

# OSCillator

23/24 UAL BAA 22022045 Yonghao Li

Fort hub for the youth set under signal tower's relics

OSCilator is extracted from the word Oscillation, which means a physical occurrence in which a certain state changes repeatedly over time. OSCillator (OSC) is a place that provides extracurricular interest classes for young people, and OSC wants to cultivate the curiosity of the next generation through the power of education. We hope that the power generated by the youth's oscillation with the local culture will be perceived by everyone.





# Mitcham History



## Aromatic frontiers

### Initial identity of the region

In the 16th-18th centuries lavender was valued for its recognised medicinal properties and in Mitcham due to favourable growing conditions lavender was promoted and widely cultivated.

## The Pastoral of Fields

### Mitcham's economic engine

Benefiting from the high quality of local produce, Mitcham's herb distilling, calico printing and tobacco processing industries are major assets. The boom has created significant employment and community prosperity.

## Industrial Heart

### Unstoppable growth

Before 1860, railway transport replaced horse-drawn carriages during the Industrial Revolution, driving Mitcham's industries to seek productivity and transforming small and medium-sized businesses. Horticulture gradually gave way to manufacturing.

## Back to the Nobody

### Urban restoration

The trauma of the war 100 years ago pulls more narratives back into the lives of residents. New markets and residential redevelopment and development, the urgent need for egalitarian and fast affordable architectural solutions, and the demand for a mix of different community functions are on the table. Banality and Neutrality.

## Symbols of strength

### Hard infrastructure over ecology

Convenient infrastructure introduced gas pipework, the largest gasworks in the area, like the elephant in the room, raised health concerns, and into 100 years of iterations, from being a gas storage to now being dismantled and becoming the offices of the National Grid.

## The Melting Pot

### Multi-Protagonist Community

Traditional farmland is gradually taken over and Mitcham brings different people together. Dense proletarian houses, full of churches and people. The neighbourhood is full of families raising children, Irish, Jewish, Black and Asian families.

## A New Beginning

### Reinvesting in the bottom

Mitcham continues to grow as a suburb of London, sharing the capital's huge population numbers and new residents. People enjoy Mitcham's accessibility and relatively extensive green spaces, and as new residents come in, the community has to choose between becoming a modern city or an idyllic town that embraces its traditional history and culture.



# Curiosity Perspective

**WINBLDON**

This image depicts the four parks near the gas works (marked as cool blocks), the two town centers, and the railway station (represented as warm blocks). The **blue blocks** indicate the former gas works. Because of historical heating considerations, the site is surrounded by residential areas. Despite its proximity to the main street, the fenced-off isolation makes the rest of the area quieter. This isolation adds an extra layer of mystery in my perspective, reminiscent of childhood adventures and the effort to cherish those fantastical stories, like a collection of glass beads. I chose to build the secret base of childhood here.

**MITCHAM**

This image depicts the four parks near the gas works (marked as cool blocks), the two town centers, and the railway station (represented as warm blocks). The blue blocks indicate the former gas works. Because of historical heating considerations, the site is surrounded by residential areas. Despite its proximity to the main street, the fenced-off isolation makes the rest of the area quieter. This isolation adds an extra layer of mystery in my perspective, reminiscent of childhood adventures and the effort to cherish those fantastical stories, like a collection of glass beads. I chose to build the secret base of childhood here.



## 1 Midnight graveyard, London Road Cemetery

We agreed to explore the deserted, haunted house near the big tree pit we were gathered around, in the middle of the night. Our flashlights cast eerie beams, illuminating the sneering foxes lurking within the nearby jungle.



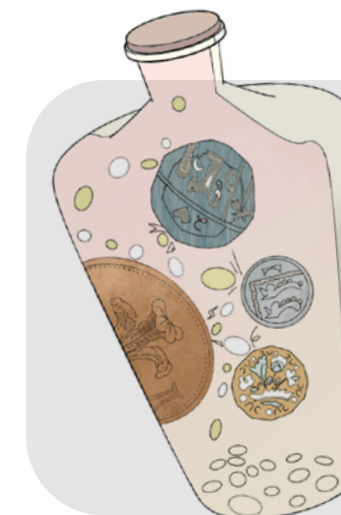
## 2 Herb farming, Lavender Park

I ran through a lavender field with a friend who was wearing a wreath, and in our haste, we accidentally knocked over my uncle, who happened to be in the field picking lavender.



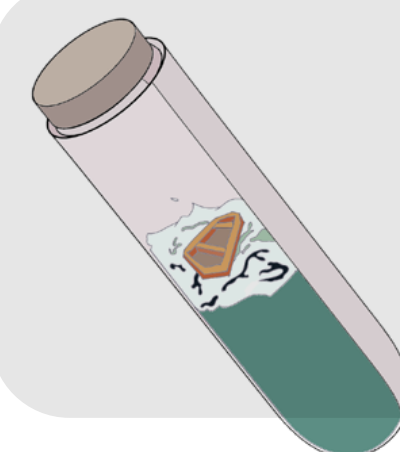
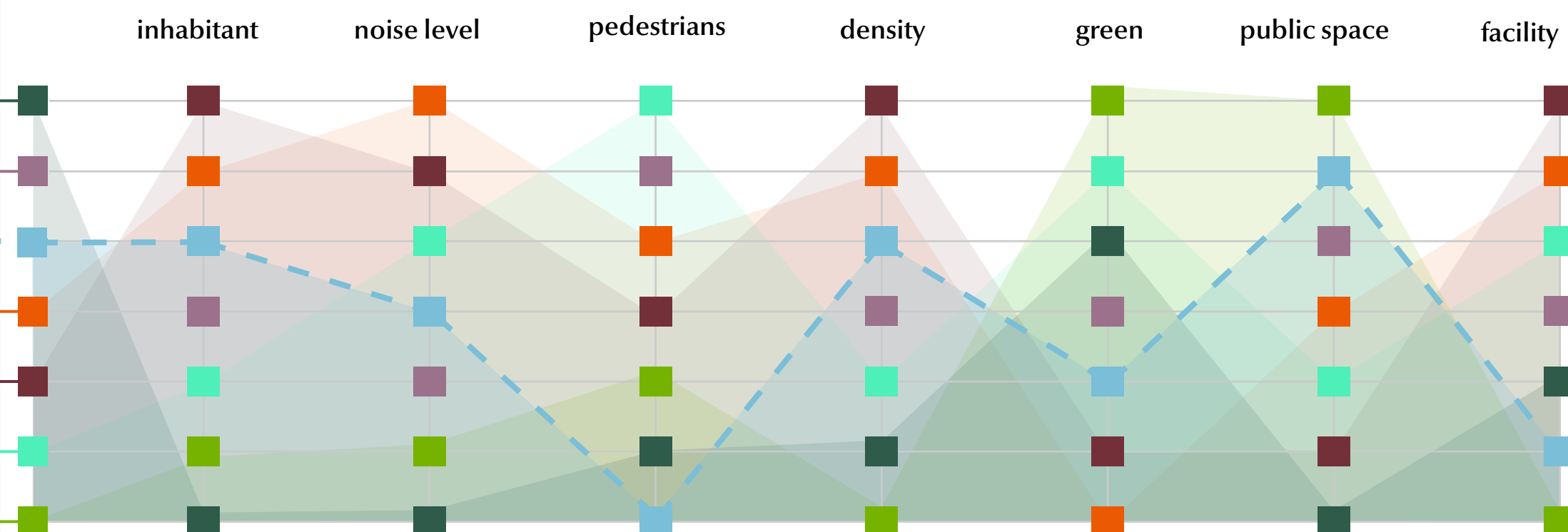
### 3 Street murmur, Town Centre

Once again, my father was showing off his catch to others but forgot to bring me the long-awaited and promised gift that I had been eagerly waiting for.



## 4 Waiting games, Eastfields station

My enthusiasm for traveling always dwindles while waiting for the bus, and as a little game, I playfully imagine betting that the first person to disembark the bus will be a girl.



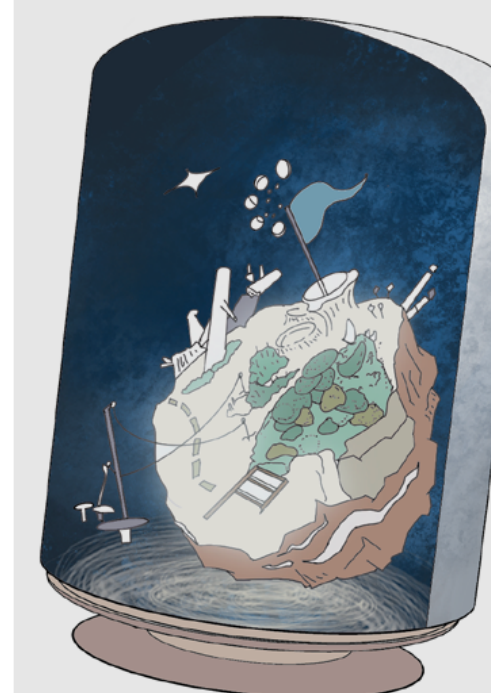
## 5 Boat Adventure, Town Centre

I was captivated by a cicada's call in the reeds, and behind the shimmering vapor, I discovered a goose egg tucked away in a hidden corner.



## 6 Eternal Courtyard, Mitcham Common Park

I secretly held all the seeds I collected this year close to my heart, eagerly anticipating the harvest of a house full of flowers next year.

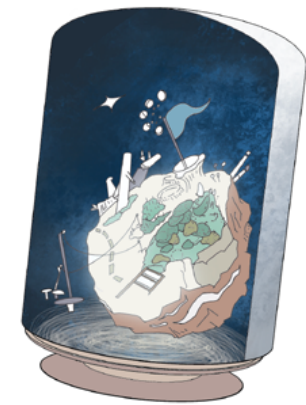


## 7 Secret bunker, Site, Former Gas Works

It was a no man's land strewn with the promise of gold, and I knew that one day, I would set foot on that land. There, I would build my own home and kingdom, perfected laws to banish all bitterness and evil, creating everything necessary for the all.



# Situation research



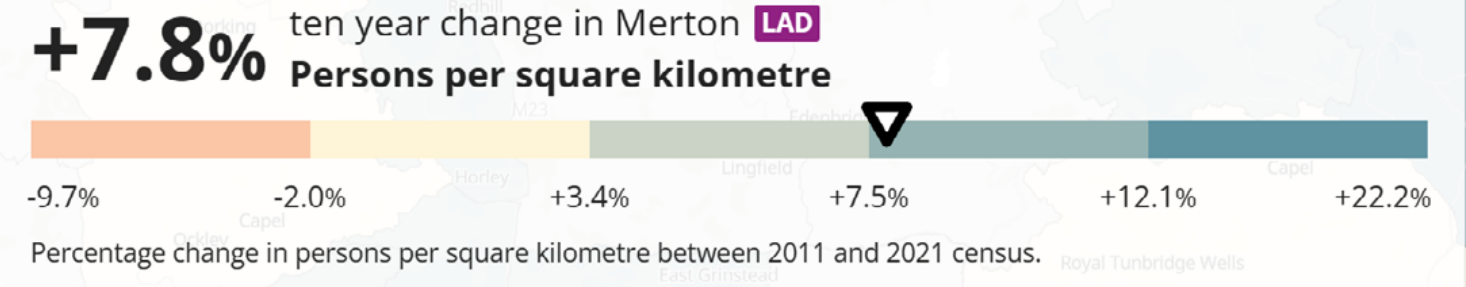
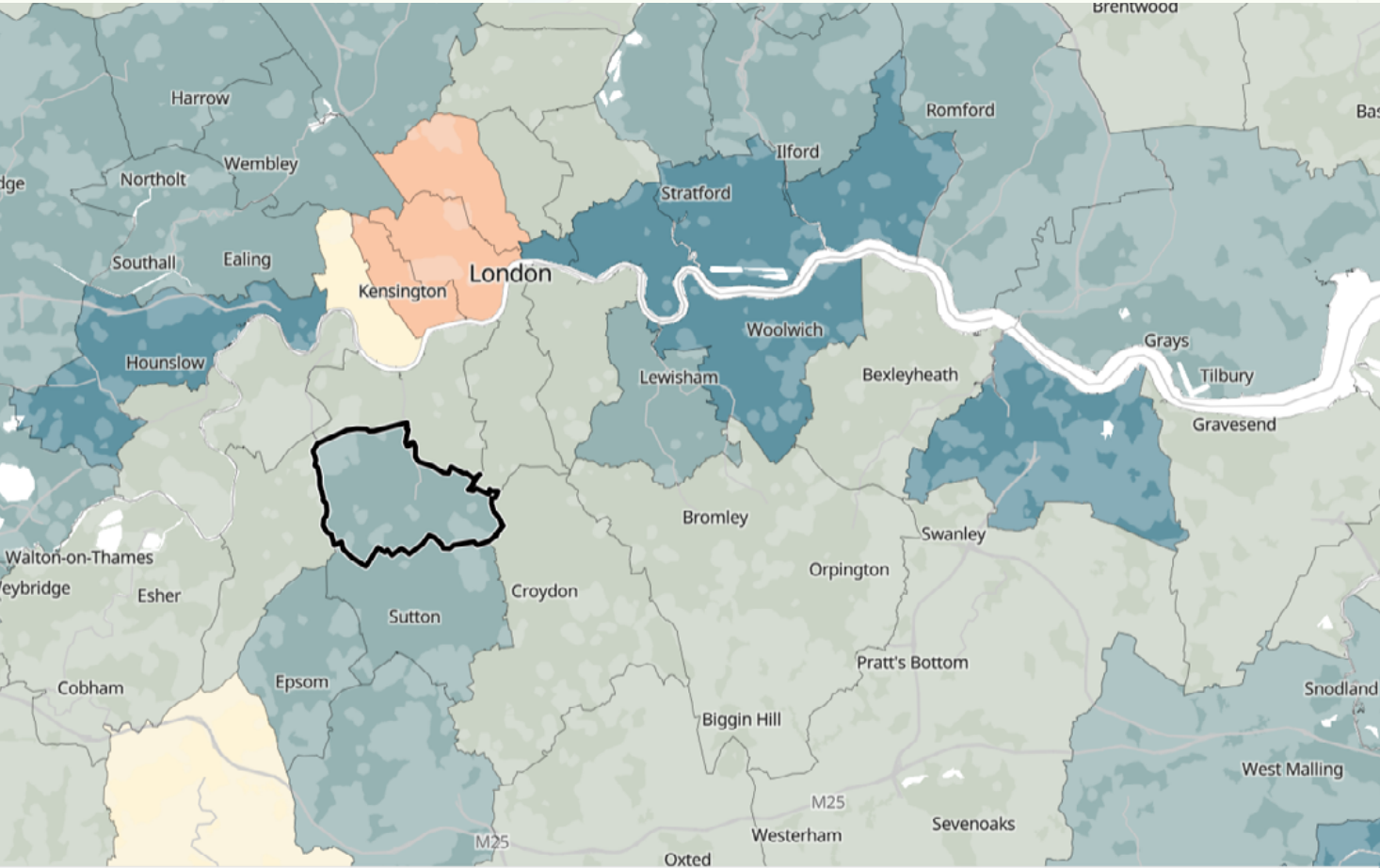
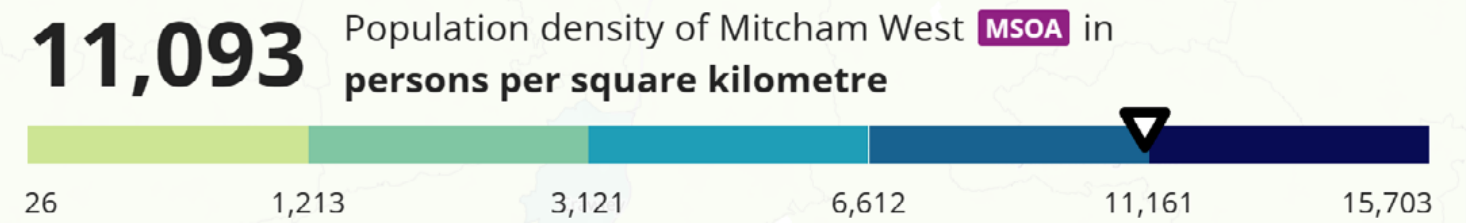
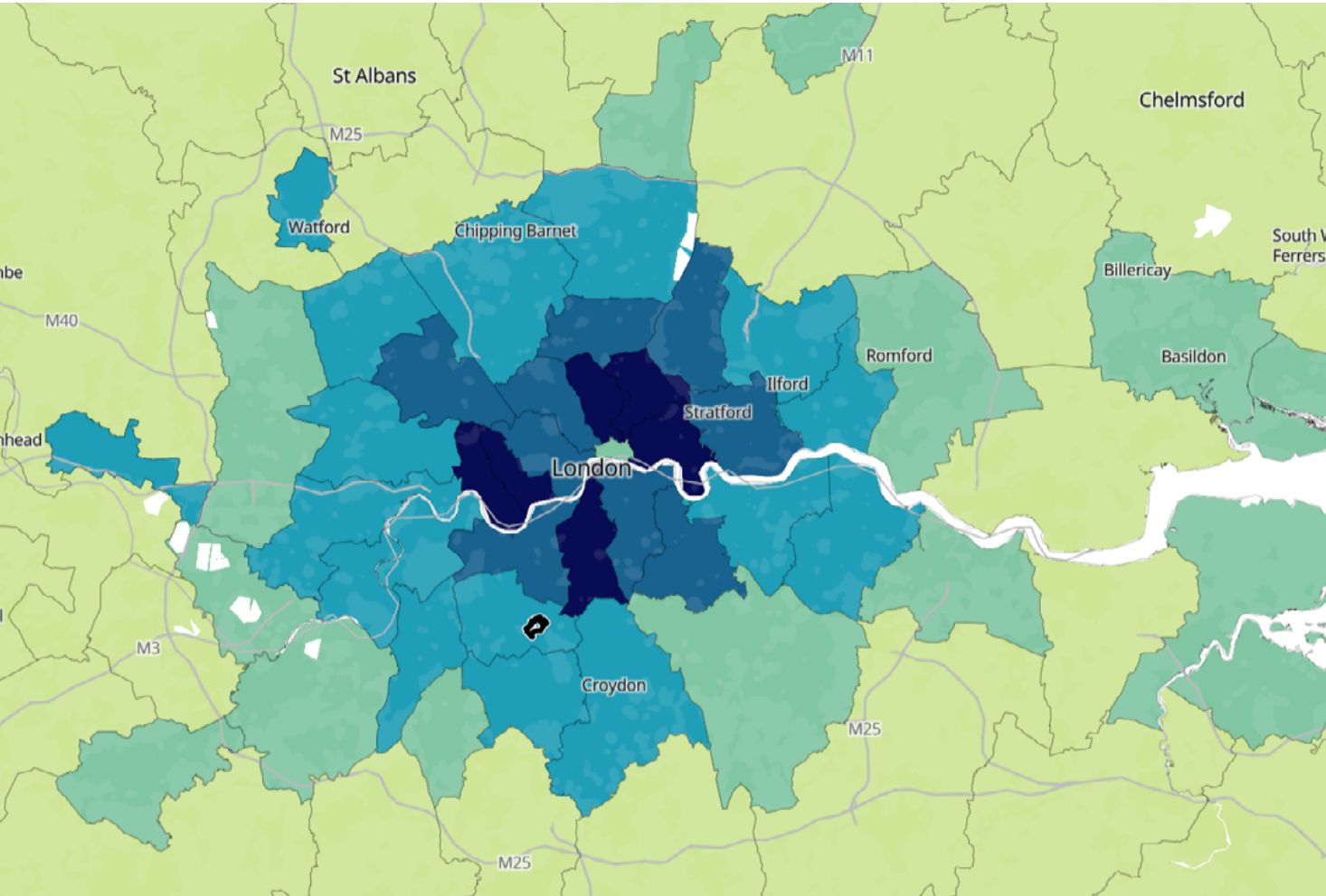
- Site
- ▨ Existing Facilities
- ↔ Main Entrance
- ⊕ Main Traffic

## Conclusion

The site has good accessibility and there is a large amount of no man's land that can be used as an attempt for residents to actively access the intervention, develop sharing facilities, and develop a new place experience for the community shortage.

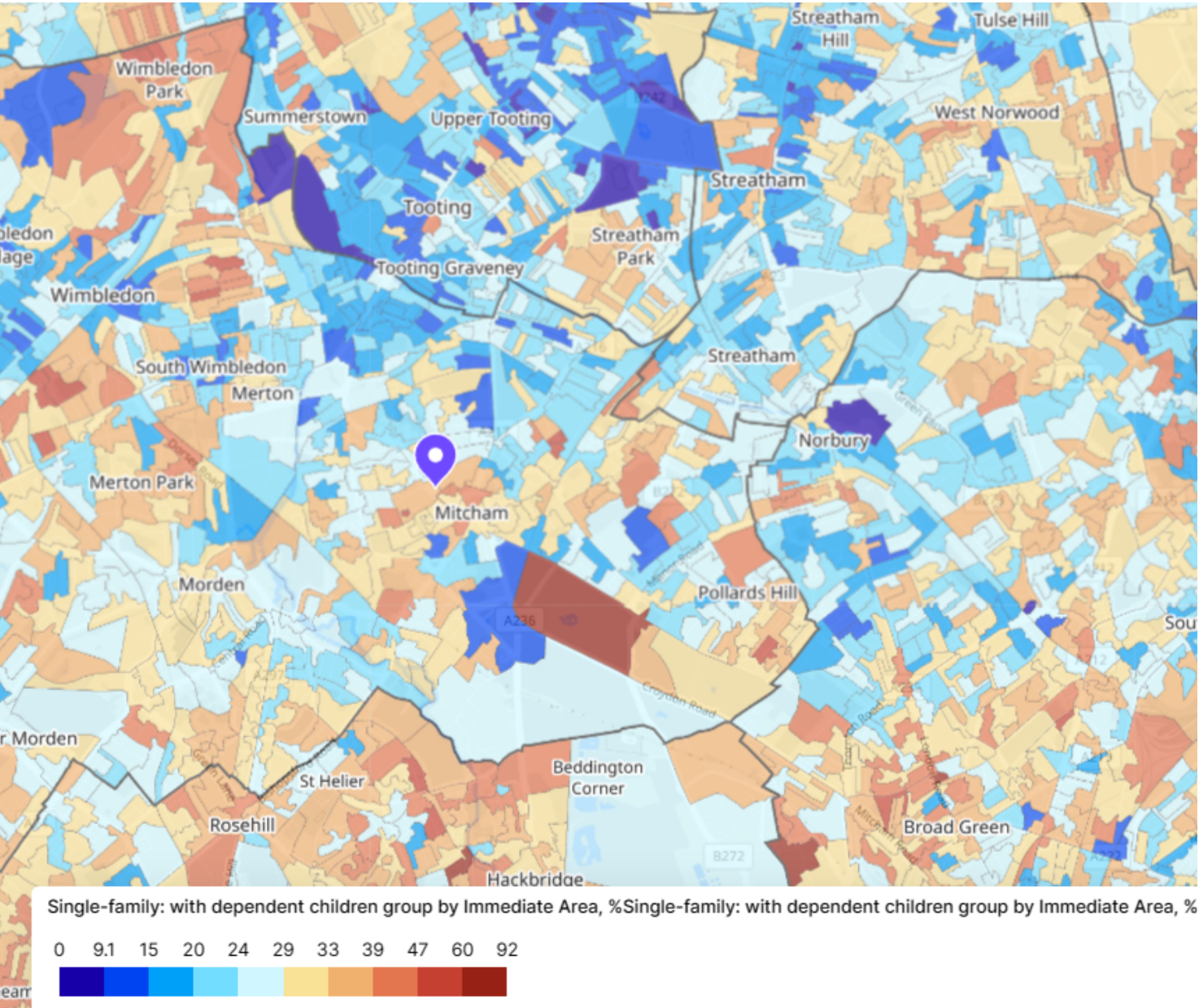


# Working or Staying



Mitcham has an ethnically diverse and growing population due to cheap rents and an autonomous location relatively close to the city centre.

Factors such as over half of the parkland area and relatively good infrastructure have resulted in a population growth rate of 7.8 % in Mitcham, which is slightly higher than in London (7.7%)



## Household Type

Single-family: with dependent children	35%
One-person household	21%
Single-family: no children	15%
Multiple families or unrelated people	13%
Single-family: with non-dependent children	11%
Single-family: all aged 66 and over	2.2%
Single-family: other	2.2%

## Residents Age

Aged under 20	34%
Aged 40 to 59	29%
Aged 20 to 39	25%
Aged 60 to 79	10%
Aged 80 and over	2.1%

Date Source: Office for National Statistics--2021

High in households with children, low in independent households

Single-family: with dependent children: 35% (London average: 27%)

One-person household: 21% (London average: 29%)

Single-family: all aged 66 and over: 2.2% (London average: 4%)

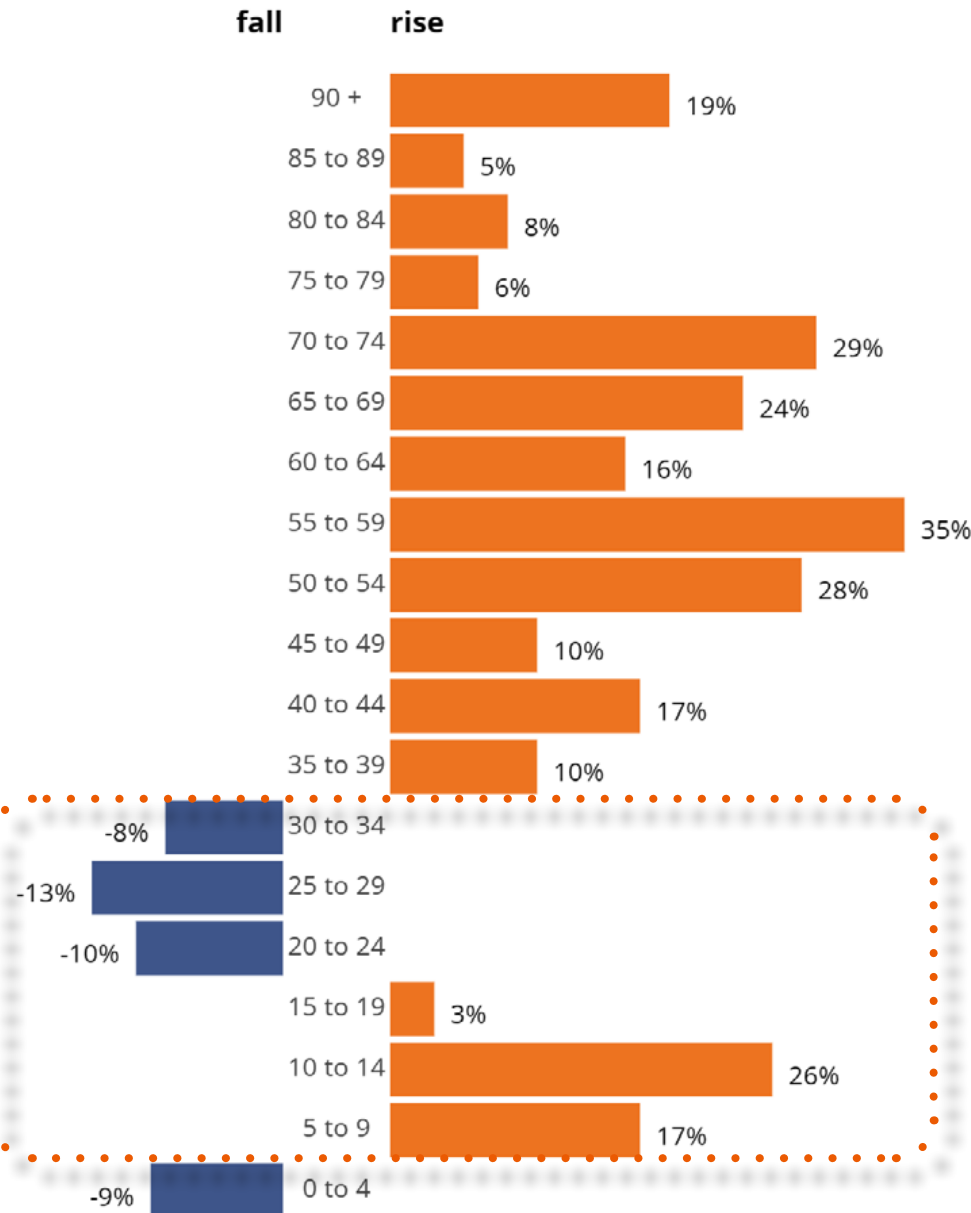
Generally younger age under 20, fewer in the 20-39 age group

Aged under 20: 34% (London average: 24%)

Aged 20 to 39: 25% (London average: 33%)

## Ethnic Makeup

White British	26%
Other White	16%
Other Asian	11%
Mixed	8%
Indian	7%
Other	7%
Black African	7%
Black Caribbean	5%
Pakistani	4%
White Irish	1.9%
Chinese	1.7%
Other Black	1.7%
Roma	1.3%
Gypsy	1%
Bangladeshi	1%
Arab	0.6%



Population change by age group in Merton over 10 years

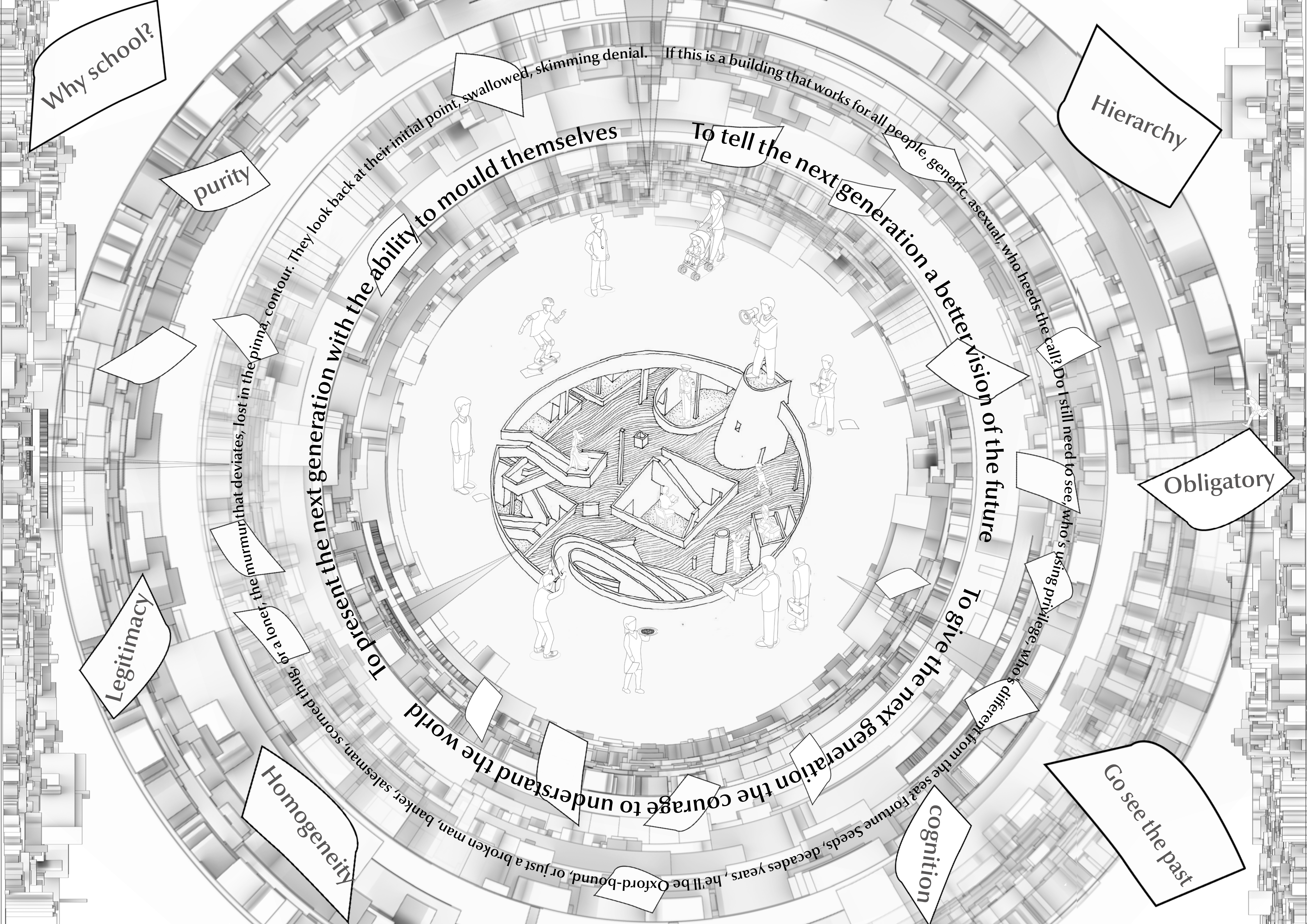
Currently In Mitcham, population growth is concentrated among those over 35 and under 15 years old. The 20-35 age group is leaving for larger cities, leading to children being entrusted to others for care, potentially resulting in a problem of children being left behind.

# We need time to work. Who's going to look after the kids for me?

@ Ask the Neighbours or School to help looking after them...







Why school?

purity

Hierarchy

Obligatory

Go see the past

cognition

Legitimacy

Homogeneity

To present the next generation with the ability to mould themselves

To tell the next generation a better vision of the future

To give the next generation the courage to understand the world

If this is a building that works for all people, generic, asexual, who heeds the call? Do I still need to see, who's using privilege, who's different from the seat? Fortune Seeds, decades years, he'll be Oxford-bound, or just a broken man, banker, salesman, scorned thug, or a loner, the murmur that deviates, lost in the pinna, contour. They look back at their initial point, swallowed, skimming denial.



# My Project Manifesto

In response to the contradiction posed by the growing multi-ethnic need for a better life and unbalanced and insufficient development, and guided by our commitment to protecting the next generation, fostering co-operative education, and fostering solidarity among subcultural communities, we, as architects, declare our dedication to an architectural manifesto that stands against oppressive ideologies and promotes the community's prosperity.

## 1. Liberation from Cultural Hegemony:

Our architecture rejects the vestiges of insular hierarchy and closed elitism that permanently perpetuate cultural hegemony. We advocate for designs that discover and respond to voices from different backgrounds, celebrate diversity, honour and sustain individual indigenous cultures, and empower communities to reclaim their own narratives and identities.

## 2. Preservation of heritage and local wisdom:

Architectural reflection should be rooted in the preservation of human heritage and local intelligence. We strive to create spaces that act as custodians of cultural legacy and ensure that the next generation inherits rich and colourful traditions, stories and values.

## 3. Collaborative Education for Empowerment:

Education is the cornerstone of empowerment. The architecture's spaces should be designed as group cooperative learning environments that encourage curiosity, creativity and collaboration. Through education, communities gain the tools to challenge oppressive systems and shape their own destinies.

## 4. Subcultural Community Solidarity:

Our design should seek commonalities and differences across cultures, and the building will be created to foster the integration of subcultures, fostering a sense of belonging, understanding, and shared prosperity.

## 5. Empowering the next generation:

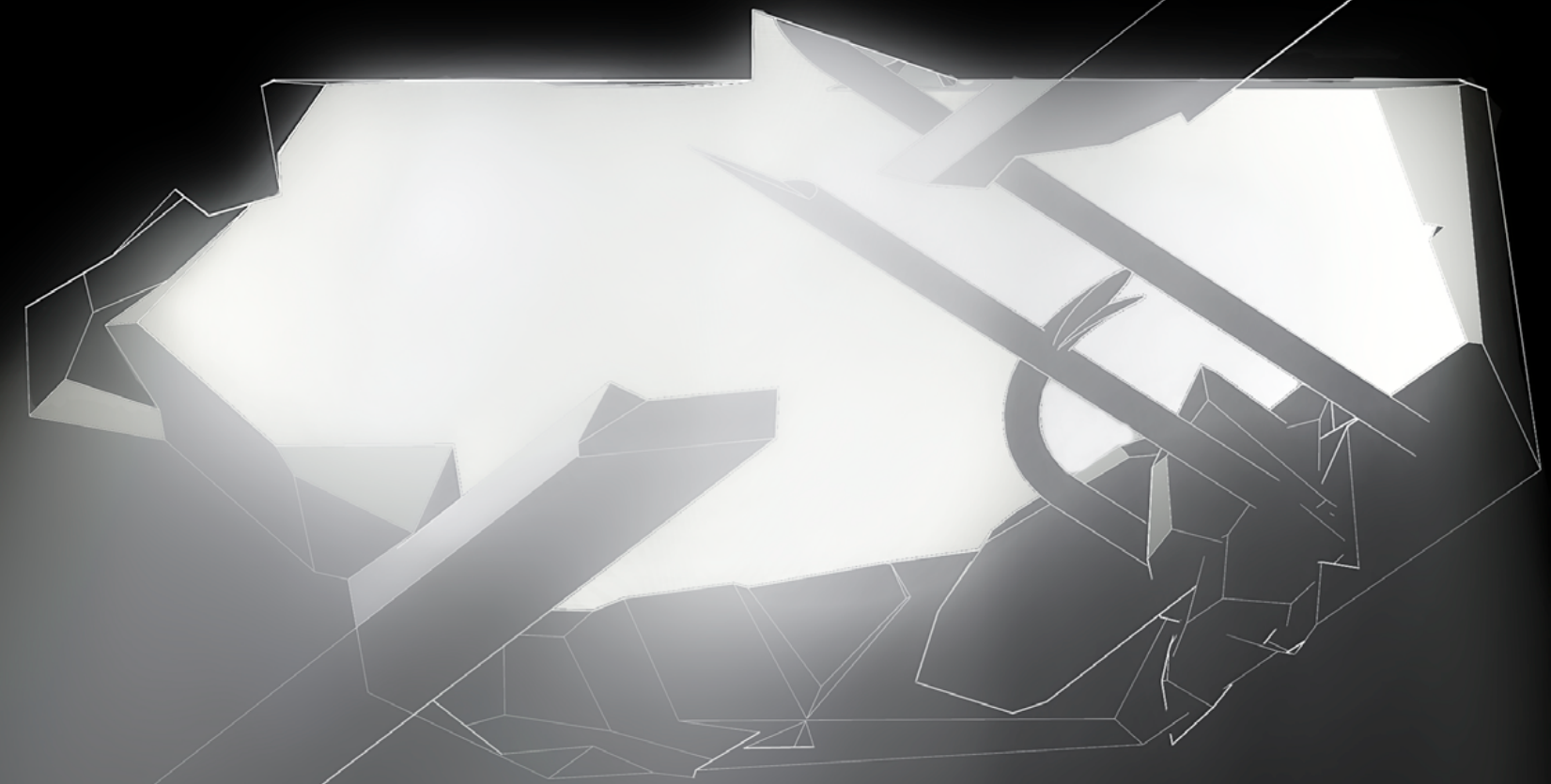
Architecture has the power to shape the world for generations to come. The multiple social identities of different individuals are intertwined, and the medium of architecture will reveal the passions of different lives lived in different contexts. This sensibility will act as a catalyst to create a common language for the next generation, providing them with the details of daily rituals and laying the foundations for ethical, inclusive leadership.

## 6. Celebrate informal spaces and DIY culture:

We celebrate the spirit of informality and DIY within the community. The architectural design will reflect and embrace the organic growth of community-created spaces, fostering a sense of ownership and autonomy.

## 7. Participatory Design Process:

Architectural decisions will be made through a participatory design process that engages the community in shaping their environment. Every voice counts, and by working together, we ensure that the designs authentically represent the desires and needs of the people they serve.

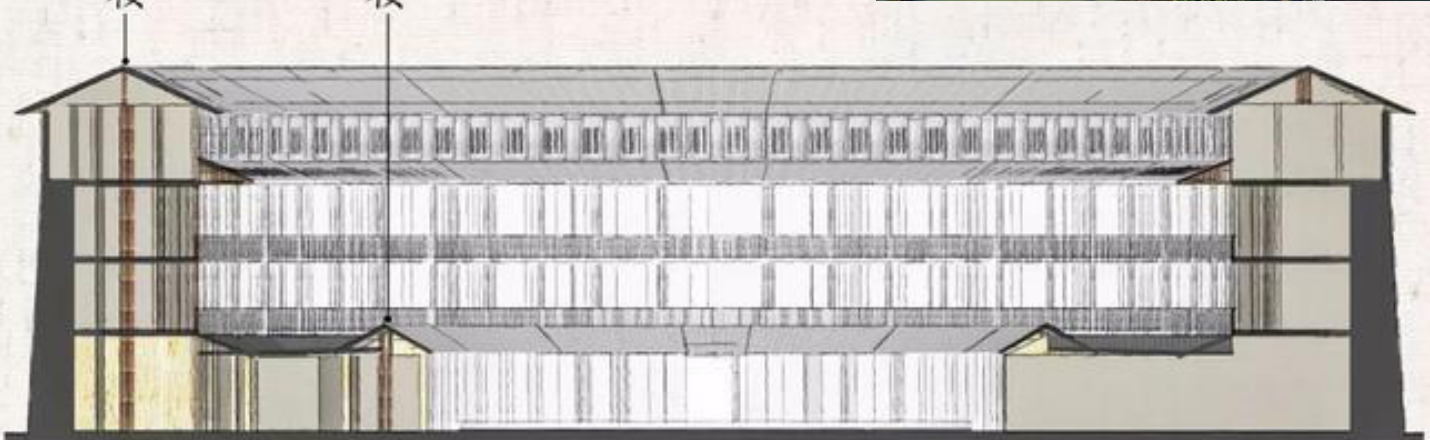








Precedent Study



**Tulou 土楼 in Fujian**  
Also known as "土 Earth 楼 Building," features a stone foundation, walls made of rammed earth and bamboo strips, An ancient structure typical of the defence against foreign enemies, Circular system in which the internal occupants are constructed as a large family. An **open central atrium for social gatherings**, and doors and windows that can be securely closed to protect against external threats.

**Collective vs. solitary**  
A sense of security, fostered by **mutual trust** among Tulou residents and through **group activities**, can ease social anxiety and rental stress, promoting better mental health. This strong sense of community can lead to collective achievements and prosperity, shaping a positive future environment for both the community and the next generation.

The Word – National Centre for the Written Word  
By FaulknerBrowns Architects



Circular, the building's appearance consists of two book page fans Creating a context of curiosity

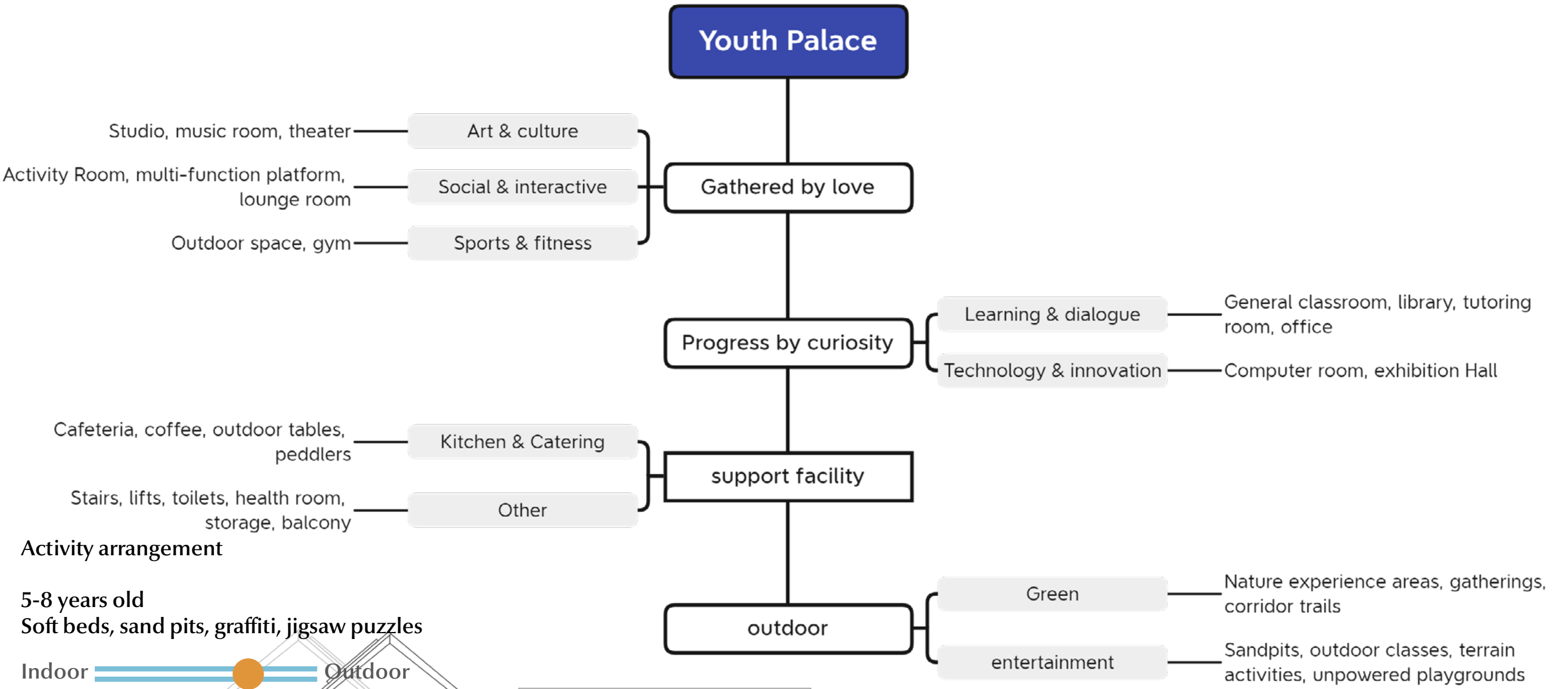
Opening in the centre connects the park to the market access on both sides



From the large social forum in the atrium to the intimate and focused readers' space in the periphery. The **circular flow** of the site creates a context for mutual learning.



Flat spaces celebrate cohesive and inclusive communities, with **modern technology** helping to quickly communicate intellectual messages

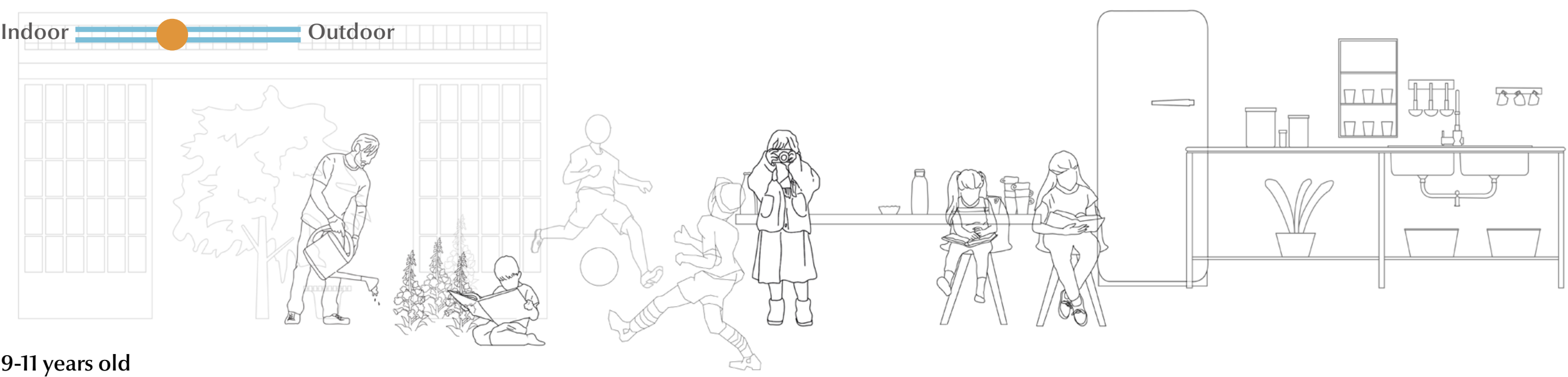


Activity arrangement

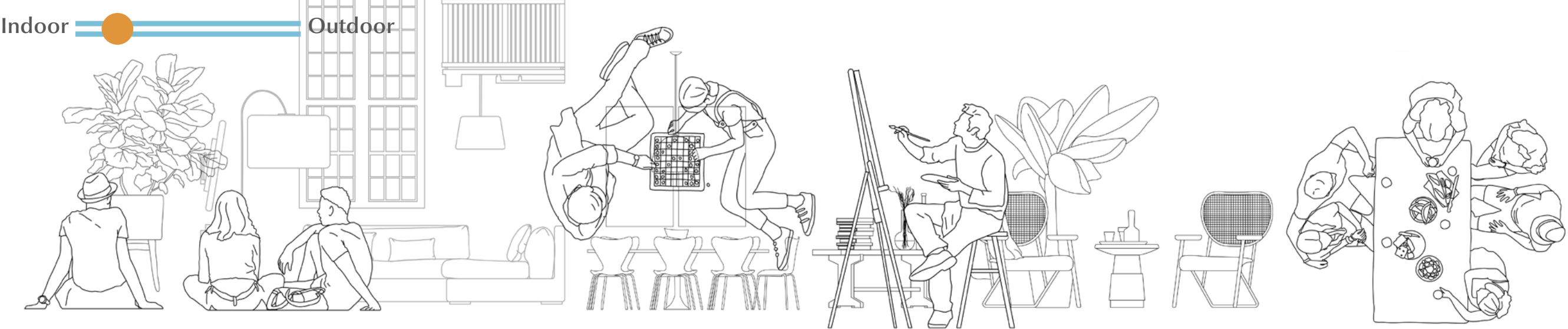
5-8 years old  
Soft beds, sand pits, graffiti, jigsaw puzzles



8-10 years old  
Reading, hobby groups, kitchen

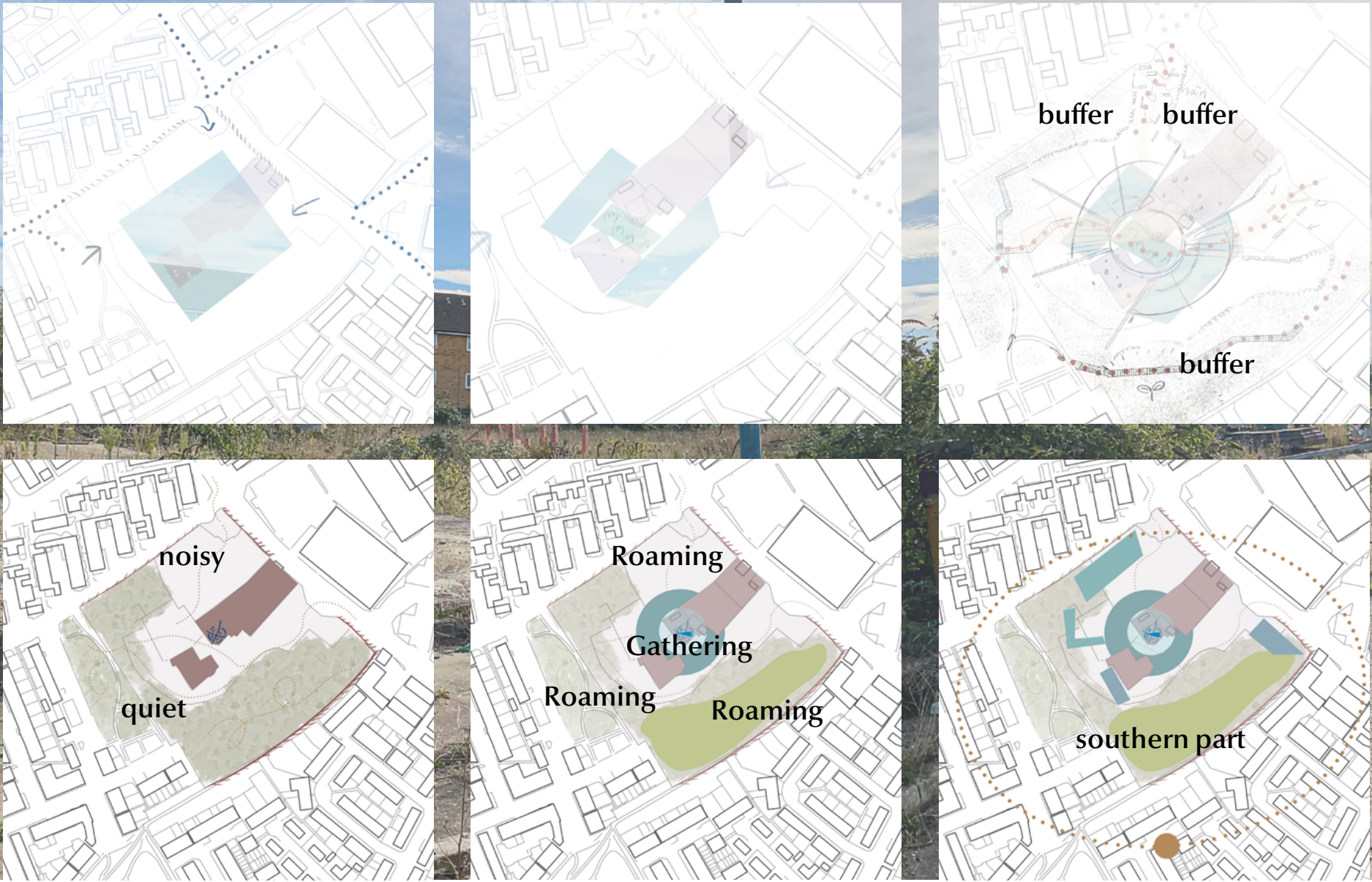


9-11 years old  
Crafts, science experiments, chess, movies, reading books





# Arrangement proposals, V1 Under Relics



Crowd movement after barrier removal

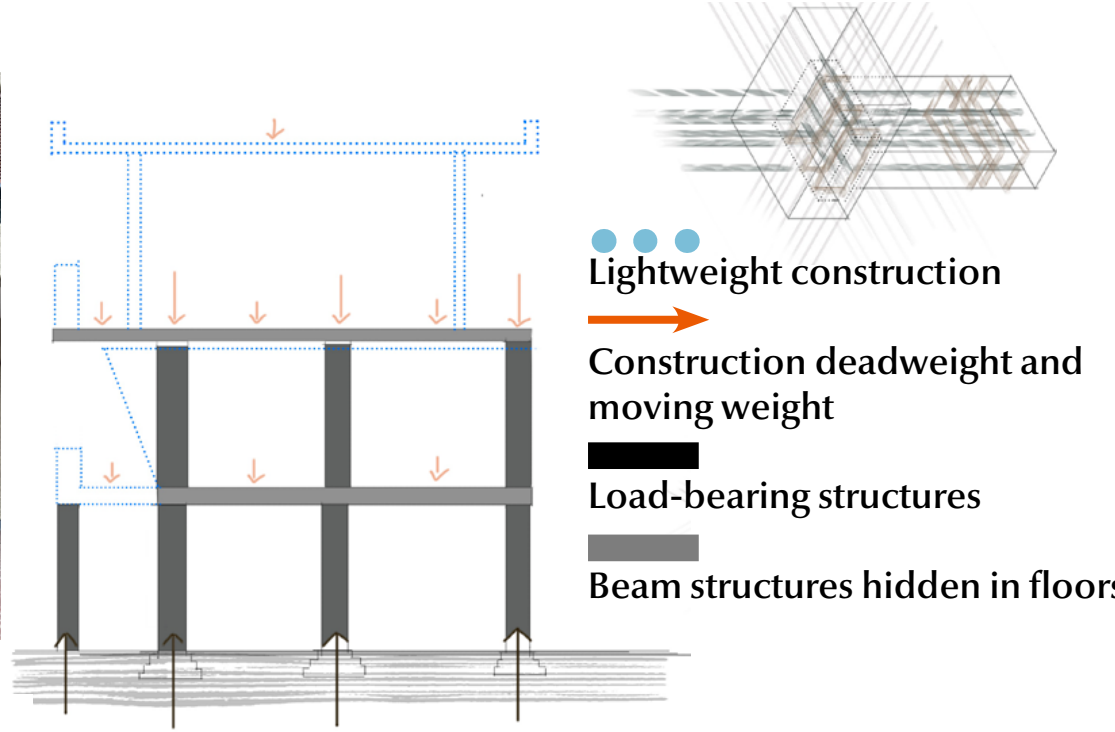
Non-removable pipework divides the ground floor into two parts

Filling the space with buffer and functionality

- Areas to be developed
- Site redline, legacy gas line and distribution room
- Signal tower (20 metres)
- Main building units
- Hollow area reserved for signal towers
- Retained free space in the site
- Supporting space for green
- Supporting space for the main building
- The Sun's annual track



Frobisher Crescent in the Barbican Estate

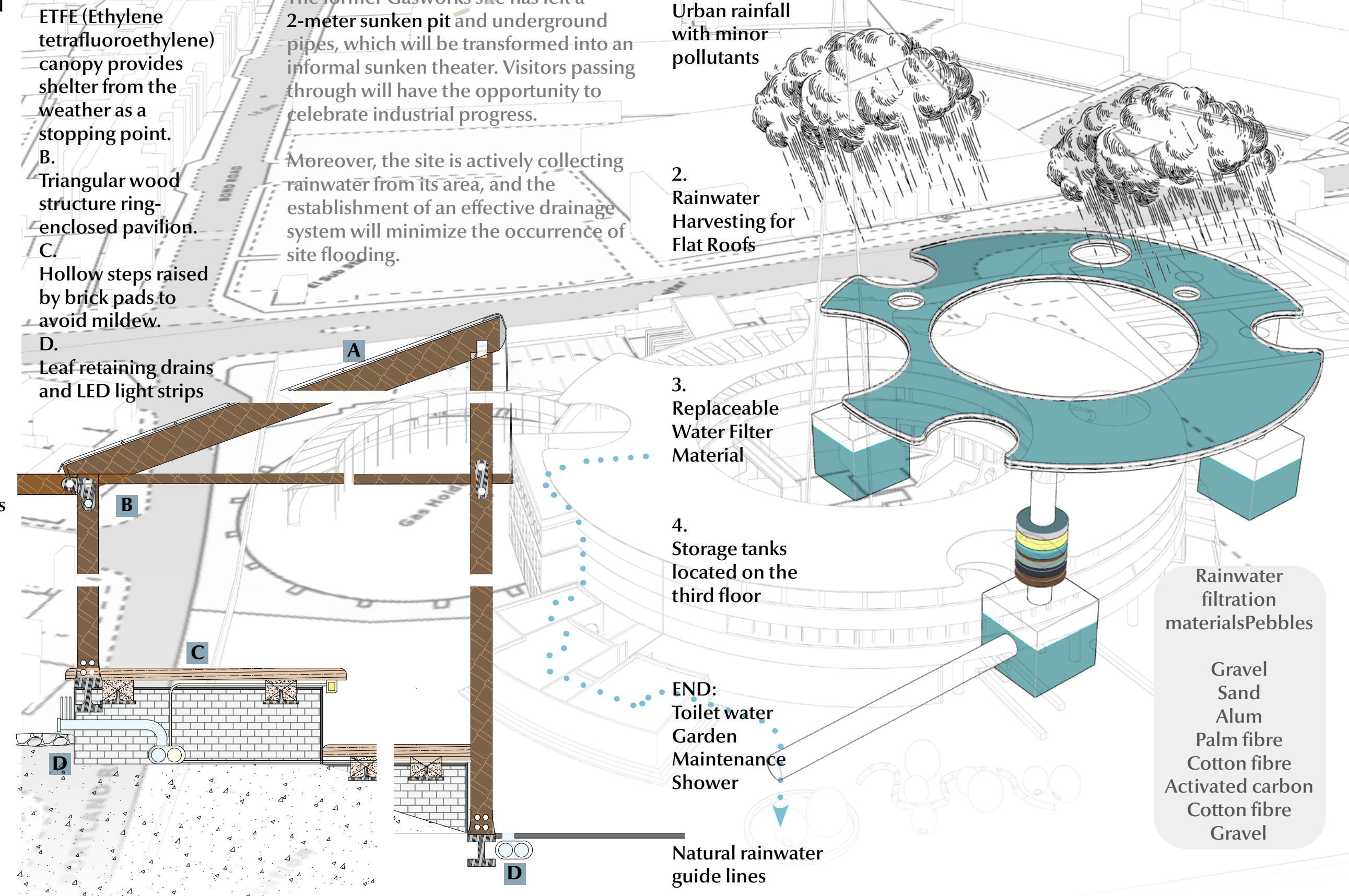


From beam and column structures crafted from mud and logs to today's era of reinforced concrete, building structures now support longer cantilever spans. By calculating pre-stressed loads in advance and incorporating pre-tensioned steel bars or wires into the concrete, it is possible to achieve longer cantilevers while conserving materials. After extending the reinforcement within the beam for a certain length into the column, it overlaps with the steel bars within the column and is encased within the concrete to function in unison. This method ensures that force is transmitted through the bond and friction between the concrete and the steel.



Existing cellular towers

Existing electrical systems and pits





# Programmatic strategy



A Protected courtyards of mutual solidarity, open to all people

Bring Extra-curricular classes gathered by the same interests and led by local teachers

Collective practice potting gardens for cultivating and sustaining herbal culture

Development of Informal spontaneous theatre offering random audiences and fixed venues

# Envelope Design V1 respond

Site: Former gasworks  
 Programme: Development of Youth Activity Centre (2030)  
 Address: Western Rd Mitcham



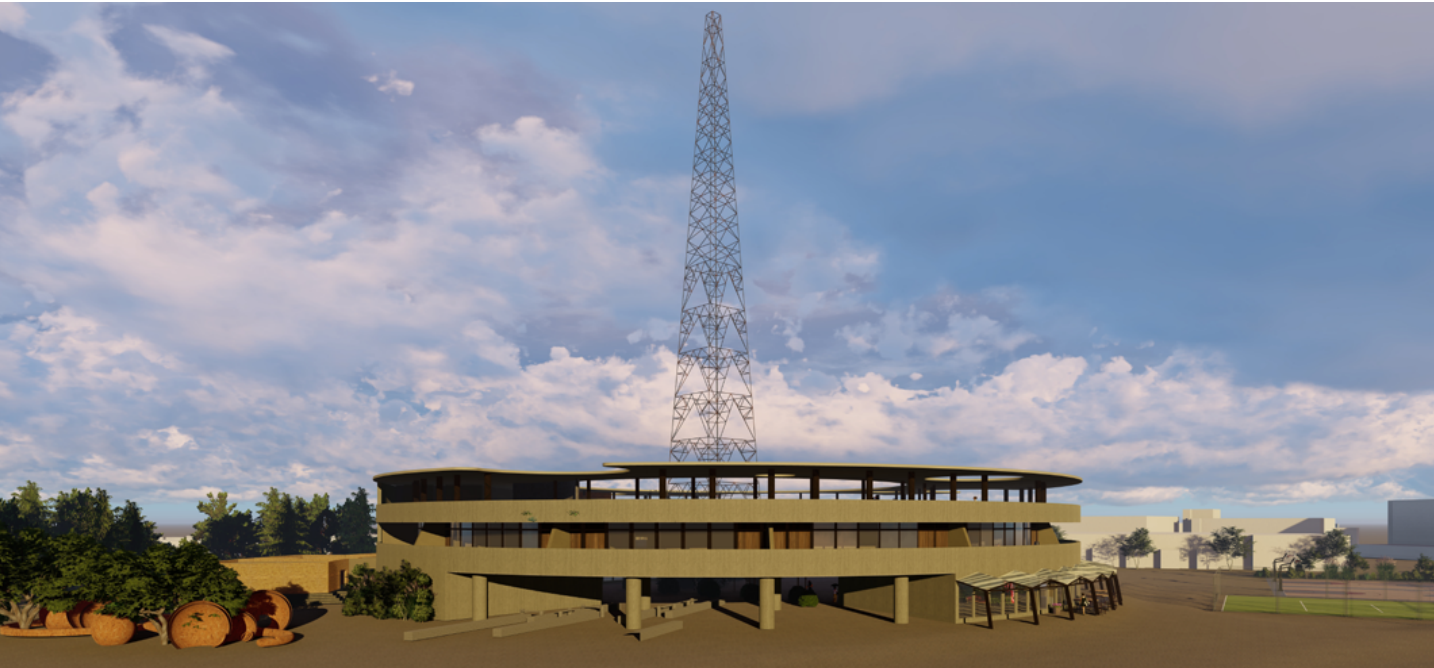
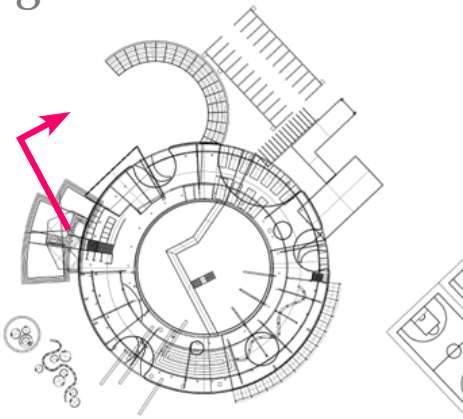
Stainless steel.  
 paint.  
 brick.  
 concrete wall.

Plastered walls..  
 Glass.  
 Brick..  
 Tile.

Plastered walls..  
 Decorative glass.  
 Brick..  
 Fence.  
 wood.



Locally produced wall bricks and concrete were chosen to respond to the local context.





# If we lose resonance, V 2 Alternative iteration

Signal towers hinder the environmental experience of the atrium and the base station facilities need to be upgraded.

After decades, the next generation of cellular network macro base station will be shifted to the roof of Asda Mitcham supermarket

Fuel cars will be replaced by bikes and public transport in the future

Restructuring of parking spaces and waiting rooms

Lack of buffer between coffee house and main street

Increase in the number of trees to reduce noise

Lack of Path guidance in nature experience areas

Creating wetland landscapes to prevent flooding

Dead space exists in the annexes

Adjust the main entrance flow line

Highline corridor disrupts permeability  
Reproduction of outdoor steps

Unpowered parks are not directly accessible

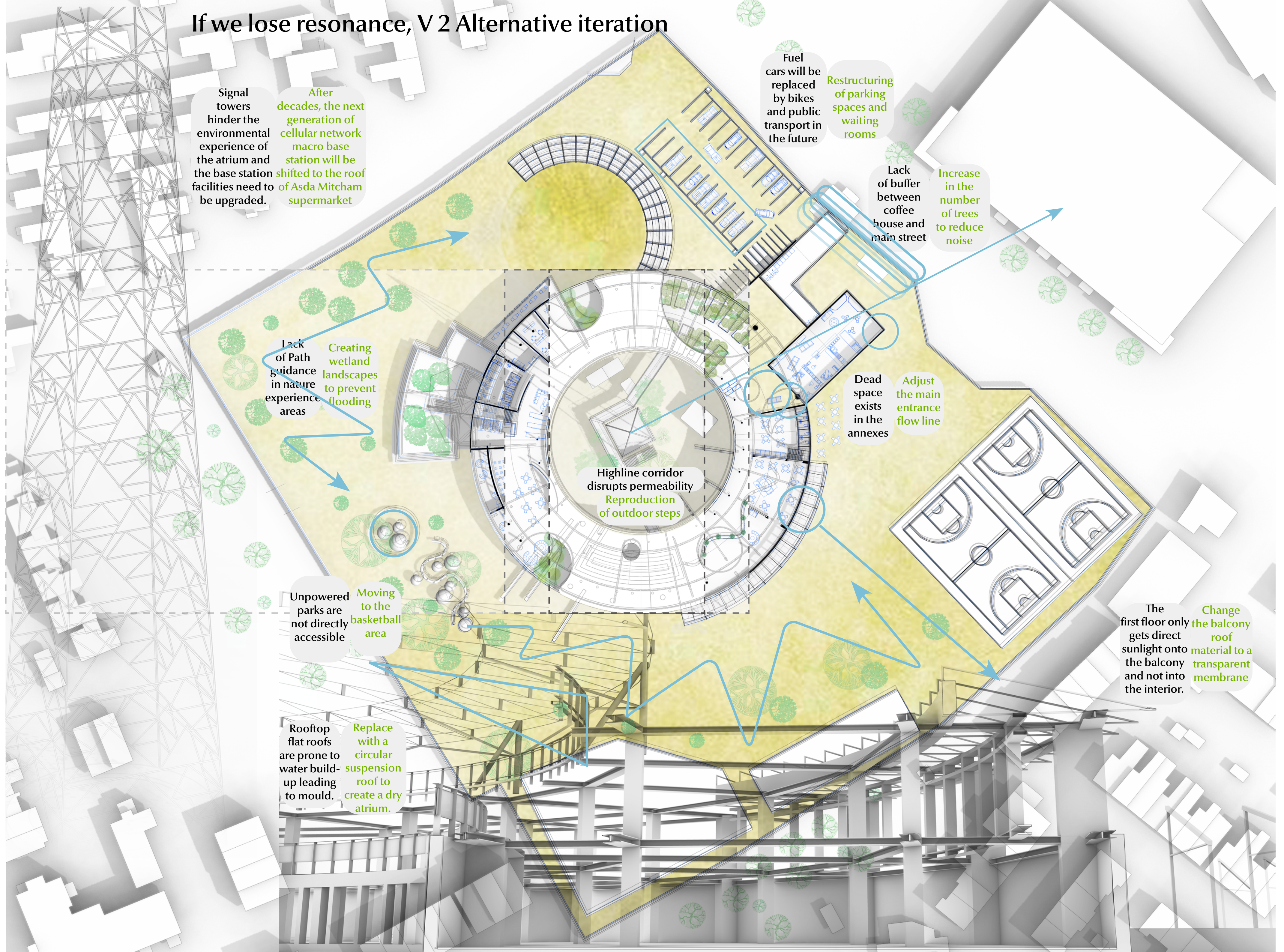
Moving to the basketball area

Rooftop flat roofs are prone to water build-up leading to mould.

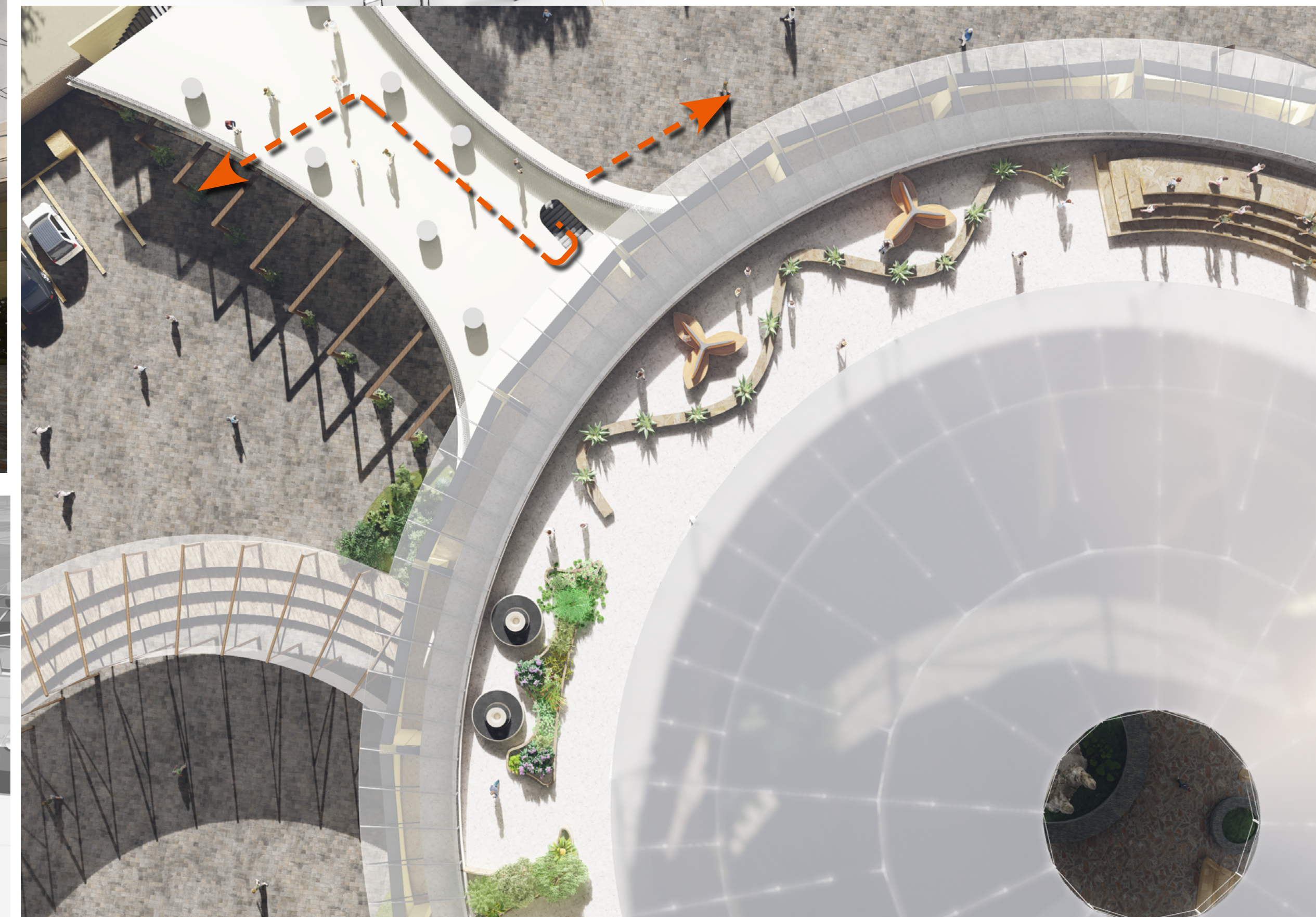
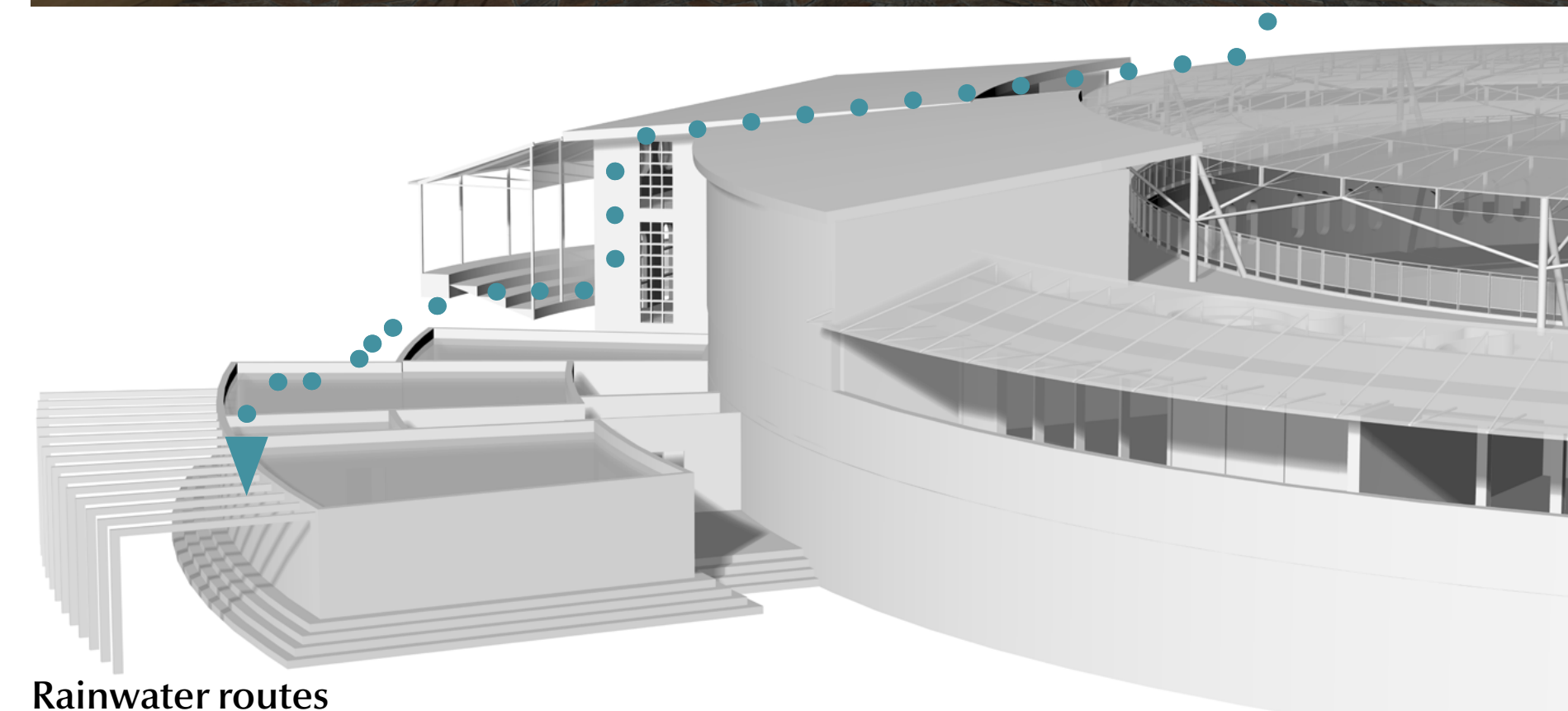
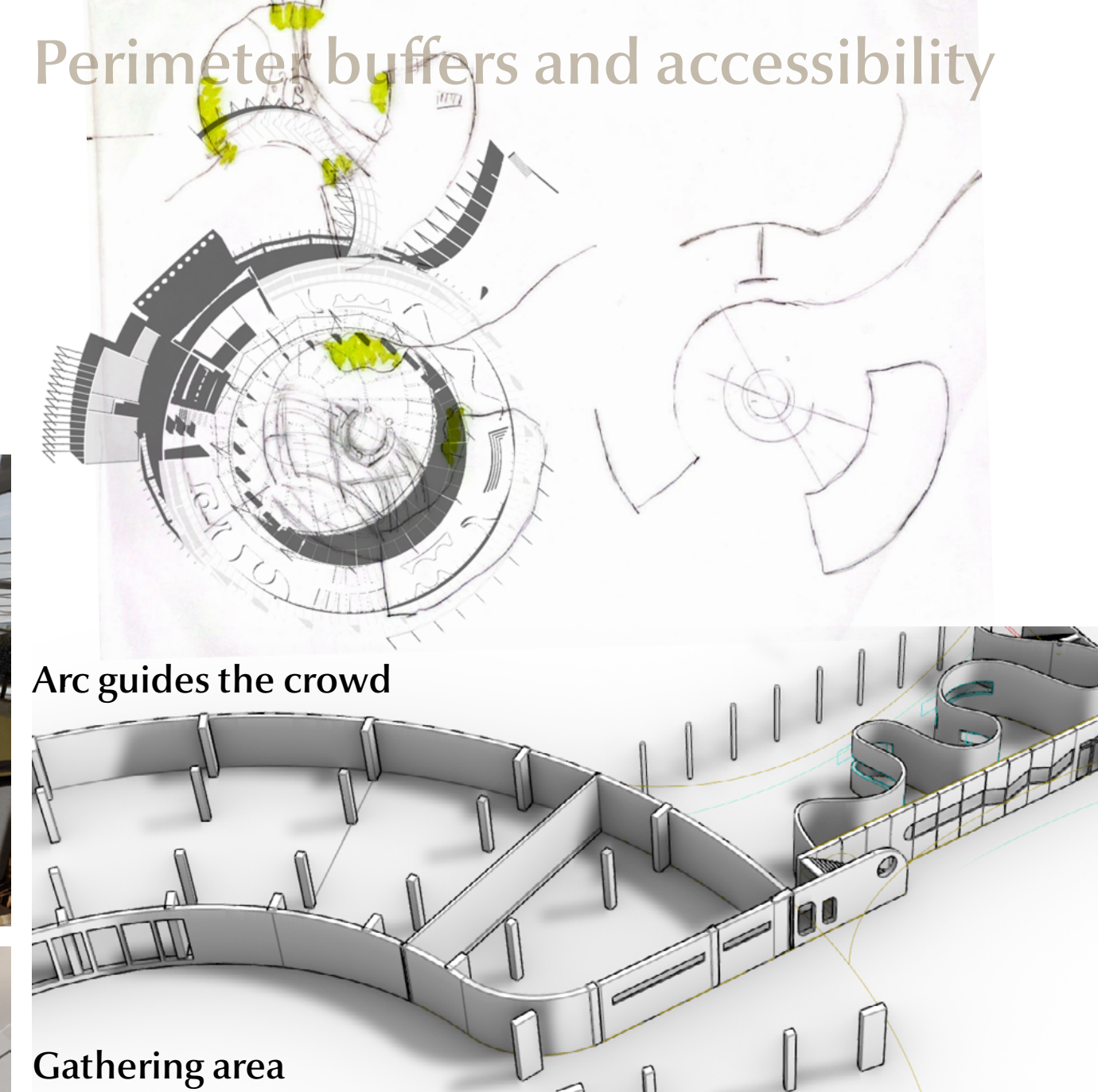
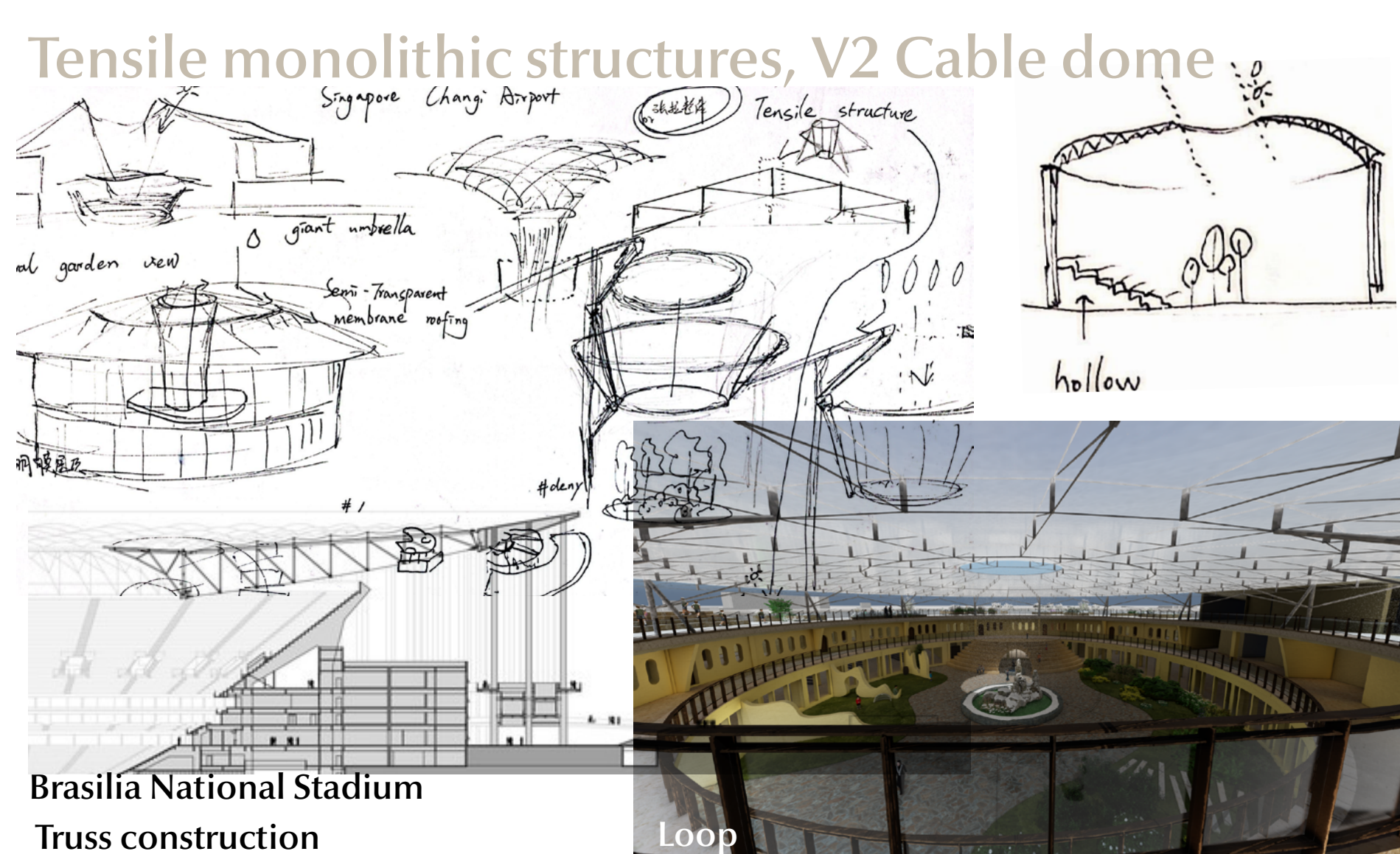
Replace with a circular suspension roof to create a dry atrium.

The first floor only gets direct sunlight onto the balcony and not into the interior.

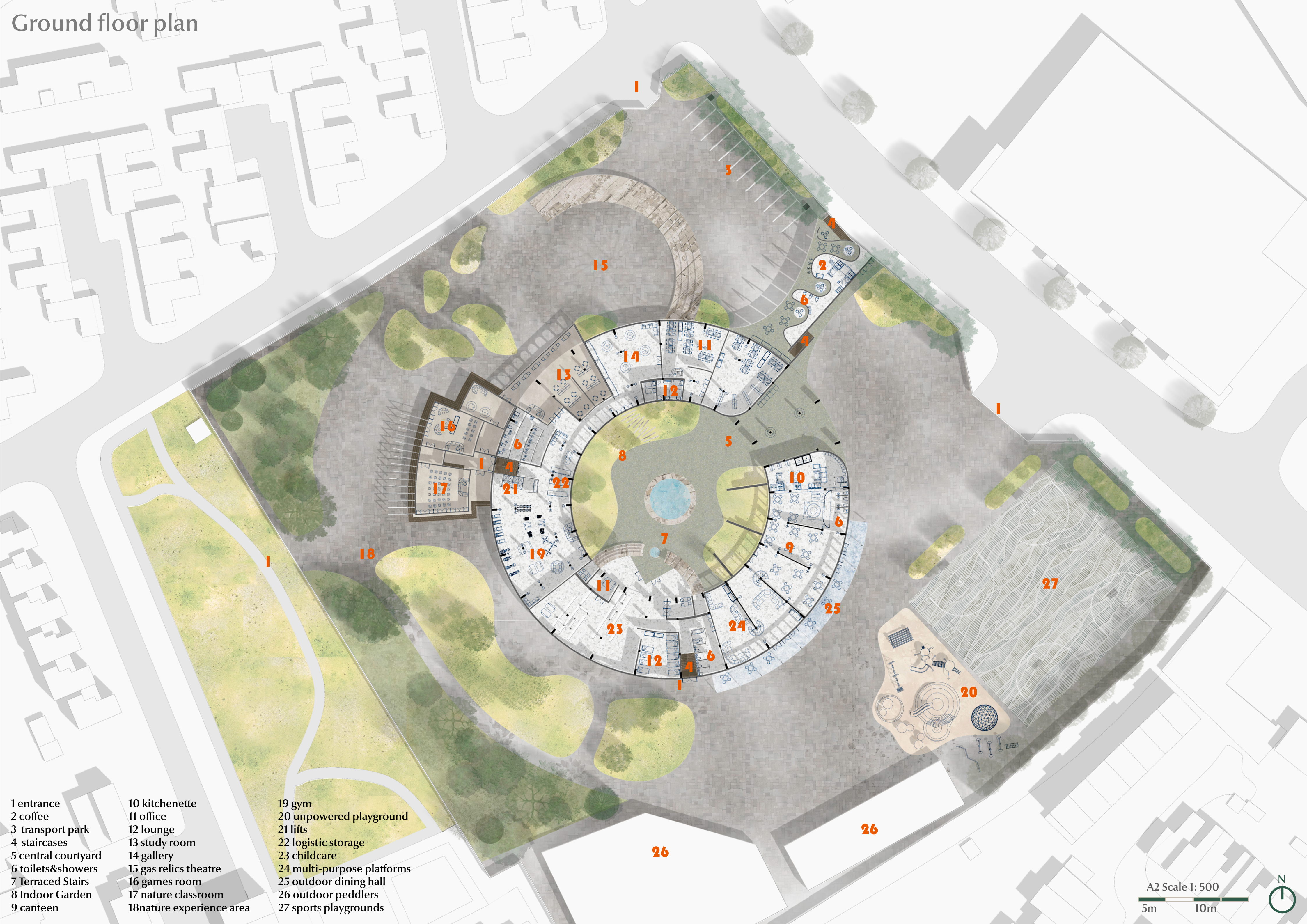
Change the balcony roof material to a transparent membrane









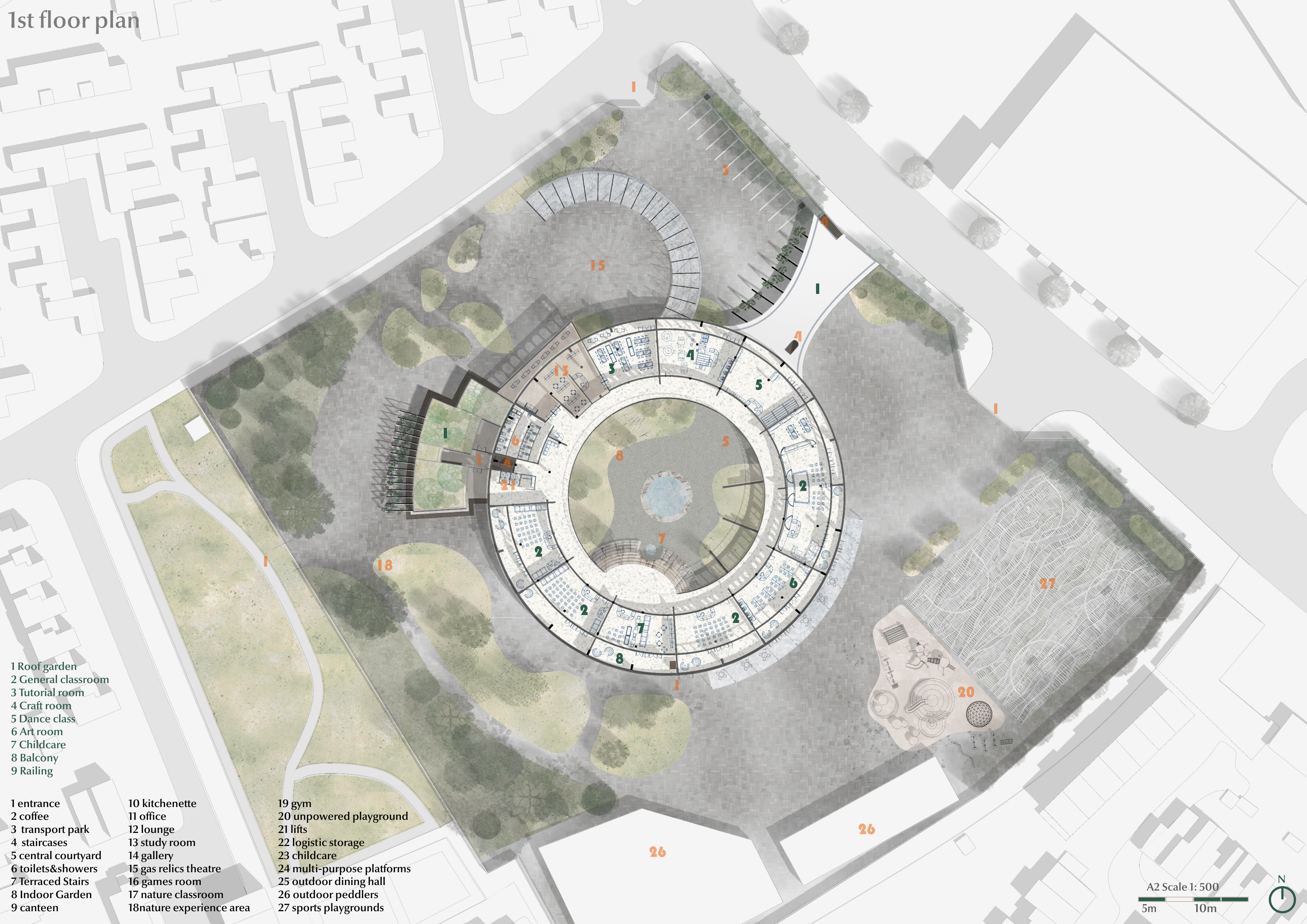


# Ground floor plan

- 1 entrance
- 2 coffee
- 3 transport park
- 4 staircases
- 5 central courtyard
- 6 toilets&showers
- 7 Terraced Stairs
- 8 Indoor Garden
- 9 canteen
- 10 kitchenette
- 11 office
- 12 lounge
- 13 study room
- 14 gallery
- 15 gas relics theatre
- 16 games room
- 17 nature classroom
- 18nature experience area
- 19 gym
- 20 unpowered playground
- 21 lifts
- 22 logistic storage
- 23 childcare
- 24 multi-purpose platforms
- 25 outdoor dining hall
- 26 outdoor peddlers
- 27 sports playgrounds



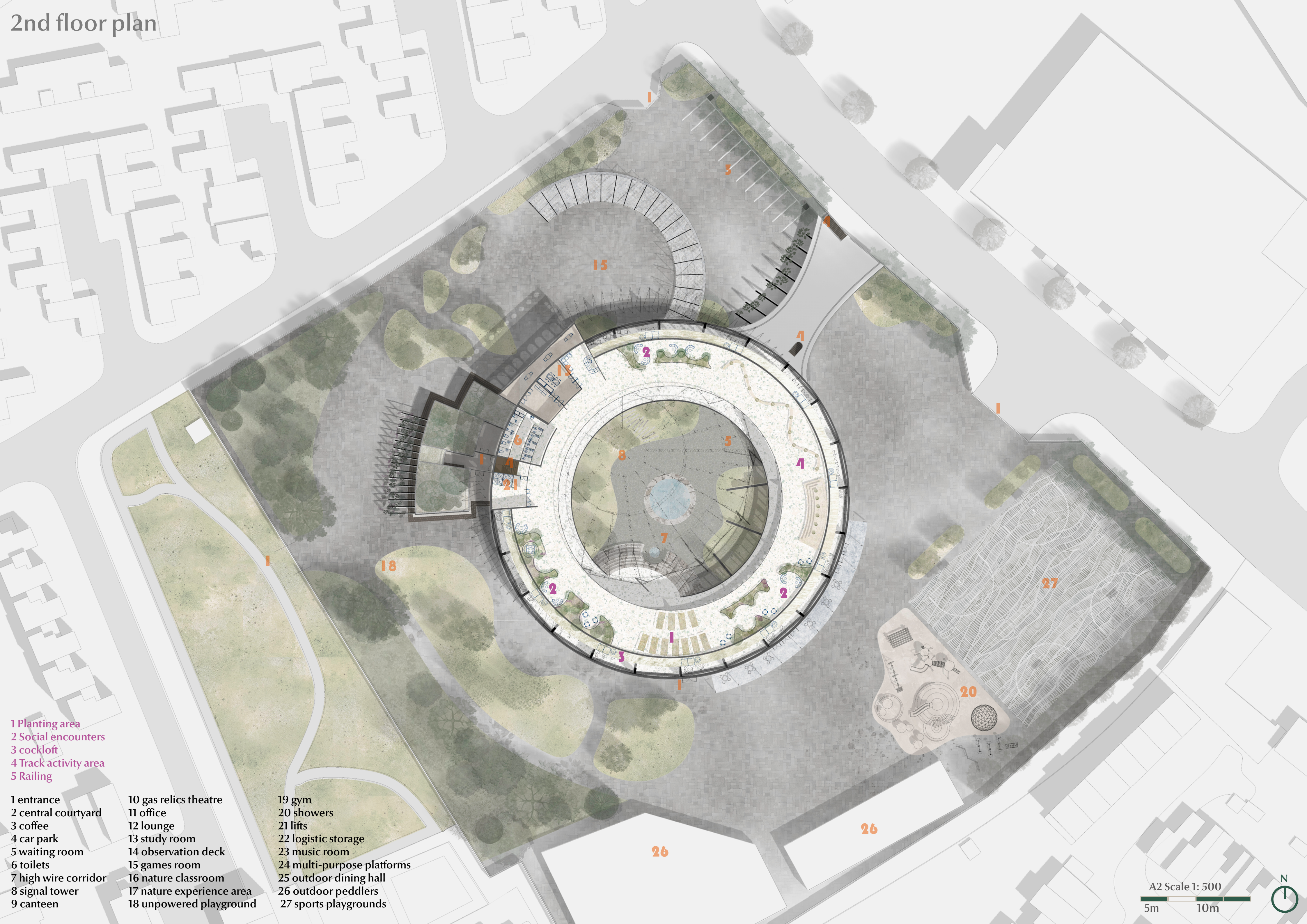
# 1st floor plan



- 1 Roof garden
  - 2 General classroom
  - 3 Tutorial room
  - 4 Craft room
  - 5 Dance class
  - 6 Art room
  - 7 Childcare
  - 8 Balcony
  - 9 Railing
- 1 entrance
  - 2 coffee
  - 3 transport park
  - 4 staircases
  - 5 central courtyard
  - 6 toilets&showers
  - 7 Terraced Stairs
  - 8 Indoor Garden
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  - 22 logistic storage
  - 23 childcare
  - 24 multi-purpose platforms
  - 25 outdoor dining hall
  - 26 outdoor peddlers
  - 27 sports playgrounds





# 2nd floor plan

- 1 Planting area
- 2 Social encounters
- 3 cockloft
- 4 Track activity area
- 5 Railing

- |                      |                           |                            |
|----------------------|---------------------------|----------------------------|
| 1 entrance           | 10 gas relics theatre     | 19 gym                     |
| 2 central courtyard  | 11 office                 | 20 showers                 |
| 3 coffee             | 12 lounge                 | 21 lifts                   |
| 4 car park           | 13 study room             | 22 logistic storage        |
| 5 waiting room       | 14 observation deck       | 23 music room              |
| 6 toilets            | 15 games room             | 24 multi-purpose platforms |
| 7 high wire corridor | 16 nature classroom       | 25 outdoor dining hall     |
| 8 signal tower       | 17 nature experience area | 26 outdoor peddlers        |
| 9 canteen            | 18 unpowered playground   | 27 sports playgrounds      |





# Roof plan

- 1 ETFE dome
- 2 Polycarbonate roof
- 3 central lake
- 4 Tile roof
- 5 Glass roof

- |                      |                           |                            |
|----------------------|---------------------------|----------------------------|
| 1 entrance           | 10 gas relics theatre     | 19 gym                     |
| 2 central courtyard  | 11 office                 | 20 showers                 |
| 3 coffee             | 12 lounge                 | 21 lifts                   |
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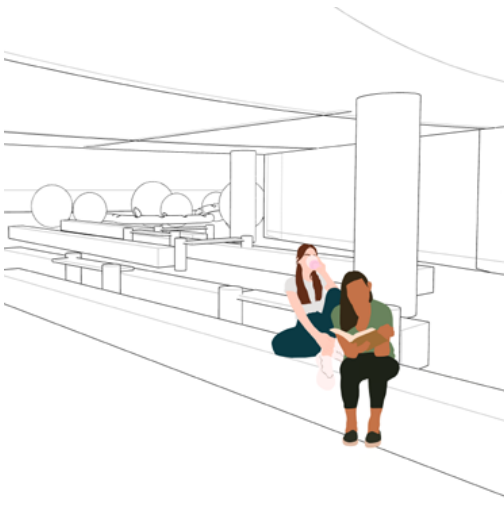
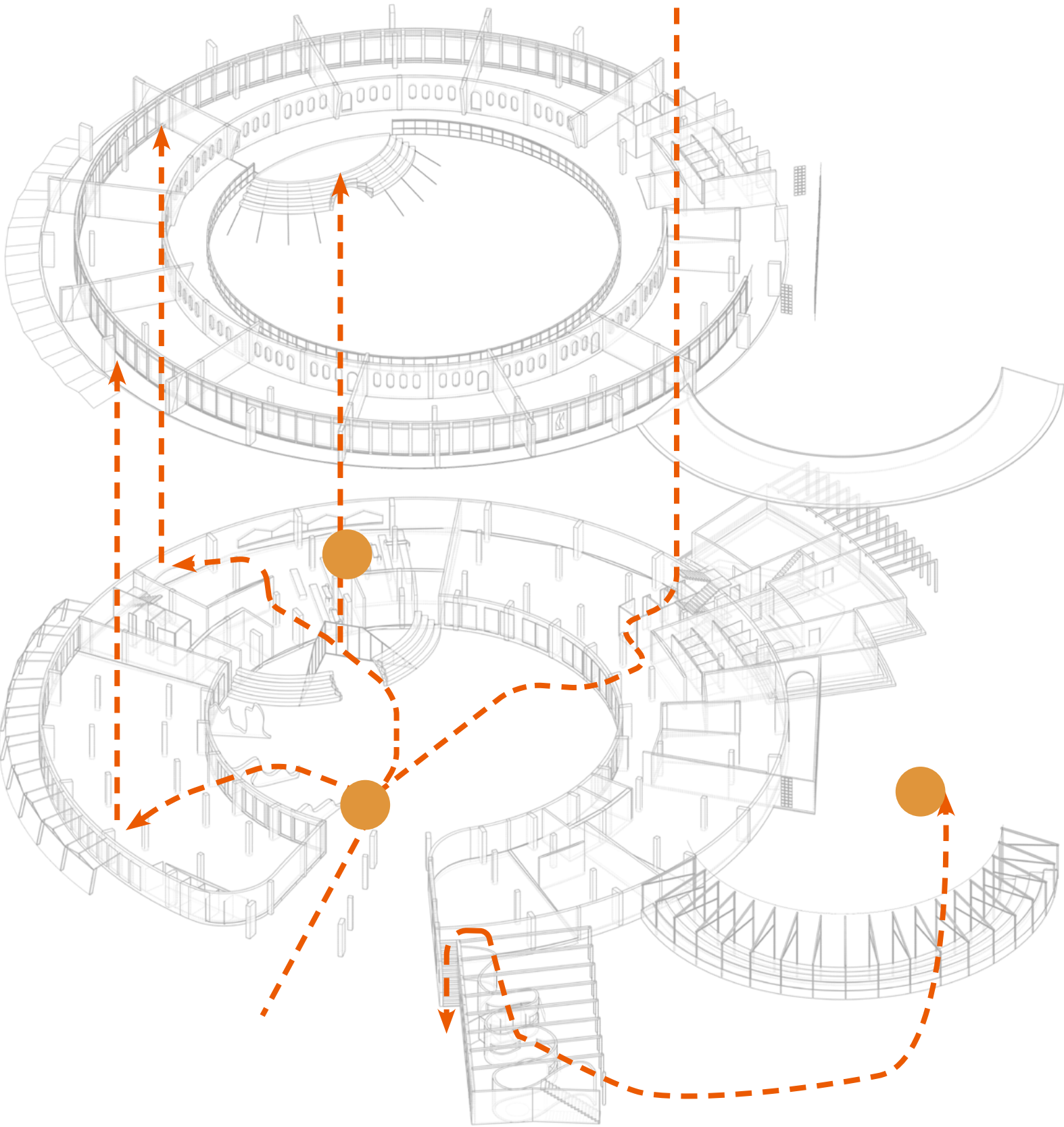
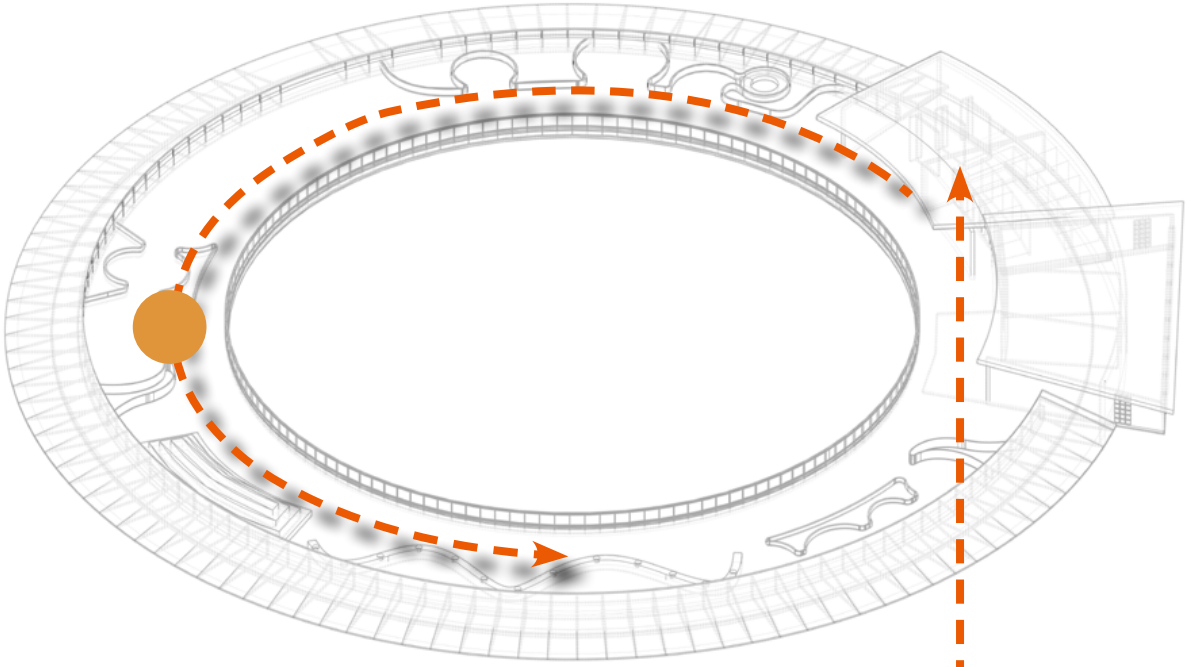
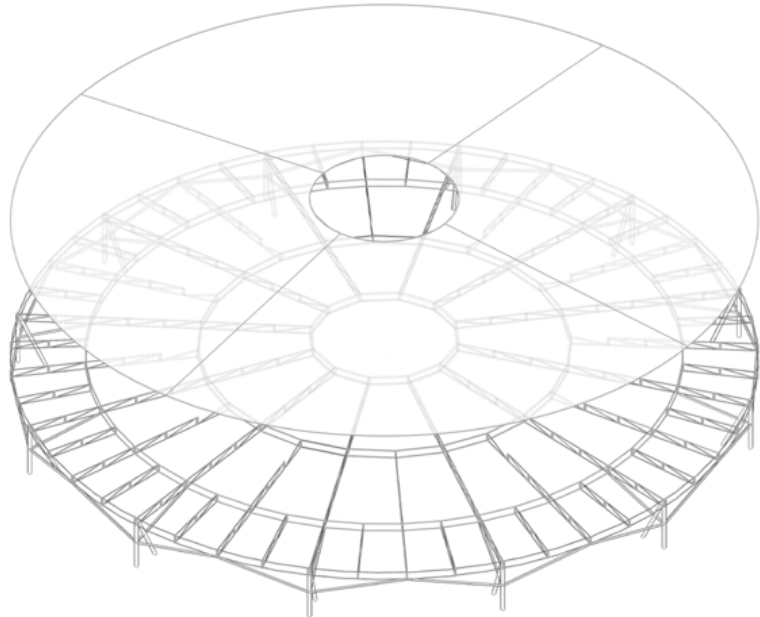
# Design strategy V2 Navigation



## Industrial sites

The site proposal is built around former signal base station, with opportunities for residents to learn about technology and develop local landmarks.

A rooftop potting garden protects the building from water vapour, reduce the urban heat island effect and lower daytime temperatures while attempting to bring historic local herbal gardening into daily life.



## Platform fort

Encouraging children to play collaboratively, the location away from noise becomes a new secret base, creating new childhood stories

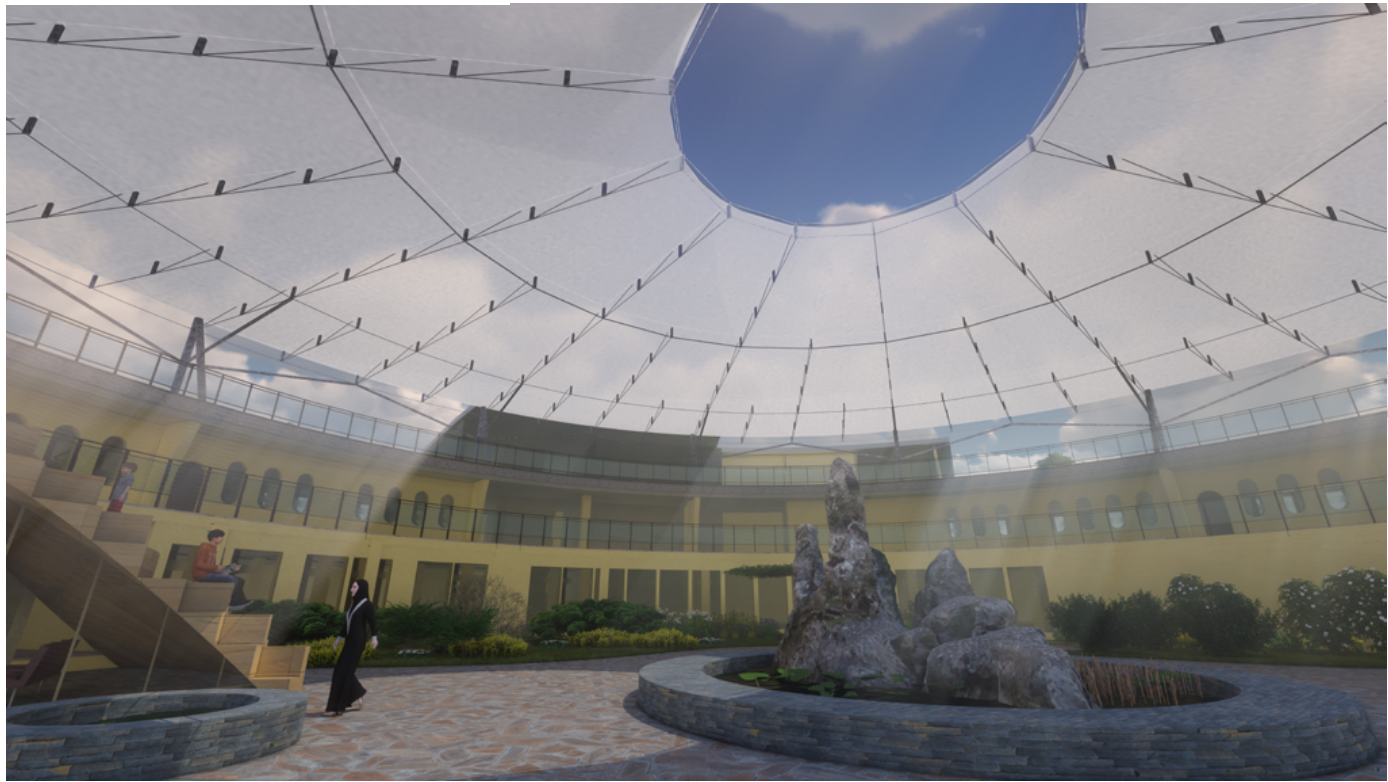
The ground floor has an accessible nursery and community library on the residential side, where children can stay safely in professional care and in the company of neighbours.



## Central courtyard

Surrounded by the eyes of adults, ensuring that children get timely help when playing, the cohesion of the community is the beginning of solidarity

Circular passages create spaces for inevitable encounters, finding other voices in a community of peers.



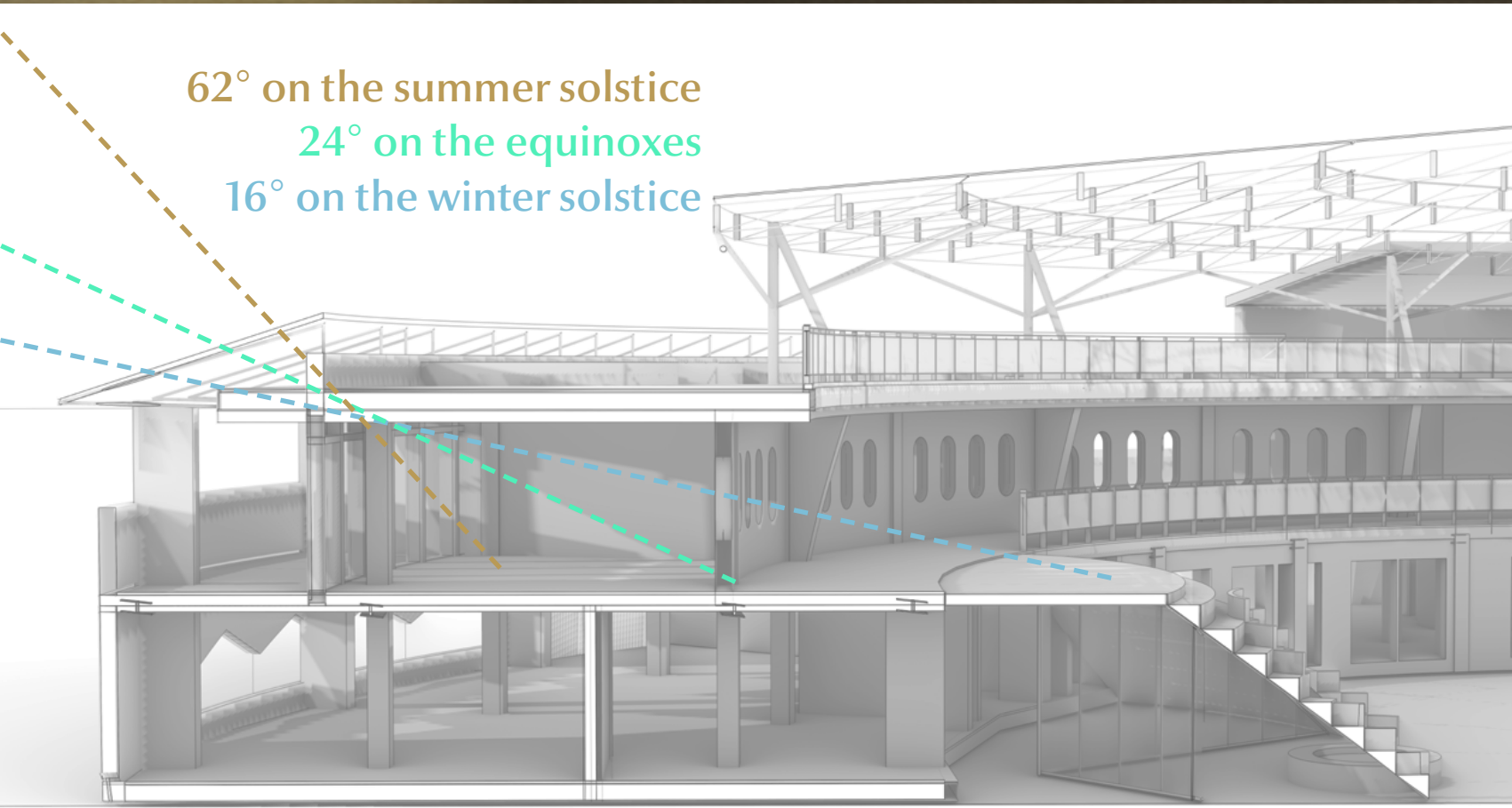
## Relics park

It can be used as an open entertainment gathering place during the day and public events can be held at night

Former gasworks has an extensive underground pipework system. Consideration should be given to preventing flooding and creating a wetland landscape around it.

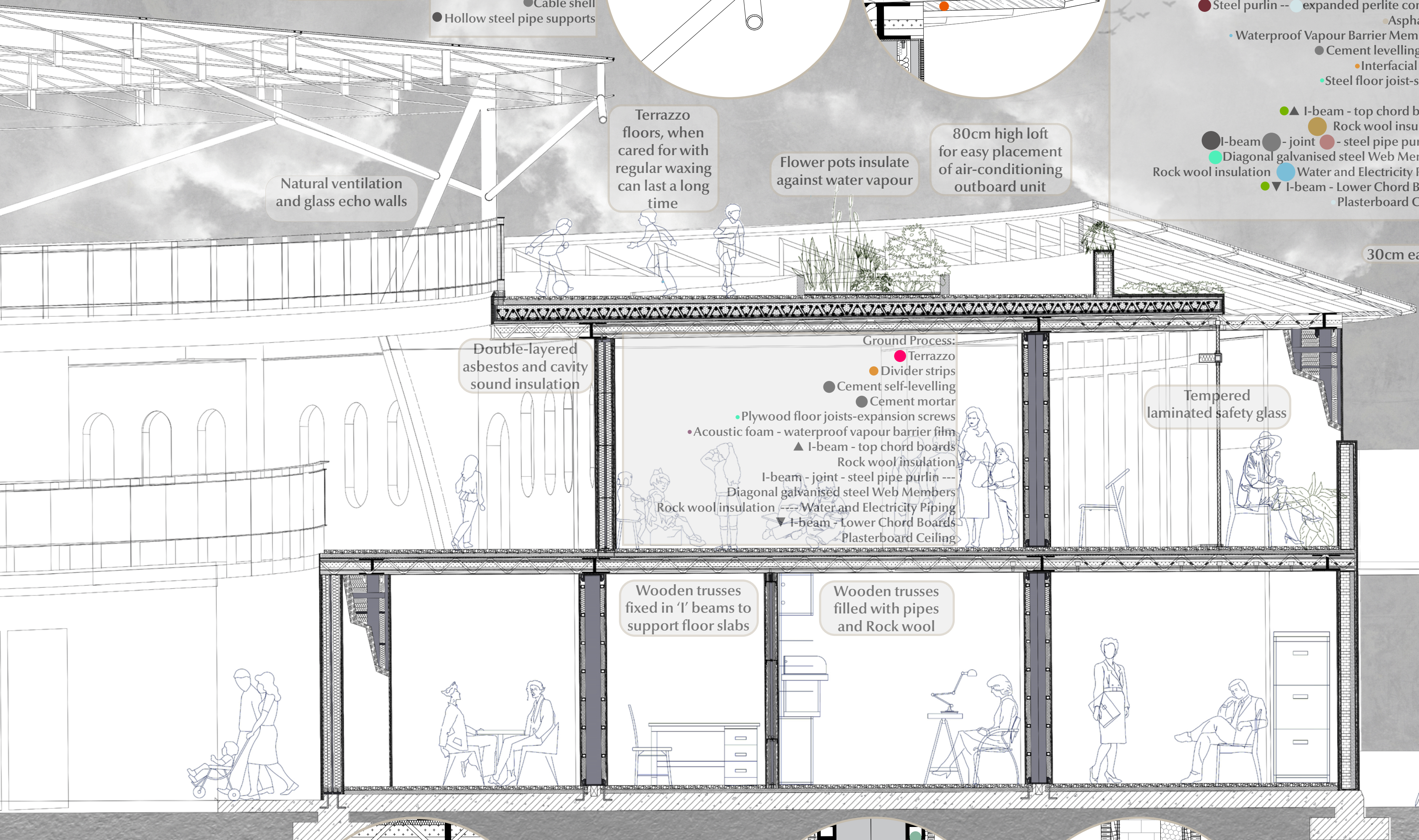






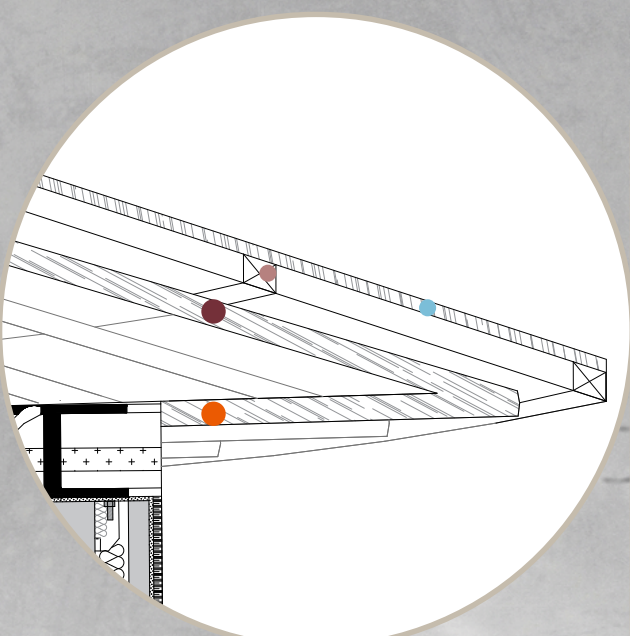
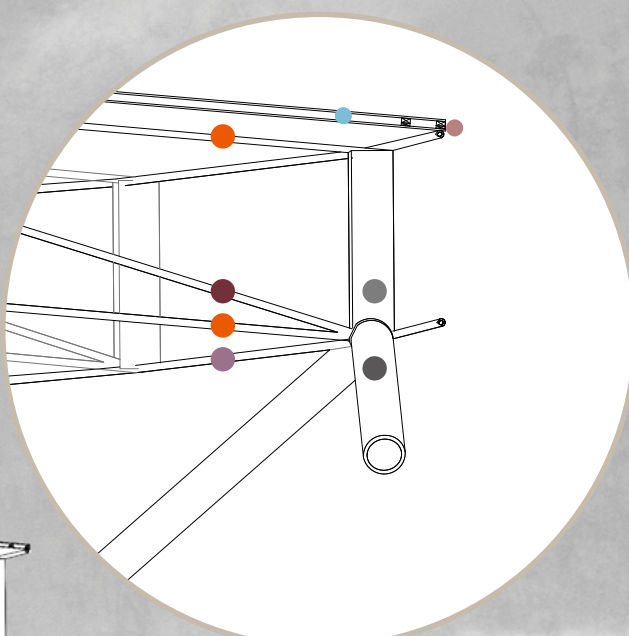


Technical drawing , V2 Detail



ETFE (Ethylene tetrafluoroethylene), allowing sunlight to enter the interior

- Cable dome process:
- Main ridge cable
  - Grid cable
  - ETFE membrane
  - Steel purlin
  - Compression ring
  - Cable shell
  - Hollow steel pipe supports



Terrazzo floors, when cared for with regular waxing can last a long time

Flower pots insulate against water vapour

80cm high loft for easy placement of air-conditioning outboard unit

Natural ventilation and glass echo walls

Double-layered asbestos and cavity sound insulation

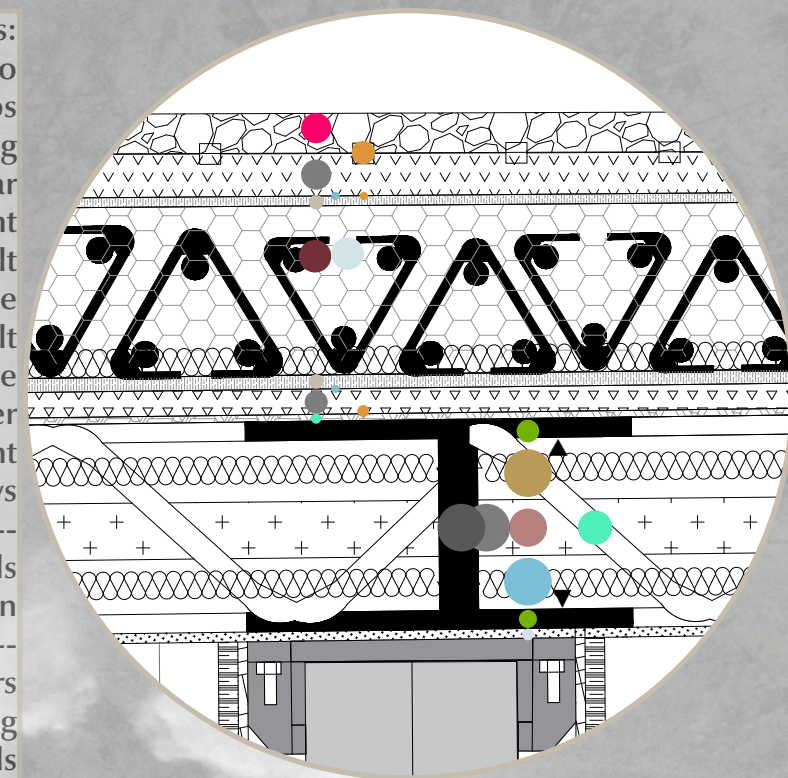
- Ground Process:
- Terrazzo
  - Divider strips
  - Cement self-levelling
  - Cement mortar
  - Plywood floor joists-expansion screws
  - Acoustic foam - waterproof vapour barrier film
  - ▲ I-beam - top chord boards
  - Rock wool insulation
  - I-beam - joint - steel pipe purlin ---
  - Diagonal galvanised steel Web Members
  - Rock wool insulation ---
  - Water and Electricity Piping
  - ▼ I-beam - Lower Chord Boards
  - Plasterboard Ceiling

Tempered laminated safety glass

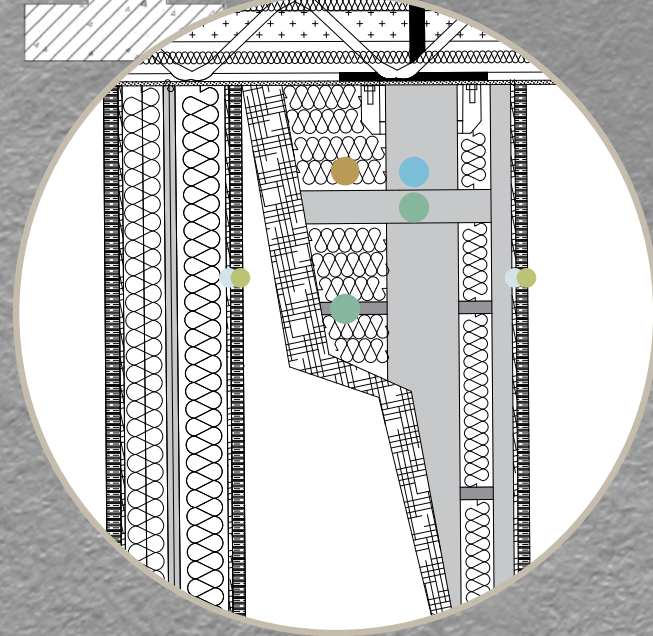
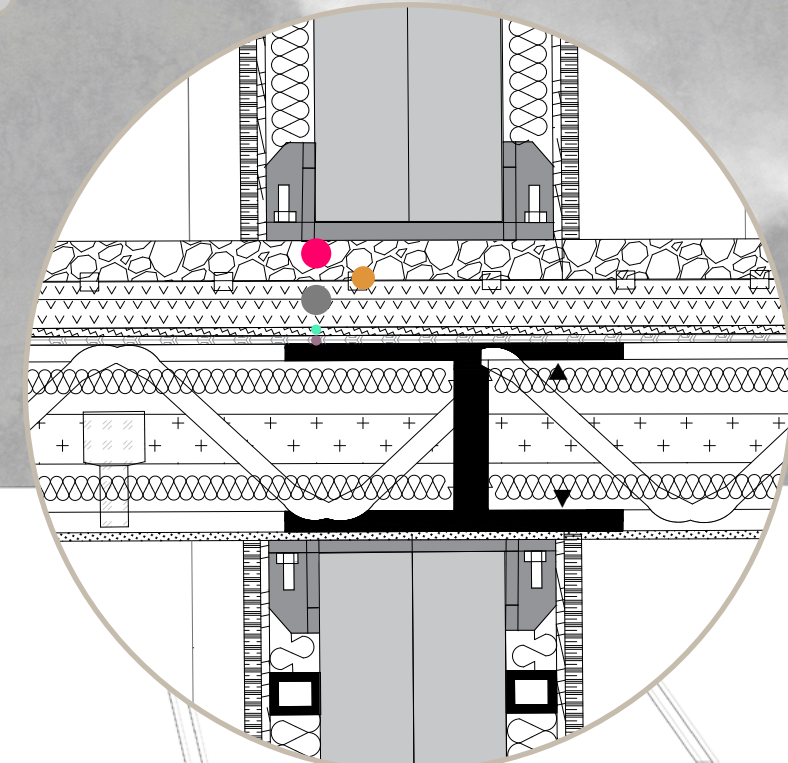
Wooden trusses fixed in 'I' beams to support floor slabs

Wooden trusses filled with pipes and Rock wool

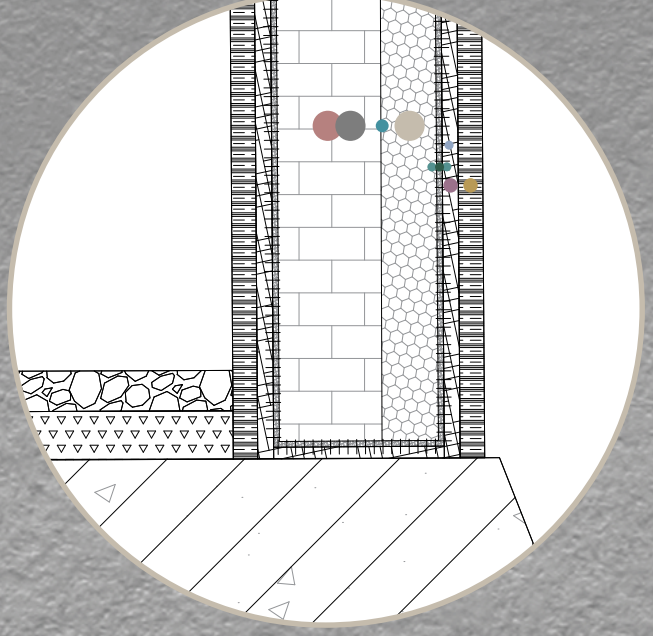
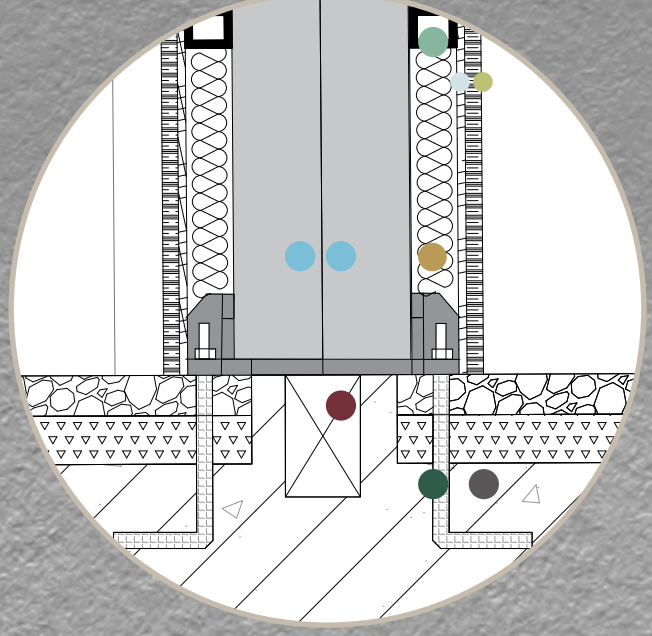
30cm eaves



- Rooftop process:
- Terrazzo
  - Divider strips
  - Cement self-levelling
  - Cement mortar
  - Waterproof vapour permeable membrane--interface agent
  - Asphalt felt
  - Steel purlin -- expanded perlite concrete
  - Asphalt felt
  - Waterproof Vapour Barrier Membrane
  - Cement levelling layer
  - Interfacial agent
  - Steel floor joist-screws
  - ▲ I-beam - top chord boards
  - Rock wool insulation
  - I-beam - joint
  - Diagonal galvanised steel Web Members
  - Water and Electricity Piping
  - I-beam - Lower Chord Boards
  - Plasterboard Ceiling



- Bearing wall process:
- Solid web steel columns
  - Rock wool
  - Shear keys
  - Ground corner anchor bolts
  - Concrete foundation
  - Light steel keel
  - Plasterboard
  - lime mud



- Thermal insulation facade process:
- Foundation wall
  - Cement mortar levelling layer
  - Insulation layer--
  - Bonding layer
  - Expanded polystyrene board
  - Protective layer--
  - Plastic expansion anchor
  - Anti-cracking mortar
  - Alkali-resistant glass fibre mesh
  - Crack-resistant mortar
  - Ornamental facing layer--
  - Flexible water-resistant putty
  - Sandblasted wall

A2 Scale 1: 10

3m 6m

