

REVITALIZATION OF AGA KHAN WALK, NAIROBI

DESIGN REPORT



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B02/0903/2013

Birds are meant to fly, deer to run, fish to swim and human beings to walk!

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INTRODUCTION

THESIS TOPIC: Designing for lively and walkable streets in Nairobi

For a street to be **lively and walkable**, it must be **safe, comfortable, interesting and useful**.

Nairobi, like many other cities, has invested heavily in car-centric development, building highways and expanding road networks. Little attention to the safety of other road users has led to high crash rates and dangerous streets. Promoting combinations of more public transit, cycling and walking is helping some cities not only become safer but reducing congestion, obesity, pollution and climate change.



*City residents cross racecourse road around OTC.
Source: Wako, 2019.*



Pedestrians walking along Thika Superhighway. Source: Mureithi, 2014.



Nairobi commuters walk as City Hall enforces matatu CBD ban. Source: [Ndonga](#), 2018.

BACKGROUND INFORMATION

In 2017, Nairobi passed the Non-Motorized Transport Policy for Nairobi. The new policy puts the city on the path toward more inclusive design. The policy calls walking the dominant mode of transport in the city and aims to build a framework and set of interventions to prioritize pedestrians. These include developing a new street design manual with complete streets principles, mandating at least 20 percent of the transport budget go toward supporting non-motorized modes, stronger regulations on developers to provide foot pathways, traffic-calming measures, and rules to discourage the blocking of non-motorized networks, like sidewalks and cycling paths.

PROBLEM STATEMENT

Nairobi's historic focus on roads stands in contrast to how people actually get around the city; just 12 percent of households own a private vehicle and most people use public transit. While there is much to be done to make Nairobi a safer, more pleasant place to get around, the Non-Motorized Transport Policy is an important first step. The walking population is increasing day after day with increase in rural urban migration and yet nothing has been done to the streets to accommodate the growing pedestrian population. This has led to **overcrowding, insecurity, accidents, fatigue and deaths.**



Pedestrian walking on vehicular way.
Source: Nduta, 2019.



Pedestrian sitting on walkway Source:
Nduta, 2019.



Police on patrol in the streets Source:
Nduta, 2019.



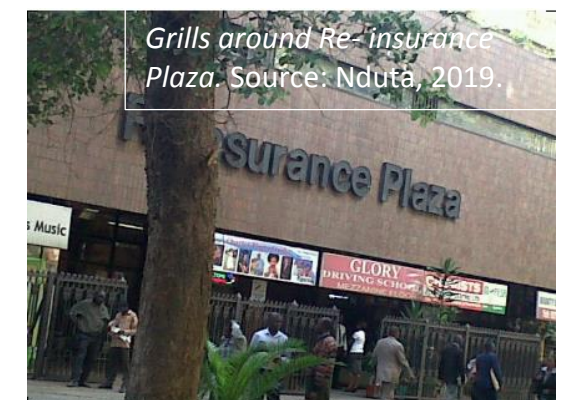
Homeless people sleeping on the streets . Source: Nduta, 2019.

AGA KHAN SITE WEAKNESSES

1. Inaccessible green spaces attracting homeless families especially at night hence making it unsafe at night.
2. Minimal interaction between the existing buildings and the street
3. Lack of street activity for all age groups.
4. Street exposure to the harsh western sun.
5. Lack of strong connection with the neighbouring streets.
6. Poor connection to Kimathi Street.
7. Lack of adequate sitting spaces
8. Poor waste management leading to odour in the site



Homeless people sleeping in the inaccessible green spaces. Source:
Nduta, 2019.



Grills around Re-insurance Plaza. Source: Nduta, 2019.



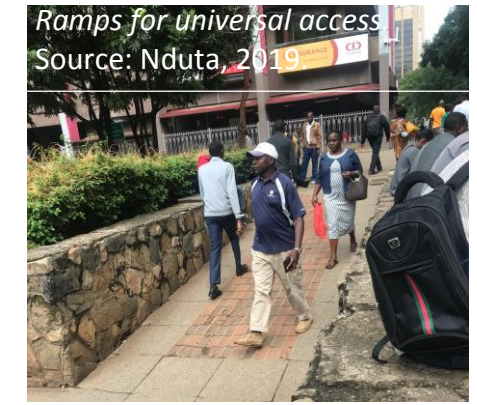
Pedestrians sitting in the area exposed to the western sun
Source: Nduta, 2019.



Lack of adequate shaded sitting spaces. Source: Nduta, 2019

SITE STRENGTHS

1. Exposed positive views into the site.
2. Presence of indigenous trees in the green spaces.
3. Hiking activity during the weekends.
4. Green spaces that make the street interesting.
5. Pedestrians only street hence safe for pedestrians.



PROJECT OBJECTIVES/ DESIGN SOLUTIONS

1. To introduce activities for all age groups into the site through designing a development in the street.
2. Introduce nightlife in the street.
3. Shade the street from the western sun.
4. Enhance interactions between the street and the surrounding buildings.
5. Open up Hilton Arcade to enhance the connection with Kimathi Street.
6. To take advantage of the positive views in and out of the site.
7. Decongest other streets in Nairobi



Street with active nightlife. Source: Colletti, 2017.



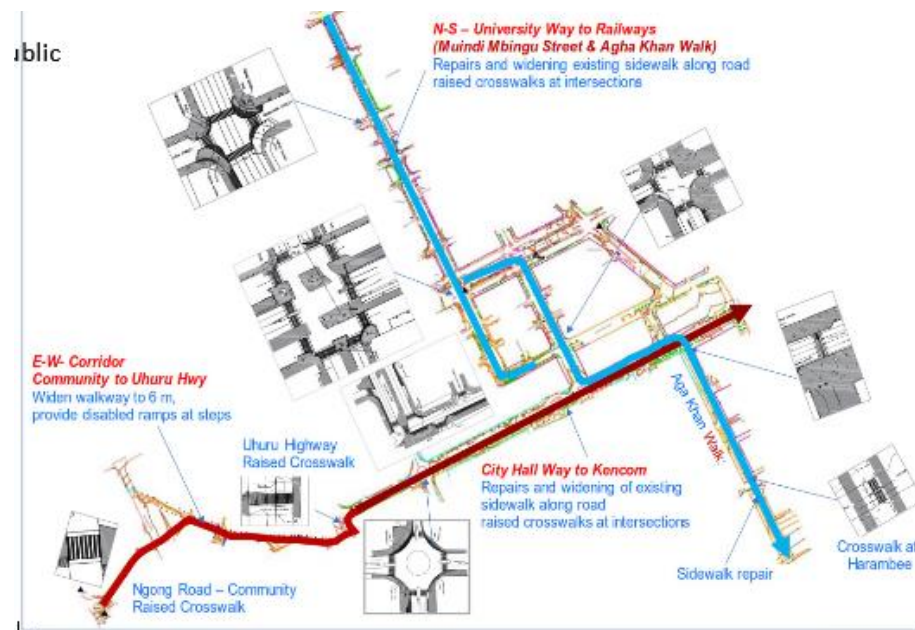
Planters along National Bank building. Source: Colletti, 2017.



Ramps for universal access. Source: Molly, 2014.

JUSTIFICATION OF SITE

1. Aga Khan Walk is the only fully pedestrianized street in Nairobi C.B.D.
2. It was also one of my case studies for my thesis and was able to identify its shortcomings and possible design interventions.
3. It has been identified as one of the streets in Nairobi that the county intends to revitalize.



Map showing the various streets target for the ongoing pedestrianization of streets in Nairobi.

Source: TIMCON website, 2020

JUSTIFICATION OF PROJECT

1. Street activity needs to be introduced along the street
2. Building activities need to expand all the way to the street
3. Street needs to be shaded from the western sun

TIMCOM Associates has been given the contract by the Nairobi County government to improve the pedestrian experience in Nairobi and my site is one of the streets it will be working.

CLIENTS

Nairobi County Government

Under the County Integrated Development Plan (CIDP) 2018-2022, the county proposes to reclaim, protect and revitalize public spaces to increase the number of people accessing public spaces and improve on their safety. Targeted streets:

1. Muindi Mbingu Street- Ongoing project
2. City Hall Way- Ongoing
3. Aga Khan Walk- Yet to start
4. Luthuli Avenue- Completed

Budget: 5B for 5 years

Implementing agency: NCCG (UDD/P SM)



**NAIROBI CITY
COUNTY**

Source: Nairobi county website, 2020.

PROJECT BRIEF DEVELOPMENT

The spaces introduced were based on the spaces recommended in my thesis on the walk, activities in the surrounding buildings and the case studies. Activities that will extend into the street from the buildings will include dining spaces and Maasai Market. To complement skirting, recreational spaces will be introduced in the surrounding area for all age groups. The site is divided into three sectors:

1. Sector 1 from city Hall Way to Re-Insurance Plaza. Cloth stores and restaurants
2. Sector 2 from Uchumi Supermarket to Harambee Avenue: Restaurant, children's play area, rock climbing and bowling alley
3. Sector 3 from Harambee Avenue to Haile Selassie Avenue. Chain restaurants and retail shops

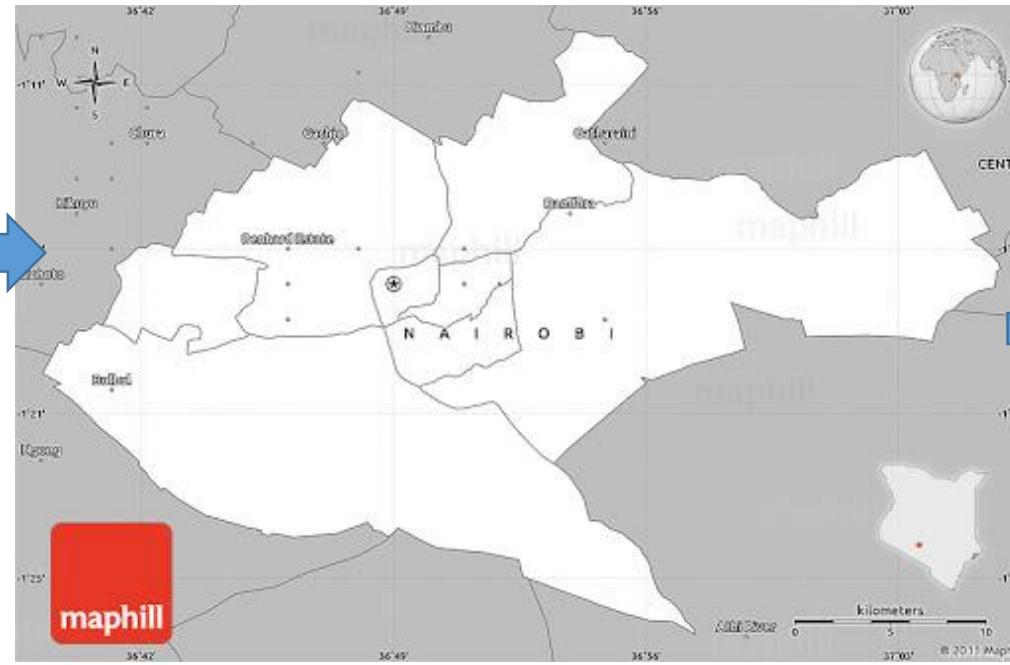
SPACE	CAPACITY	AREA	NEW/ EXTENDED INTO ST.	SPACE LOCATION	PURPOSE OF THE SPACE
5 Restaurants/ Bars	70- 100 seater	240M sq	Extended into the street	Sector 1,2,3	Enhance interactions
Maasai Market	60 traders	300M sq	Extended into the street	Sector 1	Bring in more activity
Second Hand Cloth Store	70 traders	300M sq	New activity	Sector 1	Decongest streets
Children's Play Area	100 children	190M sq	New activity	Sector 2	Activities for all groups
Bowling Alley	60 users	100M sq	New activity	Sector 2	Activities for all groups
Rock Climbing Area	60 users	100M sq	New activity	Sector 2	Compliment skirting
House of Leather		300M sq	Extended into the street	Sector 3	Bring in more activity

SITE INVENTORY AND ANALYSIS

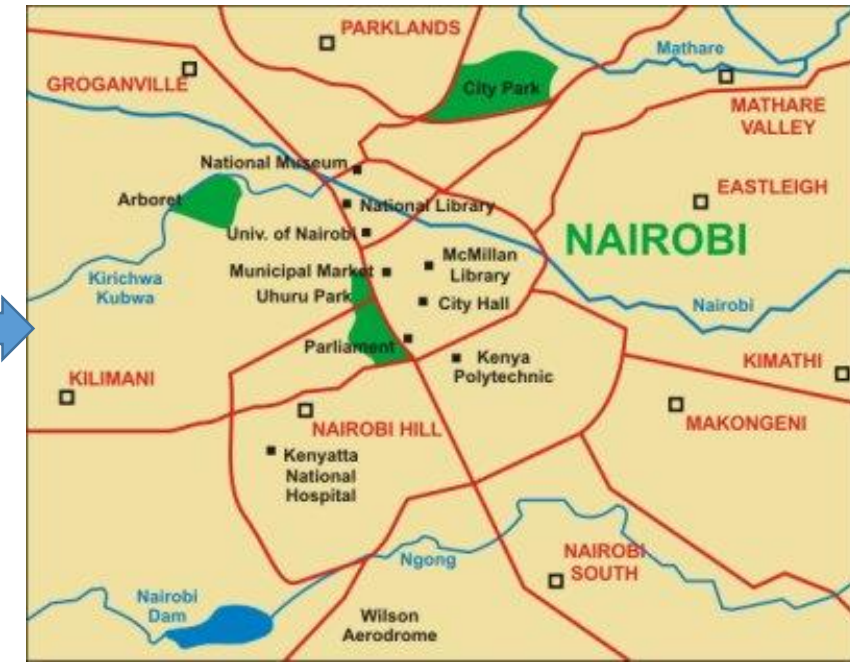
SITE LOCATION



Location of Nairobi in Kenya



Location of Nairobi C.B.D in Nairobi



Location of Nairobi C.B.D



SITE NEIGHBOURHOOD



LEGEND

1. Hotels
 - Hilton Hotel
 - Intercontinental Hotel
2. Conference Centre, K.I.C.C
3. Government buildings
 - Harambee House
 - Treasury
 - International Affairs
4. Recreational spaces
5. Commercial Spaces
6. Maasai Market at judiciary parking
7. Major Bus terminus
 - Kencom Bus Terminal
 - Railways Bus Terminal
 - Commercial Bus Terminal
 - Odeon Bus Terminal
8. Tourists attractions
 - August 7th Memorial
 - Maasai Market

Source: JICA 2020.

CLIMATIC ANALYSIS

The tall buildings along the street create a microclimate, shading the street from the winds and from the sun creating natural cool points.

The areas next to the sunken car park and private car park are not protected from the harsh western sun thus are the hottest point in the afternoon. The noise levels are not deafening.

Site has odour due to poor waste management.



Source: Nduta, 2020.



Odour due to poor waste management. Source : Nduta, 2019

NODES IN AND OUT OF THE SITE

The site is a major:

- Passage route
- Meeting space
- Recreational space
- Tourist destination

Thus is due to its close proximity to major bus terminals, nodes, tourist destinations and iconic buildings. This makes it a viable business hub. Unfortunately, the street does not have a lot of retail shops and restaurants along it.

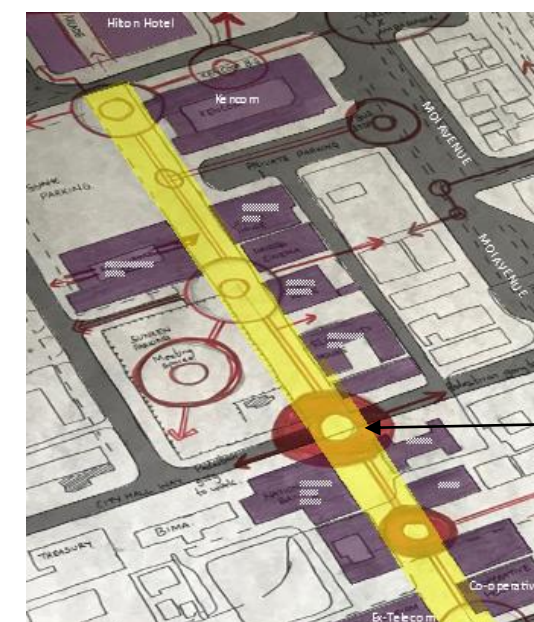
The main node is outside Uchumi supermarket. The space is used for:

1. Marketers meetings in the morning and evening
2. Resting space for pedestrians
3. Recreational purpose, skirting on weekends
4. General meeting and marketing



Source: Nduta, 2020.

NODES INSIDE THE SITE



Main node in my site
Outside Uchumi Supermarket

Source: Nduta, 2020.

VIEWS INTO THE SITE

There is exposed positive views to the iconic buildings along the Nairobi Administrative District. This buildings include

- K.I.C.C
- International House
- The open nodes at the Nkrumah Avenue and between Co-operative Building and N.H.C provide views into the busy Moi Avenue.

SITE DIMENSIONS

The site is 500 metres long by 30 metres wide. City Hall Way defines it to the north and Haile Selassie Avenue to the south. The Hilton Arcade connects it to Kimathi Street

PEDESTRIAN TRAFFIC AND ACTIVITIES

The pedestrian circulation, use and behavior in site changes according to the time. During the day, the walk has heavy traffic while at night due to lack of nightlife, attracts homeless families making it unsafe. During early morning, the site is used as a major passage route, mid-day as a resting route.

VIEWS INTO THE SITE

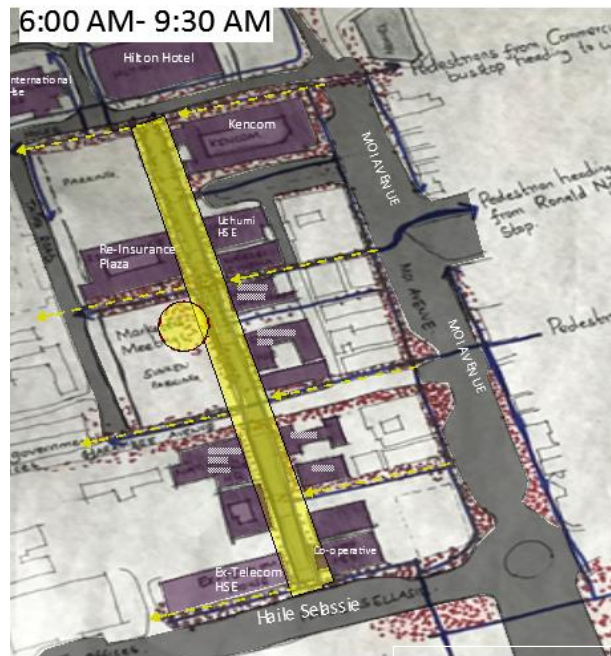


Source: Nduta, 2020.

SITE DIMENSIONS



Source: Nduta, 2020.



Source: Nduta, 2020.

Heavy pedestrian traffic. Marketers meet at the area next to the sunken car park.



Source: Nduta, 2020.

Low pedestrian traffic. Street families sleep on the inaccessible green spaces making the street



Source: Nduta, 2020.

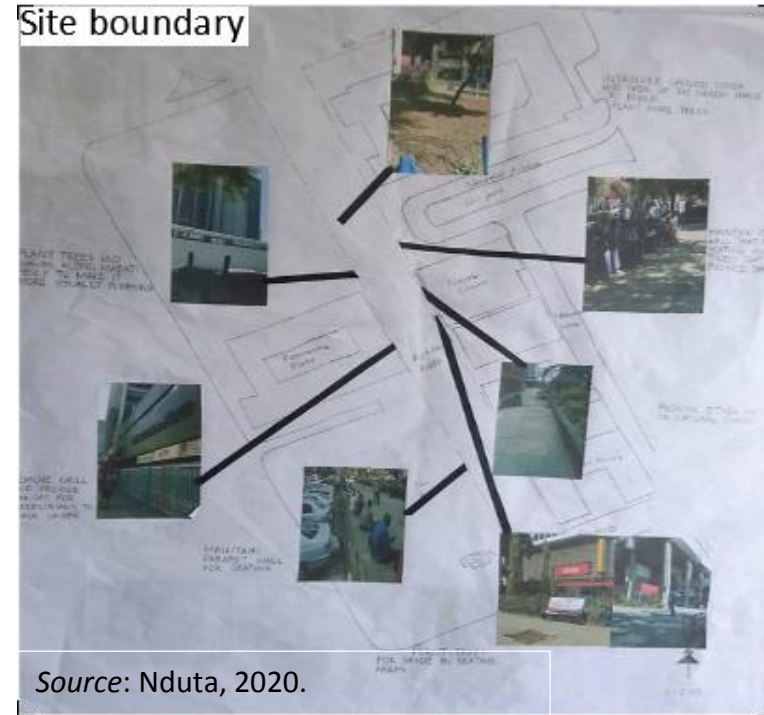
Heavy pedestrian traffic. Passage for pedestrians going to various bus terminals. Pedestrian waiting



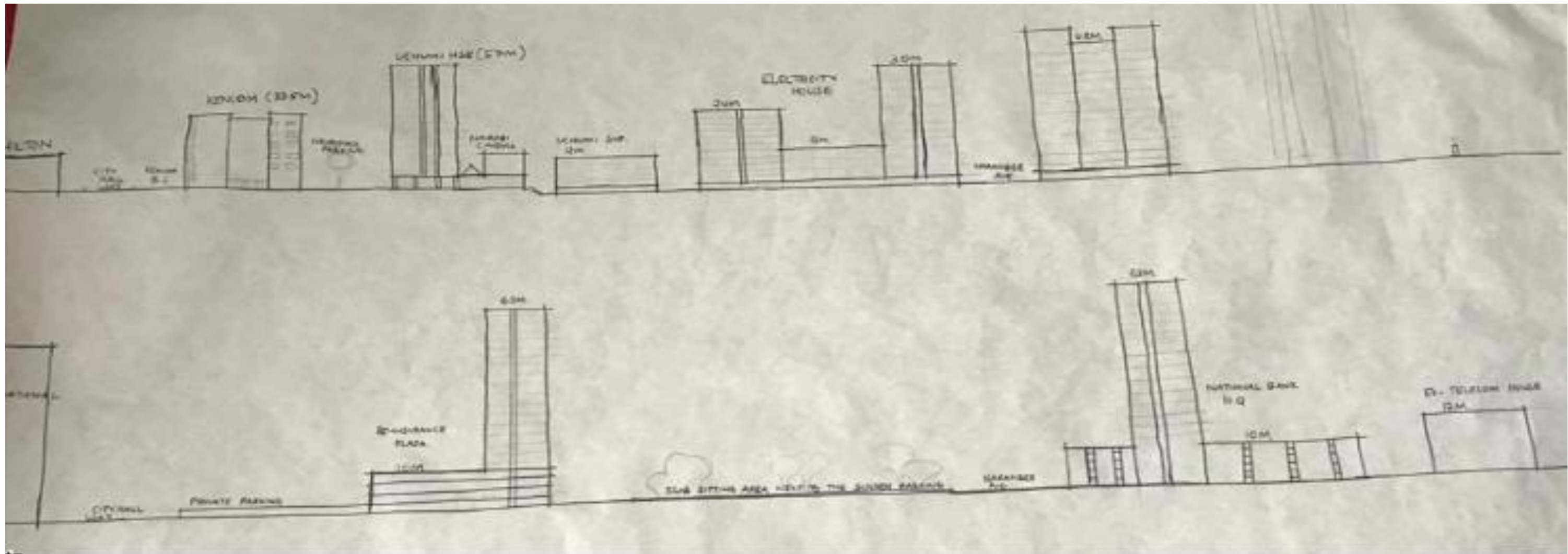
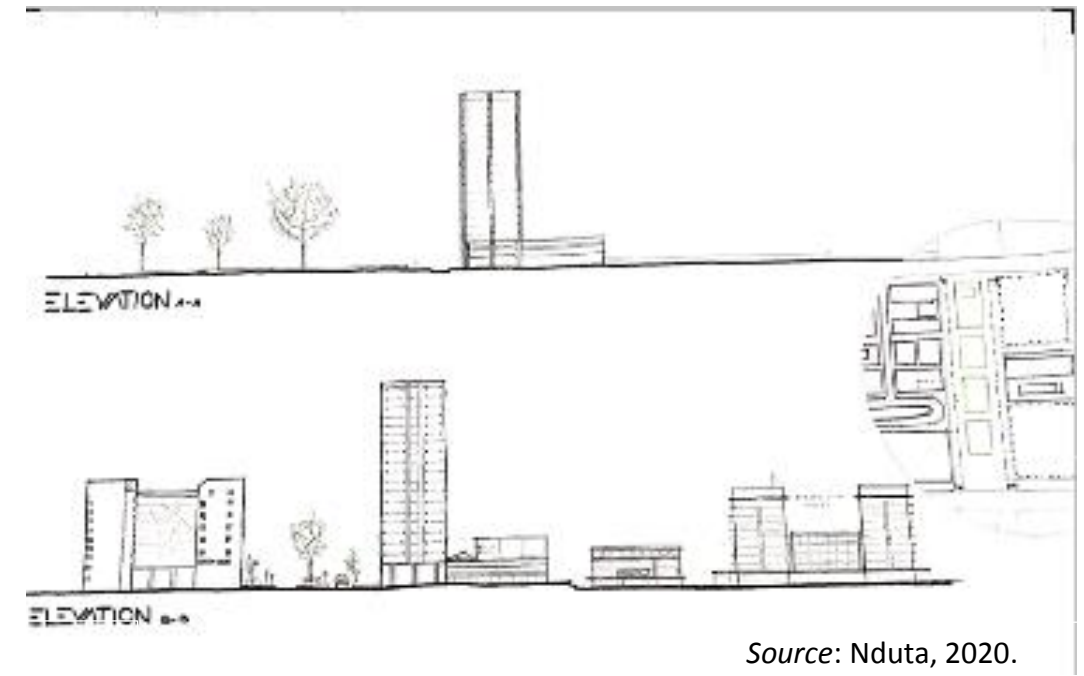
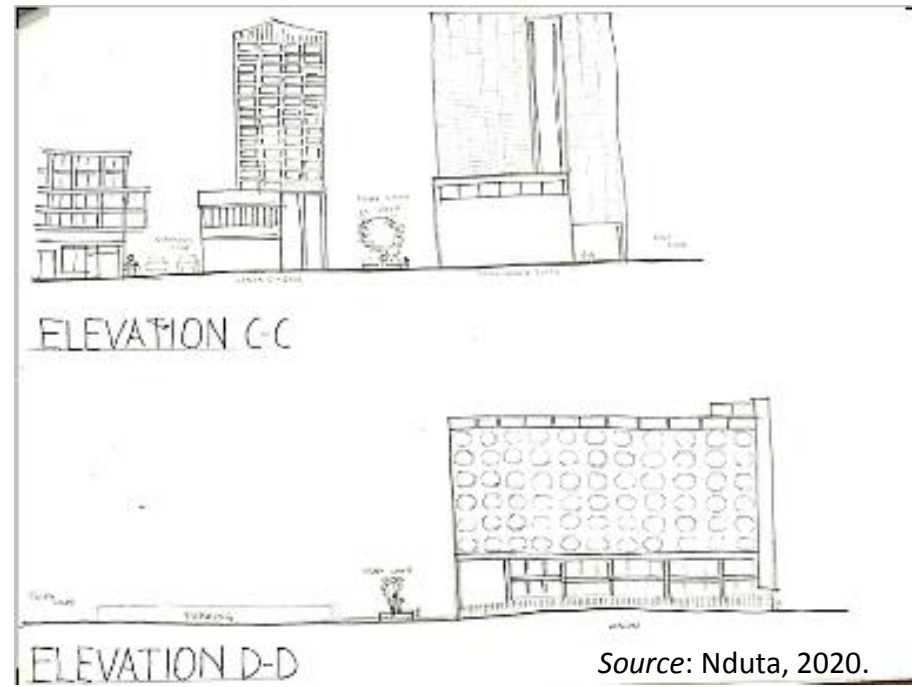
Source: Nduta, 2020.

Heavy pedestrian traffic. Passage for pedestrians going to eating spaces along Moi Avenue.

SITE BOUNDARY



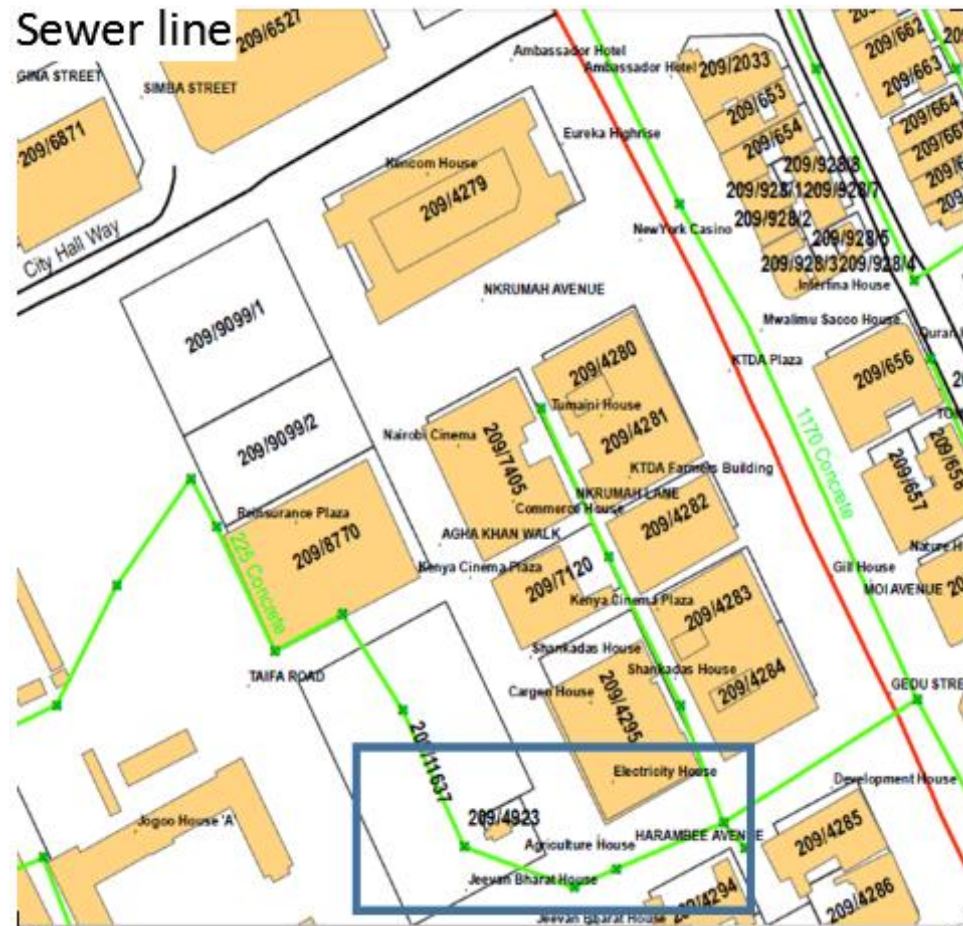
STREET CHARACTER



Source: Nduta, 2020.

INFASTRUCTURE

SEWER LINE



Source: Nduta, 2020.

STREET GEOMETRY



Source: Nduta, 2020.



Street lights



Source: Nduta, 2020.

PAVING MATERIAL

Gravel pavement



Source: Nduta, 2020.

Concrete paver



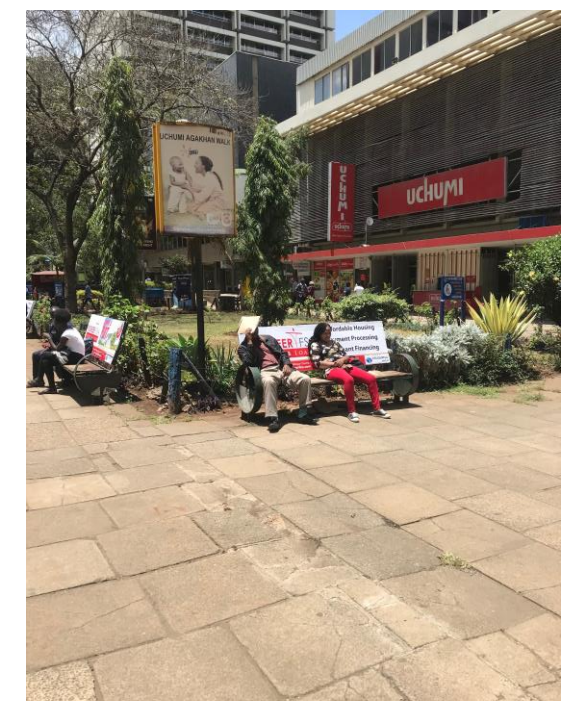
Source: Nduta, 2020.

DUSTBINS



Source: Nduta, 2020.

STREET FURNITURE

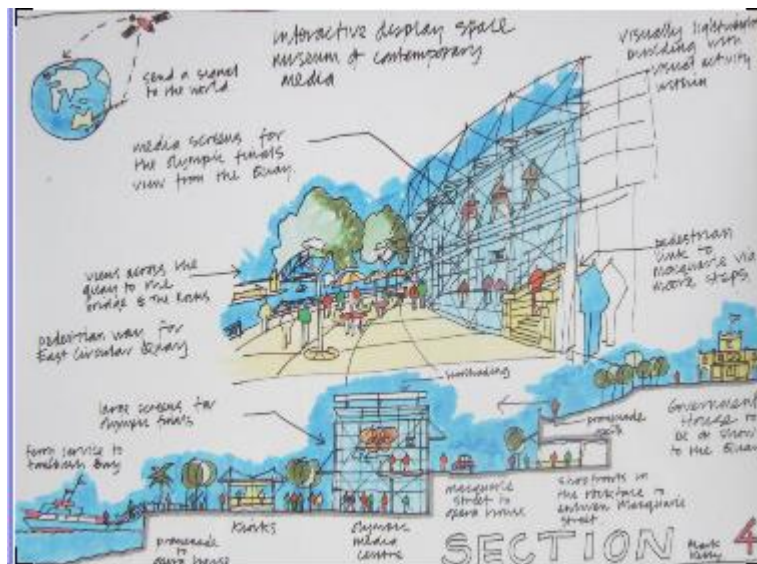


Source: Nduta, 2020.

CASE STUDIES

INTERNATIONAL CASE STUDY: CIRCULAR QUAY SYDNEY AUSTRALIA

It serves as a gateway, connecting visitors to Sydney's major attractions - **Sydney Harbour, Sydney Opera House, Sydney Harbour Bridge and The Rocks**. It's a vibrant, bustling hub with ferries leaving every few minutes to different parts of the harbour, including Manly, Watsons Bay, Mosman and Taronga Zoo. Aside from catering to tourists, **it is a vital link for Sydney siders commuting to and from work** and as a gateway for the thousands of locals journeying to Manly's surf beach on weekends. Circular Quay is at the foot of the central business district and the older, historic end of the city.. It is also a **major railway station on an underground railway known as the City Circle, which loops around the CBD**.

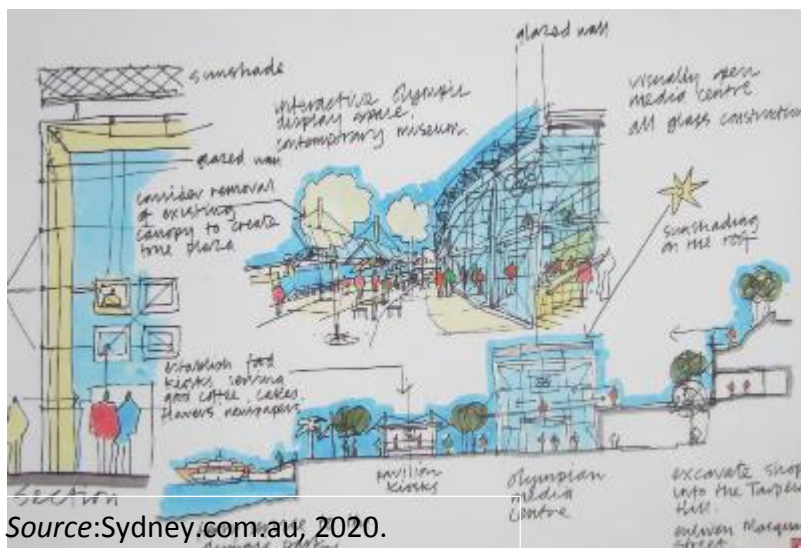


Source: Sydney.com.au, 2020.

Underground eating area



Source: Sydney.com.au, 2020.



Source: Sydney.com.au, 2020.

Accessible roof



Source: Sydney.com.au, 2020.



it is a vibrant pocket of cafes, restaurants, shops and weekend market stalls set against a backdrop of historic buildings and mysterious passageways. One of the most popular eating areas is a bank of restaurants set up in a row of former wharves. This part of Sydney is one of the oldest, most attractive and most interesting. Continue on along the foreshore and you soon find yourself under the Harbour Bridge and beside its huge stone pylons. This area, known as Dawes Point, is a popular setting for wedding photographs.

LOCAL CASE STUDY: MAMA NGINA STREET

In the 1990's and early 2000's, the street was grappling with rising crime and violence vacated in the evenings. 72% of all residents avoid travelling and working after dark in the street. Former Deputy Mayor of Nairobi, Joe Aketch, was adamant to turn the city around and create a 24-hour economic hub, envisioned in the Vision 2030.

The restaurants and cafés were closed to the street and were only inhabited by security guards and homeless families. These changes would allow for more flow and ease of movement. Additionally, benches were placed at regular intervals in shaded areas, allowing people to sit and enjoy the street. The street lighting was also enhanced, to create more

LOCATION PLAN



Street lighting to enhance safety



Another proposal was to offer more space to the cafés, allowing customers to spill over onto the sidewalk, in hopes of creating more eyes on the street and making passers-by feel safer in the evenings.

Despite setbacks with the by-laws, Mama Ngina Street has become a pleasant and well-utilized public space in the city. Several new bars have opened, enhancing the evening program on the street, and the street vitality has drastically improved.

The changes in traffic flow and sidewalk space, plus lighting and street furniture, has resulted in a very vibrant area of the central business district. More people meet, sit, and enjoy the street. Now it's common to see people congregate in one of the corners to discuss various happenings and current affairs, particularly socio-political issues.

Meetings on the street



Source: Nduta, 2020.

Expanded walkway shaded using trees



Source: Nduta, 2020.

Accessibility



Source: Nduta, 2020.

Active night life



Source: Nduta, 2020.

CONCEPT DEVELOPMENT

The design was informed by the site analysis. From there, I identified the current activities along the site and have created zones/ sectors from the existing activities in order to enhance them by spilling them over to the street. For instance, in front of Re-insurance, I have shopping and dining spaces to compliment the activities in the building.

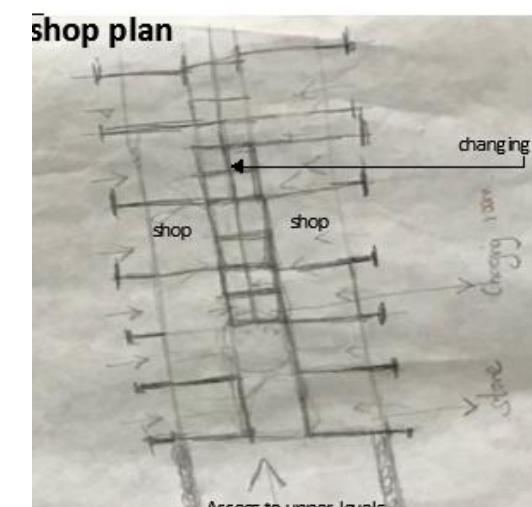
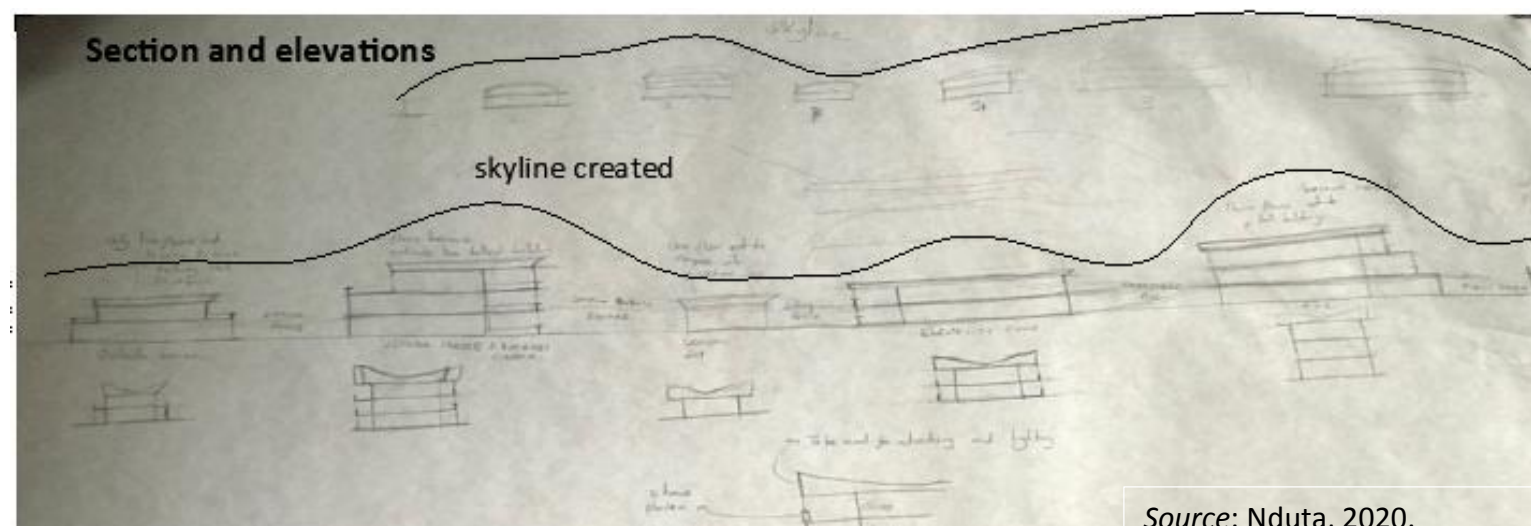
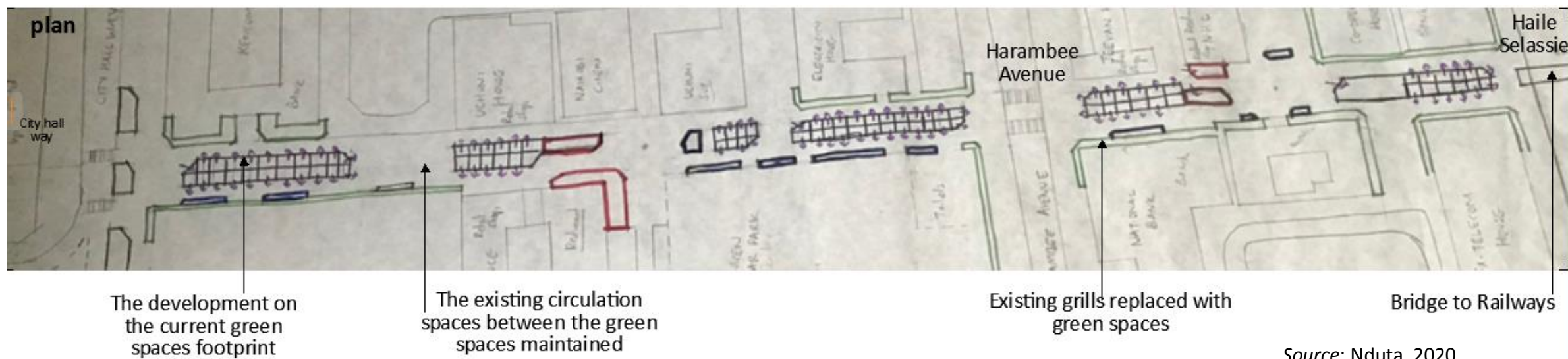
Next to the sunken car park, sector two, that is normally used for skirting, I have introduced recreational spaces for all age groups. The area between Harambee Avenue and Haile Selassie, sector three, I have introduced formal spaces to compliment the formal nature of the sector.

The design aims at improving the pedestrians experience by incorporating separate activities, circulation spaces and the pedestrians sitting areas in my development.

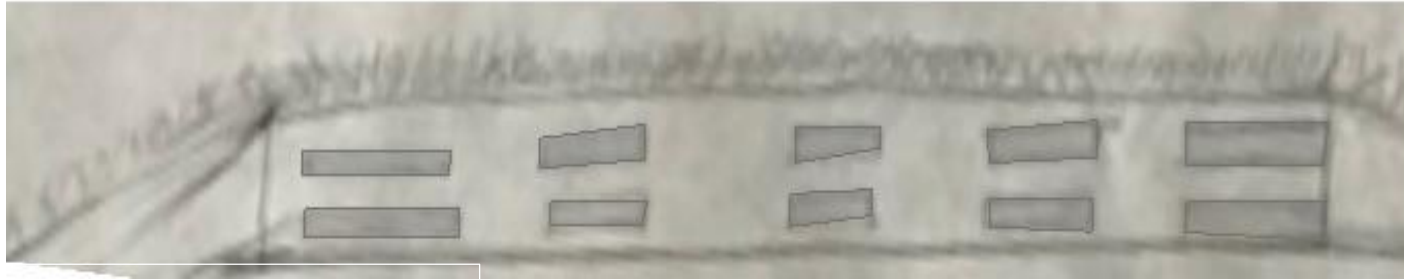
The final decision to go underground was the result of not wanting to interfere with the site visual lines. The building will only be 1200mm above the ground level. The roof is accessible with variety of resting spaces for pedestrians.

To enhance the buildings-street interaction, I have replaced the existing grills with green spaces that will maintain the same level of privacy within interfering with the views into and out of the street.

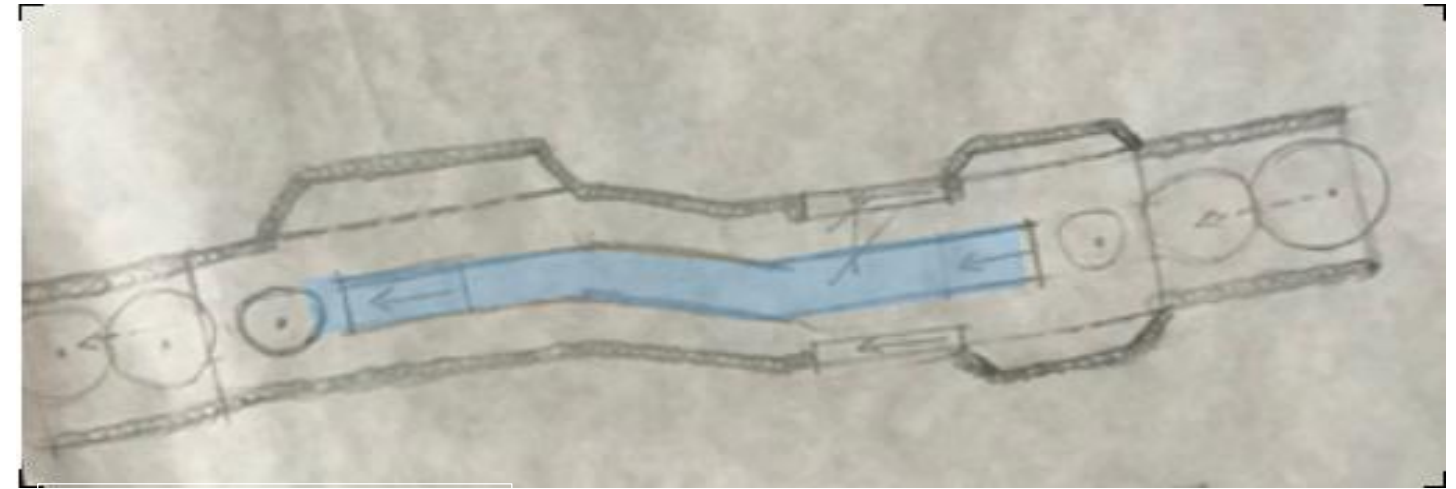
INITIAL DESIGN



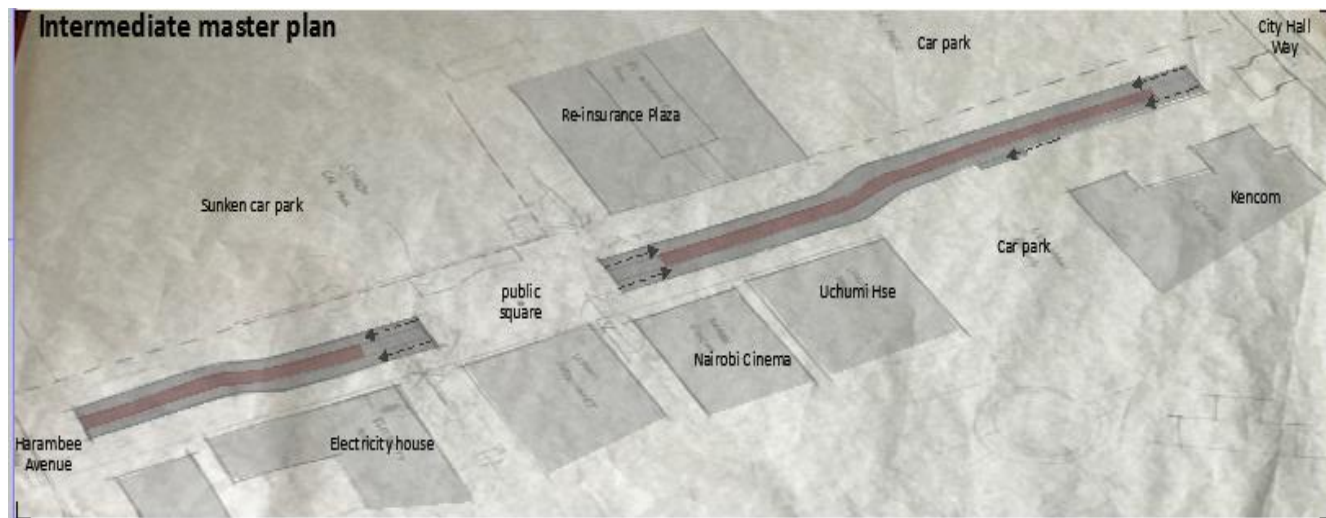
INTERMEDIATE DESIGN



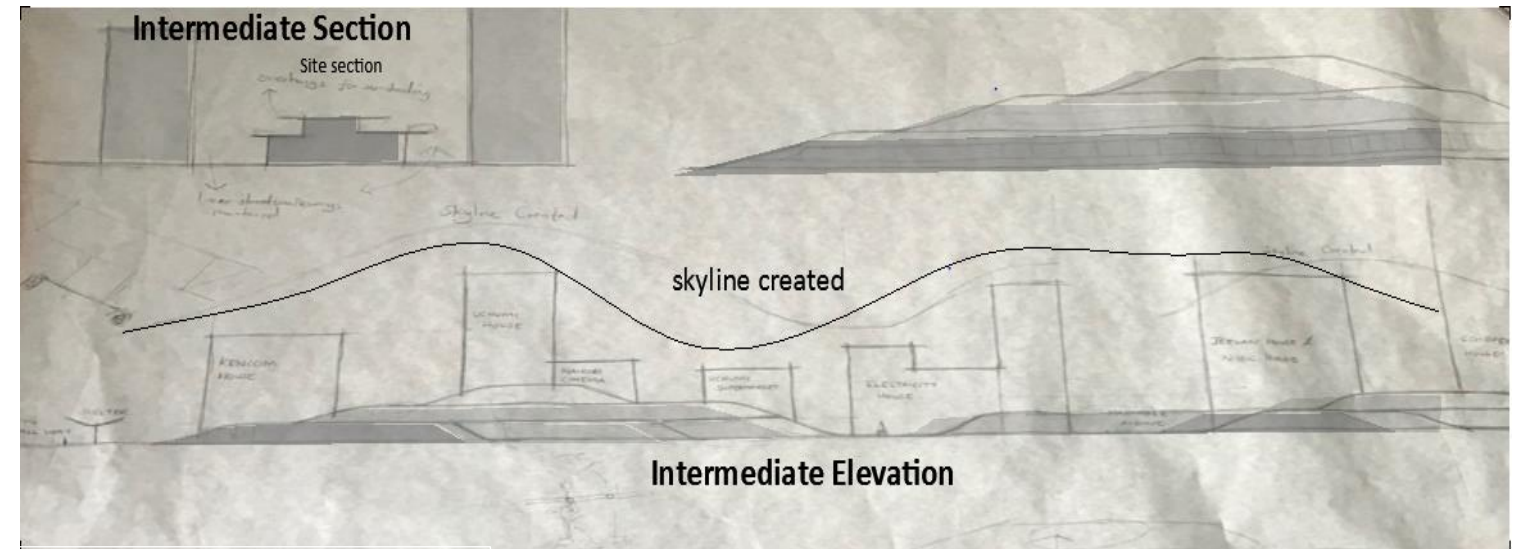
Source: Nduta, 2020.



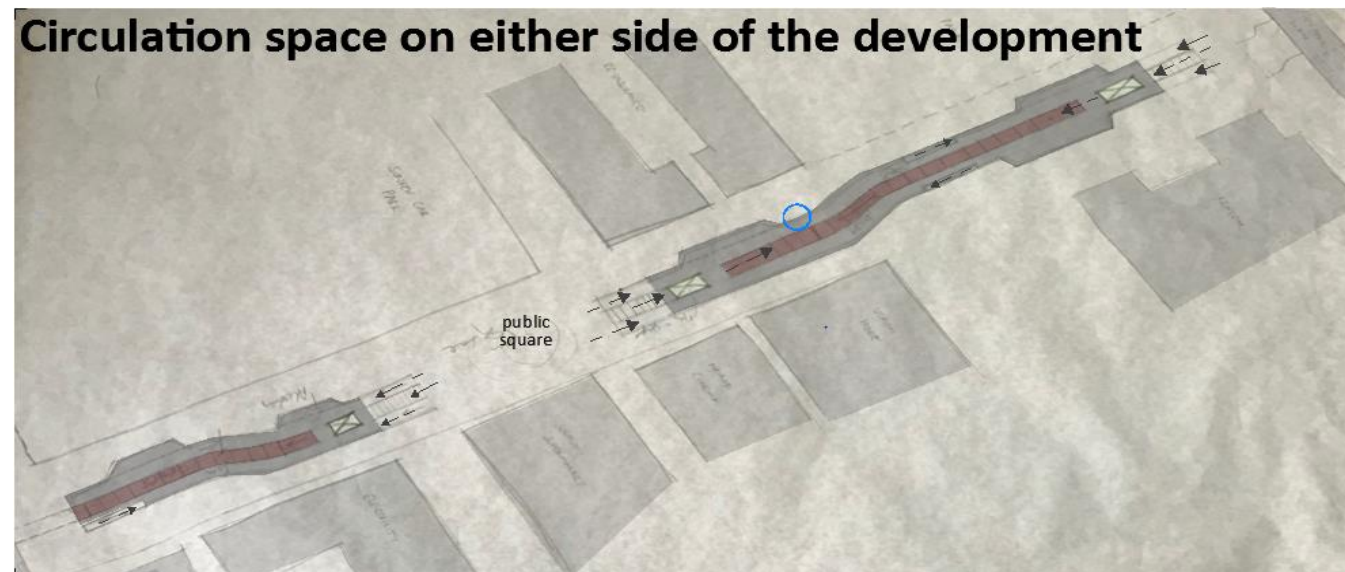
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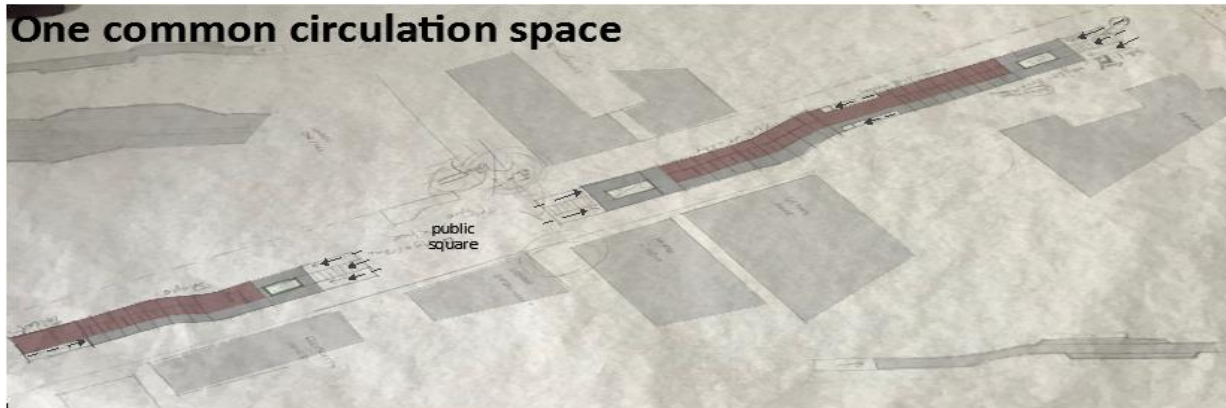
FINAL DESIGN

Sketch of the sunken development

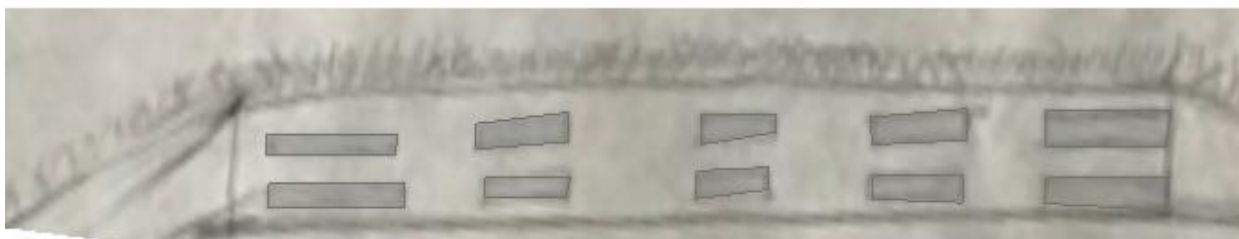


Source: Nduta, 2020.

One common circulation space



Source: Nduta, 2020.



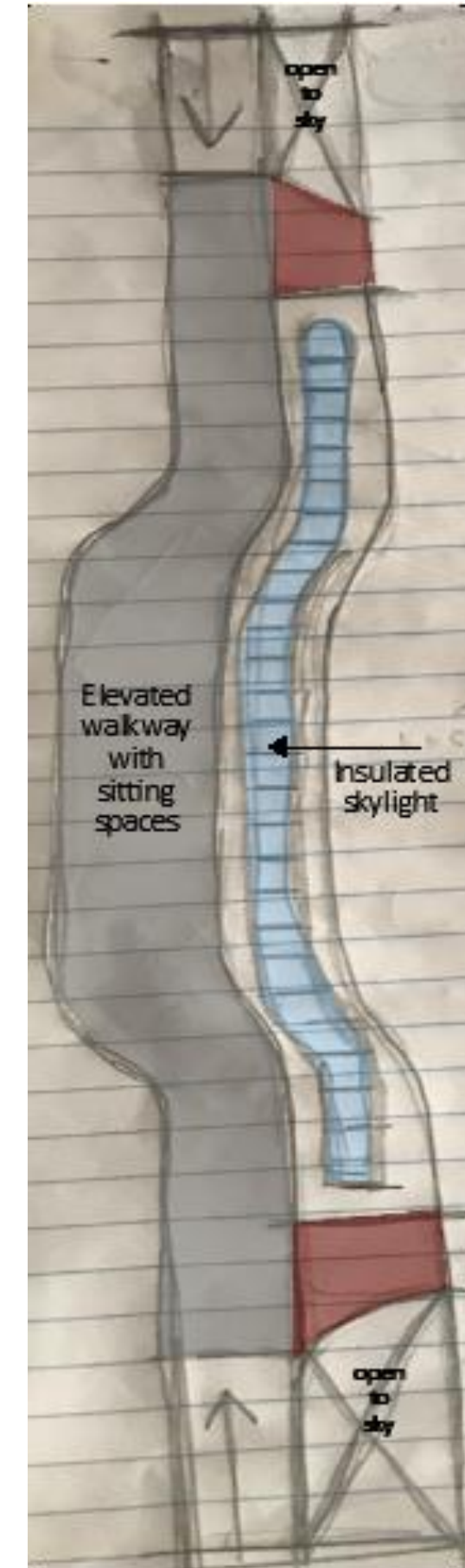
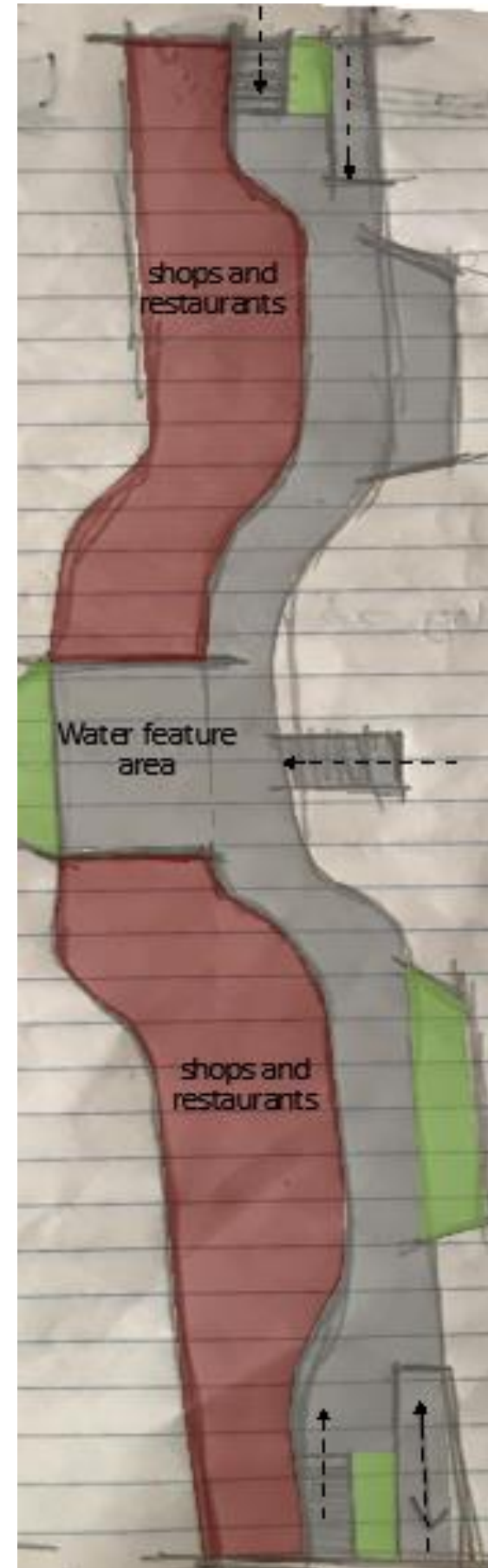
Source: Nduta, 2020.

Proposed recessed sitting spaces



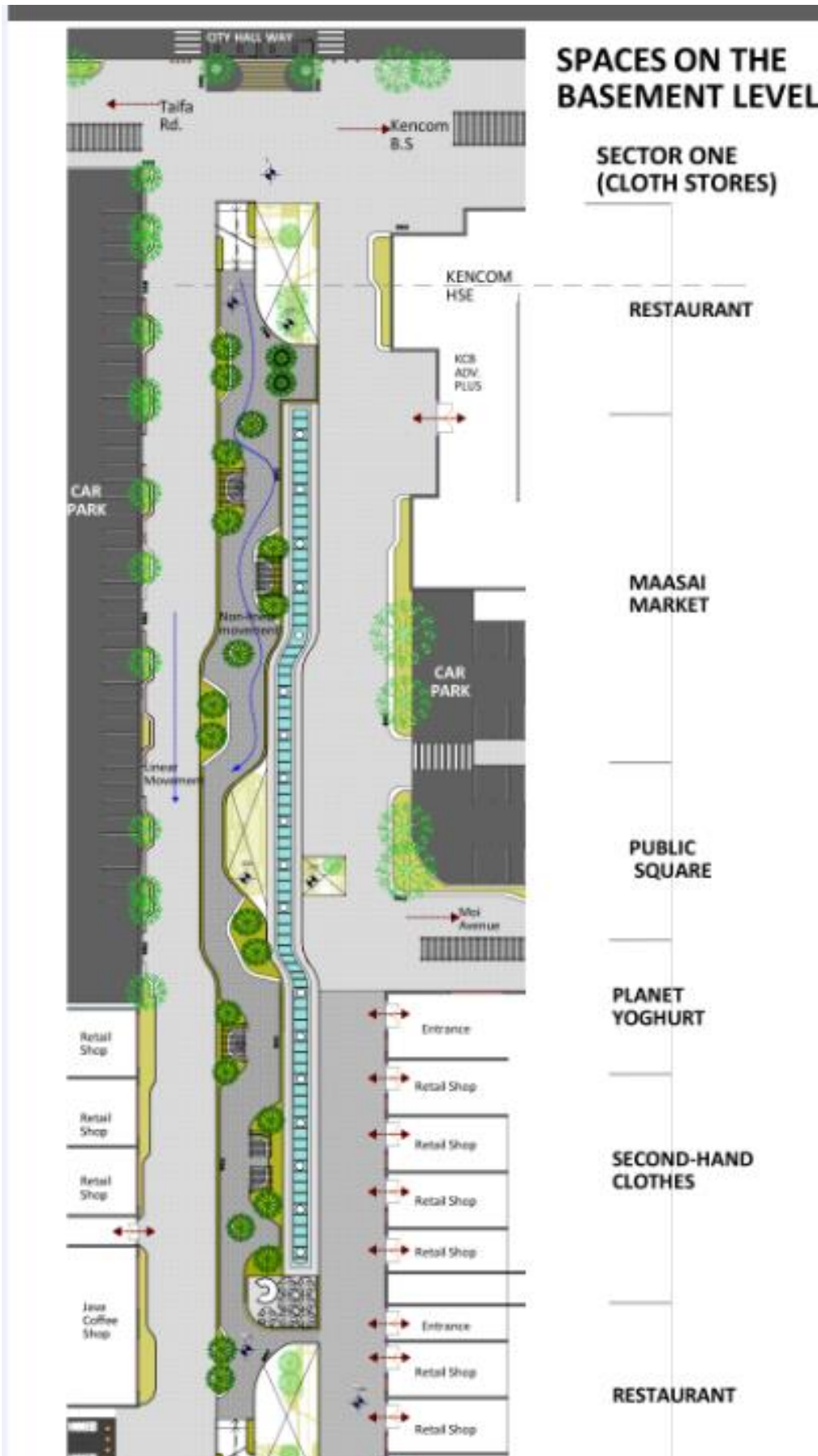
Source: Nduta, 2020.

FINAL DESIGN



Source: Nduta, 2020.

MASTER PLAN

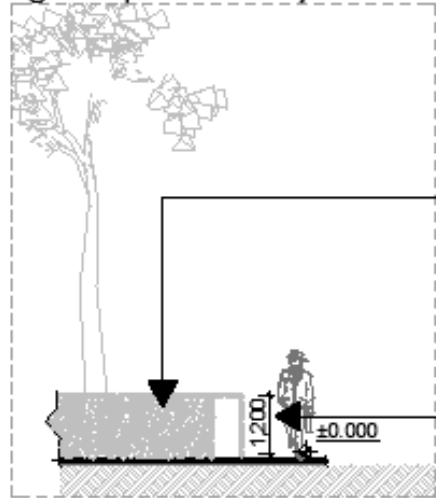


MASTER PLAN DESIGN OBJECTIVES

DESIGN OBJECTIVES

MAINTAINING VISUAL LINE

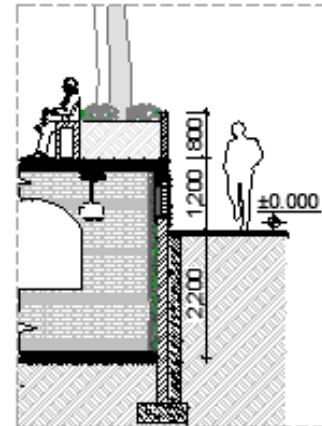
In order to maintain the current view into and out of my site, the development is 1.2 metres above the ground floor the same height as the existing hedge and the elevated walkway along Nairobi Cinema, which are the highest points in my site.



The existing inaccessible green spaces on site defined using hedges and wire mesh. They attract homeless families making the site unsafe at night

The development to go 1200mm above the ground to maintain the current visual lines

EXISTING INACCESSIBLE GREEN SPACES THAT ATTRACT STREET FAMILIES



DEVELOPMENT TO BE CONSTRUCTED WHERE THE GREEN SPACES ARE TO INTRODUCE STREET ACTIVITY MAKING THE STREET SAFE

FORMING STRONG CONNECTION WITH ADJACENT STREETS BY INTRODUCING COMMON ELEMENTS

COMMON ELEMENT IN THE INTERLINKING STREETS

1. Pergola

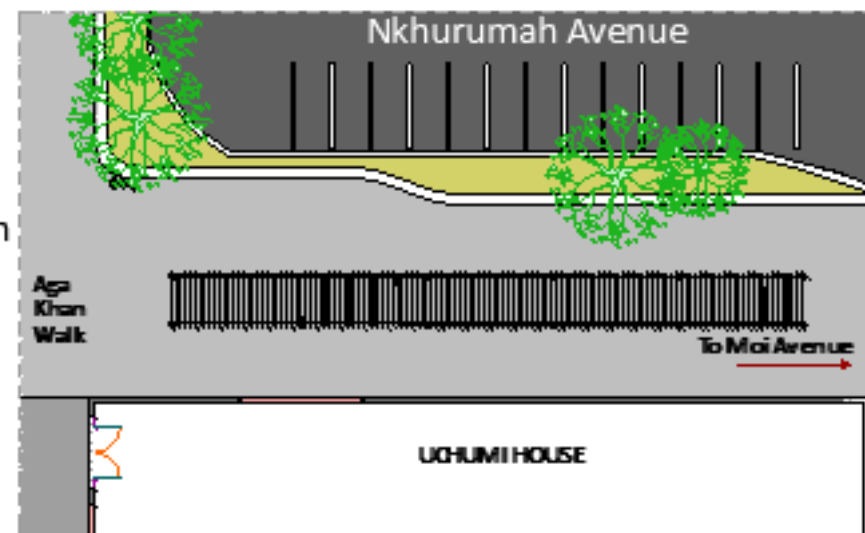
To provide shade for pedestrians as they access the site hence making the walk pleasant

2. Green spaces

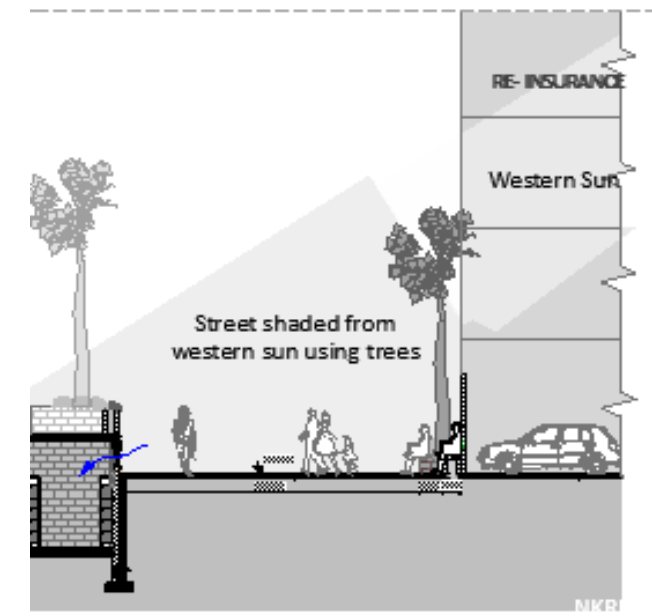
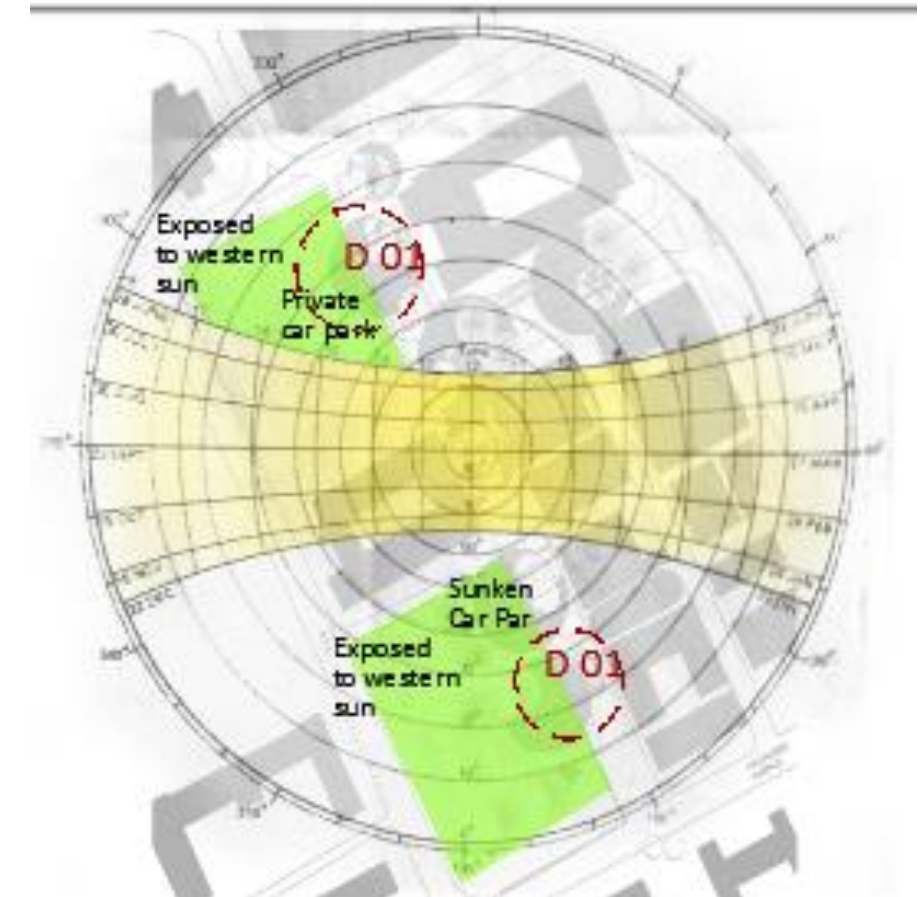
Where the connecting streets are wide enough green spaces will be provided on either side of the pergola to make the street more appealing.

3. Widening of walkways.

The parking space in Nkrumah Avenue has been pushed to one side and the existing walkway widened the existing walkway to Aga Khan Walk



SHADING THE STREET FROM THE WESTERN SUN



Both points to have thick vegetation of indigenous trees planted to shade the street from the western sun.

Trees preferred because they do not block views and the two areas are to be developed in the near future

SECTOR ONE

DESIGN OBJECTIVES

ENHANCEMENT OF STREET AND BUILDINGS INTERACTIONS

Buildings like Kencom and Re-Insurance have grills around them that have been replaced with green spaces to enhance their interaction with the street.

RESPONSE TO ELEVATED WALKWAY ALONG NAIROBI CINEMA

The elevated walkway along Nairobi Cinema and my development accessible roof level are at the same level to allow easy access to and from my development.

SPILLING OVER THE ACTIVITIES INTO THE STREET

Java restaurant has been extended into my development to enhance the surrounding buildings connection to my development.

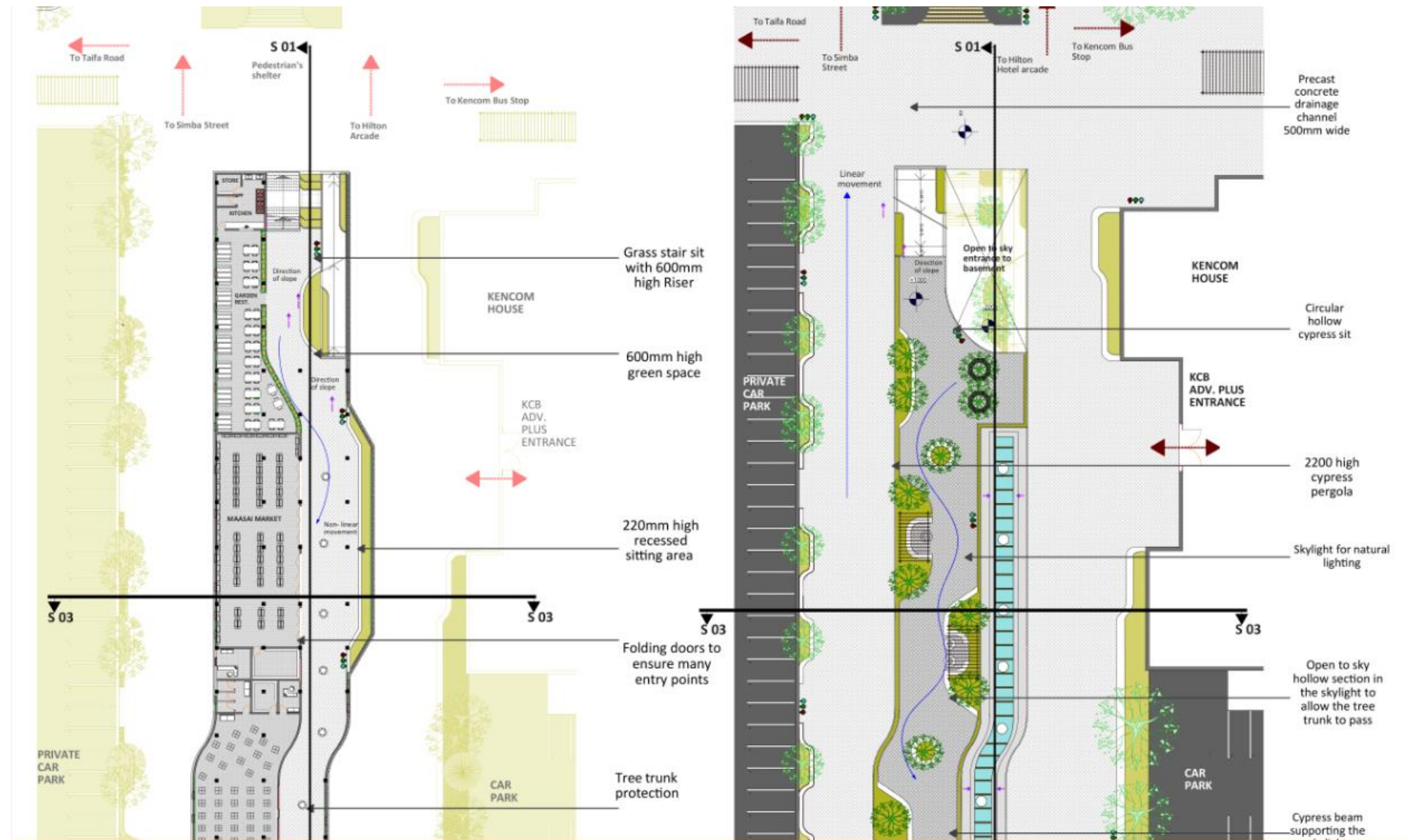
SHADING OF THE STREET FROM WESTERN SUN

Thick tree vegetation has been planted along the boundary wall separating the walk and the private car park to shade the street from western sun.

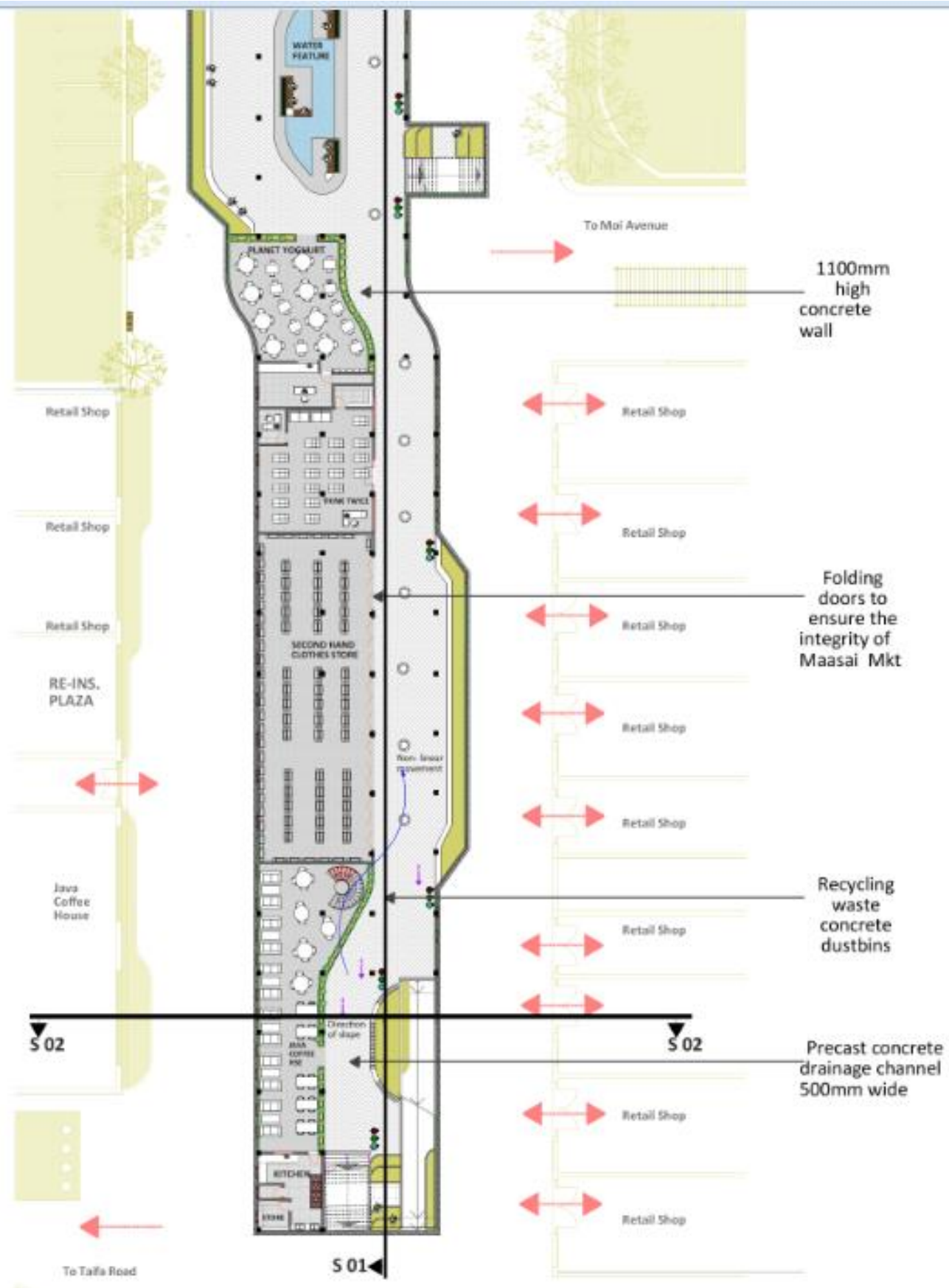
DECOGESTING OTHER STREETS AND PROVIDING A PERMANENT SELLING SPACE FOR MAASAI MARKET TRADERS.

A permanent selling place has been provided for hawkers who sell in the streets of Nairobi congesting them. Maasai traders who sell at the Judiciary Parking have also been allocated a permanent selling space within the sector

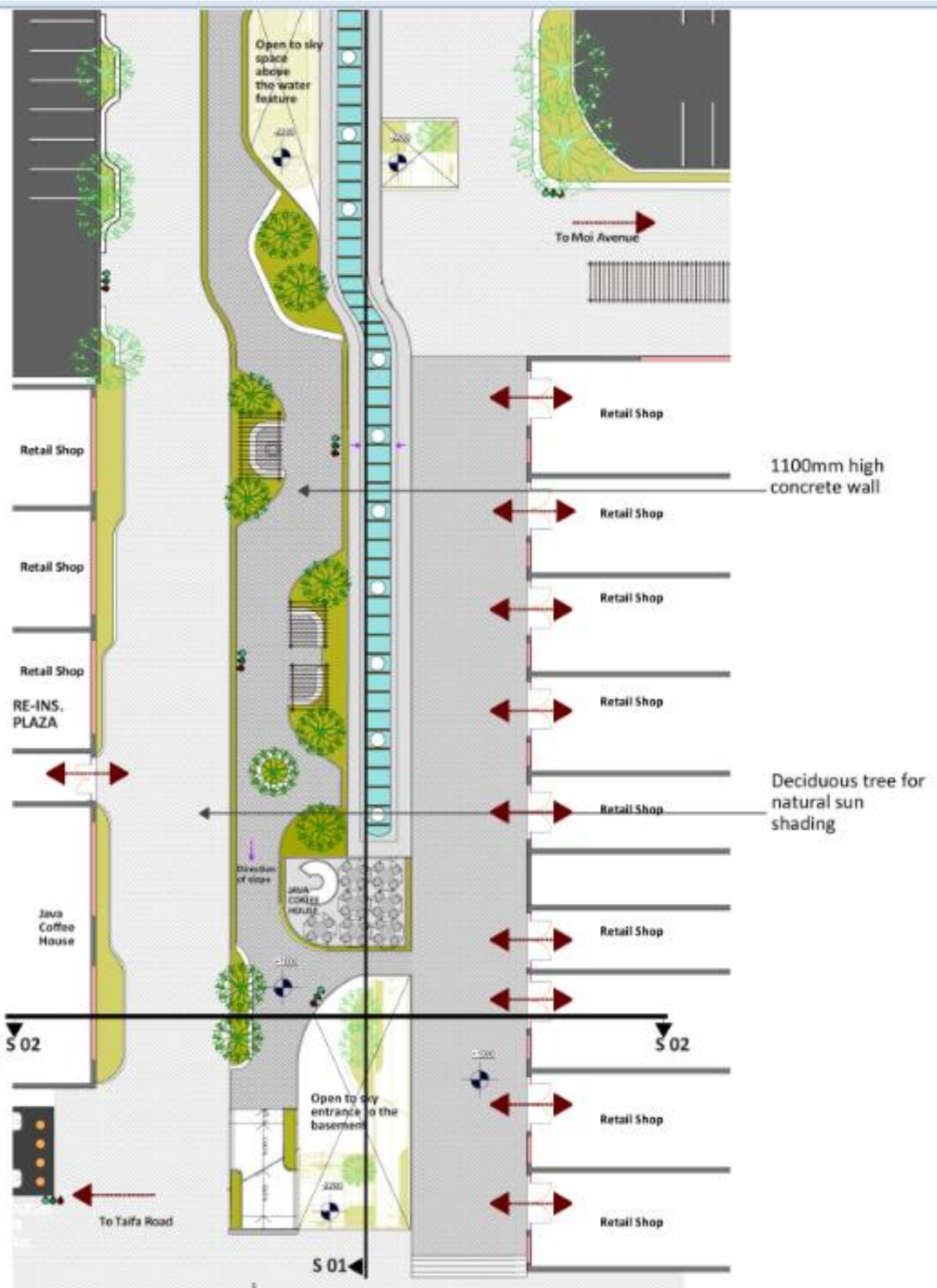
SECTOR ONE PART PLAN ONE



SECTOR ONE PART PLAN TWO



SECTOR ONE BASEMENT PLAN 1:200

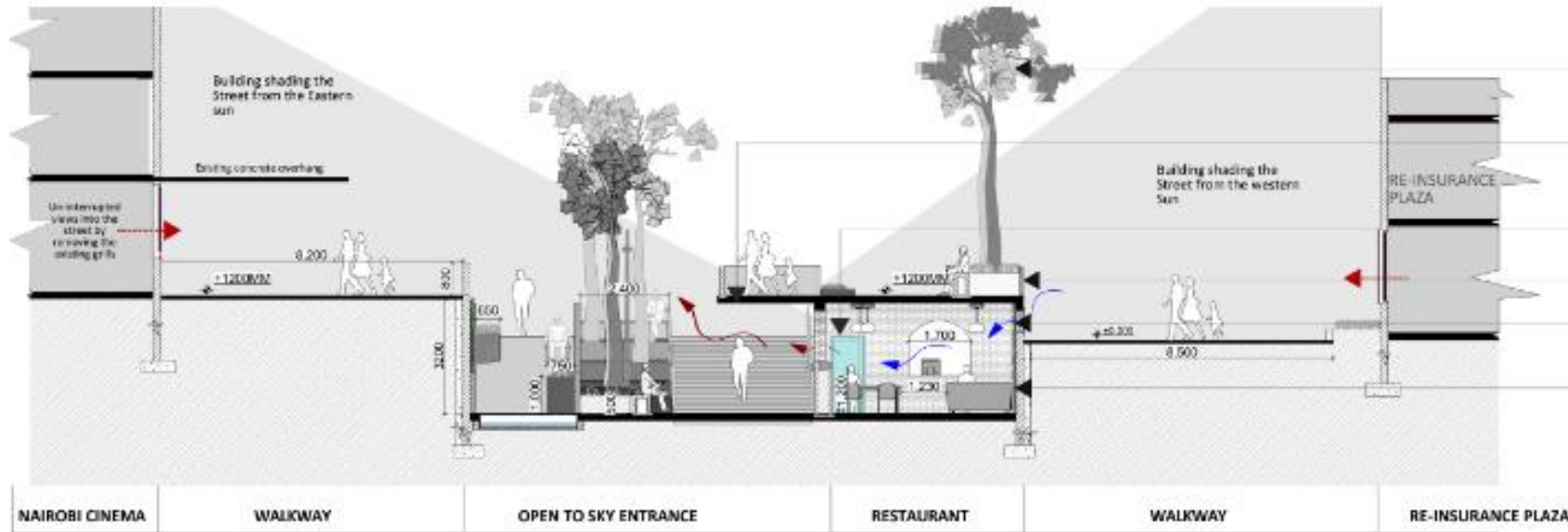


SECTOR ONE UPPER GROUND LEVEL PLAN 1:200

ELEVATIONS AND SECTIONS



SECTION 01 SCALE 1:200



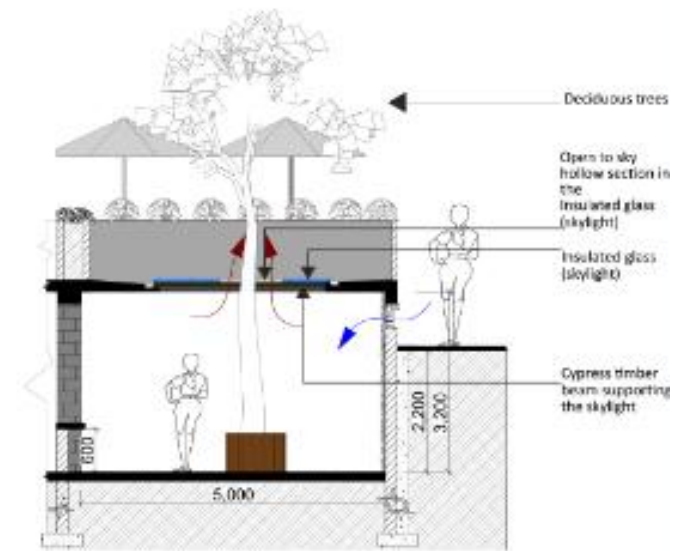
SECTION 02 SCALE 1:50



AERIAL VIEW OF CIRCULATION SPACE



SECTION 03 SCALE 1:50



DETAIL 01 SCALE 1:20

SECTOR TWO PLANS

SECTOR TWO

DESIGN OBJECTIVES

RESPONSE TO VIEW OF K.I.C.C

Sits on the roof level are designed to face K.I.C.C and other iconic government building.

RESPONSE TO SKIRTING ACTIVITY ON WEEKENDS

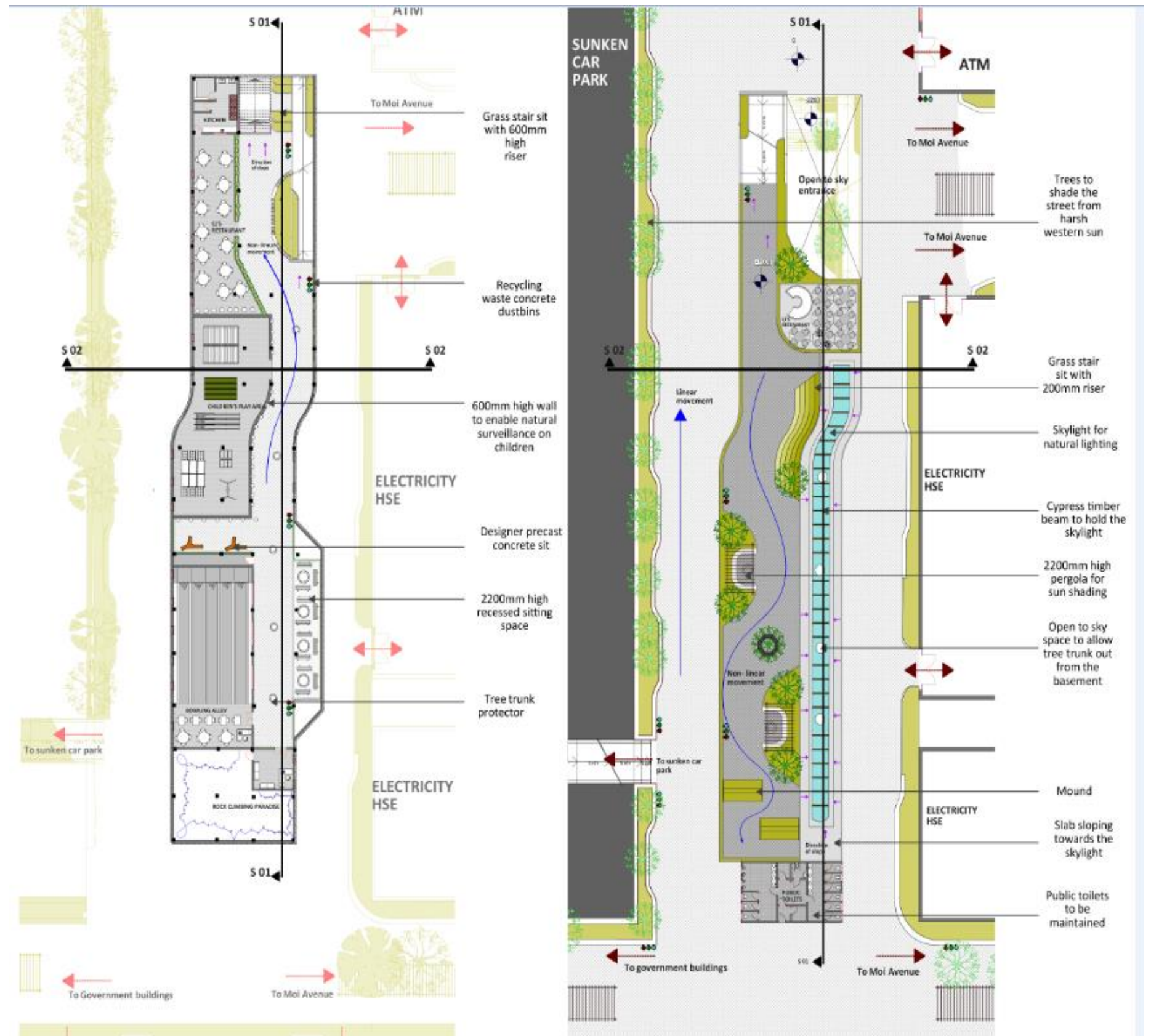
The sector is made up of various recreational spaces like rock climbing and bowling to compliment the activity.

INTRODUCTION OF ACTIVITIES FOR ALL AGES

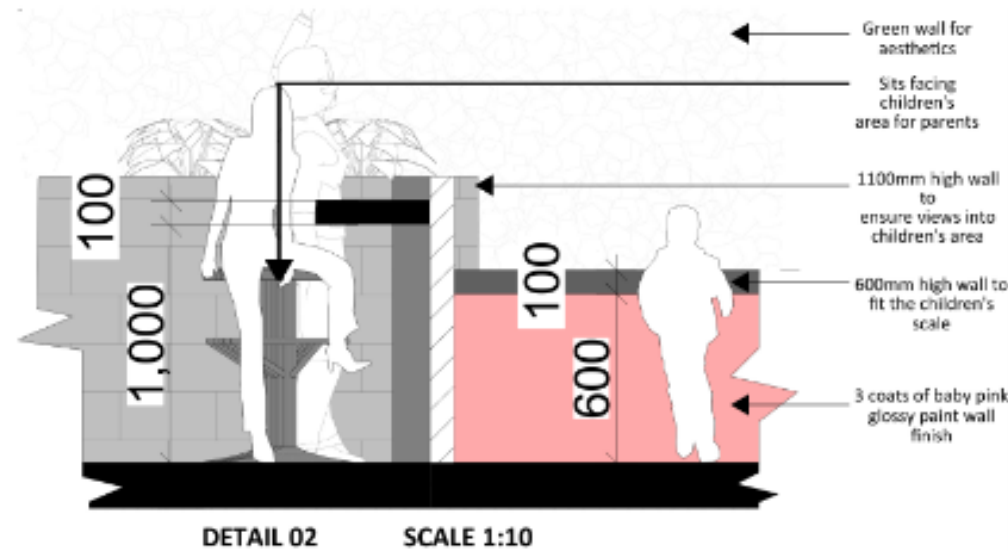
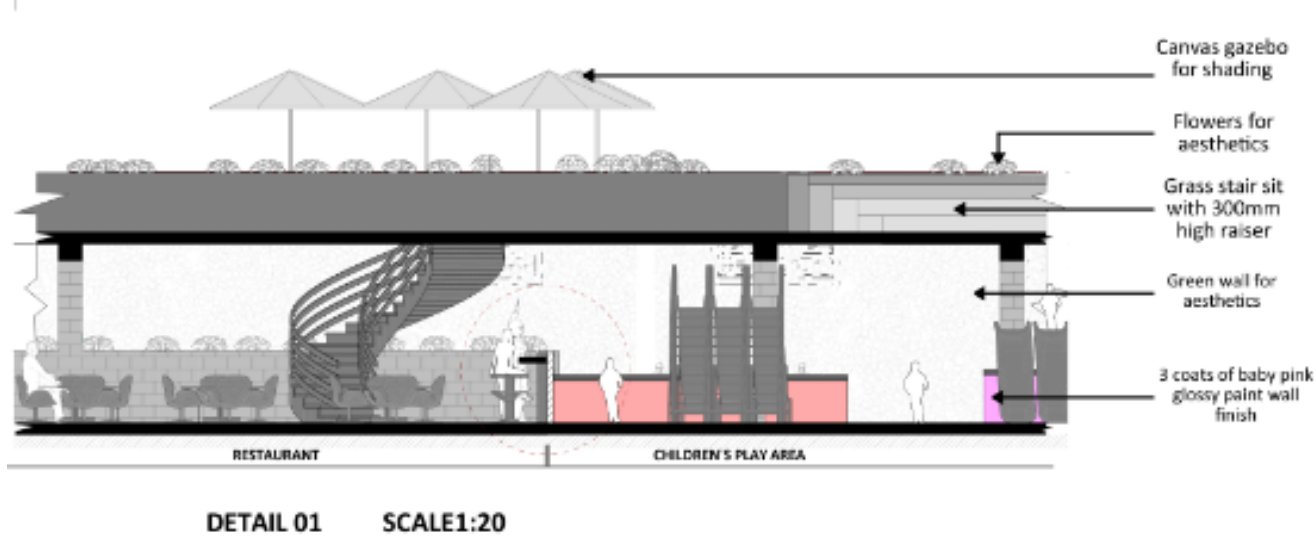
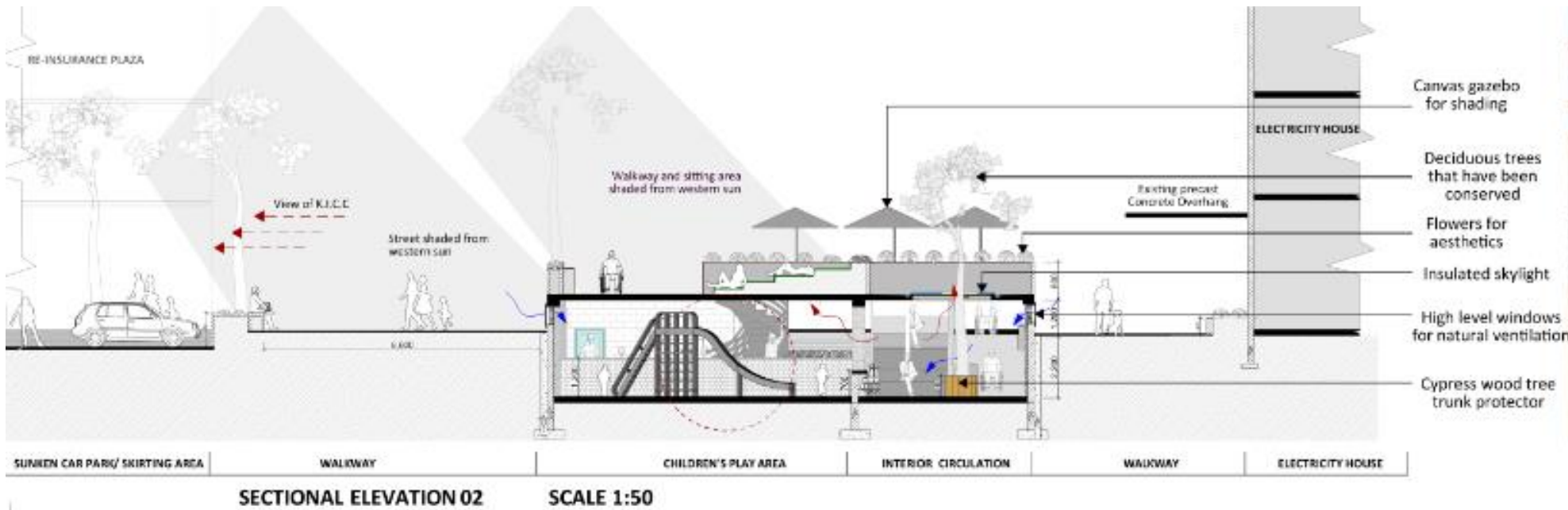
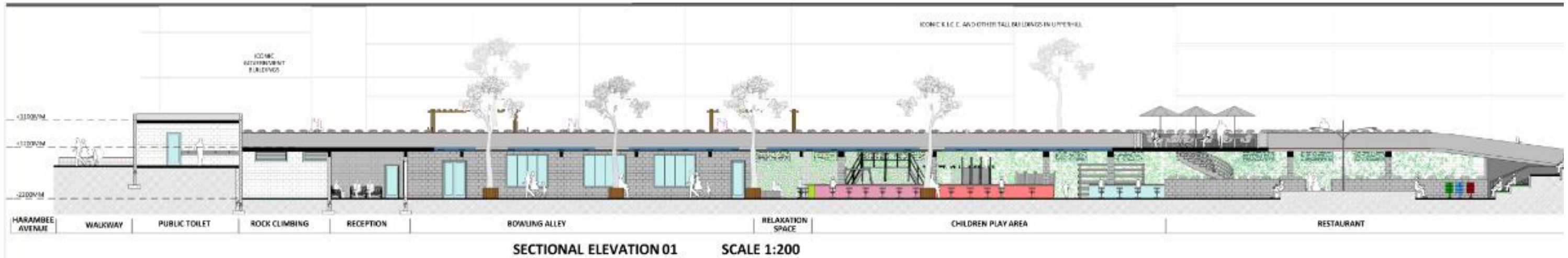
The recreational spaces are for children, (children's play area), adults and youths, (Bowling and rock climbing). Parents have a restaurant design to have views of their children's playing area.

SUNSHADING FROM WESTERN SUN

Thick tree vegetation has been planted along the sitting slab next to the sunken car park to shade the walk from the western sun.



SECTOR TWO ELEVATIONS AND SECTIONS



STRONG CONNECTION BETWEEN RESTAURANT AND CHILDREN'S PLAY AREA

The two spaces are designed to enable parents to have views into activities of the play area through the use of 1100mm high wall boundary and presence of a sitting area in the restaurant facing the children's play area. This as a result will introduce activities for both parents and their children.

The children's play area also has a wall of 600mm high to fit the children's scale and allow natural surveillance of children as they play. The walls in the children's section are painted with very colourful colours to attract children.

SECTOR THREE

DESIGN OBJECTIVES

The buildings along are mostly banks headquarters, with commercial activities only at Jeevan and N.H.C buildings. In response to the formal nature of activities here, formal activities have been incorporated in my development.

1. ENHANCEMENT OF STREET-BUILDING INTERACTION

Buildings have little or no opening towards the walk. In response, dead facades have been converted into green walls and green spaces used to replace grills along National Bank Building.

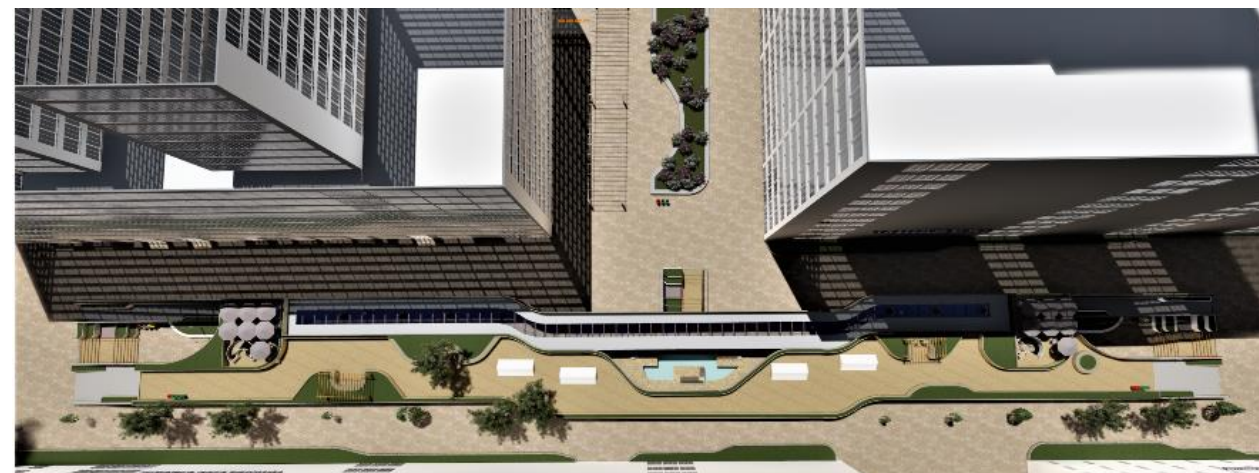
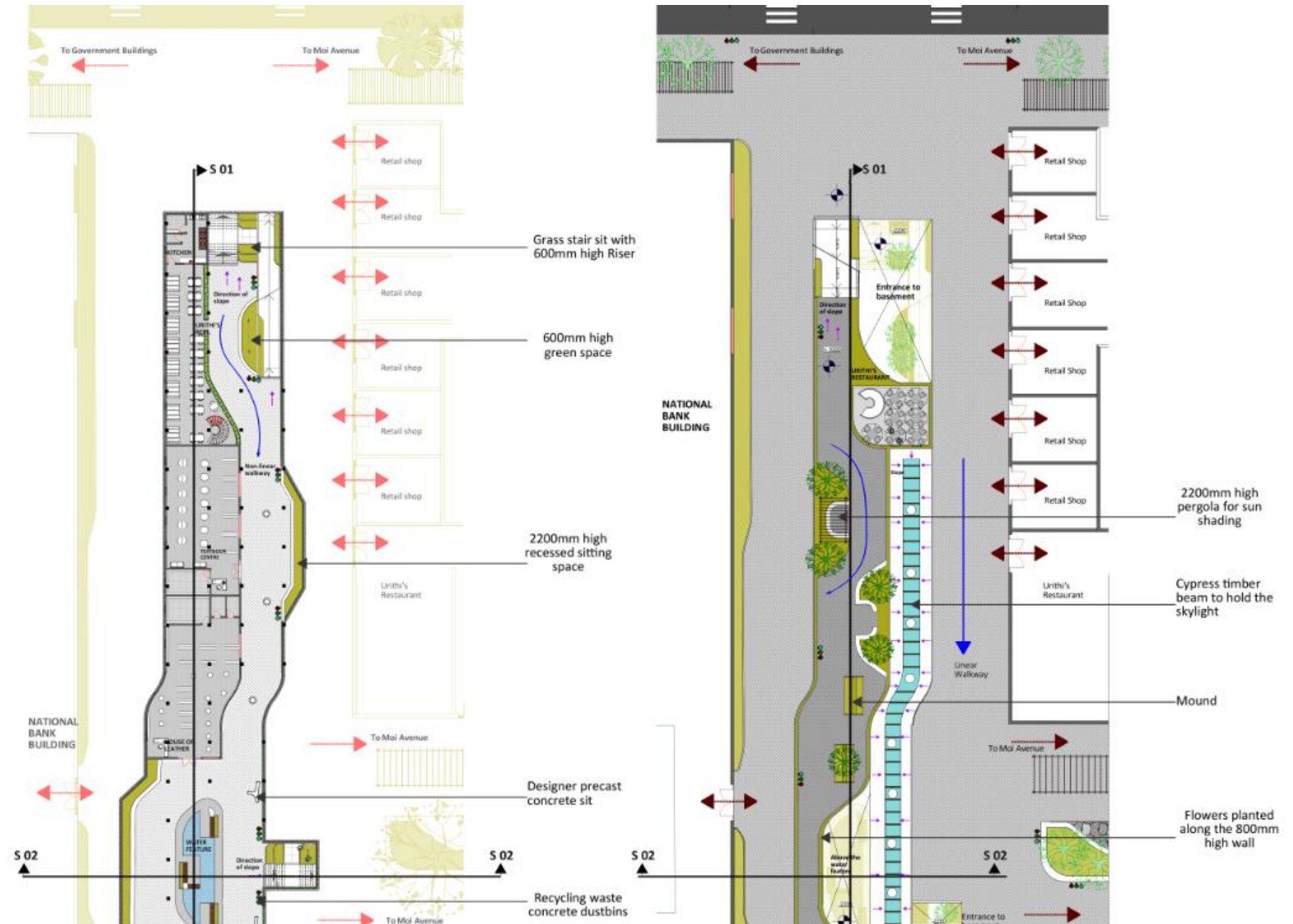
2. RESPONSE TO FORMAL NATURE OF THE SECTOR

In response to the formal nature of the sector, chain retail shops and restaurants have been incorporated in my design.

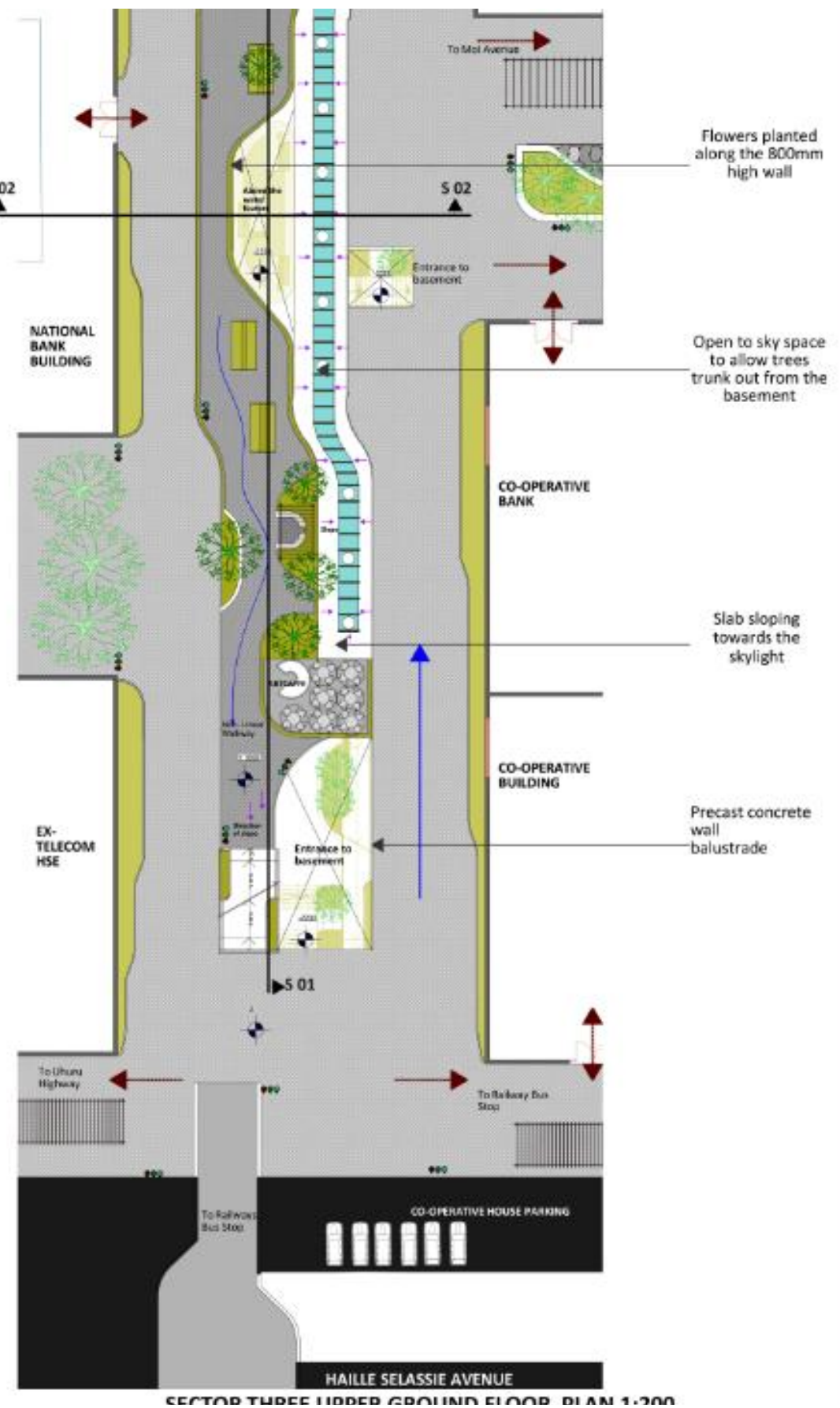
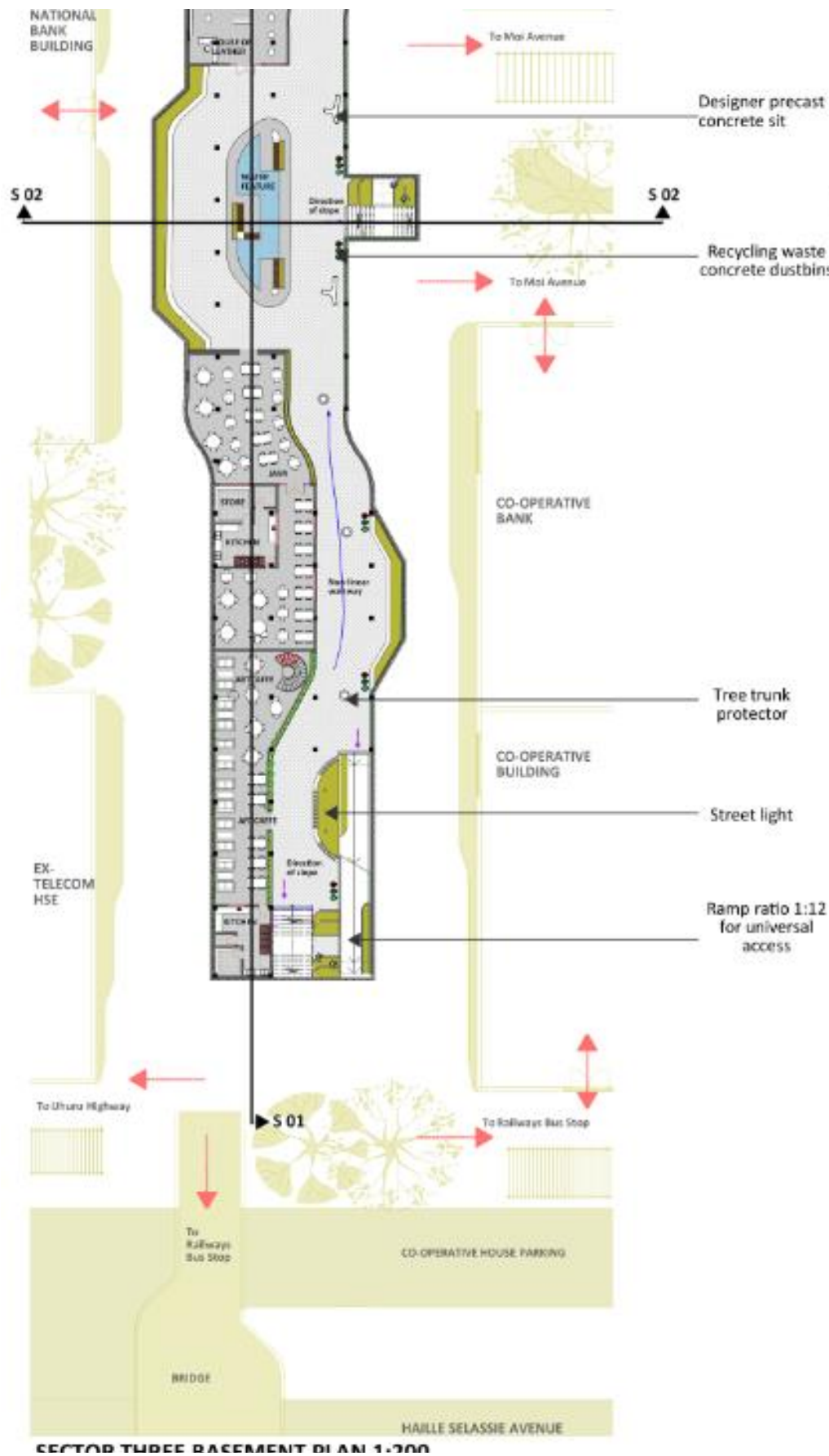
3. RESPONSE TO NODES

A bridge has been designed to connect the development to Railway Bus Stop. Entrance to the development have been designed at all the three nodes

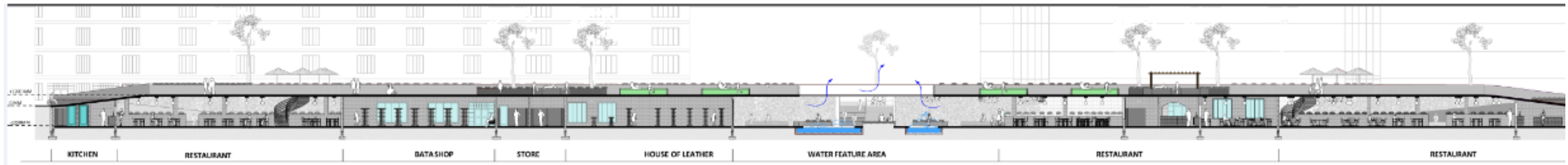
SECTOR THREE PART PLANS



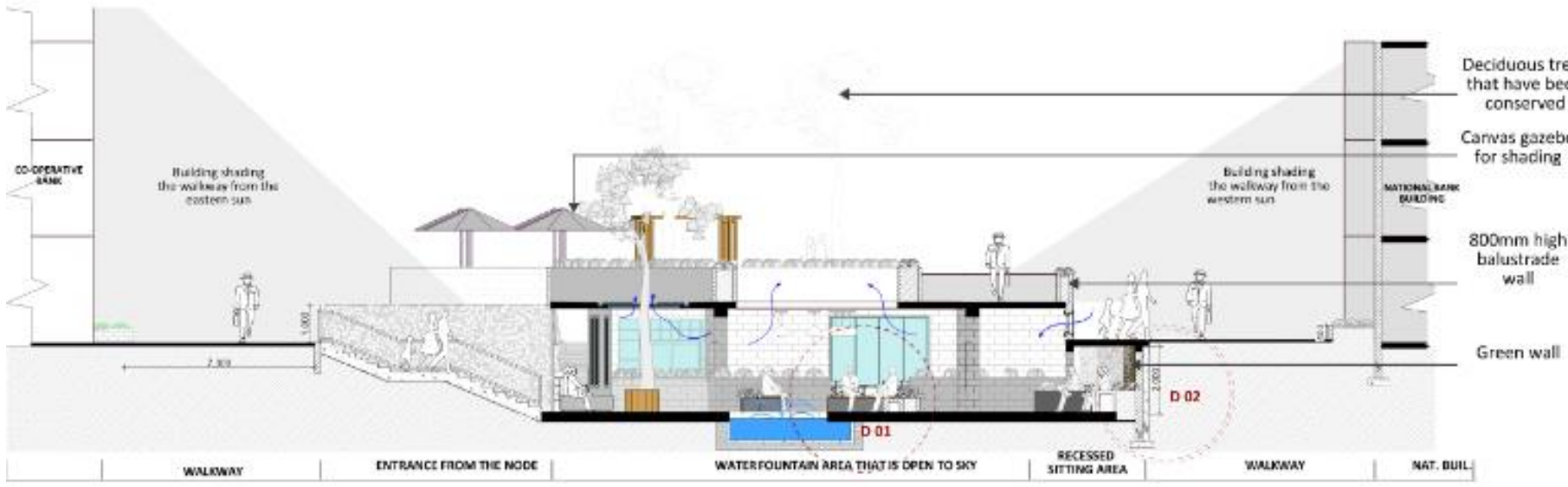
SECTOR THREE PART PLANS



SECTOR THREE ELEVATIONS AND SECTIONS



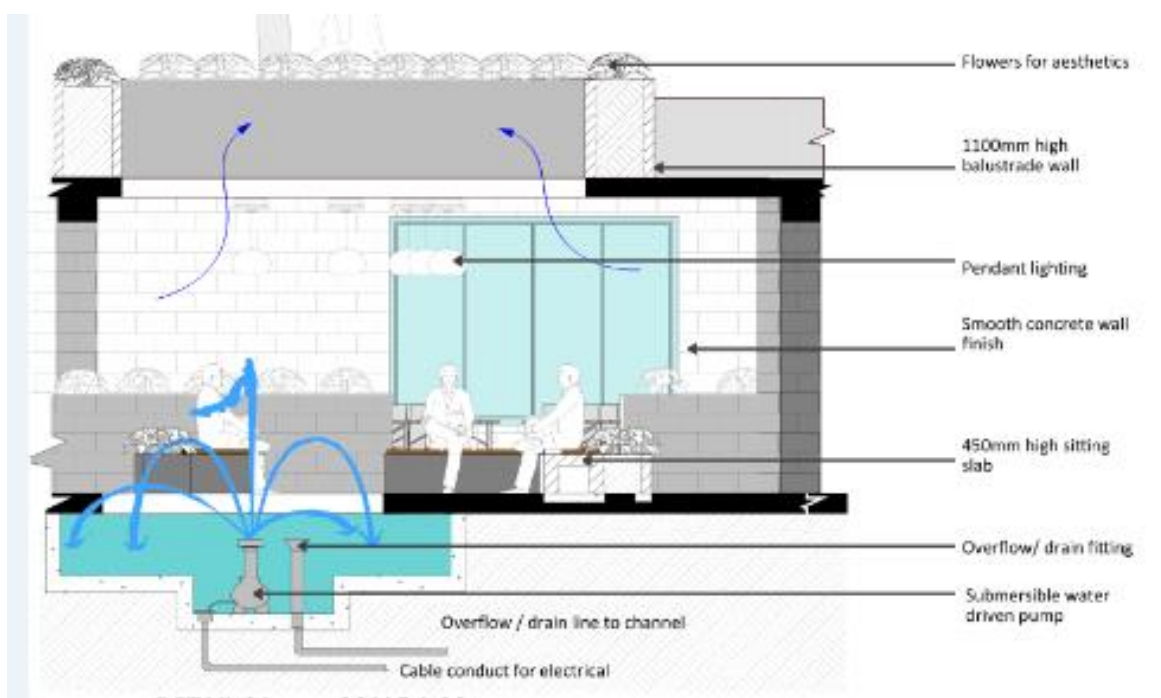
SECTIONAL ELEVATION 01 SCALE 1:200



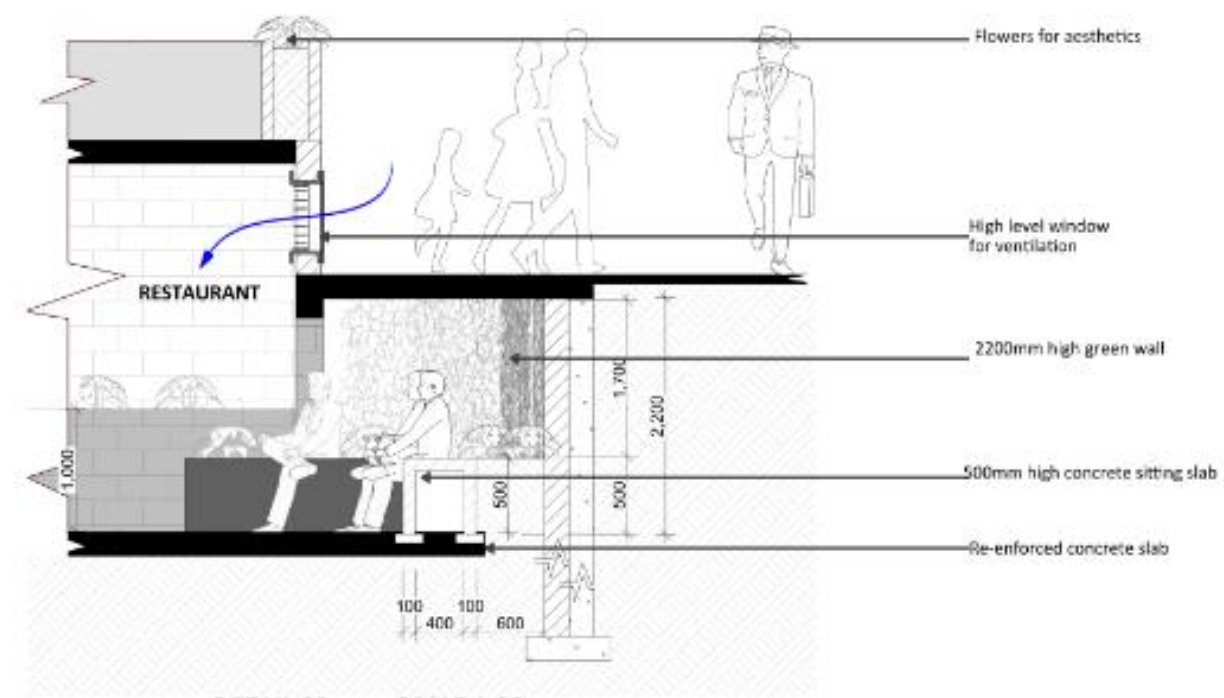
SECTIONAL ELEVATION 02 SCALE 1:50



3D PERSPECTIVE OF THE WATER FEATURE AREA



DETAIL 01 SCALE 1:20



DETAIL 02 SCALE 1:20

OPEN TO SKY WATER FEATURE AREA WITH POCKETS OF ACTIVITIES AROUND IT

This space is intended to boost social and cultural life. This space will create a genuine relations between the activities around it and the sky above hence contributing to the vitality of all the spaces. The space will also host different activities like exhibition, meetings and recreational activities.

DETAIL DESIGN

IDENTICAL ENTRANCE TO ALL THE SECTORS

The space is open to sky to allow views into the development for all pedestrians passing by. For universal access, a ramp of ratio 1:12 is provided. Between the ramp and stairs, a shaded stair sit has been provided for pedestrians to rest on. To make the ramp more appealing, green spaces on either side have been incorporated.

RESTAURANTS

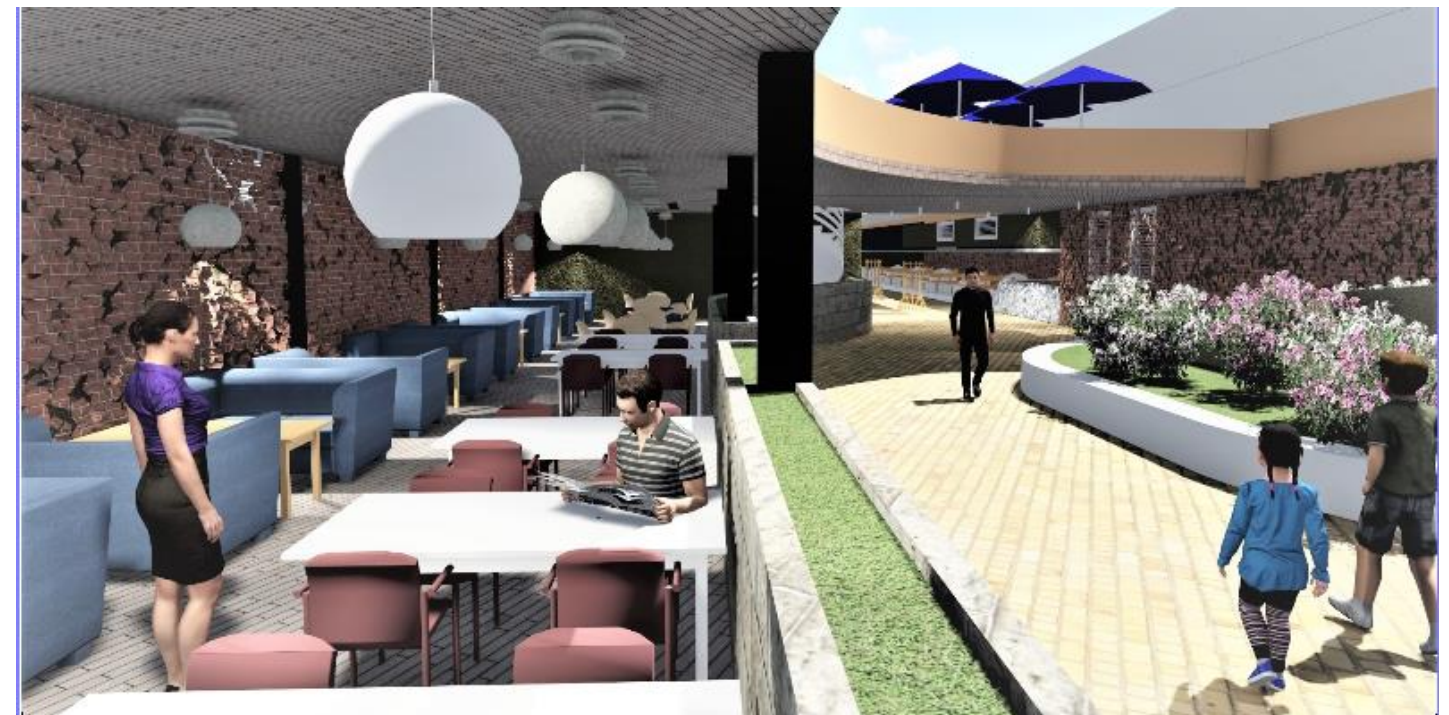
Most are extensions of the existing restaurants in the surrounding buildings have been provided to attract their clients into the development and to bring more activities from the buildings into the street.

WASTE MANAGEMENT AND RECYCLING

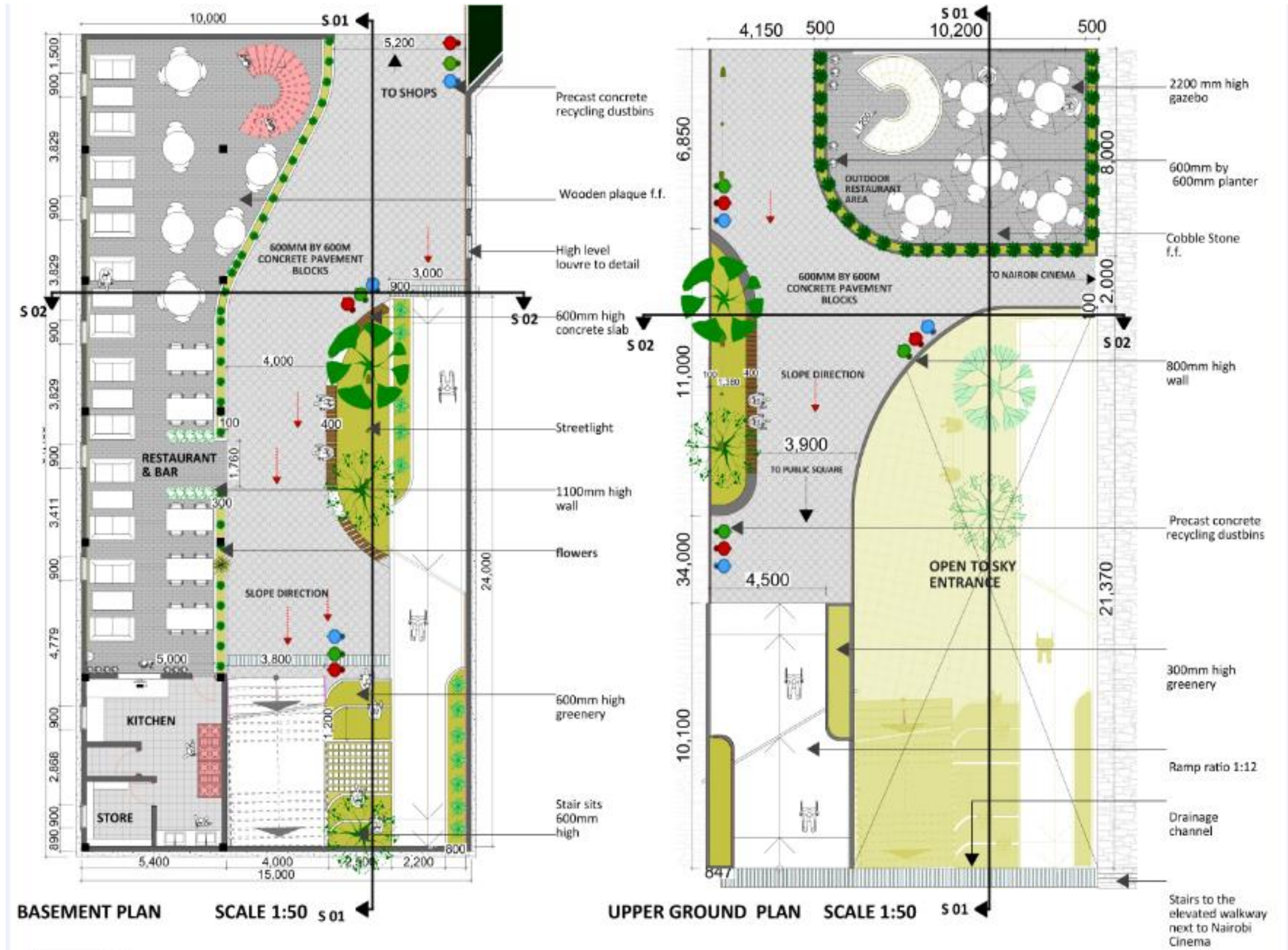
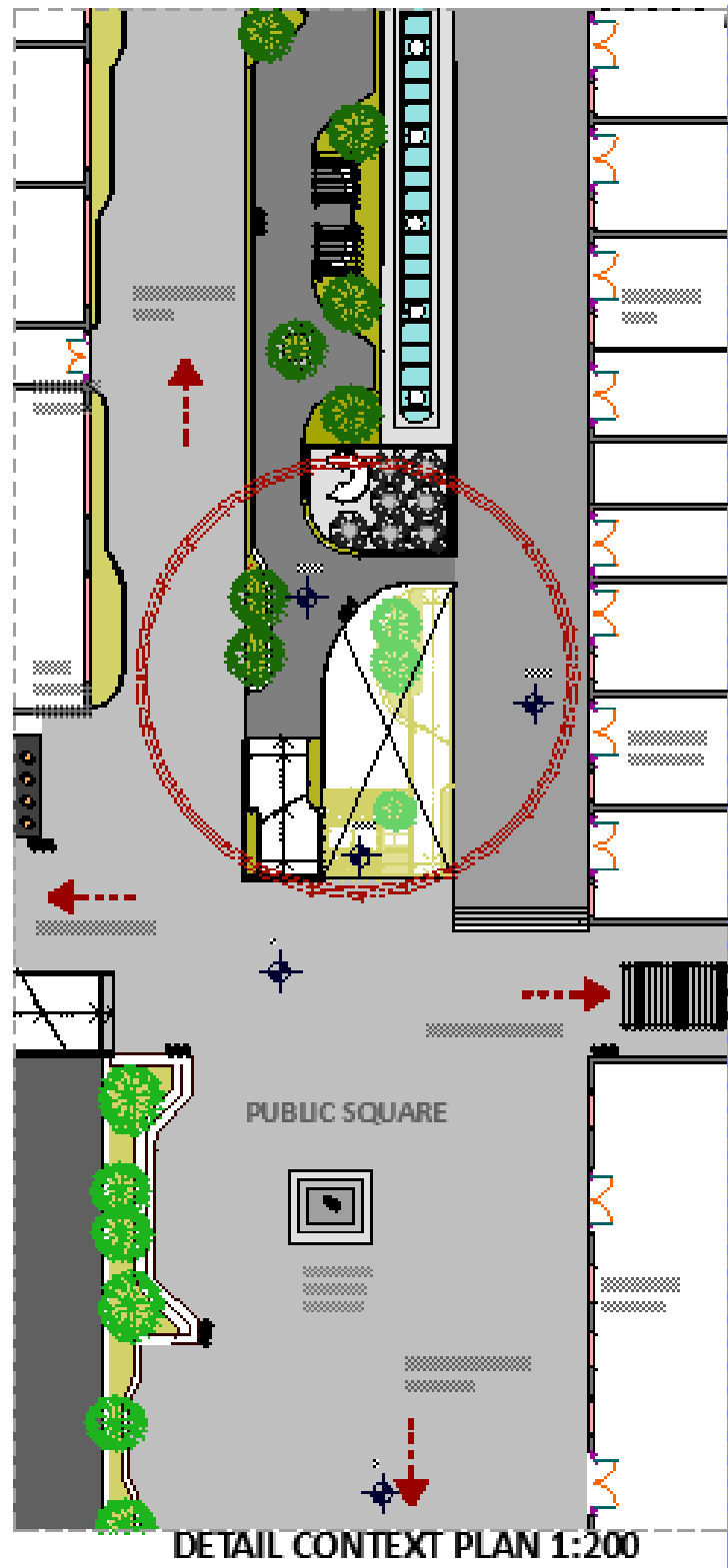
Three different dustbins have been placed for disposing different types of wastes.

DRAINAGE

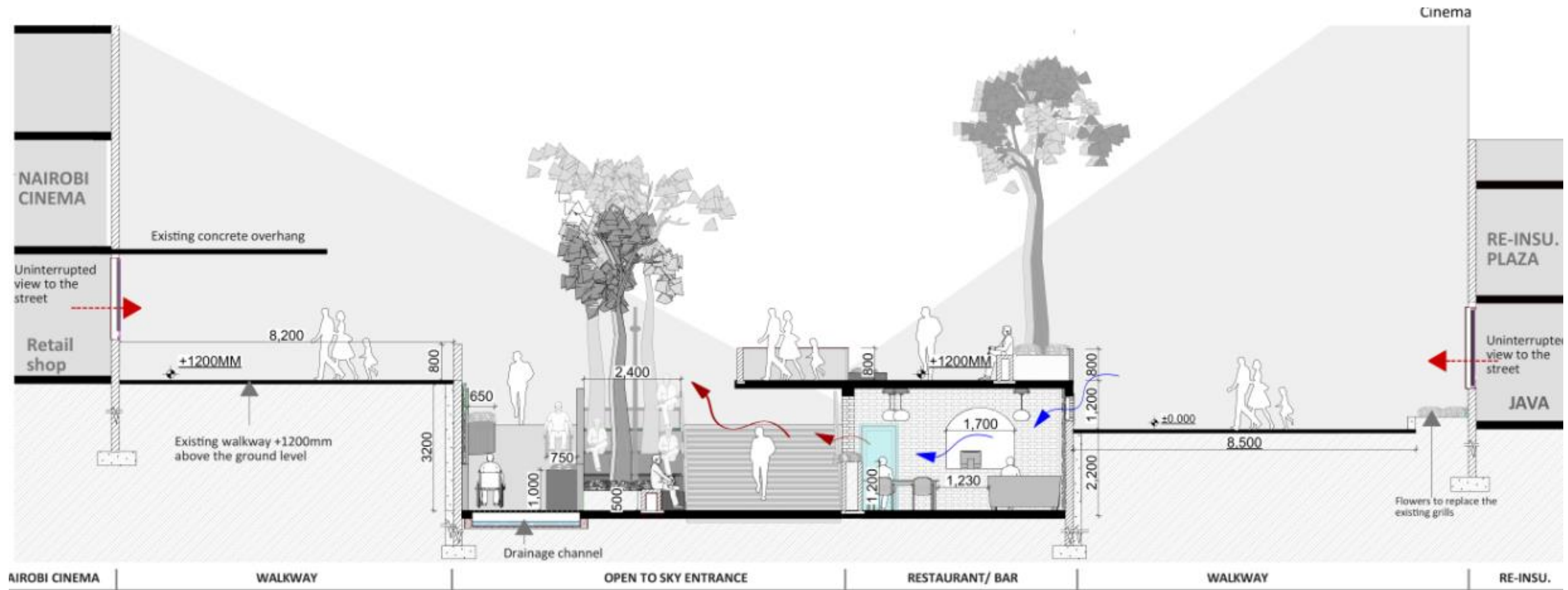
Drainage channels have been placed at designated areas and the floor slab designed to slope towards the drainage channels. Sump pit and sump pump have also been incorporated in my design to pump water into the underground water tank.



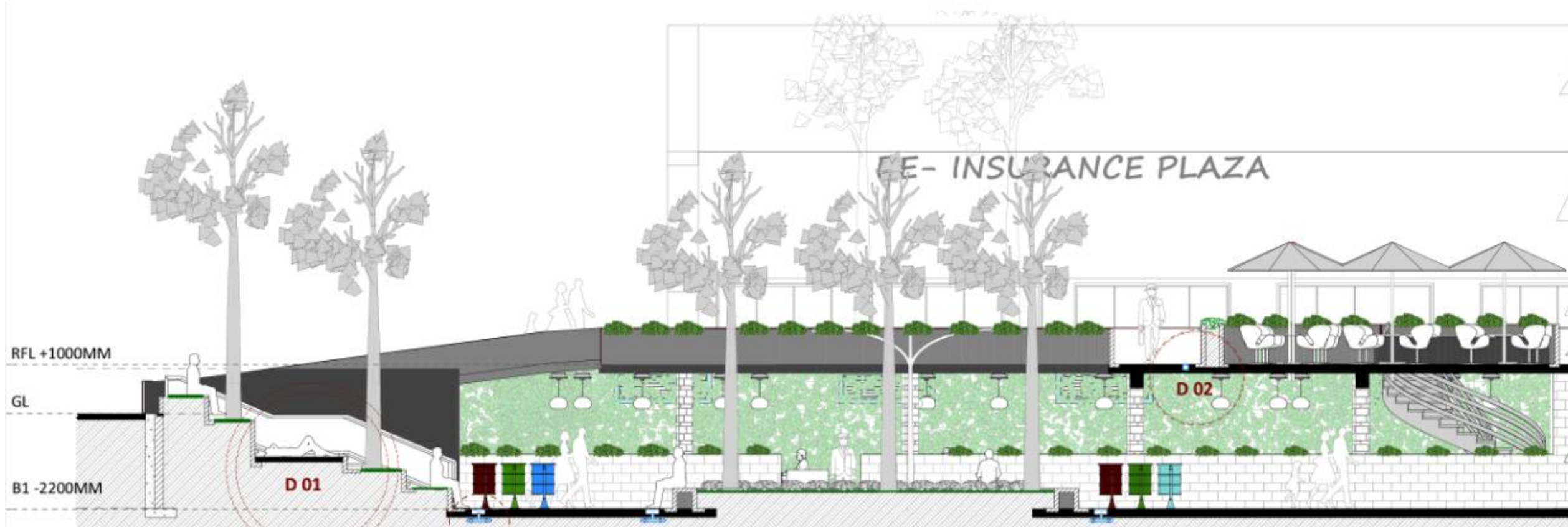
DETAIL DESIGN CONTEXT AND PLAN



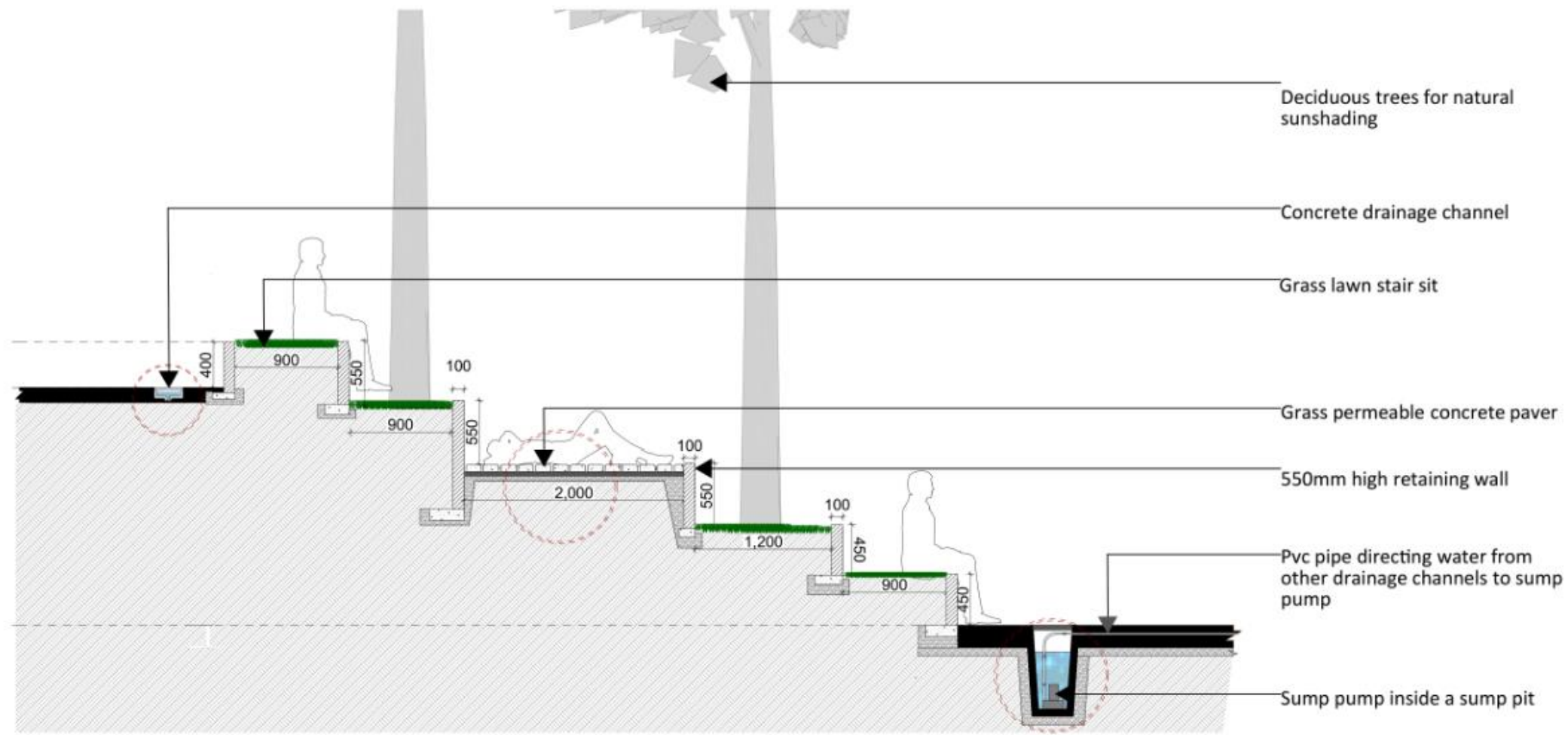
DETAIL DESIGN SECTIONS



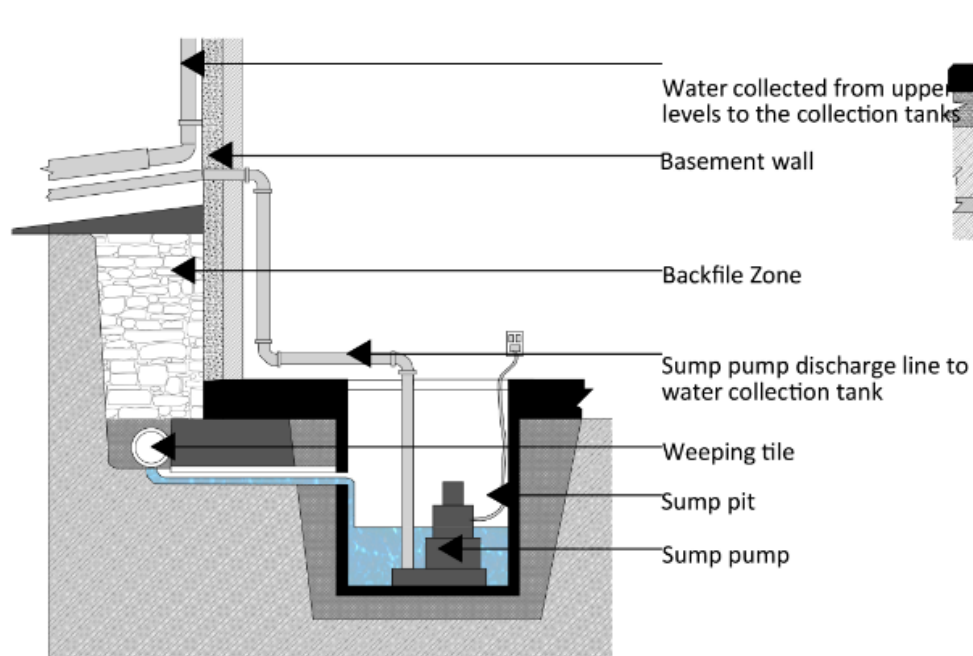
SECTION 02 SCALE 1:50



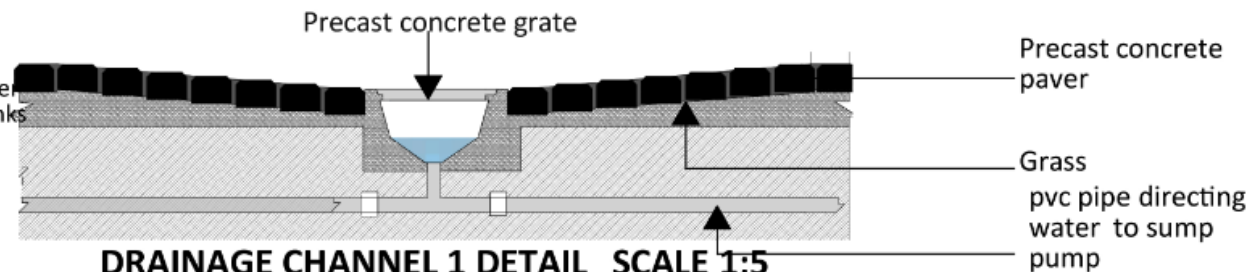
DETAIL DESIGN



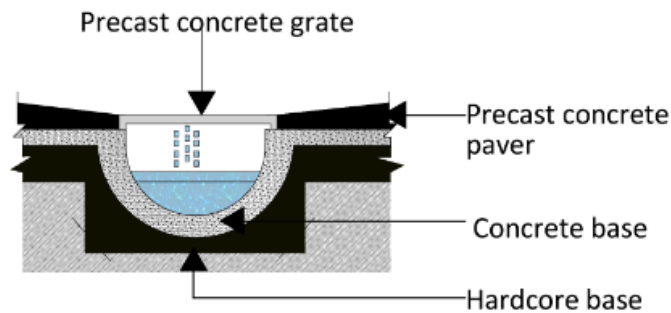
DETAIL 01 SCALE 1:20



SUMP PIT DETAIL SCALE 1:5



DRAINAGE CHANNEL 1 DETAIL SCALE 1:5



DRAINAGE CHANNEL 2 DETAIL SCALE 1:5

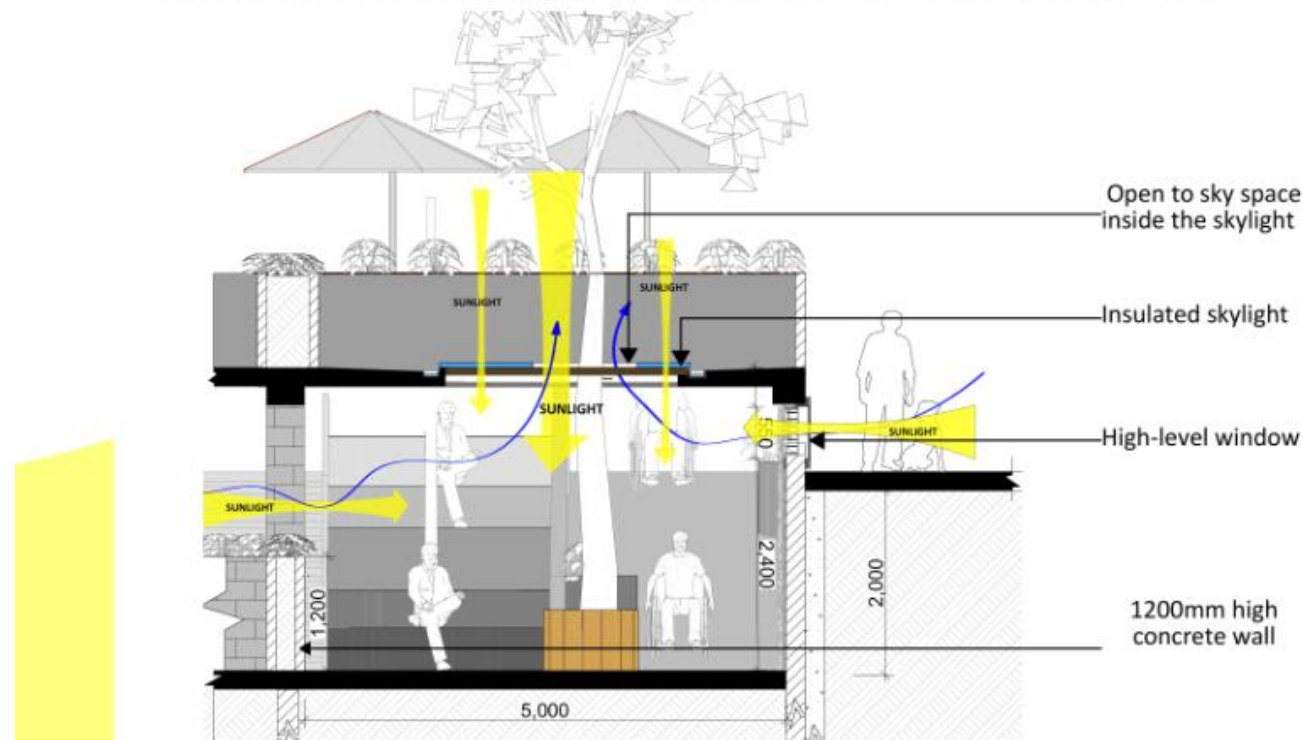
DRAINAGE CHANNEL 1
 Will be on lower ground level and the water will be collected through the pipe and directed to the sump pit where it will be pumped into the underground water tank.

DRAINAGE CHANNEL 2
 The channel has a gradient hence no need for pumping of water to the pvc pipe that will use gravity to allow water to flow into the underground water tank.

ENVIRONMENTAL DESIGN

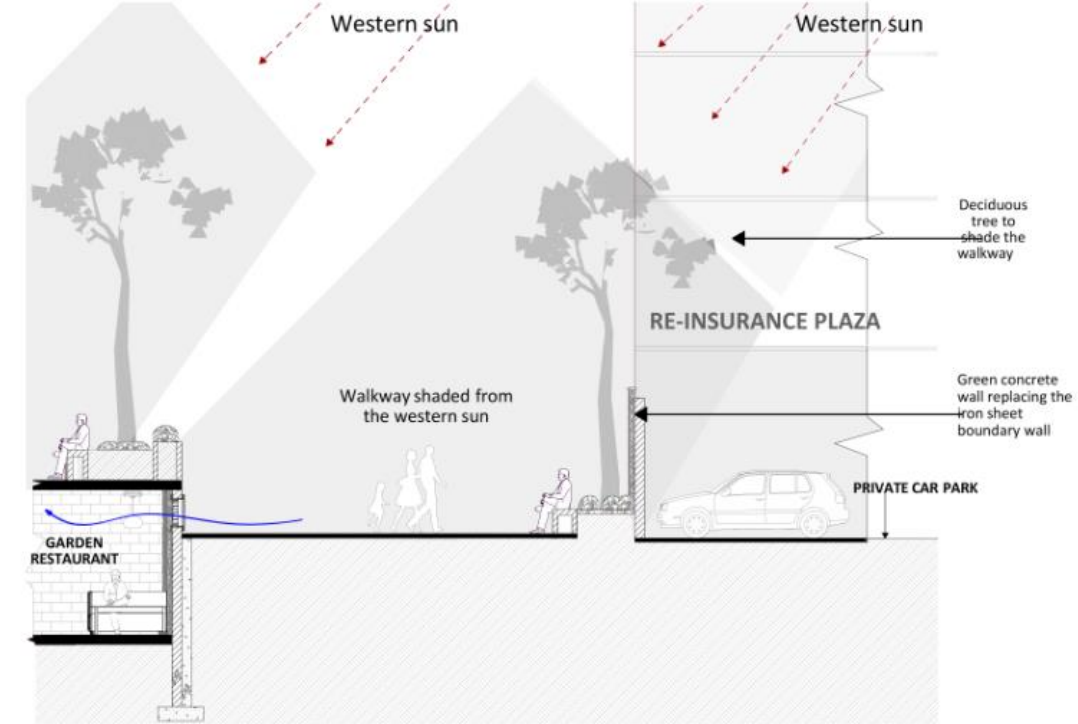
NATURAL LIGHTING THROUGH USE OF SKYLIGHT, HIGH LEVEL WINDOWS AND OPEN TO SKY SPACES

The basement is provided with a direct link to the dynamic and perpetually evolving patterns of outdoor illumination. Day lighting will help create a visually stimulating and productive environment for building occupants, while reducing as much as one-third of total building energy costs.



USE OF SHADE TREES- NATURE'S SUNSCREEN TO SHADE THE WALK FROM WESTERN SUN

The street is exposed to western sun where we have the two parking spaces: sunken car park and Koinange Family's Car Park. This points are uncomfortable for pedestrians during the hot afternoons. To eradicate this, I have introduced thick vegetation of deciduous trees and sitting area under the trees.

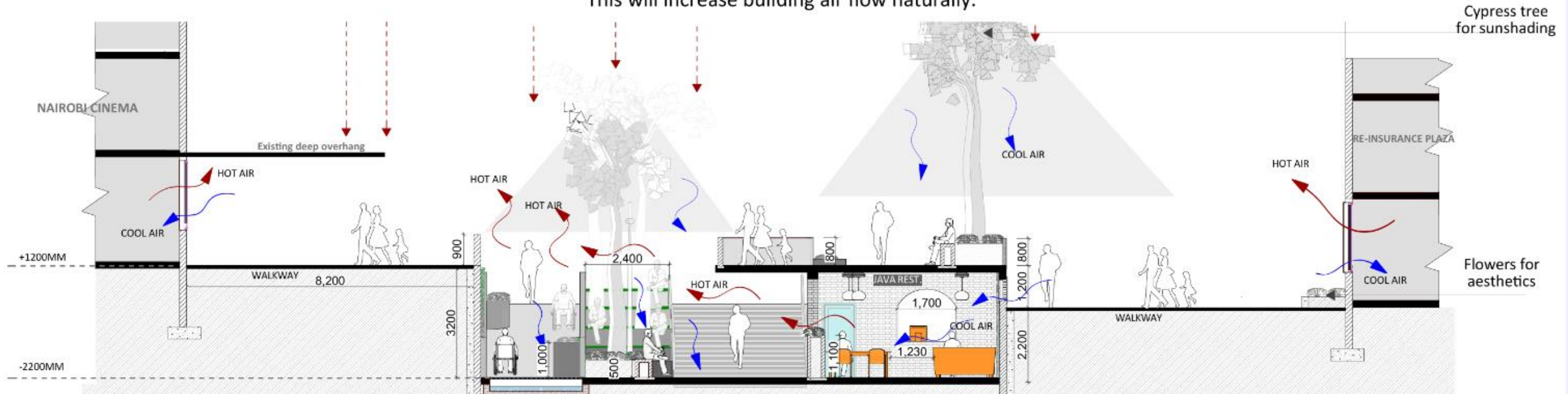


DETAIL 02 SCALE 1:50

NATURAL VENTILATION AND COOLING THROUGH CROSS VENTILATION

The system relies on wind to force cool exterior air into the building through an inlet (the high level windows) while outlet forces warm interior air outside (through the open to sky spaces or higher window opening). This will create a natural ventilation system to help increase the flow of cool air coming in and assist the hot air going out.

This will increase building air flow naturally.



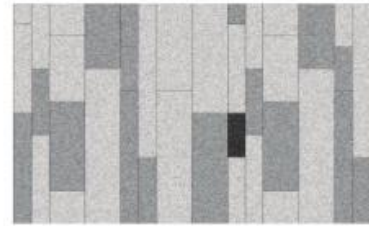
ENVIRONMENTAL DESIGN

DETAIL 01: USE OF LOCALLY AVAILABLE MATERIALS TO LOWER CARBON FOOTPRINT

The materials used are concrete, njiru bluestone and timber both that can be sourced a few kilometres from the site hence are very suitable for the context. Use of locally sourced materials from a nearby manufacturing site, helps make products greener by cutting down on transportation distances, which lowers greenhouse gas emissions. Reflective smooth colored render dominates the material palette this keeps off the scorching diurnal heat/solar radiation.



INTERIOR CONCRETE BLOCK WALL



PRECAST CONCRETE PAVEMENT BLOCKS



INTERIOR CONCRETE BLOCK WALL



TEXTURE CONCRETE WALL FINISH

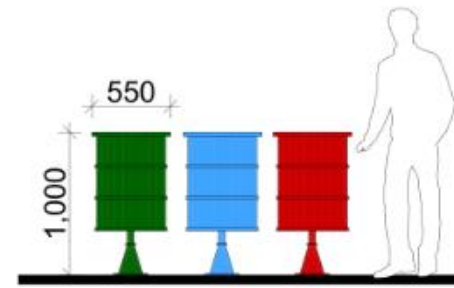


NJIRU BLUESTONE PAVER



CONCRETE WALL PANELS

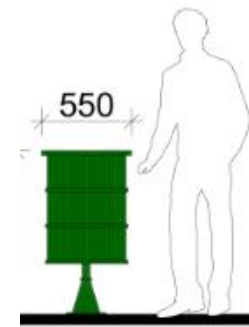
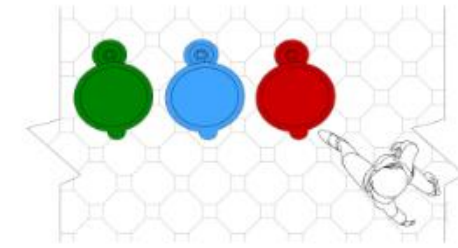
DETAIL 02: WASTE MANAGEMENT THROUGH USE OF RECYCLING DUSTBINS



WASTE RECYCLING DUSTBINS

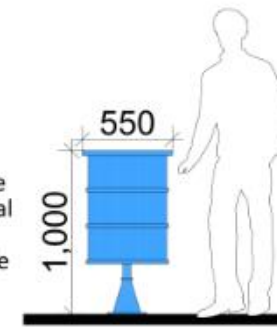
The dustbins will have different colours to help the pedestrians identify their uses.

This will help in sorting the waste to ease the recycling of waste process



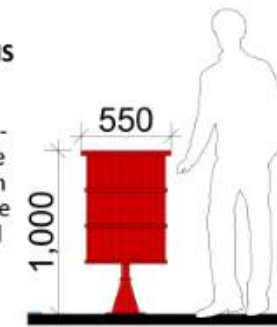
GREEN DUSTBINS

Used for collecting kitchen waste plant or animal waste or biodegradable waste.



BLUE DUSTBINS

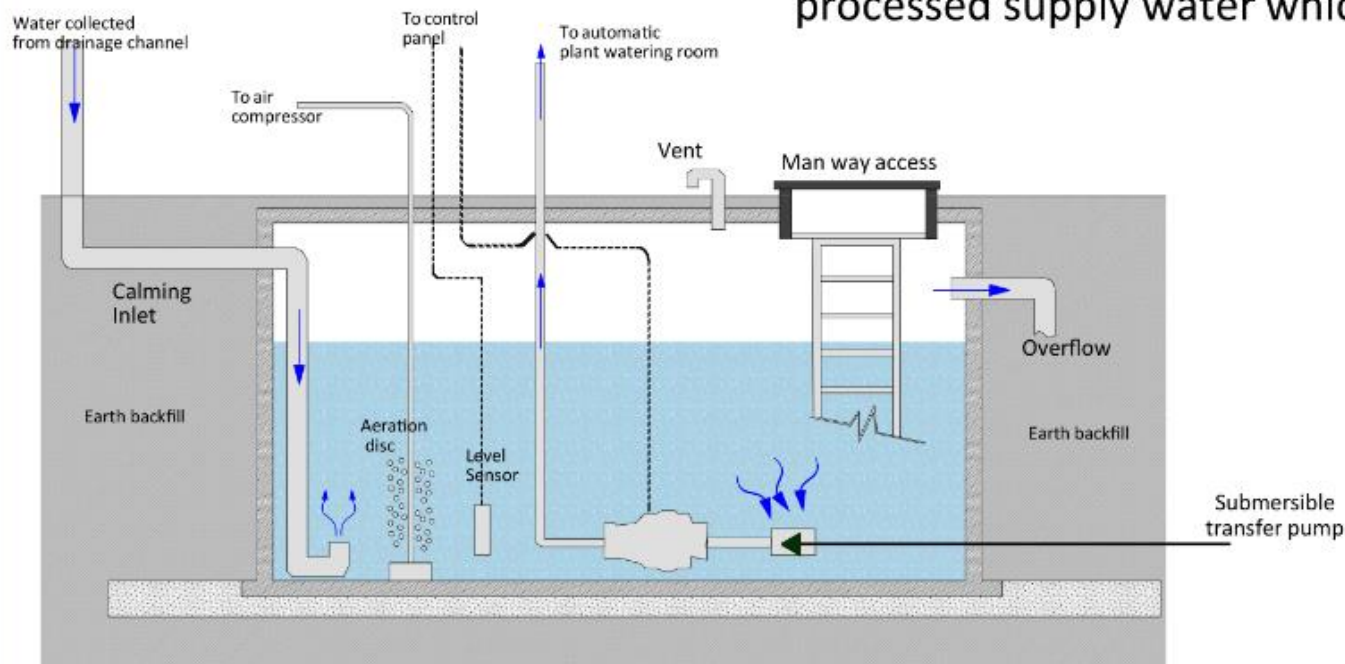
Used for collecting non-biodegradable waste that can be recycled like plastic, metal and glass objects.



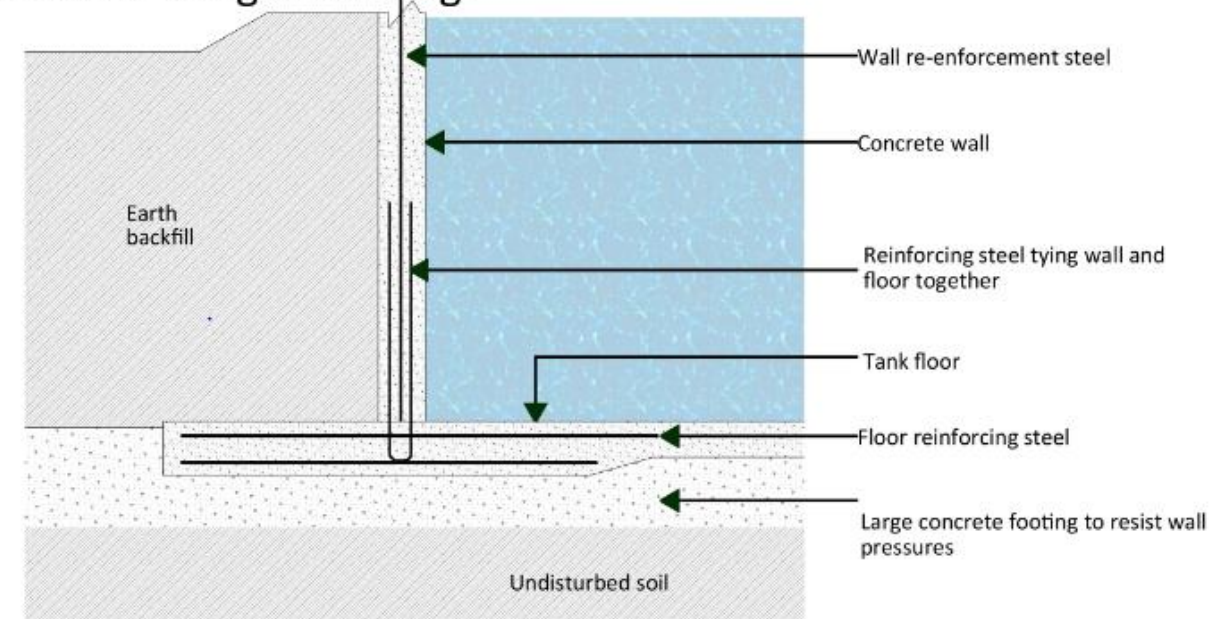
RED DUSTBINS

Used for general household rubbish that cannot go in the recycling or organics bins, including: Soft plastics (eg. plastic wrap, cling film, newspaper sleeves, plastic bags, bin liners)

Sustainable use of water will maintain a balance between its demand and supply in my site. Rainwater harvesting (RWH) is the most traditional and sustainable method. The water collected from the drainage channels will be pumped into the underground water tank and will be used to water the soft landscaping elements in my site through the use of automatic system. This will reduce the pressure on processed supply water which enhances the green living.



UNDERGROUND RAINWATER TANK



UNDERGROUND RAINWATER TANK REINFORCEMENT DETAIL

RENDERS



PHYSICAL MODEL IMAGES



