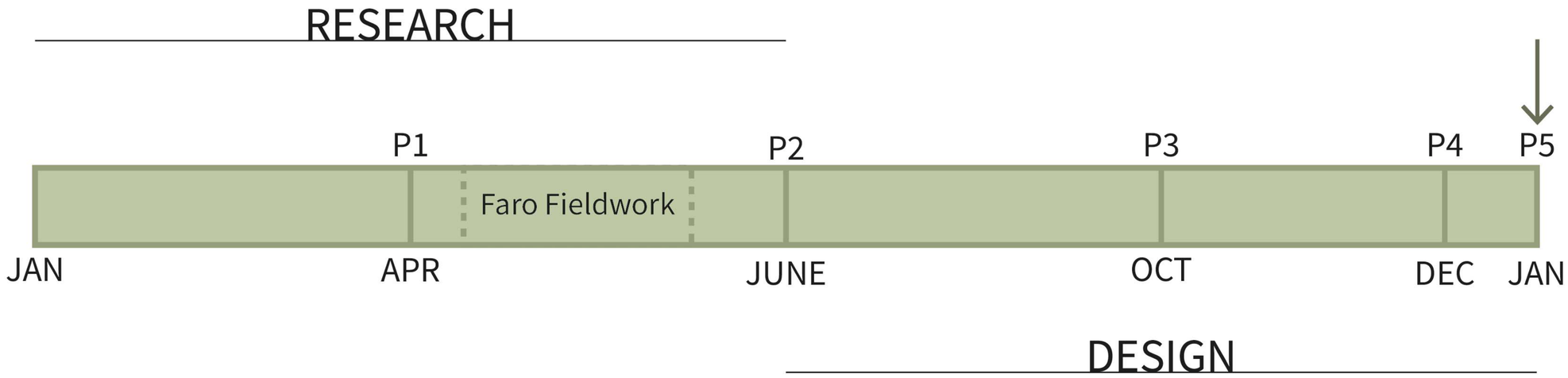
P5 presentation MSc3 Heritage & Architecture

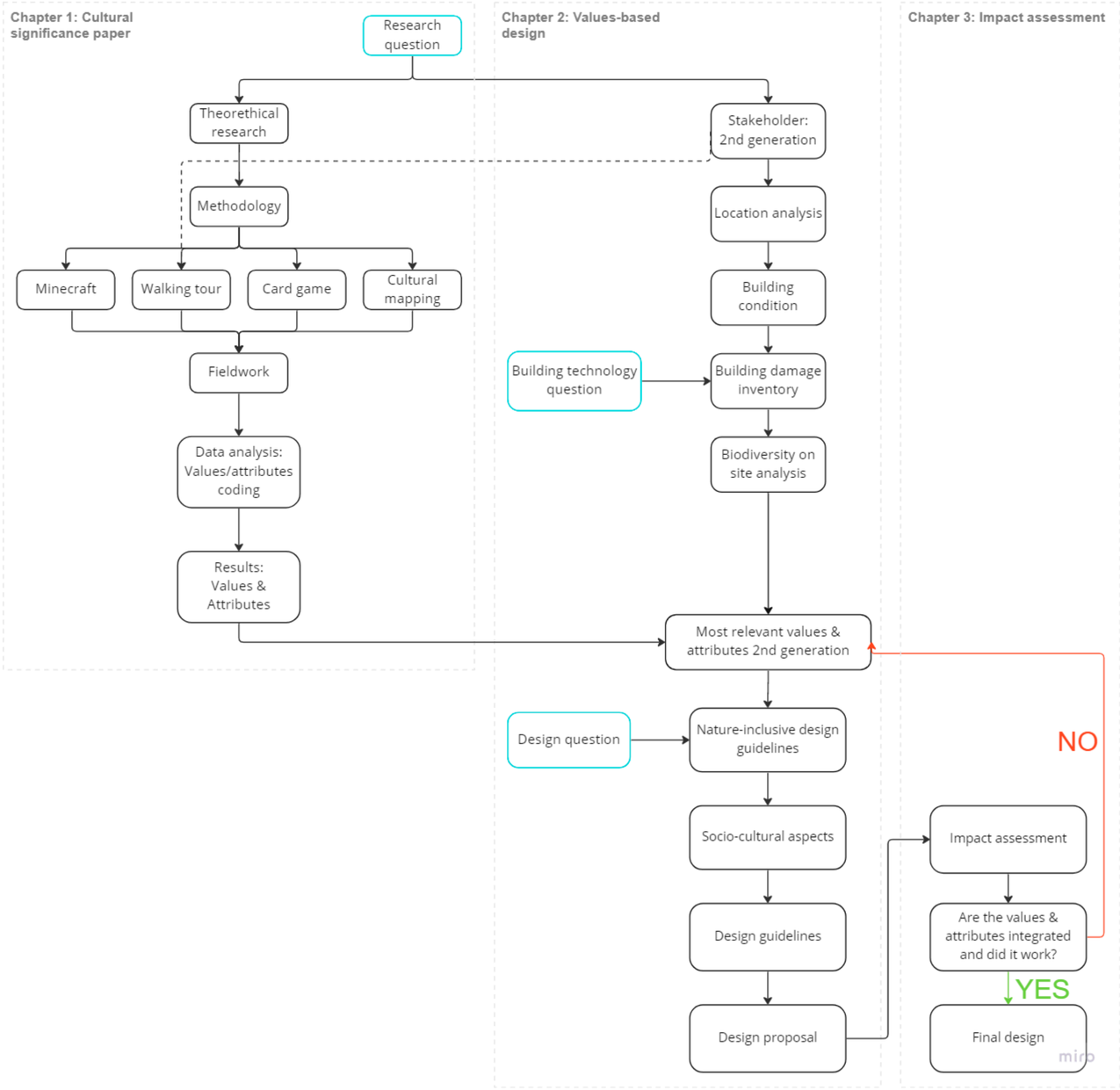
Capture nature

Exploring emotional attachment towards nature with a photographic walking tour for a nature-inclusive redesign of two former warehouses in Faro, Portugal

By Marloes Drijver



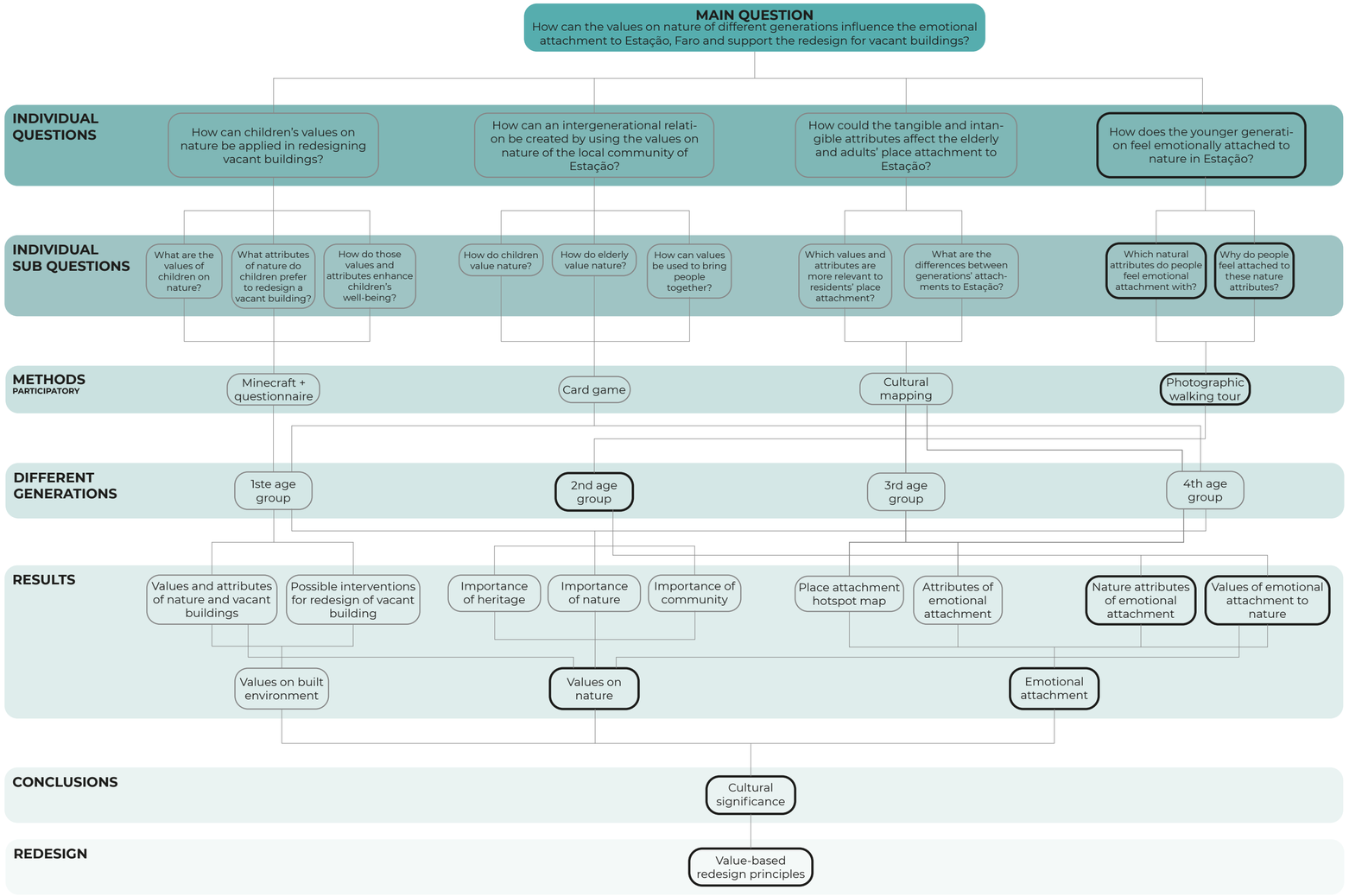
2 Timeline of the studio



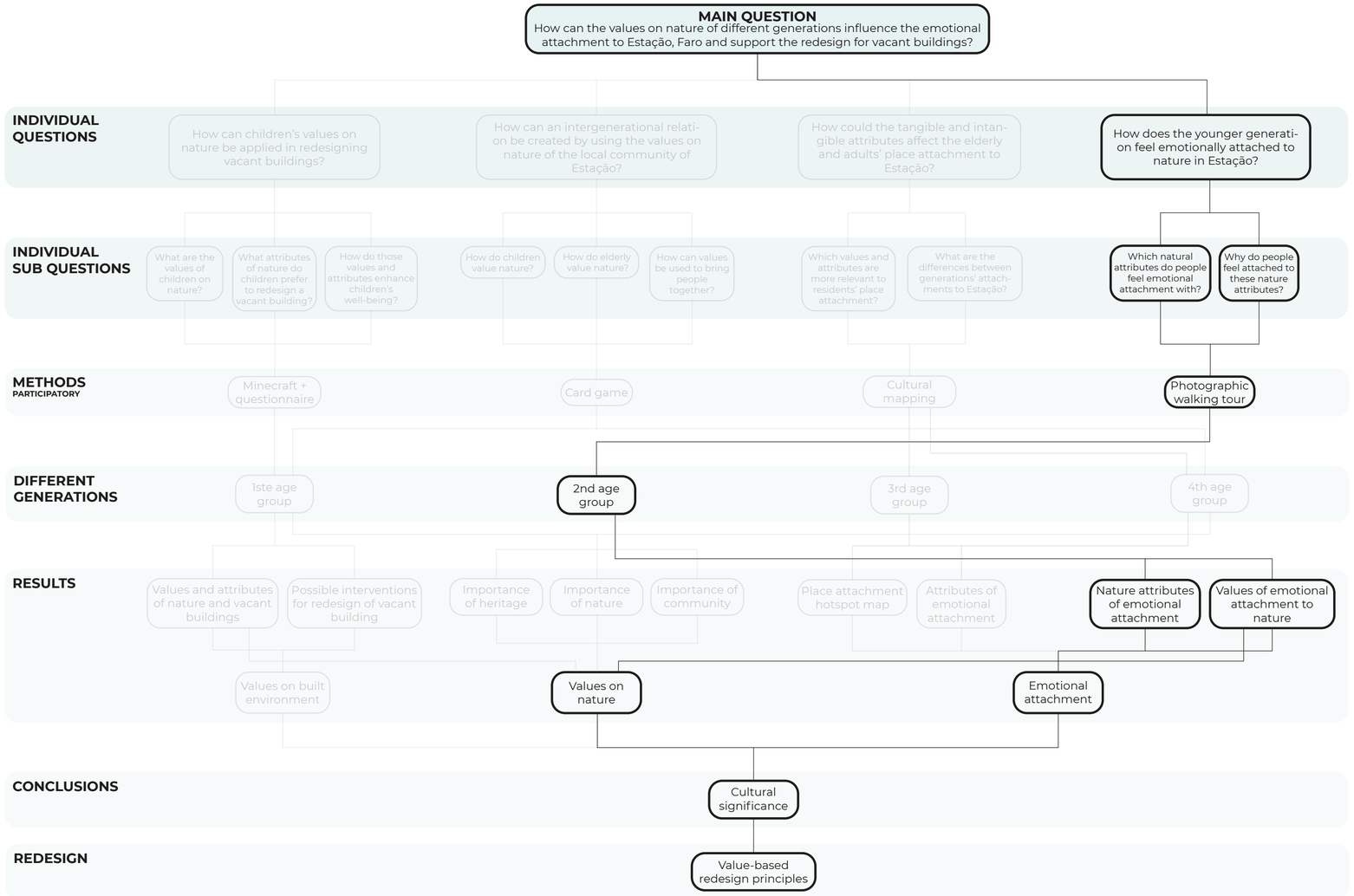
3 Studio strategy

Part 1

Cultural significance



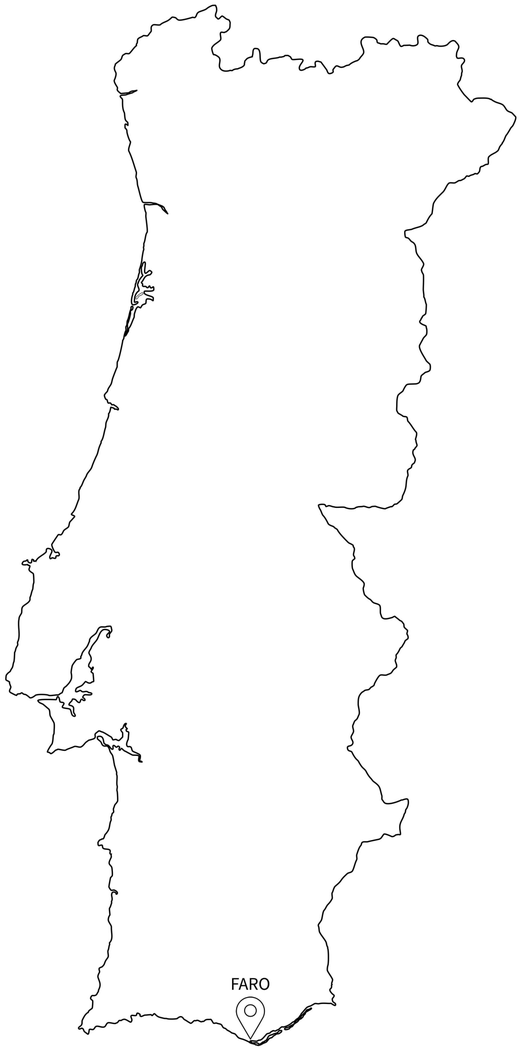
5 Research questions



How can the values on nature of different generations influence the emotional attachment to Estação, Faro and support the redesign of a vacant building?

How does the younger generation feel emotionally attached to nature in Estação?

6 Research questions



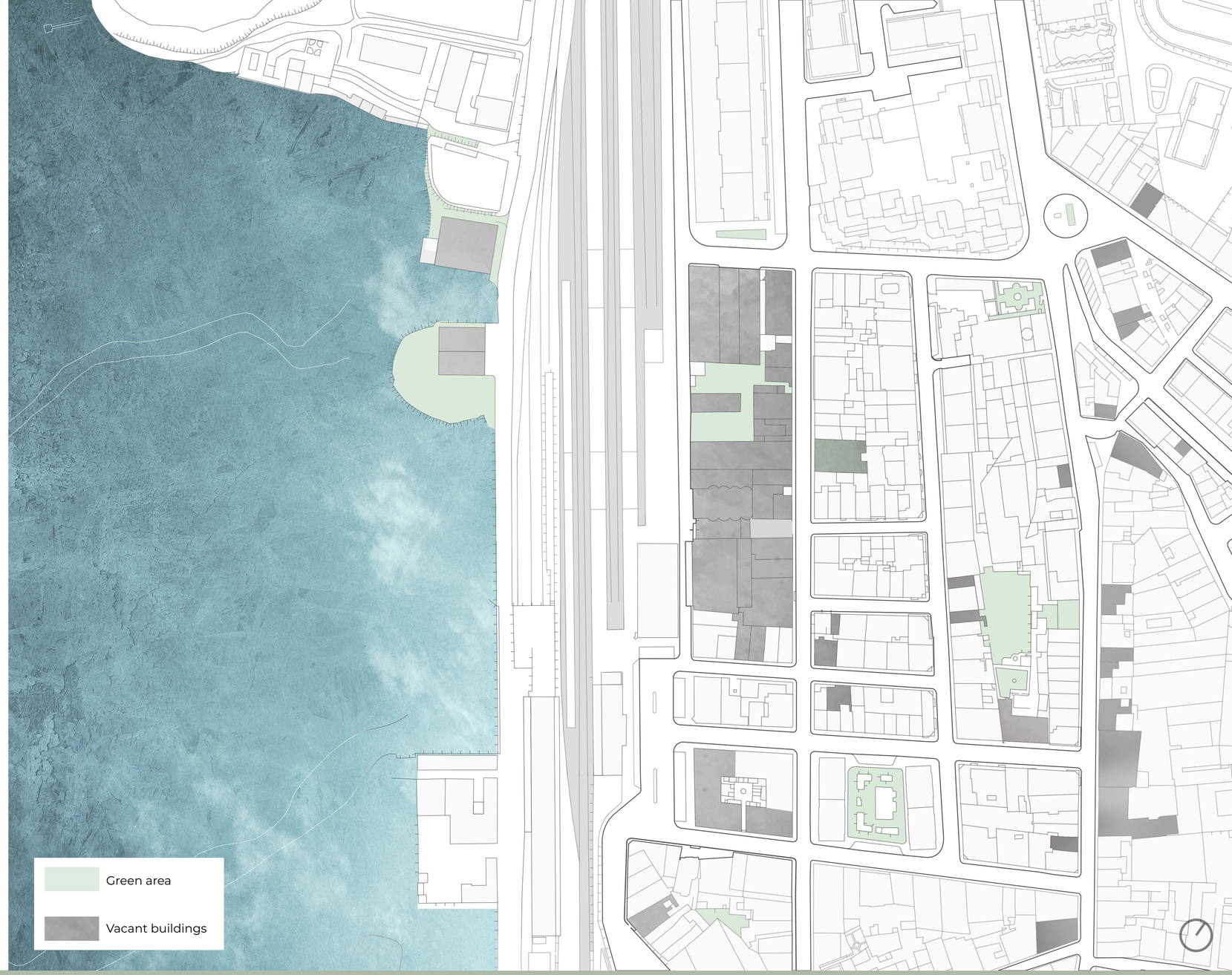
7 Location

Lack of green spaces

Disconnection between the neighborhood and the Ria Formosa Natural Park

Railway station and tracks causing a physical obstacle

Rapid renovation projects of vacant buildings might negatively affect the legibility of the neighborhood and the emotional attachment of the community



8 Problem statement

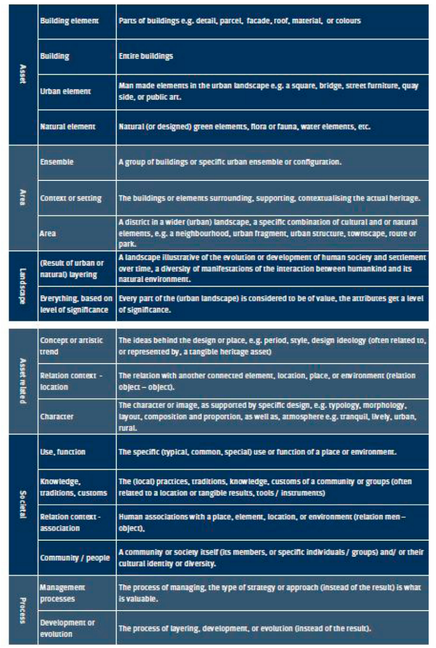
[Laslett, P. (1996). A Fresh Map of Life: The Emergence of the Third age. Macmillan]

Emotional attachment says something about the *symbolic relationship* that an individual can have based on cultural, social, and individual bonds with a place. This relationship describes the *experiences and memories* of an individual based on their perception of the area.

[Hawthorne, T. L., Toohy, K. R., Yang, B., Graham, L., Lorenzo, E. M., Torres, H., McDonald, M., Rivera, F., Bouck, K., & Walters, L. J. (2022). Mapping emotional attachment as a measure of sense of place to identify coastal restoration priority areas. Applied Geography, 138, 102608]

How does the younger generation feel emotionally attached to nature in Estação?

[Pereira Roders, A. R. (2007). Re-architecture: lifespan rehabilitation of built heritage - capitellum. Technische Universiteit Eindhoven]



Asset	Building element	Parts of buildings e.g. detail, parcel, facade, roof, material, or colours
	Building	Entire buildings
	Urban element	Man made elements in the urban landscape e.g. a square, bridge, street furniture, quay side, or public art.
	Natural element	Natural (or designed) green elements, flora or fauna, water elements, etc.
Area	Ensemble	A group of buildings or specific urban ensemble or configuration.
	Context or setting	The buildings or elements surrounding, supporting, contextualising the actual heritage.
	Area	A district in a wider (urban) landscape, a specific combination of cultural and or natural elements, e.g. a neighbourhood, urban fragment, urban structure, townscape, route or park.
Landscape	(Result of urban or natural) layering	A landscape illustrative of the evolution or development of human society and settlement over time, a diversity of manifestations of the interaction between humankind and its natural environment.
	Everything, based on level of significance	Every part of the (urban landscape) is considered to be of value, the attributes get a level of significance.
Asset-related	Concept or artistic trend	The ideas behind the design or place, e.g. period, style, design ideology (often related to, or represented by, a tangible heritage asset)
	Relation context - location	The relation with another connected element, location, place, or environment (relation object – object).
	Character	The character or image, as supported by specific design, e.g. typology, morphology, layout, composition and proportion, as well as, atmosphere e.g. tranquil, lively, urban, rural.
Societal	Use, function	The specific (typical, common, special) use or function of a place or environment.
	Knowledge, traditions, customs	The (local) practices, traditions, knowledge, customs of a community or groups (often related to a location or tangible results, tools / instruments)
	Relation context - association	Human associations with a place, element, location, or environment (relation men – object).
	Community / people	A community or society itself (its members, or specific individuals / groups) and/ or their cultural identity or diversity.
Process	Management processes	The process of managing, the type of strategy or approach (instead of the result) is what is valuable.
	Development or evolution	The process of layering, development, or evolution (instead of the result).

[Veldpaus, L. (2015). Historic urban landscapes: framing the integration of urban and heritage planning in multilevel governance. Technische Universiteit Eindhoven]

9 Theoretical framework

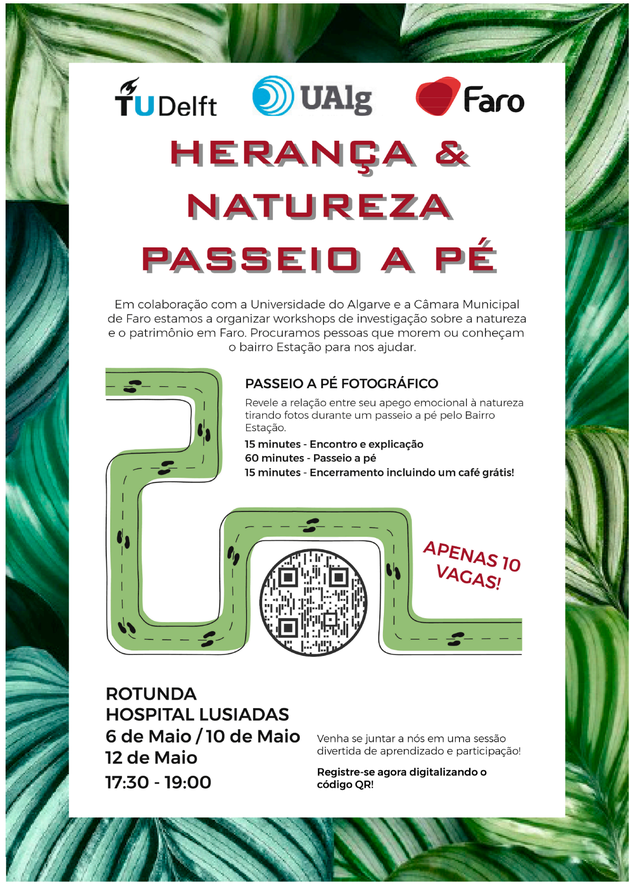
Photographic walking tour

Identify the relationship between emotional attachment and natural elements in the area

Participants will take photos of natural elements to which they feel emotionally connected based on their memories

Using 'Wikiloc' to track their route and location of the photos

10Methodology



11 Photographic walking tour

Beach
Ria Formosa

Makes me feel happy to live near the water. The view is beautiful and you feel connected with nature hearing the waves.

-2 ft

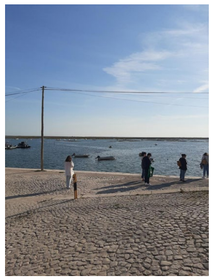
Flora
Trees

Lovely and shady area. Often you can hear bird singing in the trees here in the evenings.

-3 ft

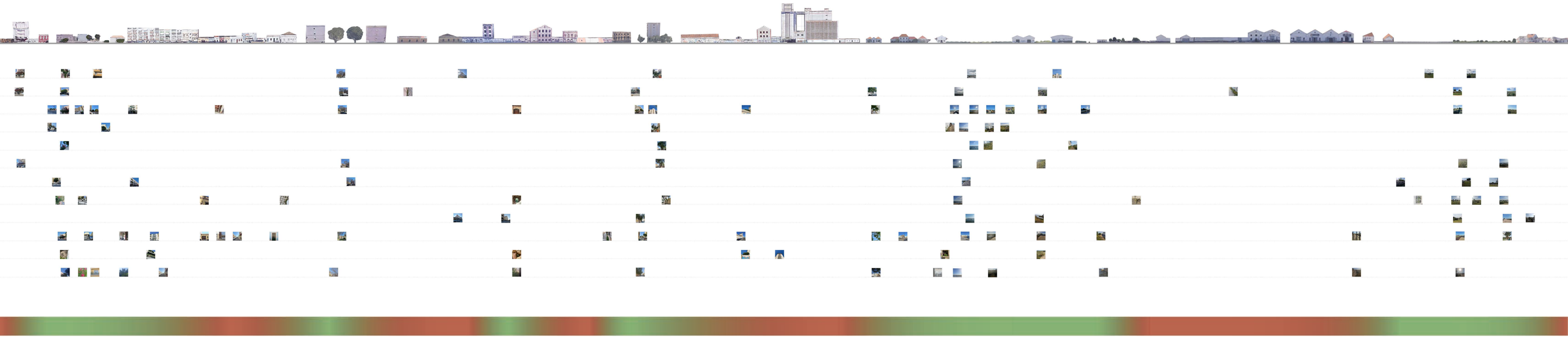
1.1 local

Attributes	Values
	Very beautiful trees when they are in bloom, very smelly!
	I would like to go “green” on the street.
	This building causes sadness because it could have many types of use, however, it is abandoned. The street is very noisy due to the traffic.

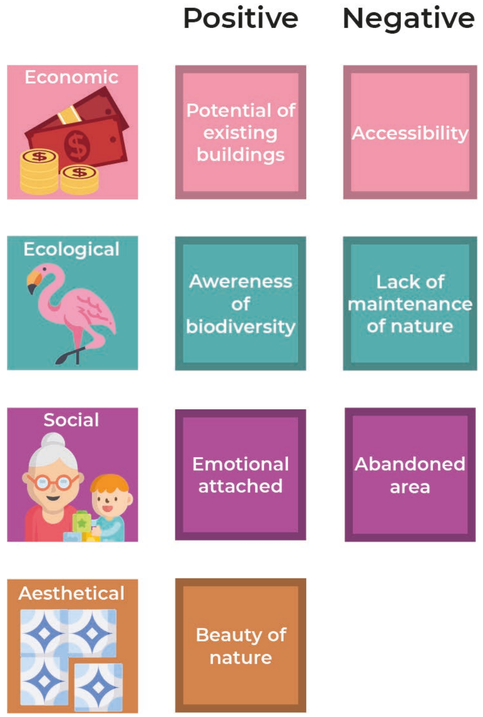
Attributes	Values
	First area of natural shade on the route. It’s a shame it smells like garbage!
	Nature always appears.
	A beautiful part. It smells like the sea.

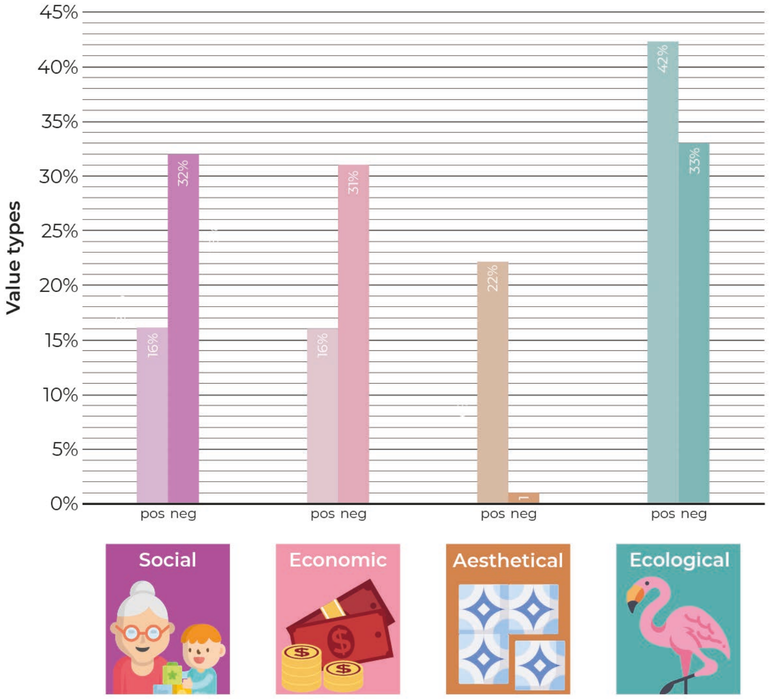
Positive emotional attachment

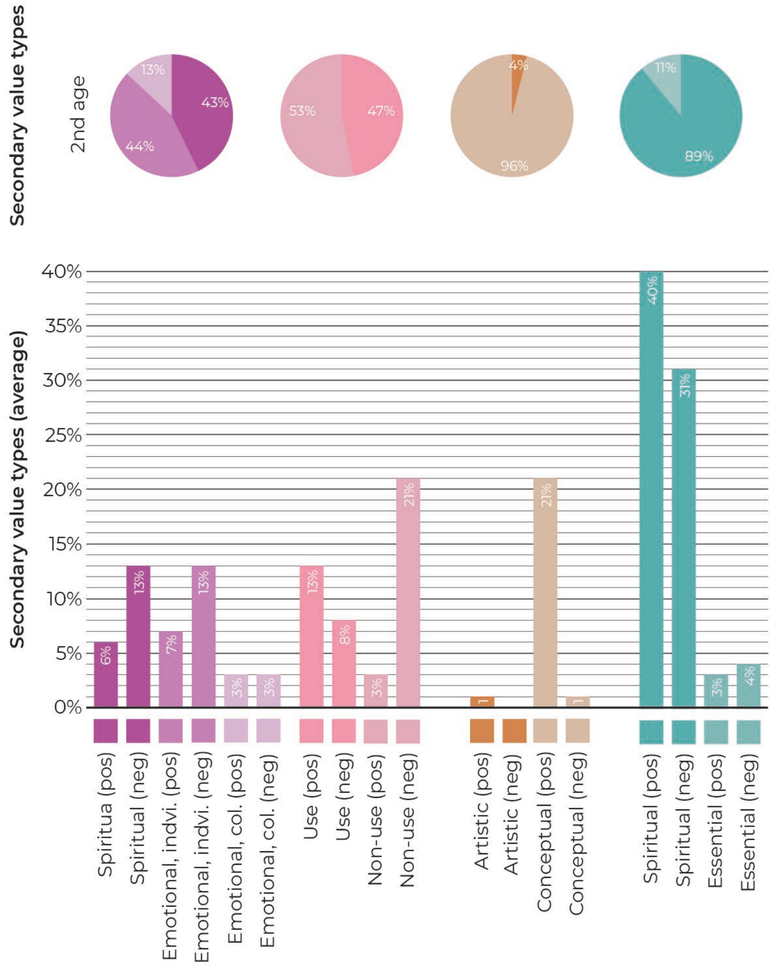
Greater emotional attachment to specific area with a higher concentration of greenery



14 Attribute city scape

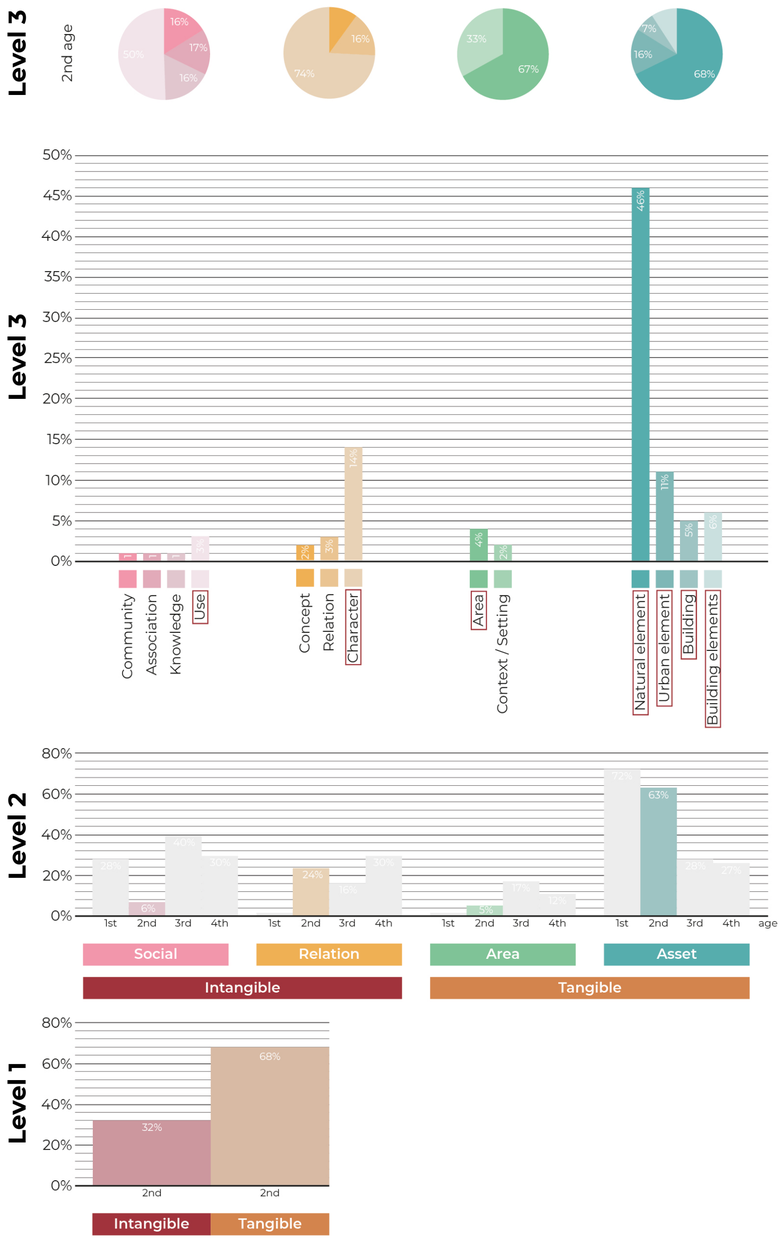


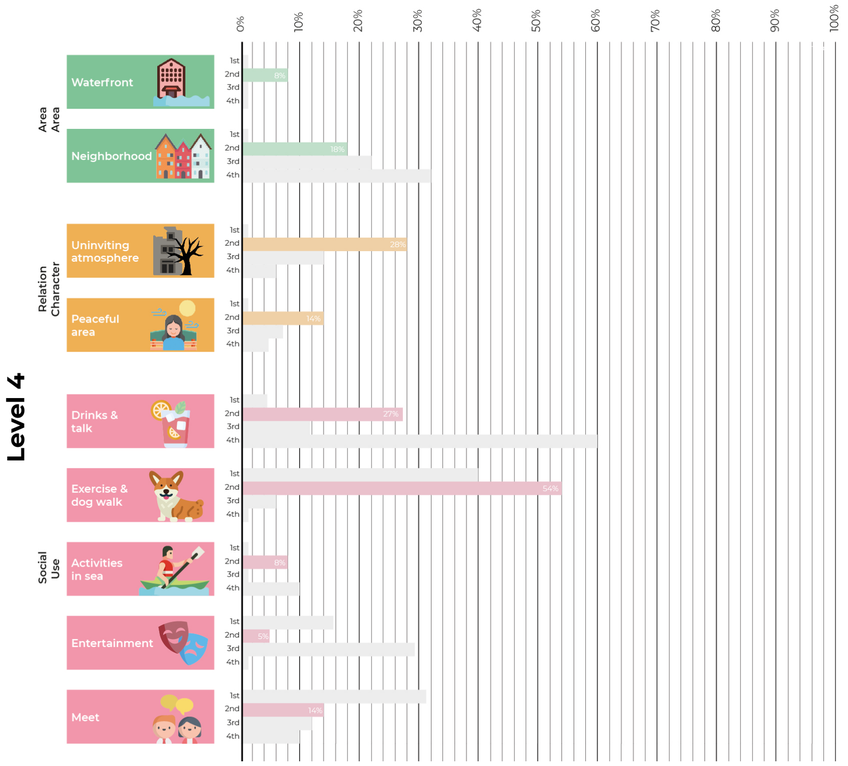


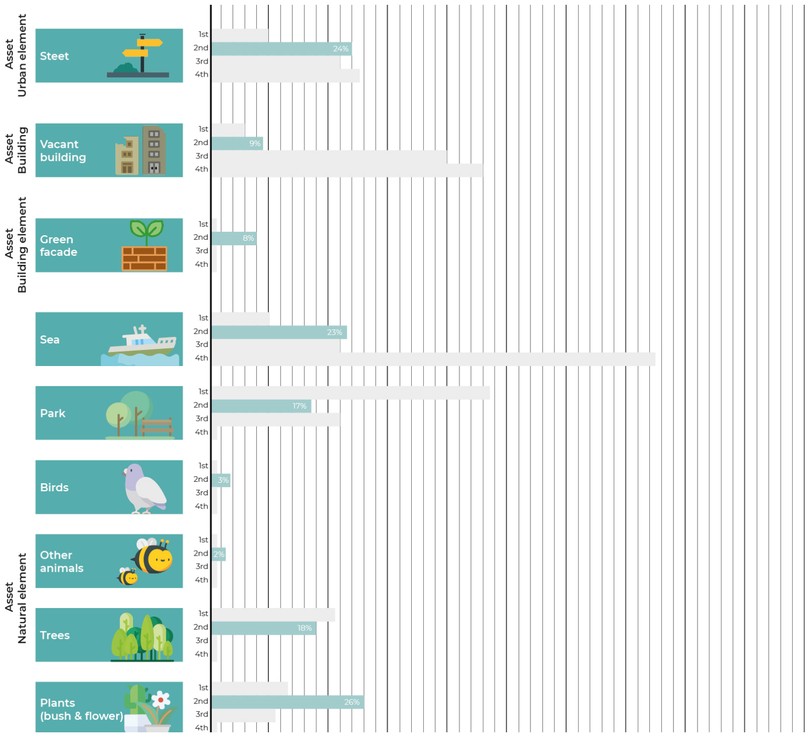


Positive
Economic use/non-use: potential of existing buildings
Ecological spiritual: Awareness of biodiversity
Social spiritual/emotional: Emotional attached
Aesthetical conceptual: Beauty of nature

Negative
Economic use/non-use: Insufficient accessibility of the area
Ecological spiritual: Lack of maintencance of the current nature
Social spiritual/emotional: Unsafe and abandoned area







16 Attributes

How can the values on nature of different generations influence the emotional attachment to Estação, Faro and support the redesign of a vacant building?

The most important values for all generations are social, economic, and ecological. The highest overlaps are (social) emotional, collective, and (ecological) spiritual. These are linked to proposals connected to **social gatherings** and the **relation between nature and the built environment.**

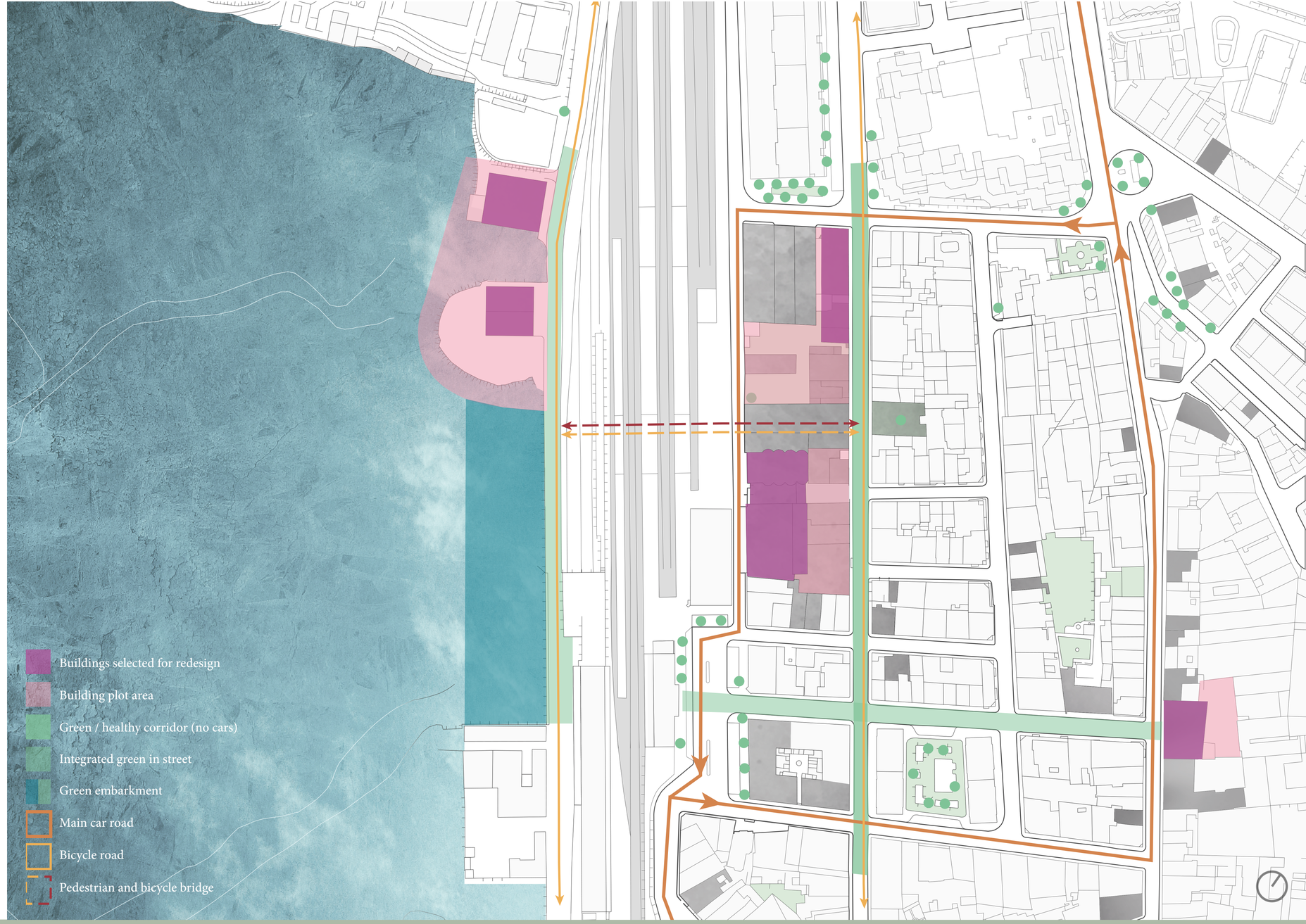
How does the younger generation feel emotionally attached to nature in Estação?

The most important values on nature for the younger generation are ecological, aesthetical, economic, and social. By comparing the positive and negative attachment to nature with each other, this generation is aware of the **potential that nature can have** in their neighborhood and that they are **not satisfied with the current state.** Besides that, **areas with a high concentration of natural attributes** are considered places where **people have a greater emotional attachment.**

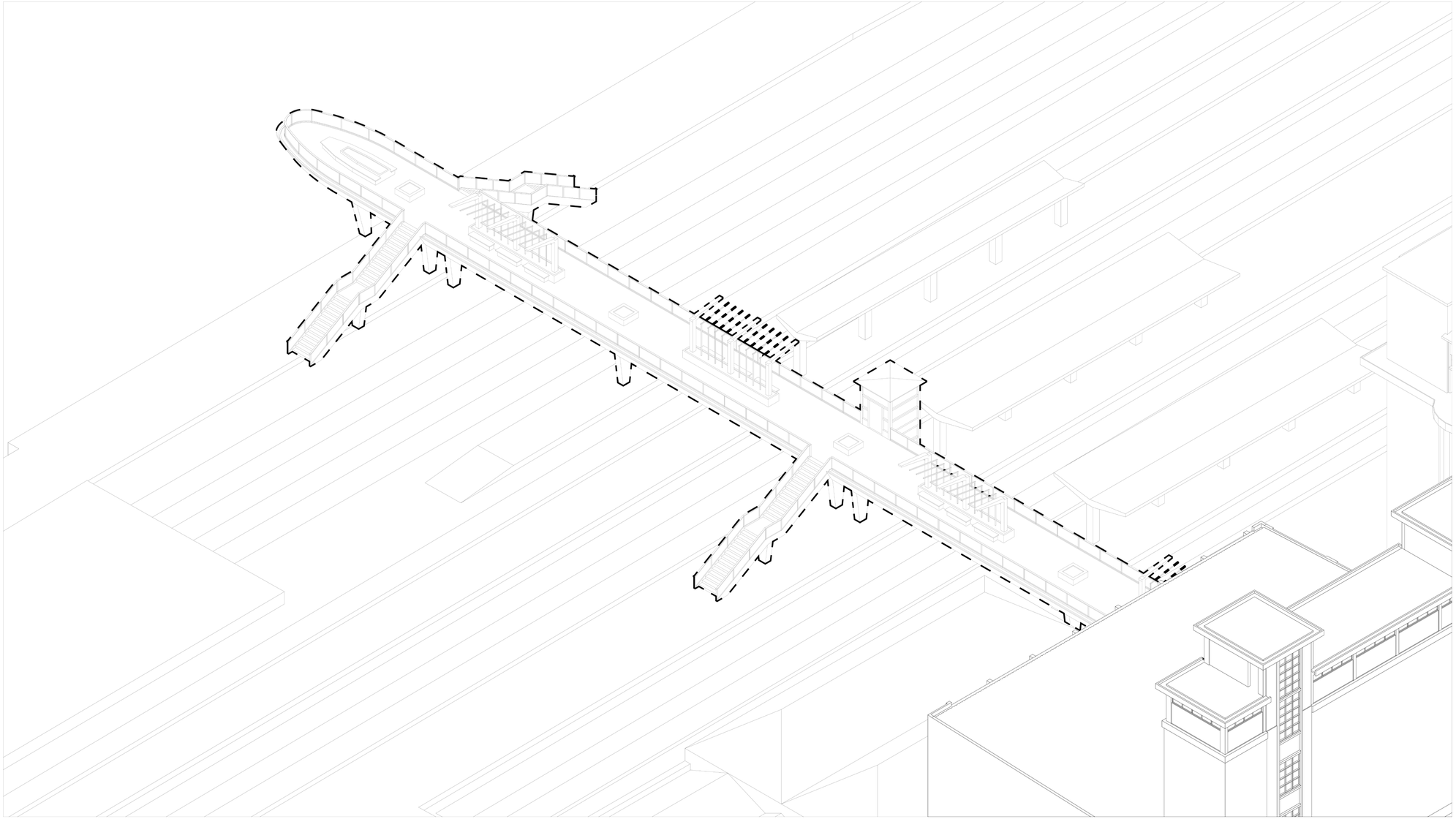
17 Conclusions

Part 2

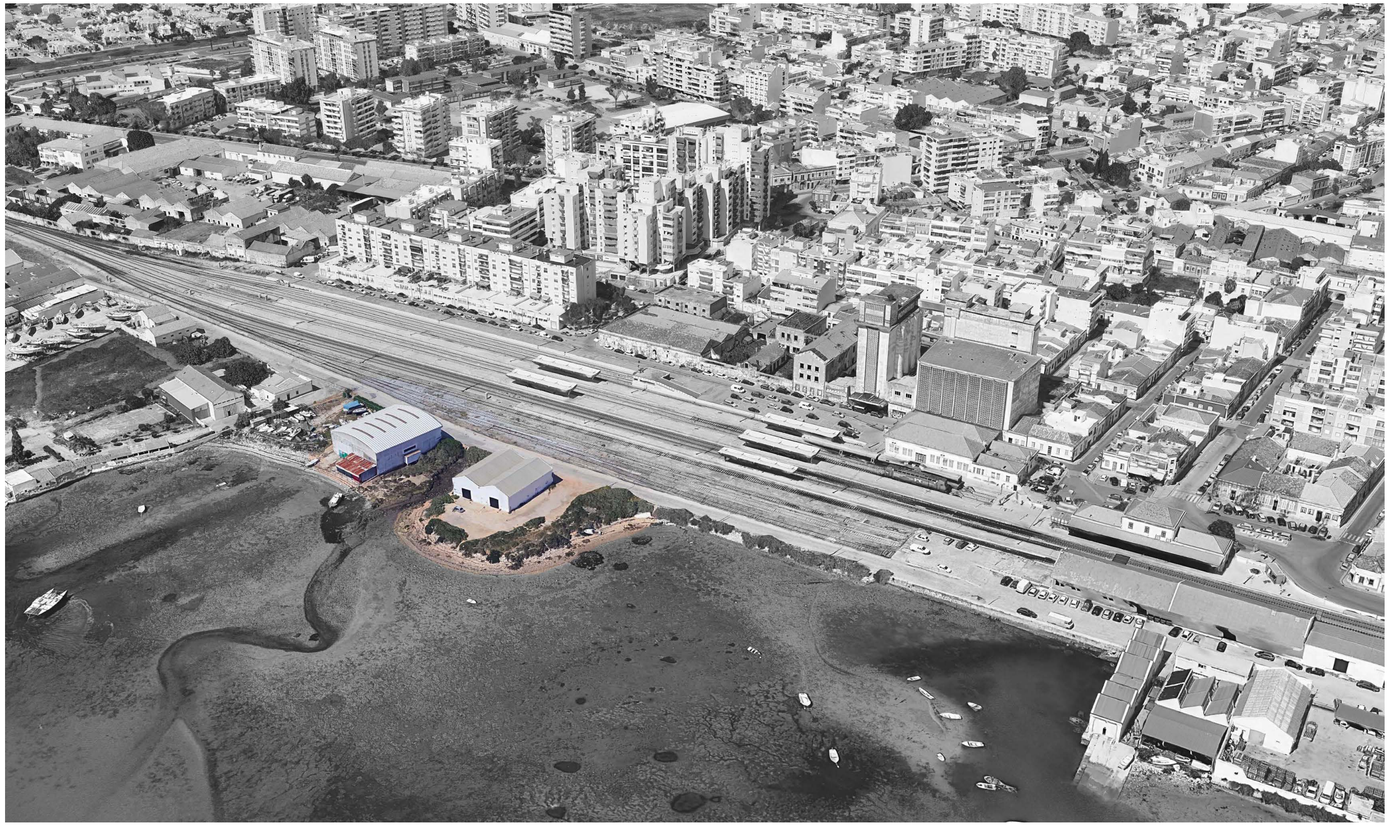
Values-based design

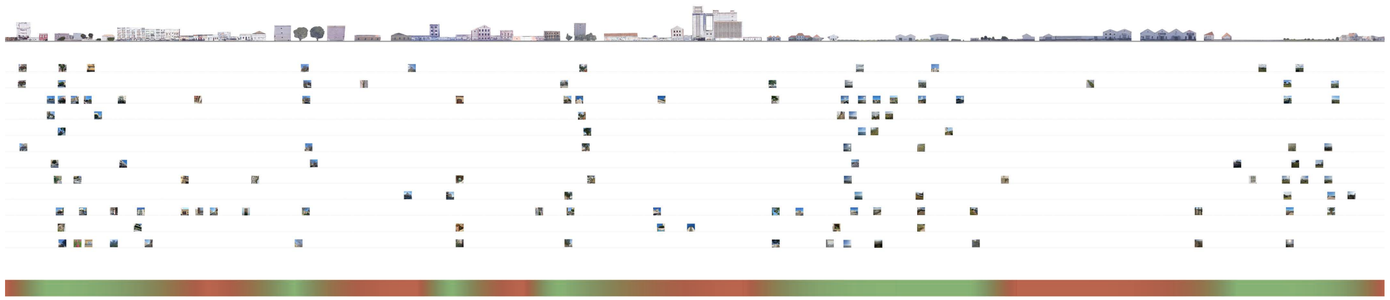


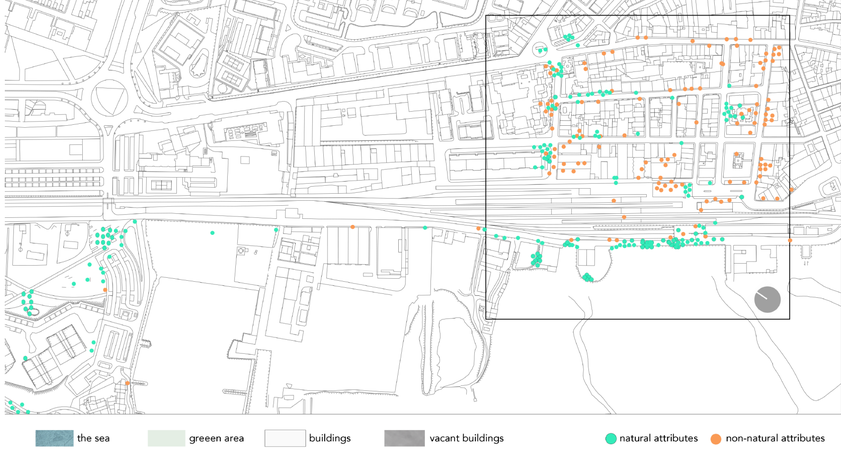
19 Urban master plan



20 Bridge



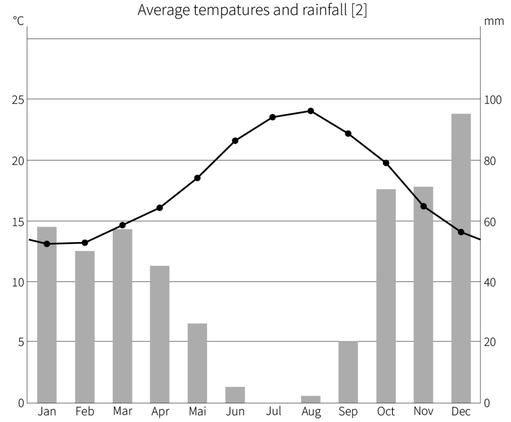




21 Location decision

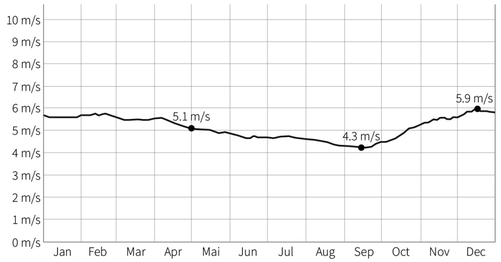
22 Redesign plot

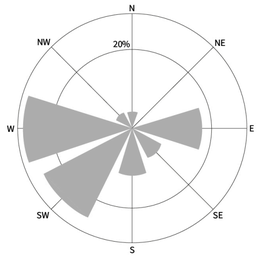
Average tempatures and rainfall [2]



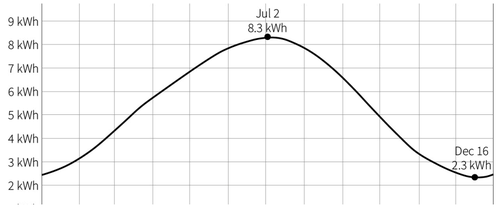
	Jan	Feb	Mar	Apr	Mai	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Avg. Temperature °C	13	13.2	14.6	16	18.5	21.6	23.5	24	22.2	19.7	15.9	14
Min. Temperature °C	10.9	11	12.2	13.5	15.7	18.5	20.1	20.9	19.6	17.5	13.8	12.1
Max. Temperature °C	15.2	15.5	16.9	18.4	21.1	24.2	26.4	26.8	24.6	21.8	18.1	16
Rainfall (mm)	58	50	57	45	26	5	0	2	20	70	71	95
Avg. Humidity (%)	74%	72%	72%	71%	68%	65%	61%	63%	70%	75%	72%	75%
Rainy days (d)	6	4	5	5	4	1	0	0	2	5	5	6
Avg. Sun hours (h)	6.7	7.6	8.5	9.7	11.1	12.2	12.4	11.7	10.1	8.5	7.4	6.6

Average windspeed and wind directions [3]

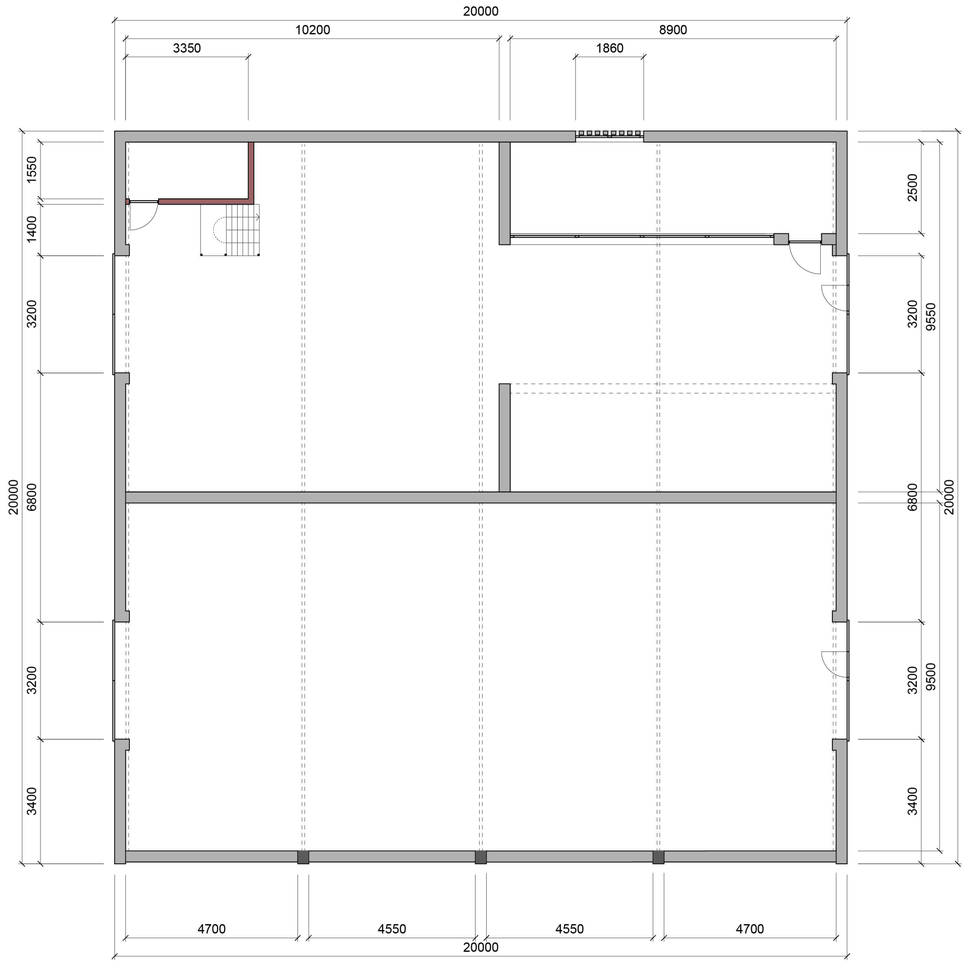




Average daily incident shortwave solar energy [4]



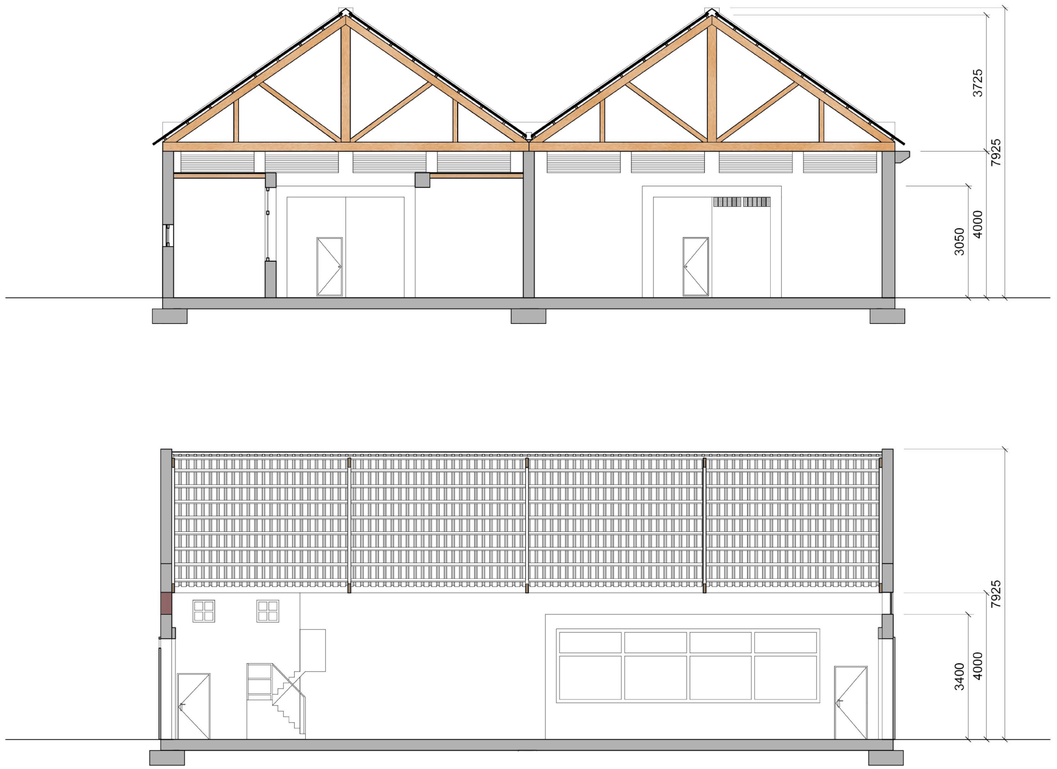
BABU AYSE!



Cast -in-situ concrete walls
300 mm

Cast -in-situ columns
300x 350 mm

Horizontally perforated bricks
300 x 200 x 150 mm



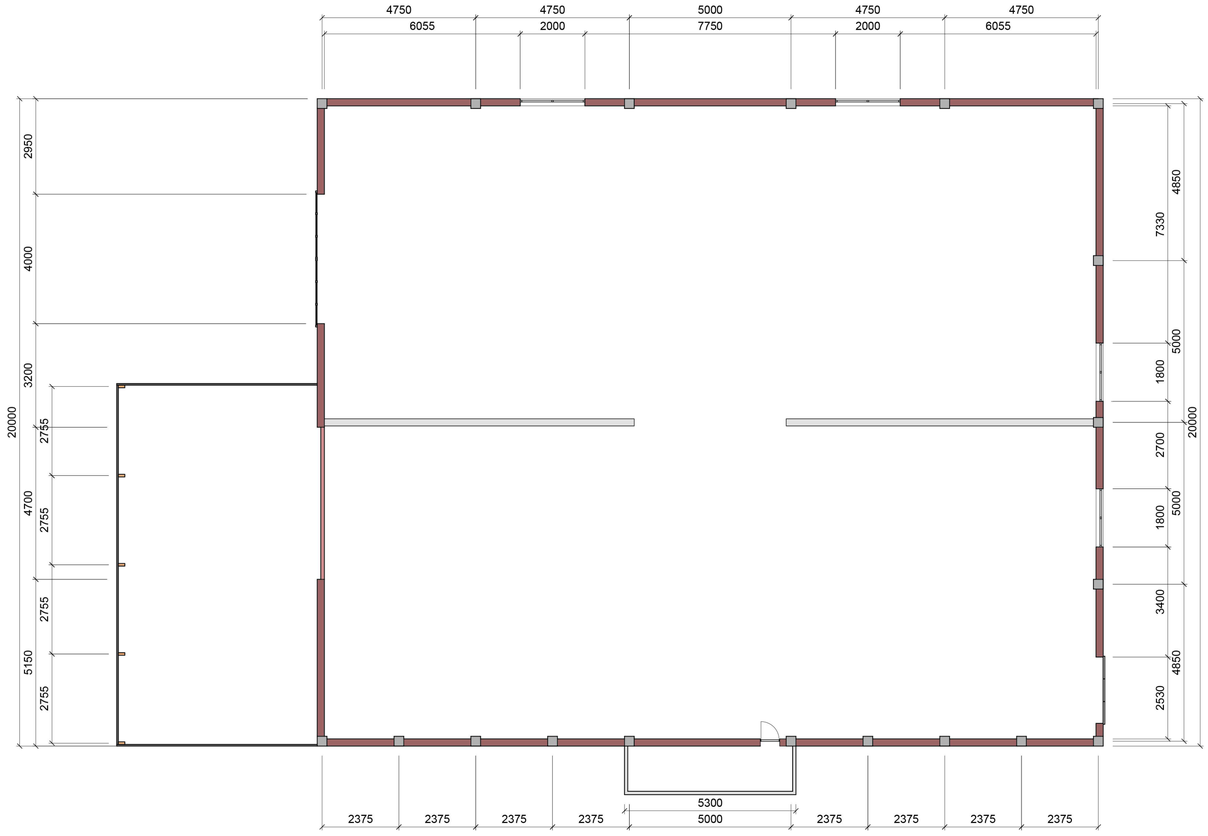
Cast -in-situ concrete

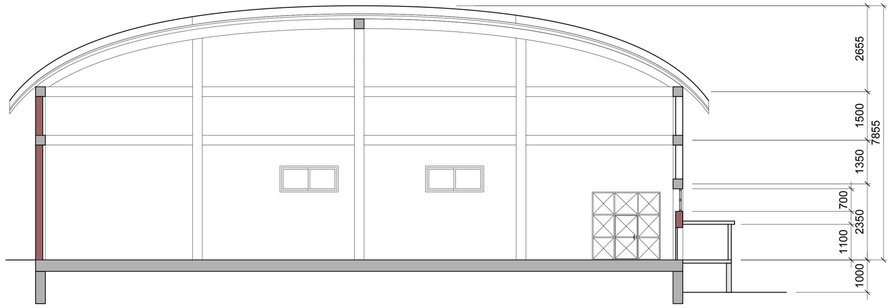
Corrugated steel roof plates
t=0,50 mm

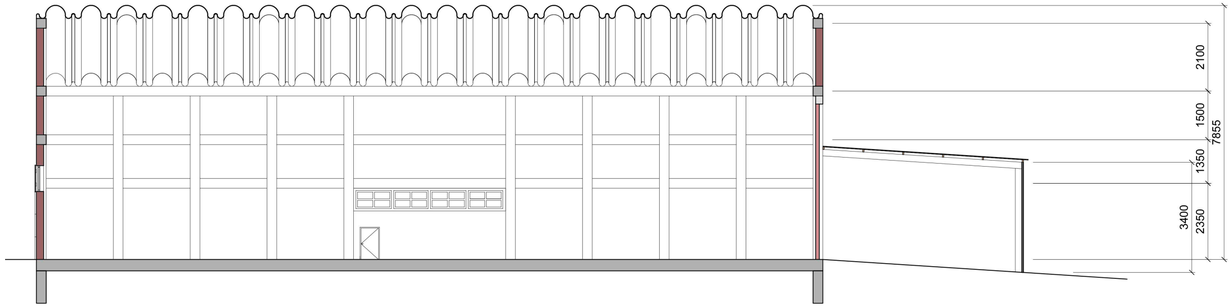
Wooden purlins
75 x 50 mm, 750 mm spacing

Wooden truss
250 x 75 mm, 4850 mm spacing

Horizontally perforated bricks
300 x 200 x 220 mm







Cast-in-situ concrete frame
300 x 300 mm

Cast-in-situ concrete walls

Horizontally perforated bricks
300 x 200 x 220 mm

Wooden columns
200 x 80 mm, spacing 2755 mm

Steel plates

Horizontally perforated bricks
300 x 200 x 110 mm

Cast-in-situ concrete frame
300 x 300 mm

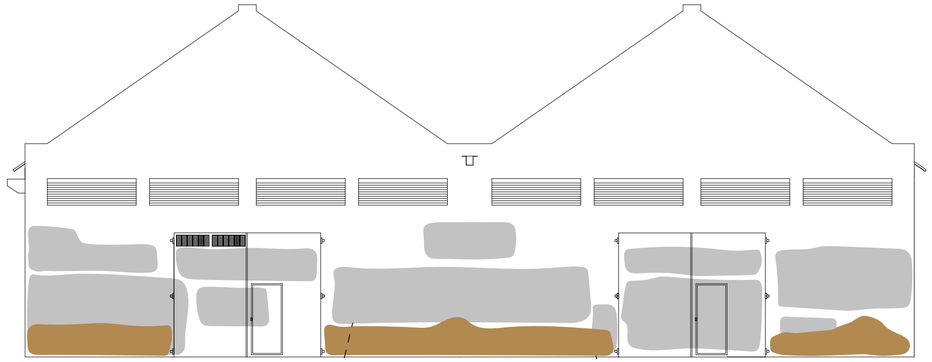
Cast-in-situ concrete walls

Horizontally perforated bricks
300 x 200 x 220 mm

Wooden columns
80 x 40 mm, spacing 1250 mm

Steel plates

Horizontally perforated bricks
300 x 200 x 110 mm



Surface change
Deposit graffiti

Act of vandalism or art

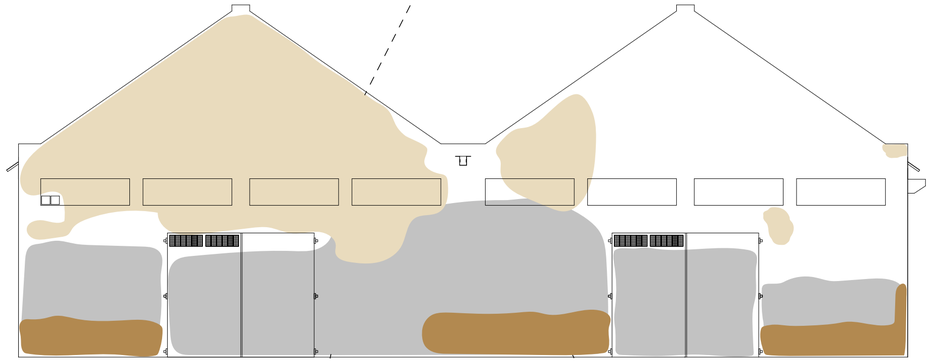
Detachment
Loss of adhesion

Salt crystallization

East

Detachment
Peeling of paint

Water penetration; rising damp



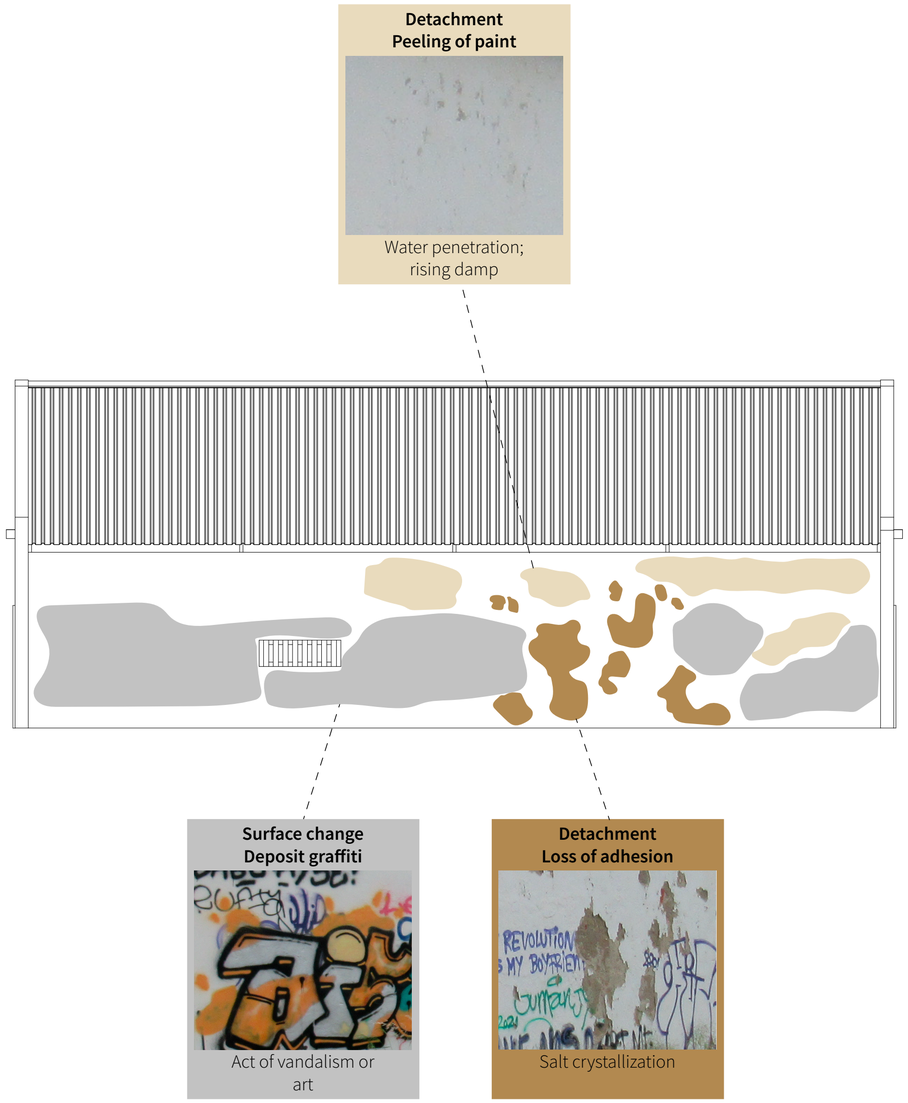
Surface change
Deposit graffiti

Act of vandalism or art

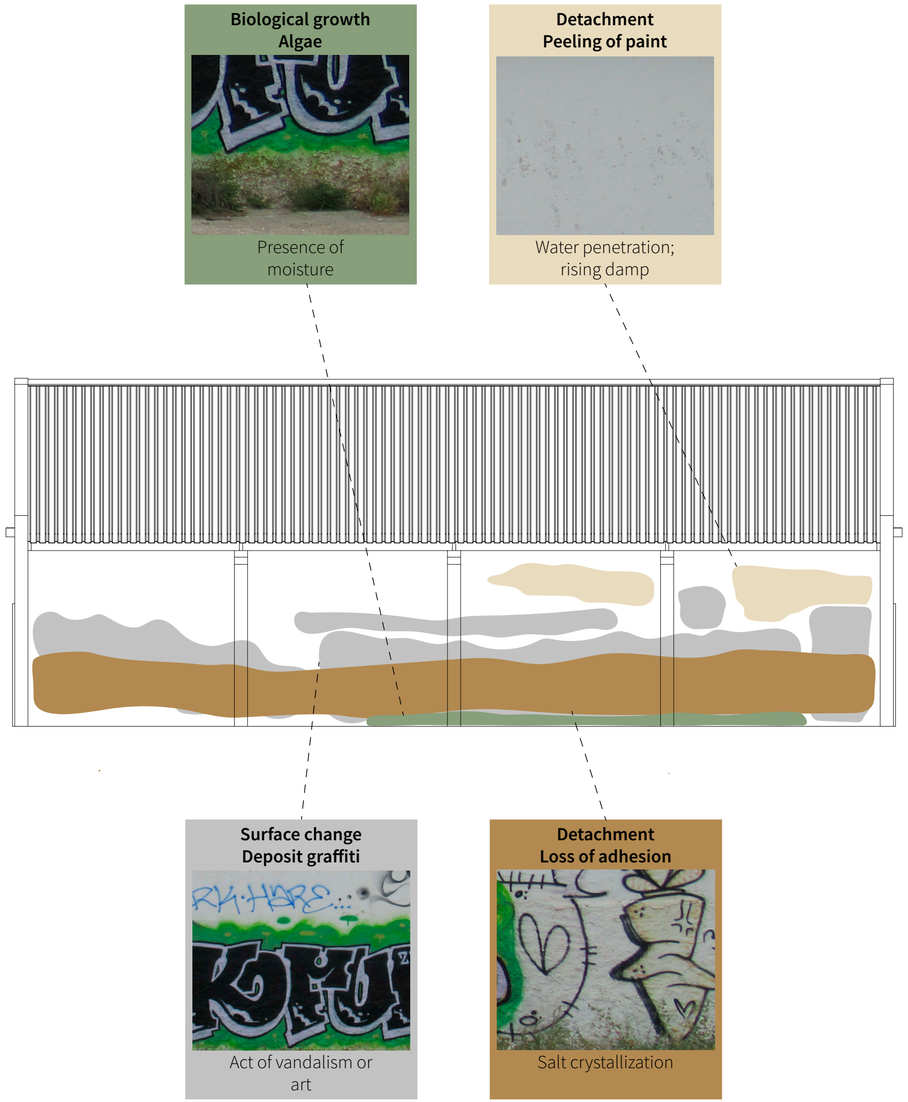
Detachment
Loss of adhesion

Salt crystallization

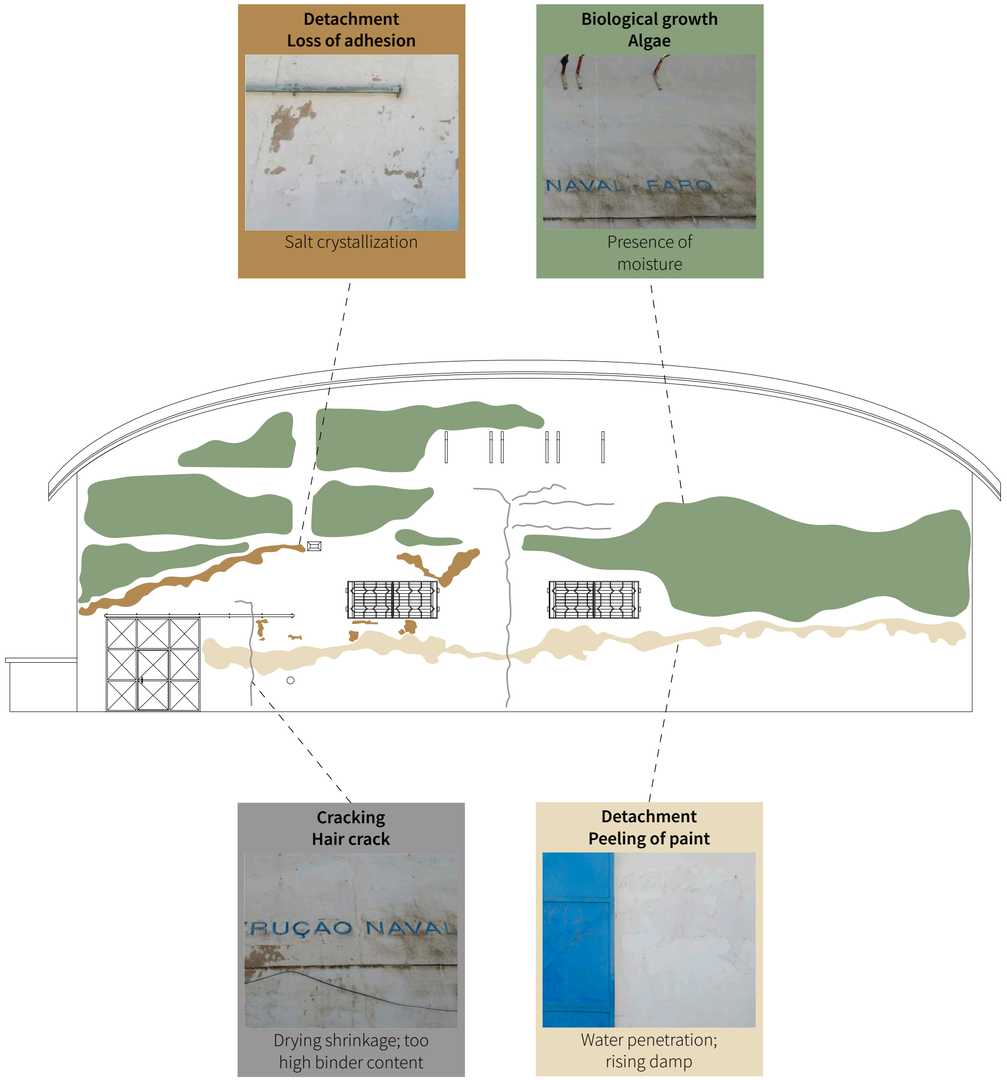
West


Detachment
Peeling of paint
Water penetration;
rising damp
Surface change
Deposit graffiti
Act of vandalism or
art
Detachment
Loss of adhesion
Salt crystallization

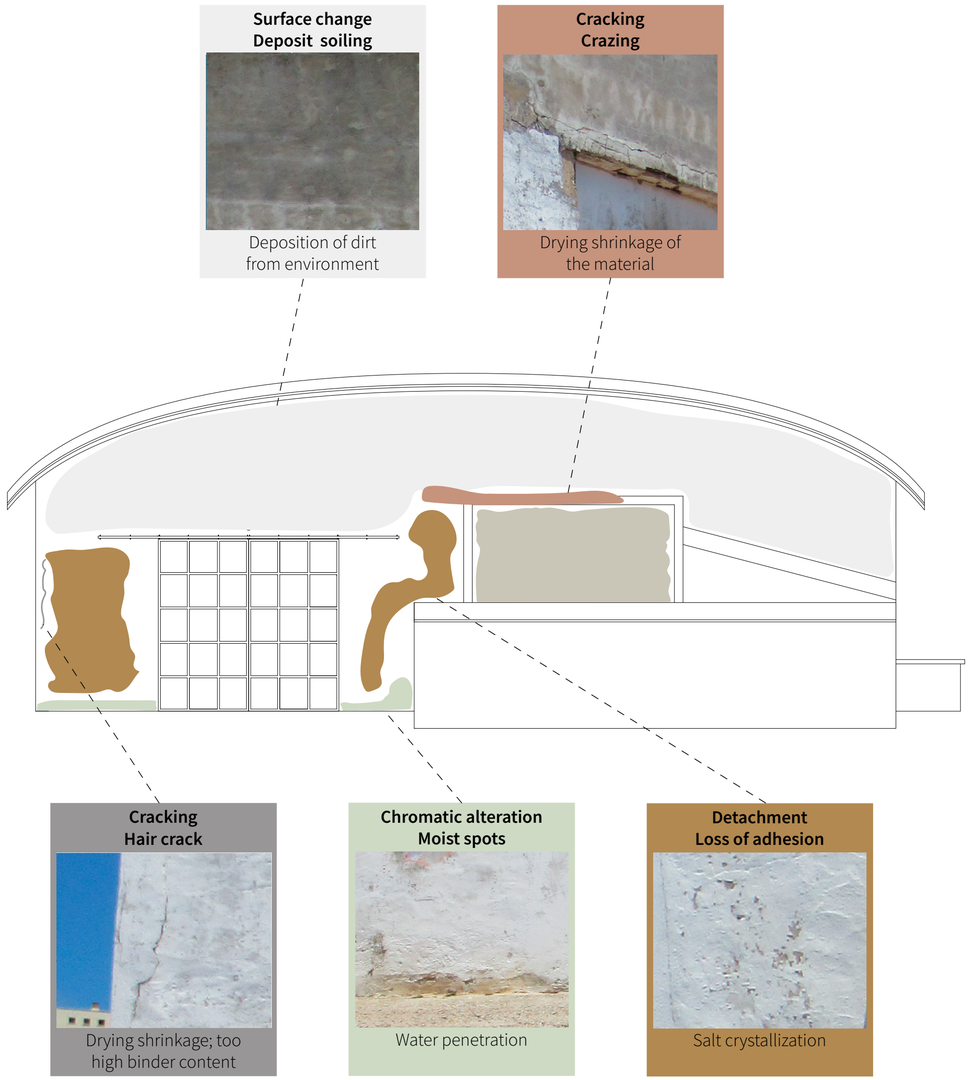
North


Biological growth
Algae
Presence of
moisture
Detachment
Peeling of paint
Water penetration;
rising damp
Surface change
Deposit graffiti
Act of vandalism or
art
Detachment
Loss of adhesion
Salt crystallization

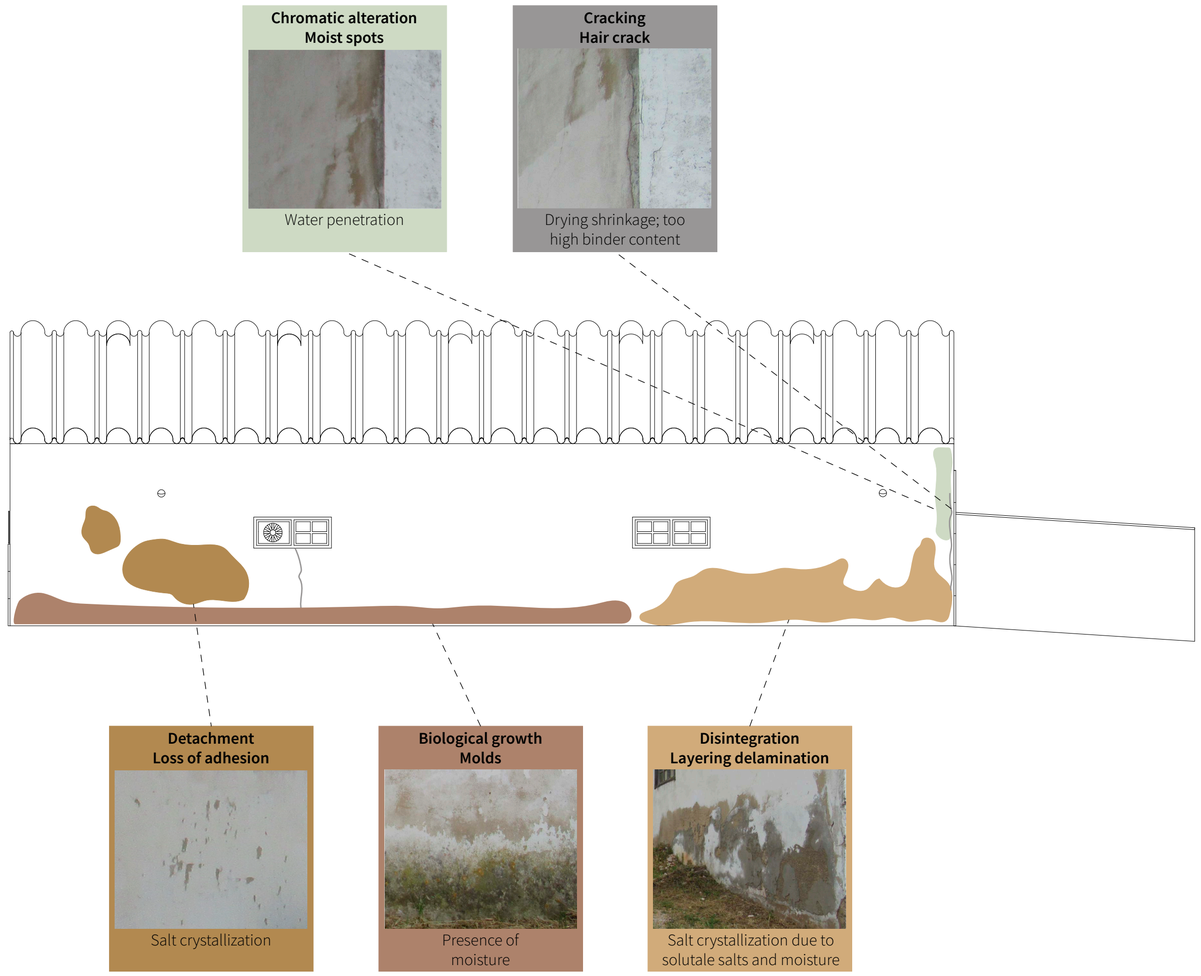
South


Detachment
Loss of adhesion
Salt crystallization
Biological growth
Algae
NAVAL - FARO
Presence of
moisture
Cracking
Hair crack
RUÇÃO NAVAL
Drying shrinkage; too
high binder content
Detachment
Peeling of paint
Water penetration;
rising damp

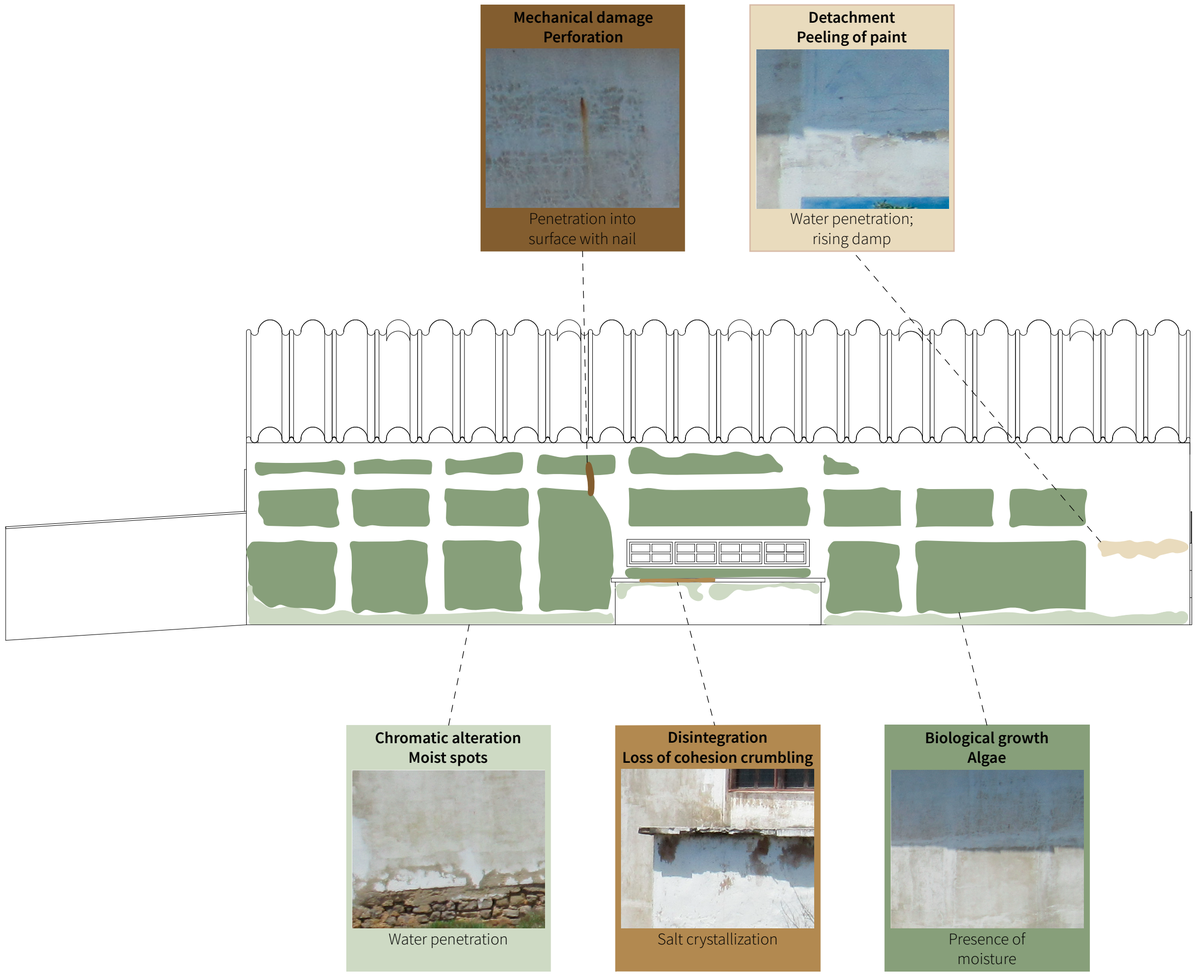
East


Surface change
Deposit soiling
Deposition of dirt
from environment
Cracking
Crazing
Drying shrinkage of
the material
Cracking
Hair crack
Drying shrinkage; too
high binder content
Chromatic alteration
Moist spots
Water penetration
Detachment
Loss of adhesion
Salt crystallization

West

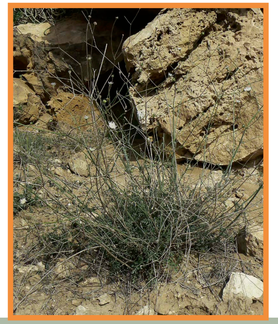

Chromatic alteration
Moist spots
Water penetration
Cracking
Hair crack
Drying shrinkage; too high binder content
Detachment
Loss of adhesion
Salt crystallization
Biological growth
Molds
Presence of moisture
Disintegration
Layering delamination
Salt crystallization due to solutale salts and moisture

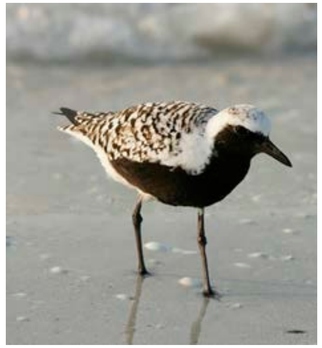
North


Mechanical damage
Perforation
Penetration into surface with nail
Detachment
Peeling of paint
Water penetration; rising damp
Chromatic alteration
Moist spots
Water penetration
Disintegration
Loss of cohesion crumbling
Salt crystallization
Biological growth
Algae
Presence of moisture

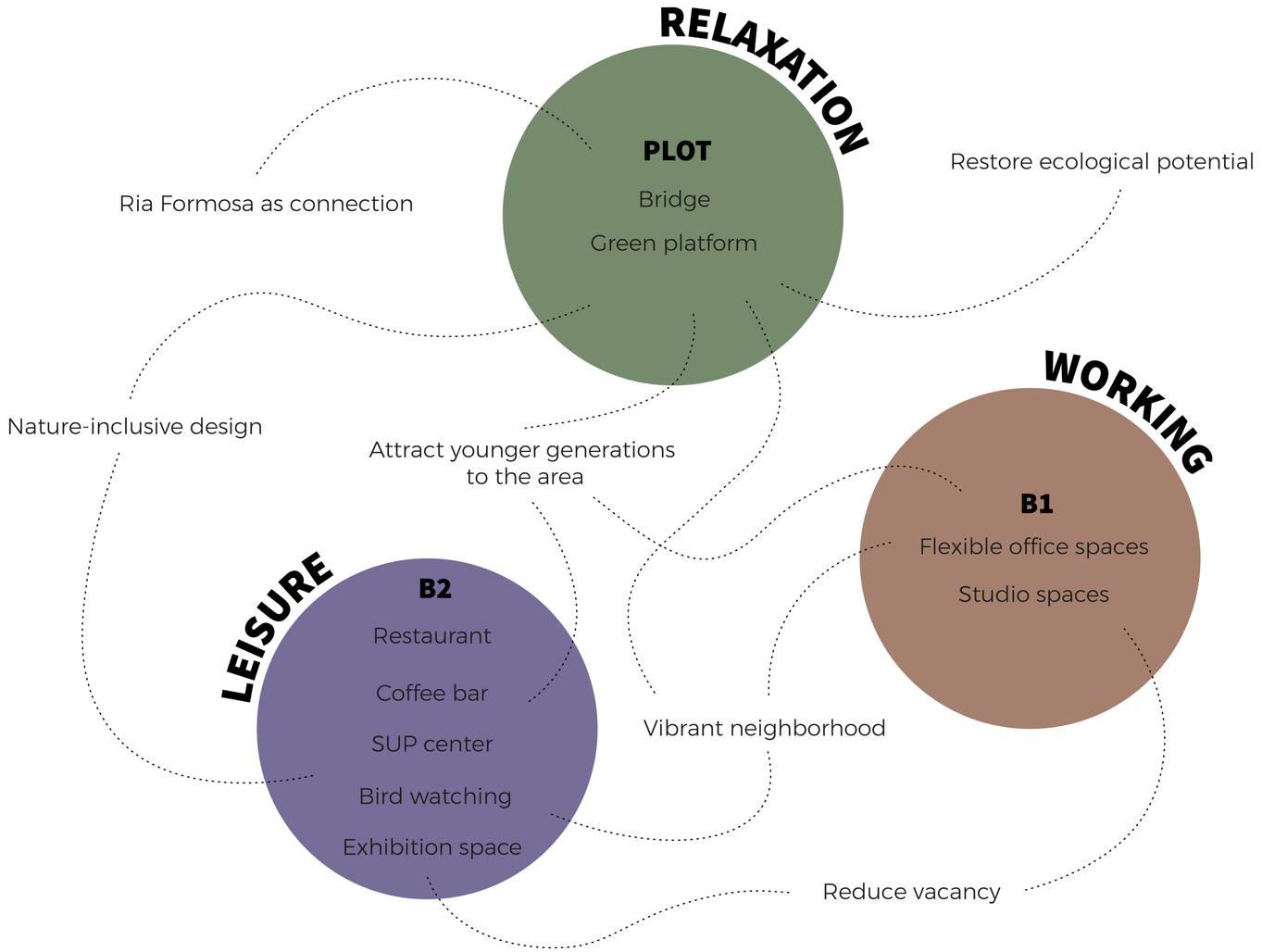
South

32 Current biodiversity





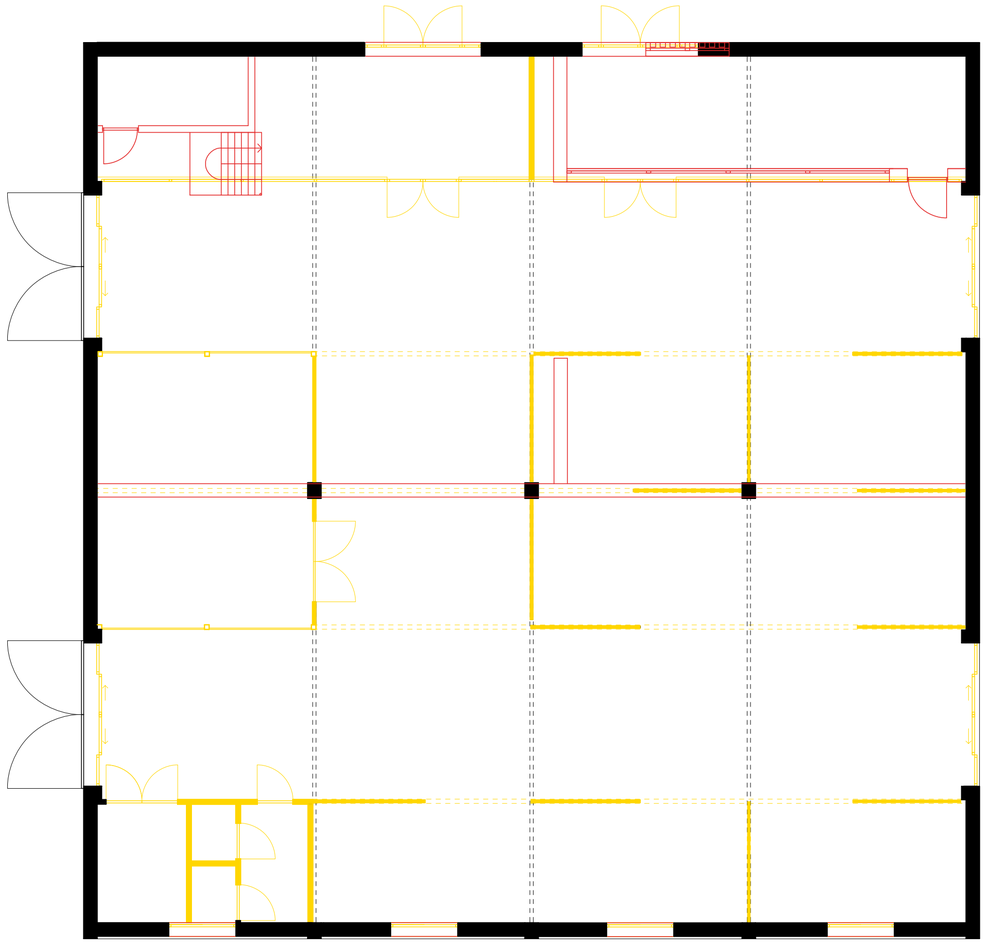
ATTRIBUTES
Plants (bush &flower)
Trees
Park
Sea
Birds
Other animals
Shade
Street
Vacant buildings
Green facade
Neighbor-hood
Waterfront
Uninviting atmosphere
Peaceful area
Drinks & talk
Activities in sea
Meet
Entertain-ment
Exercise & dog walk
VALUES
Potential of existing buildings
Accessibility
Awereness of biodiversity
Lack of maintenance of nature
Emotional attached
Abandoned area
Beauty of nature
Economic value
Ecological value
Social value
Aesthetical value
Asset attributes
Area attributes
Relation attributes
Social attributes
Not related
Keep
Add
Remove


RELAXATION
PLOT
Bridge
Green platform
Ria Formosa as connection
Restore ecological potential
Nature-inclusive design
Attract younger generations
to the area
WORKING
B1
Flexible office spaces
Studio spaces
LEISURE
B2
Restaurant
Coffee bar
SUP center
Bird watching
Exhibition space
Vibrant neighborhood
Reduce vacancy

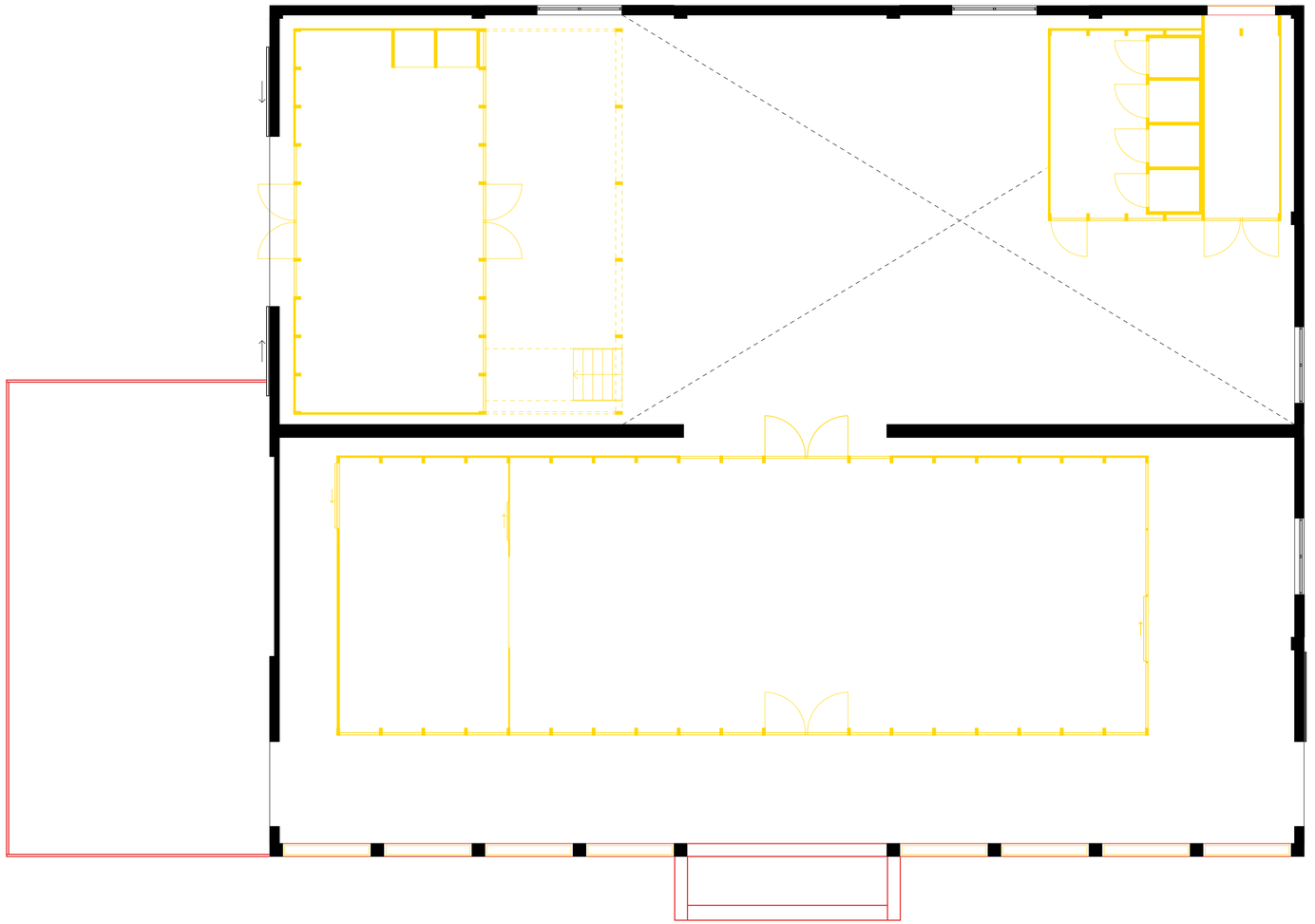
ATTRIBUTES

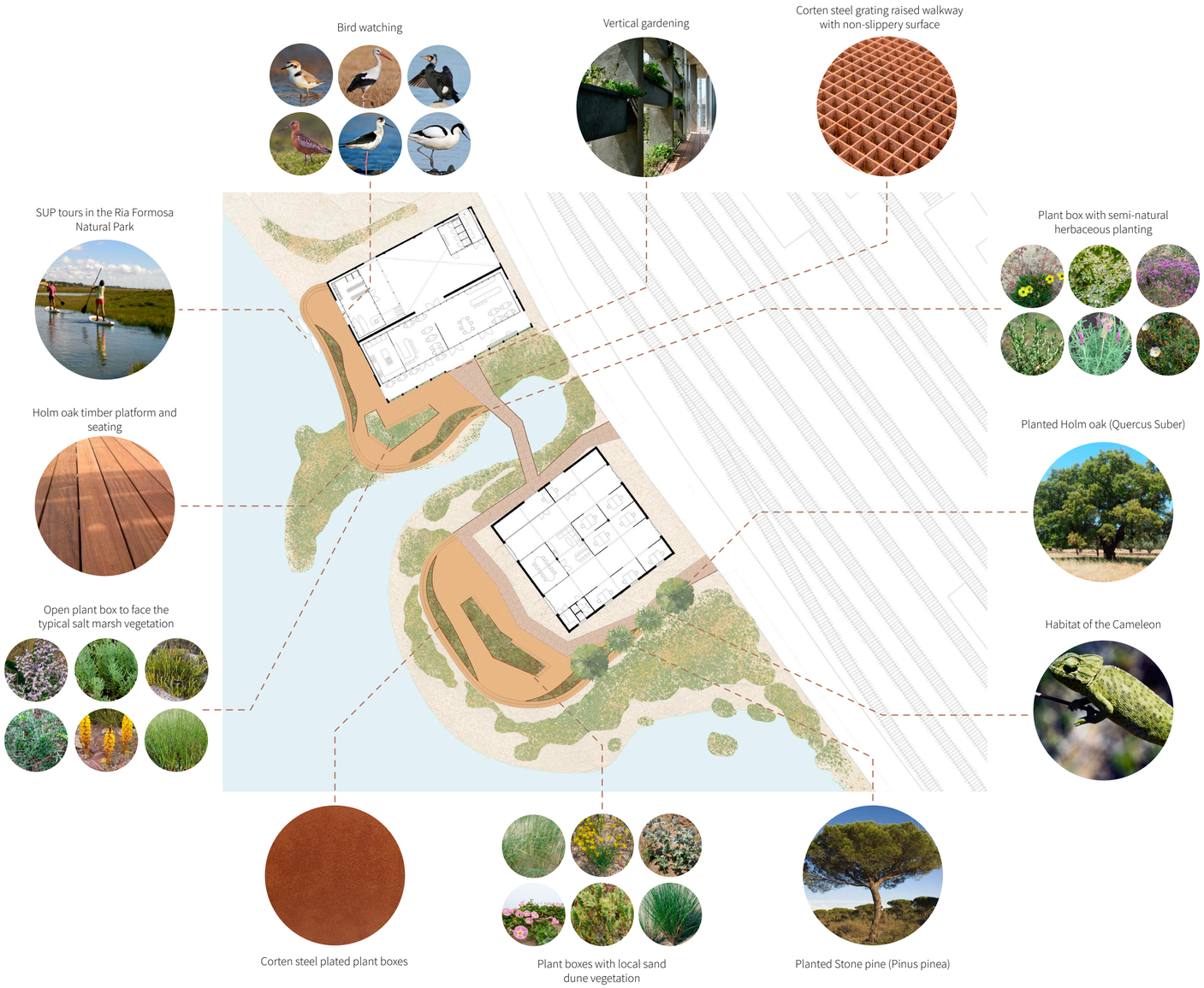
VALUES	Plants (bush &flower)	Trees	Park	Sea	Birds	Other animals	Shade	Street	Vacant buildings	Green facade	Neighbor-hood	Waterfront	Uninviting atmosphere	Peaceful area	Drinks & talk	Activities in sea	Meet	Entertain-ment	Exercise & dog walk
Potential of existing buildings					Bird watching		Restaurant Vertical gardening		Exhibition area Coffee bar SUP center Restaurant Flexible office spaces Studio spaces	Vertical gardening	Studio spaces Exhibition area Flexible office spaces		Restaurant Flexible office spaces Exhibition area Coffee bar Green platform Studio spaces	Green platform Bird watching SUP center	Restaurant Coffee bar		Exhibition area Green platform Flexible office spaces Restaurant Studio spaces Coffee bar	Exhibition area SUP center	
Accessibility			Green platform	Green platform SUP center				Green platform Bridge	Restaurant Flexible office spaces Studio spaces		Green platform Flexible office spaces Vertical gardening Studio spaces	Green platform Bridge	Green platform Bridge	Green platform	Restaurant Coffee bar	SUP center	Green platform Bridge		Green platform Bridge
Awereness of biodiversity	Bridge Green platform Vertical gardening	Green platform	Bridge Green platform Vertical gardening	Green platform SUP center	Bird watching Green platform	Green platform			Vertical gardening Bird watching	Vertical gardening	Vertical gardening Exhibition area Green platform Bird watching	Green platform SUP center		Green platform		SUP center		SUP center Bird watching	Green platform
Lack of maintenance of nature	Bridge Green platform Vertical gardening	Green platform	Bridge Green platform Vertical gardening	Green platform	Green platform Vertical gardening	Green platform	Green platform			Vertical gardening	Green platform Bridge	Green platform	Green platform	Green platform		SUP center			
Emotional attached	Green platform Vertical gardening	Green platform	Green platform Vertical gardening	Green platform	Bird watching				Exhibition area Restaurant Coffee bar Studio spaces		Green platform Bridge	Green platform		Green platform	Restaurant Coffee bar	SUP center	Coffee bar Green platform	Exhibition area	Green platform
Abandoned area	Green platform Vertical gardening	Green platform	Green platform Vertical gardening		Green platform Vertical gardening	Green platform		Green platform Bridge	Coffee bar Studio spaces Restaurant Flexible office spaces	Vertical gardening	Flexible office spaces Green platform Exhibition area Bridge	Green platform	Flexible office spaces Exhibition area Coffee bar Green platform Bridge	Green platform	Restaurant Coffee bar	SUP center	Flexible office spaces Coffee bar Exhibition area Green platform Restaurant Studio spaces	Exhibition area SUP center Bird watching	Green platform
Beauty of nature	Green platform Vertical gardening	Green platform	Green platform Vertical gardening	Green platform	Green platform Bird watching	Green platform	Vertical gardening	Green platform Bridge	Vertical gardening	Vertical gardening	Green platform Bridge Exhibition area	Green platform	Green platform	Green platform		SUP center	Green platform	Exhibition area	Green platform

Desired floorplan for functions
Daylight
Connection to green platform



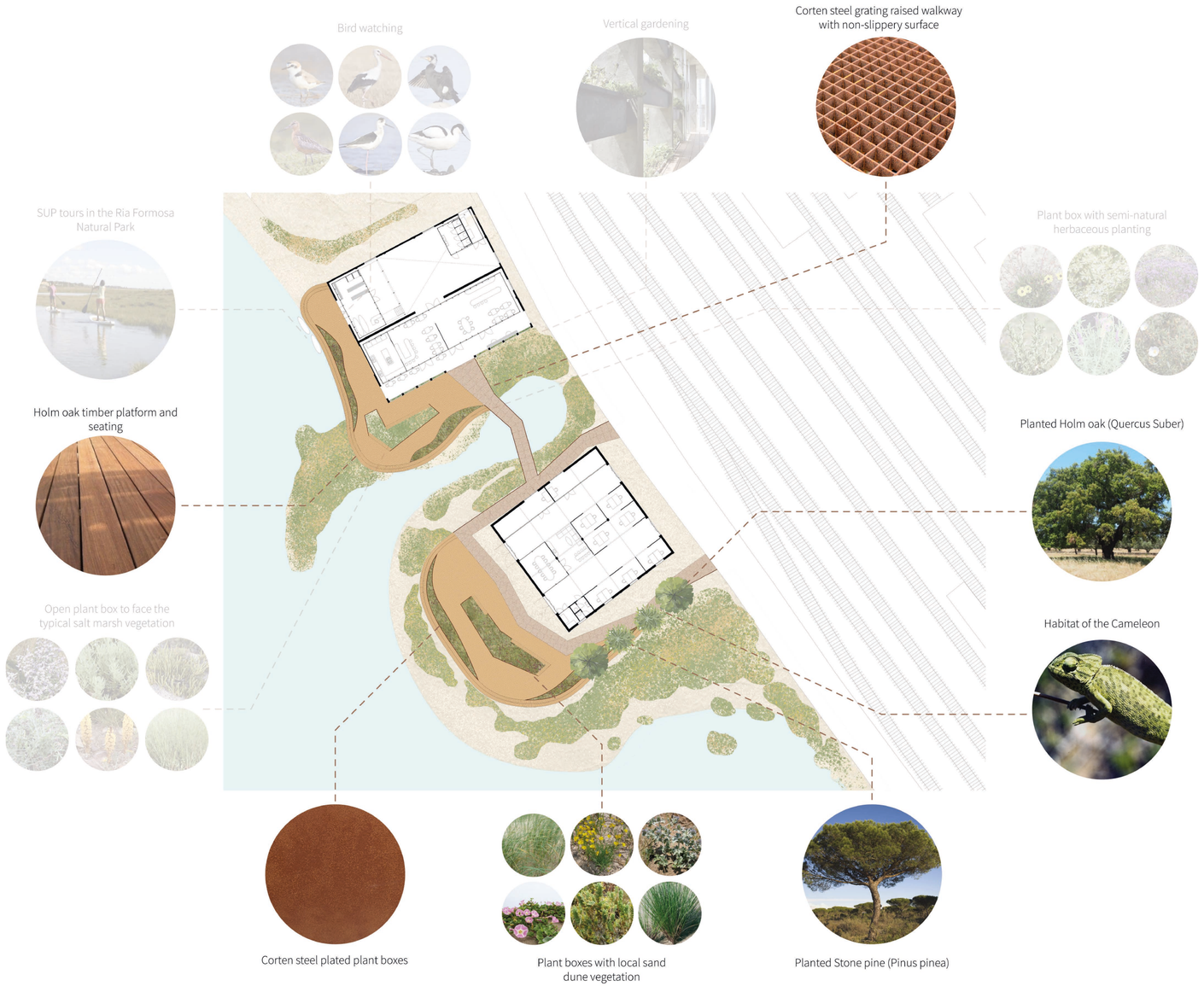
Keep original industrial appearance
Climatised boxes
Daylight
Nature-inclusive façade



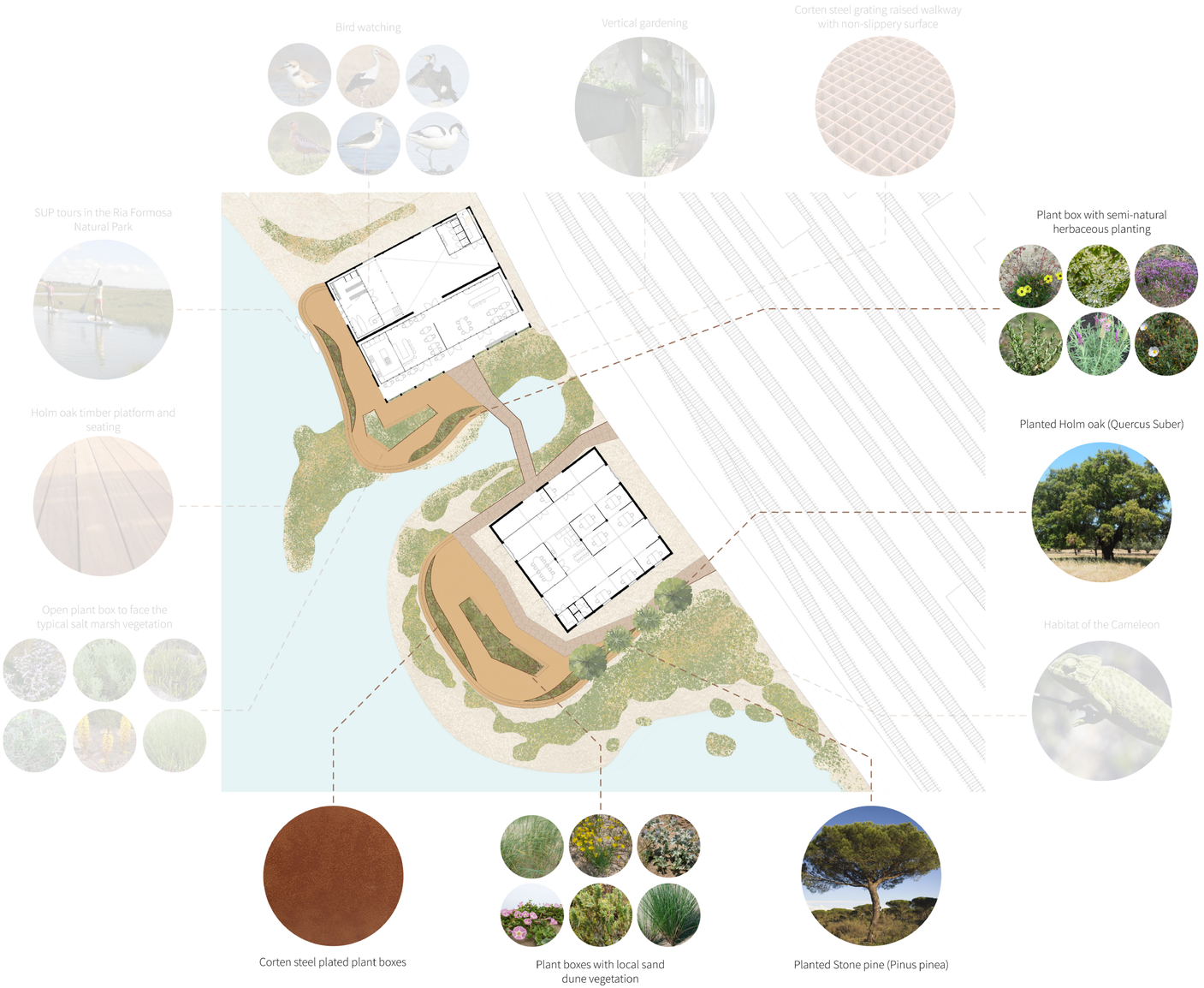


39 Nature-inclusive redesign

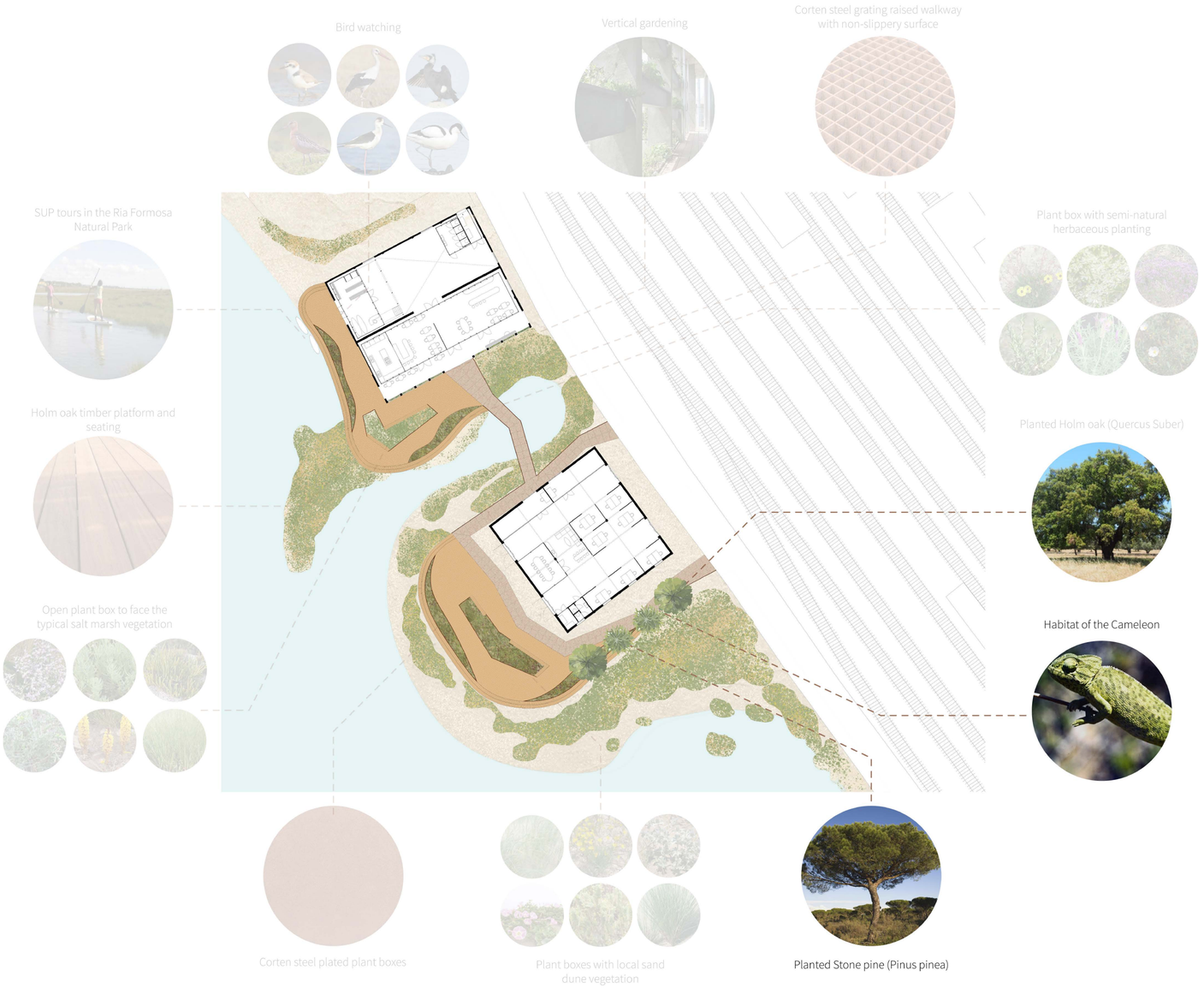
Design a process: creating the right conditions



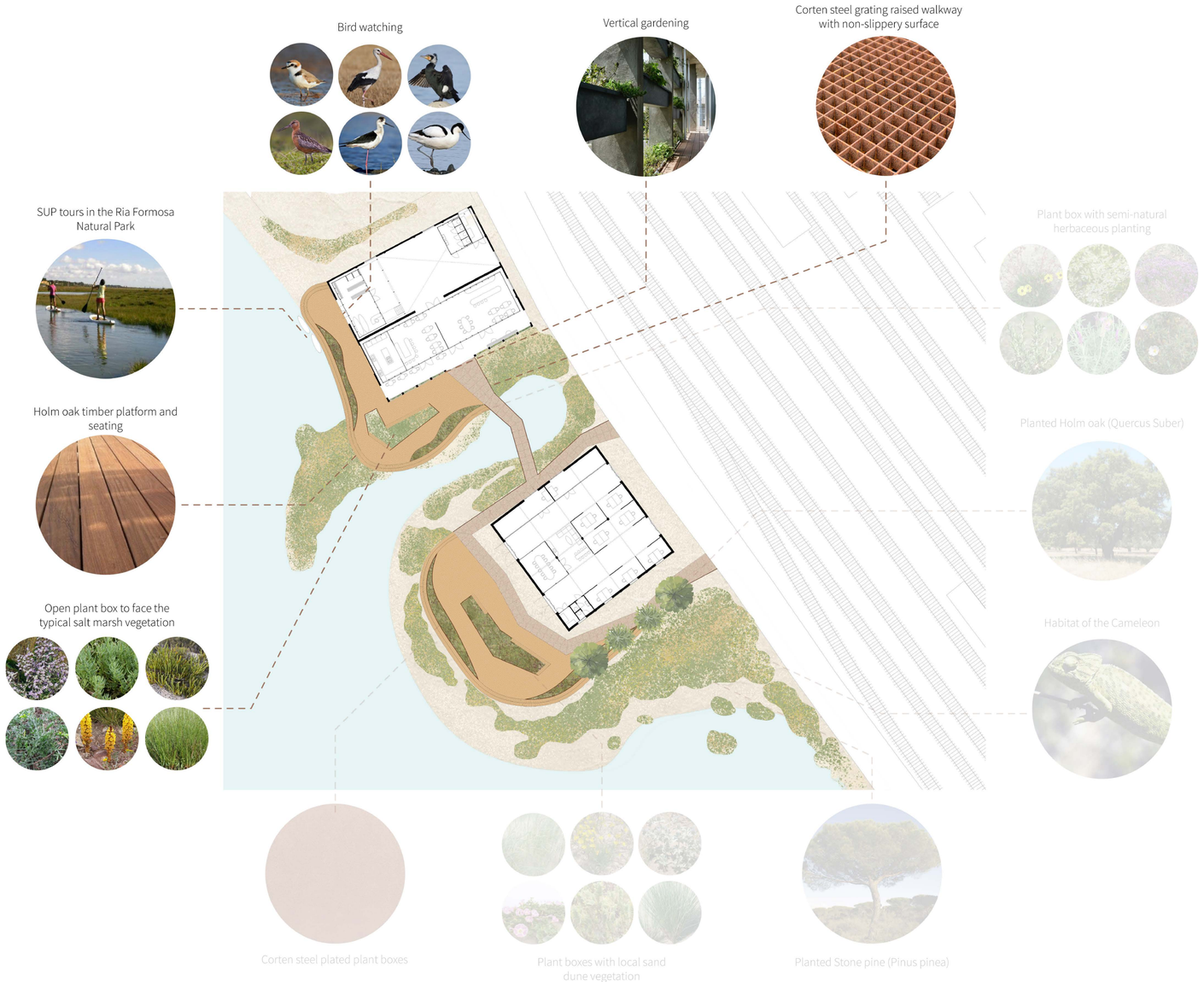
Make complex and diverse designs: complexity and diversity

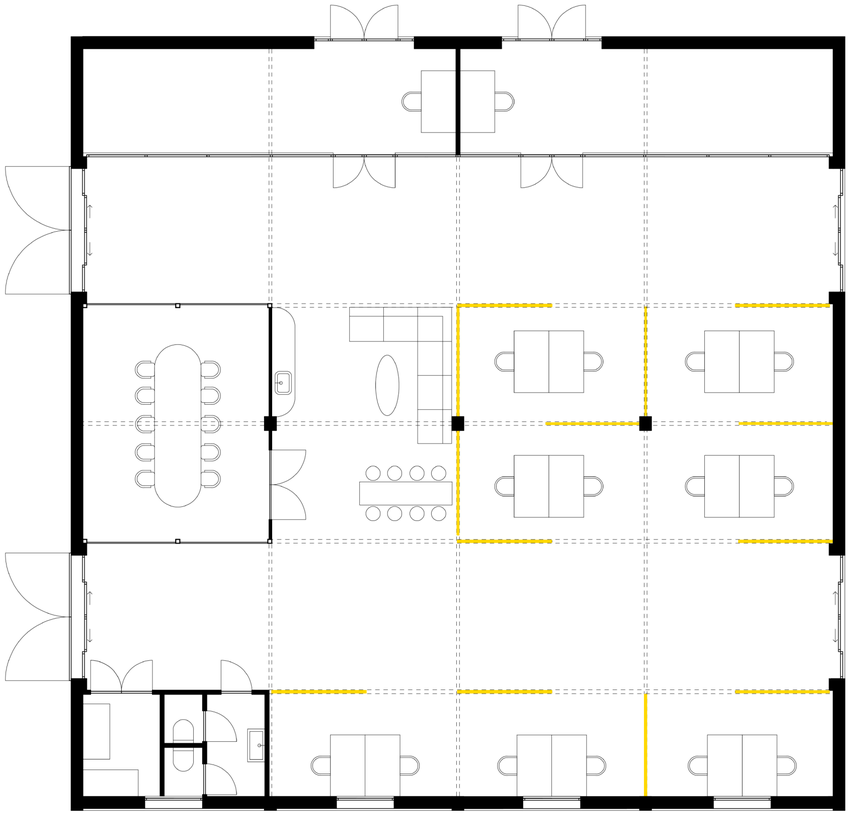


Design with nature, not against: elaborate further on the current situation

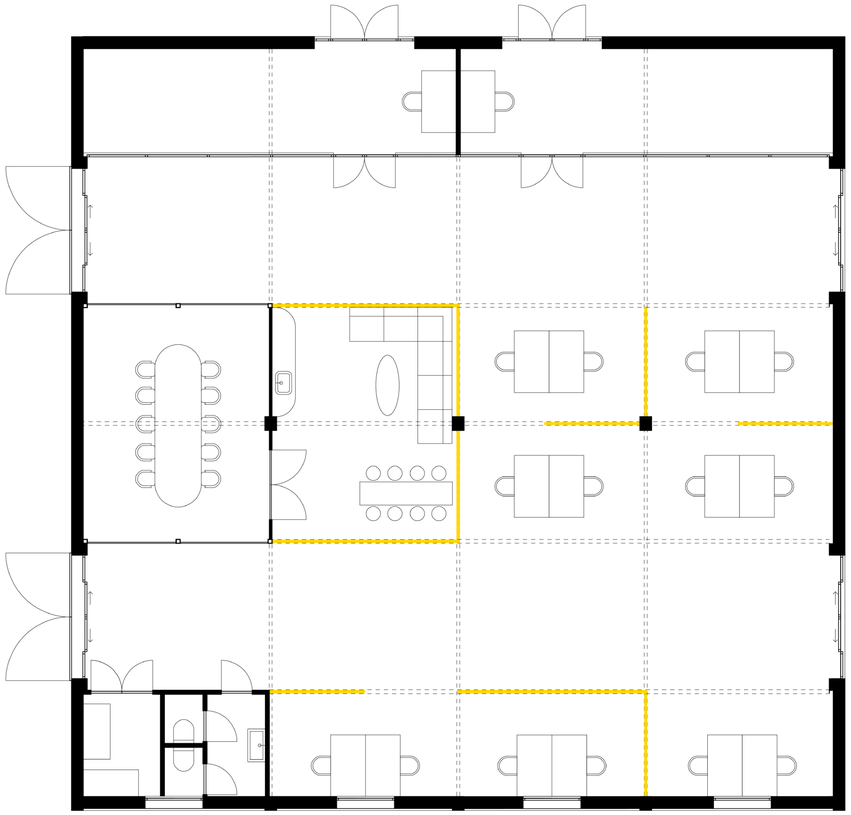


Design the management: role of residents





Individual working

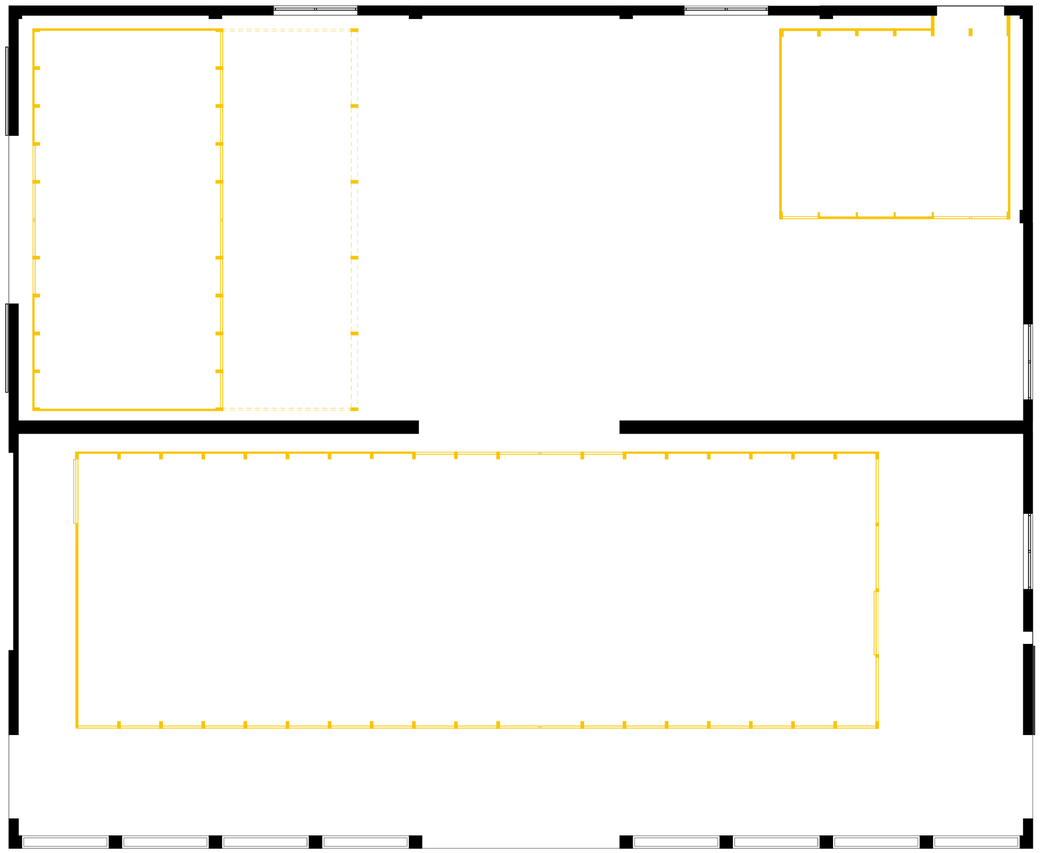


Group meeting

44Flexible office spaces

B1

45 Flexible office spaces

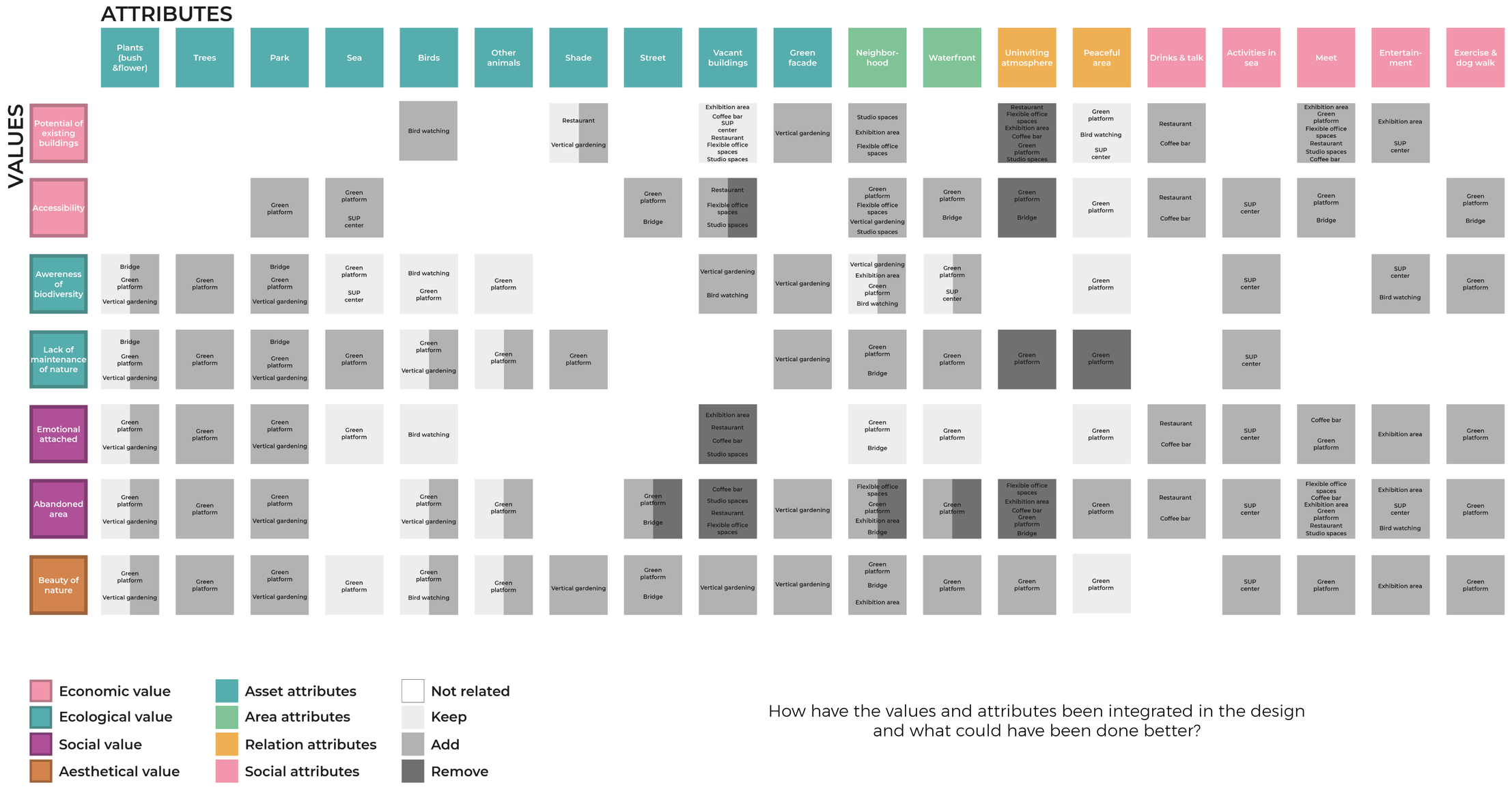


46 Box-in-box principle

B2

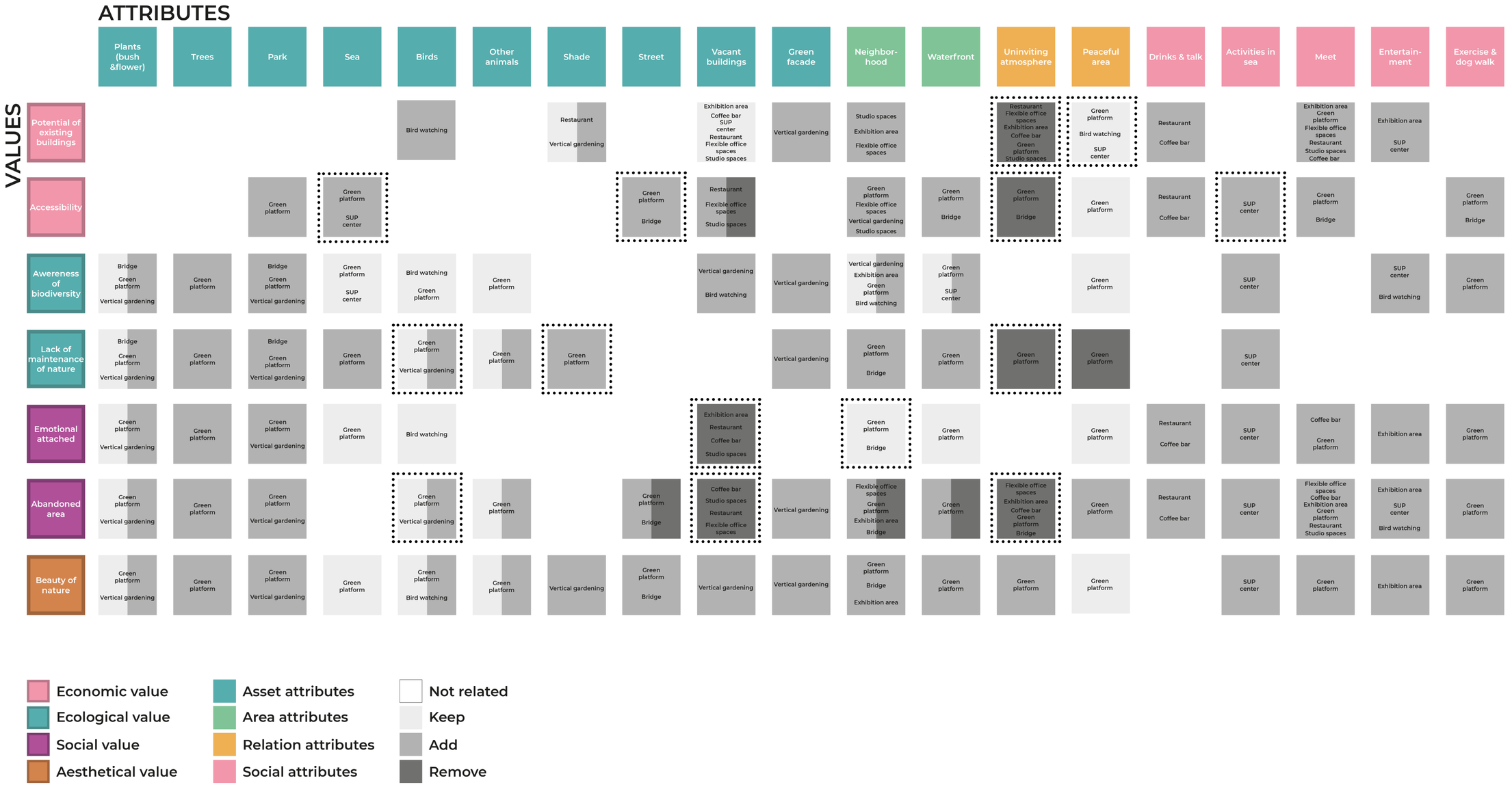
Part 3

Impact assessment



How have the values and attributes been integrated in the design and what could have been done better?

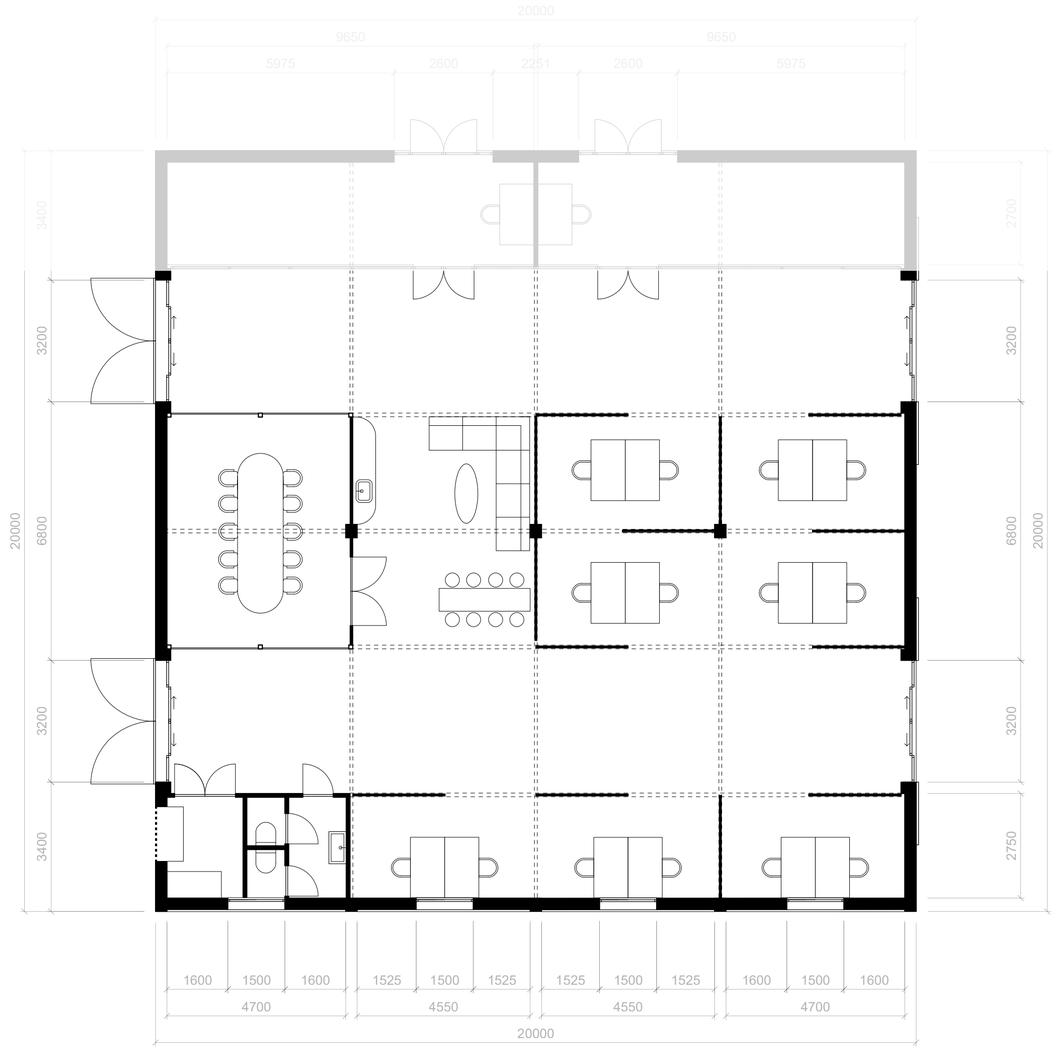
Impact assessment matrix


ATTRIBUTES
Plants (bush &flower)
Trees
Park
Sea
Birds
Other animals
Shade
Street
Vacant buildings
Green facade
Neighbor-hood
Waterfront
Uninviting atmosphere
Peaceful area
Drinks & talk
Activities in sea
Meet
Entertain-ment
Exercise & dog walk
VALUES
Potential of existing buildings
Accessibility
Awereness of biodiversity
Lack of maintenance of nature
Emotional attached
Abandoned area
Beauty of nature
Economic value
Ecological value
Social value
Aesthetical value
Asset attributes
Area attributes
Relation attributes
Social attributes
Not related
Keep
Add
Remove

Not related
Keep
Add
Remove

ATTRIBUTES

VALUES	Vacant buildings	Neighbor-hood	Uninviting atmosphere	Meet
Potential of existing buildings	Flexible office spaces	Flexible office spaces	Flexible office spaces	Flexible office spaces
Accessibility	Flexible office spaces	Flexible office spaces		
Abandoned area	Flexible office spaces	Flexible office spaces	Flexible office spaces	Flexible office spaces



50 Flexible office spaces

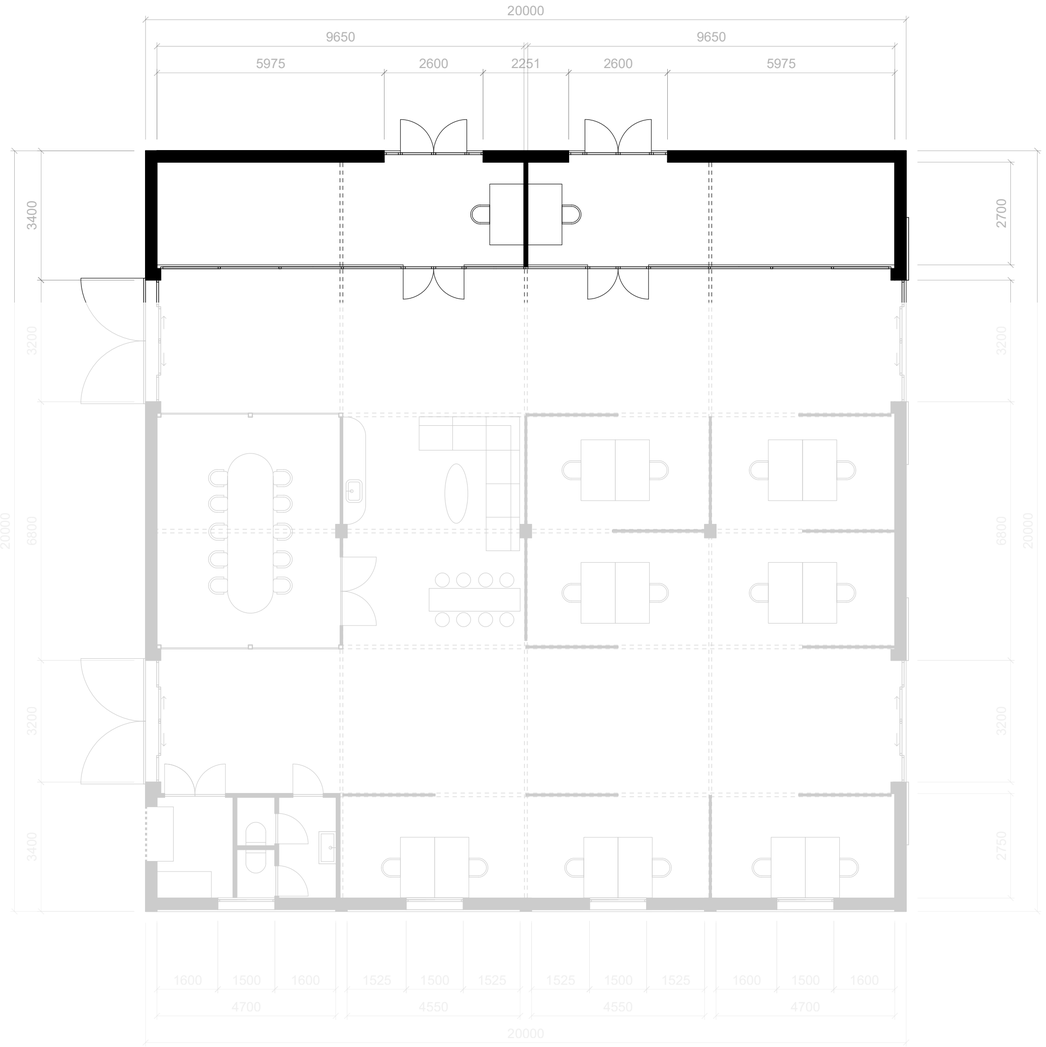
B1

Not related
Keep
Add
Remove

ATTRIBUTES

VALUES

	Vacant buildings	Neighbor-hood	Uninviting atmosphere	Meet
Potential of existing buildings	Studio spaces	Studio spaces	Studio spaces	Studio spaces
Accessibility	Studio spaces	Studio spaces		
Emotional attached	Studio spaces			
Abandoned area	Studio spaces			Studio spaces



51 Creative studio spaces

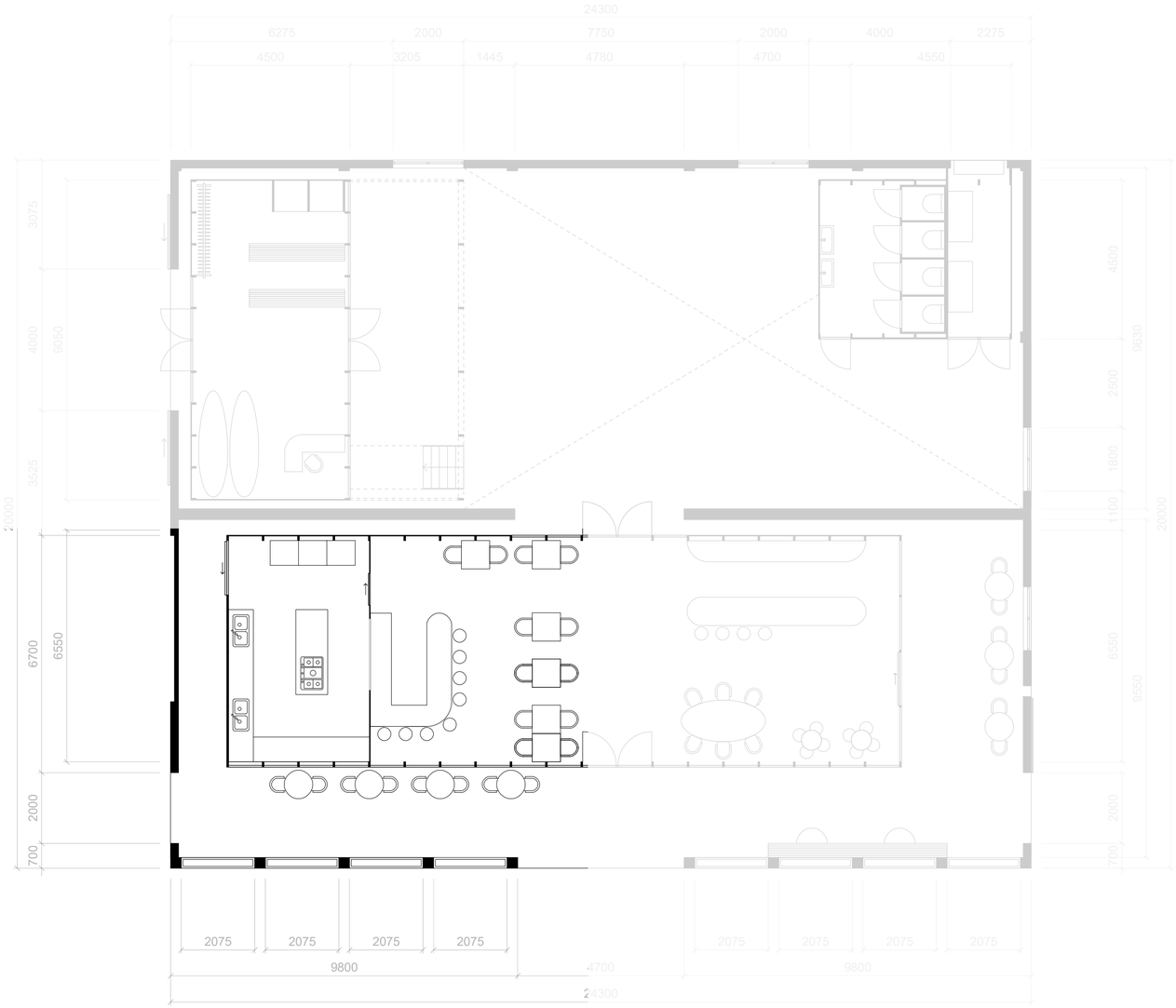
B1

Not related
Keep
Add
Remove

ATTRIBUTES

VALUES

	Shade	Vacant buildings	Uninviting atmosphere	Drinks & talk	Meet
Potential of existing buildings	Restaurant	Restaurant	Restaurant	Restaurant	Restaurant
Accessibility		Restaurant		Restaurant	
Emotional attached		Restaurant		Restaurant	
Abandoned area		Restaurant		Restaurant	Restaurant

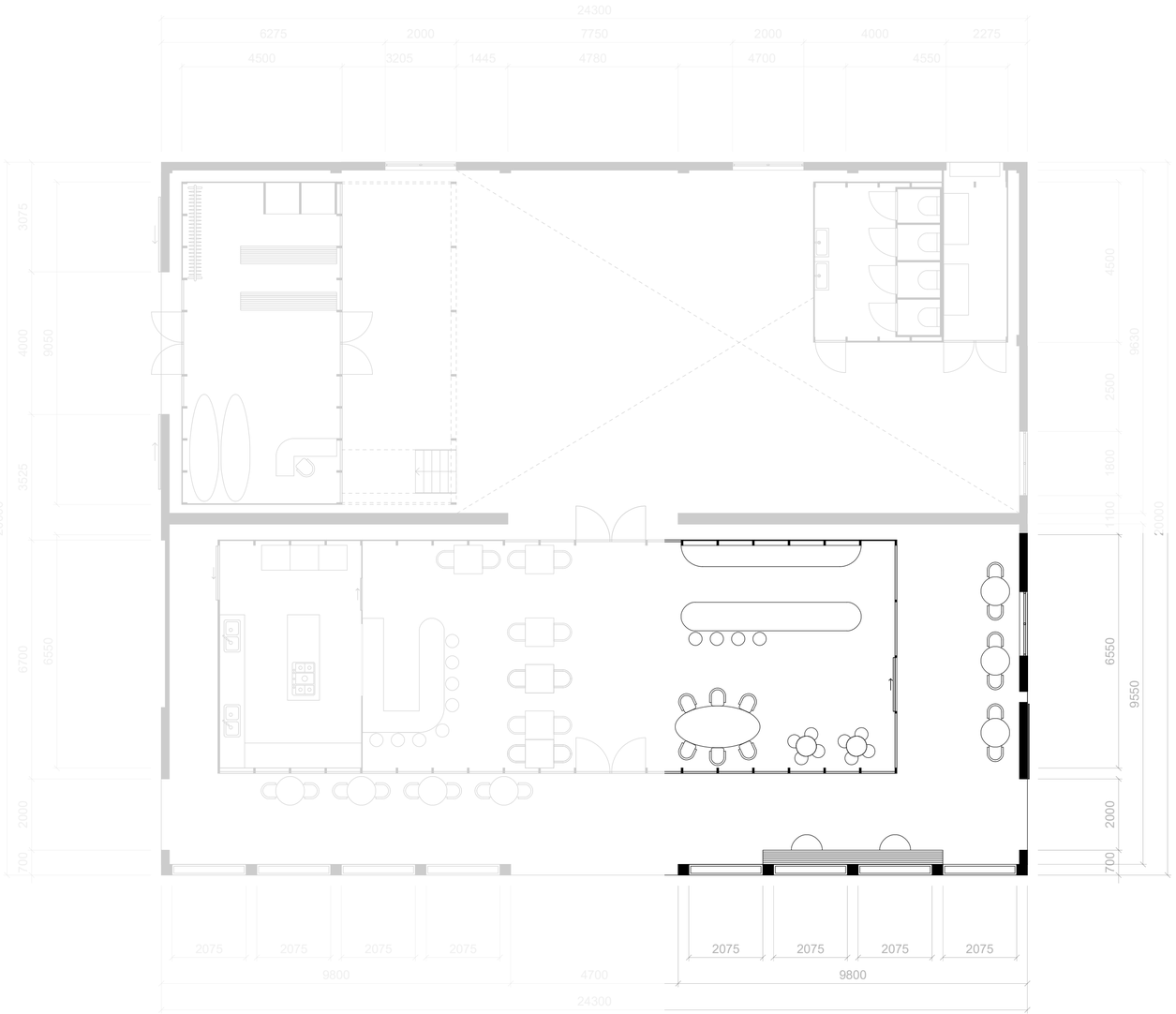


Not related
Keep
Add
Remove

ATTRIBUTES

VALUES

	Vacant buildings	Uninviting atmosphere	Drinks & talk	Meet
Potential of existing buildings	Coffee bar	Coffee bar	Coffee bar	Coffee bar
Accessibility			Coffee bar	
Emotional attached	Coffee bar		Coffee bar	Coffee bar
Abandoned area	Coffee bar	Coffee bar	Coffee bar	Coffee bar



53 Coffee bar

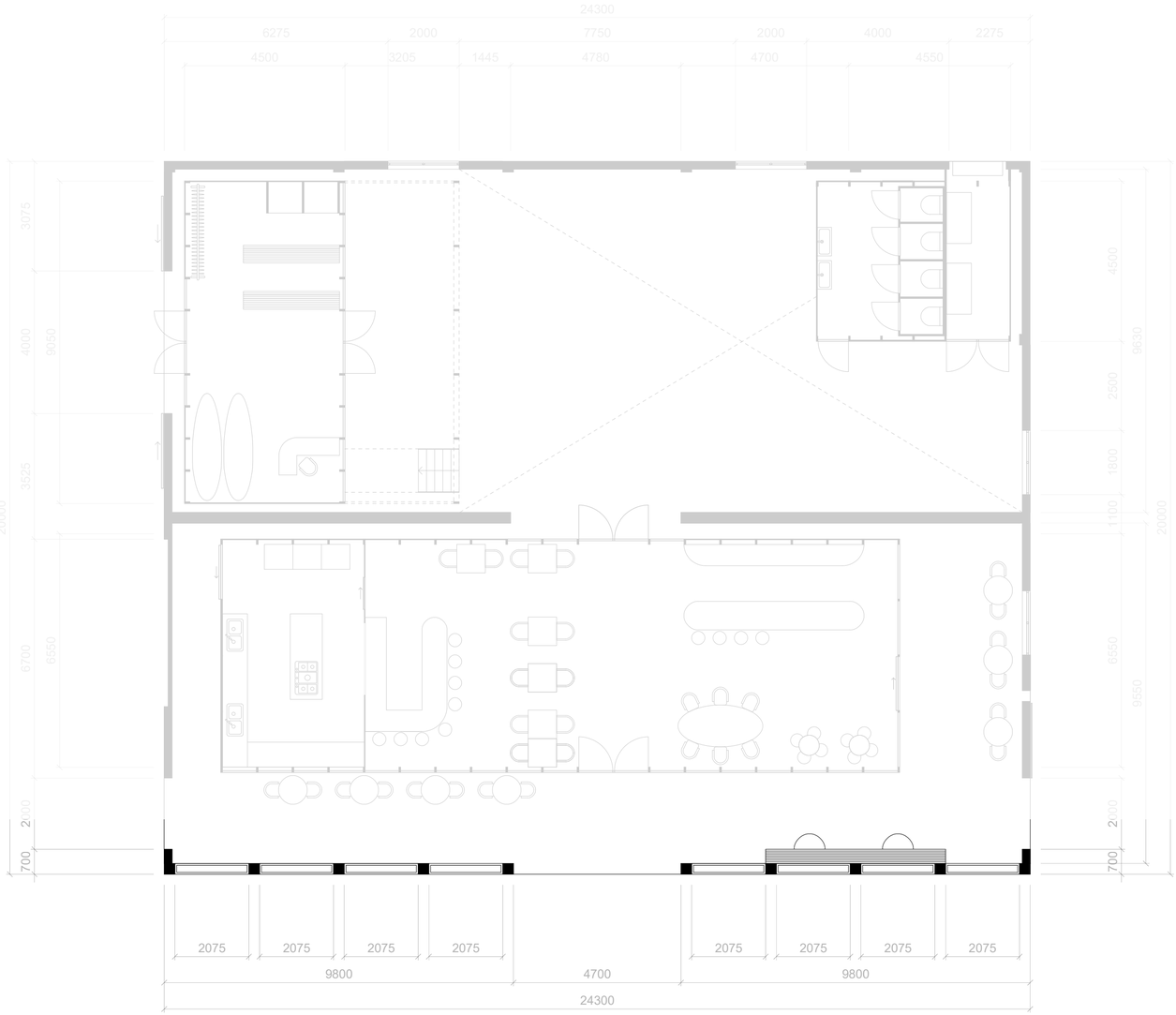
B2

Not related
Keep
Add
Remove

ATTRIBUTES

VALUES

	Plants (bush &flower)	Park	Birds	Shade	Vacant buildings	Green facade	Neighbor-hood
Potential of existing buildings				Vertical gardening		Vertical gardening	
Accessibility							Vertical gardening
Awereness of biodiversity	Vertical gardening	Vertical gardening			Vertical gardening	Vertical gardening	Vertical gardening
Lack of maintenance of nature	Vertical gardening	Vertical gardening	Vertical gardening			Vertical gardening	
Emotional attached	Vertical gardening	Vertical gardening					
Abandoned area	Vertical gardening	Vertical gardening	Vertical gardening			Vertical gardening	
Beauty of nature	Vertical gardening	Vertical gardening		Vertical gardening	Vertical gardening	Vertical gardening	

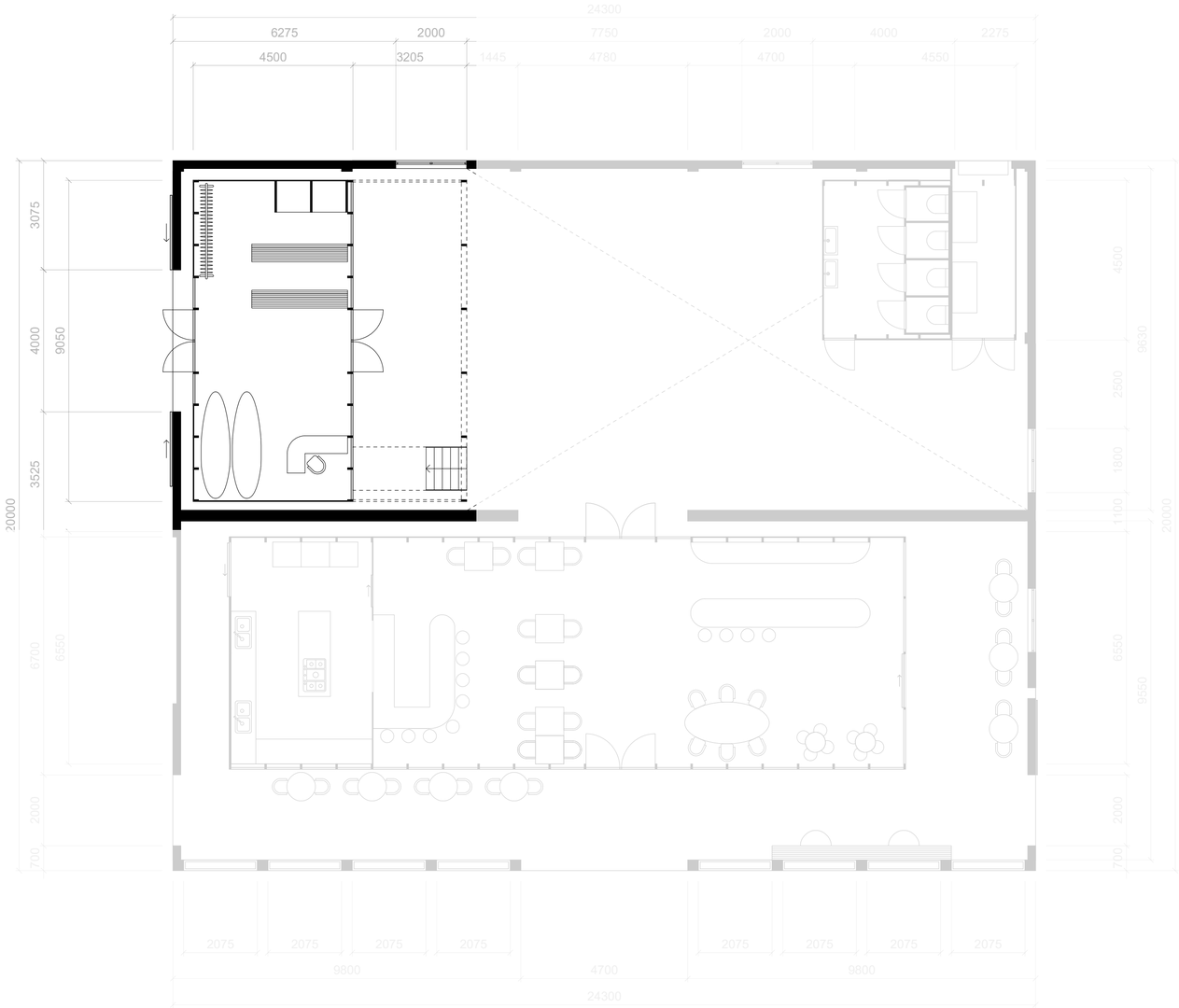


Not related
Keep
Add
Remove

ATTRIBUTES

VALUES

	Sea	Vacant buildings	Waterfront	Peaceful area	Activities in sea	Entertain-ment
Potential of existing buildings		SUP center		SUP center		SUP center
Accessibility	SUP center				SUP center	
Awereness of biodiversity	SUP center		SUP center		SUP center	SUP center
Lack of maintenance of nature					SUP center	
Emotional attached					SUP center	
Abandoned area					SUP center	SUP center
Beauty of nature					SUP center	



55 SUP center

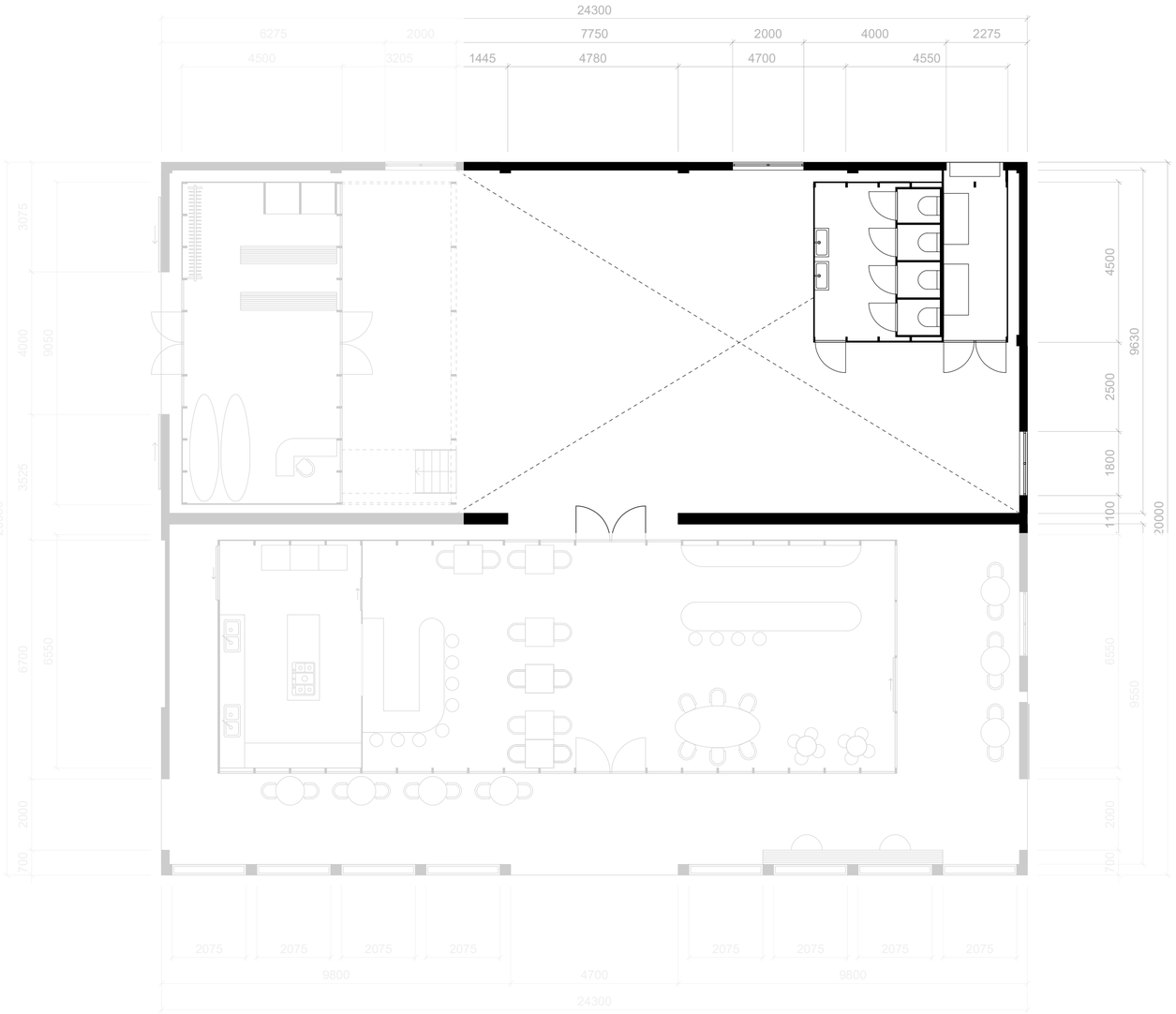
B2

Not related
Keep
Add
Remove

ATTRIBUTES

VALUES

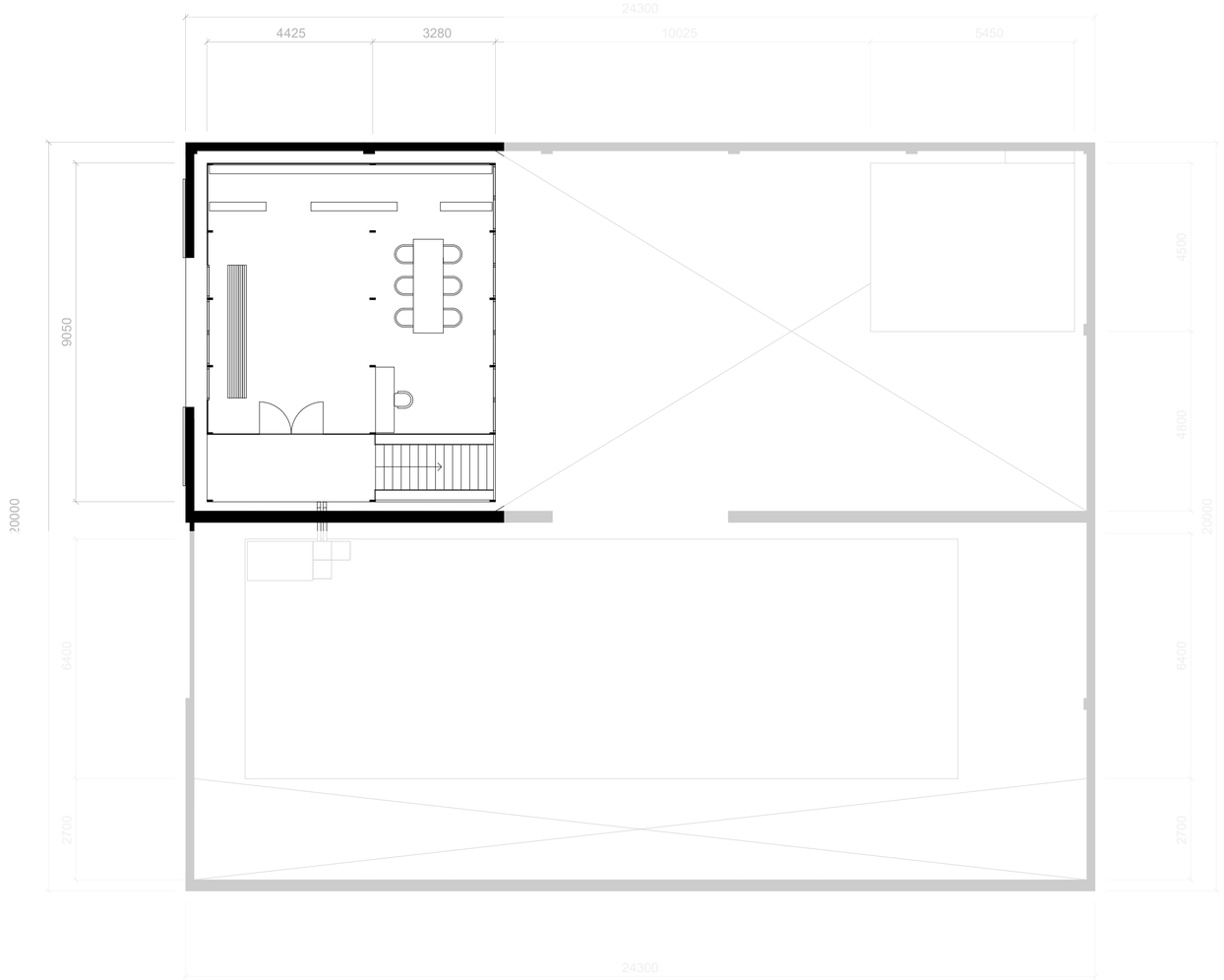
	Vacant buildings	Green facade	Neighbor-hood	Uninviting atmosphere	Meet	Entertain-ment
Potential of existing buildings	Exhibition area		Exhibition area	Exhibition area	Exhibition area	Exhibition area
Awereness of biodiversity			Exhibition area			
Emotional attached	Exhibition area					Exhibition area
Abandoned area			Exhibition area	Exhibition area	Exhibition area	Exhibition area
Beauty of nature			Exhibition area			Exhibition area



Not related
Keep
Add
Remove

ATTRIBUTES

VALUES	Birds	Vacant buildings	Neighbor-hood	Peaceful area	Entertain-ment
Potential of existing buildings	Bird watching			Bird watching	
Awereness of biodiversity	Bird watching	Bird watching	Bird watching		Bird watching
Emotional attached	Bird watching				
Abandoned area					Bird watching
Beauty of nature	Bird watching				



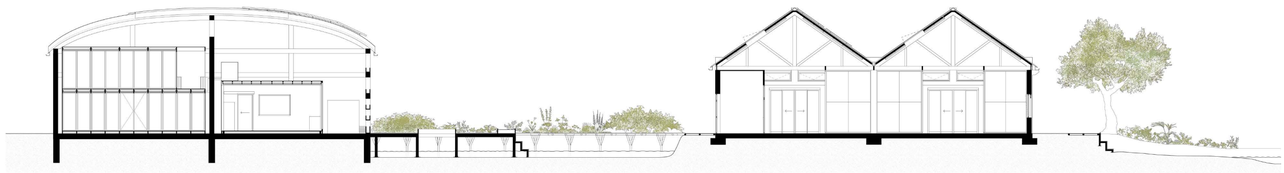
57 Bird watching

B2

Not related
Keep
Add
Remove

ATTRIBUTES

VALUES	Plants (bush &flower)	Trees	Park	Sea	Birds	Other animals	Shade	Street	Neighbor-hood	Waterfront	Uninviting atmosphere	Peaceful area	Meet	Exercise & dog walk
Potential of existing buildings											Green platform	Green platform	Green platform	
Accessibility			Green platform	Green platform				Green platform	Green platform	Green platform	Green platform	Green platform	Green platform	Green platform
Awereness of biodiversity	Green platform	Green platform	Green platform	Green platform	Green platform	Green platform			Green platform	Green platform		Green platform		Green platform
Lack of maintenance of nature	Green platform	Green platform	Green platform	Green platform	Green platform	Green platform	Green platform		Green platform	Green platform	Green platform	Green platform		
Emotional attached	Green platform	Green platform	Green platform	Green platform					Green platform	Green platform		Green platform	Green platform	Green platform
Abandoned area	Green platform	Green platform	Green platform		Green platform	Green platform		Green platform	Green platform	Green platform	Green platform	Green platform	Green platform	Green platform
Beauty of nature	Green platform	Green platform	Green platform	Green platform	Green platform	Green platform		Green platform	Green platform	Green platform	Green platform	Green platform	Green platform	Green platform

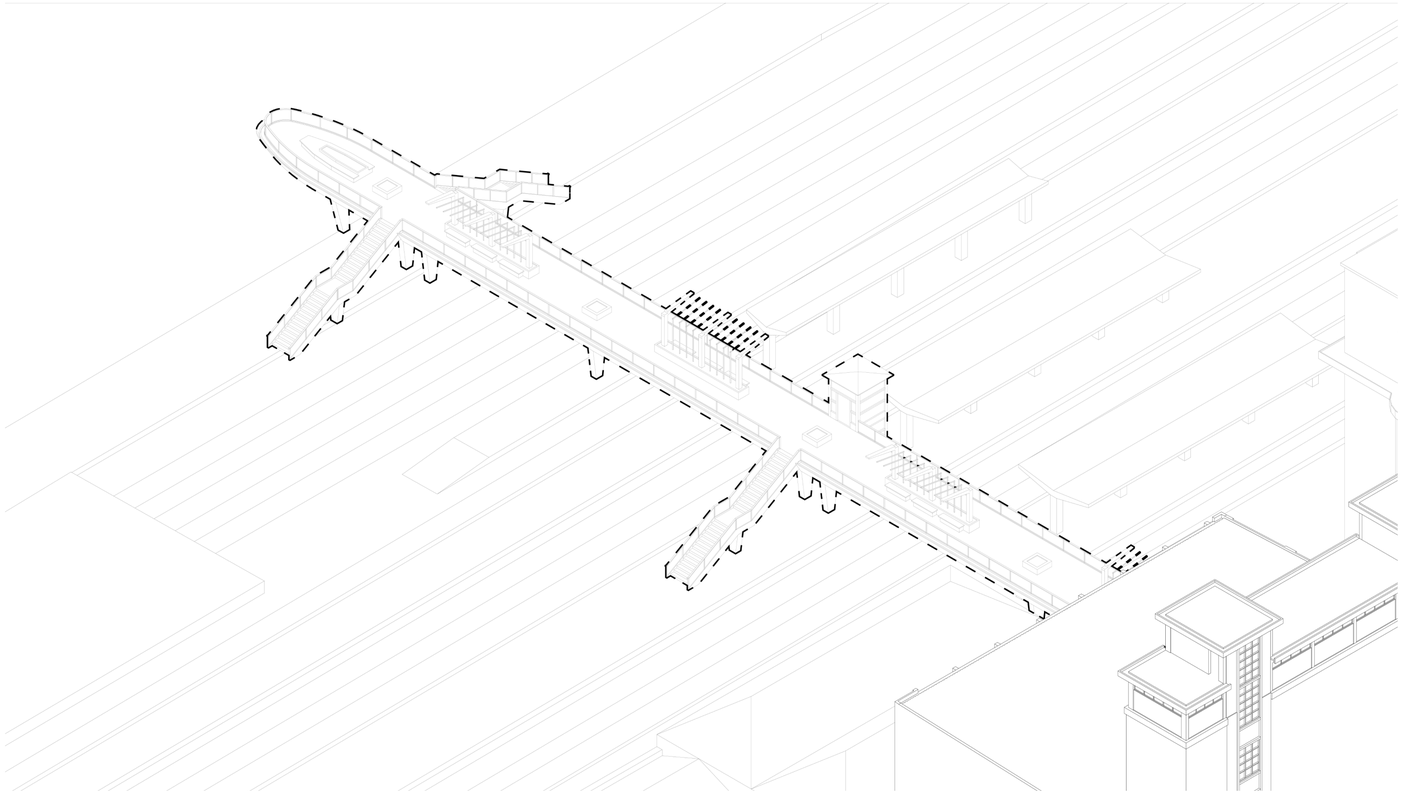


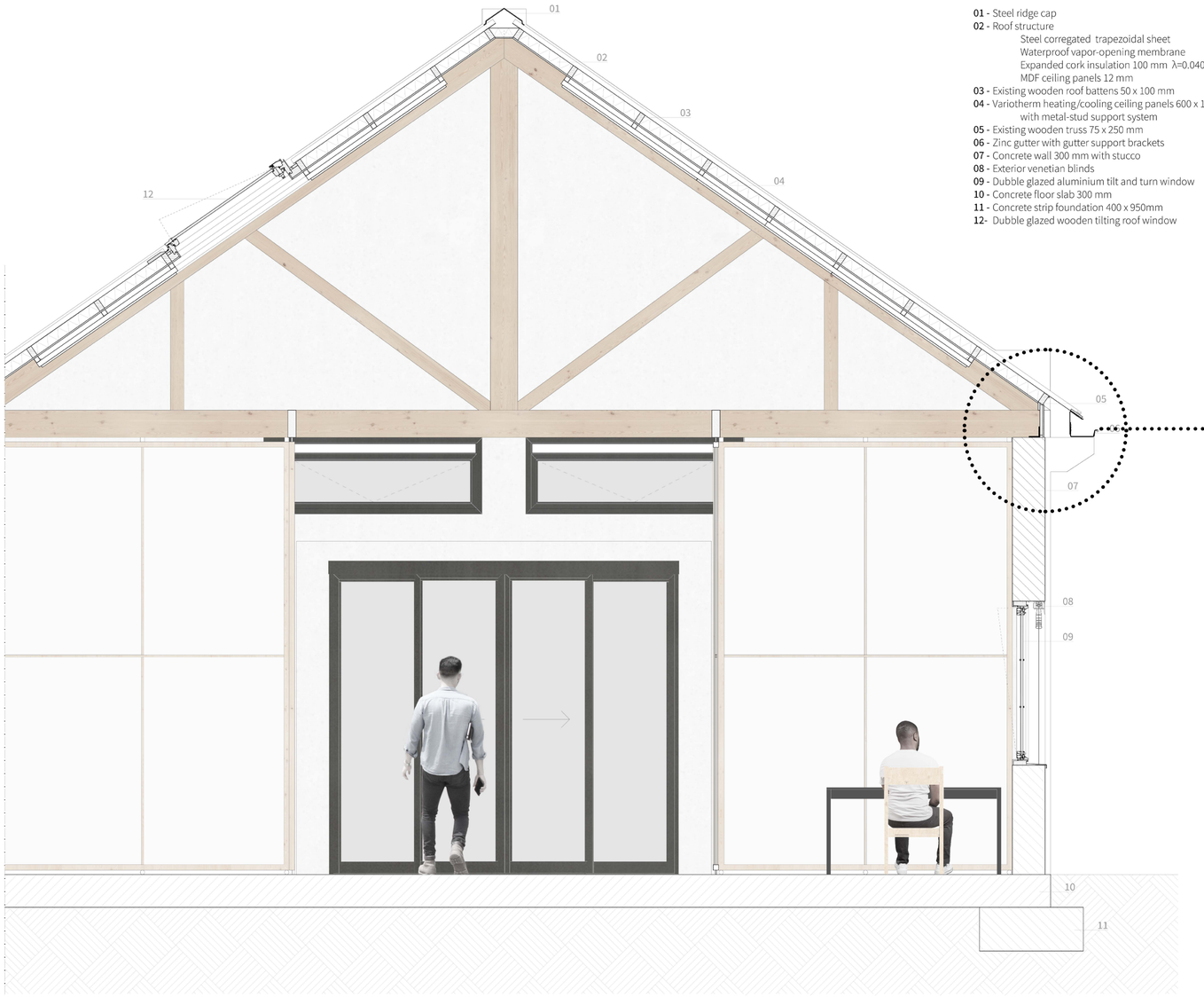
Not related
Keep
Add
Remove

ATTRIBUTES

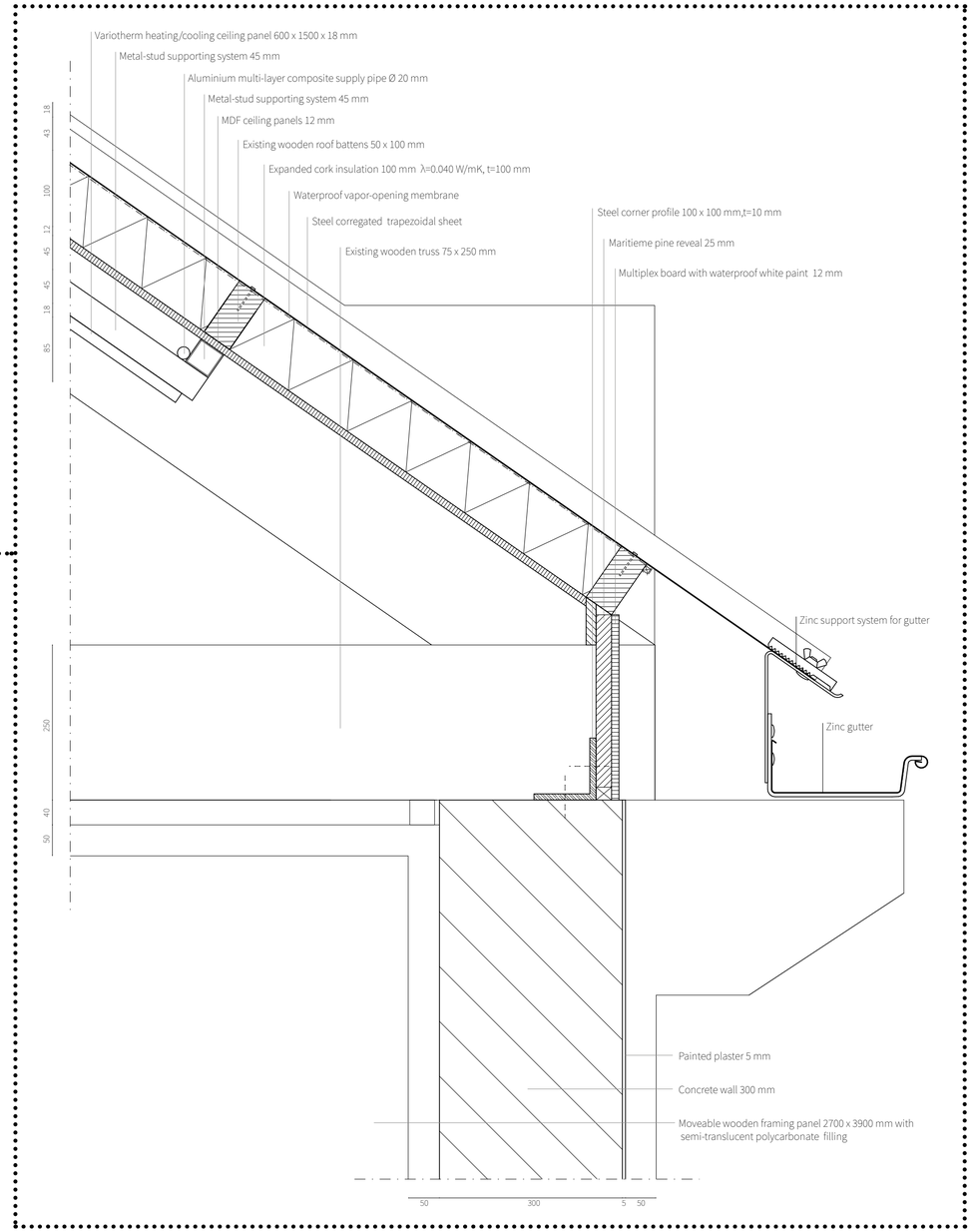
VALUES

	Plants (bush &flower)	Park	Street	Neighbor-hood	Waterfront	Uninviting atmosphere	Meet	Exercise & dog walk
Accessibility			Bridge		Bridge	Bridge	Bridge	Bridge
Awereness of biodiversity	Bridge	Bridge						
Lack of maintenance of nature	Bridge	Bridge		Bridge				
Emotional attached				Bridge				
Abandoned area			Bridge	Bridge		Bridge		
Beauty of nature			Bridge	Bridge				

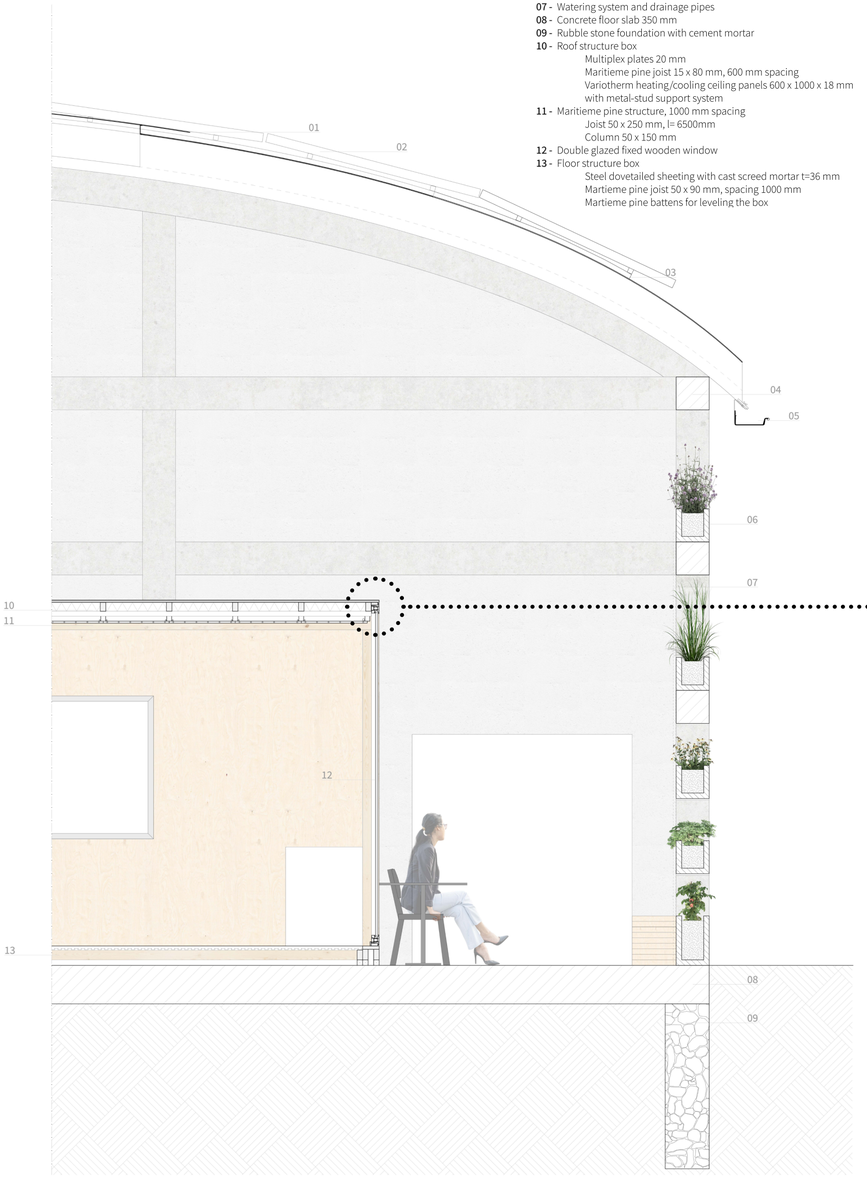


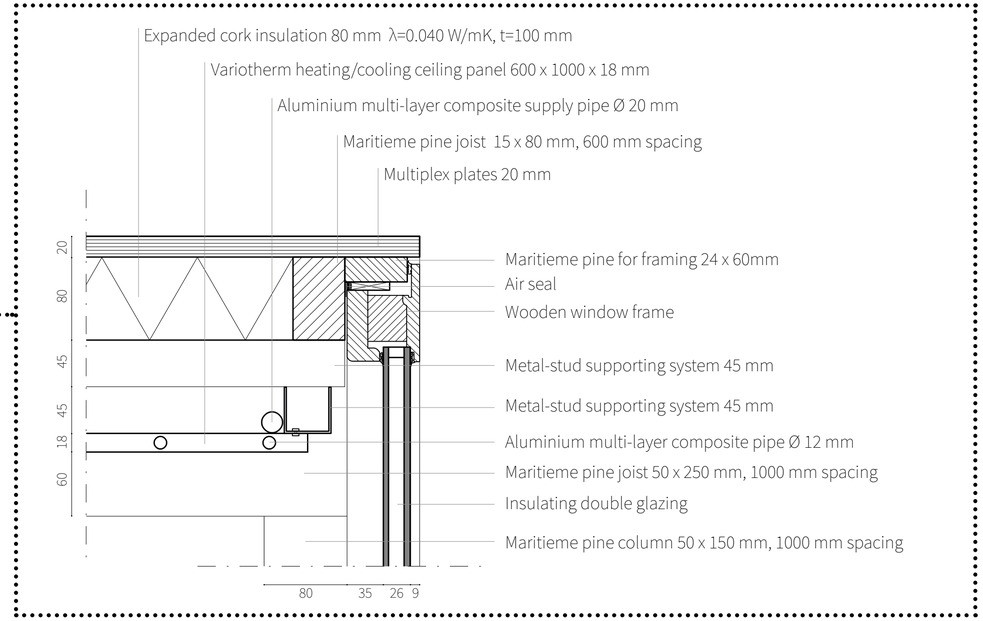


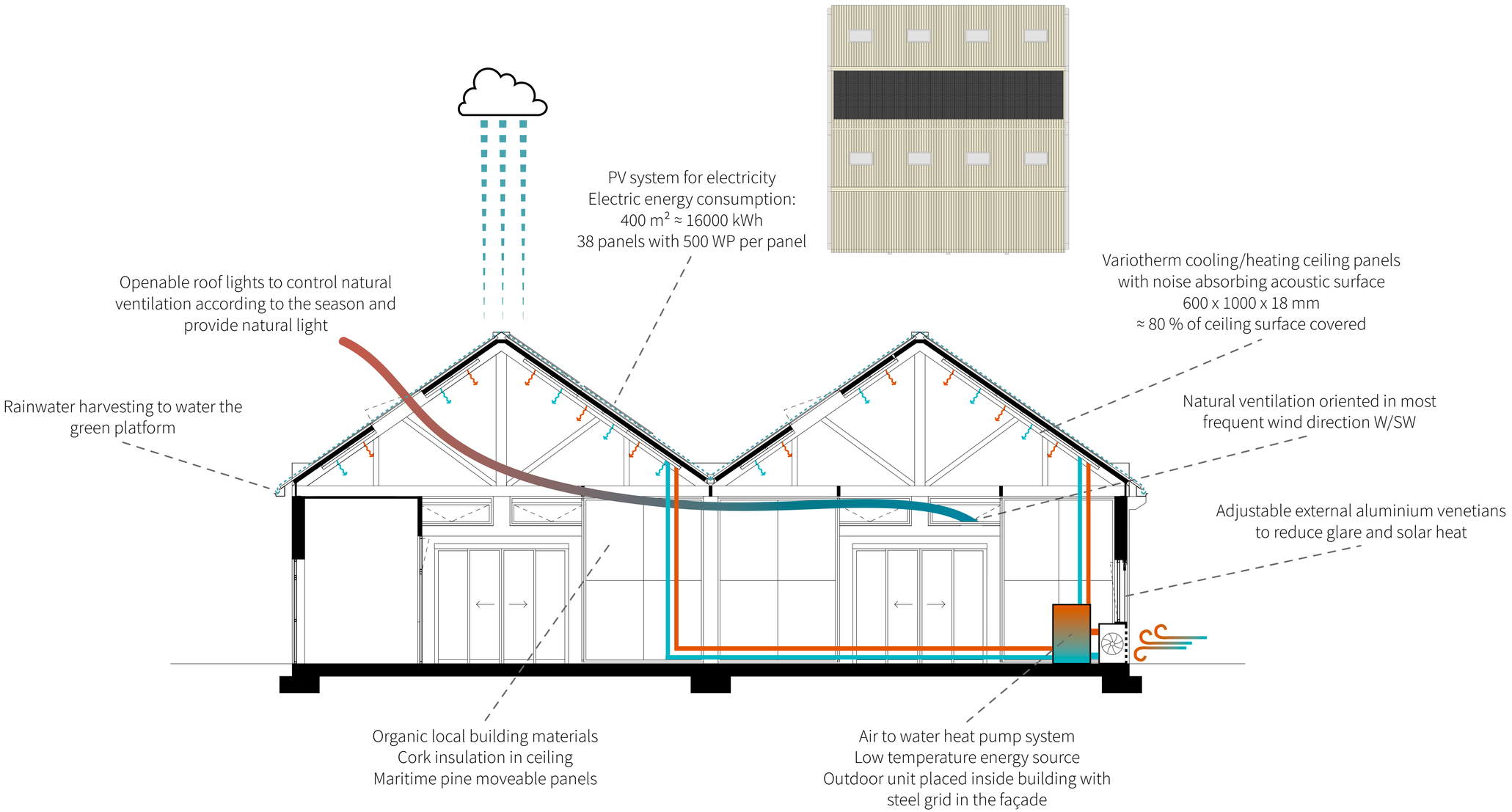
01 - Steel ridge cap
02 - Roof structure
Steel corregated trapezoidal sheet
Waterproof vapor-opening membrane
Expanded cork insulation 100 mm λ=0.040 W/mK
MDF ceiling panels 12 mm
03 - Existing wooden roof battens 50 x 100 mm
04 - Variotherm heating/cooling ceiling panels 600 x 1500 x 18 mm with metal-stud support system
05 - Existing wooden truss 75 x 250 mm
06 - Zinc gutter with gutter support brackets
07 - Concrete wall 300 mm with stucco
08 - Exterior venetian blinds
09 - Dubble glazed aluminium tilt and turn window
10 - Concrete floor slab 300 mm
11 - Concrete strip foundation 400 x 950mm
12- Dubble glazed wooden tilting roof window

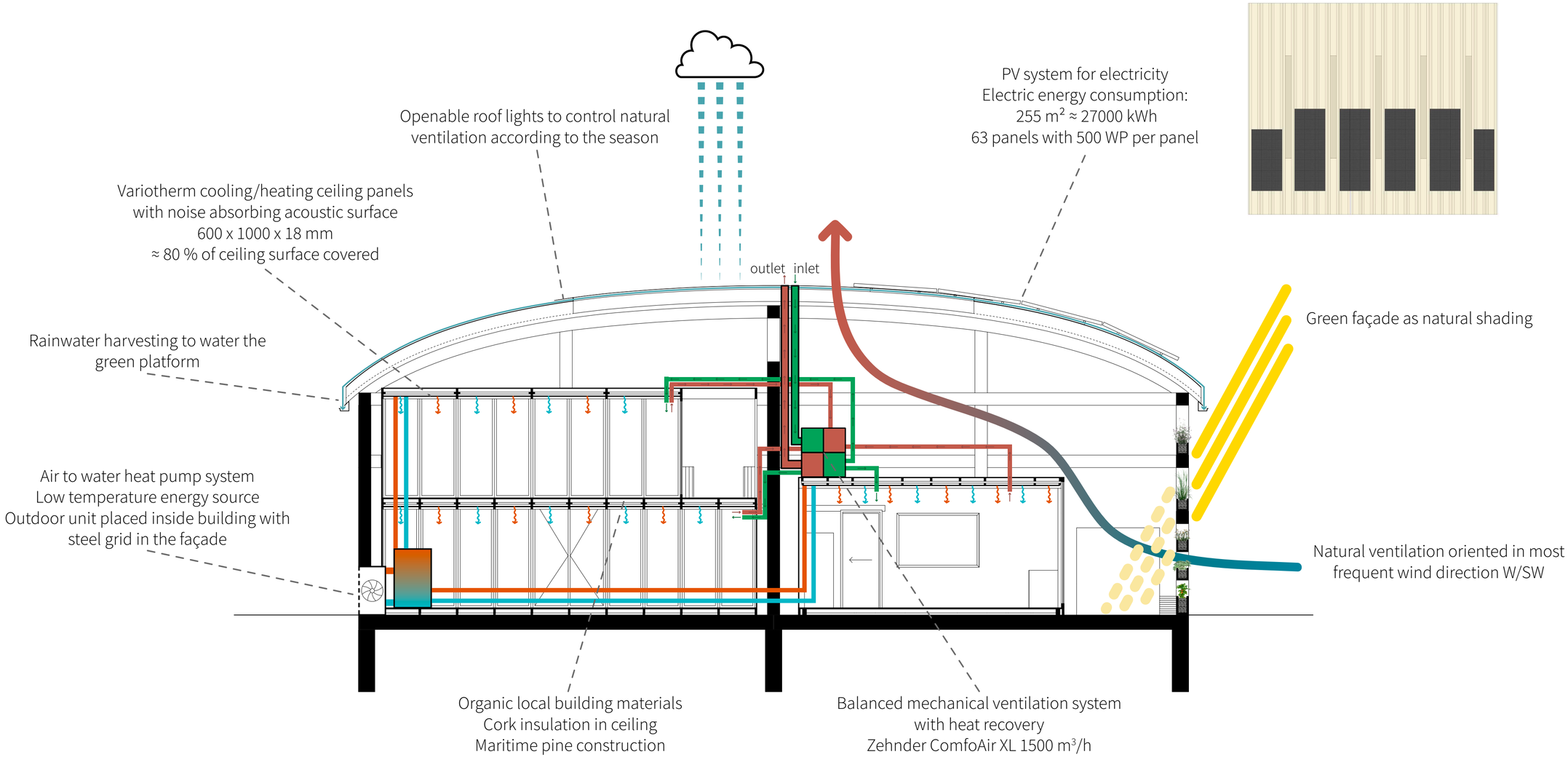


01 - Fixed open translucent polycarbonate panel
02 - PV Panel 1000 x 2000 mm 425 WP on metal supporting system
03 - Curved corrugated steel roof panels
04 - Concrete load-bearing frame structure 300 x 300 mm
05 - Zinc gutter with gutter support brackets
06 - Green planter concrete t=50 mm
07 - Watering system and drainage pipes
08 - Concrete floor slab 350 mm
09 - Rubble stone foundation with cement mortar
10 - Roof structure box
Multiplex plates 20 mm
Maritieme pine joist 15 x 80 mm, 600 mm spacing
Variotherm heating/cooling ceiling panels 600 x 1000 x 18 mm
with metal-stud support system
11 - Maritieme pine structure, 1000 mm spacing
Joist 50 x 250 mm, l= 6500mm
Column 50 x 150 mm
12 - Double glazed fixed wooden window
13 - Floor structure box
Steel dovetailed sheeting with cast screed mortar t=36 mm
Martieme pine joist 50 x 90 mm, spacing 1000 mm
Martieme pine battens for leveling the box



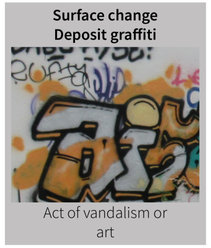



PV system for electricity
Electric energy consumption:
400 m² ≈ 16000 kWh
38 panels with 500 WP per panel
Openable roof lights to control natural ventilation according to the season and provide natural light
Variotherm cooling/heating ceiling panels with noise absorbing acoustic surface
600 x 1000 x 18 mm
≈ 80 % of ceiling surface covered
Rainwater harvesting to water the green platform
Natural ventilation oriented in most frequent wind direction W/SW
Adjustable external aluminium venetians to reduce glare and solar heat
Organic local building materials
Cork insulation in ceiling
Maritime pine moveable panels
Air to water heat pump system
Low temperature energy source
Outdoor unit placed inside building with steel grid in the façade

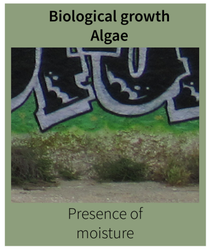

Openable roof lights to control natural ventilation according to the season
Variotherm cooling/heating ceiling panels with noise absorbing acoustic surface 600 x 1000 x 18 mm ≈ 80 % of ceiling surface covered
Rainwater harvesting to water the green platform
Air to water heat pump system Low temperature energy source Outdoor unit placed inside building with steel grid in the façade
PV system for electricity Electric energy consumption: 255 m² ≈ 27000 kWh 63 panels with 500 WP per panel
outlet
inlet
Green façade as natural shading
Natural ventilation oriented in most frequent wind direction W/SW
Organic local building materials Cork insulation in ceiling Maritime pine construction
Balanced mechanical ventilation system with heat recovery Zehnder ComfoAir XL 1500 m³/h

Why cleaning the façade?

Aesthetical



Intervention: Cover with hydraulic lime plaster

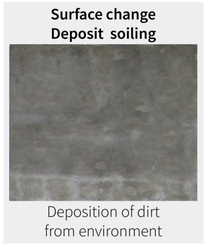


Intervention: Remove algae by the use of steam cleaning.

Durable solution: Add water repellent layer to prevent moisture

Intervention: Remove current plaster

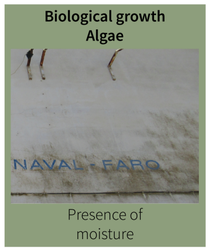
Durable solution: Cover with better plaster



Intervention: Remove dirt with dry abrasive cleaning

Durable solution: Add new plaster

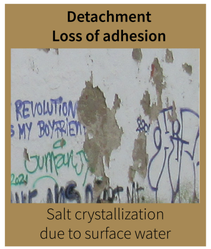
Ethical



Intervention: No intervention to maintain original façade

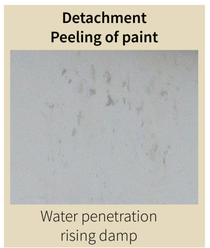
Intervention: No intervention to maintain original façade

Technical



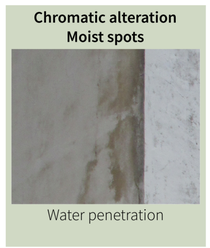
Intervention: Hydraulic lime water repellent plaster

Durable solution: Prevent dripping rain water with gutter



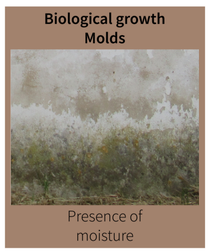
Intervention: Hydraulic lime water repellent plaster

Durable solution: Prevent dripping rain water with gutter



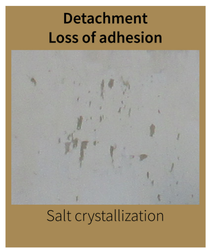
Intervention: Salt accumulating water repellent plaster

Durable solution: Prevent dripping rain water with gutter



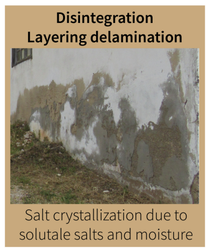
Intervention: Remove algae by the use of steam cleaning.

Durable solution: Add water repellent layer to prevent moisture



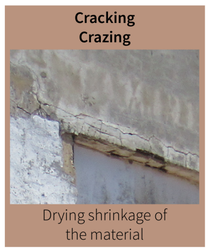
Intervention: Salt accumulating water repellent plaster

Durable solution: Prevent splashing sea water with green platform



Intervention: Salt accumulating water repellent plaster

Durable solution: Prevent splashing sea water with green platform



Intervention: Remove current plaster

Durable solution: Cover with better plaster

Source: https://mdcs.monumentenkennis.nl/wiki

Capture Nature