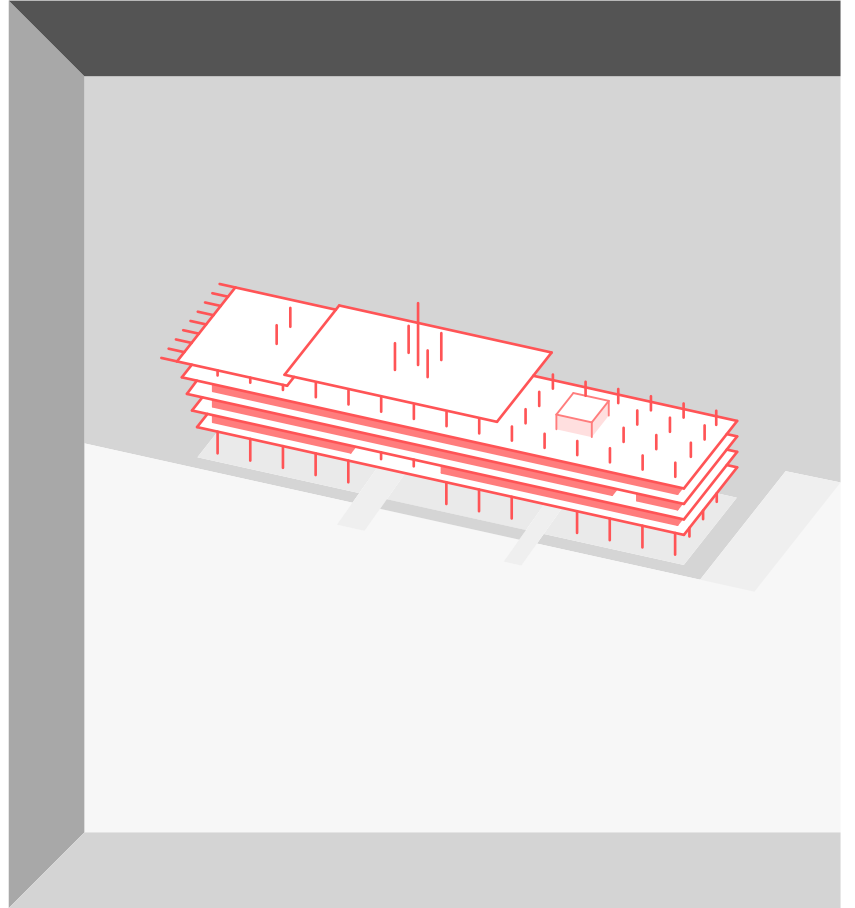


portfolio



tomas vacha

tomas vacha

architect@tomasvacha.com
+420 775 165 317
www.tomasvacha.com



https://tomasvacha.com/links/



I'm Tomas – an explorer of ideas, driven by curiosity, creativity and the desire to shape spaces that inspire.

I believe architecture is about more than designing spaces—it's about creating experiences, shaping identities and building connections. With curiosity, creativity and respect for context, I aim to design places that inspire, endure and feel truly alive.

work experiences

- 0,5 Studio**
07/2023-04/2025
Architect / Interior Designer
created concept designs and presented proposals to investors, prepared construction docs, and coordinated with specialists
- arch_feel**
08/2018-05/2023
Junior Architect
designed homes and urban plans, public spaces design, prepared permit docs, created 3D visuals, and coordinated with consultants
- qwert studio**
04/2018-05/2023
Architecture Internship
worked on competitions, residential and public building concepts
- Dřevotvar**
04/2016-09/2018
Construction Site Internship
assisted with site preparation, and performed inspections on site

education

- 2017-2023
Czech Technical University in Prague
Department of Architecture, Faculty of Civil Engineering
Ing. Arch. Master's in Engineering and Architecture
- 2013-2017
STS of Mechanical and Civil Engineering in Tábor

achievements

- 09/2023
Inspireli Awards
Archicad Prize – Sports Harbor & Shipyard Braník
- 09/2023
The Professor Voděra Prize
the best diploma thesis at the Faculty of Civil Engineering for the year
- 01/2023
Yellow Card Award for Urban District Design
the best student project in the Architecture program at CTU
- 05/2022
Yellow Card Award for Bridge Design
the best student project in the Architecture program at CTU

competitions

- 05/2018
International Competition - School for Smíchov
TOP 10
- 02/2020
Super Studio Prague - Skin of the House
honorable mention
- 06/2023
Inspireli Awards - Sports & Recreational
Archicad Prize
- 07/2024
Kantor's villa - Jablonec nad Nisou
TOP 5

workshops

- 12/2023
Bridge Design and Construction
Jürg Conzett
- 2020-2022
ADOBE _ Illustrator / InDesign / PhotoShop
VISUIN institut
- 2016-2018
prof. Ing. arch. Jaroslav Sýkora, DrSc.
Architect. Drawing

archiskills

- Research & Site Analysis
- Architectural Diagrams
- 3D Modeling & Rendering
- BIM
- Architectural Drawing
- Construction Drawing
- Construction Detailing

softskills

- Communication
- Teamwork
- Problem-Solving
- Time Management
- Presentation Skills
- Self-learning
- Attention to Detail

software

- Archicad
- Revit
- Sketch Up
- AutoCAD
- Rhinoceros
- 3ds Max
- PhotoShop
- InDesign
- Illustrator
- Lumion
- Feather 3D
- Procreate
- Concepts
- MS Office
- BIMx
- FinalCut

languages

- English fluent C1
- German limited B1
- Spanish basic A1

Can architecture listen
before it speaks?

01

What does it mean to
build where stories
already live?

02

How can architecture
move people—physically
& emotionally?

03

How can architecture
bring people together?

04

Can space reflect who
we are?

05

Each project in my portfolio begins as a quiet question—an inquiry into space, purpose and emotion. The answers unfold in form, light and material.

This collection traces my journey through architecture, where ideas are shaped into spaces and spaces speak back with meaning.

04 continuity

Can architecture listen before it speaks?

A bridge is a curious structure! It leads footsteps toward a place where once there was none.

I searched for a way to unite two gestures: the bridge itself, and the modest structures alongside it.

The bridge is light and primitive in form-delicate, yet grounded. It doesn't intrude, it links, softens, and respects the landscape.

The shelters share this quiet presence. They offer privacy and pause, with a touch of playfulness beside the water. After all, river meander, shift, and teach-just as architecture can.

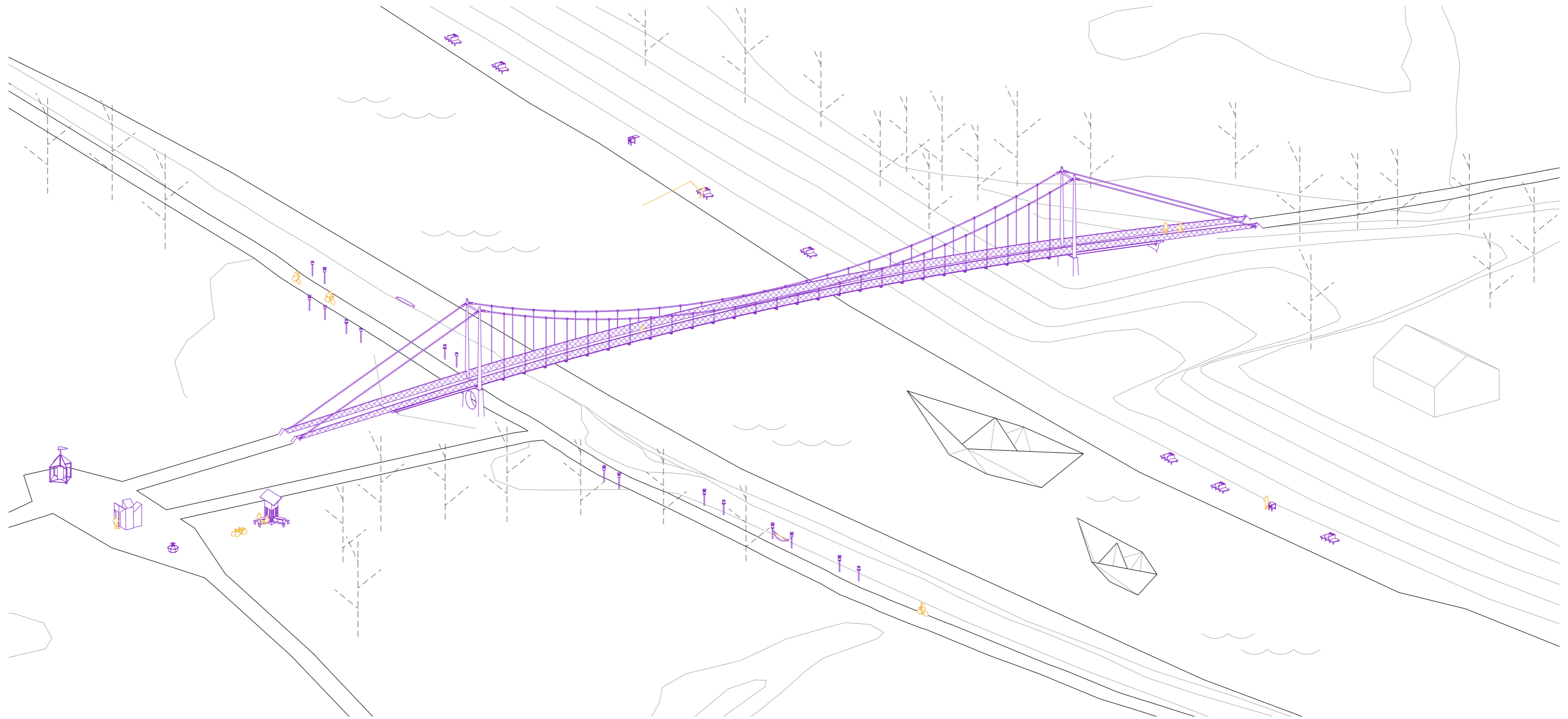
These elements aren't meant to impress, but to serve. For those who stop, they offer stillness, shade, and space to breathe.



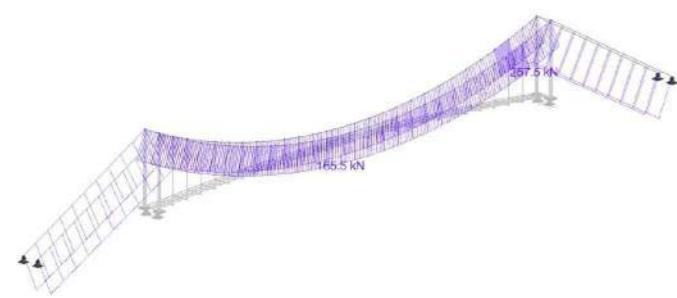
suspension bridge

location Czech Republic | Semín + Přebouč
year 2022
type infrastructure
author solo project
scale L



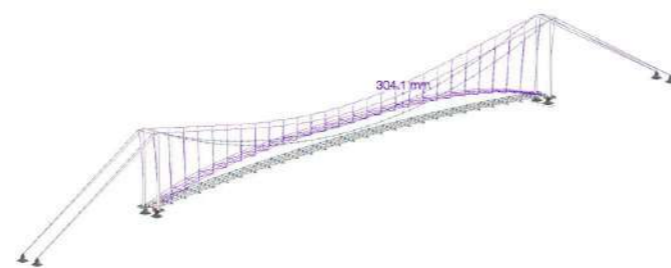


genius loci



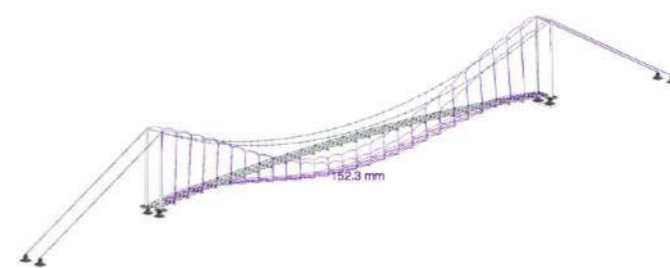
prestressing of the bridge structure

a prestressing force of 257.5 kN was applied to the structure



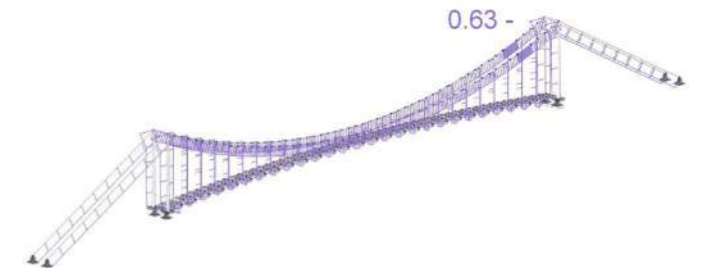
bridge uplift due to prestressing

due to prestressing, the structure lifts by 304 mm



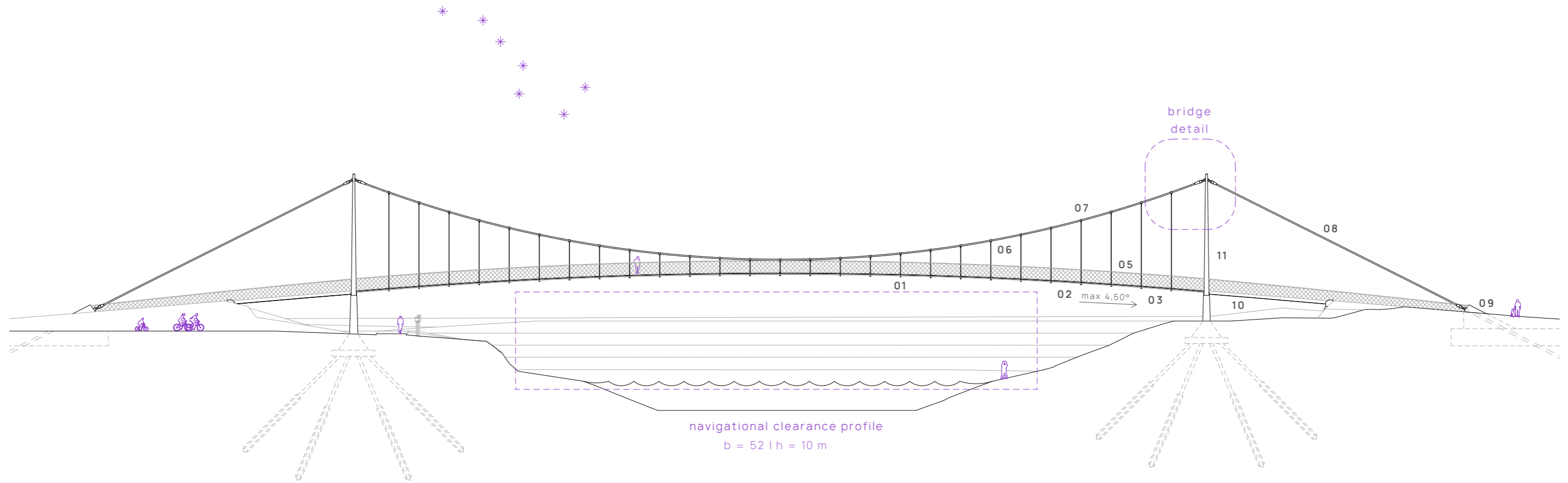
global deformation of the bridge structure

after considering self-weight and variable load, the deflection reaches 152 mm -> the deflection limit is 340 mm



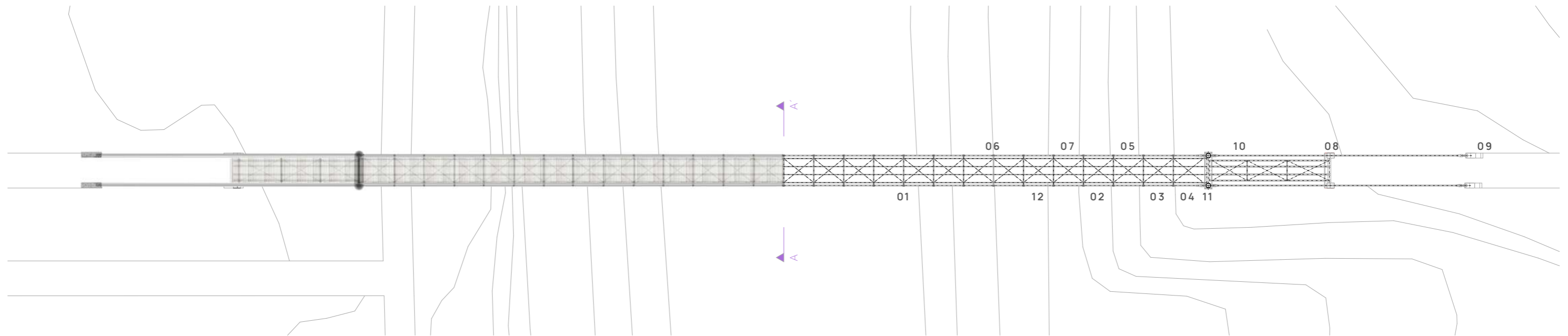
ultimate limit state of the bridge structure

the load-bearing capacity of the bridge was verified according to eurocode EC3 -> the maximum utilization of the designed cross-sections reached 63%



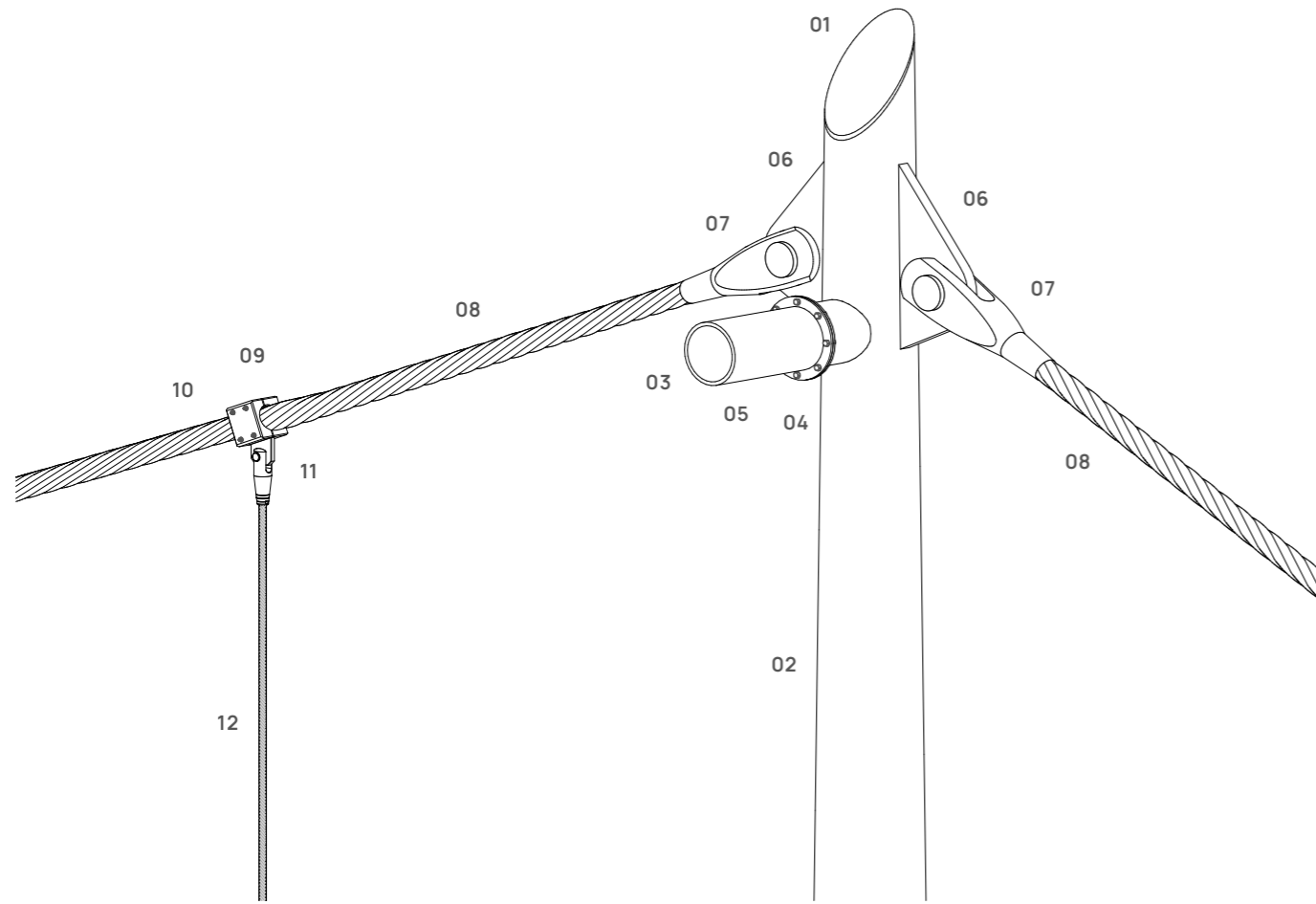
east elevation

- | | | | | | |
|----|---------------------------------------|----|---|----|---|
| 01 | transverse beam _ IPE 200 I S 355 | 05 | railing _ X-TEND I 120x70 mm | 09 | foundation _ concrete C 55/67 XC4, XD3, XF4, XA3 |
| 02 | bracing _ RO 60x10 mm I S 355 | 06 | hanger cable _ d = 30 mm I S 460 NL | 10 | beam _ IPE 400 I S 355 |
| 03 | longitudinal girder _ UPE 140 I S 355 | 07 | main load-bearing cable _ d = 130 mm I S 460 NL | 11 | column _ RO1 273x25 mm, RO2 610x25 mm I S 355 |
| 04 | longitudinal girder _ IPE 140 I S 355 | 08 | pre-tensioning cable _ d = 130 mm I S 460 NL | 12 | decking _ open steel grating I mesh size 34.33x33.33 mm |



plan view





The bridge uses 3.5 m pylons with 12 m conical steel columns, tapering from Ø610 mm to Ø273 mm (25 mm wall).

Primary load is carried by pre-tensioned steel cables (s 460 nI, 260 kN), with 30 mm secondary suspension cables.

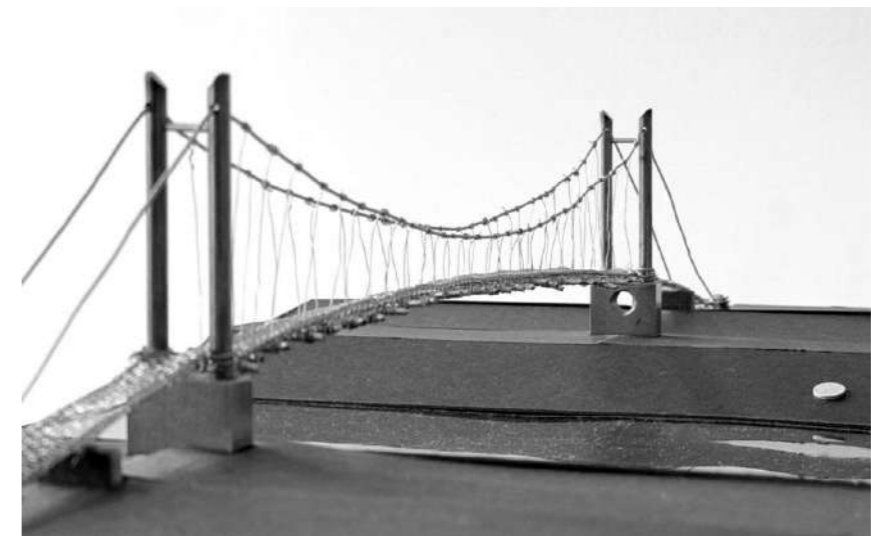
The deck rests on transverse IPE 200 beams and longitudinal members (UPE 140 at edges, IPE 140 at center). The walking surface is a perforated steel grating (mesh 34.33 × 33.33 mm c.t.c.).

bridge detail

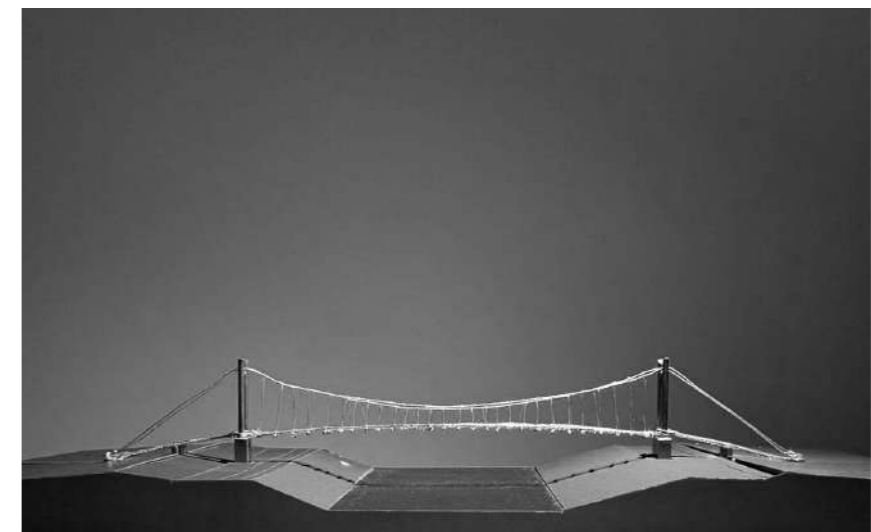
- 01 steel cap plate
tl. 20 mm
- 02 conical column
RO1 273x25 mm
RO2 610x25 mm
- 03 cross brace tube
d = 220x20 mm
- 04 steel flange
300x20 mm
- 05 bolt
M20x80 mm
- 06 gusset plate
tl. 70 mm
- 07 turnbuckle eye
RONSTAN ROD FORK
- 08 main tension cable
d = 130 mm
- 09 cable clamp
150x150 mm
- 10 bolt
M10x180 mm
- 11 hanger cable clevis
PISTON ROD CLEVIS
- 12 hanger cable
d = 30 mm



engineering wit: a circular column playfully rolling along the Elbe trail



mirroring the shimmer of the river's surface



bridge symmetry shaped by dialogue between the banks

silence

A place for a fisherman or a quiet observer of the water's surface. When needed, the shelter unfolds to provide overnight refuge or protection from the elements.



habitat

A home for the worm population. Soil is naturally aerated and nourished by the surrounding environment.



private need

A unit with a composting toilet, washbasin, shower and a calm viewing space. Rainwater is filtered and reused for hygiene. Ash from composting fertilizes the nearby fields.



insulin

A structure that recharges energy.
phase 01: collects and purifies rainwater
phase 02: harnesses solar energy
phase 03: offers rest, recharges devices & e-bikes
even brews tea or coffee



nature first

A waste bin made of six triangular capsules for sorting daily waste. The structure gathers sunlight by day and glows after dusk.



hunger

A food dispenser. The central cylinder stores drawers filled with goods from local producers. Wind power provides cooling. During rain or intense sunlight, the roof tilts to protect the content.



weightlessness

Metal posts lining the cycle path hide hammocks at the top. They can be strung freely between two posts. At night, the system lights the route.



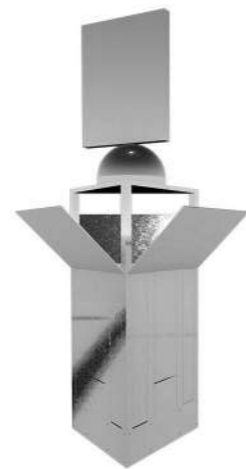
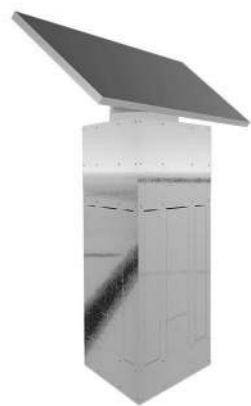
pedestrian connection between Semín & Přelouč



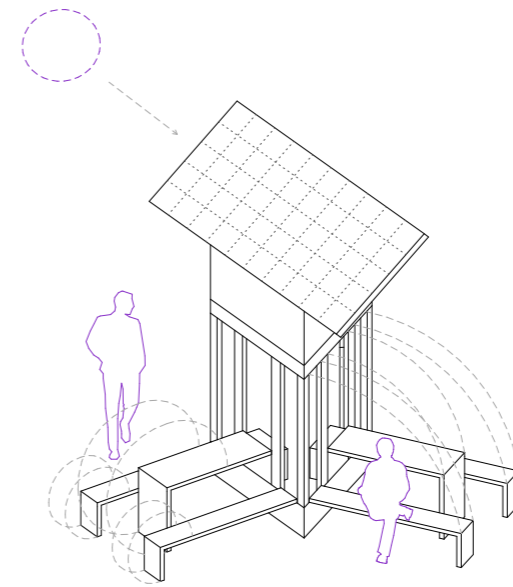
Elbe cycle path passing under the designed bridge



a structure that recharges your energy

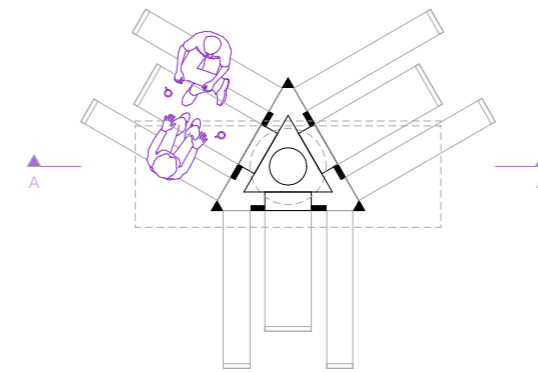


insulin



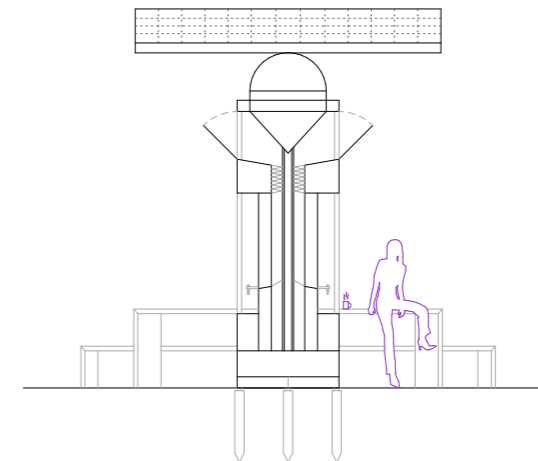
axonometric view

energy harvesting mode
seating mode



plan view

energy harvesting mode
seating mode



cross section

water heating
energy harvesting mode
seating mode

01 ecosystem

What does it mean to build where stories already live?

A forgotten stretch along the Vltava river—scarred yet full of promise—calls for revival. Its proximity to the river hints at a future shaped by movement, leisure and nature.

The design introduces a cohesive urban block structure, punctuated by strong, legible landmarks that anchor orientation and define identity. Within this framework, green corridors are reconnected to form a living ecosystem—woven into the urban fabric.

Careful attention was given to massing, transparency and how built forms shape daily experience. Public spaces are choreographed to invite interaction, reflection and a renewed sense of belonging.

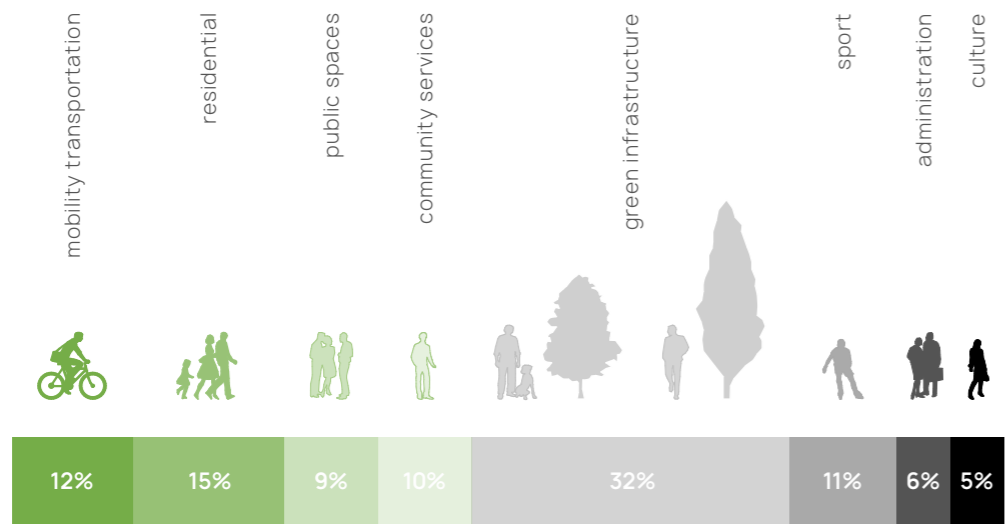
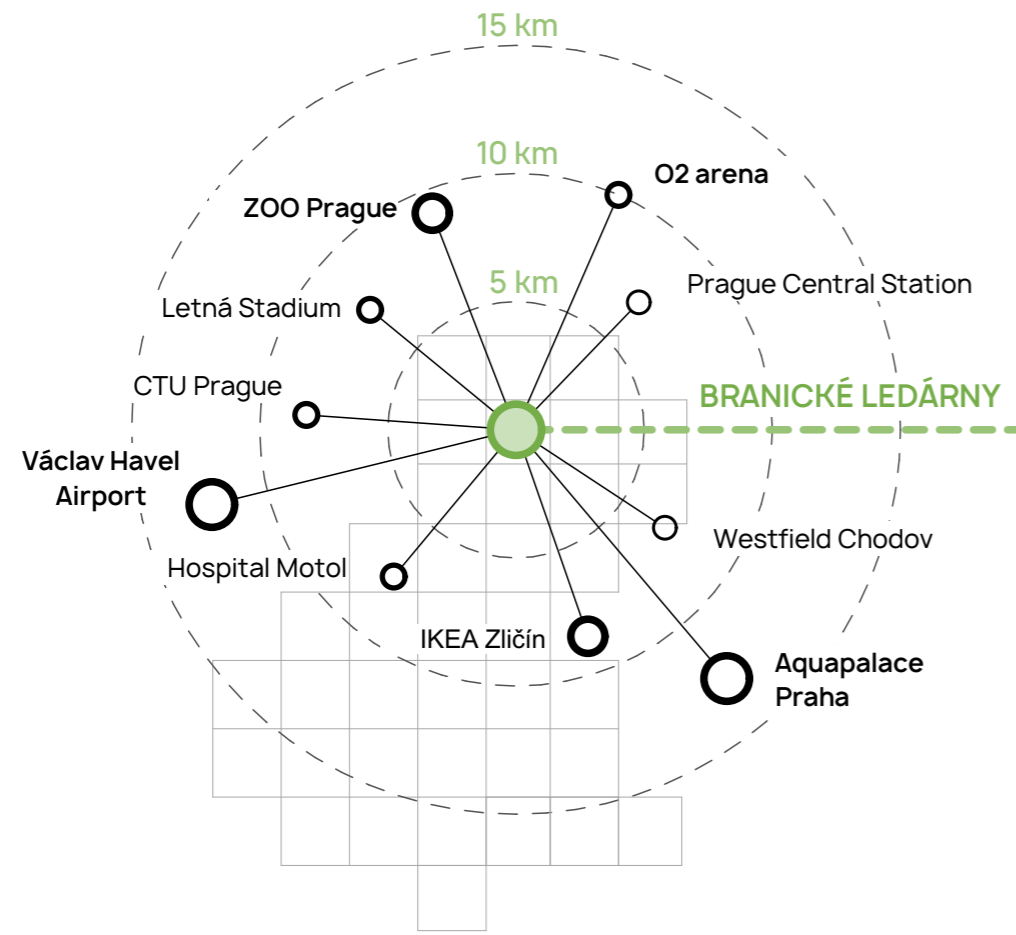
The design honours existing communities while bridging sport, culture and infrastructure—transforming an overlooked site into a sustainable and spirited part of the city.



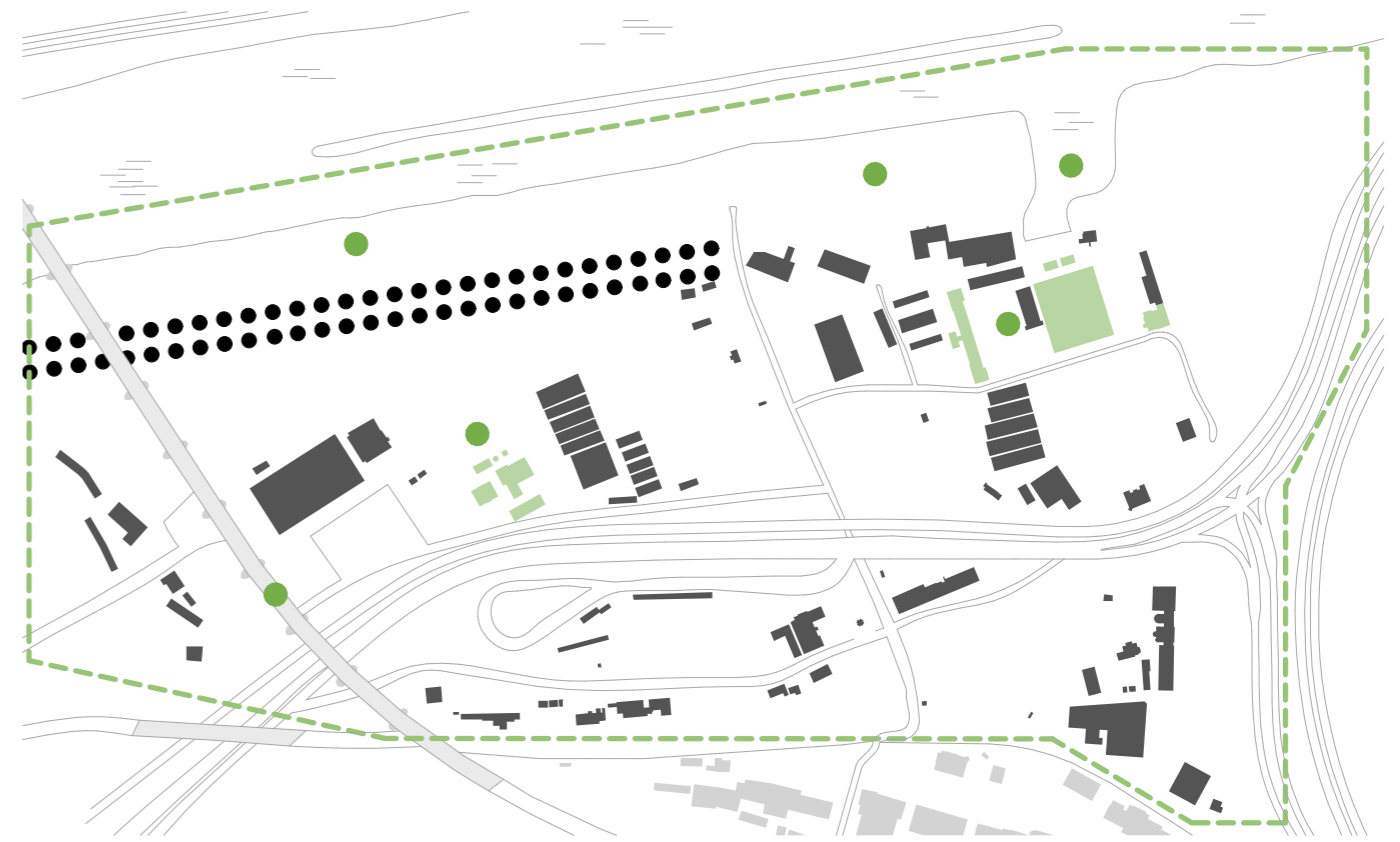
urban district

location Czech Republic | Prague
year 2022
type urbanism
author solo project
scale XXXL

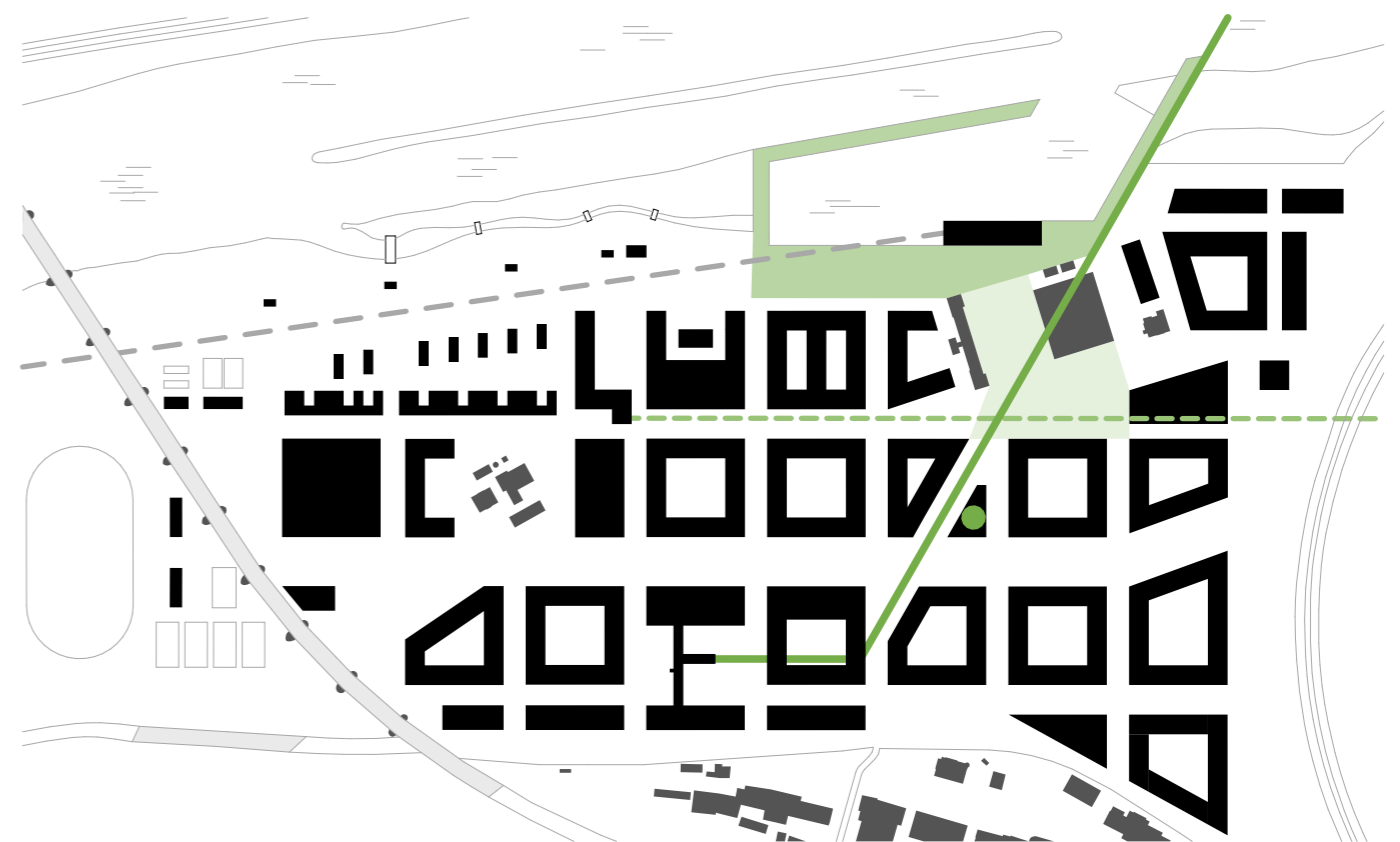
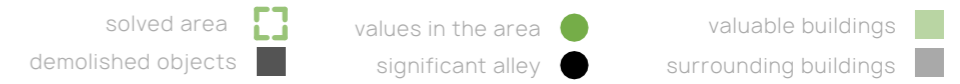




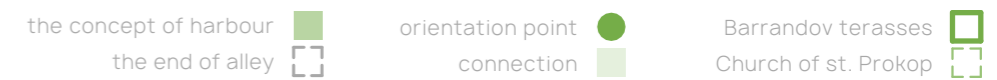
key functions in the area

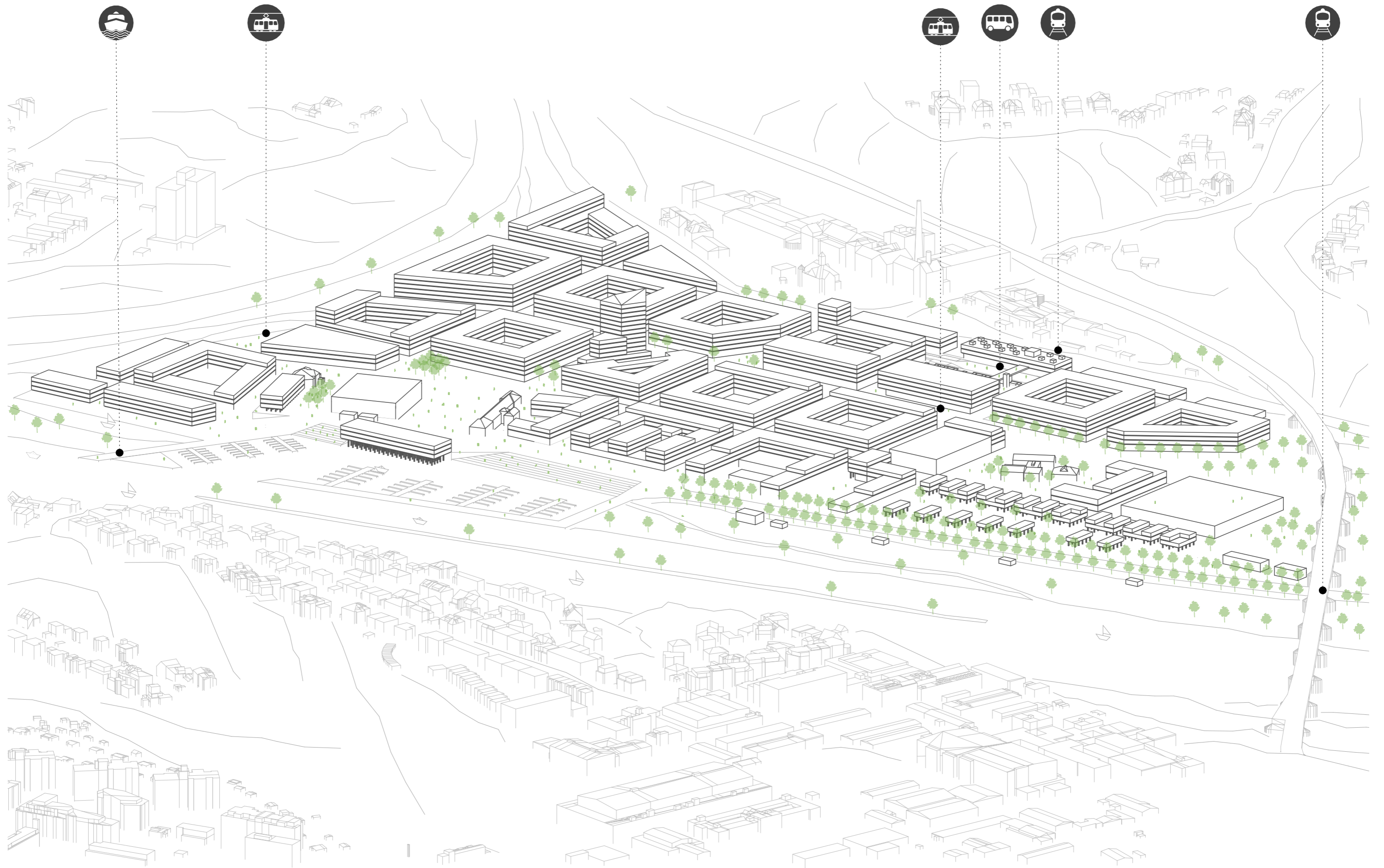


existing state

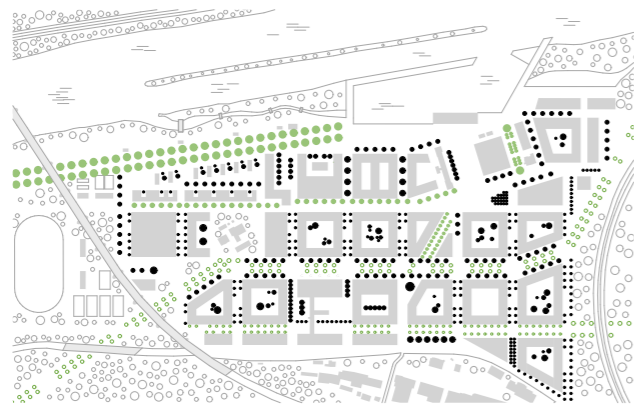


concept design





axonometric view



natural ecosystem

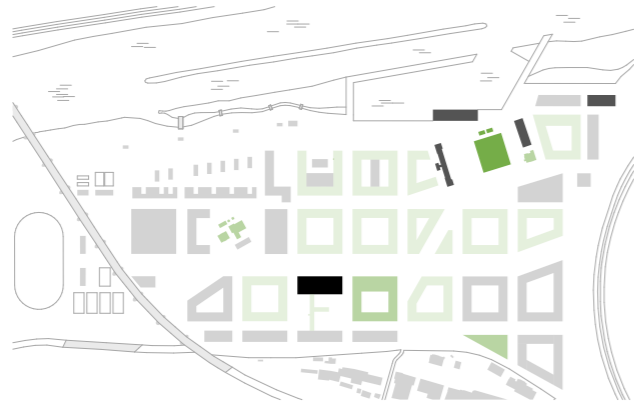
- existing greenery
- significant alley
- noise-buffering vegetation
- climate-regulating greenery



functional use

- mixed-use buildings
- residential buildings
- office buildings
- civic amenities
- cultural facilities
- sports facilities

* mixed-use buildings always include active commercial ground floors



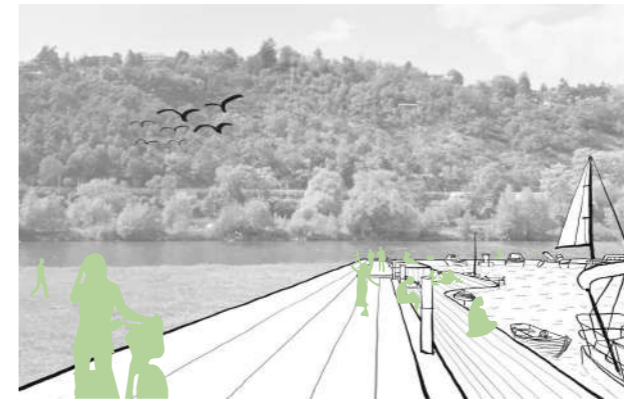
cultural life

- multi-purpose cultural venues
- cultural & educational institutions
- concert hall
- shopping center
- socially active retail



body & soul

- regeneration
- water sports
- team sports
- individual sports
- significant alley
- relaxation zones



into the wild

A harbor opening towards the Barrandov Cliffs, where movement meets stillness. The transport zone gently dissolves into a quiet beach, inviting pause and reflection. A place where the city softens into nature.



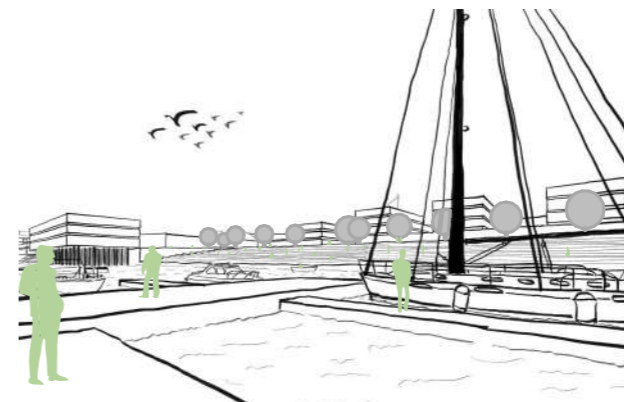
children's joy

The forecourt of a nursery school becomes a safe stage for play and imagination. Here, children gather, invent worlds, and share the simple joy of being together. Protected, yet open to laughter.



summer nights

A stage in front of the ice storage building transforms into a summer cinema. As daylight fades, the waterfront glows with film, sound, and community. Evenings stretch longer, carried by stories under the sky.



gentle moments

Along the Braník ice storage, the riverbank slopes into a living grandstand. People sit, gather, and gaze across the water towards the cliffs. A daily ritual of views, conversations, and shared silence.



working adults



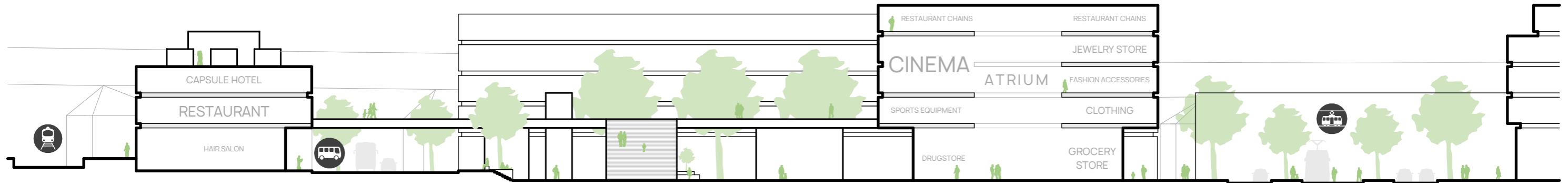
families with children



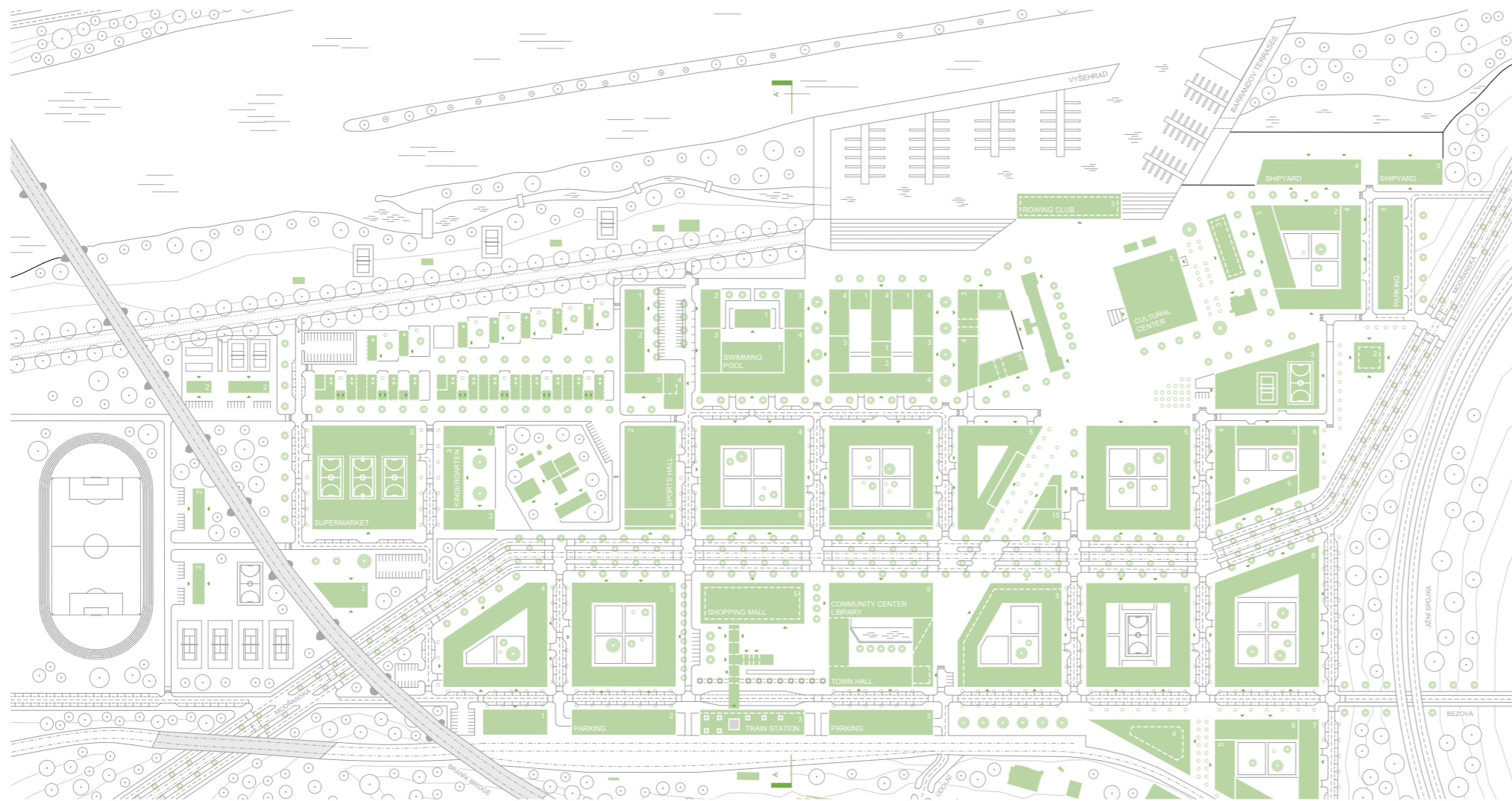
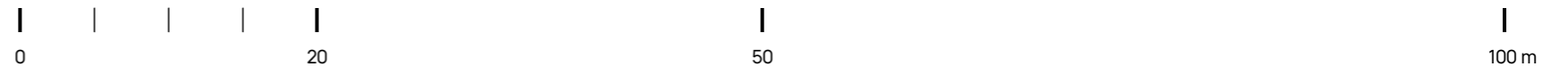
students



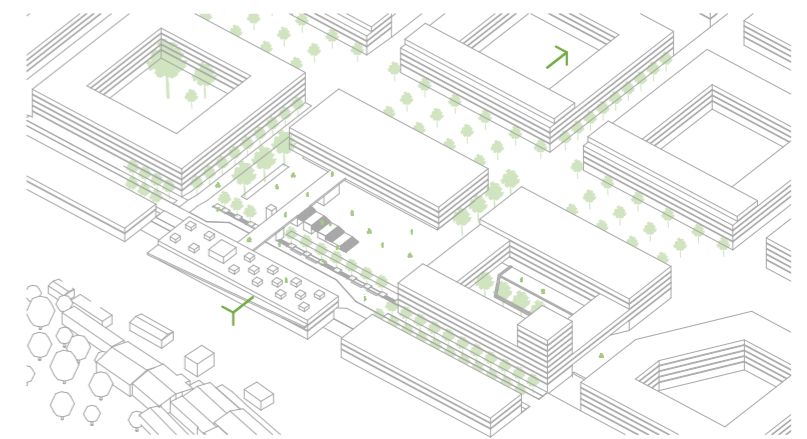
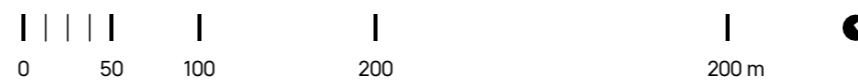
seniors



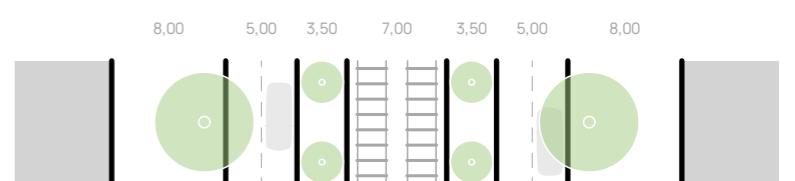
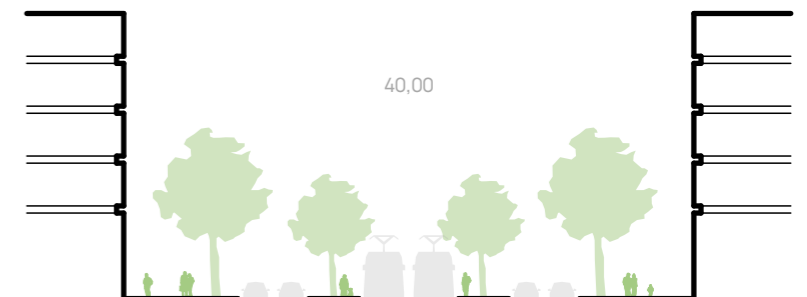
site section



site plan



harbor with a view of the Barrandov Cliffs



harbor with a view of the Barrandov Cliffs

02 sport & culture

How can architecture move people-physically & emotionally?

A new harbour district emerges along the banks of the Vltava, at the edge of Prague 4-anchored by a multifunctional building that balances sport, leisure and community life.

At its core lies a rowing & kayaking club, complete with boat storage, changing rooms, fitness & wellness zones and quiet spaces to rest. Above, a sports shop, yoga studio and rooftop restaurant overlook the water.

The building completes the square near the historic Braník iceworks while remaining open-framing views of the port and the Barrandov cliffs. To the south, it concludes a significant alley. Toward the river, it rises confidently, like a lighthouse-a symbol for the site's new identity.

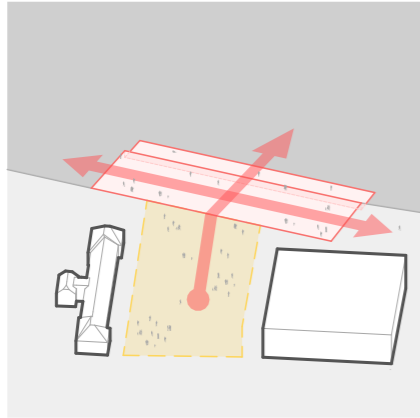
This project reveals the site's vast potential, helping transform Braník into a lively district for culture, sport, and shared experience.

location Czech Republic | Prague
year 2023
type recreational
author solo project
scale XXL



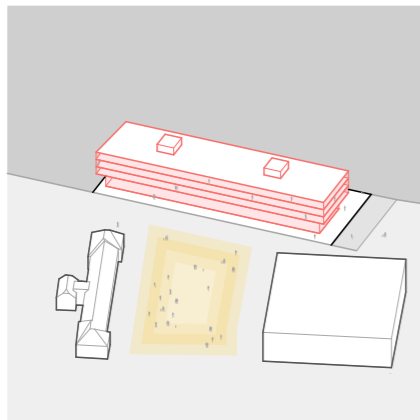
sports harbour complex





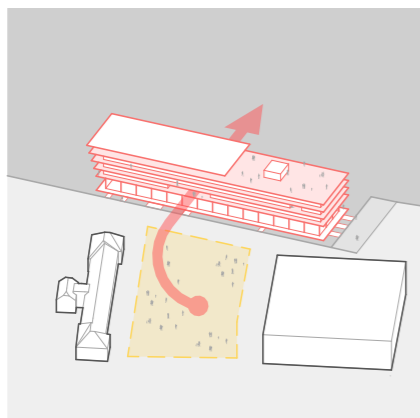
flow

The design extends the public realm toward the harbor, opening direct contact with the water.
New playful spaces invite people to engage with the river.
It becomes a stage where human activity meets the phenomena of nature.



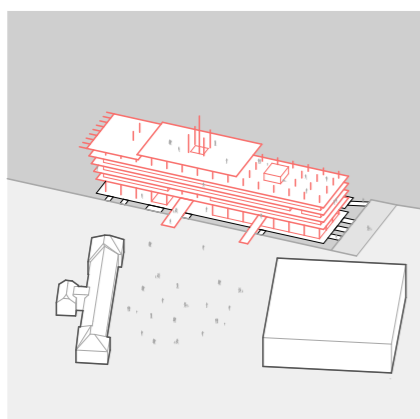
shape

The volume of the building is defined by scale, capacity, and user needs.
Its form simultaneously frames and creates a new public square.
Architecture becomes both object and urban gesture.



connect

The building reconnects city and river as a layered public promenade.
Its stepped form doubles as a grandstand, inviting spectators to rowing and kayaking.
A civic balcony overlooking the Vltava river.

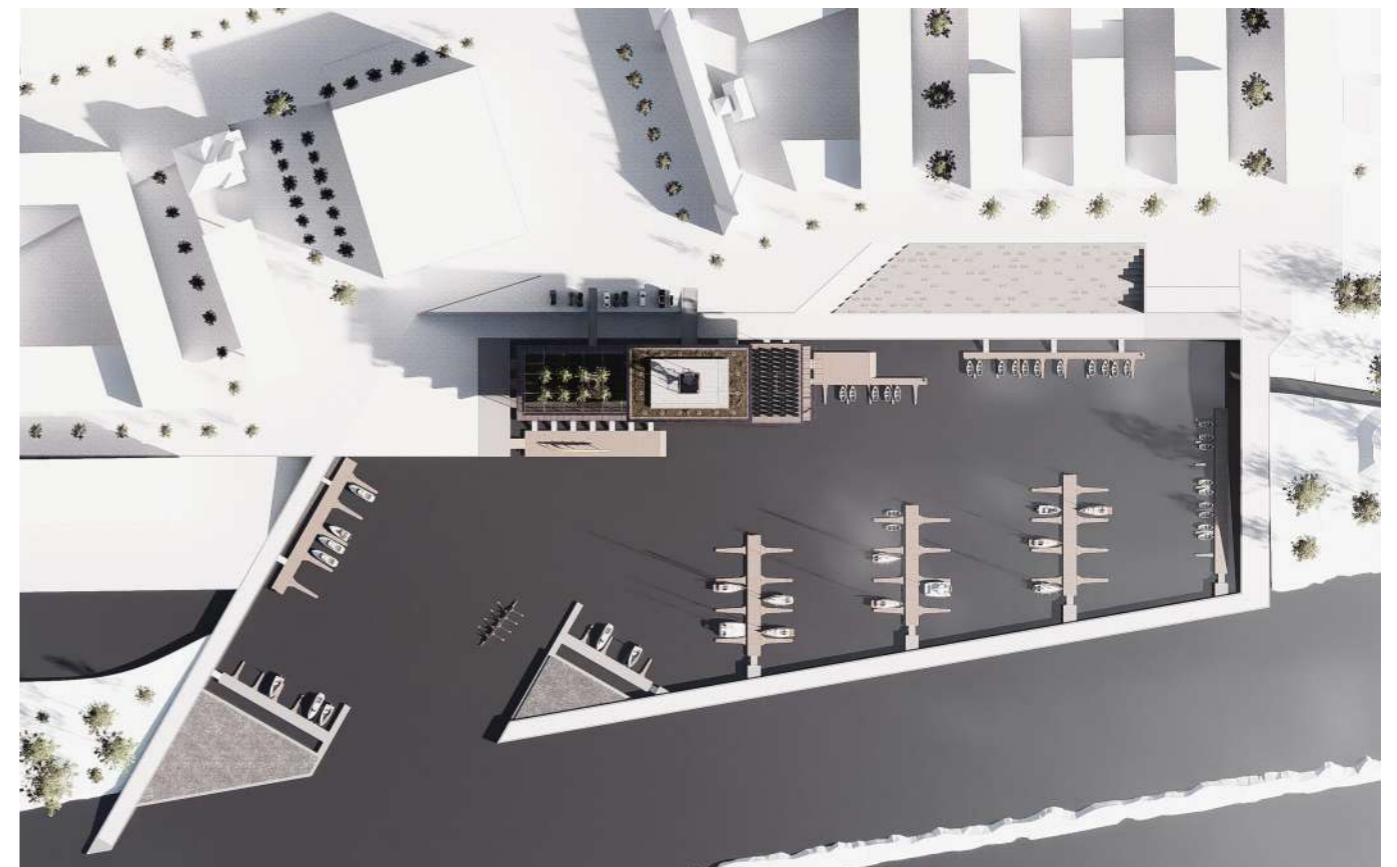


resonate

The architecture responds openly to its surroundings and community.
Its expressive form is designed as a landmark for the entire port.
A beacon of activity, identity, and belonging.

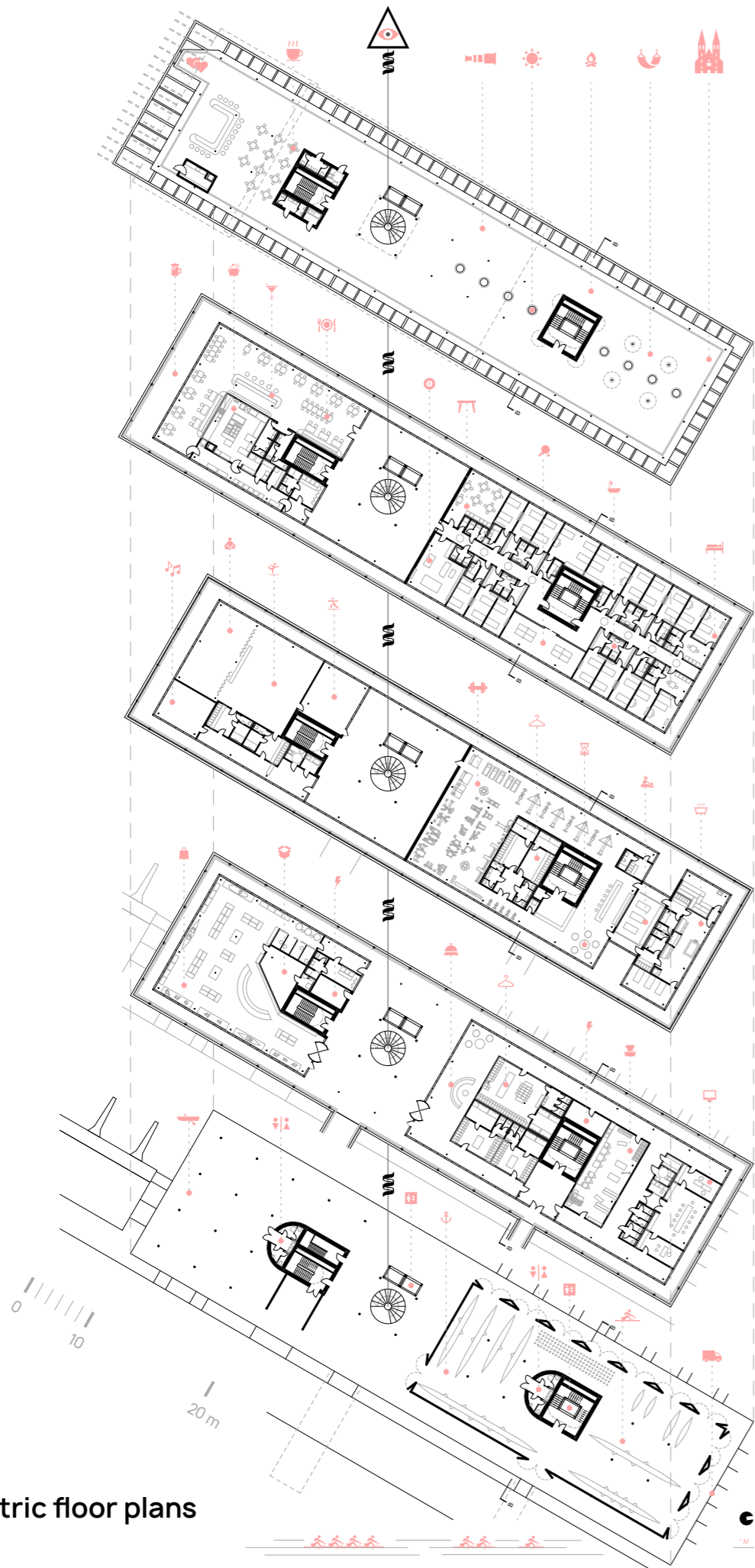


sports harbour complex



site plan





The Valenta Family's 1st Visit to Iceworks Square

It's their very first time here.
Suddenly, Eduard spots a footbridge.
Where does it lead?
Curiosity pulls him forward.
The rest of the family follows.

They find themselves in a clearing—
A moment of stillness.
They see the harbor.
Birdsong floats in the air.
The wind brushes against their cheeks.
Cliffs rise in the distance.
Eva leans on the railing, drinking in
the river's flow.

Then—a rustle.
She tilts over the edge.
Rowers!
She turns to show Eduard—
But he's already heading into the
shop with the kids.

She hurries after them...

They emerge again, stepping out into
the light.
Upward they go, spiraling higher and
higher.
The children press their faces to the
glass.
"They're doing yoga," Eva says with a
smile.
Watching the calm inside the hall.

They continue up.
Where does this path lead?

"Wow!"
"No way!"
"Amazing!"
Their voices echo at the top of the
spiral.
The view steals their breath.

They begin the descent.
"Mmm, something smells good!" Ryan
shouts.
Drawn by the scent, they all step into
the restaurant.

Later, they leave full, laughing.
But not down the stairs.
Instead, they step into glass boxes,
Floating gently downward,
Watching the harbor rise up to meet
them.

Then—touchdown.
They're on the dock.

"Look! A boat!"
Little Isabela squeals with delight.
"Daddy, Mommy—can we rent a boat
too?"



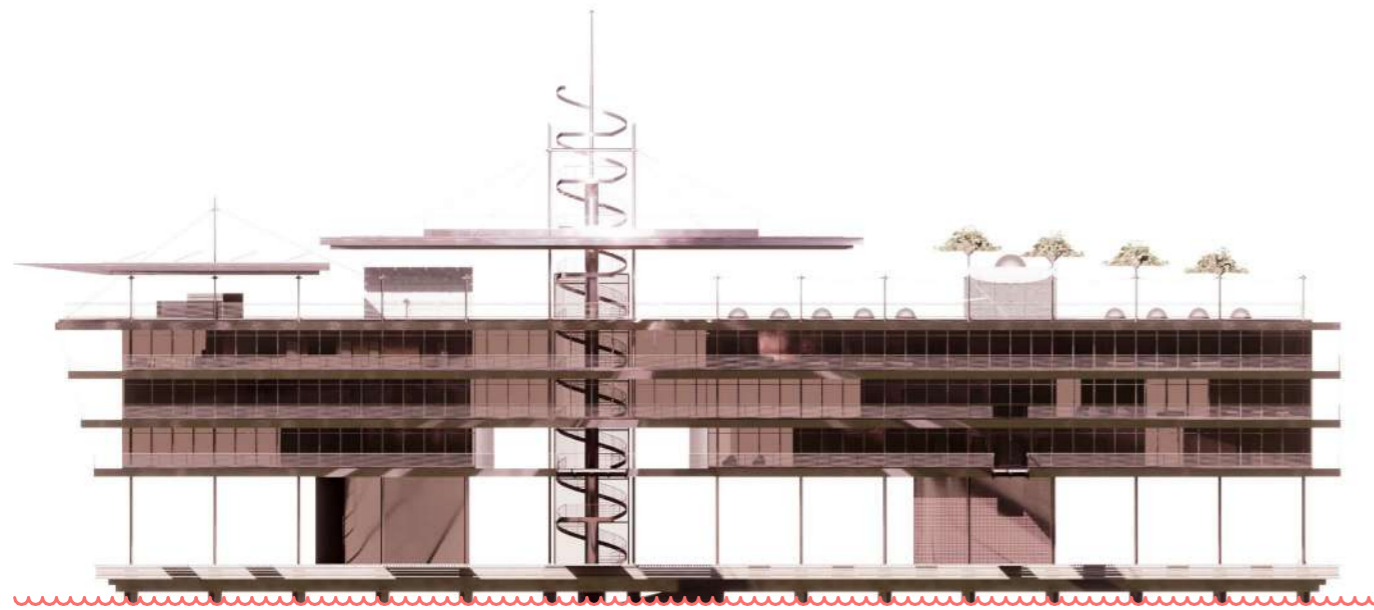
rhythms in architecture



rhythms in architecture



rhythms in architecture



east elevation



loads

Self-weight, variable, snow, and wind; min. load cat. C4 (gyms/fitness). Manufacturer data; roof per national snow maps.

horizontal structures

Composite steel-concrete slabs: IPE 330 primaries, IPE 220 secondaries, TR50/250 decking (0.88 mm), C25/30 concrete. 1st floor over water on steel cantilevers with timber decking.

vertical structures

Steel columns Ø245 mm (floors 1-2), Ø140 mm (3-roof), supported by tension rods; some concreted internally. Stabilized by two RC cores.

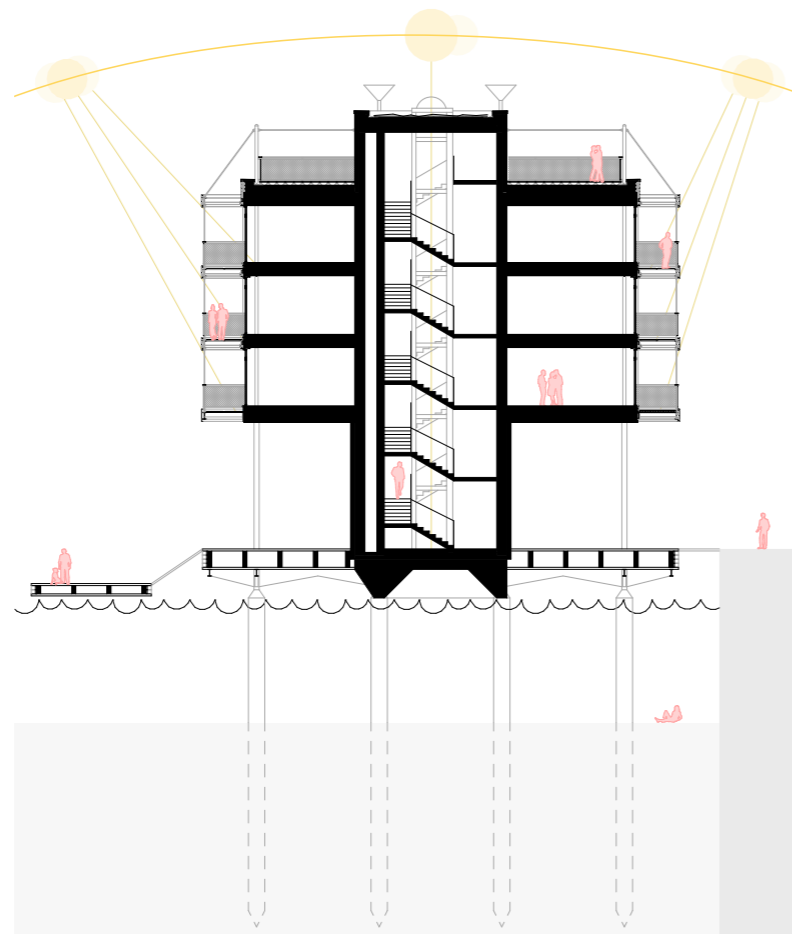
foundations

800 mm piles with embedded Ø245 mm columns.

staircases

RC stairs in cores; dominant steel spiral with 1,000 mm central spine.

verified according to EN 1993-1-1



cross section



rain falls on Prague, yet you train – Olympic dreams won't wait



urban beach along the Vltava River



visual anchor at the end of the significant alley

03 community

How can architecture bring people together?

The aim of this project was to unlock the unused potential of an inner courtyard in central Prague. The design creates a balanced urban mix—bringing together Catholic priests, seniors, students, young families, and the upper class into a shared oasis.

The preserved skeleton of a former functionalist garage is complemented by lightweight timber additions, forming low-energy housing for seniors and students. A second five-story residential building for young families rises from the footprint of a lower garage structure.

The entire courtyard is revitalized to support a healthy microclimate, promote social interaction, and restore meaning to a long-overlooked urban void.



regenerated courtyard

location	Czech Republic Prague
year	2021
type	urban living
author	solo project
scale	XL

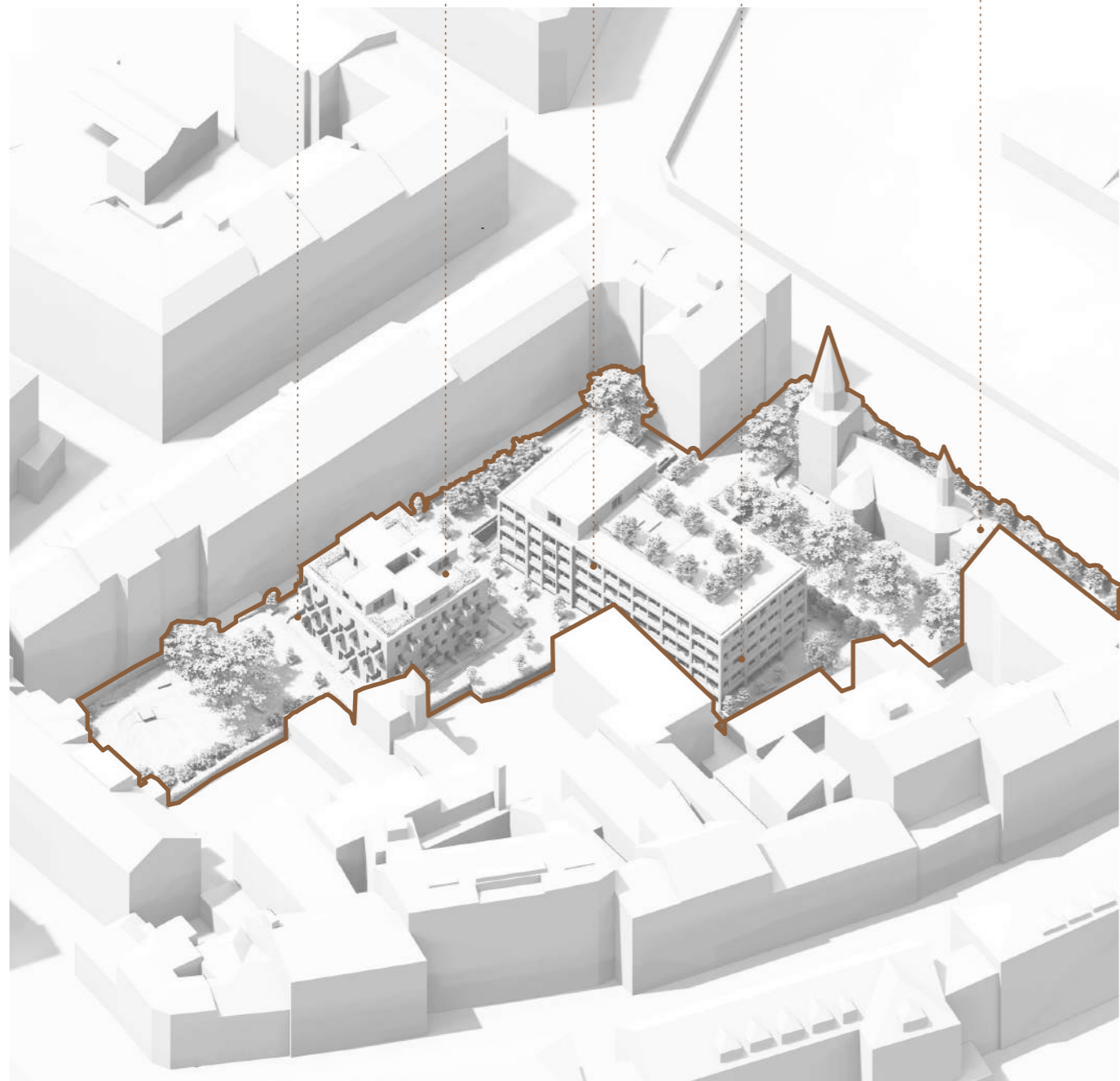
families

rich

students

seniors

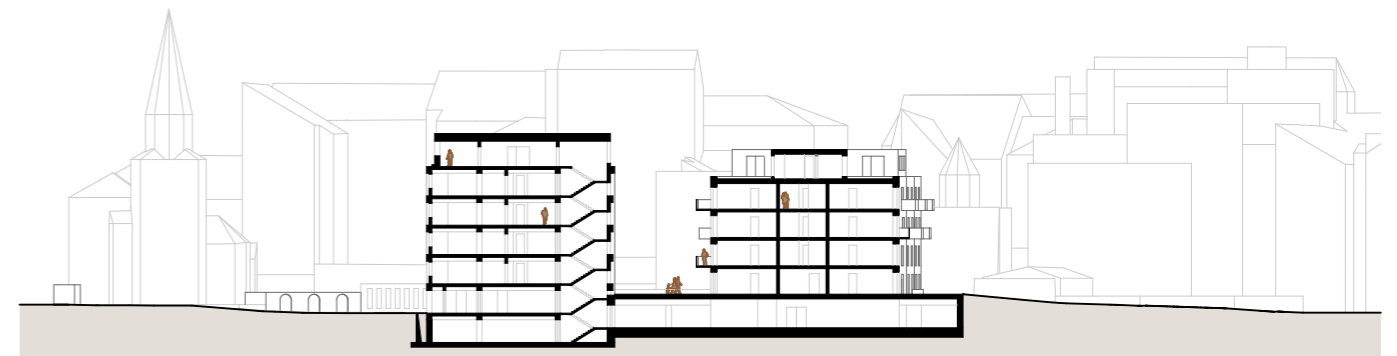
priests



regenerated courtyard

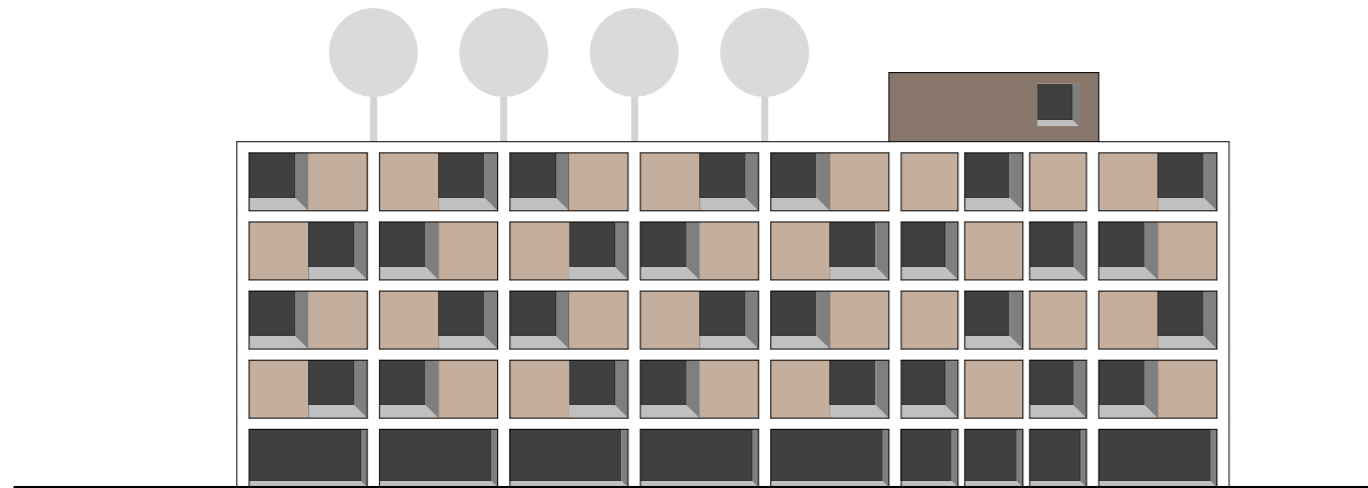


site plan



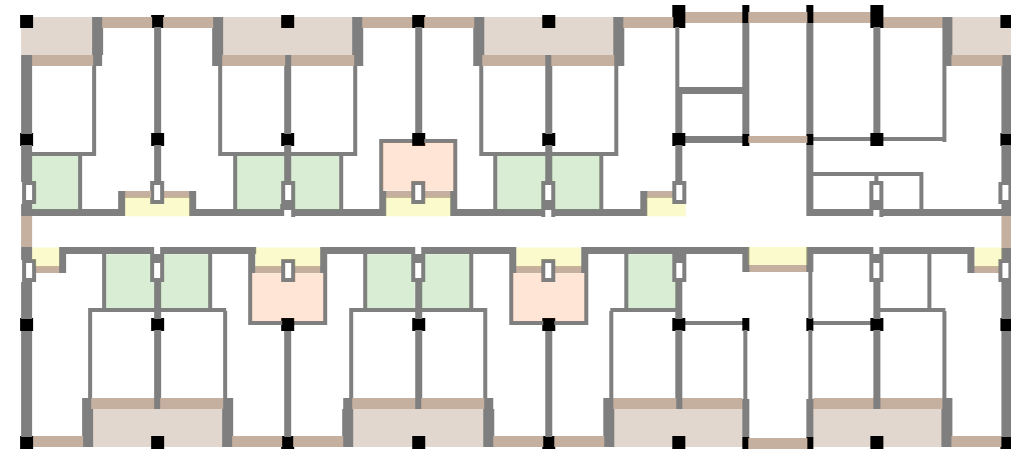
cross section





parallel view

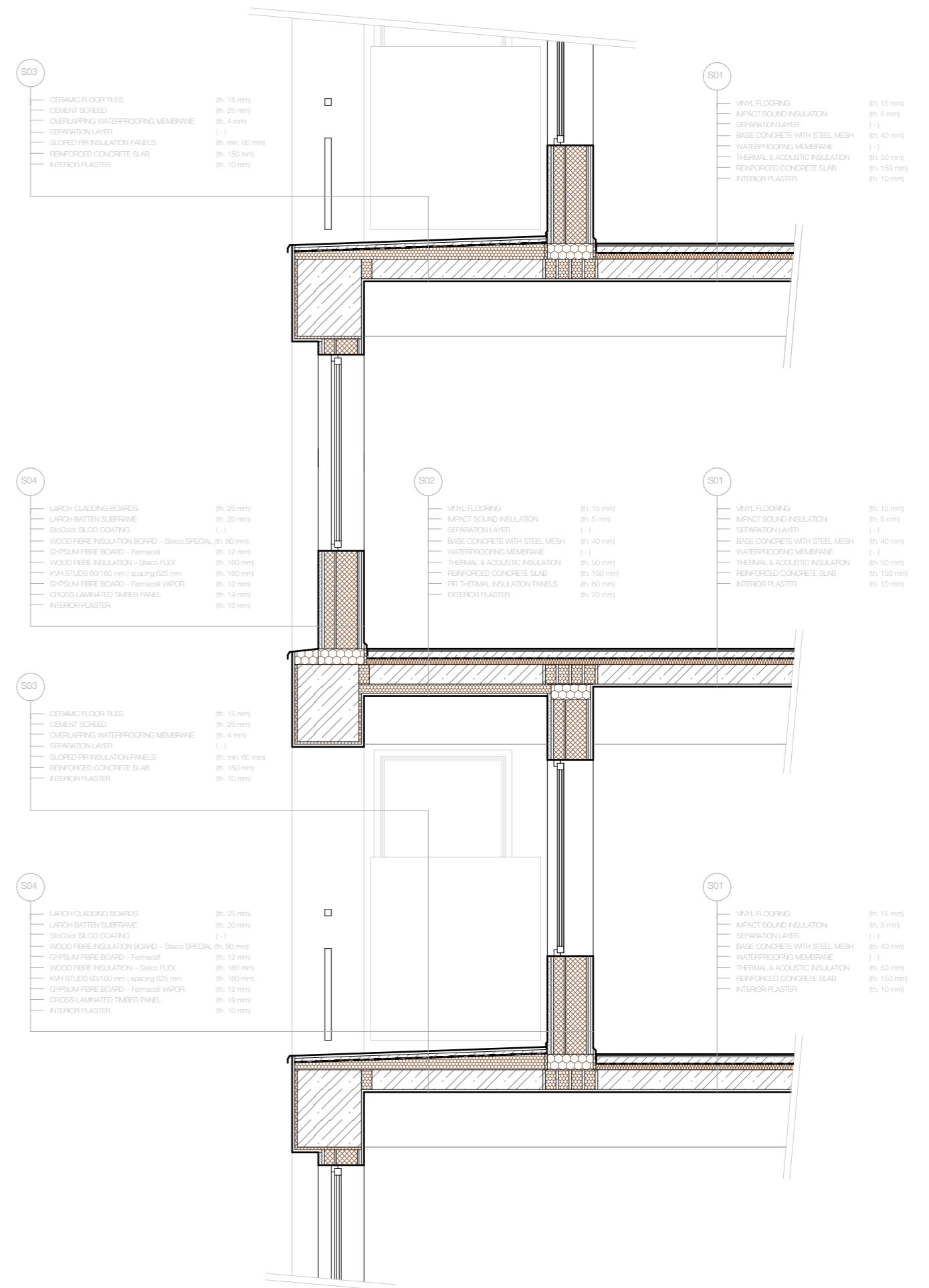
- existing reinforced concrete frame
- designed loggias
- designed glazing
- designed timber infills
- designed volumetric graduation
- designed trees above the existing frame



floor plan

- existing reinforced concrete frame
- designed reinforced concrete frame
- designed daylight access
- designed loggias
- designed shared kitchenettes
- designed accessible bathrooms
- designed seating nooks for rest

concept design



technical solution



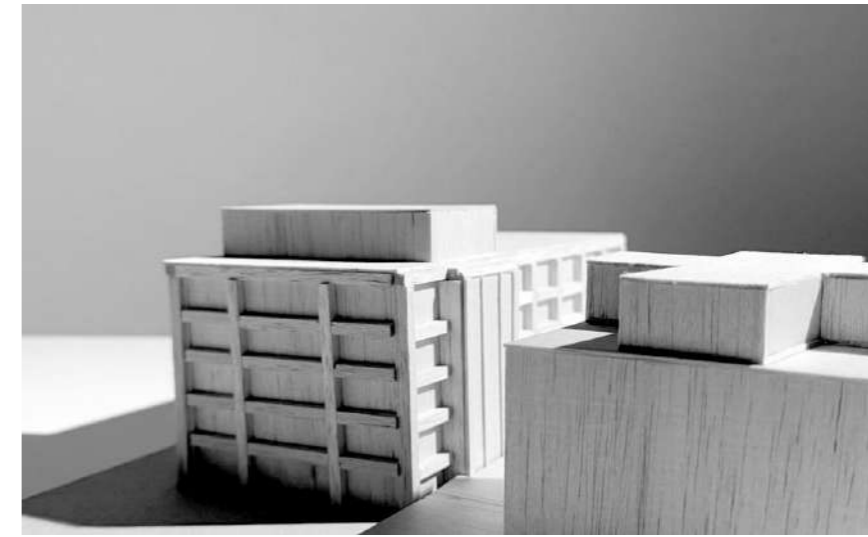
conversion of functionalist garages



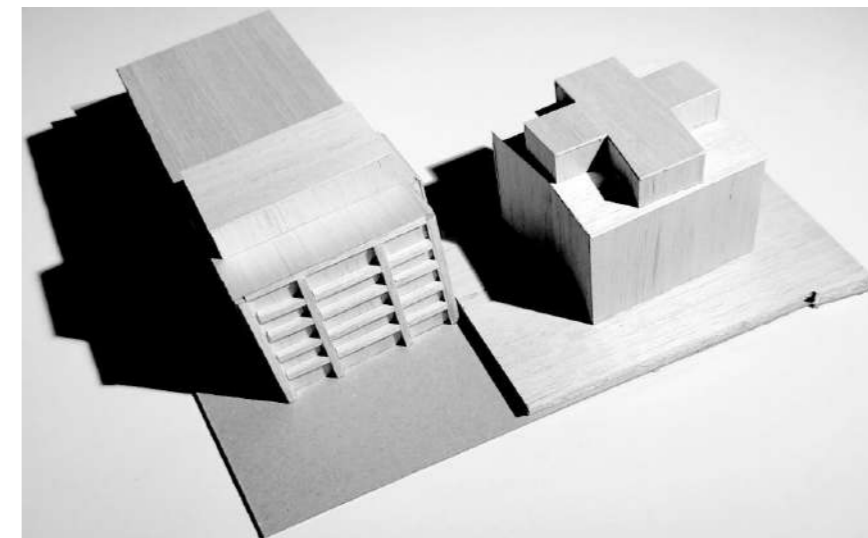
parish garden



alley with senior play elements



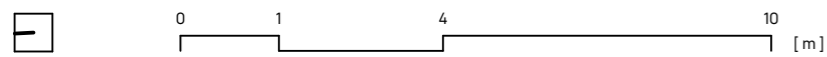
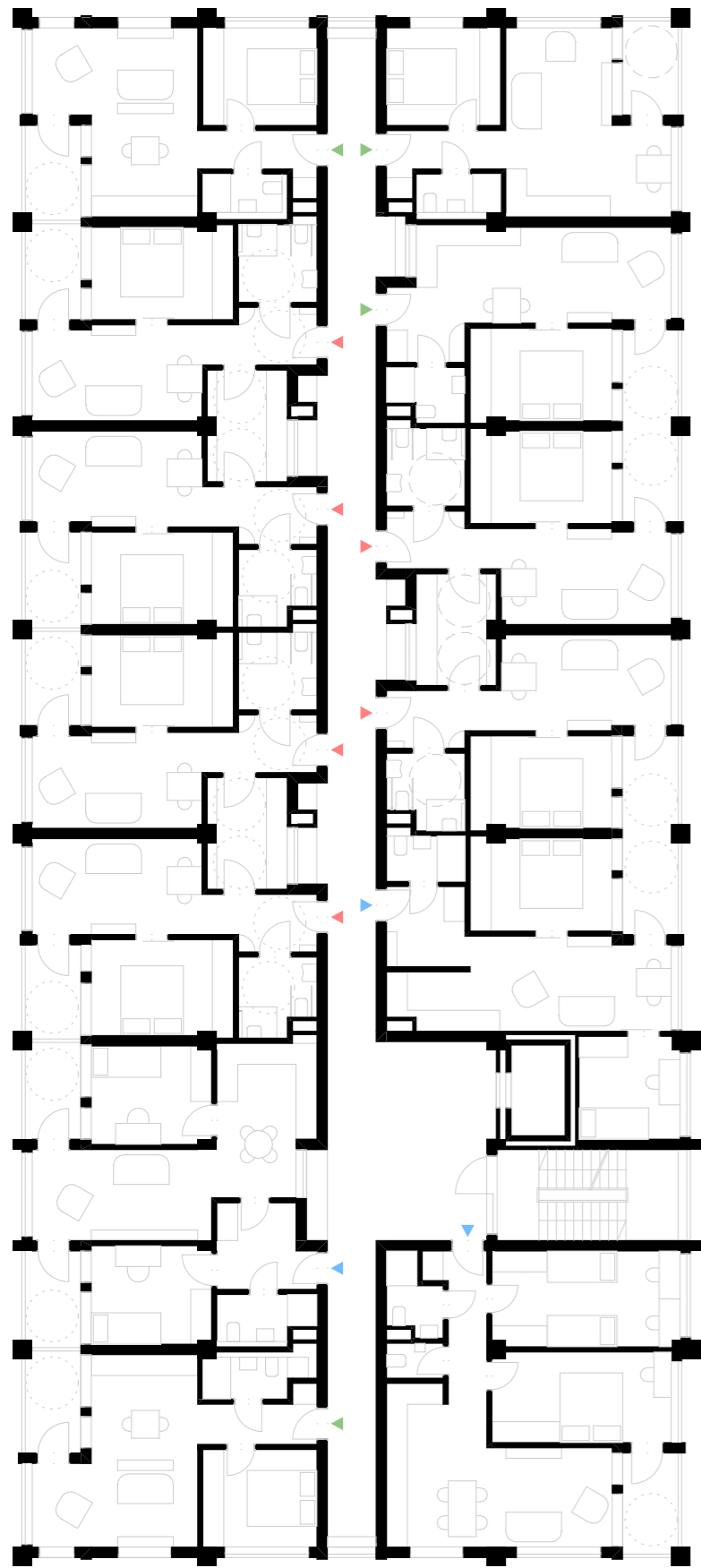
visual corridors



interaction of forms



harmony of volumes



▶ students



12 residential units
4 parking spaces
8 basement storage units
pram and bike room
laundry room & drying room
linen storage

▶ senior (barrier-free)



24 residential units
6 parking spaces
12 basement storage units
pram and bike room
laundry room & drying room
linen storage

▶ senior (non-barrier-free)



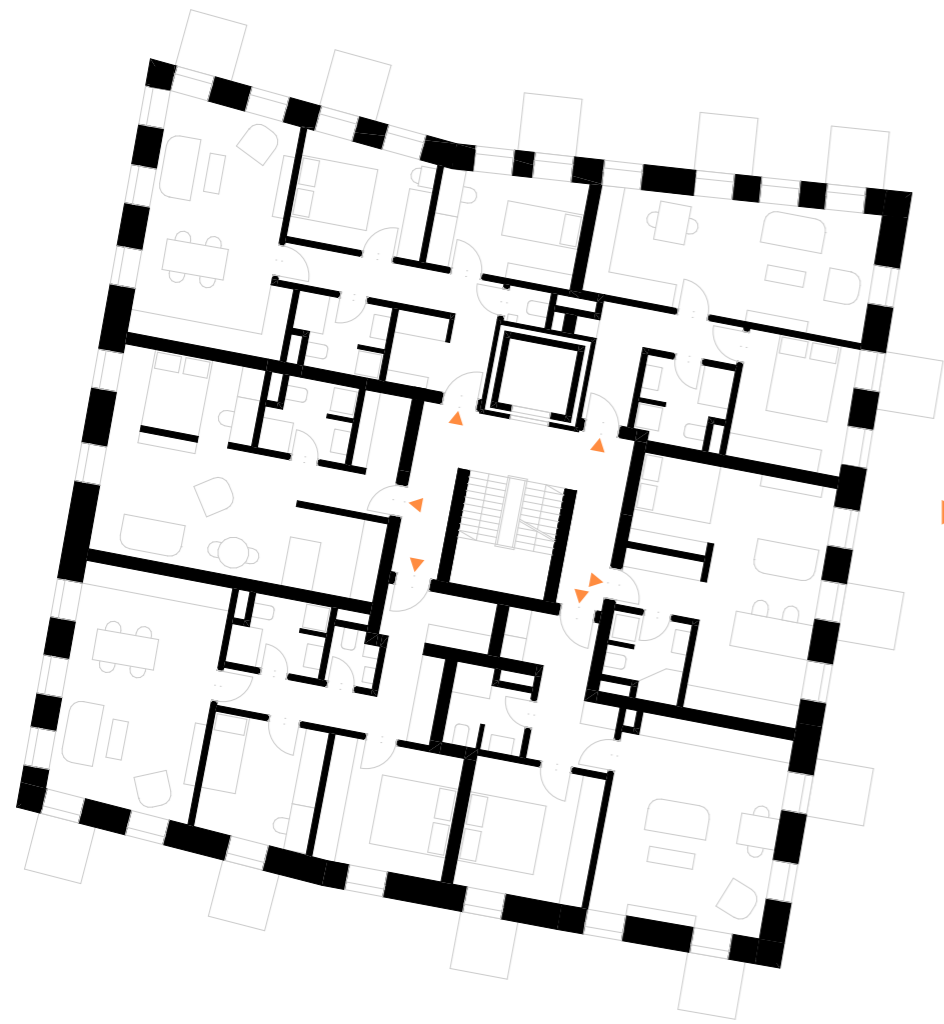
16 residential units
8 parking spaces
10 basement storage units
pram and bike room
laundry room & drying room
linen storage

conversion of functionalist garages



modules with shared kitchen

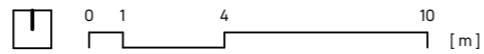




▶ young families with children



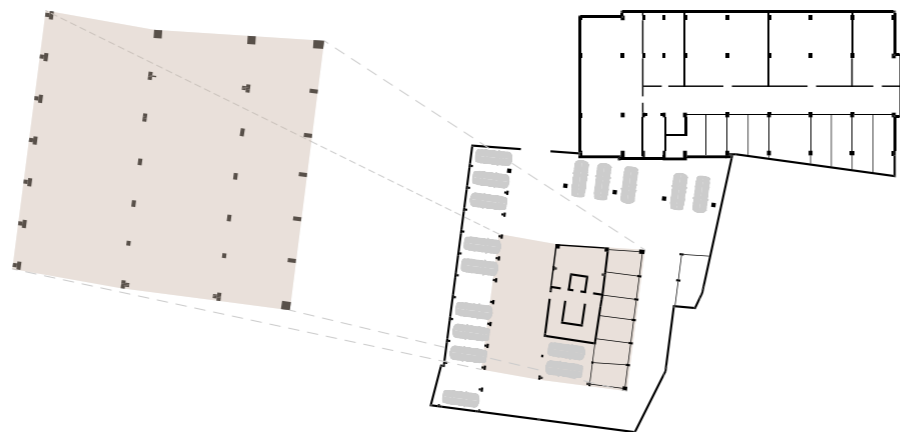
- 20 residential units
- 16 parking spaces
- 12 basement storage units
- pram and bike room
- laundry room & drying room



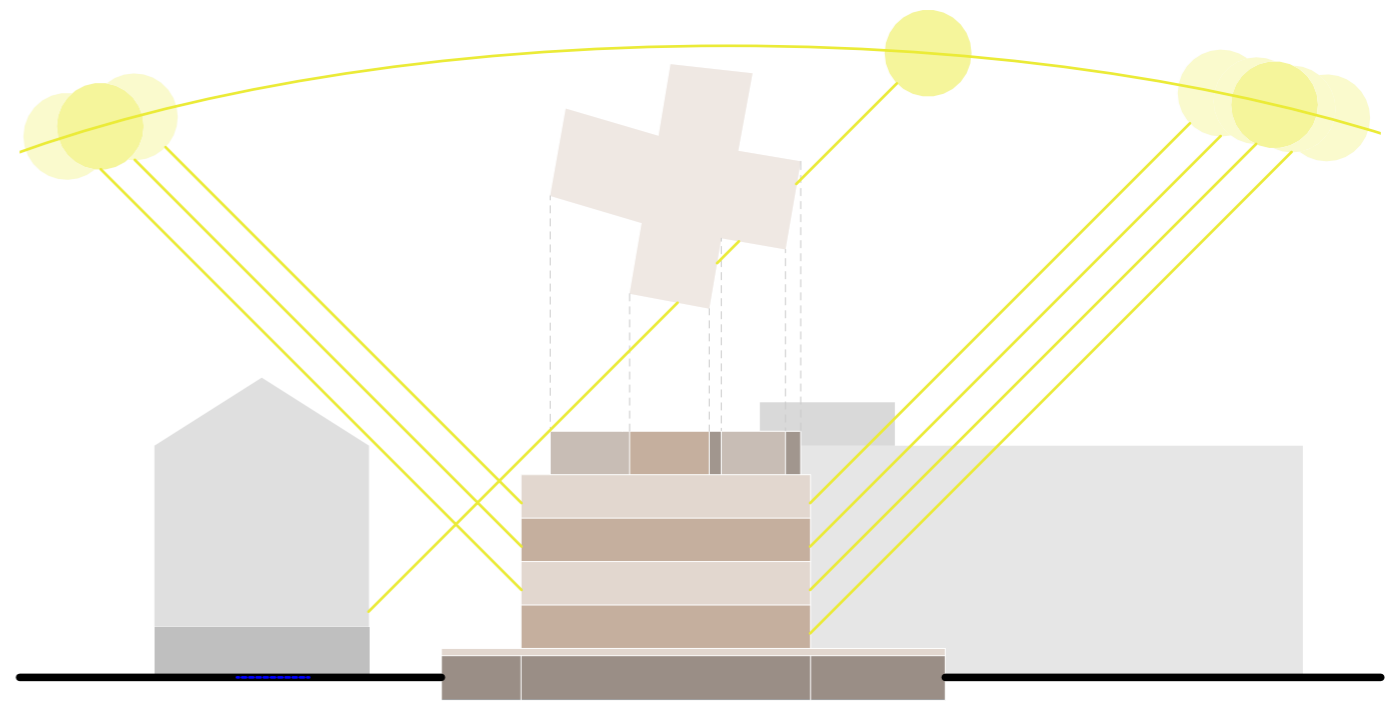
typical floor plan

The newly proposed residential building is defined by the existing structural frame of the original functionalist garages.

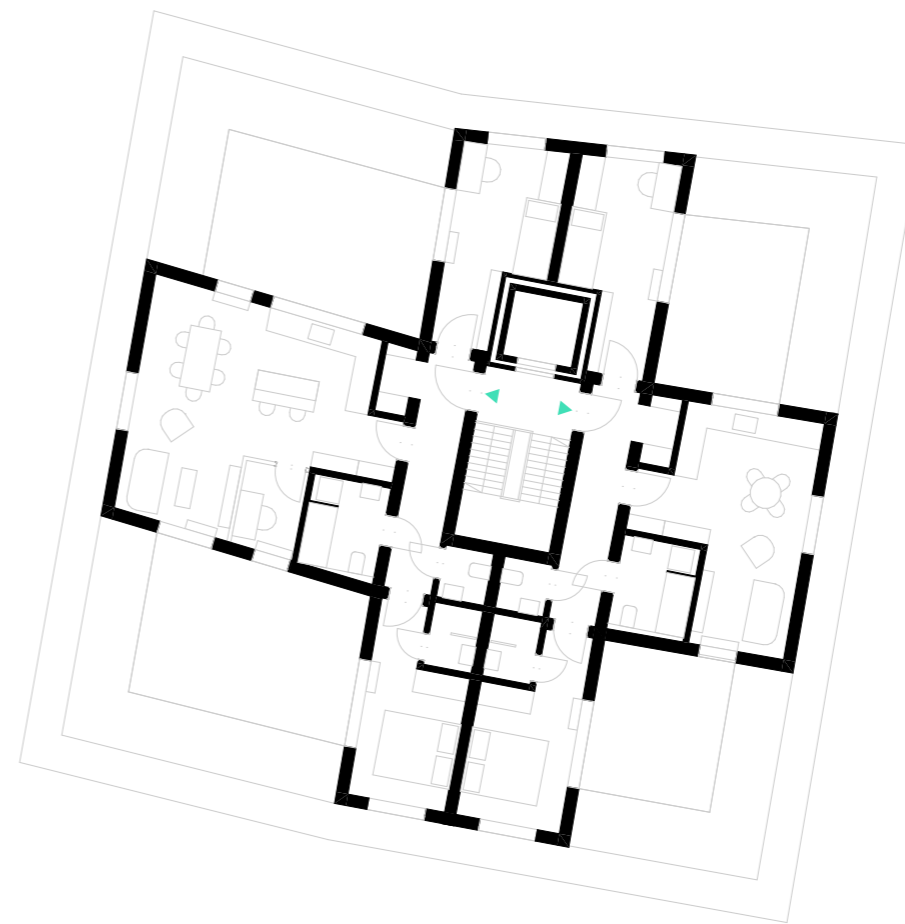
This original frame has been reinforced with kevlar bands.



layout of existing single-storey functionalist garages



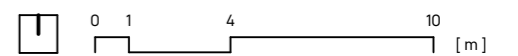
residential sunlight regulation - according to the legislation of the City of Prague



▶ upper-class residents



- 2 residential units
- 6 parking spaces
- 2 basement storage units
- pram and bike room
- laundry room & drying room



attic floor plan

05 identity

Can space reflect who we are?

A young couple & their cat, searched endlessly for the right place to call home.

They dreamed of light, order, honesty of materials. A space where they could grow a family and live with quiet elegance. Their hearts belonged to functionalism, to Loos, to the bold restraint of Art Deco. On Letná, above the iconic cinema BIO Oko, they found it. A forgotten apartment with rhythm, promise and soul.

They asked us to shape a dialogue-between calm modern lines and Loosian bursts of colour. Between tradition and precision. Between the raw and the refined. A space where emotion meets function and life meets form.

Design here became not just a solution, but a reflection of who they are.

location Czech Republic | Prague
year 2024
type interior
team Vít Svoboda
TomZ Vácha
Jitka Mácová
scale S



bio oko interior



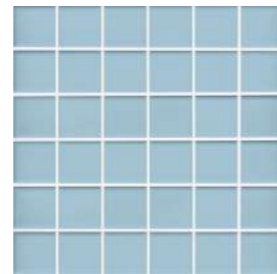
kitchen



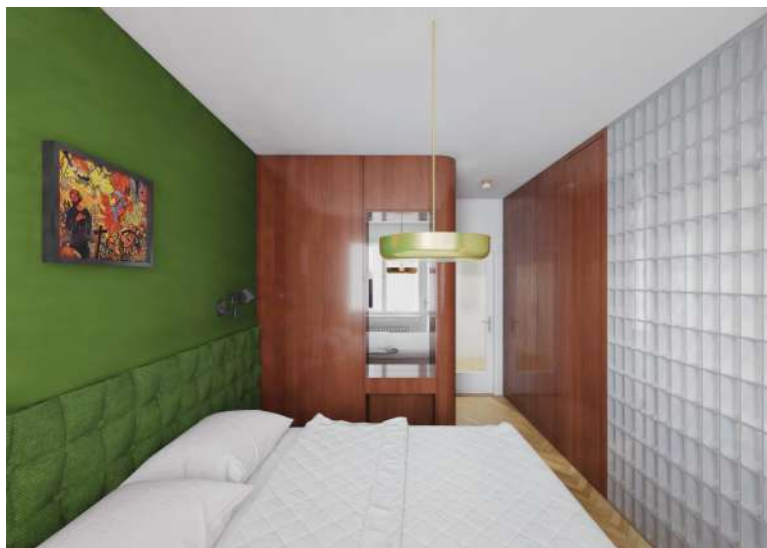
corian dune prima



bathroom



ceramica vogue
cielo RAL 2307020
format 50 x 50 mm
matte finish
italian craftsmanship
timeless design



bedroom



oiled mahagon wood



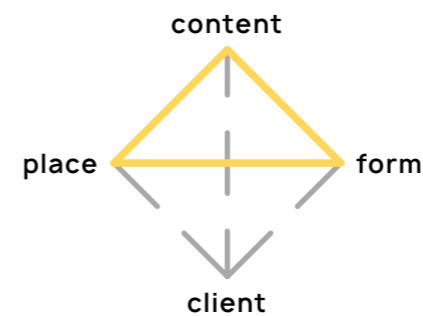
livingroom

my role in this project:

I led a small team through all stages of interior design development—from early concept to final implementation.

My responsibilities included remote coordination with clients, design consultations with team members and delivering clear, compelling presentations in both digital and in-person formats. I produced 3D models in SketchUp and developed detailed drawing sets from initial studies to full construction documentation, including bespoke joinery details.

I maintained close communication with suppliers and manufacturers to ensure precision, feasibility and design integrity throughout the entire process.



This portfolio is a signal-meant to connect with those who share the same energy, vision and passion.

I'm driven to keep learning, keep growing and to keep pushing the boundaries of what's possible when we build something we truly believe in-together.