SUSTAINABLE DENSIFICATION

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MPARC Matter Space Structure

INTRODUCTION

In 2050 the total population of the world is estimated to 9 billion where the majority will be living in cities. The densification of the cities is a necessity to give all people a place to live and to reduce the ecological footprint. Increased prices of land and an environmental awareness will make it necessary to change the conventional way to build. Today we are forced to build higher, denser and on new challenging sites in order to reduce suburban sprawl, which is often characterized by car dependency. The factors that provoke the spread of the cities are found in the boom in car ownership, poor public transportation services, the dream of the good life (the epic villa) and bureaucratic building value aspects that have influenced the quality of the urban/suburban life, affecting the environment, the economic and social dimensions.

THE FORGOTTEN SLOPES

This project explores densification in an urban and suburban context with focus on residential housing.
The relationship between existing buildings, new buildings, house types, households and sites are investigated to find new possibilities of sustainable living without loosing existing qualities and create a more diverse social society.
Five sites around Gothenburg have been exemplefied in different scales of densification strategies with focus on one of them e.g Skårsplatsen in Örgryte.

The topology in Gothenburg is dominated by varied scale mountain ridges that define the different areas of Gothenburg. The dramatic landscape offers the inhabitants of Gothenburg a rich nature and wildlife just around the corner.
These vertical slopes are of a great quality and importance for the society of Gothenburg but they can also be a barrier both social and physical between different areas and sites.
Suppose we select carefully choosen sites in varies scales.
By adding new residintial buildngs, new circulation links, views and meeting places are created and will be accessible for everyone.

ÄNGGÅRDEN

Info: Änggården is a neighborhood situated south of central Gothenburg

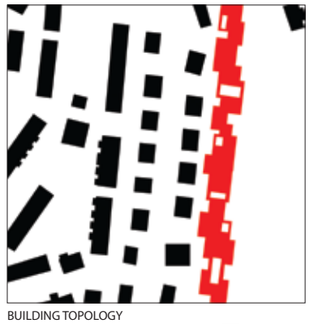
Housing type: low houses with plenty of greenery inbetween

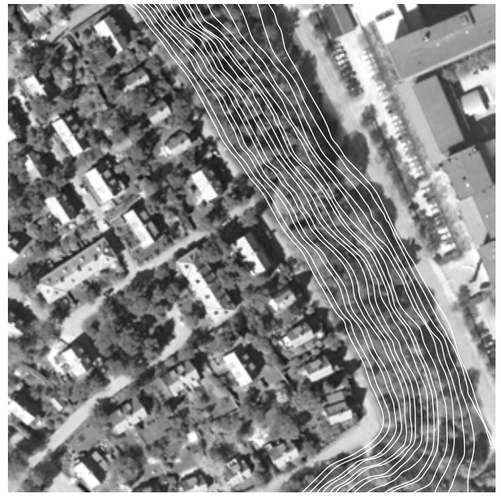
Infrastructure: Tram/buss (Botanical Garden), bicycle path

Qualities: Änggårdsbergen, Gothenburg Botanical Garden, Slottskogen

Distance to the city core: 2,7 KM

New housing type: Small, medium and large apparments





LANDALA EGNAHEM

Info: Landala Egnahem is a neigborhood situated west of Chalmers University of Technology

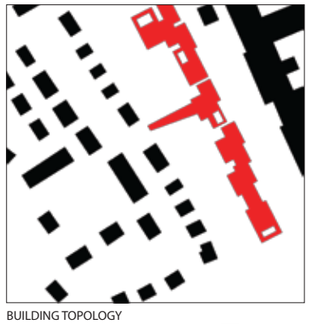
Housing type: villas and terraced wooden houses

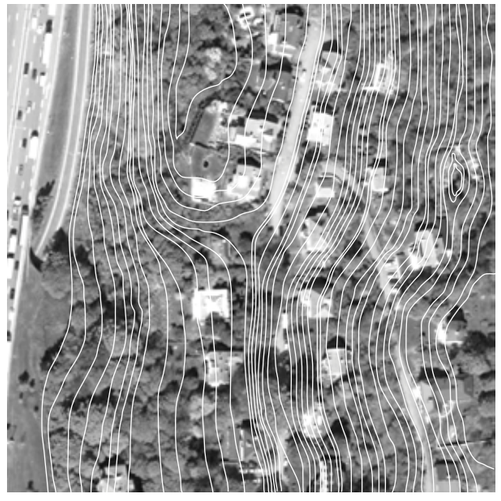
Infrastructure: Tram/buss (Chalmers), bicycle path

Qualities: Chalmers University of Technology, Mossens sport facilities

Distance to the city core: 1,9 KM

New housing type: Small appartments (student housing)





ÖVERÅS

Info: Överås is a neighborhood situated east of central Gothenburg.

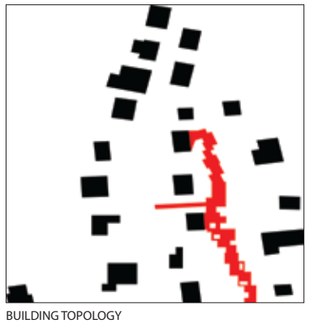
Housing type: villas

Infrastructure: Tram/buss (St Sigfrids plan), bicycle path

Qualities: The view, E6an

Distance to the city core: 1,8 KM

New housing type: Small and medium appartments



BÖ ,SKÅRSPLATSEN

Info: Bö is a neigborhood situated east of central Gothenburg.

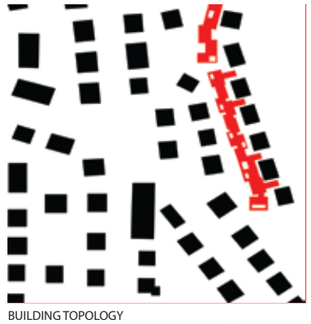
Housing type: villas

Infrasstructure:Tram (Ekmanska hostpital), bus (Skårsplatsen), bicycle path

Qualities: Delsjön Nature Reserve, Delsjö GK E6an, the view

Distance to the city core: 2,6 KM

New housing type: Small appartments



SKÅR

Skär is a neighborhood situated east of central Gothenburg

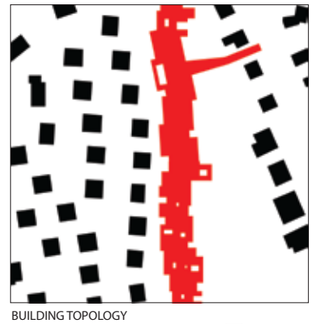
Housing type: villas and terraced houses

Infrastructure: Buss (Skårs kyrka), bicycle path

Qualities: Delsjön Nature Reserve, Delsö GK, E6an

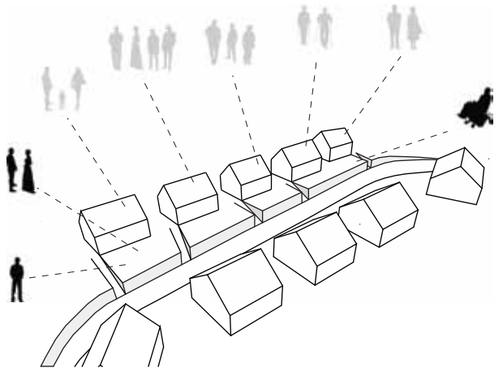
Distance to the city core: 3 KM

New housing type: Small, medium and large appartments

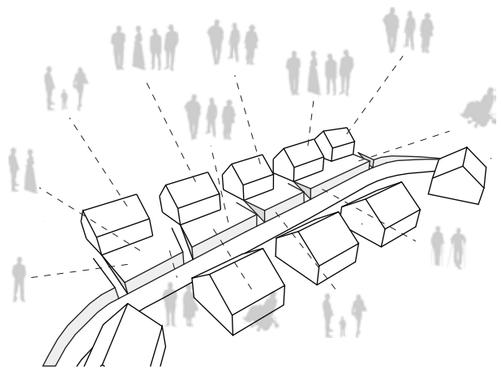


ARCHITECTURAL CHALLENGES

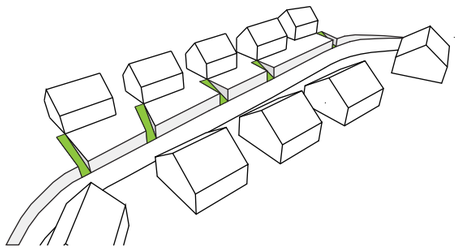
1. INHABITANTS
Double the amount of inhabitants in the choosen area.



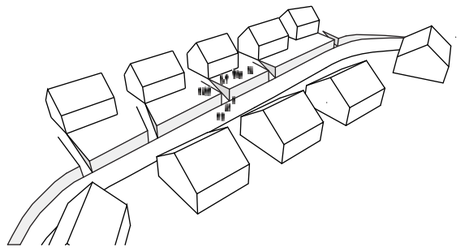
2. HOUSEHOLD
Complete the chain of different households and people of all ages.



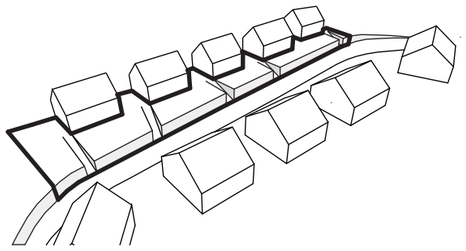
3. SPATIAL EFFECTIVE
Maximize the combination of existing and new house types and common spaces.



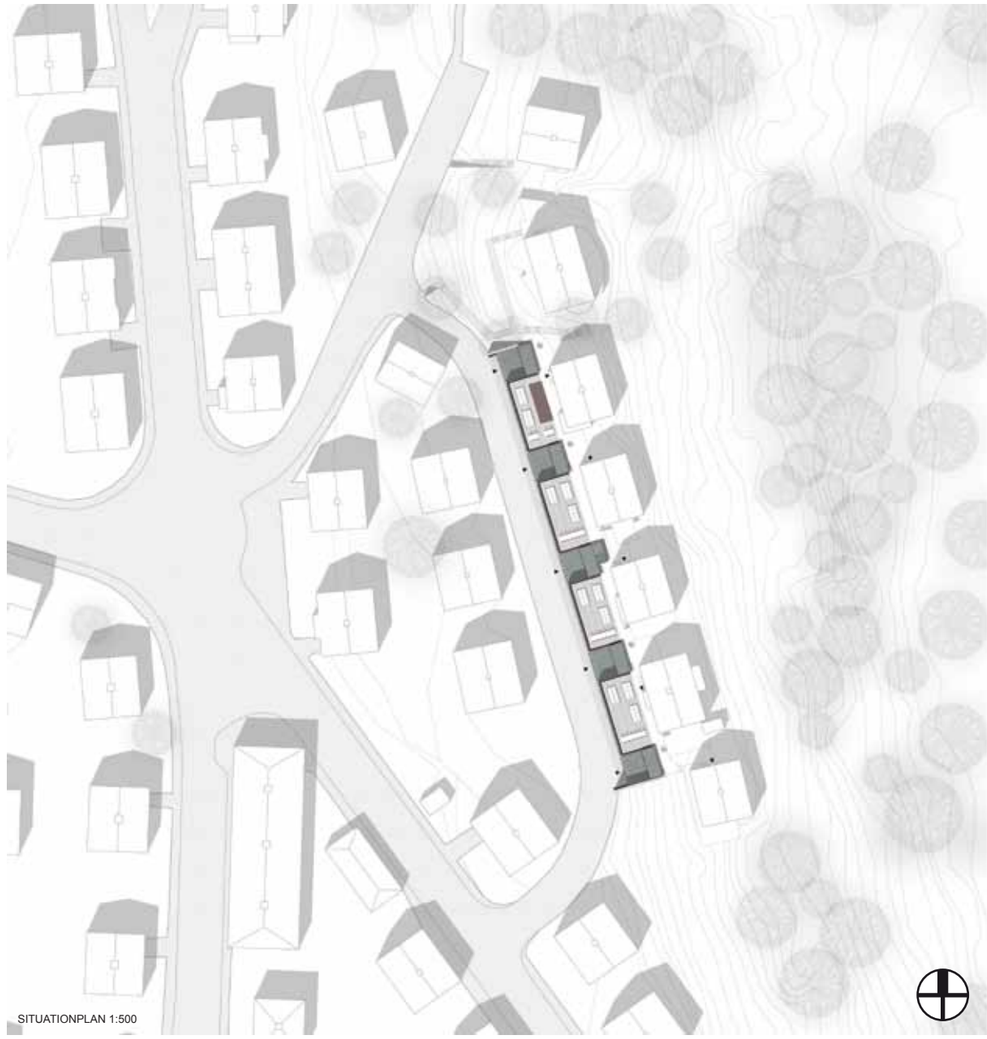
4. VERTICAL COMMUNICATION
Design new improved links to existing buildings.



5. INCLUSIVENESS
Create public spaces and hotspots for social interaction that generate the feeling of inclusiveness.



6. BOUNDARY
Keep the buildings envelope inside the existing property boudaries.

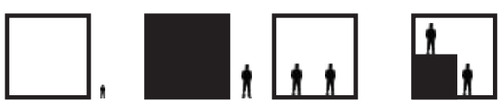


SITUATIONPLAN 1:500

CONCLUSIONS

PUBLIC SPACE
Public and common spaces in the buildings, such as the roof terraces and stairwells/green houses are interaction hotspots for the residents to socialise and network.

HOUSING TYPES
The buildings offer both owned and rental aparments in two different sizes, creating a good mixture of housing types which generates a diversity of people.



HUMAN SCALE
Housing on a human scale makes it easier to get to know ones neighbours which increases the inclusiveness and the feeling of security.

PRIVATE VS PRIVATE
By using the topology of the slope it is possible to live very close to each other and still experience privacy.

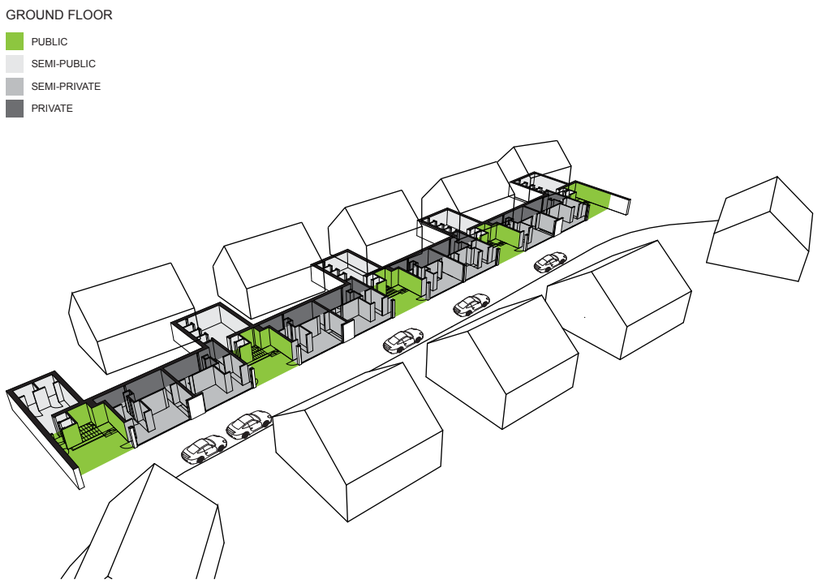
VERTICAL COMMUNICATION
Stairs give us natural exercise and gain our health. Covered staircases protect against rain, snow and ice which makes it possible for elderly people using the stairs all the year round.

FLEXIBLE STRUCTURE
By having nonstructural inner walls makes it possible to adapt the appartments for future needs.

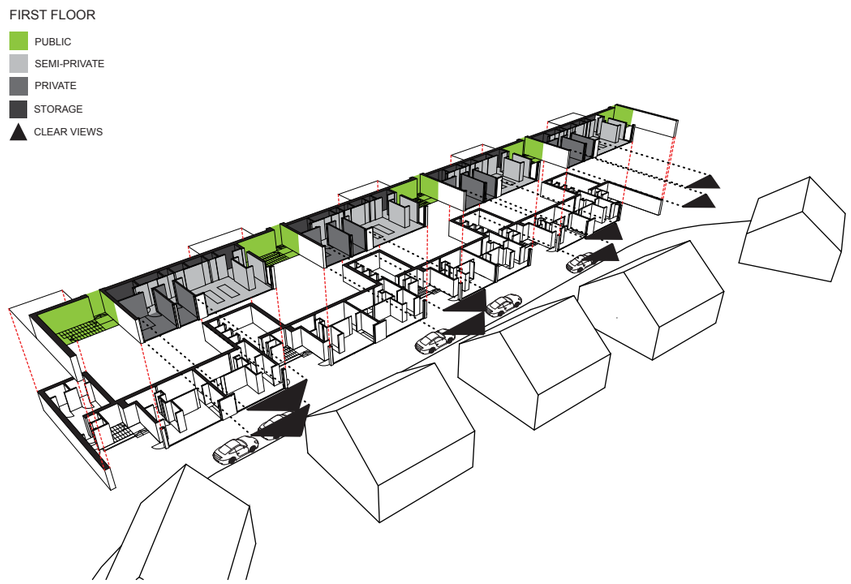
THE SOCIAL WALL

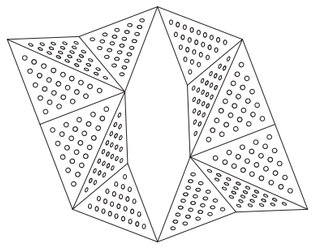
The first thing you notice when entering the site is the dominant curved granite stone wall that runs along the street
capturing the topology of the site. Further up the street an impressive pine tree reveals itself and highlights the scale of the wall. Dense ivy climbes the granite stones and blends into the folded copper facade. At a first glance you hardly notice that it is a building, but after a few seconds the light that penetrates through the
perforated facade tells something else.
A cut is made in the copper and like an opening in a shrubbery it invites you to an intimately space with lots of greenery.
A couple is sitting on the stairs having a coffee. On the roof people are playing boule and you can smell the pastis in the air. Further down the street gesticulating arms vaguly reveals an argument in one of the apartments. What are they arguing about? A car is comming and the kids who are playing floorball in the street move the goal-cages and let the car pass by.
A mother opens a window, shouting to the kids that supper is ready. This is the The Social Wall.

GROUND FLOOR



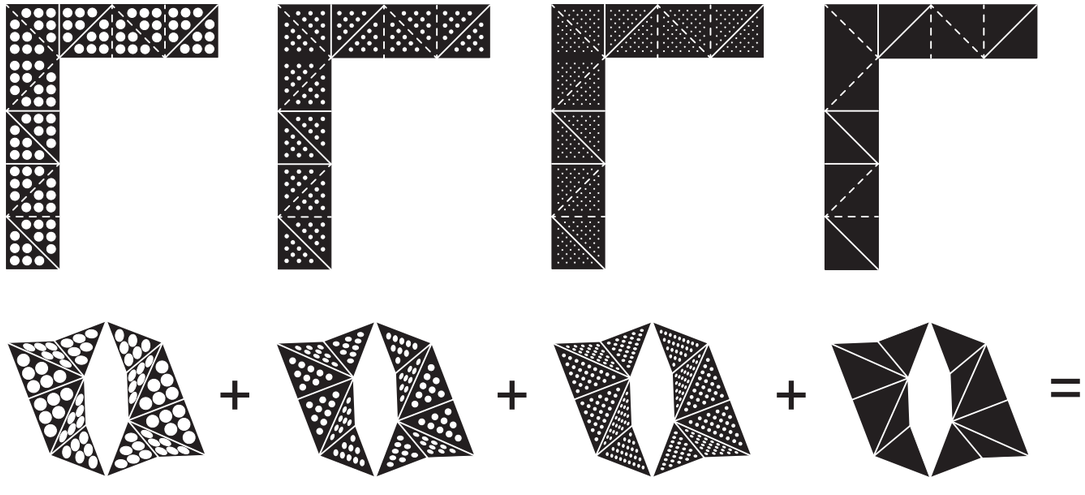
FIRST FLOOR

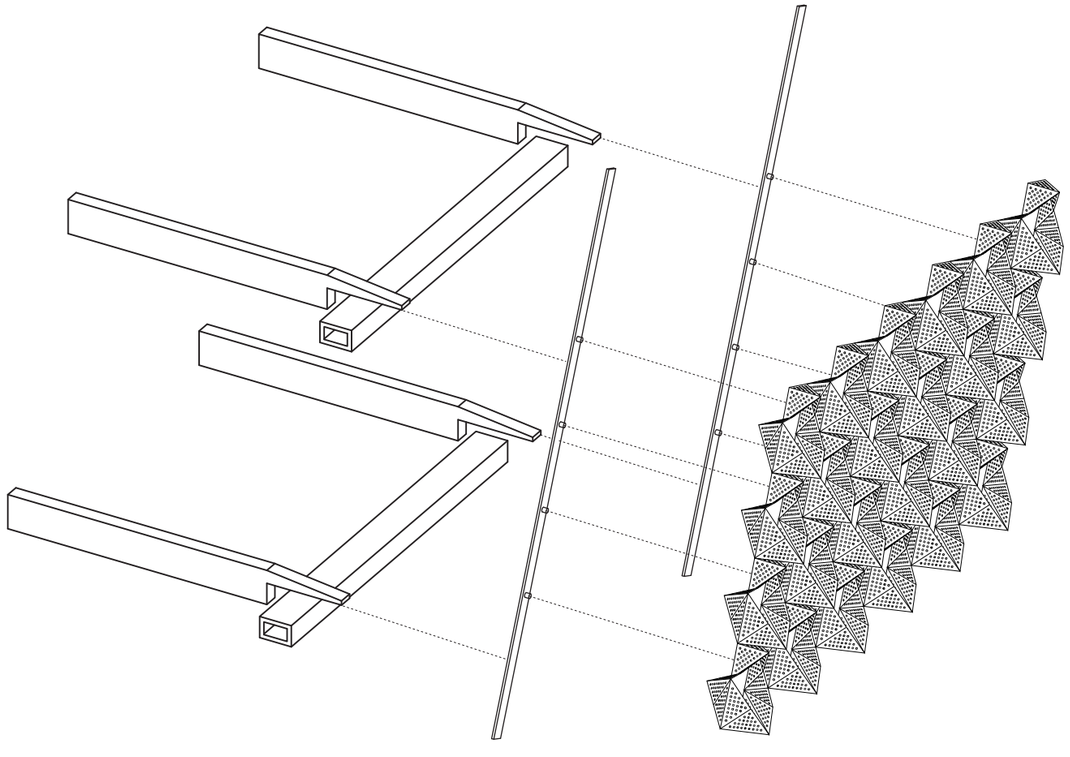




THE IVY WALL

The facade system Ivy Wall is a serie of components made of folded L-shaped copper strips. The system mimics the qualities of ivy where the components cammoflage the building and leaves traces of the old granite stone wall. Facing the facade perpendicular, the facade reflects the program (public, semi-private, private) inside the building through the four different components and regelates transparancy and daylight. But walking along the street, parallell to the facade, you will experience a closed facade without transparancy. This requierd effect makes an open facade that works as a divider of public and private space.
The material of the copper components have a degree of flexibility and assembled with rivits makes the fasade flexing in the wind like ivy, generating a playful light and shadow effect when the sun hits the facade.
The copper strip can easily be prefabricated and folded off site, which gain quality and economy.





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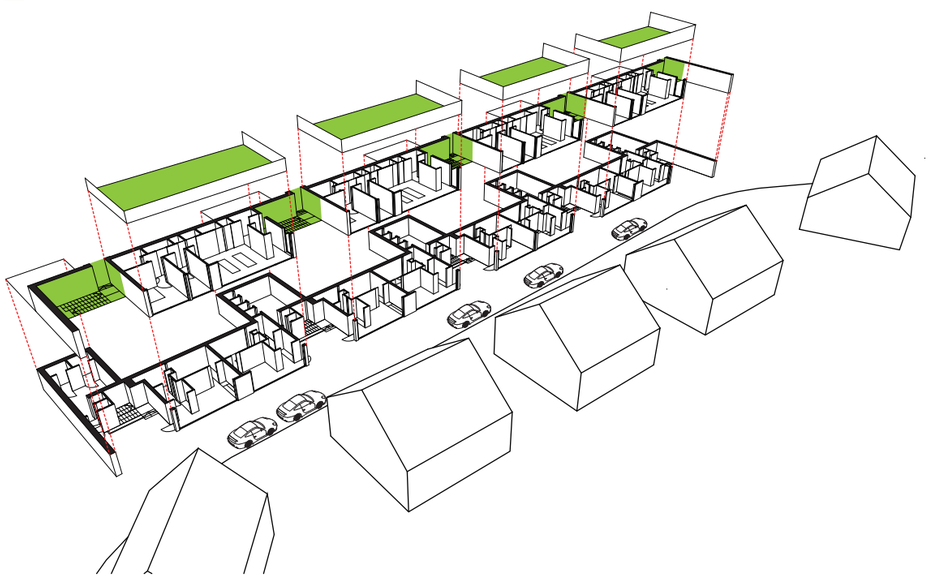
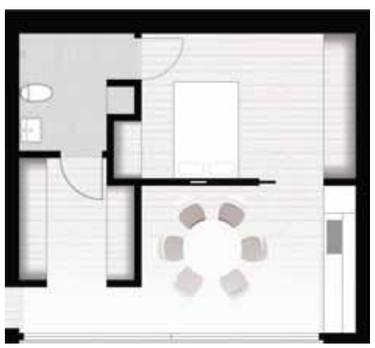
ELEVATION COPPER FACADE

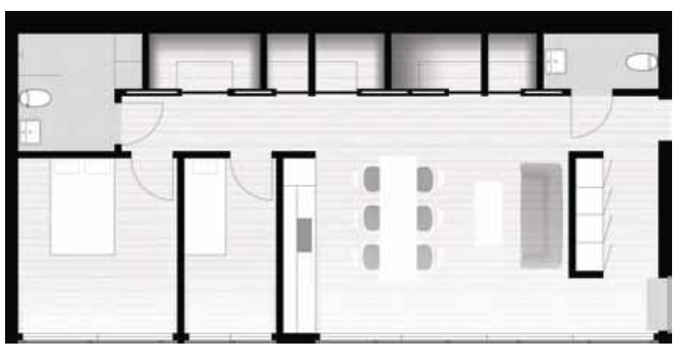
ROOF TERRACE

PUBLIC

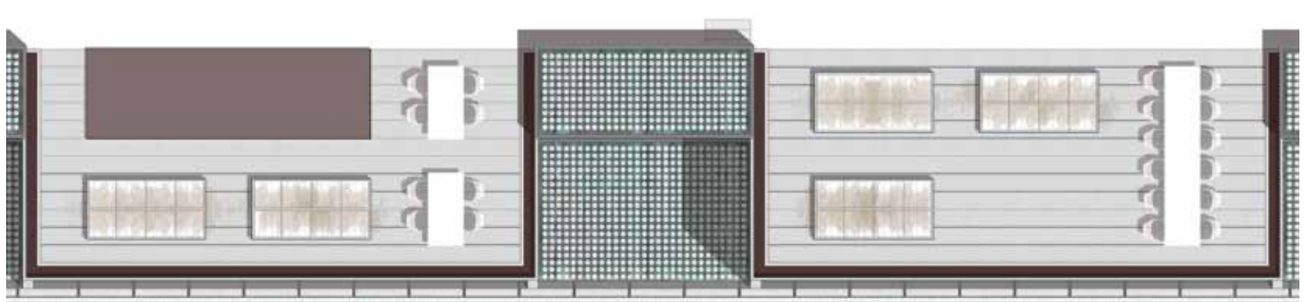




GROUND FLOOR, 8x44m2
The appartment is divided by a T-shaped wall into two zones, semi-private and private. When entering the appartment you get a clear view towards the kitchen. The copper facade reveal itself from the other side. A shadow-play expresses itself on the floor and draws you forward to the living area/kitchen.
A stained glass sliding door allows daylight to enter the bedroom. By having two doors to the bathroom, it becomes possible for the two different zones to operate separately.



FIRST FLOOR, 4x95m2
When entering the appartment from the south you get a clear view through the semi-private zone. A spacious wardrobe separates the hall. Behind the long wall on the right side there are bath/wc and storage areas, areas which do not require daylight. In the hall area there is a large window which allows the daylight to enter the living/kitchen area. The window bench can be used as a seat. In the interior part of the apartment there are two bedrooms. From the bedroom windows you have good views without transparency from the houses across the street.

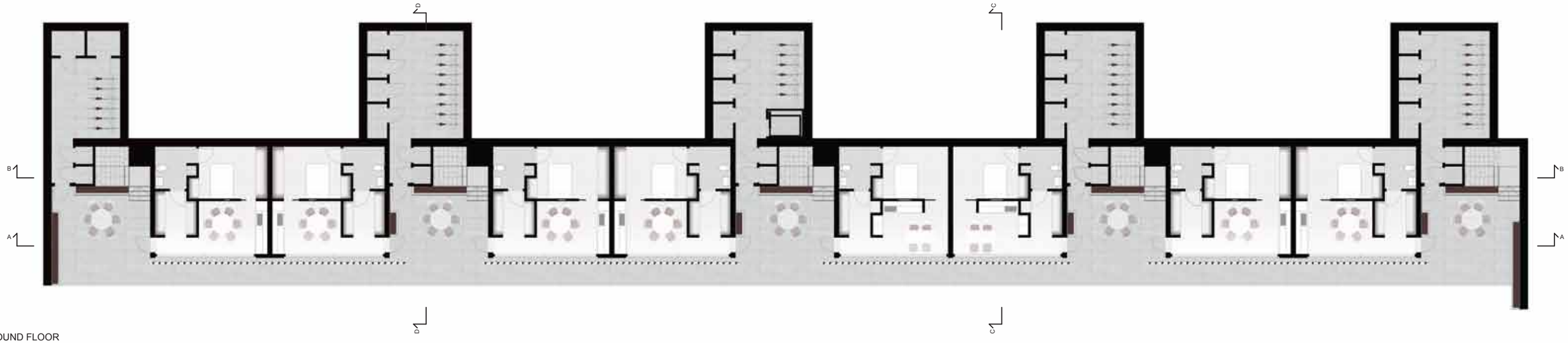


ROOF TERRACE
The roof terrace is accessible through all the stairwells/greenhouses and through the common lift placed in the middle of the building. The terrace is not only a nice public space where you can play boule, grow tomatoes and have your dinner but it is also a elevated bridge linking all the houses on the hill together.
The stairwells/greenhouses divide the roof terrace into smaller parts which makes it more imtimitely.

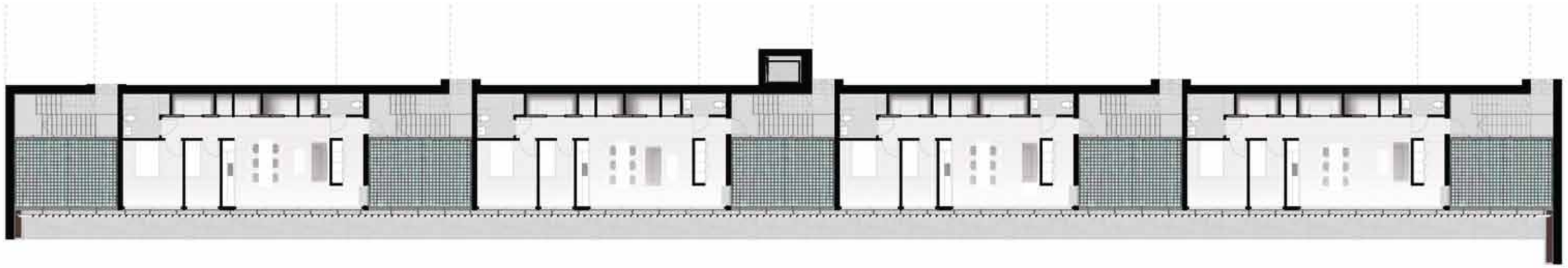
ELEVATION WEST

SECTION AA

SECTION BB



GROUND FLOOR



FIRST FLOOR

ROOF TERRACE

SECTION CC

SECTION DD