to form a a symmetrical composition on opposite sides adjacent to the thresholds acting as articulation points for the transition of space.

The threshold can be described as a flush threshold articulated by a formalised wrought iron gate within the dividing frontal plane of the side fence, located in the centre, transitioning from the front driveway to an enclosed service pathway.



Circulation

The circulation routes of the garden axial condition, network configuration of segmented pathways con-

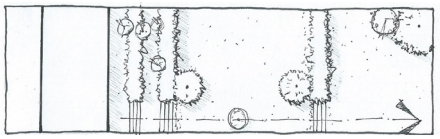
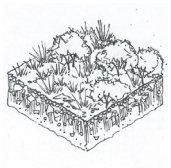


Fig.7.28 Garden case study - form: Heritage Garden, 19 Pallinghurst Road, Westcliff, Gauteng, South Africa

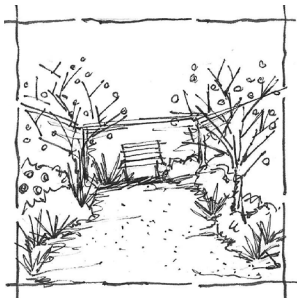
Vegetation communities

The site offers a climax community characterised by shade tolerant vegetation communities in the residential garden (Tutorvista.2019). The vegetated ecosystem provides ecosystem services in the form of provisioning, habitat /supportive and cultural services (TEEB. 2019).



Vegetation growth

The site offers a mature, relatively medium growing planting community requiring a maintenance intensive regime. The planting community is subjected seasonal changes enforced by the use of deciduous and annual planting communities.



Vegetation groupings and selection

The planting palette can be described as an amalgamation of indigenous and exotic commercial plant cultivars used primarily for its aesthetic and cultural properties. This entails ground covers, shrubs and trees.

- Habit

Plant groupings in terms of habit feature, semi shade to shaded, drought intolerant, frost intolerant, pest prone vegetation specimens enforced through the use of specialised exotic and indigenous plant species.

- Colour

Plant groupings in terms of colour feature a strong dark muted base colour pallet ranging from dark browns and greens and interspersed with bright warm colours ranging from, reds, yellows, pinks and purples, enforced through the use of mostly evergreen planting specimens used as backdrop foliage and more annual, brightly

- Form

Plant groupings in terms of form feature plant specimens that can be subjected to formalised pruning methods to produce strong geometric plant forms to provide a formalised landscape aesthetic.

- Texture

Plant groupings in terms of texture feature a luxurious rich pallet of textures ranging from smooth, shiny vegetation to soft and delicate vegetation specimens enforced through the use of shade tolerant evergreens and floral annual planting communities.

Prominent plant species

Vegetation articulation

To the border of the site the vegetation articulation can be described a countervailing vegetation border progressing in a sloped angle from tall vegetation adjacent to the boundary wall gradually declining to the base plane of the garden lawn.

To the periphery of the residence the vegetation articulation can be described a low formalised vegetation stone border bed edge progressing in a sloped angle from border edge gradually inclining in angle and height of vegetation to the centre of the planting bed.

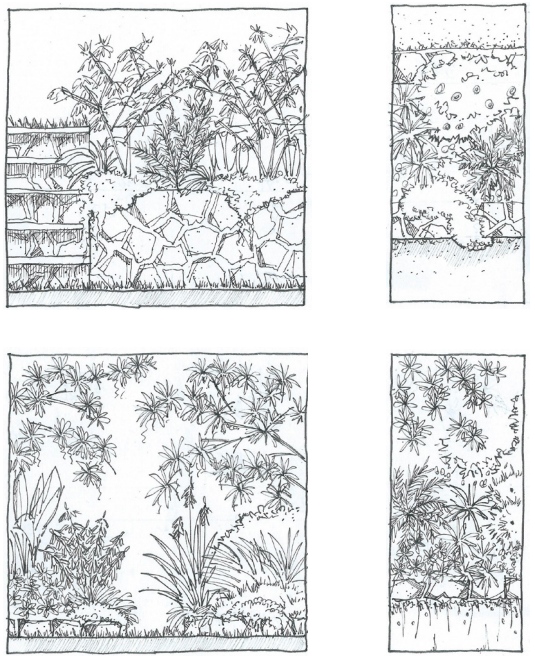


Fig.7.29 Garden case study - biology: Heritage Garden, 19 Pallinghurst Road, Westcliff, Gauteng, South Africa

PRACTICE

Appropriation of space

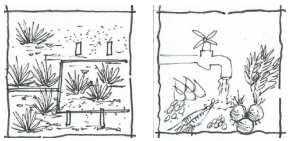
The garden features a domesticated planting implementation and maintenance regime.

Users
Due to the garden being a residential development, the garden features a private open space tradition where the only users of the garden are the residents of the property.

Services

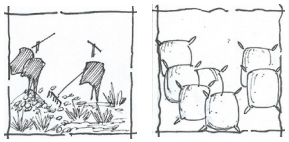
- Irrigation requirements/traditions

The garden is irrigated via a private bore hole, through an automated irrigation sprinkler system on a daily morning cycle, providing water for each plant every second day.



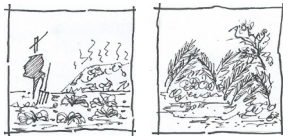
- Soil and nutrient requirements/ traditions

The garden is provided with soil nutrients via commercial compost and nutrient providers purchased by the owner. The compost and nutrients are applied to the garden on an 18 month cycle, applied by employed gardener. Same regime is applied to the application of mulch to the garden.



- Waste facilitation/traditions

The garden waste is facilitated and processed by the employed gardener on site on a weekly basis, discarding from unwanted garden material on a monthly basis at a local garden waste dumping facility.



Implementation and management cycle

- Landscape design is contracted to a landscape company
- This is then implemented by a landscape contractor
- The maintenance of the new landscape intervention is conducted by the employed gardener on site.

Pruning requirements/traditions

All garden pruning requirements are facilitated by the employed gardener on site.

- The pruning requirements for shrubbery and hedges are executed on a weekly basis through the use of commercial garden maintenance equipment.
- The pruning requirements for trees are executed on a seasonal basis through the use of commercial garden maintenance equipment.
- The pruning requirements for lawn areas are executed on a weekly basis through the use of commercial garden maintenance equipment.

Pest/ Diseases requirements/traditions

The control of pests and diseases for the garden are executed by the owner of the garden on a seasonal basis or after hail storm events through the use of commercial environmentally friendly pest control chemicals.

Ornamentation

- Sculpture

Sculptural ornamentation feature strongly in the garden, featuring commissioned art pieces placed within the landscape as points of interest. These sculptural elements are primarily used as focal points in the garden.

- Topiary

- Water features

The ornamentation of the garden in terms of the addition of water features, feature a formalised stone pond with small water fountain, enforced through the use of surrounding planting articulation to emphasise the water feature. The water features offer aesthetic interest in the garden as well as soothing water white noise in the background.

- Garden vases

The ornamentation of the garden in terms of the addition of decorative concrete sculptures, feature small figures near the folly of the cottage, enforced through the use of specific planting to enrich the general narrative of the garden figures. The garden figures offer visual interest in the garden as well

Security

The security measures on site consist of a High masonry wall around the site, electrified fences around the perimeter, CCTV cameras in and around the garden, laser beams around the house, Safety gates and burglar bars and additional gates in the garden separating the main driveway from the rest of the garden and finally an armed response security protection.

Fig.7.30 Garden case study - practice: Heritage Garden, 19 Pallinghurst Road, Westcliff, Gauteng, South Africa

7.2.1 Form

Subsequent to the interpretation of the garden case studies, the following conclusions were drawn in terms of form: the residential gardens investigated did not give an indication of a deliberate layout structure; rather, the gardens were primarily laid out in response to the placement of the boundary walls/fences and the buildings on site. Entrances, exists and circulation routes did not give a strong indication of any defined landscape pattern and boundary walls were more pronounced, not necessarily for spatial purposes, but rather for security. The layout in the productive landscapes was dictated by the crops being cultivated, with the placement of the buildings restricted to the edges of the landscape. It was only in the public landscapes that a formal layout could be identified where certain spaces were articulated. In all garden types investigated, the spaces within were primarily articulated through vegetated borders, terraces, or low wall constructions. Of these three aforementioned methods, none had a particular vernacular necessity; however, the majority of the examples had a very distinct material palette, preferring the use of stone, brick and timber. No conclusive regional vernacular in terms of form could be identified. This conclusion can be ascribed either to the small number of gardens investigated, or to the large variety of different gardens investigated, spanning from productive and residential to public. This being said, what has become evident is that traditional practices showcased in maintenance and caretaking can be observed across all the different gardens. A defined material palette in conjunction with the traditions of practice can best be seen in the productive landscapes. Therefore the design interpretation of the gardens is intended to focus the appropriation of these practices, instead of on the identification of a regional garden vernacular. The traditional practices are most pronounced in the productive landscape; thus the technical investigation will revolve around the elevation and appropriation of articulation practices to inform space making.

7.2.2 Biology

Subsequent to the interpretation of the garden case studies, the following conclusions were drawn in terms of biology: each landscape type (residential, productive or public) contained a consistent level of diversity in terms of plant selection. In residential gardens, these plant compositions tended to be more focused on aesthetic preferences for predominantly flowering plant specimens. Of the plant selection, half of the species were indigenous to South Africa, with the rest generally being exotic. In the productive landscapes, the plant compositions tended to be three-quarters productive plant cultivars such as vegetables and fruits, with the remaining quarter being dedicated to supporting ecosystem plants such as flowers to support pollination, and/or pest deterrent plants species such as pungent herbs. Of the plant selection, most plants are exotic species, but the supporting ecosystem plants tend to be indigenous. In the public landscapes, the plant compositions were almost entirely made up of indigenous plants that where more robust, containing fewer flowering plants and more evergreen plant species with distinctive foliage. When referring to plant articulation through the use of typical space-ordering principles, the use thereof in residential and public gardens is much more pronounced, compared to productive landscapes where plants are articulated more for functional and pragmatic reasons than for form-giving principles.

7.2.3 Practice

During the interpretation of the case study landscapes, the following conclusions in terms of practice were drawn. Although it has been established that there is no distinct vernacular present across the garden case studies, some traditional practices are, however, prevalent. In residential gardens, these practices are applied for aesthetic or space articulation purposes. In productive landscapes, traditional practices are primarily used to improve and increase the production of selected crops. The intensity of the caretaking practices in residential and productive gardens is largely dependent on the type of plant species chosen to make up the plant composition, these being exotic or other species from more temperate climates. In harsh climates, such species are more susceptible to pests and diseases. Despite this fact, these species are still preferred for their aesthetic and space-formation qualities. In public landscapes, the intensity and frequency of maintenance practices are much lower than in the previously discussed garden types, as minimum maintenance is performed on the landscape due to the vegetation being much more resilient where neglect is concerned.

The identified practices were:

1. Propagation
2. Soil preparation
3. Landscape maintenance
4. Specialised cultivation practices

7.2.4 Conceptual explorations for practice

These identified practices were then interpreted through small conceptual experiments to inform how they could be appropriated to form space for the design intervention. The propagation methods identified were sowing, planting of cuttings, and division, done primarily by hand. For the conceptual exploration the practice of sowing was used to develop a set pattern through an abstraction of seed dispersal that could be identified and duplicated in the landscape. This experiment entailed the mapping of seed dispersal by tracing the negative of sown seeds on paper with spray paint. The negative was then interpreted and abstracted to form a general pattern that was then translated into a two-dimensional template that could be appropriated on plan.

Fig.7.31 Seed dispersal experiment A

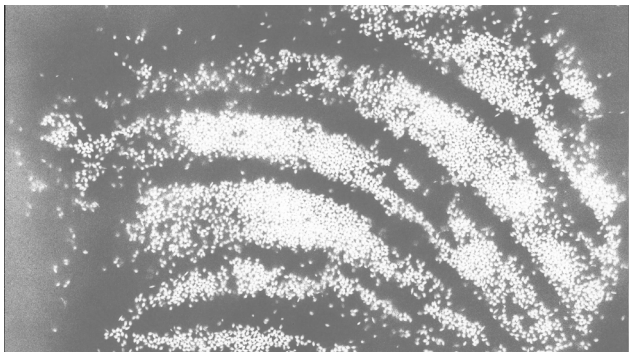


Fig.7.32 Seed dispersal experiment B

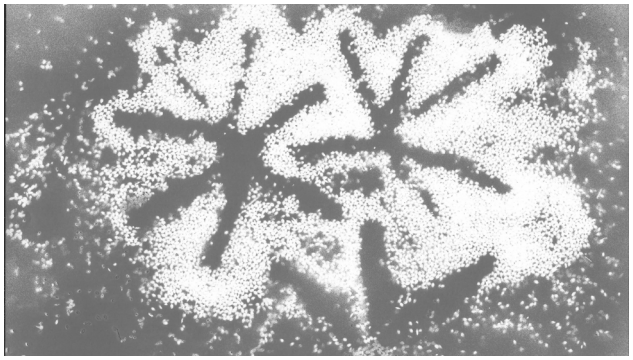


Fig.7.33 Seed dispersal experiment C

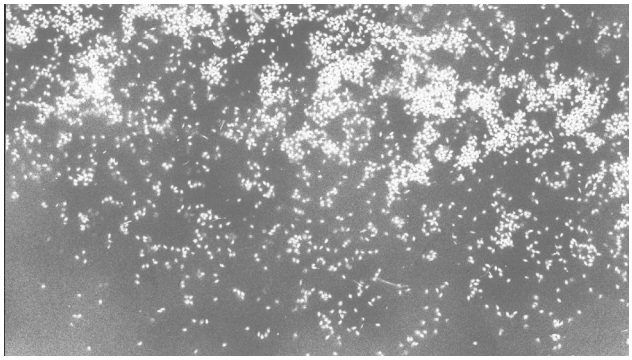


Fig.7.34 Seed dispersal experiment D

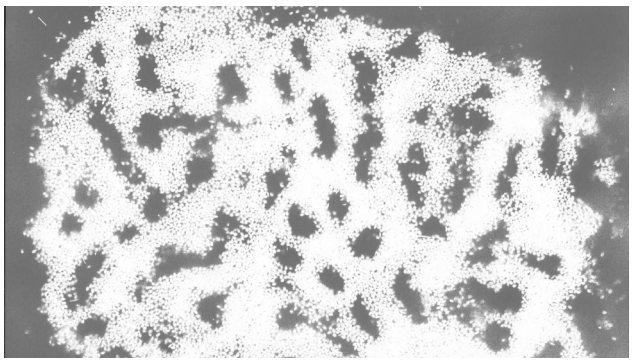


Fig.7.35 Seed dispersal experiment E

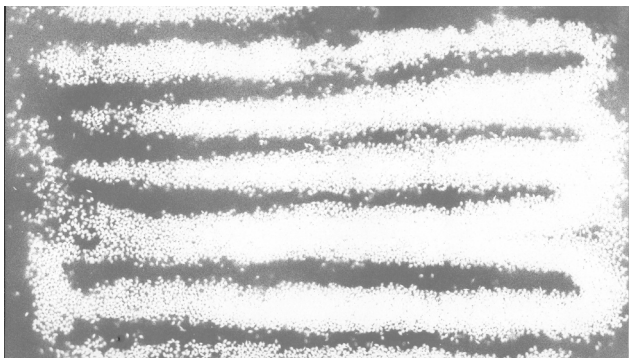


Fig.7.36 Seed dispersal experiment F

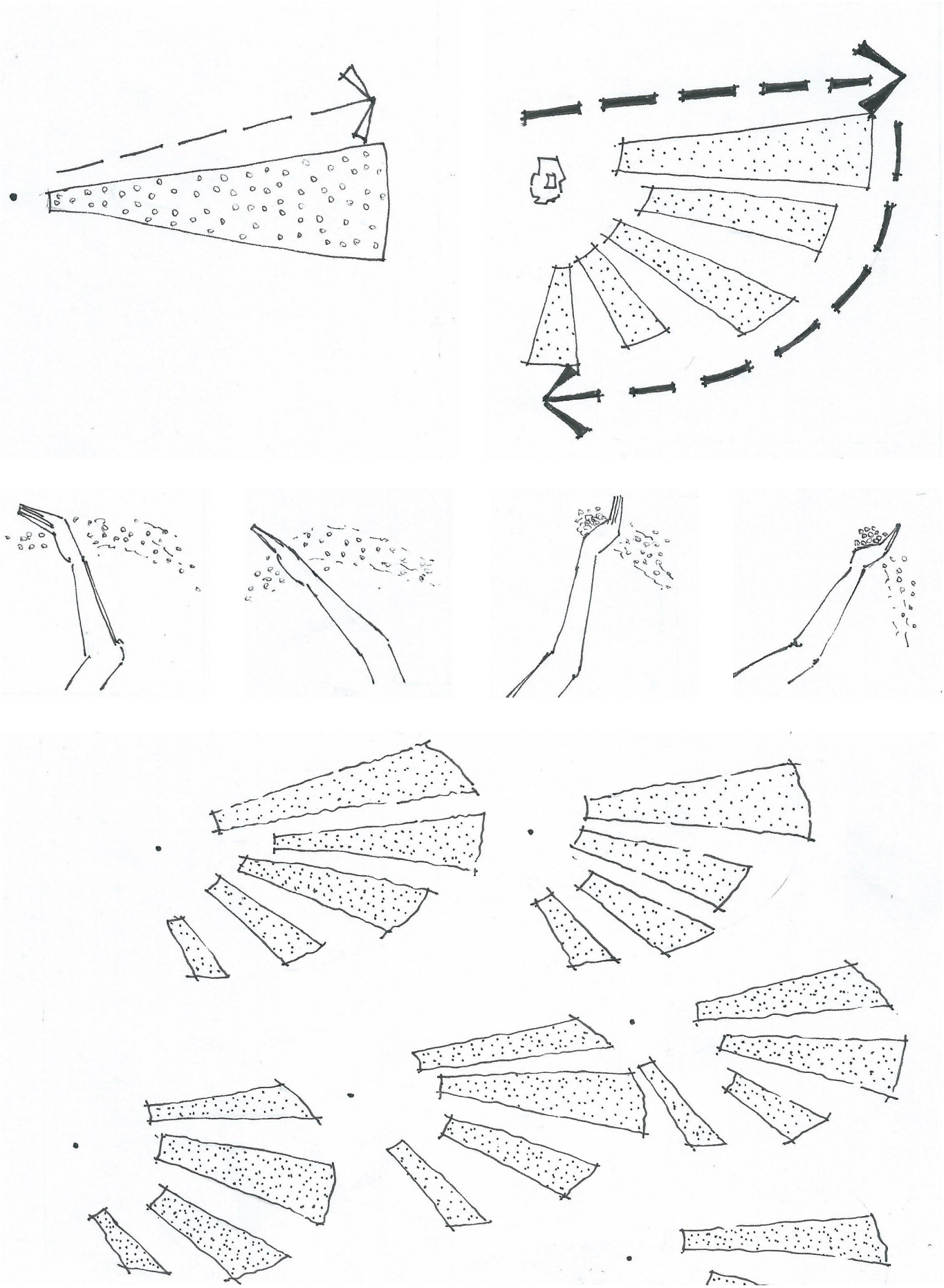


Fig.7.37 Practice documentation A: propagation via seed dispersal

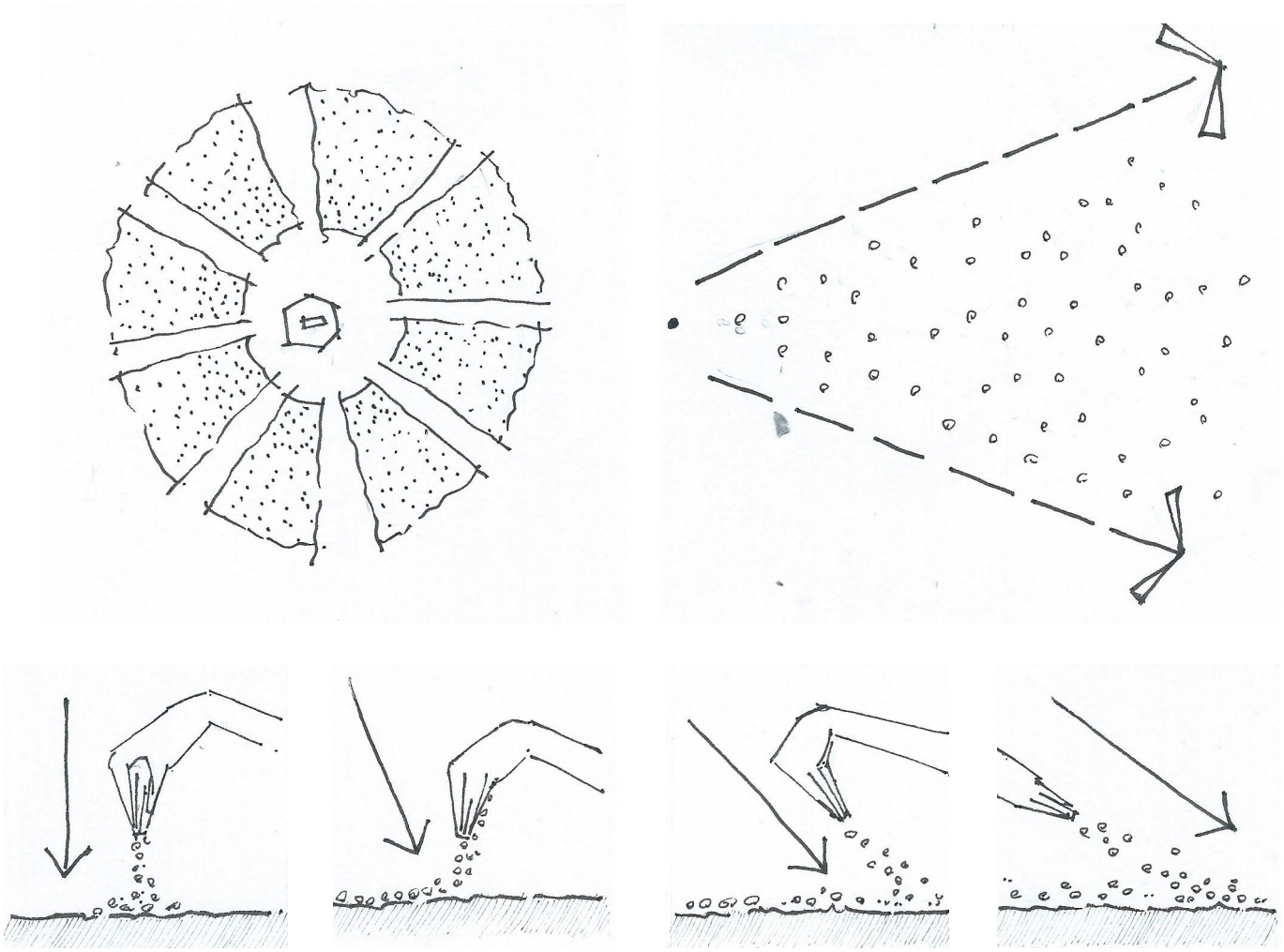


Fig.7.38 Practice documentation B: propagation via seed dispersal

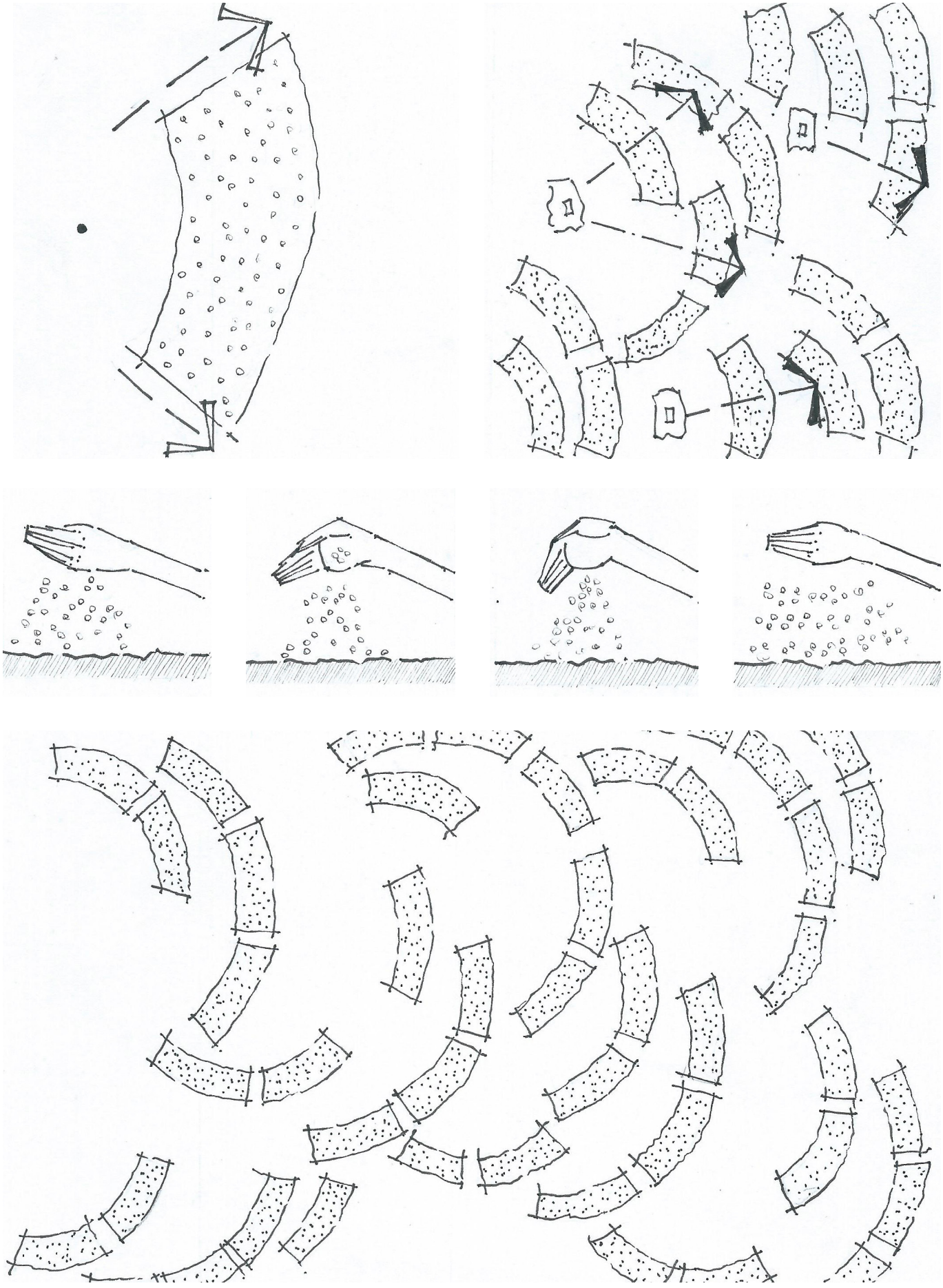


Fig.7.39 Practice documentation C: propagation via seed dispersal

The vegetation maintenance methods identified were cutting, mowing and felling, done by using garden equipment such as lawn movers, shears and garden clippers. For the conceptual exploration, the practice of mowing was used to develop an understanding of pattern making and edge articulation derived from lawn mowing or grass cutting. This experiment entailed the use of small artificial grass strips that were cut to emulate the cutting of grassed areas to produce certain spatial outcomes.

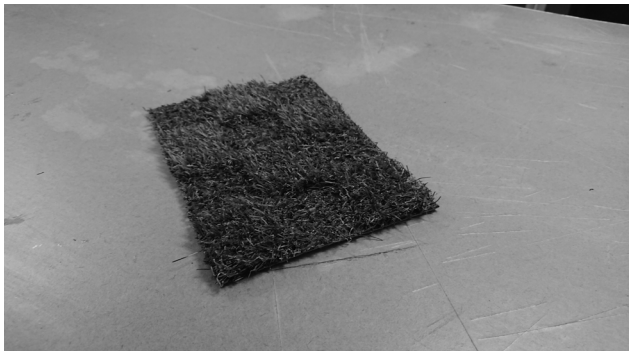


Fig.7.40 Lawn manipulation experiment A

Fig.7.41 Lawn manipulation experiment B

Fig.7.42 Lawn manipulation experiment C

Fig.7.43 Lawn manipulation experiment D

Fig.7.44 Lawn manipulation experiment E

Fig.7.45 Lawn manipulation experiment F

The specialised cultivation practices identified were pruning and shearing by using garden equipment such as clippers, shears and garden scissors. For the conceptual exploration, the practice of shearing topiary and hedges was used to develop an understanding of space formation through the shearing of vegetation. This experiment entailed the creation of three-dimensional models out of oasis floral foam that were manipulated to simulate the practice of shearing vegetation for desired spatial outcomes.

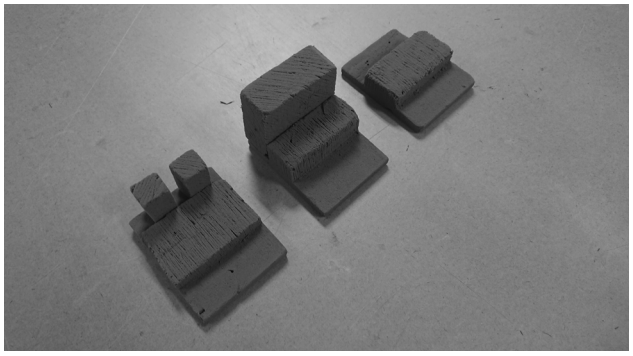


Fig.7.46 Vegetation manipulation experiment A

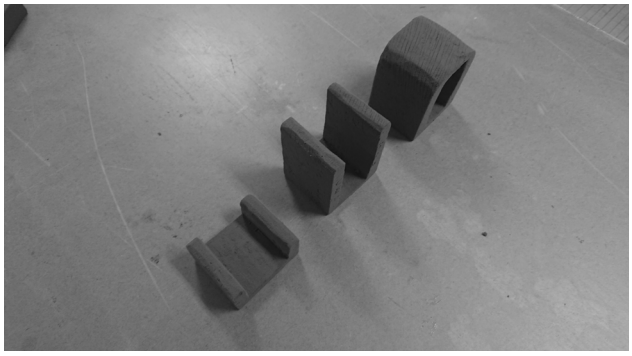


Fig.7.47 Vegetation manipulation experiment B

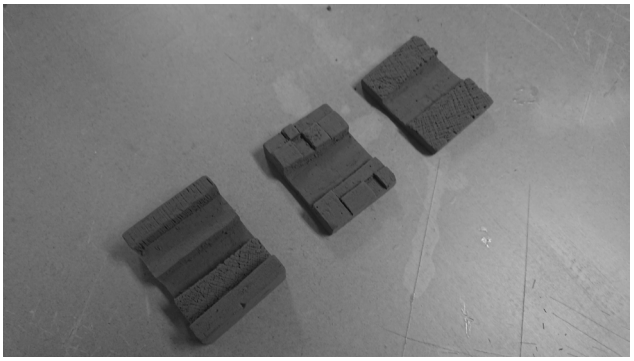


Fig.7.48 Vegetation manipulation experiment C

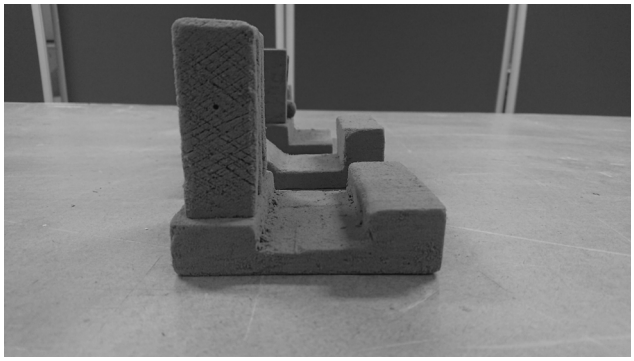


Fig.7.49 Vegetation manipulation experiment D

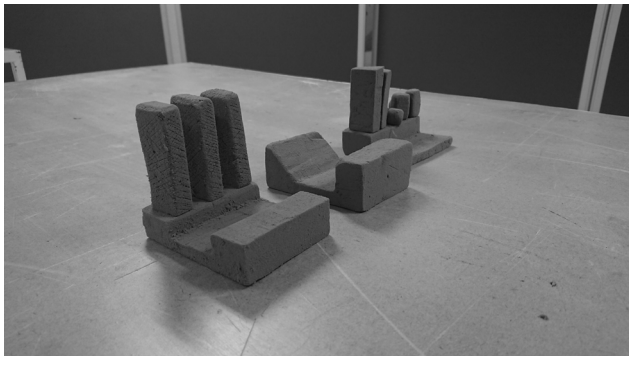


Fig.7.50 Vegetation manipulation experiment E

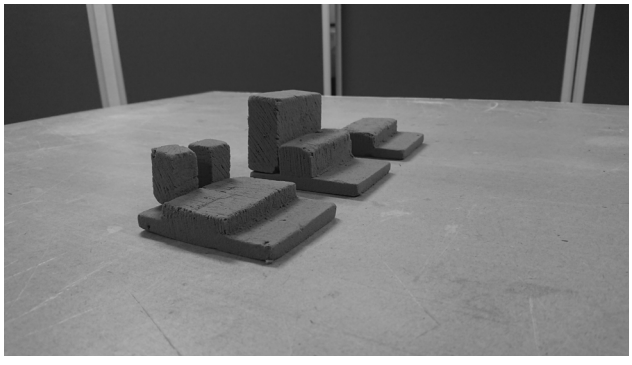


Fig.7.51 Vegetation manipulation experiment F

The soil preparation methods identified were raking, tilling, shovelling and compaction, done by using garden equipment such shovels, garden forks and rakes. For the conceptual exploration, the practices of raking, tilling and compaction were used to develop an understanding of soil manipulation for space articulation and cultivation purposes. This experiment entailed the creation of small boxes that contained flour. This flour was then used to produce certain patterns derived from physical examples that could be abstracted and translated into two-dimensional form.

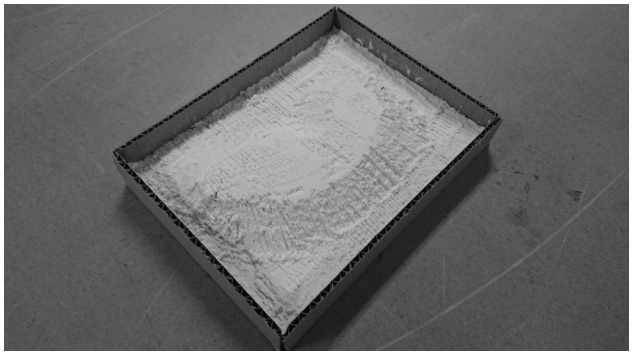


Fig.7.52 Soil manipulation experiment A

Fig.7.53 Soil manipulation experiment B

Fig.7.54 Soil manipulation experiment C

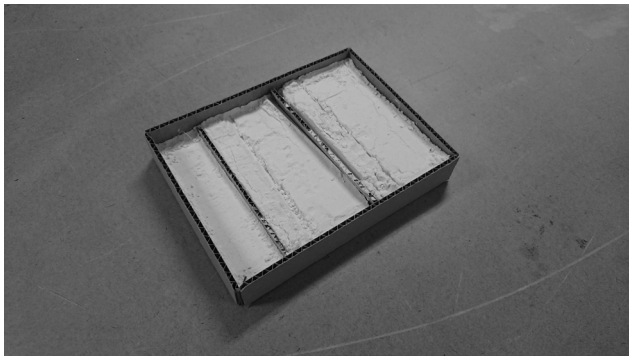


Fig.7.55 Soil manipulation experiment D

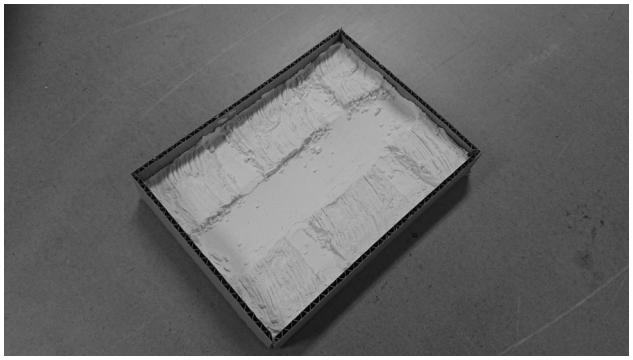


Fig.7.56 Soil manipulation experiment E

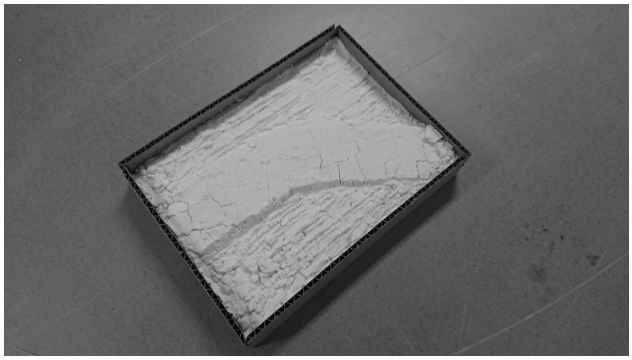


Fig.7.57 Soil manipulation experiment F

7.3 Systematic informants

7.3.1 Layout

The site was laid out using a 4.5 x 8 m grid. The dimensions of the grid are derived from the standard size of a greenhouse. The grid was then refined with the inclusion of circulation paths within the landscape. The circulation paths were laid out as follows:

- Between each standard plot an 800 mm wide path was provided for a single person to walk on.
- Between every group of eight plots, a 2 m path surrounding the group allows for wheelbarrow access.
- Between every group of sixteen blocks, a 5 m path surrounding the group allows for vehicular access.

The second step was to determine the placement of the retaining walls. Due to the already steep incline of the site, large terraces had to be constructed to create level planes for the cultivation of produce. With the assistance of three contour models, as discussed under the conceptual explorations of form, the site was divided into three distinct areas with different contour placings.

7.3.2 Circulation

The circulation routes on site were determined by applying the grid system. In accordance with the grid system, three main entrances to the site were established. Two routes from these main entrances form the main axes through the site, one from the south and the other from the west. Four secondary routes branch off from these main axes, and are intended to act as secondary arteries to the site for the use of users and maintenance teams. The last route is the ramp. The intention with the ramp is to introduce in a slower walkway and to provide accessibility for all users to each of the terraces.

7.3.3 Spatial configuration

For the spatial configuration of the design, the typical 'one house, one plot' typology of the standard modernist suburban house was investigated. Through a process of abstraction, the intention was to determine certain elements or ideas that could be appropriated in a new landscape intervention. Generally, in this specific spatial tradition of a residential plot, the house forms the pivot around which the garden is formed, with the plot consisting of a further three distinct parts. The intention is to combine and configure these distinct parts into different combinations, reinterpreting the typical tradition of a suburban garden layout.

These parts are as follow:

The building: The building traditionally refers to the centralised house typology located on the residential plot. In the landscape intervention for this dissertation, the existing building would serve as the building, along with, in the later phases, the architectural intervention in the landscape from which the initial programme – of which the landscape is to form the extension – is originated. The building forms the pivot around which the garden is articulated. In the design intervention, parallels could be drawn with the centralised placement of the school and the administration office of the culinary school. Just as the garden functions as an extension of the indoor spaces, so too will the landscape of the urban design intervention respond to the current buildings on site.

The interactive plain: The interactive plain traditionally refers to the open area, usually comprising a lawn or paved area where the main activities in the garden take place. In the landscape intervention, this interactive plain will form the base plain on which the programme and, more specifically, the main interactions between the users in the landscape will take place. The interactive plain will consist of the different demarcated productive garden plots on the terraced landscape.

The vegetated backdrop: The vegetated backdrop traditionally refers to the beddings consisting of border vegetation which forms the backdrop to the garden, framing the interactive plain as well as obscuring the view to the boundary wall or fence. In the landscape intervention, the vegetated backdrop will form the vertical planes that are used to articulate the outdoor environments framing the interactive plain. These would typically consist of the hedges and planted avenues within the gardens.

The boundary wall: The boundary wall traditionally refers to the formal border surrounding the garden, which consists of some built partitioning wall or fenced area. In the landscape intervention, this boundary wall would form the edge and perimeter of the site. Contrary to the domestic example, the intention here is that the boundary wall would be manipulated to form an edge condition that will attract users to utilise the space for potential interaction, therefore creating a perimeter around the site that defines the site but also functions as an interactive edge in later phases. These phases will either consist of selected buildings on the perimeter of the site, or be made up of retaining walls.

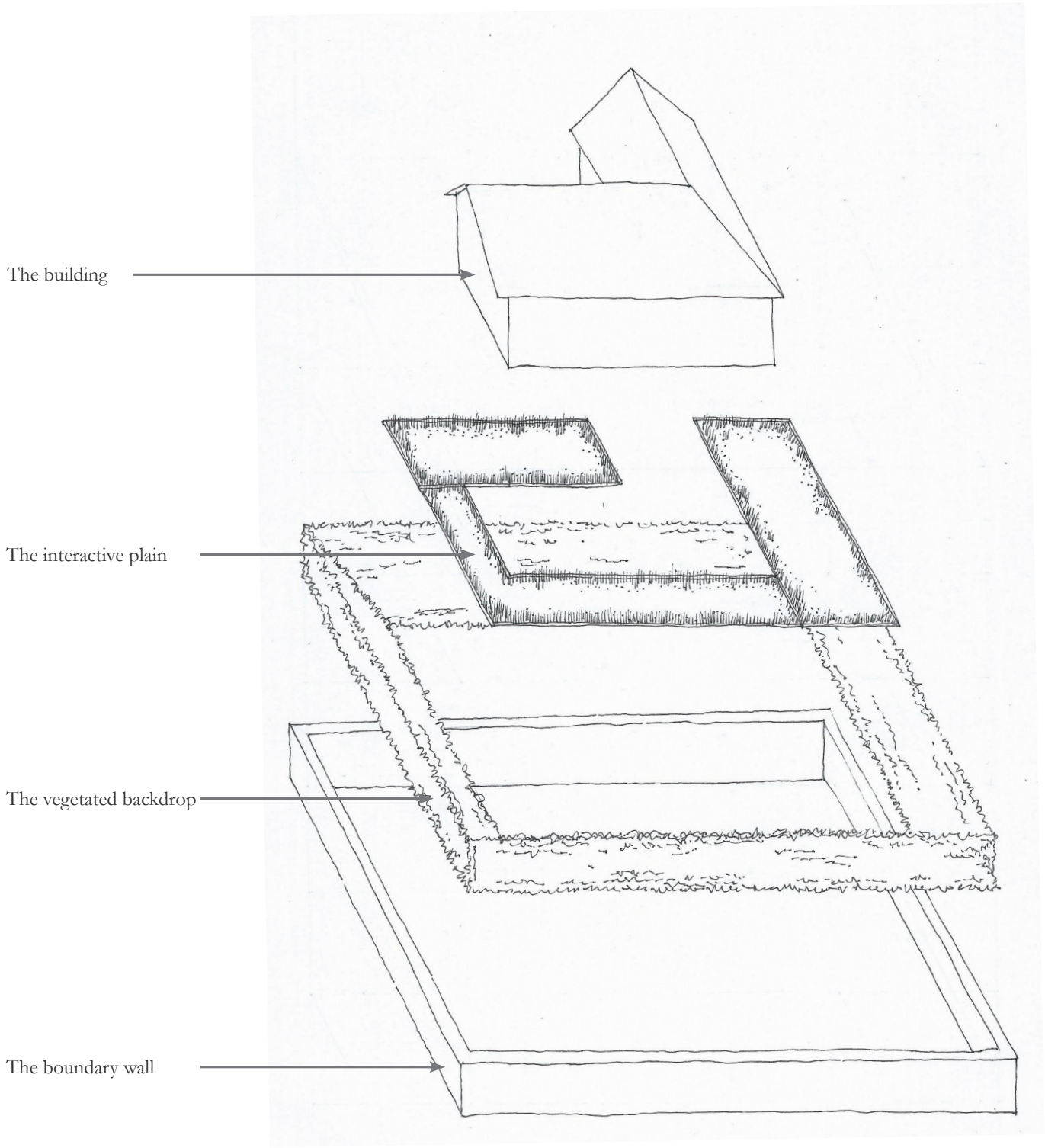


Fig.7.58 Abstraction of a typical one house one plot typology garden

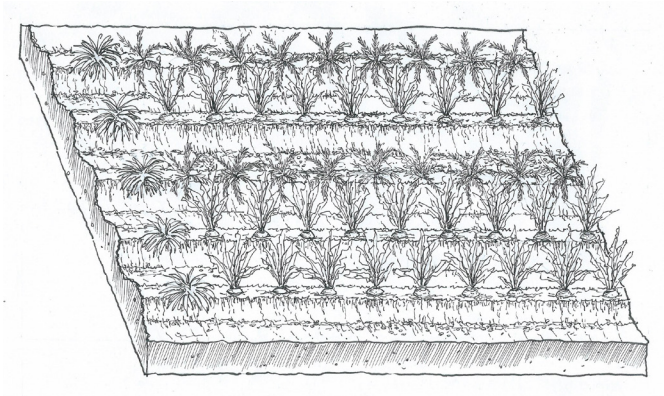


Fig.7.59 Phase 1 - The productive landscape condition

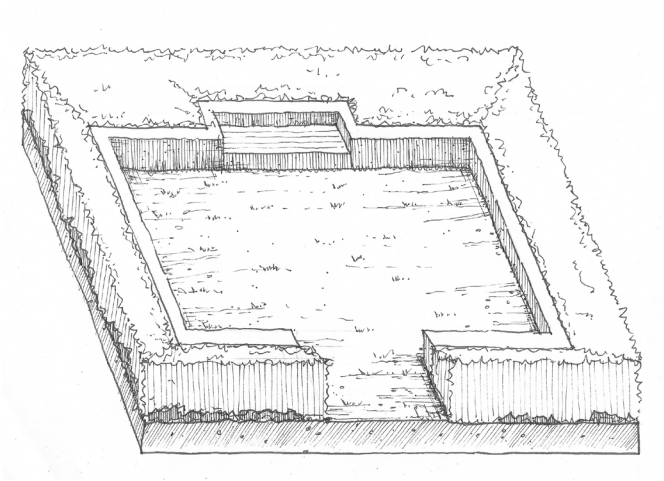


Fig.7.60 Phase 2 -The Domestic landscape condition

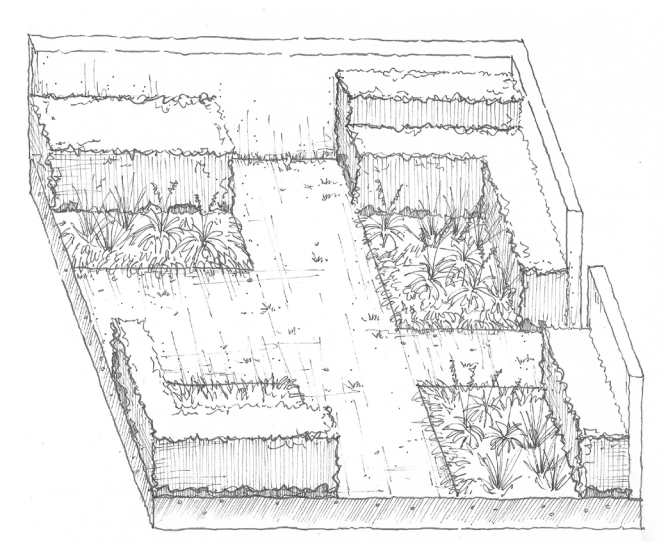


Fig.7.61 Phase 3 - The communal landscape condition

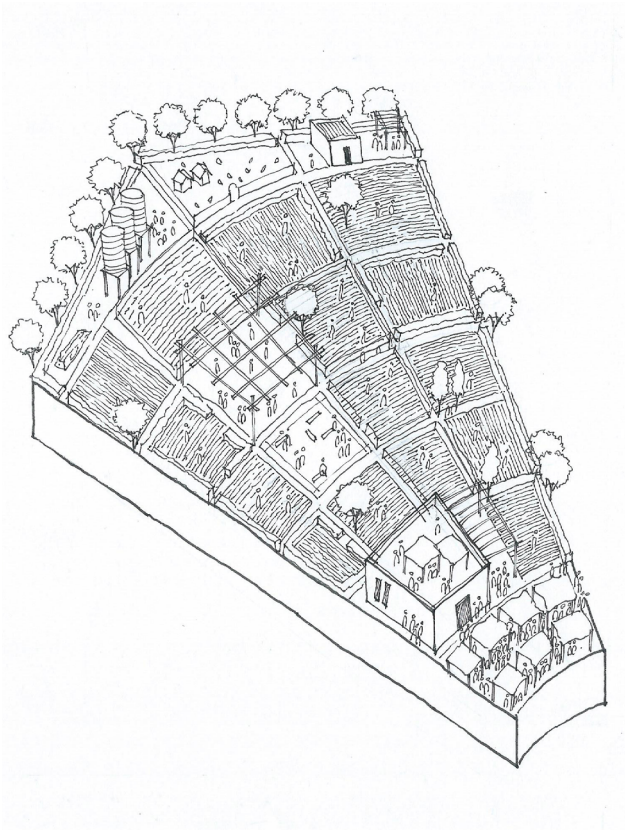


Fig.7.62 Productive landscape condition

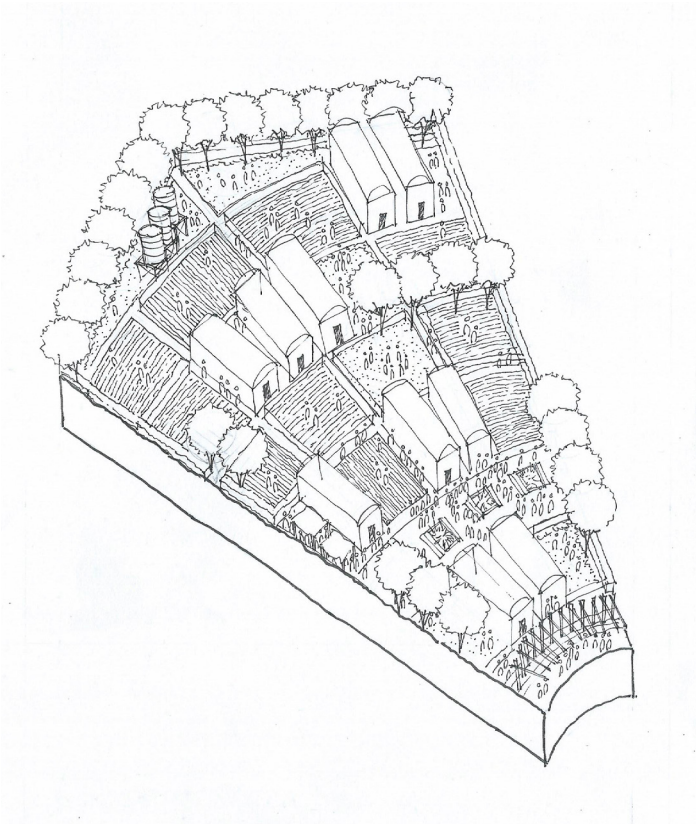


Fig.7.63 Transitional agricultural and domestic landscape condition

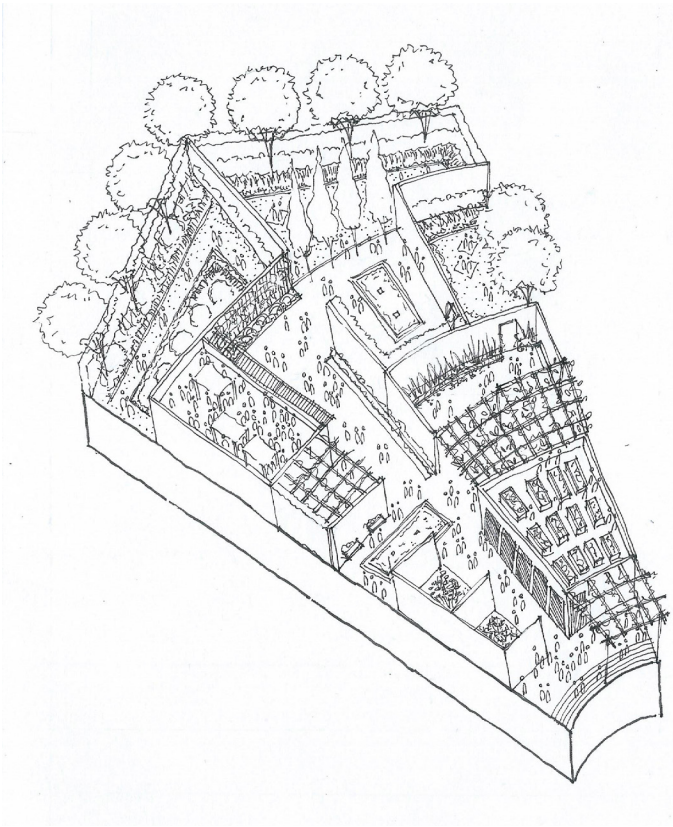


Fig.7.64 Domestic landscape condition

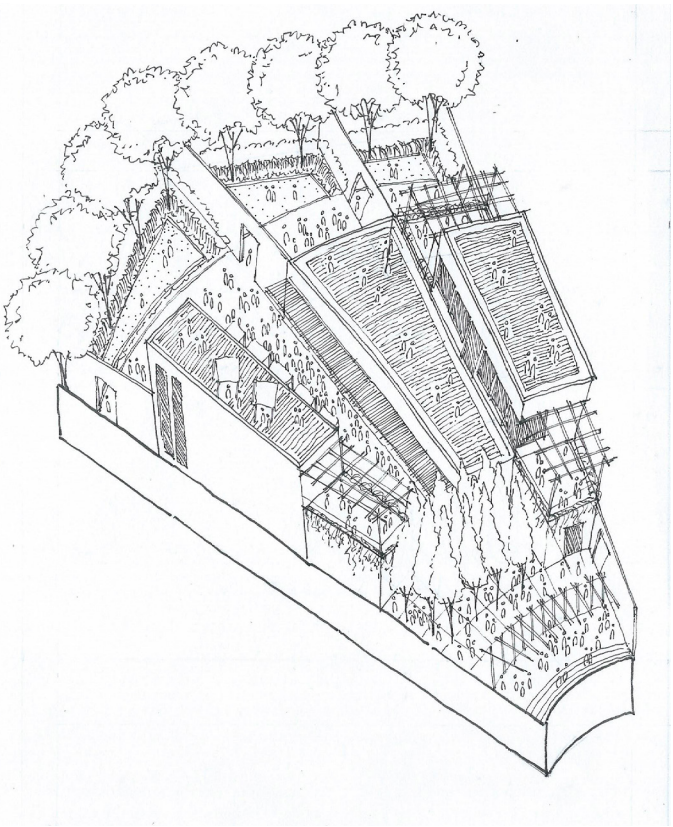


Fig.7.65 Communal landscape condition

Fig.7.66 Landscape vision development

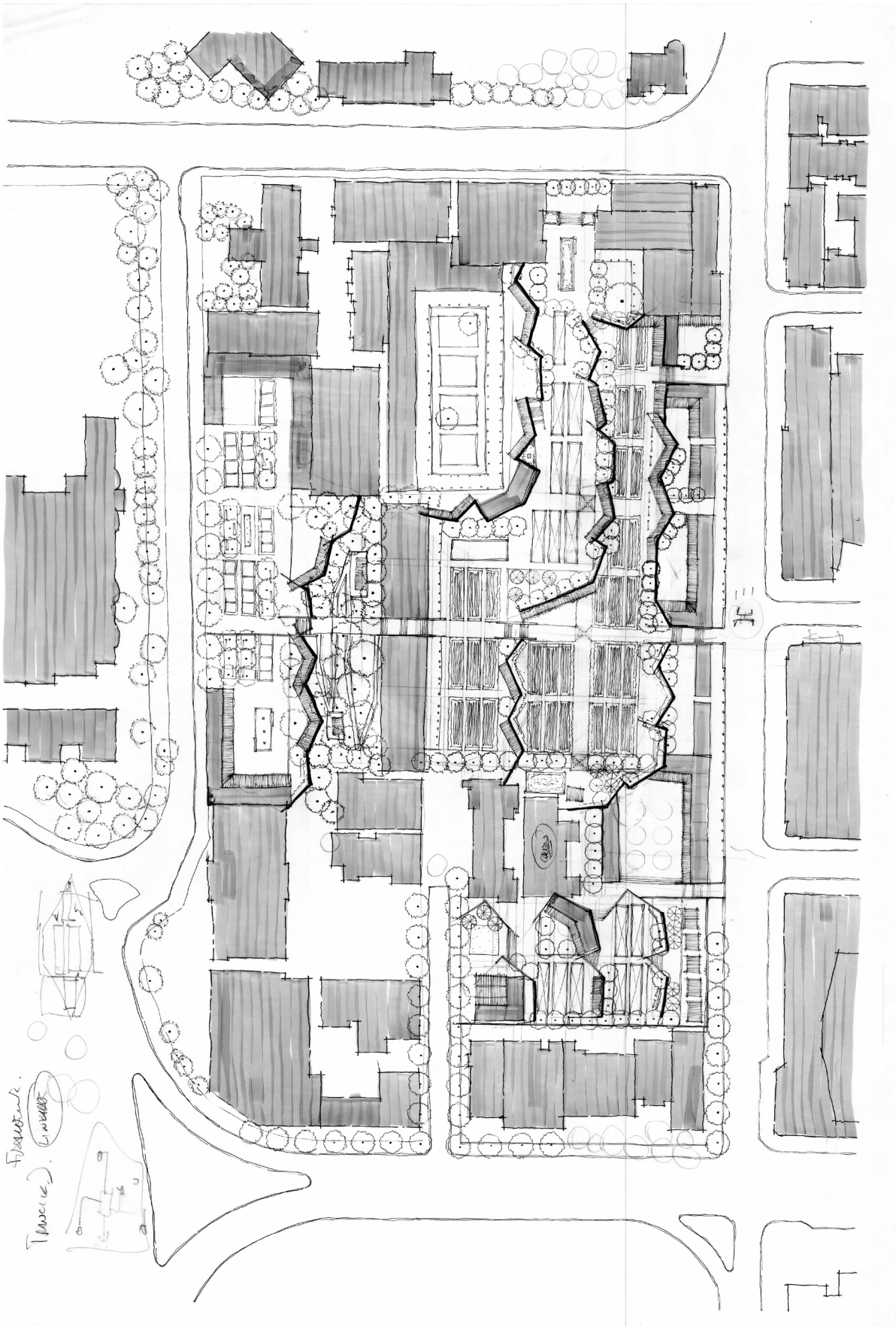


Fig.7.67 Landscape Iteration development

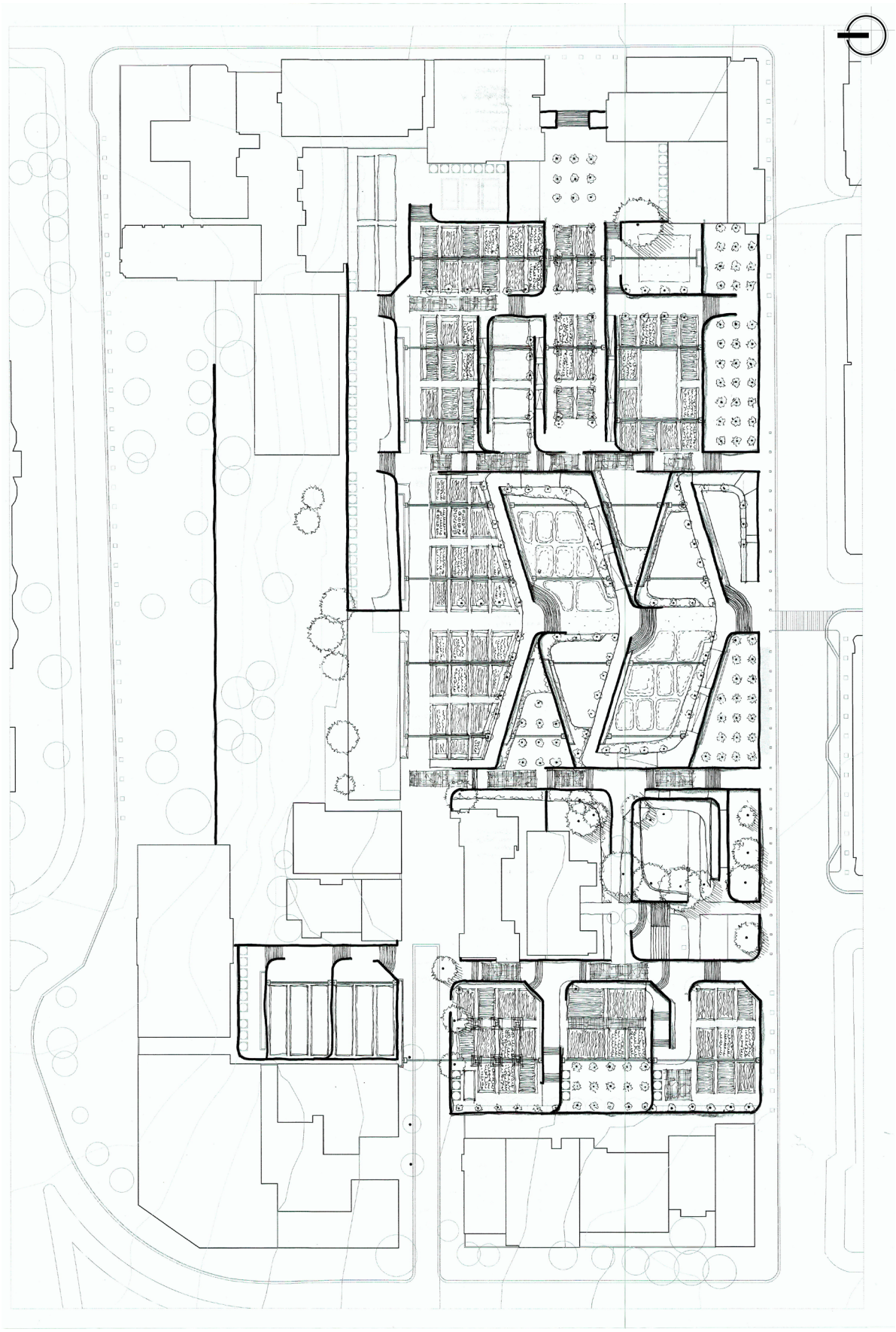


Fig.7.68 Landscape Iteration development

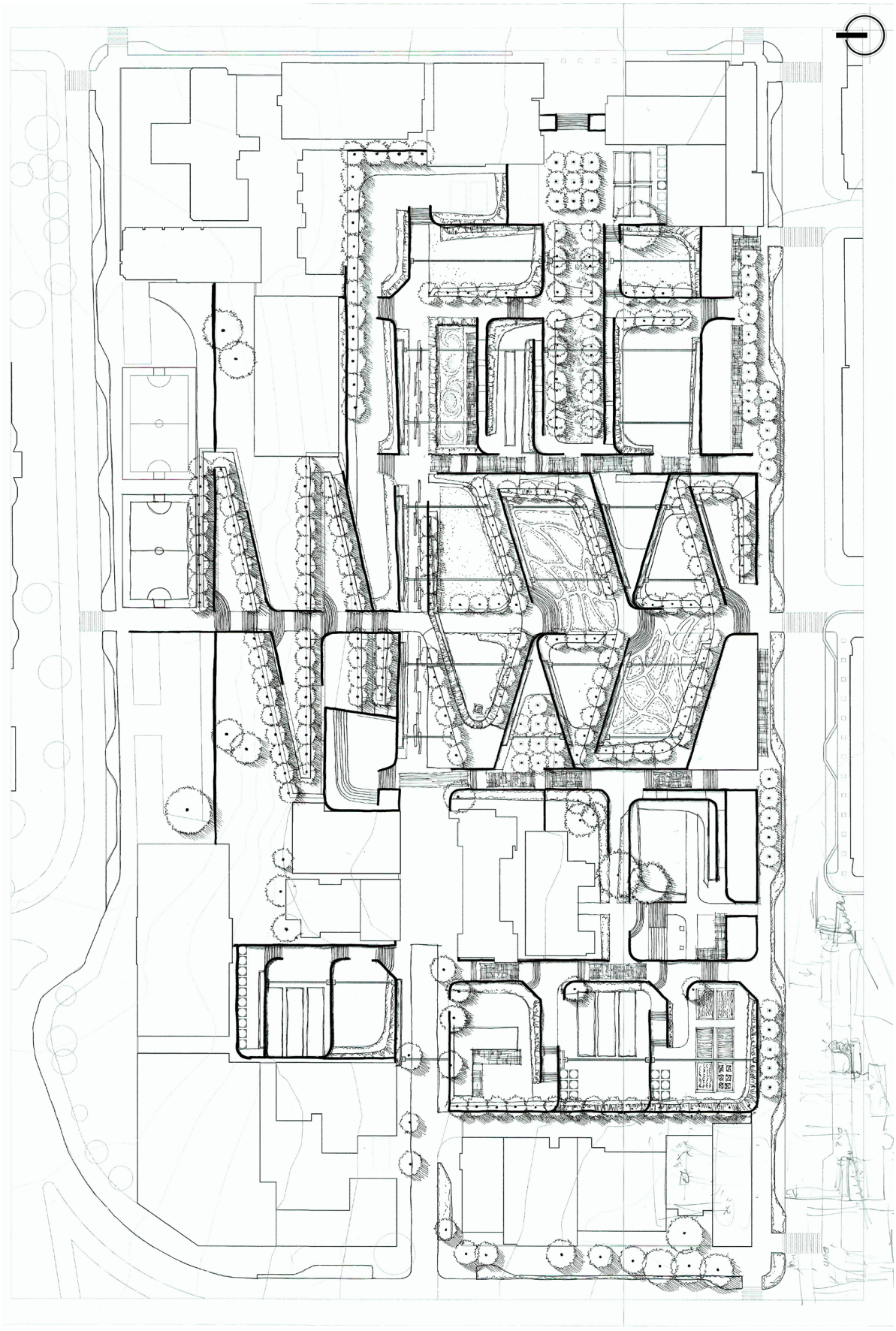


Fig.7.69 Landscape Iteration development

7.4 Design iterations

7.4.1 Phase one-year 2020

The productive landscape

In Phase One the landscape intervention will serve as a productive landscape. Its primary function will be to facilitate the proposed culinary school of the Johannesburg Central Technical School on site by providing fresh local produce for the kitchen and the pupils studying there. The productive landscape would consist of a collection of small gardens comprised of vegetable plots, a small orchard, and herb gardens. The landscape development will also include the accommodation of recreational open spaces for school pupils in the form of a small amphitheatre, a communal courtyard area, and a small veld garden. The intention with the productive landscape is to initially establish a relationship with the immediate users of the site by addressing a site-specific need. In doing so, a mutualistic relationship between user and landscape can be generated which would strengthen ownership. In exchange for the fresh produce received, the users would in turn perform general maintenance and caretaking services on the otherwise dilapidated site.

Areas included are the following:

- A landscape divided into three distinct areas
- The high-intensity cultivation block (vegetable garden)
- The propagation area (nursery)
- The veld landscape
- The upper terrace
- The low-intensity cultivation block (middle terrace)
- The lower terrace (orchards)

7.4.2 Phase one-programme

Phase One entails a collection of small productive gardens that would facilitate the development of the new culinary school on site by providing fresh produce for its kitchen. These productive gardens comprise fruit and vegetable plots, a small orchard and herb gardens. Supported by water and soil management and storage areas, these gardens form part of the initial process of establishing a mutualistic relationship between the user and the landscape by providing commodities in the form of produce, but also in the development of a food cultivation experience for the pupils of the Johannesburg Central Technical School. This landscape development will be extended to include the provision of open green spaces for school pupils in the form of a small amphitheatre, a communal courtyard area, and a small veld garden for recreational purposes.

Current site conditions:

The site features a dilapidated and unmaintained terrain with a large portion of the site remaining undeveloped. The site offers no recreational spaces for the pupils currently attending the school.

Programme developments:

The school – in response to the dilapidated site conditions and lack of appropriate open green spaces for the pupils of the school board, in collaboration with the Department of Education, commissioned the development of the existing school grounds. The proposed productive garden is aimed at facilitating the development of the culinary school, starting with the growing of local produce.

The Gautrain – the streetscape on Smith Street will be redesigned to incorporate an improved pedestrian connection with the Gautrain Station and the integration of bus/taxi transportation.

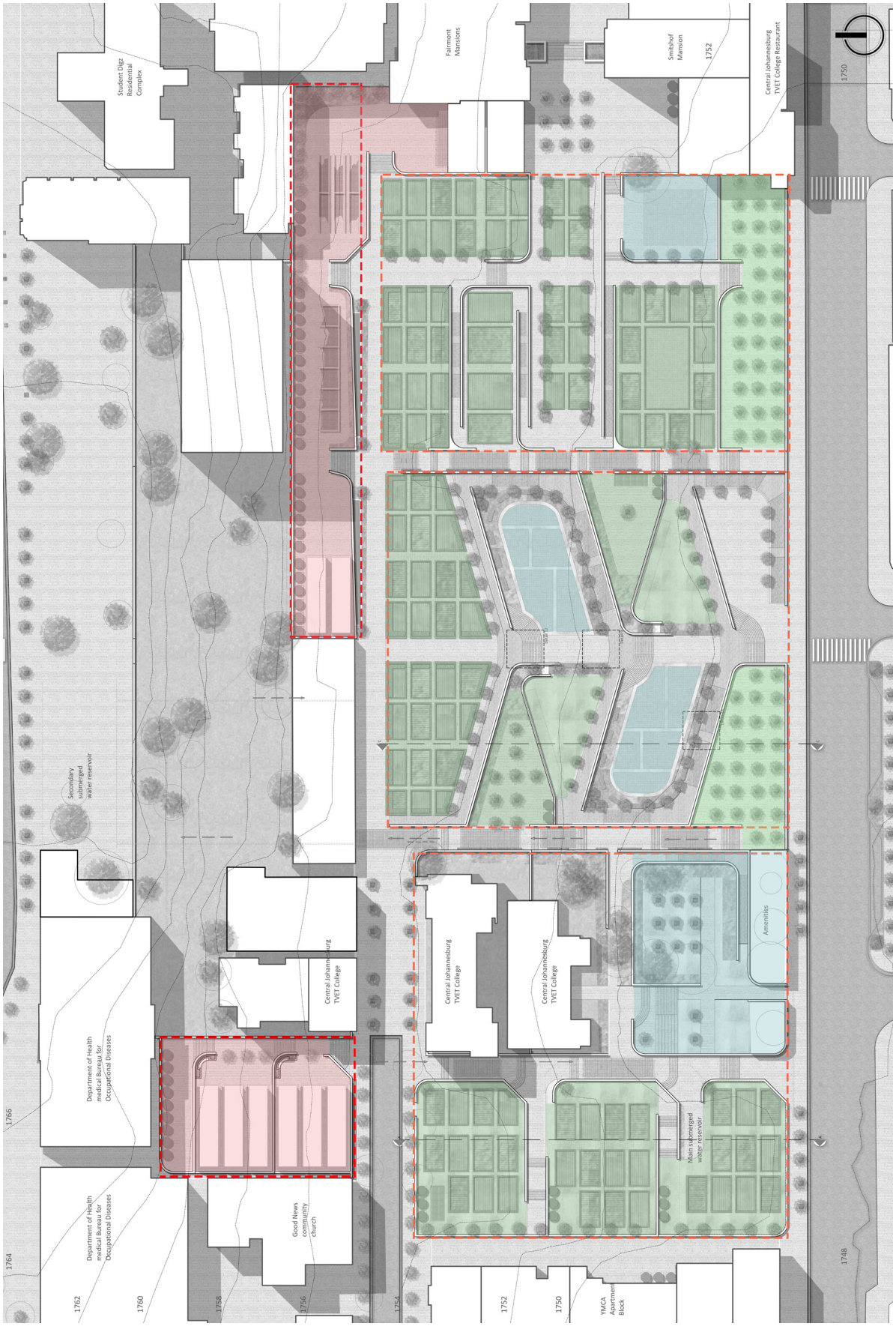
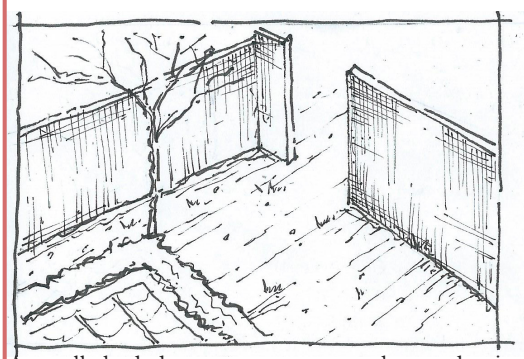


Fig.7.70 Phase One – iteration of the landscape development

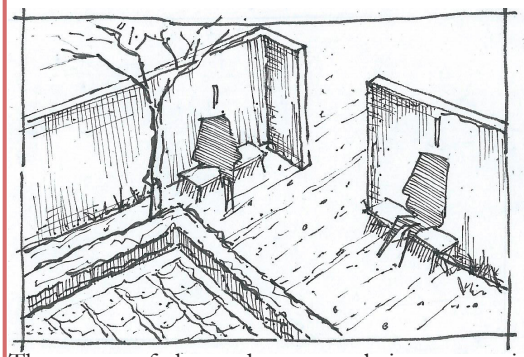
Phenomenon 1

The corner stop

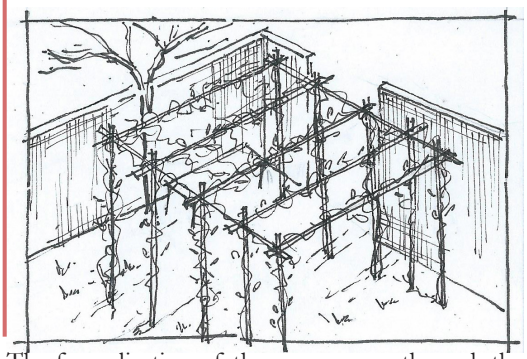
The development of a dilapidated corner of the productive garden terrace to a small communal area for public use due to a dilapidated entrance



A small shaded corner entrance to the productive garden terrace.



The corner of the garden terrace being appropriated by users as a place of rest.

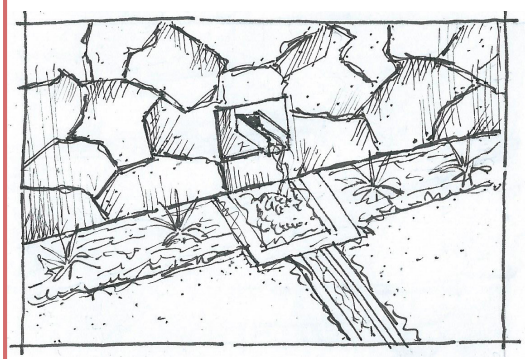


The formalisation of the pause space through the introduction of a shading structure.

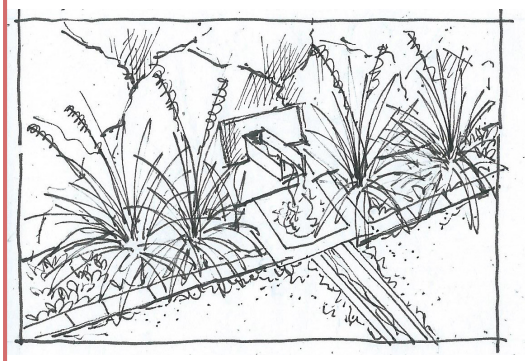
Phenomenon 2

From Tap to fountain

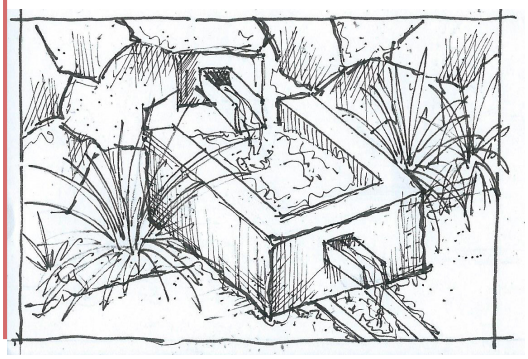
The development of the productive garden irrigation channel, initially used as a point to collect water for irrigation being transformed to a water feature.



Small irrigation channel outlet for the collection and distribution of water per hand



The formalisation of the water channel outlet to a more aesthetic purpose with the establishment of lush planting due to the abundance of water.



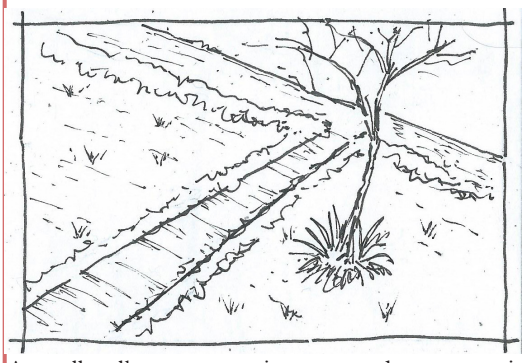
The formalisation of this water point to a public water feature where the ritual of collecting water is emphasised.

Fig.7.71 Novel phenomenolgy 1 and 2 of the garden during phase transition

Phenomenon 3

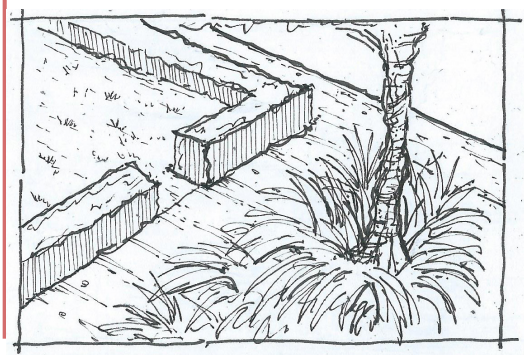
A wanderer's lane

The development of the main walkway in front of the Wanders Hotel school from a an initial walkway connecting the courtyard to the main productive garden to a formalised wandering path for users.



A small walkway connecting two garden terraces is articulated by rudimentary planting.

The pathway is developed and ornamented due to is preference of usage by all users of the garden.

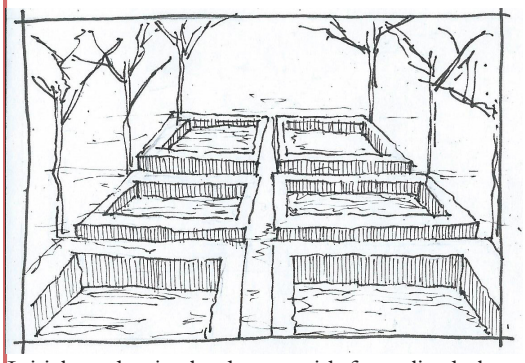


The pathway forms a main walkway between two spaces and is developed as a new entrance.

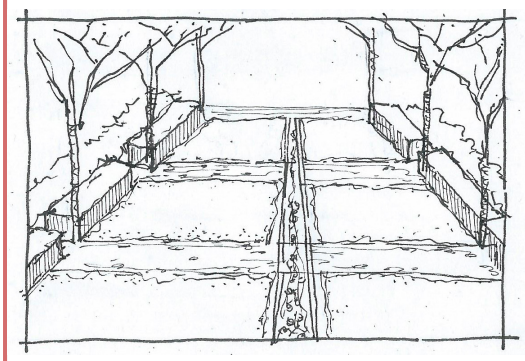
Phenomenon 4

The long lawn

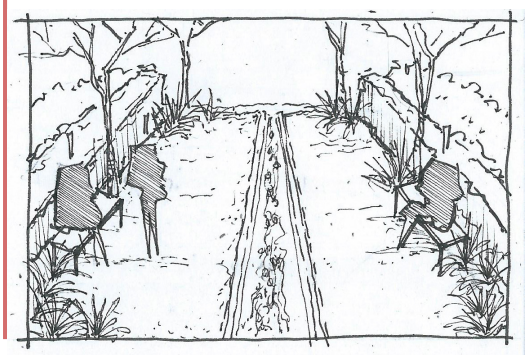
The development from a productive vegetable plots to a public lawn that defines the entrance of the park due to the progression of the productive gardens from a residential area to a public park.



Initial productive landscape with formalised planting hedges located on one of the terraces.



Due to lack of maintenance the garden is being neglected an certain areas planting is recessing to produce an exposed vegetated area undefined.



Productive terrace is developed to a large lawn area that serves as a entrance point to the garden park.

Fig.7.72 Novel phenomenolgy 3 and 4 of the garden during phase transition

7.4.3 Phase two-year 2045

The domestic landscape

The second phase in the landscape intervention will be a domestic allotment landscape. Its primary function will be to facilitate the progression of the productive landscape into a more domestic landscape by incorporating a wider user base and focusing on private ownership. The improved productive gardens will consist of a hydroponic food production facility specialising in niche fresh produce for on-site amenities, such as a restaurant and food market, which would provide jobs and serve as sources of private capital. The residual landscape will be dedicated to the establishment of an allotment garden which would consist of individual plots that can be leased by the Johannesburg technical school to private individuals. These allotment gardens, although privately managed, are leased strictly for the purpose of plant cultivation or additional extended recreational purposes as determined by the school and the other allotment gardeners. The intention with the domestic allotment landscape intervention is to retain part of the existing production landscape. It currently features the cultivation of more specialised cultivars in collaboration with corporate retailers, with the aim of strengthening relations with surrounding retail entities. The landscape is also intended to incorporate a communal allotment landscape to attract more private investment from users in the surrounding area.

Areas include

1. Hydroponic farms
2. Restaurant
3. Market area
4. Productive landscape
5. Allotment garden
6. Herbal an medicinal veld gardens
7. Service terrace

7.4.4 Phase two-programme

The second phase will entail the expansion of the small productive gardens and recreational areas to facilitate the growth of the culinary school and to attract new private investors in response to the newly featured development. The productive gardens will facilitate specialised food production facilities in collaboration with corporate retailers to strengthen and extend relations with surrounding retail entities. The improved productive gardens will consist of a hydroponic food production facility, specialising in niche fresh produce that will serve onsite amenities such as a restaurant and food market, and will also serve to create jobs and a source of private capital. The landscape development will be extended to include an improved transportation interface with additional taxi drop-off points, as well as an improved street interface for daily commuters and pedestrians who use the existing public transportation systems. The purpose of Phase Two is to expand on the existing production facilities on site, involving private investors and government bodies by providing extended programmes to procure external capital from private investors, providing improved security and ownership, attracting investment and, by extension, initiating a relationship between the inhabitants of the surrounding area and the existing landscape.

Current site conditions:

The security of the school grounds has become a problem due to the site being subjected to petty crime and large-scale produce losses. Many of the productive gardens on site yield poor-quality produce due to the lack of appropriate service infrastructure and the cost of the maintenance of the plant production scheme.

Programme developments:

The community – in collaboration with the local churches on site and the produce from the gardens, a small soup kitchen will be developed for the sustenance of the surrounding homeless community.

The church – in collaboration with the soup kitchen, the churches will start to formalise their grounds to accommodate leisure areas for even larger congregations, and to organise more outdoor church events and fundraisers on a weekly basis.

The school – the school will then develop into a culinary school with collaborations with private investors and the university to improve the productivity of the cultivation gardens. Due to in sufficient funding for maintaining the vast produc tive gardens, a certain part of the school grounds will be sold to local private investors.

Food producers – by inviting private investors to finance the site, local food production initiatives at the Women's Correctional Services hydro ponic roof-top gardens can be linked to the school's productive food gardens, offering part-time jobs for some learners.

The Gautrain – due to the success of the upgrad- and integrated public transportation infrastructure in the area, the Gautrain administration has invested in the development of small-scale amenities to attract users of the transportation infrastructure.

Tourism – a tourism information centre is to be established as part of the expansion of the trans portation hub development on the site of the Gautrain station.

Restaurants – as part of the development of the Gautrain transportation hub, and with the availability of the street edge property from what was previously the school grounds, small restau rants will be established on site. These restaurants will function as a partly-owned precinct that focuses on the integration of the productive gardens with the development of a small leisure spill-out area to accommodate the clients of the restaurants.

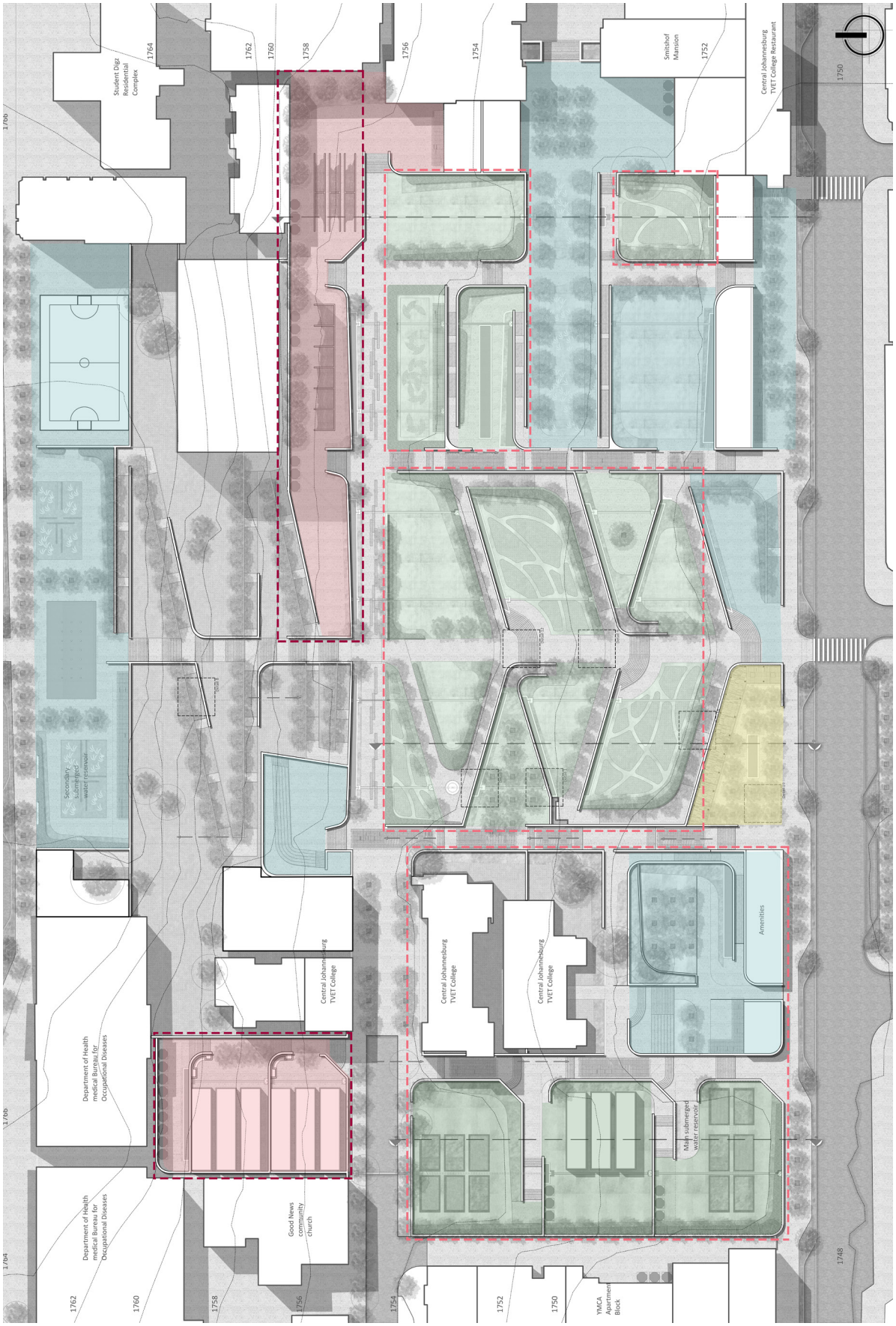
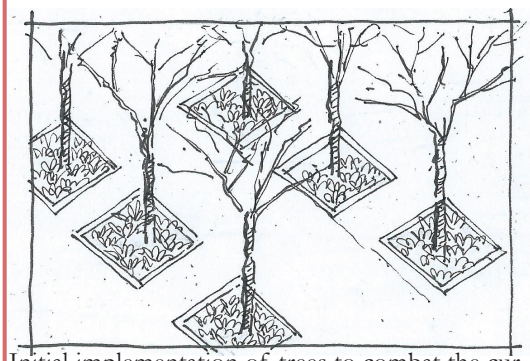


Fig.7.73 Phase Two – iteration of the landscape development

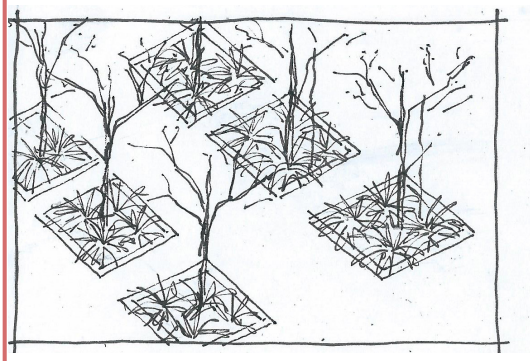
Phenomenon 5

The forest courtyard

The development of the main courtyard area of the school from a harsh open scape to the development of a cool shaded area to accommodate public users through the usage of selective tree felling.



Initial implementation of trees to combat the current harsh sunlight conditions of the courtyard



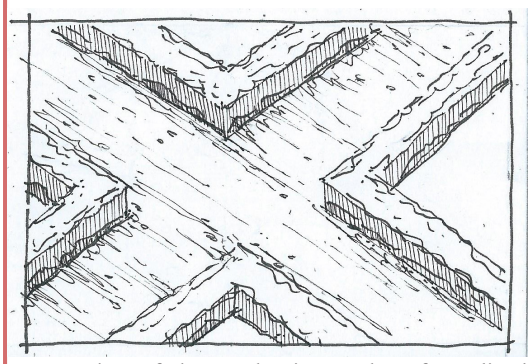
Through the progression of the tree growth the area becomes encroached and a need for a lift of the tree line is needed.

The development of a public seating area due to a controlled tree felling in the courtyard area.

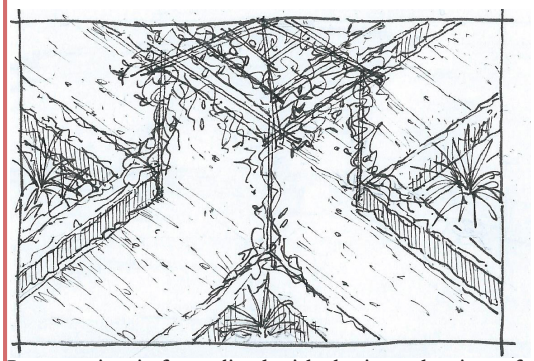
Phenomenon 6

Rose pergola

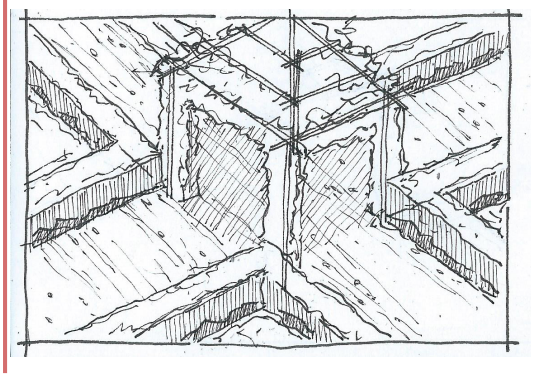
The development of Pergola with a climbing rose from a initial definer of a road crossing to a visual marker and pause area due to the interaction of the gardener and the climbing rose.



Intersection of the productive gardens formalised by small hedges



Intersection is formalised with the introduction of a small pergola structure to which the wild roses can be attached



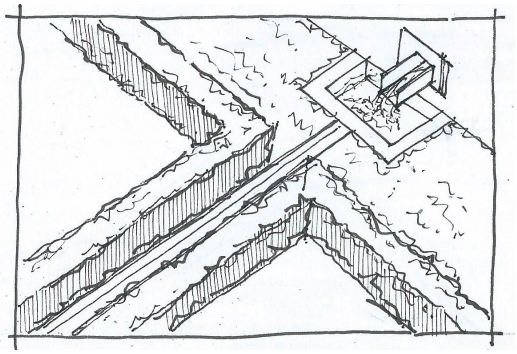
This addition of the pergola is transformed and emphasised with the forming of a vegetated shading structure that is utilised by users as a point of interest.

Fig.7.74 Novel phenomenolgy 5 and 6 of the garden during phase transition

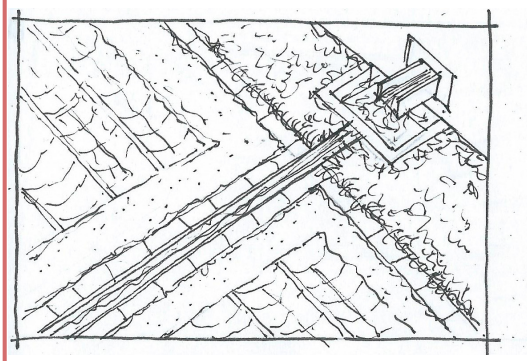
Phenomenon 7

Thrill of the rill

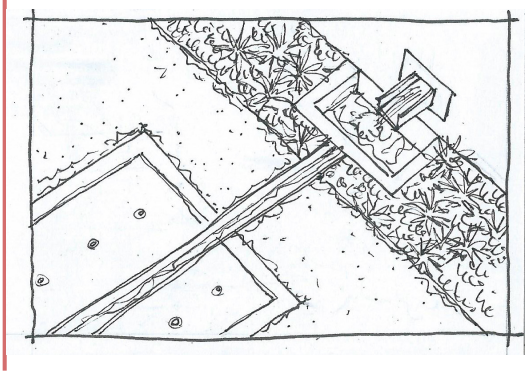
The development of the main irrigation channels in productive garden from mainly an irrigation purpose transforming into an aesthetic function to the incorporation of a public attraction and interaction feature.



Small irrigation channel outlet for the collection and distribution of water per hand.



The formalisation of the water channel outlet to a more aesthetic purpose with the establishment of lush planting due to the abundance of water.

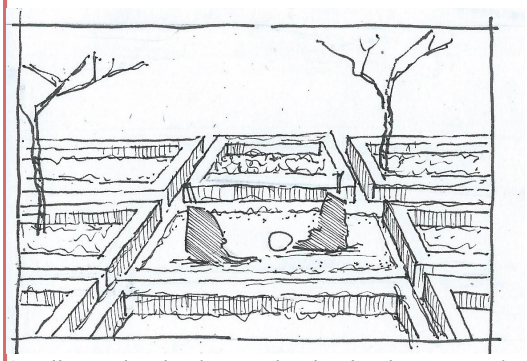


The formalisation of this water point to a public water feature where the ritual of collecting water is emphasised.

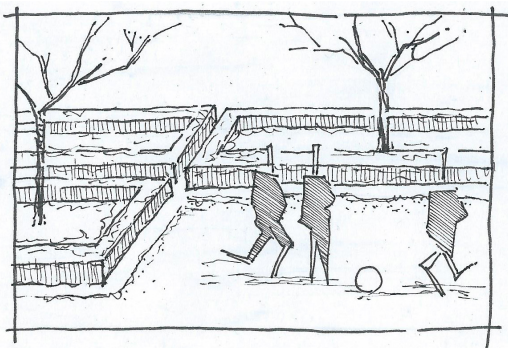
Phenomenon 8

Sun break

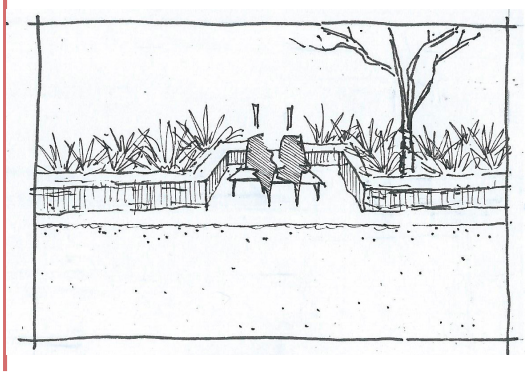
The development of the main sports area from a mainly productive landscape to a more specialised production landscape to an open clearing for the play of sports.



Small opening in the productive landscape use by users.



Small area is enlarged with the introduction of more lawn areas.



The formalisation and articulation of a sports field to accommodate the public program of the park.

Fig.7.75 Novel phenomenolgy 7 and 8 of the garden during phase transition

7.4.5 Phase three-year 2070

The communal landscape

The third phase in the landscape intervention is a communal public park. Its primary function will be to facilitate a mixed-use park comprised of outdoor event spaces, educational landscape facilities, food production gardens, and a small corporate park. The purpose of the final phase is to serve as a catalyst for new green urban renewal projects by incorporating the needs of both the immediate community and the larger public, founded on the establishment of a mutualistic relationship between the landscape users and the intervention, and improving ownership by providing a regional identity as reflected in the caretaking practices that have a tangible phenomenological effect for the users of the Braamfontein area. Sections of the allotment gardens will be recombined to form a communal public space where the general public can engage with the established landscape. The public park will consist of a series of small gardens that can be utilised for recreational purposes, and will be controlled and governed with the assistance of the established allotment garden committee and the school.

Areas include

1. Public square
2. Walking trail with view points
3. Toddler play areas
4. Mini soccer course
5. Sculpture garden
6. Agricultural research facility
7. Event spaces

7.4.6 Phase three-programme

The third phase in year fifty will entail a public park containing a collective garden. The park will facilitate a communal park programme by providing a mixed-use landscape comprised of outdoor event spaces, educational landscape facilities, food production gardens, and a small corporate park. The purpose of the final phase is to serve as a catalyst for new green urban renewal projects by incorporating a series of programmes that could facilitate the needs of the surrounding community. These programmes are built on a strong existing relationship between the users of the site, and are intended to improve the feeling of ownership in the surrounding community by providing a regional identity through the caretaking practices that would have a tangible experiential effect on city users in the Braamfontein area.

Programme developments:

Governmental – due to the considerable success of the urban renewal project, the government provides aid to enable the general upgrade and formalisation of the pedestrian realm around the site, in close collaboration with the Gautrain authorities, private investors and the Johannesburg Tourism Department.

Gautrain – the Gautrain administration, in collaboration with the tourism department, intends to take over the development of the park as an urban renewal project to create a green open space and leisure park for the surrounding Johannesburg community.

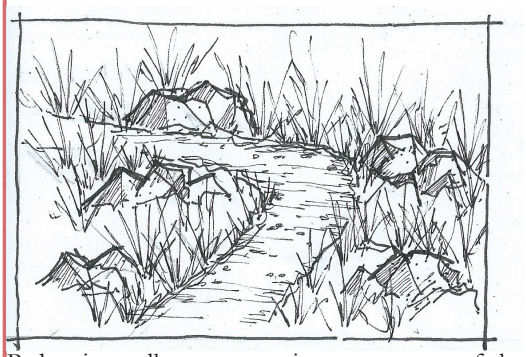
Tourism – In collaboration with the Gautrain administration and the tourism department, the site is now entering its final stage with the development of a privately owned green open space and leisure park.

Fig.7.76 Phase Three – iteration of the landscape development

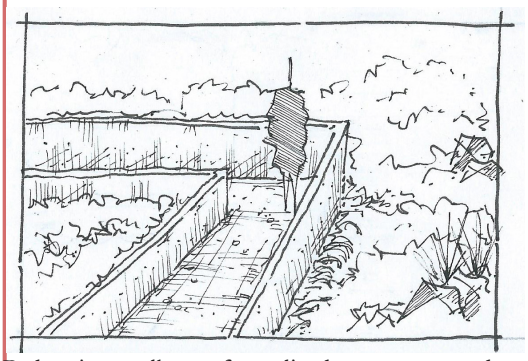
Phenomenon 9

The pilgrimage

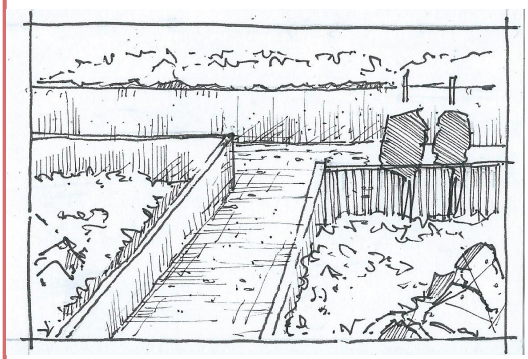
The development of the main walkway between the middle terrace and the upper terrace of the site from a small dirt path being formalised to a large movement corridor.



Pedestrian walkway connecting two terraces of the site.



Pedestrian walkway formalised to accommodate the high movement patterns of gardeners and public using the park.

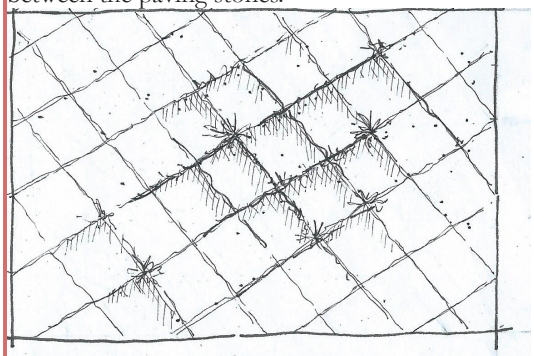


Formalised walkway is expanded on by the introduction of small lookout points.

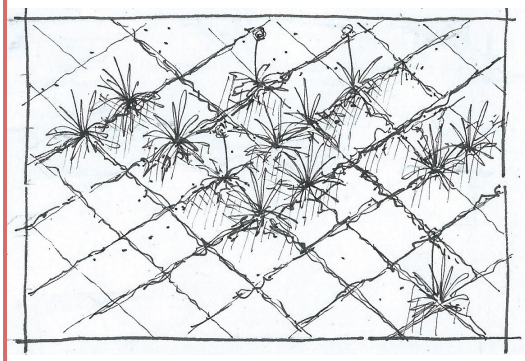
Phenomenon 10

Dandelion steps

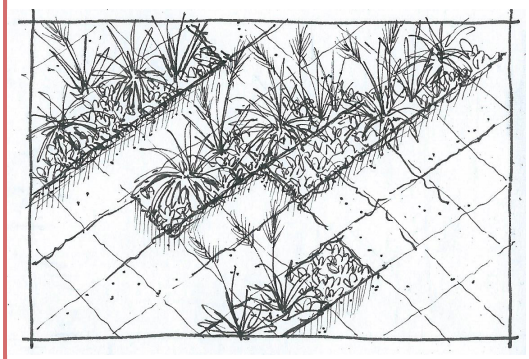
The transformation of the main walkway from a sterile walkway de-voided of any growth to the embracement and formalisation of a sunken planter bead due to the establishment of weeds in between the paving stones.



Paving area with small intrusive planting growing between the individual pavers.



The initial weeds are encouraged to crow and form an established ecosystem.



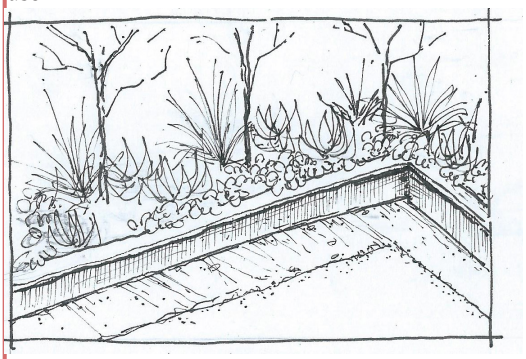
The novel planting area is developed into a formalised planting bed that accommodates a wide array of planting.

Fig.7.77 Novel phenomenolgy 9 and 10 of the garden during phase transition

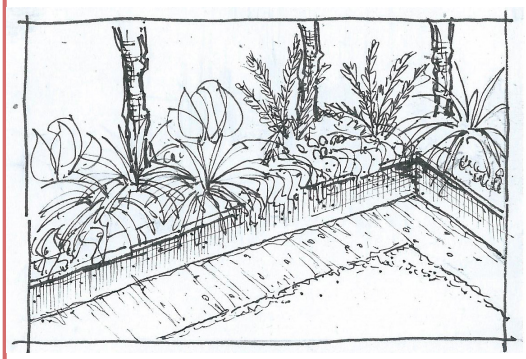
Phenomenon 11

From sun to shade

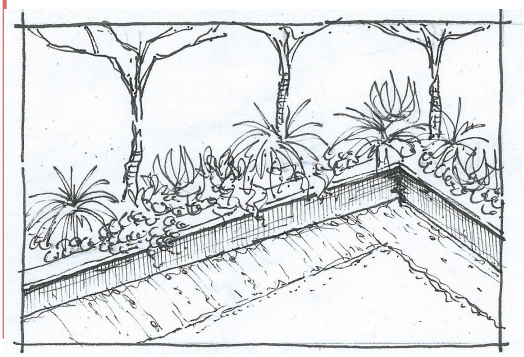
The transformation of the planting border beds in the terrace gardens form a sun loving planter bed with primarily succulents that is developed to a formalised shade planter with seating for public use.



Initial planting boarder articulated with succulents and other full sun planting.



The transformation of the planting bed through the use of semi shade planting to assist in the predominantly semi shade conditions brought forth by the growing trees.

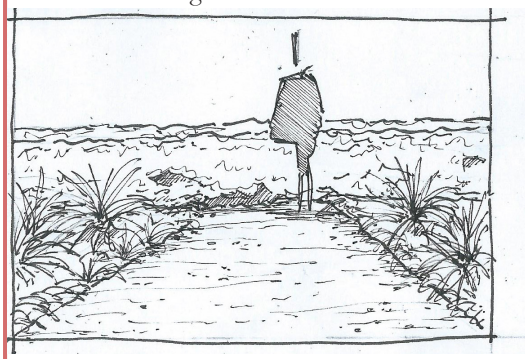


The established shade planting border that accommodates small seating areas for user interaction.

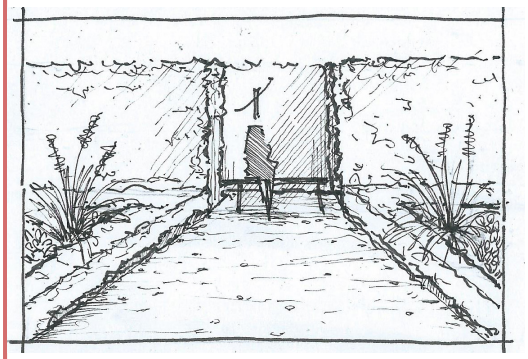
Phenomenon 12

The Nook

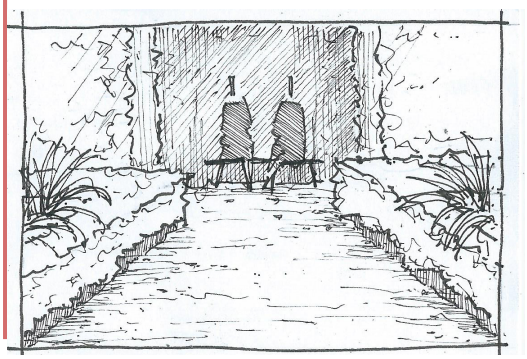
The development of a small seating area within the garden from a small seating area adjacent to a small planting boarder to the creation of an enclosed seating area formed through the creation of a recessed hedge boarder.



Small planting boarder that is used to define the planting area of the garden.



Small planting border is articulated with a seating area for the gardeners.



The vegetated border is clipped to form an enclosed space for users to observe the garden.

Fig.7.78 Novel phenomenolgy 11 and 12 of the garden during phase transition

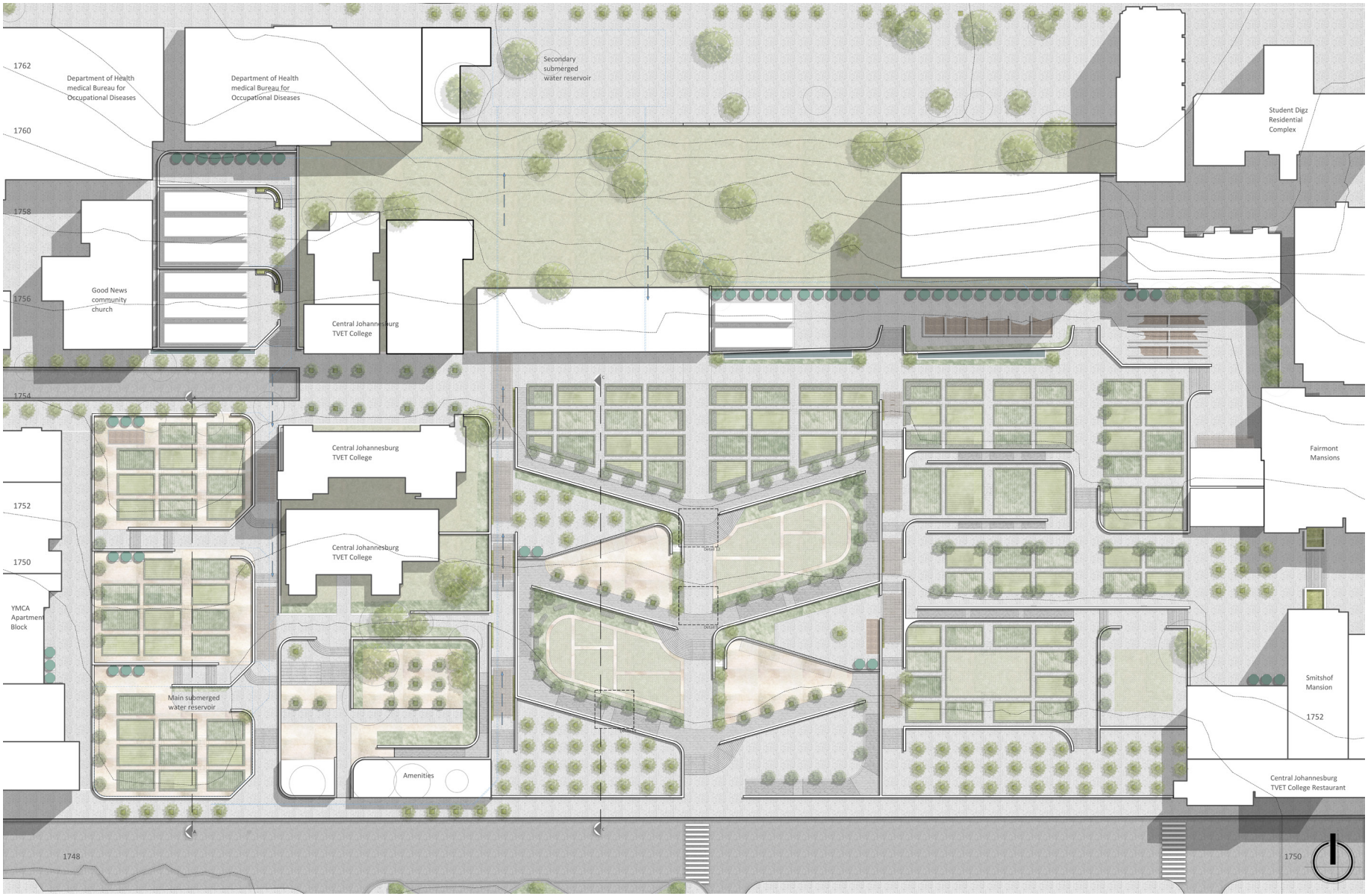
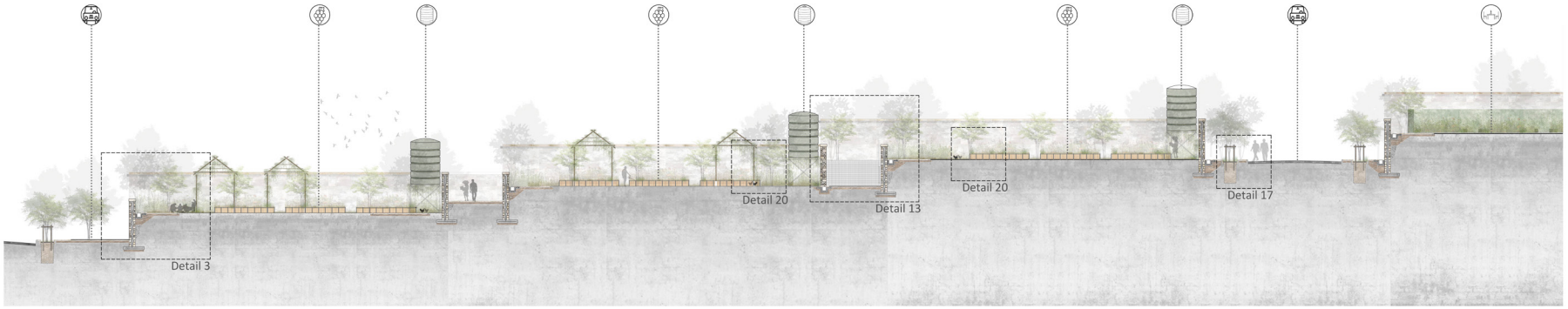
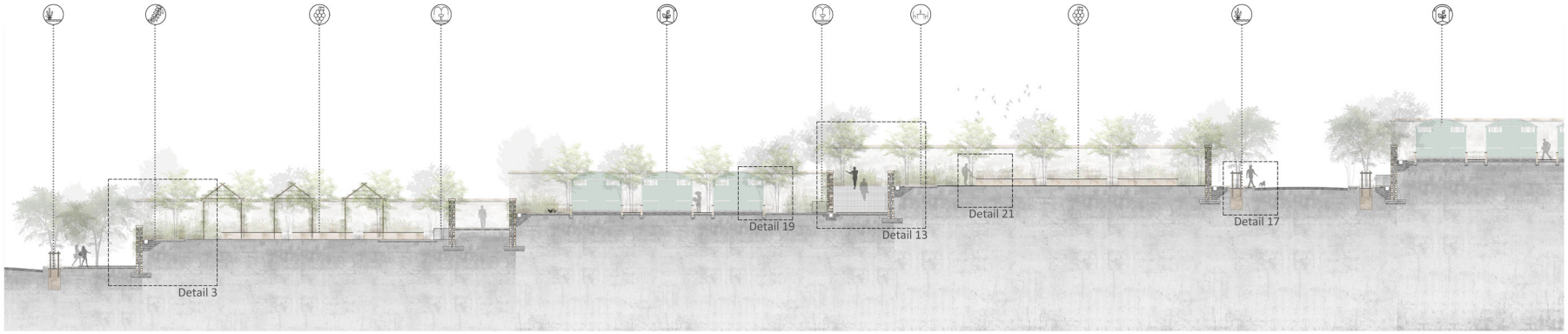


Fig.7.79 Phase One – iteration of the landscape development



SECTION A-A SCALE 1:100
PHASE ONE: YEAR 2020 - PRODUCTIVE LANDSCAPE CONDITION



SECTION B-B SCALE 1:100
PHASE TWO: YEAR 2045 - COMMUNAL LANDSCAPE CONDITION

LEGEND

Fig.7.80 Phase One and Two – iteration of the landscape development of site over time

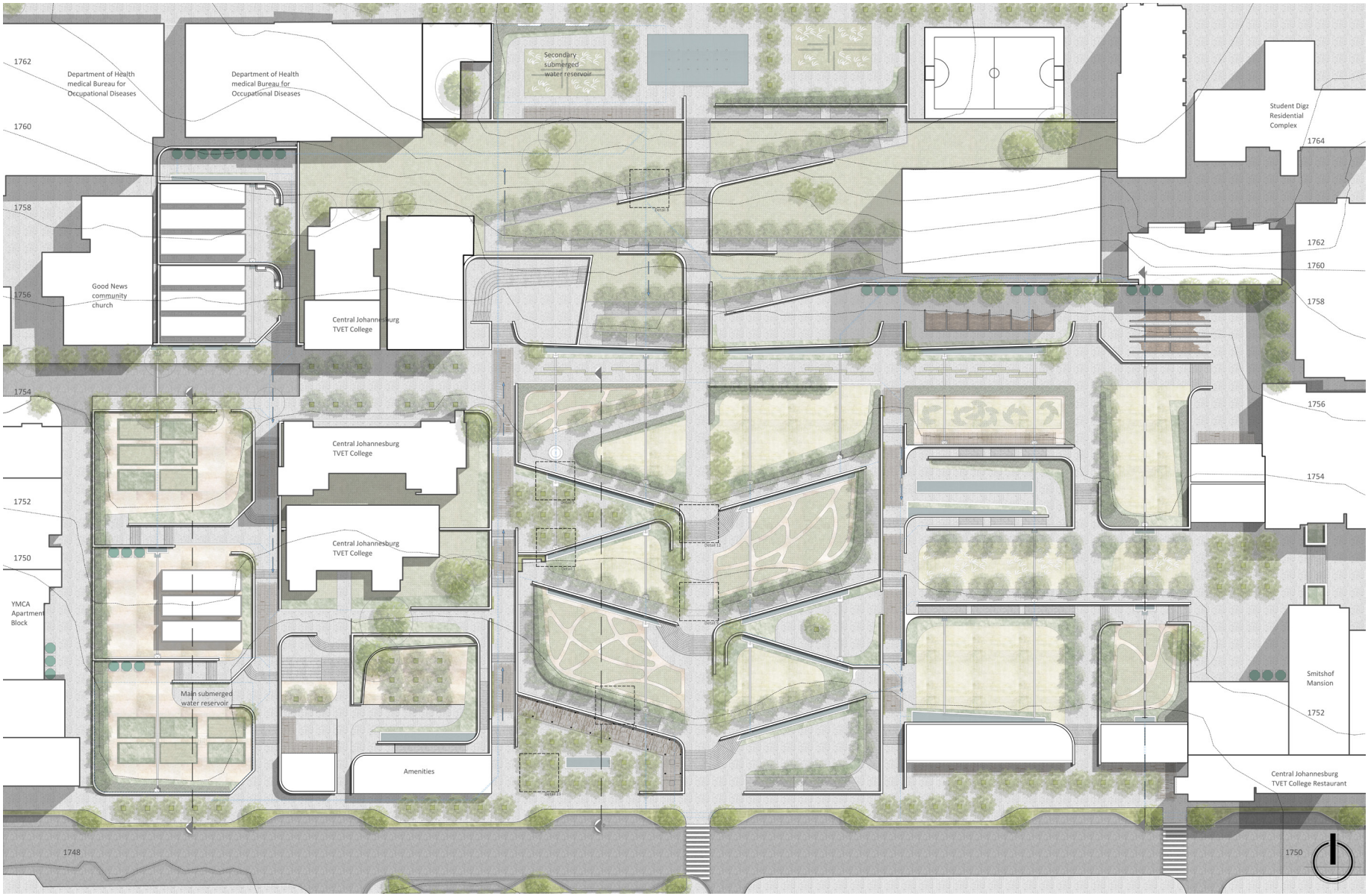
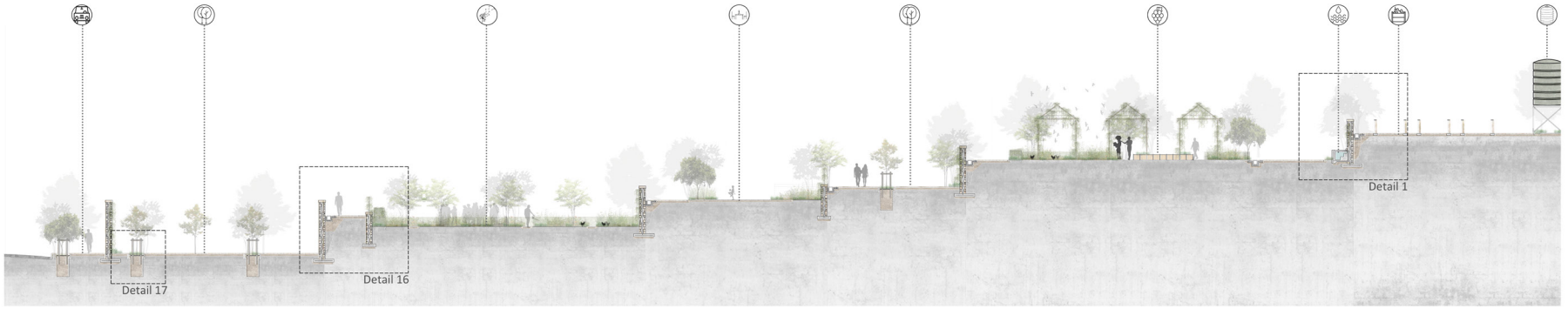
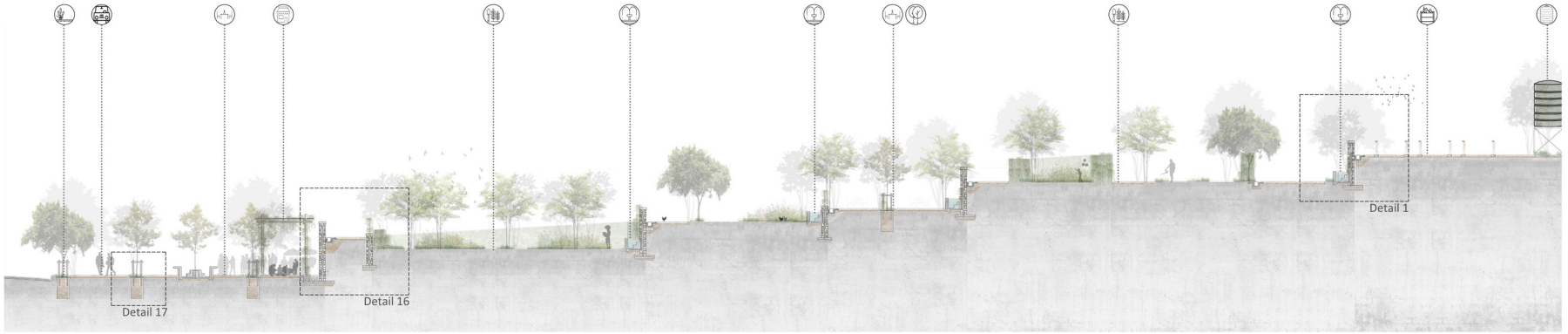


Fig.7.81 Phase Three – iteration of the landscape development



SECTION C-C SCALE 1:100
PHASE ONE: YEAR 2020 - PRODUCTIVE LANDSCAPE CONDITION



SECTION D-D SCALE 1:100
PHASE TWO: YEAR 2045 - COMMUNAL LANDSCAPE CONDITION

LEGEND

Fig.7.82 Phase One and Two – iteration of the landscape development of site over time

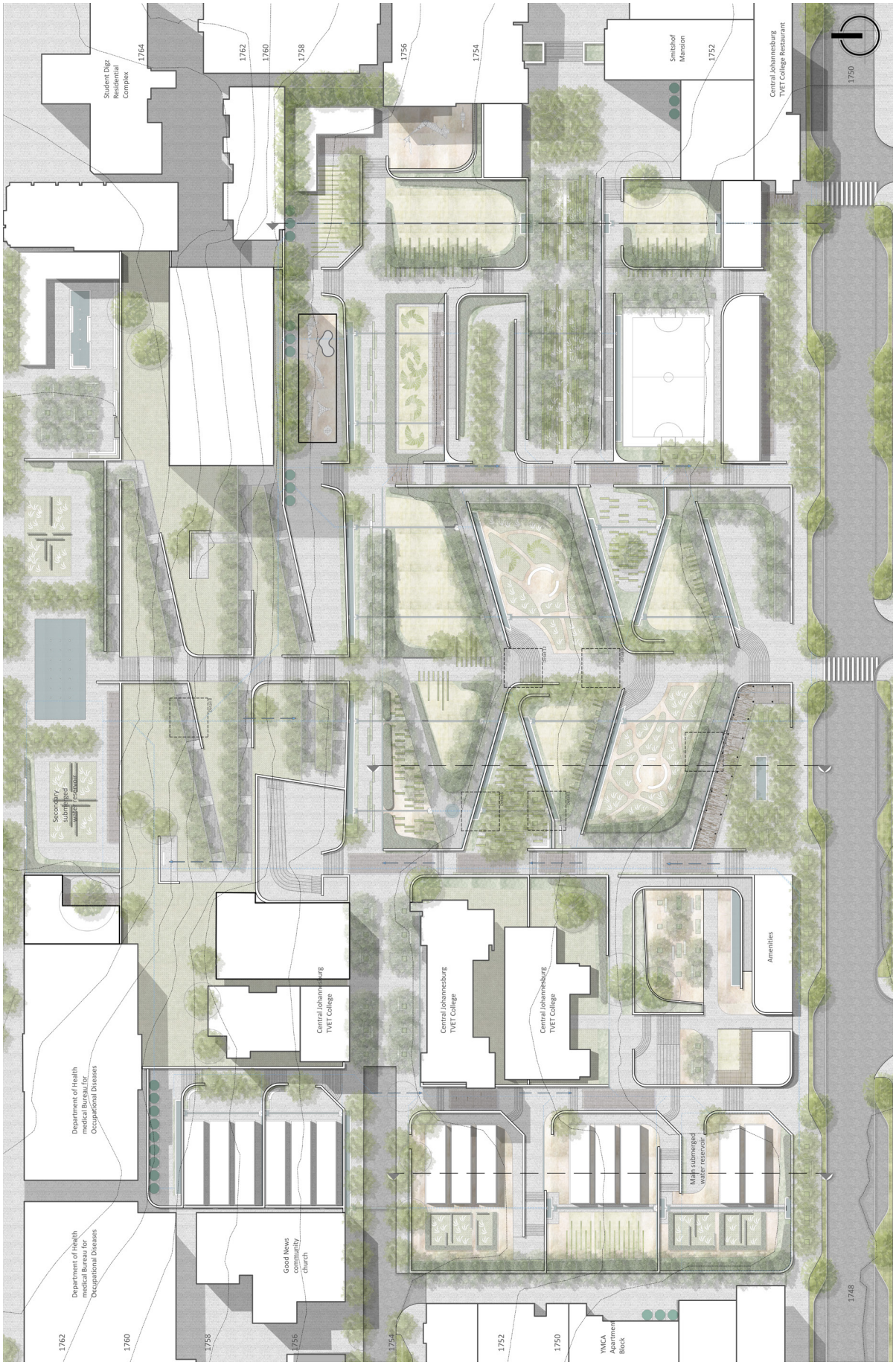
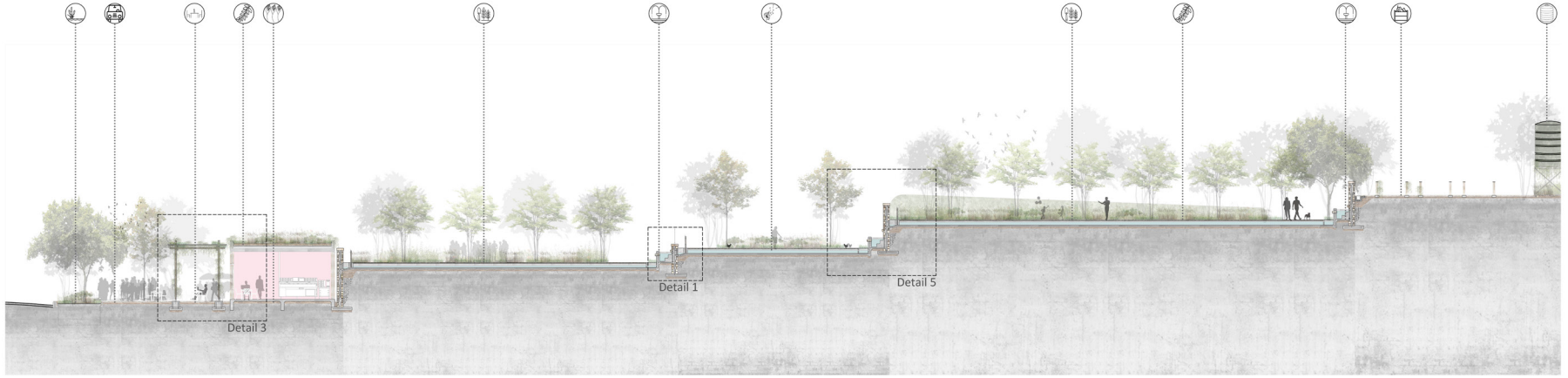
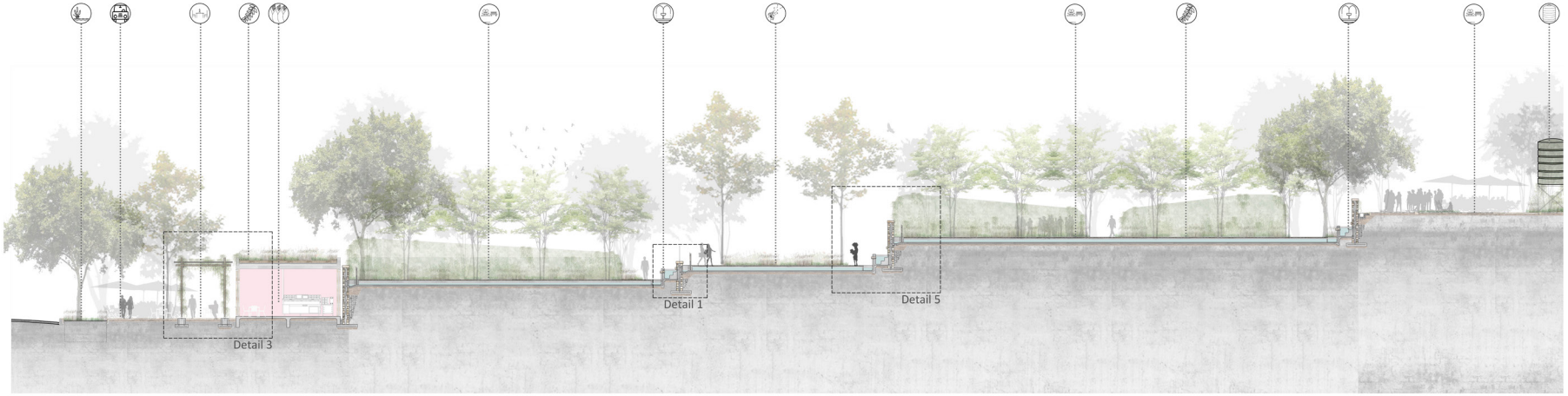


Fig.7.83 Phase Five – iteration of the landscape development



SECTION E-E SCALE 1:100
PHASE TWO: YEAR 2045 - COMMUNAL LANDSCAPE CONDITION



SECTION F-F SCALE 1:100
PHASE THREE: YEAR 2070 - PUBLIC LANDSCAPE CONDITION

Fig.7.84 Phase Two and Three – iteration of the landscape development of site over time

CHAPTER EIGHT:
TECHNIFICATION

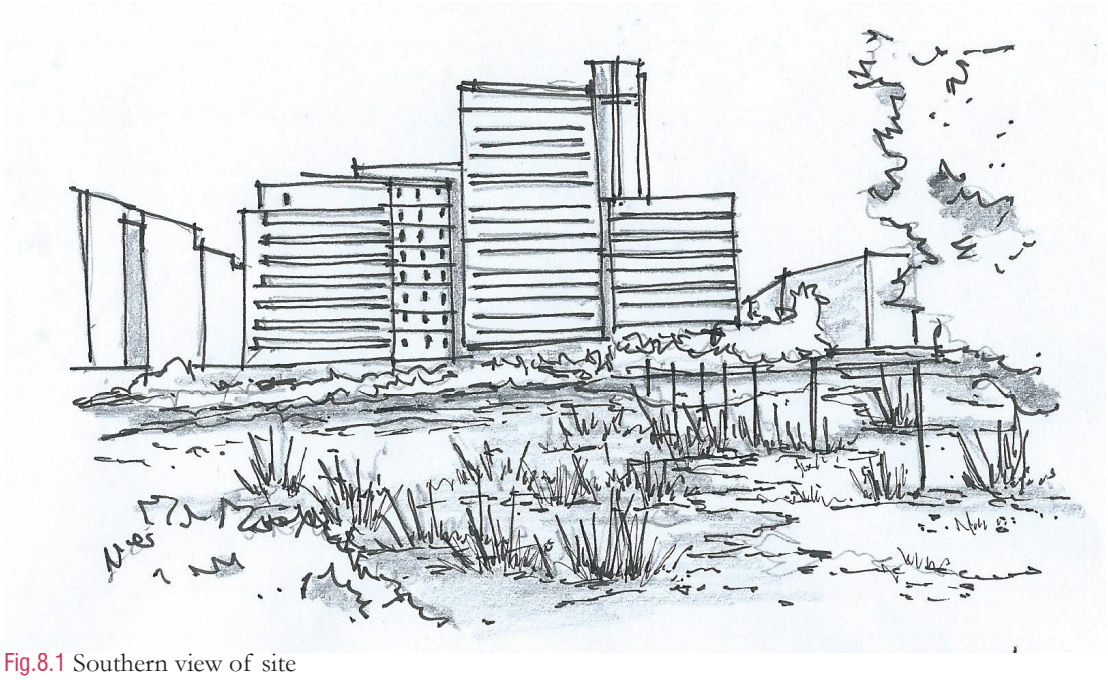


Fig.8.1 Southern view of site

8.1 The technical concept

As previously discussed, the gardener plays an important role in the sustainability of the garden, not just in terms of maintenance and caretaking, but also in the formation of space and, by extension, in how space is experienced. Due to the landscape intervention primarily being a productive landscape for the cultivation of plants and the recreation of users, certain infrastructural and functional needs must be provided for. Here, the importance of the theoretical knowledge of the landscape architect becomes evident in the technification and construction of the design. As in the development of the design, the intentions with the technification of the intervention are to re-establish and improve the intimate relationship between the user and the landscape. This idea of an established relationship between the caretaker or craftsman and the landscape is intended to be translated in the articulation of construction details through the use of regional materials and typical construction methods. In this way user participation through regional craftsmanship would be promoted. This intention can be expressed in three main objectives:

1. Amalgamate
2. Reinterpret
3. Elevate

The first objective with the design technification is to amalgamate the practical knowledge of the gardener and the theoretical knowledge of the landscape architect. The intention is to expand on the traditional caretaking and maintenance practices performed by the gardener by formalising and technifying these practices through the application of the theoretical knowledge of the landscape architect in order to inform the construction and detailing of the landscape intervention. The second objective is to reinterpret the tradition of working with plants as a living material, as discussed in the theory of the viridic. The intention is to facilitate, manage and reinterpret productive landscape practices to inform spatial outcomes; therefore an attempt will be made in the design intervention to use the traditional practices of a productive landscape, for example hedge sheering, orchard pruning and espalier, to influence the formation of space in a contemporary application for recreational purposes. In the process the inherent dynamic qualities of the vegetation would be controlled and reinterpreted, not only for plant cultivation but also to shape space. The third objective is to address the poetics of working with the landscape. The intention is to elevate and refine the existing traditional practices so as to inform the formation of spaces for everyday ritual. By elevating everyday practice through designing specific spaces where the ritual of caretaking can take place, the aim is to entice the user of the site to engage with the landscape and partake in the ritual; therefore, the user not only inhabits the landscape as a viewer, but is also actively involved in the phenomenology of the space.

8.2 Babylonstoren

- Productive show garden
- Klapmuts, Western Cape , South Africa
- Designed by Patrice Taravella
- Gardens established in 2007

As to assist in the development of site materiality, articulation of construction details and traditional cultivation practices for the first phase of the design development the productive garden of Babylonstoren was investigated. The garden at Babylonstoren was originally influenced by the traditions of historical European monastic kitchen gardens and the historic Company's Garden of the Dutch East India Company (VOC) in Cape Town. These influences suggested an axial layout on the existing sloping terrain between the elements of the existing farm infrastructure, resulting in a grid layout of 3.75 square meter increments. This grid dictated a strong spatial language where multiples or divisions of the specified increments were used to produce a rigid spatial layout and clear language for the garden (Watson & Bertish 2018:19). The planting scheme features a diverse amalgamation of different fruit and vegetable species, with the occasional systemic supporting vegetation too. The selected vegetation is not only used for its productive value, but is also articulated to reinforce the strong geometric layout of the garden. Fruit trees are espaliered with the support of wooden structures to reinforce a strong traditional pattern within the landscape. Small hedges serve as permeable demarcations of different planting zones and to offer screening (Watson & Bertish 2018:23). The landscape intervention combines both the charm and elegance of the traditional practices of European gardens (Watson & Bertish 2018:19). The intention was to create an authentic "farm to fork" landscape intervention, where users are encouraged to engage with the landscape through sampling. In this way the landscape can provide a platform for traditional and organic gardening practices (Watson & Bertish 2018:25).This productive landscape is highly influential in the development of the first phase of the proposed design intervention in that it has many parallel attributes in terms of programme and function, use of vegetation to form space, and the technical resolution of the design.

Fig.8.2 View of the Babylonstoren productive landscape with water canals

Fig.8.3 Aerial photo of the Babylonstoren garden, showcasing the strong geometric layout used to arrange the productive landscape

Fig.8.4 Regional cultivation practices include the cultivation of grapes on a supporting pergola

8.3 Materiality

The materiality of the design for the Braamfontein site is influenced by the materials identified in the garden case studies, in which regional materials such as stone, brick, wire and wood were the most prevalent. In addition to these materials, the craftsmanship associated with their use also influenced the material selection, with prefabricated materials used as little as possible. The intention with the selection of the material palette is to use the same identified regional materials, supported by regional practices of construction and articulation in the design intervention. Seeing that the material palette consists of a wide variety of materials, the intention was to select different materials within the same colour range to ensure that the hard landscape will read as one continuous whole, resulting in a landscape where the vegetation, instead of individual construction materials, is emphasised.

The following material palette is:

- Wire
- Reeds or grass
- Wood
- Stone
- Brick
- Soil

Fig.8.5 The Wilds Park: natural stone found on site was used to construct pathways

Fig.8.6 The use of natural stone to construct water well in the Heritage Garden at 19 Pallinghurst, Westcliffe

Fig.8.7 Detail of the use of gum poles and reeds to construct a pergola

8.4 Articulation

The domestic gardens in the case studies are characterised by the hand-crafted language found in how the vegetation is articulated through traditional cultivation and maintenance practices. It is intended that this same hand-crafted language should be translated in the articulation of the tectonic elements of the proposed design. As part of the aesthetic interpretation of the identified crafted language, certain characteristics were identified that are intended to be translated in the design detailing. These characteristics are, firstly, the emergence of a patterned articulation of elements and, secondly, differentiation within repetition. In the garden case studies, specifically in the productive landscapes, certain patterns of cultivation were identified. The repetition of a certain plant combined with the same regional practice results in a patterned articulation of vegetation in the landscape for cultivation purposes. The intention with the articulation of the tectonic elements is for the same patterned articulation of vegetation to be translated into a patterned articulation of tectonic elements. The articulation can be exemplified in the use of selected elements such as bricks, pavers and stone, where individual elements are arranged to produce a patterned layout, emphasising the individual expression of the craftsman and elevating the use of the material. The second interpretation of the crafted language is differentiation within repetition, in the way that mass planting is used to articulate space in several of the garden case studies. However, due to the dynamic nature of plants being living organisms subjected to different external influences in the progression of their lives, plants of the same species can differ from each other. Therefore the garden can have a planting bed filled with the same species of plant but with each plant different from the other, providing interest within duplication. The intention with the articulation of the tectonic elements in the landscape is for this same differentiation within repetition to be evident. This approach is intended to emphasise the individual expression of the craftsman and the uniqueness of each individual element.

Fig.8.8 House Stockenström: articulation of individual smooth pebbles to produce a patterned paving layout, derived from regional practices.

Fig.8.9 The Wilds Park: the use of natural stone, found on site, to construct dry-stacked retaining walls to articulate a pathway

Fig.8.10 In response to water restrictions and the inclination of the site, the manipulation of soil creates a pattered landscape derived from cultivation practices.

8.5 Technology

As mentioned, the intention with the construction of the design is that just as the craft of the gardener is exhibited in the landscape so too the craftsmanship of the builder should take precedence in the formation and articulation of the constructed space. This in turn creates a very strong crafted built language in the design where the craftsman is actively involved in the formation of the space and where the input of the builder and his or her construction methods forms part of the aesthetics of the landscape. This language is also further strengthened by the specific productive landscape programme in the first phase of the design where rudimentary cultivation practices are intended to be applied. In the initial investigation of the garden case studies the technology applied in the creation of the spaces were primarily rudimentary, consisting of basic irrigation and lighting systems. The intention with the technology applied to the design should be in keeping with the development of the landscape over a time period of fifty years. Therefore in the first phase of the design intervention being a productive landscape and due to budgetary constraints the technology used will serve as a supportive infrastructure consisting of basic irrigation and food production practices. The intention is that as the site develops so too with the technology that is used in the cultivation of plants be improved expanding from rudimentary outdoor plot cultivation into aquaponics systems. In the second phase of the design intervention being a domestic allotment garden the intention with the technology used will be focused on the caretaking and maintenance of the landscape. The intention is that some of the caretaking and maintenance practices of the landscape can be controlled autonomously through the use of robotics, where the robotics does not replace the caretaking and maintenance practices done by the user but that it can serve as an assisting technology infrastructure. In the second phase of the design intervention being a public park the intention is that the park can become multifunctional with many adaptable outdoor spaces to provide for a variety of different programs. Due to this adaptable program proposed in the park the intention is that 3D printing technology can be included in the development of the public park to provide more custom structures to accommodate the different programs.

8.6 Systems and services

8.6.1 Food production system

The formal food production system will be implemented in Phase One, the first phase of which will entail the propagation of selected plants as determined by the needs of the culinary school and the previously established garden committee. The propagation of the selected plants will take place in greenhouses adjacent to the school. The selected cultivars will then be transplanted to their dedicated areas in the productive landscape or in designated aquaponics greenhouses, depending on the type of cultivar. Produce will be harvested as required, after which it will be processed and cleaned in selected greenhouses. The processed produce will then be distributed to the designated entities, i.e. the culinary kitchen, vendors on site, or the church soup kitchen.

Step 1: Propagation

1. Depending of the type of cultivar plants are cultivated in the specific propagation method .
2. The propagation will take primarily place either through, seeding, cuttings or division.
3. This propagation will take place in the selected greenhouse on site.
4. When plant specimens have reached their acquired age to be transplanted they will be relocated to their specific plant beds.

Step 2: Cultivation

5. Transplanted plants are cultivated in productive landscape until produce can be harvested.
6. Transplanted plants are cultivated in aquaponics farms until produce can be harvested.
7. Fresh produce is collected from the production areas within the site.
8. Harvested produce is cleaned and dispersed to designated areas.

Step 3: Processing

9. Cleaned produce is distributed to culinary school kitchen where it will be used.
10. Food will be provided to labourers on site and homeless.
11. Excess produce will be sold at the small market on site.

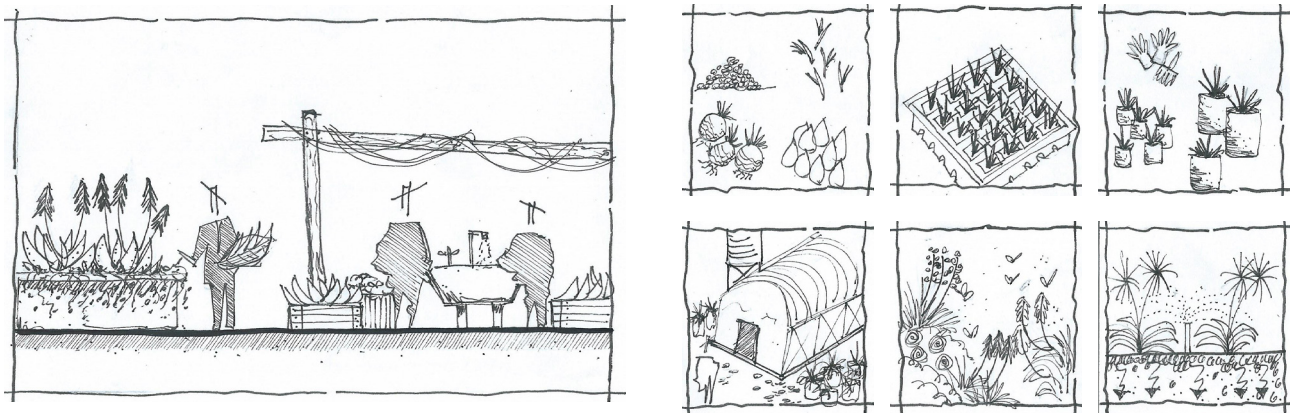


Fig.8.11 Step 1-2: Propagation and cultivation

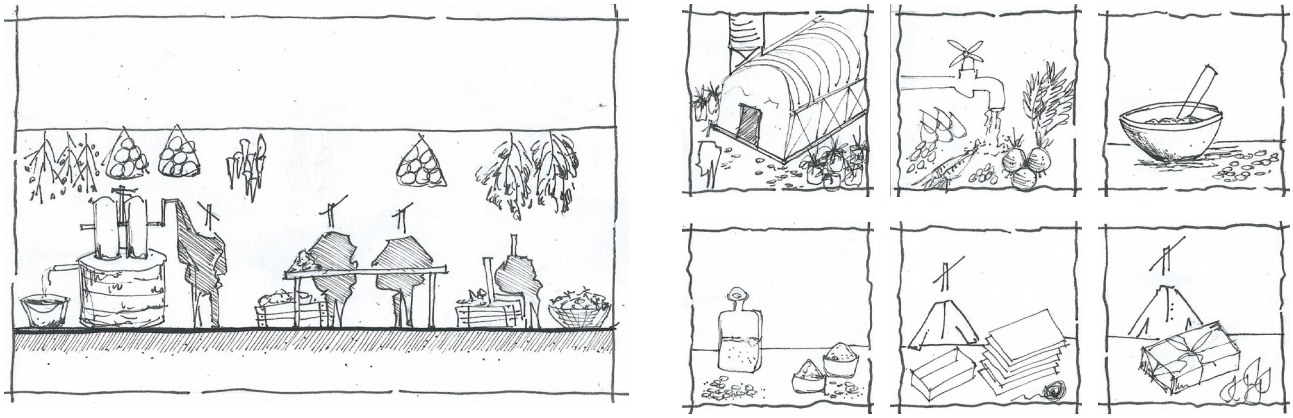


Fig.8.12 Step 1-2: Propagation and cultivation

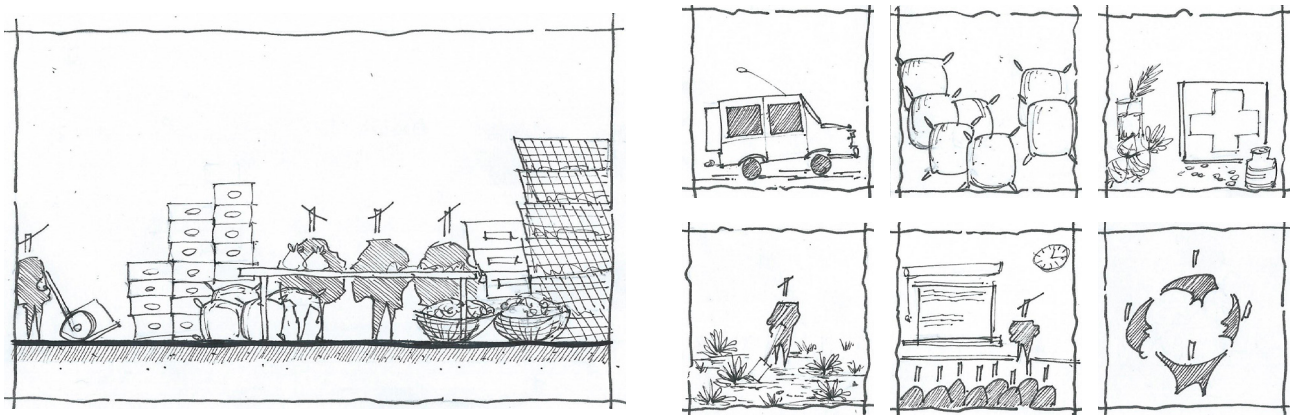


Fig.8.13 Step 3: Processing

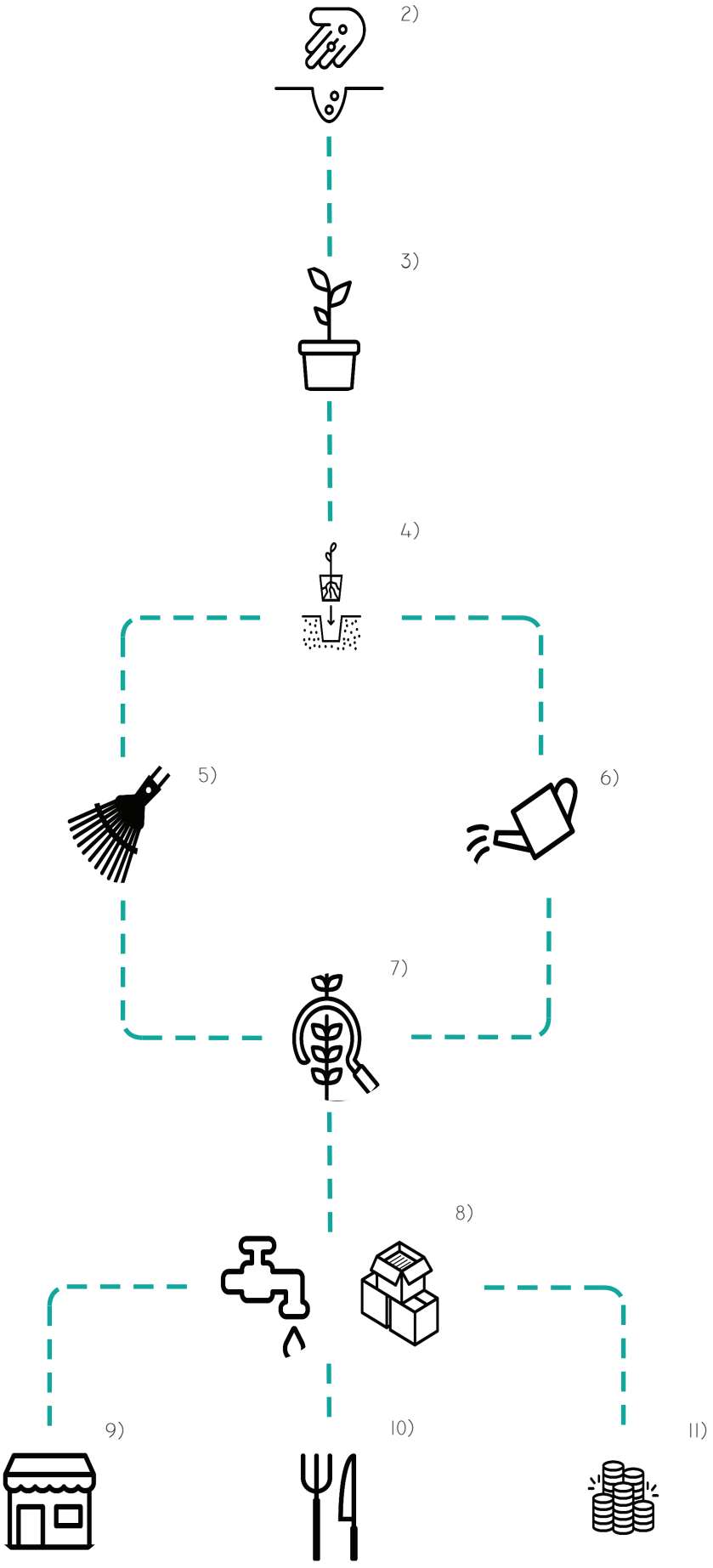


Fig.8.14 Food production system diagram

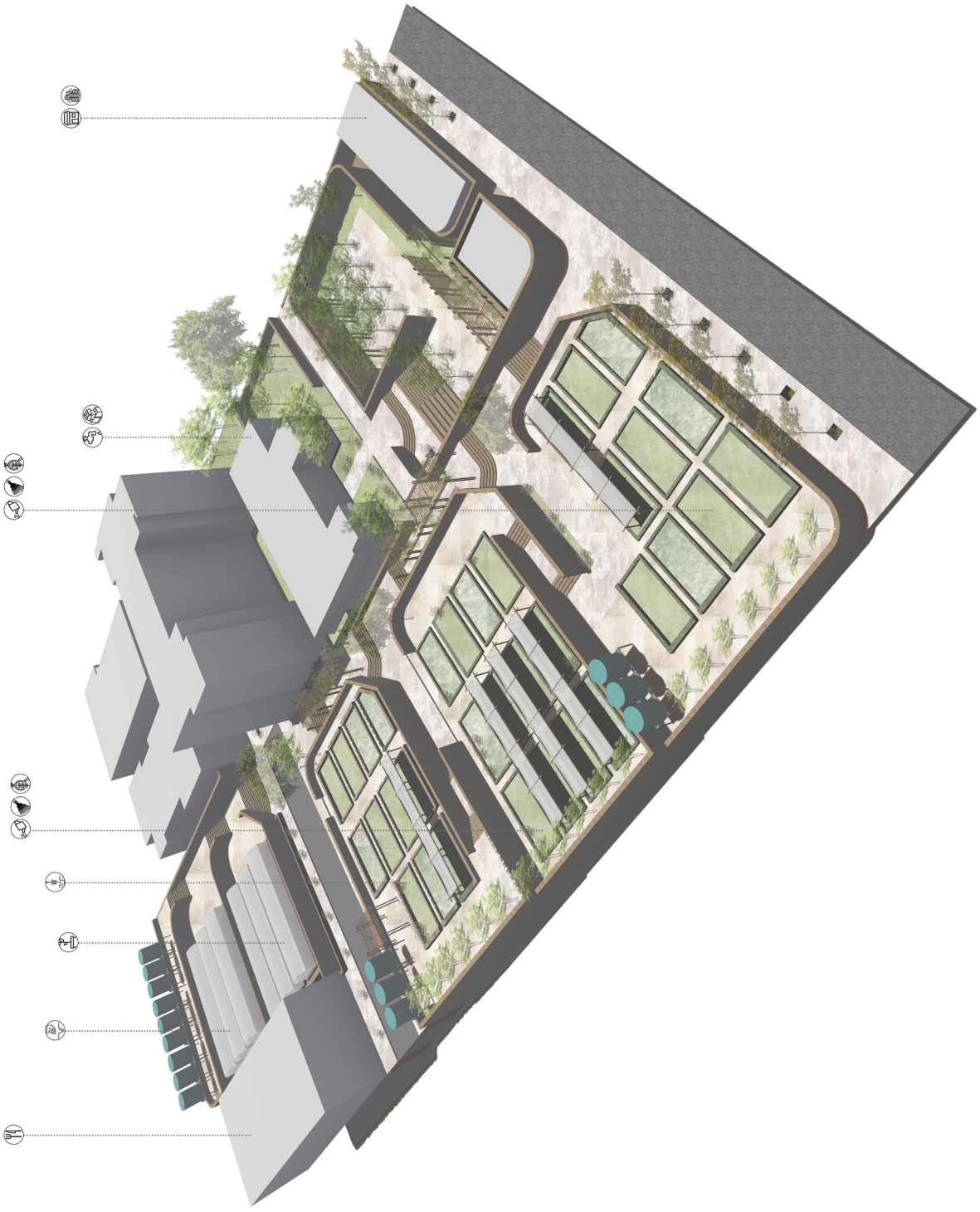


Fig.8.15 Phase One – iteration of the landscape development axonometric

8.6.2 The irrigation system

In Phase Two the watering system consisting of Jojo tanks that previously supplied water to each terrace will be replaced with a gravity-fed irrigation system. Water runoff on site will be collected and filtered through a bio-swale system located on the periphery of the site. The collected water will then be treated and pumped into a temporary submerged reservoir. From the reservoir the water will be directed to separate water troughs located on the top terrace of the site. A series of small canals dictated by the initial grid layout will be spread across the site, connecting the water troughs located at the base of every retaining wall. Water will be controlled in the canals through the use of manually operated sluices.

Step 1: Catchment

1. Run off water from allocated terraces is collected via rain runoff channels and directed into the feeder
2. Rain water runoff on roofs is collected and directed into feeders.
3. Collected water in feeders is collected in main storm water channel for treatment.

Step 2: Water filtering and treatment

4. Water in feeders is then filtered through a grease trap to removal all residue oils, grease and other chemicals contained within the water.
5. Collected water is then directed to the bio-swale treatment beds.
6. Through the aid of specialised plants heavy metals excess nitrates and other macro impurities are filtered out of the collected water.
7. Through the aid of specialised soil compositions smaller impurities are trapped and filtered out of the collected water.

Step 3: Secondary water treatment and storage

8. Filtered water is stored in the main submerged storage tank at the lowest laying area on site.
9. Water is gradually pumped to the secondary storage submerged storage tank located at the top of the site
10. Before entering secondary storage tank the collected water is processed through a sand filter to remove all small impurities in the collected water.
11. Stored water is processed through a bio filter to remove all harmful pathogens before dispersal.

Step 4: Water dispersal and irrigation

12. These temporary JoJo storage tanks is the main water supply that provides water to the irrigation channels on site
13. Water is dispersed systematically across the site with a combination of water trough, canals and a small sluice system from the upper terrace to the lower terrace.
14. Water is the taken from the irrigation cannel and watered manually with watering cans.
15. Additional water will be added to the system as it is required via an onsite bore hole.

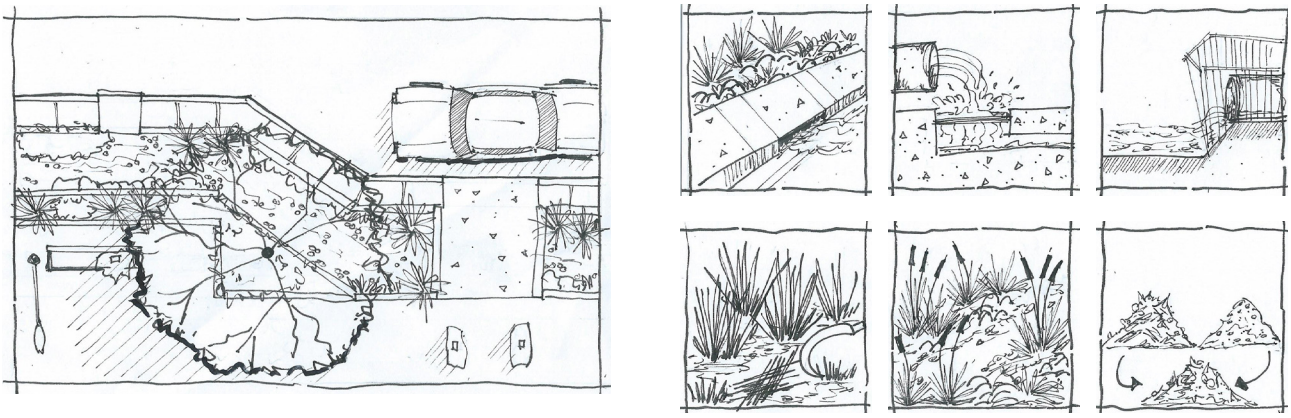


Fig.8.16 Step 1-2: Catchment and treatment

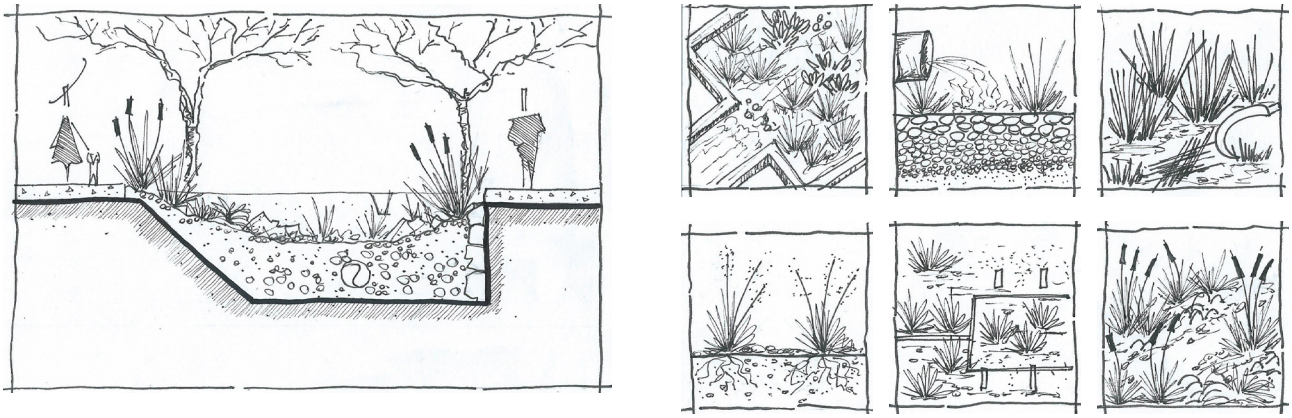


Fig.8.17 Step 2-3: Water filtering and treatment

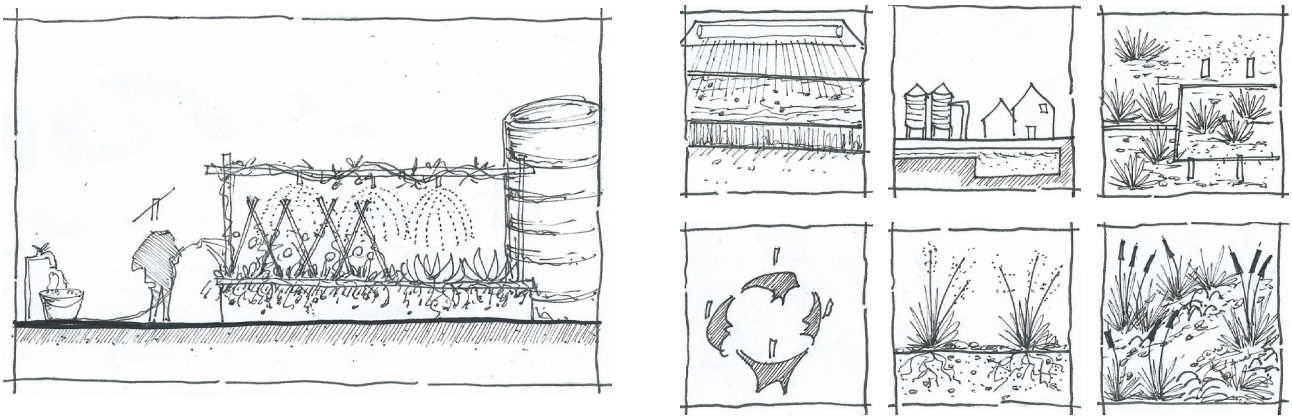


Fig.8.18 Step 2-3: Water filtering and treatment

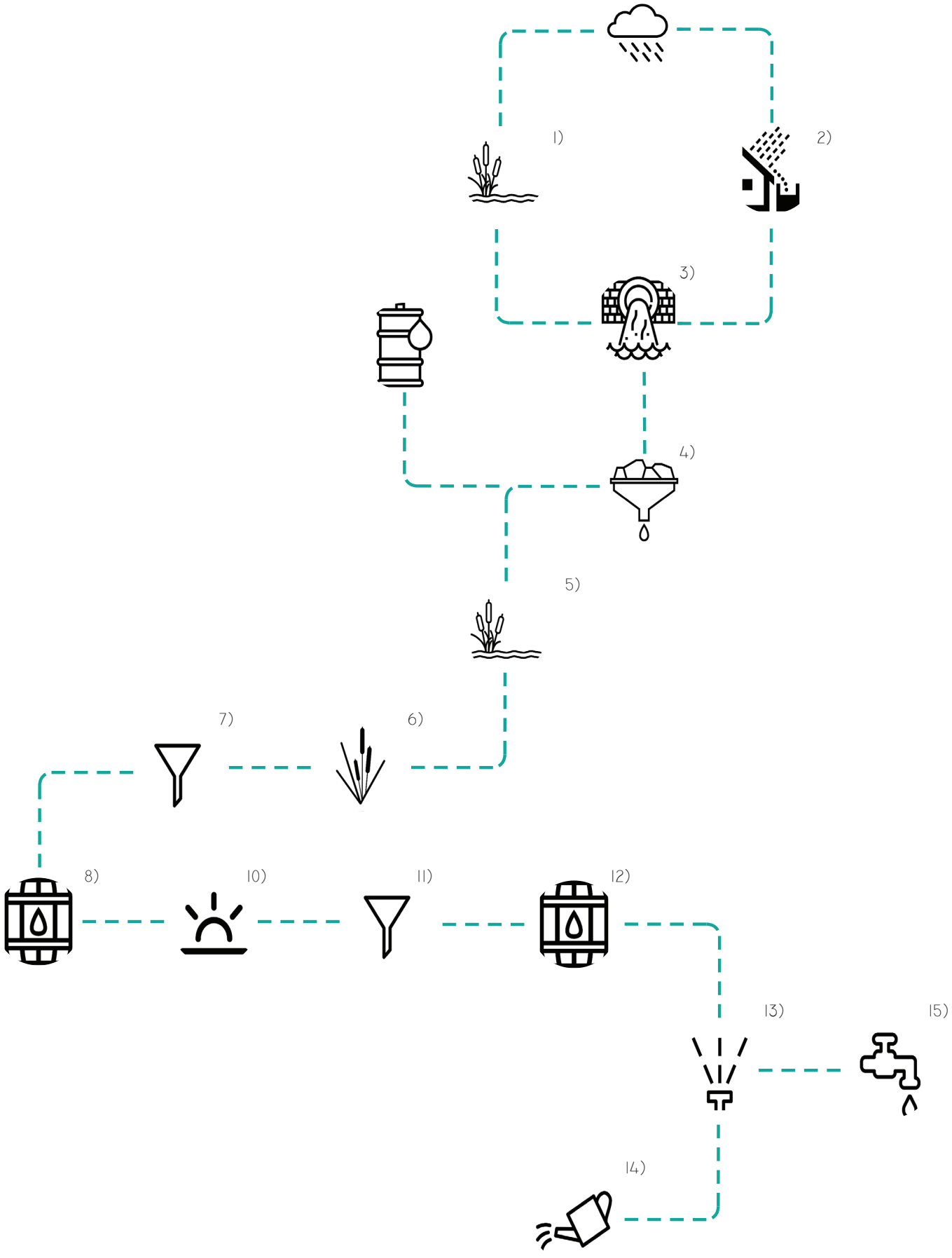


Fig.8.19 Irrigation system diagram

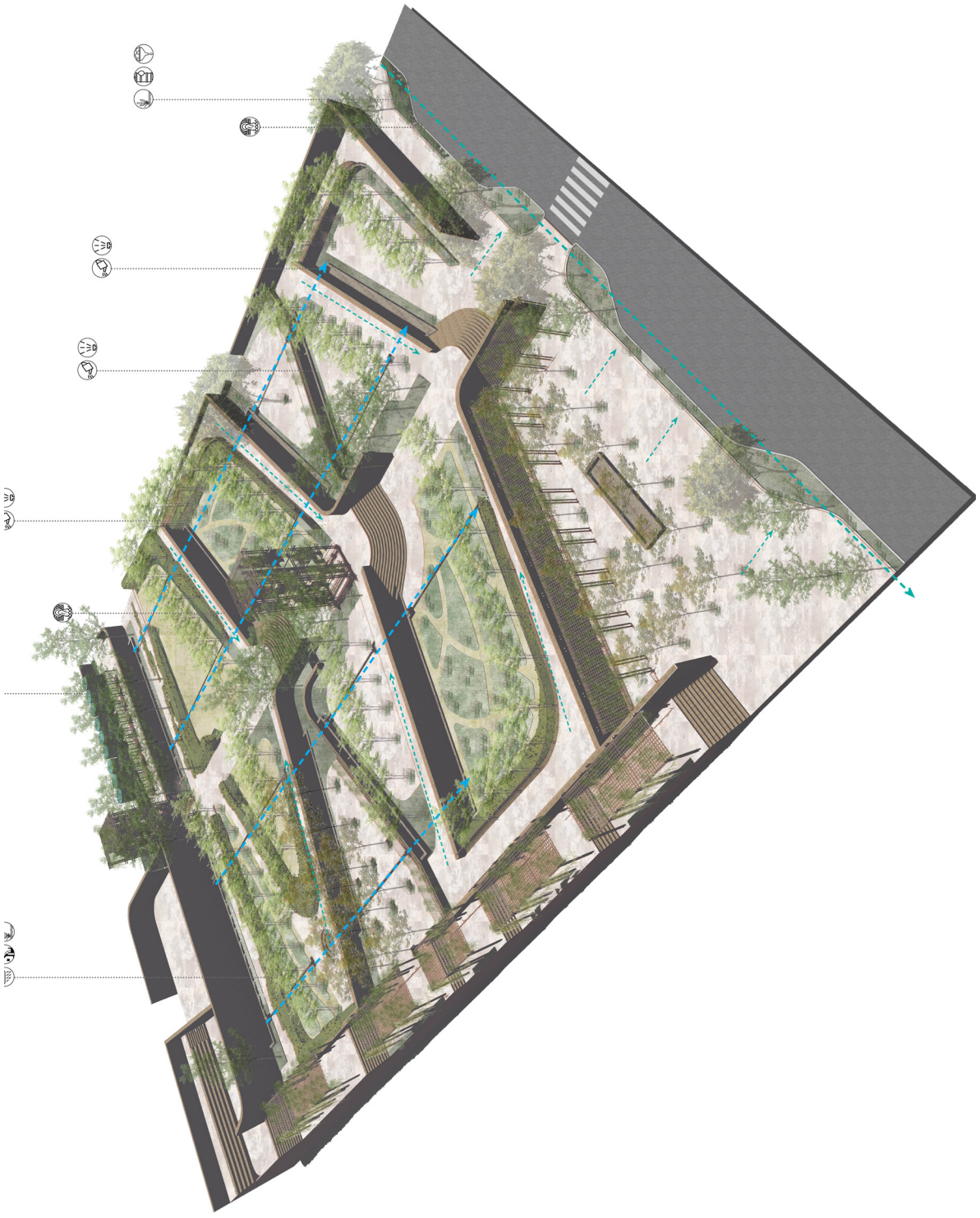


Fig.8.20 Phase Two – iteration of the landscape development axonometric

8.6.3 Soil maintenance

In Phase Two the existing soil maintenance system will be replaced with a formal soil maintenance system located on the upper terrace on site. This terrace will house an area where garden debris will be sorted and processed. The debris will then be gathered and added to the compost heaps. The intention with this addition is to enrich the overall soil quality of the site in order to improve the growth of the vegetation, and to allow for a more sustainable soil maintenance system in which users are directly involved.

Step 1: Collection and storage

1. Vegetation debris from pruning and other landscape maintenance practices are collected.
2. Vegetation debris is stockpiled on site for sorting and processing.

Step 2: Processing

3. Collected plant material is sorted according to hard fibre vegetation and soft fibre vegetation, removing all unwanted exotic plant material or invasive species.
4. Hard fire based plant material is processes through a chipper to produce different grades of mulch material.
5. Soft fibre plant material is shredded and mixed with microbes and small organisms which assist in a break-down of plant material for compost material.
6. Compost heaps are constructed and left to ferment.

Step 3: Dispersal and reintegration

7. Processed mulch material is distributed on site
8. Processed compost material is distributed on site.

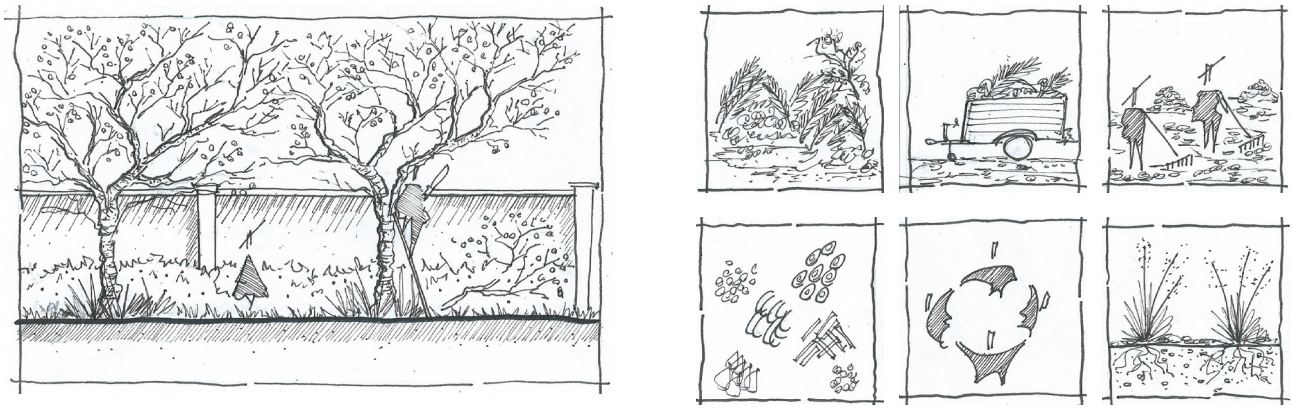


Fig.8.21 Step 1: Collection and storage

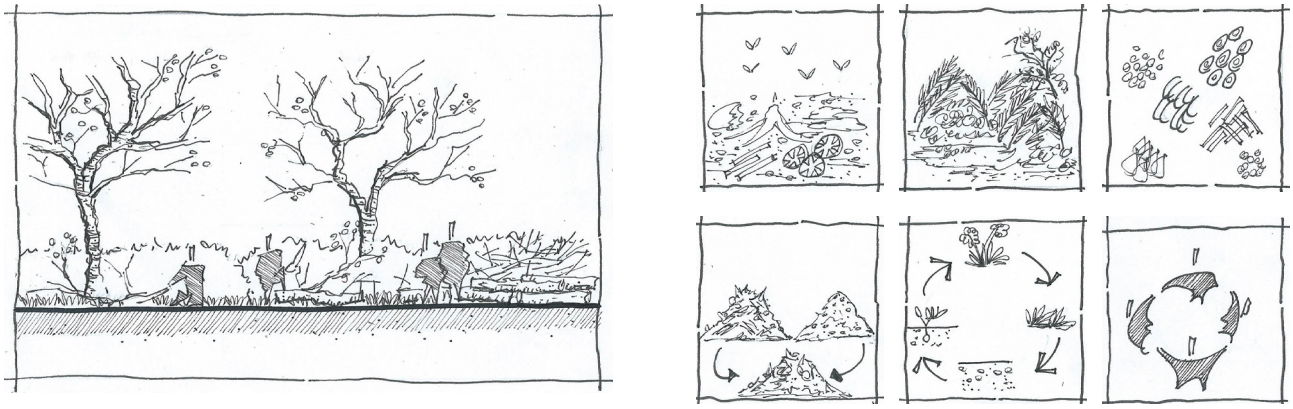


Fig.8.22 Step 2: Processing

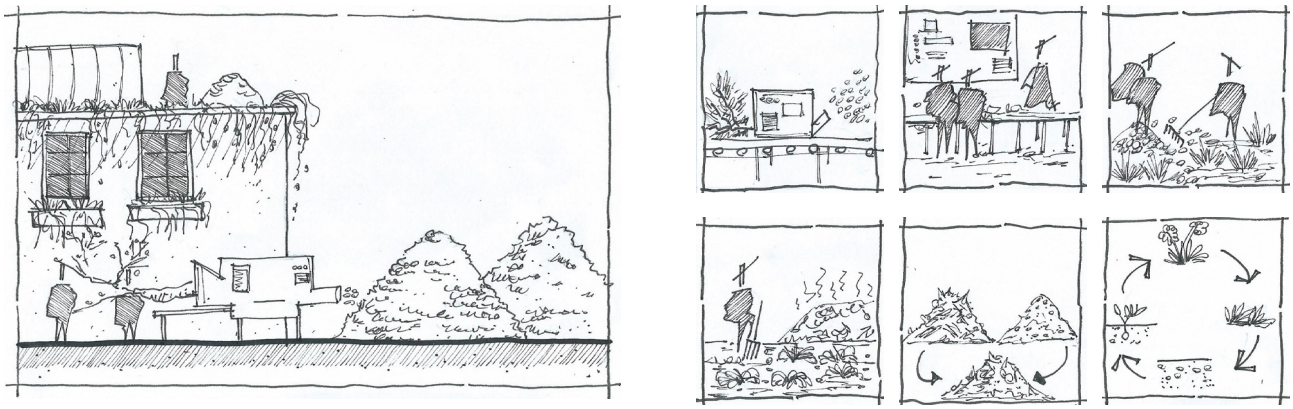


Fig.8.23 Step 3: Dispersal and reintegration

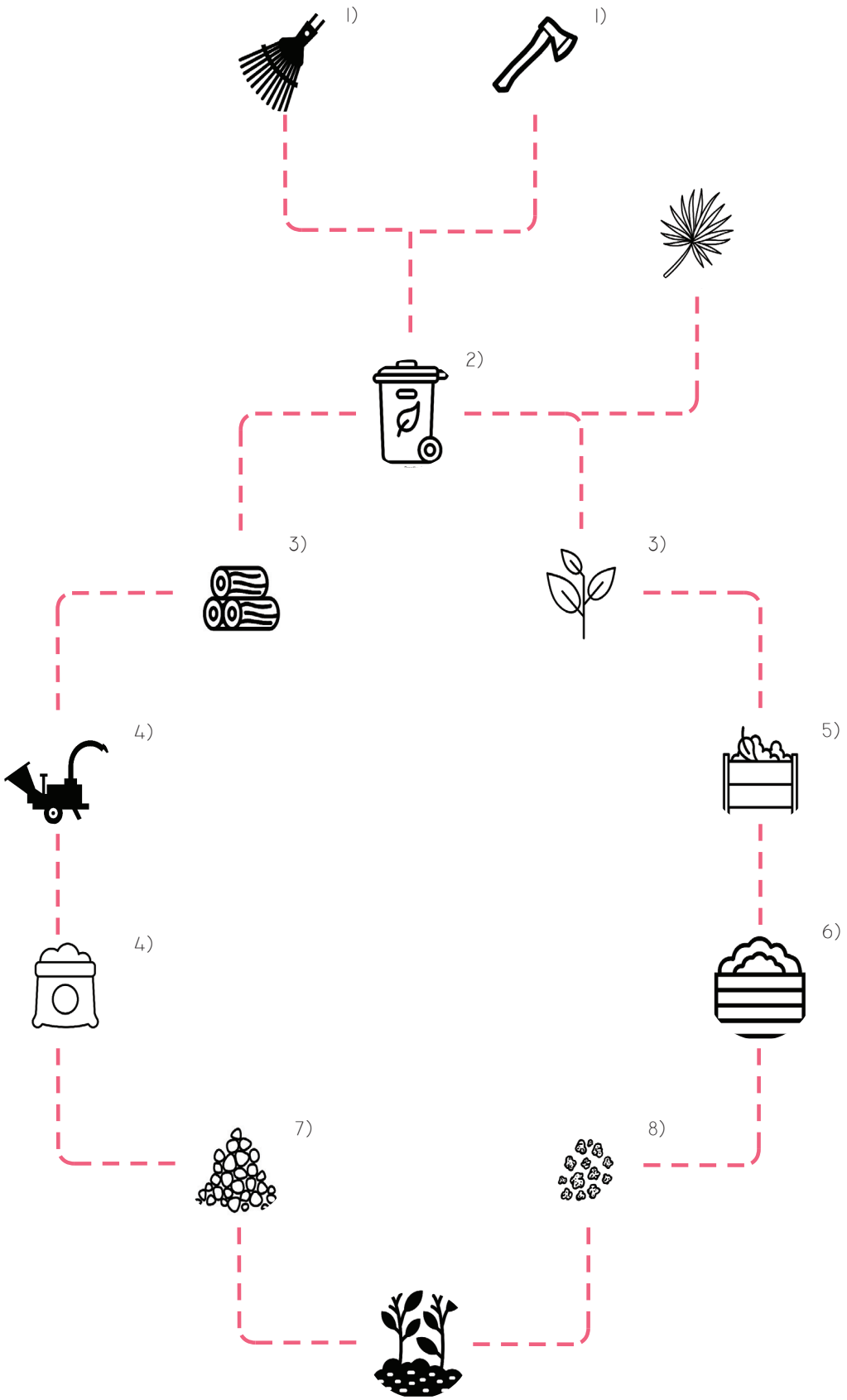


Fig.8.24 Soil maintenance system diagram

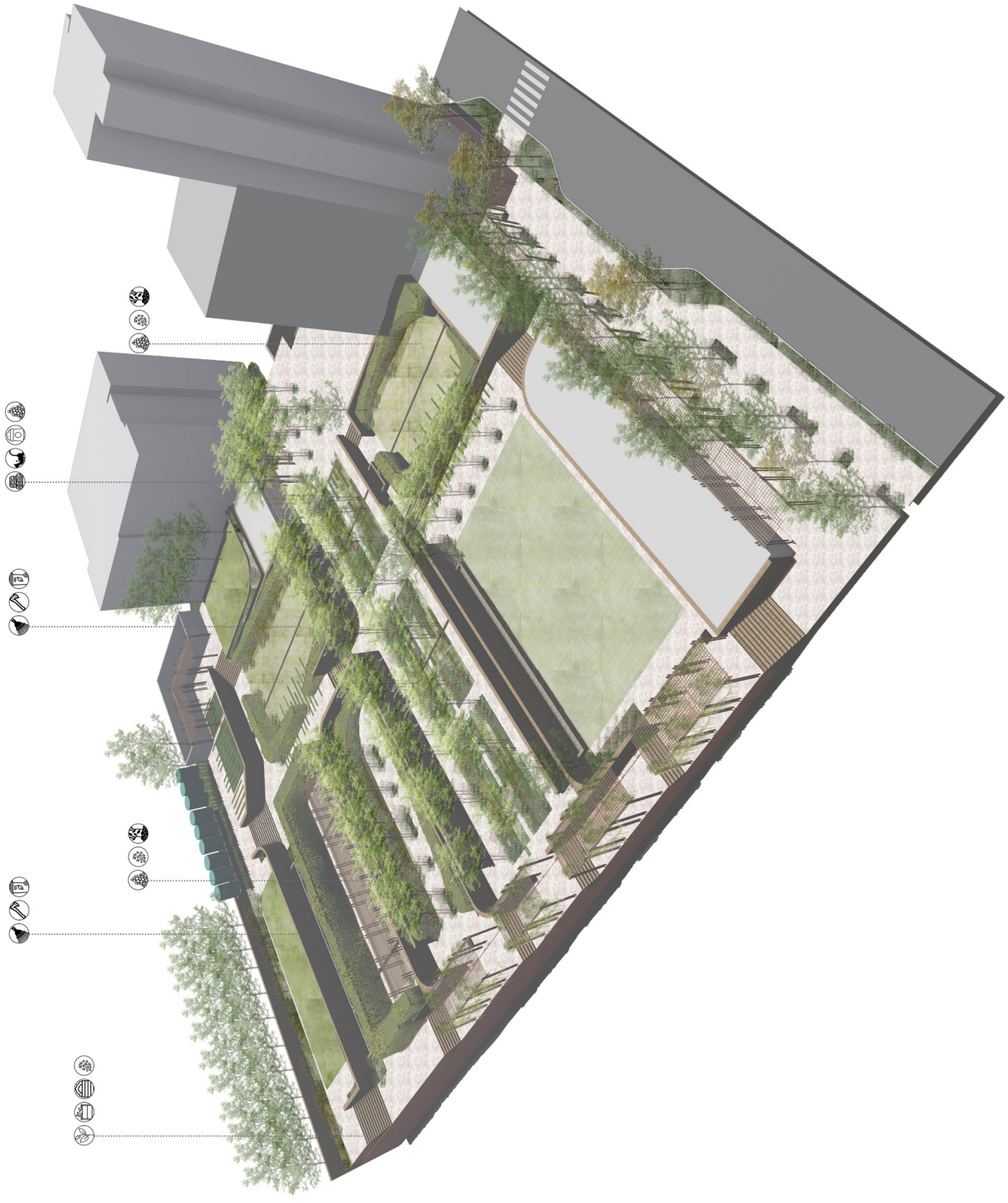


Fig.8.25 Phase Three – iteration of the landscape development axonometric

8.6.4 Maintenance system

The maintenance system for the landscape will be determined by the different phases of the design intervention. In the first phase the productive landscape will be maintained and cared for by an appointed maintenance team controlled by the appointed garden committee. Additional aid in the cultivation and maintenance of the landscape will be provided by students of the culinary school as part of their training, to learn how to not only prepare food but also to cultivate it. In the second phase a selected area of the site will be dedicated to the development of allotment gardens. Here, the maintenance of the allotment gardens will be delegated to the owners of the plots under strict regulation of the garden committee, with individual users of the allotments able to avail themselves of the existing maintenance system on site. In the third phase the areas open to the general public will once again be maintained and cared for by an appointed maintenance team controlled by the appointed garden committee. The residual allotment gardens and the productive landscape will be maintained according to their specific maintenance systems, as mentioned above.

8.7 Construction details

8.7.1 Retaining wall

As established in the garden case studies, the tradition of packed stone retaining walls features regularly. Stone retaining walls are used in the design due to the steep incline of the site and the need for large, flat cultivation areas. The regional tradition of packed stone walls is applicable to the design in that it enables the user and craftsman to be actively involved in the formation of space. The design detail consists of a stone and concrete construction. The intention is that the wall would primarily be a stone construction, but that the interior of the wall would be reinforced with concrete to provide improved stability and strength, as some walls are required to be more than four meters high. It is intended that it would be possible to alter the retaining walls at a later stage, so that additional water canals could be added in Phase Two to accommodate the irrigation system.

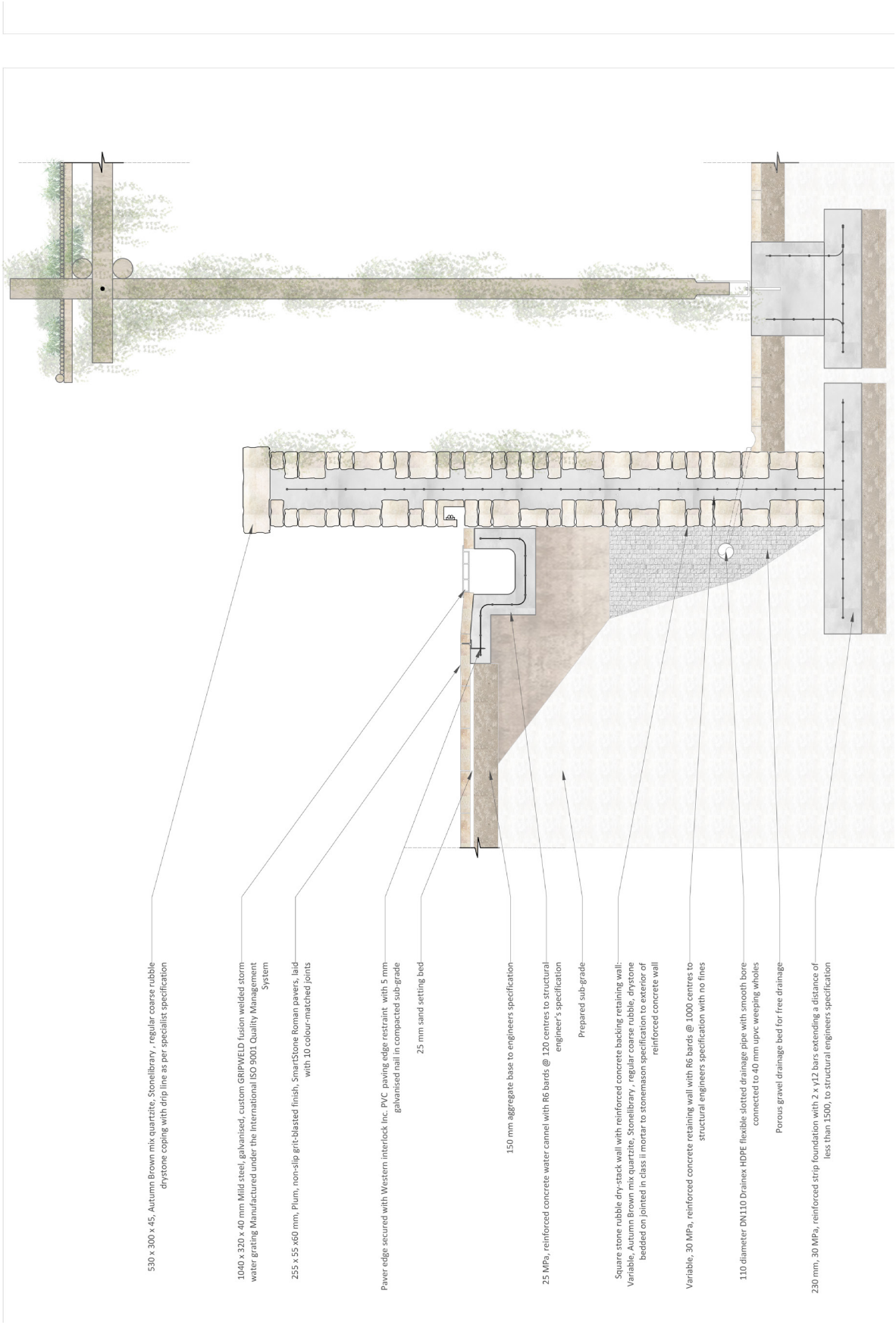


Fig.8.26 Retaining wall construction detail

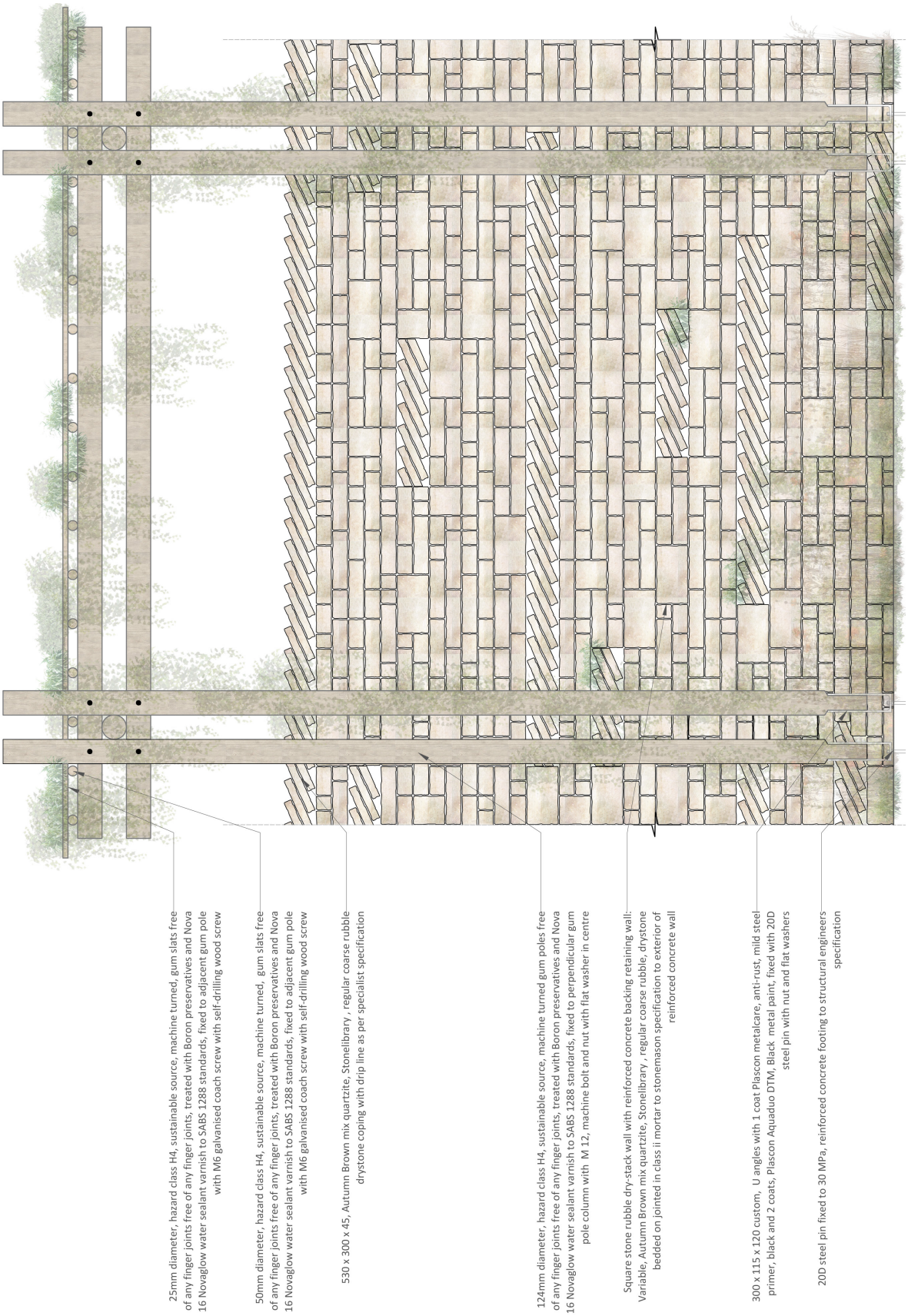


Fig.8.27 Retaining wall elevation

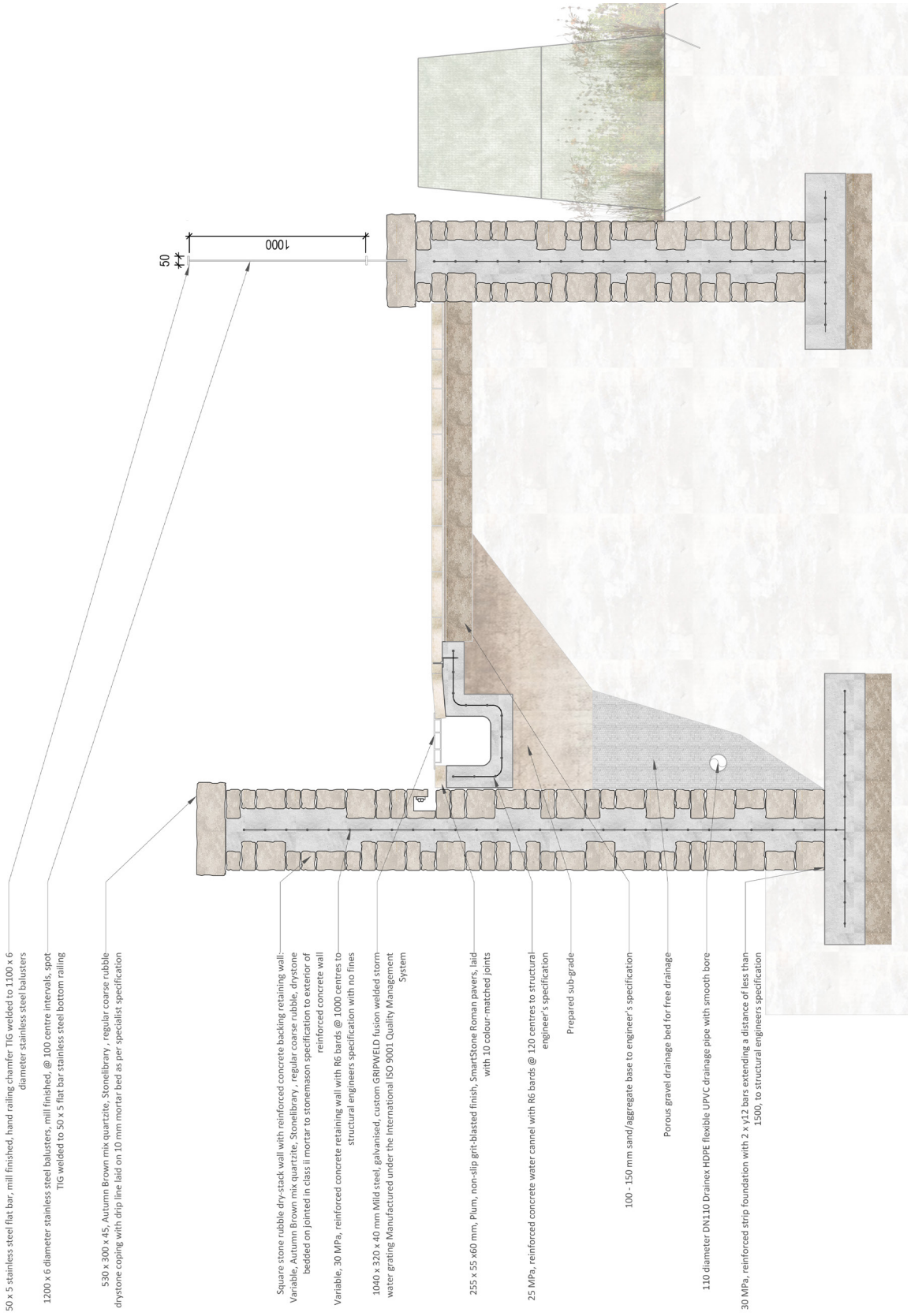


Fig.8.28 Retaining wall with walkway construction detail

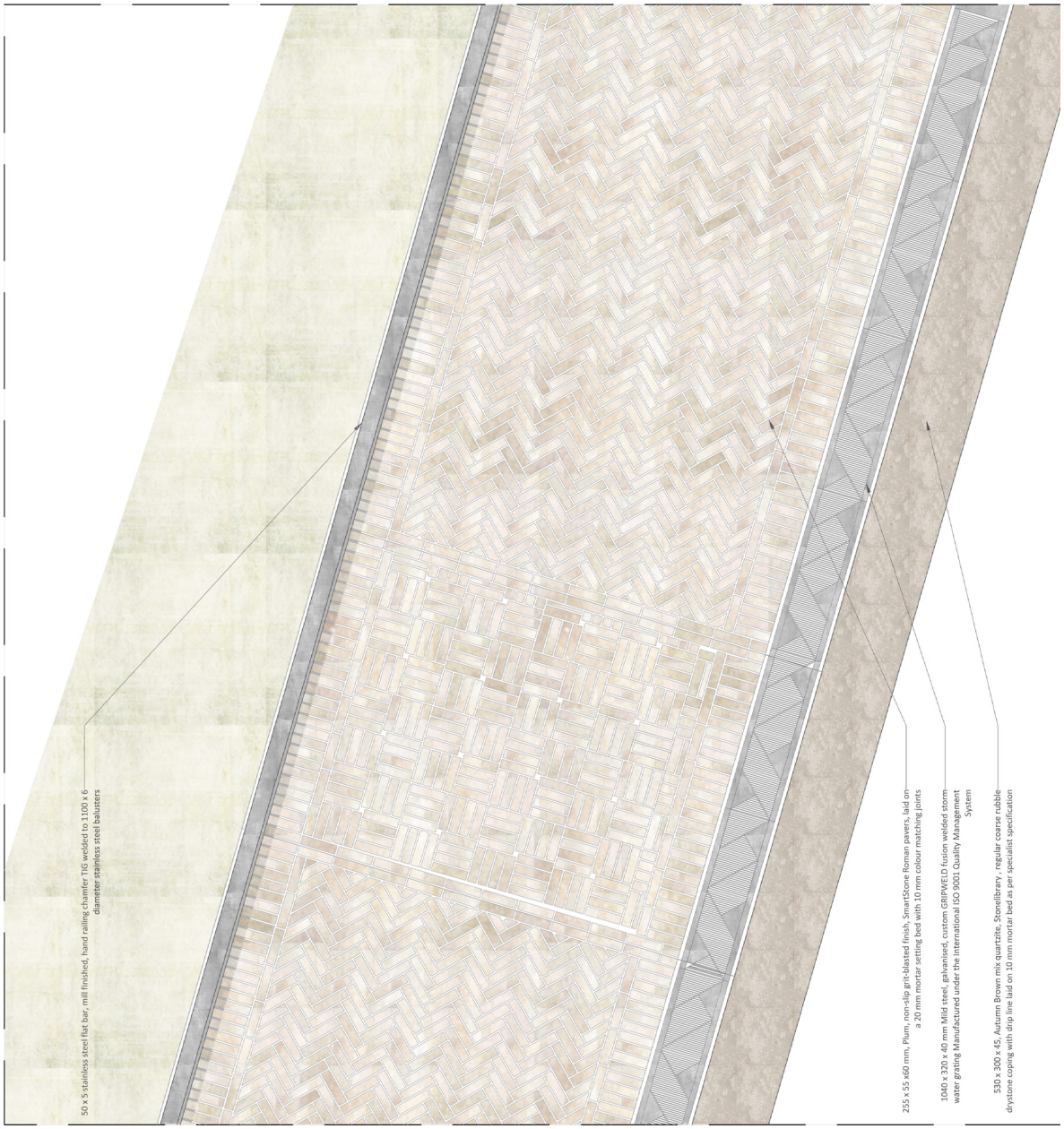


Fig.8.29 Walkway detail on plan

8.7.2 Water canals

The tradition of irrigation systems for productive landscapes consisting of water canals and troughs is not uncommon in South Africa. The intention with the gravity-fed irrigation system is to elevate the practice of watering the landscape through monumentalisation; thus the design of the irrigation system is focused on the articulation of water flow and the creation of spaces that allow for users to interact with the water. This irrigation system consists of three main parts: the water trough, the canal and the floodgate. The water trough is located at the base of each retaining wall on each separate terrace. The water originating from the storage tank is fed via gravity to the water troughs through a series of different spouts that protrude from the retaining wall. The free-form construction of the water troughs consists of reinforced concrete. The intention with the water troughs is to store the water on site so that it can be accessed by users for irrigation purposes. The water canals spanning the breadth of the site assist irrigation by connecting the separate water troughs on separate terraces. The canals consist of in situ reinforced concrete channels lined with brick pavers and covered with a custom grid. Brick pavers are used to articulate the flow of the water and to provide interest. The rill created in this way will attract users to engage with the water canal. The use of a patterned stack of brick pavers to line the canal also pays homage to the tradition of masonry construction and the craftsmanship involved. The custom mentis grid is intended to provide a cover for the canal where needed, and for the decorative grid design to reflect the craftsmanship of the regional artist. The water floodgate located at the end of each canal, adjacent to the top of the succeeding retaining wall, controls the movement of water from one terrace to another. The 500 x 650 x 50 mm wooden floodgate is lifted manually via a custom stainless-steel handle. It is supported by 50 diameter gum poles on either side to allow water to flow to the next terrace. The floodgate is encased in a 125 mm reinforced concrete canal that is articulated with an array of stone and brick pavers. The floodgate not only serves a functional purpose but also entices users to engage with the landscape, making them part of the landscape caretaking process.

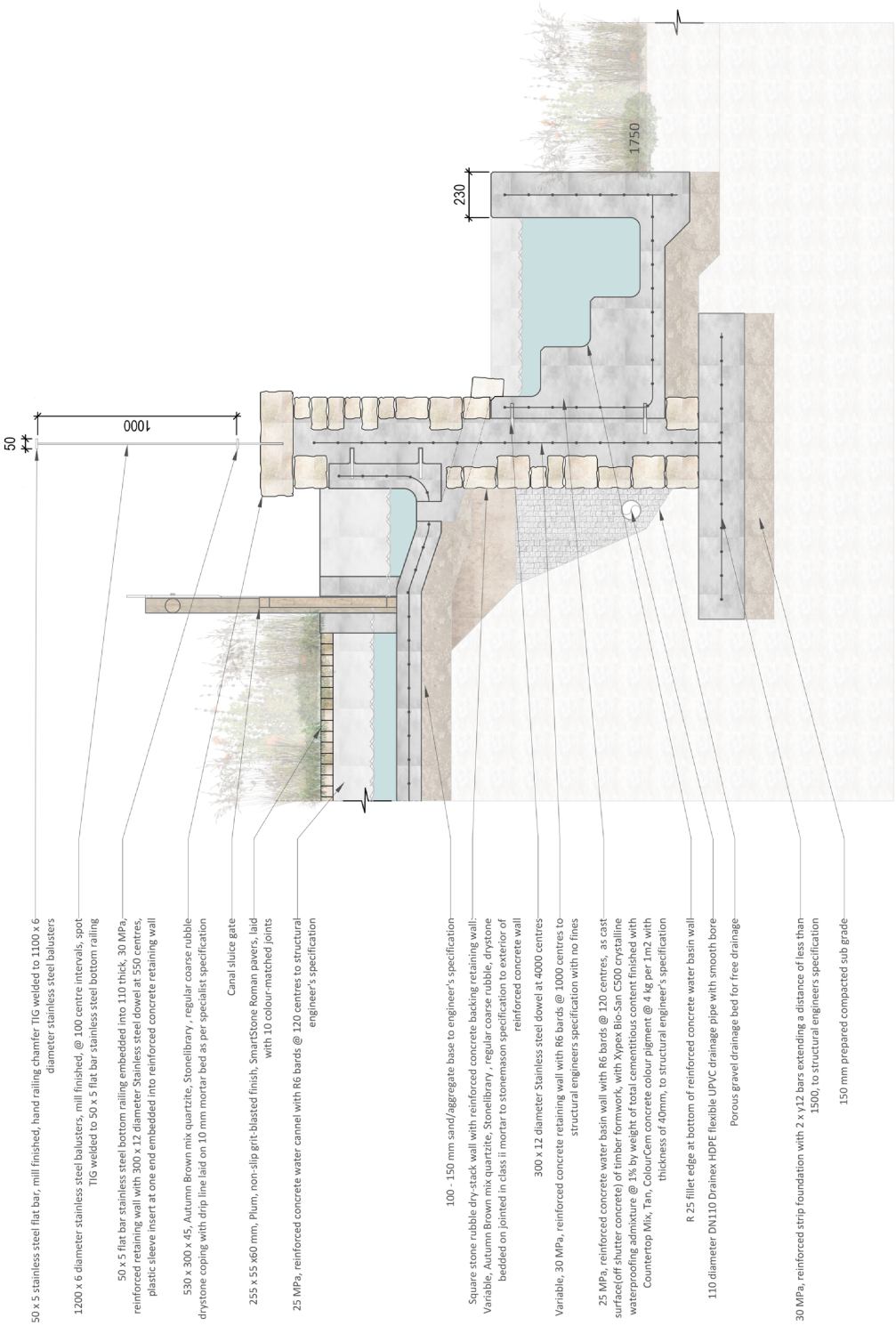


Fig.8.30 Retaining wall with water trough construction detail

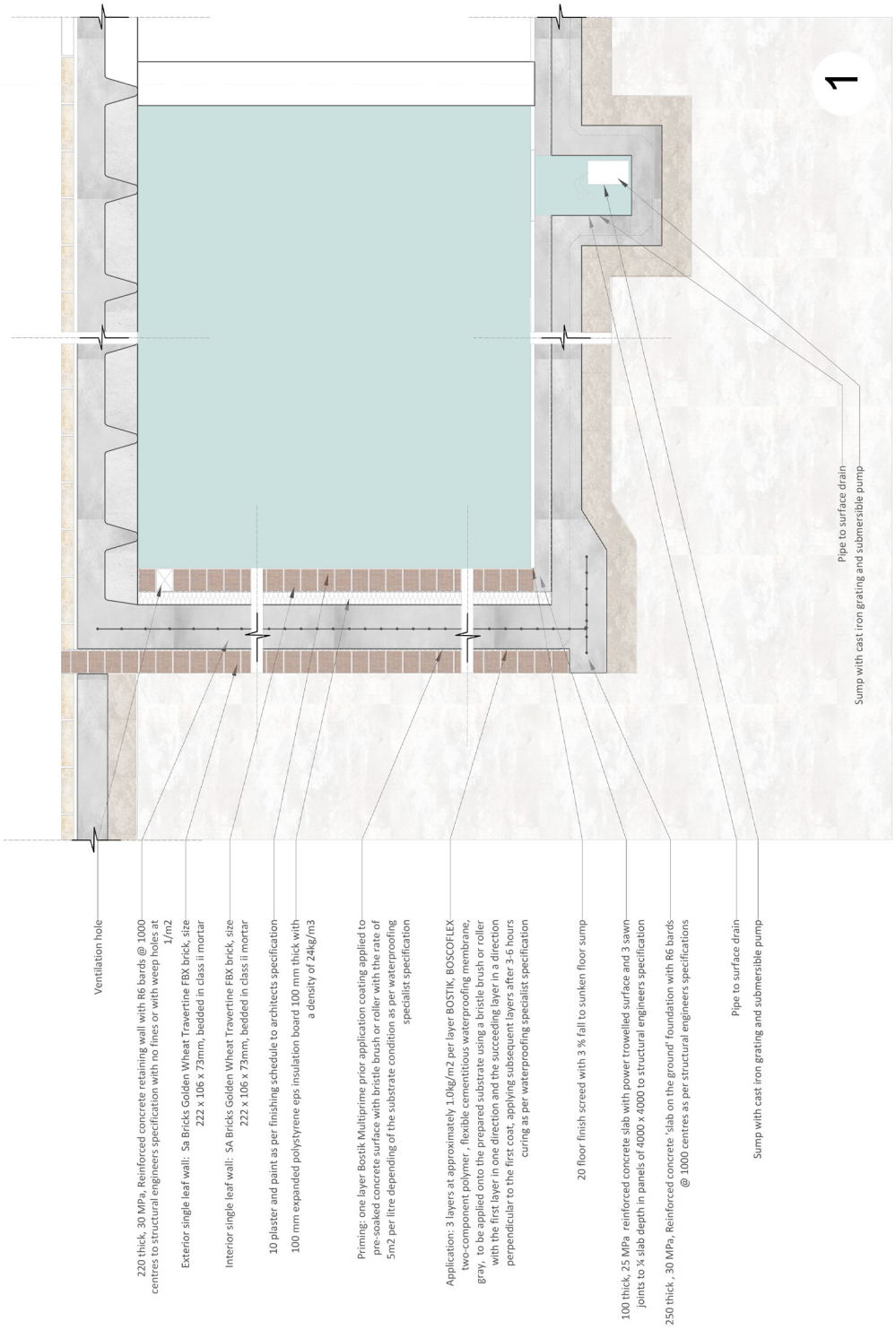


Fig.8.31 Water reservoir construction detail

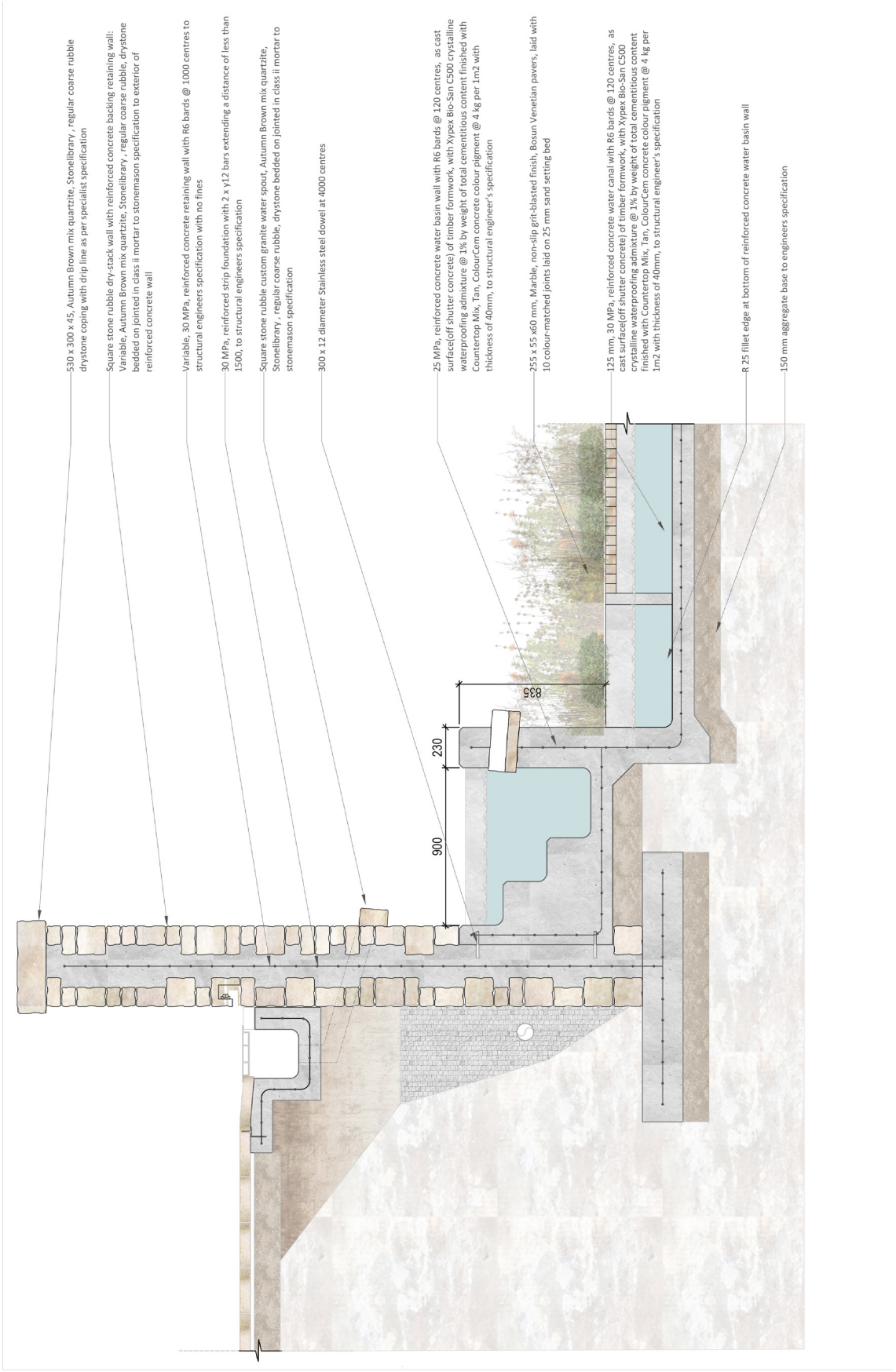


Fig.8.32 Retaining wall with water trough construction detail

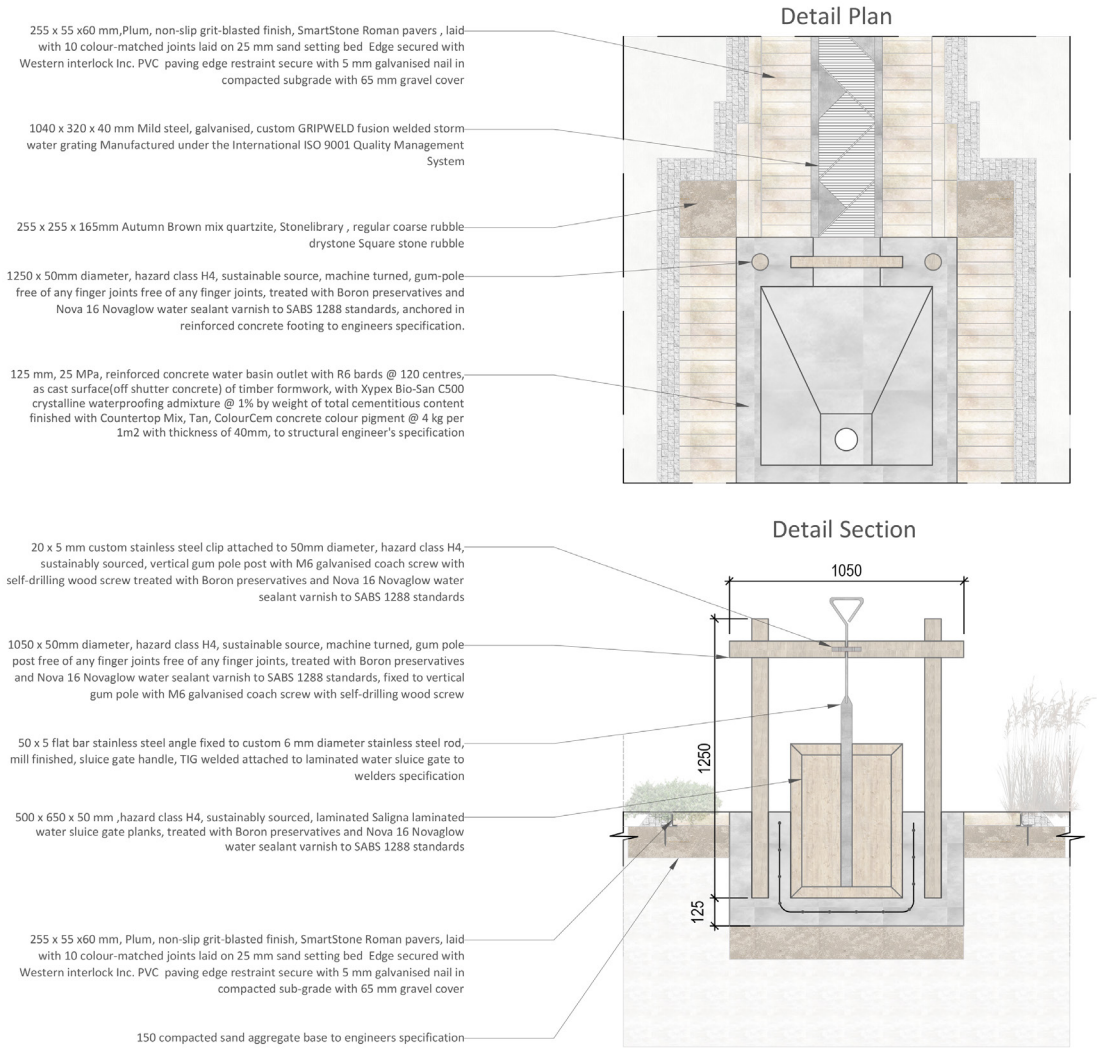


Fig.8.33 Water canal sluice gate construction detail

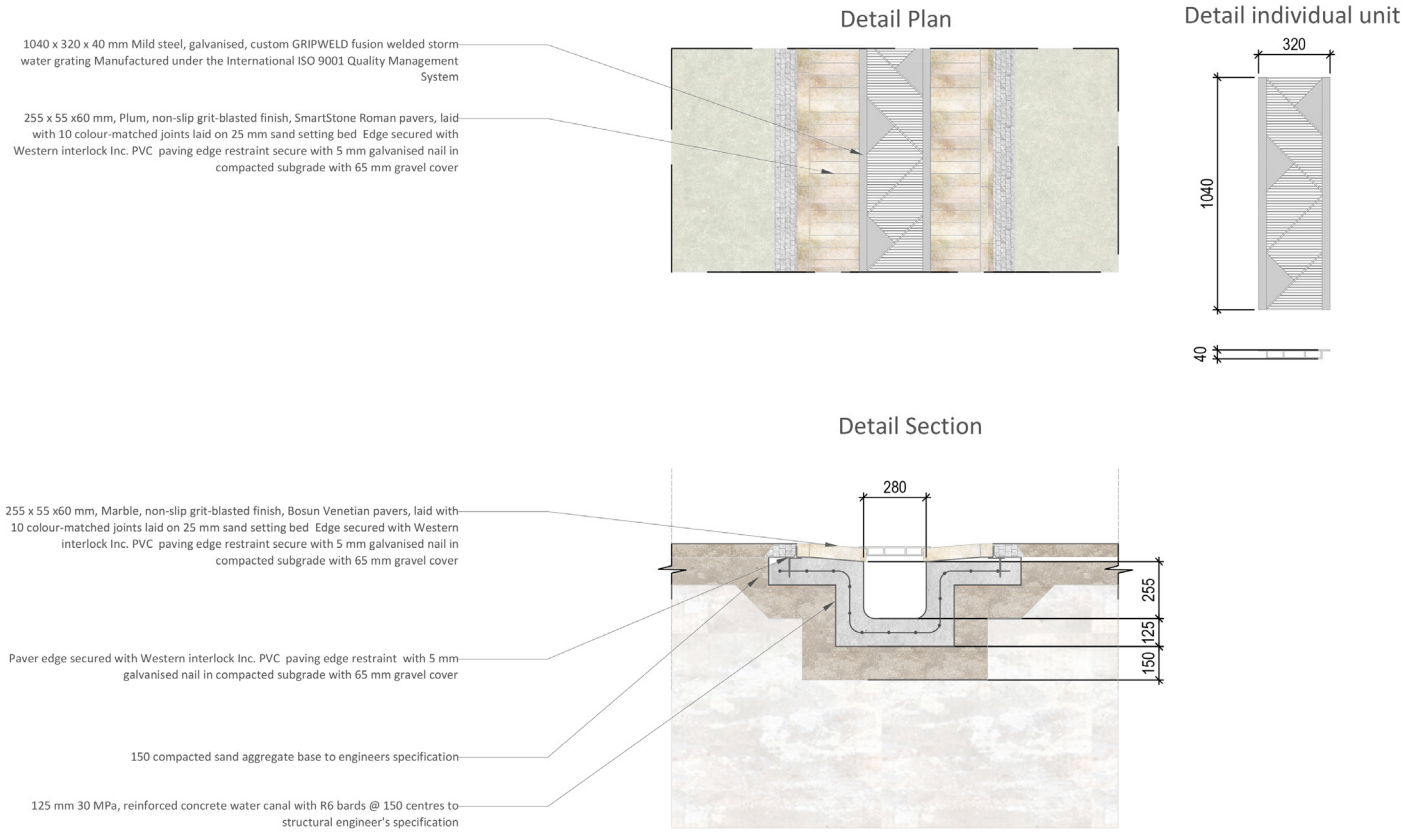


Fig.8.34 Water canal construction detail

Fig.8.35 Orchard and water canal construction detail

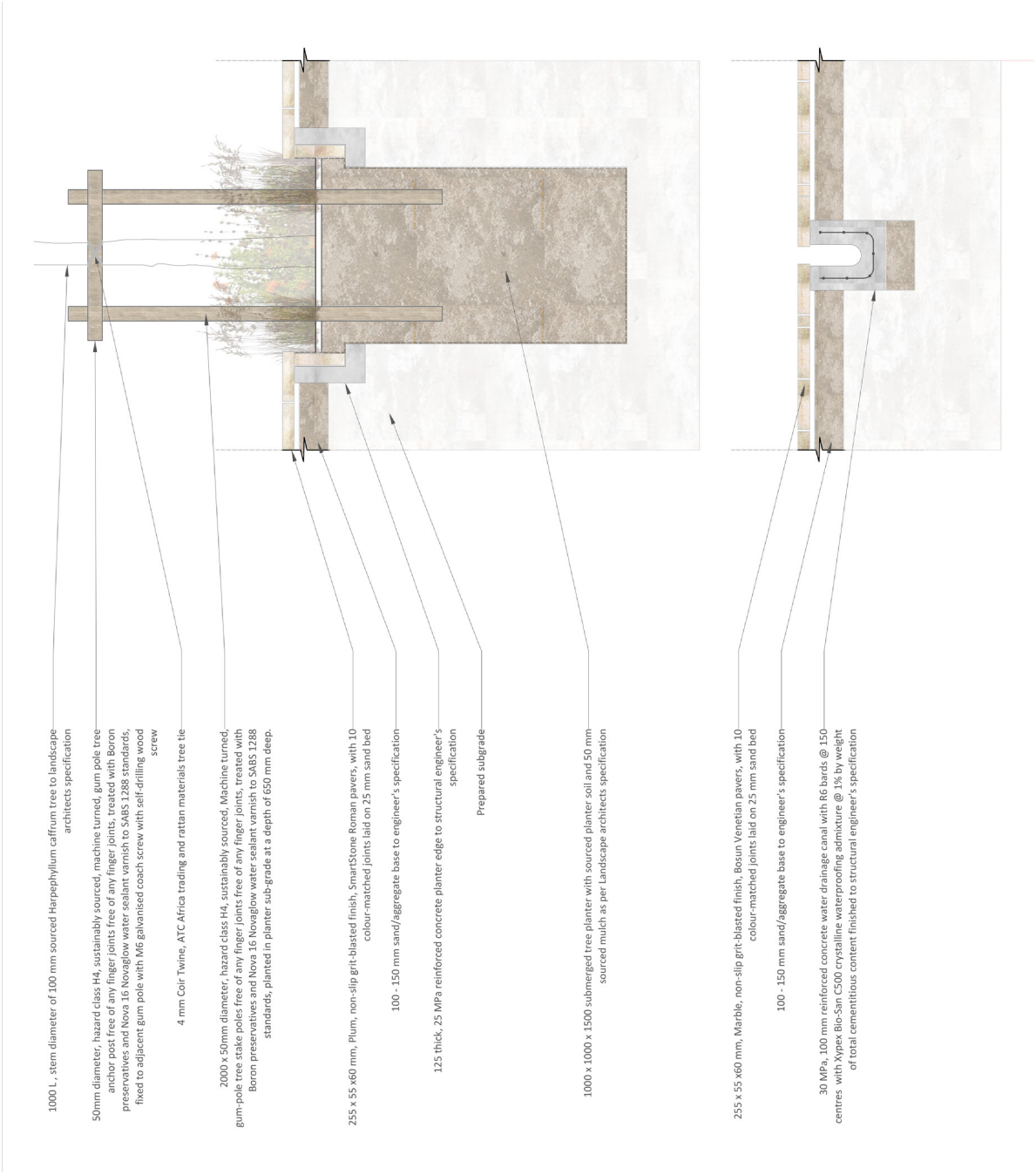


Fig.8.36 Tree stake and planter construction detail

8.7.3 Pergola

As seen in the Babylonstoren precedent study, pergolas are used as tectonic elements in the landscape to both define space and support certain cultivation practices so as to provide a climbing structure for flowering plants that assist in pollination. The intention is to reinterpret the practice of using a traditional pergola as a vertical element that can not only provide structure for specified vegetation to grow on, but also provide tectonic structure within the landscape. The design detail consists of a vertical gum-pole structure of 5 x 5 x 12 m, composed of gum-pole columns with shorter vertical beams fixed perpendicularly to the columns. Covering the exterior of the pergola is a series of small screens made from wire and gum slats, arranged so as to act as a trellis system for the creepers growing on the exterior of the pergola.

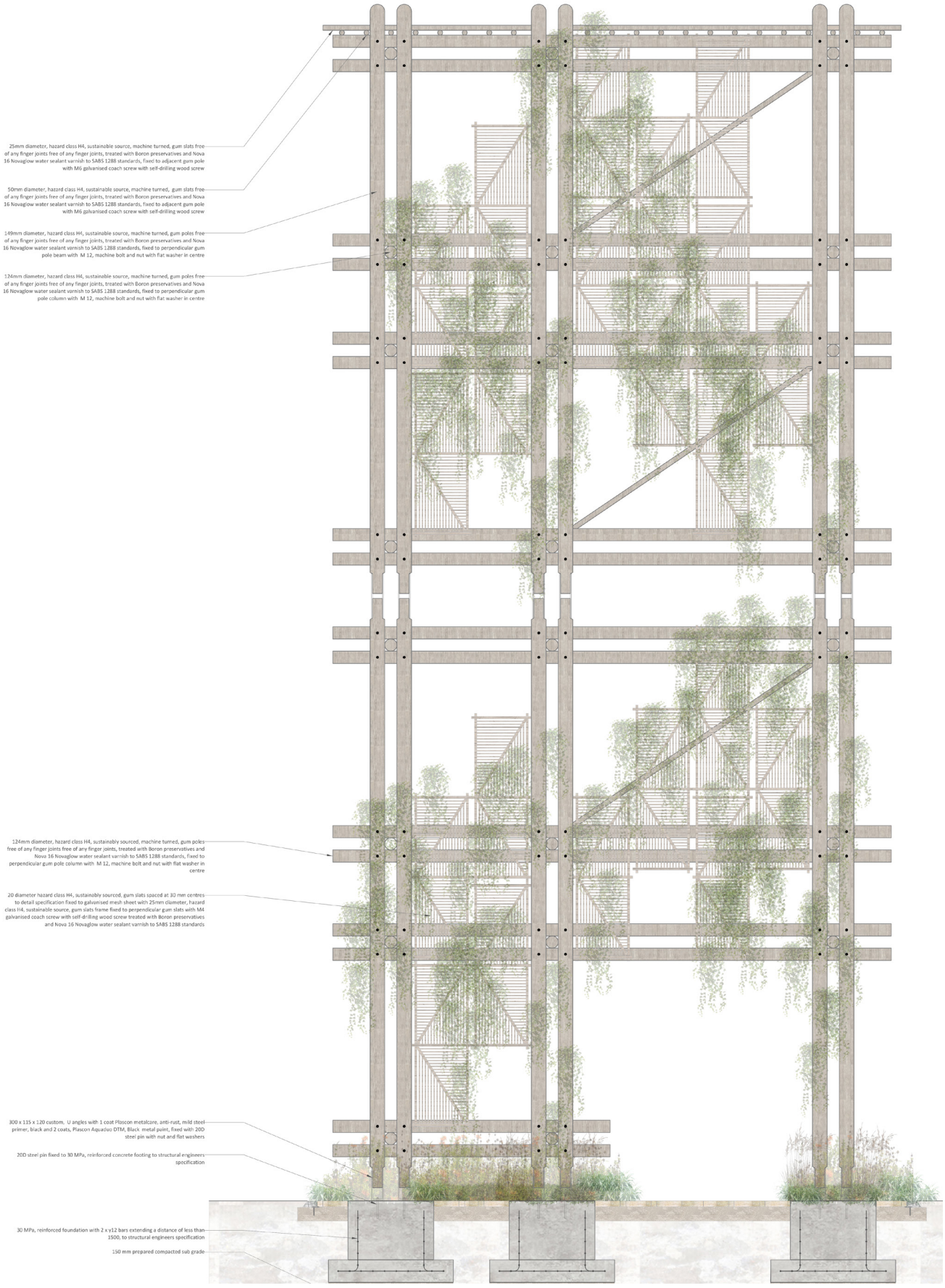


Fig.8.37 Pergola construction detail to scale

8.7.4 Hedges

As established in the garden case studies, the tradition of using hedges to define borders and to articulate space is a very common feature in gardens. In the proposed design the practice of creating and maintaining hedges becomes central to establishing an interdependent relationship between the user and the landscape where, in turn for the maintenance of the vegetation, certain spatial outcomes can be achieved. This practice is an organic process spanning a period of time; thus, when this tradition of gardening is applied to a large-scale landscape intervention with a predicted spatial layout, the control of the organic process can become difficult. Therefore the intention with the design detail is to provide opportunities for this gardening tradition to be employed, but to still maintain some form of control in its execution. The design detail consists of a series of steel-mesh cages in increments of 3 x 2 x 1 m that can be stacked on top of each other as the plant grows. The mesh cages are intended to act as guides for the shaping of the hedges, dictating precisely how big and where each hedge is intended to be grown.

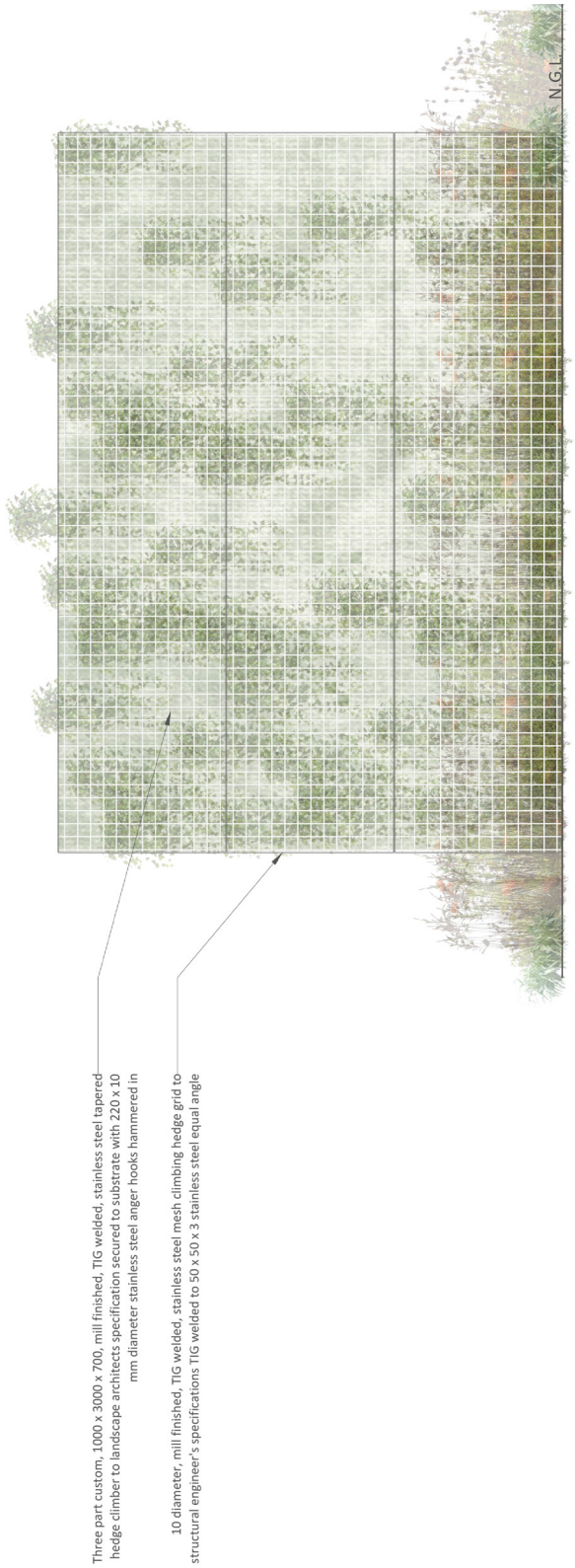


Fig.8.38 Hedge elevation detail

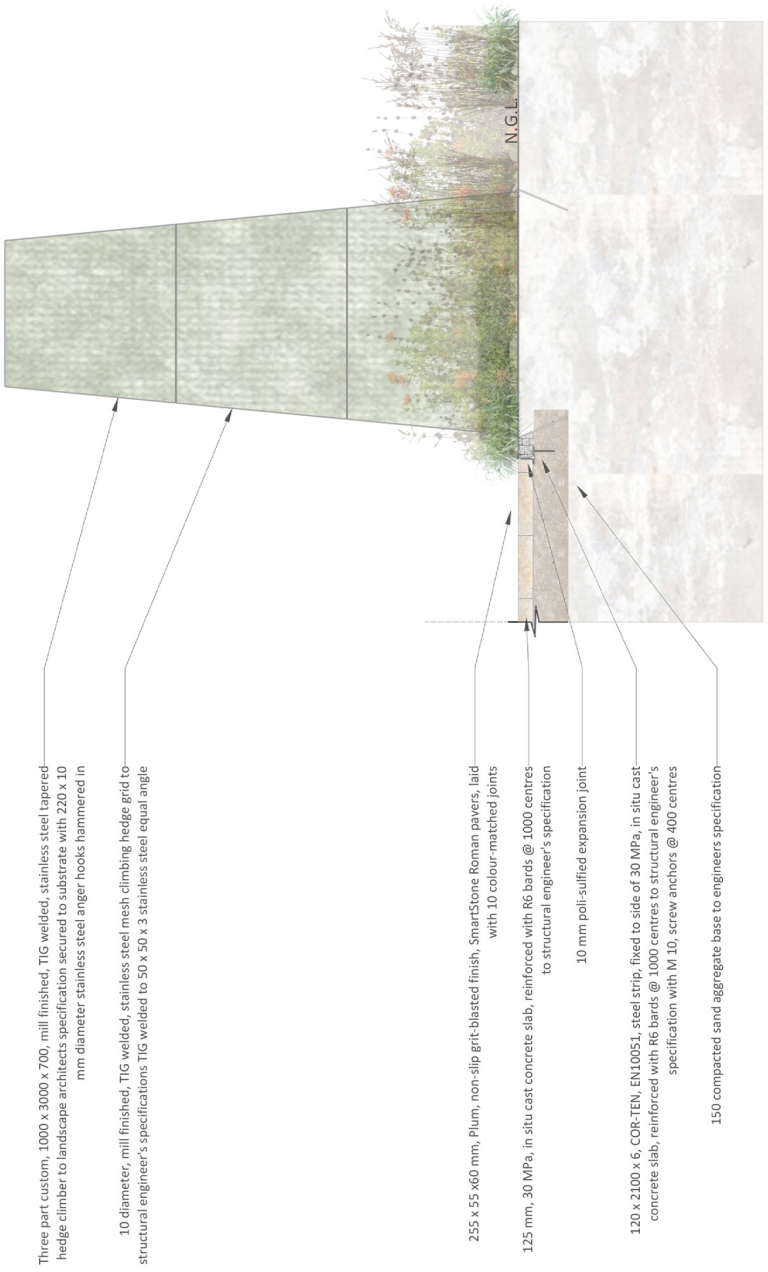


Fig.8.39 Hedge construction detail

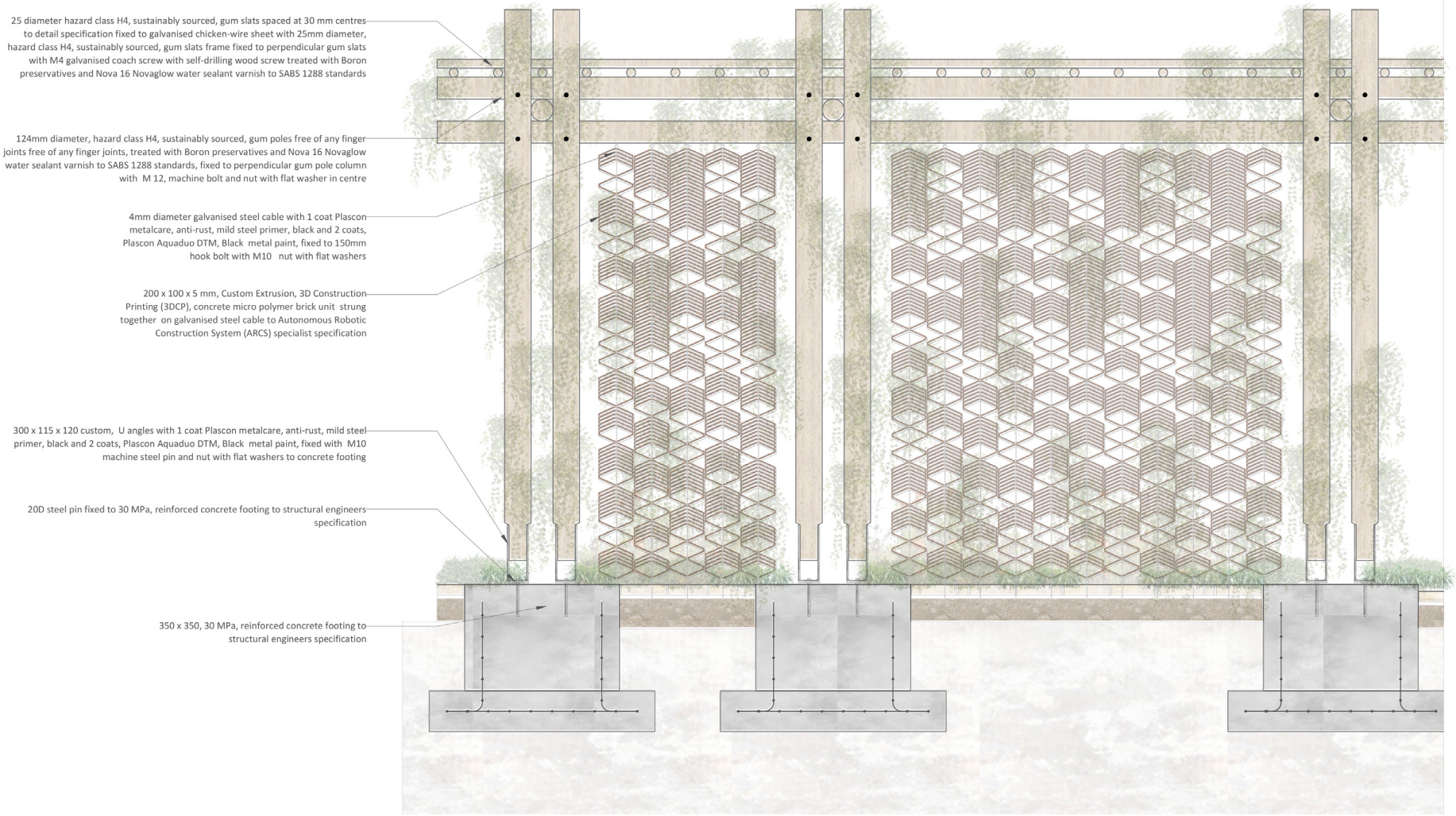


Fig.8.40 Walkway pergola detail

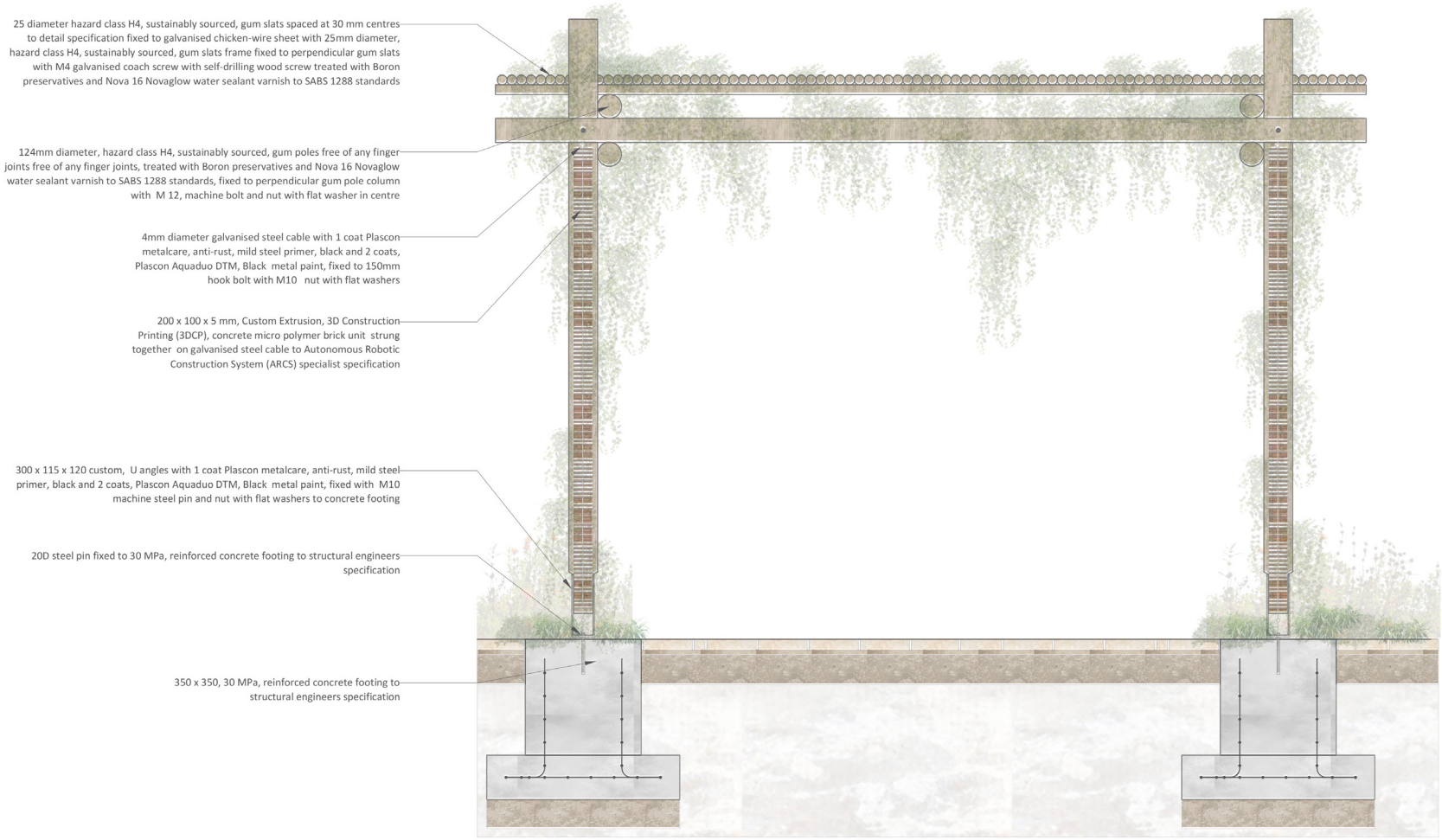


Fig.8.41 Walkway pergola construction detail

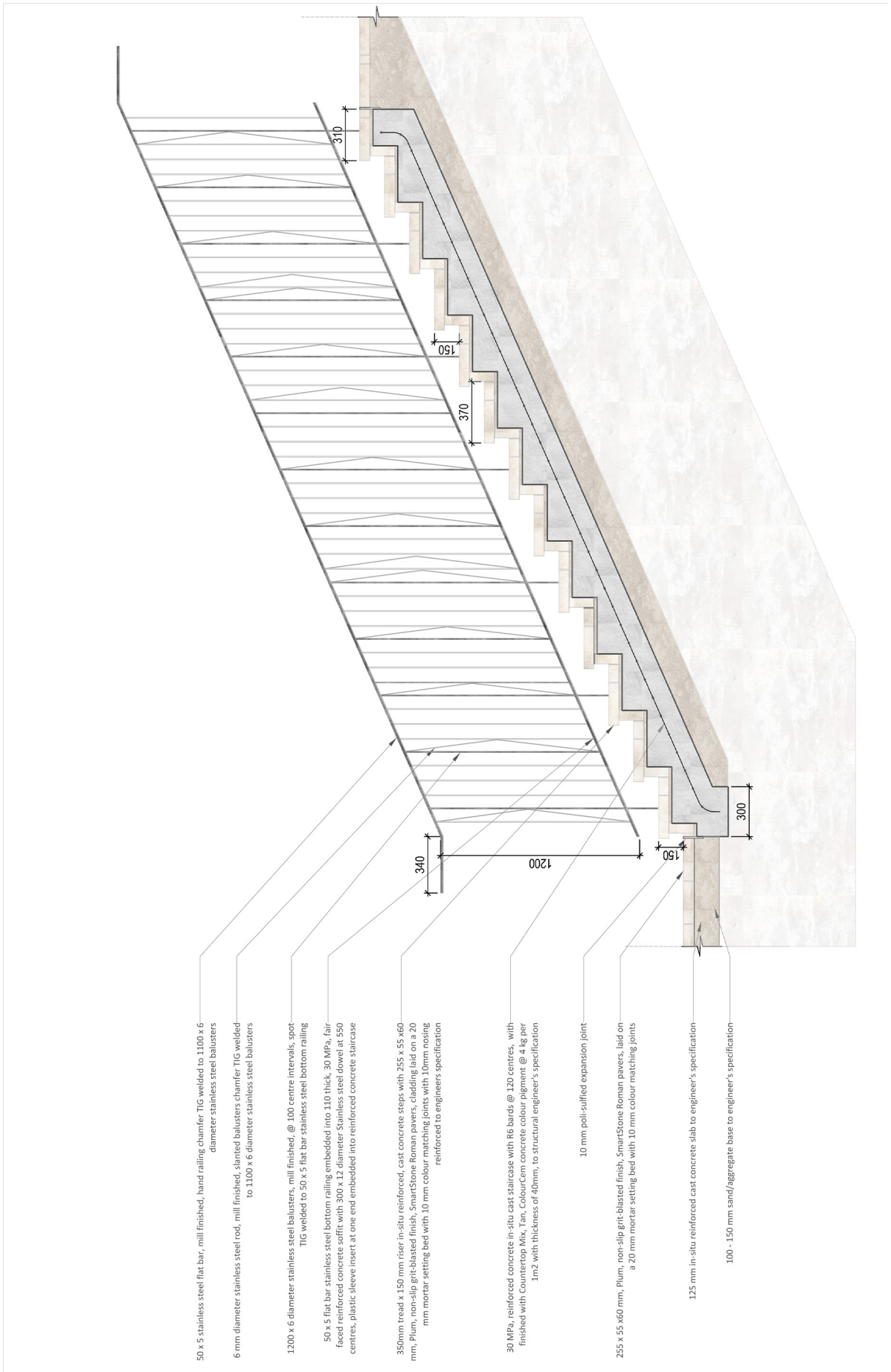


Fig.8.42 Staircase construction detail

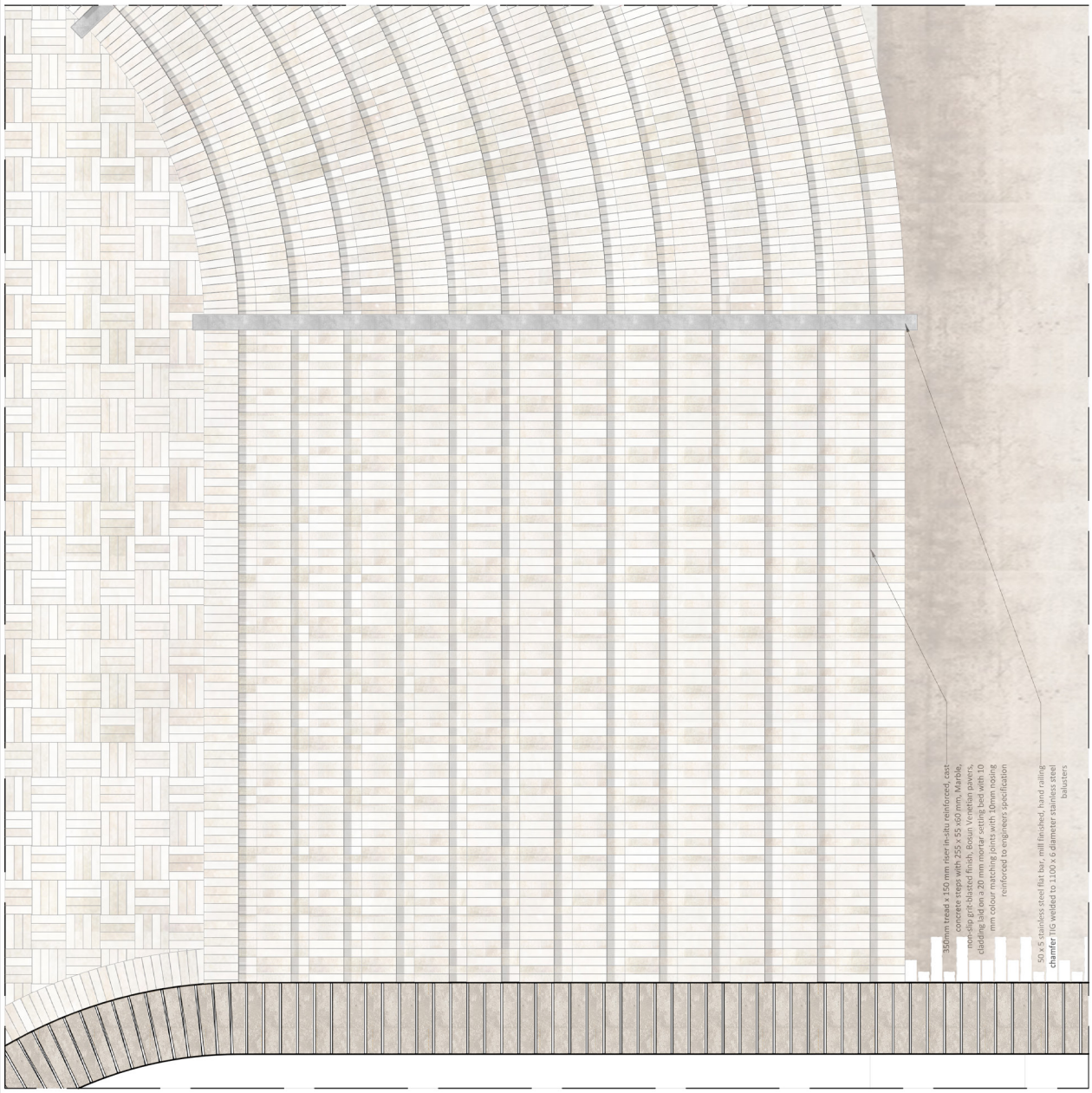


Fig.8.43 Staircase paving detail

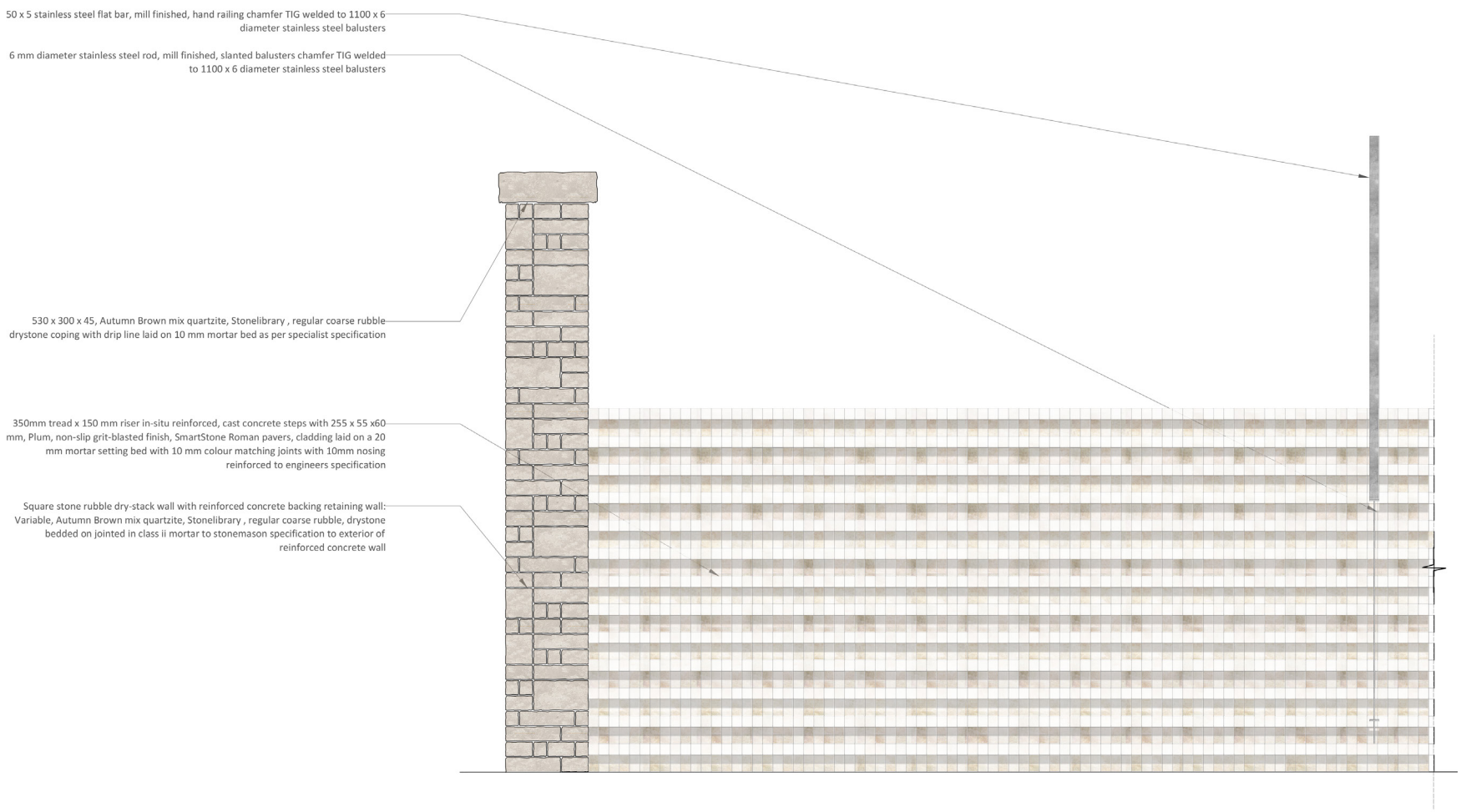


Fig.8.44 Staircase paving detail elevation

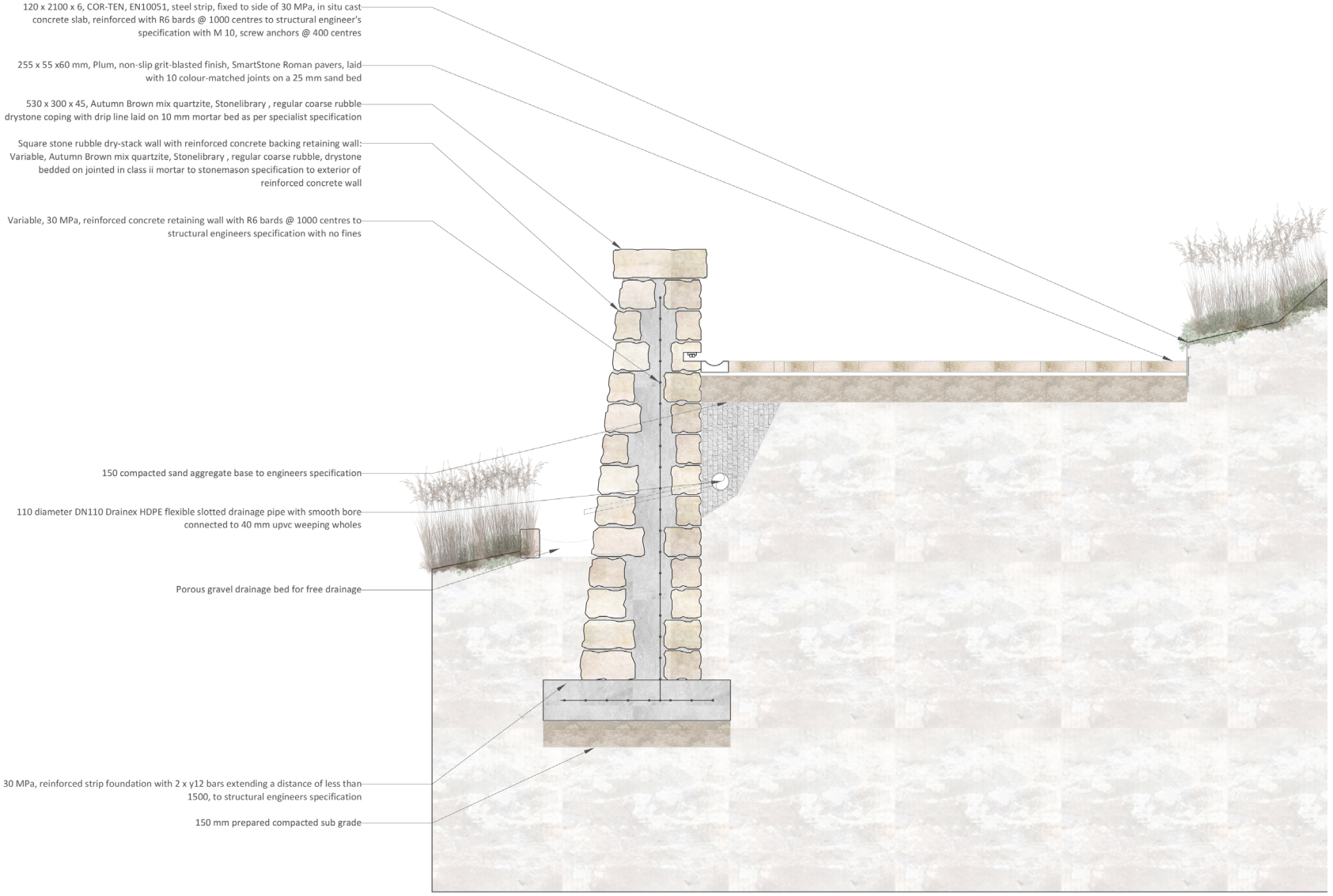


Fig.8.45 Walkway construction detail

CHAPTER NINE:
PLANTING PALETTE

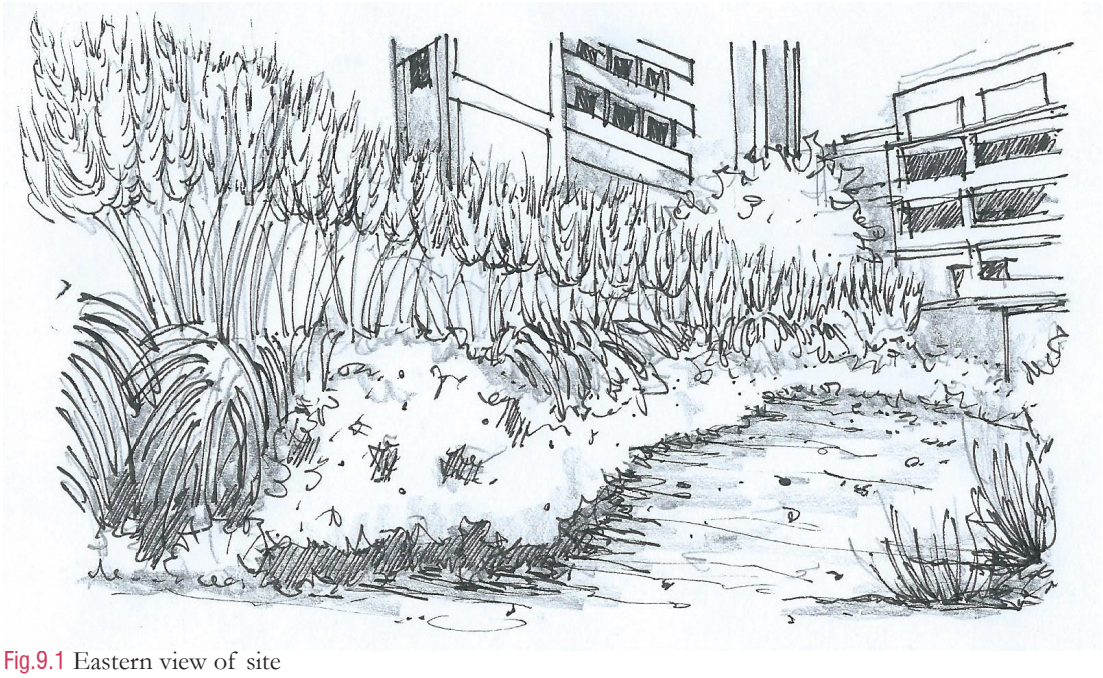
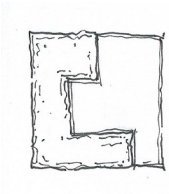


Fig.9.1 Eastern view of site

9.1 The manifesto of the viridic

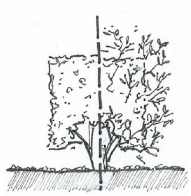
The conceptual approach for the planting palette was influenced by the manifesto for the viridic, proposed by Raxworthy (2018). It is achieved through the application of the three identified lenses – form, biology and practice – discussed in Chapter Four.

The notions of the viridic manifesto can be summarised as follows:



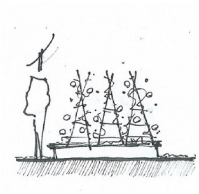
Plants and designer are equals

This notion entails the reinterpretation of the subject and object, split between humans and plants, to promote an "intersubjective relationship" in the garden by imbedding growth as subject in the landscape (Raxworthy 2018:324).



Plant material is growth

The second notion concerns the understanding of the dynamic form language of landscape architecture by comprehending the dynamic qualities of plants through recognising them as a living material inherently governed by growth (Raxworthy 2018:325).



Maintenance is explicit

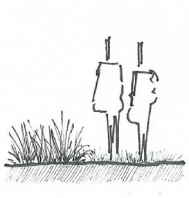
Maintenance is affirmed as an integral part of spatial expression in the landscape architecture discipline by recognising the contingency that exists within plants as living media, manipulating the ecology for desired aesthetic qualities, and using design to regulate ecological systems (Raxworthy 2018:326).

The viridic is energy

Design is viewed as optimising the insertion of energy as it arises through the process of gardening, predicting future outcomes as a result of growth (Raxworthy 2018:327).

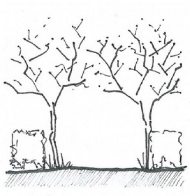
Actions trigger latent affect

Plant qualities are manipulated to dynamically influence developing spatial and organisational effects over the progression of time, endowing them with different qualities over time (Raxworthy 2018:328).



Form and process are addressed simultaneously

An understanding of the material quality or form of a plant is the direct result of a process, where plant qualities are not static but representative of the growth of plants (Raxworthy 2018:329).



Merging the garden and design thinking

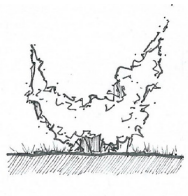
Forms of judgement from both the gardener's and the landscape architect's perspective are incorporated, in order to understand landscape as an amalgamation of both practices (Raxworthy 2018:332).

Gardening is feedback on the design process

Landscape is understood as inherently recursive and iterative, constantly moving between cause and effect, where the original design is in constant flux and gardening is the means of controlling the flux (Raxworthy 2018:332).

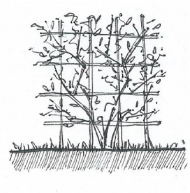
Action rather than representation

This notion entails the understanding of vegetation not in terms of an object that represents growth, but rather as a material formed by process, achieving an active shaping interaction between the material and the user (Raxworthy 2018:331).



A viridic practice is a learning practice

The landscape is viewed as a learning environment, where the interaction and relationship between plant and user is beneficial to both (Raxworthy 2018:331).



Biology is aesthetics

Plant biology is manipulated for aesthetic outcomes brought forth through the act of gardening (Raxworthy 2018:330).

Fig.9.2 Collection of Manifesto of the viridic illustrations

9.2 The selection of the planting palette

9.2.1 Species selection

As established in the garden case studies, the selection of plant species did not exclusively consist of indigenous South African plants, but contained some exotic species also. The intention with the species selection for the design intervention is to select plant species derived from the garden case studies to enforce the same regional language in the landscape intervention. This selection, however, only consists of indigenous plant species and does not include any of the exotic species. This decision was made due to the environmental properties of the indigenous planting palette providing better ecosystem functions, and to enforce a regional identity within the park. The planting selection was also intended to adapt according to the different phases of the project and to accompany change in the programme of the design development. In Phase One the intention is that plants will be selected for productive purposes, consisting of cultivars such as fruit trees and vegetables. The productive plant cultivars will be accompanied by ecosystem-supporting species such as herbs and flowering plants so as to attract pollinators and to deter pests. In Phase Two the intention is that plants will be selected to form private recreational spaces for the allotment gardens. These will consist of an array of large tree and shrub species that can be altered and shaped to articulate form in the landscape and provide structure for future garden spaces. This plant selection will consist of typical garden plant species identified in the case studies. In Phase Three the intention is to select plants to articulate and refine public recreational spaces in the landscape. This selection will contain more resilient plants which require less maintenance, such as smaller shrubs, groundcovers and more flowering species. The following factors of form, colour, texture and habit were considered for the planting palette.

9.2.2 Form

The intention with the planting selection was to select plant species of every form group, ranging from groundcovers, climbers, shrubs and aquatic plants to trees, in order to create a balanced planting palette in terms of form creation. To support the concept that the plants should be used as a living material to form space, an array of different forms of plants was chosen to diversify the possibilities for creating different spaces. Plant species were chosen that prefer to be shaped and formed so as to allow the user to actively engage in the maintenance of the vegetation to form space.

9.2.3 Colour

In selecting the colour palette for the plant material, focus was placed on the colour of the foliage rather than the colours of the flowers. As stated, the intention with the planting material was to form space and to emphasise the planting in the landscape; therefore, the colour selection is primarily focused placed on the colour of the foliage rather than the colours of the flowers. As stated, the intention with the planting material was to form space and to emphasise the planting in the landscape; therefore, the colour selection is primarily focused on different shades of greens and cooler colours, contrasting with the warm hues of the hard landscaping. Flowering plants are used selectively, either in mass planting of a chosen species to emphasise the plants themselves, or as feature plants to draw attention to a desired area. The colour range for the flowering plants consists primarily of warm oranges, yellows and reds and, in some cases, purples.

9.2.4 Texture

As the mass planting of different shades of green might be perceived as monotonous, attention was paid to the texture of the different plant species. The intention was to create interest in the amalgamation of different vegetation textures, contrasting the dark, glossy green foliage of the hedges with the lighter, matt ground-cover vegetation.

9.2.5 Habit

Plant species with a certain habit that can thrive in harsh urban conditions where poor light and air qualities are prevalent, were chosen for the planting palette. The habits of the plants are also required to adjust to the change in programme brought about by the phased development. Seeing that the site is to be developed over a time period of fifty years, the planting palette is also intended to accompany the physical changes on the site in terms of soil structure, light conditions and microclimate; therefore, the intention is to select an adaptable planting palette that can adequately adjust as the site changes. In the first phase the planting palette is more focused on productive and pioneering plant species, with the intention to rehabilitate the existing site and to provide fresh produce to the users. In the second phase the planting palette is more focused on traditional domestic garden plants for aesthetic and structural purposes, allowing for larger plant species to provide structure to the landscape and assist in the formation of recreational spaces and microclimate control. In the final phase the planting palette is focused on the refinement and diversification of the recreational spaces for the general public, containing smaller shrubs and groundcovers to serve ecological purposes and that are adapted to prolonged shady conditions created by the large species of trees that will by then have matured on site.

9.3 The planting palette

Requires little watering

Requires moderate watering

Requires a lot of watering

Full sun

Partial shade

Full shade

Clay Soil

Loam Soil

Sandy Soil

Tolerates moderate wind

Frost Hardy

Melinis repens

- Common Name/s - Natal red top (Eng.); bergrooigras (Afr.)

Characteristics description:

- Fully Grown Size – 250mm X 1200 mm
- Annual/Perennial – Perennial
- Growth Rate – Fat growing
- Periods – Flowers in Summer

Crocosmia aurea

- Common Name/s - falling stars, valentine flower, montbretia (Eng.); valentynsblom (Afr.); umlunge, ud-wendweni (Zulu)

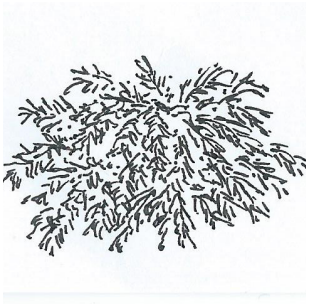
Characteristics description:

- Fully Grown Size – 0,95m X 0,3m
- Annual/Perennial – Perennial
- Growth Rate – Fast growing
- Periods – Flowers in February till April

Fig.9.3 Collection of illustrations for planting palette A

Asparagus densiflorus

- Common Name/s - Cwebe asparagus fern, Cwebe emerald fern, Cwebe basket asparagus (Eng.); smaragsiervaring (Afr.); isiqobola, umgcagcazane,



Characteristics description:

- Fully Grown Size – 0,3m X 0,9m
- Annual/Perennial – Perennial
- Growth Rate – Fast growing

Plectranthus madagascariensis

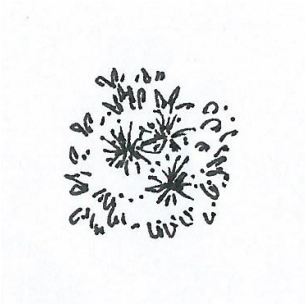
- Common Name/s - thicket spurflower, Madagascar spurflower, candle plant (Eng.); ruigte spoorsalie, Madagaskarmuishondblaar (Afr.); iboza lehlathi,

Characteristics description:

- Fully Grown Size – 0,15m X 0,45m
- Annual/Perennial – Perennial
- Deciduous/Evergreen – Evergreen
- Growth Rate – Fast Growing

Delosperma

- Common Name/s - Afrikaans names of species: D. carolinense, D. vogtsii : klipvygie, rotsvygie; D. floribundum : skaapvygie; D. herbeum : witbergvygie;

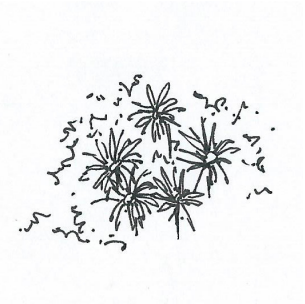


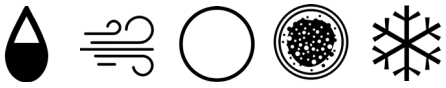
Characteristics description:

- Fully Grown Size – 0,12m x 0,2m
- Annual/Perennial – Perennial
- Growth Rate – Fast Growing
- Periods – Flowers in October till February

Dimorphotheca sinuata

- Common Name/s - Namaqualand daisy, African daisy (Eng.); gousblom, jakkalsblom (Afr.)





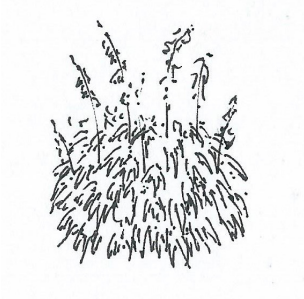
Characteristics description:

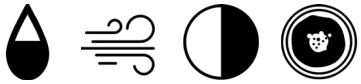
- Fully Grown Size – 0,3m X 0,8m
- Annual/Perennial – Annuals
- Growth Rate – Fast growing
- Periods – Flowers in Spring, Early Summer, Winter

Fig.9.4 Collection of illustrations for planting palette B

Ceratotheca triloba

- Common Name/s - wild foxglove(Eng.); vingerhoedblom (Afr.); ludvonca (Sw); udonqa (Sw,Z); undoncalwabathwa, udonqabathwa (Z)





Characteristics description:

- Fully Grown Size – 1,2m X 0,4m
- Annual/Perennial – Annual
- Growth Rate – Fast growing
- Periods – Flowers in November – May

Nymphaea nouchali Burm. f. var. caerulea

- Common Name/s - blue water lily, Cape water lily, frog's pulpit, blue lotus (Eng.); blouwaterlelie, kaaimanblom, paddapreekstoel, blou plomb (Afr.);

Characteristics description:

- Fully Grown Size – 0,1m X 0,8m
- Annual/Perennial – Perennial
- Growth Rate – Fast growing
- Periods – Flowers in September to April

Cyperus papyrus

- Common Name/s - papyrus (Eng.); papirus (Afr.); the bulrush of the Bible

Characteristics description:

- Fully Grown Size – 2 m x 1m
- Annual/Perennial – Perennial
- Growth Rate – Very Fast Growing
- Periods – Flowers in Summer

Zantedeschia aethiopica

- Common Name/s - White or common arum lily (English); wit varkoor (Afrikaans); intebe (Xhosa) ihlukwe (Zulu)

Characteristics description:

- Fully Grown Size – 0,95m x 0,5mm
- Annual/Perennial – Perennial
- Growth Rate – Fast growing
- Periods – Flowers in September – January

Fig. 9.5 Collection of illustrations for planting palette C

Cyphostemma juttae

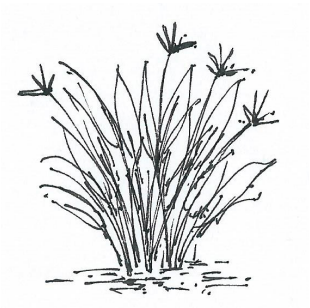
- Common Name/s - wild grape, tree grape, Namibian grape (Eng.); droog-my-keel (Afr.)

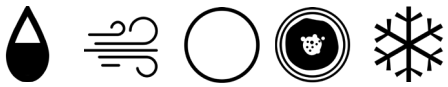
Characteristics description:

- Fully Grown Size – 2 m X 1,5m
- Annual/Perennial – Perennial
- Growth Rate – Extremely slow growing
- Periods – Flowers in November

Strelitzia reginae

- Common Name/s - crane flower, bird of paradise, orange strelitzia (Eng.); isigude (Nguni); kraanvoëlblom (Afr.)



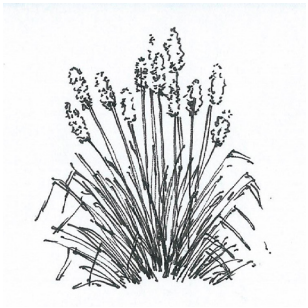


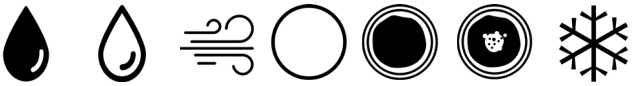
Characteristics description:

- Fully Grown Size – 1,2 m X 1,2 m
- Annual/Perennial – Perennial
- Growth Rate – Fast growing
- Periods – Flowers in March to October

Kniphofia praecox

- Common Name/s - red-hot poker or torch lily (English), vuurpyl (Afrikaans)





Characteristics description:

- Fully Grown Size – 1m X 1m
- Annual/Perennial – Perennial
- Growth Rate – Grows moderately fast
- Periods – Flowers in Winter

Rhoicissus tridentata

- Common Name/s - northern Bushman's grape, bitter grape, wild grape (Eng.); noordelike boesmansdruif, bitterdruif, droog-my-keel, wildedruif (Afr.)

Characteristics description:

- Fully Grown Size – 1.5m X 3m
- Annual/Perennial – Perennial
- Growth Rate – Fast growing
- Periods – Flowers in Spring, Early Summer, Late Summer, Autumn

Fig.9.6 Collection of illustrations for planting palette D

Jasminum multipartitum

- Common Name/s - starry wild jasmine (Eng.); sterretjies-jasmyn (Afr.); imfohlafohlane (Zulu)

Characteristics description:

- Fully Grown Size – 1,5 m x 3 m
- Annual/Perennial – Perennial
- Growth Rate – Fast growing
- Periods – Flowers in Spring, Early Summer, Late Summer

Bauhinia galpinii

- Common Name/s - Pride of De Kaap (Eng); Vlam-van-die-Vlakte (Afr).

Characteristics description:

- Fully Grown Size – 3m x 5m
- Annual/Perennial – Perennial
- Growth Rate – Fast Growing
- Periods – Flowers in September to March

Leonotis leonurus

- Common Name/s - wild dagga, lion's ear, leonotis (Eng.); wildedagga, duiwelstabak (Afr); imvovo, utywala-bengcungcu, umfincafincane (isiXhosa)

Characteristics description:

- Fully Grown Size – 2m X 1,5m
- Annual/Perennial – Perennial
- Growth Rate – Fast growing
- Periods – Flowers in Autumn

Tulbaghia violacea

- Common Name/s - Wild garlic (Eng.); wildeknoflok, wilde knoffel (Afr.)

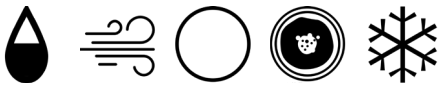
Characteristics description:

- Fully Grown Size – 0,3m X 0,25m
- Annual/Perennial – Perennial
- Growth Rate – Fast-growing
- Periods – Flowers in January till April

Fig.9.7 Collection of illustrations for planting palette E

Buddleja saligna

- Common Name/s - false olive (English); witolien (Afrikaans); umBatacwepe (Siswati); lelothwane (South Sotho); mothlware (Tswana); unGqeba



Characteristics description:

- Fully Grown Size – 4m X 3m
- Annual/Perennial – Perennial
- Growth Rate – Grows relatively fast
- Periods – Flowers in October till April

Carissa macrocarpa

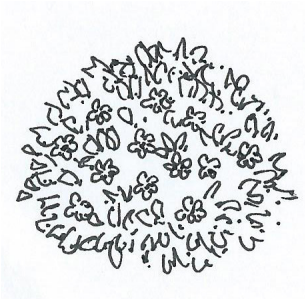
- Common Name/s - Natal plum, big num-num (Eng.); grootnoem-noem (Afr.); Amatungulu (Zulu)

Characteristics description:

- Fully Grown Size – 3m X 2m
- Annual/Perennial – Perennial
- Deciduous/Evergreen – Evergreen
- Growth Rate – Fast Growing
- Periods – Flowers in September till January

Freylinia tropica

- Common Name/s - Waterberg bell-bush, blue honey-bell, blue freylinia (Eng.), inyanga hedge plant (Shona)

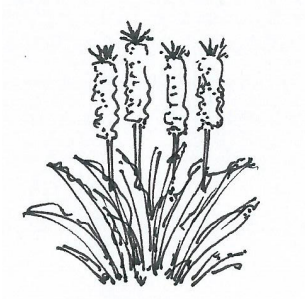


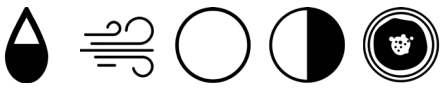
Characteristics description:

- Fully Grown Size – 1,5m X 0,75m
- Annual/Perennial – Perennial
- Growth Rate – Fast growing
- Periods – Flowers in Throughout the year

Clivia miniata

- Common Name/s - bush lily (Eng.); boslelie (Afr.); umayime (Zulu)





Characteristics description:

- Fully Grown Size – 0,45m X 0,6 m
- Annual/Perennial – Perennial
- Growth Rate – Grows slowly
- Periods – Flowers in Spring

Fig.9.8 Collection of illustrations for planting palette F

Eucomis autumnalis

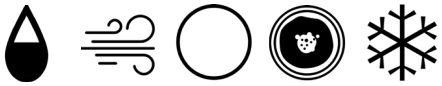
- Common Name/s - pineapple flower, pineapple lily (E), wildepynappel, krulkoppie (A), ubuhlungu becanti, isithithibala esimathunzi (X), umathunga, ukhokho,

Characteristics description:

- Fully Grown Size – 0,5m X 0,6m
- Annual/Perennial - Perennial
- Growth Rate – Fast growing
- Periods - Early Summer, Late Summer

Hypoxis hemerocallidea

- Common Name/s - Wild pink dianthus, African carnation (Eng.); grasangelier, wild-angelier (Afr.); iningizimu, isidala, umzima (isiZulu)



Characteristics description:

- Fully Grown Size – 0,4m X 0,5m
- Annual/Perennial – Perennial
- Growth Rate – Moderately fast growing
- Periods – Flowers in September till January

Harpephyllum caffrum

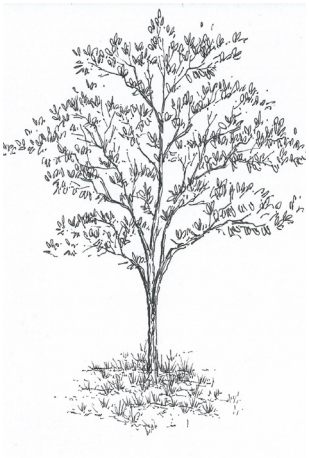
- Common Name/s - wild plum (Eng.); wildepruim, suurbessie, gwenjabessie (Afr.); umgwenya (Zulu, Xhosa); mothekele (Northern Sotho)

Characteristics description:

- Fully Grown Size – 12m x 11m
- Deciduous/Evergreen – Evergreen
- Growth Rate – Fast growing tree
- Periods –Flowers in December till February

Terminalia sericea

- Common Name/s - mususu (Venda); silver cluster-leaf or silver terminalia (Eng.); vaalboom (Afr.)



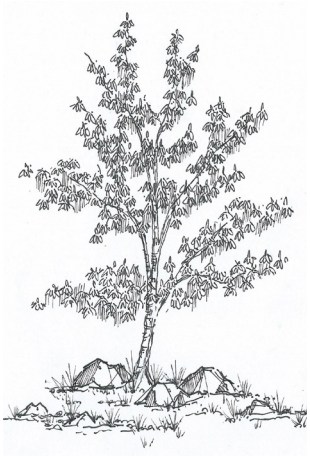
Characteristics description:

- Fully Grown Size – 8m X 10m
- Deciduous/Evergreen – Deciduous
- Growth Rate – Moderately fast
- Periods – Flowers in September to December

Fig.9.9 Collection of illustrations for planting palette G

Rothmannia capensis

- Common Name/s - wild gardenia, common Rothmannia (Eng.); wildekatjiepiering (Afr.); modulatshwene (Northern Sotho); mukubudu (Venda);



Characteristics description:

- Fully Grown Size – 7m X 6m
- Deciduous/Evergreen – Evergreen
- Growth Rate – Moderately fast
- Periods – Flowers in December till February

Combretum erythrophyllum

- Common Name/s - river bushwillow (Eng.), riviervaderlandswilg, rooiblaar, rooiblad (Afr.), umbondwe, umdubu-wehlandze, umhlalavane (Zulu), umdubu (Xhosa)

Characteristics description:

- Fully Grown Size – 10m X 13m
- Deciduous/Evergreen - Deciduous
- Growth Rate – Fast growing
- Periods – Flowers in August to November

Vachellia sieberiana

- Common Name/s - paperbark thorn (Eng.); papierbasdoring (Afr.); Mphoka (North Sotho)

Characteristics description:

- Fully Grown Size – 12m X 16m
- Deciduous/Evergreen – Evergreen
- Growth Rate – Very fast growing
- Periods – Flowers in September to November

Fig.9.10 Collection of illustrations for planting palette H

CHAPTER TEN:
CONCLUSION

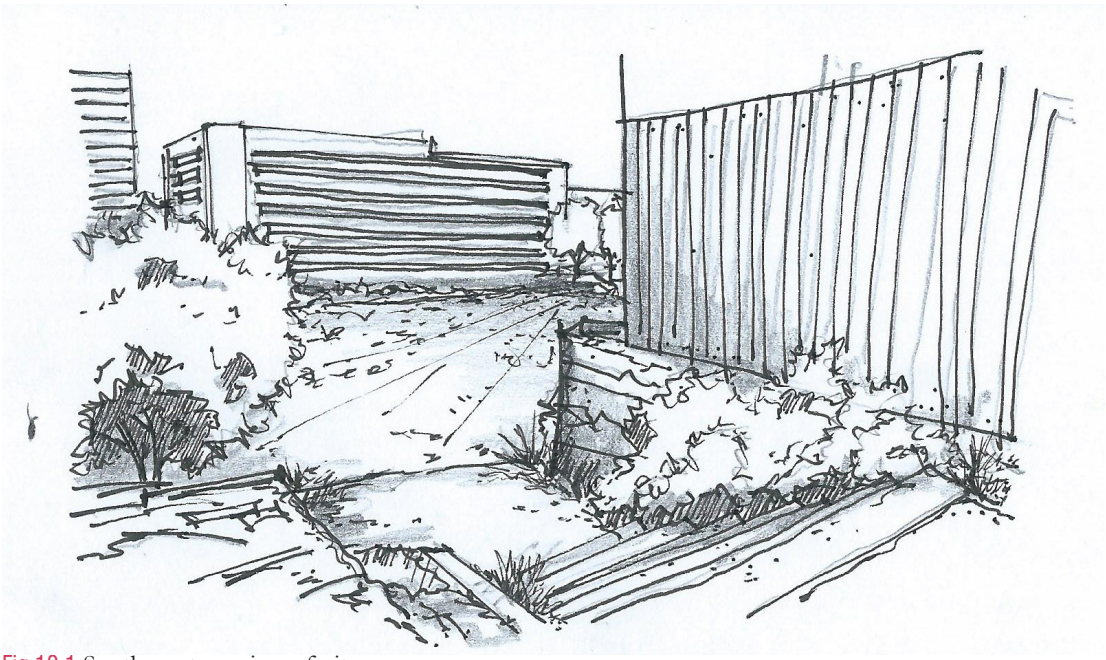


Fig.10.1 South western view of site

10.1 An urban garden collective

As South Africa is a country in the process of transformation and in search of a new identity free from its oppressive past of which the effects can still be felt in the spatial condition of the urban environment today. The urban landscape of Johannesburg has become a hostile and harsh environment where the experience of the user in public domain is neglected in urban renewal initiatives. Perhaps an alternative approach to urban renewal can be adopted.

Deductions of dissertation investigation

1. Communality of open public spaces

From the investigation it believed that a communal landscape system derived from domestic gardens can develop into an open public park. The communal landscape system can address site specific issues of urban segregation and the creation of Privatopias by providing a landscape model that is specifically tailored to the needs of the user and has the potential to adapt and change as is required in the progression of the landscape interventions lifetime.

2. Identifying a regional language

From the investigation it is found that a distinct landscape vernacular could not be identified but that a regional language of practice, derived from traditional landscape maintenance and cultivation practices could be established. Through the application of indigeneity, in combination with traditional cultural practices, an emergent landscape language could be utilised to improve site identity that is indicative of its surroundings and its people, creating place in space.

3. Regional practice as informant to space formation

From the investigation an in-depth understanding is formed regarding the intimate feedback and tendency relationship that exists between the caretaker and landscape and how this relationship is manifested spatially in the landscape. Here users are encouraged to engage with the ritual of the site and play an active role in the formation of space, creating opportunities where the user is not only inhabiting the landscape but also forming part of the landscape.

It is suggested in this dissertation that a bottom-up approach should be implemented, in which renewal strategies of communality are implemented to address matters of ownership and user participation. The establishment of a garden collective landscape of potential will assist in the revitalisation of the urban landscape of Braamfontein through the application of an emergent landscape language derived from regional vernacular of garden practice reinforcing an intimate relationship between the urban user and the landscape. This landscape intervention is proposed to function as a catalyst for future urban rejuvenation and to form part of an informed cultural expression inherent to the urban setting by addressing site-specific issues and exploiting existing site possibilities. It is imperative to understand how cultural ideas condition construction, and how construction in turn conditions a play of landscape ideas in the larger cultural imagination (Corner 1999:8). In man's never-ending search for an idealistic depiction of the world, the refuge of paradise can perhaps be found in our own residential backyards. By forming an in-depth understanding of the intimate relationship that exists between the caretaker and the landscape, of the inherent novel characteristics of the living material, and of the symbolic role that the concept of indigeneity plays in the formation of a new cultural identity for the South African people, a set of spatial objectives can be formed to be applied in contemporary landscape interventions. Through the identification of a regional landscape vernacular of practice, the aim with the proposed collective landscape intervention is to encourage the engagement of the user as landscape custodian and active participant in the formation of space. The relationship between the viridic and the tectonic would thus be amalgamated as catalyst for urban renewal, in an attempt to resolve current postmodern urban landscape issues in the Johannesburg area, and to reinforce the notion of 'return to the city' by returning to the garden.

ADDENDUM

Fig.11.1 Vaal river view in Shangri-la gardens

Fig.11.2 Final crit

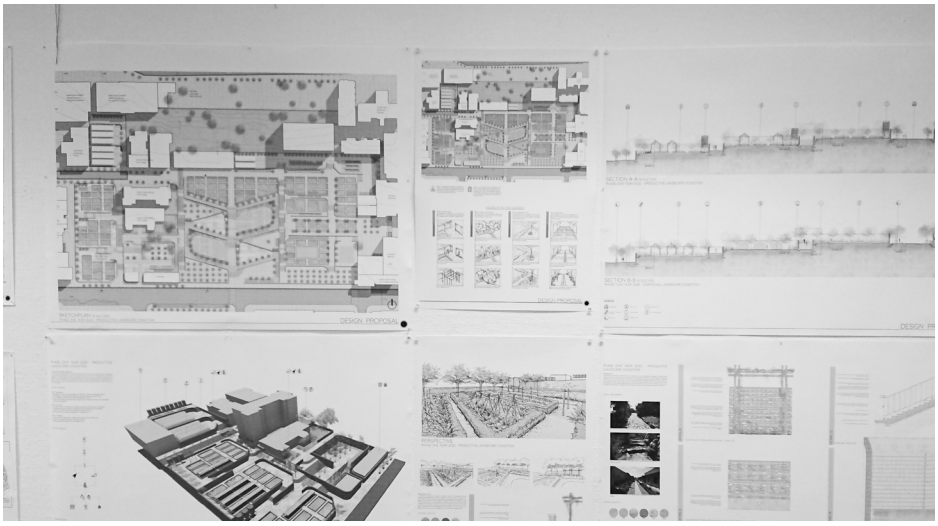


Fig.11.03 Final crit

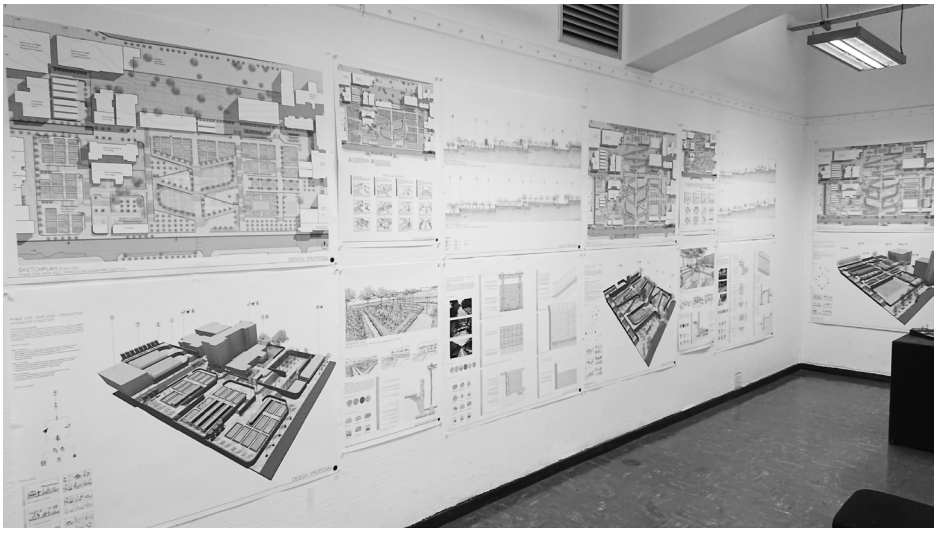


Fig.11.04 Final crit

Fig.11.05 Final crit

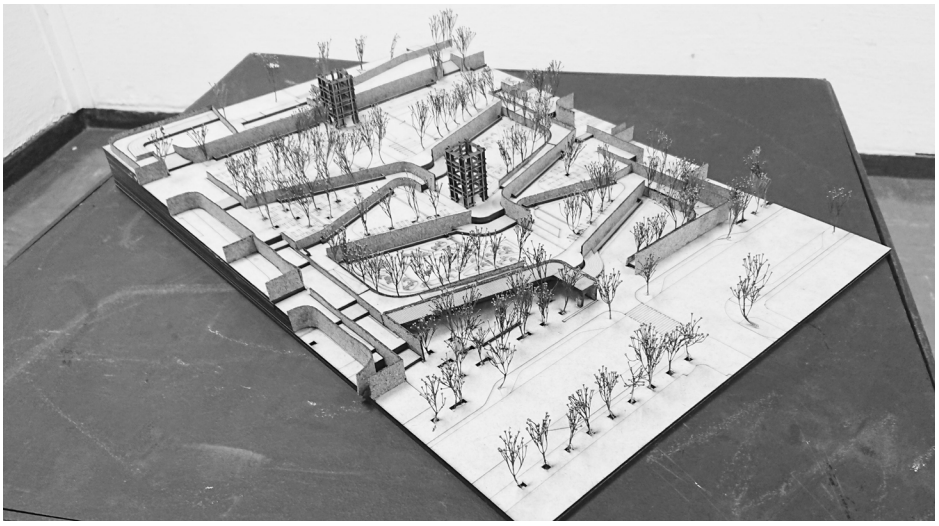


Fig.11.06 Perspective of final model

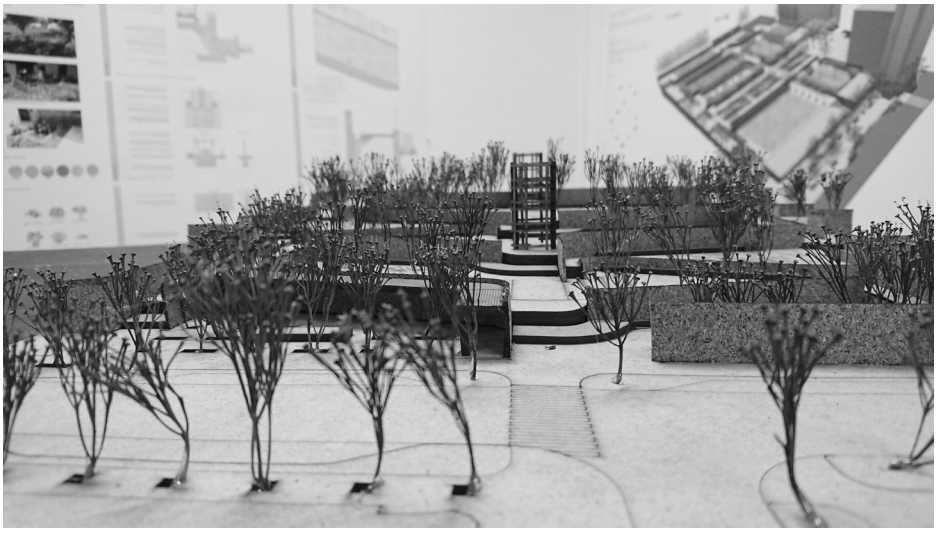


Fig.11.07 Perspective of final model

Fig.11.08 Perspective of final model

Fig.11.9 Final crit

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