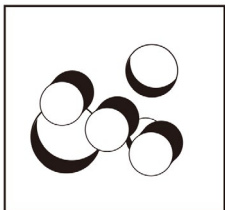
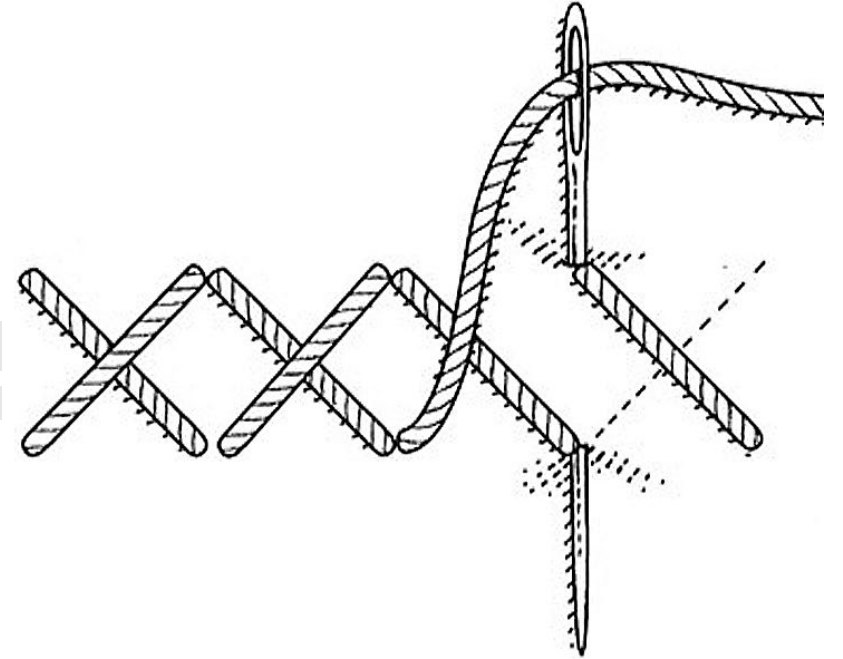


STITCH WITH WILD
Barcelona Costal Preindustrial Zone Regeneration



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FINAL EXAM

TEACHING STAFF

Architectural Design: **prof. Andreu Arriola Madorell**

STITCH WITH WILD

"WILDNESS" + "TRANSITION" + "MEMORY"

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Focus
"Stitch with City"

NODE
STITCH 1

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"Stitch with Nature"

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STITCH 2

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Focus
*"Stitch with History
& Cultural Context"*

NODE
STITCH 3

46

Focus
*"Stitch with
City, Nature, History"*

NODE
STITCH 4

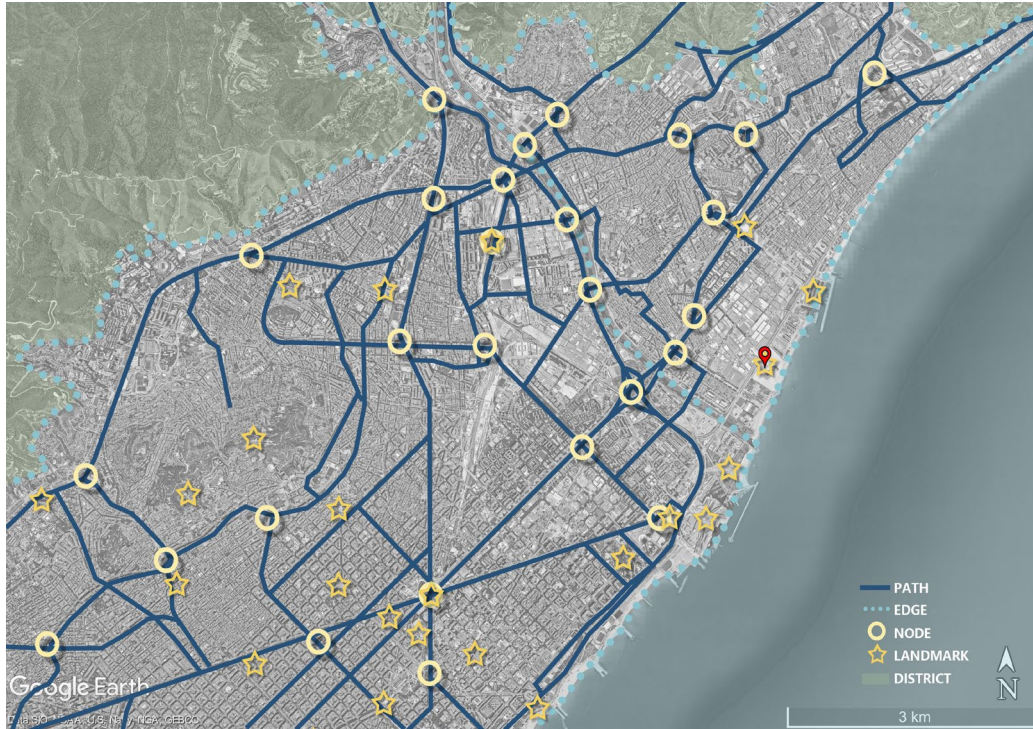
ABSTRACT

In 1992, Barcelona hosted the Summer Olympic Games, which greatly promoted the process of urban renewal. Before then, the city that had been a major industrial city underwent major changes. As part of the preparations for the Olympics, industrial buildings in coastal areas were demolished and large tracts of beaches were created, which improved the living environment of the urban coastal areas and increased the utilization rate of beaches. The regeneration project of Seaside Waste Industrial Zone is still continuing, and beaches in some areas need to be activated and returned to urban residents.

The beach on the north bank of the estuary of the Besos River is an industrial wasteland that needs to be developed. The site is separated from the city by urban rail transit on the west side. The traffic here is inconvenient and inaccessible. Well-preserved natural resources are wasted. Industrial waste water and garbage have also severely damaged the habitat of humans, animals and plants. However, the three large chimneys in the site and the turbine hall attached to it have been well preserved, becoming an important architectural heritage of the city and the unique industrial memory of this site. Can we use these urban memories as an opportunity to reconnect human beings with nature and cities? The process of developing the project is to accurately analyze the biodiversity and urban historical and cultural characteristics of the site in order to define the tools that can be implemented in the design, taking into account the needs of animals, plants, humans, and the city.

Background

METAL MAP



Meso-scale mental map



Micro-scale mental map

DRFIT MAP

The Lost Castle

Another sunset,
the setting **sun shines** on the old castle,
three long **shadows** were cast across the earth.
I climb up the hill,
turning the antennas on the top of my head,
trying to **capture the glory of the past**.

Living in this broken castle,
I often feel lonely,
people now prefer to live in bricks by the river,
after all, it's closer to their happiness.
Metal boxes were littered the sides of the castle,
according to the old men,
it used to be the encampment of the castle guards,
but now it smells like a market.

I've tried to **look across the Besos River**,
from the direction of the giant blue cheese,
with the fragrance of knowledge,
under the folds roof,
I heard the sounds of ideas.
I once met a large beetle in the west,
a hero in his twilight,
but from his stories,
I can still see it,
his heroism on the battlefield as a young man.

Fortunately,
A walk by the sea always heals me.
There is always a Mr. Monkey on the beach,
his mantra is,
to be happy in your life,
do not empty your golden cup to the moon.
On a day of light rain,
The seven colors of the rainbow rose from the harbor,
Mr. Monkey told me,
On the other side of the rainbow is **another universe**,
It's a world of cloud creatures.

As night falls,
As I drift off to sleep,
In the dream,
A green vine climbed up the old castle,
In the sun,
it blossomed with proud flowers.

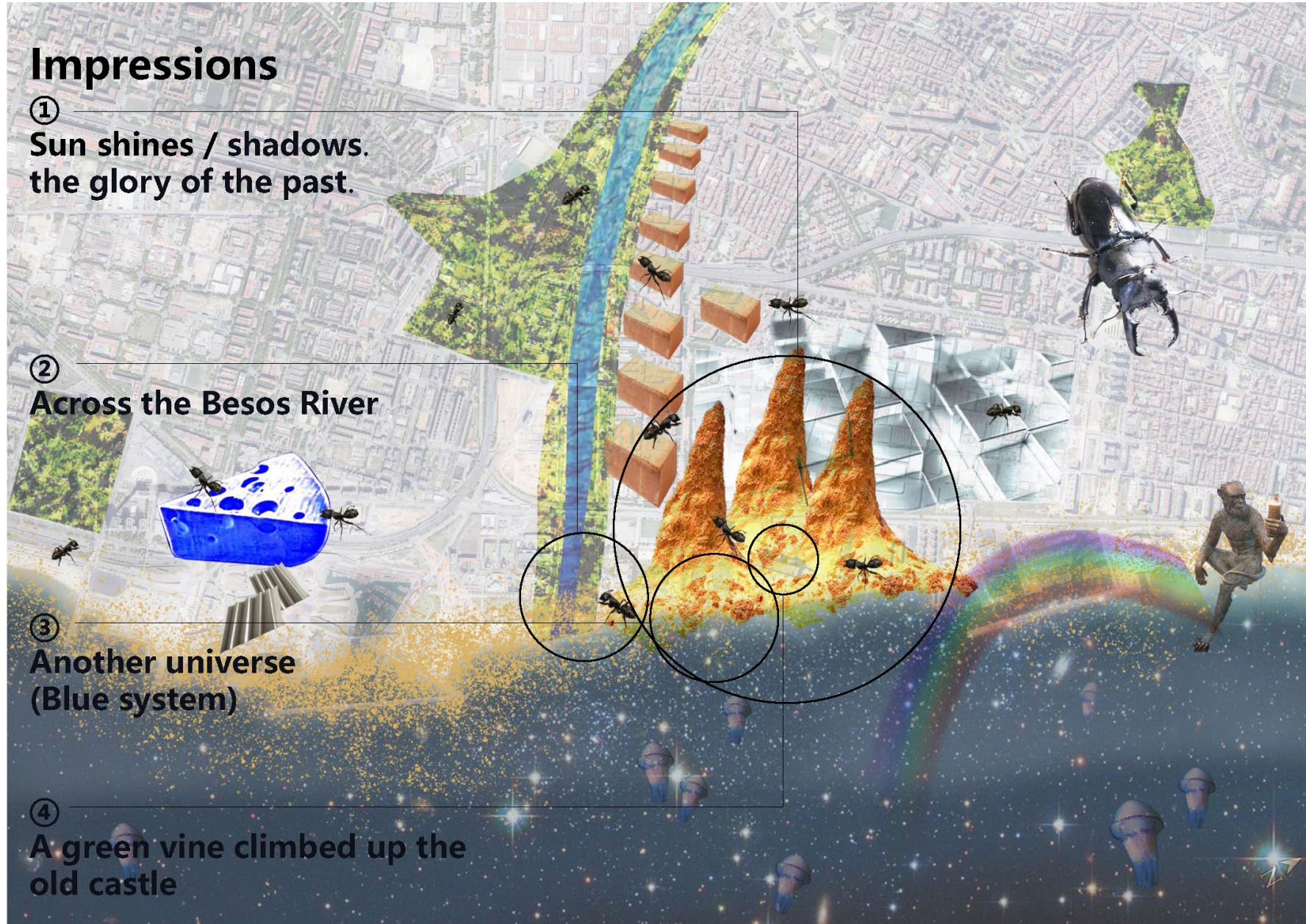
Impressions

① **Sun shines / shadows.
the glory of the past.**

② **Across the Besos River**

③ **Another universe
(Blue system)**

④ **A green vine climbed the
old castle**





Methodology of the driftmap and poem

1. The poetic wisdom - Giambattista Vico
The poetic perception methods:
research, meditation, drawing, writing...

*"The early gentile peoples, by a demonstrated necessity of nature, were poets who spoke in poetic characters."*¹

1. Giambattista Vico. The New Science of Giambattista Vico [M]. Translated by Thomas Goddard Bergin & Max Harold Fisch. Anchor Books, New York, 1961

2. The savage mind - Claude Lévi-Strauss

Analog thinking, metaphor and anthropopathic thinking

*"The mind in its untamed state as distinct from mind cultivated or domesticated for the purpose of yielding a return."*²

2. Lévi-Strauss, Claude (1966). The Savage Mind. Chicago [M]. Illinois: University of Chicago Press. p. 219.

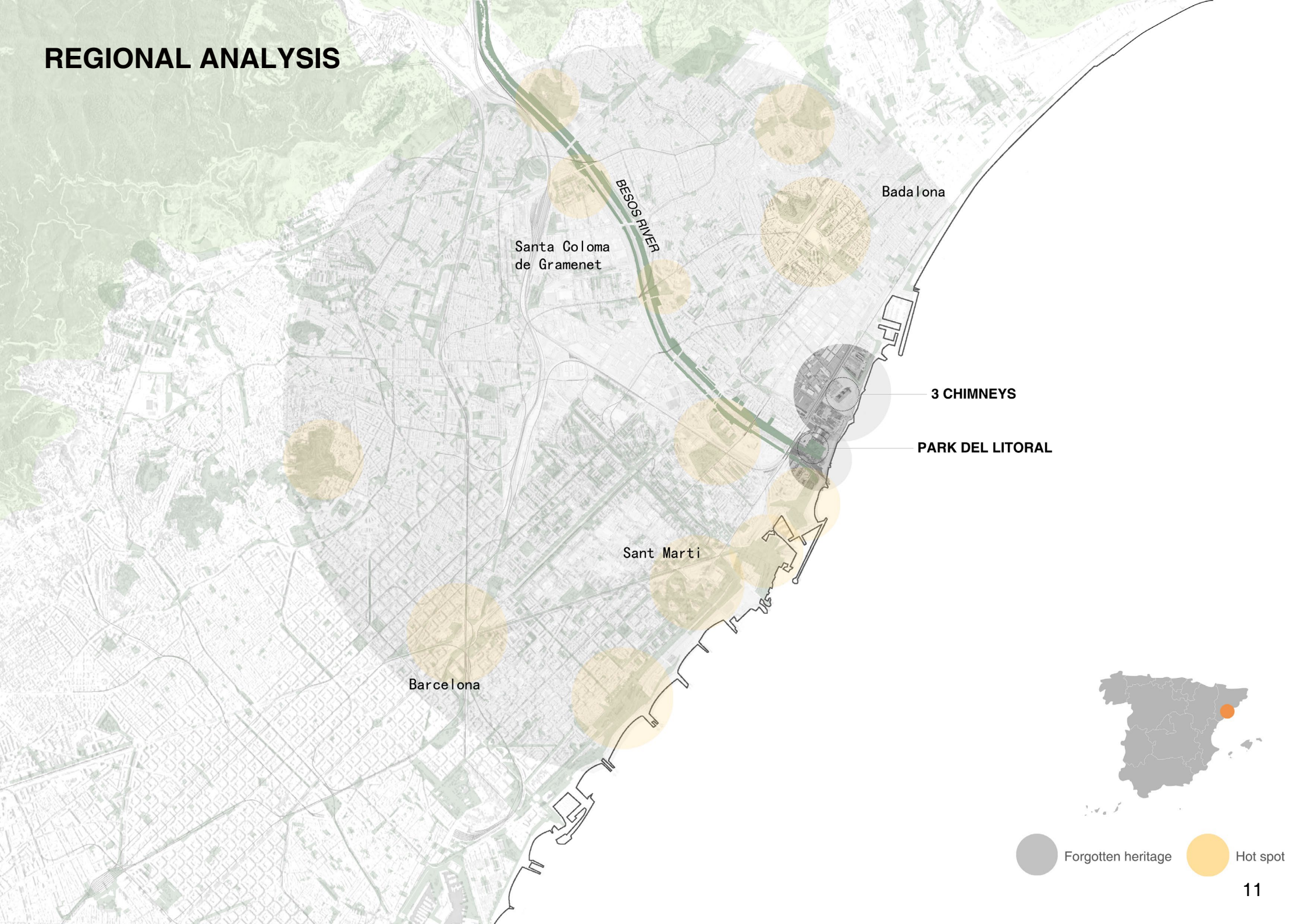
3. The "Wild" and "Poetic" design

Through the artistic perception and inspiration,
into the local cultural context,
organically formed design ideas

*"They seek to determine the human value of the sorts of space that may be grasped."*³

3. Gaston Bachelard, The poetics of space [M].; Translated from the French by Maria Jolas, New York: Orion Press, 1964. Introduction IX.

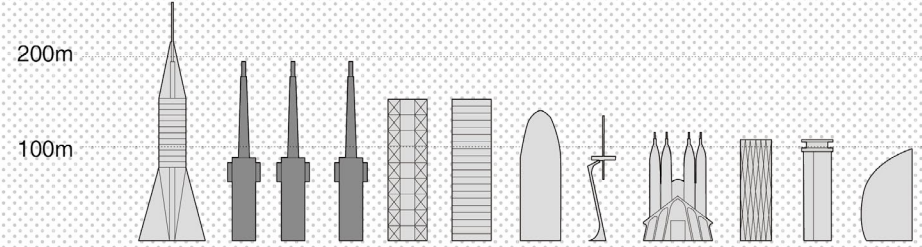
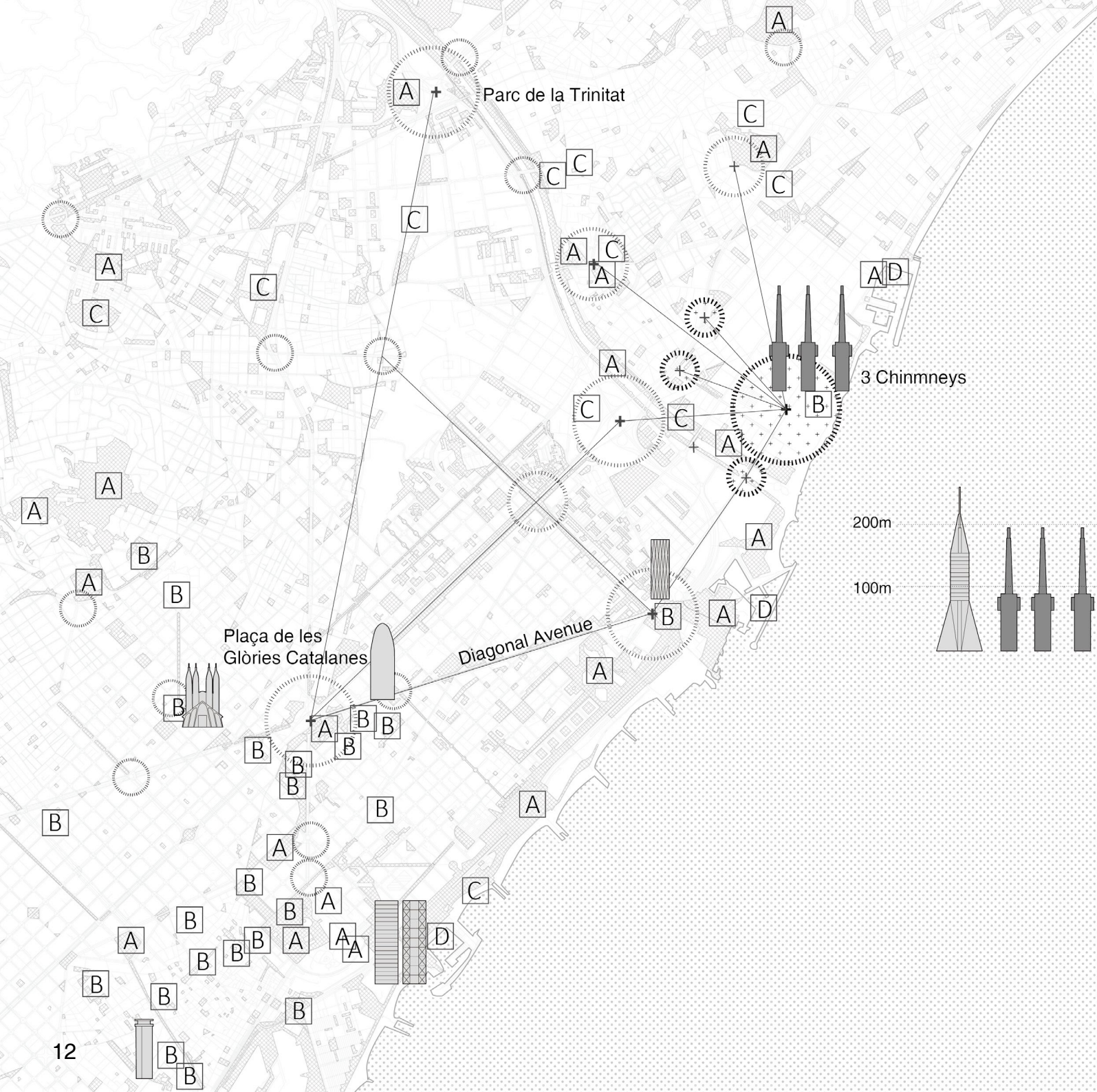
REGIONAL ANALYSIS



Forgotten heritage Hot spot

REGIONAL ANALYSIS

Location/Hight



- A Park/Plaza
- B Heritage/Museum
- C Sports club
- D Port
- + Node
- + New node
- green space

LOCAL ANALYSIS — Built-Up Infrastructure

we can find our site is not an attractive place for visitor, because a sort of industrial area and lack of pleasant place like park, sports area or commercial area

in this map our site is not well organised and also have some vacant spaces

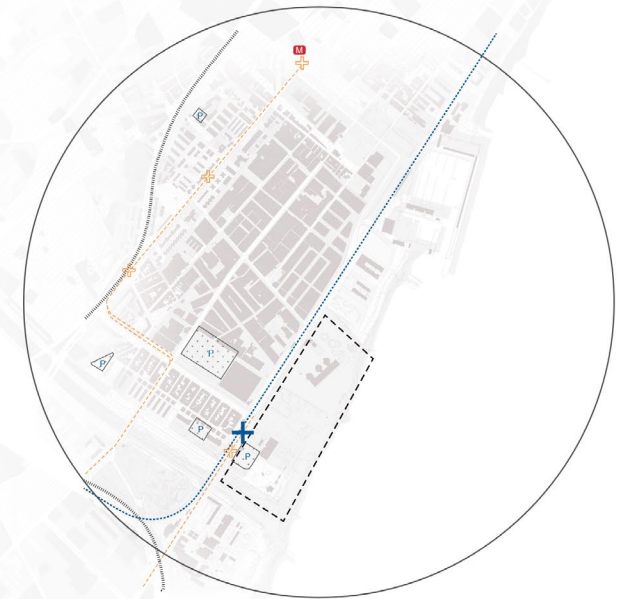
railway passby our site and cut the link of the westnorth so our site are not easy to access for public whatever on foot, by bike or take a car.



LAND USE



BUILT-UP



RANSPORTATION

- | | |
|------------------------|-----------------------|
| industrial | commercial |
| closed island building | brush |
| park | naked soil |
| sports | undefined residential |
| residential | factory |
| beach | river |
| port | other plants |

- | | |
|-------------|------------------------|
| industrial | closed island building |
| residential | undefined residential |
| sports | factory |
| commercial | port |

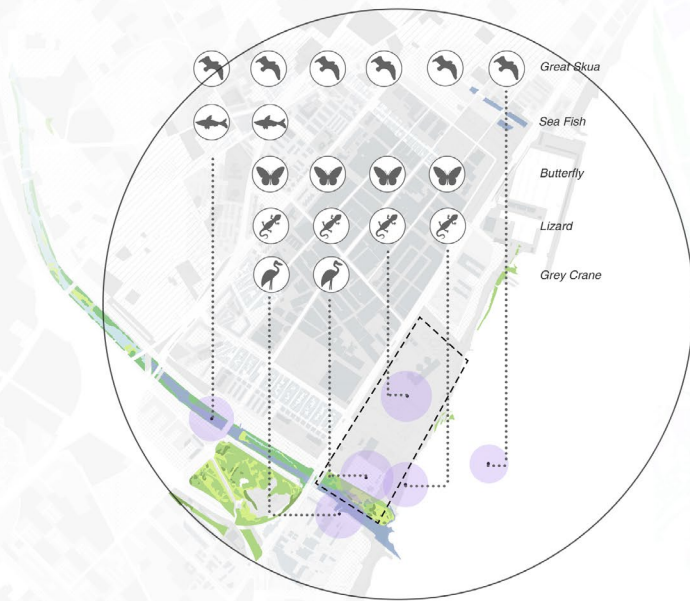
- | | |
|-----------|-----------------|
| tram stop | highway |
| parking | metro station |
| railway | railway station |
| tram line | boundary |

LOCAL ANALYSIS— Environment

The river Besos basin has rich biodiversity. Some animal and plant resources remain in the part of the site close to the river, but these resources are lacking on the right side of the site.

There are many parks and sports venues in and around the site, as well as obvious gaps in the coastline of the southern site.

The Besos river basin will have more and more serious flood risks over time. Due to the discontinuity of the coastline, there is also a potential flood risk in the western part of the site.



BIODIVERSITY

- animals
- lawn
- meadow
- shrub
- forest



BUILT ENVIRONMENT

- street greening
- greenland
- equipment
- unused area
- △ park
- + sports club
- coastline gap

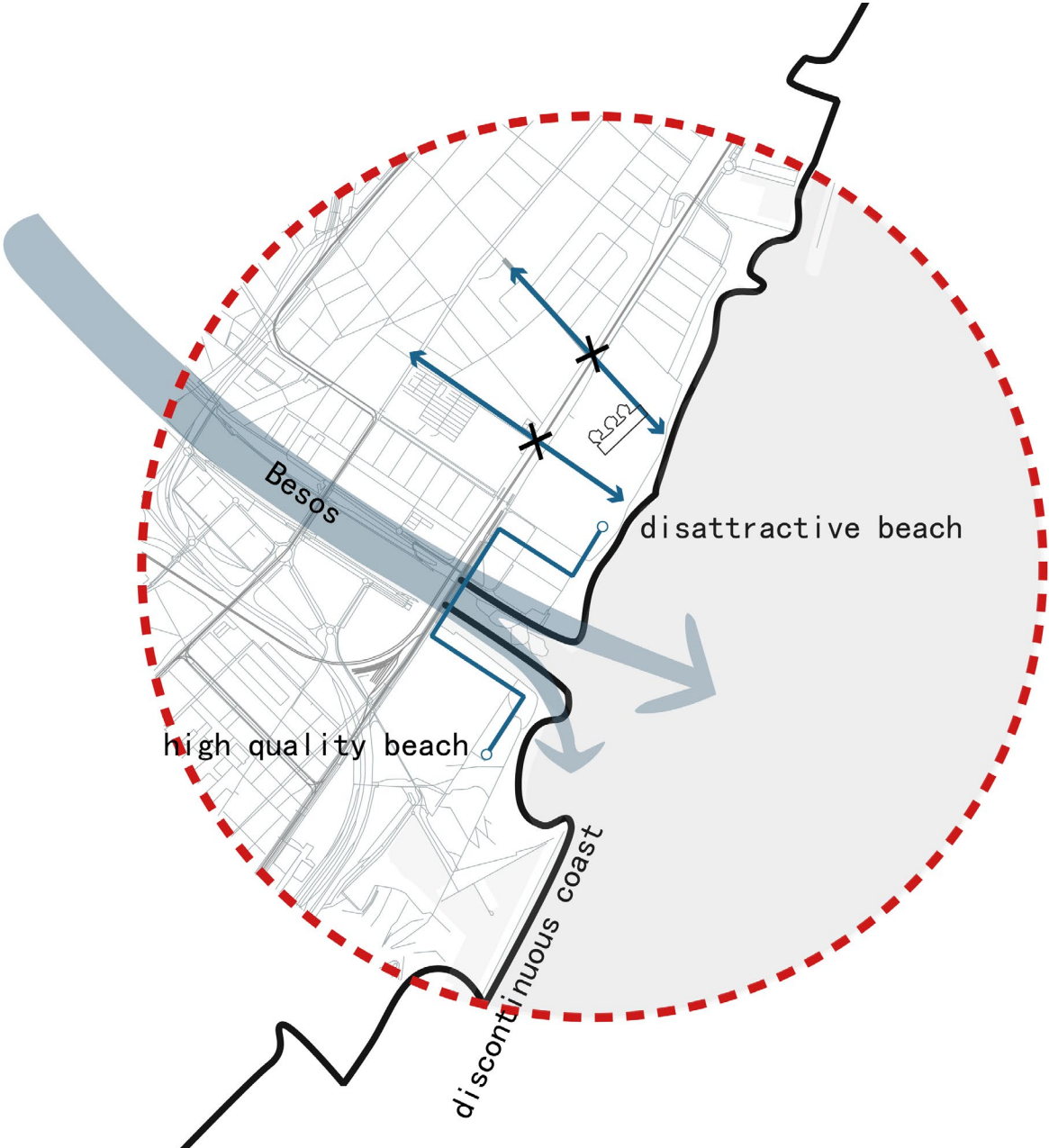


FLOOD RISK

- flood zone T 10 years
- flood zone T 100 years
- flood zone T 500 years
- potentially floodable area (geomorphological criteria)

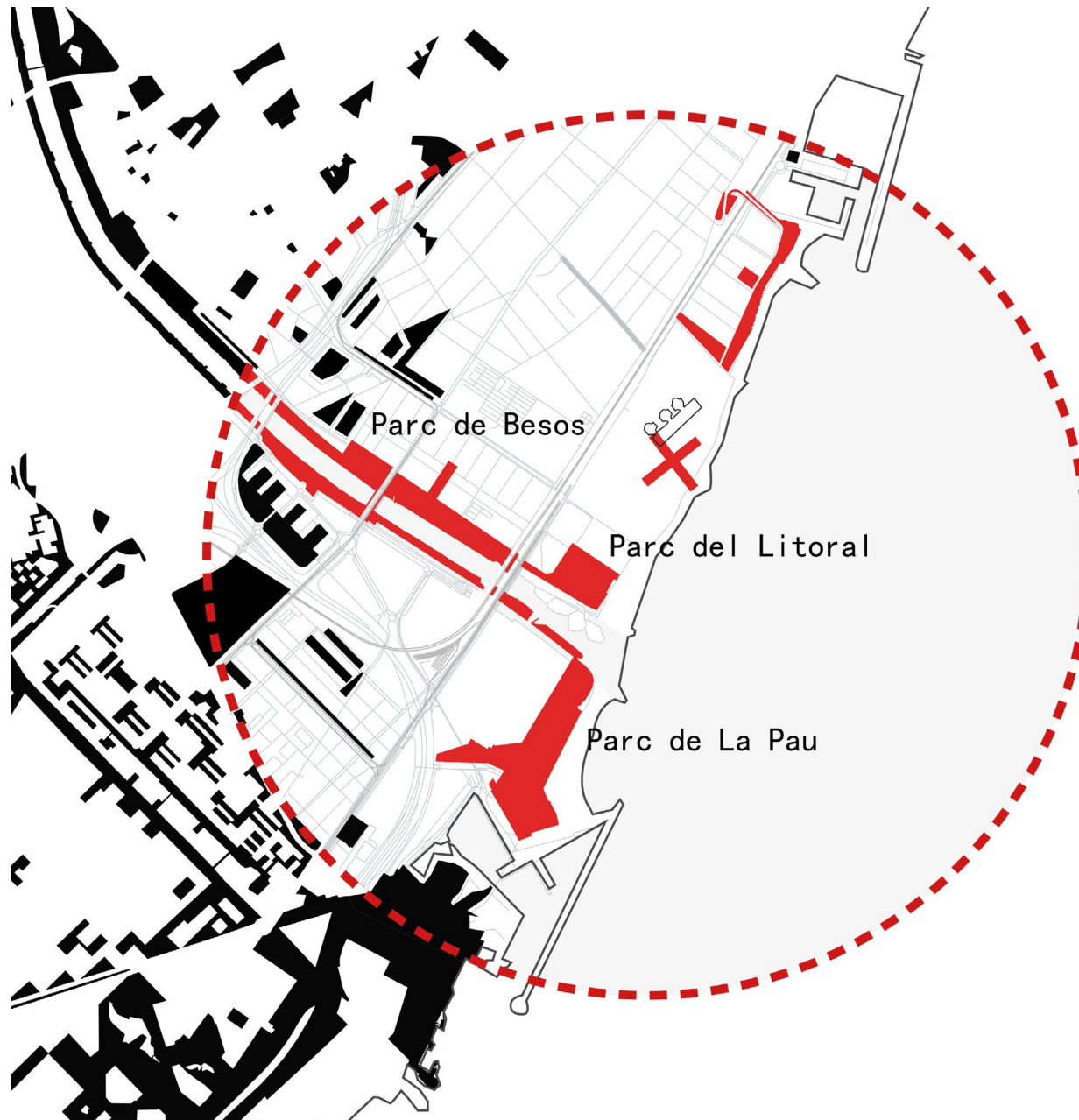
SITE PROBLEM *lack of link*

WITH CITY
discontinuous coastline & poor accessibility



SITE PROBLEM *lack of link*

WITH NATURE
disconnected greenland



SITE PROBLEM *lack of link*

WITH HISTORY
unknown 3 chimneys



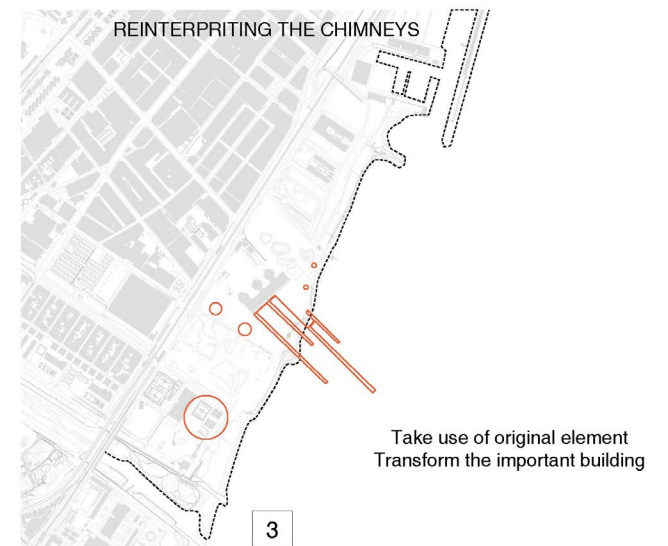
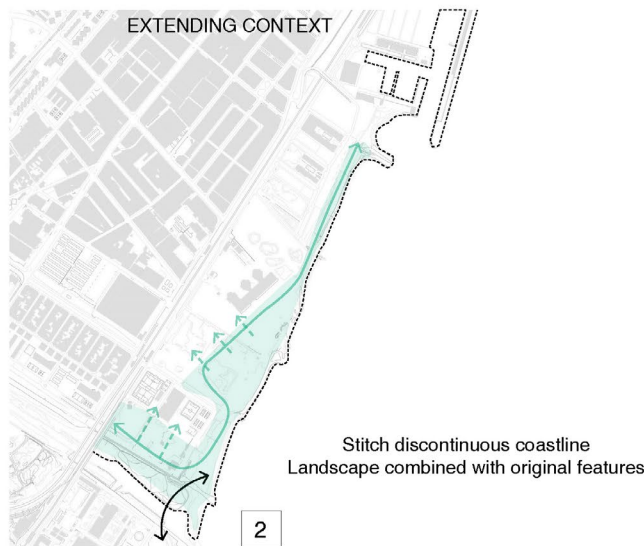
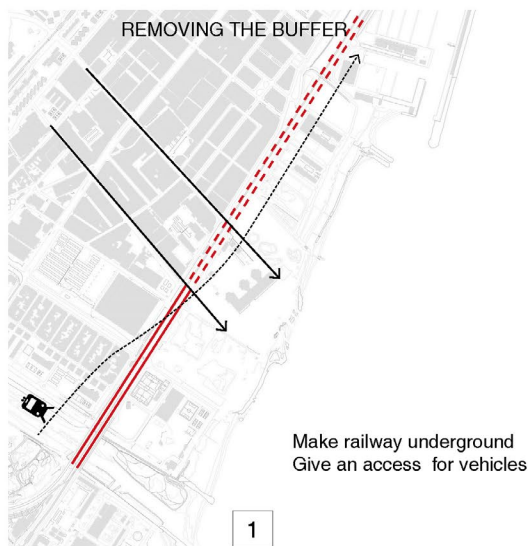
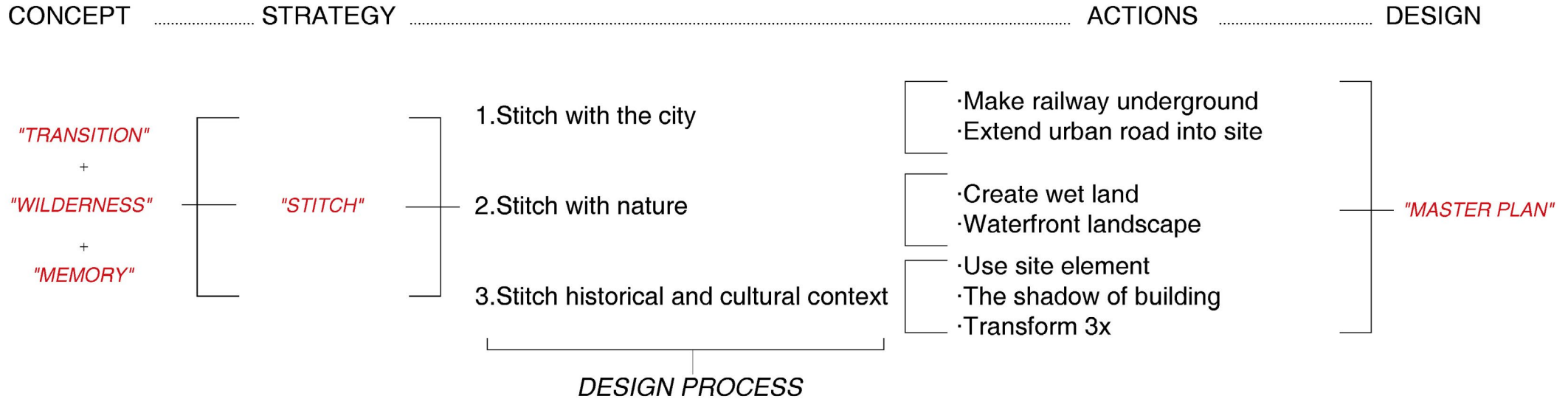
Manifesto

The main goal of "**STITCH WITH WILD**" is to break the barriers between the region and the city, and then establish a connection with nature, and use industrial relics to create a new city card to activate the region and attract people, which will be beneficial to urban development. The well-being of mankind and nature. Taking into account the situation in the region, we decided to use "**TRANSITION**", "**WILDERNESS**" and "**MEMORY**" to explain our history and culture-related projects. Then we use "STITCH" as a strategy to integrate the city, nature, and historical and cultural backgrounds.

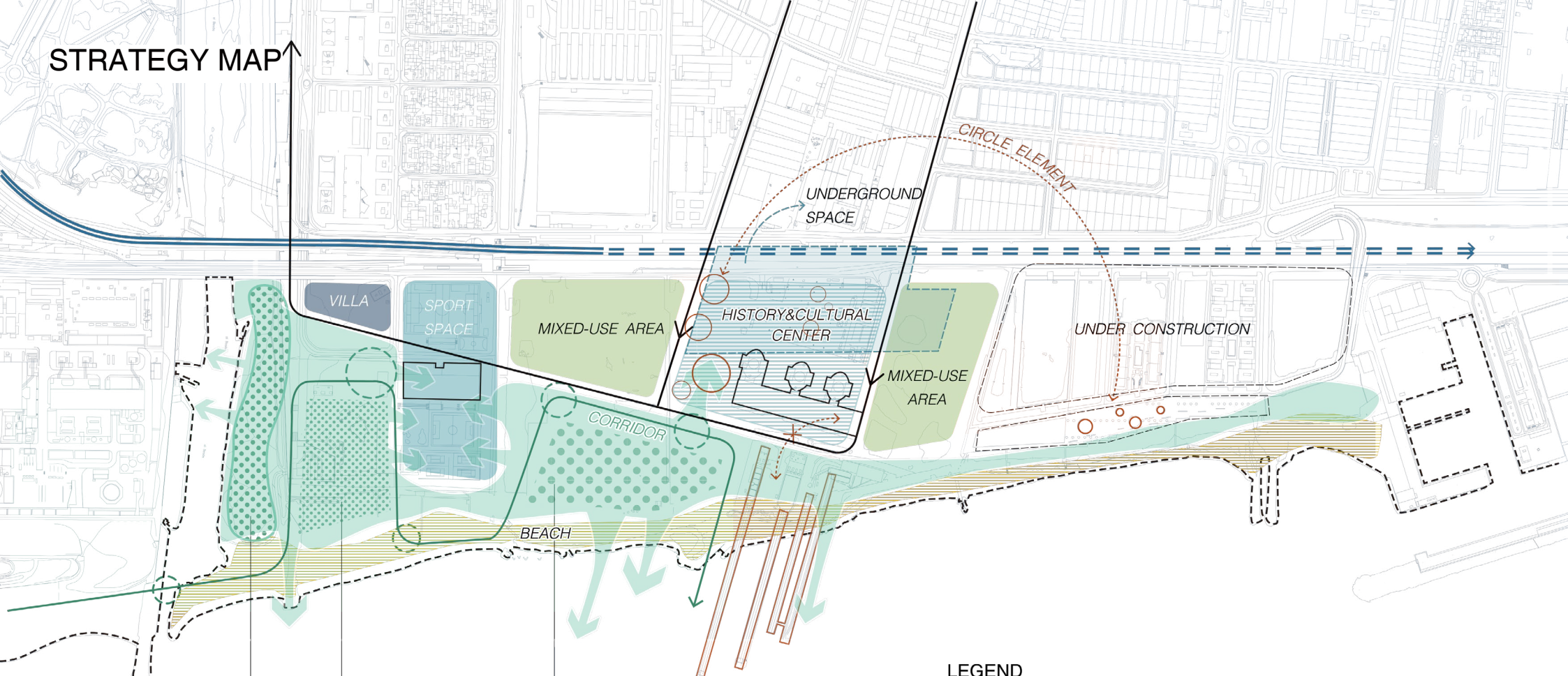
CONCEPT DIAGRAM



STITCH WITH WILD
























STRATEGY MAP

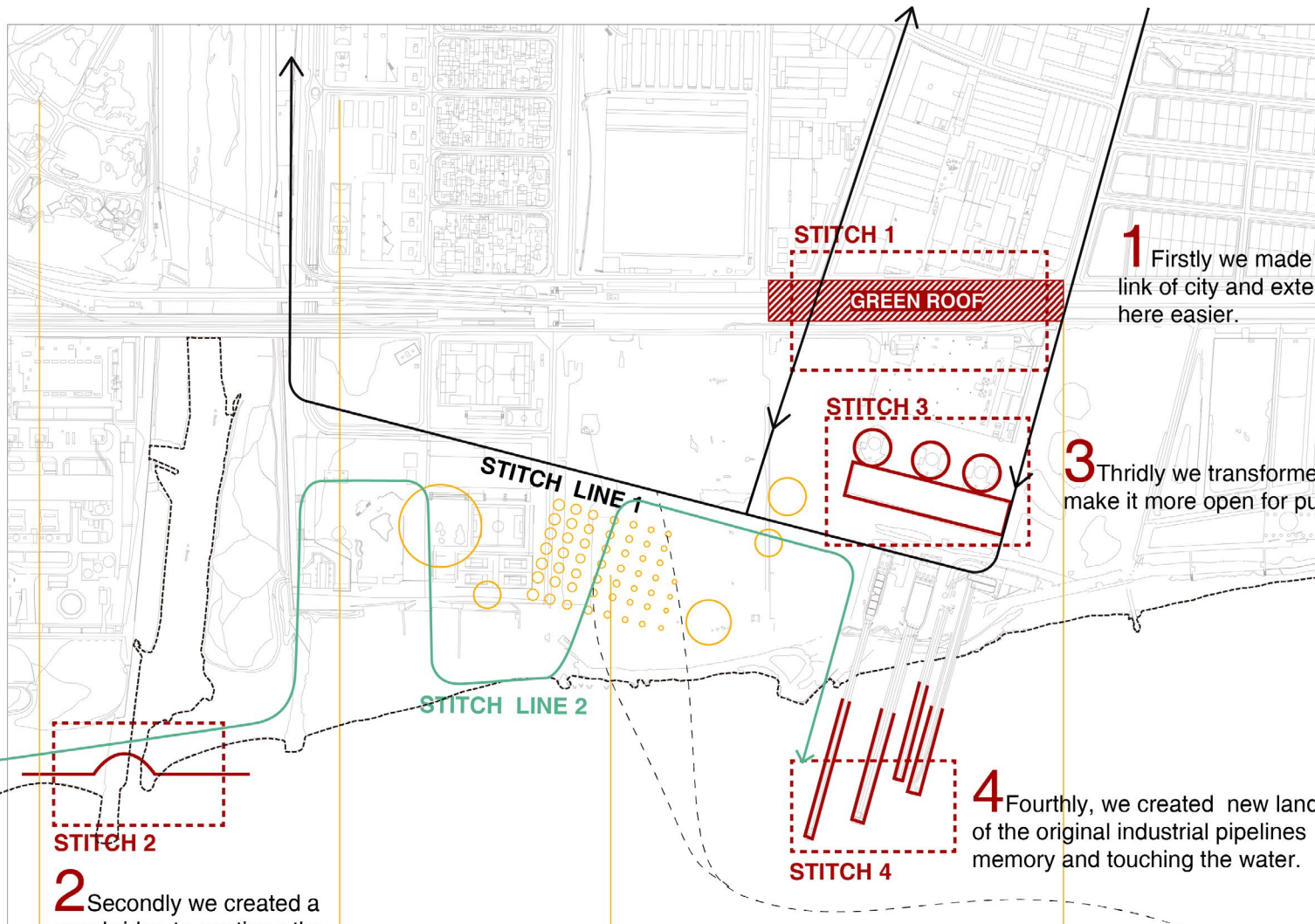


NATURAL PARK WETLAND LANDSCAPE WITH ACTIVITIES

LEGEND

-  Preserved Building
-  Green Space
-  Landscape with Activities
-  Wetland
-  Natural Park
-  Sport Space
-  Underground Space
-  Historical and Cultural Space
-  Mixed-use Area
-  Beach
-  Villa
-  Landscape Infiltration
-  Corridor
-  Landscape Node
-  New Planned Road
-  Coastline
-  Apply Circle Element
-  Connection
-  Original Features
-  Underground railway
-  railway

STITCH MAP



1 Firstly we made the railway underground which break the link of city and extend the roads into site to make visitors get here easier.

3 Thridly we transformed the 3x to make it more open for public.

4 Fourthly, we created new landscape bridges in the place of the original industrial pipelines in terms of preserving the memory and touching the water.

2 Secondly we created a new bridge to continue the beach.

The roads and paths became the stitch lines to link all the spaces.

WILDERNESS

MEMORY:
hardscape
softscape

TRANSITION:
buildings
blue infrastructure
green infrastructure

General plan

For the master plan, we firstly solve the traffic connection problem through the underpass of the railway, connect the historical and cultural square with the separated area. Introduce the flow of people in the city to the site.

In terms of landscape, the circular memory element is mainly used to keep it consistent with the central part to enhance the overall sense. An ecological coast was established. The parallel relationship between the ground level, the green space and the waterline is transformed into an weaved relationship, forming a series of pools, green hills and wetland landscapes, undulating high and low, and closely connected. Forming a more ecological and recreational landscape system.



LEGEND

- | | | |
|----------------------|-----------------|---------------------|
| 1.wetland | 7.green roof | 13.beach volleyball |
| 2.landscape corridor | 8.villa | 14.beach |
| 3.chimneys | 9.swimming pool | 15.sports center |
| 4.commercial | 10.sports area | 16.sunken plaza |
| 5.main square | 11.hotel | 17.forest cluster |
| 6.housing | 12.greenland | 18.fountain |



LAYERED PRESENTATION

Circle Element

Using the circle as the main element for landscape design, and then combining with the function to produce different spaces

Paths

Creating a pedestrian system mainly connect ecological wetlands and activity spaces

Roads

Because of underground railway, the connection between this area and the city is enhanced, and taking use of some of the original roads to connect with the new roads to establish a transportation system

Green Spaces

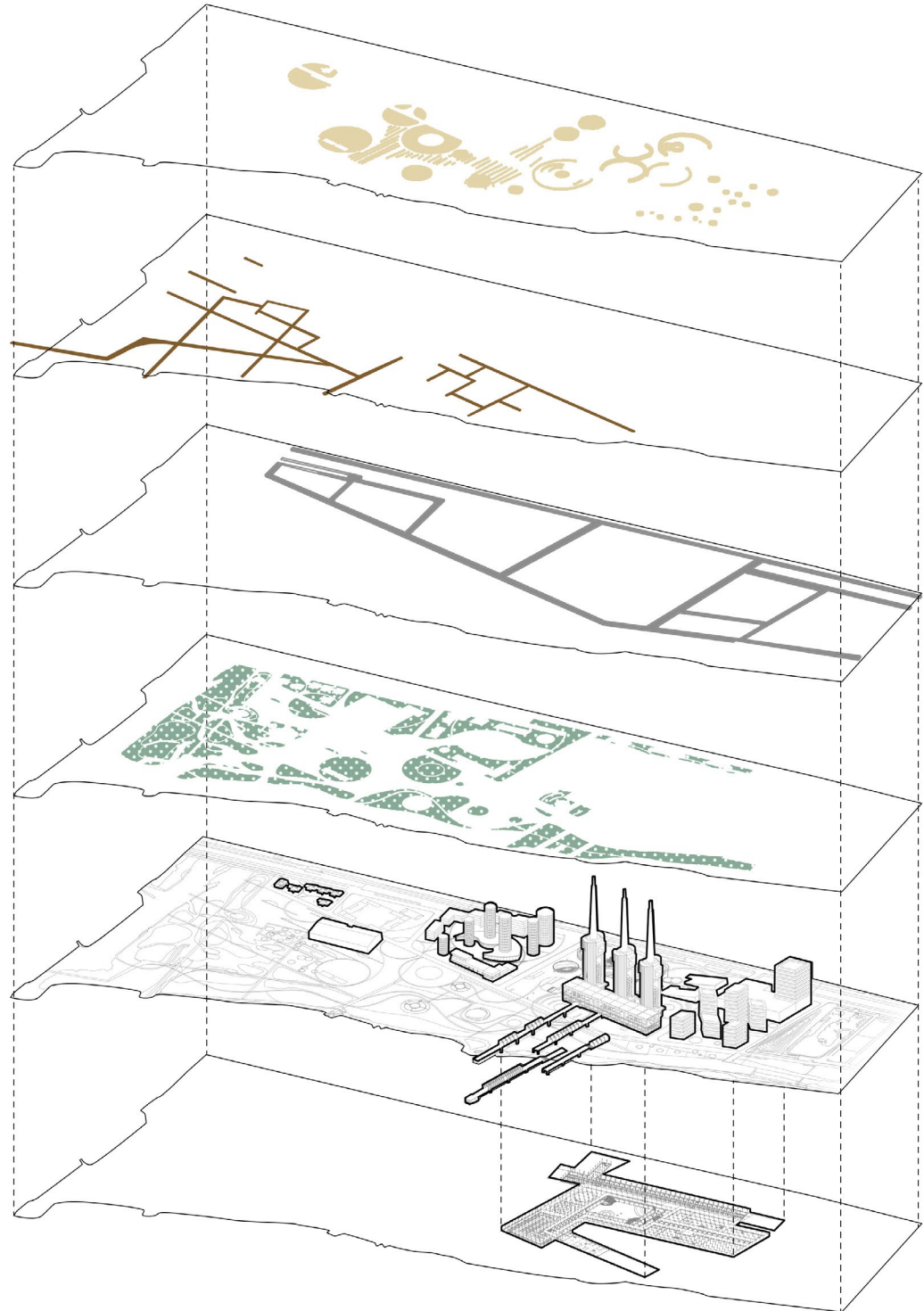
Creating a continuous riverfront green space along the river and inserting some wetlands or public sporting activities space to allow people to move around, which increase the greenness of the whole site

Buildings

In addition to retaining the sports center, the three chimneys and the turbine hall, new clusters are planned for different functions to accommodate the different housing and activities on the site

underground

Creating underground commercial space links with underground rail station in main plaza areas for easier access



BIRD VIEW



Villa

Mixed-use Area

Chimneys

Commercial + Hotel

Housing

Sport Playground

Landscape Corridor

Focus

"Stitch with City"

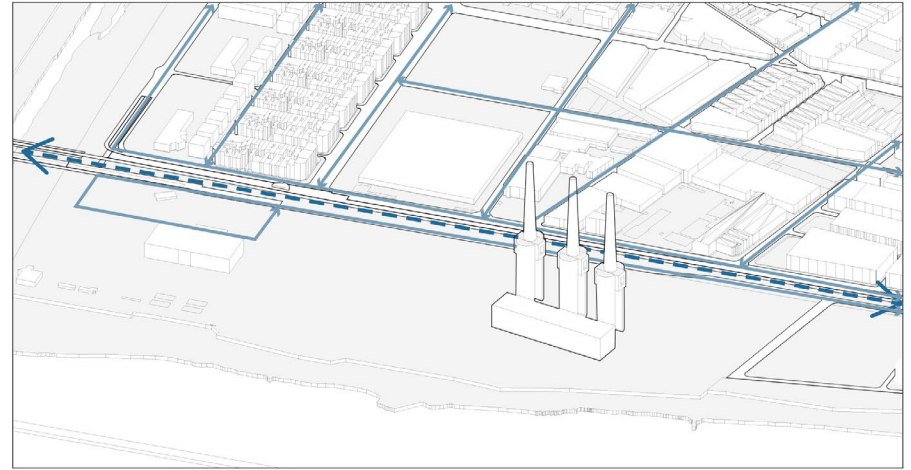
First of all, we made the railway into an underground railway, which disconnected the connection between the cities and extended the road to the site, making it easier for tourists to reach here. Secondly, we created a new bridge to continue the beach; in terms of preserving memory and contacting water, we created a new landscape bridge at the location of the original industrial pipeline. Roads and paths become the suture that connects all spaces.

ROADS CONNECTION

The first step to stitch the city is to solve the problem of transportation between this area and the city, how to quickly reach here. we need to create roads connection

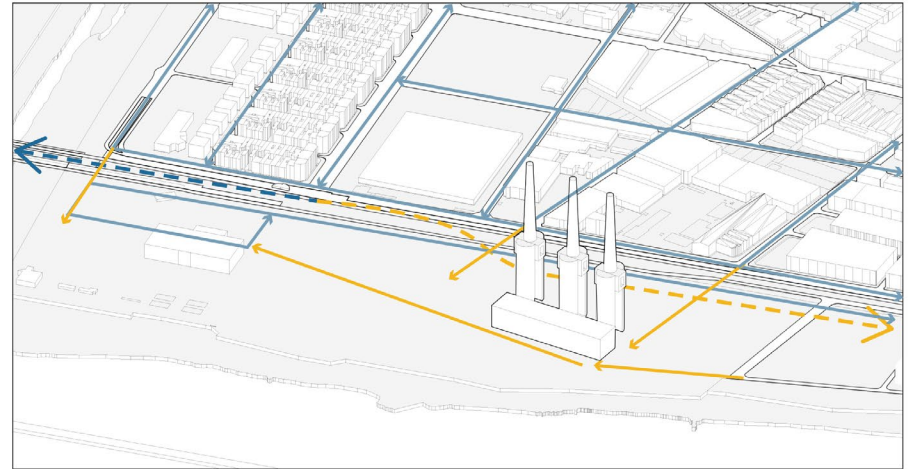
Current Situation

A railway separates this area into two parts and breaks the link between this site and city.



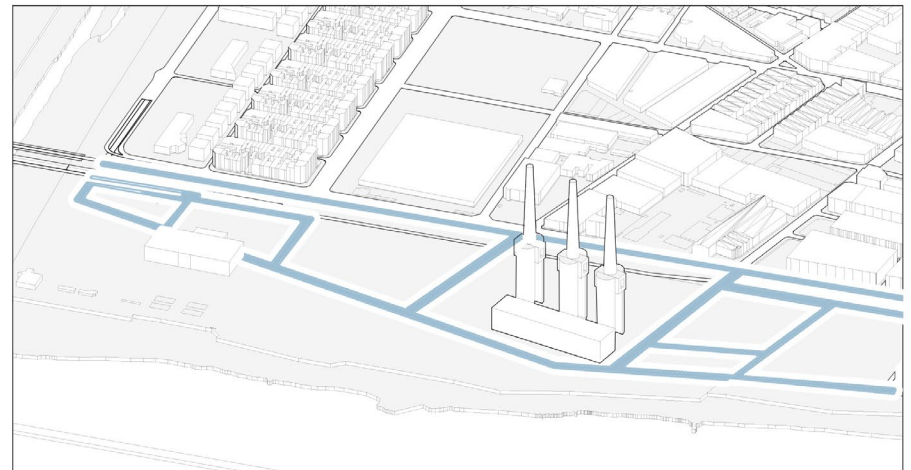
Actions

Making railway underground and extend urban roads into this area



Road Connection

Creating a good circulation in this area and making easy access



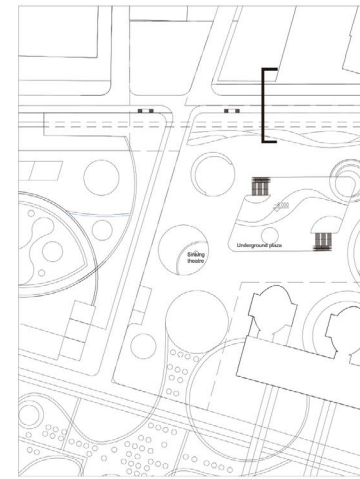
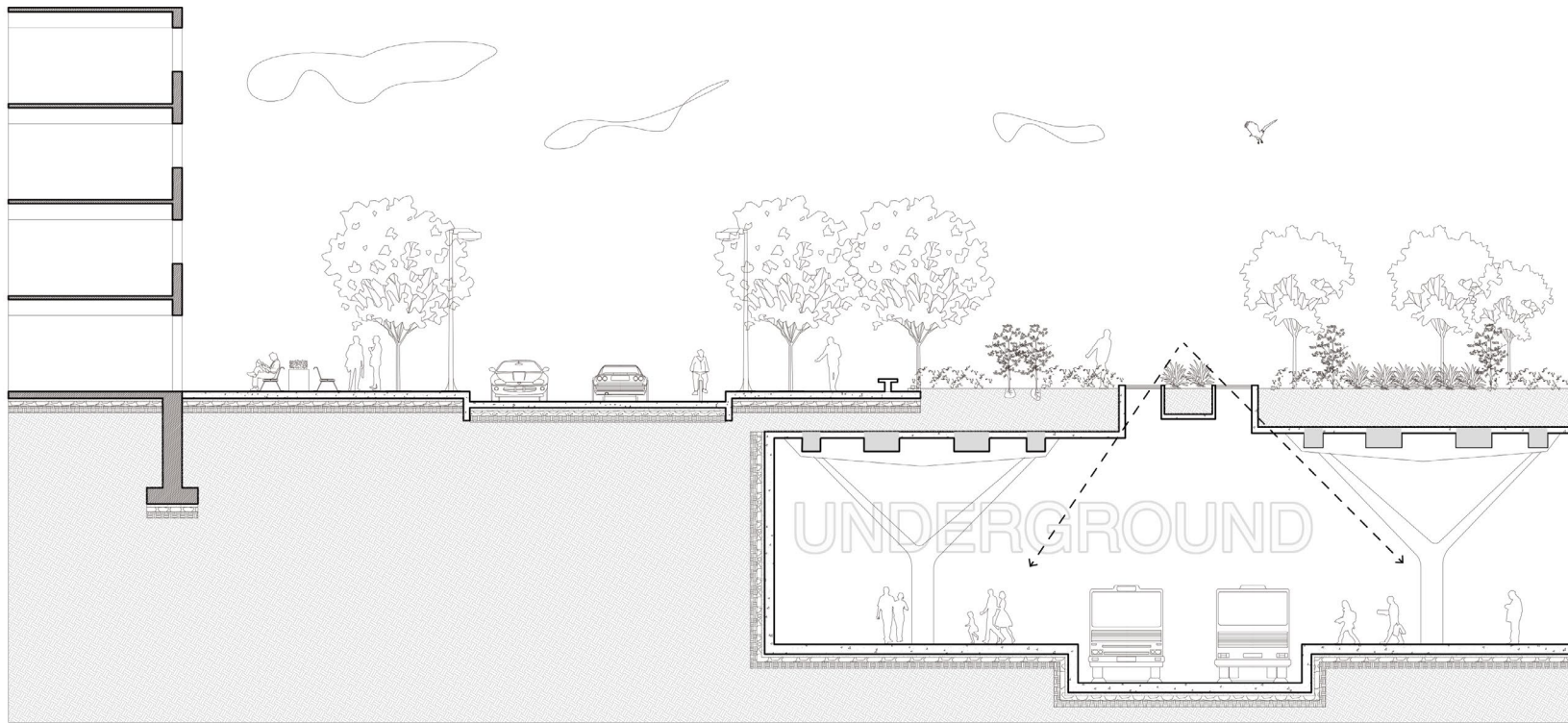
PLAN OF SITICH 1



PERSPECTIVE



ROAD CONNECTION



1.4
6.6
1.2

Section 1

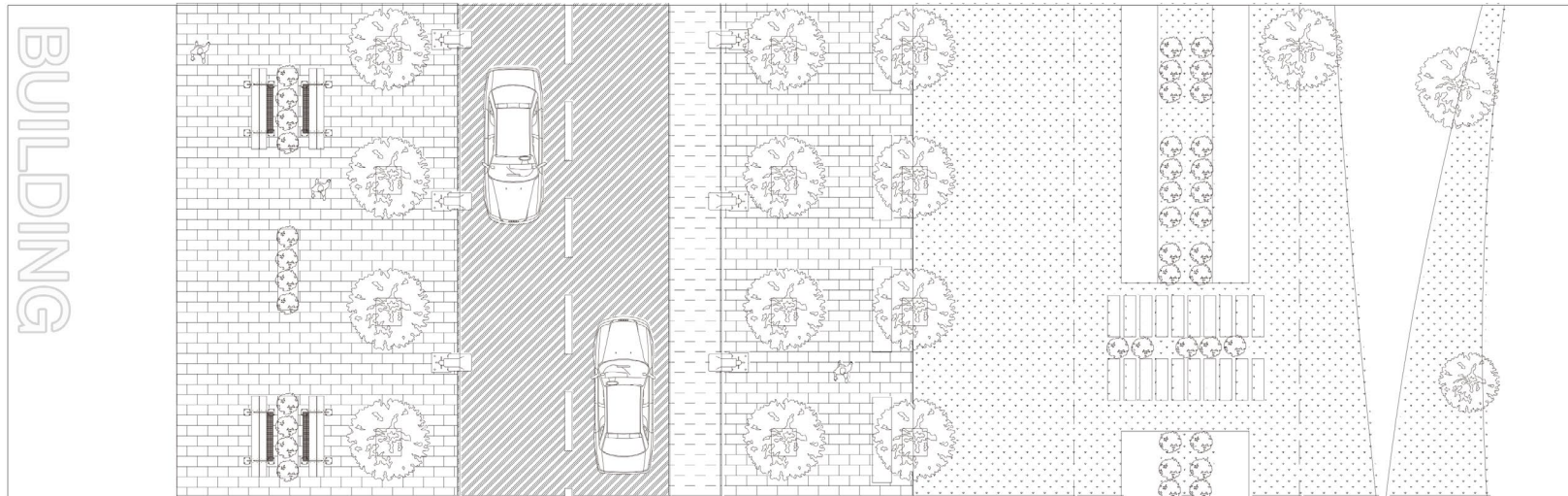
BUILDING

SIDEWALK

ROAD

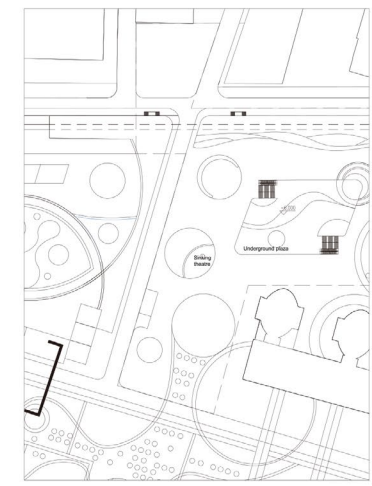
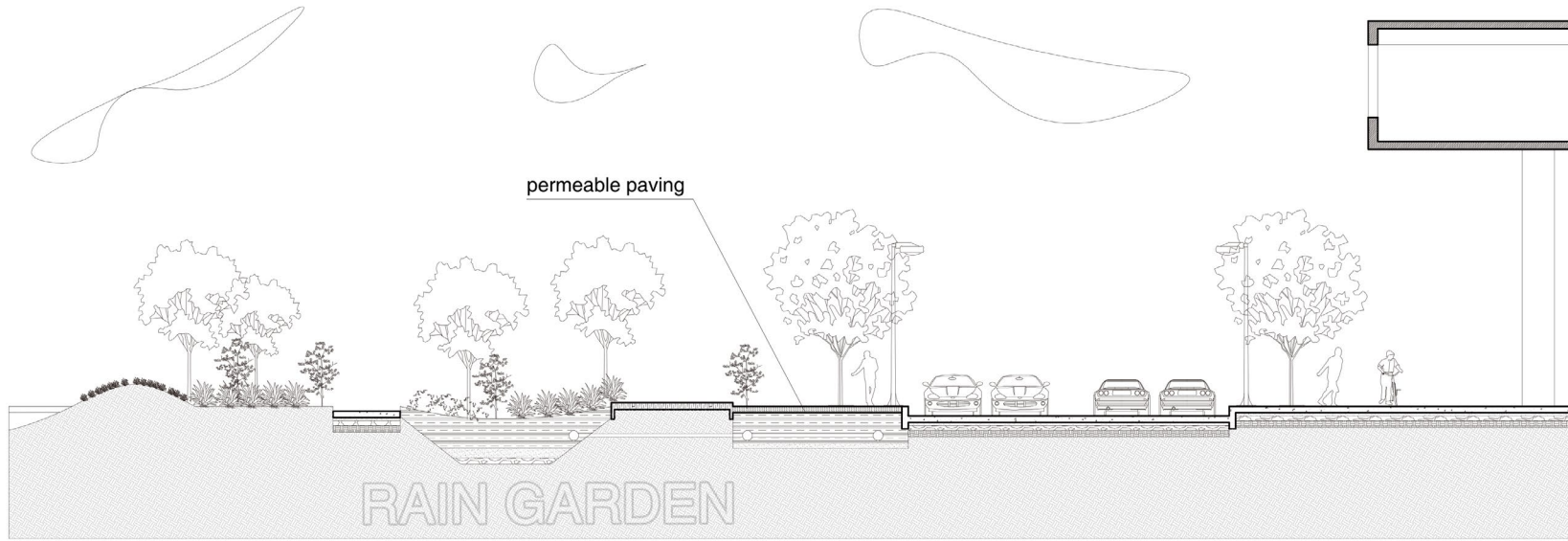
SIDEWALK

GREEN ROOF



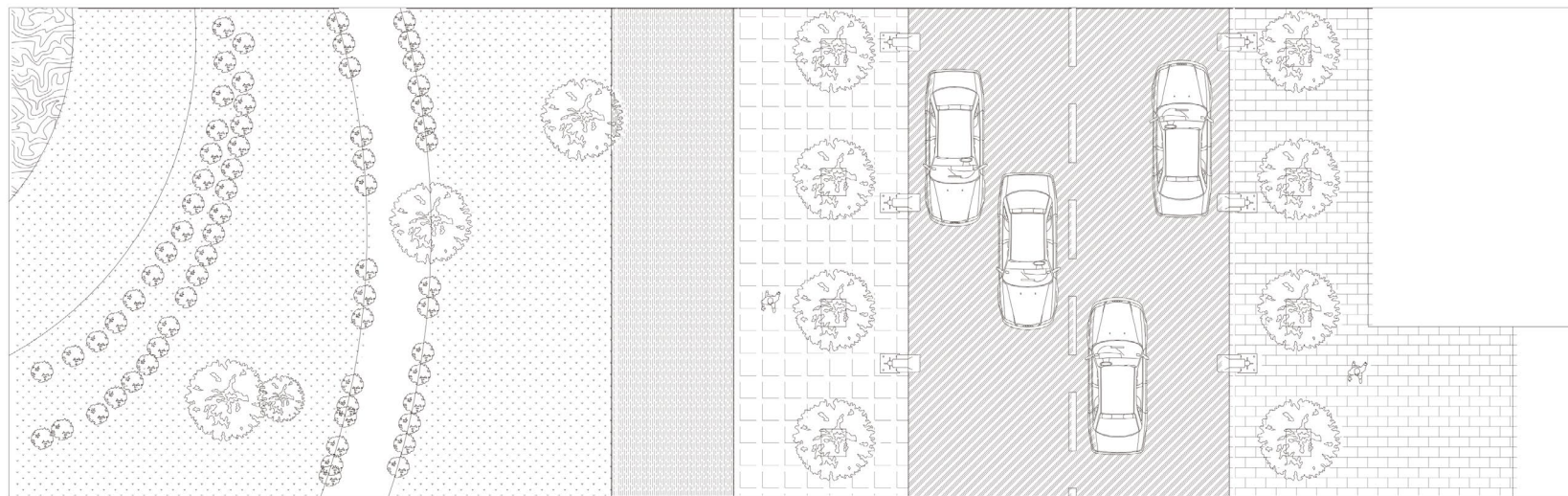
8.8 6.5 1.5 6 5 1.5 4 1.5

ROAD CONNECTION



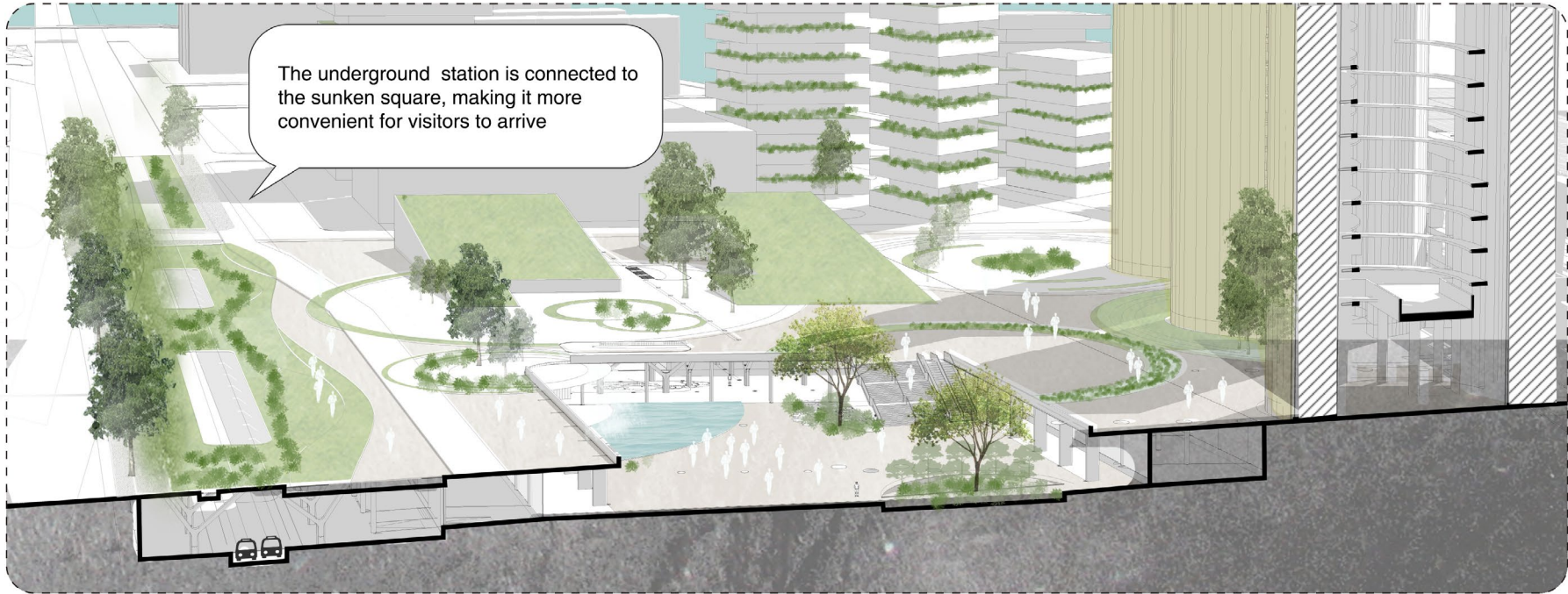
Section 2

POND HILL GRASS PATH RAIN GARDEN CORRIDOR SIDEWALK ROAD SIDEWALK



2 3.8 4.3 2 6.5 3.8 5.5 10

SECTION OF SITICH 1



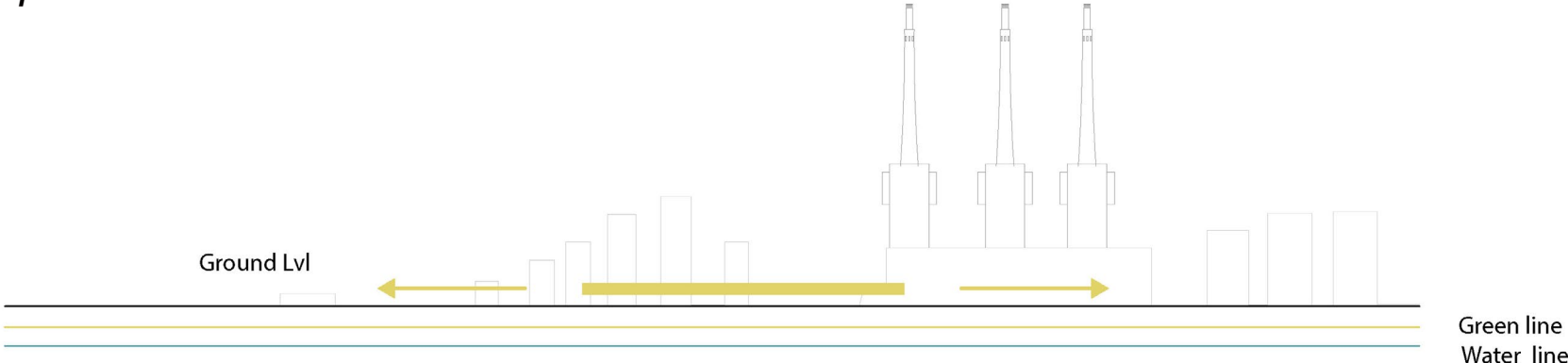
Focus

"Stitch with Nature"

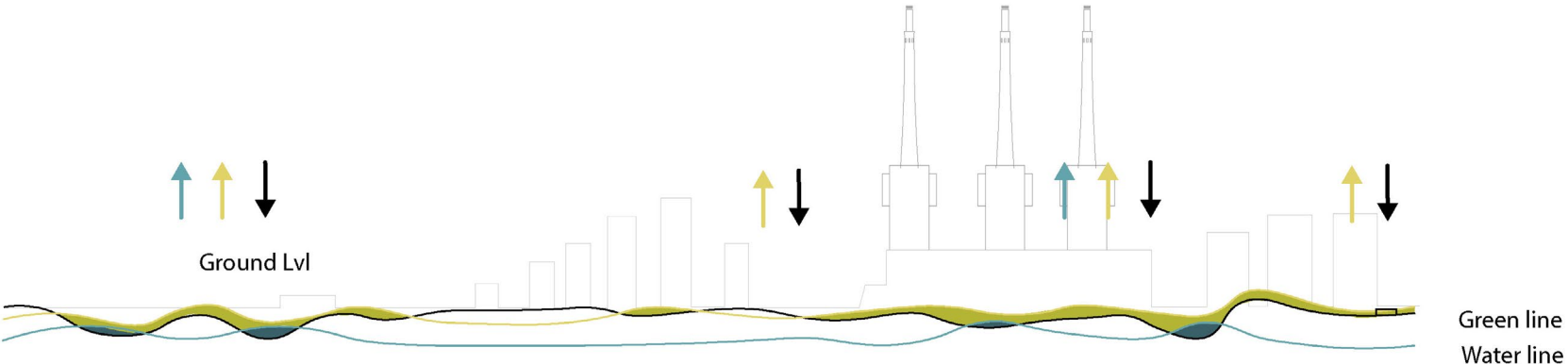
Second, we have established a sustainable ecosystem of green and blue intertwined, forming a series of pools, green hills and wetland landscapes, undulating high and low, and closely connected. we build the local system to preserve the habitat of the site ,enriching the type of species, creating the natural wetland to increase the biodiversity. Then shaping the recycling blue system to make the site better inserted with wildness, collecting runoff and rainwater from houses and surface, and then provide it for the housing and the square use.

STRATEGY - *Up-down land*

1



2



Up-down land

Building eco-activity system

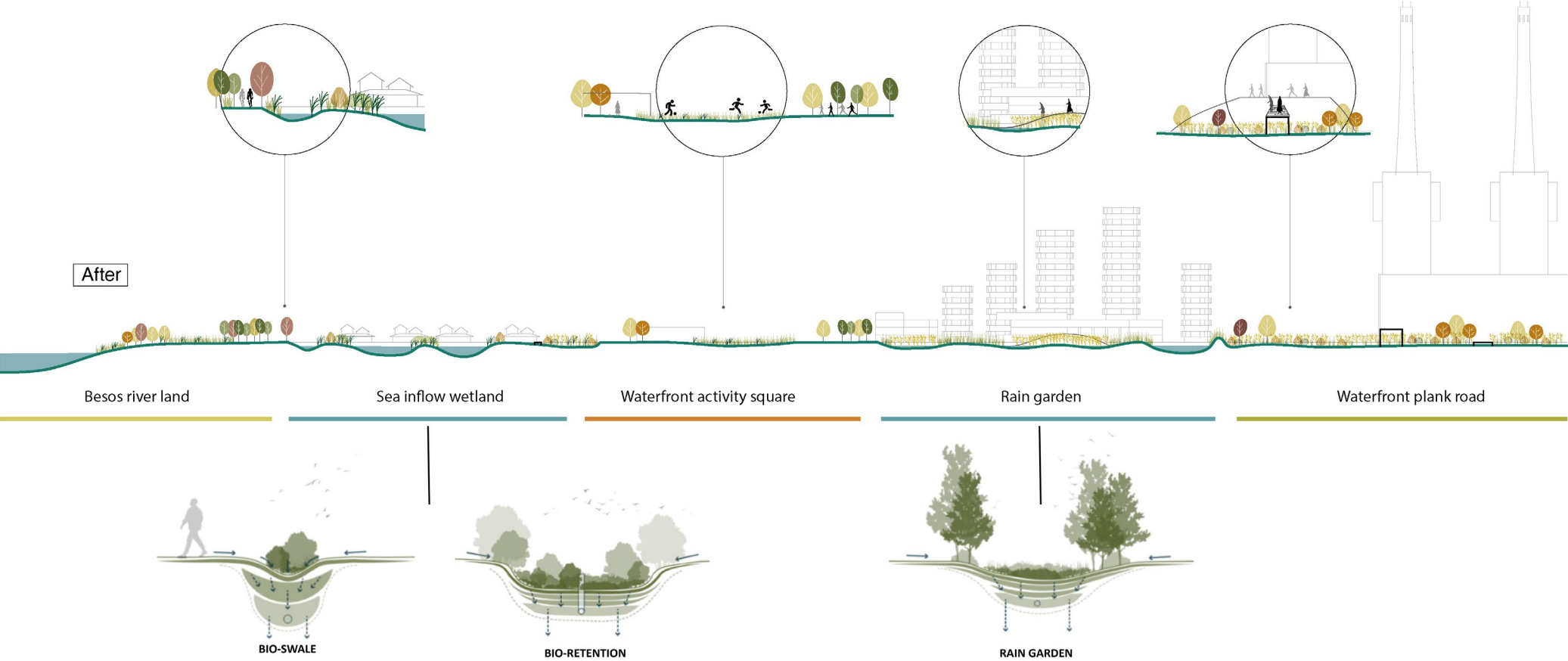
adding biodiversity

inserting green into concret

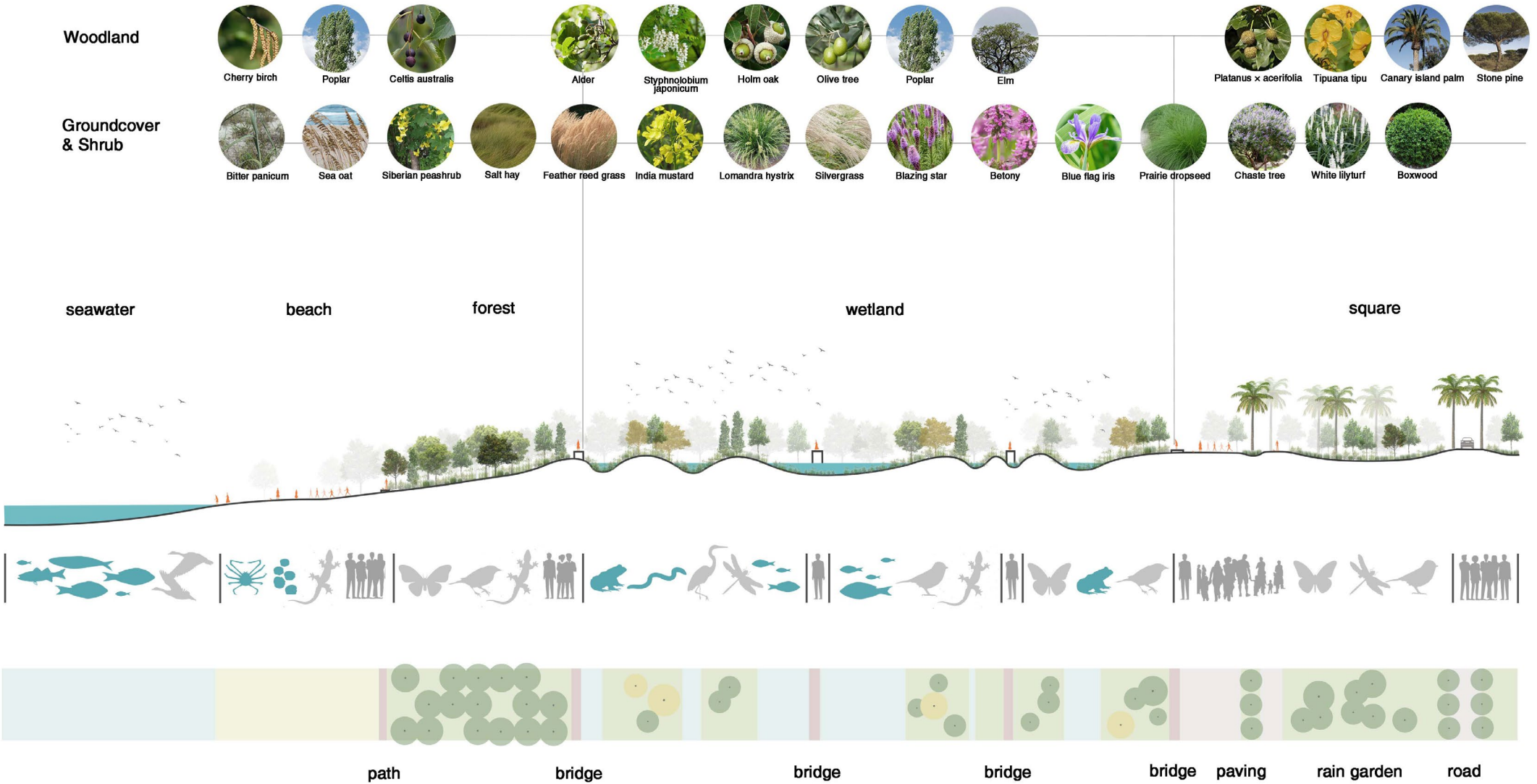
Shaping adaptive blue system

resilient coast

Building eco-activity system



Building eco-activity system - *adding biodiversity*

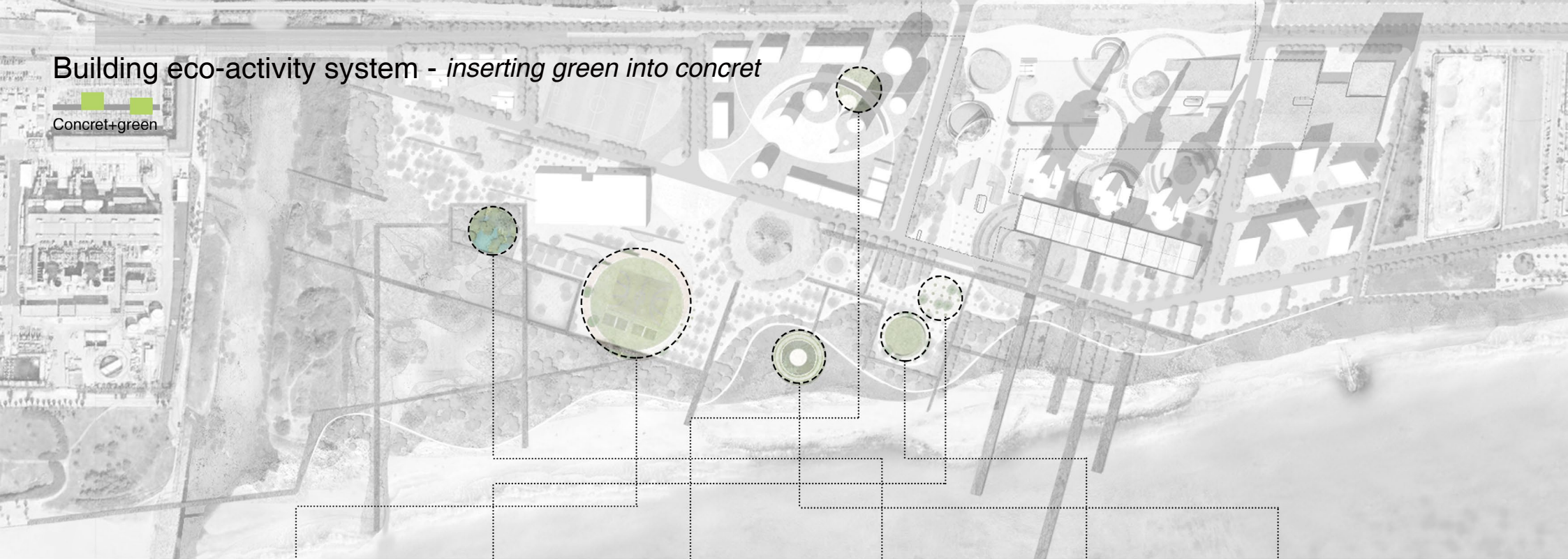


This section of the wetland shows the transition from the inland activity space to the seaside. The undulating terrain improves the water storage and purification capacity of the site, and at the same time increases the space for biological activities, increasing the rich biodiversity on the basis of the original species.

From the inland to the seaside, there are different kinds of organisms. Plants range from terrestrial trees to purifying wetland trees to sand trees.

Building eco-activity system - inserting green into concret

Concret+green



Ecological lawn

Pavement

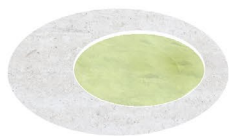
Green wall

Planting pool

Ecological pool

Green hill

2021



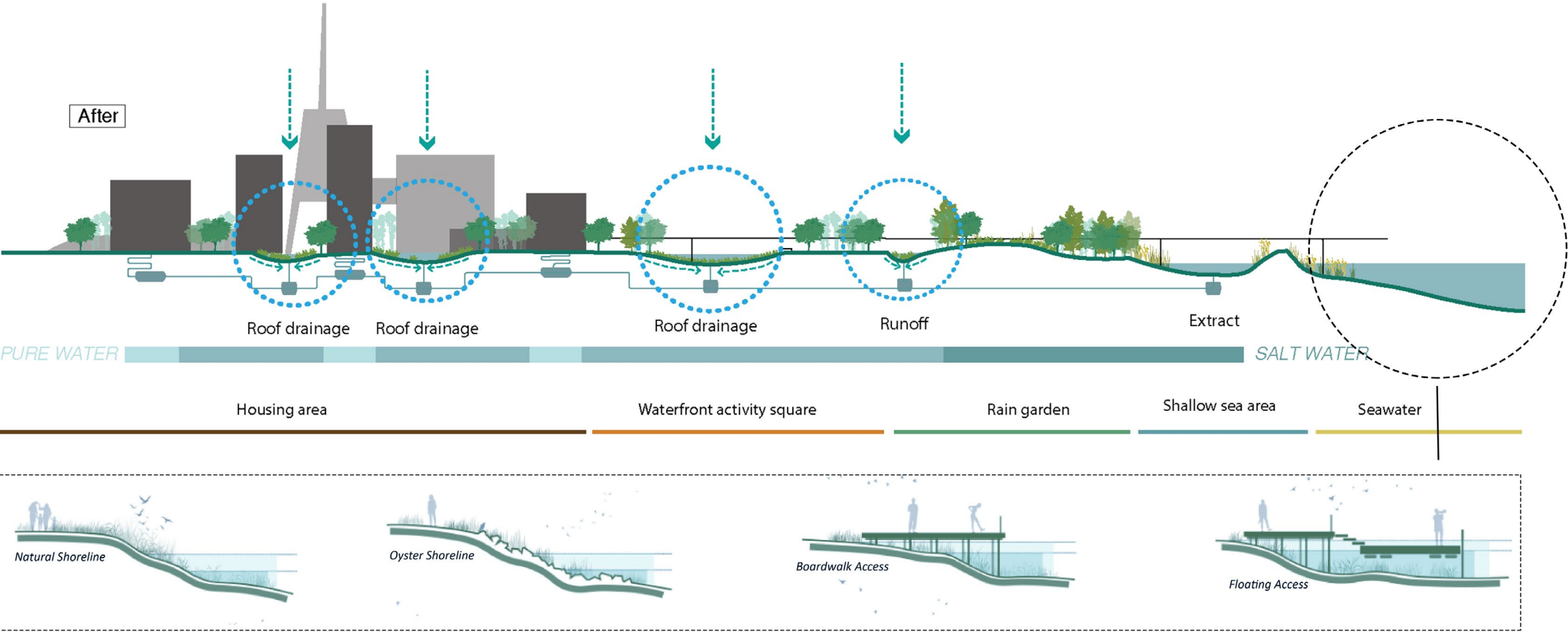
2031



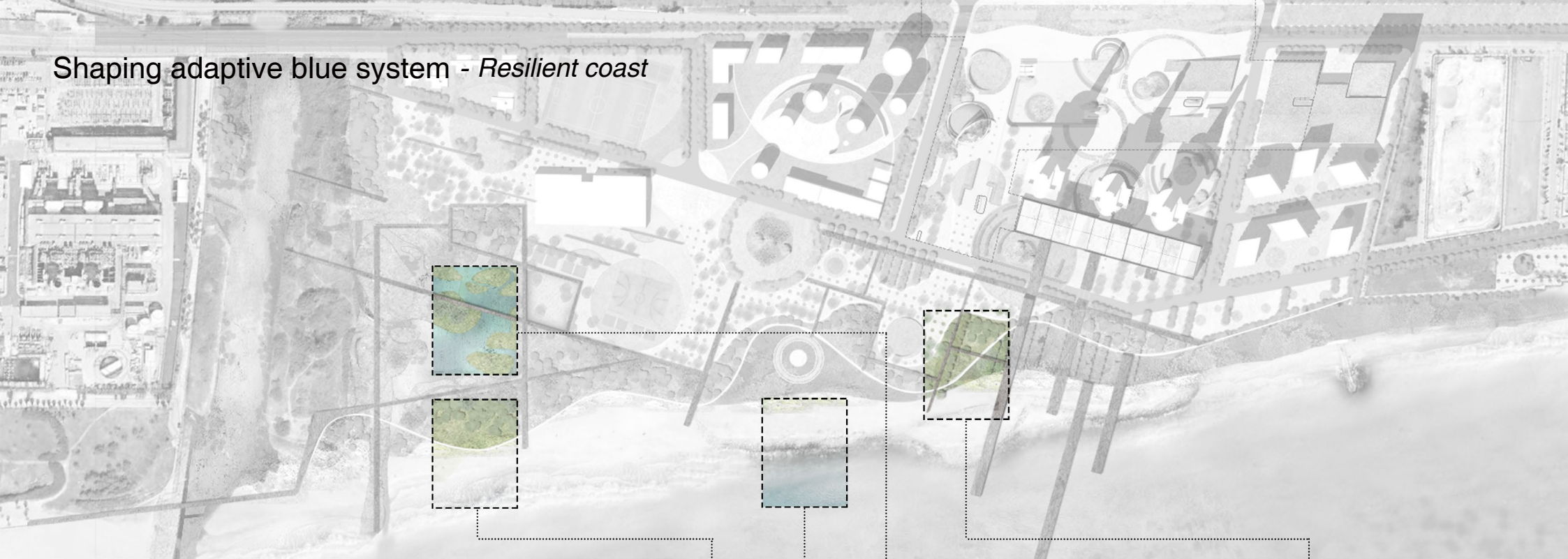
2041



Shaping adaptive blue system



Shaping adaptive blue system - *Resilient coast*

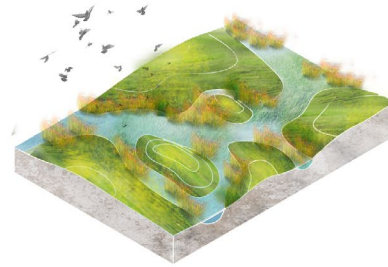
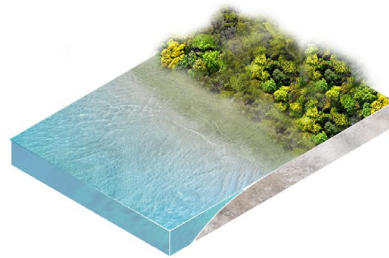
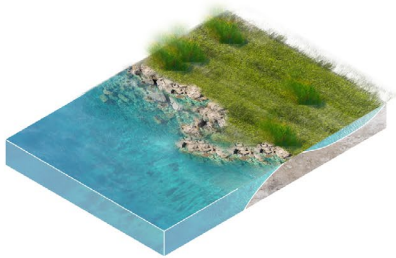


Shallow Sea Area

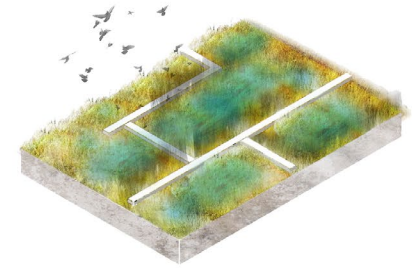
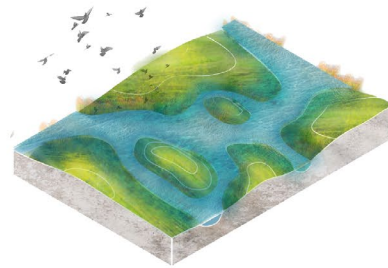
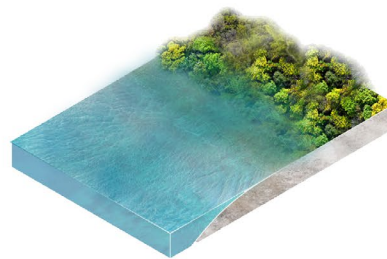
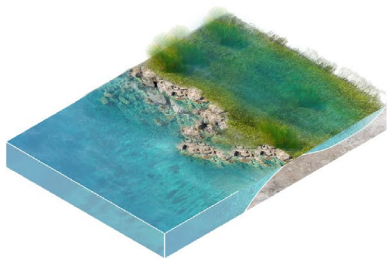
Tidal Flat Near Shore

INsite Area

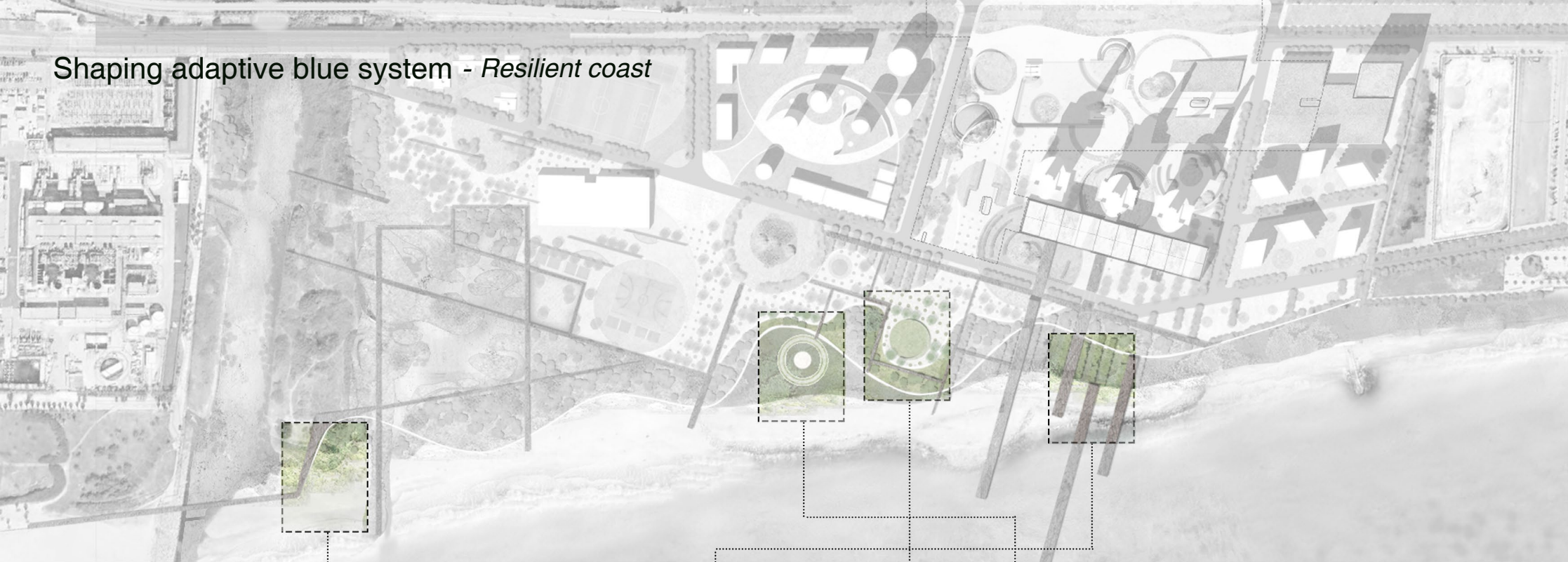
Normal tide level



High tide level



Shaping adaptive blue system - *Resilient coast*

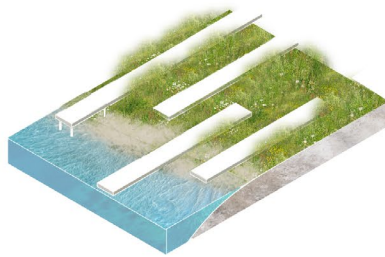
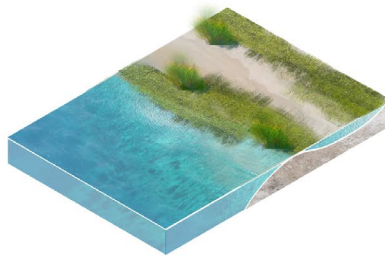


Shallow Sea Area

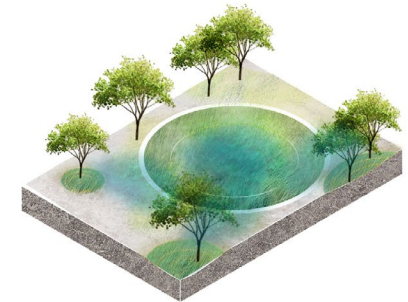
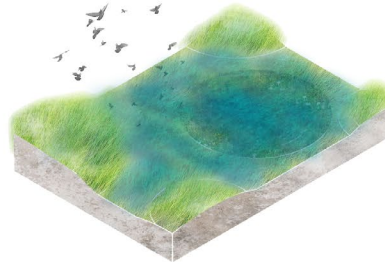
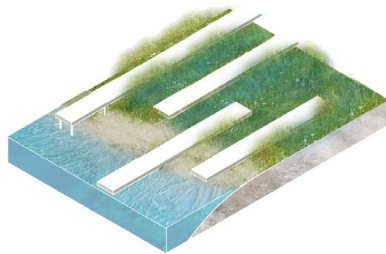
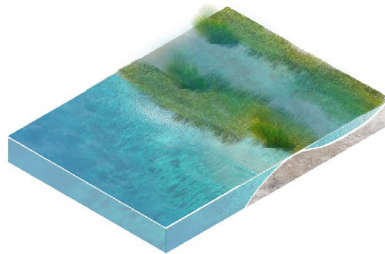
Tidal Flat Near Shore

INsite Area

Normal tide level



High tide level



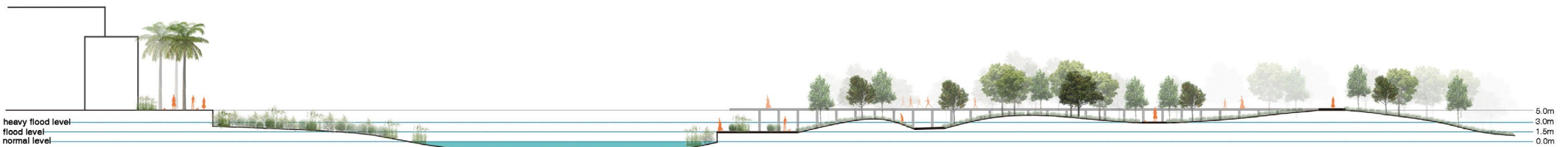
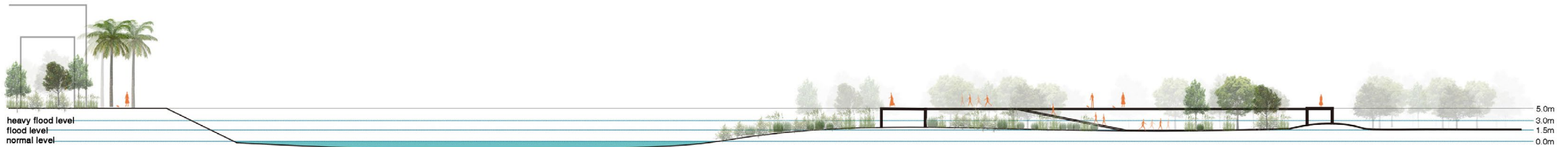
STITCH2



Stitch2 mainly improved the play trails along the river bank, making it better connected with urban roads, and set up platforms of different heights to deal with flooding problems. There are mainly three types of activity spaces. The lowest hydrophilic platform is 1.5m above the normal water level, the middle platform is 3m, and the highest platform is 5m. When the flood comes, the 3m and 5m platforms can still be used. When the catastrophic flood comes, only the 5m platform can be used. At the same time, many water purification plants are planted around the river.

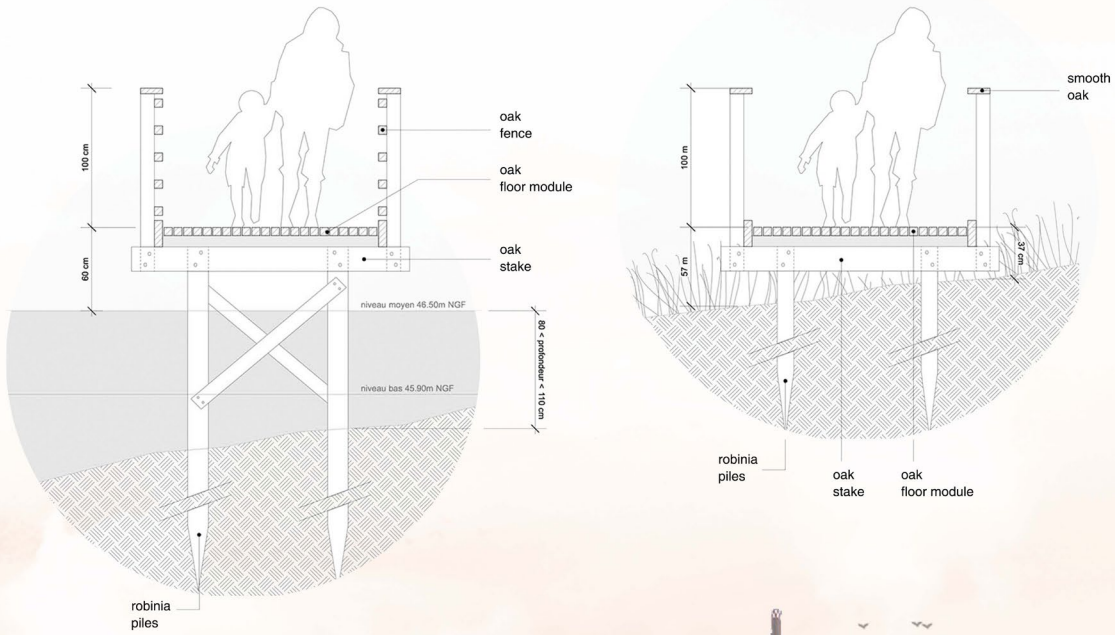
Plan

- 1. Activity platform
- 2. Wooden walkway
- 3. Path



Section

STITCH2 - RENDERING *normal mode*



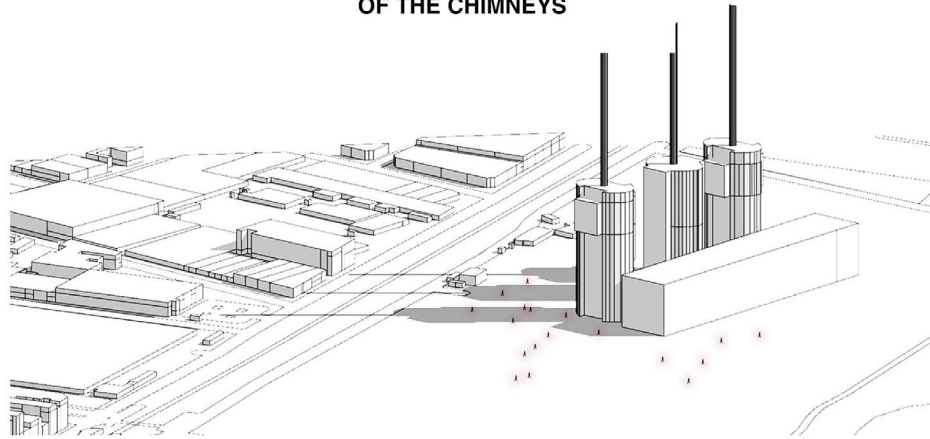


Focus

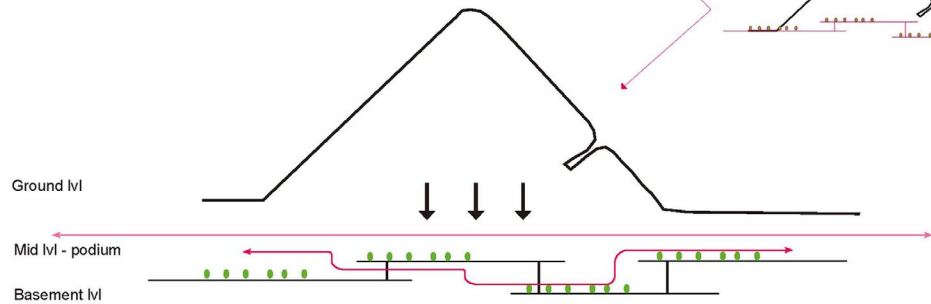
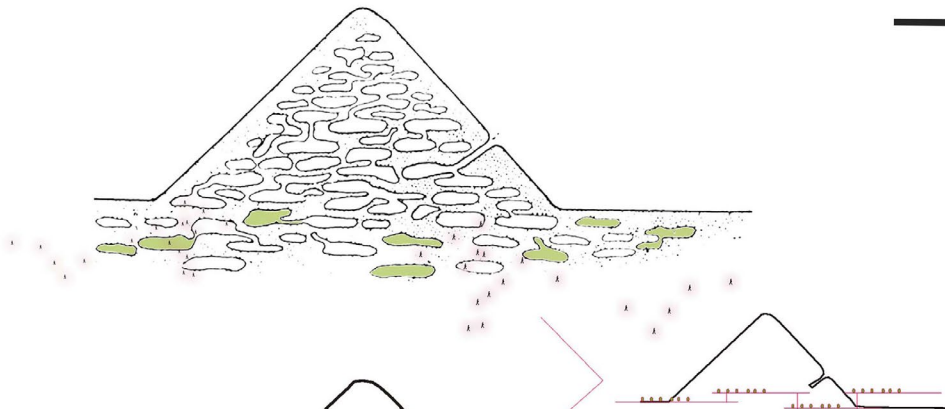
"Stitch with History & Cultural Context"

Third, we modified 3x to make it more open to the public; the structures and landscape sketches on the square undulate, echoing the tall 3x, focusing on the shadow changes of 3x, and experiencing 3x from different perspectives on the ground and underground. The charm of the city; industrial equipment is retained in the turbine hall, and natural elements and sea water are integrated into the building to create a new urban memory point and become a new landmark on the coast of Barcelona.

SHADOW AND DOMINANCE OF THE CHIMNEYS

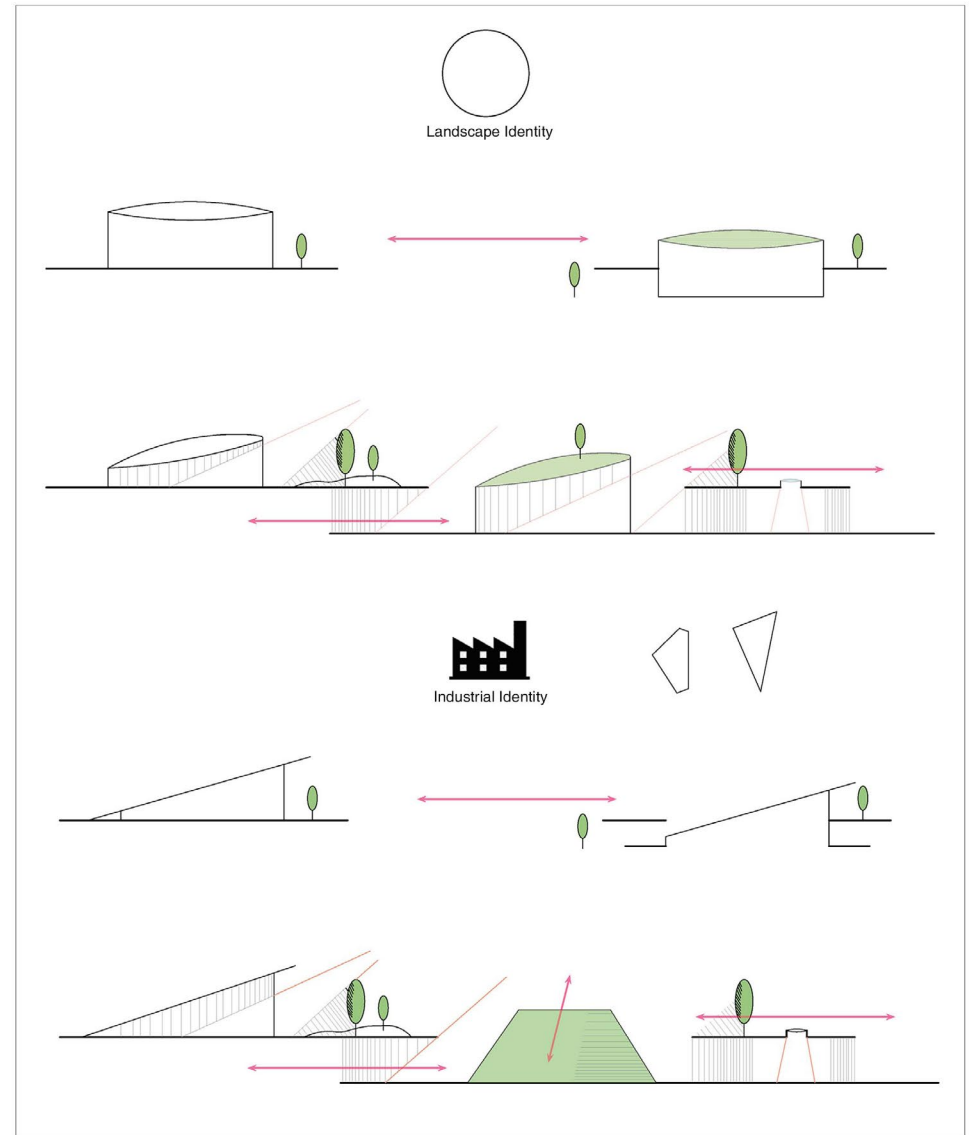


CONCEPT INSPIRATION FROM ANT HILLS AND ITS BASE



STRATEGY - *Memory & Shadow*

**POP OUTS-
Working with shadow and programs**



CORE AREA - Ground floor plan



1. dot matrix grass planting pond
2. rain garden
3. green wall
4. sinking theater
5. underground plaza
6. fountain
7. stacked waterfall
8. green ring
9. opening
10. skylight

Soft material



Hedgerow



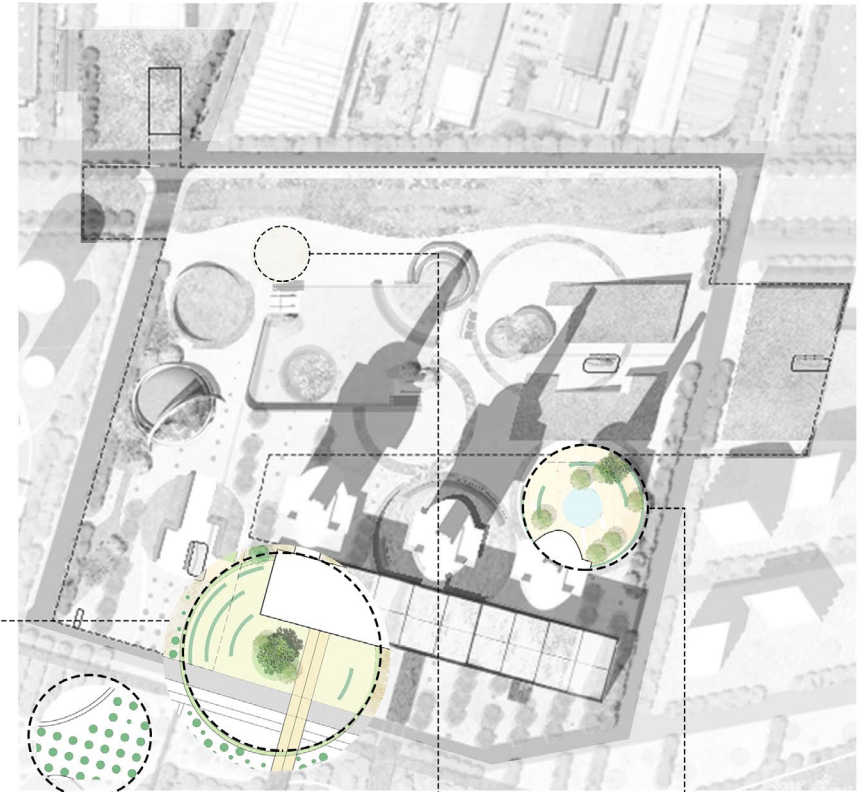
Trees



Wet meadow

CORE AREA - Paving material

there are the paving materials for the square. The hard pavement is mainly made of large-area permeable concrete, as well as grass-planting bricks and small-area pebbles, all of which are made of highly permeable materials. Then there are some soft pavings, which are mainly rainwater garden plants, which collect and filter rainwater around the main buildings of the square.



Grass brick



Permeable concrete

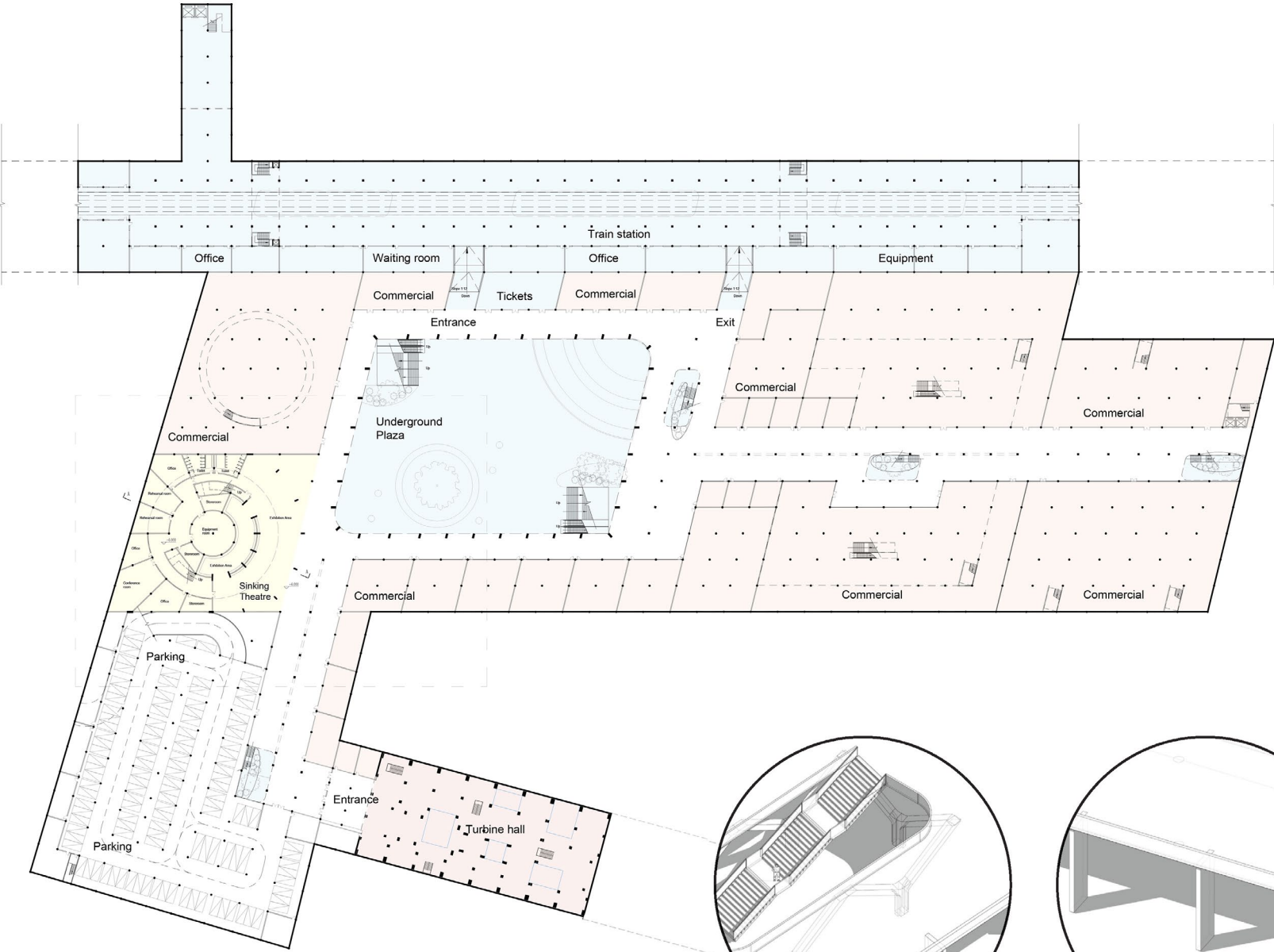


Pebble

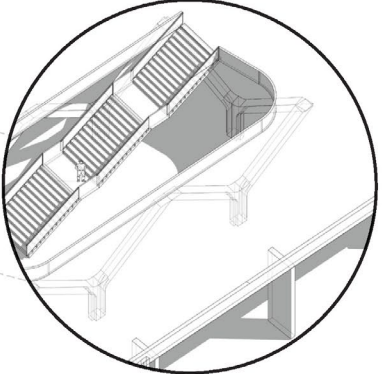
Hard material

CORE AREA - *Underground plan*

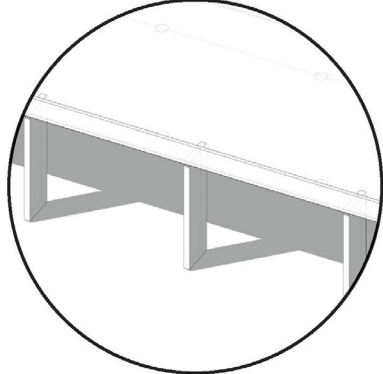
- Public space
- Sinking Theatre
- Commercial
- Turbine hall



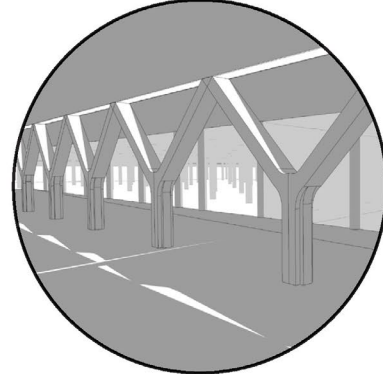
Special pillar types



Atrium

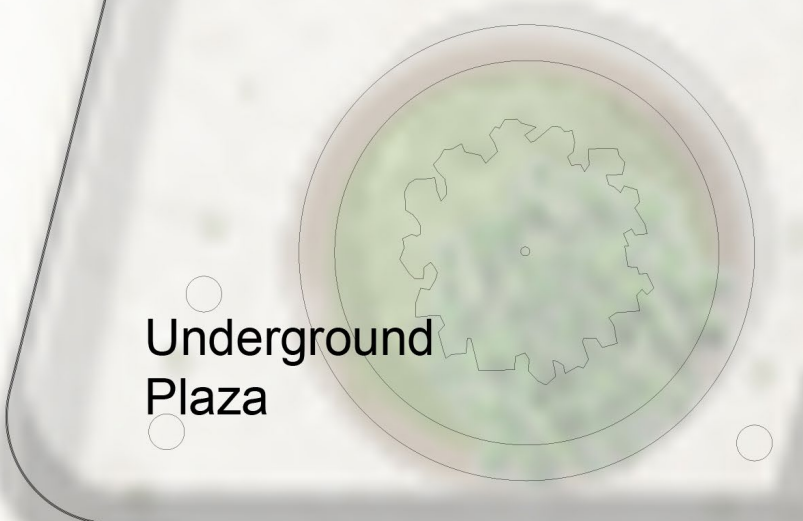
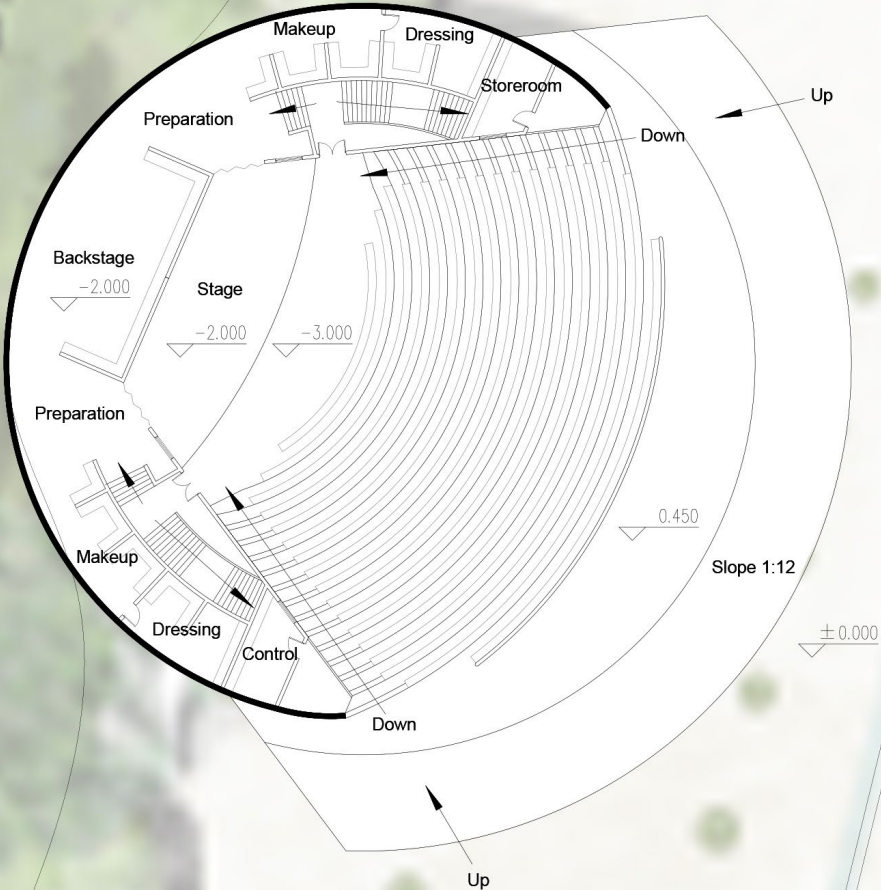


Wall



Light

CORE AREA - *Sinking Theater*



Sinking Theatre Ground Floor Plan 1:300

UNDERGROUND PLAN- *SinkingTheater*

Commercial

Underground Plaza

A

Office

Toilet

Toilet

Rehearsal room

Up

Storeroom

Exhibition Area

Rehearsal room

Equipment room

-6.000

Office

Storeroom

Exhibition Area

Up

-6.000

Conference room

Sinking Theatre

Commercial

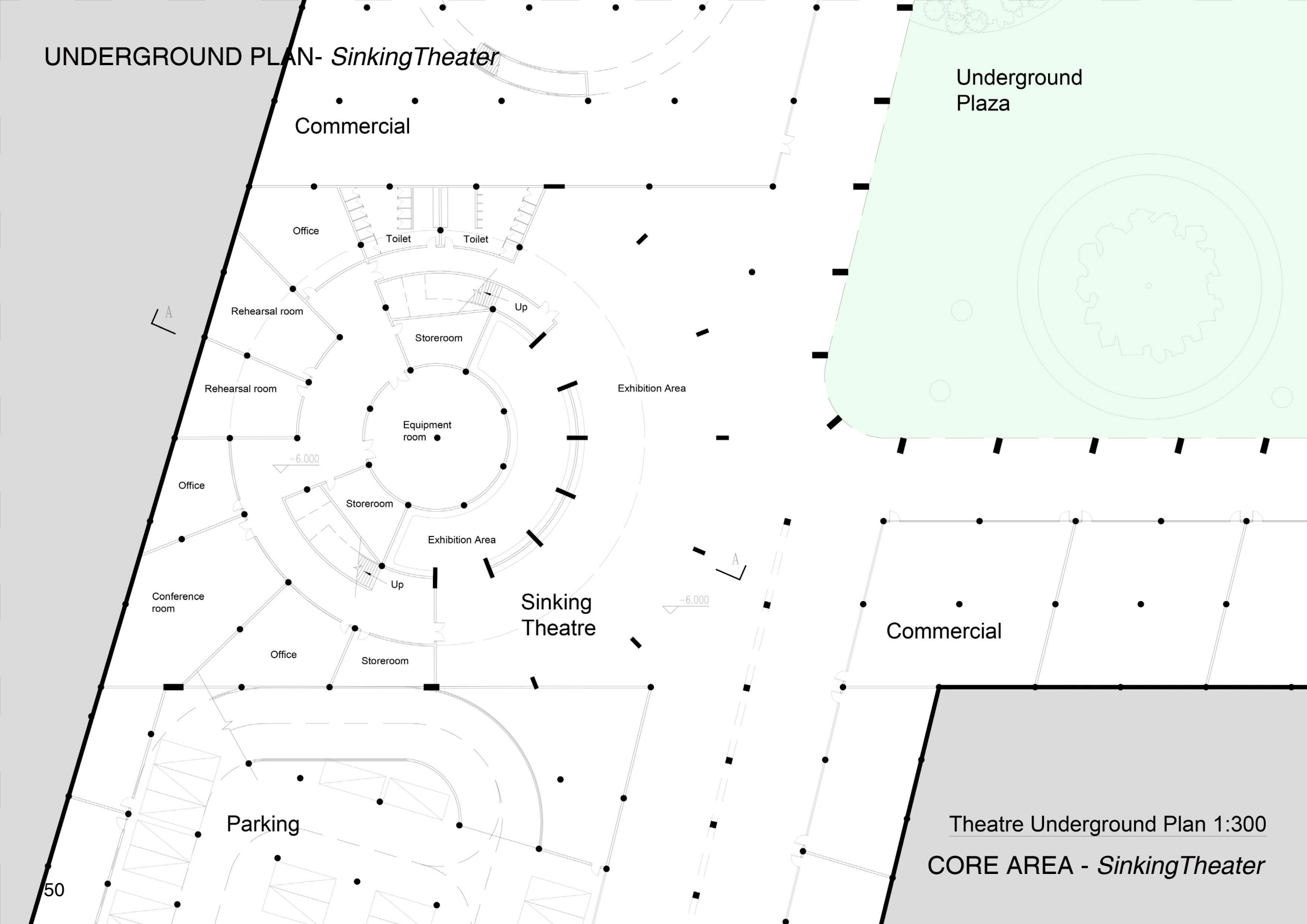
Office

Storeroom

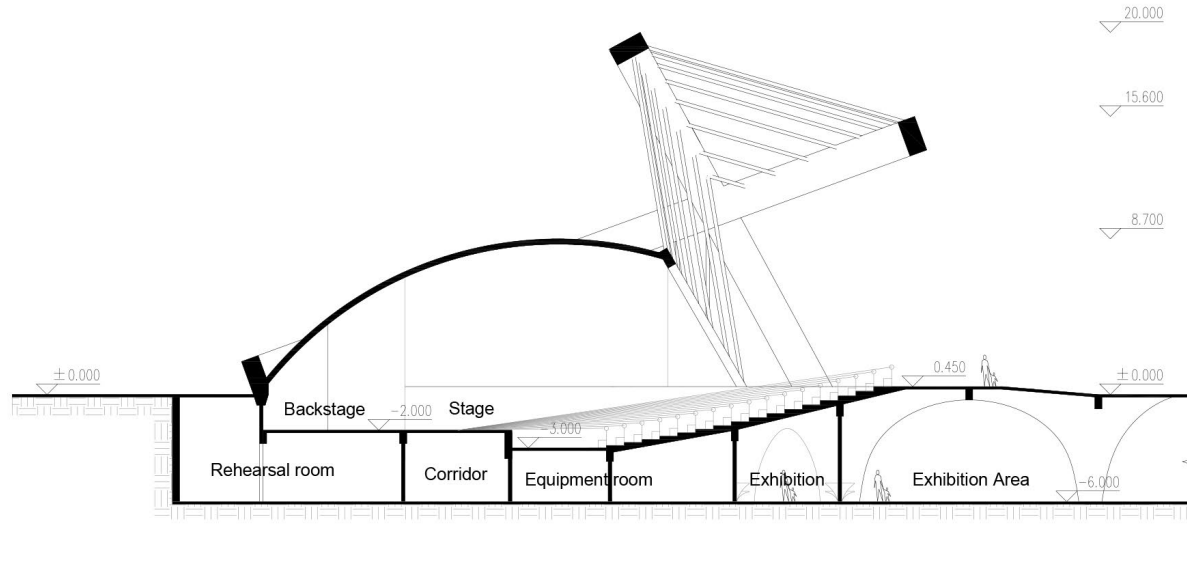
Parking

Theatre Underground Plan 1:300
CORE AREA - *SinkingTheater*

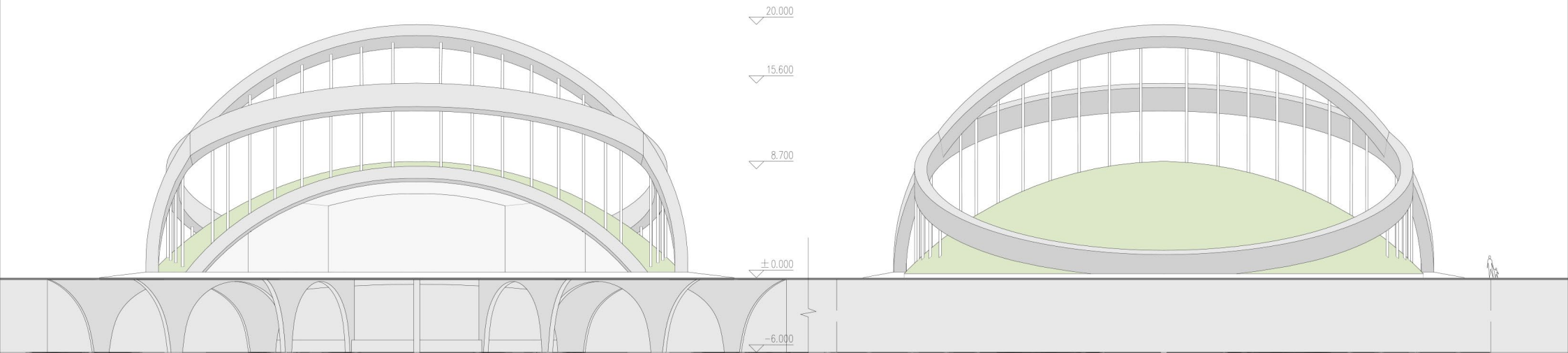
50



CORE AREA - *SinkingTheater*



A-A Section 1:300

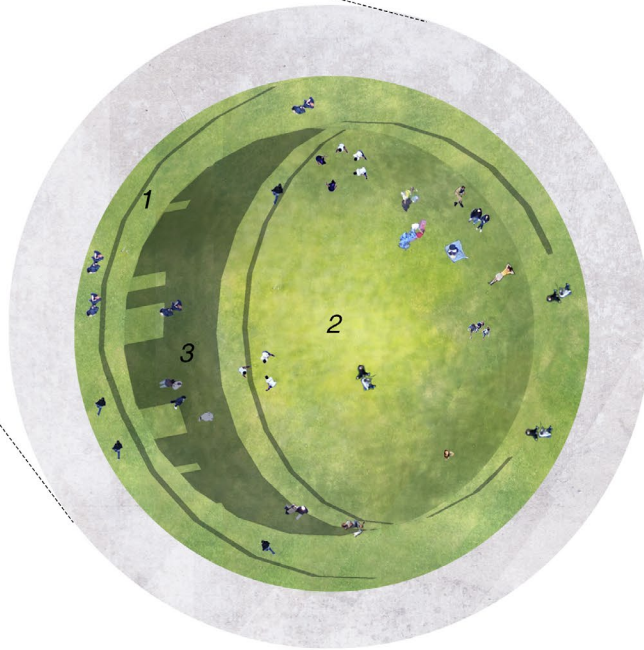


Front Elevation 1:300

Back Elevation 1:300

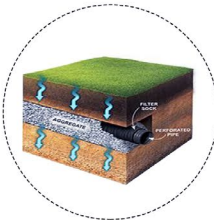
CORE AREA - Circle design 1

This is a detailed design of a circle located at the entrance on the central square. The main purpose is to show its shadow relationship and the contrast of the previous industrial water pump transformed into a green space.

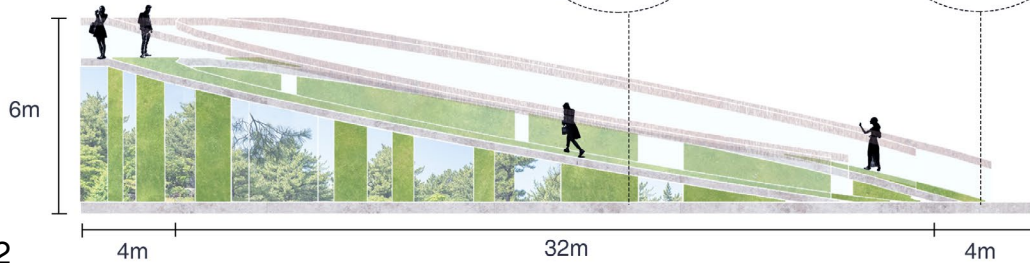
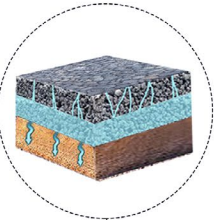


- 1.elevated green platform
- 2.rain garden
- 3.mirror wall

Permeable lawn



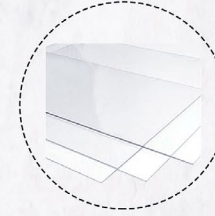
Permeable pebble



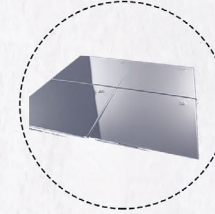
Wooden handrail



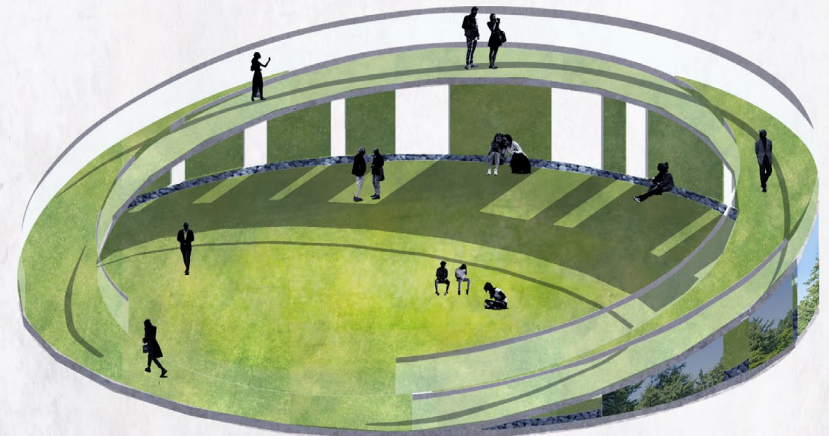
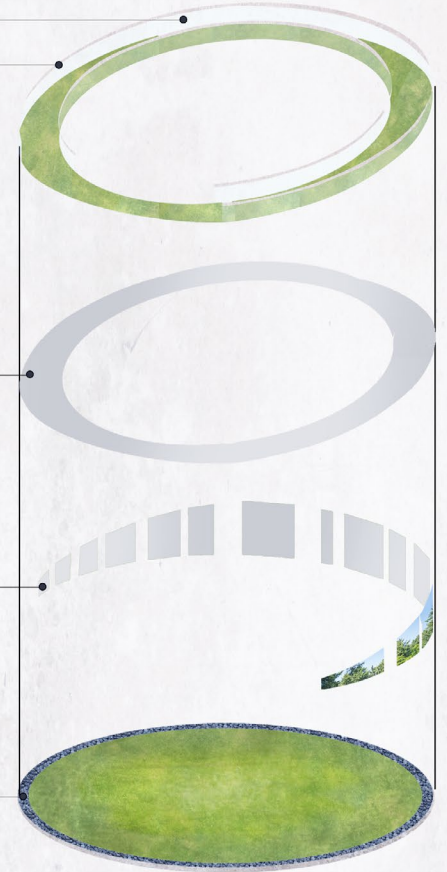
Glass guardrail

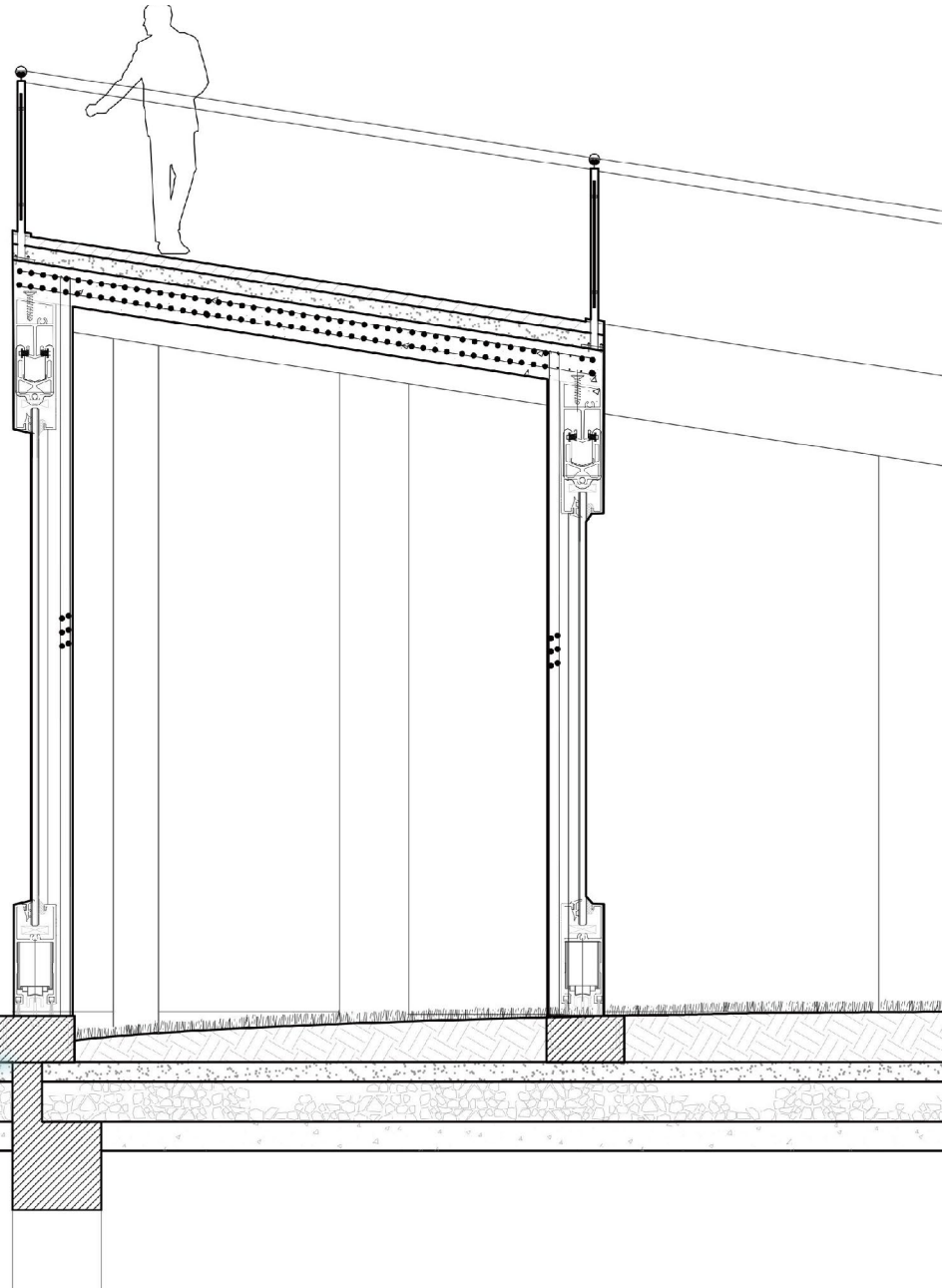
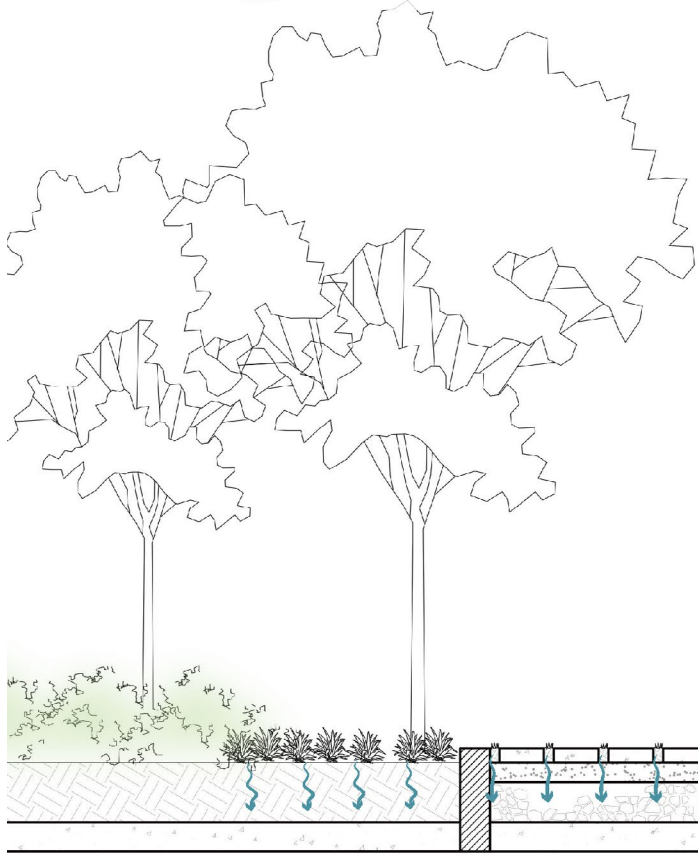
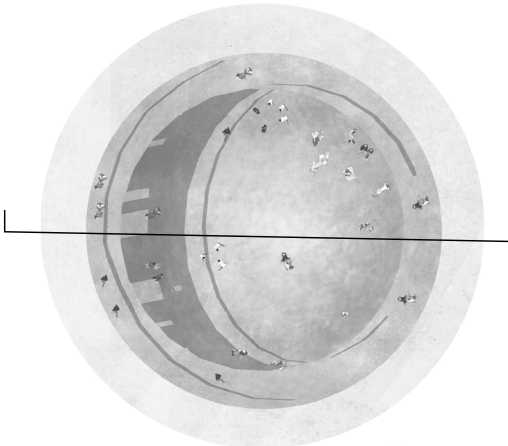


Mirror steel

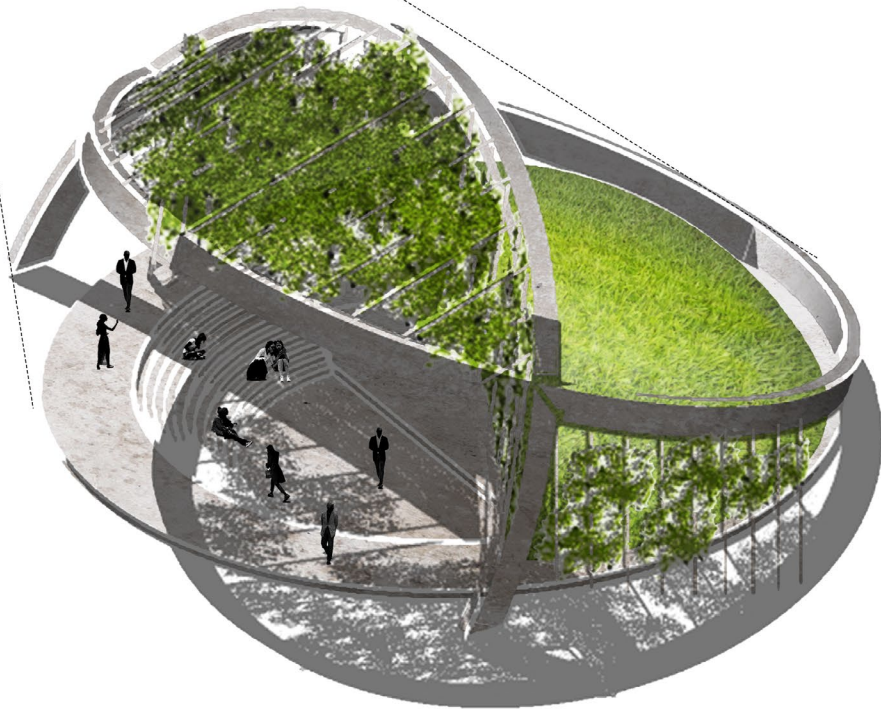


Permeable pebble





Section



Sinking theater

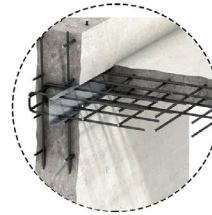
Wisteria



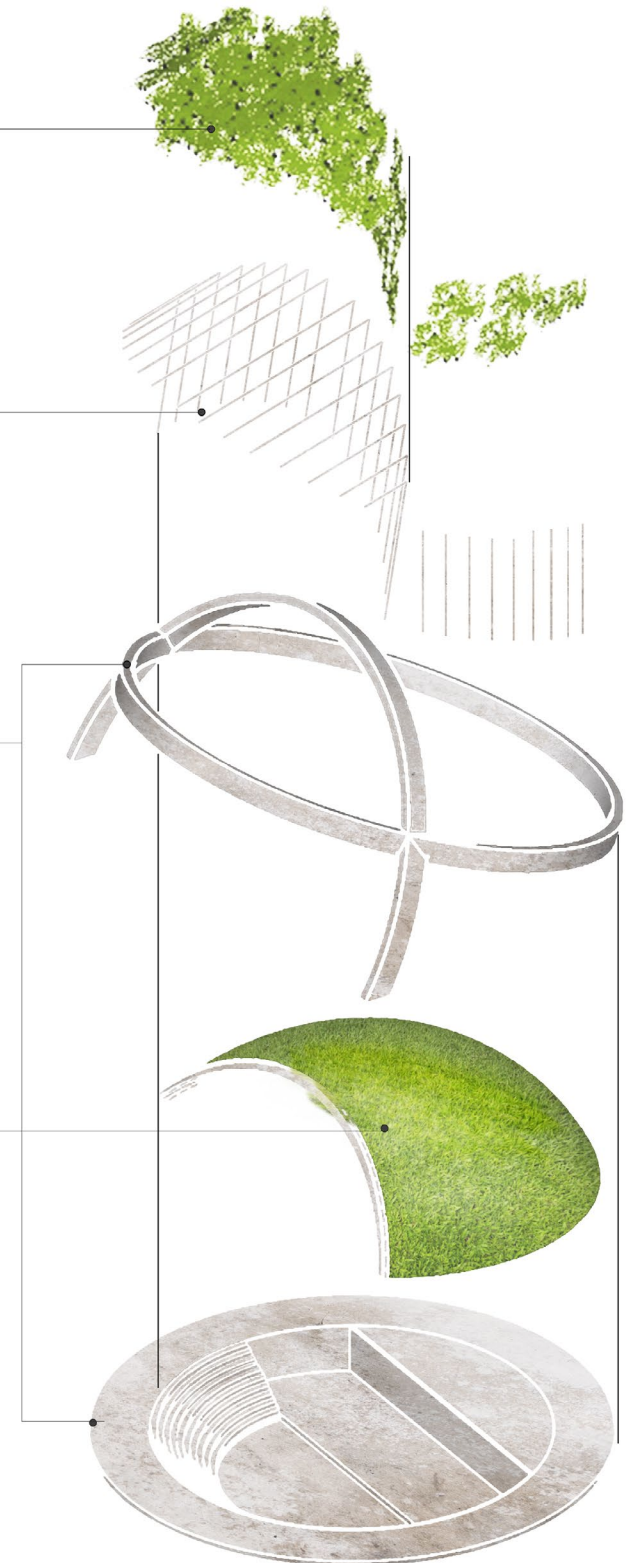
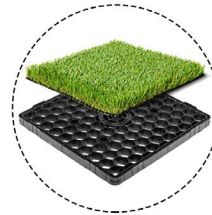
Steel column

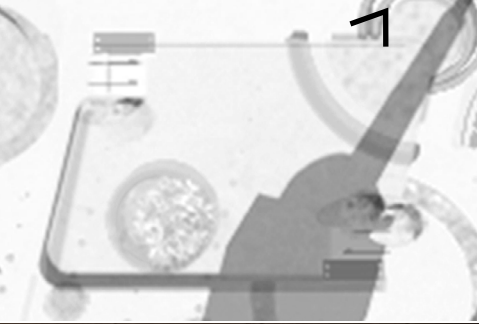


R.C.



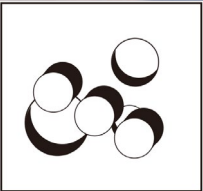
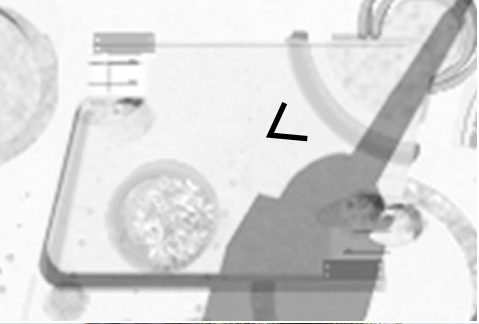
Roof turf

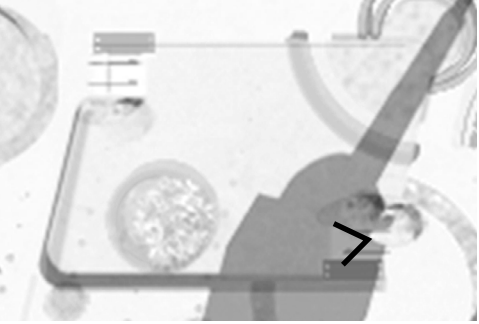


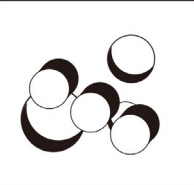
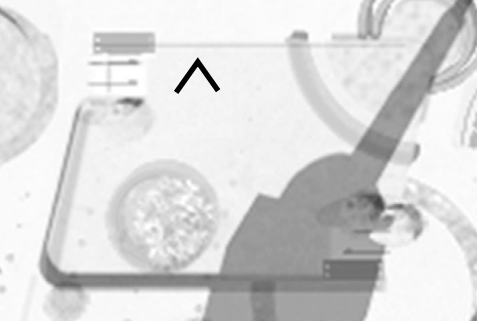


CORE AREA - *Renderings*

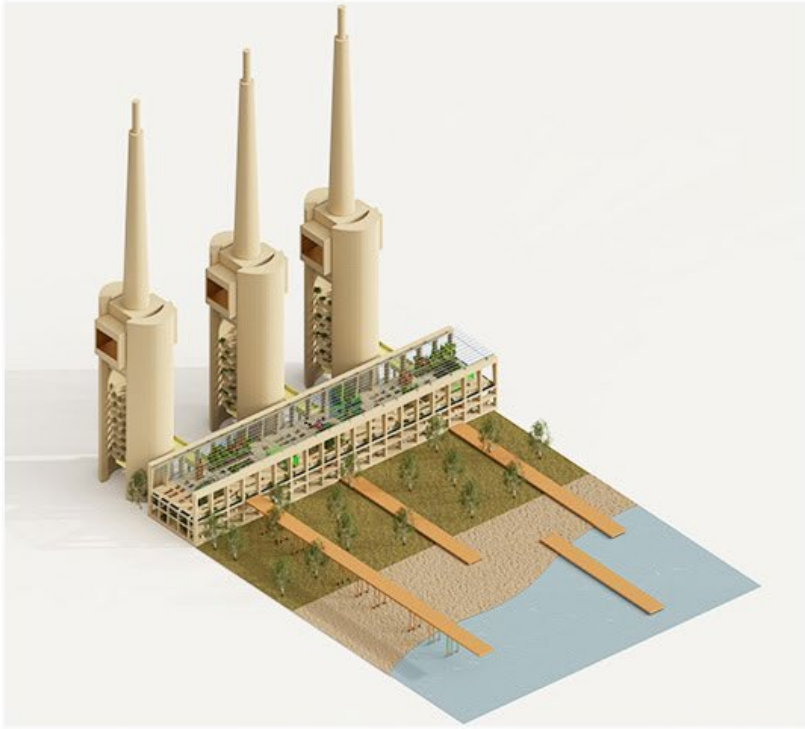




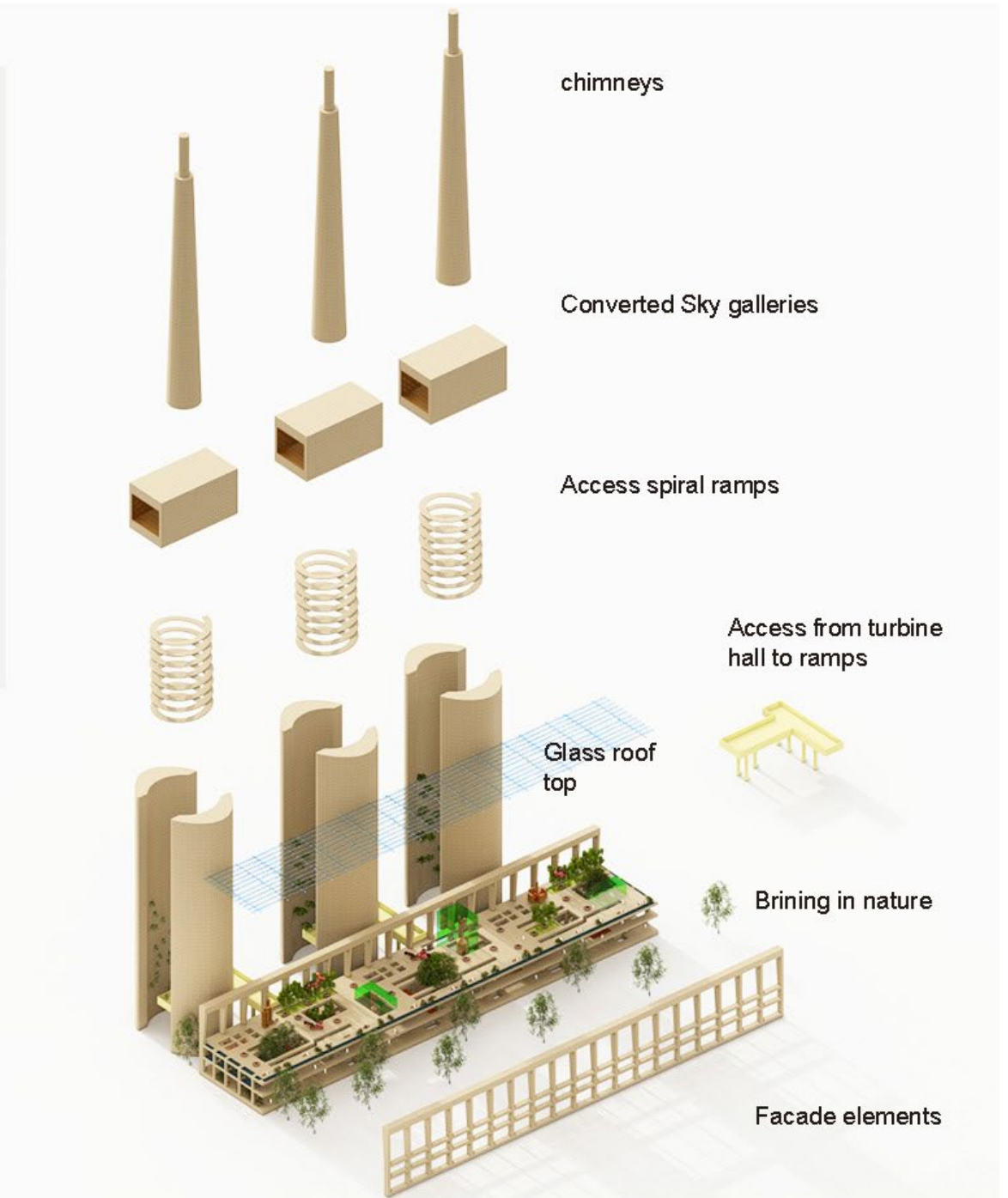




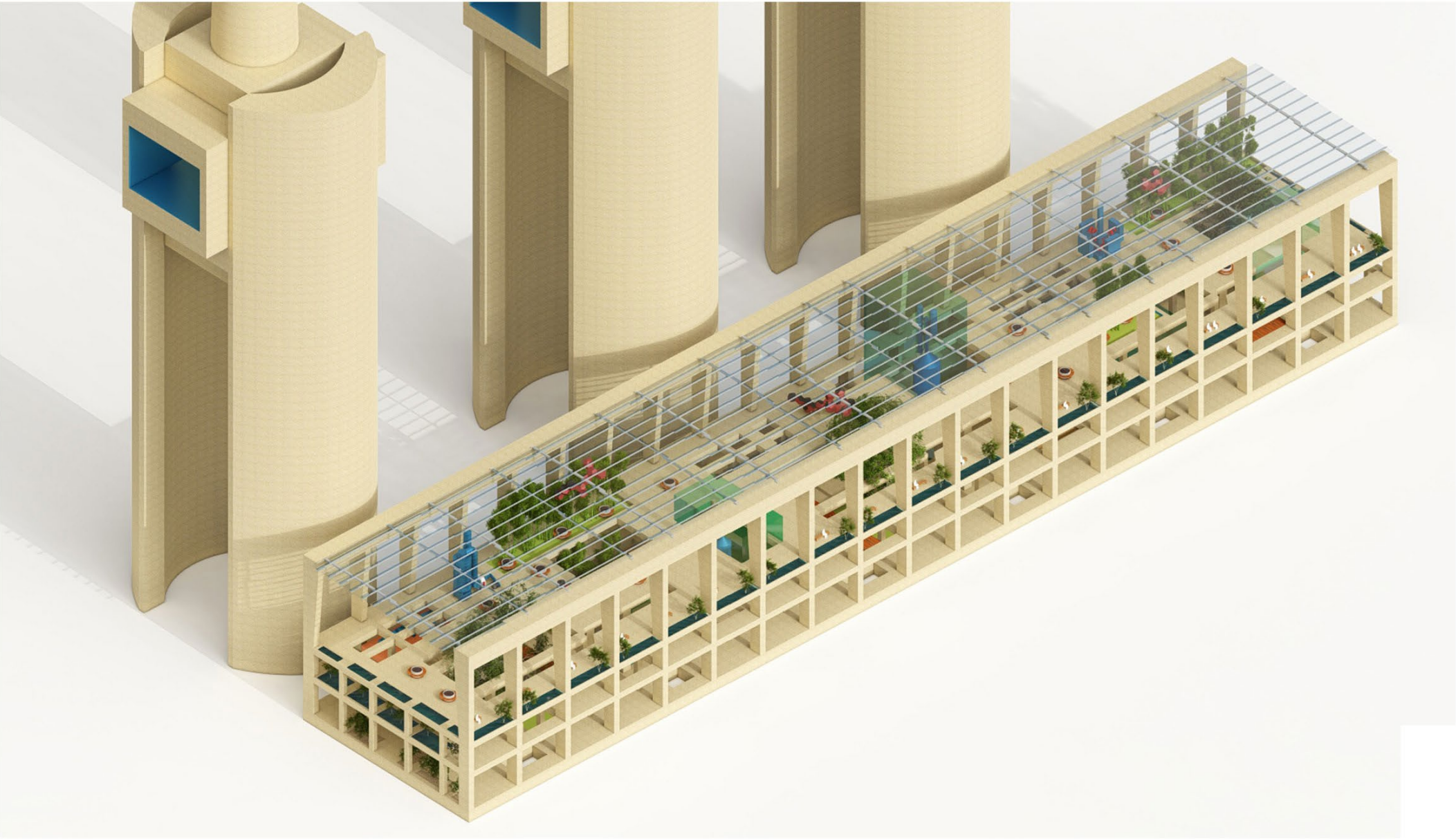
STITCH3 - *Connect to the sea*



3X RETROFIT PROPOSAL - The tres Xemenies has become part of Besos's Historical identity. Often loathed for its ugly appearance by the residents, 3x in recent years has gain much appreciation for defining the skyline along the coast and set within the wilderness of the Besos river mouth. The design inspiration comes from circulation spaces seen in an ant hill. the exterior finishes are maintained to pay homage to the industrial identity and vegetation is brought into the turbine hall. The main programs become an extension of the proposed park system, while the existing walls are removed inside to create better views and allow the elements of nature to take over.



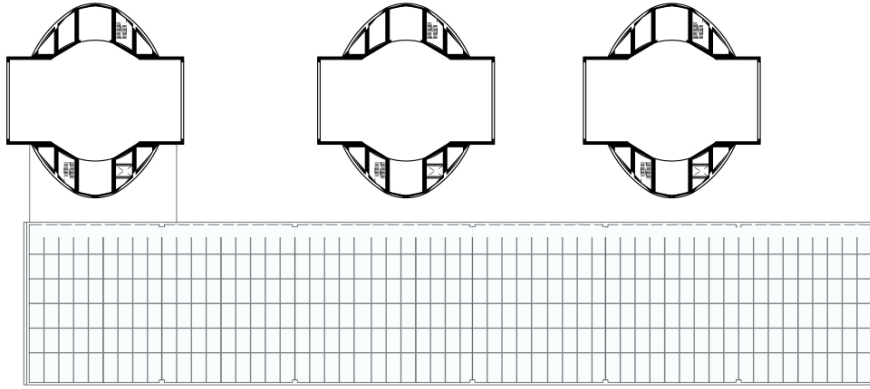
TURBINE HALL - *Continuation of park system*



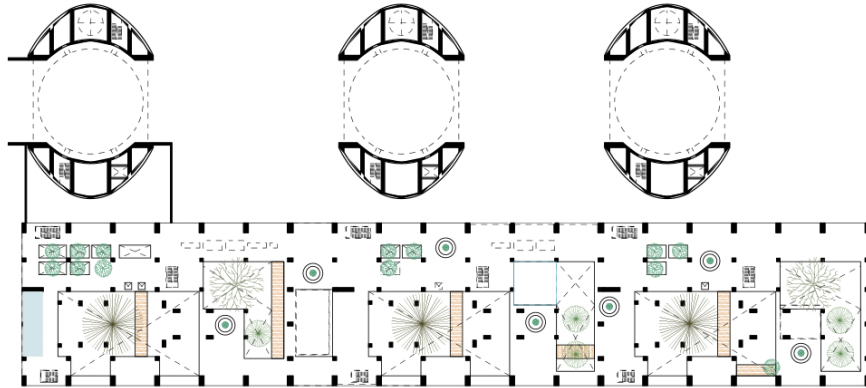
SPATIAL EXPERIENCE OF THE PAST ↔ INDUSTRIAL INSTALLATIONS ↔ POROSITY THROUGH STRUCTURE ↔ LIGHT AND SHADOWS WITH CUTOUTS



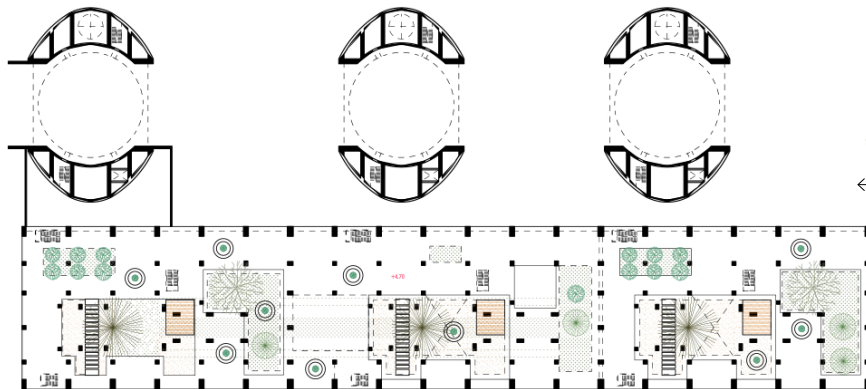
ROOF PLAN - +33.50 m



FIRST FLOOR

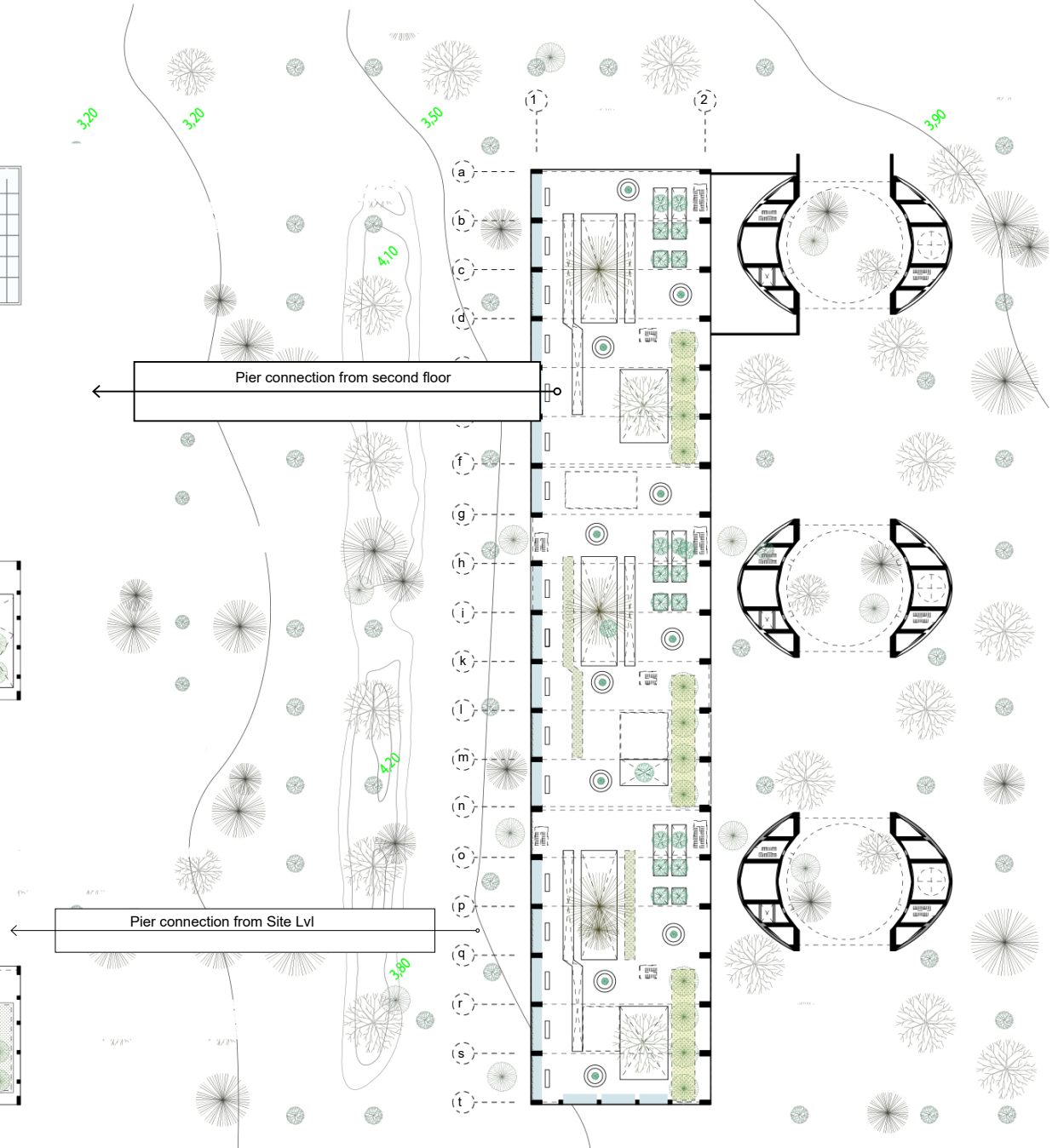


GROUND FLOOR - + 13.20 m



Scale - 1: 1000
62

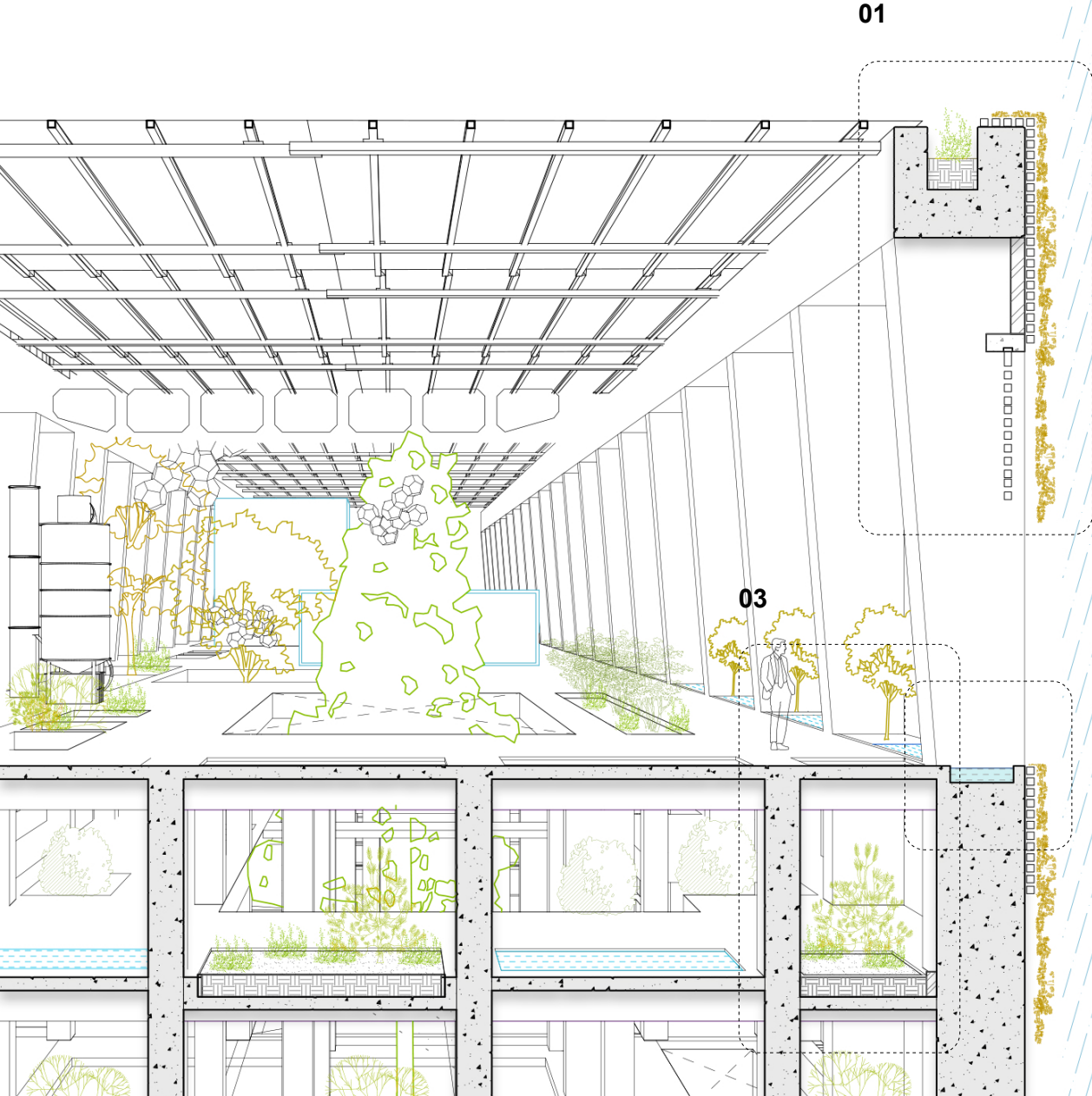
SECOND FLOOR PLAN - + 18.00 m



Scale - 1: 750

TURBINE HALL - Plans

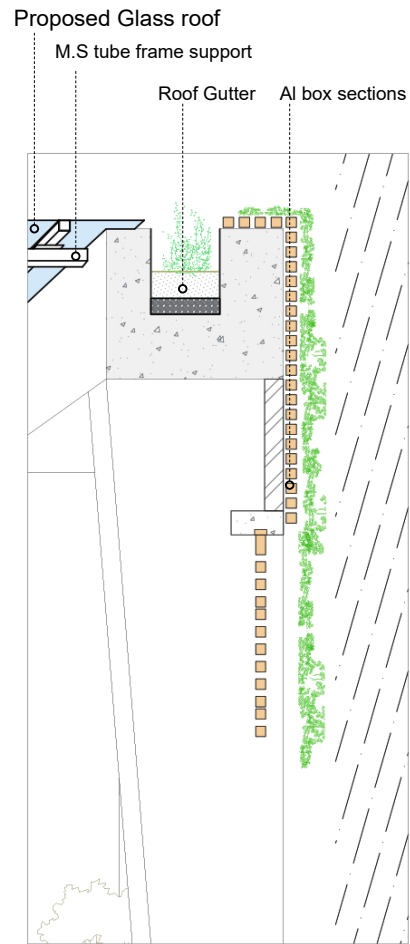
TURBINE HALL - *Perspective section*



02

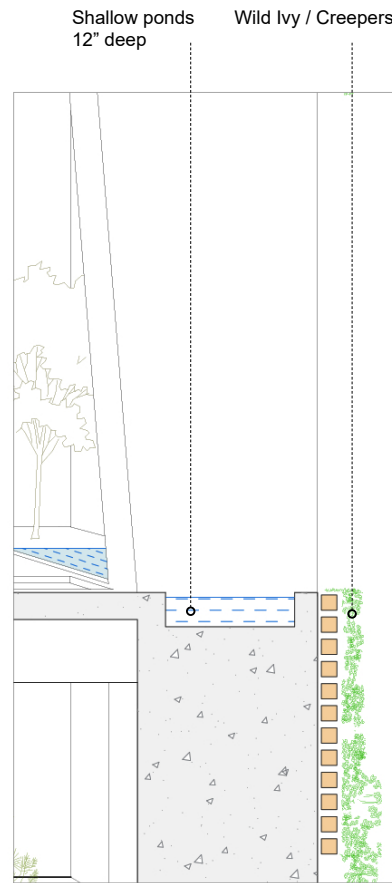
03

01



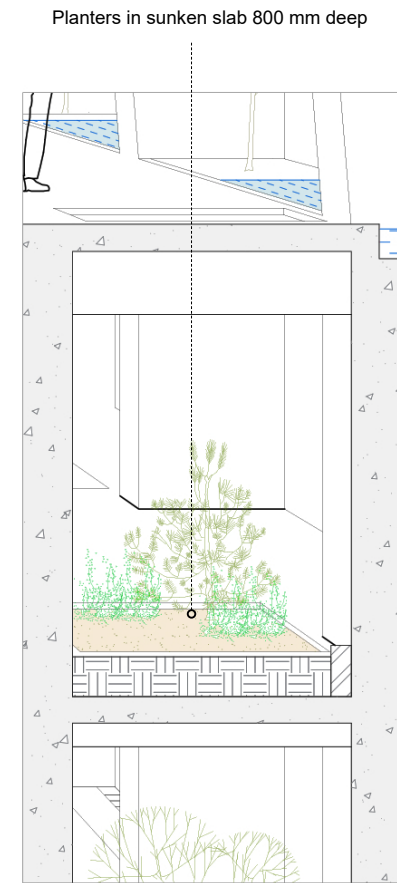
01 LINTEL BAND DETAIL

Al louvres at the lintel and beam act as a drip mould for rainwater falling down to the pond. Ivy also runs along these louvre



02 RAIN COLLECTING PONDS

These ponds are arranged in a strip along the edge of the slab open to sky. The water reflects the sunlight and creates an infinity effect with the sea.



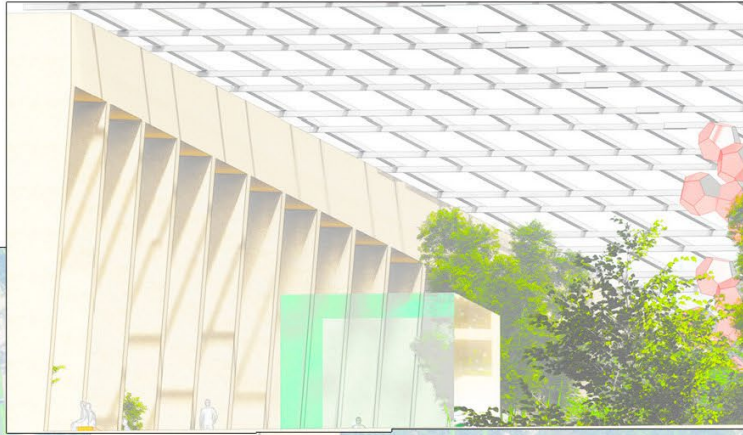
03 SUNKEN SLABS

Existing cutouts have been reinforced with plants and shrubs creating a natural ambience that merges with the outside. the drainage pipes are sloped towards the ponds

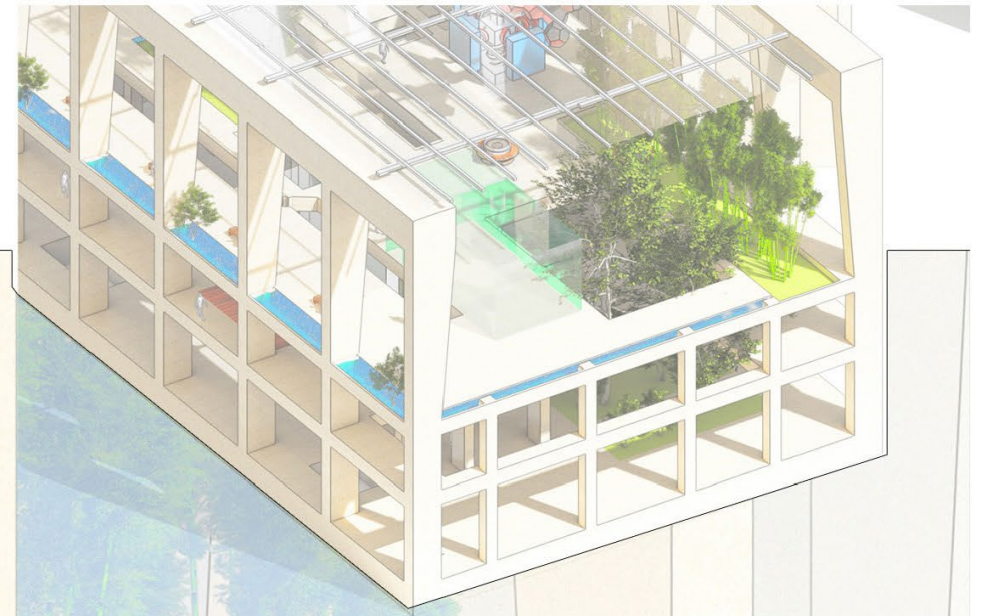
TURBINE HALL - *Renderings*



GLASS ROOF



FOLIAGE THROUGH CUTOUTS & INTERIOR PONDS



WATER STRIPS - RAIN WATER

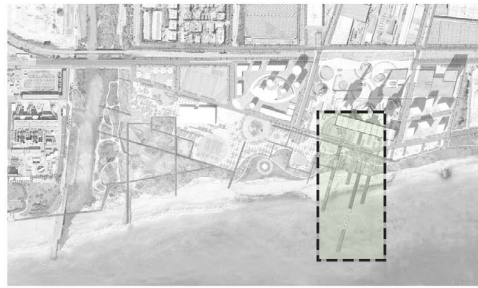
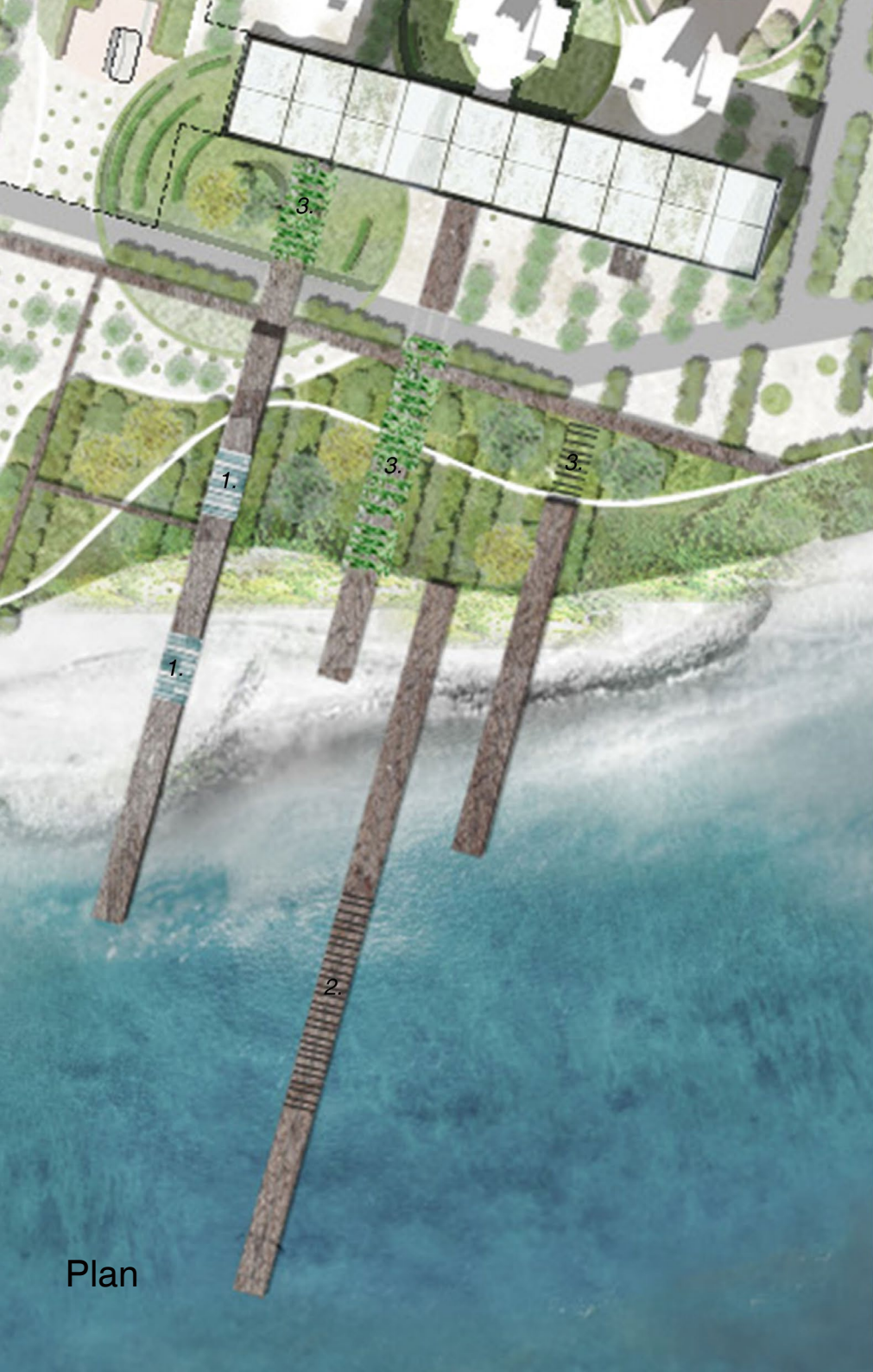


VectorStock

Focus

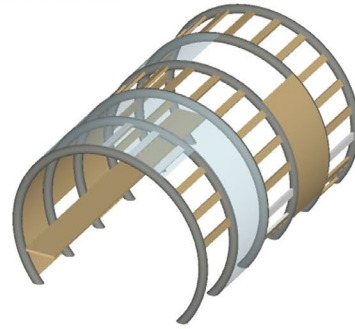
"Stitch with City, Nature, History"

This chapter can be considered as a summary. Through the detailed design of stitch4, it further elaborates the embodiment of the concept "WILD+TRANSITION+MEMORY" in the design, and the final emphasis on "STITCH WITH CITY,NATURE,HISTORY".

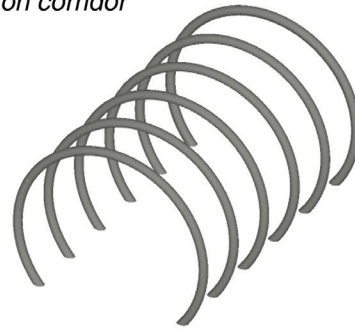


The design of stitch4 is a concentrated expression of stitch with city, with nature and with history. First of all, the new plank road is a commemoration of the relics of industrial water pipes. It is arranged according to the original position of them. The arched frame on the plank road is an abstract extraction of the water pipe form.

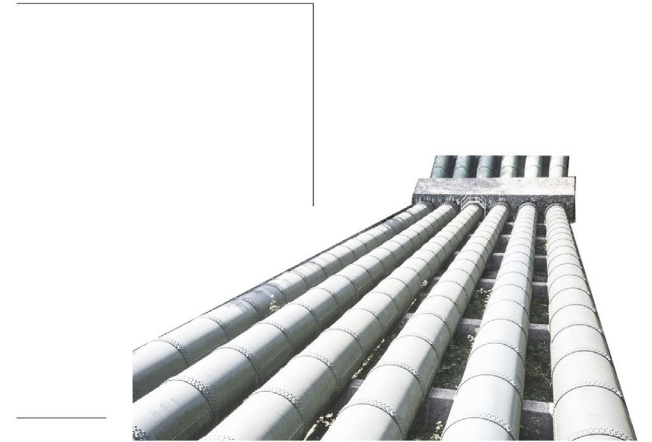
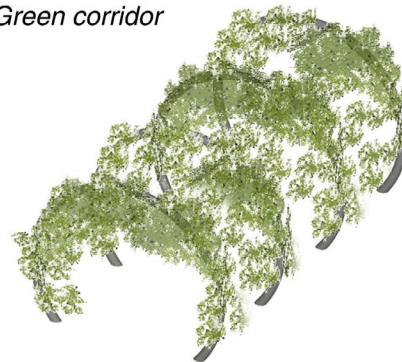
1. Rest corridor



2. Iron corridor

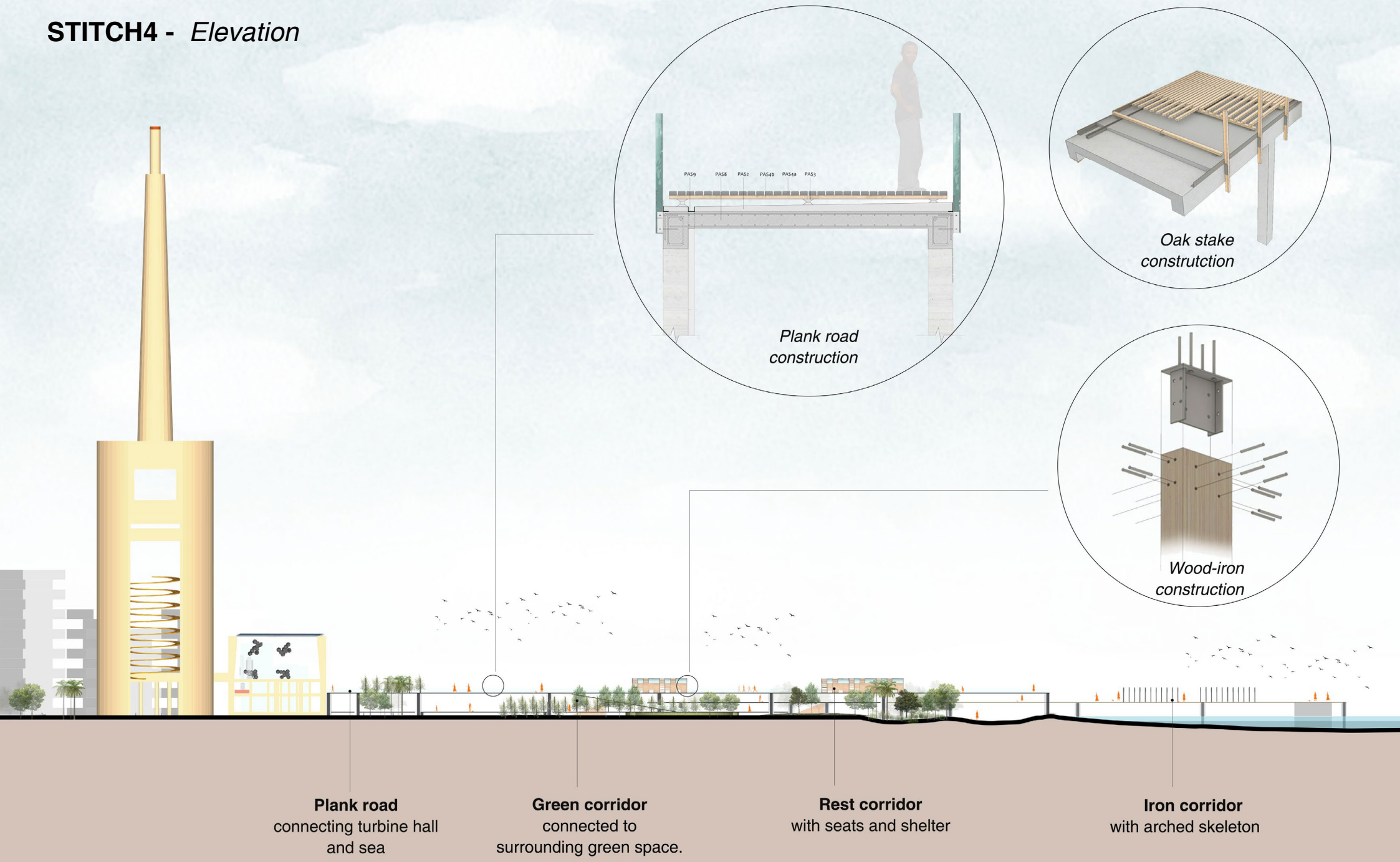


3. Green corridor



Old industrial water pipe

STITCH4 - Elevation



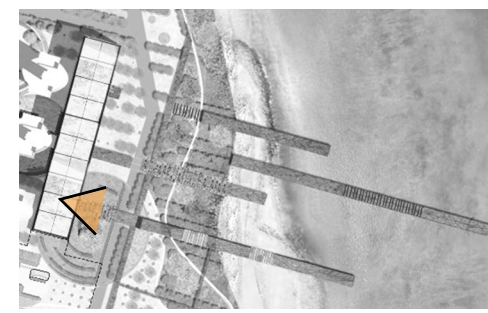
Plank road
connecting turbine hall
and sea

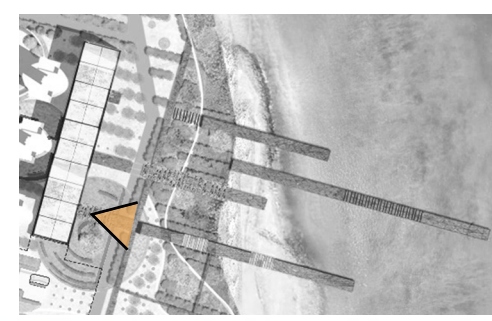
Green corridor
connected to
surrounding green space.

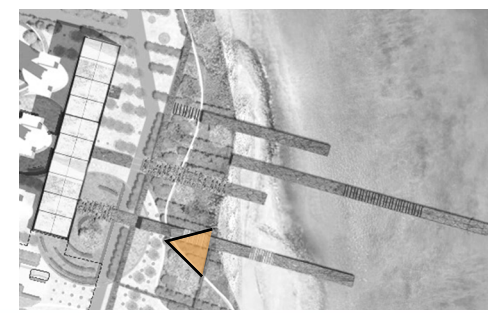
Rest corridor
with seats and shelter

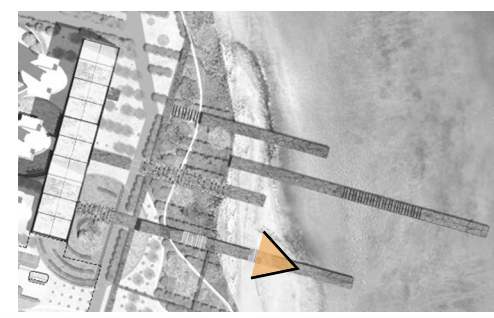
Iron corridor
with arched skeleton

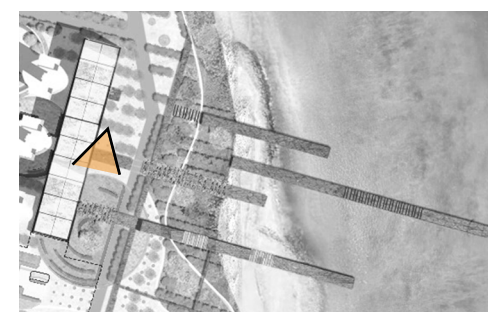
STITCH4 - *Renderings*

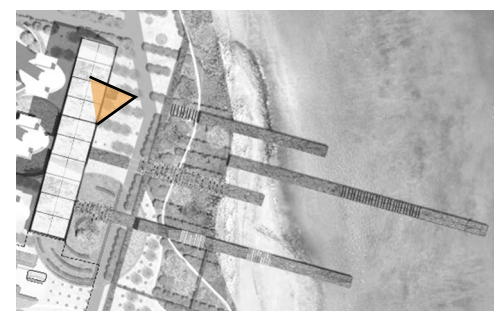










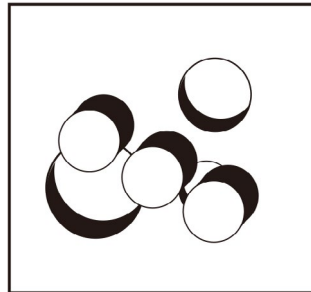






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- (3) Urbanisation definition, Terms, [https://www.boundless.com/sociology/textbooks/boundless-sociology-textbook/population-and-urbanization-17/urbanization-and-the-development-of-cities-123/the-process-of-urbanization-695-3433/\(4\)](https://www.boundless.com/sociology/textbooks/boundless-sociology-textbook/population-and-urbanization-17/urbanization-and-the-development-of-cities-123/the-process-of-urbanization-695-3433/(4)) Barcelona green infrastructure and Biodiversity plan 2020, Ajuntament de Barcelona, pdf version, foreword
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STITCH WITH WILD