

Loop⁵P

Maxime Selling 4431014 P5 Hyperbody 9-11-17

Assignment: Develop around 7000m² studenthousing on the Green Village Campus

Vision Green Village:
"Create a sustainable future"

Architecture
IO
AULA

CT

EWU

Parking

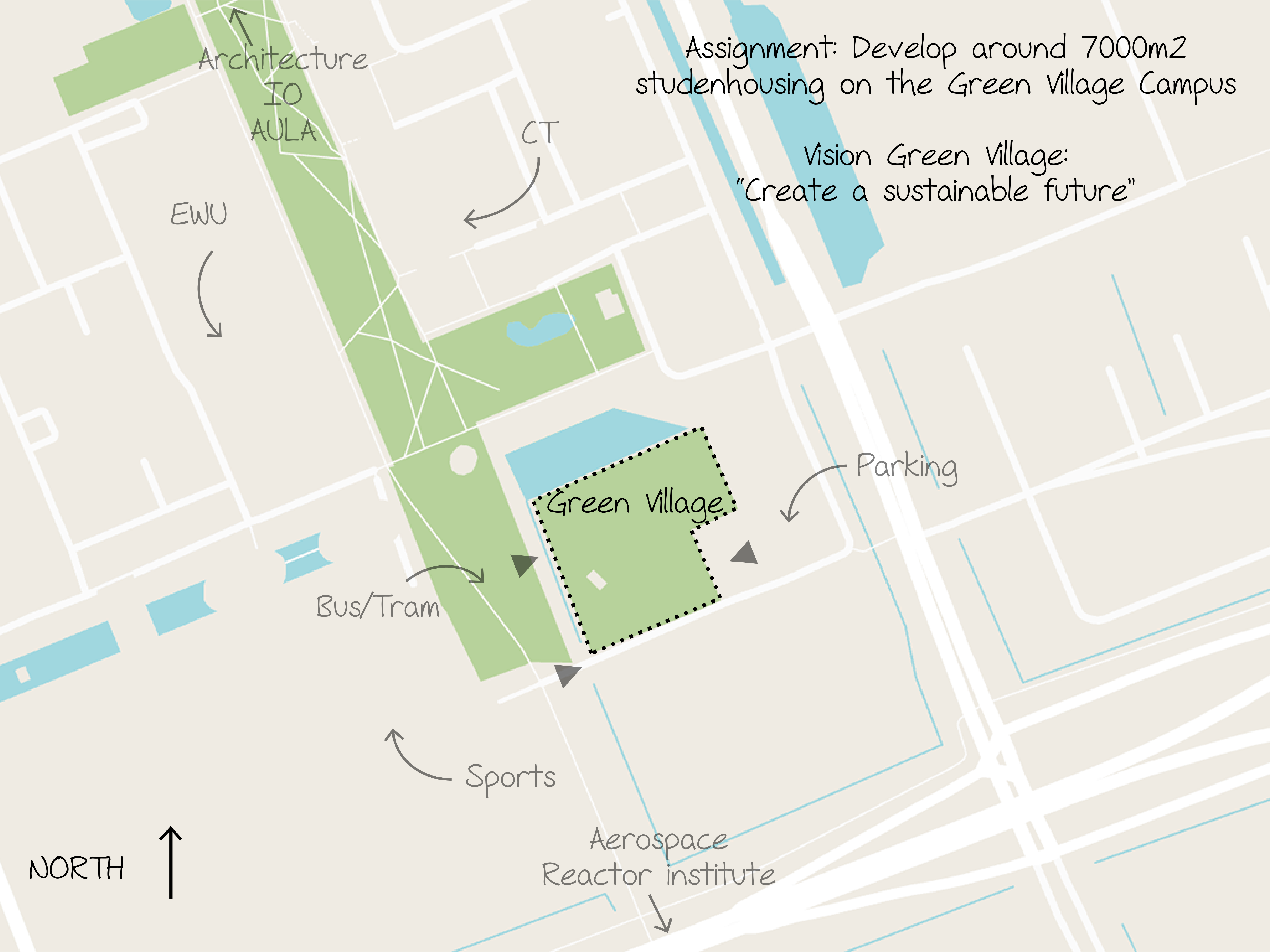
Green Village

Bus/Tram

Sports

Aerospace
Reactor institute

NORTH



A sustainable future start with students

PROBLEM: STRESS WITH STUDENTS

78% thinks performance pressure too high

60% experience stress on a weekly base

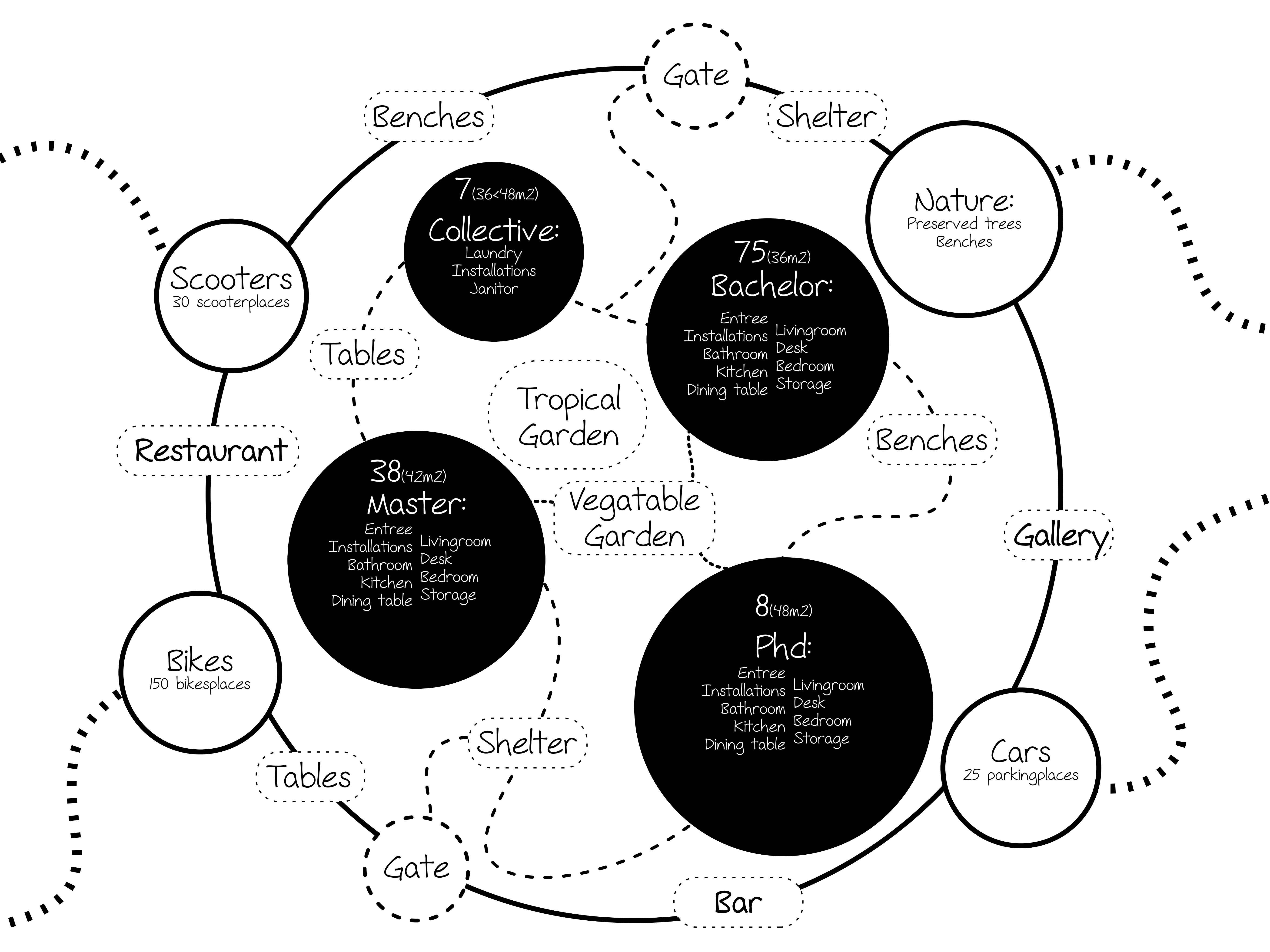
46% sometimes stays home because of stress

40% has psychological complains

35% are afraid for burnouts

How can we solve this architecturally?

- Space for social activities
- Interaction with nature
- Peaceful surrounding for work live and meet
- Spaces isolated from chaos



Scooters
30 scooterplaces

Restaurant

Bikes
150 bikesplaces

Benches

7 (36x48m²)
Collective:
Laundry
Installations
Janitor

Tables

38 (42m²)
Master:
Entree
Installations
Bathroom
Kitchen
Dining table
Livingroom
Desk
Bedroom
Storage

Tropical
Garden

Vegetable
Garden

Tables

Gate

Shelter

75 (36m²)
Bachelor:
Entree
Installations
Bathroom
Kitchen
Dining table
Livingroom
Desk
Bedroom
Storage

Benches

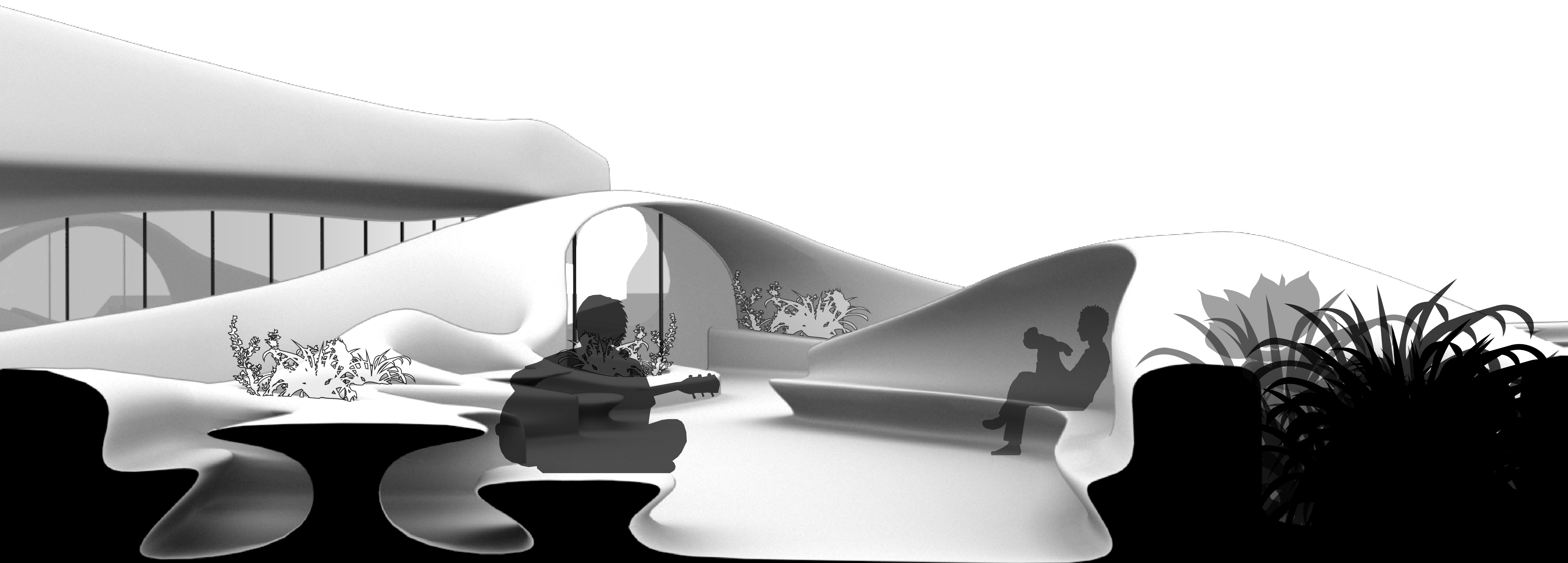
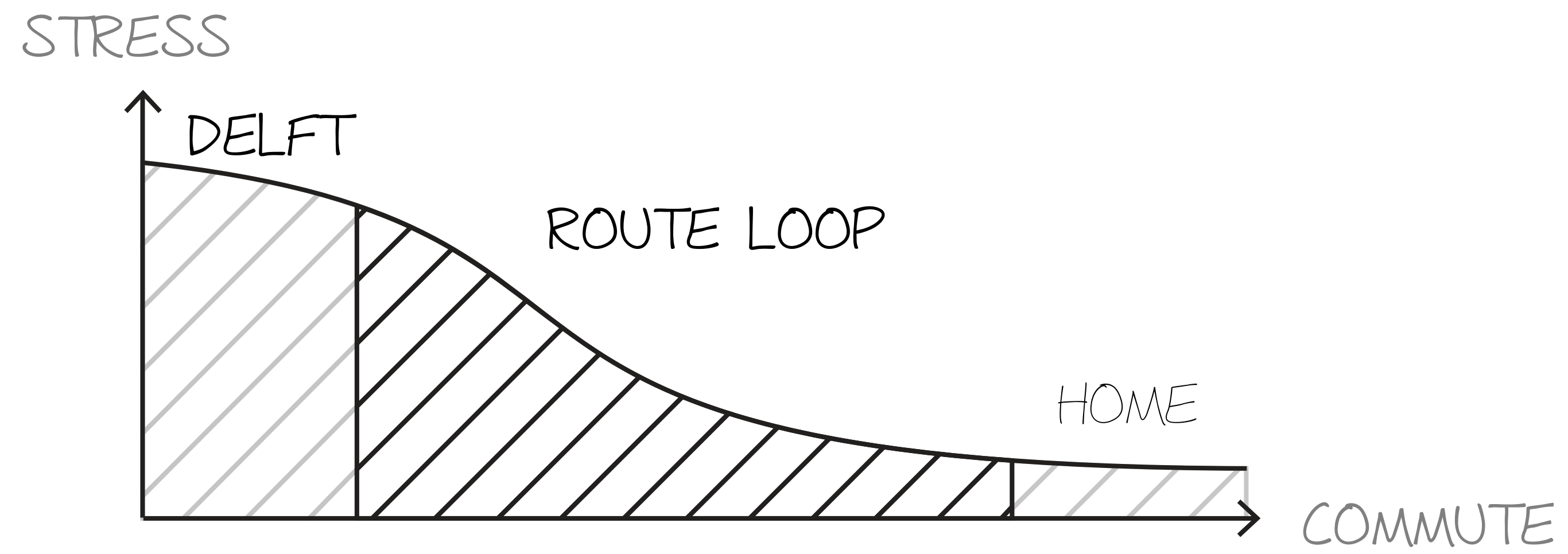
8 (48m²)
Phd:
Entree
Installations
Bathroom
Kitchen
Dining table
Livingroom
Desk
Bedroom
Storage

Bar

Nature:
Preserved trees
Benches

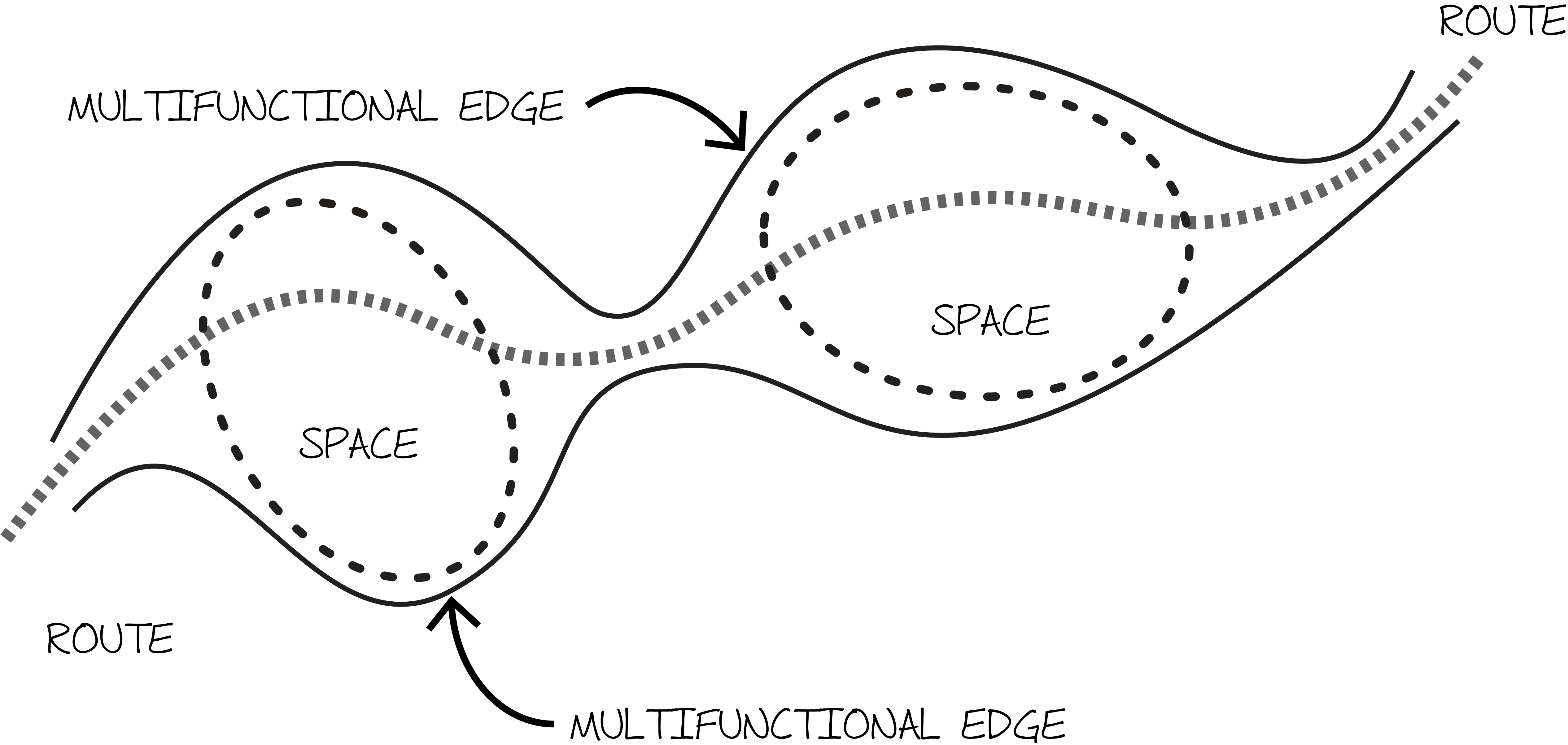
Gallery

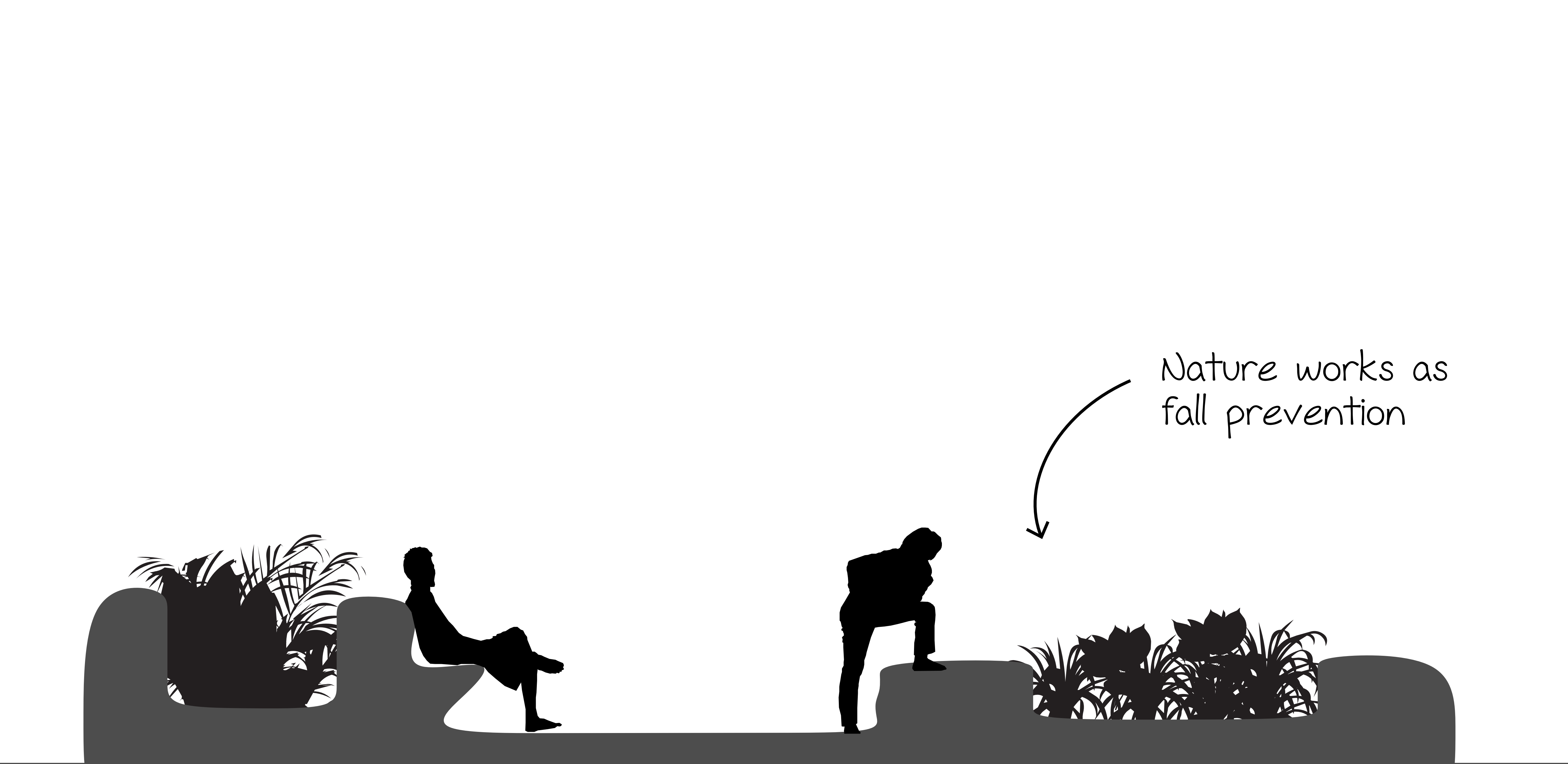
Cars
25 parkingplaces



Concept: a route that calms the mind

Functions and spaces are added to the route to make it more functional





Nature works as fall prevention

A: Bench

height 600<900mm
sitheight 400<500mm
sitdepth <500mm
length 3000<7000mm

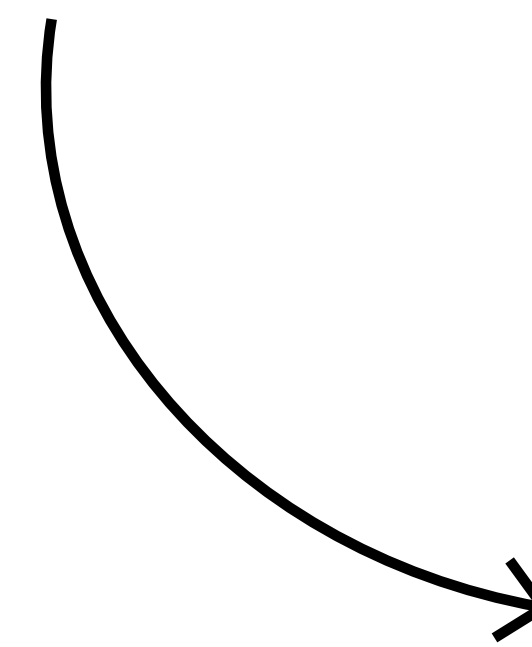
B: Route

width >1200mm

C: Fall prevention

height 200<600mm
width >800mm

Nature for enclosure of the space



A: Shelter

height 1600<2400mm
sitdepth 400<1200mm
sitheight 300<500mm
length 3000<5000mm

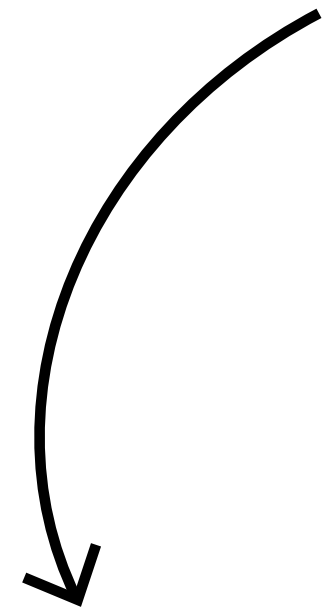
B: Space

width 3200>mm

C: Bench

height 600<900mm
sitheight 400<500mm
sitdepth <500mm
length 3000<7000mm

Nature for healthy mind



A: Bench

height 600<900mm
sitheight 400<500mm
sitdepth <500mm
length 3000<7000mm

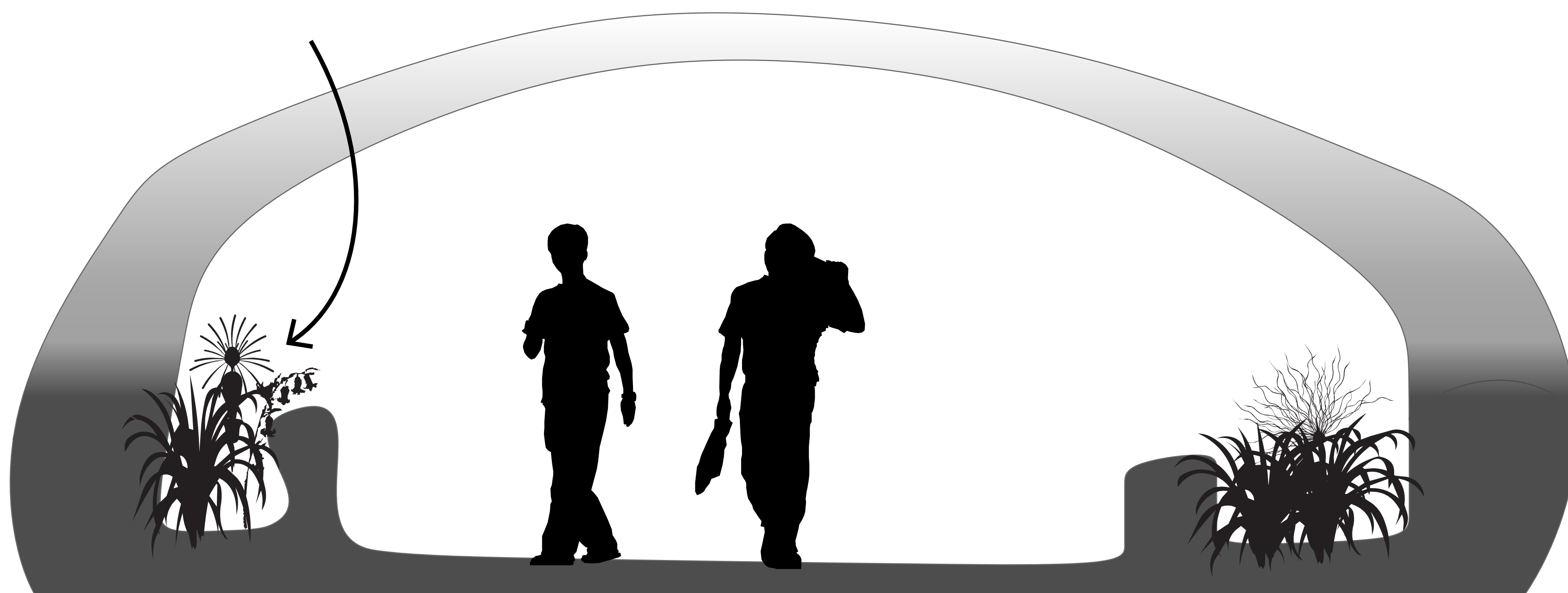
B: Route

route width >1200mm

C: Table

height 700mm
width 800<1200mm
Benchheight 400<500mm
length 2000<3500mm

Nature guides people & helps to orientate



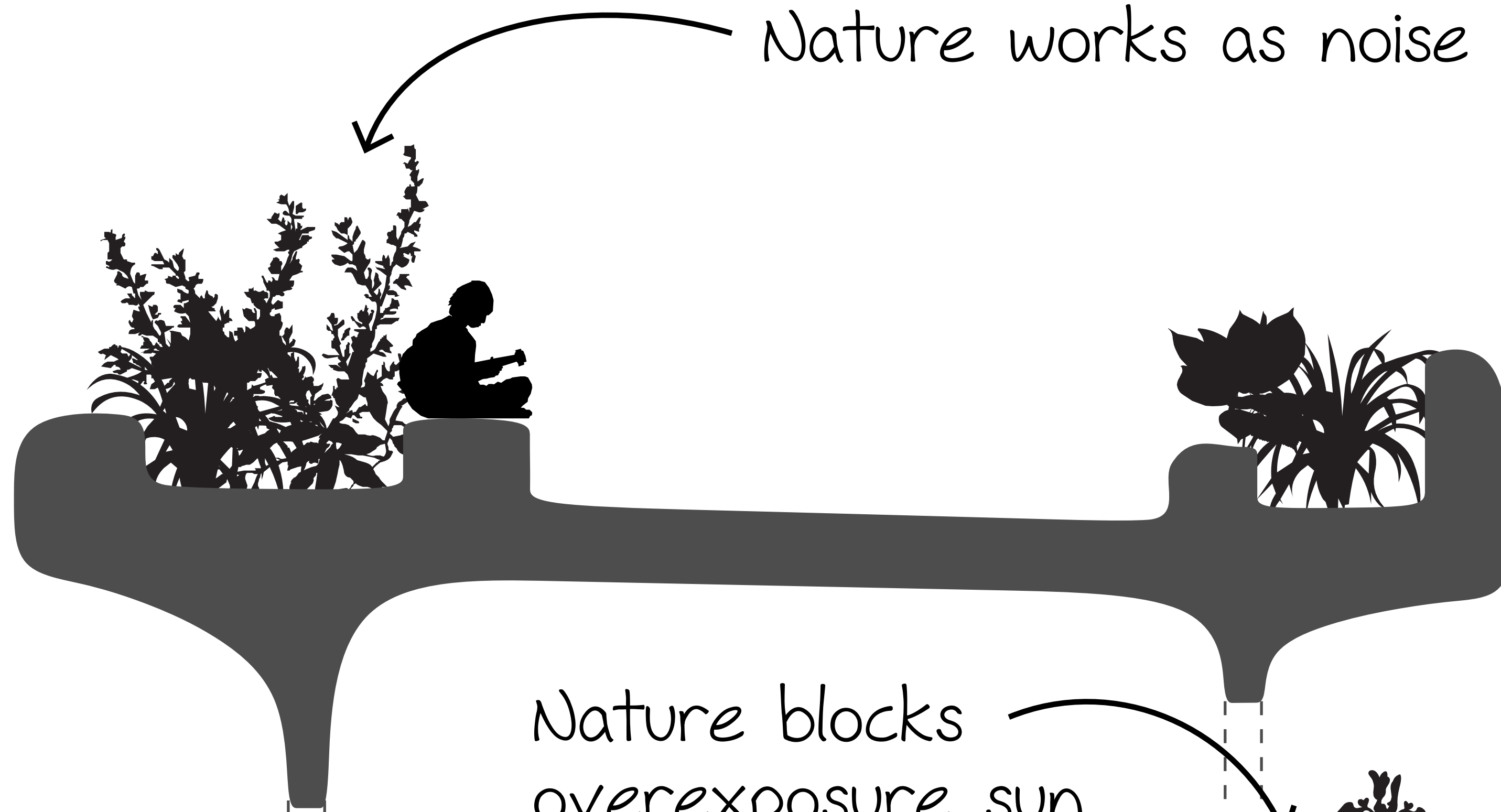
A: Gate support

B: Entrance

C: Gate support

width 2400<4200mm
height 2600<3200mm

Nature works as noise reduction



Nature blocks overexposure sun



A: Fall prevention

B: Route

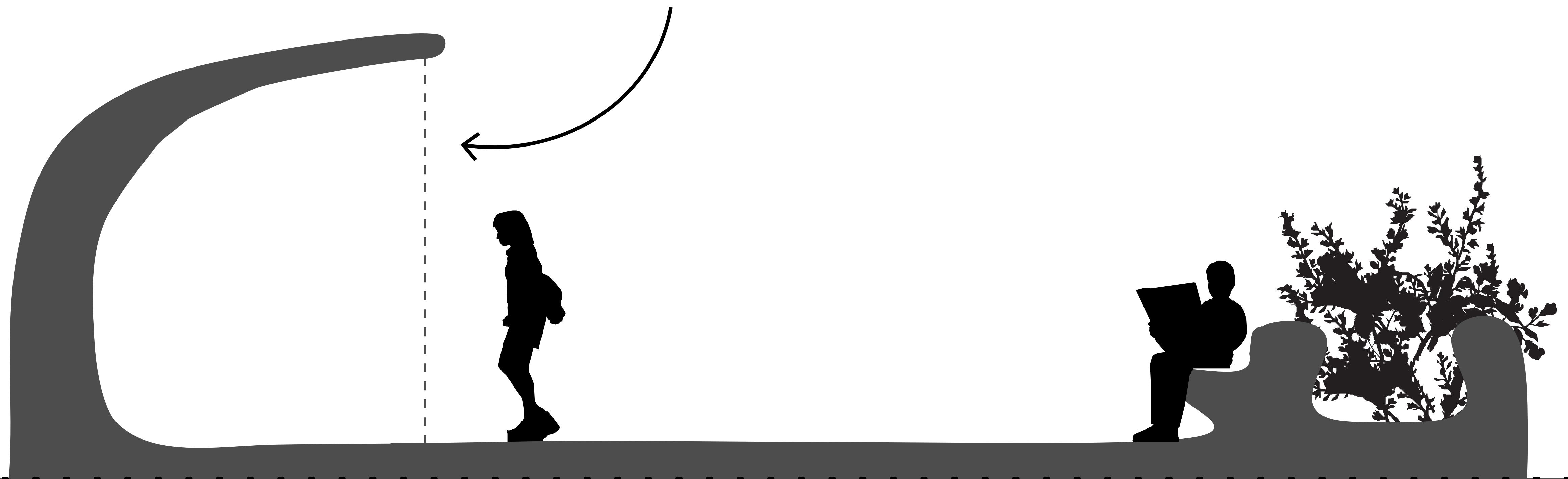
C: Dwelling

height 200<600mm
width >800mm

width 1200>

size 36>48m²
width 7000>9000mm
height 4000<6000mm

Nature for enclosure of the space



A: Gallery/(Food)Bar

height 2600<3200mm
depth 800<3200mm
length 3000<8000mm

B: Space

width 3200>mm

C: Bench

height 600<900mm
sitheight 400<500mm
sitdepth <500mm
length 3000<7000mm

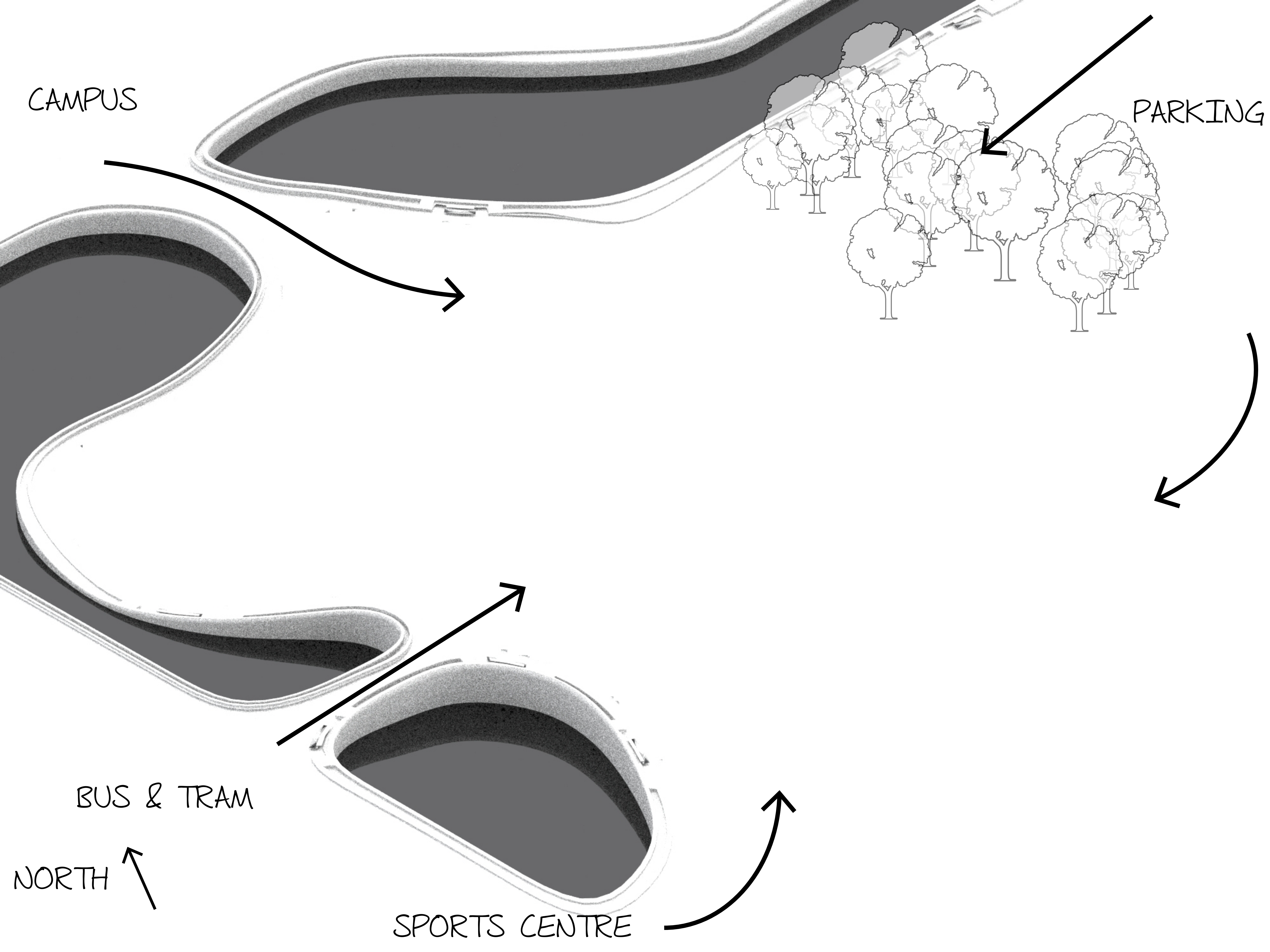
CAMPUS

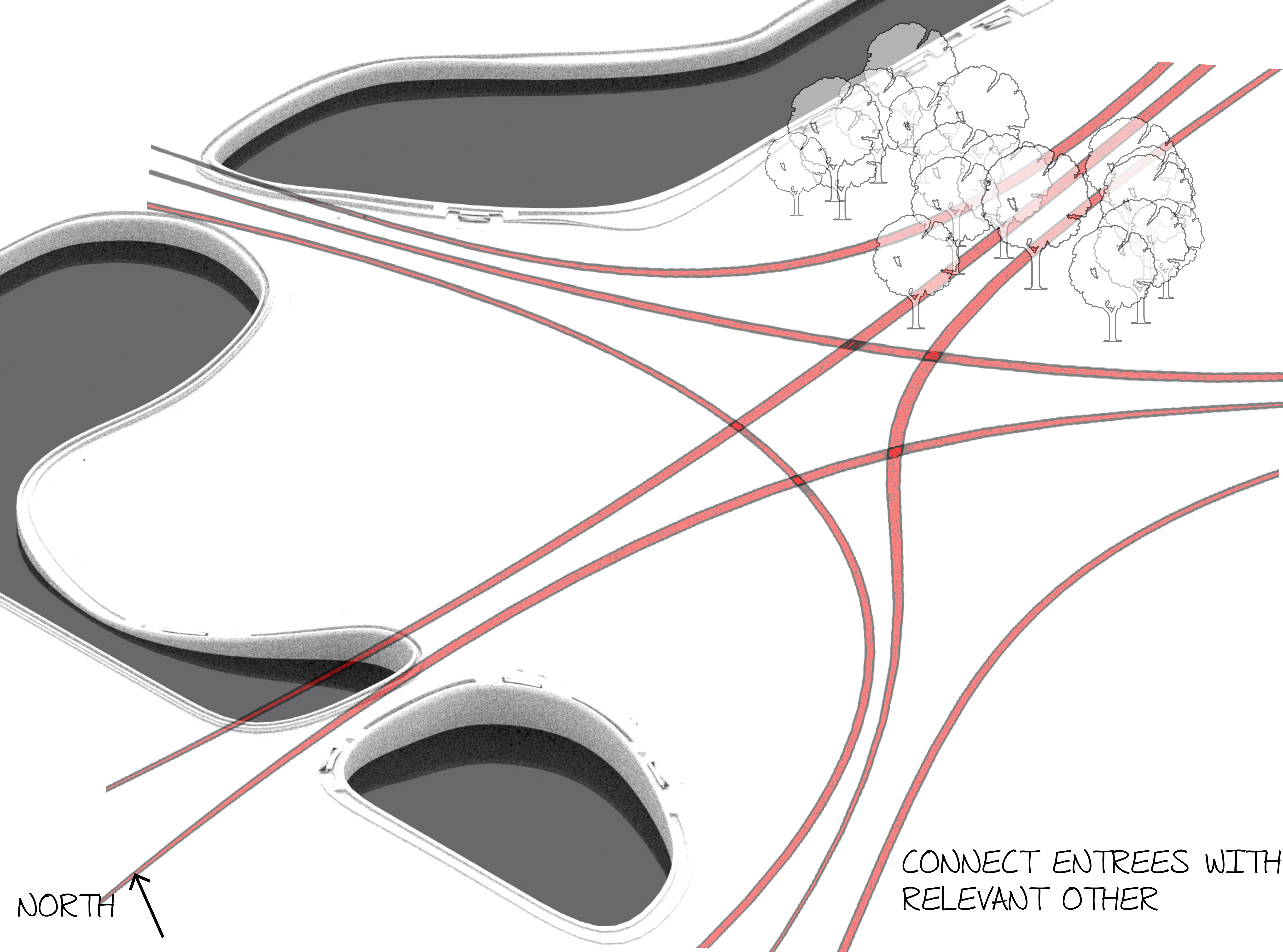
PARKING

BUS & TRAM

NORTH

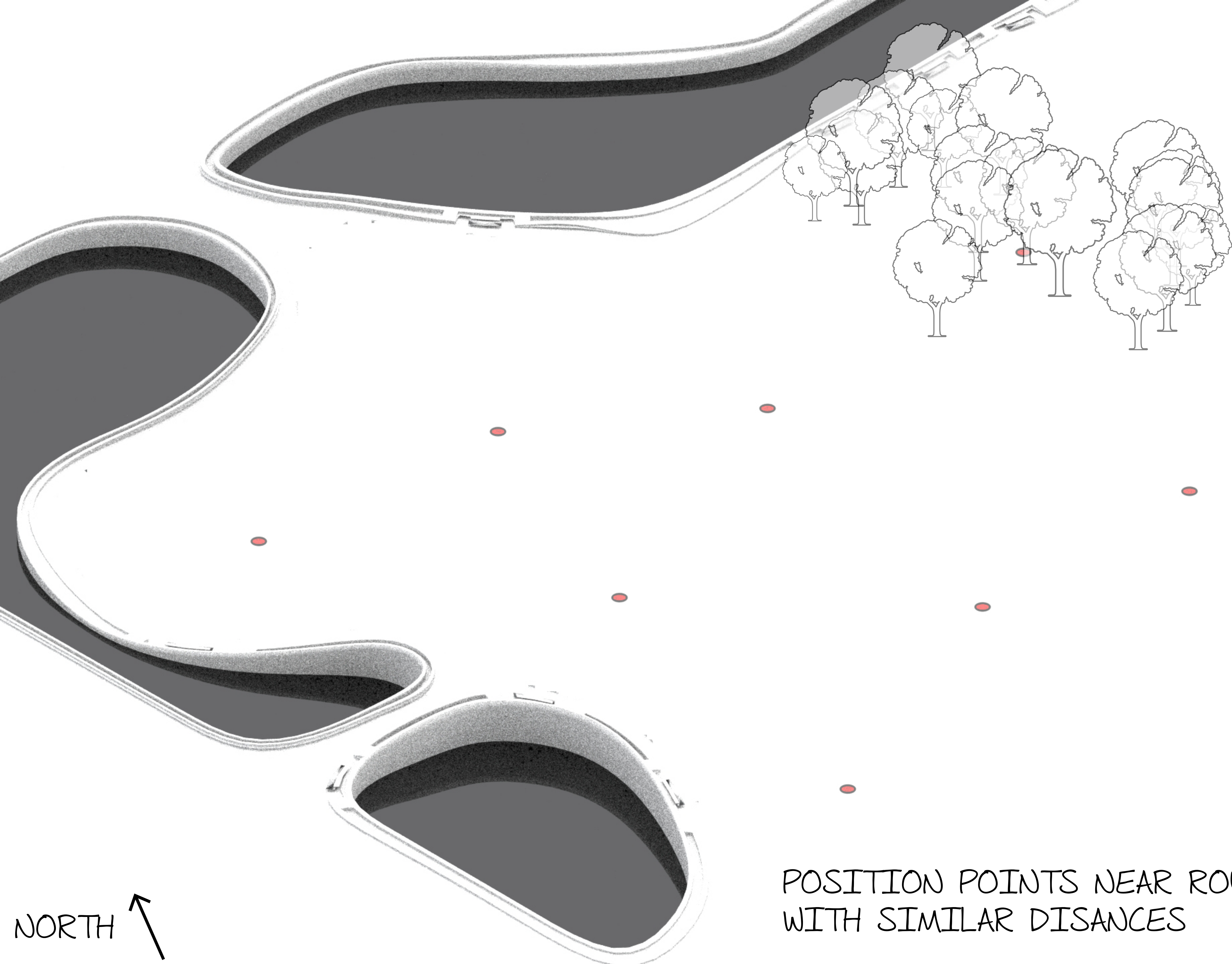
SPORTS CENTRE





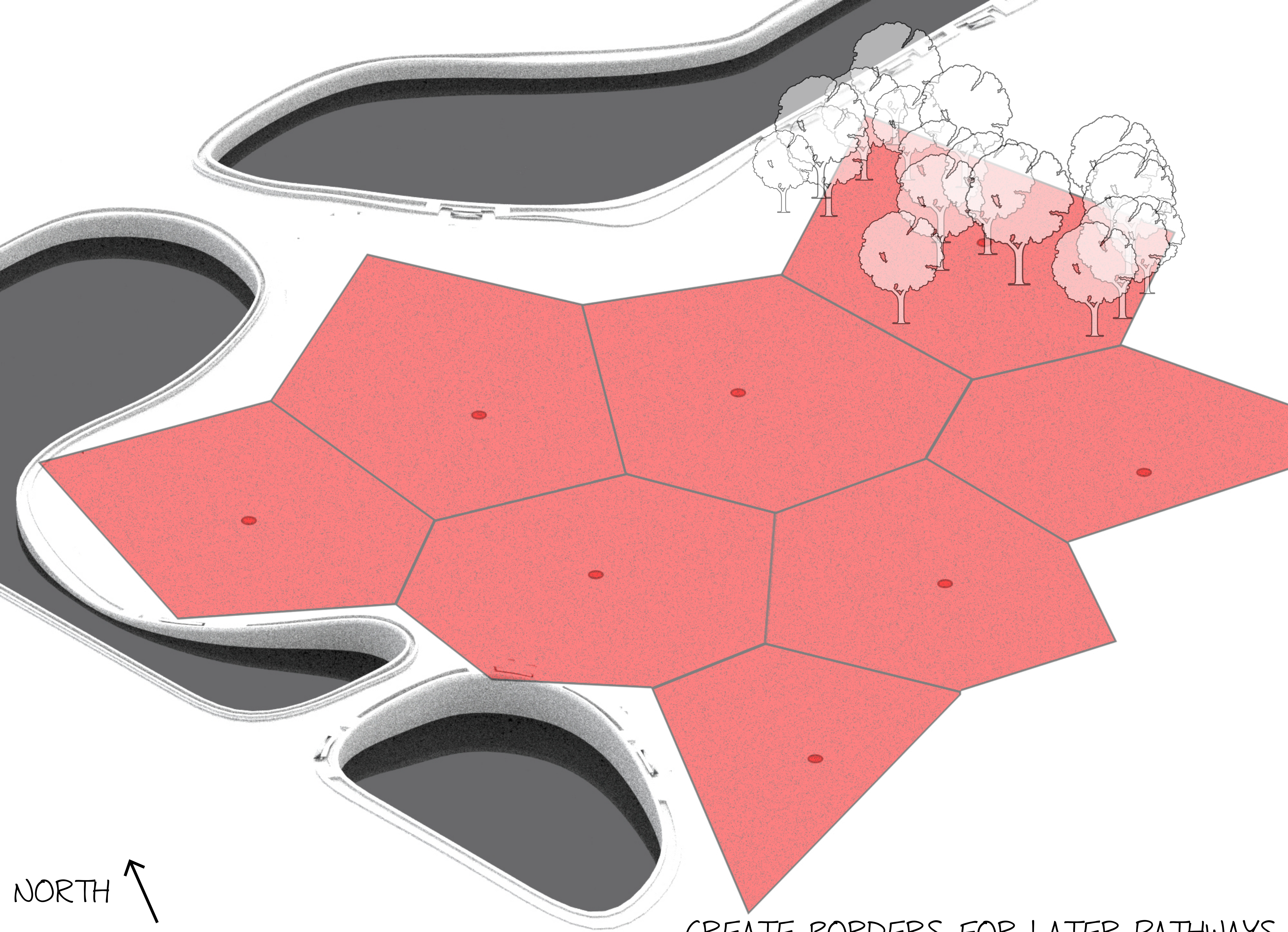
NORTH ↗

CONNECT ENTREES WITH RELEVANT OTHER



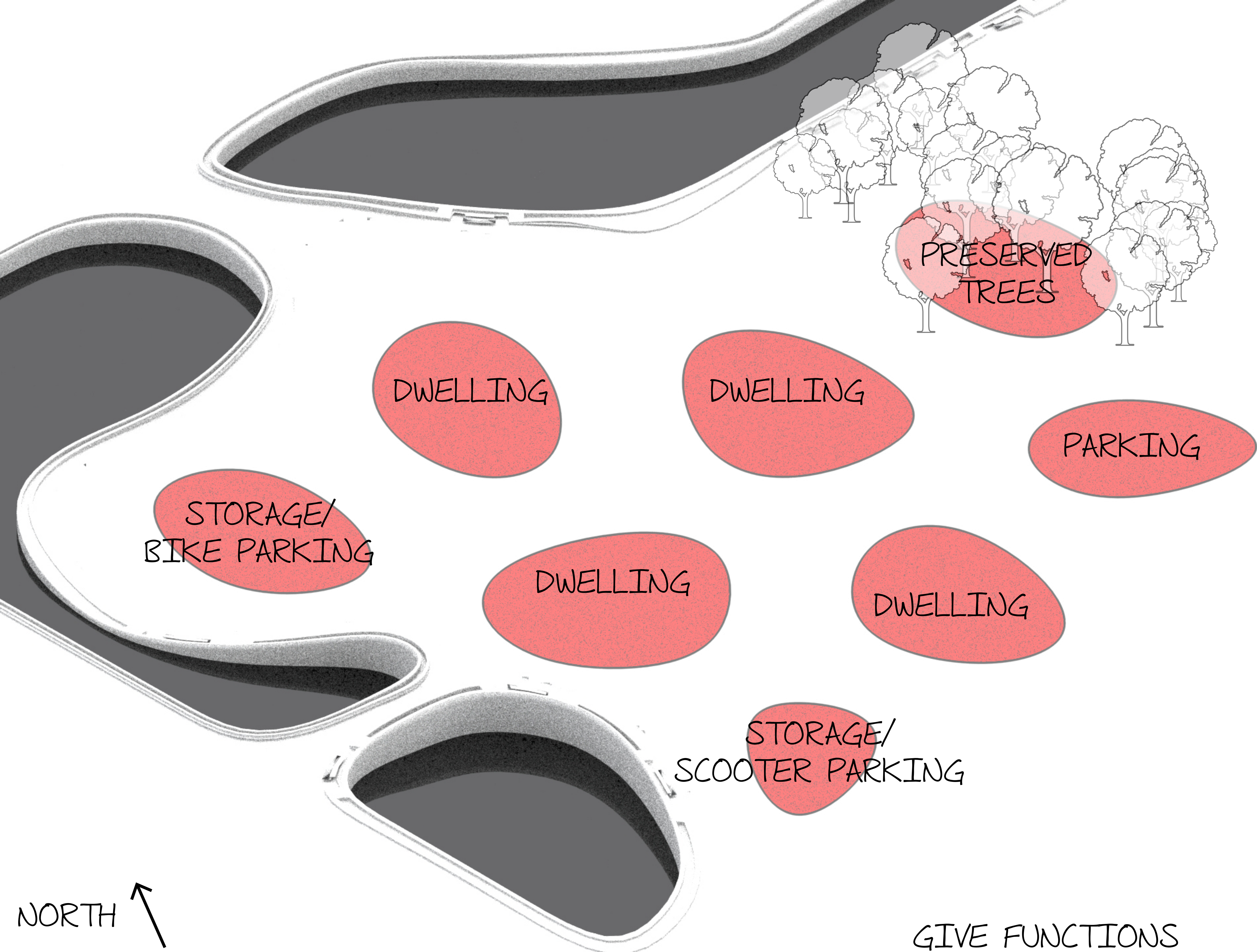
NORTH ↗

POSITION POINTS NEAR ROUTE
WITH SIMILAR DISANCES



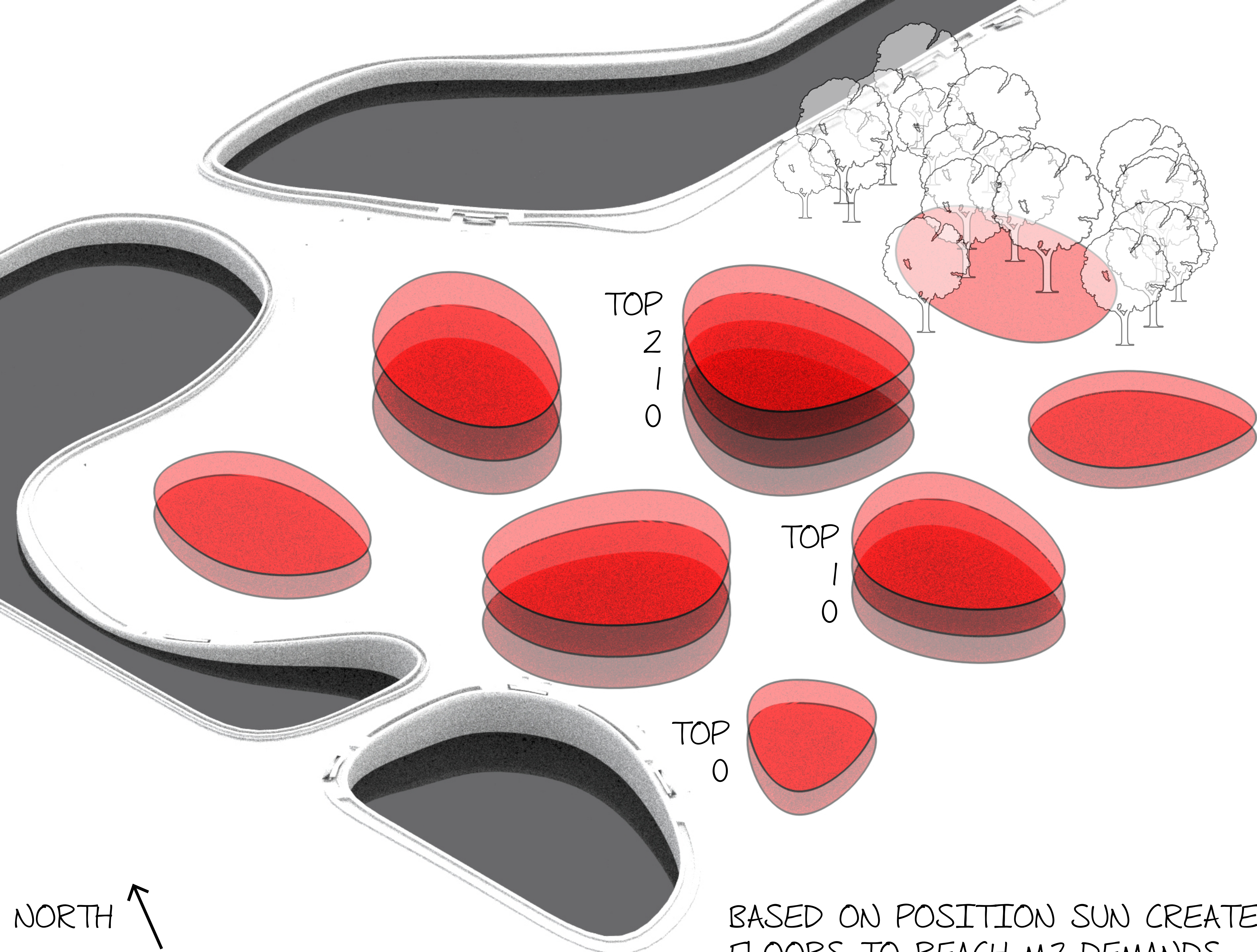
NORTH ↗

CREATE BORDERS FOR LATER PATHWAYS

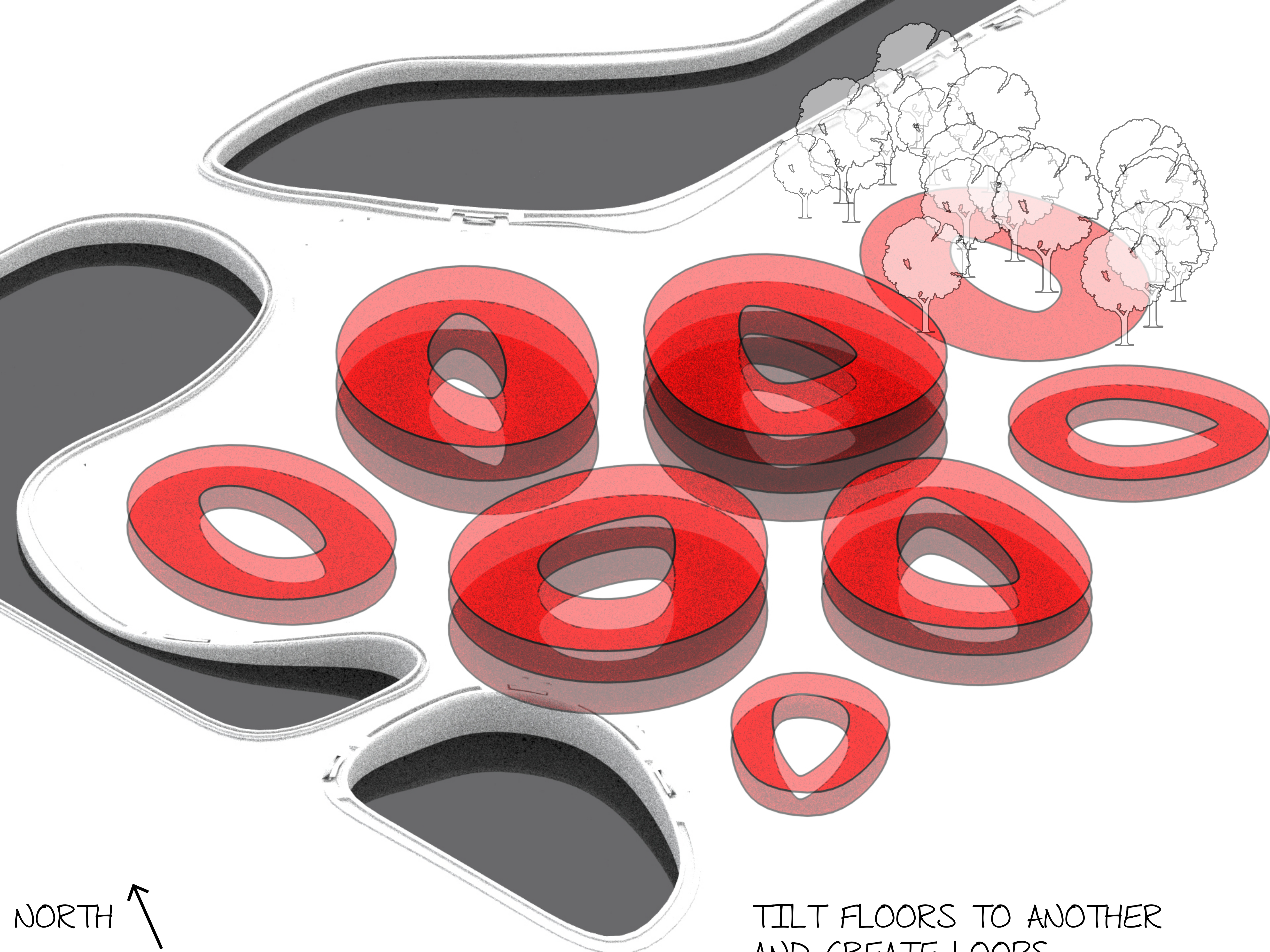


NORTH ↗

GIVE FUNCTIONS

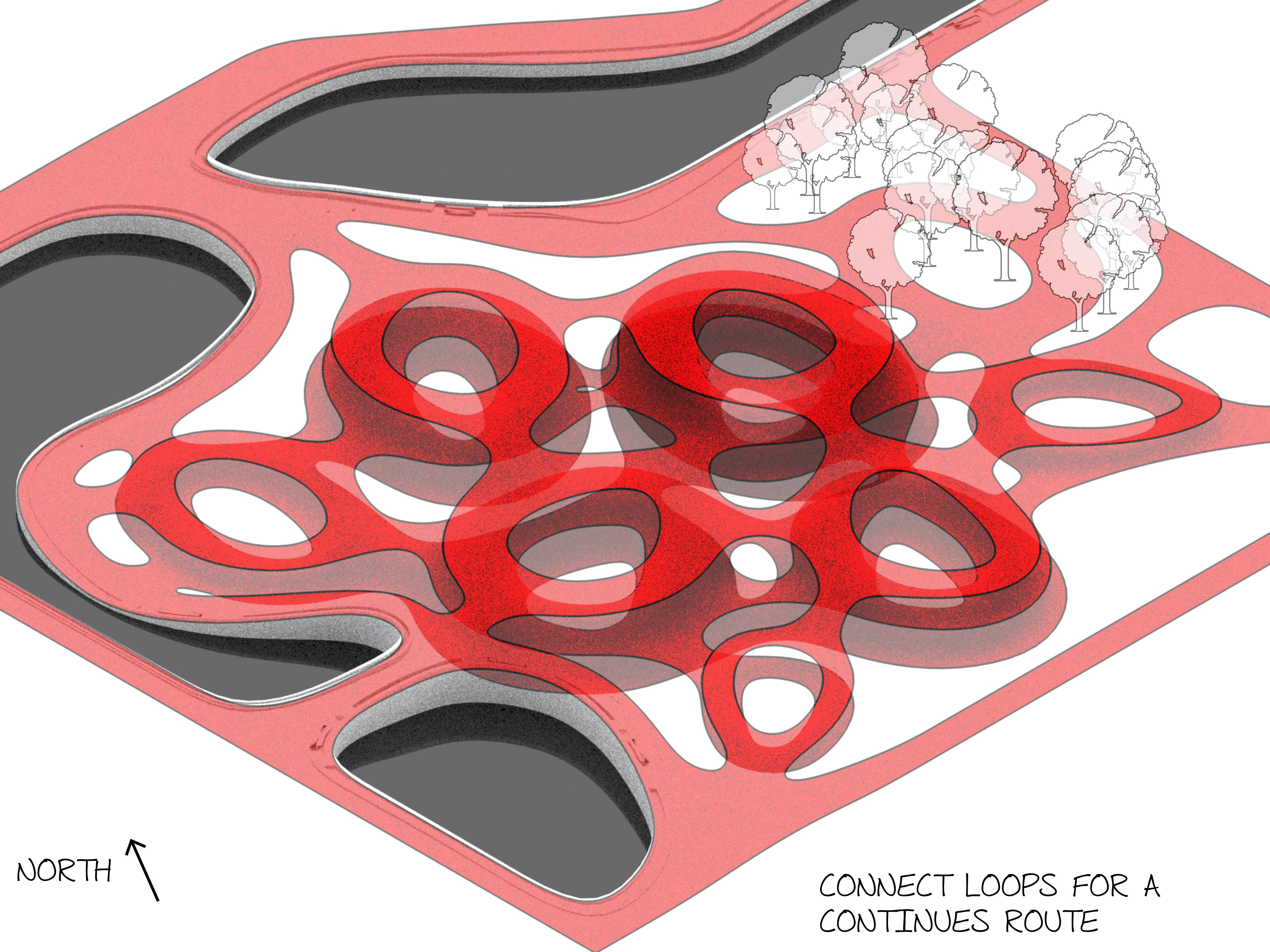


BASED ON POSITION SUN CREATE FLOORS TO REACH M2 DEMANDS



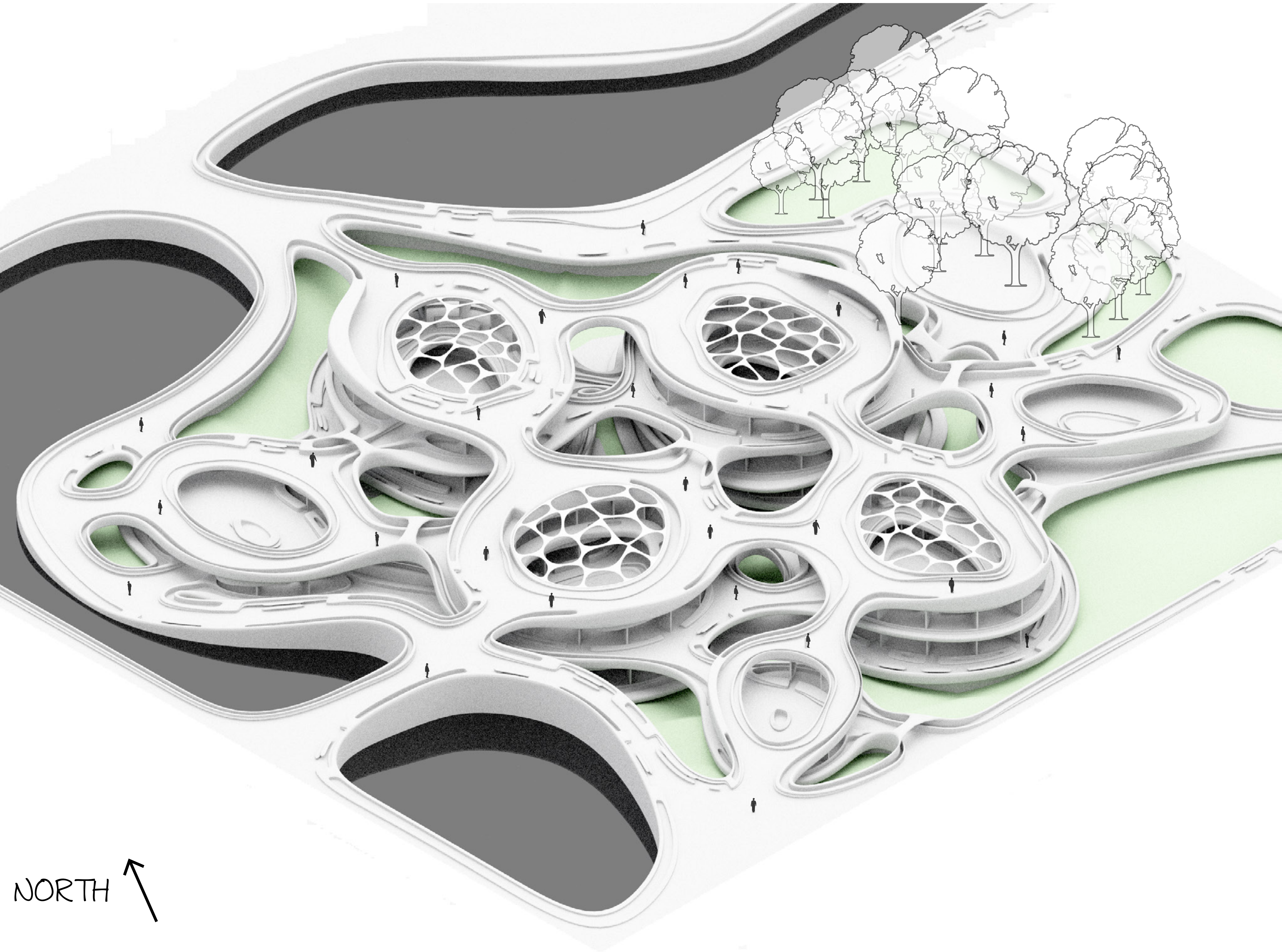
NORTH ↗

TILT FLOORS TO ANOTHER
AND CREATE LOOPS

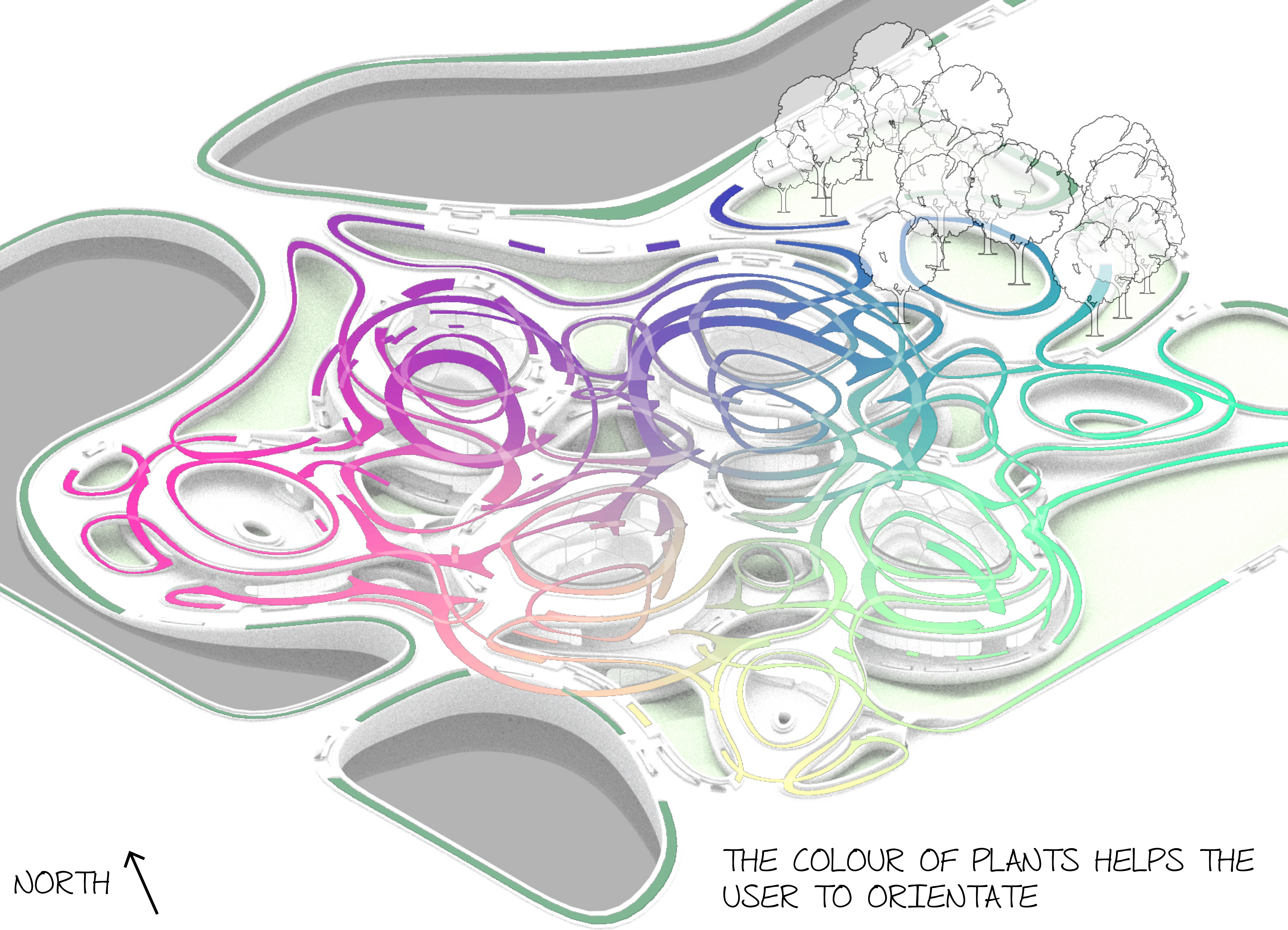


NORTH ↗

CONNECT LOOPS FOR A CONTINUOUS ROUTE



NORTH ↗



THE COLOUR OF PLANTS HELPS THE USER TO ORIENTATE

Size A
120CM>

Size B
60CM<120CM

Size C
<60CM

Yellow



Ageratum houstonianum
Tagetes erecta
Catharanthus roseus



Sutera cordata
Platycodon grandiflorus
Monarda didyma



Rudbeckia hirta
Dicentra spectabilis

Red



Geranium sanguineum
Festuca glauca



Salvia farinacea
Schizachyrium x



Asclepias tuberosa
Caladium x hortulanum

Purple



Canna generalis
Dianthus chinensis



Cuphea ignea
Solenostemon scutellaroides
Achillea millefolium
Zinnia elegans



Heuchera hybrid
Sanvitalia procumbens

Blue



Sanvitalia speciosa
Celosia agrotea cristata



Hemerocallis hybrids
Senecio cineraria



Rudbeckia hirta
Dicentra spectabilis

White



Iris cristata
Miscanthus



Platycodon grandiflorus
Monarda didyma



Festuca glauca
Achillea millefolium



BOTANIC GARDEN

NORTH ↖

Botanic Flowers

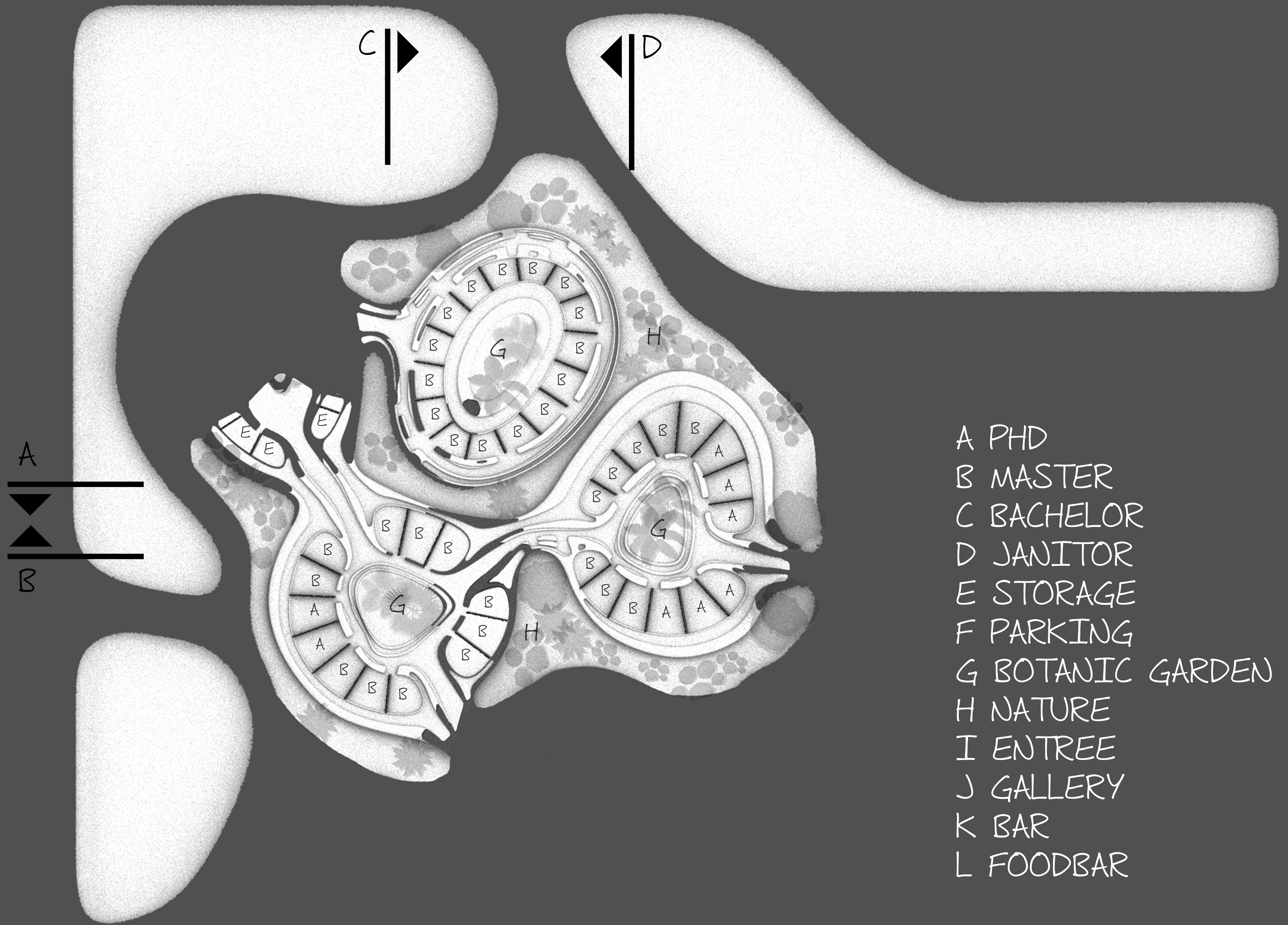


Botanic Plants

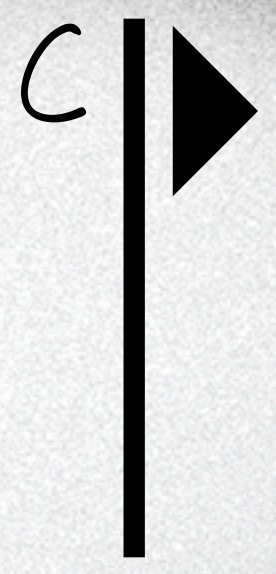
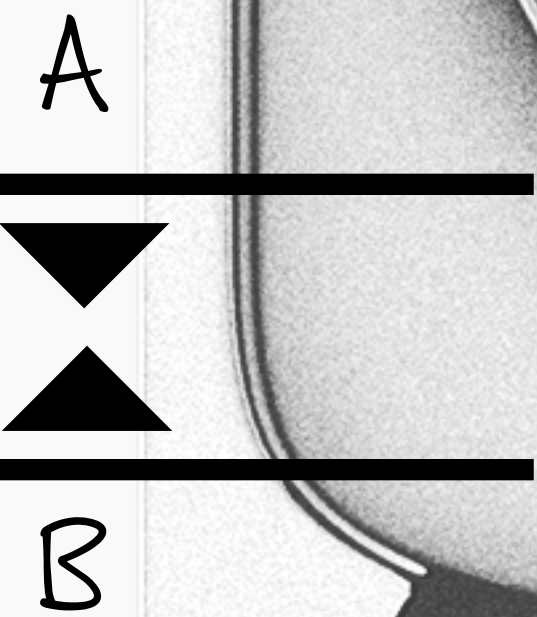
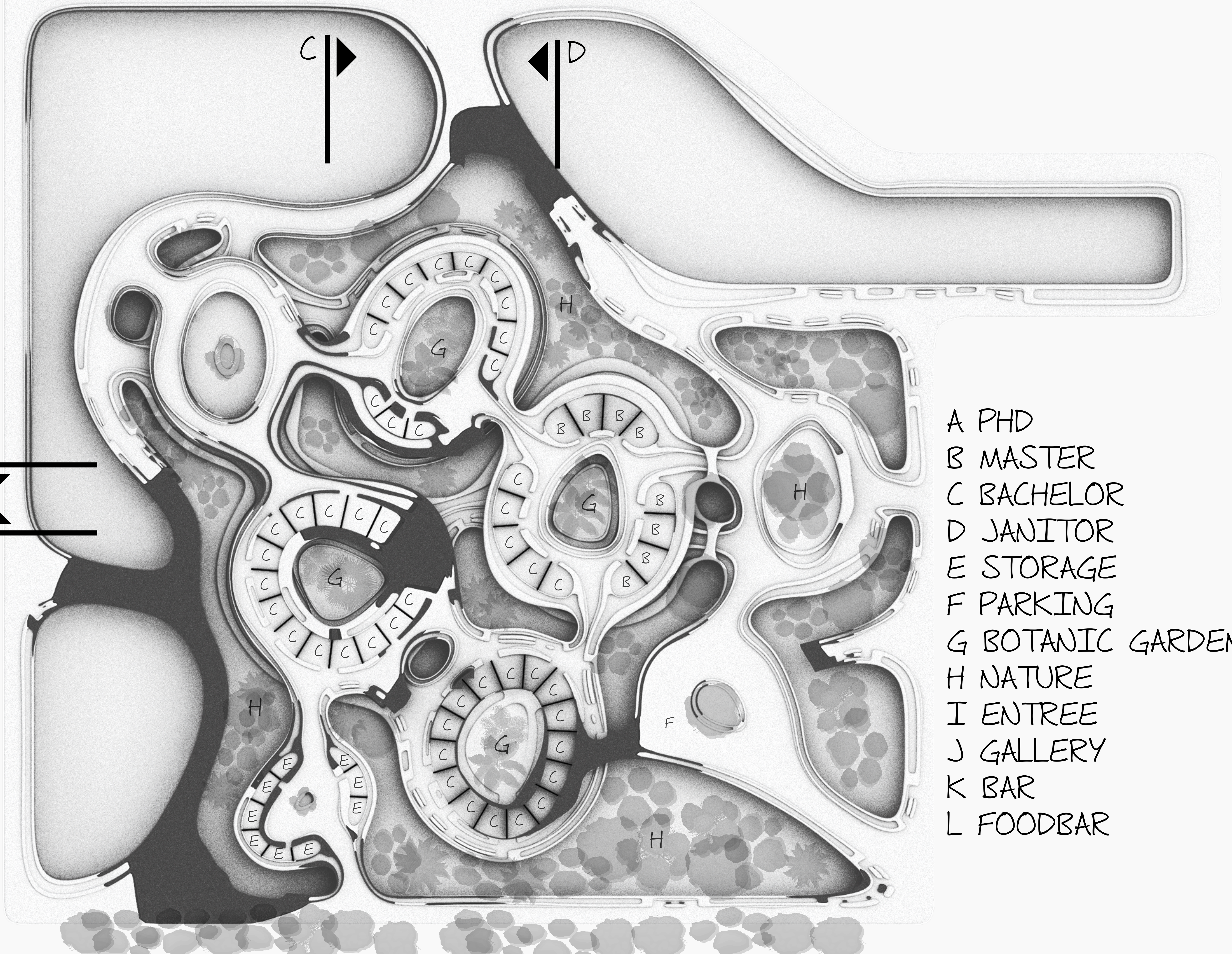


Botanic Trees

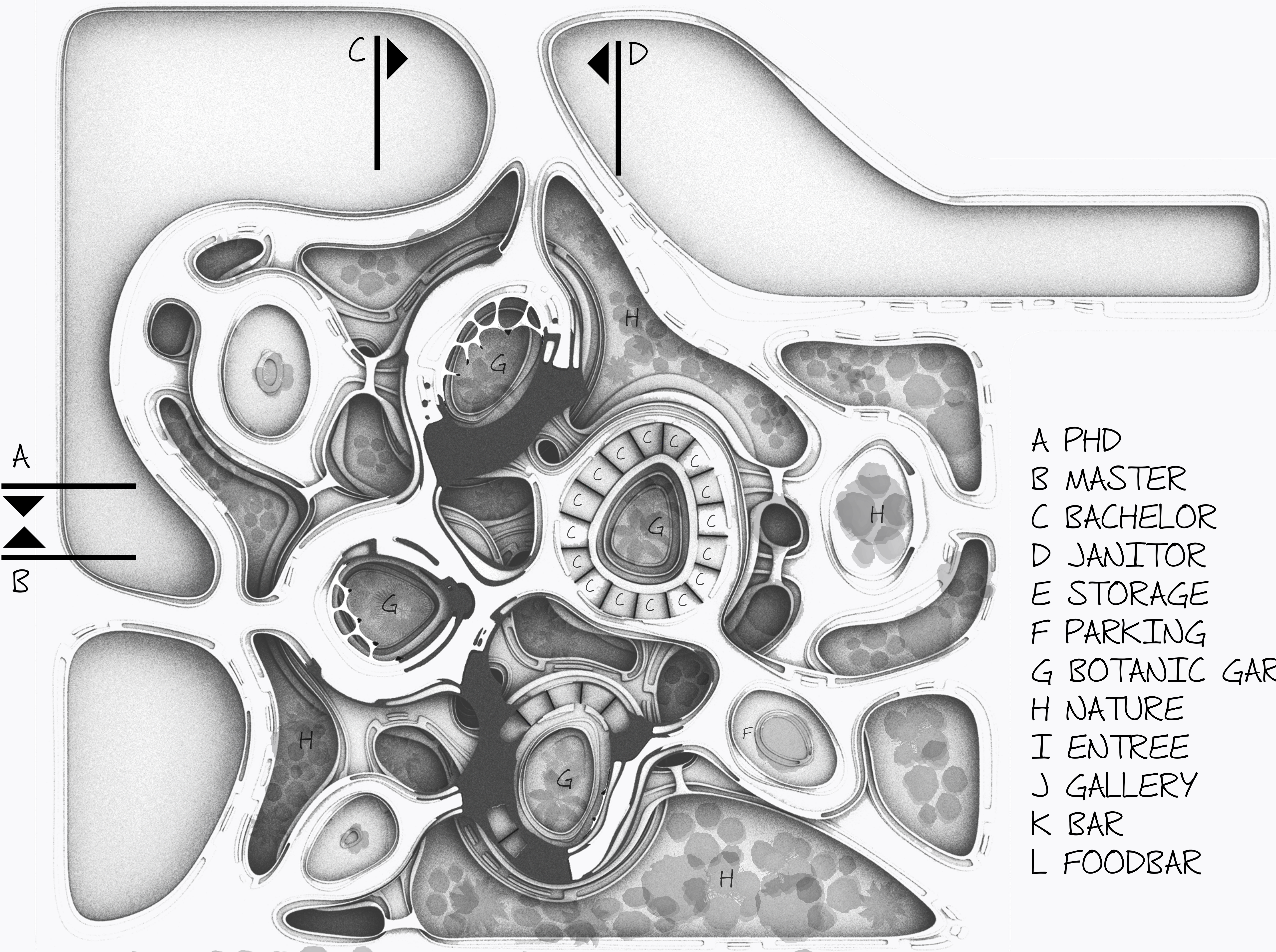




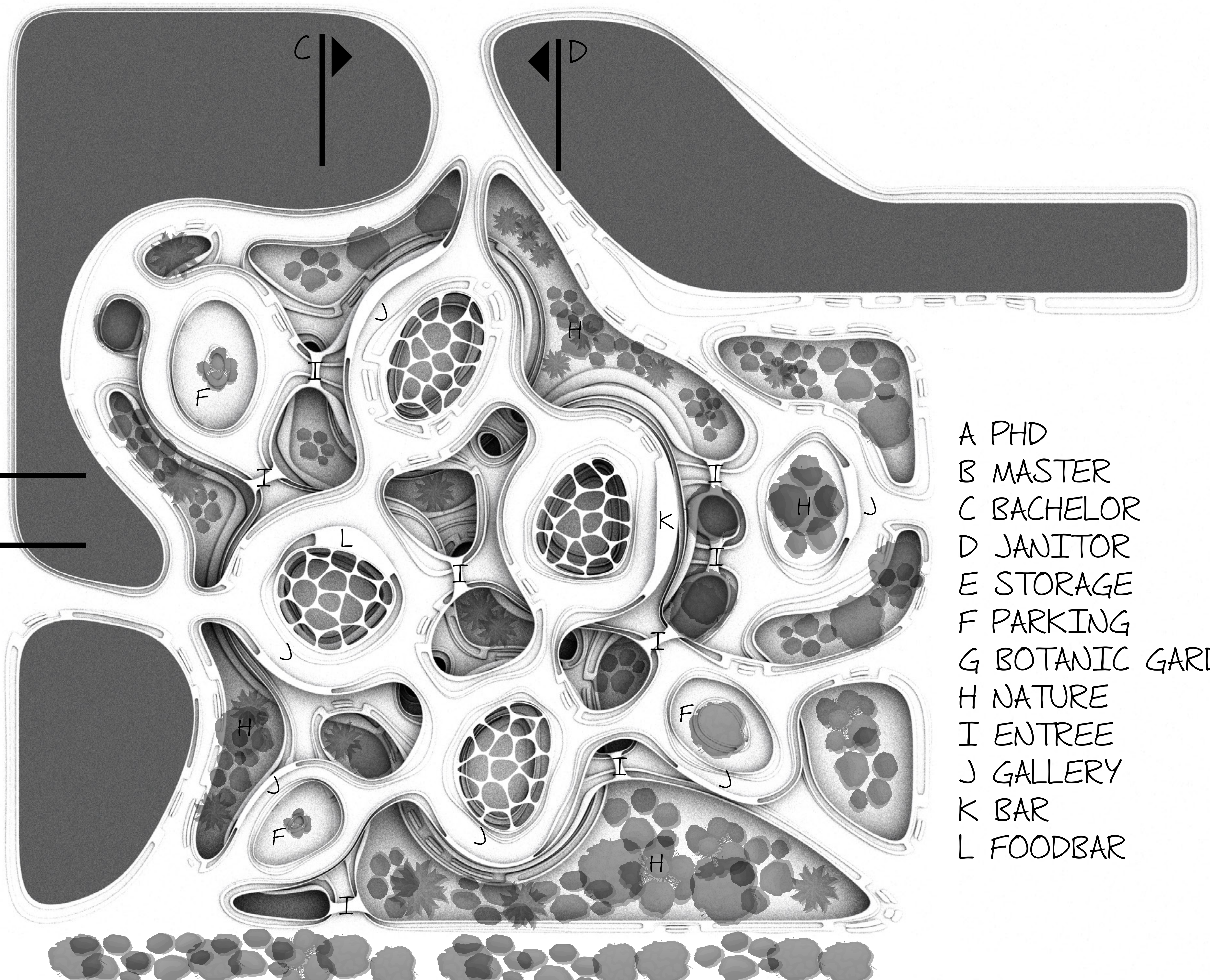
- A PHD
- B MASTER
- C BACHELOR
- D JANITOR
- E STORAGE
- F PARKING
- G BOTANIC GARDEN
- H NATURE
- I ENTREE
- J GALLERY
- K BAR
- L FOODBAR



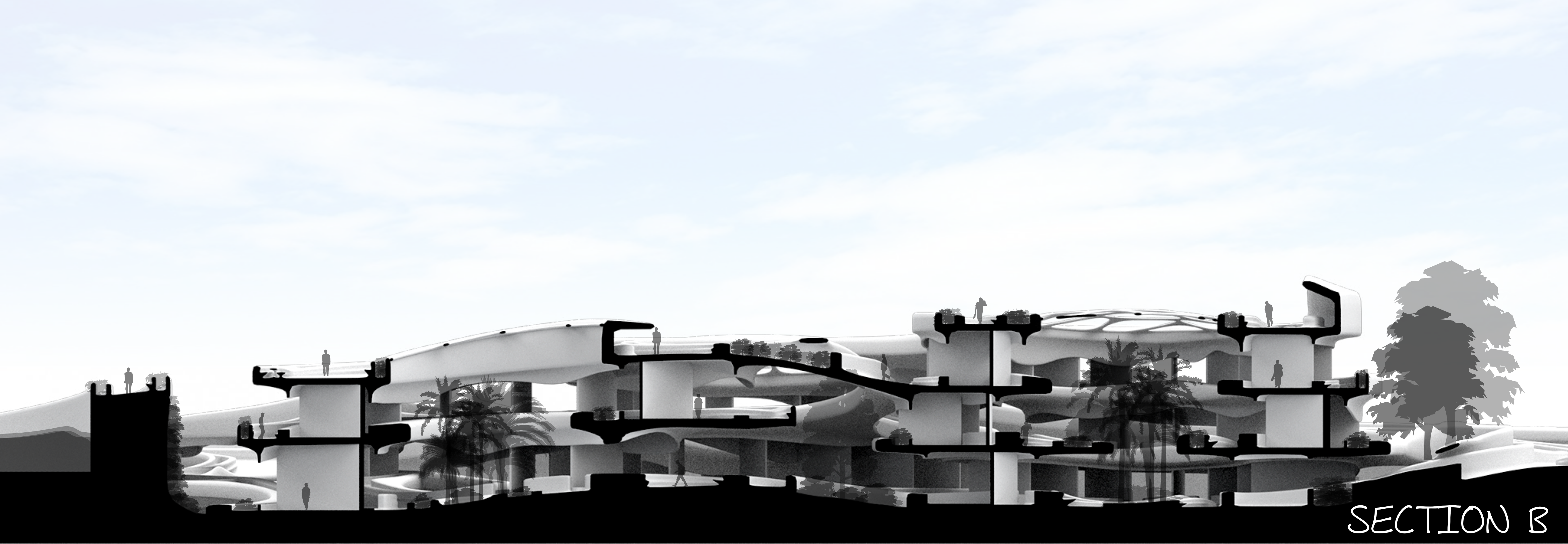
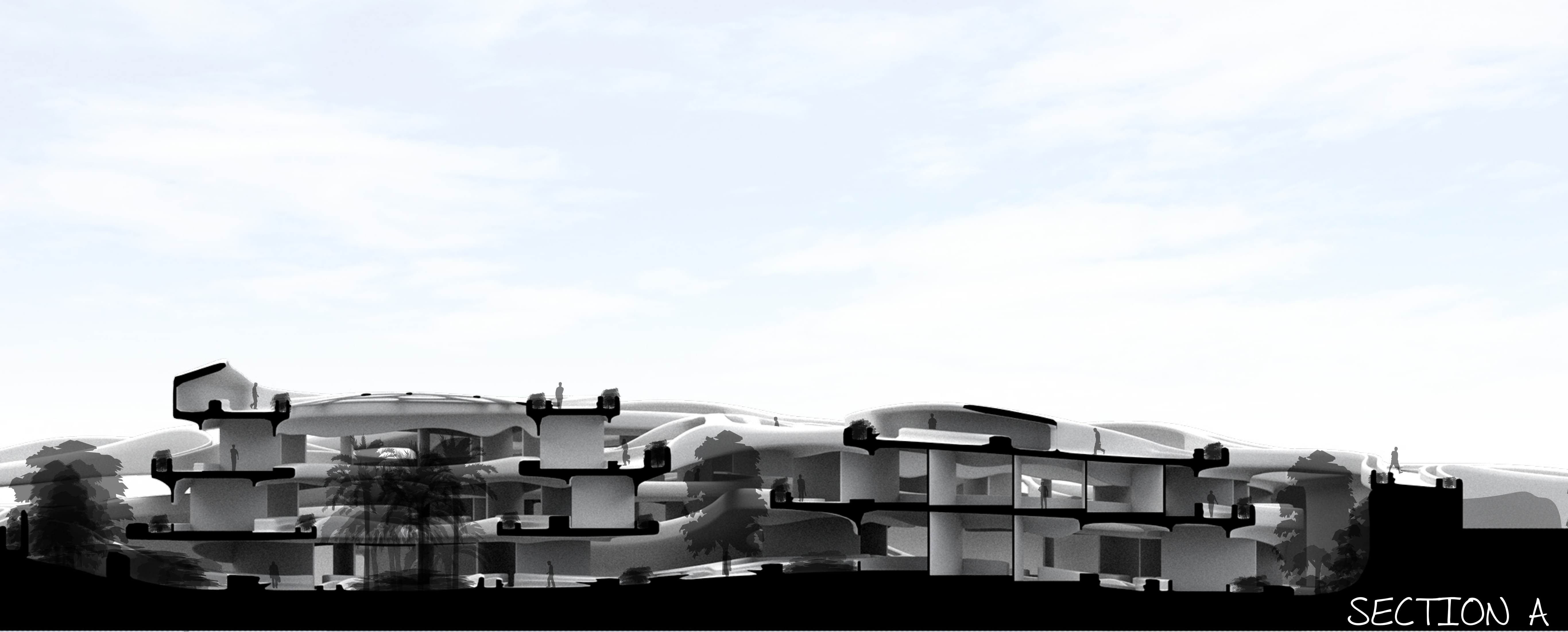
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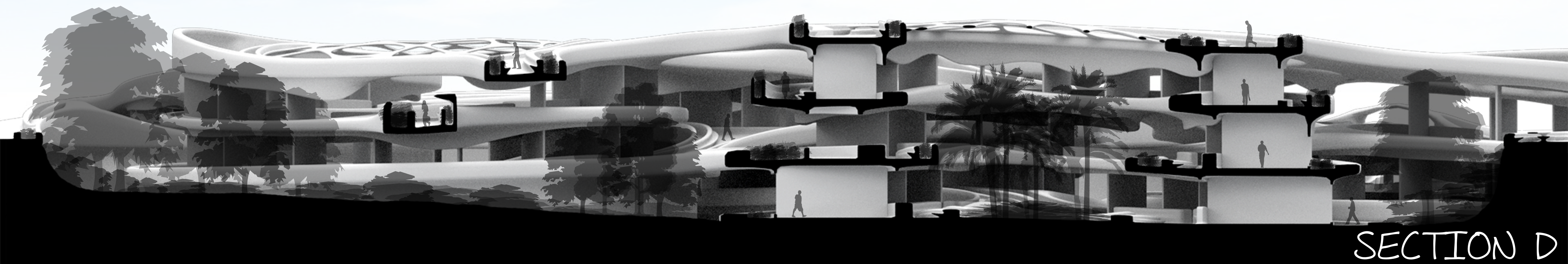
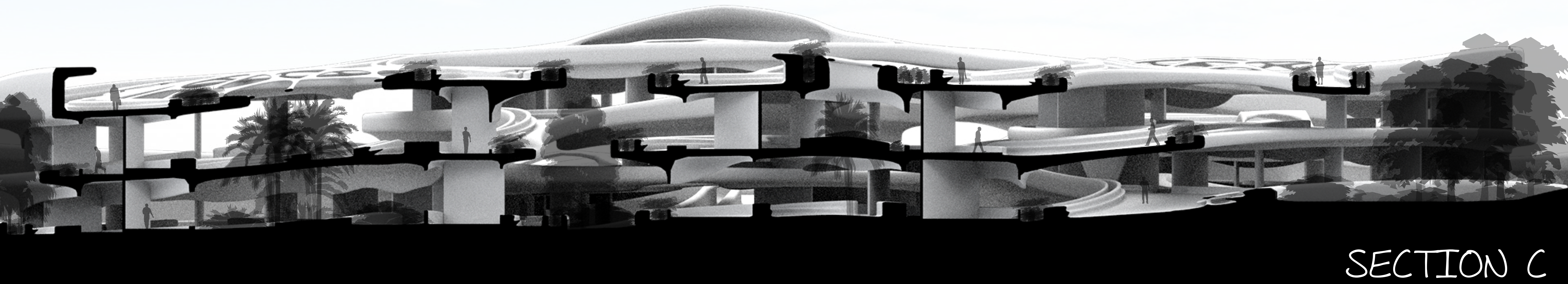


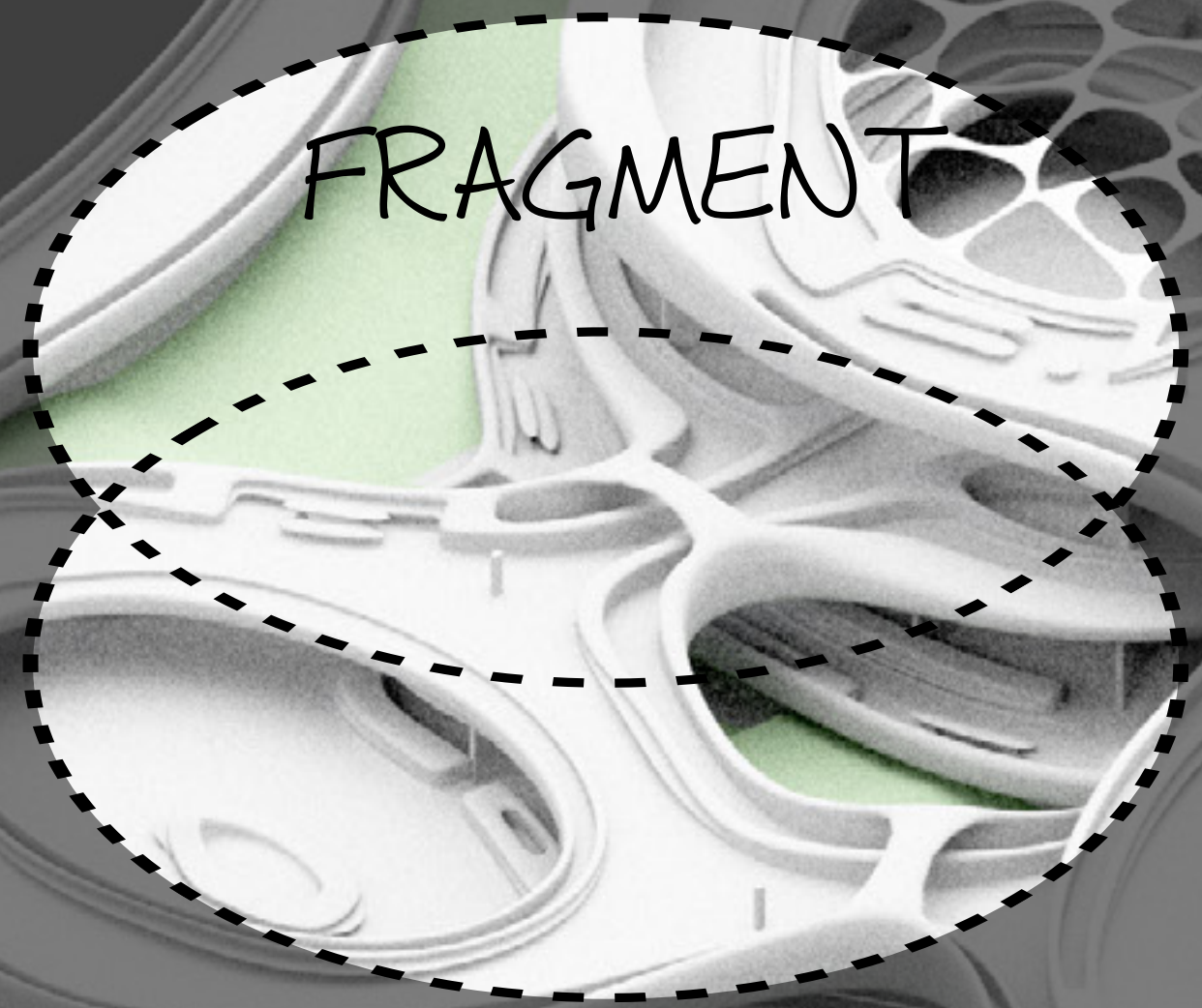
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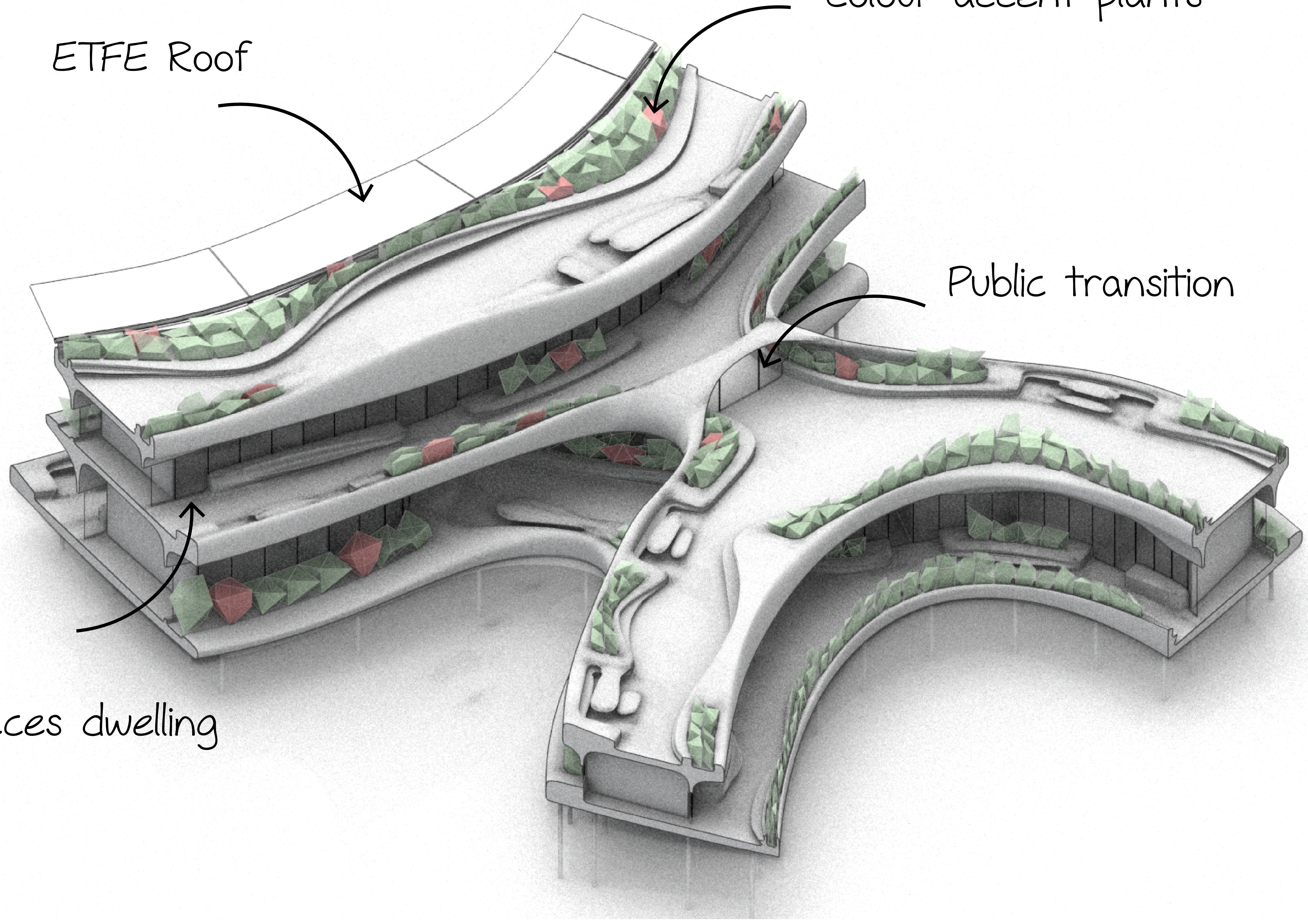
NORTH ↗

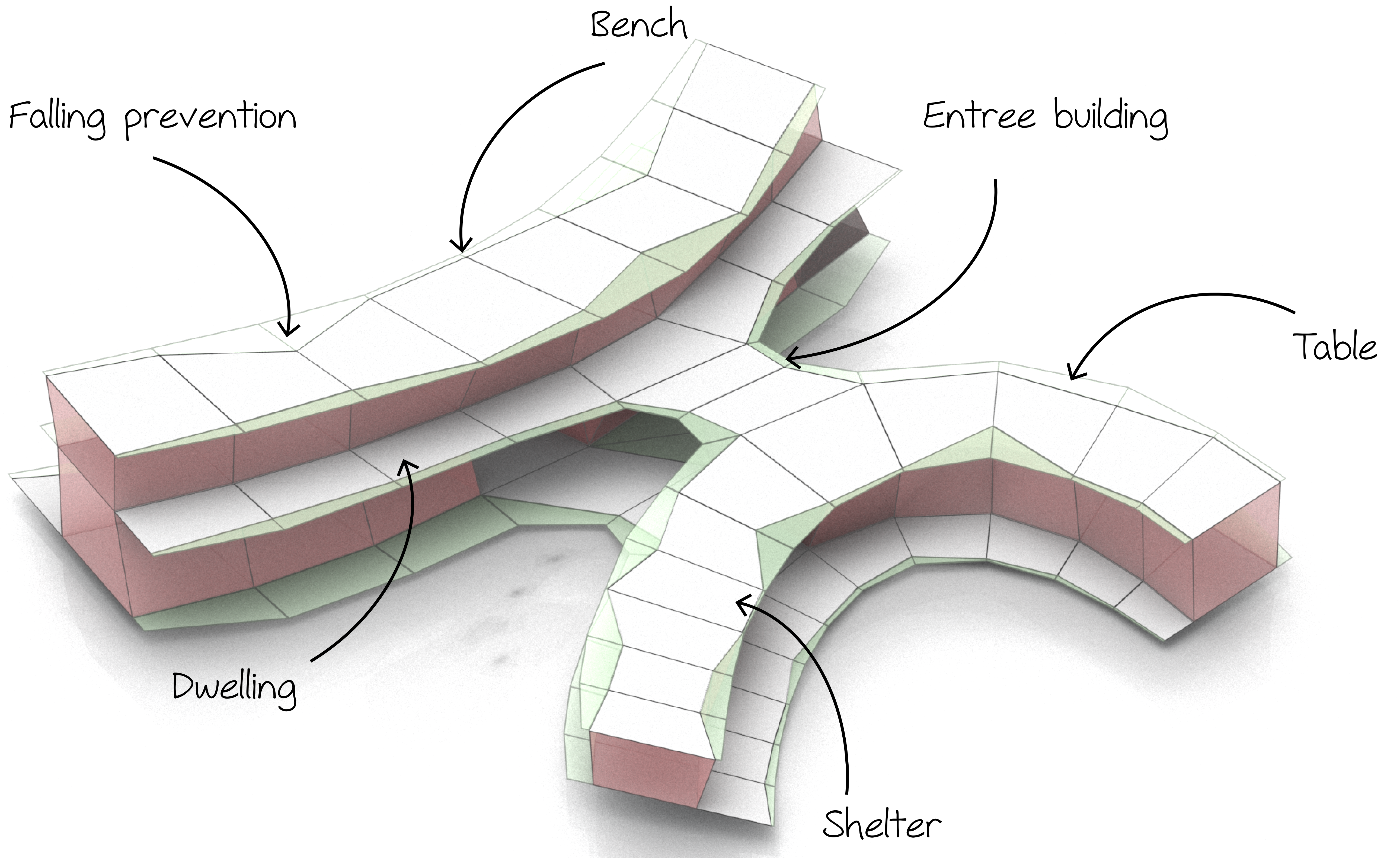
Colour accent plants

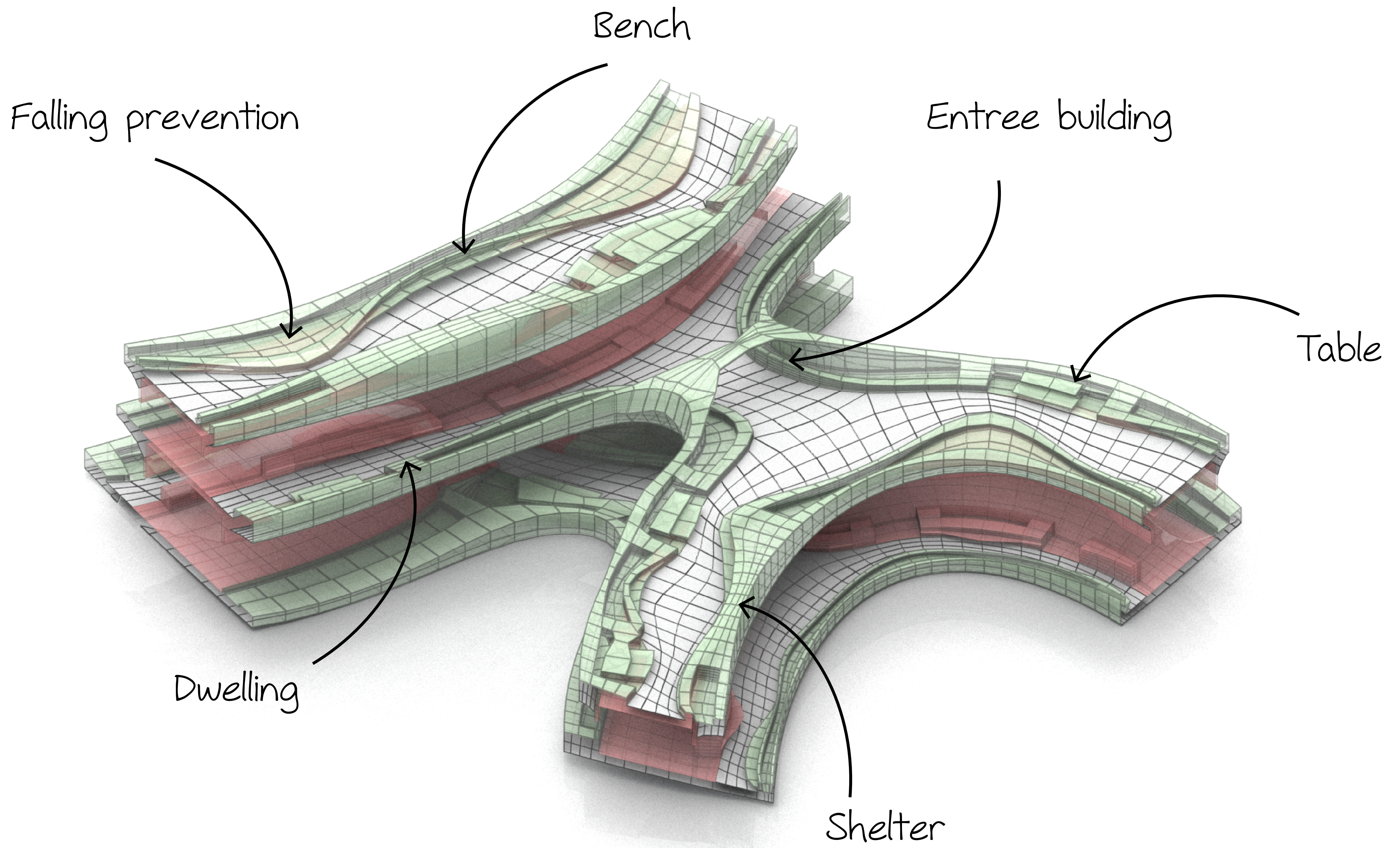
ETFE Roof

Public transition

Acces dwelling







Falling prevention

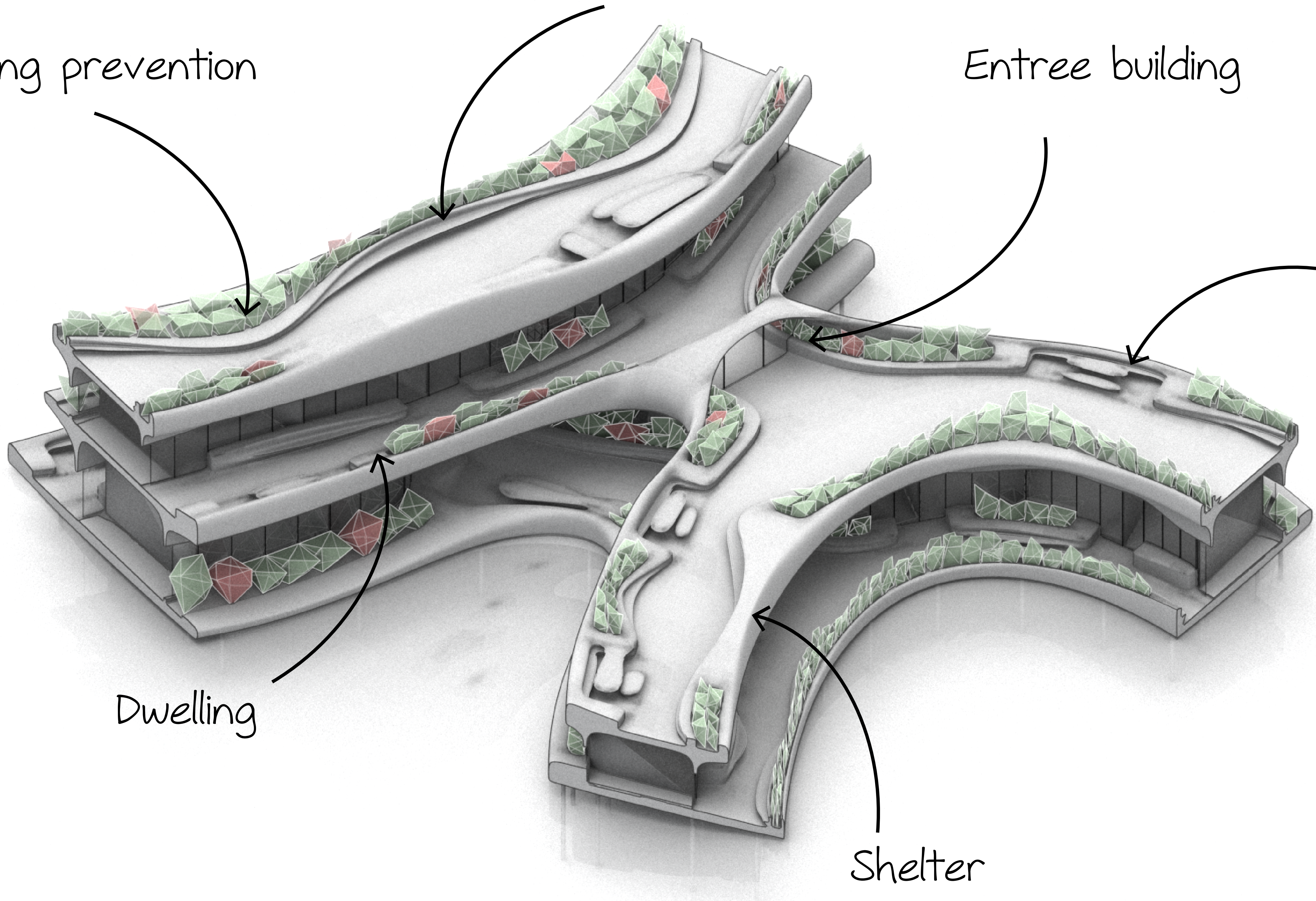
Bench

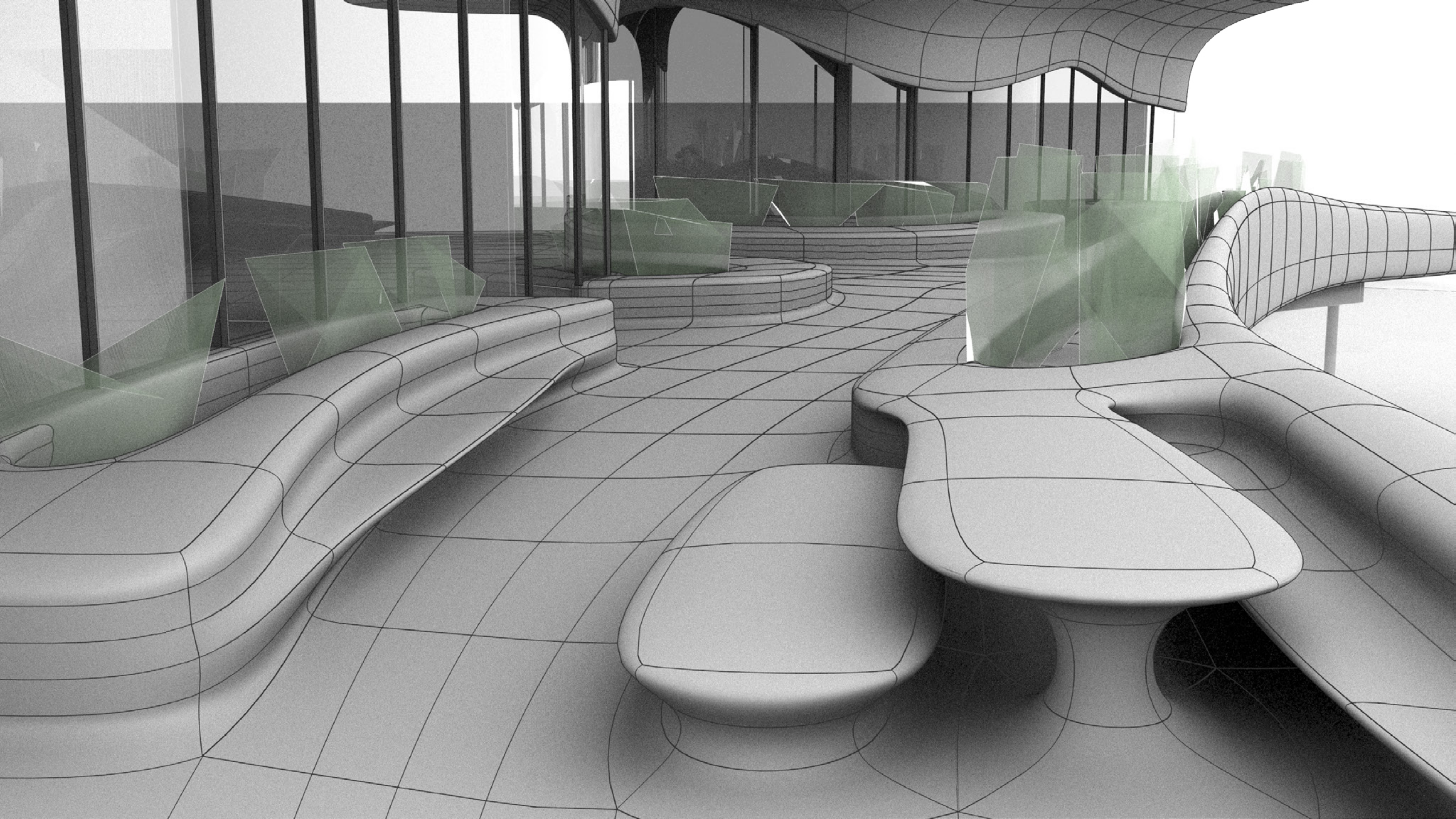
Entree building

Table

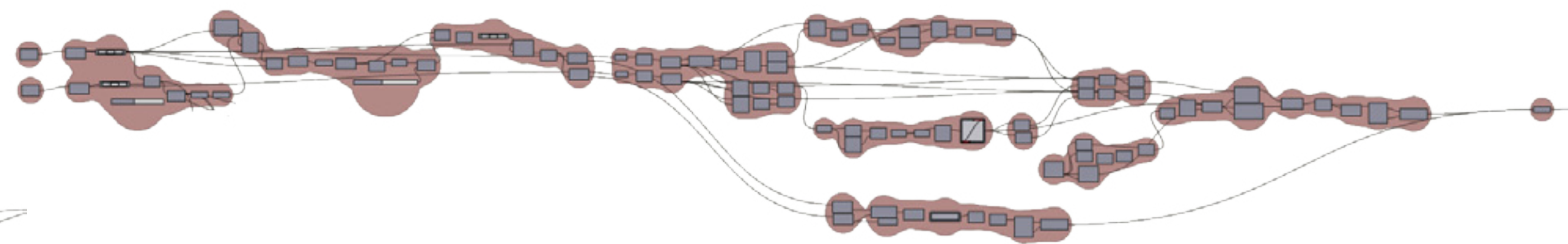
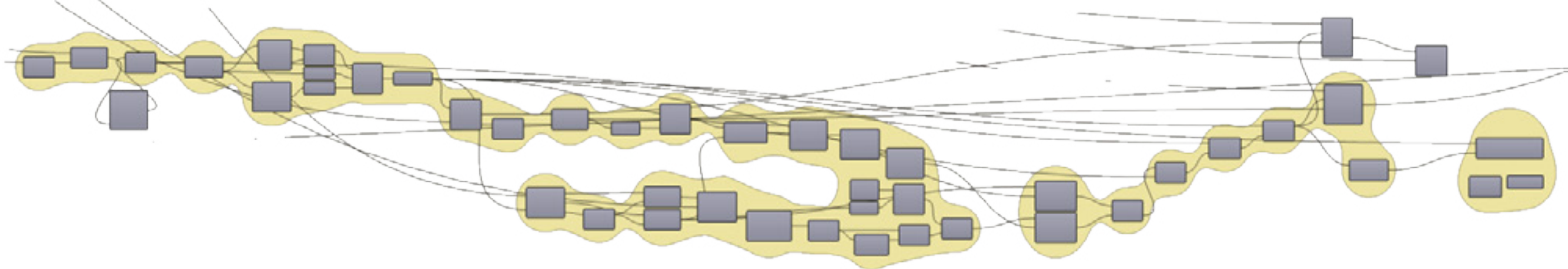
Dwelling

Shelter

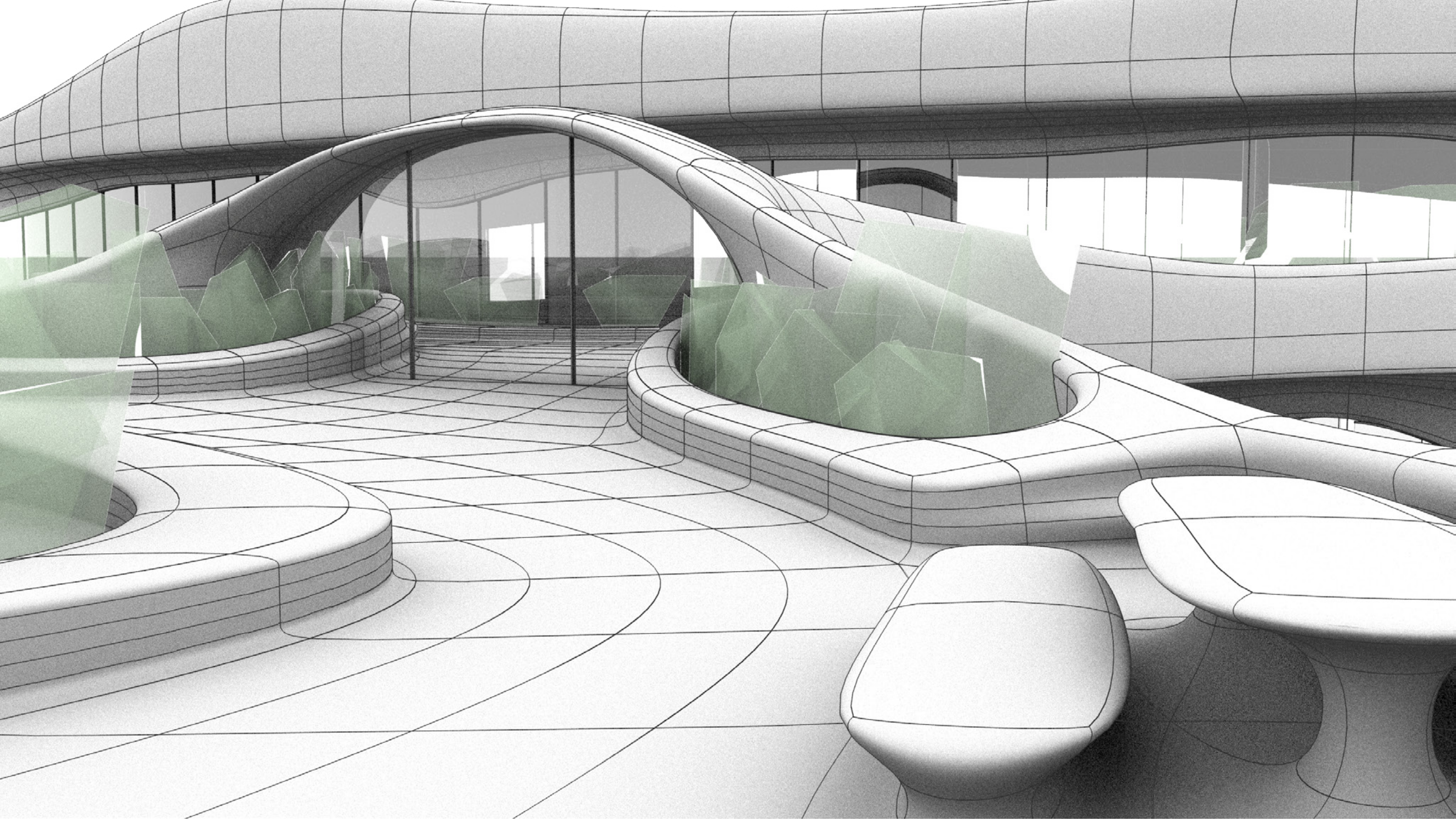




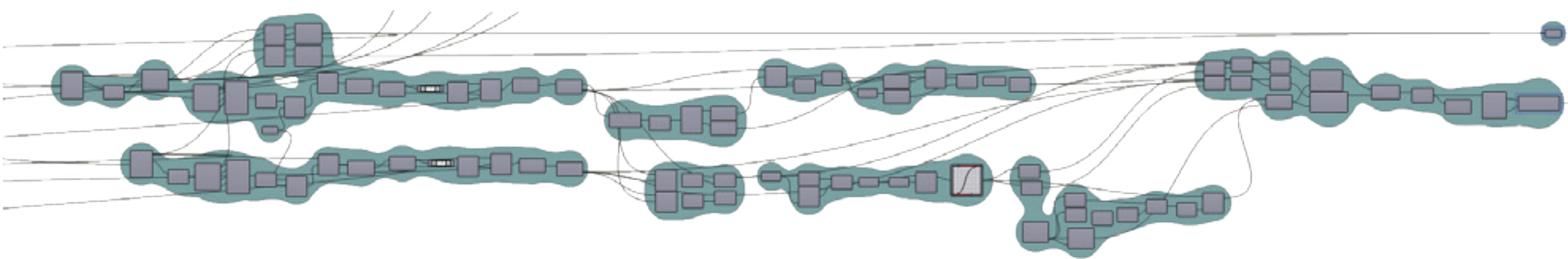
Bench



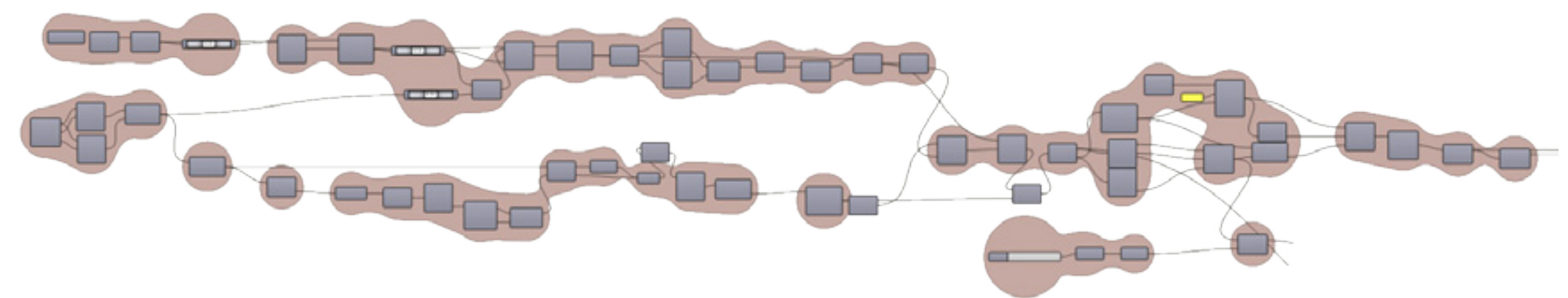
Table

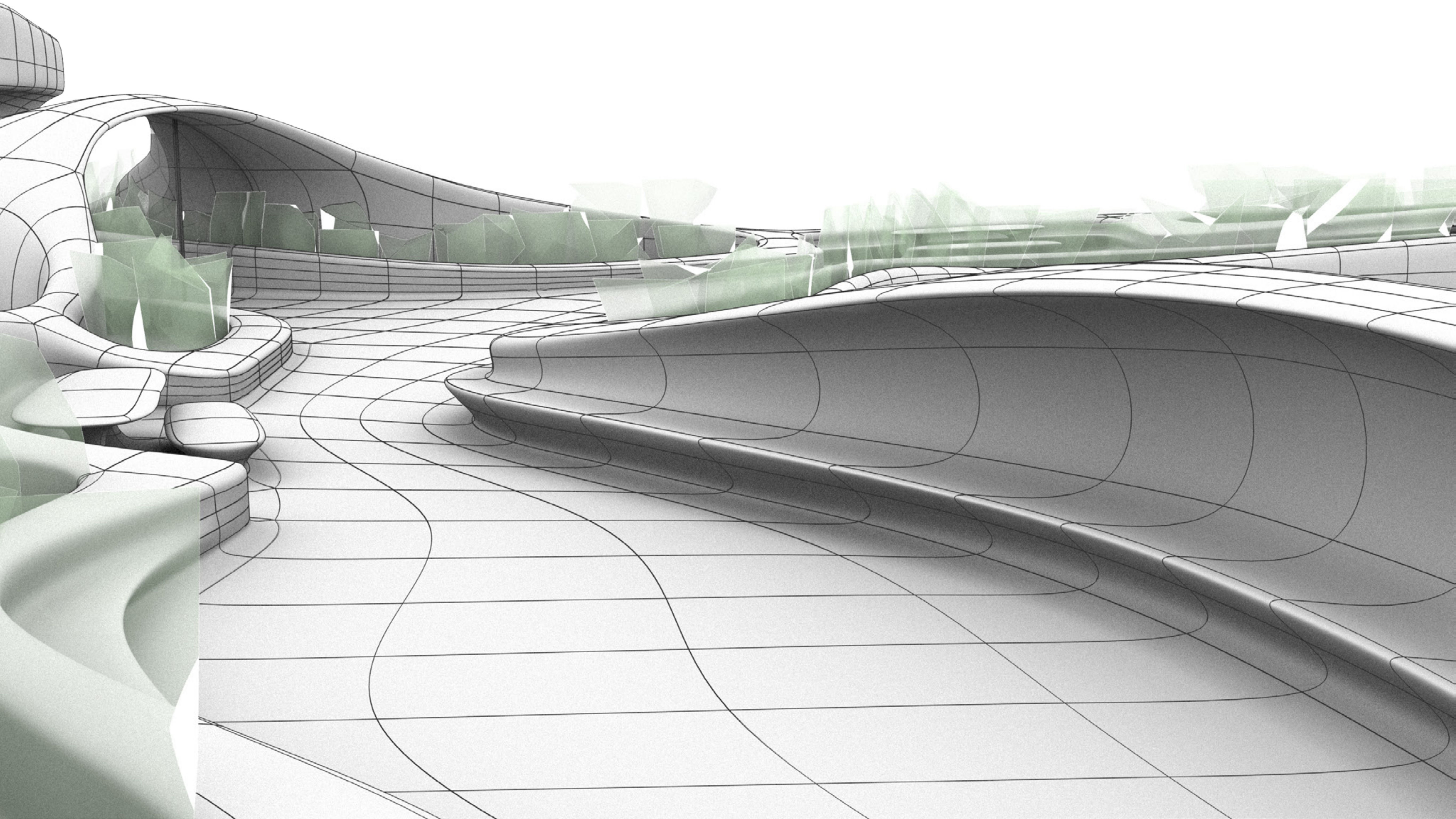


Fall prevention

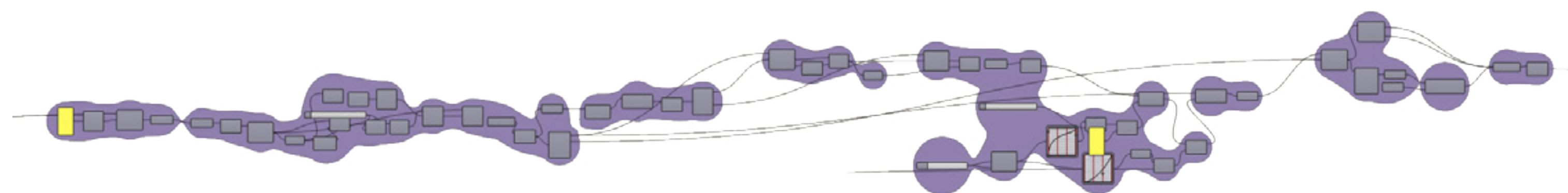


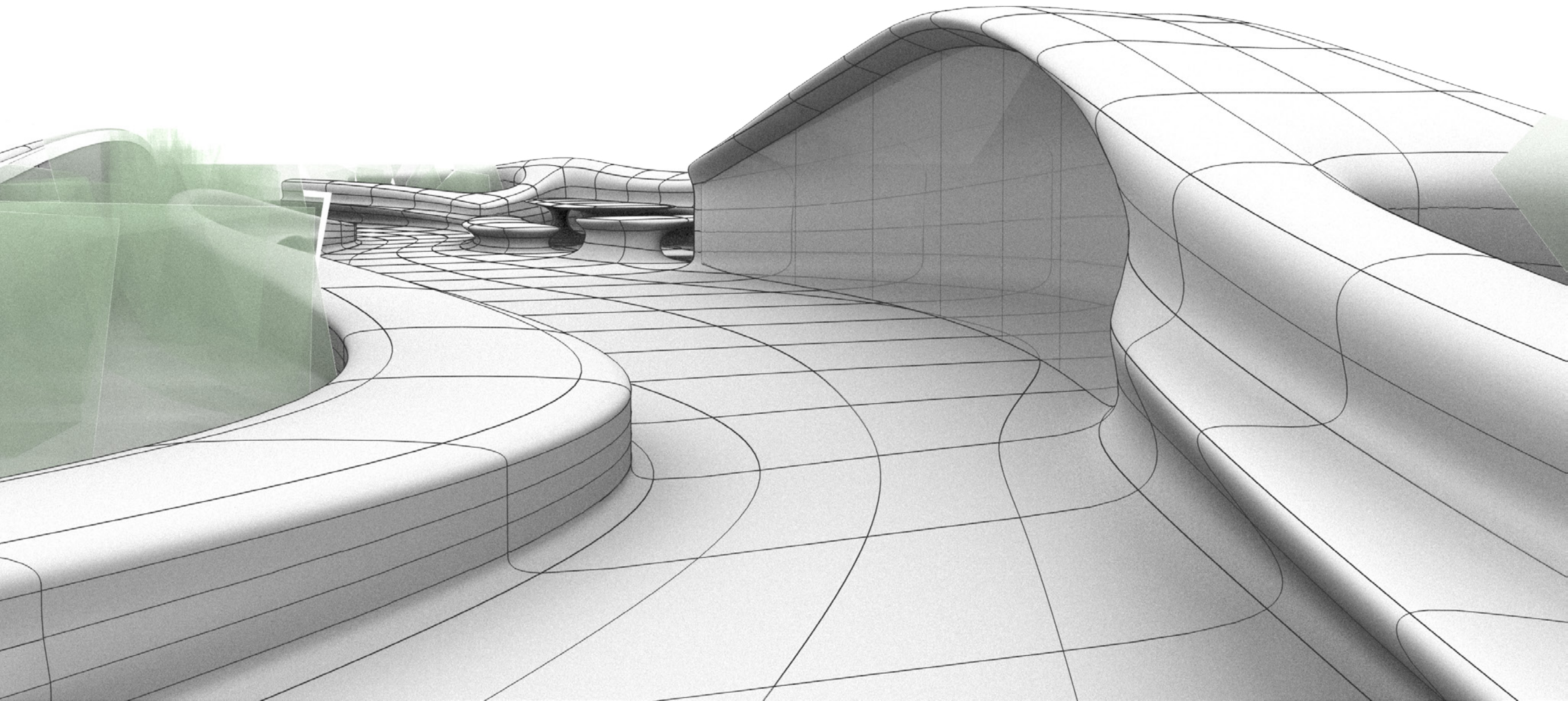
Entree



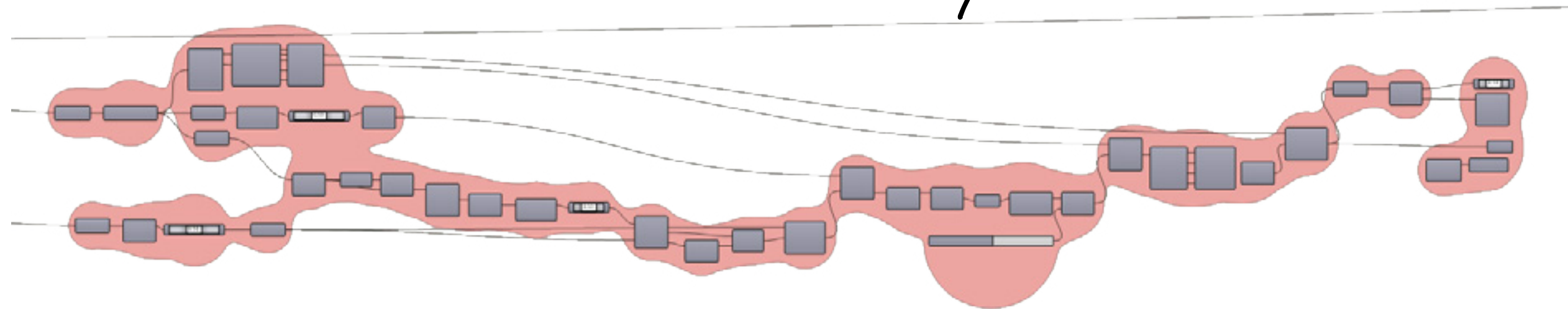


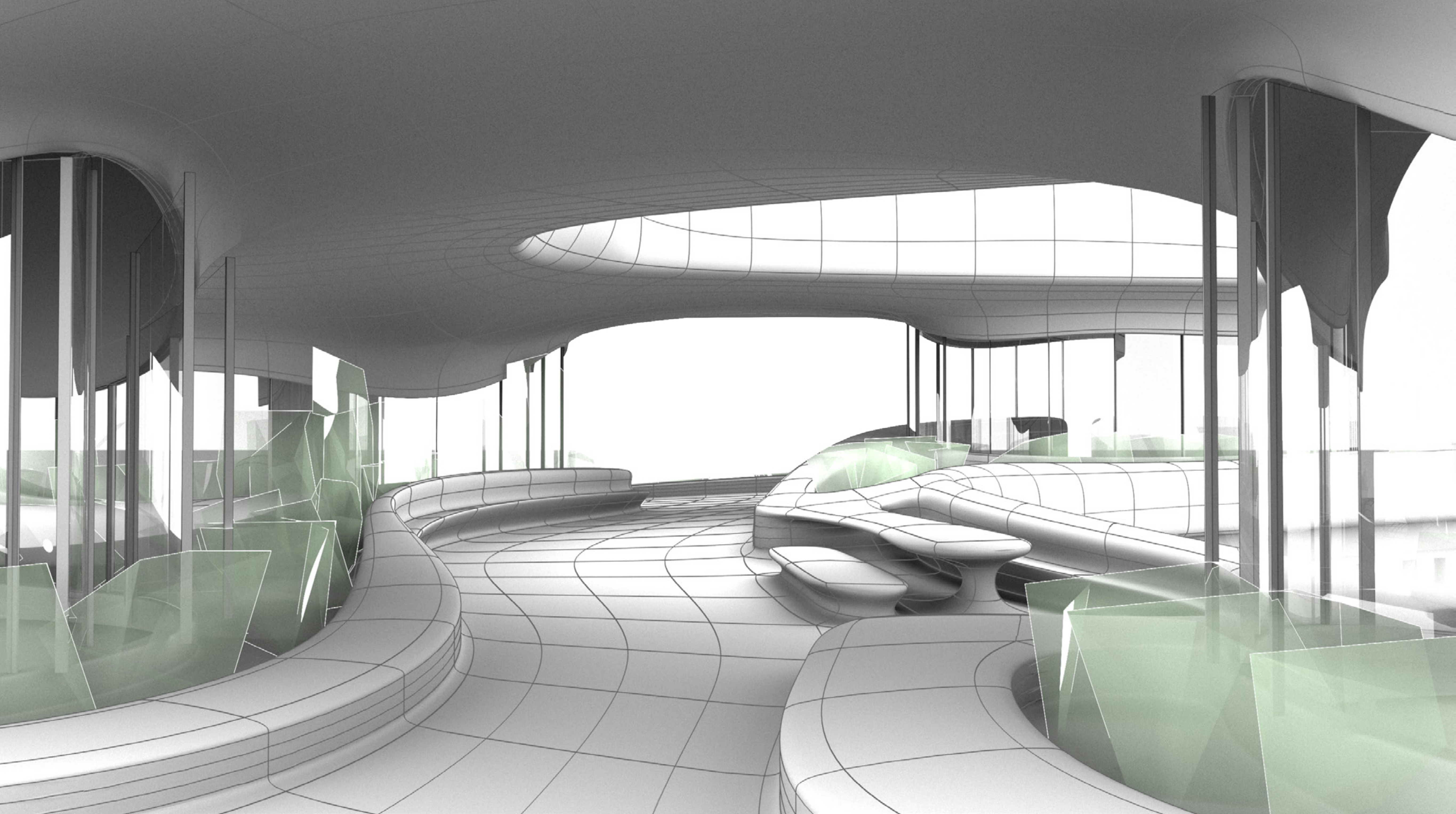
Shelter



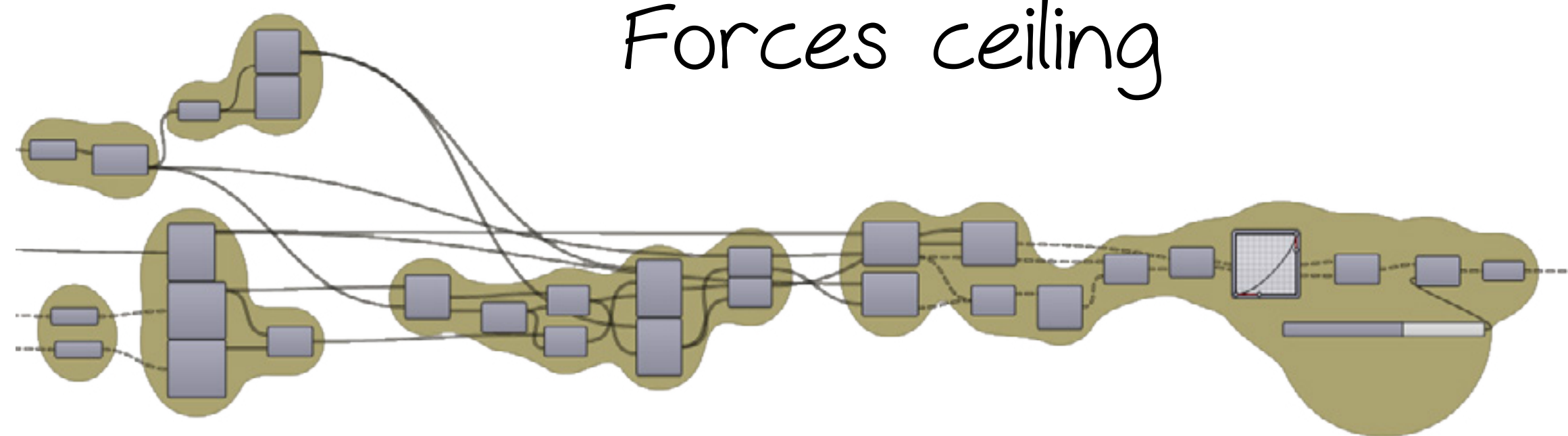


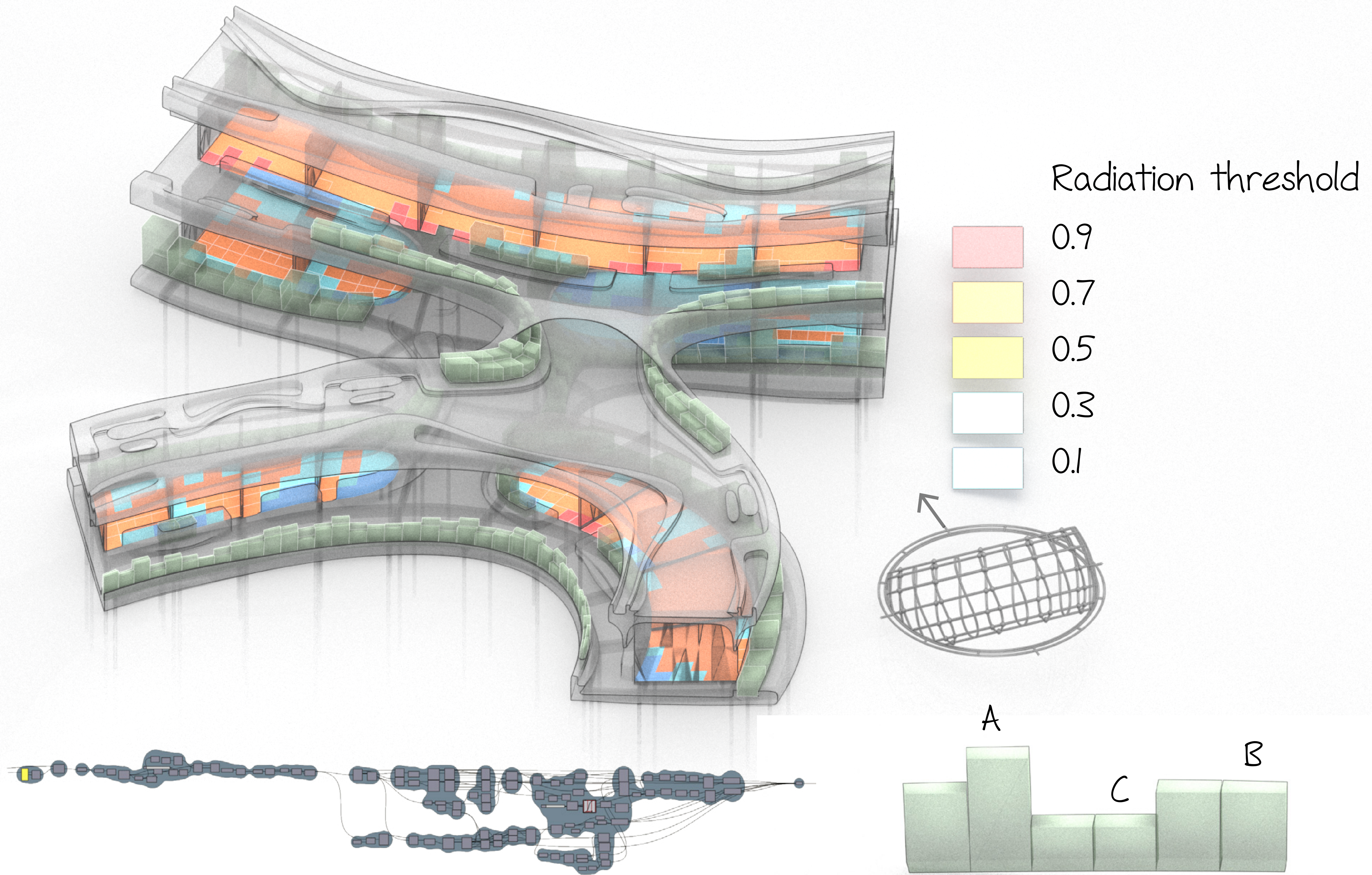
Gallery



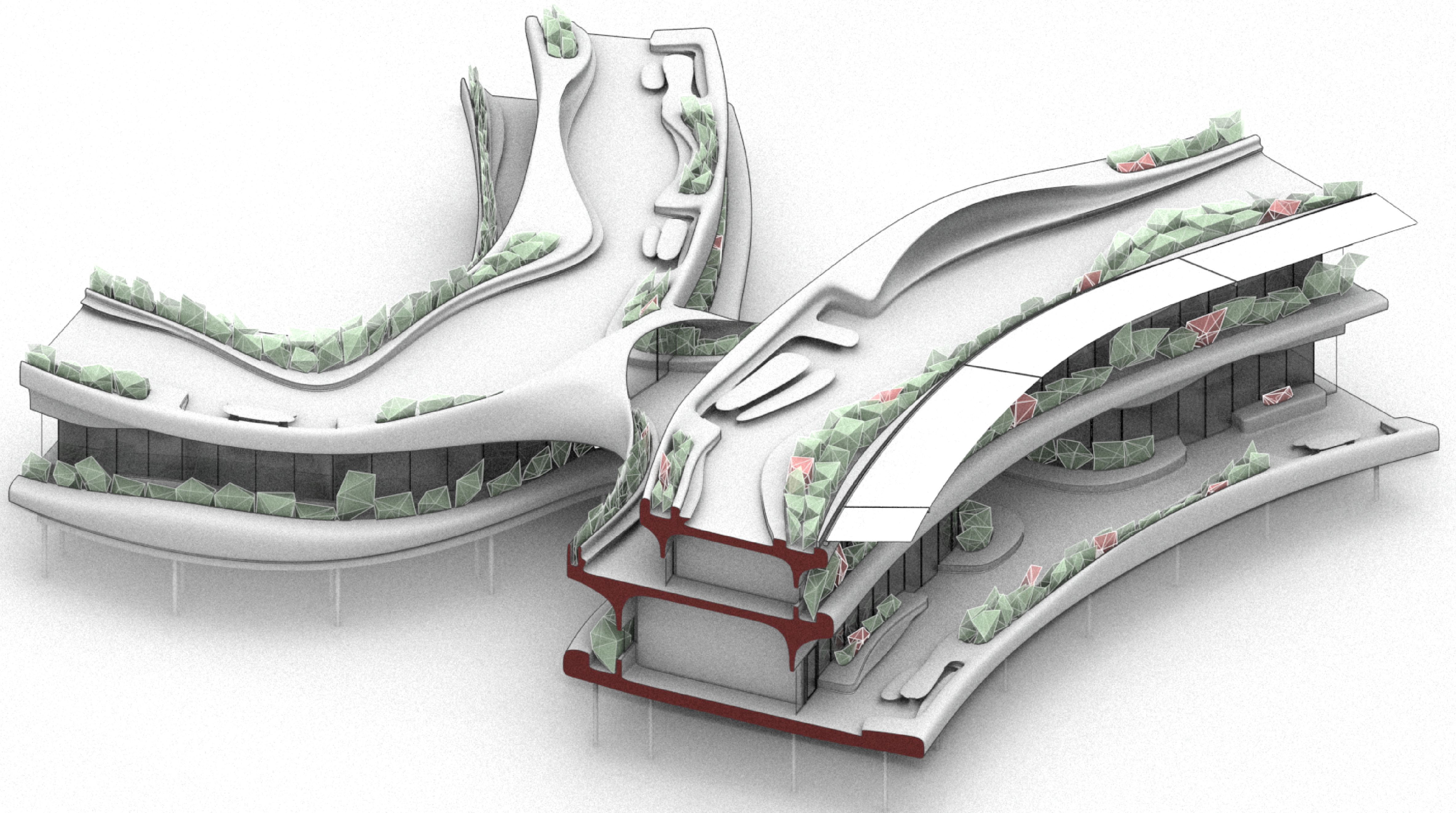


Forces ceiling



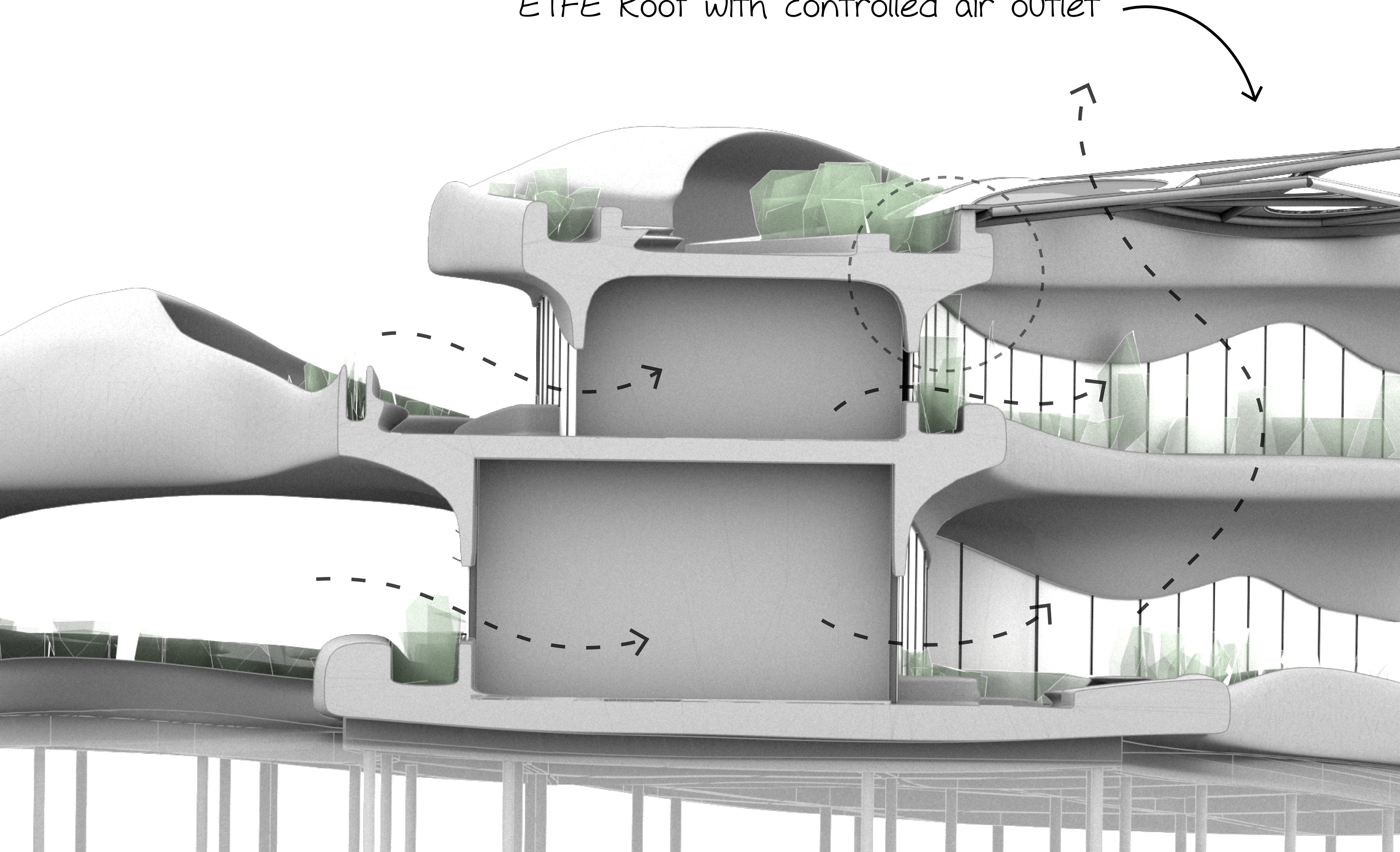


Computational script will run all possible variations of heights for minimum and maximum allowed radiation of the interior of the dwellings



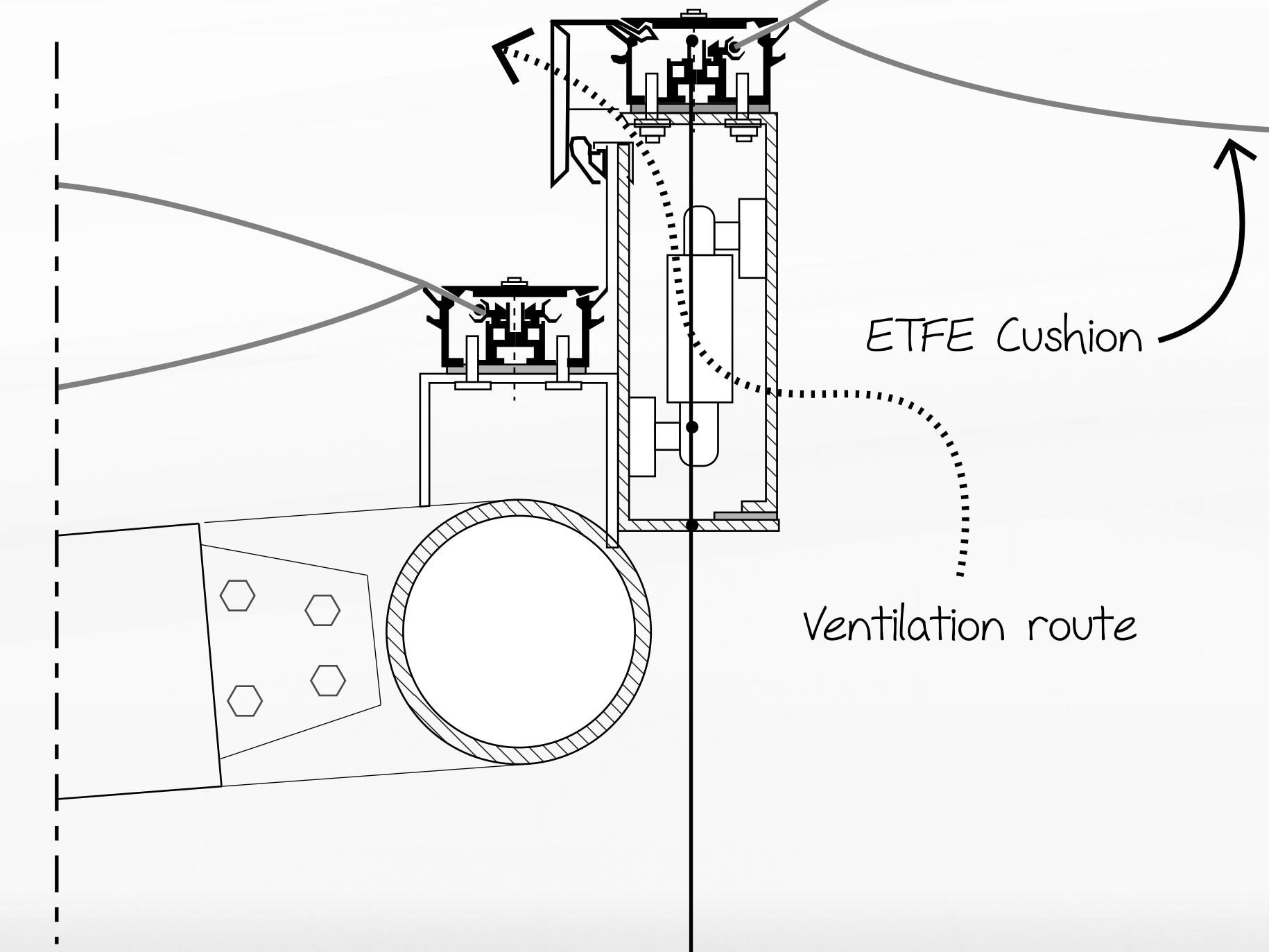
All dwelling will have an cold and warm side. Solar radiation heats the space underneath *ETFE*. By controlling the air outlet, the dwellings will be ventilated, cooled and warmed in summer and winter.

ETFE Roof with controlled air outlet



Vegetation
 Growing medium
 Filter membrane
 Drainage
 Waterproof/Root repellent
 Vapor Control
 Prefabricated concrete 200mm

Sheet Metal parapet cap drain to roof side
 Protection course
 Sheet Metal protection
 Prefabricated concrete 100mm
 Roof support beam 150mm diameter



ETFE profile
 Actuator to lift ETFE panel
 Stainless steel support profiles

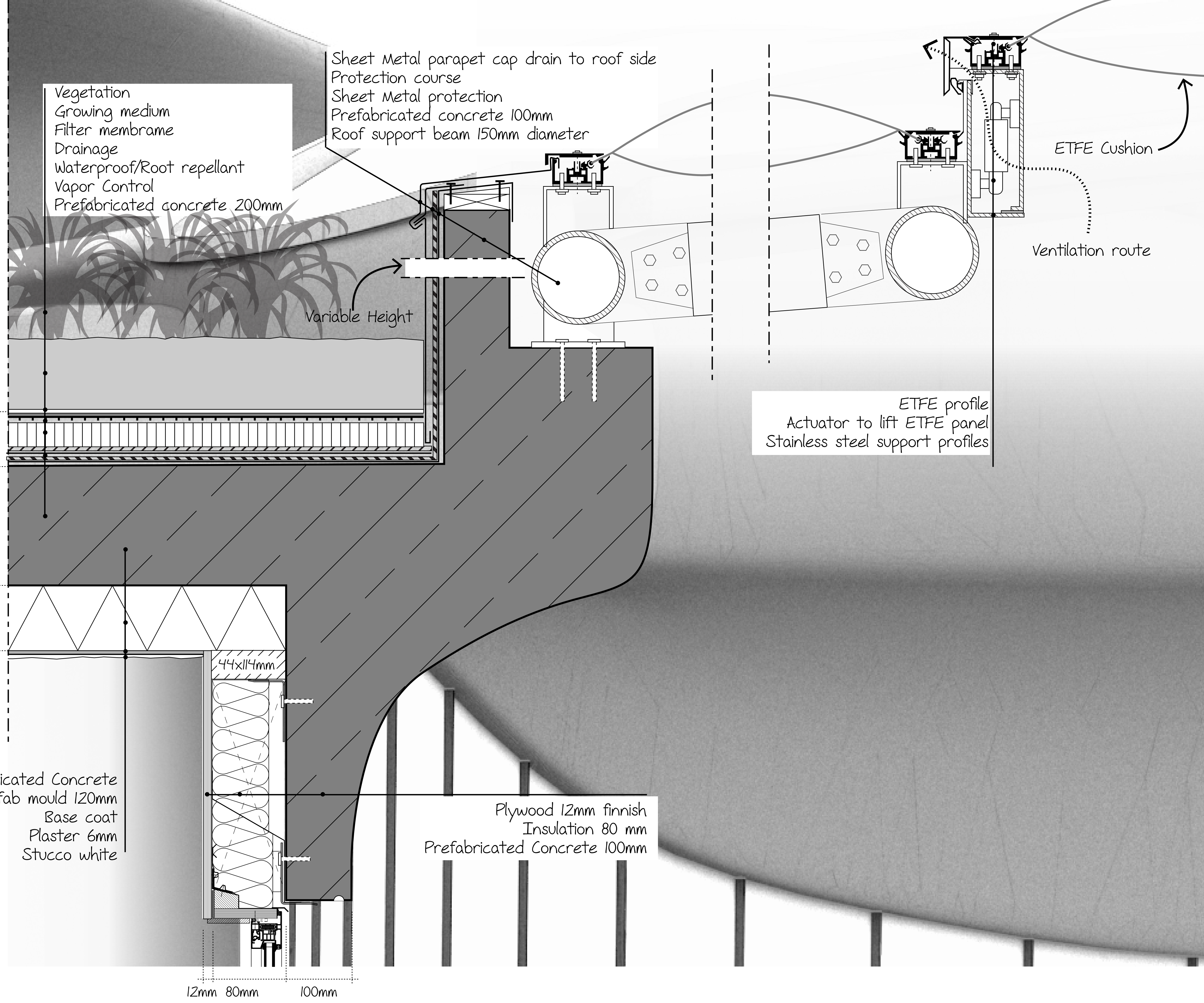
Prefabricated Concrete
 EPS from prefab mould 120mm
 Base coat
 Plaster 6mm
 Stucco white

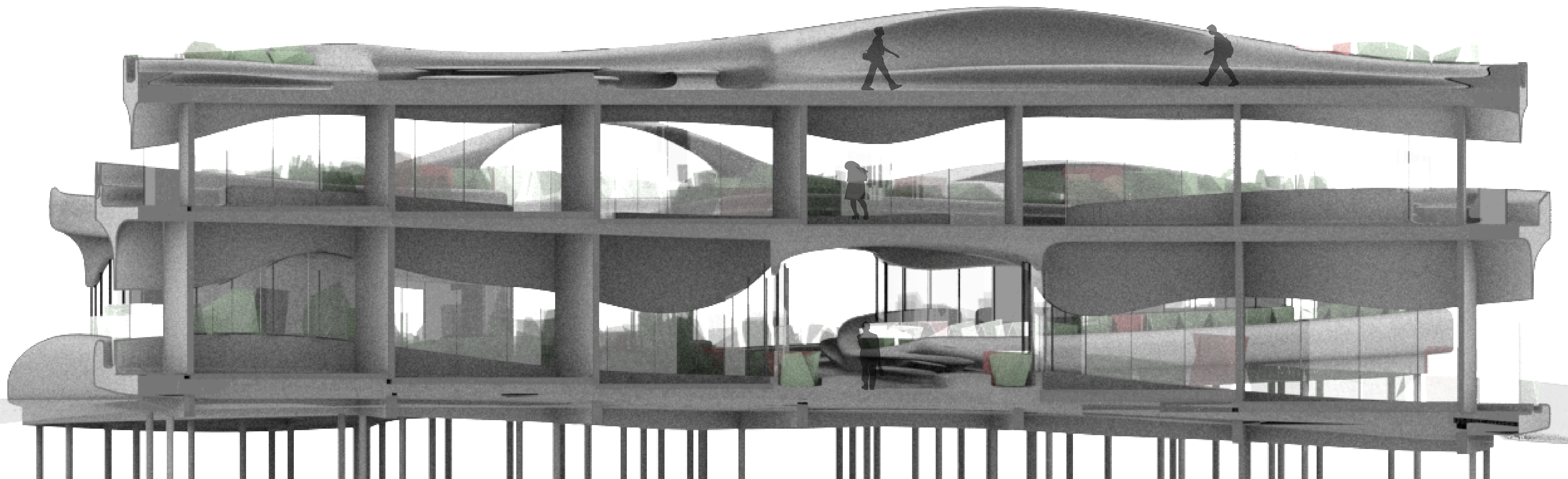
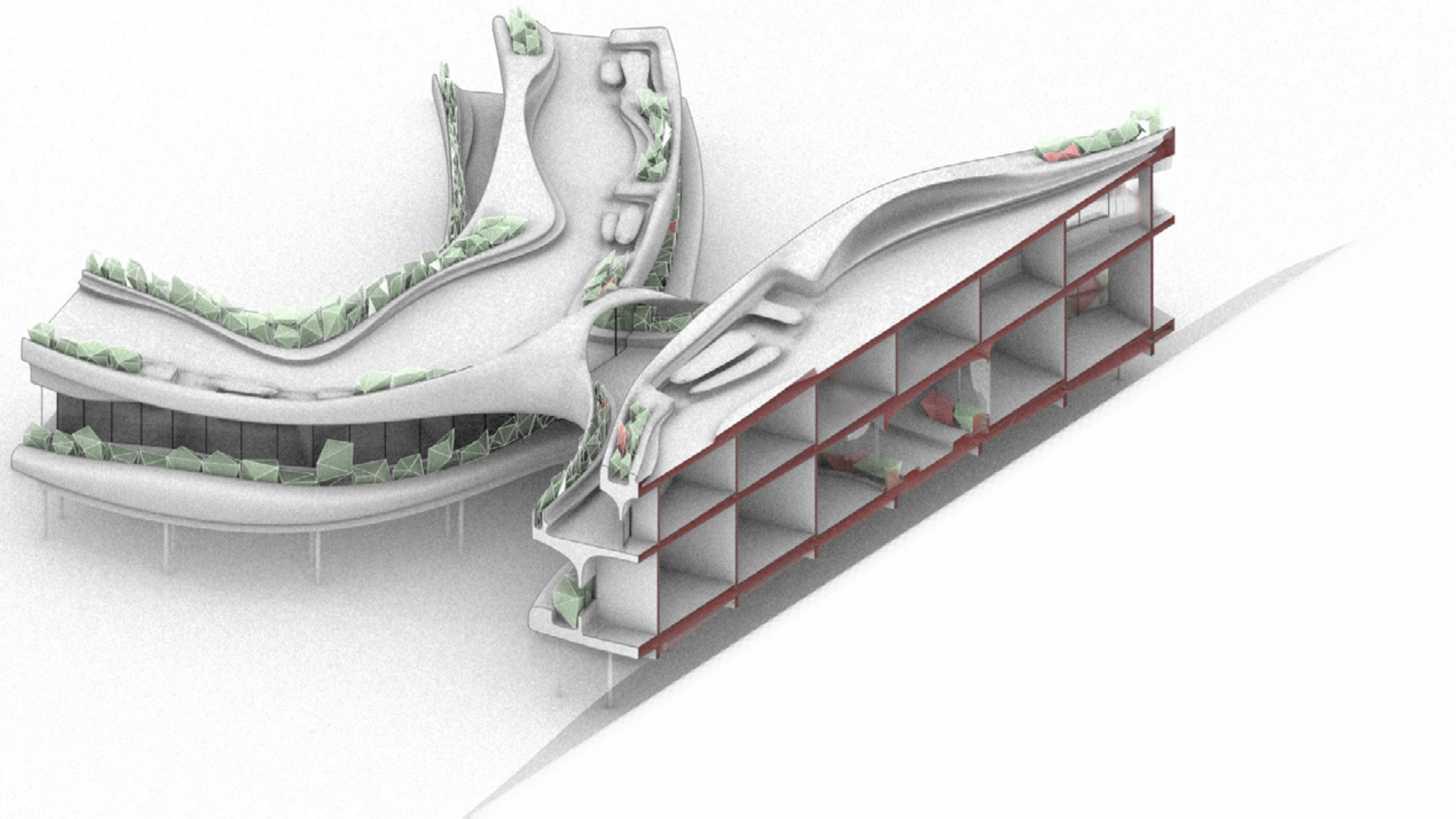
Plywood 12mm finish
 Insulation 80 mm
 Prefabricated Concrete 100mm

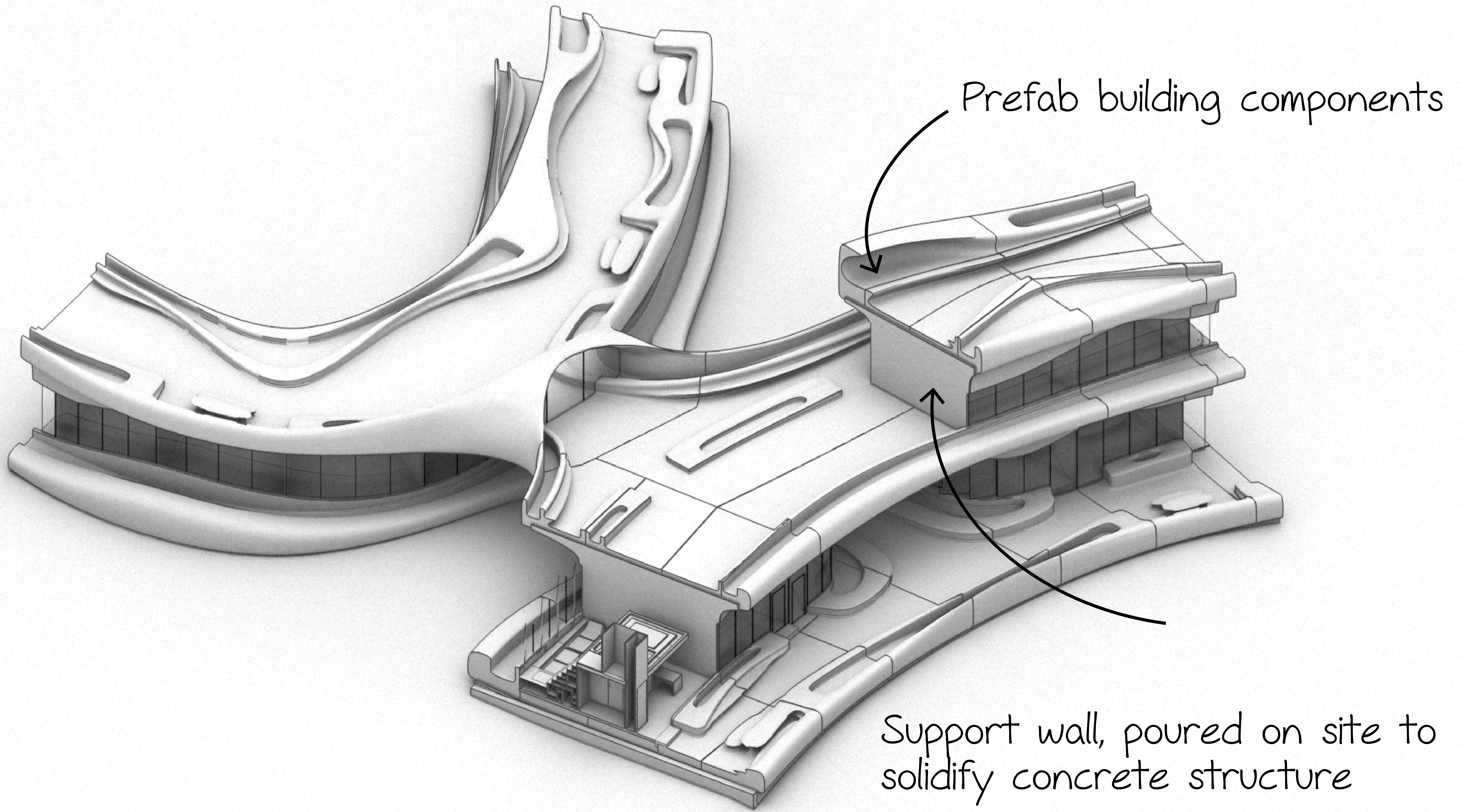
70mm
 200mm
 120mm

12mm 80mm 100mm

Variable Height

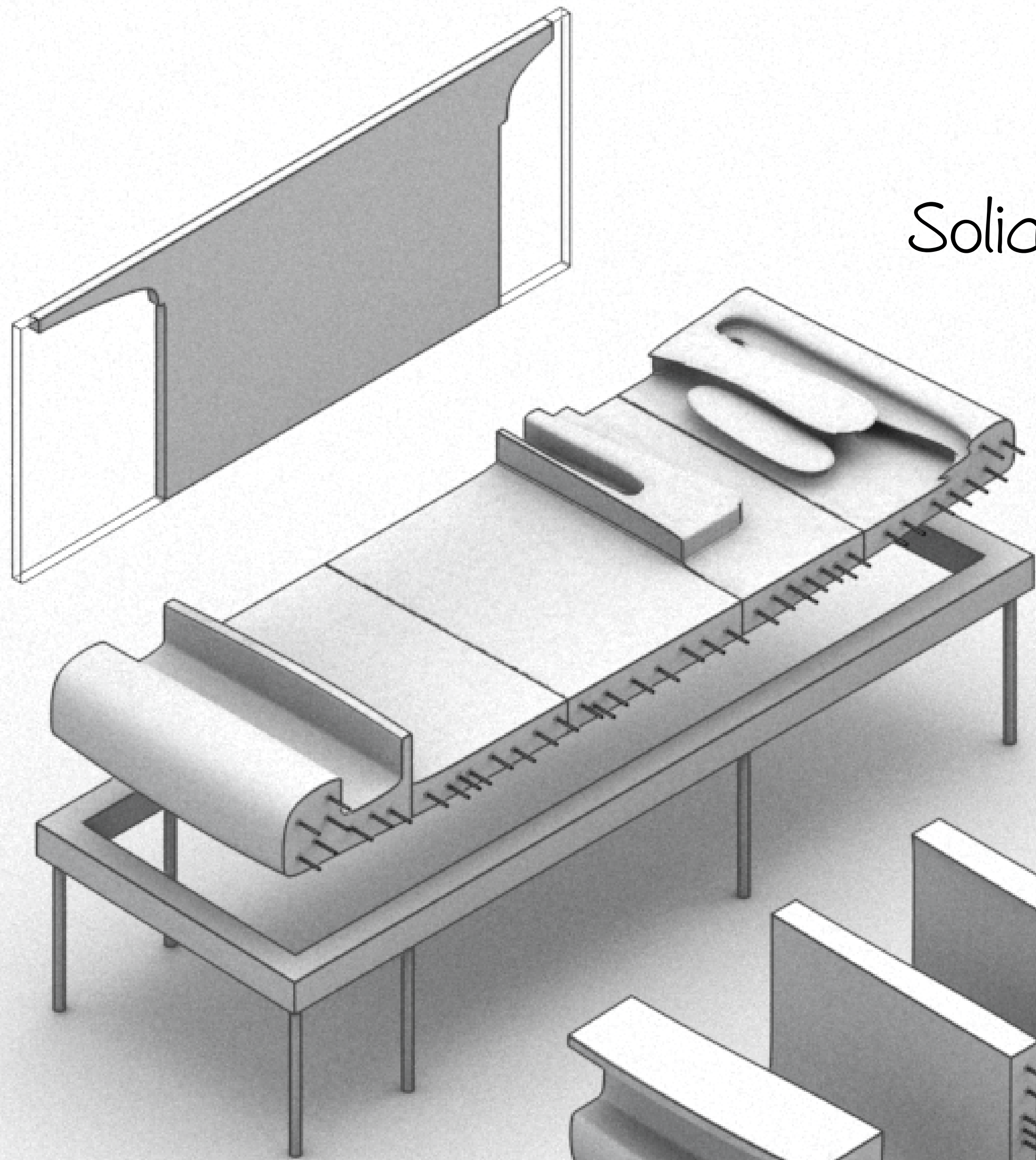






Prefab building components

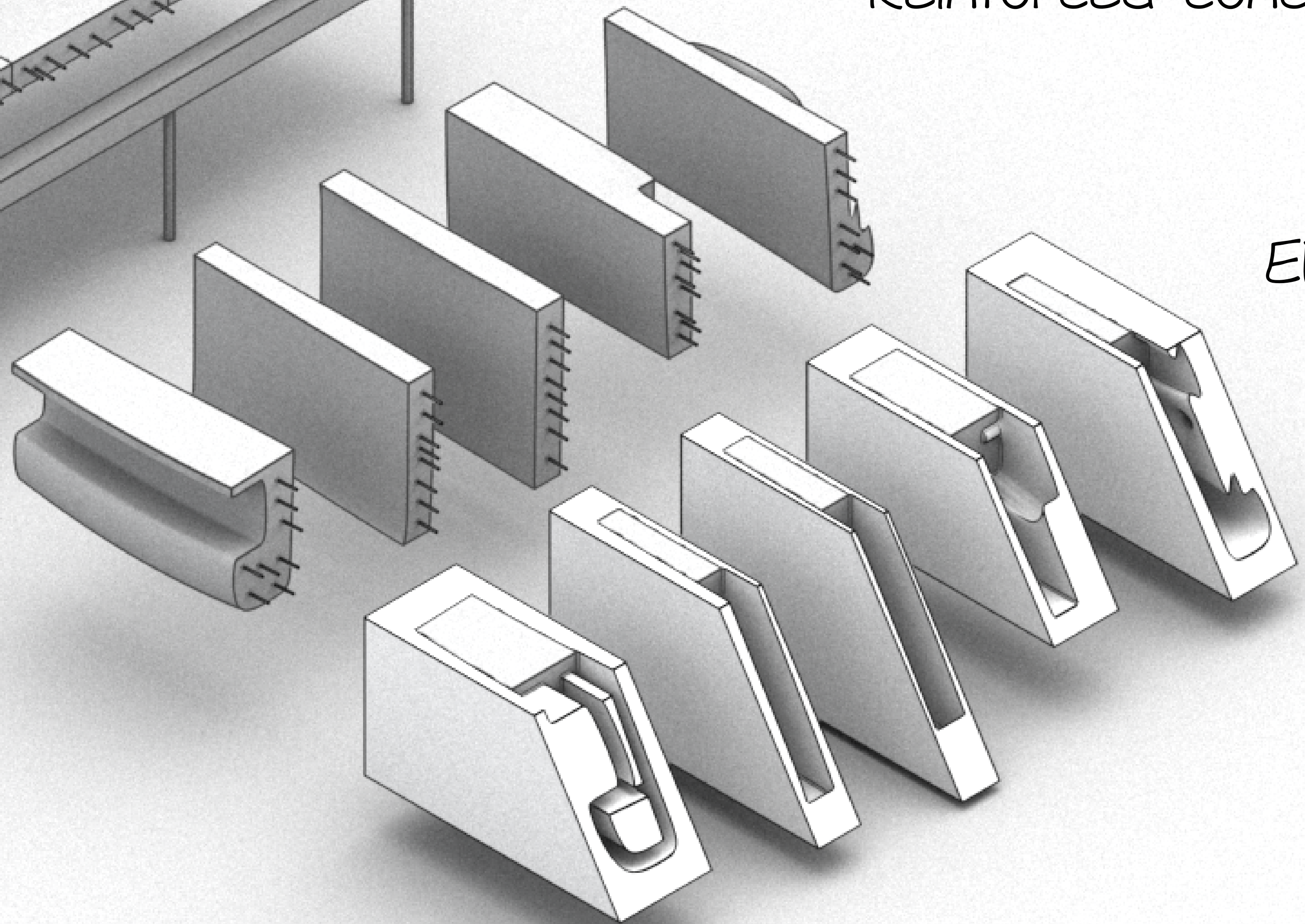
Support wall, poured on site to solidify concrete structure



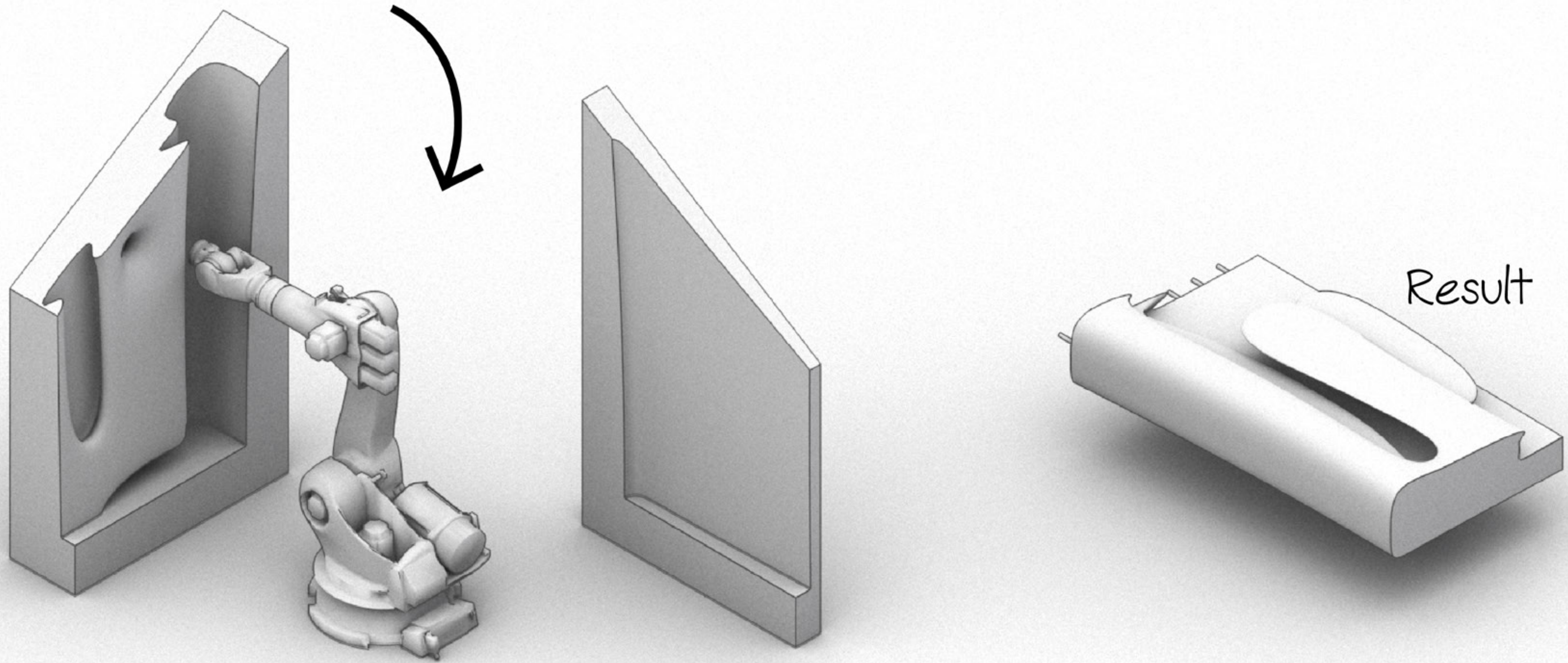
Solidified all components

Reinforced concrete

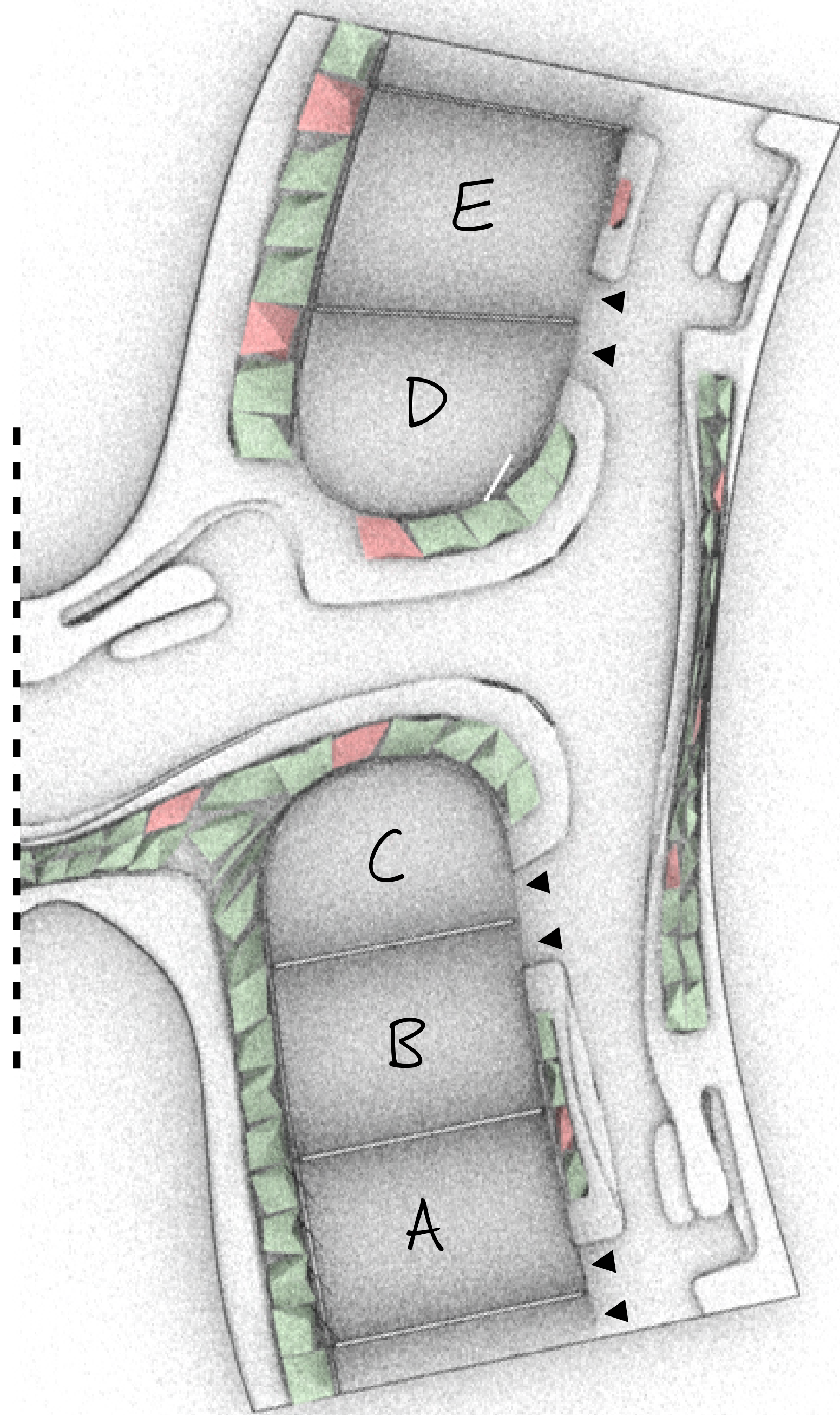
EPS mold



MILLING EPS MOLD

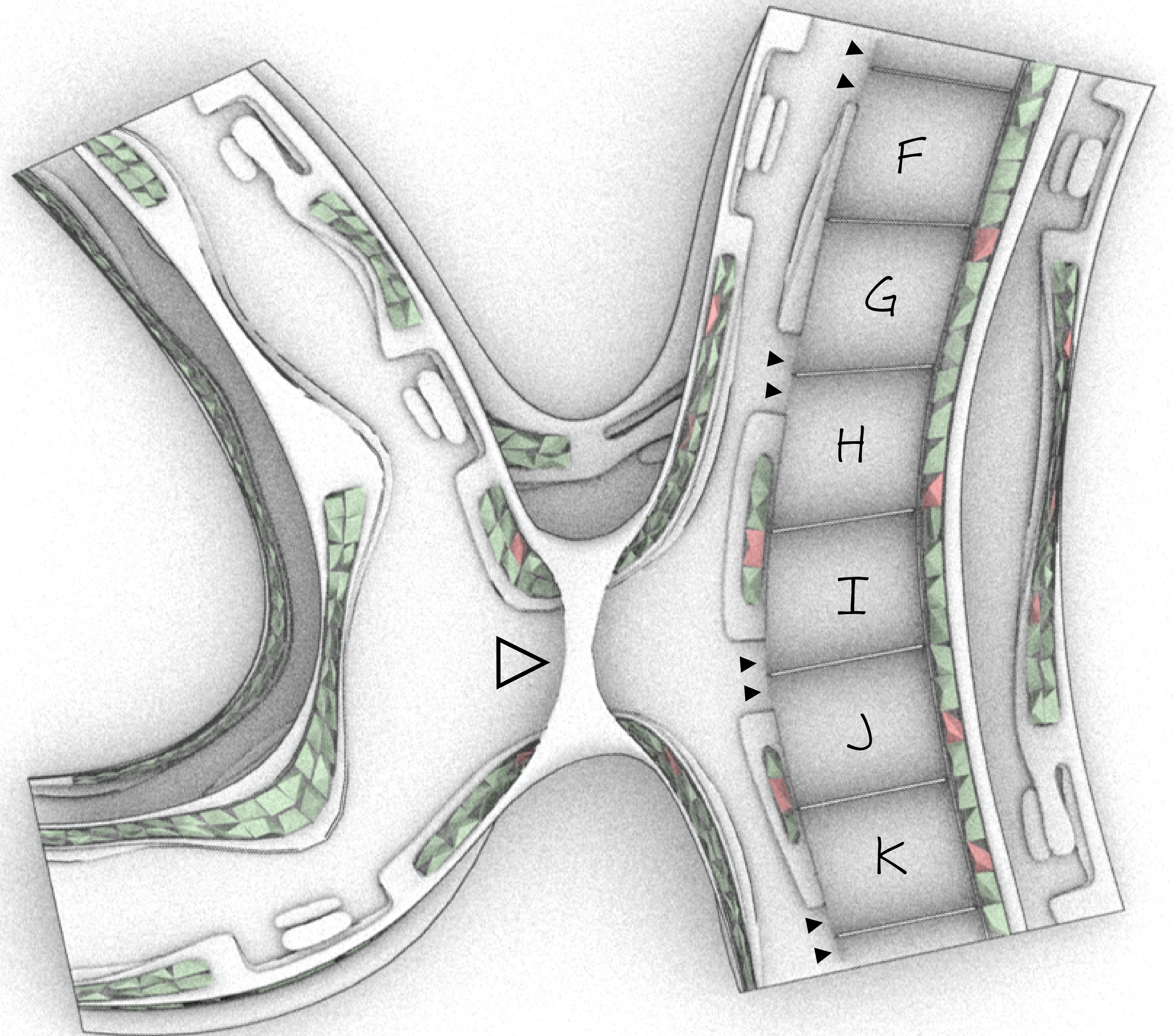


ROBOTIC PRODUCTION



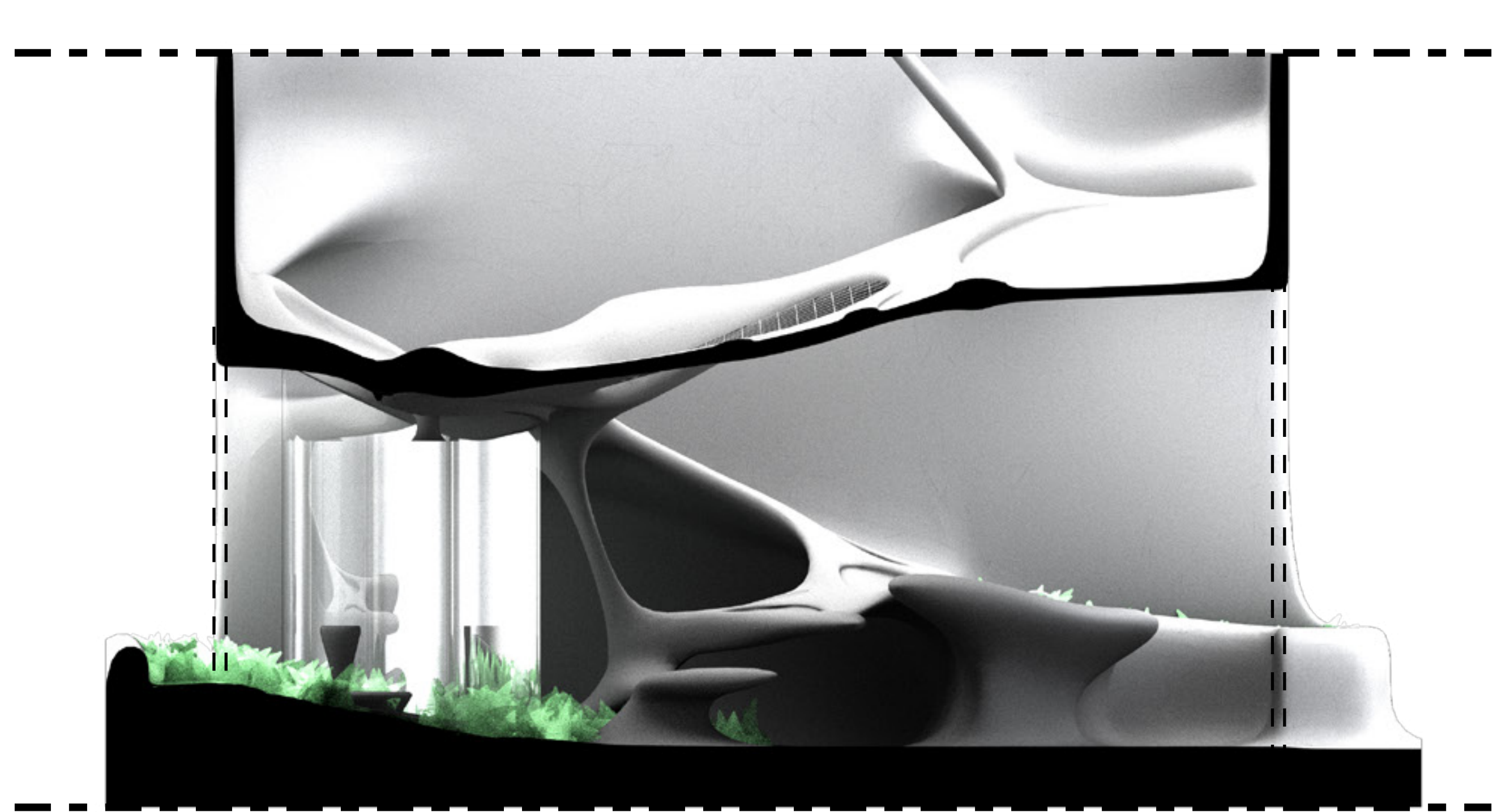
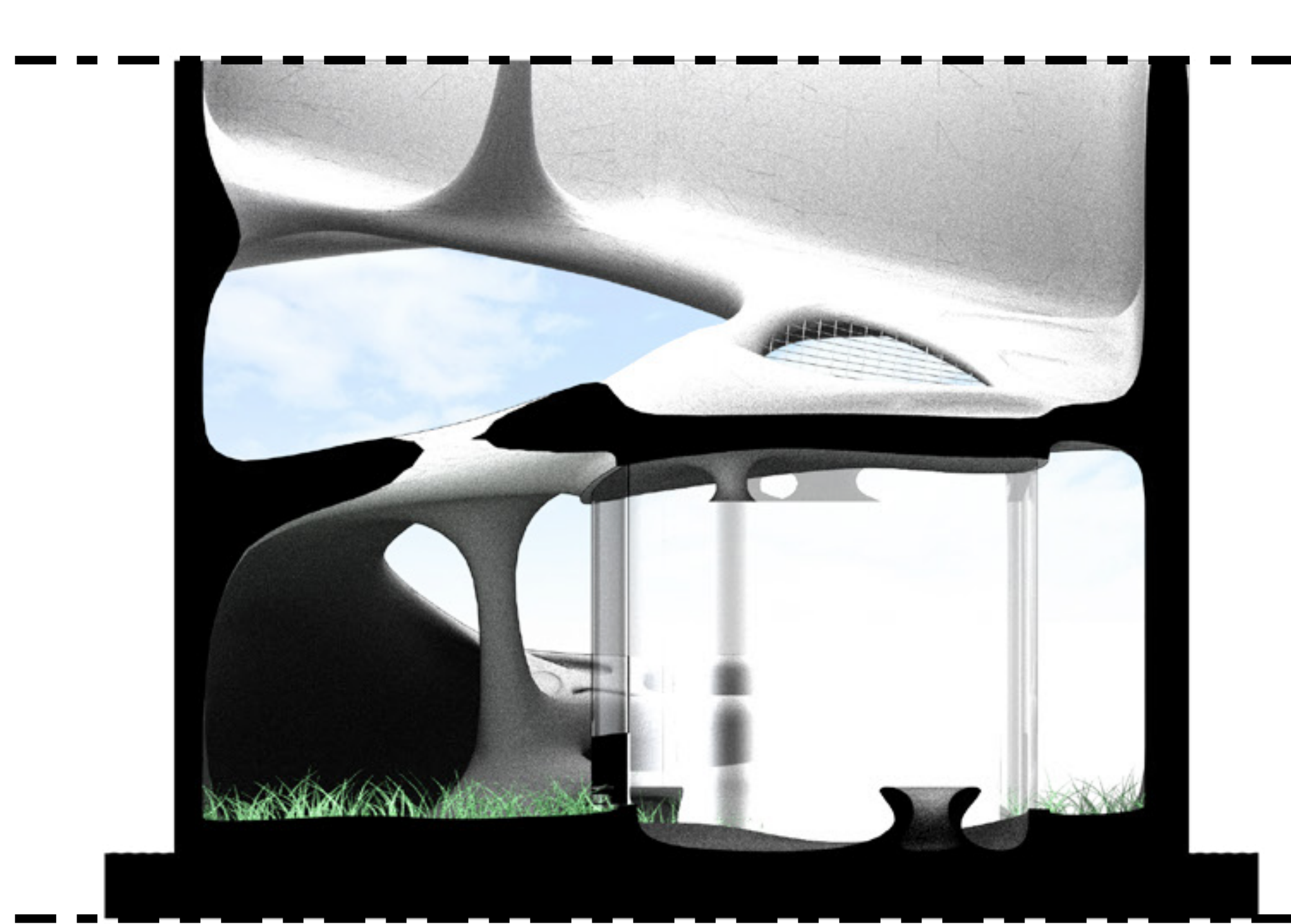
First Floor

- A Master 44m²
- B Master 42m²
- C Master 38m²
- D Master 40 m²
- E Master 44 m²



Second Floor

- F Bachelor 35m²
- G Bachelor 36m²
- H Bachelor 36m²
- I Collective space 34m²
- J Bachelor 36m²
- K Bachelor 36m²

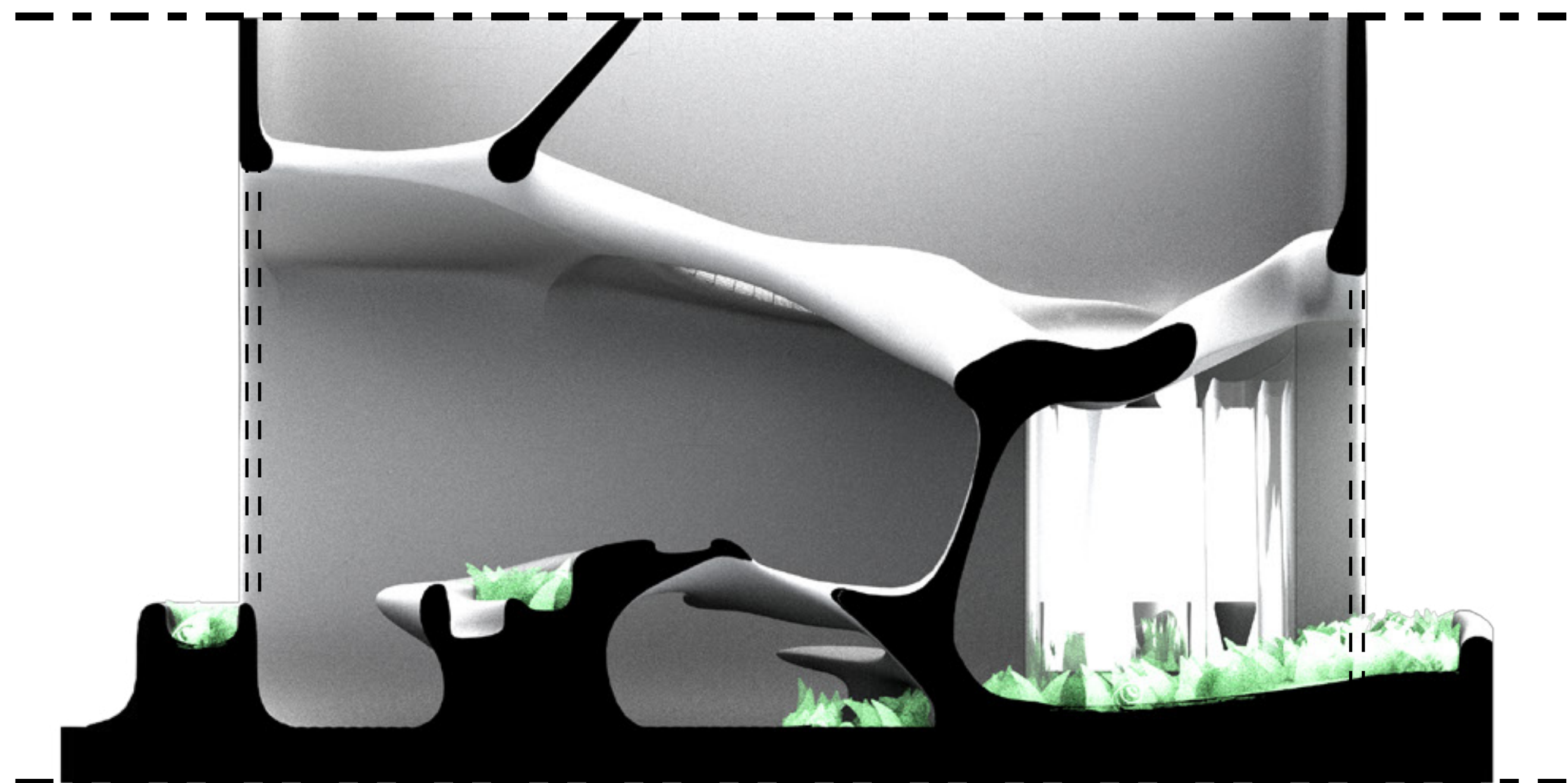
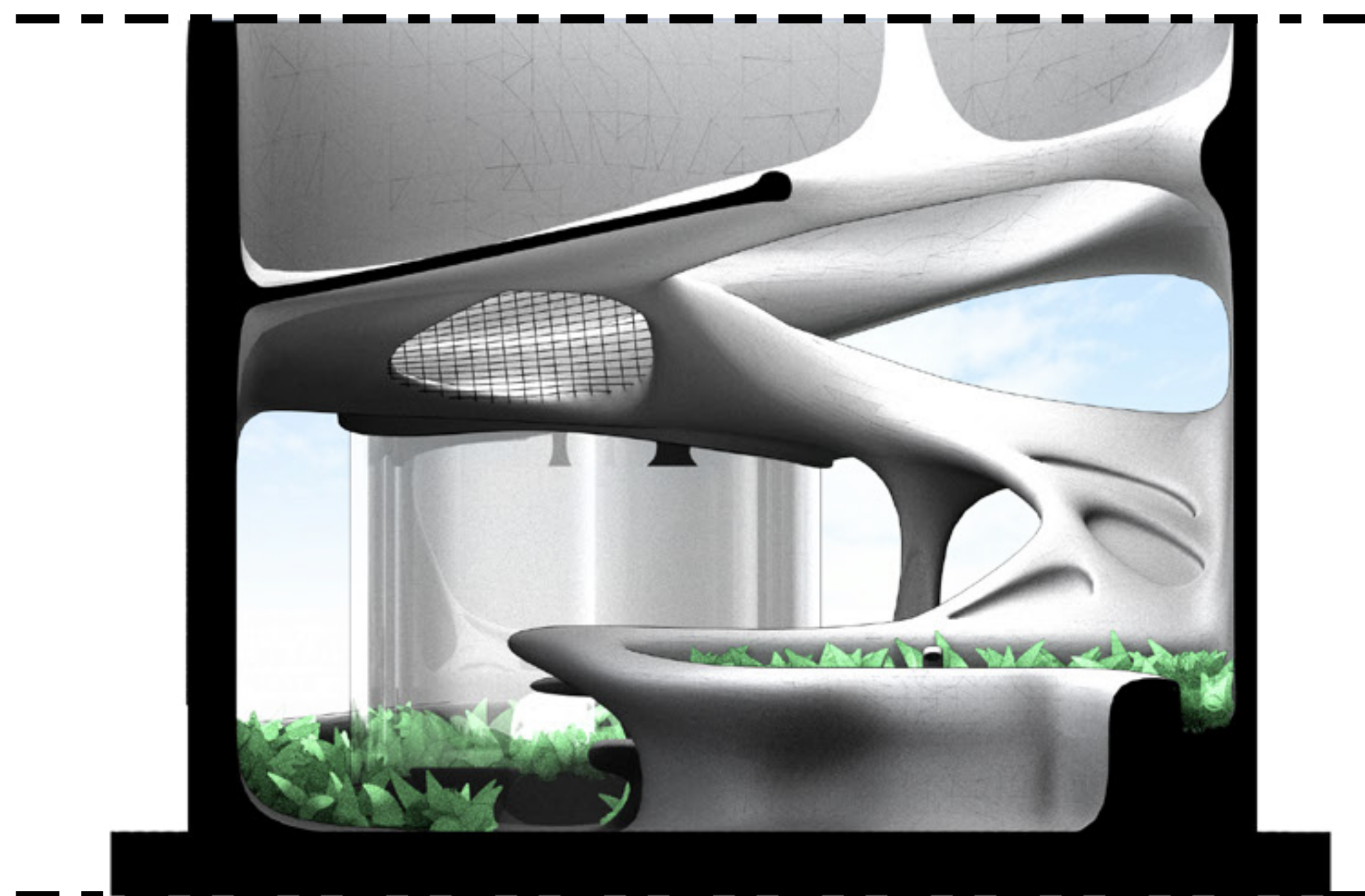


▽ +3800mm

▽ +2900mm

▽ +900mm

▽ +0mm

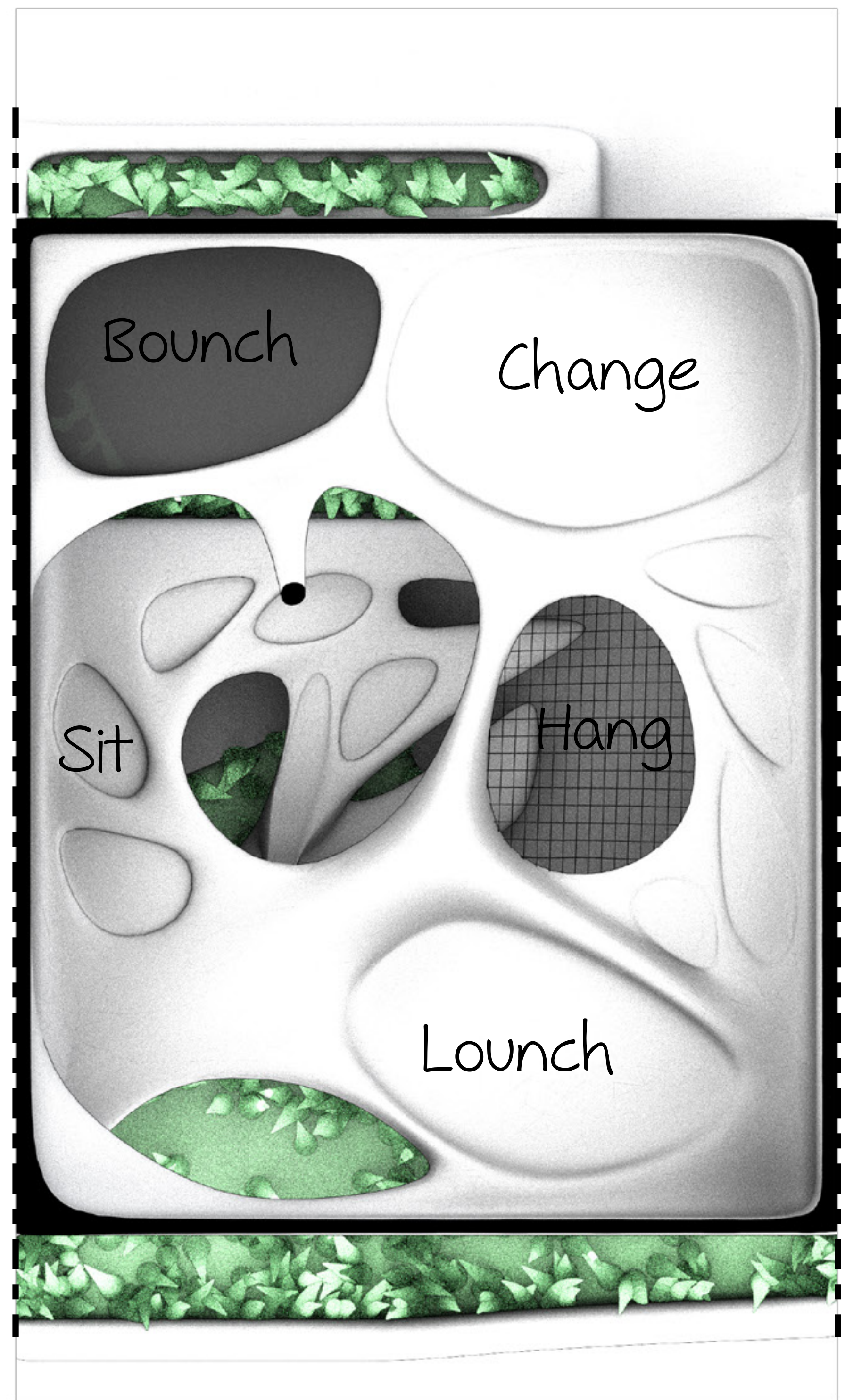
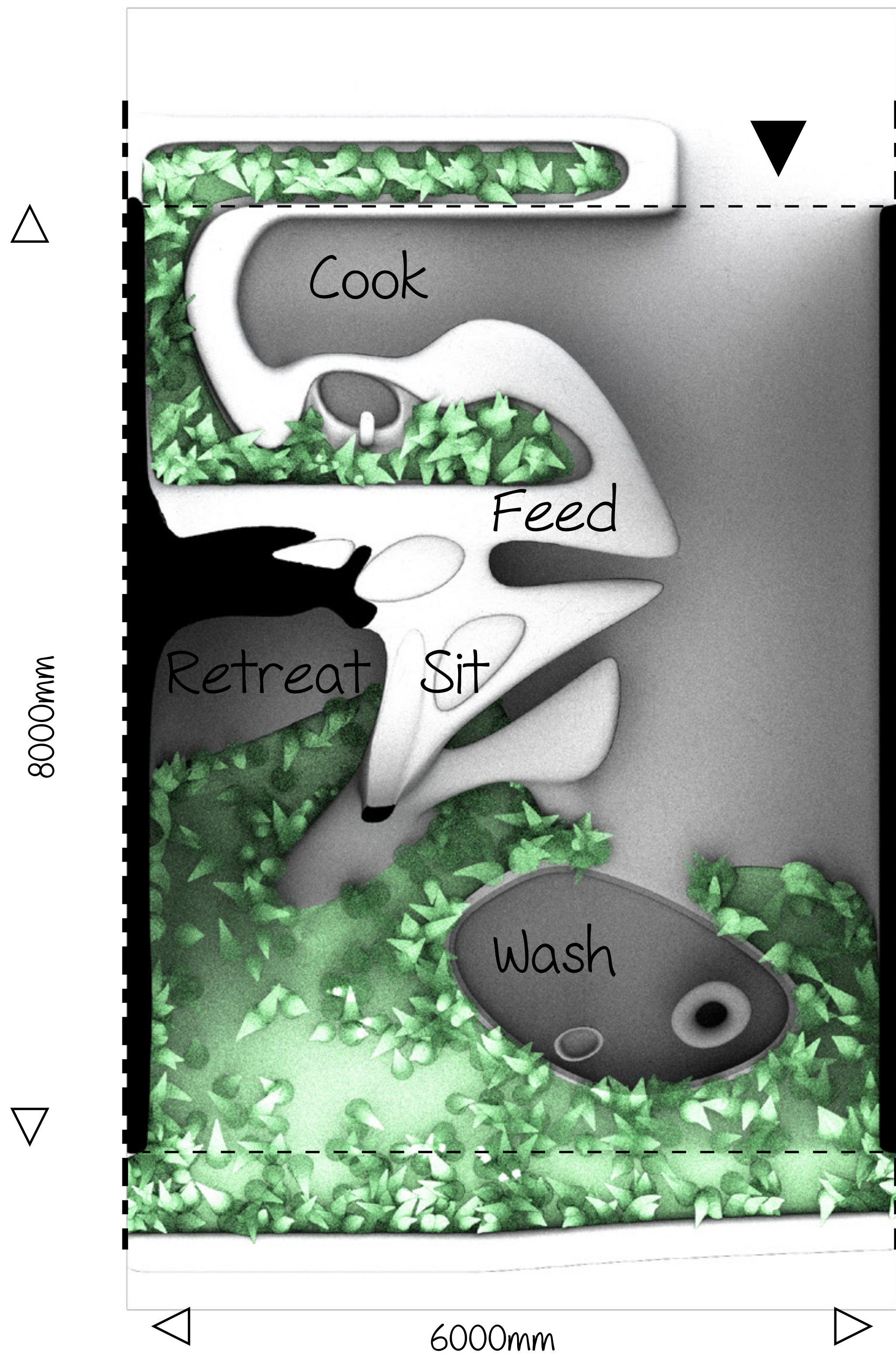


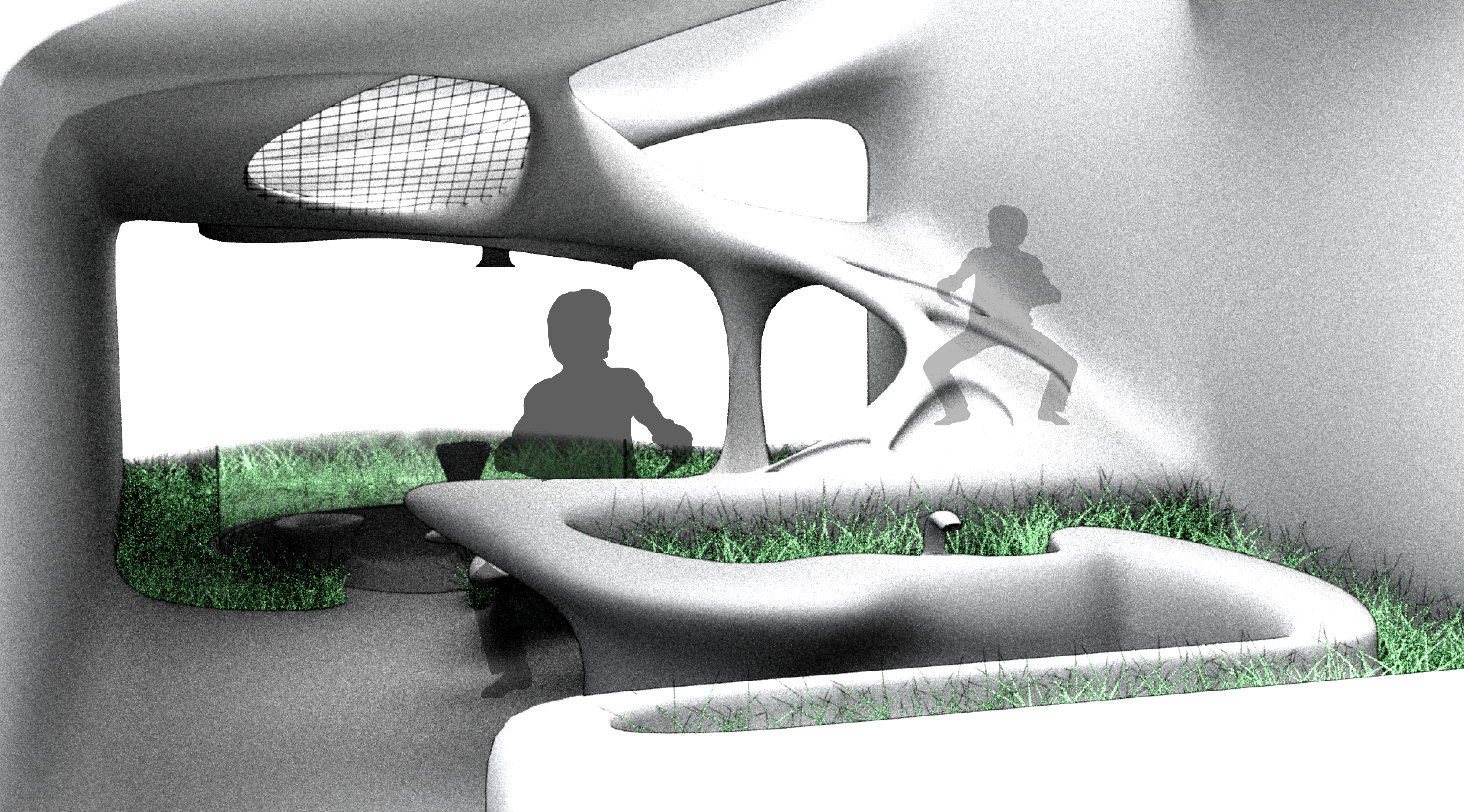
▽ +3800mm

▽ +2300mm

▽ +550mm

▽ +0mm







Thank you! Any questions?

Nice Garden!

