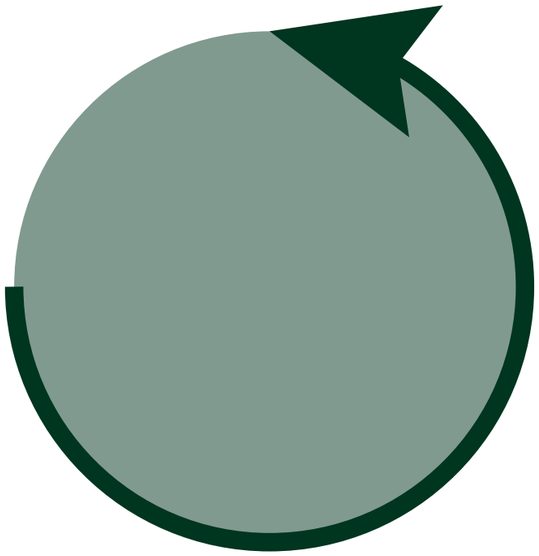
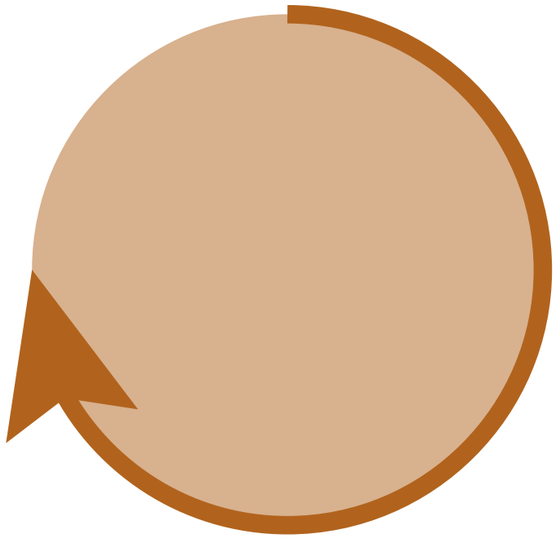
HUMBOLDT - Living with nature in Sloterdijk

Architectural Engineering graduation - Ella Wildenberg

Problem statement



Biodiveristy is declining



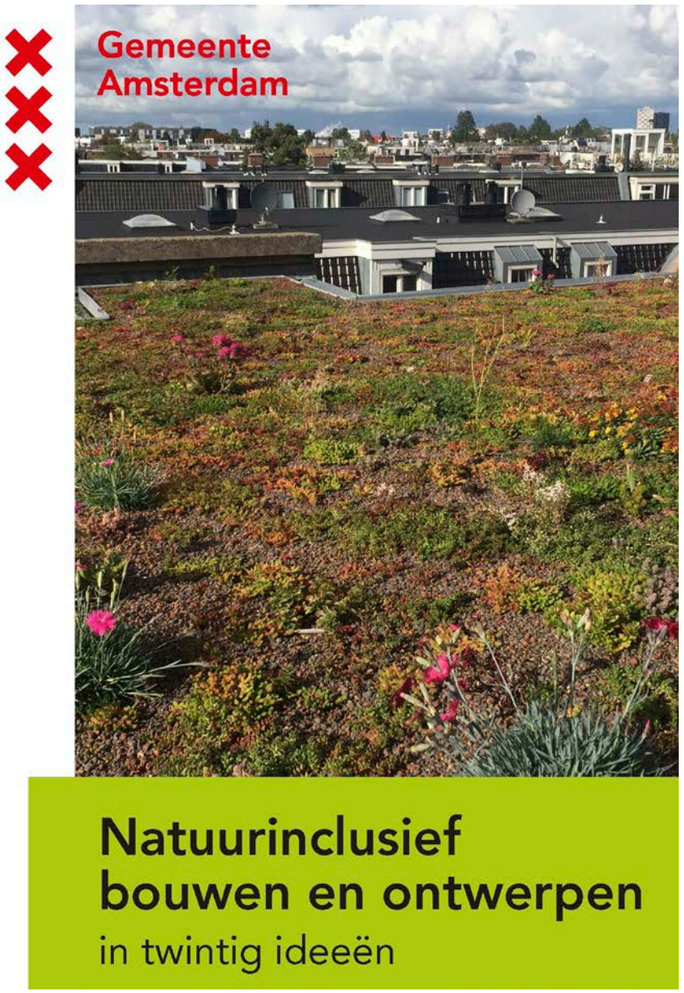
Urbanization is increasing

Benefits of greenery

- Reduced stress and anxiety
- Improved rest and low blood pressure
- Improved concentration and productivity
- Faster recovery time
- Cleaner air
- Indirect reduced weight risks

Municipality of Amsterdam

Sustaining and enhancing green connections in the city



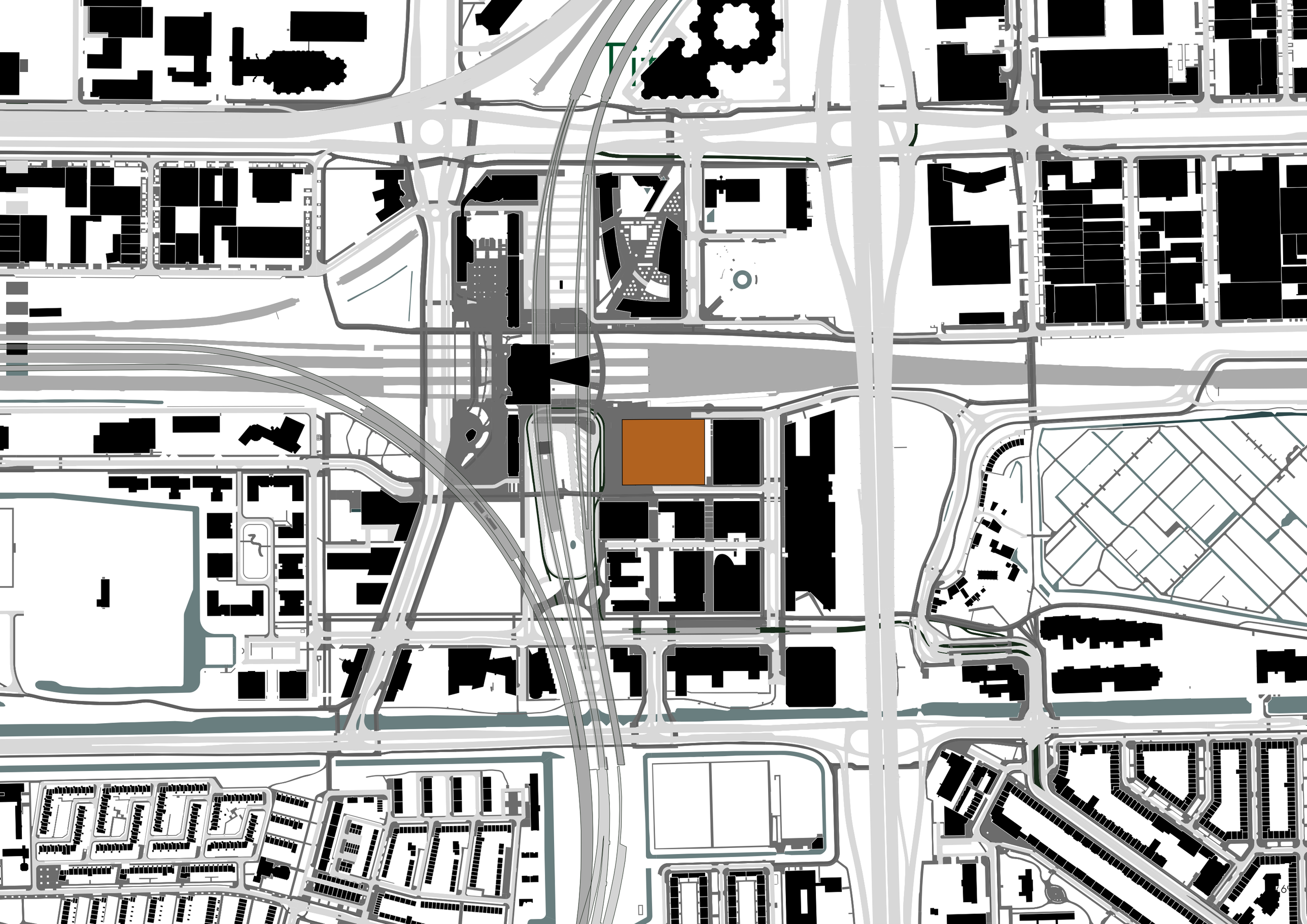
Nature inclusive design to be the norm for (re)development

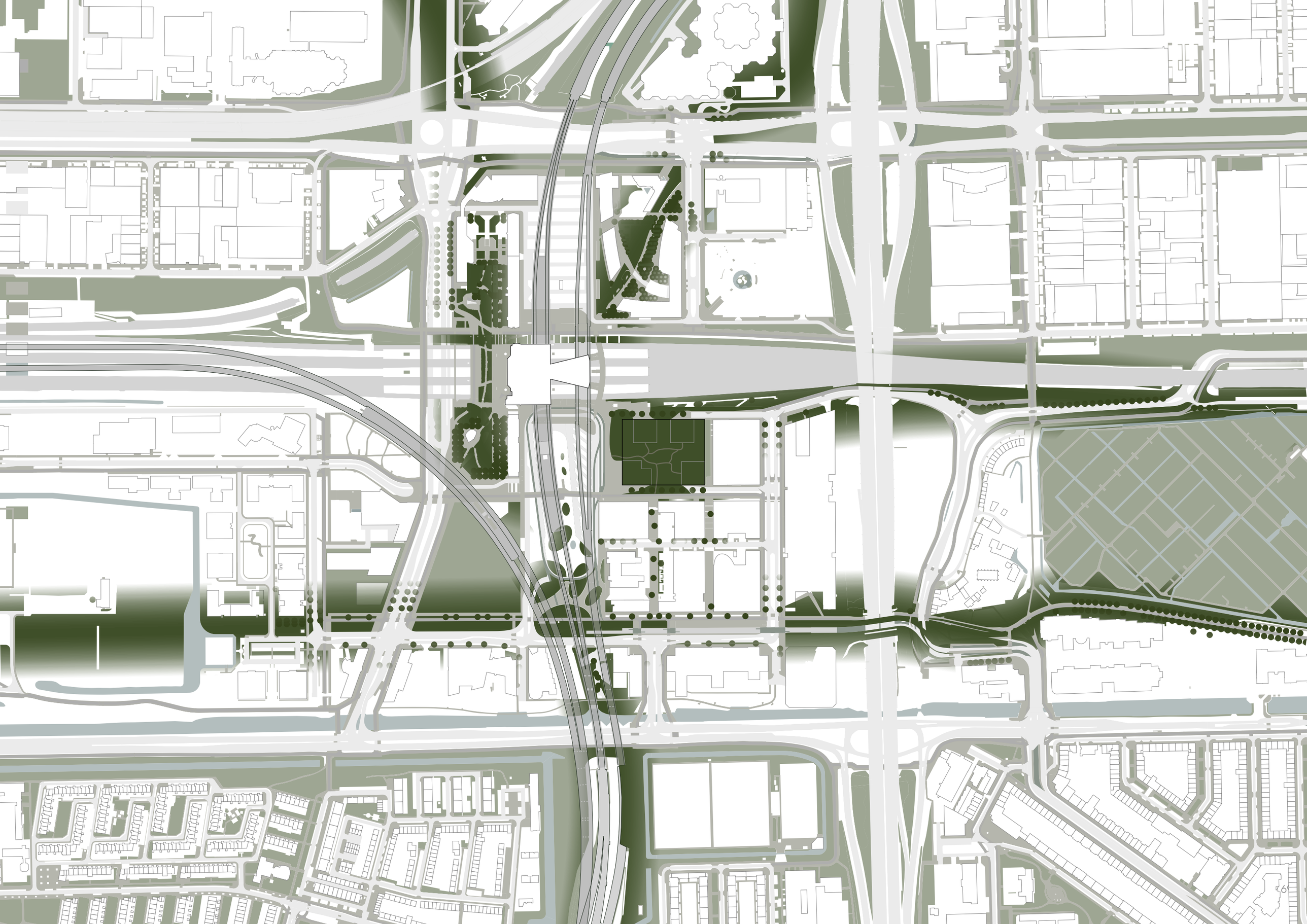
Defining nature inclusive design

Nature inclusive design means that there is significant attention for the natural environment in the early stages of the design process.

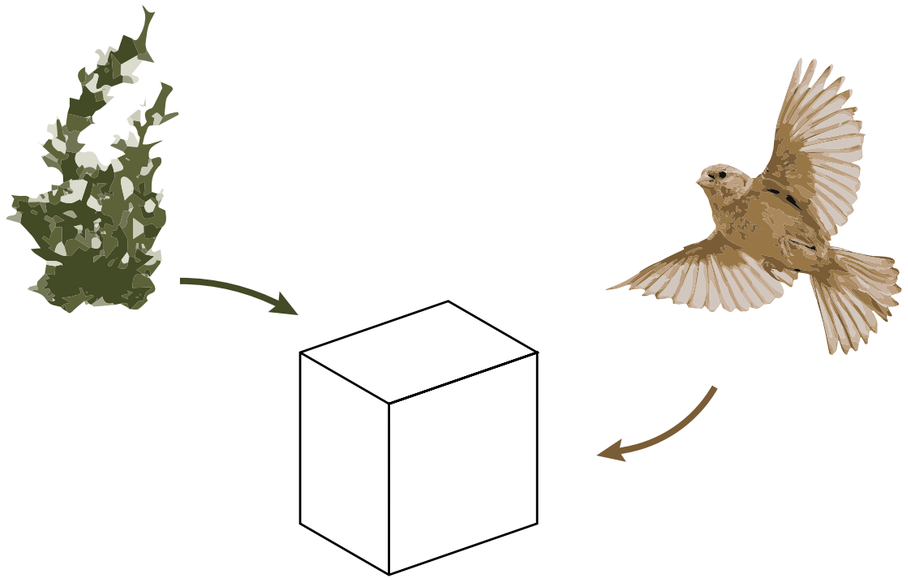
What do animals and plants need to survive in a dense urban context? How can we as architects provide the right circumstances for humans and animals to coxist in this space?

Titel

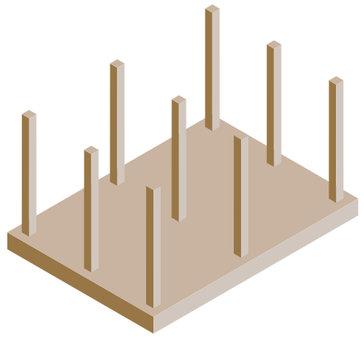




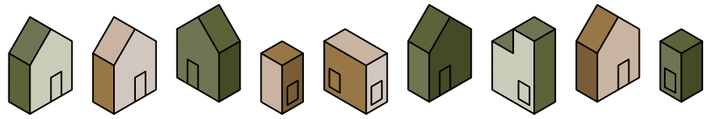
Design principles



(re)introducing nature in the built environment



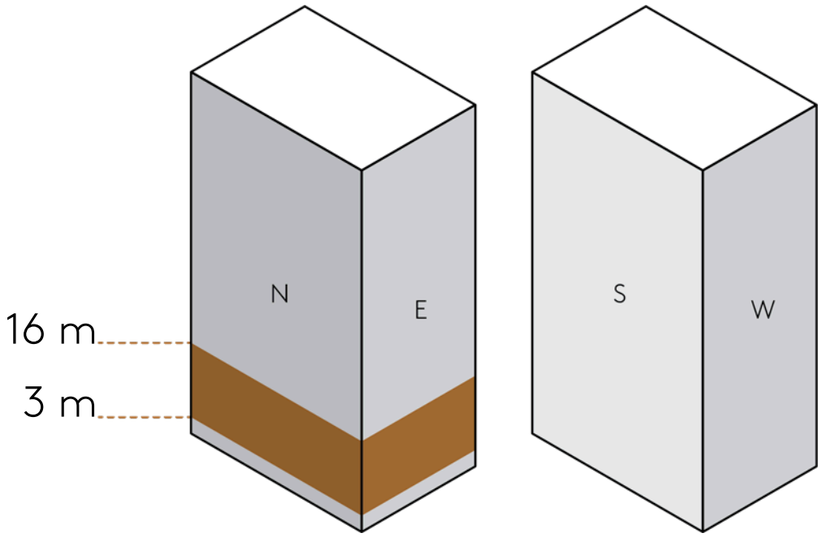
sustainable construction



mixed-use community

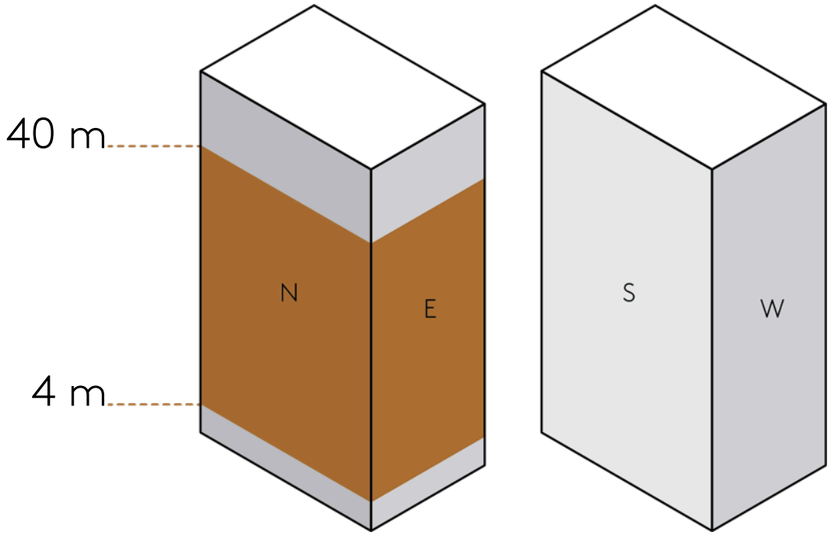
Target species

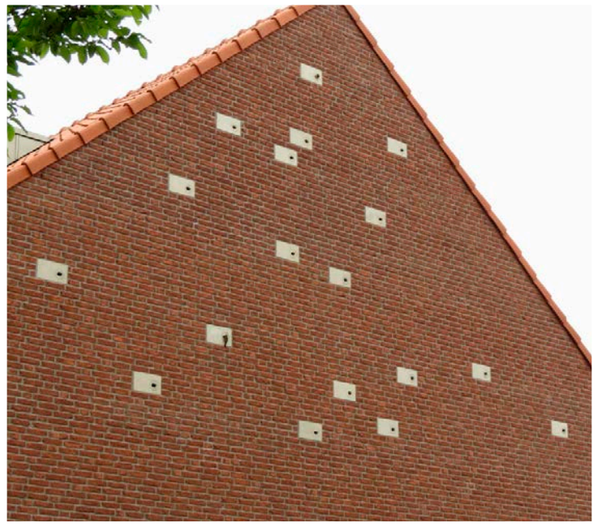
House Sparrow, *Passer Domesticus*



Target species

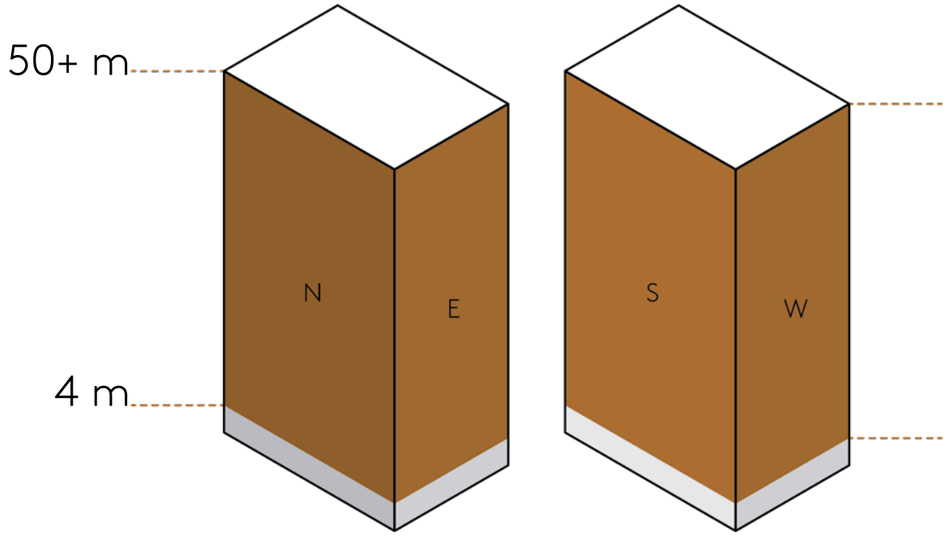
Common Swift, *Apus Apus*

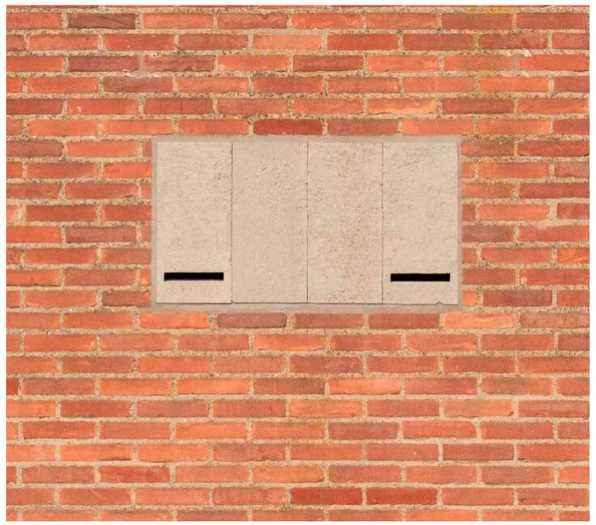




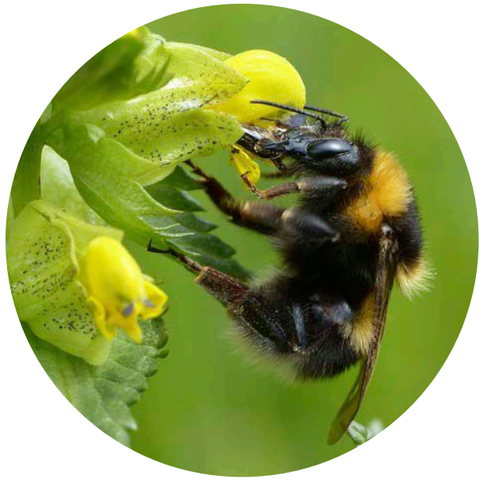
Target species

Common Pipistrelle, *Pipistrellus Pipistrellus*

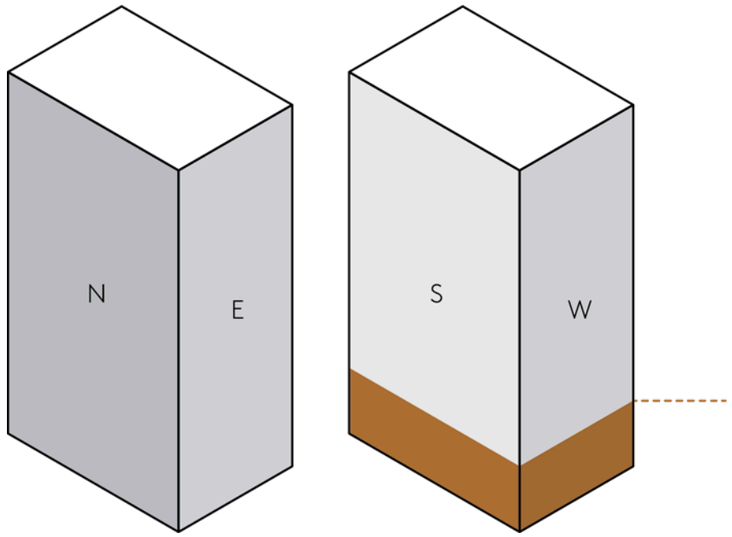


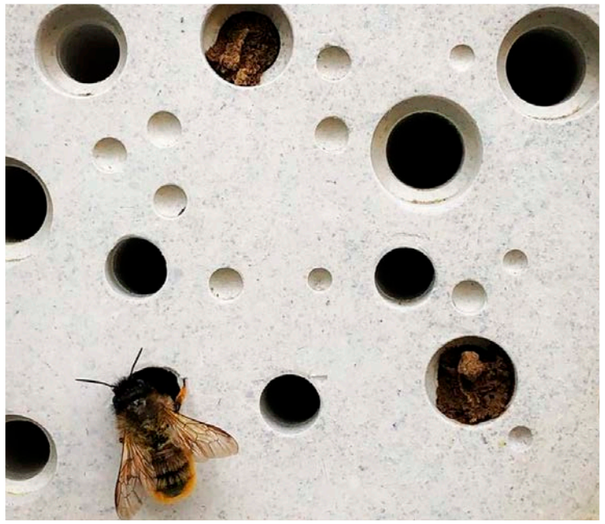


Target species

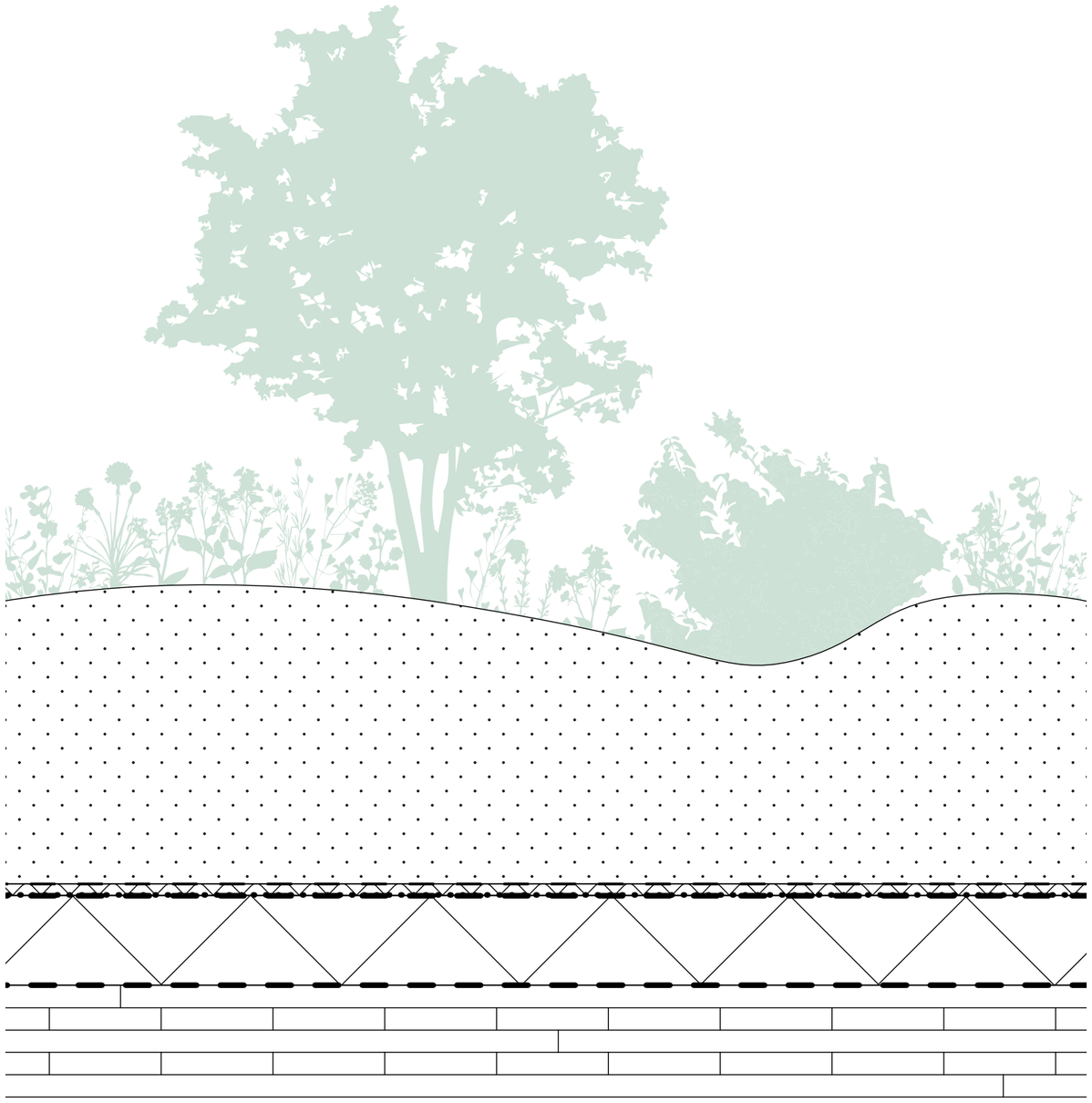


Insects, such as bees and butterflies

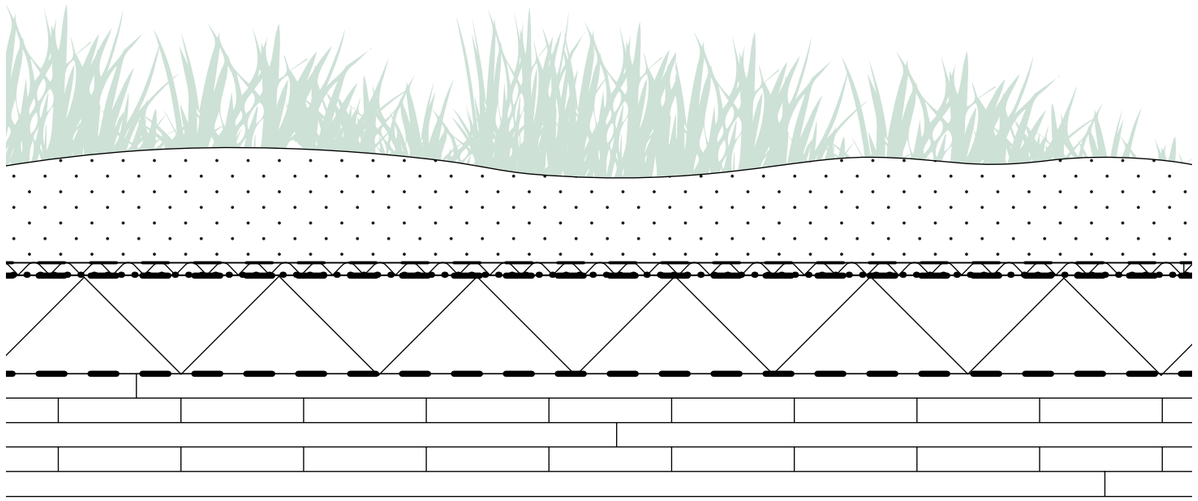




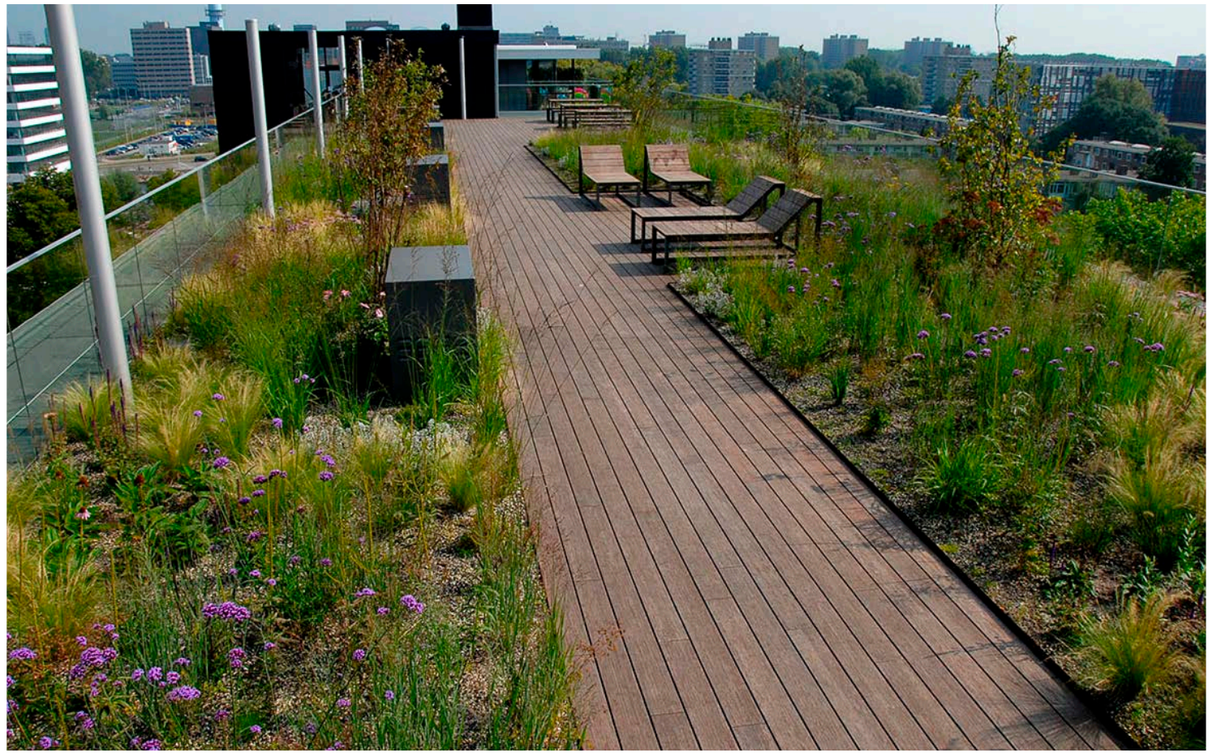
Intensive green roof

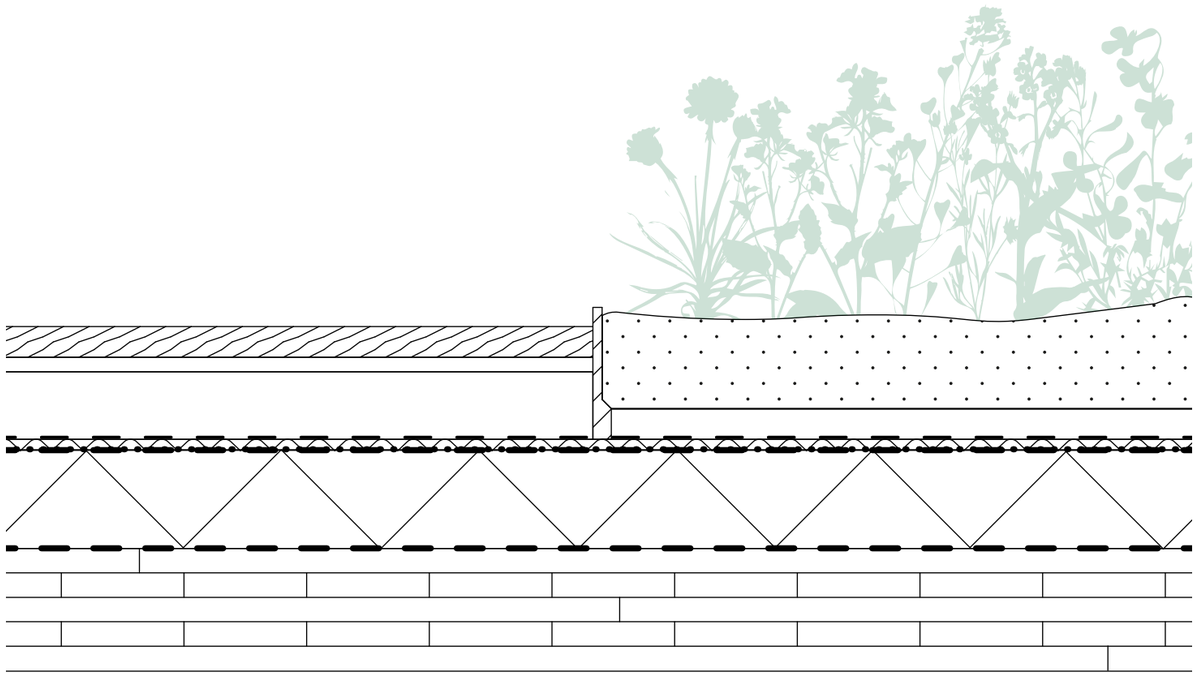


Extensive green roof

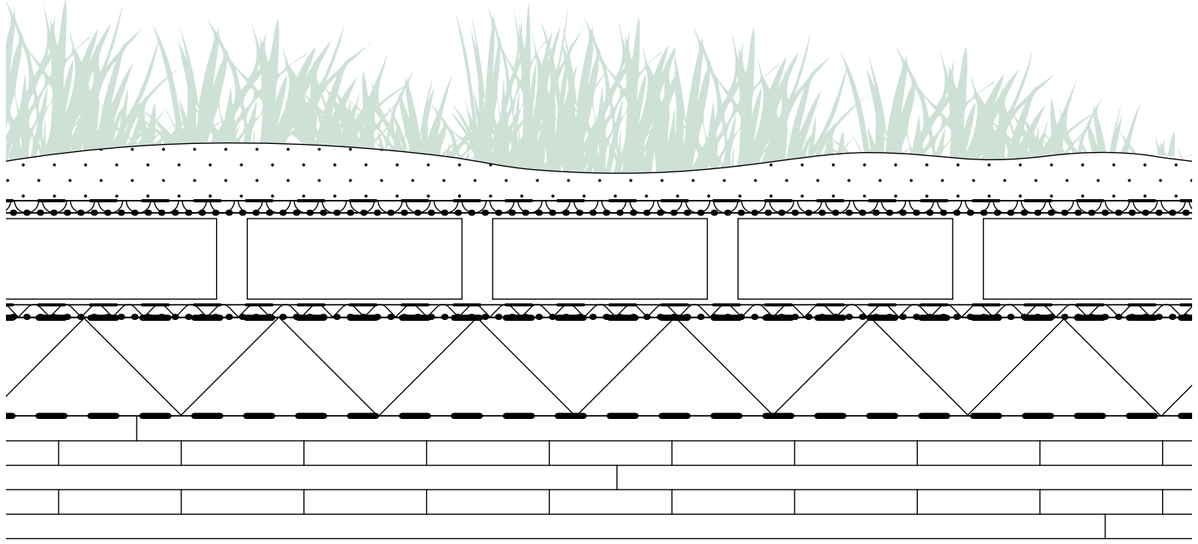


Utility roof

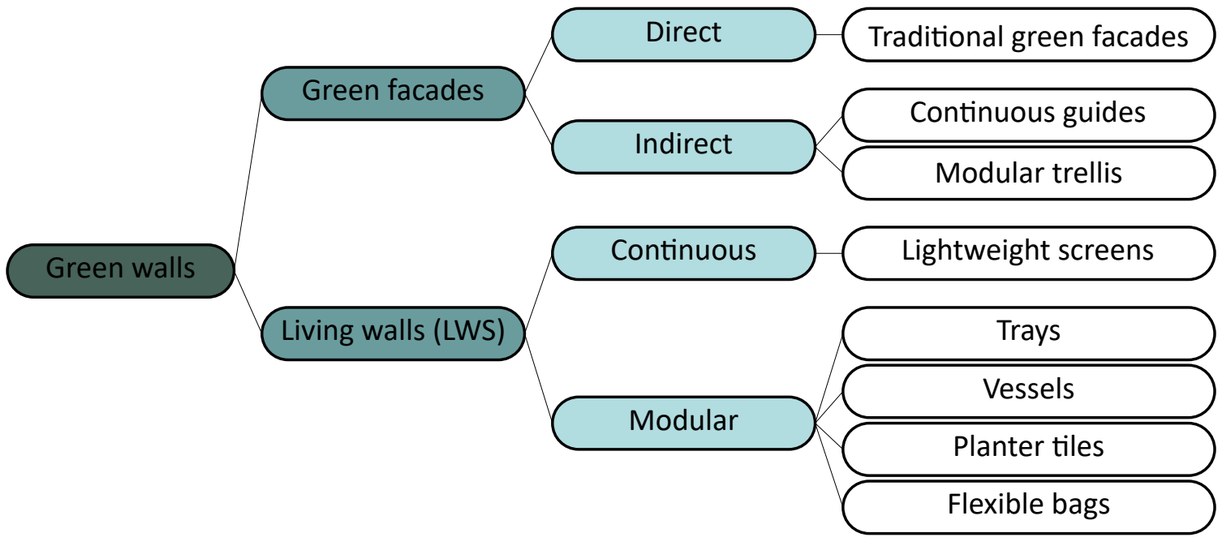


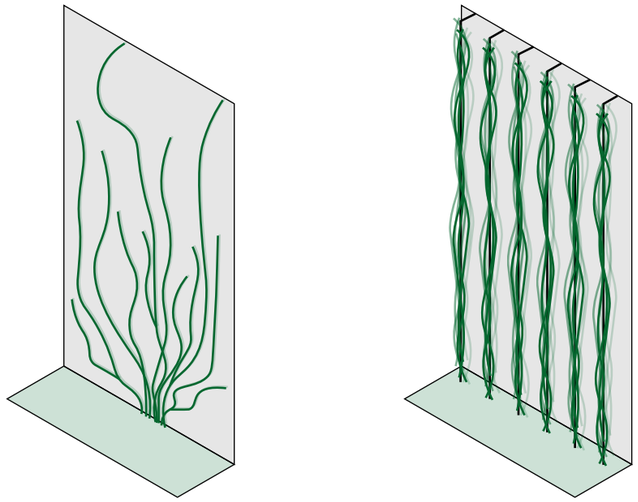


Green-blue roof

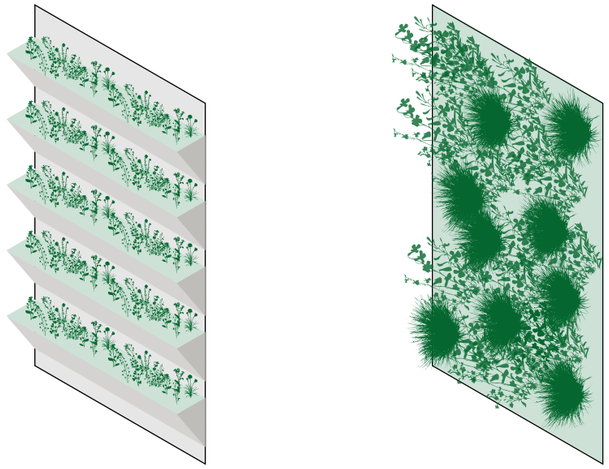


Green wall types



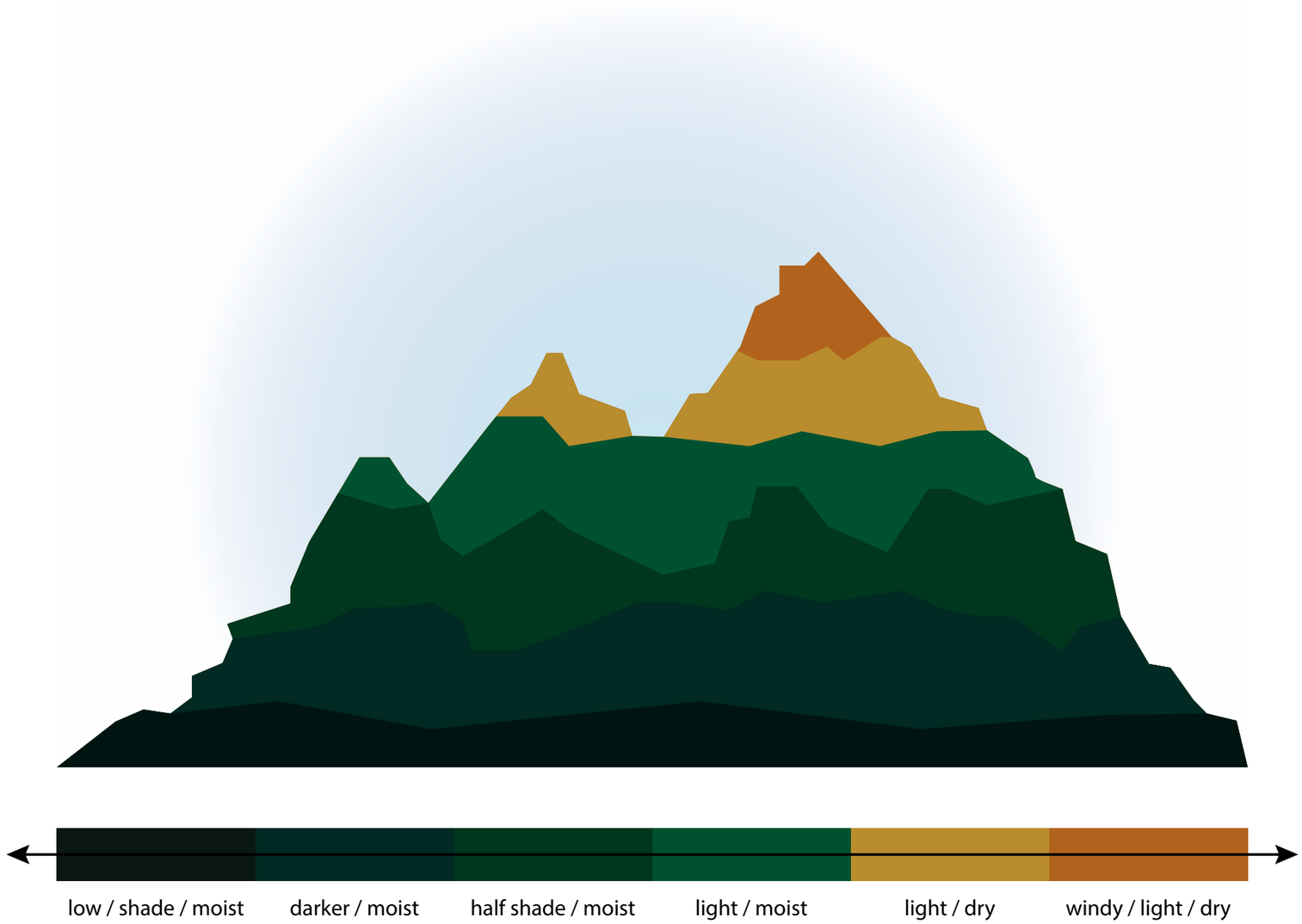


Green facades

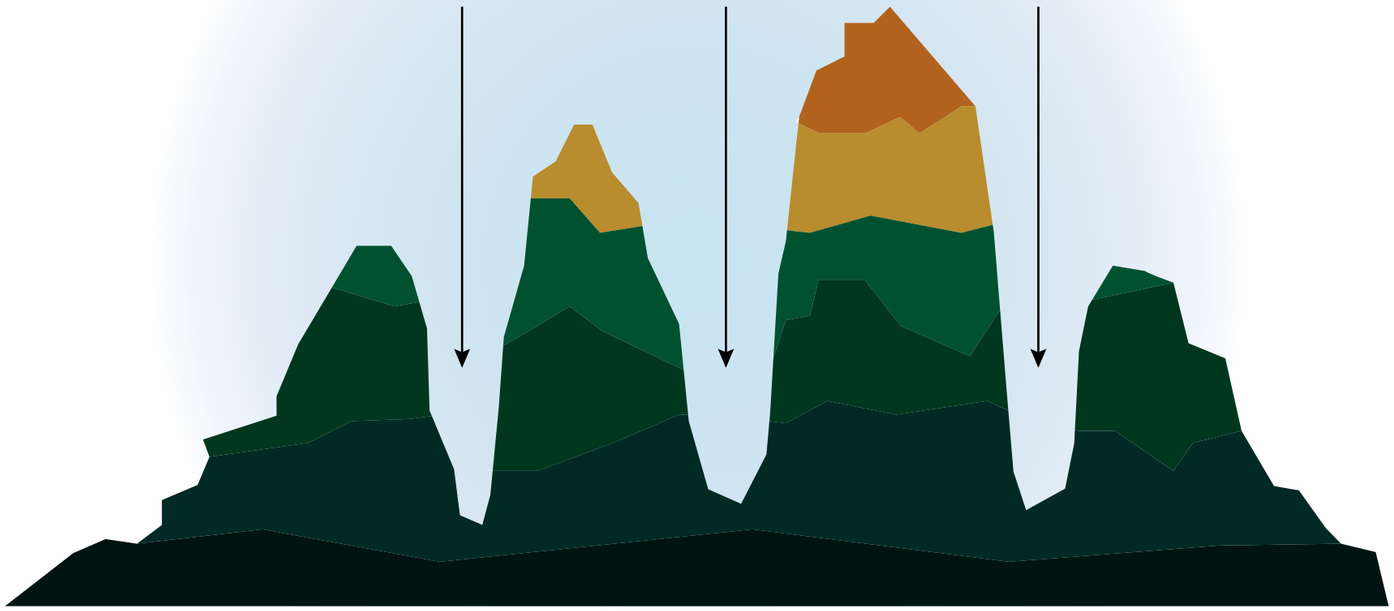


Living walls

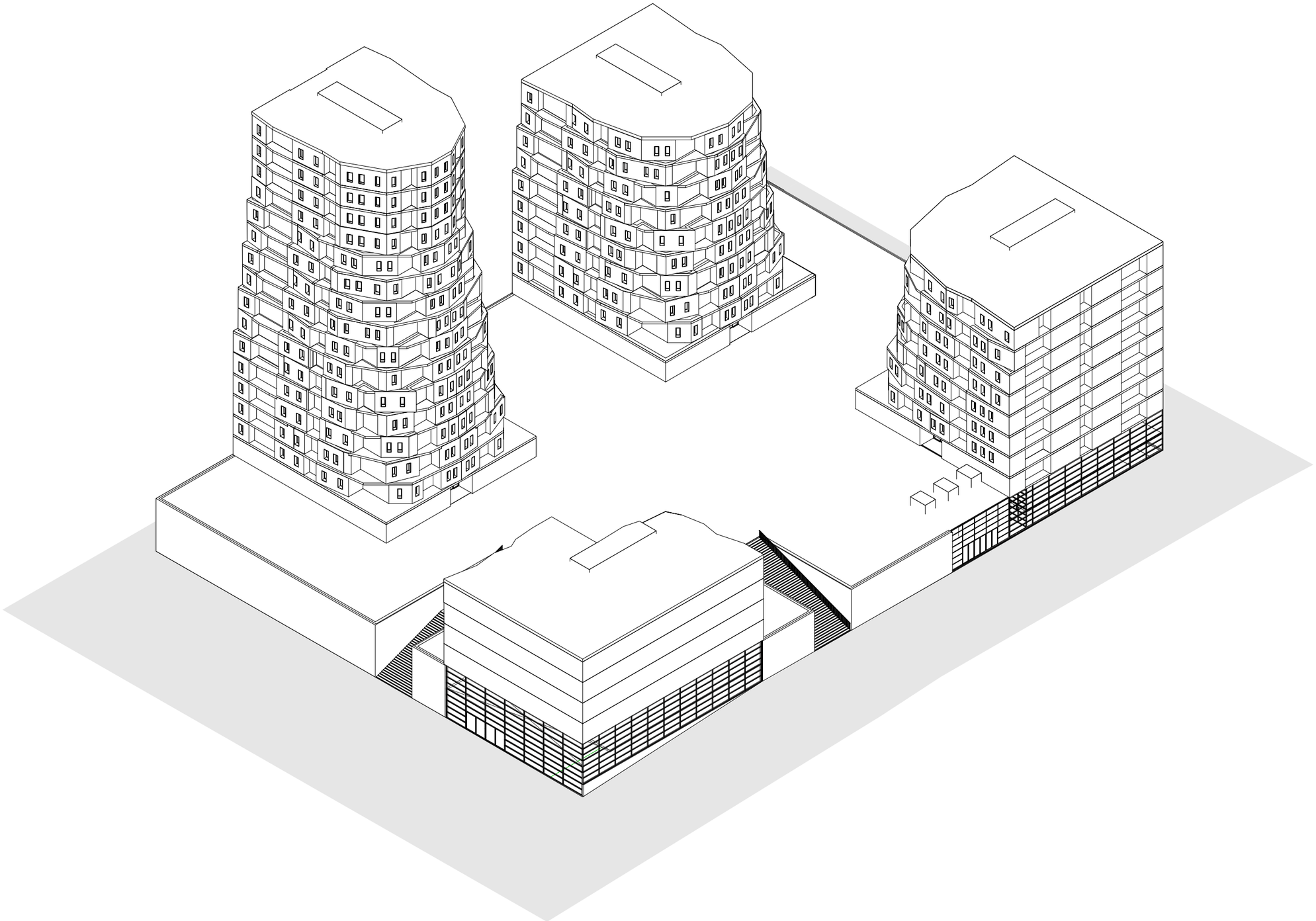
Mountain landscape



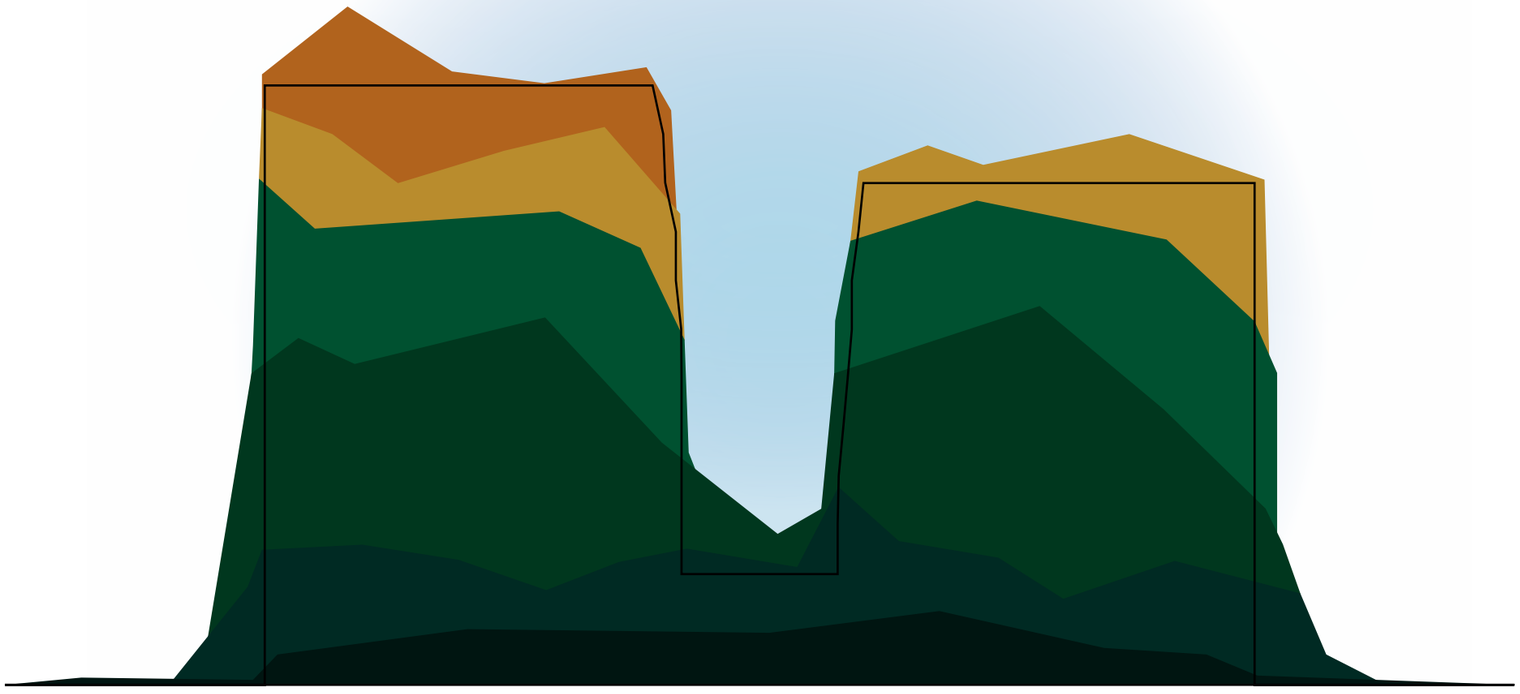
Creating openings



Creating a shape

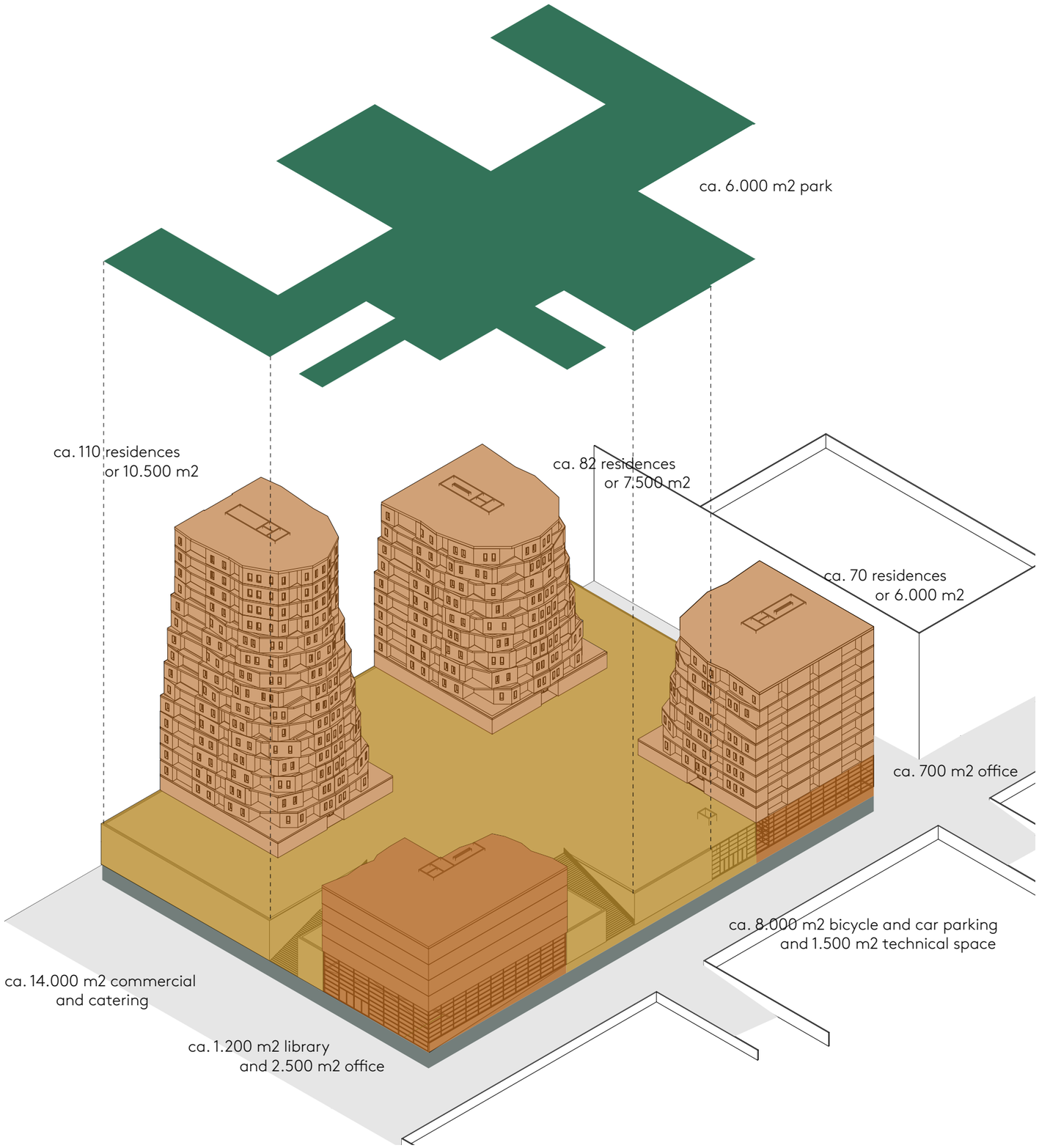


Mountain landscape on building



low / shade / moist	darker / moist	half shade / moist	light / moist	light / dry	windy / light / dry
Vertical surfaces					
facade garden	supp. facade garden	living wall system			stoney facade
Horizontal surfaces					
blue-green	intensive (roof) forest	intensive natural roof	extensive green roof	brown roof	pebble roof

Functions


ca. 6.000 m2 park
ca. 110 residences
or 10.500 m2
ca. 82 residences
or 7.500 m2
ca. 70 residences
or 6.000 m2
ca. 700 m2 office
ca. 8.000 m2 bicycle and car parking
and 1.500 m2 technical space
ca. 14.000 m2 commercial
and catering
ca. 1.200 m2 library
and 2.500 m2 office

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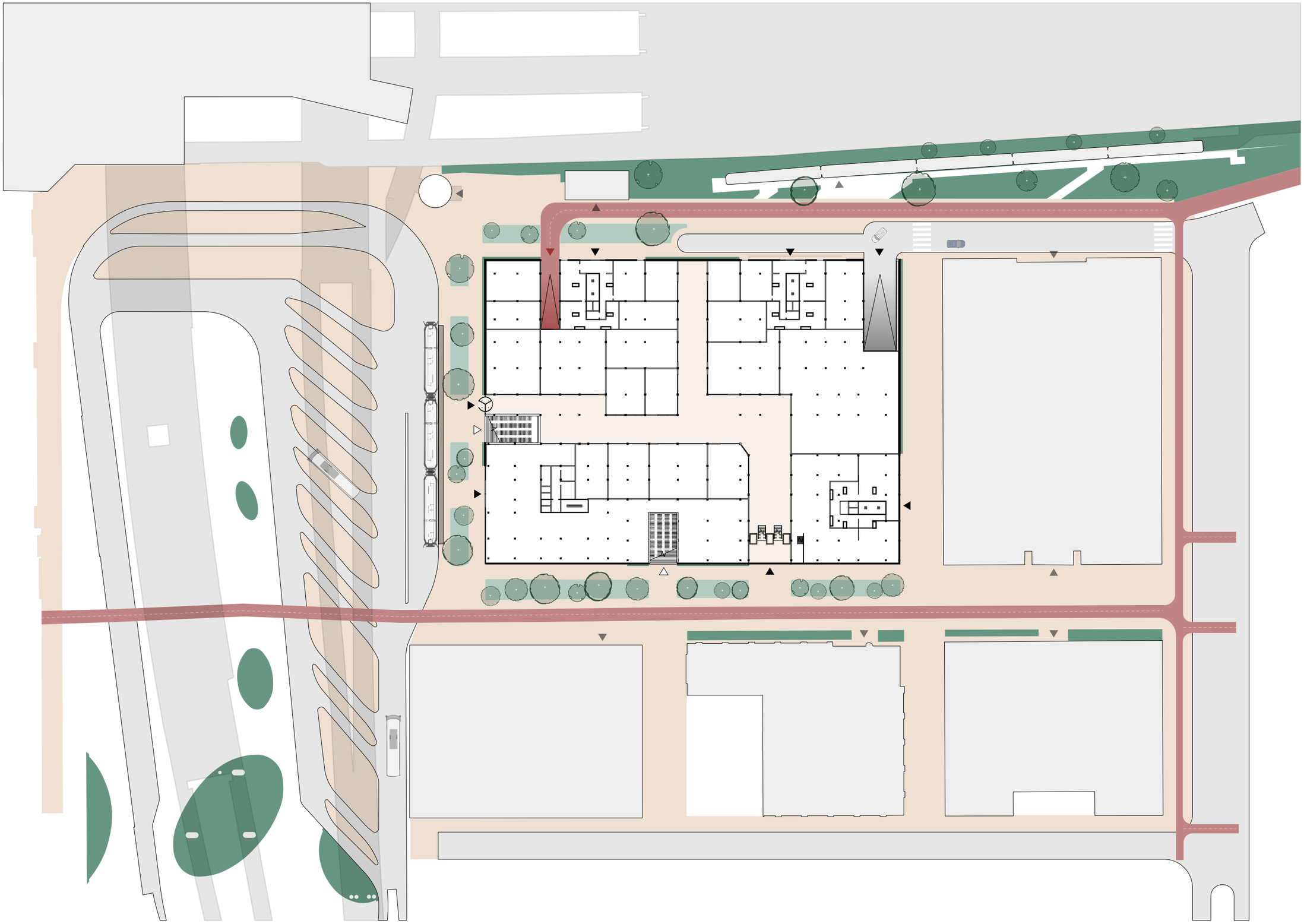

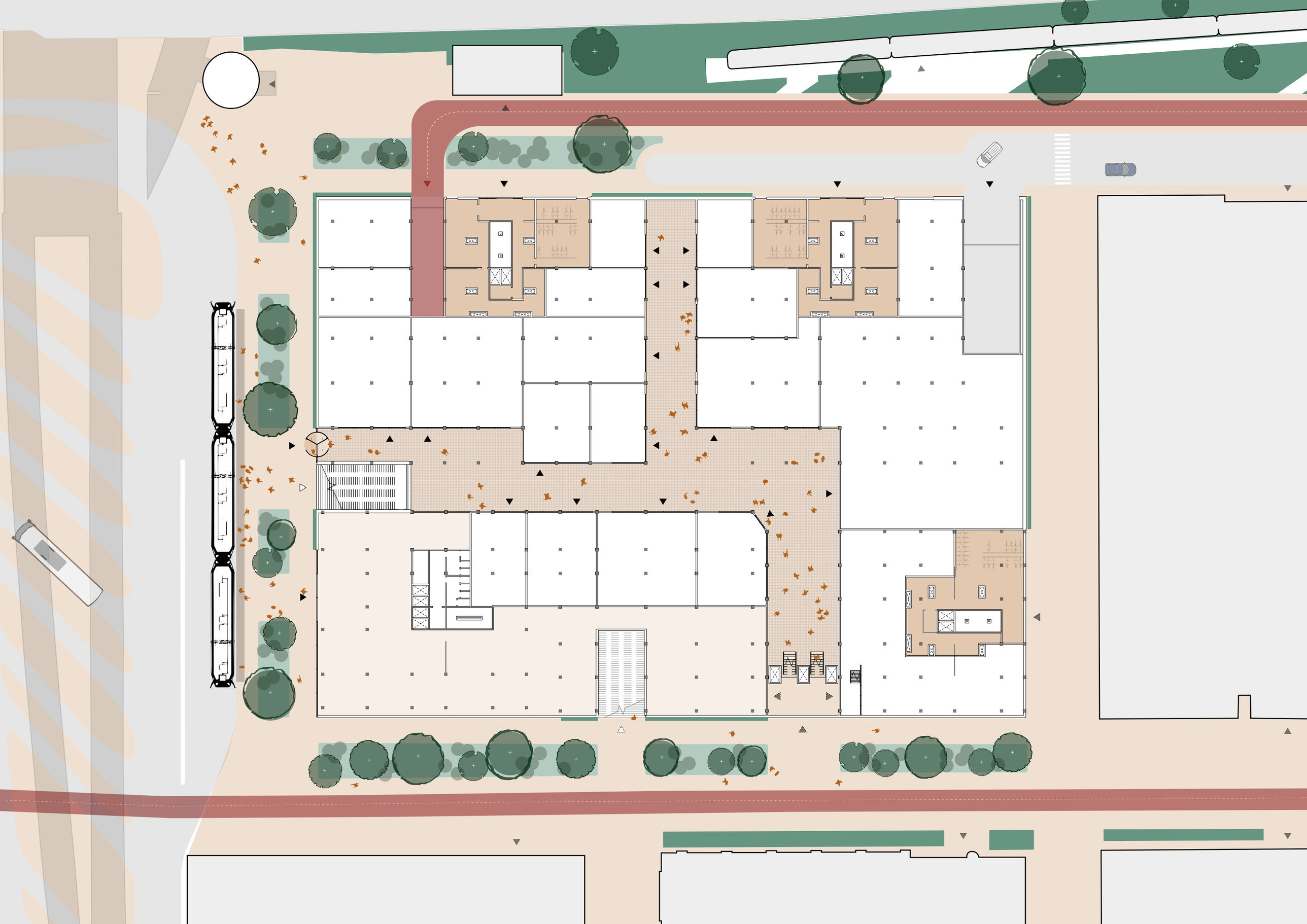

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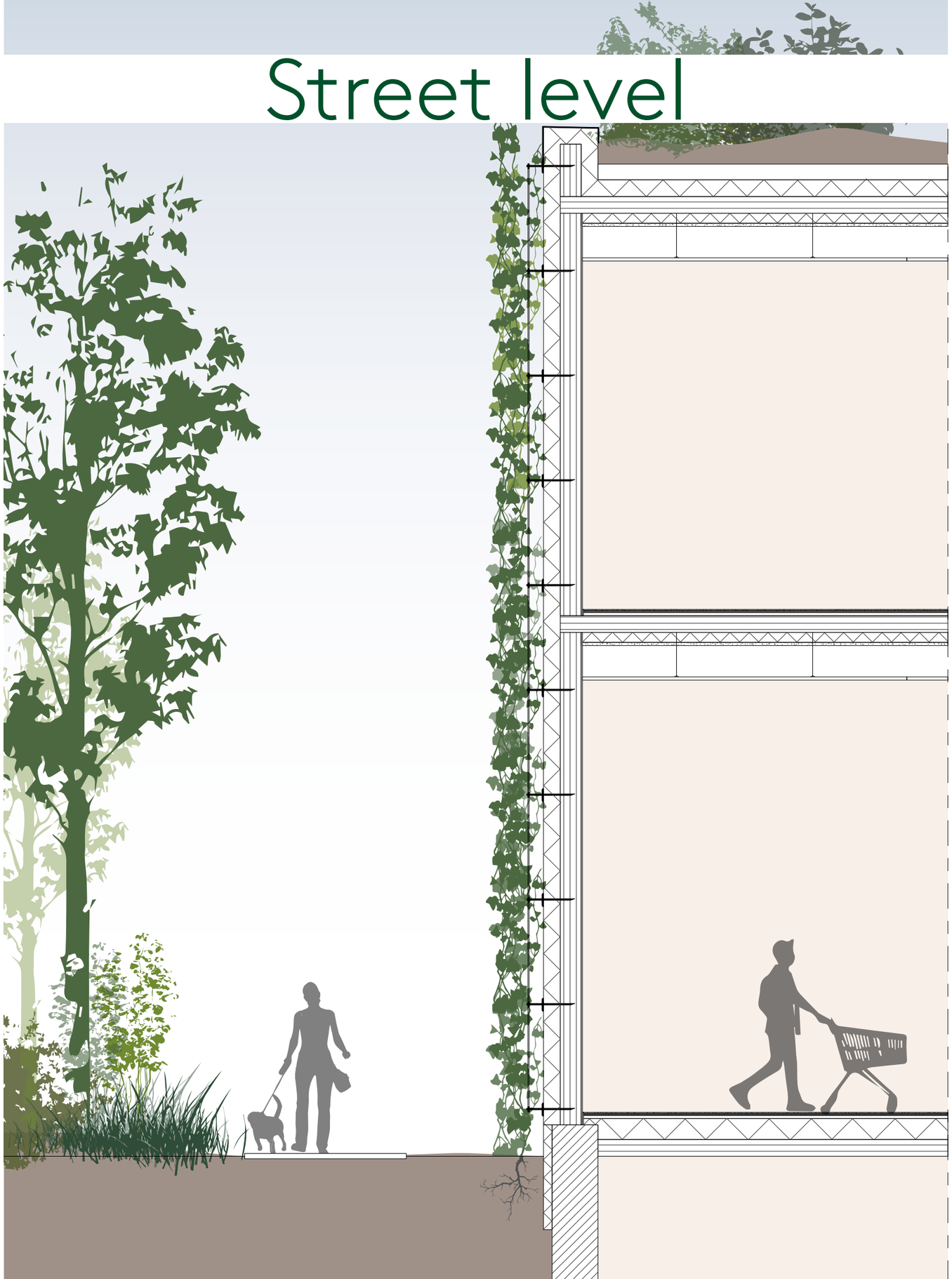
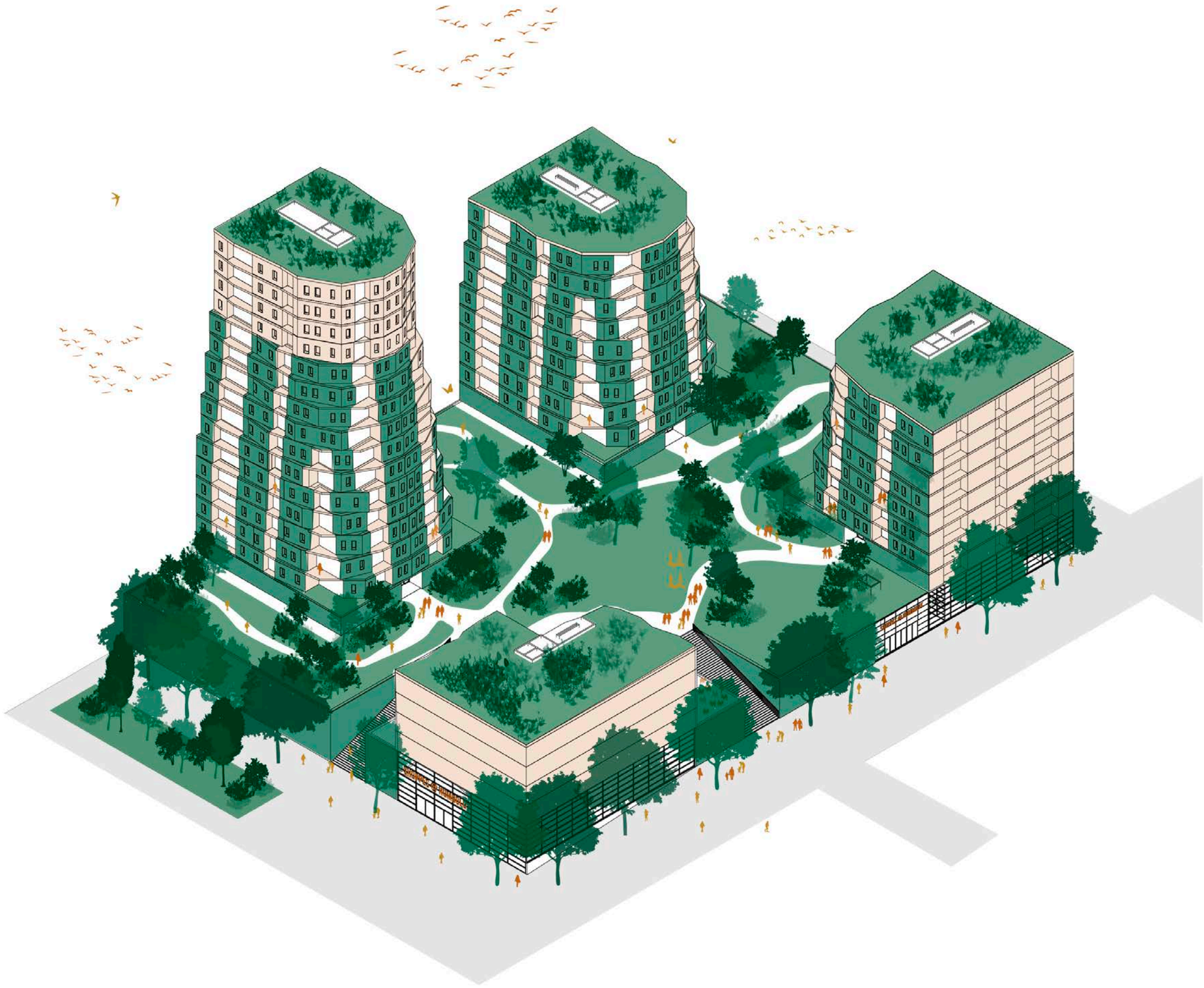
ppa K
ecomondo.nl
LESS WASTE MORE HEALTH
pieter pot
lland&Barrett

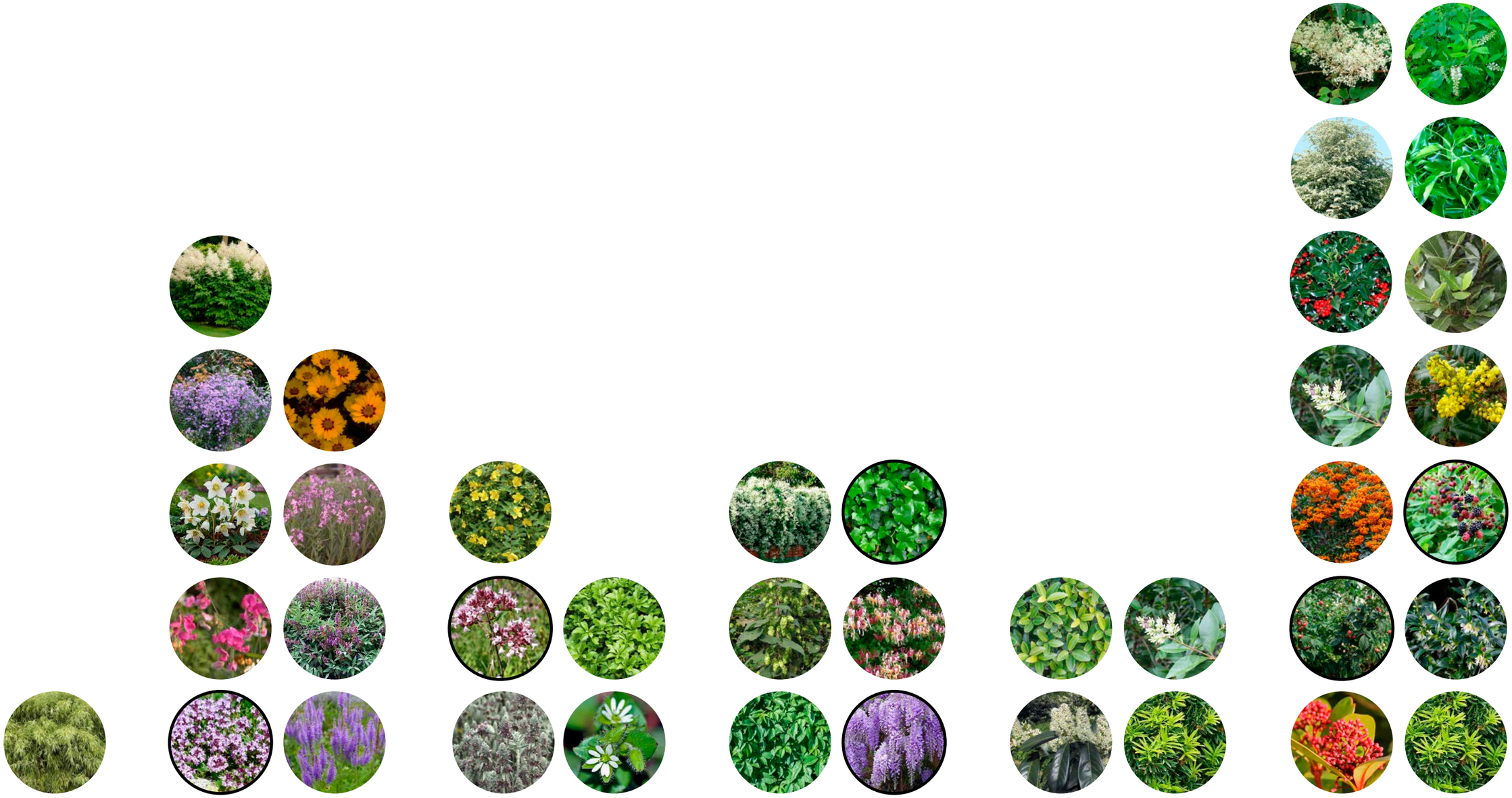
Street level



Green building envelope



Plants



Grasses

Perennial plants

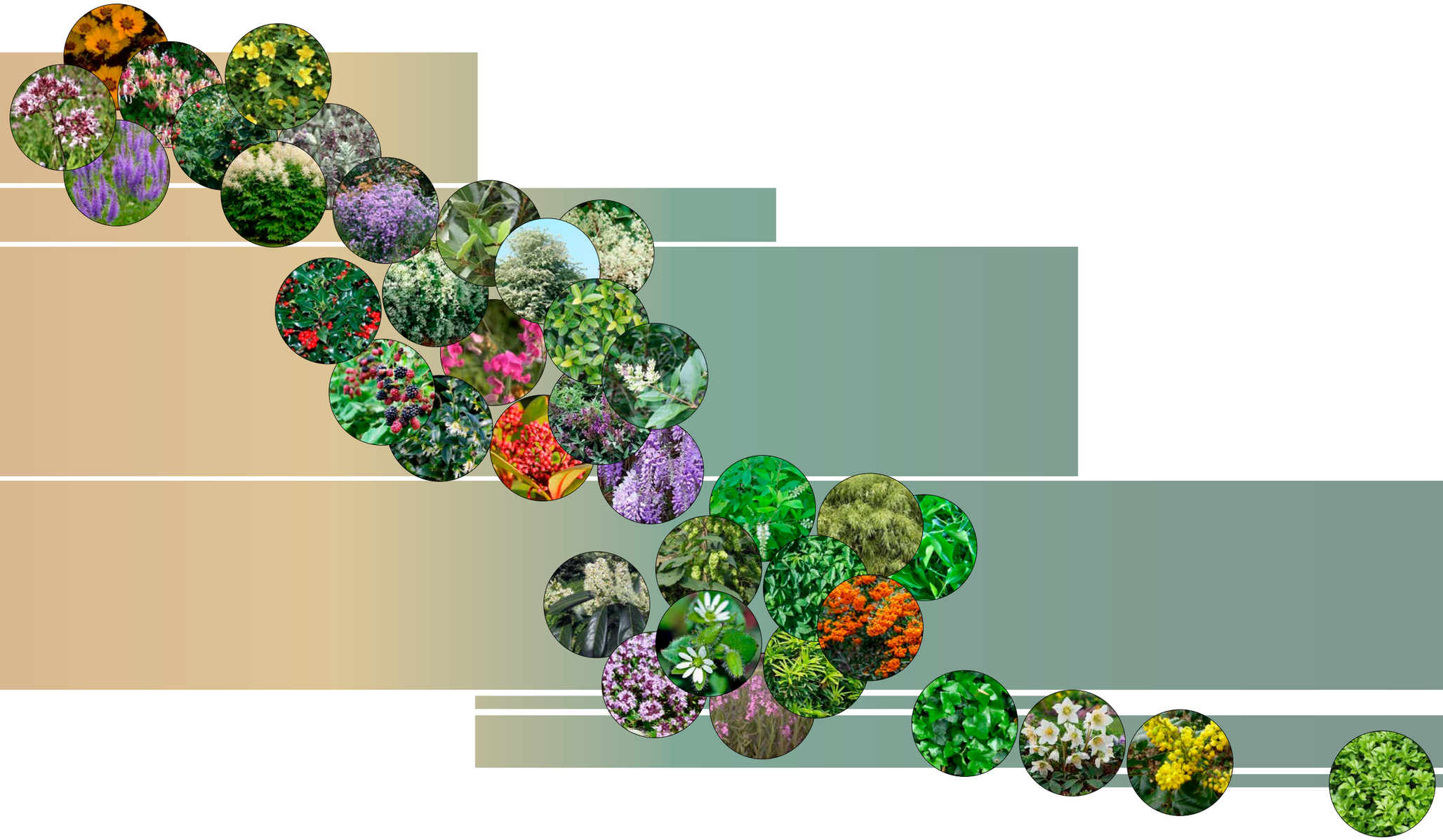
Ground cover plants

Climbing plants

Hedges

Shrubs

Plants



Full sun

Partial shade

Full shade

Location of plants on building envelope

Full sun
Partial shade
Full shade

Trees for bees and butterflies

Acer Campestre


12

Acer Platanoides


20-30

Acer Pseudoplatanus


25-30

Aesculus Hippocastanum


20-25

Ailanthus Altissima


20-25

Castanea Sativa


20-30

Cupressus Sempervirens


15

Gleditsia Triacanthos


20-25

Koelreuteria Paniculata


5-17

Robinia Pseudoacaia


20-25

Styphnolobium Japonicum


15-20

Tetradium Daniellii


10-12

Tilia


20-25

Trees for birds

Alnus Cordata

10-15

Alnus Glutinosa

10-20

Amelanchier Alnifolia

5-7

Betula Pendula

15-20

Betula Pubescens

15-20

Corylus Avellana

5-7

Euonymus Europaeus

3-6

Hippophae Rhamnoides

6

Malus

4

Prunus Avium

15-20

Sambucus Nigra

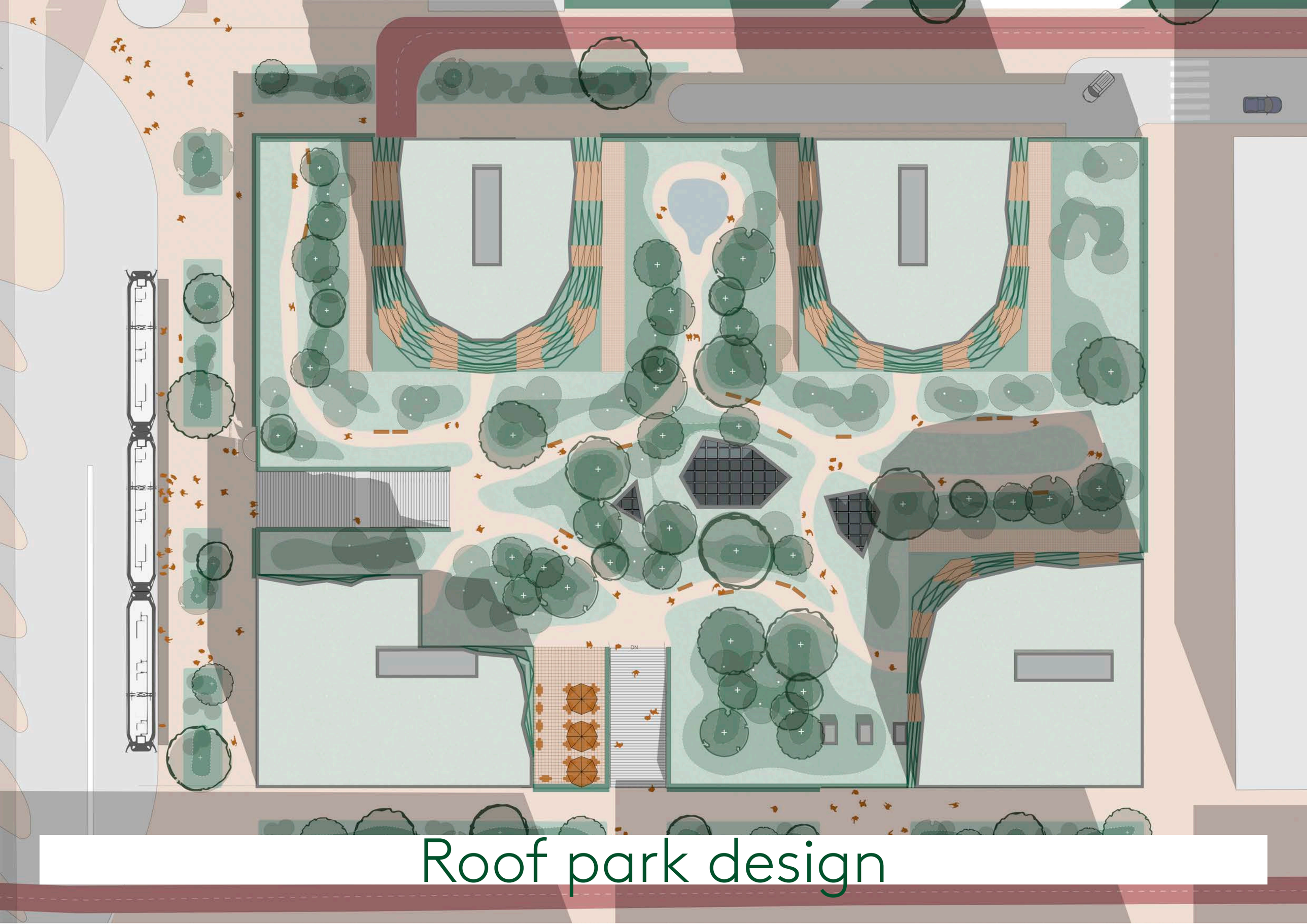
1-7

Sorbus Aria

8-12

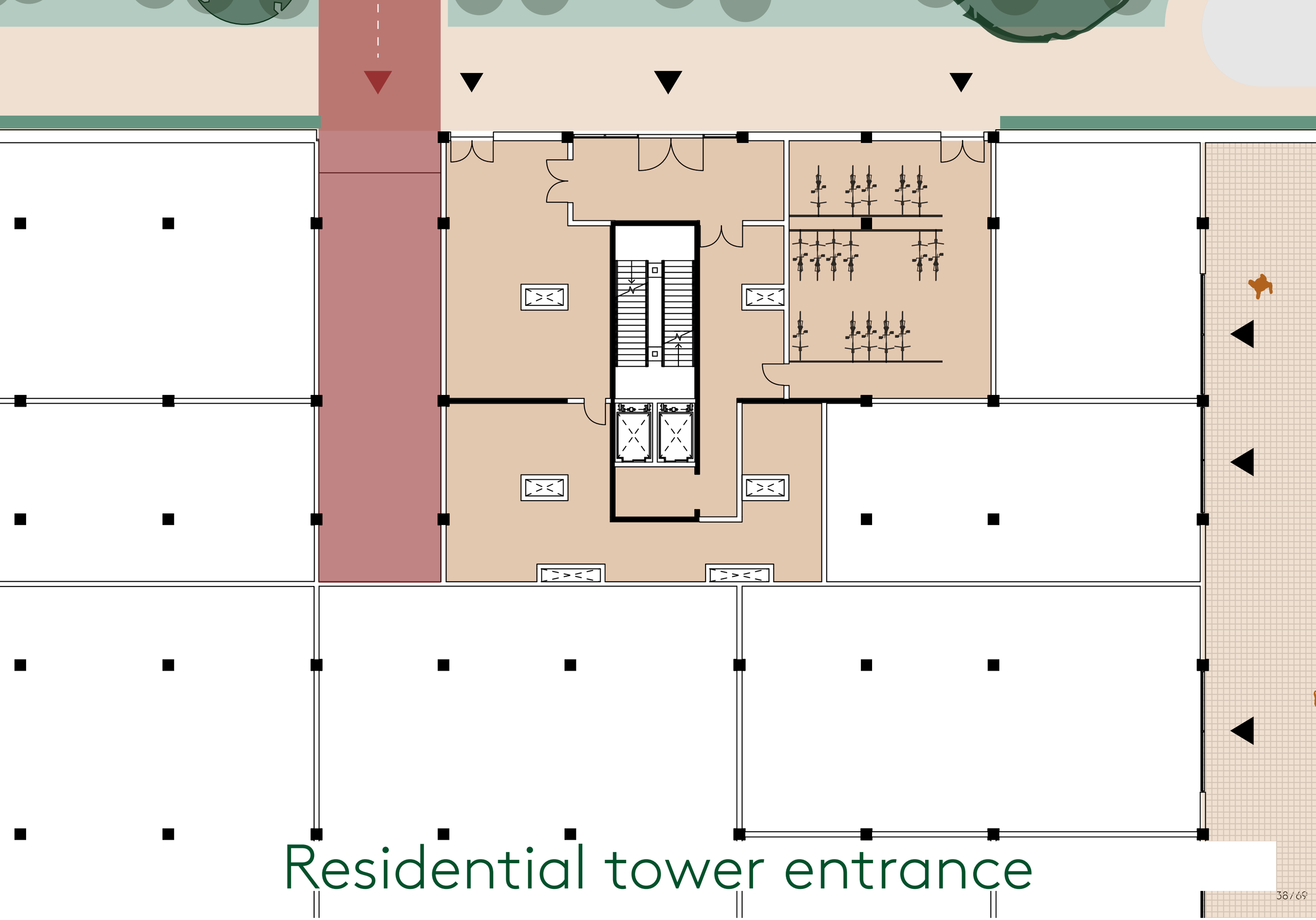
Viburnum Opulus

2-3



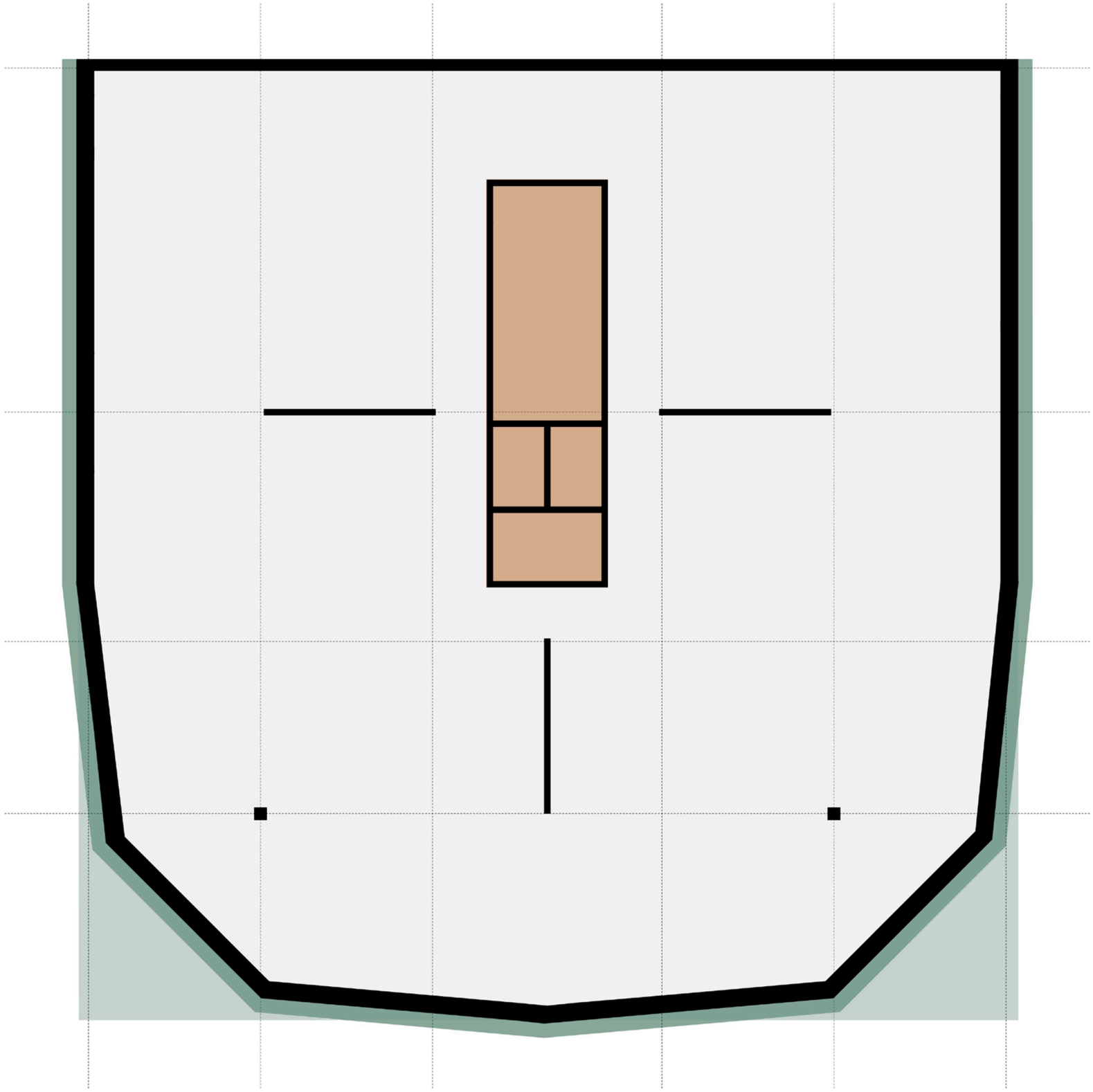
Roof park design

Roof park



Residential tower entrance

+3



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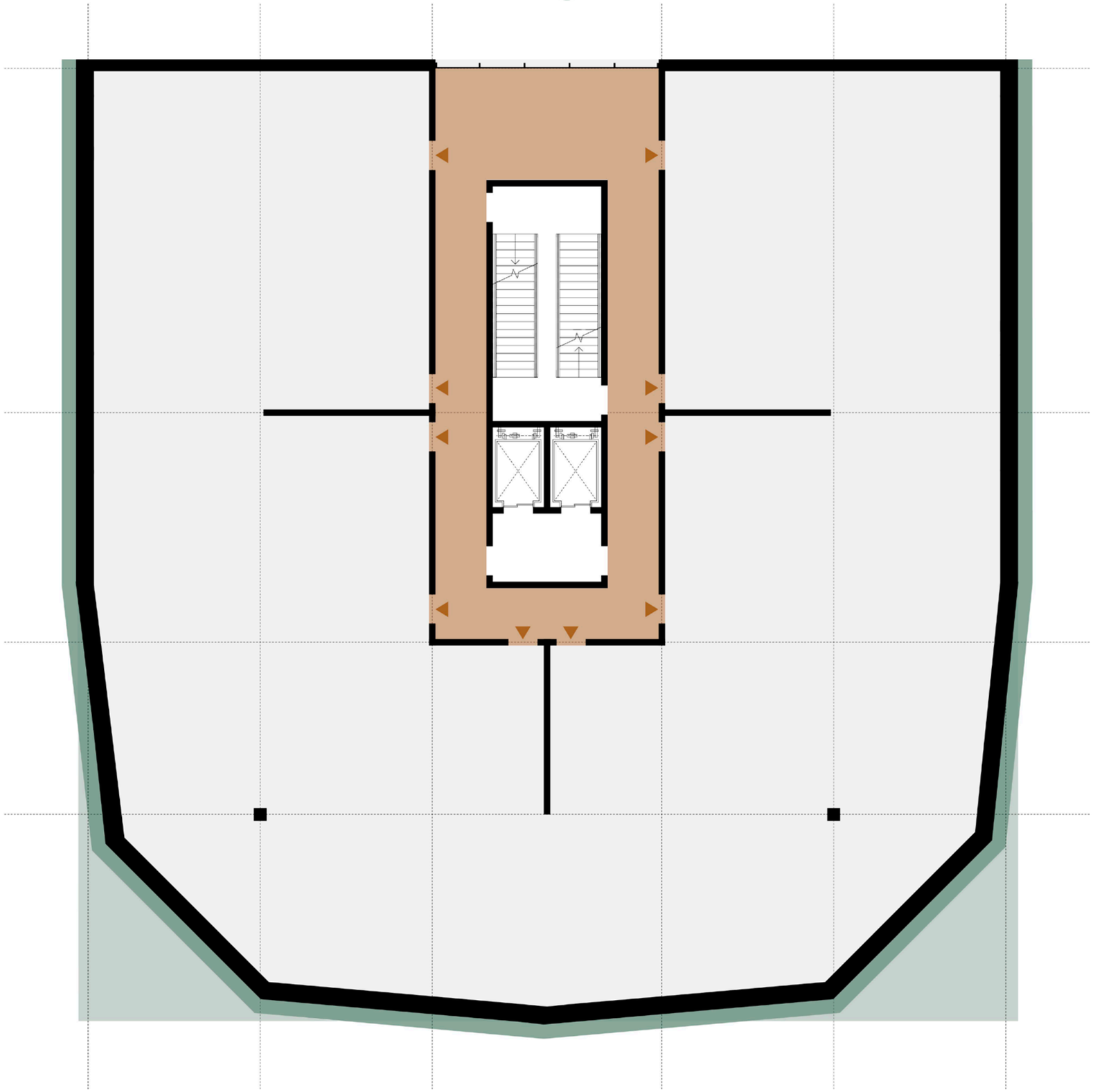

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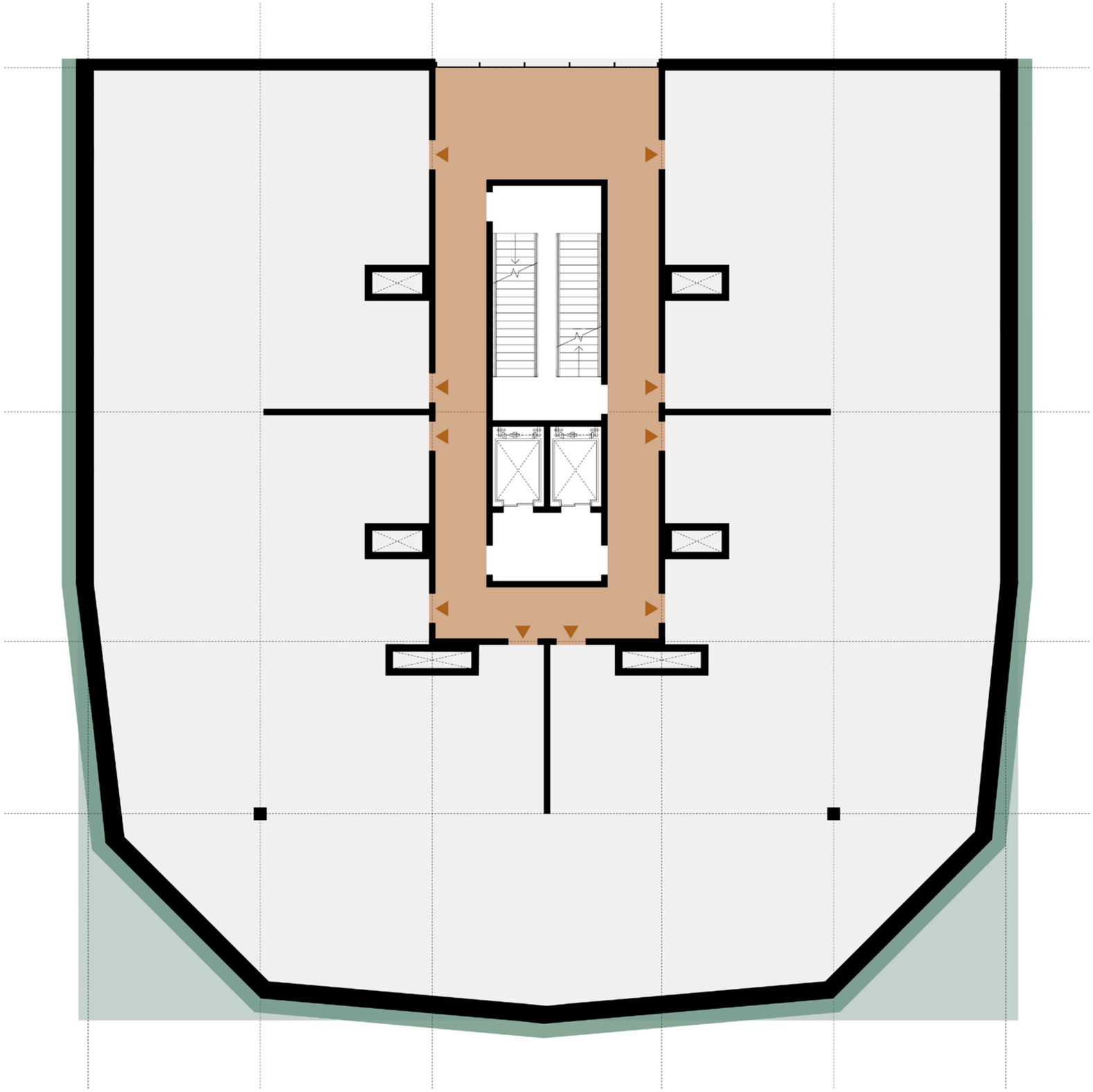

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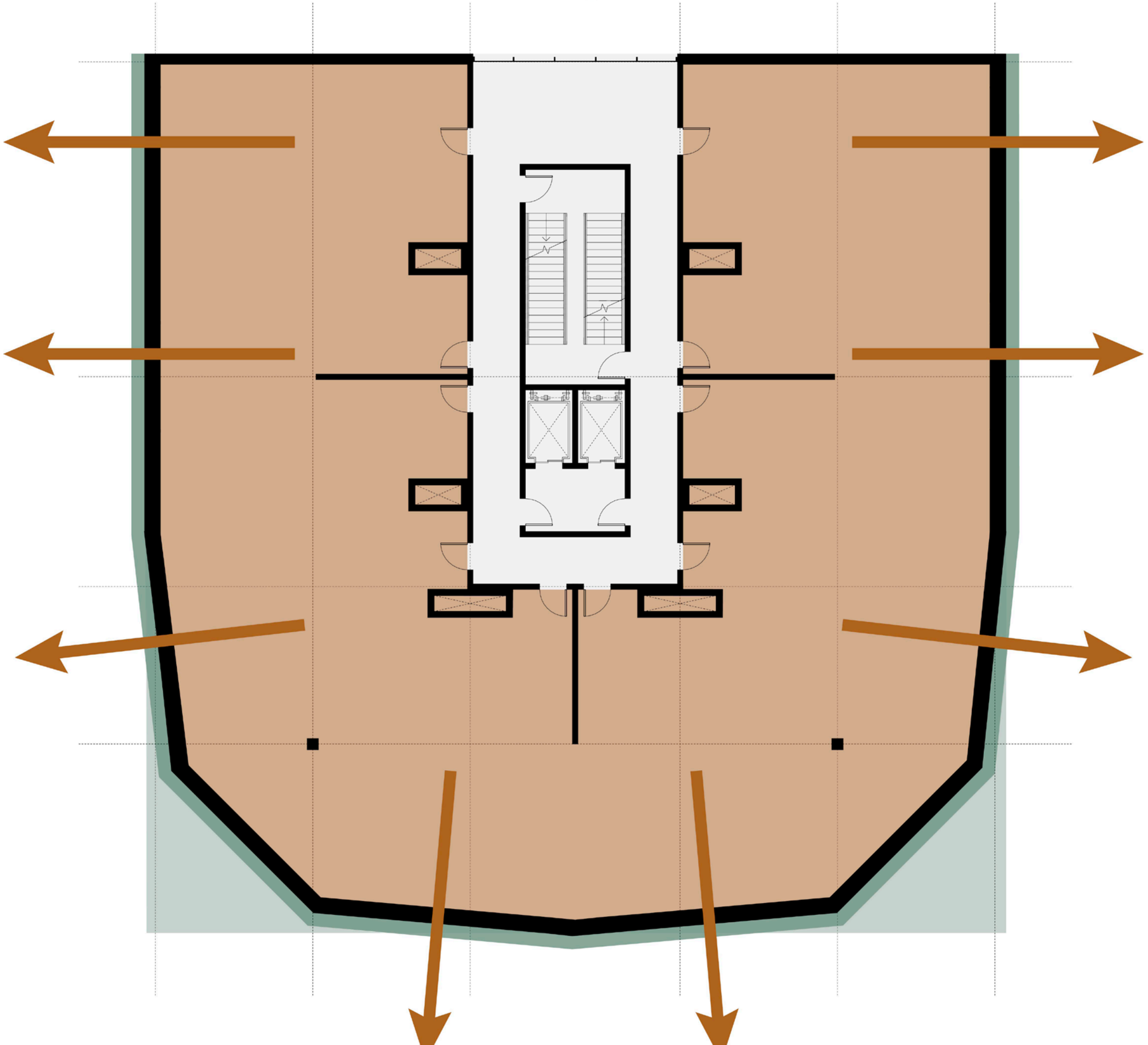

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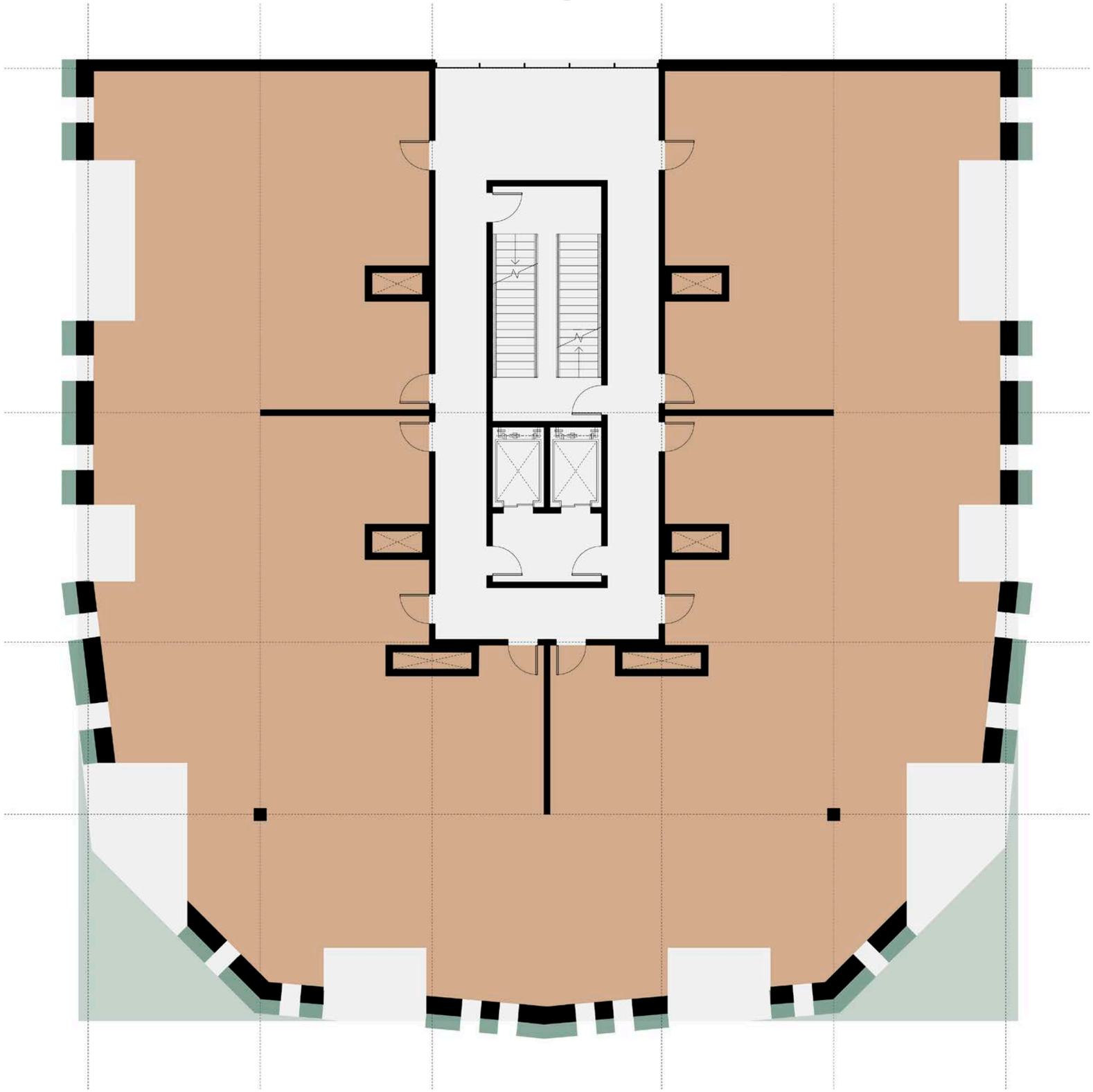
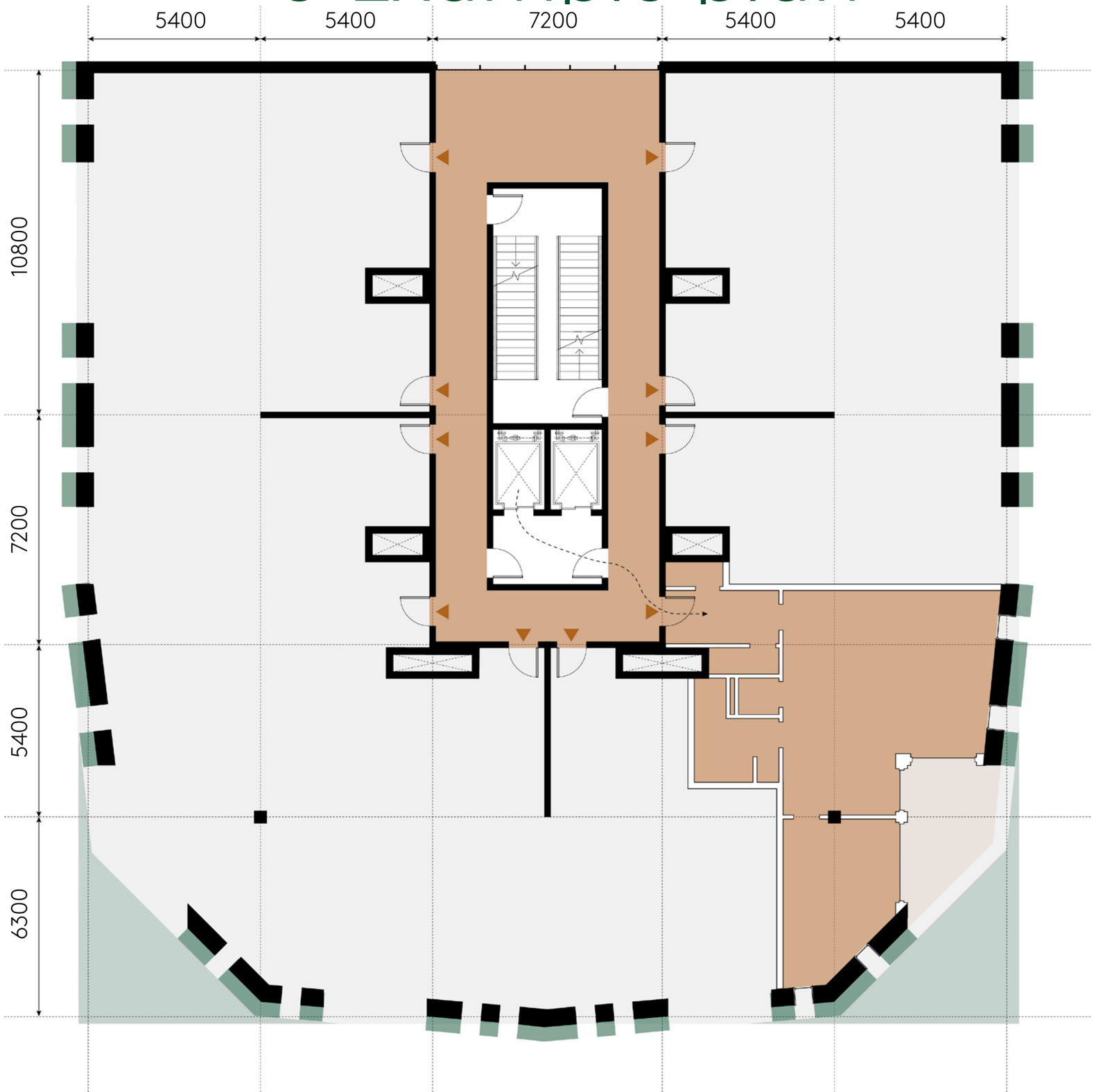
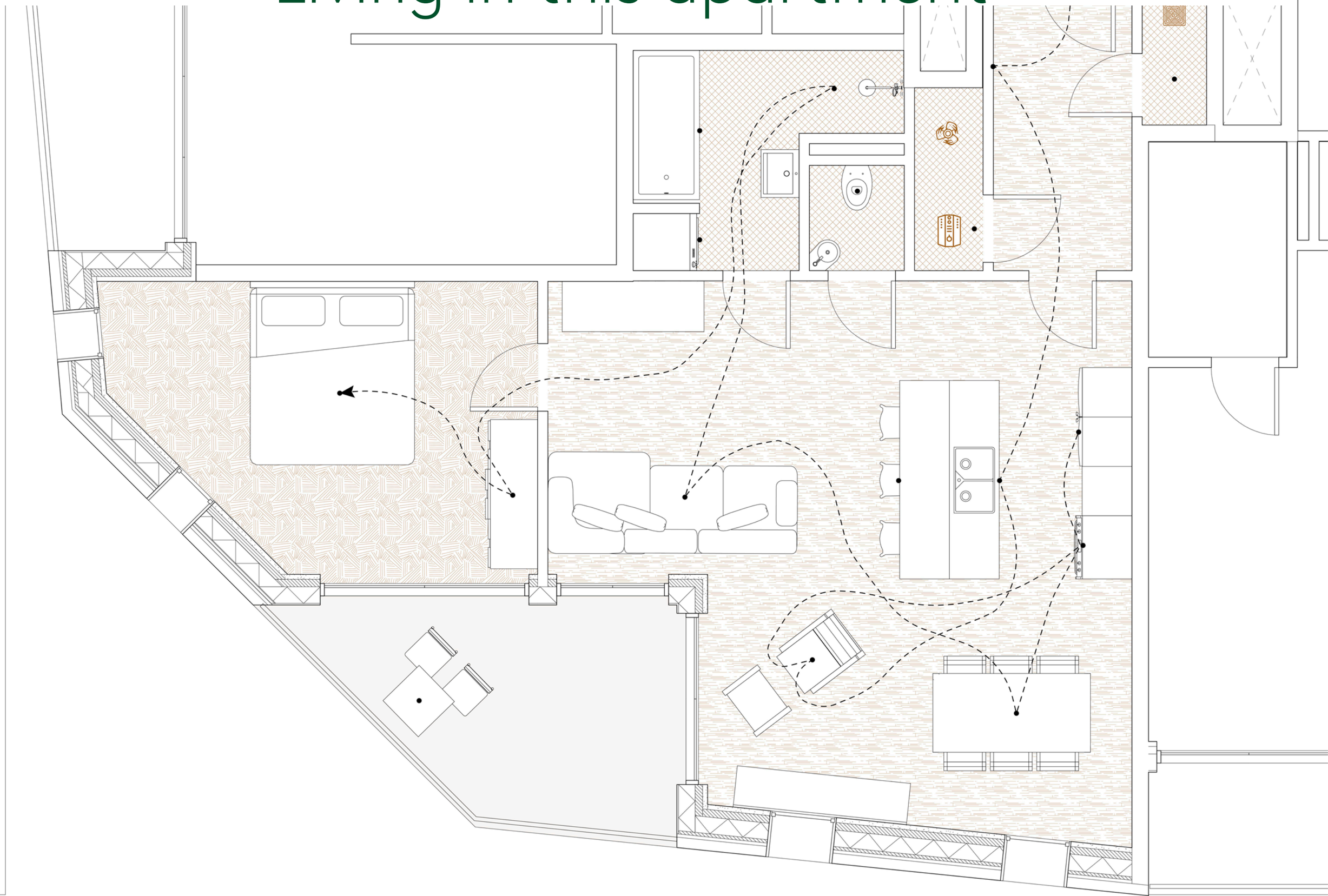


+3 Example plan



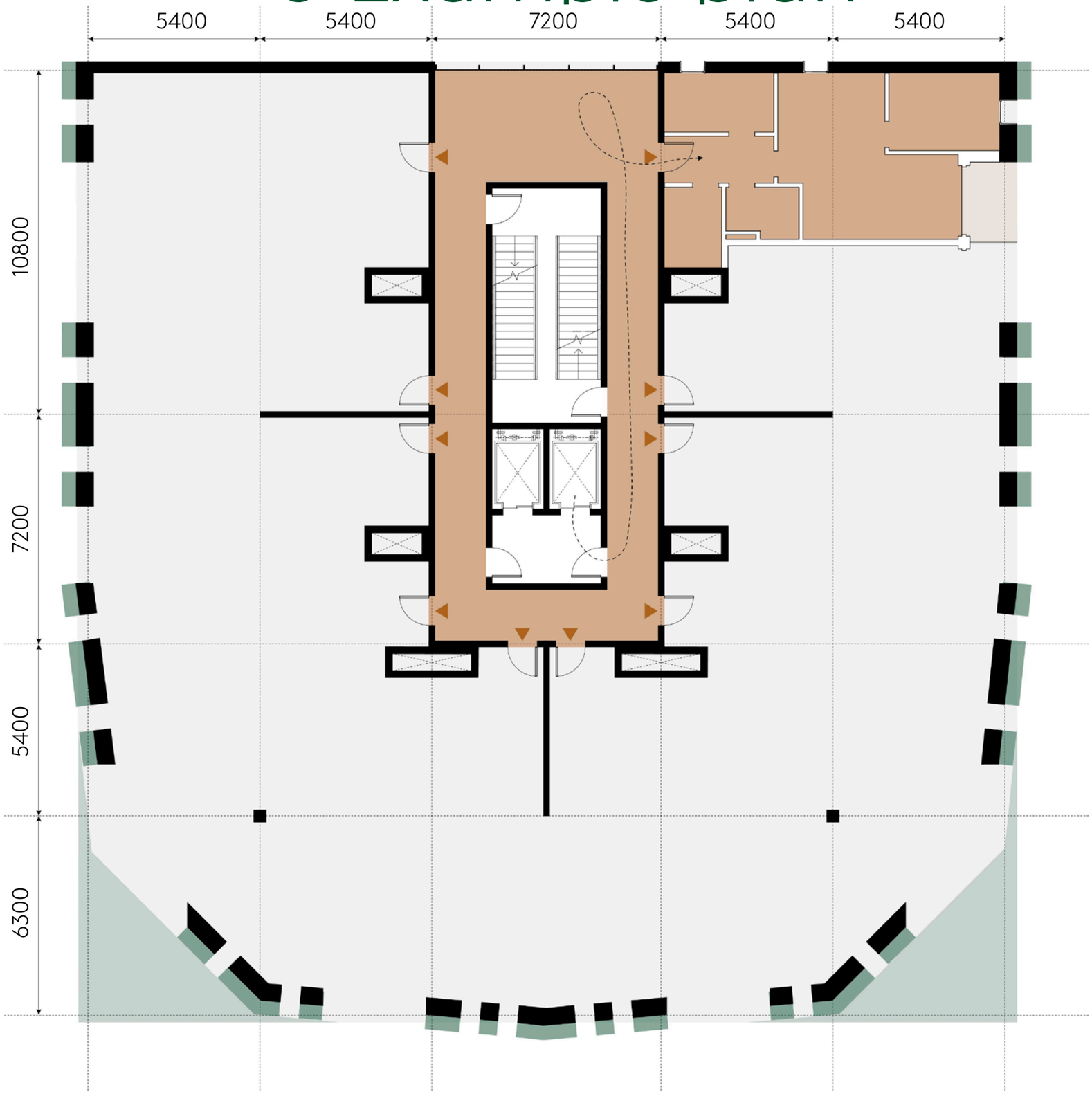
Living in this apartment



Interior

Balcony

+3 Example plan



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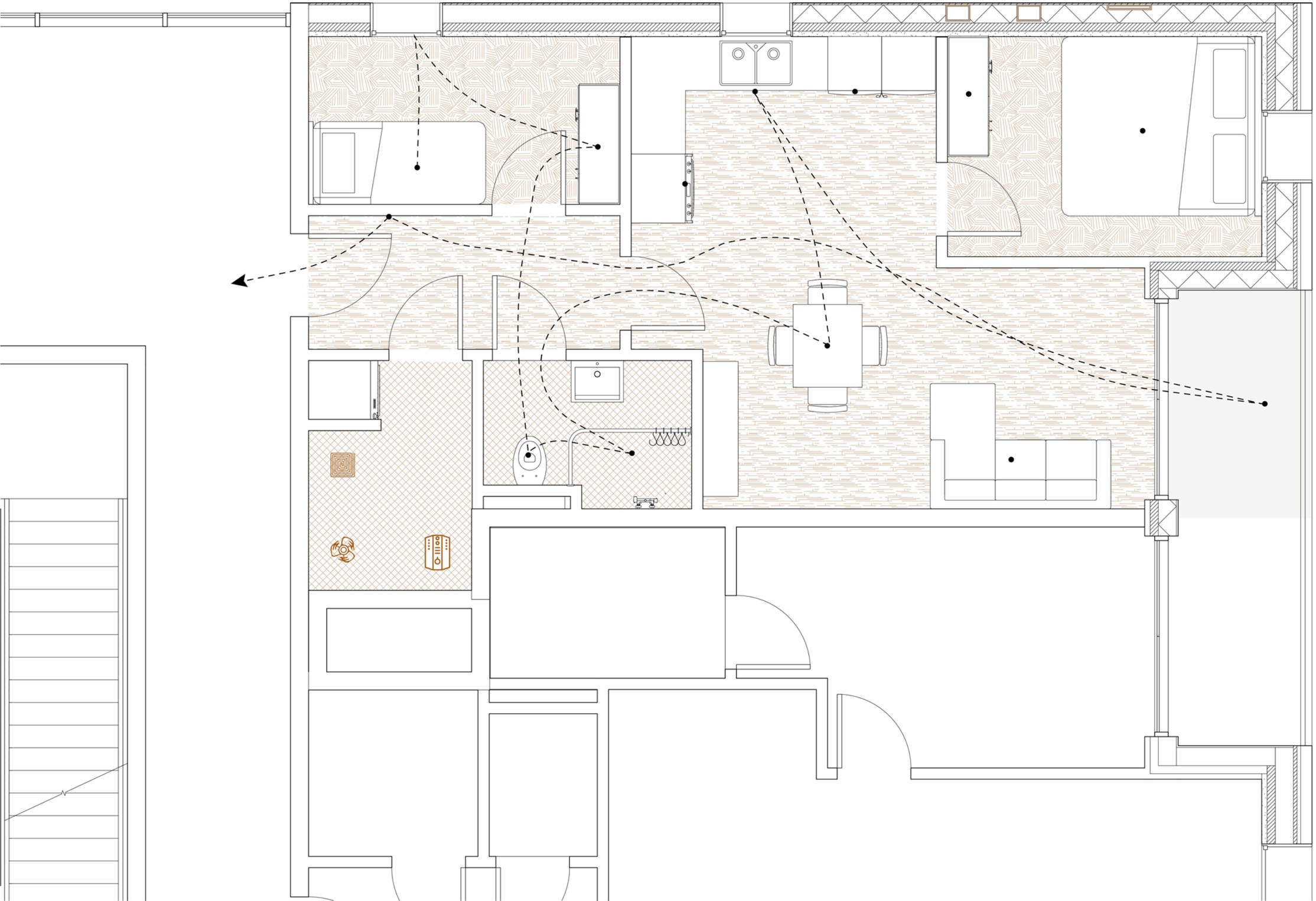
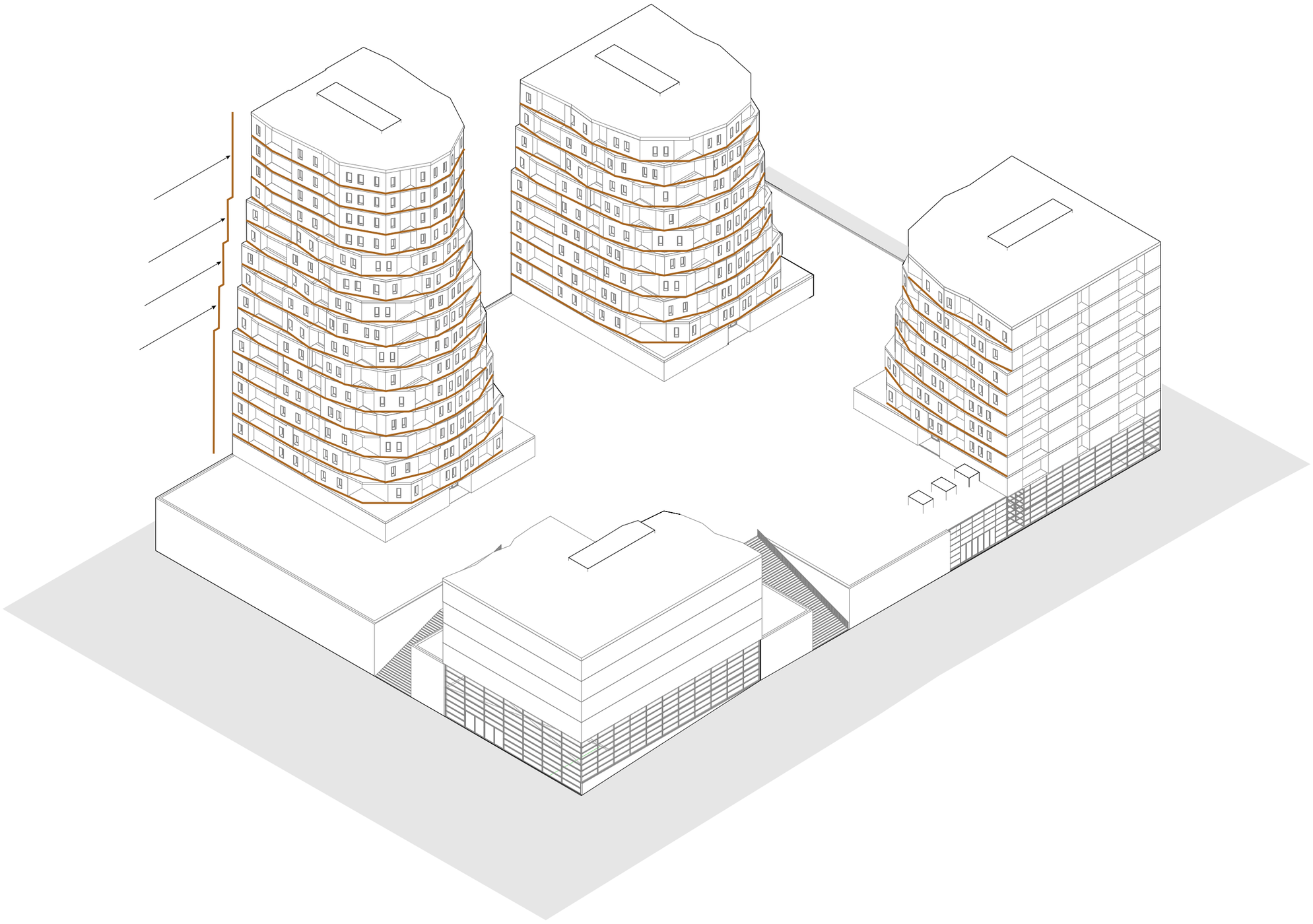


Crumbling volume



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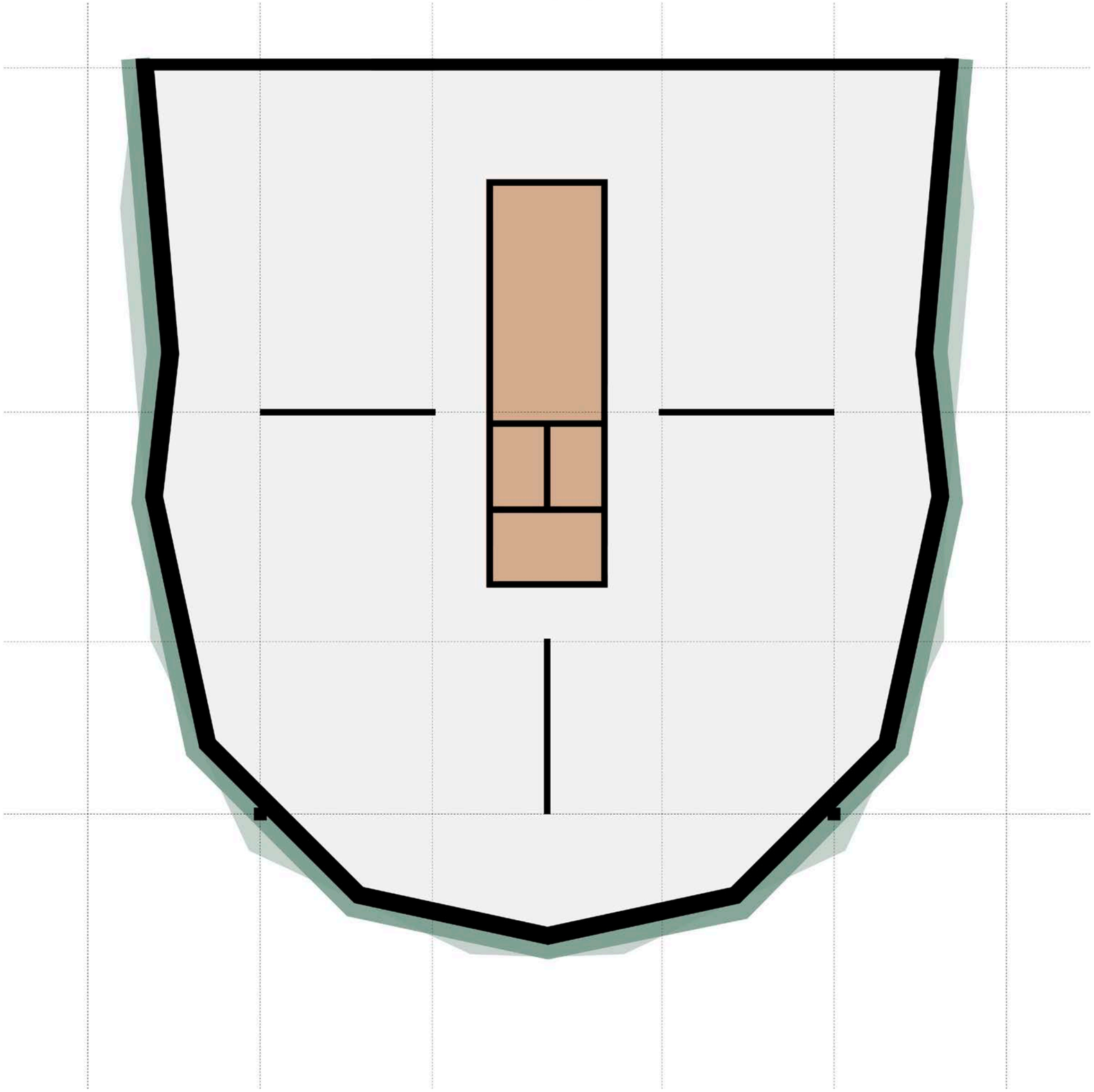

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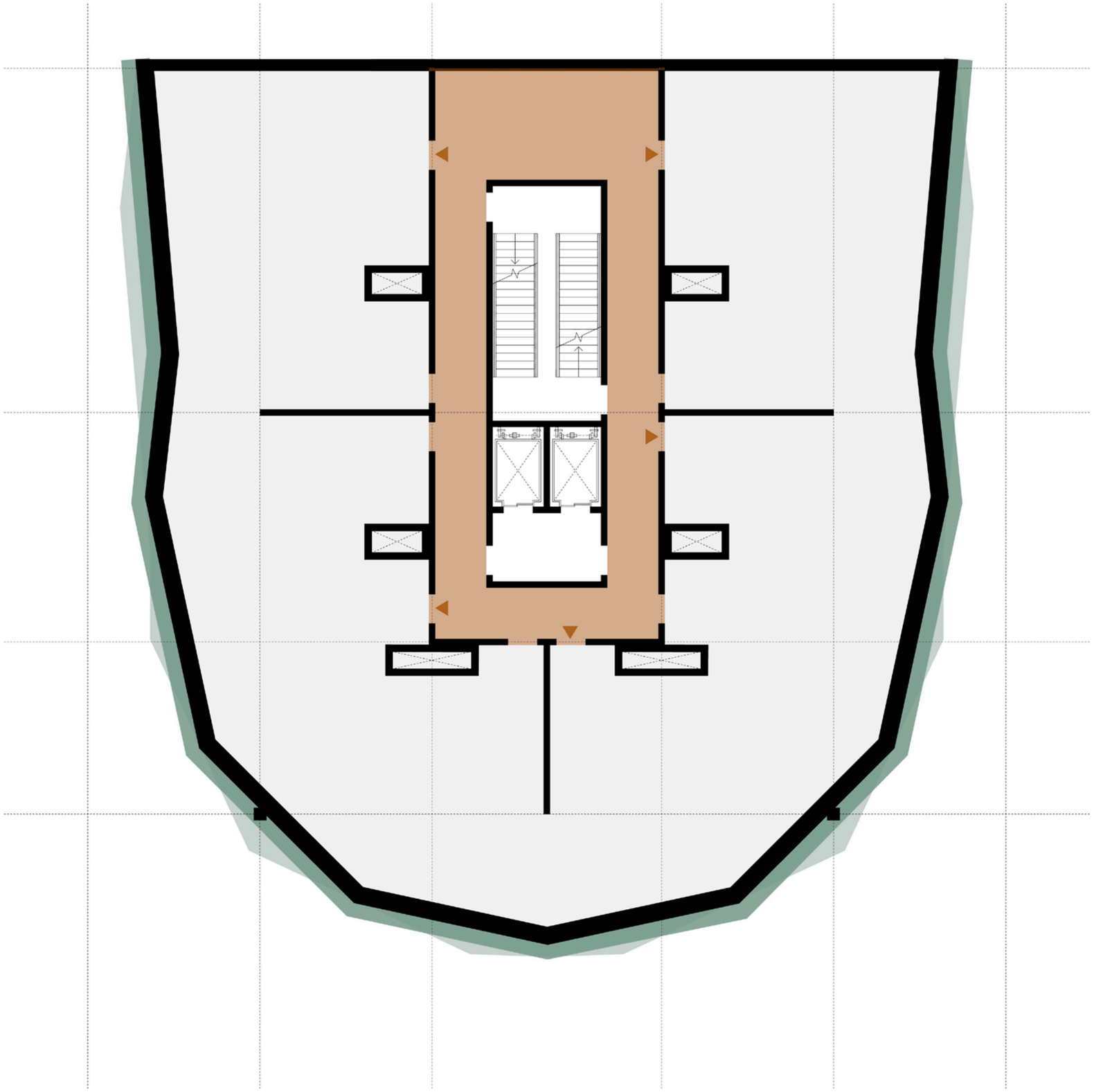

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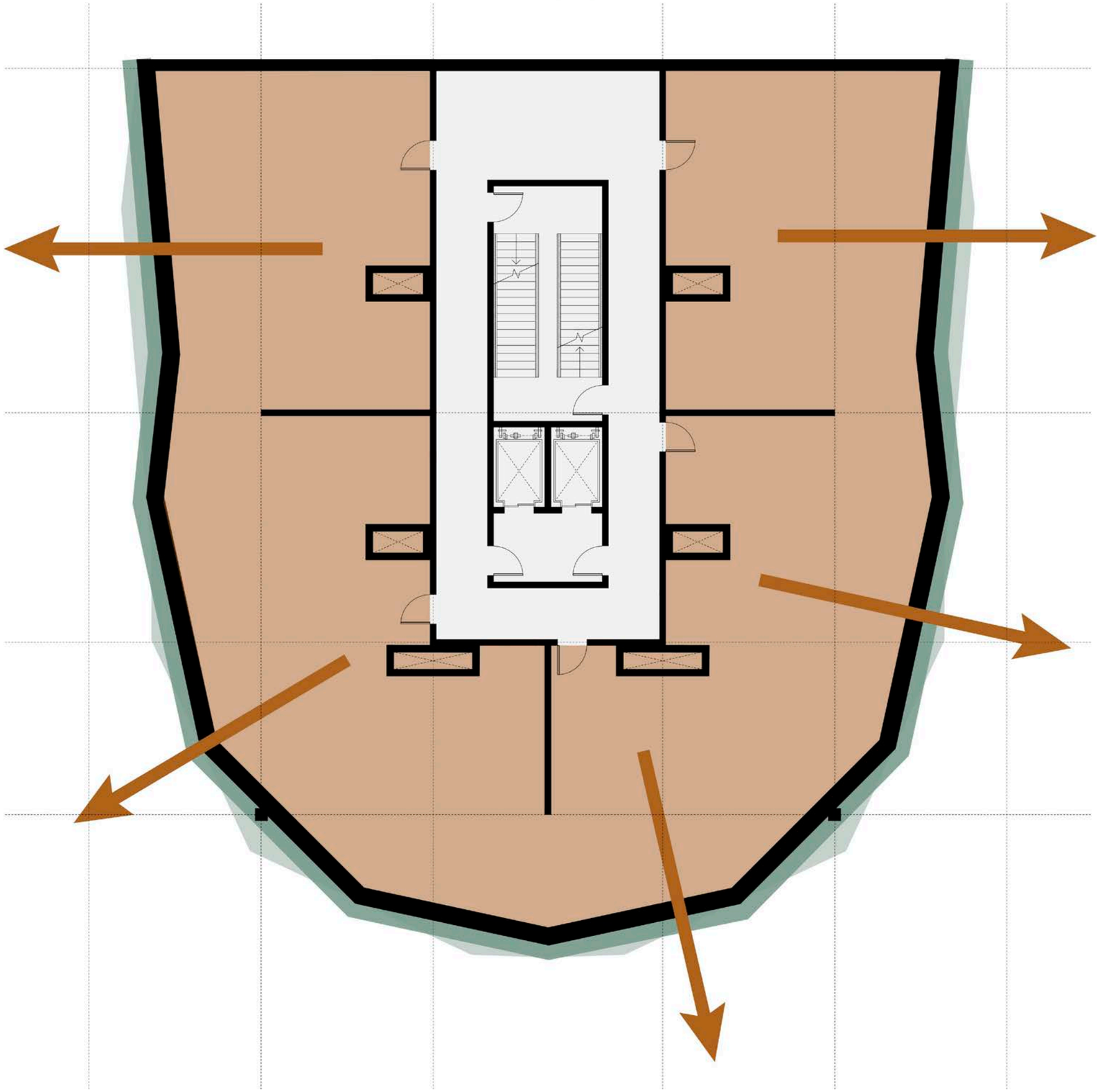

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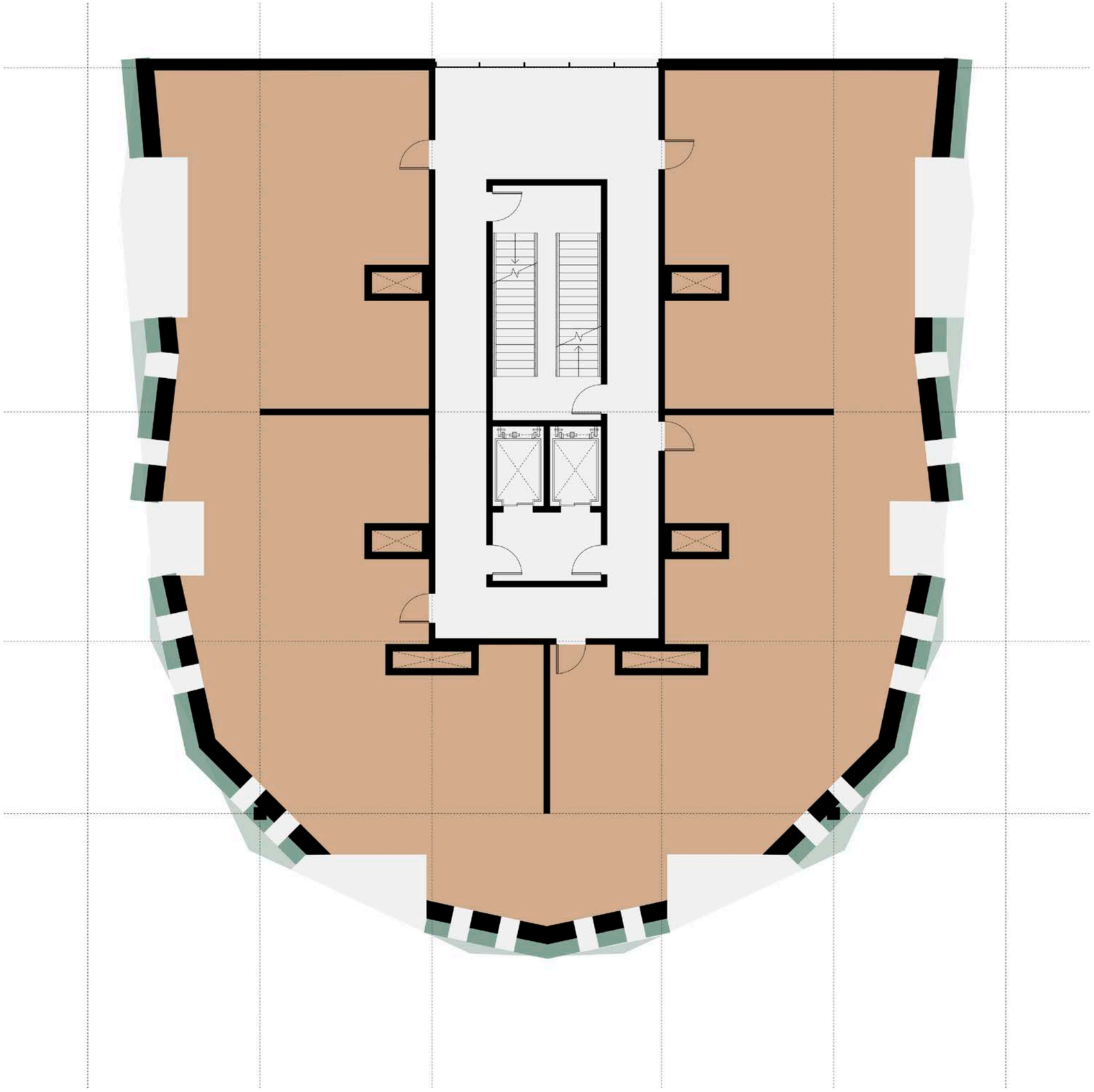
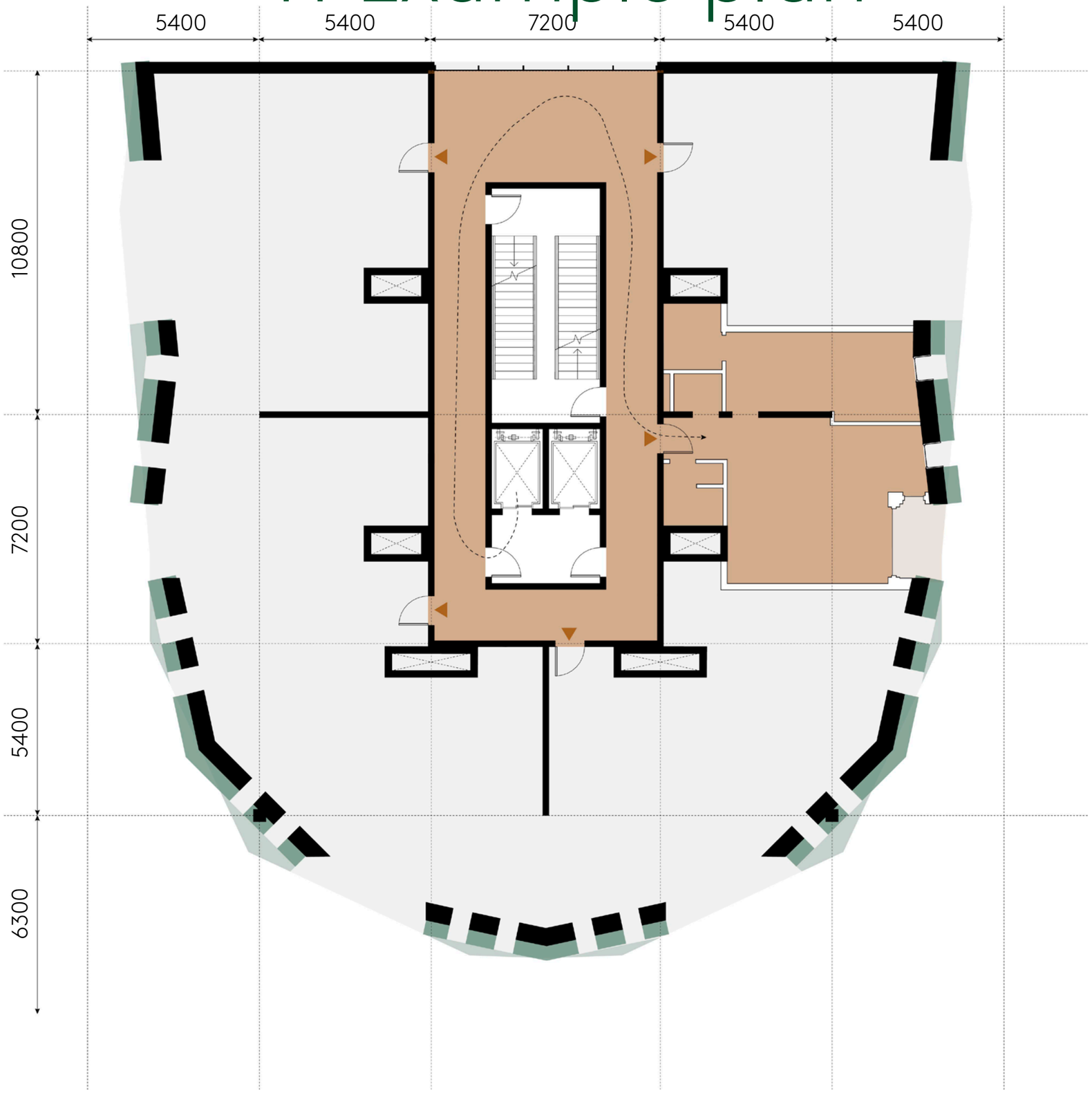
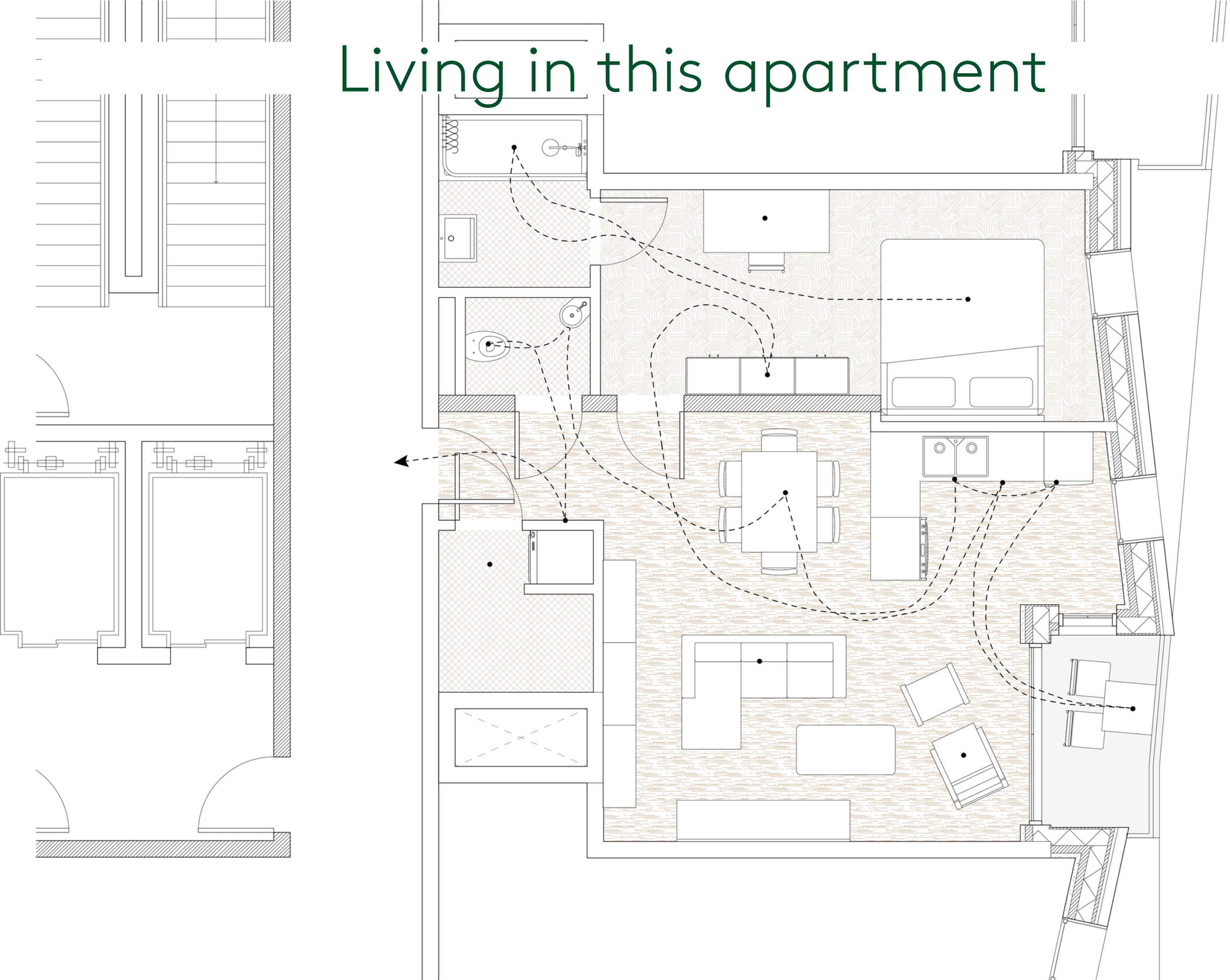


+11 Example plan



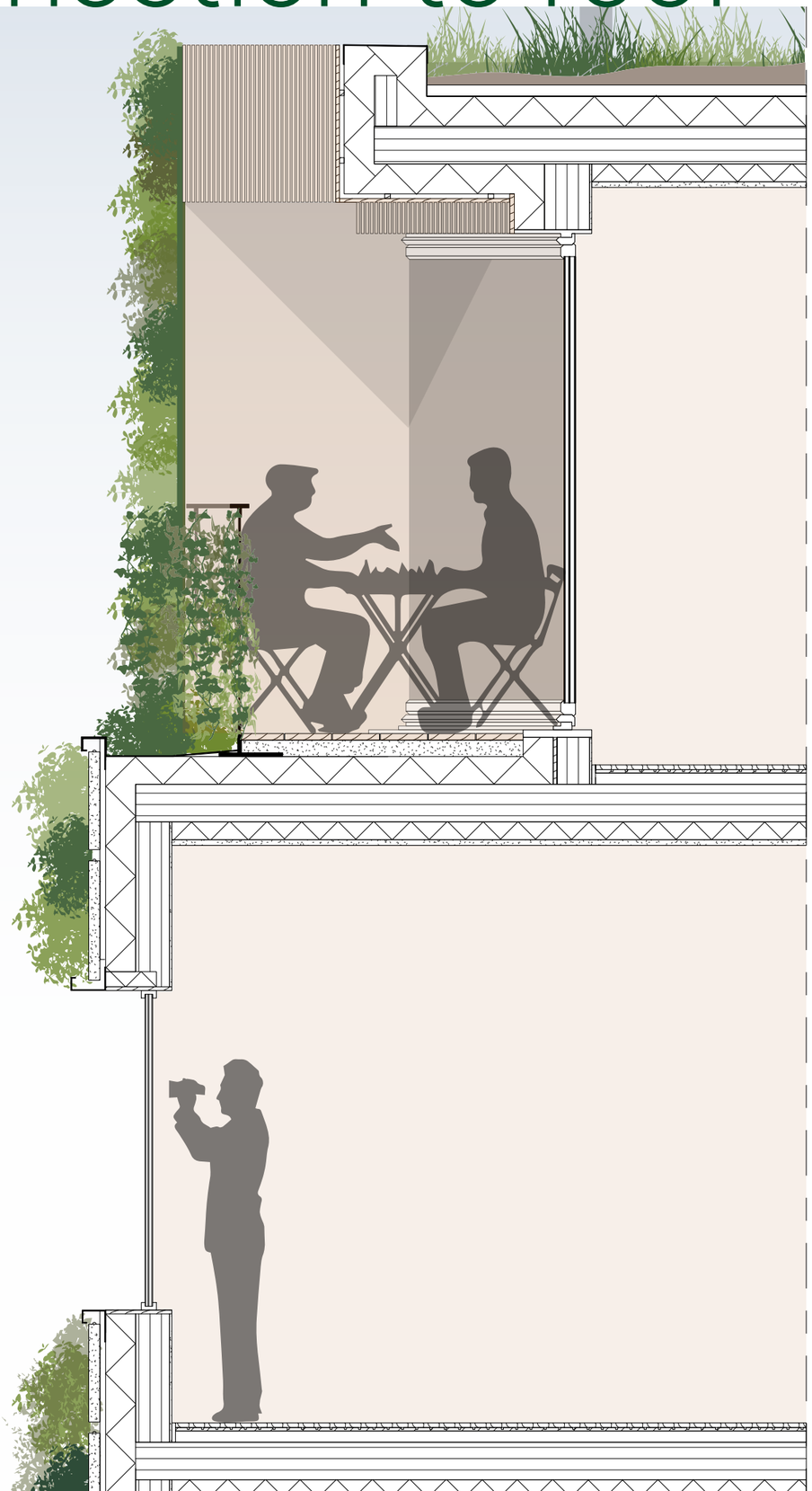
Living in this apartment

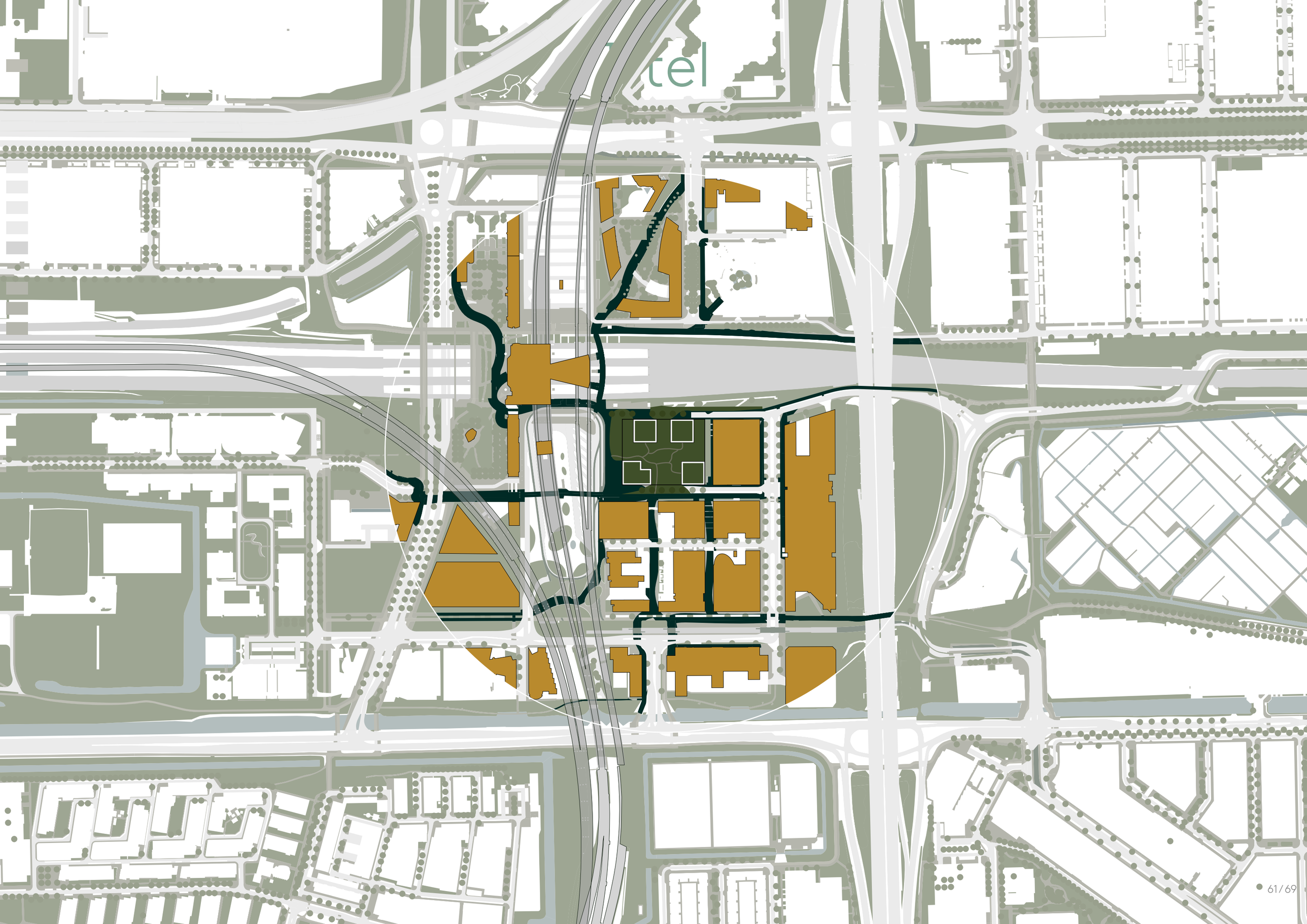


Interior

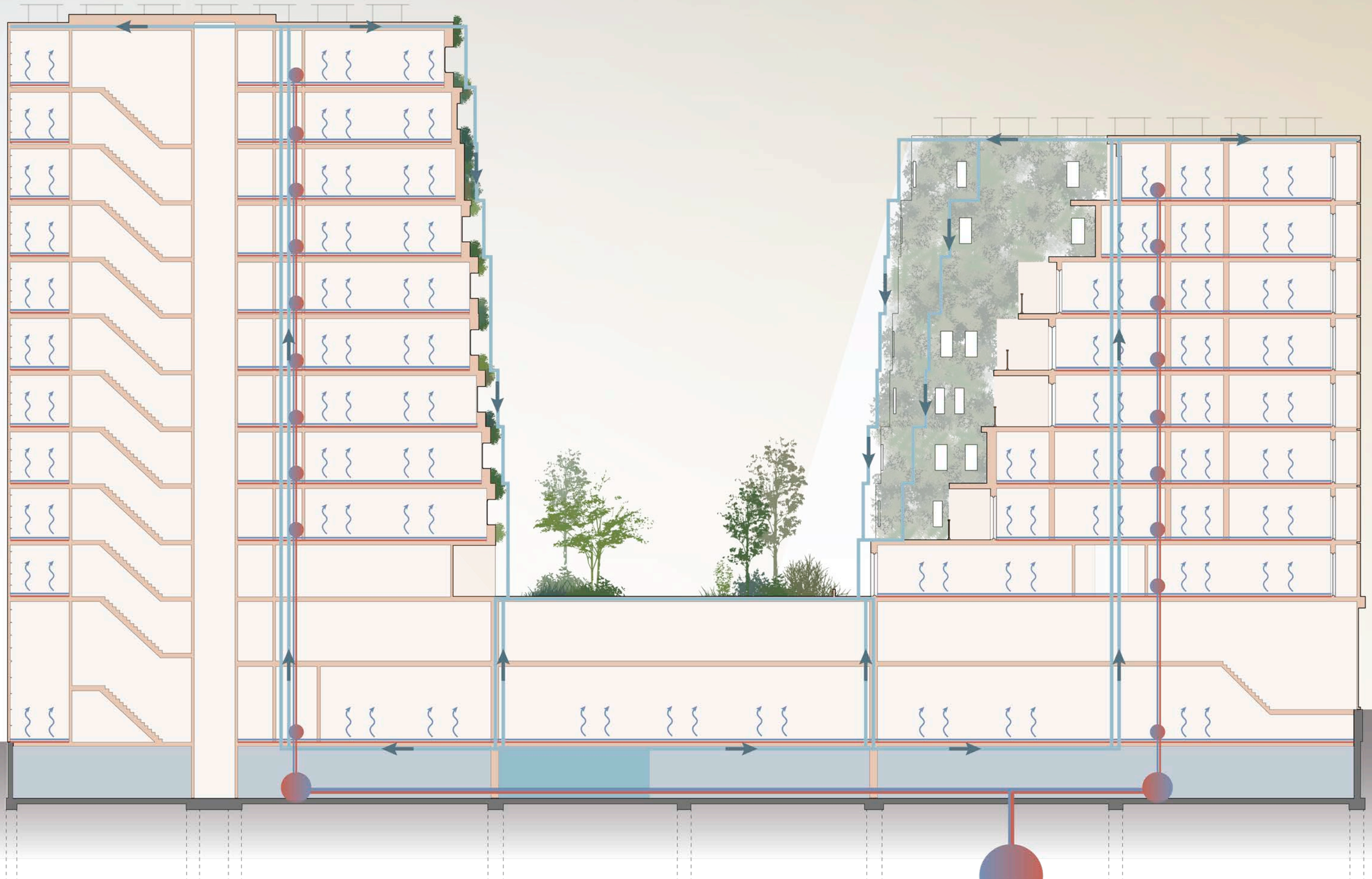
Balcony

Connection to roof



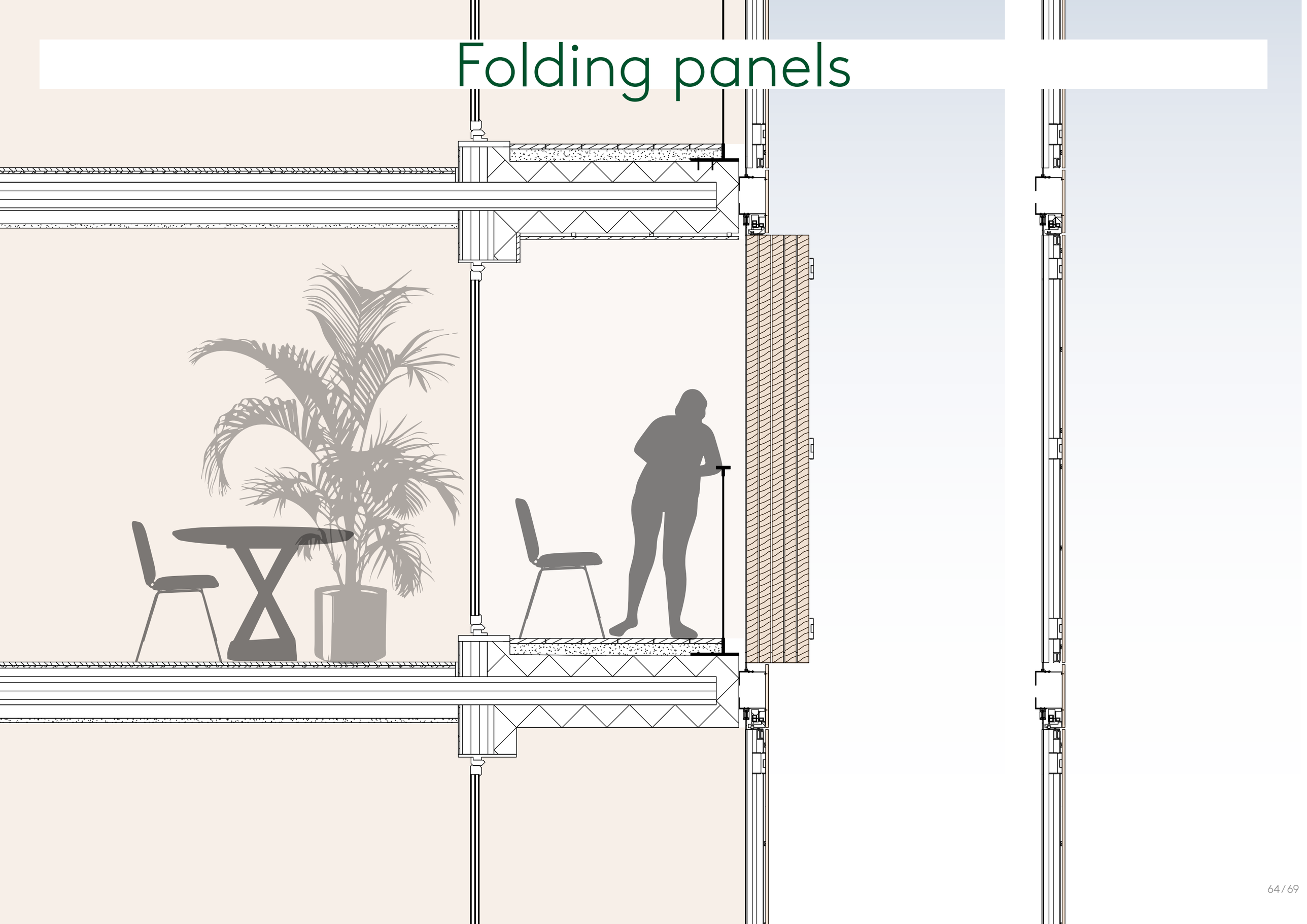

tel

Climate

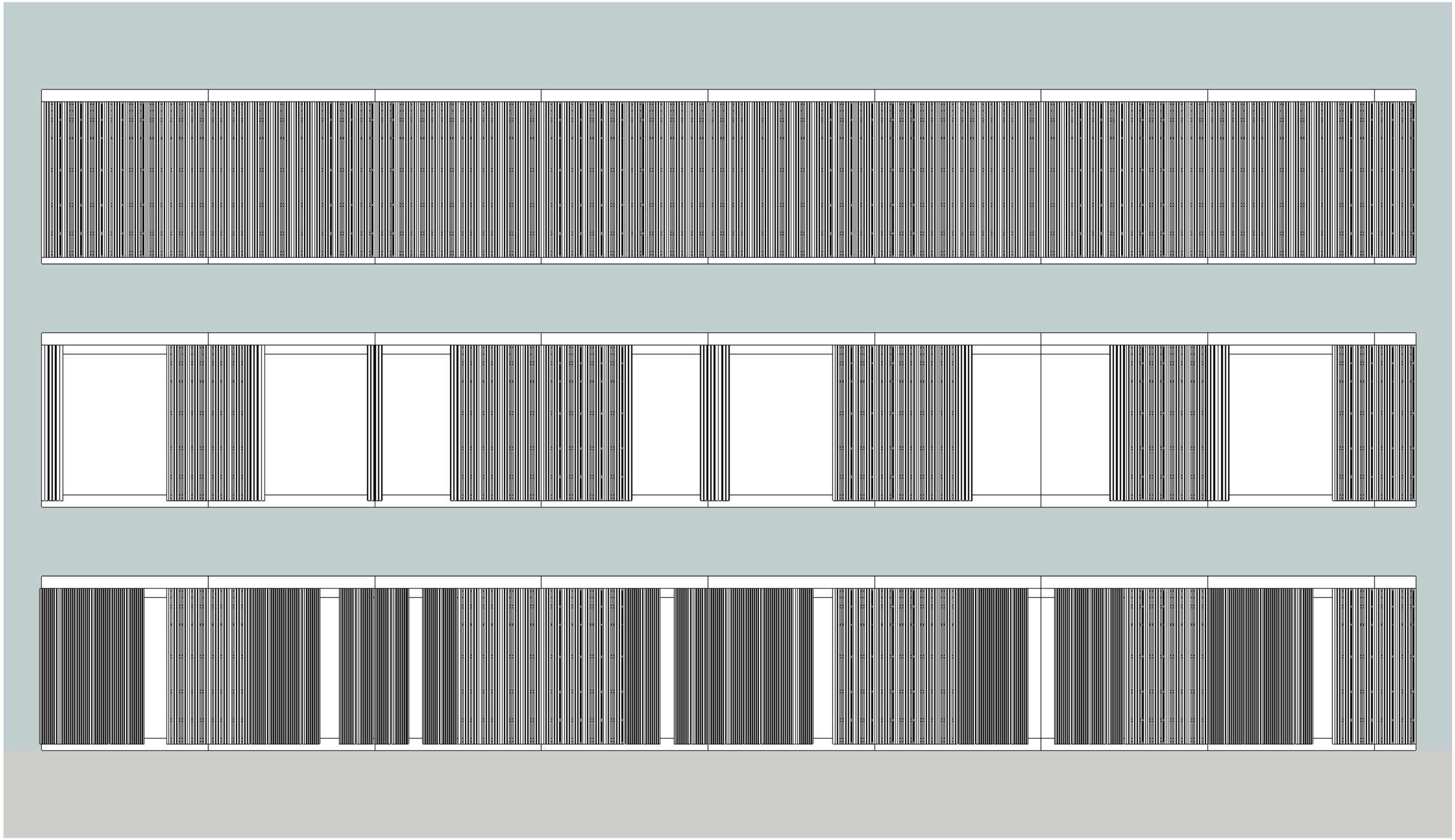


Climate

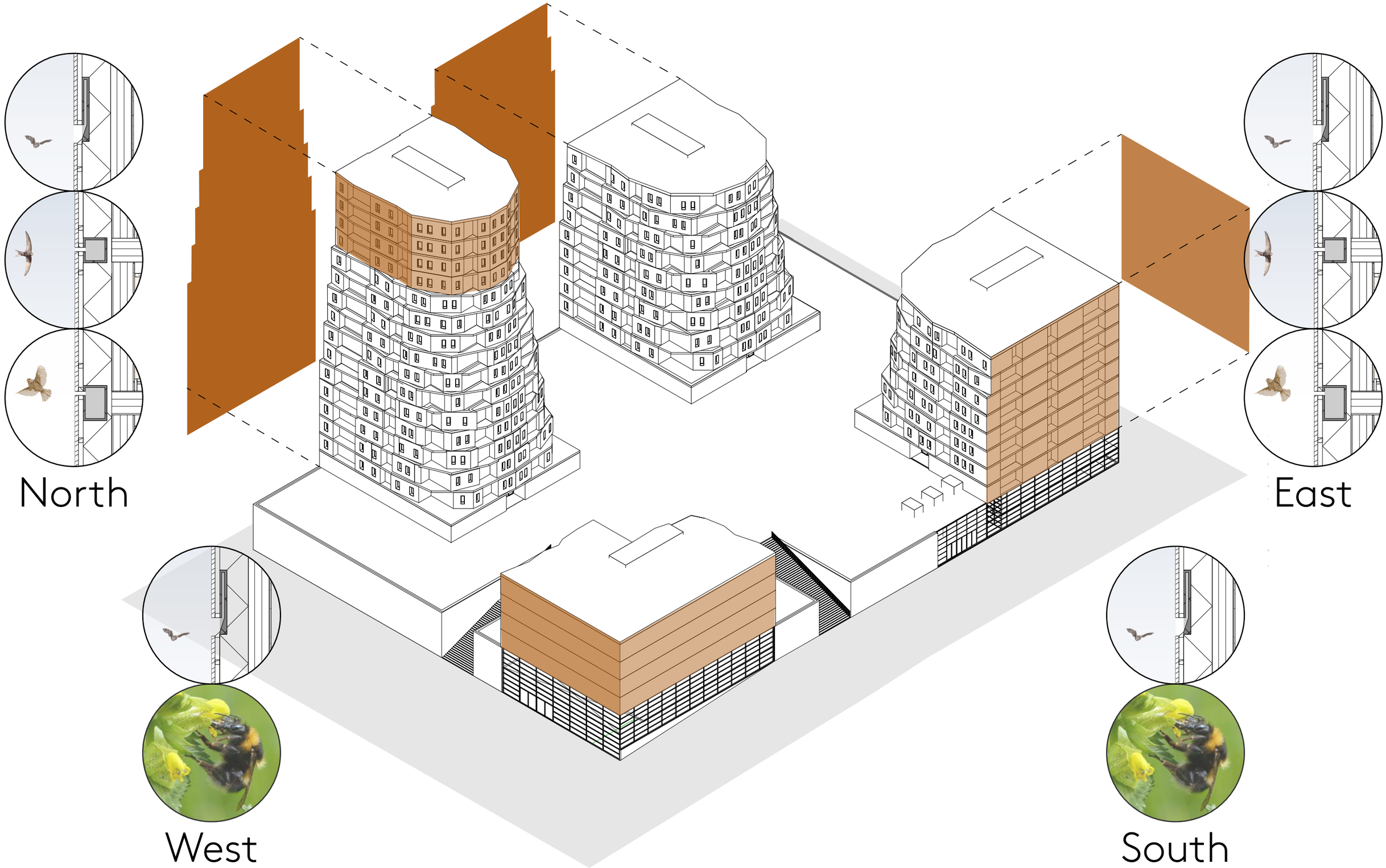
Folding panels



Folding panels



Placement of nest boxes



Conclusion

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