HUMBOLDT

Living with nature in Sloterdijk

1:200 plan of the roof park of Humboldt.

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Architectural Engineering graduation project
Ella Wildenberg (student number 4485491)
12-04-2022

Caption: Visual of the public roof park.

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
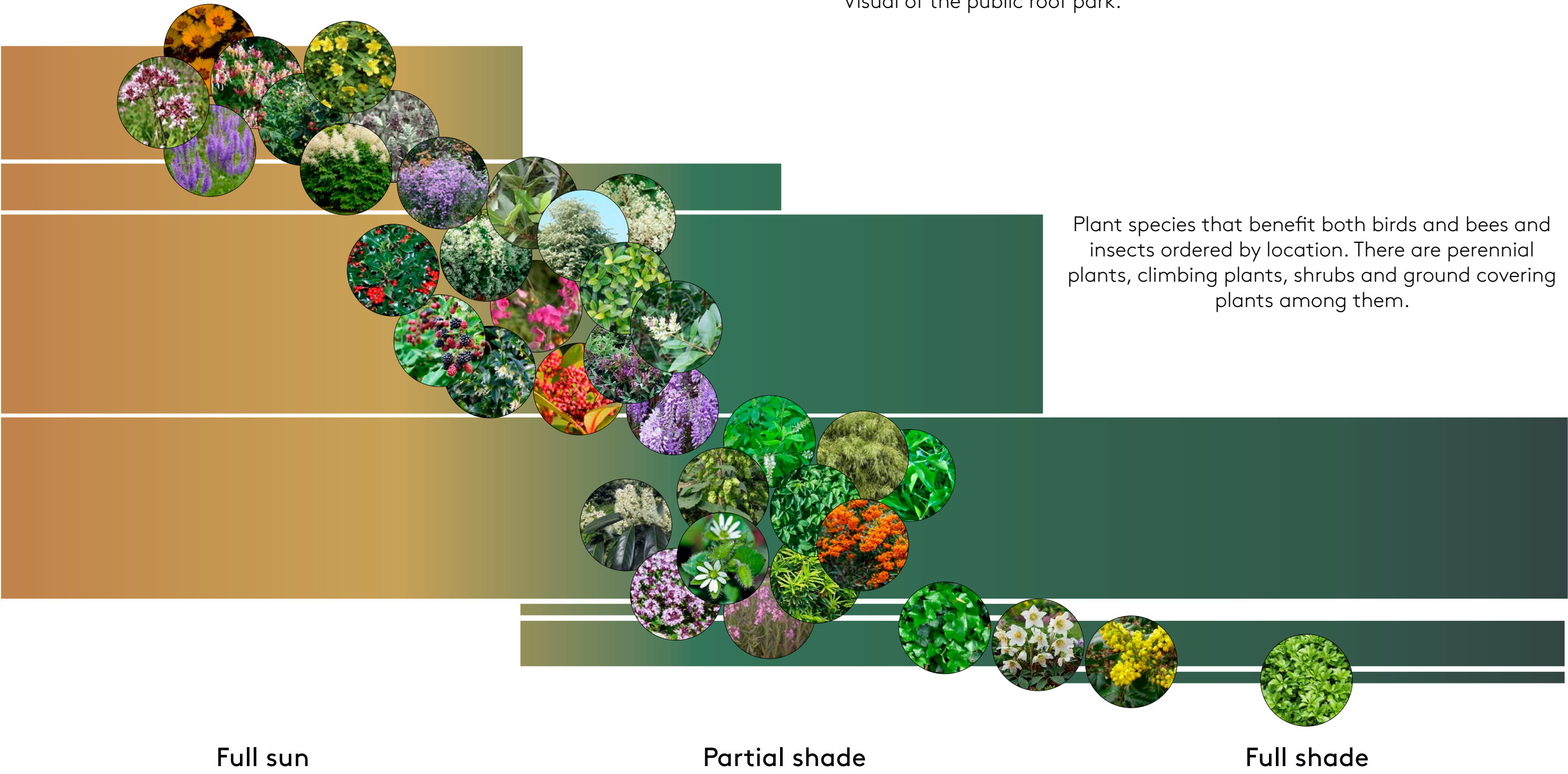
Plant species that benefit both birds and bees and insects ordered by location. There are perennial plants, climbing plants, shrubs and ground covering plants among them.
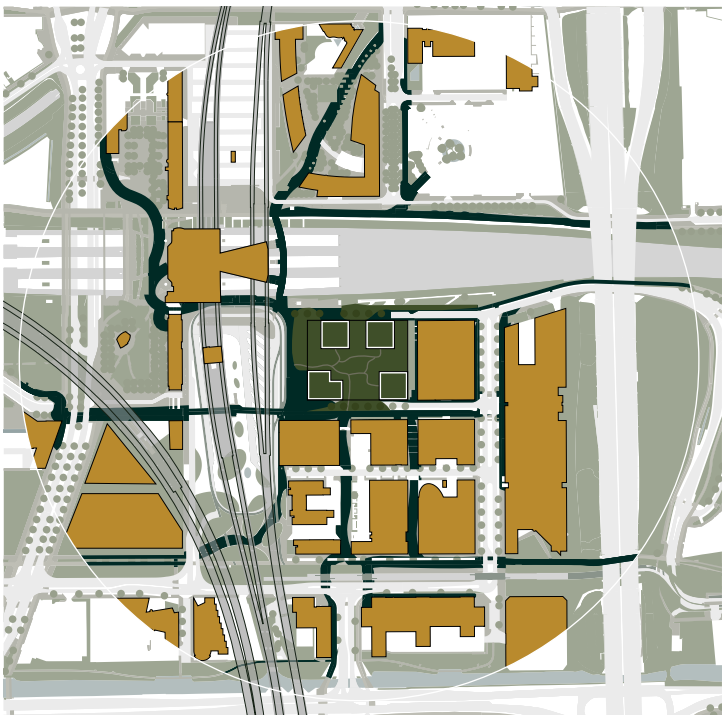
Because of the subtantial amount of greenery on the building, the greenery on the building does not just benefit the inhabitants and users of Humboldt. The roof park also meets the World Health Organisation's requirement as a decent sized park for all residents in a 300 metres radius around the building!

Full sun
Partial shade
Full shade

Full sun
Partial shade
Full shade

Trees for bees and butterflies

Acer Campestre			12	Gleditsia Triacanthos			20-25
Acer Platanoides			20-30	Koelreuteria Paniculata			5-17
Acer Pseudoplatanus			25-30	Robinia Pseudoacacia			20-25
Aesculus Hippocastanum			20-25	Styphnolobium Japonicum			15-20
Ailanthus Altissima			20-25	Tetradium Daniellii			10-12
Castanea Sativa			20-30	Tilia			20-25
Cupressus Sempervirens			15				

1: 200 Climate sections North to South.

Greenery plays a large role in cooling the local climate, by evaporating water when it is warm, providing shade and prevent surfaces from overheating. On the other hand, the greenery can retain water during peak precipitation to prevent flooding in the street.
The water reservoir in the basement can provide water to the automated irrigation system when necessary. When it is raining, overflow of water can be stored in the water reservoir or discharged to the sewer system.

The building is connected to a heat cold storage system. Every tower has its own heat pump and every residential unit has a boiler, heat recovery in mechanical ventilation and floor heating, that can be individually controlled. When it is warm, the floor heating system can be used to cool.
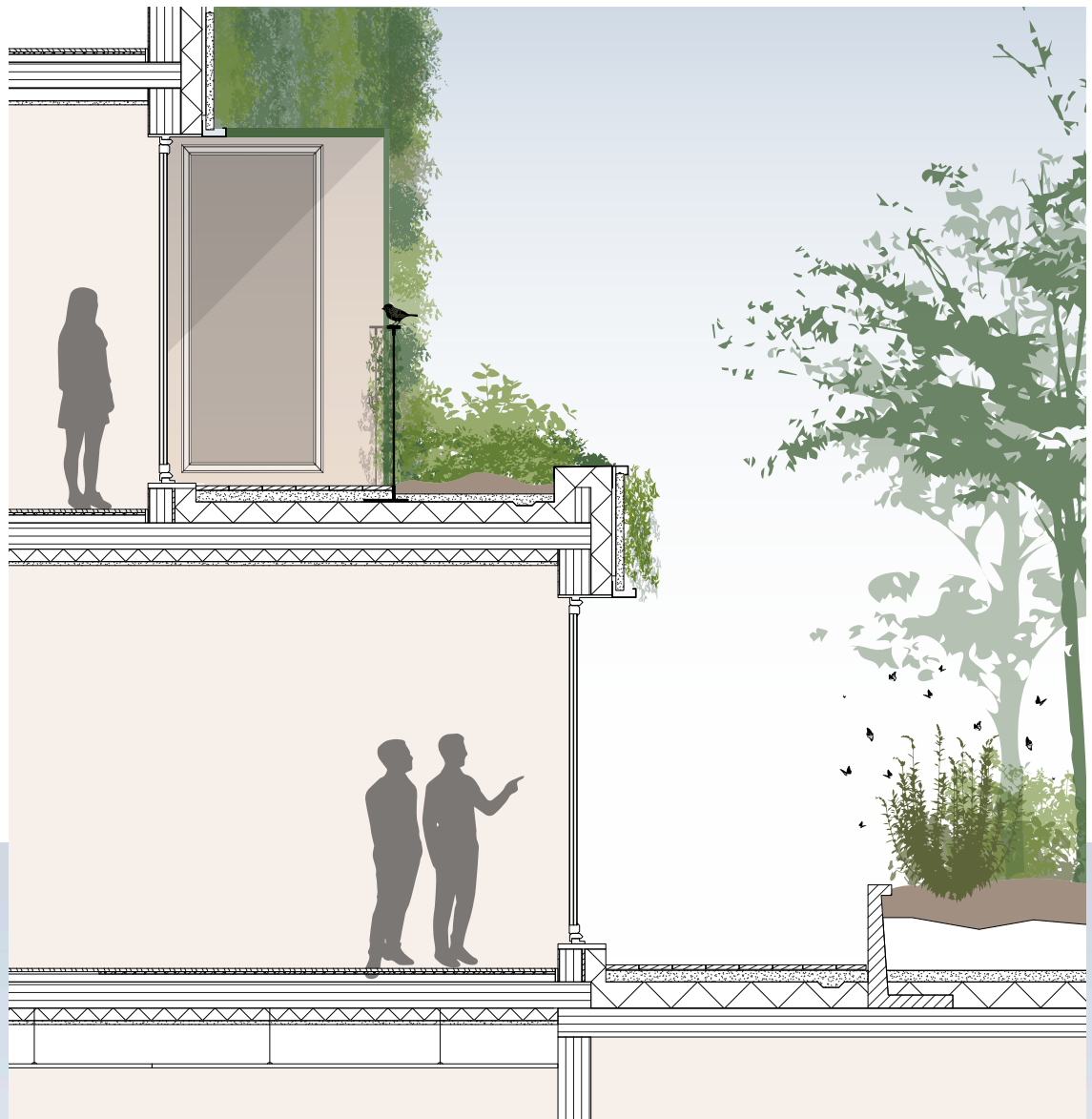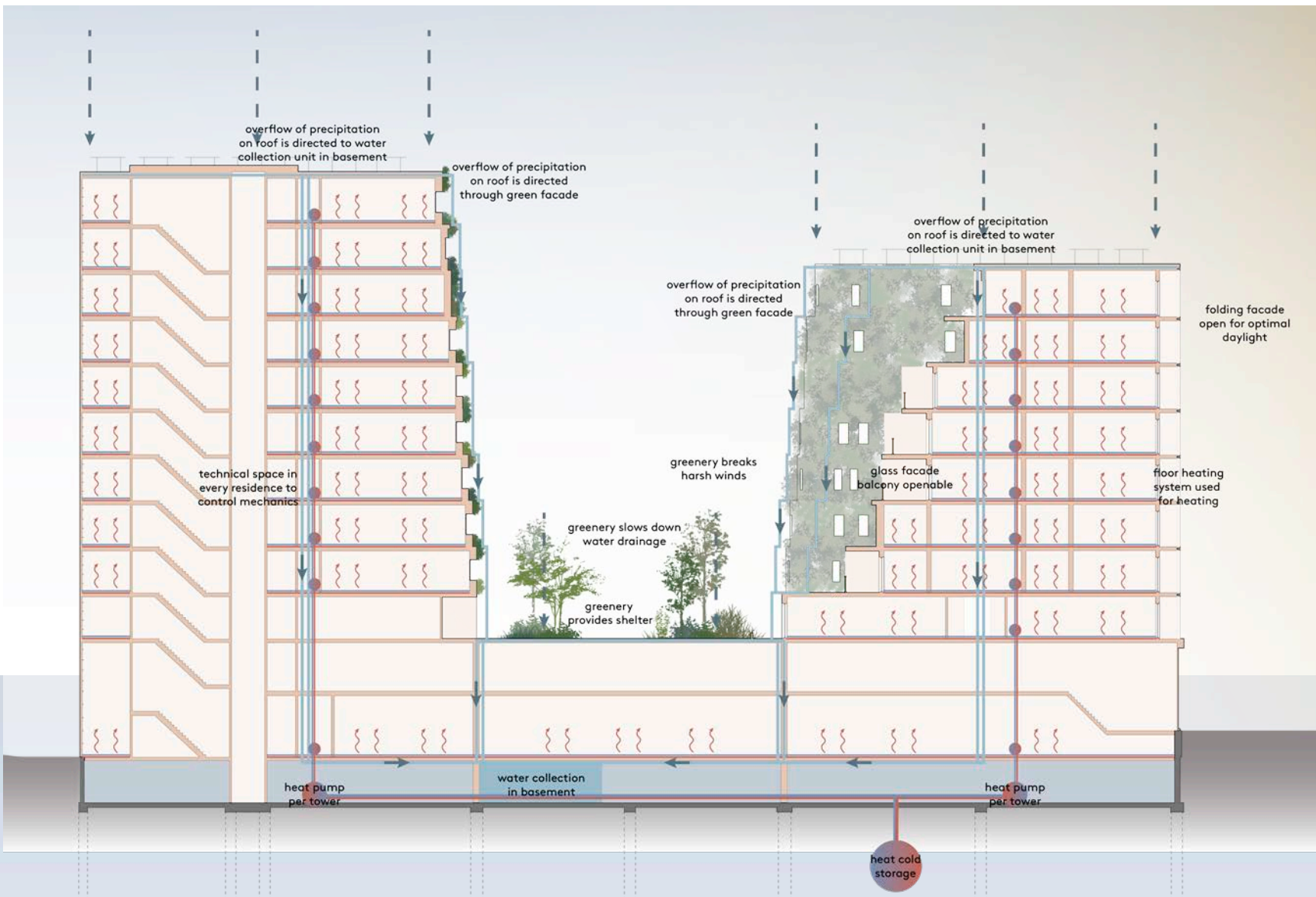
1: 50 Facade fragment.
Transition dwelling - roof park, and dwelling - balcony.
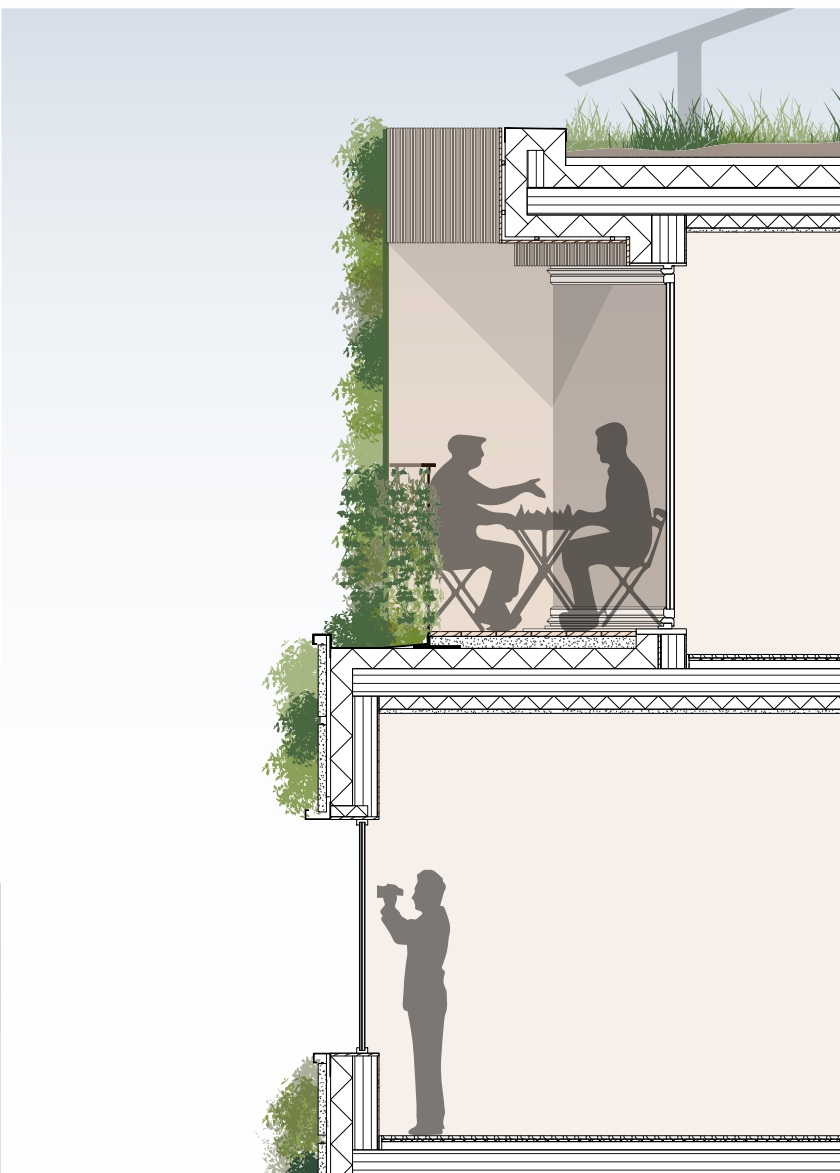
1: 50 Facade fragment.
Transition dwelling - green roof, and dwelling - balcony.

bats

swifts
+40m

house sparrow
+16m

insects
+12m

1: 50 Facade fragment.
Transition shopping centre - ground floor streetscape (closed facade).

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1:200 Section from West to East.
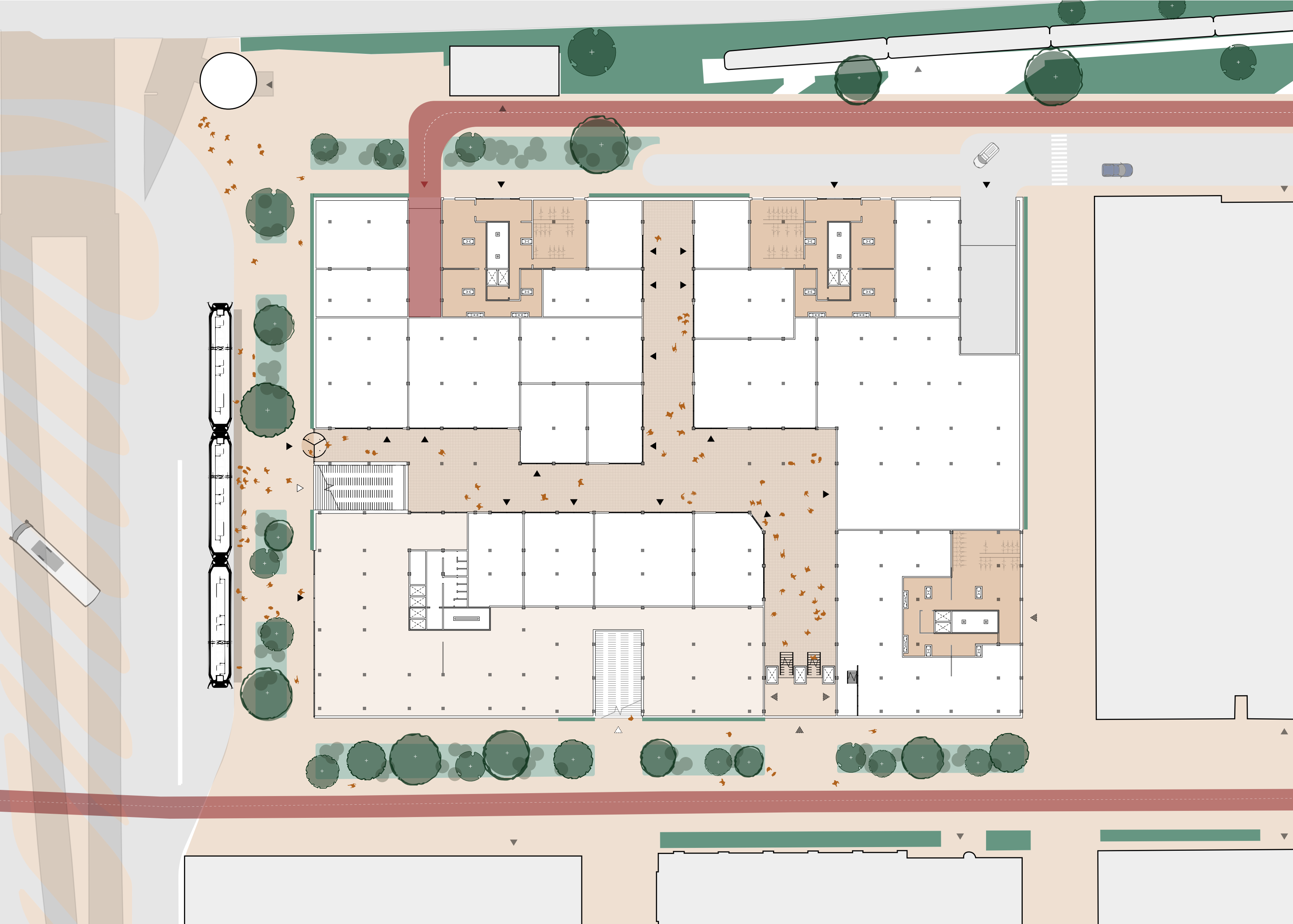
1:500 Ground floor of Humboldt. From the transport hub Sloterdijk Centrum people get to the building and enter either the shopping centre or library or take the stairs to the roof park. Every tower has its own main entrance, with adjacent private bike parking, garbage disposal area and technical space.

+3

+11

CLT core, stabilizing walls and facade, supporting columns

Corridor with natural light, standard of 10 possible door openings

Shafts placed centrally to allow open plan

Need for natural daylight and private outdoor space

Openings in facade created by windows and internal balconies
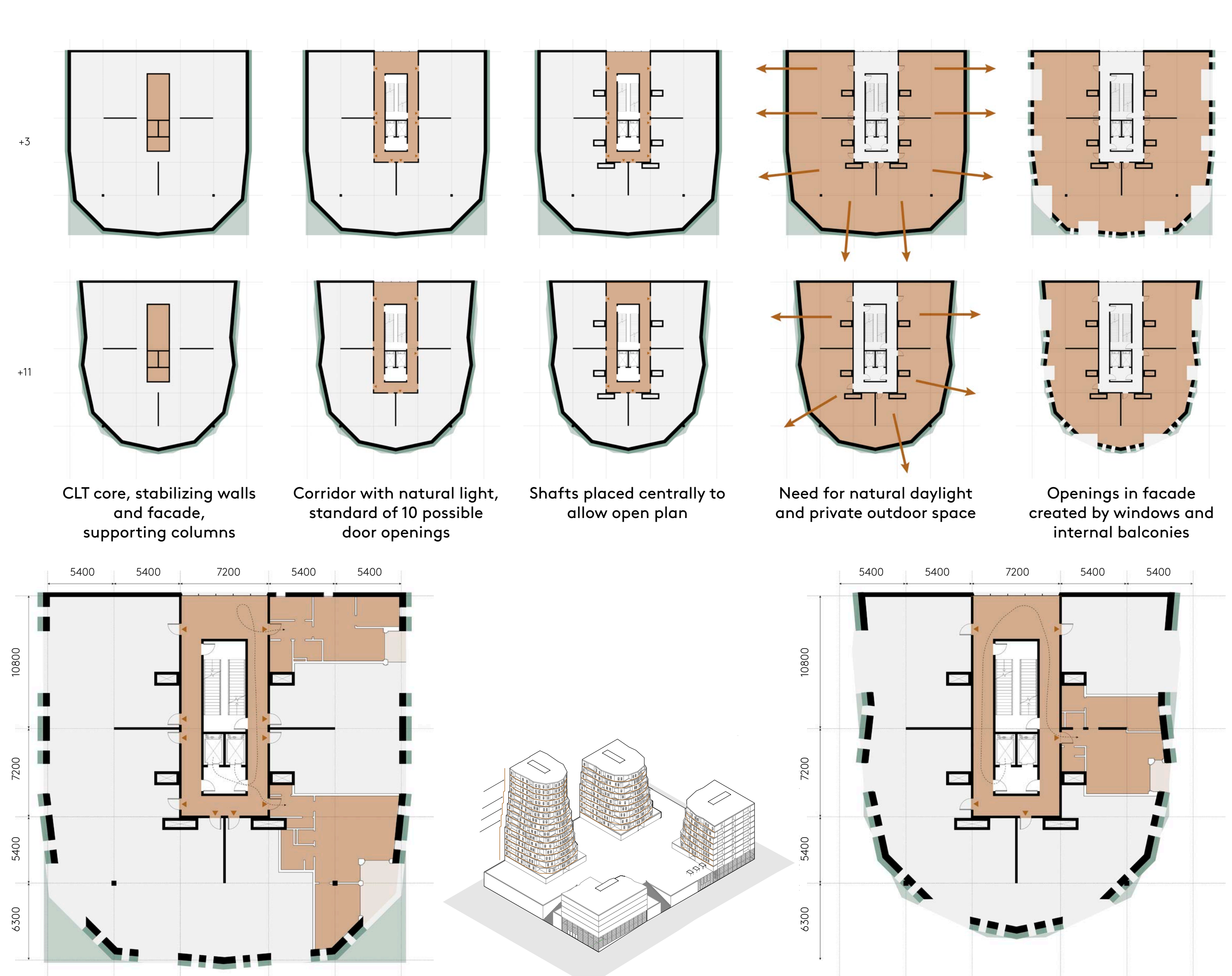
1:250 Floor: +3. Possible layout of apartments.

Because of the crumbling facade in the towers, the square meters available for living decline with each floor. There is no standard apartment type.

1:250 Floor: +11. Possible layout of one apartment.

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1:50 Floor: +3. Layout of an apartment of 71 sqm.

1:50 Floor: +3. Layout of an apartment of 58 sqm.

Example story for this two-bedroom apartment:
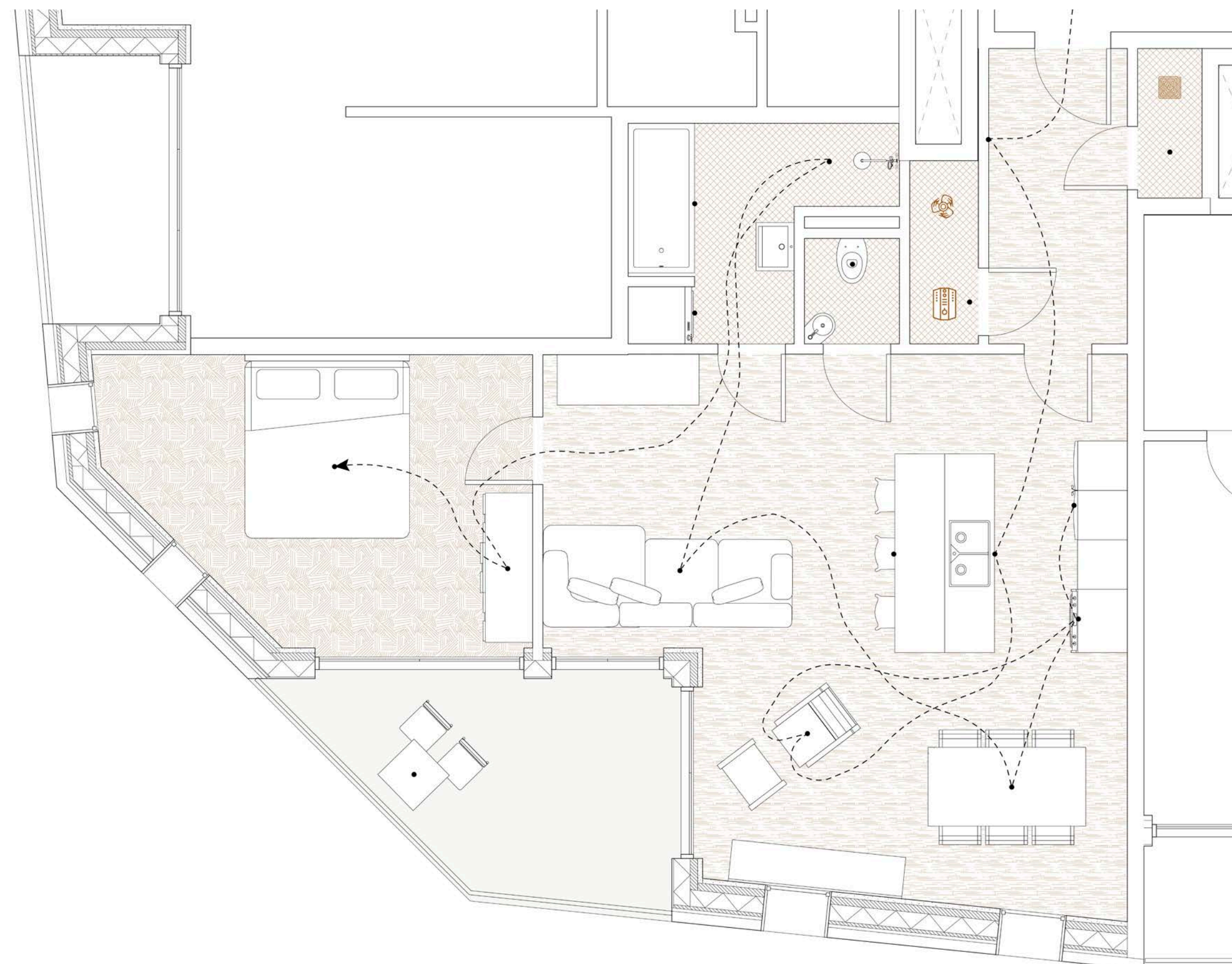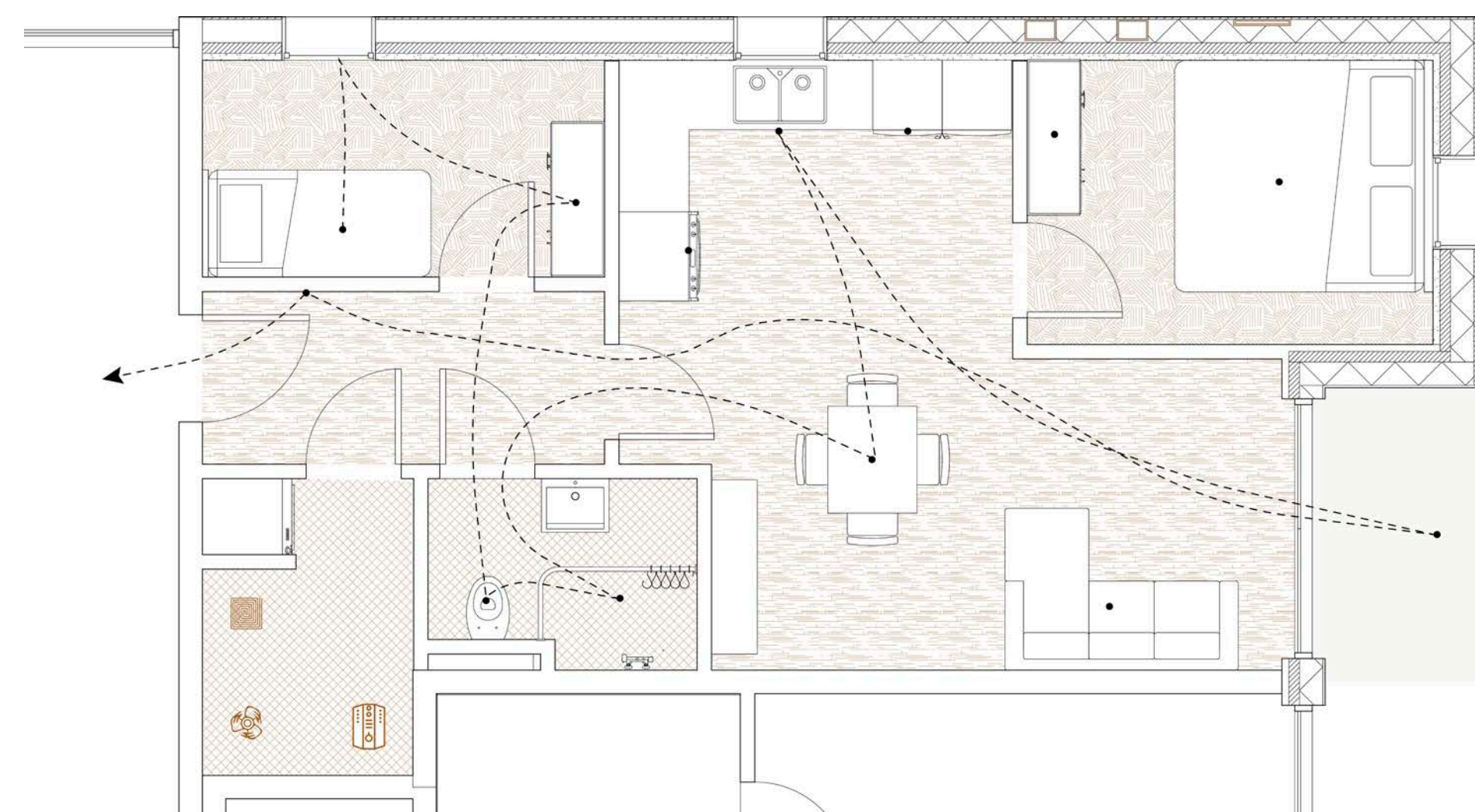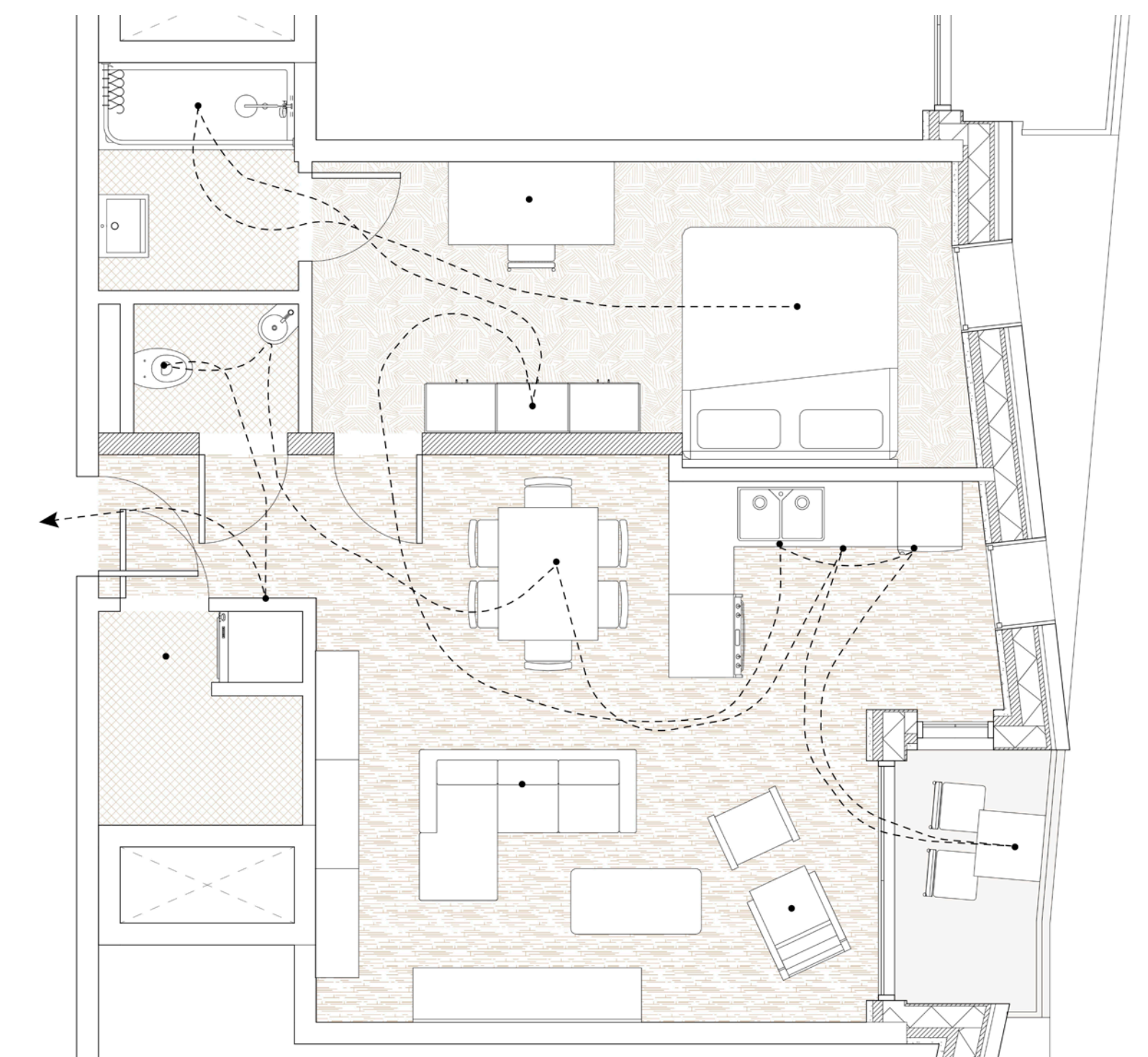A boy lives in a Humboldt apartment with his parents. He is going to the zoo with his school class today. When he wakes up he looks out the window. The sun is shining. He carefully chooses his outfit for the day. He goes to the bathroom and gets ready. His mom already prepared his breakfast and is now making his lunch in the kitchen. During his breakfast, he tells her how excited he is for the zoo. He puts away his dishes and runs to the balcony. He sees all sorts of birds in the tree in front of their apartment. He tries to count them. Then his mom calls him to get going. She hands him his backpack and brings him to the bike parking on the ground floor. There he meets his friend and they cycle to school together.

1:50 Floor: +3. Layout of an apartment of 62 sqm.