



2026

Team 34861 - Japon 

**Team 34861**



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*M1 architecture*



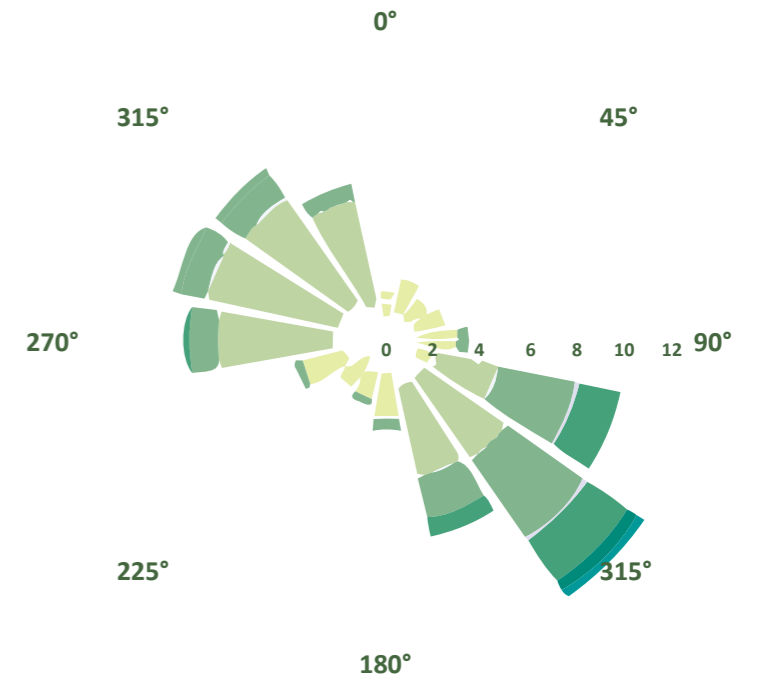
# From Research to Design: Three Core Drivers



River-island memory



Pygmy cormorant habitat



Košava wind

# The Third Shore

## River-island memory → connected form

By comparing historical maps since the 1700s with engravings, we read river islands near the confluence as a “**third shore**”—witnesses of change shaped by sediment and shifting flows.



1717



1844



1868



1939

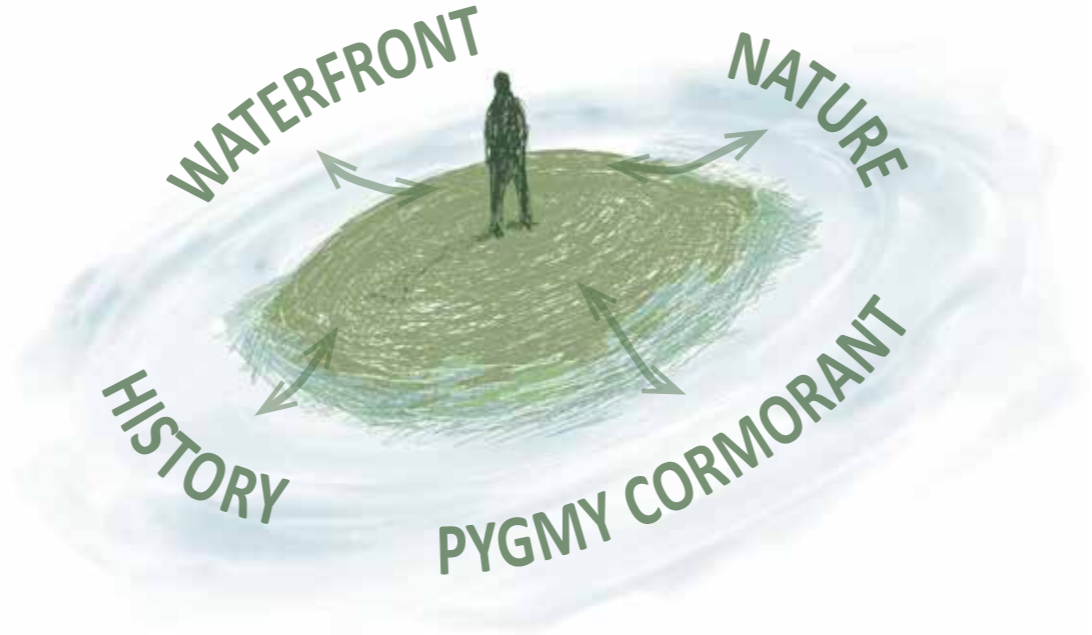


Serbia Belgrade Na View Of Belgrade At The Confluence Of The Danube And Sava Rivers In The Principality Of Serbia On The Frontier Between The Ottoman And Austrian Empires. (1844)

# The Third Shore

River-island memory → **connected form**

Referencing Ada Ciganlija's peninsularization and Ada Međica's scenery, we reinterpret the fortress city's boundary **from separation to connection**, composing the new-build as a **chain of island-like volumes**.



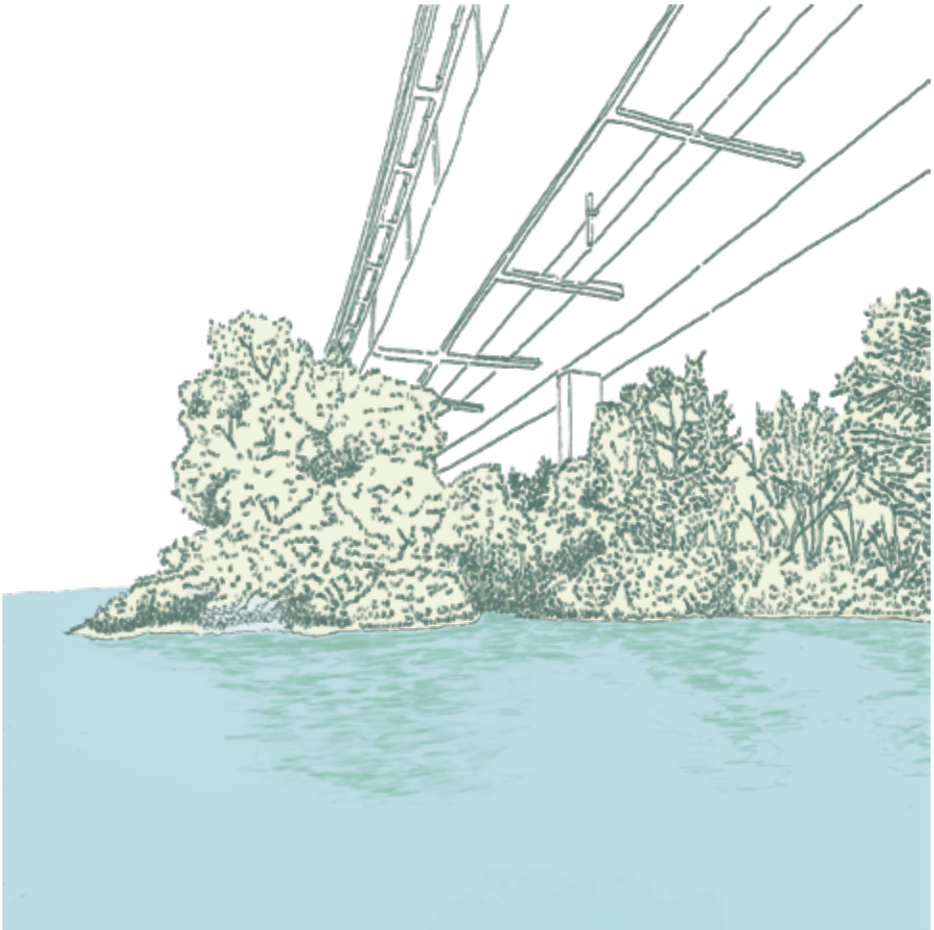
# A Quiet Riverbank Shaped by the Pygmy Cormorant

## Habitat maps + sections → a riparian buffer

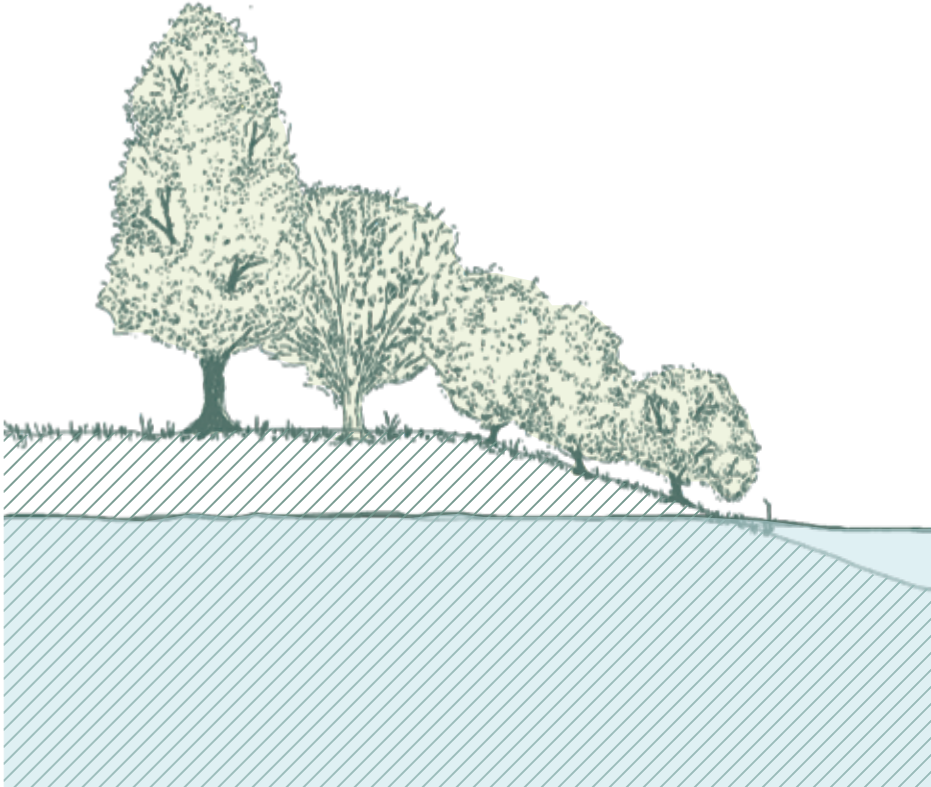
For the overwintering pygmy cormorant, we map roosting/foraging areas and extract key river-edge conditions—gentle slopes, shallow water, continuous riparian trees, and calmness—through photos and sketches.



roosting/foraging areas



sketch

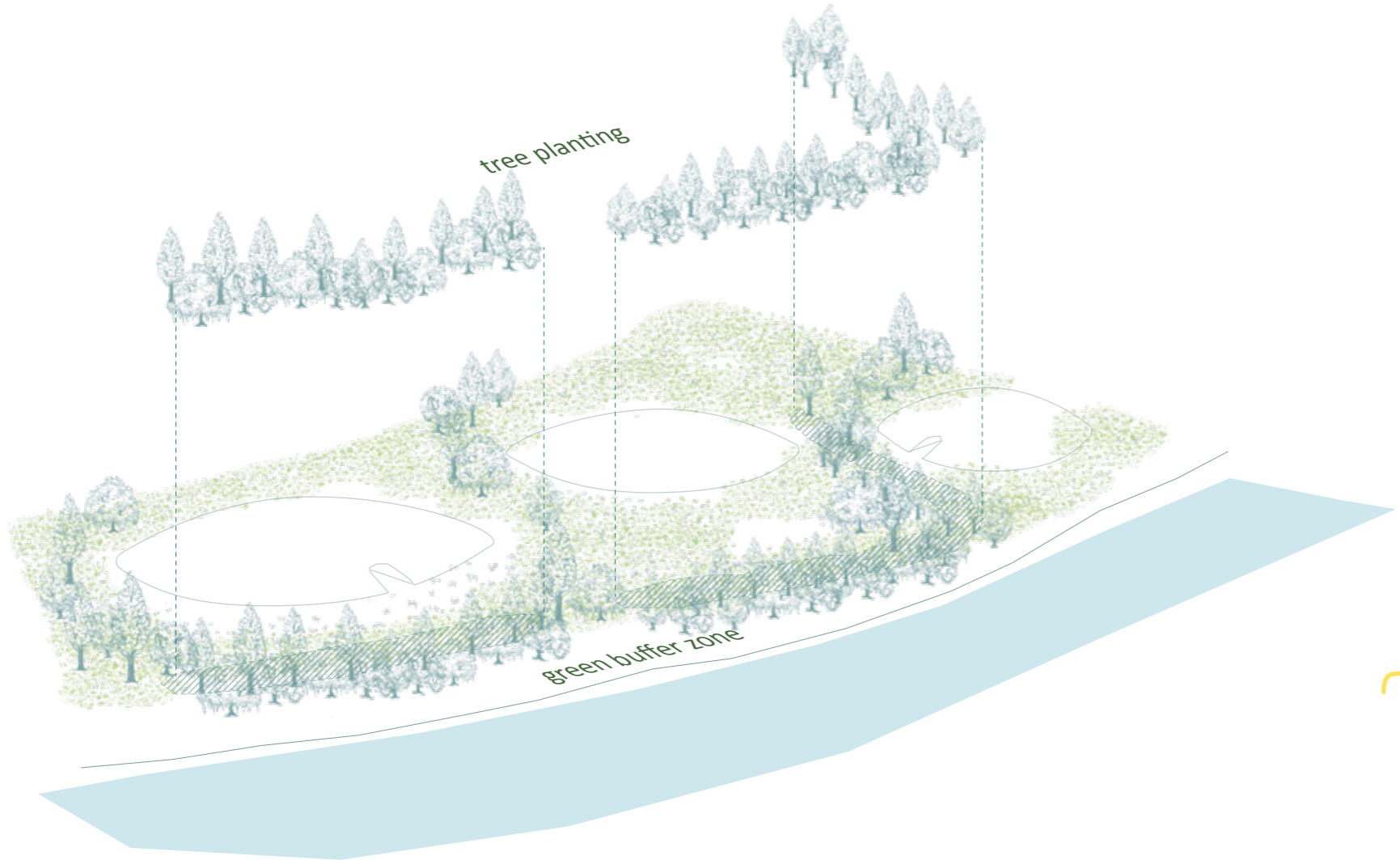


section

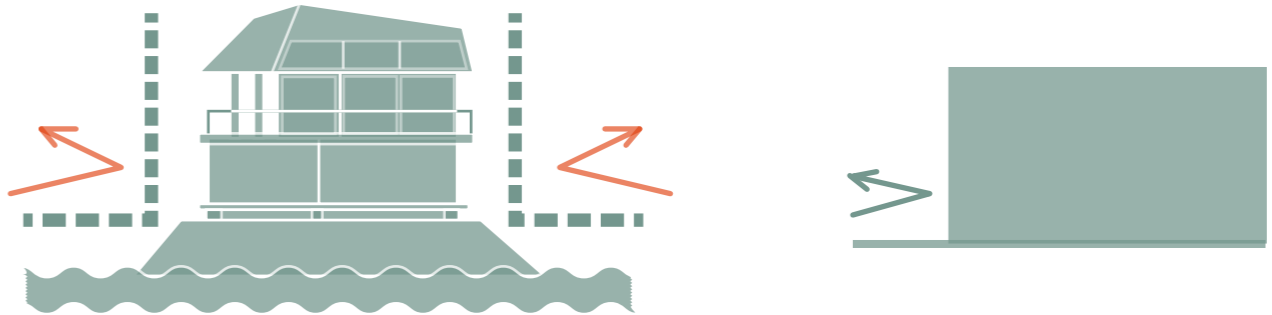
# A Quiet Riverbank Shaped by the Pygmy Cormorant

Habitat maps + sections → a riparian buffer

These become design constraints: **the new-build connects a green buffer to the waterfront**, while the renovation **softens the land–water boundary by carving and etching the existing façade.**



ZONE A : connects a green buffer to the waterfront



existing volume / walls



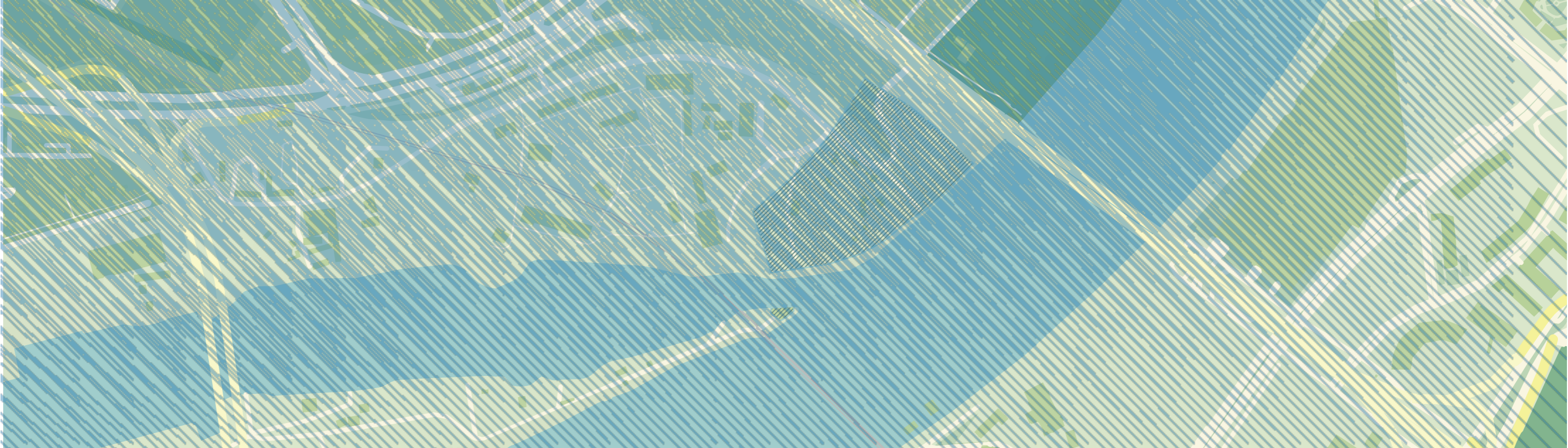
new volume / walls

ZONE B : carving and etching the existing façade

# Tuning the Košava Wind

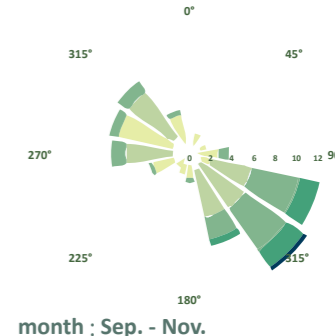
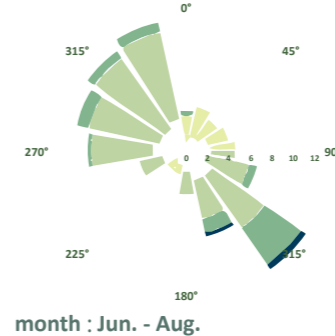
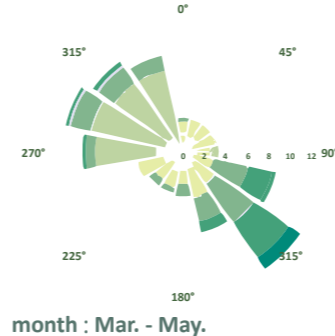
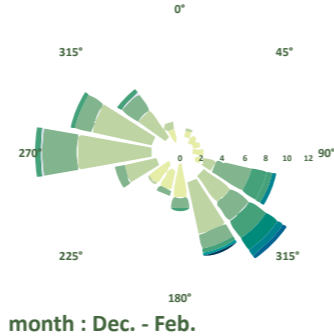
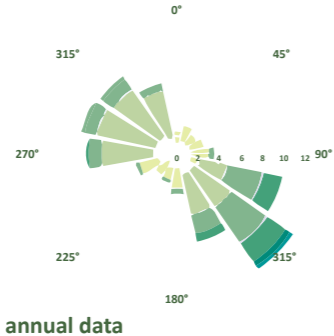
Wind-rose → native windbreaks → massing + louvers

From wind-rose data, we map the seasonality, frequency, and peak intensity of the dry Košava—sudden southeasterly gusts descending from the Carpathian Mountains and funneled through the Danube valley toward Belgrade.



### Wind Speed (m/s)

- 0.5 - 1.5 m/s
- 1.5 - 3.3 m/s
- 3.3 - 5.5 m/s
- 5.5 - 7.9 m/s
- 7.9 - 10.7 m/s
- 10.7 - 13.8 m/s
- 13.8 - 17.1 m/s
- 17.1 - 20.7 m/s
- >20.7 m/s



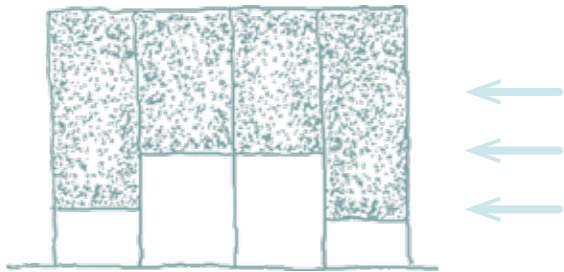
# Tuning the Košava Wind

Wind-rose → **native windbreaks** → massing + louvers

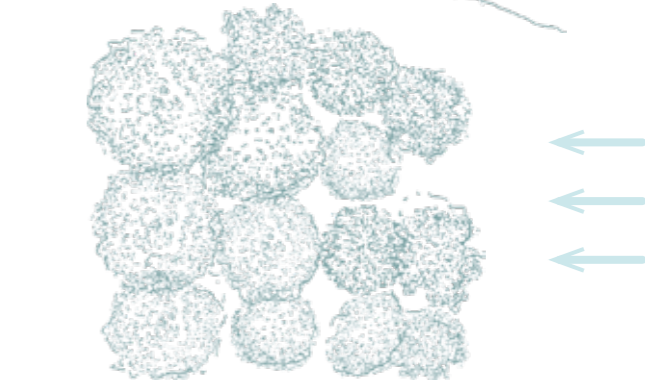
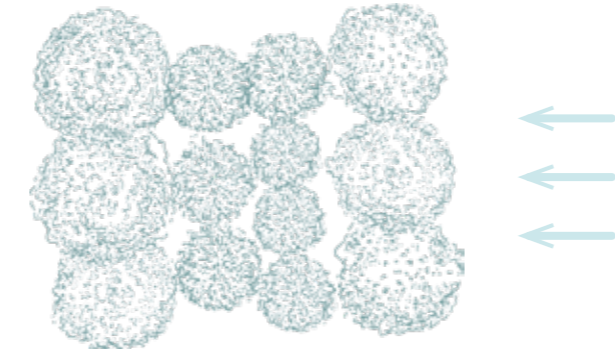
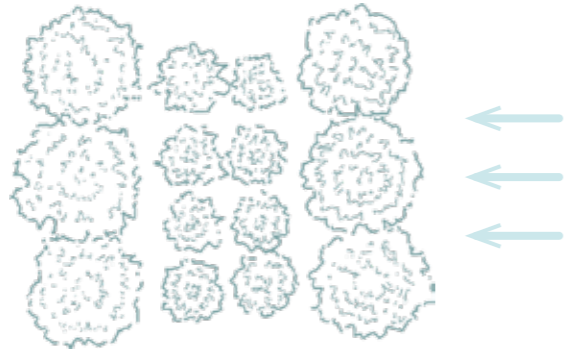
We reinterpret windbreak planting as a porous “wind filter”: a layered, **native-species structure** that absorbs strong gusts, reduces speed, and turns turbulence into a softer, usable airflow across the site.



Section



Plan



Four-Layer Windbreak Prototype

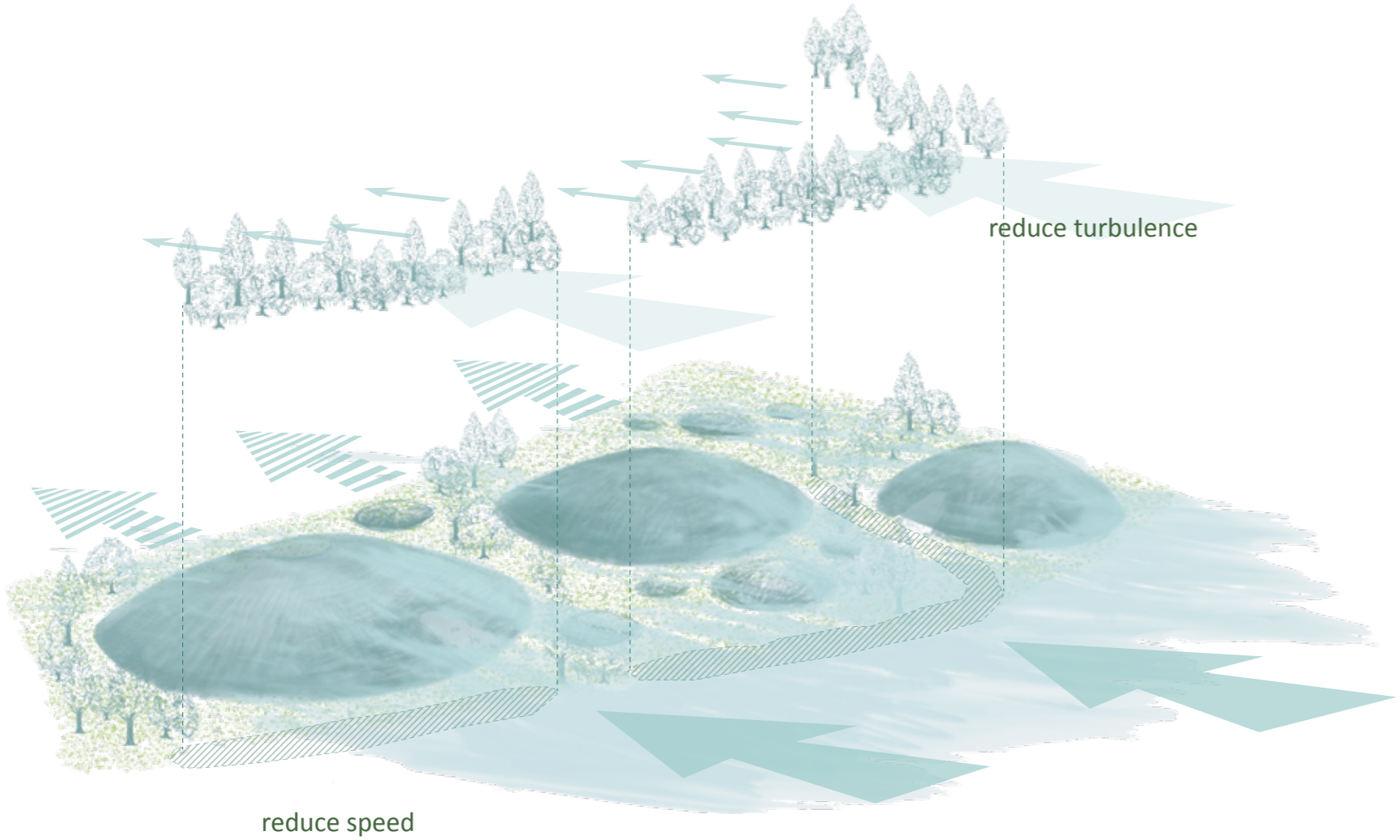
Native-Species Windbreak: Four-Layer Translation

Riparian Windbreak: Habitat-Adjusted Translation

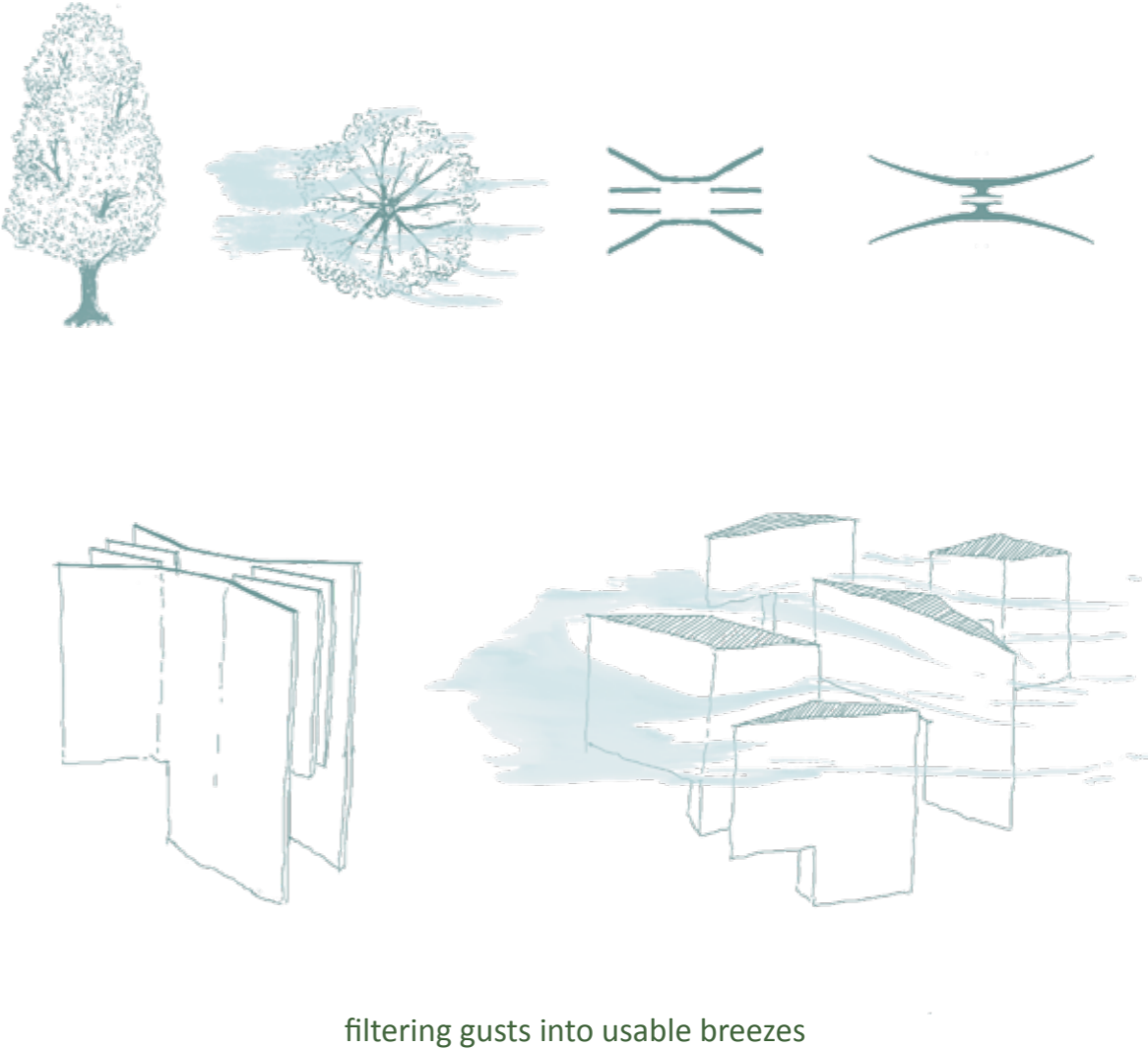
# Tuning the Košava Wind

Wind-rose → native windbreaks → **massing + louvers**

We translate these readings into design moves: **belt placement**, building orientation and spacing, and **tilted “volume-walls”** that shape both massing and plan. The same layered logic informs the new-build **planting strategy** and the renovation’s **louvered envelope**.



**ZONE A : Massing + Planting as Wind Control**



**ZONE B : Louvered Envelope as Wind Filter**

# ZONE A : ATHLETE ACCOMMODATION



ZONE A : ATHLETE ACCOMMODATION

# MASTERPLAN | DESIGN FUNCTIONS

- 1 Athletes' Accommodation (-60 beds per dome + gym)
- 2 Public Pavilion (cafeteria / hall / meeting rooms / studio)
- 3 Bicycle Parking (100 bikes per dome)
- 4 Basketball Half Court
- 5 Tennis Court
- 6 Athletics Plaza
- 7 Dock

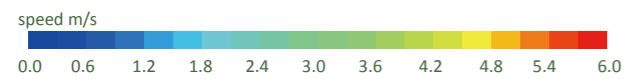
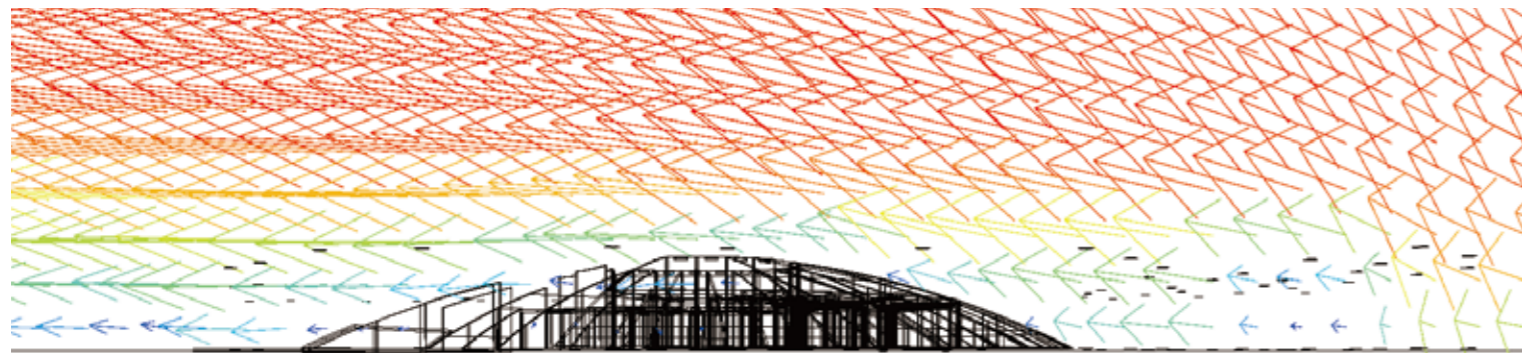
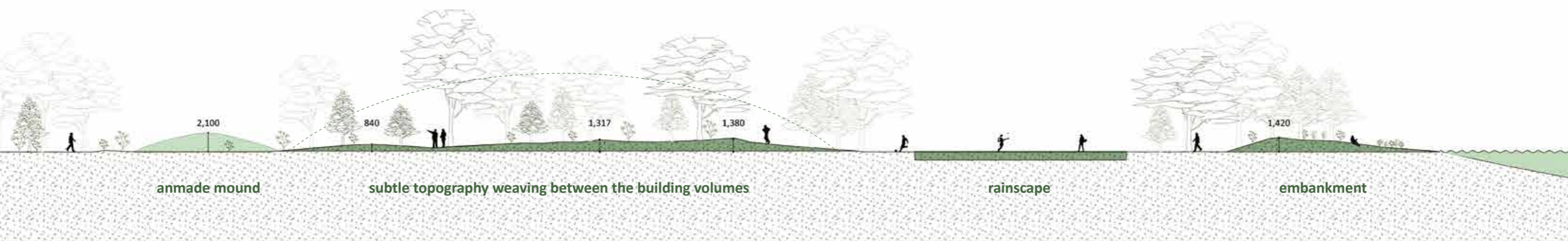


-  Planting Area (windbreak)
-  Protected Existing Trees
-  Rainscape / Rain Garden
-  Running Trail
-  Bridge connecting to the railway

ZONE A : ATHLETE ACCOMMODATION

# LANDSCAPE SECTION A-A'

subtle topography throughout the site

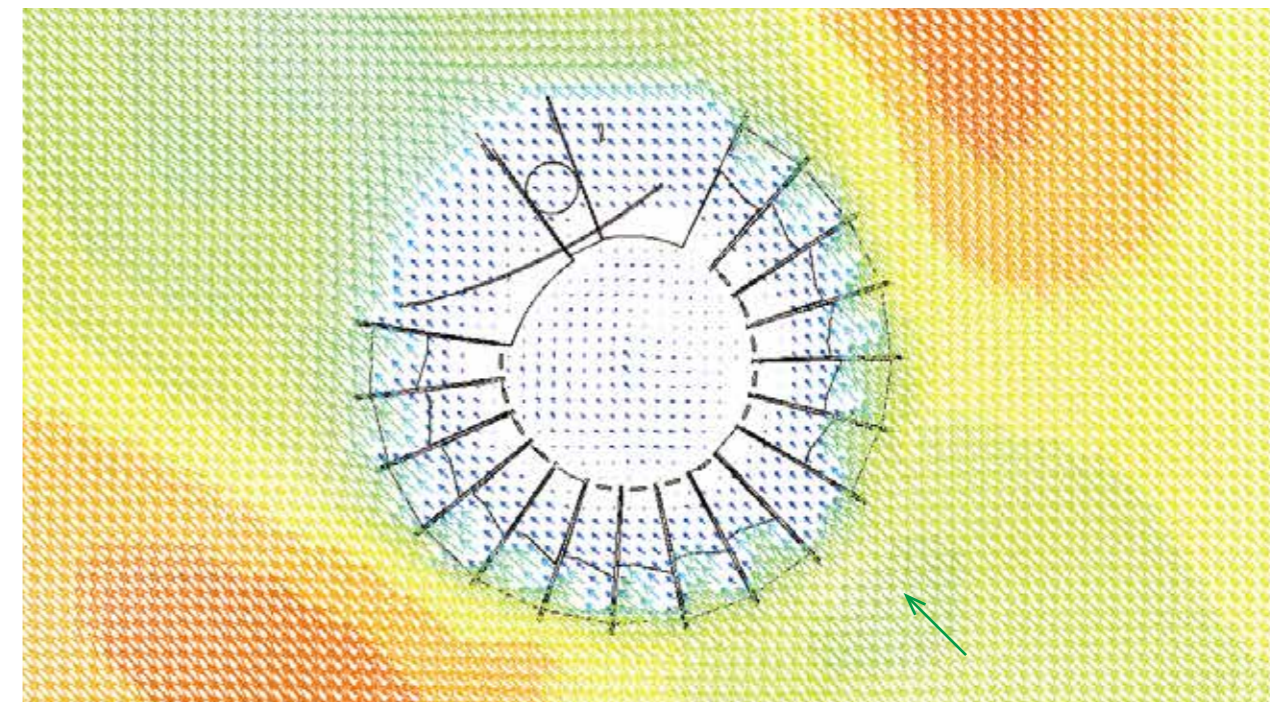
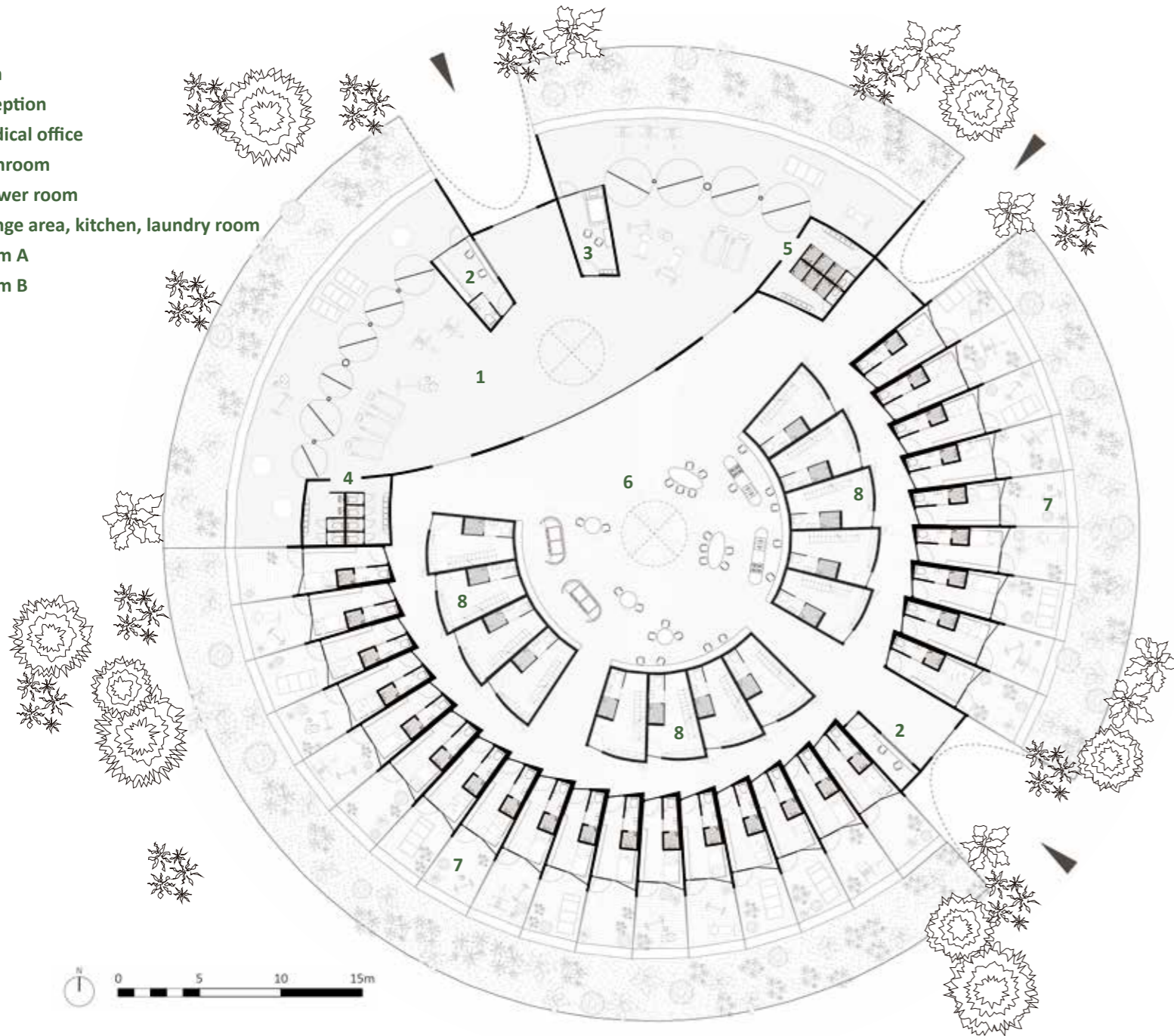


ZONE A : ATHLETE ACCOMMODATION

Accommodation | **PLAN**



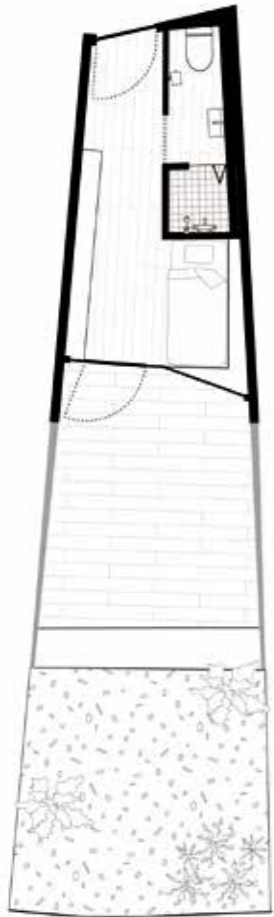
- 1 gym
- 2 reception
- 3 medical office
- 4 bathroom
- 5 shower room
- 6 lounge area, kitchen, laundry room
- 7 room A
- 8 room B



# Accommodation | ROOM PLANS

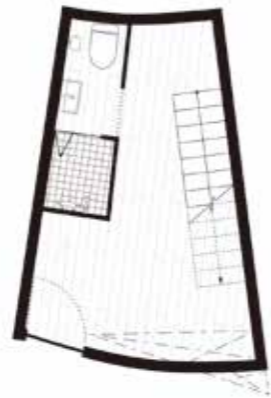


ground floor



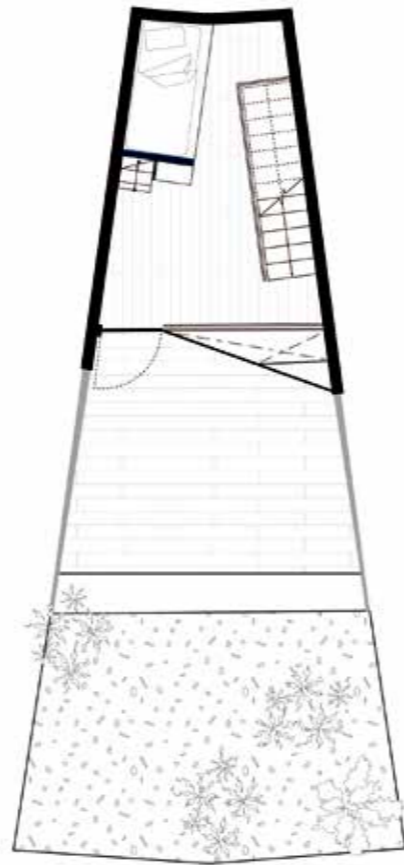
**ROOM A**

ground floor



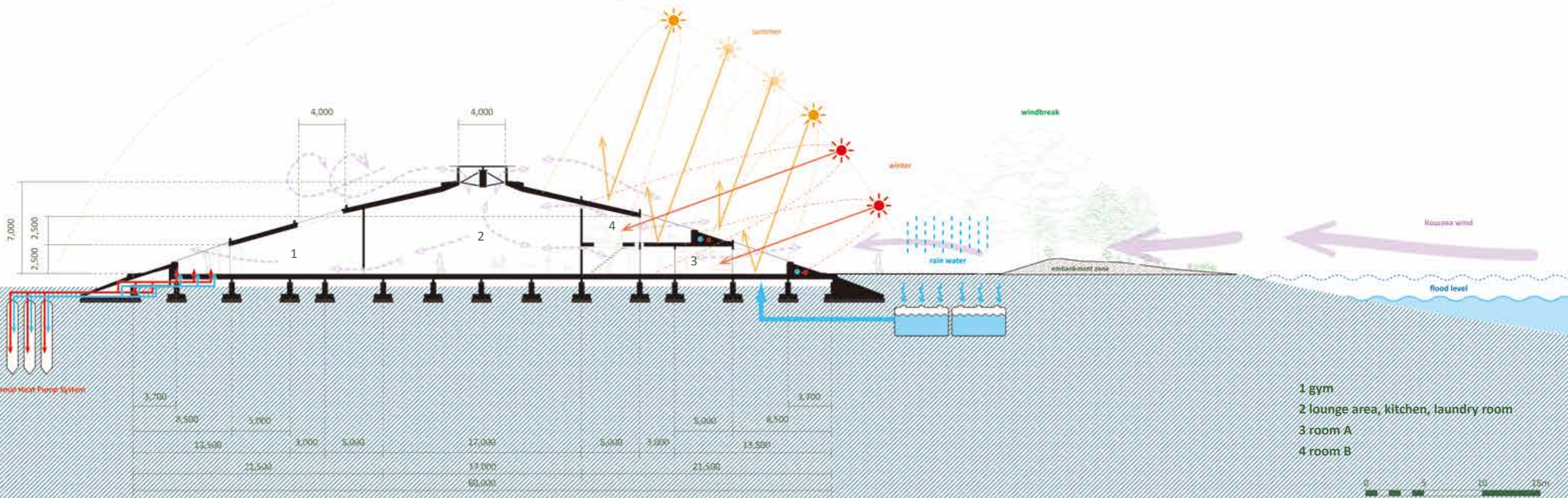
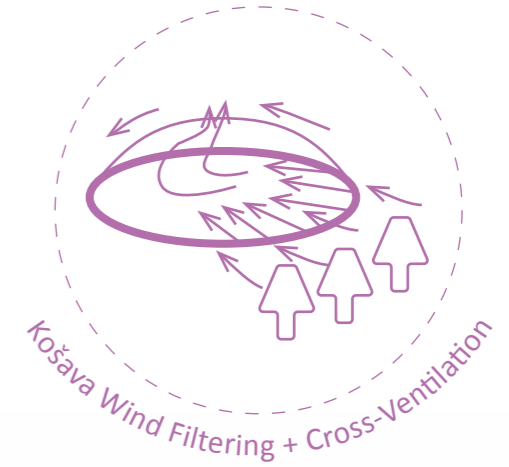
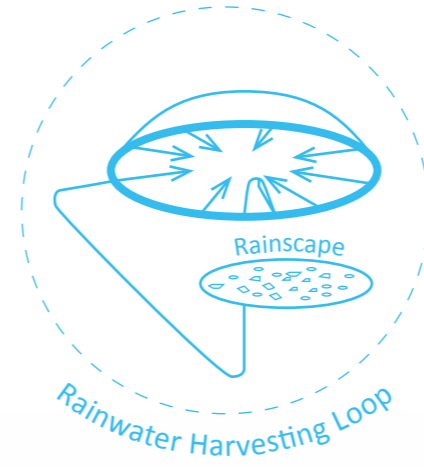
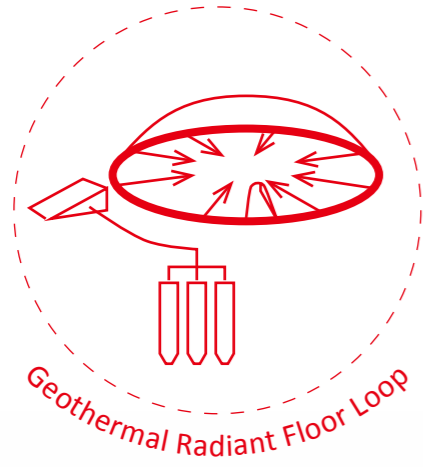
**ROOM B**

second floor



ZONE A : ATHLETE ACCOMMODATION

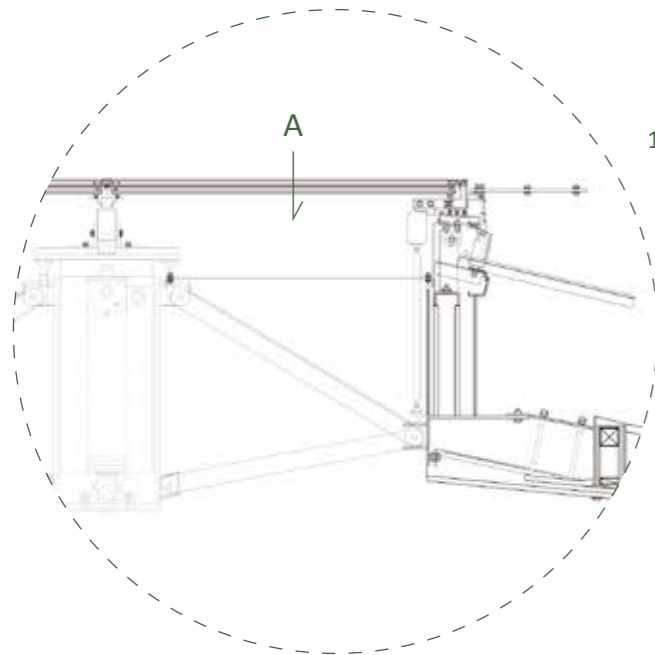
Accommodation | SECTION



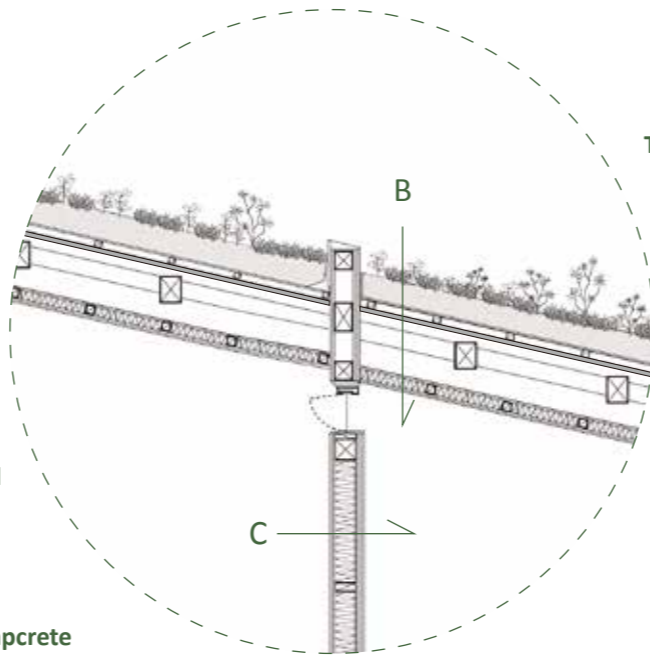
- 1 gym
- 2 lounge area, kitchen, laundry room
- 3 room A
- 4 room B



# Accommodation | STRUCTURAL DRAWINGS

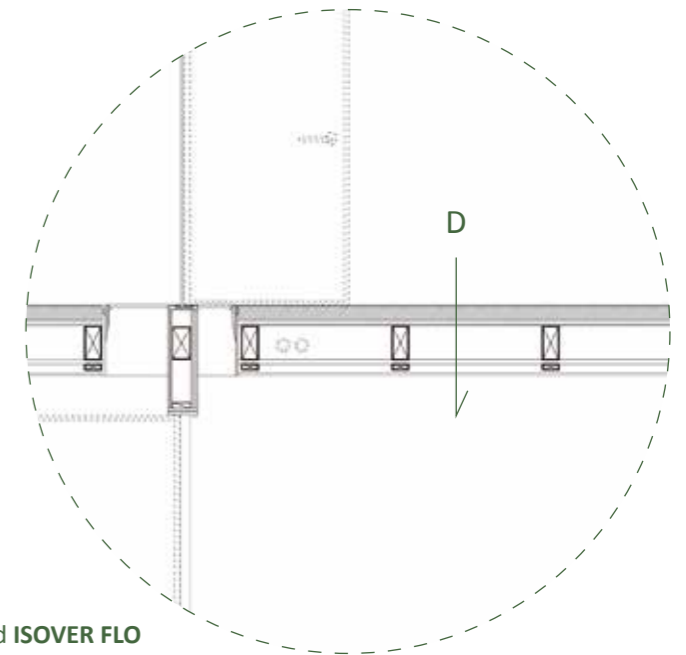


- A Operable Toplight**  
 8 mm Glass | Saint-Gobain SECURIT HST  
 16 mm Insulated cavity (air gap)  
 8 mm Glass | STADIP STADIP SILENCE

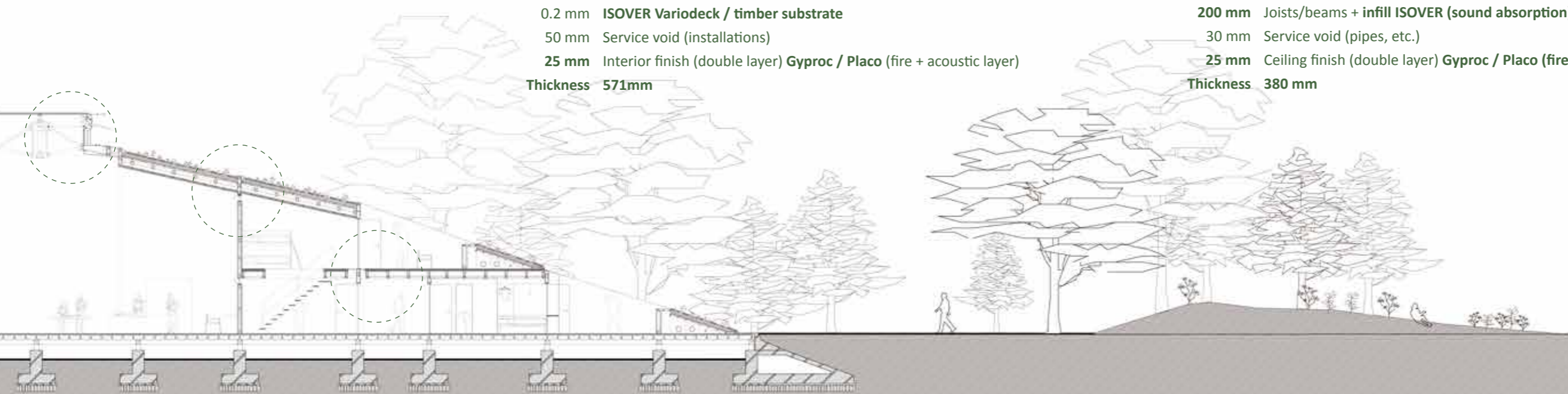


- B Flower-Bed Roof**  
 meadow/shrubs  
 250 mm Soil  
 40 mm Water-retention board  
 4 mm Filter fabric  
 10 mm Protection mat  
 2 mm Root barrier layer  
 20 mm weber TRADICAL Hempcrete  
 120 mm Roof deck / timber substrate  
 0.2 mm ISOVER Variodeck / timber substrate  
 50 mm Service void (installations)  
 25 mm Interior finish (double layer) Gyproc / Placo (fire + acoustic layer)  
**Thickness 571mm**

- C Partition Wall between Guest Rooms**  
 6 mm Local timber veneer panel  
 12.5 mm Gyproc Rigidur H  
 12.5 mm Gyproc GN 13 (fire + acoustic)  
 10 mm Service layer (wiring, etc.)  
 120 mm Local timber studs + infill ISOVER (sound absorption)  
 12.5 mm Gyproc GN 13  
 12.5 mm Gyproc Rigidur H  
 6 mm Local timber veneer panel  
**Thickness 192mm**



- D Floor Assembly**  
 15 mm Local timber flooring  
 5 mm Acoustic underlay  
 50 mm weber weberfloor flex  
 30 mm Thermal + acoustic board ISOVER FLO  
 25 mm Structural sheathing (OSB)  
 200 mm Joists/beams + infill ISOVER (sound absorption)  
 30 mm Service void (pipes, etc.)  
 25 mm Ceiling finish (double layer) Gyproc / Placo (fire layer)  
**Thickness 380 mm**

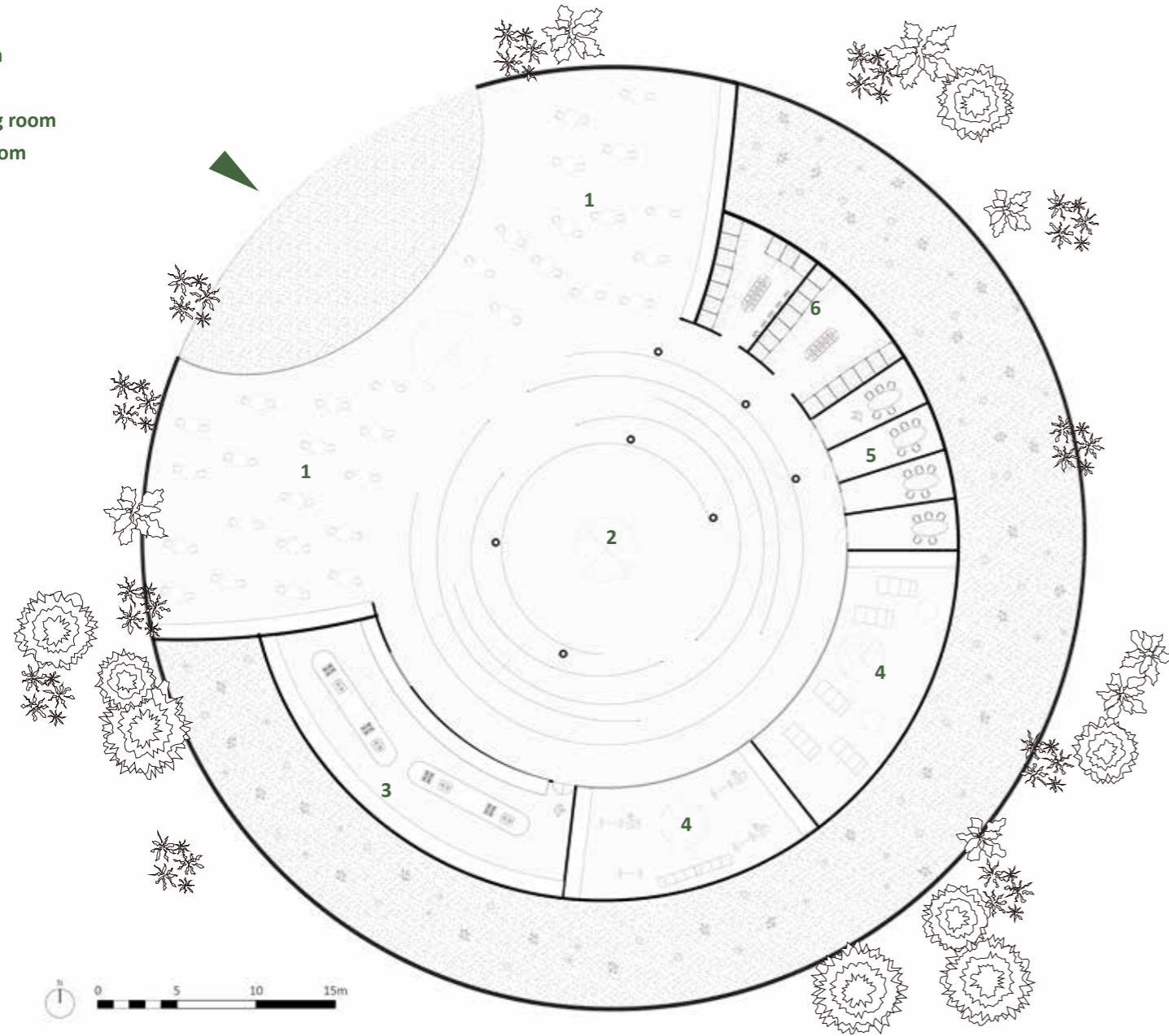


ZONE A : ATHLETE ACCOMMODATION

Public Pavilion | **PLAN**

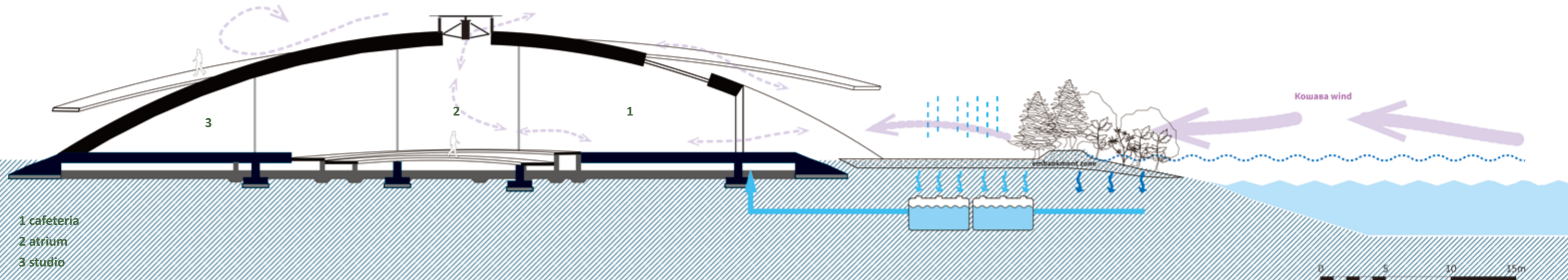


- 1 cafeteria
- 2 atrium
- 3 kitchen
- 4 studio
- 5 meeting room
- 6 bathroom



ZONE A : ATHLETE ACCOMMODATION

# Public Pavilion | SECTION



**ZONE B : ACADEMIC YACHTNG CLUB**

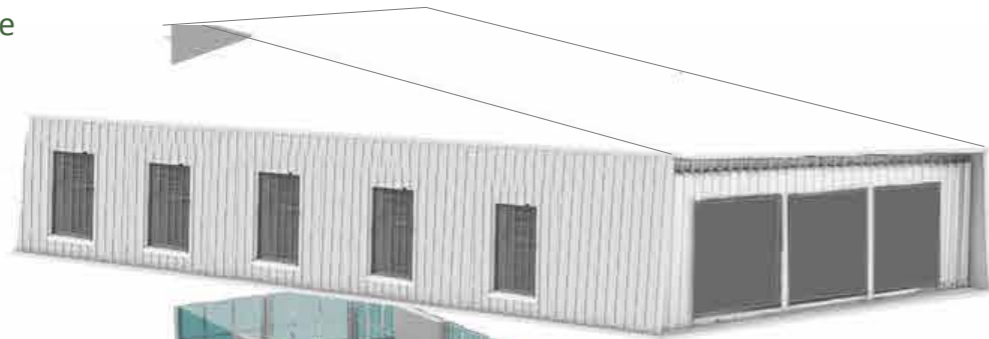


ZONE B : ACADEMIC YACHTNG CLUB

# DESIGN FUNCTIONS

## 3F Club Archive

— History + Storage



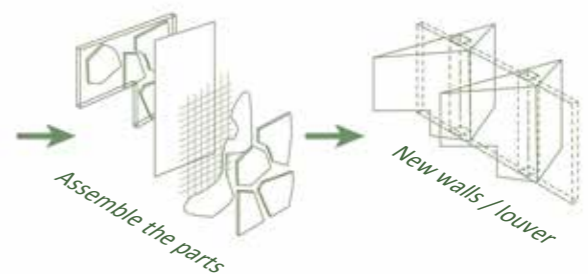
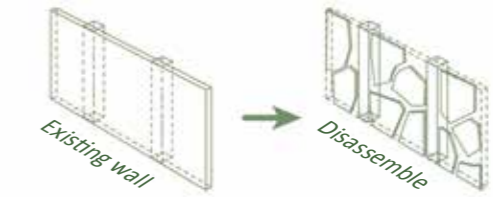
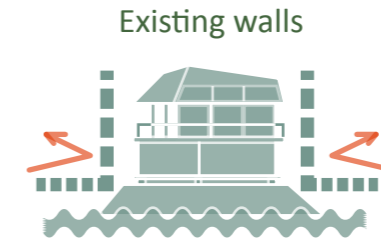
## 2F Social Commons

— Café / Meeting / Terrace

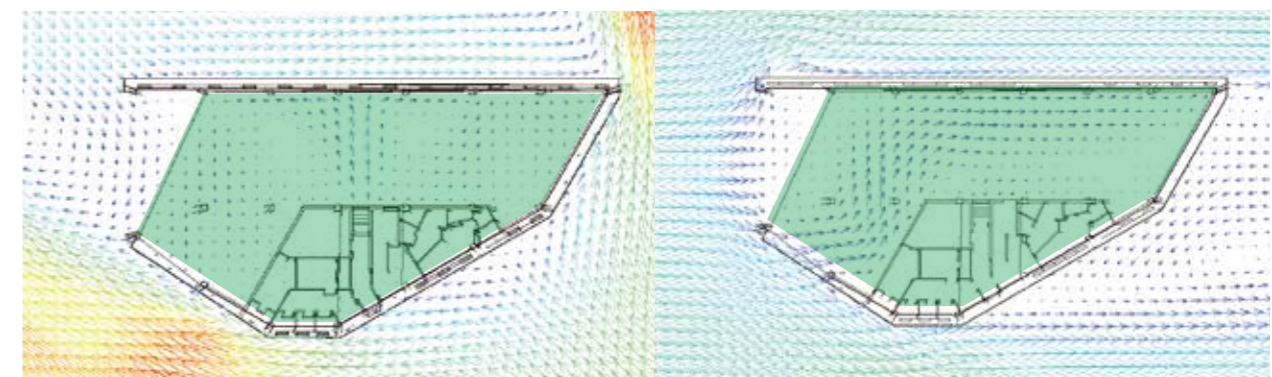


## 1F Club Operations

— Rigging / Storage / Showers / Gear Rinse



### BEFORE renovation - closed walls + large room



Кошава

West wind

### AFTER renovation - louver walls + minimum core area



Кошава

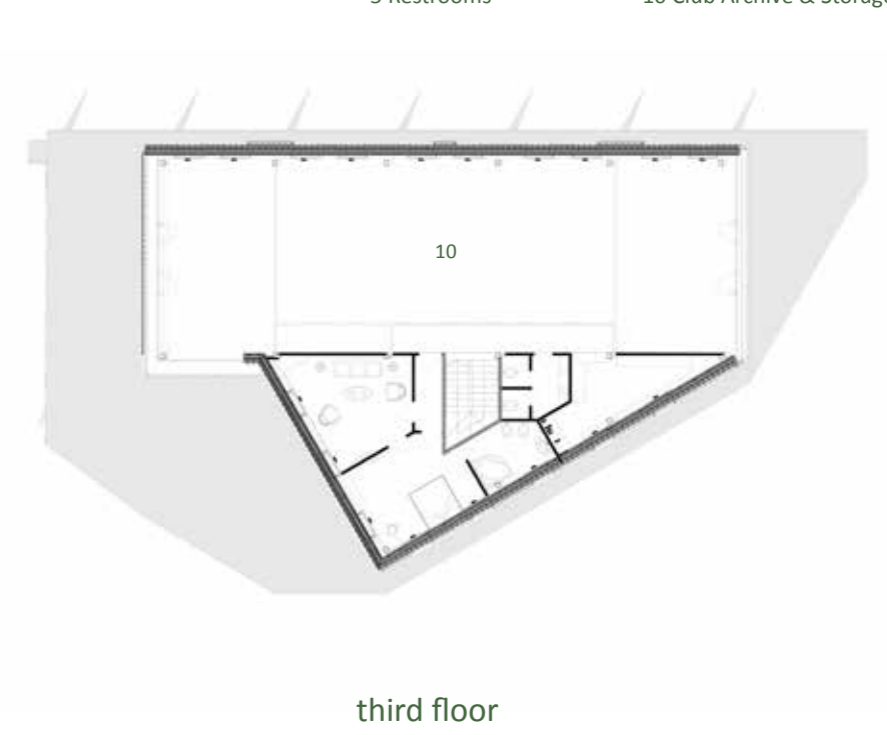
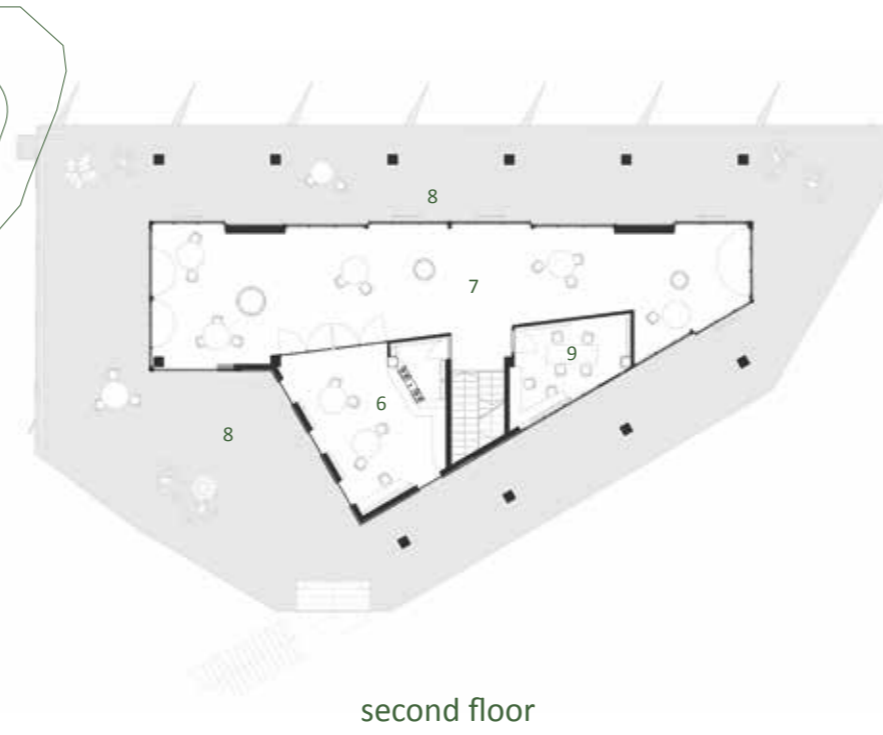
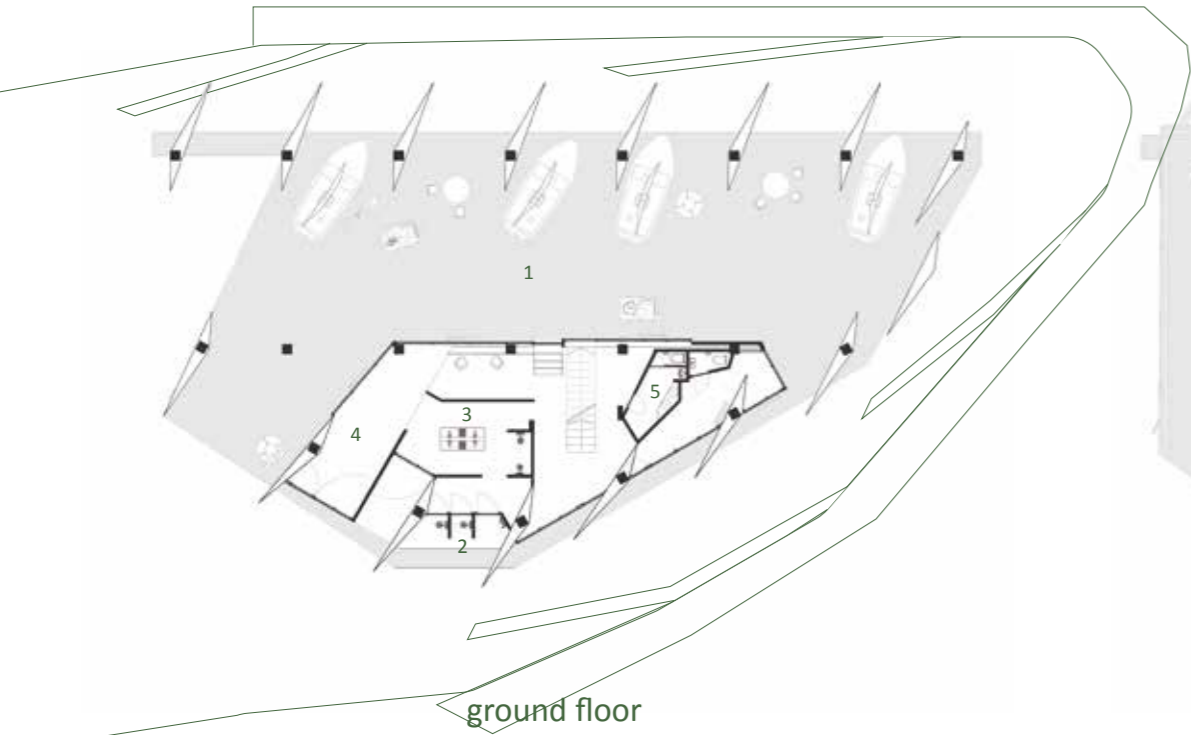
West wind

ZONE B : ACADEMIC YACHTNG CLUB

PLAN

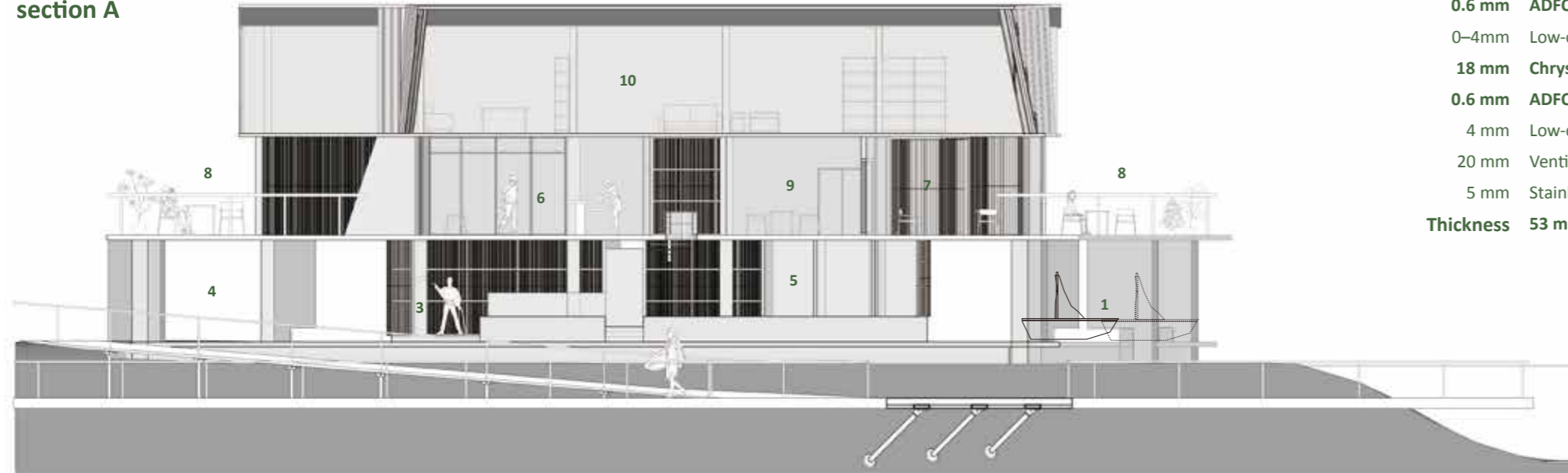


- 1 Open Yacht Storage
- 2 Shower Rooms
- 3 Gear Rinse Area
- 4 Drying Area
- 5 Restrooms
- 6 Café
- 7 Open Lounge
- 8 Terrace
- 9 Meeting Room
- 10 Club Archive & Storage

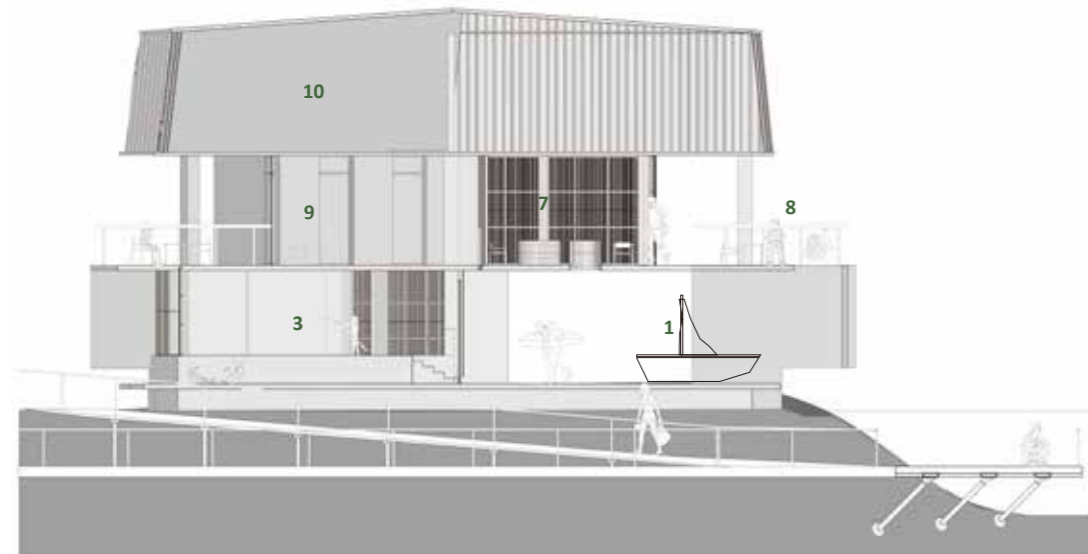


# SECTION | LOUVER DETAIL

section A

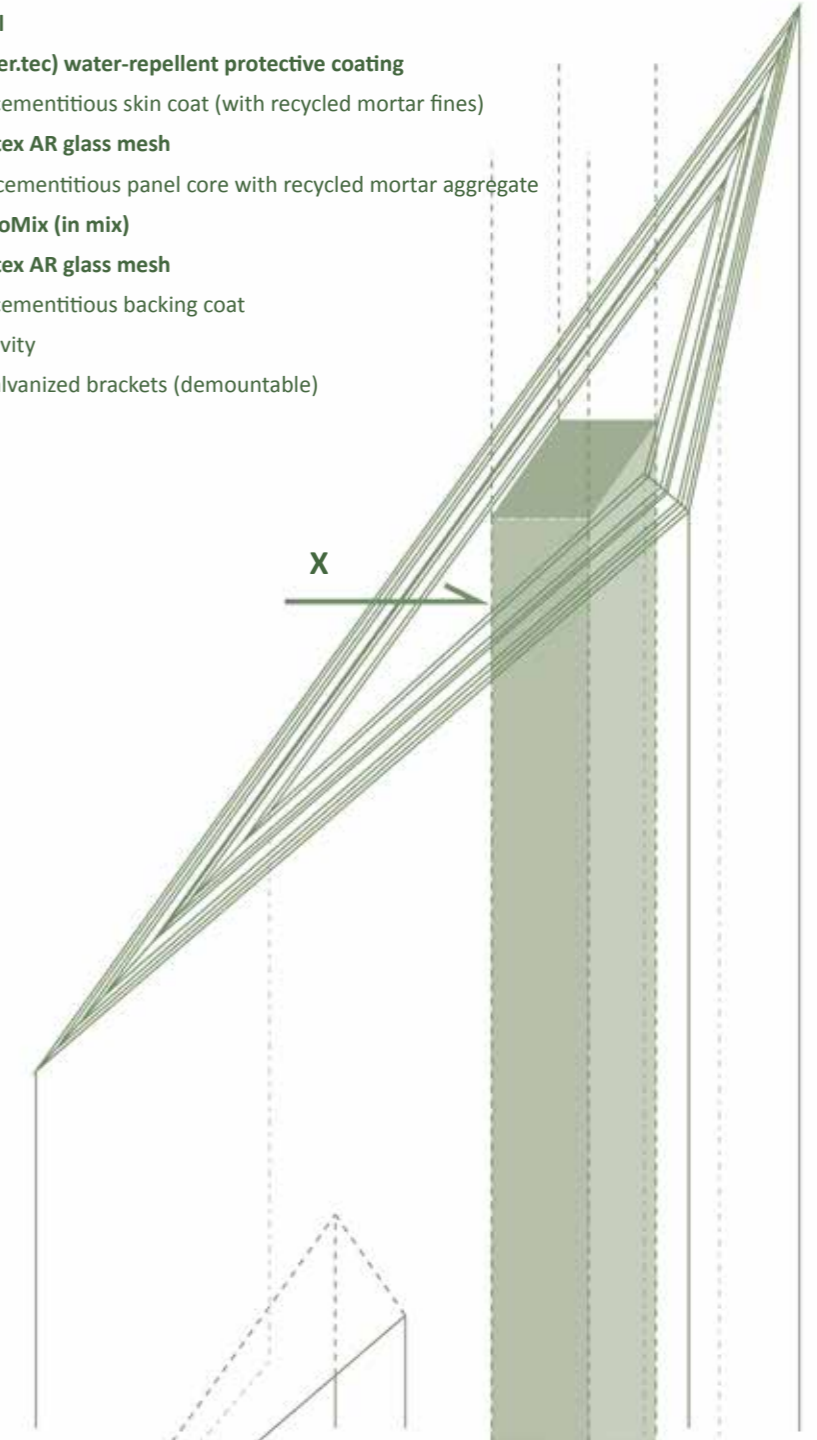


section B



- 1 Open Yacht Storage
- 2 Shower Rooms
- 3 Gear Rinse Area
- 4 Drying Area
- 5 Restrooms
- 6 Café
- 7 Open Lounge
- 8 Terrace
- 9 Meeting Room
- 10 Club Archive & Storage

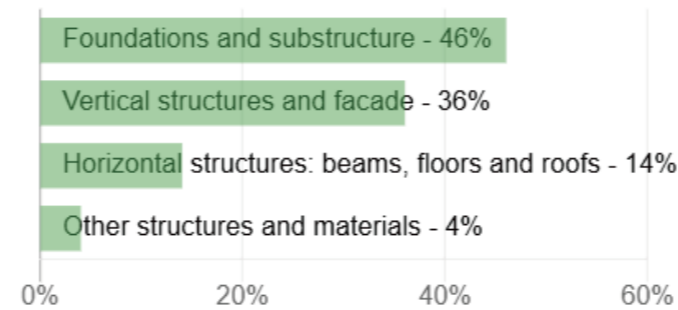
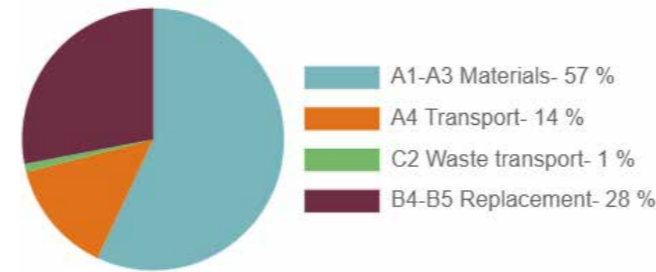
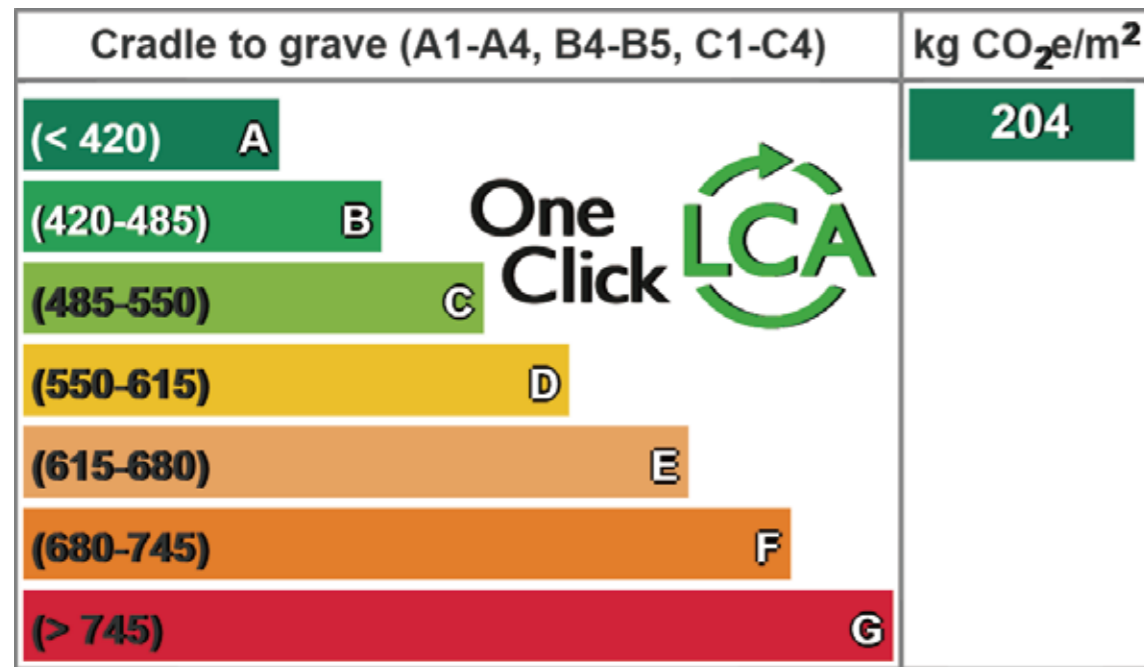
- X Louver detail**
- 1 mm Weber (weber.tec) water-repellent protective coating**
- 4 mm Low-clinker cementitious skin coat (with recycled mortar fines)**
- 0.6 mm ADFORs Vertex AR glass mesh**
- 0-4mm Low-carbon cementitious panel core with recycled mortar aggregate**
- 18 mm Chryso EnviroMix (in mix)**
- 0.6 mm ADFORs Vertex AR glass mesh**
- 4 mm Low-clinker cementitious backing coat**
- 20 mm Ventilated cavity**
- 5 mm Stainless / galvanized brackets (demountable)**
- Thickness 53 mm**



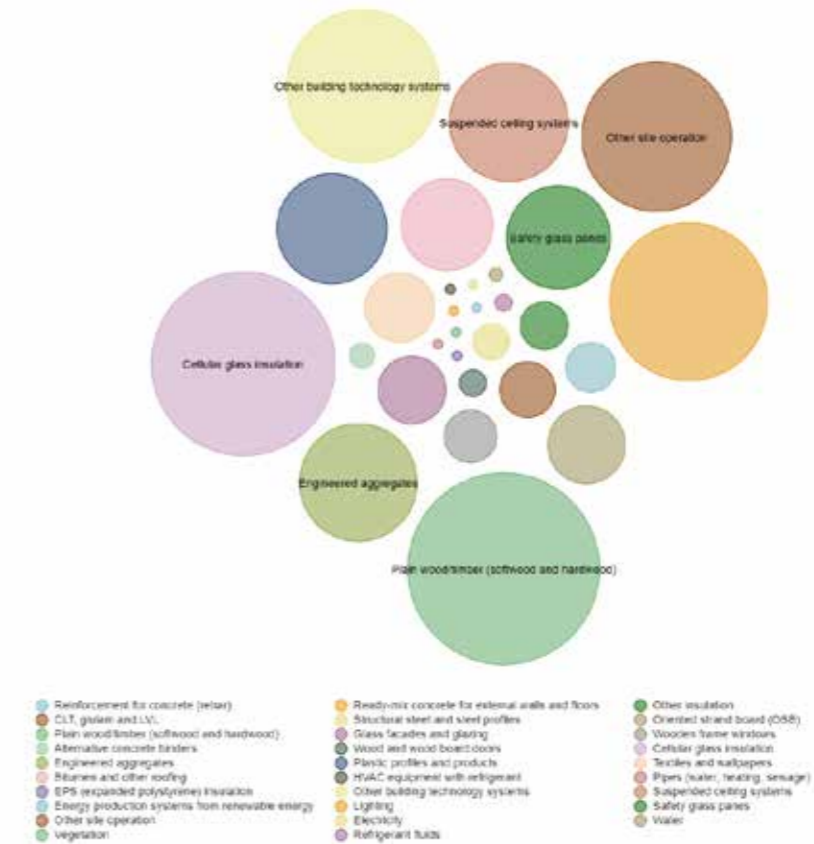
# Life Cycle Carbon Assessment

## Decarbonizing Architecture through Bio-based Materials

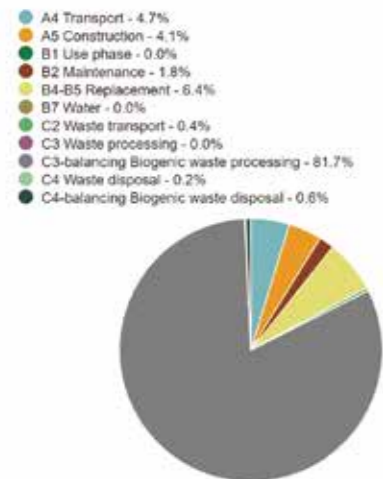
The use of low carbon materials such as recycled glass, hempcrete and timber reduces the building's carbon footprint.



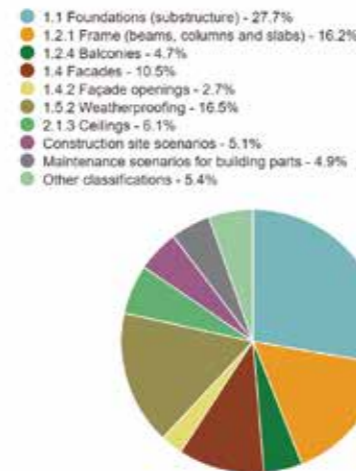
Bubble chart, total life-cycle impact by resource type and subtype, Global Warming Potential total



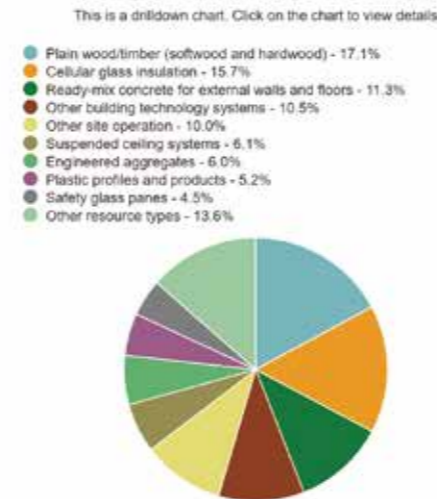
Global Warming Potential total kg CO<sub>2</sub>e - Life-cycle stages



Global Warming Potential total kg CO<sub>2</sub>e - Classifications



Global Warming Potential total kg CO<sub>2</sub>e - Resource types



Sankey diagram, Global Warming Potential total

