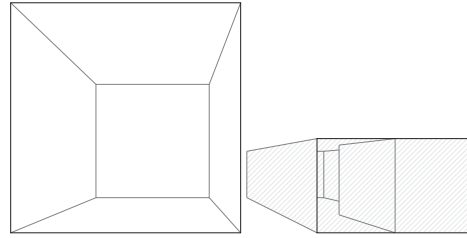
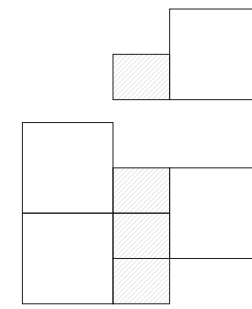


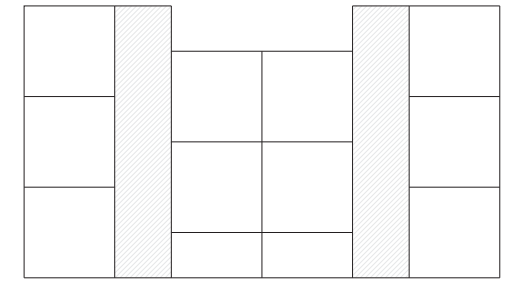
Every house...
 can be divided in two parts: the main spaces, where users spend most of the time (livingroom, bedrooms, diningroom...) and the servant ones, where secondary activities happen (bathroom, kitchens, communication, storages...).



What if...
 this two sides were split? Then, the main spaces would be free of installations and infrastructures what would give a total freedom and flexibility. Meanwhile, the services would be together, making it easier the functioning and maintenance while lowering the cost of installations.

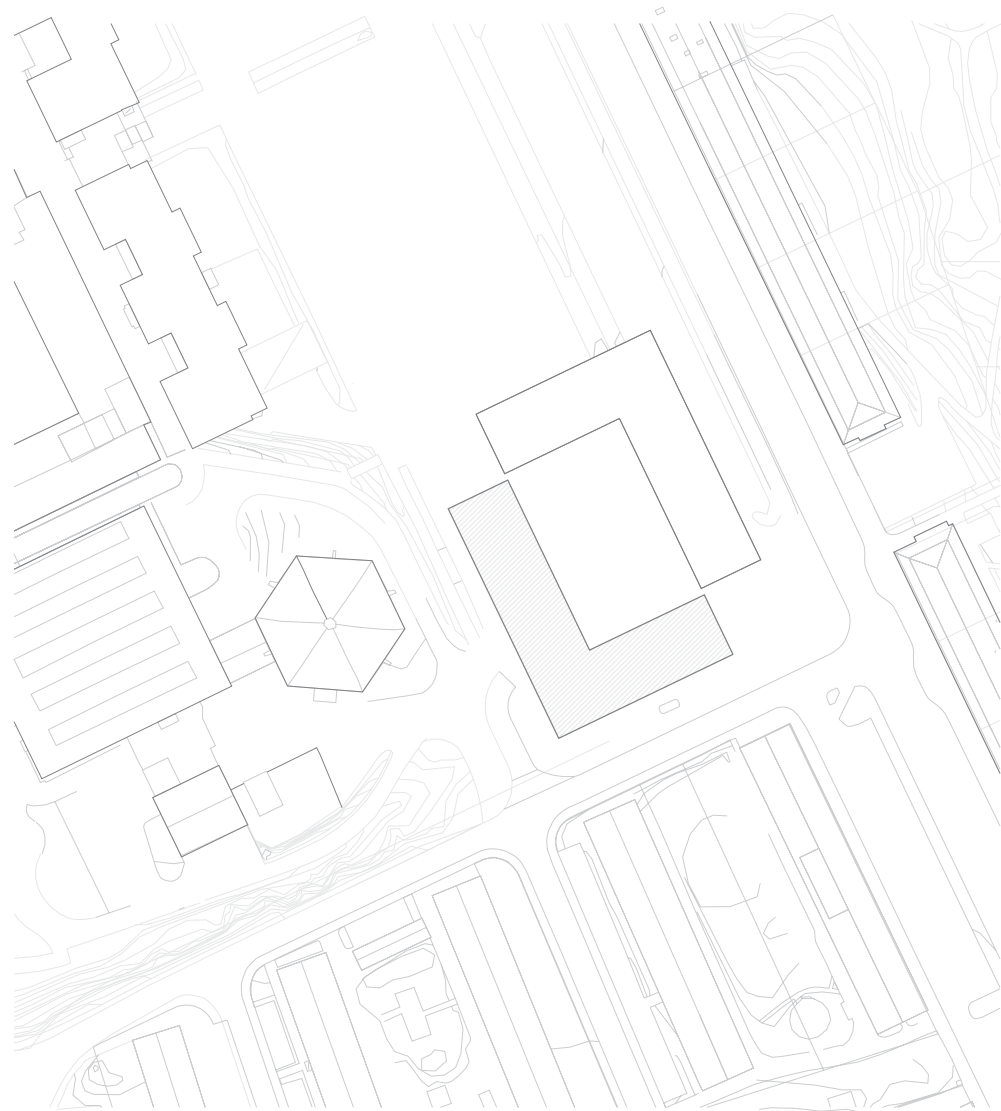


Then...
 both pieces together would make a house. Houses that could be stacked one over the other, joining the services at one point and the main spaces around them. Generating a big distinction and correlation.

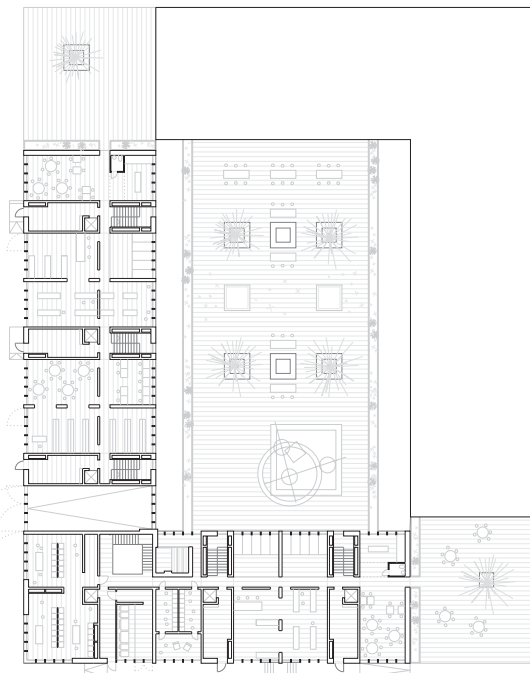


Furthermore...
 The services can work as service for the whole building in the shape of load bearing structure. Once again, this reinforces the flexibility and the total freedom of the plan in the main space. Which brings us a raw space, ready for anything.

Site plan.
 Scale 1:1000
 The plot is located between two very different neighborhoods: one is Chalmers, an university area, while the other is purely residential.

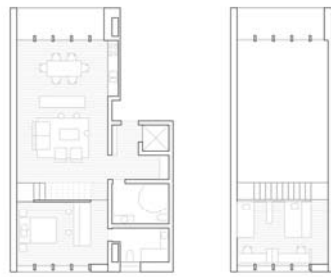


Ground Floor. Entrances and Courtyard.
 Scale 1:400
 The building is divided in 6 parts, each of them with nine apartments and its own access. The ground floor hosts the laundry room, garbage room, sauna, as well as commerces for the whole area.



Underground floor
 Scale 1:400
 The underground floor is reserved for car and bikes parking under the courtyard, and storage rooms and all the technical rooms and installations under the building. There is natural ventilation, due to the fact that the courtyard is smaller than the floor surface.





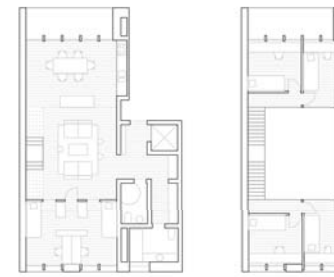
FAMILY
2 rooms 4 people 81sqm



FAMILY
2 rooms 4 people 105sqm



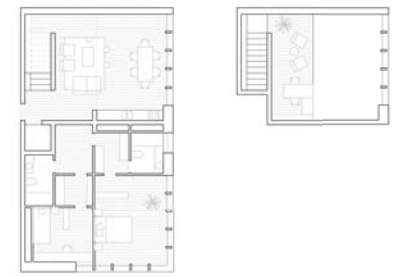
FAMILY
3 rooms 4 people 105sqm



SHARED STUDENT APARTMENT
5 rooms 6 people 81sqm



TWO COUPLES
2 rooms 4 people 112sqm



FAMILY
2 rooms 4 people 81sqm

Six different possibilities

Scale 1:200
The interior space of the house is empty, what lets the users to configurate the space according to their needs. Those can vary as the users change and their needs too, letting them expand the house through the double height.



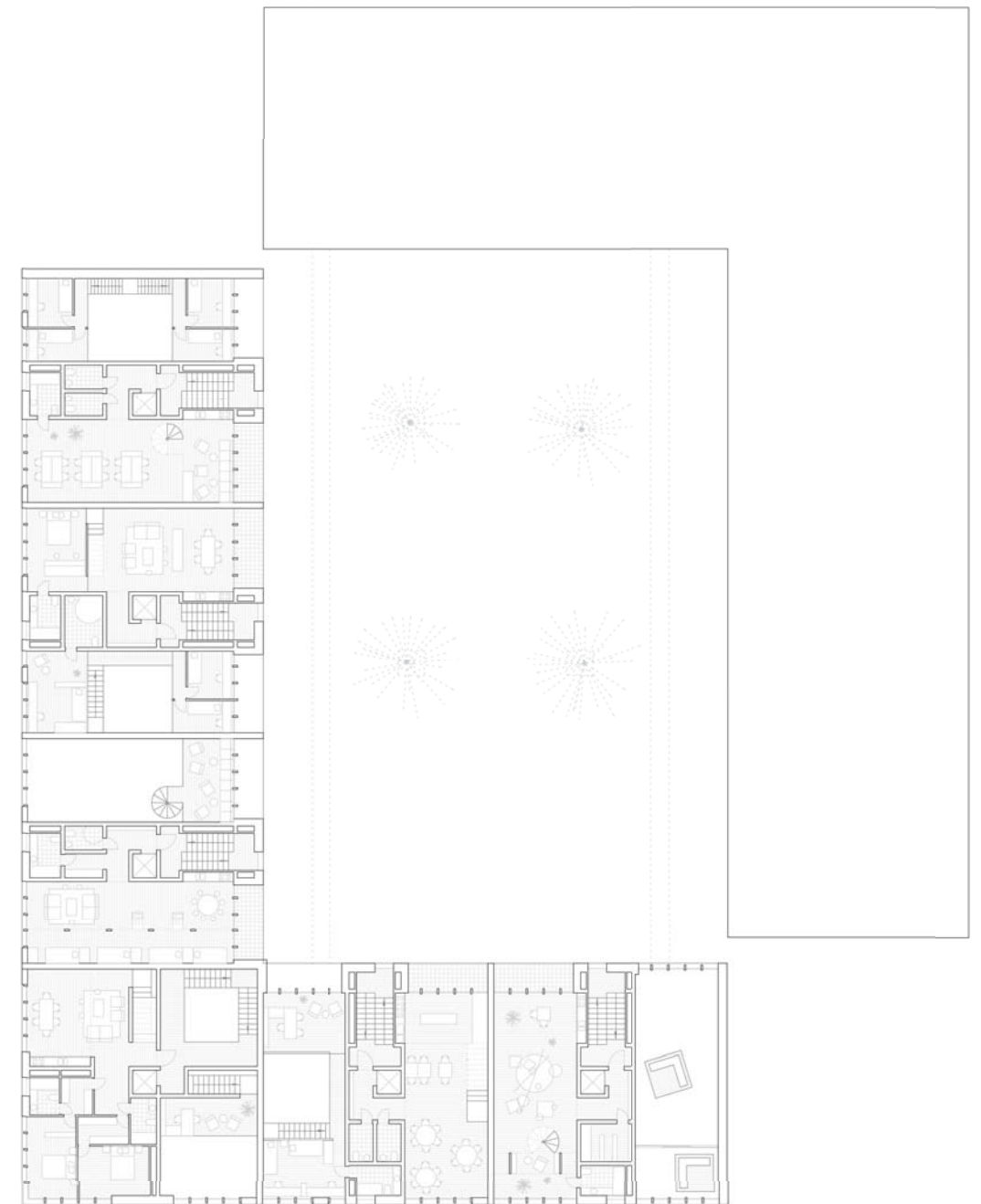
Floor plan (LEVELS 1, 3, 5, 7 and 9)
Scale 1:200
As the main spaces have double height while the servants are single, the services can be stocked vertically, leaving more horizontal space to the main ones. Thus, this division can be seen quite clearly in the floors.

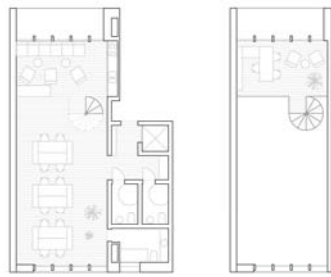


Southern facade (to the street).
Scale 1:200

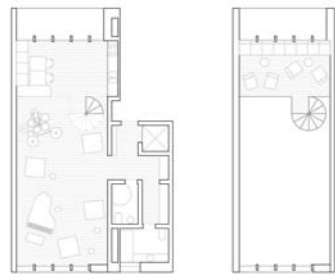


Section (EAST to WEST)
Scale 1:200
This section is done through the main spaces. There is a double height that can be occupied to generate two heights. Thus, a game of views and diagonal spaces is generated, while facilitating the flexibility.

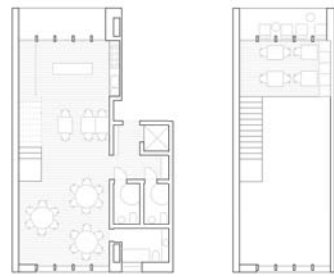




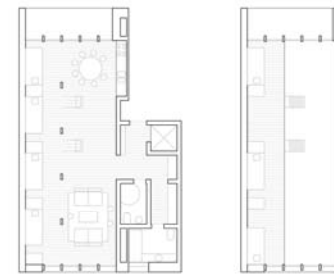
OFFICE SPACE
1 rooms 14 people 81sqm



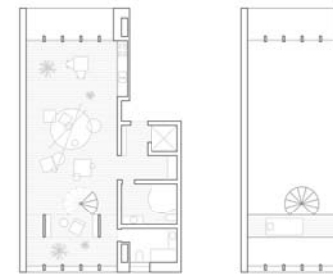
MUSIC ROOM
1 rooms 8 people 81sqm



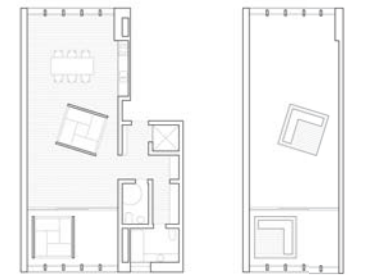
RESTAURANT
1 rooms 40 people 81sqm



YOUTH HOSTEL
2 rooms 8 people 92sqm



ARTIST'S STUDIO
1 room 2 people 69sqm



"NAKED HOUSE"
2 rooms 6 people 70sqm

Another six possibilities

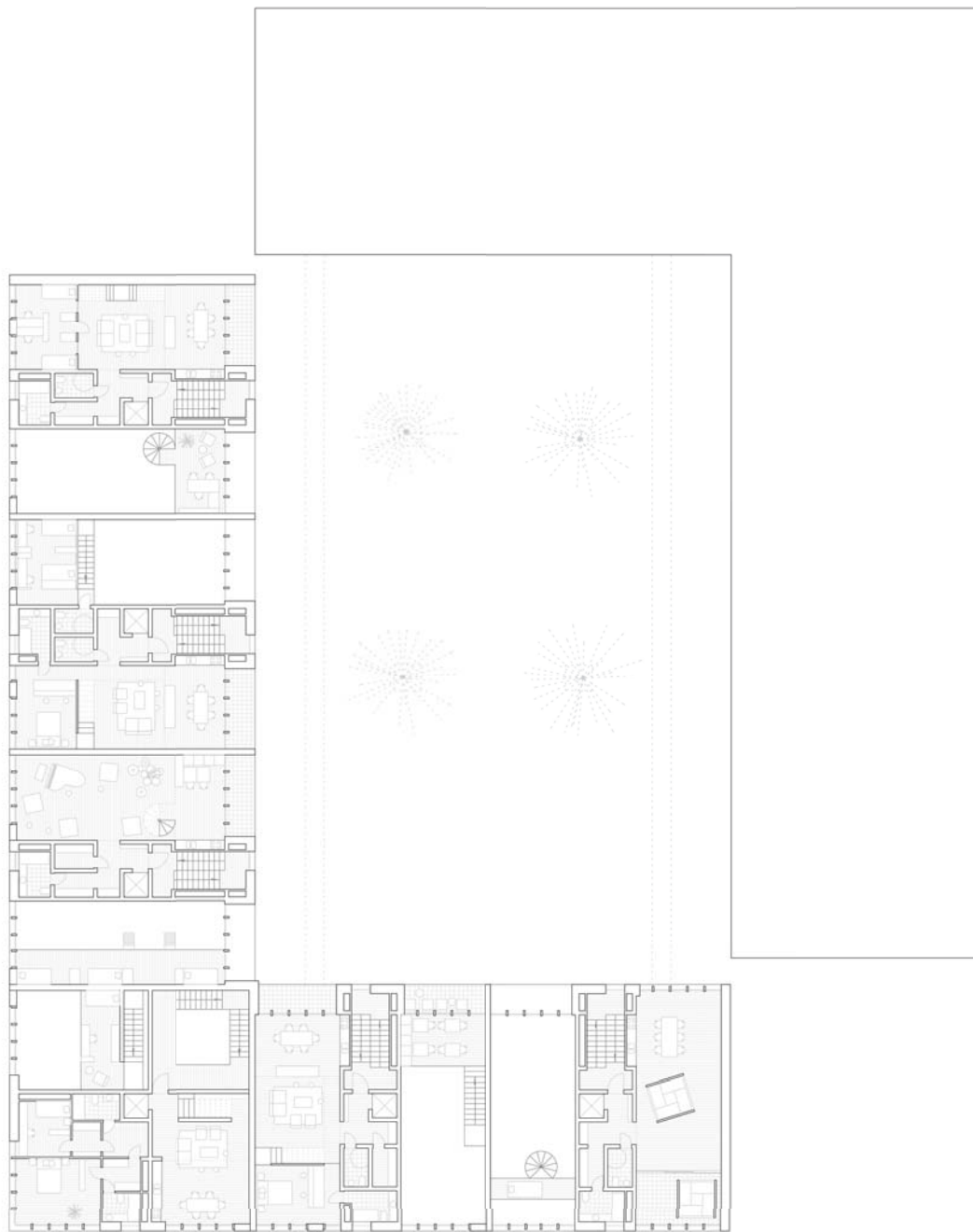
Scale 1:200

The use can be not only residential, but also commercial, working space or a mix. Whatever is the case, the obtained result is spacious, organized, with a play of heights and a generous lighting.

Floor plan (LEVELS 2, 4, 6 and 8)

Scale 1:200

The division means that in every floor, one servant will be connected to serveds, one at the same level and the other in the double height. That way, the service band can have some flexibility too.



Western facade (to Kopperbunkern).

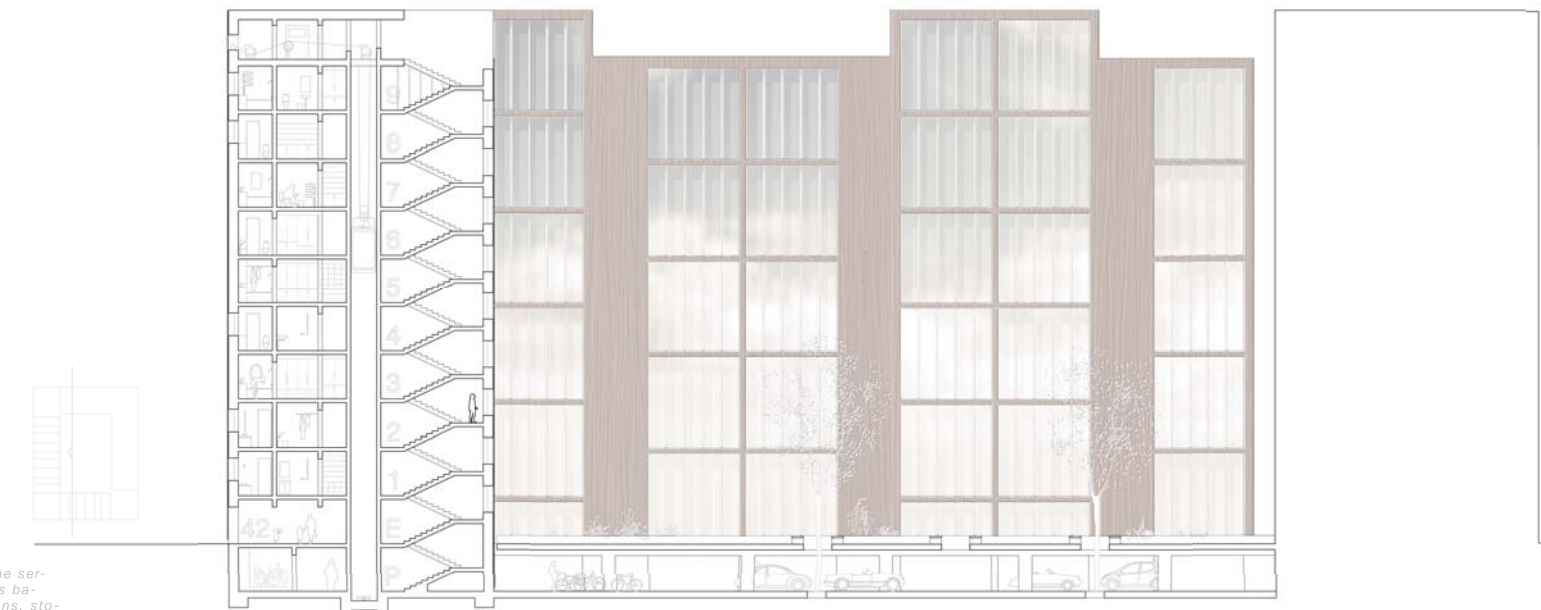
Scale 1:200

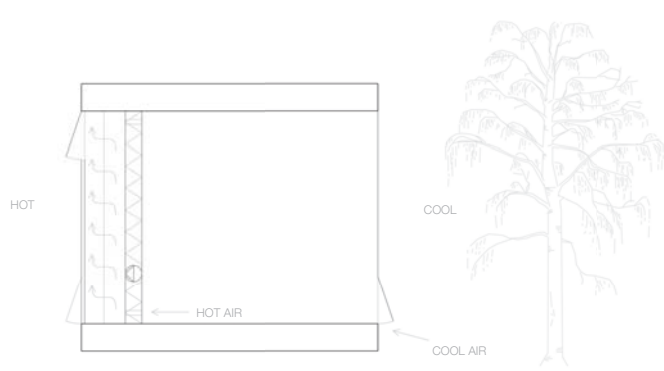


Section (SOUTH to NORTH)

Scale 1:200

This section is done through the serving spaces. All the services as bathrooms, toilets, communications, storages, stairs and elevators are located here. It's a more compressed, enclosed and protected space.

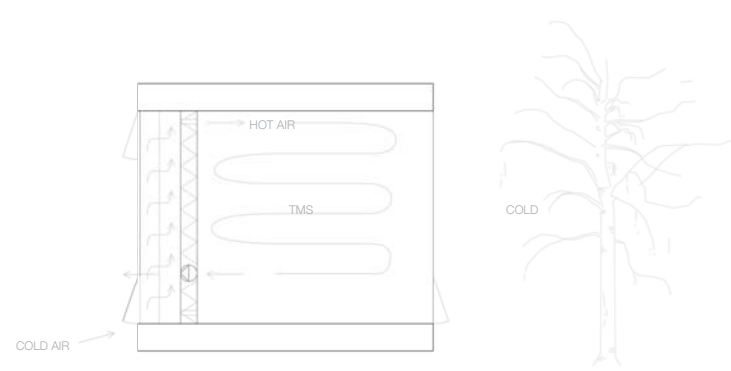




Summer

Fundamentals for cooling

The system works as a solar chimney. As the sun hits it and the temperature increases, the air moves upwards where it leaves the chamber through the opening. This makes an absorbing effect of the hot air inside the house that is expelled out. The air that comes in, is from the coolest part of the complex: the courtyard, due to the evapotranspiration of the vegetation and the evaporation of the aquatic elements.



Winter

Fundamentals for heating

When the sun hits the system, the black sheet absorbs the energy and the temperature rises notably. When warm enough, a fan helps the circulation of hot air that moves through the slab of the floors, in the layer of gravel (that also works as sound isolation). The high thermal inertia of this material generates a disphase of the temperature cycle as a thermal mass storage that reduces the need of heating, specially during the middle seasons.



Facade principle

Elevation

Each unit has an opening as the one shown above. As a big opening the heating losses are considerable in winter and there is risk of over-radiation in summer. But the solar collector and the thermal mass storage system reduces considerably the need of heating, while the structure projects shadow to the window in summer protecting it from the direct sun exposure.

- 1 100mm spruce wood CLT
- 20mm sound isolation
- 100mm spruce wood CLT

- 2 100mm spruce wood CLT
- 20mm sound isolation
- 100mm spruce wood CLT
- 20mm sound isolation
- 100mm spruce wood CLT

- 3 25/40mm spruce strips, oiled
- 20mm aluminium sections
- 19mm plywood
- 1mm bituminous sealing layer
- 240/50 softwood posts
- 230mm rockwool insulation in between
- 0.1mm geotextile layer

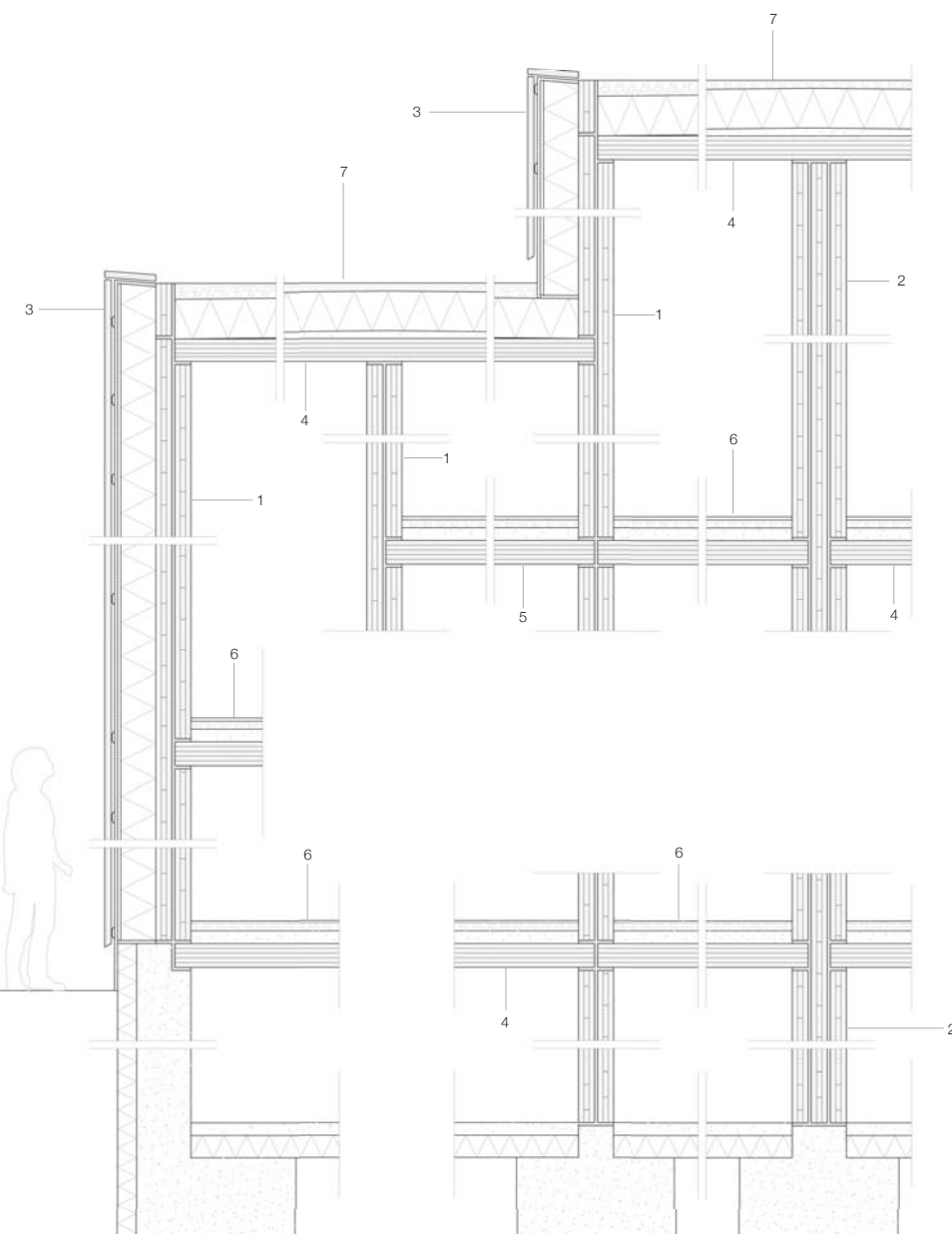
- 4 150mm spruce wood GLT

- 5 100mm spruce wood GLT

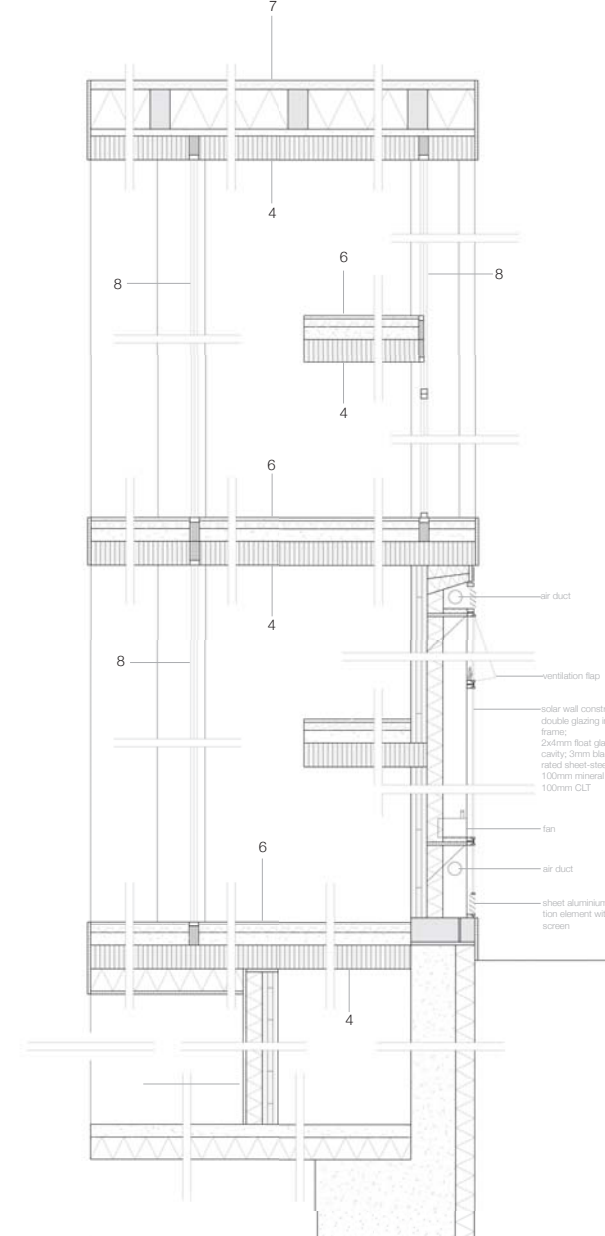
- 6 20mm concrete
- 50mm gravel with hot air tubes
- 80mm concrete
- 0.1mm geotextile layer

- 7 50mm gravel
- 240/50 softwood posts
- 230mm rockwool insulation in between
- 1mm bituminous sealing layer
- 50mm slope concrete
- 0.1mm geotextile layer

- 8 40mm triple glazing



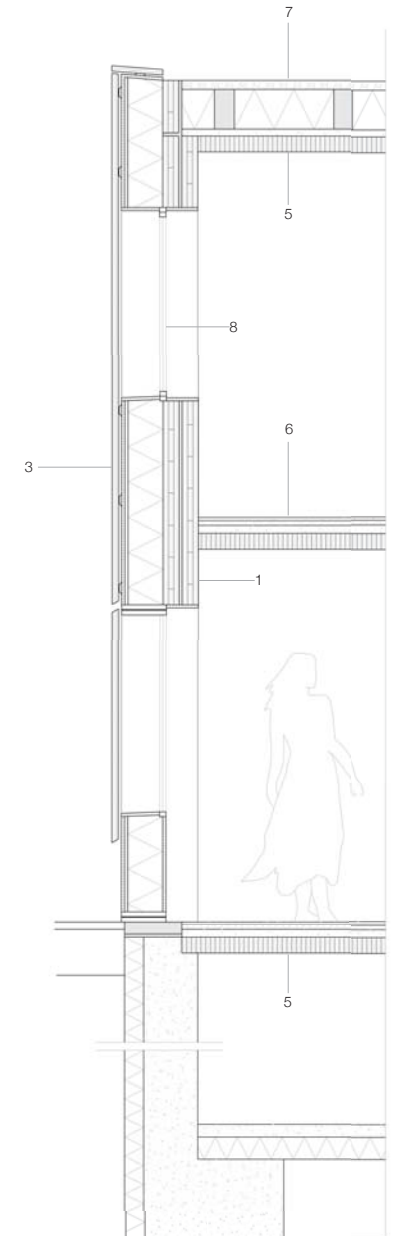
Construction
Scale 1:25



Section with solar heat collector
Scale 1:25



Facade from roof top to ground
Scale 1:25



Section through service spaces
Scale 1:25