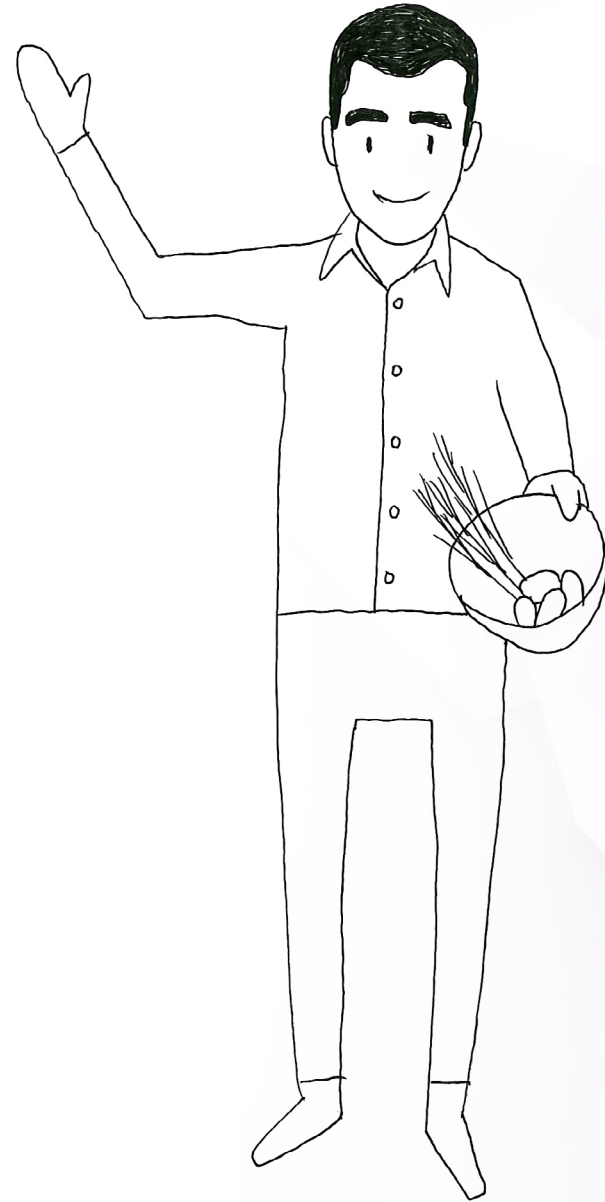


Hello! I'm Aamir from 2049.
Take a few minutes and follow
me through our day at
'Our Neighborhood'.



Tuesday, September 14th, 2049
Sopenkorpi, Lahti



18 year old Aamir, wakes up and reads his Fajr prayer. Today he prays a bit earlier than usual because this is the day when he does his regular voluntary shift at the Human Care Center on the 7th floor. But before he'll start taking care of the weaker ones he goes to the utility building on the yard where he collects a few freshly laid eggs and some fresh herbs from the top floor winter garden. The he makes an omelet for breakfast.

In the staircase Aamir greets Linda, 34, another early bird who is on her way up to the top floor to have a morning exercise in the gym. She's single and loves it but does not want to live all by herself...and most definitely not with her parents! That's why she chose to move in with two likeminded persons in the 6th floor cell apartment.

At the Human Care Center the oldest and the weakest gets accommodation and care from volunteers as well as trained health care professionals. Aamirs motivation for working at the Human Care Center is that, for working at the center, he gets 10 extra points for the Lahti Social Consulting Academy's entrance examinations in spring. But to earn those points he has to make regular shifts at the Human Care Center during the whole academic year.

Reource Harvesting Tower

Human Care Center

Linda's 6th floor
cell apartment

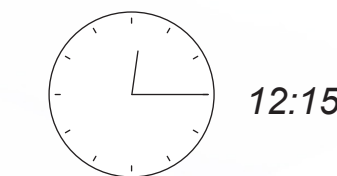
Paavo's
apartment

Aamir's family's
2nd floor
apartment

"LoCAL by Granny
and Granpa"

Kindergarten

Common Utility Building + Greenhouse



After serving lunch to the elderly Aamir goes to have his own lunch. Along comes Jukka who works as a trainee at the design consultancy in the neighboring building. They decide to eat at the "LoCAL by Granny and Grandpa" restaurant in the common spaces on ground floor. Today Leena, 66, and Salvatore, 77, serves paella with pancakes. The restaurant is run by local entrepreneur Pentti Kiskonen who also lives in the same building. Pentti is unfortunately undergoing his second divorce process and is just about to divide his former big family apartment in to two smaller apartments where he and his ex-wife can live side by side in order to make it easier to distribute the time spent with their children. After the lunch Aamir and Jukka stays on the common floor and uses their remaining 20 minutes of the lunch break to play a quick telecommunication game with Aamirs cousin Radi who lives in Mogadishu, Somalia.

Common Gym and
Winter Garden /
Technical Spaces

Pentti's family apartment

Design Consultancy

Garage



In the afternoon the common garden fills with life. The neighborhood milk cow says "MOOOOOOOOOO" as she comes out of the domestic animal shelter to smell the fresh air. Aamirs mother Shamilah takes home both her own and Pentti's kids from the kindergarten today and serves them dinner. Shamilah wants to help the divorcing couple in all possible ways as she herself has gotten so much help from Pentti and his family to deal with the Finnish bureaucracy.



Aamir is very tired as he walks up the stairs towards his family's 2nd floor apartment. After the shift at the Human Care Center he went to school. From school he went to soccer practice and now he is finally back home and ready to sleep. Aamir meets Pentti's dad Paavo, 80, in the staircase:

Paavo: - Hey there Aamir! Tough day huh?

Aamir: - Well, yeah I guess...

Paavo: - Why don't you come and have sauna with me and Pentti? You know how much I hate to hear about his boring businesses day in and day out. I'd really like you to come with us so we could talk about something new and interesting. And I even have some non-alcoholic Paavo's Malt left from last time – special home brew for you!

Aamir: - Thanks Paavo but I'm really tired, I think I have to go home and just sleep.

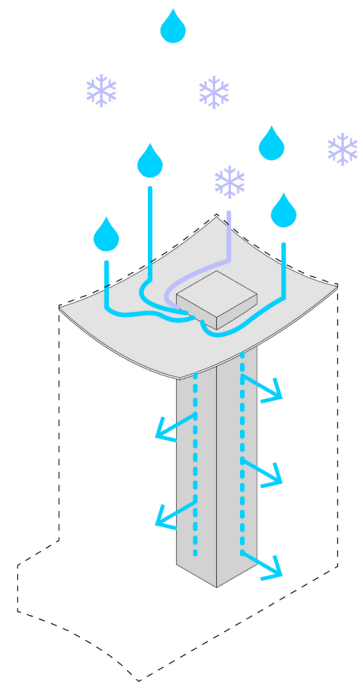
Paavo: - Come on you silly boy! When I was your age I just partied all the time, where is your energy!?

Aamir: - Ok fine, I'll come. But just for a short while, I really need to sleep soon ad get ready for tomorrow.



Aamir is finally in his bed. He falls asleep and dreams about how he will have a beautiful wife, many children and a successful career as a social consultant in Lahti.

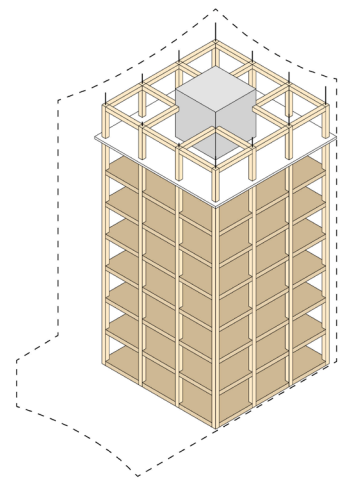




Structural, Technical and Wet Core

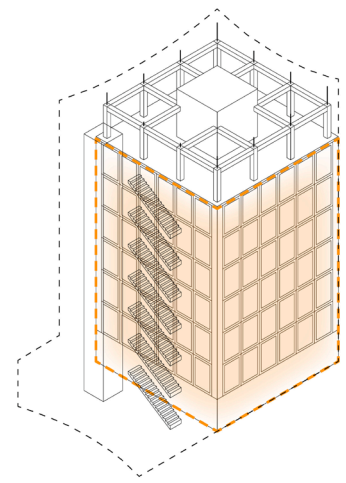
The bearing structure is designed to last 100-200 years and it is therefore built of traditional, long lasting premium materials.

The core which houses all technical shafts and wet spaces is made out of cast concrete / concrete elements in order to minimize risks for water damage. It is easy to make plumbing and HVAC reparations in the future thanks to the centralized technical / wet core. A concrete shell roof collects rain water to be processed and then distributed through the core as household water.



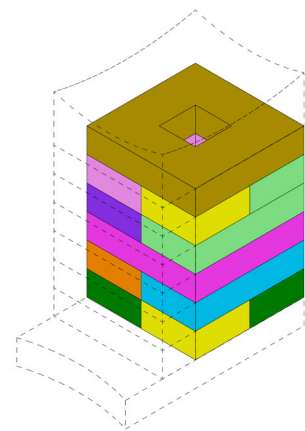
Bearing Structure / Columns and Slabs

The columns and slabs are made of prefabricated wooden components in order to store CO2 in the structure. The structure allows a free plan to be designed by an architect or the resident him-/herself. Light weight wall solutions are easy to customize for each household. The modular lo-tech structure is easy to prefabricate and reproduce.



Minimized Warm Facade Mantle

The need for heating energy is minimized by putting all spaces that do not need warm space outside the warm facade mantle. All common vertical traffic is outside the warm mantle in semi-cold (not heated) space. Some common spaces that do not need warm space such as winter garden, gym and sauna as well as technical machinery for the house are located on the semi-cold roof floor.



Mixed

A great variation of different apartments and service spaces in one building. ARA rents out apartments for people who want to live in a neighbourhood where all kinds of people interact. For detailed plans see boards 4 and 5.

- 2nd floor: 5 room apartment for muslim family
- 2nd floor: 1 room studio apartment for single business woman
- 3rd floor: 4 room apartment for conservative family
- 3rd floor: 1 room studio apartment for liberal family
- 4th floor: 7 room apartment for laestadian family
- 5th floor: 2 room apartment for elderly couple
- 5th floor: 2 floor 2 room apartment for childless couple
- 6th floor: 3 room apartment for single people commune
- 6th floor: 1 room studio apartment for student couple
- 7th floor: 16 bed places for elderly and sick people / 8 room hotel
- 1-8th floor: common spaces

Family Life

A community of young families decides, together with ARA, to build their own house as a group building project based on the 'Our Neighborhood' design as it allows for building only family homes now but also for easy transformation in to studios and divided apartments in later stages.

- 4-7 room apartment for big family
- 2-4 room apartment for young family
- 2-4 room apartment for young family
- 1-8th floor: common spaces

Young and Restless

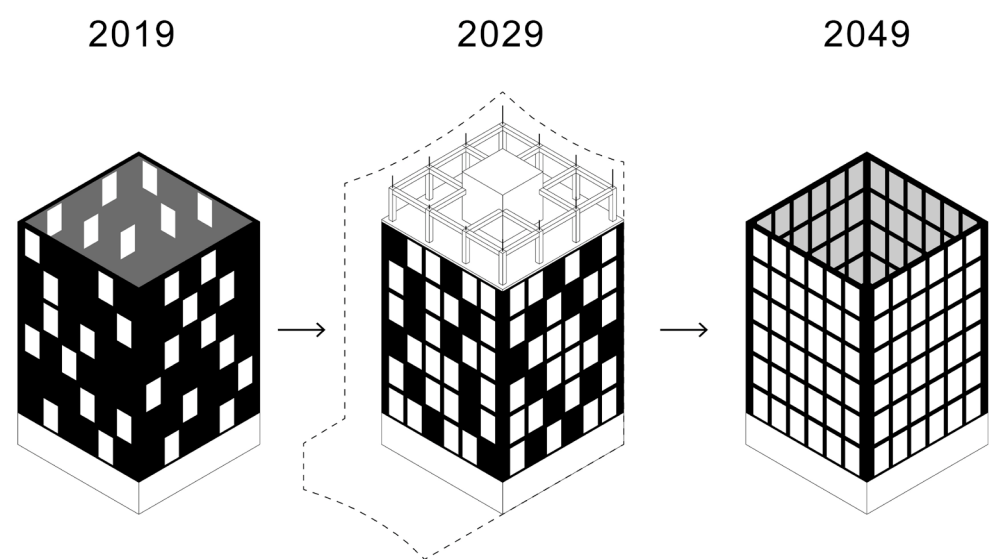
This house is for young restless people only! Shared communal living, cocktail parties in studio apartments, late night mixed saunas and common dinners are an everyday matter.

- 4 room single people commune
- 1 room studio apartment for single person
- 1-8th floor: common spaces

Granny and Granpa

This house is for old people only! Whether you are an elderly living alone or with your spouse, you are more than welcome to join this ARA community where common coffee breaks, bingo nights, physiotherapy and book discussion clubs are an everyday matter.

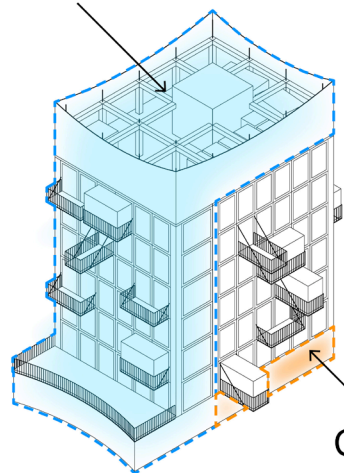
- 1 room studio apartment for elderly person living alone
- 4 room elderly people commune
- 2-3 room apartment for elderly couple
- 3-4 room apartment for elderly couple
- 1-8th floor: common spaces



Transforming Facade

The facade is separated from the bearing structure and it consists of prefabricated composite wood/wool/cellulose frame elements. The idea is that the infill part in the element can be easily changed when necessary. When, in the future, advanced technology makes it possible to build more transparent highly insulating facades, the old facade can easily be updated or even replaced.

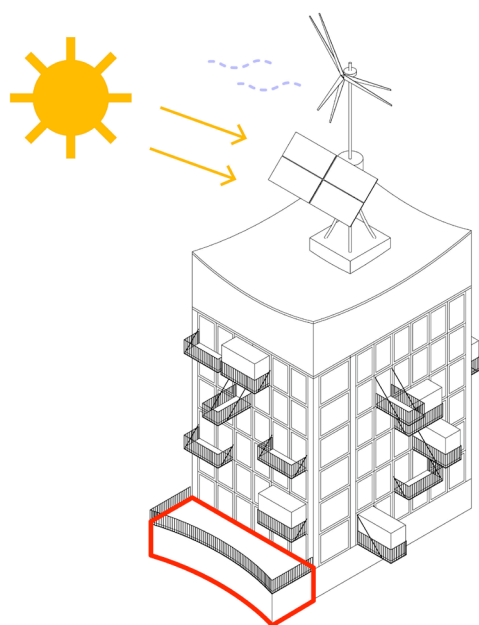
Common Semi-cold



Common Warm

Encounters in Common Semi-cold and Warm Space

The staircase is a semi-cold space for vertical traffic and social encounters. The staircase and the top floor act as a common glazed balcony where residents meet each other. The warm spaces on the first floor are reserved for communal use. The balconies are attached to the bearing structure by pulling rods and they can be realized as glazed or non-glazed according to residents wishes.



Future Changes / Resource Harvesting

The ground level semi-cold spaces are designed by the residents themselves and they are easily transformable due to light structural solutions. In the future, when all houses will be zero or plus energy houses, heating energy might be freely available in large amounts. In this case the design allows for easy transformation of semi-cold space in to warm spaces.

The concrete core acts as a foundation for installing cutting edge wind and solar energy harvesting devices on the roof.

Description

'Our Neighborhood' is a holistic design for creating an ecologically, socially and economically sustainable neighborhood. The design for 'Our Neighborhood' is based on generally accepted contemporary ideas on sustainable solutions combined with the competitors views on what might be sustainable in the future. Furthermore the design emphasizes the themes of unpredictability and constant change, which are strongly present in the contemporary and, as the competitor sees it, future societies.

The design consists of two 8 and 6 floor apartment buildings and a common garden. The 8 floor building has room for 7-36 households depending on the flexible apartment partitioning. The 6 floor building has room for 4-24 apartments. The ground floors has common facilities such as laundry, drying room, bike storage and multi-functional spaces which can be used as neighborhood café, office space, home delivery lobby or kindergarten for instance. On the ground floor there is also a possibility to place 1-2 apartments. The middle floors are reserved for various amounts of apartments per floor which can freely be organized around the wet/technical core according to resident needs. The top floor is a semi-cold common space with sauna, winter garden, herb farm, hobby corner, reading room and gym. There are also technical spaces on the top floor for generating and administering clean energy and natural resources.

The common garden connects the houses to a consistent whole by providing a beautiful landscape for socializing, play and cultivation. Fruit trees and other trees complete the landscape. In the garden there is a utility building in which there is a waste management / recycling center as well as cellar space for storing food and wine from the cultivating area. The space can also serve as warm space for cattle, sheep or poultry and also as a bomb shelter. Bicycle friendly roads lead to the parking spaces which are combined with pavement art and landscaping in order to create a beautiful garden even if there will be parking in a larger scale. When the parking areas are not used for parking, they can be utilized as cultivation fields.

The design actions are presented through sustainability aspects in three themes – ecological, social and economical.

Ecological Sustainability Aspects

DENSITY / COZINESS: The design proposes a significant increase in the existing Sopenkorpi density in order for the residents to be able to share resources and space more efficiently. The design tries to find a balance between dense living and cozy landscape.

MINIMIZING WARM BUILDING MANTLE: The need for heating energy is minimized by putting all spaces that do not need warm space outside the warm facade mantle. All vertical

traffic is outside the warm mantle in semi-cold (not heated) space. Some common spaces that do not need warm space such as winter garden, gym and sauna as well as technical machinery for the house is located in the semi-cold top floor.

RESOURCE HARVESTING: Rainwater and snowfall in wintertime is harvested on the roof and directed to the top floor machinery where distillers make rainwater drinkable. Rainwater is also utilized in toilets as drain water. Solar and wind energy is harvested on the roof by solar cells and windmills. Machinery for heat recovery ventilation, water distilling, waste water management, snow melting, energy management and other HVAC appliances are on the top floor.

PROMOTING LOCAL FOOD PRODUCTION: The design is strongly connected to the on-site cultivating area. In addition to the cultivating area, spaces for cultivating are reserved in the winter garden and in the greenhouse on top of the utility building. The design also creates possibilities for keeping domestic animals that produce milk, eggs, meat, wool etc.

BUILDING MATERIALS: The bearing structure is designed to last 100-200 years and it is therefore built of traditional, long lasting premium materials. The core which houses all wet spaces is made out of cast concrete / concrete elements in order to minimize risks for water damage. The columns and slabs are built of wood in order to store CO2 in the structure. The facade is separated from the bearing structure and it consists of prefabricated composite wood-wool-cellulose frame elements. The idea is that the infill part in the element can be changed easily when necessary. When, in the future, advanced technology makes it possible to build more transparent highly insulating facades, the old facade can easily be updated or even replaced. The staircase is built of prefabricated wooden / concrete elements.

PROMOTING USE OF BICYCLE: Space for storing and fixing bikes are in handy locations in order to make it easy and comfortable to use a bike.

Social Sustainability Aspects

DIVERSE APARTMENTS: The design allows diverse ways of living. Different apartment types from 10-152 m2 can be planned on one floor. In addition to that it is possible to make multi-story apartments by building stairs inside the warm mantle. This contributes to creating a neighborhood where people from different social and cultural backgrounds interact with each other.

DESIGN YOUR OWN HOME: The plan is free and it is possible for the resident to design her/his own home when acquiring the apartment. The house is also suitable for group building.

COMMON FACILITIES: The design encourages sharing spaces for laundry, work, leisure, storage and socializing. High quality common facilities contribute to creating a sense of community among residents. The staircase is a semi-cold space for vertical traffic and social encounters. The staircase acts as a common glazed balcony where residents meet each other. The common staircase and its balconies are directed to the south in order to promote social interaction and use of shared leisure space. The balconies are attached to the bearing structure by pulling rods and they can be realized as glazed or non-glazed according to resident wishes.

BUILT ENVIRONMENT: The building has a small footprint and is therefore easy to apply in to different kinds of built environments. The design acknowledges the potential of the existing buildings on the site and uses it to create a unified social, functional and visual entity. Furthermore the design allows for flexible adaptation to fit in to different sites.

Economical Sustainability Aspects

VALUE OF LAND: Increased density creates more apartments to sell and therefore more income to the city of Lahti.

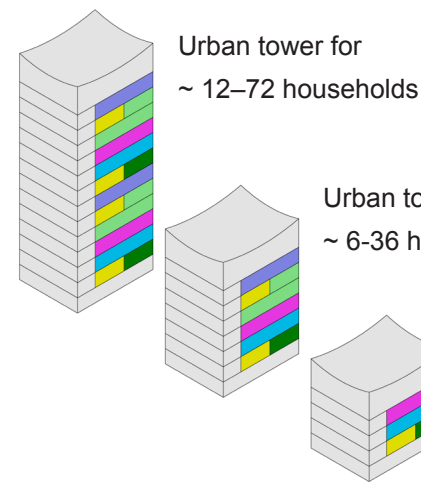
MODULAR STRUCTURE: The houses are variations of the same lo-tech structural components and therefore easy to prefabricate and reproduce.

LONG TERM / SHORT TERM INVESTMENTS: The bearing structure is a long term investment. The facade is a short term investment because it acknowledges the potential of advancing technology to create more advanced facades in the future.

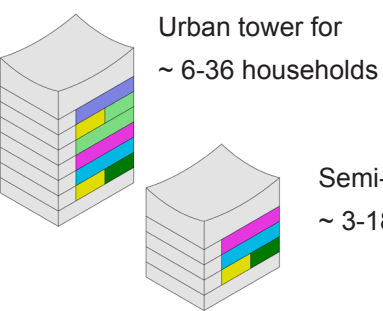
SELF-SUFFICIENCY: The possibility for versatile resource harvesting, cultivation and domestic animals promotes self-sufficiency.

MULTIUSE FLOORS: The design allows for incorporating commercial, cultural and service spaces such as offices, hotels, cinemas and hospitals inside the apartment buildings. This contributes to creating an ecologically, socially and economically sustainable neighborhood.

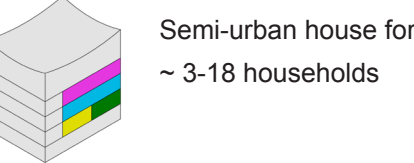
ADAPTABLE TO SOCIOECONOMIC SITUATIONS: It is possible to build small scale sub-urban houses or residential towers as well as different apartment types from large luxury loft apartments to single dwellers studios using the same structural principle. This makes the design usable in all economical and societal situations from recession to upswing.



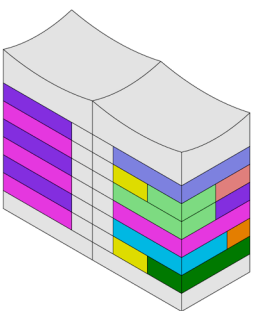
Urban tower for
~ 12-72 households



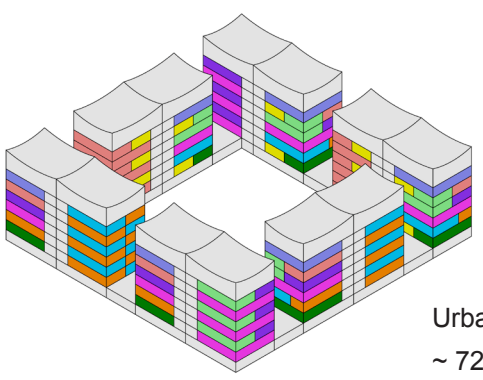
Urban tower for
~ 6-36 households



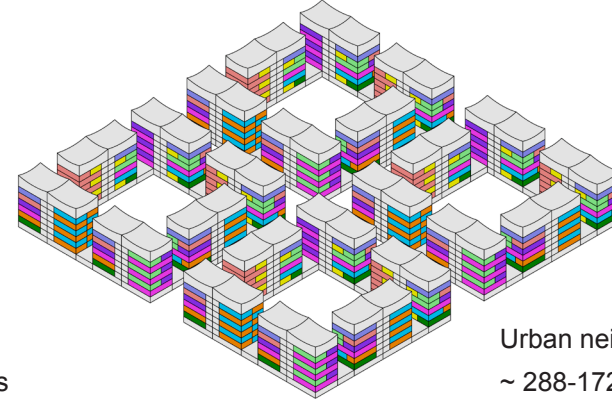
Semi-urban house for
~ 3-18 households



Urban twin house for
~ 12-72 households



Urban block for
~ 72-432 households



Urban neighbourhood for
~ 288-1728 households

Variations

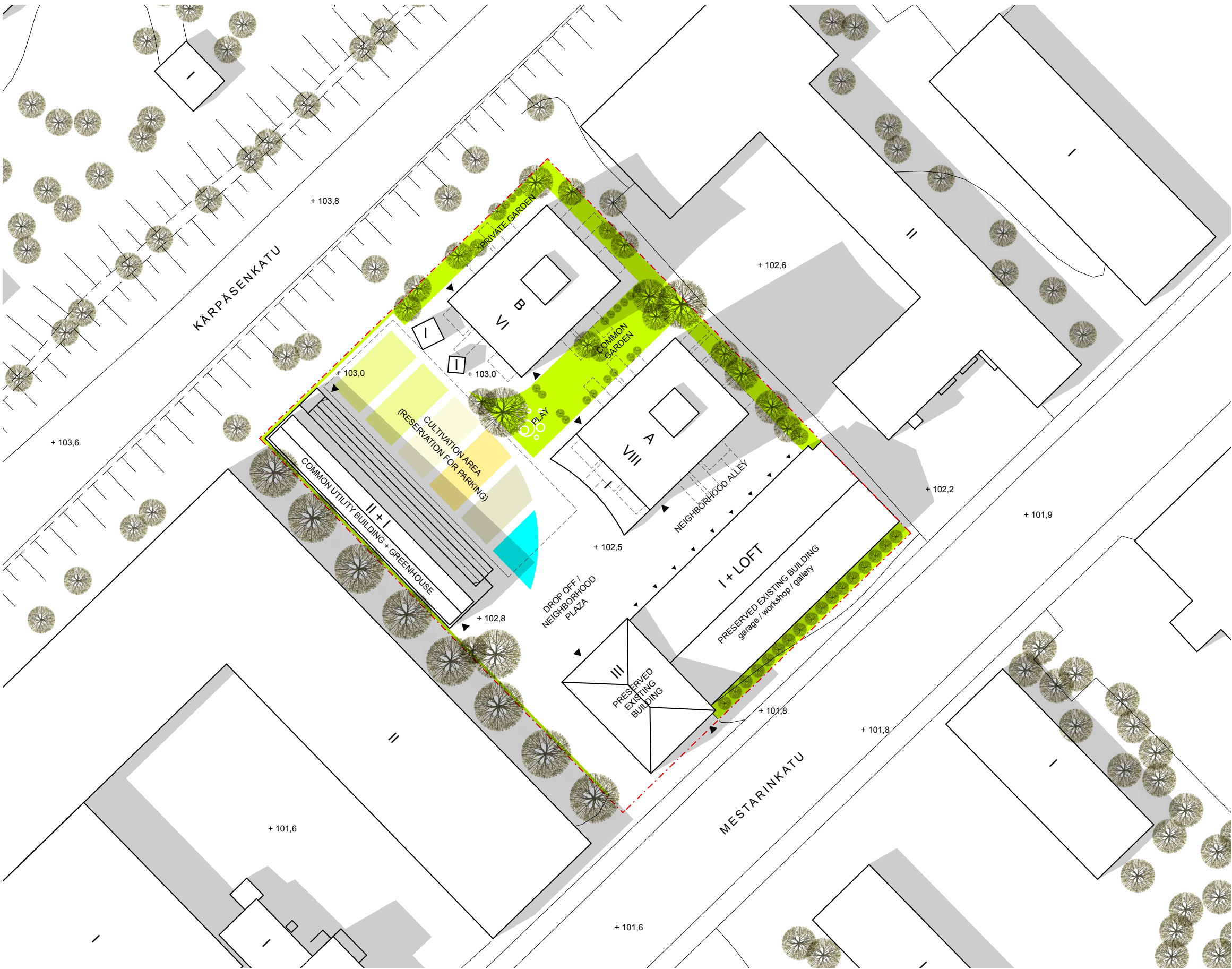
The design allows for versatile adaptation to meet different social, economical and urban requirements.



CITY STRUCTURE 1:4000



GROUND FLOOR / GARDEN PLAN 1:200



SITE PLAN 1:500

Floor Area

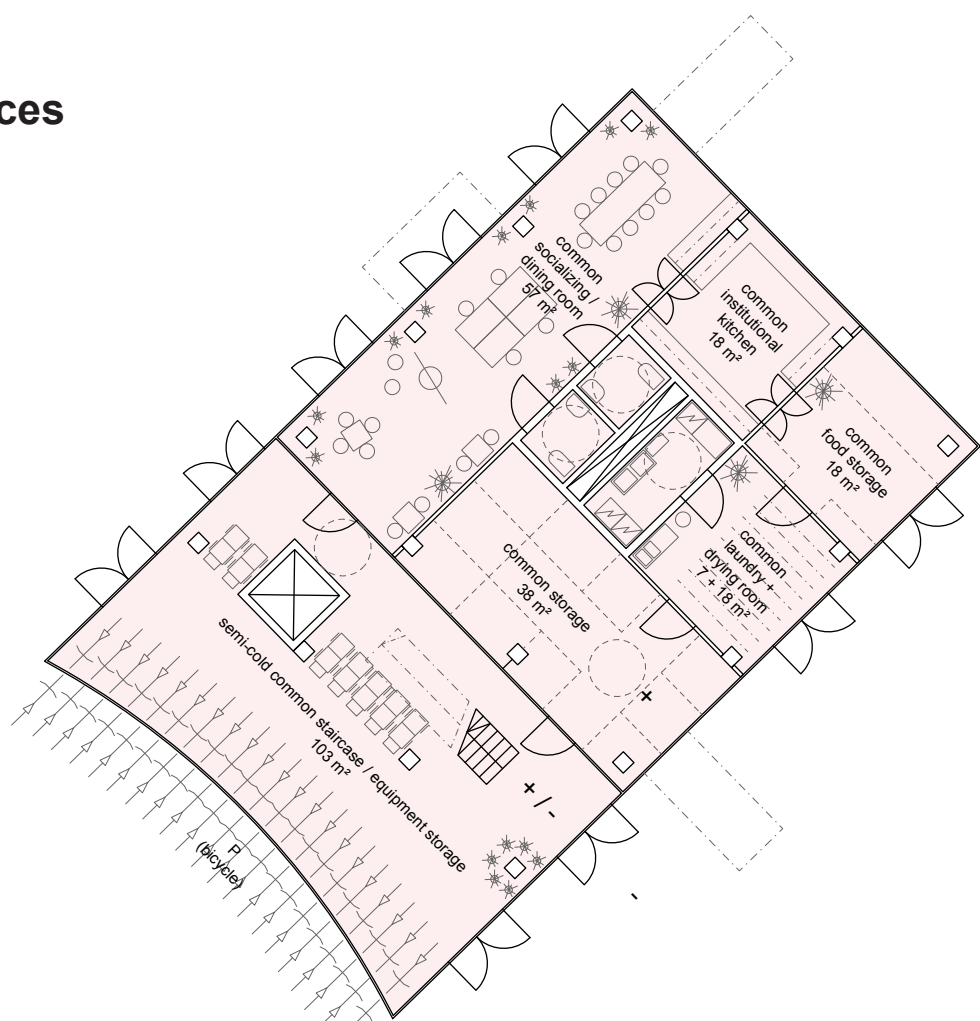
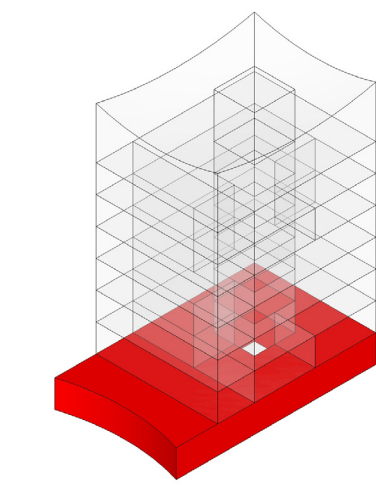
| | |
|--|---------|
| Total warm common space in houses A and B | 340 m2 |
| Total semi-cold common space in houses A and B (includes technical spaces) | 1038 m2 |
| Total warm private space in houses A and B | 1473 m2 |
| Common utility building | 380 m2 |
| Greenhouse | 136 m2 |
| Existing Buildings | 1090 m2 |
| Total | 4457 m2 |

Distribution of Apartments

| Apartment type | Living area | Number of apartments |
|-----------------------|-------------|----------------------|
| 5 room | 113 m2 | 2 |
| 1 room studio | 37 m2 | 3 |
| 4 room | 66 m2 | 2 |
| 1 room studio | 83 m2 | 2 |
| 7 room | 152 m2 | 1 |
| 3 room cell | 74 m2 | 4 (12 households) |
| 3 room | 74 m2 | 2 |
| 2-4 room loft | 90 m2 | 1 |
| 16 bed hotel / hostel | 152 m2 | 1 |
| Total | 1473 m2 | 18 (26 households) |

House A, 1st Floor: Common Spaces

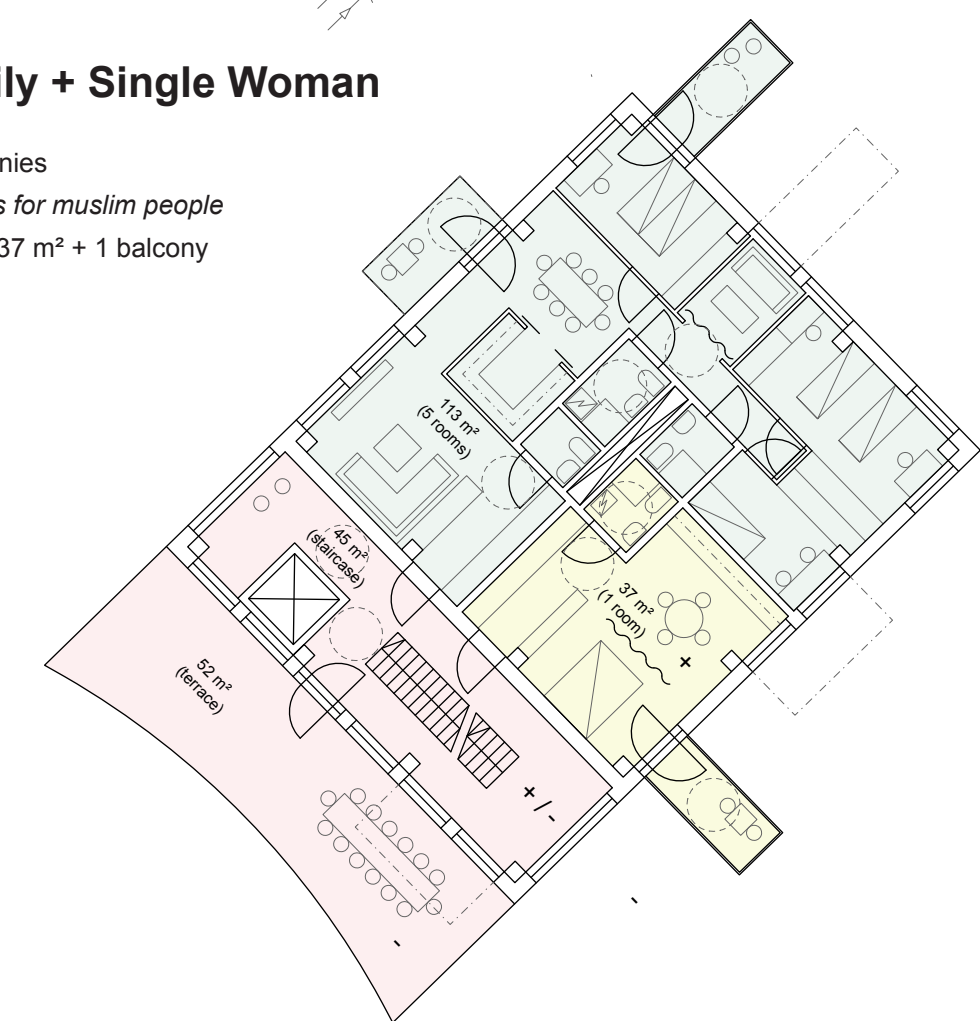
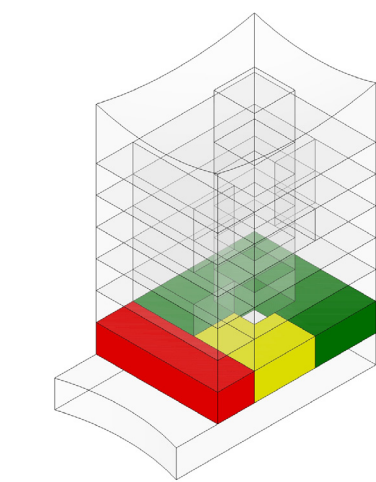
- warm common spaces 170 m²
- semi-cold common spaces 103 m²



1:200

House A, 2nd Floor: Muslim Family + Single Woman

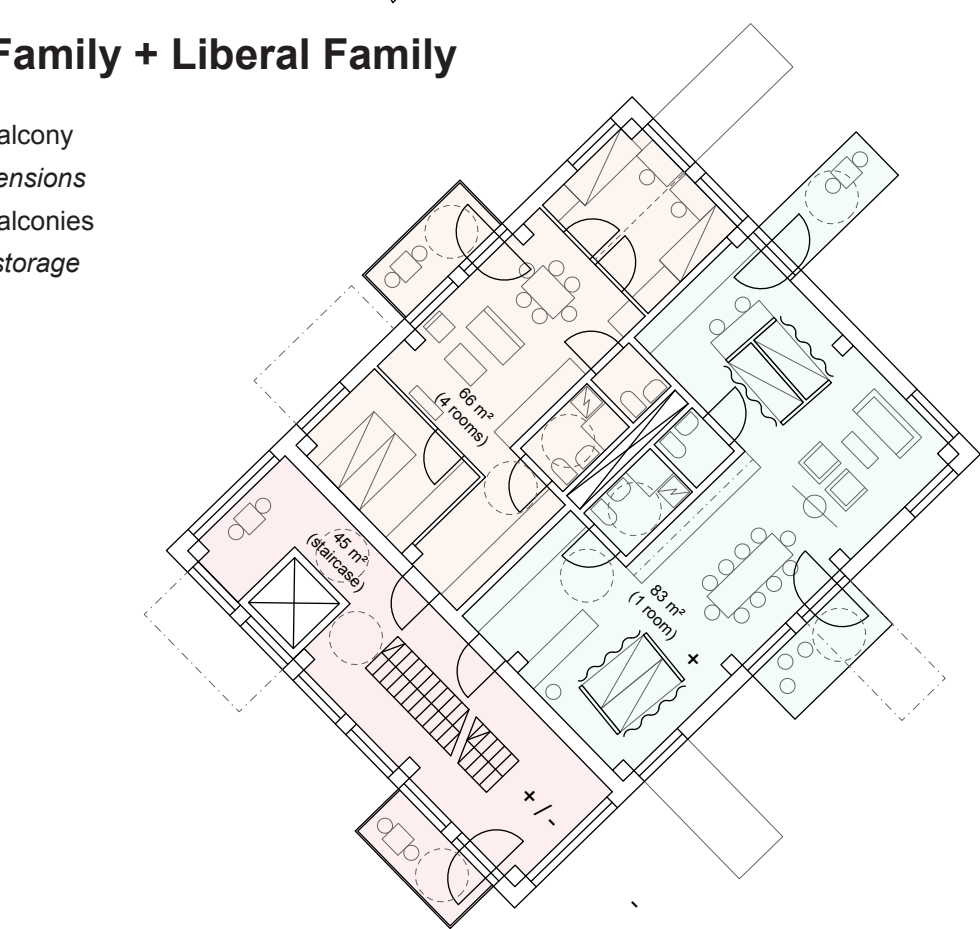
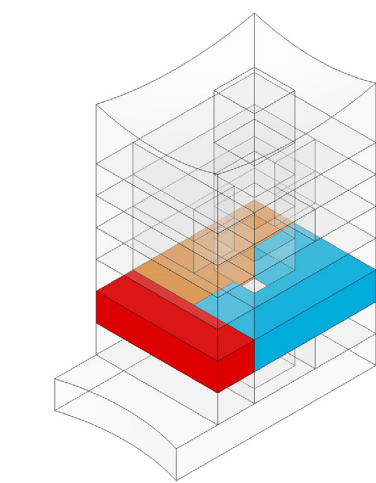
- 5 room apartment for muslim family, 113 m² + 2 balconies
 - plan designed according to housing requirements for muslim people
- 1 room studio apartment for single business woman, 37 m² + 1 balcony
- semi-cold common spaces, 45 m²
- common terrace, 52 m²



1:200

House A, 3rd Floor: Consevative Family + Liberal Family

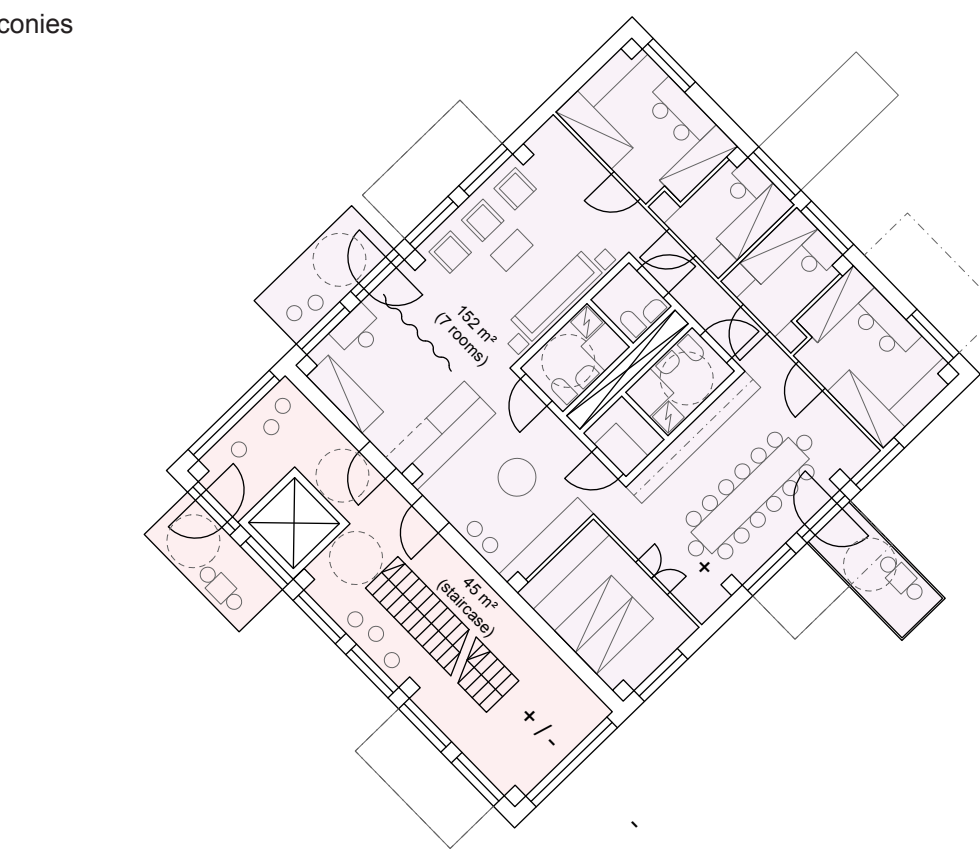
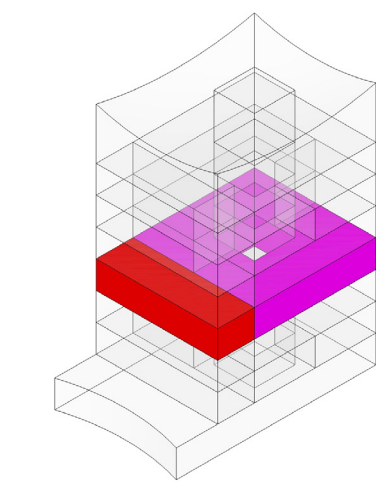
- 4 room apartment for conservative family 66 m² + 1 balcony
 - conventional room divisioning with minimum dimensions
- 1 room studio apartment for liberal family 83 m² + 2 balconies
 - mobile furniture modules for sleeping, work and storage
- semi-cold common spaces, 45 m² + 1 balcony



1:200

House A, 4th Floor: Laestadian Family

- 7 room apartment for laestadian family 152m² + 2 balconies
 - multiple bedrooms for many children
 - separate bedroom for parents
 - guest space / working room
- semi-cold common spaces, 45 m² + 1 balcony



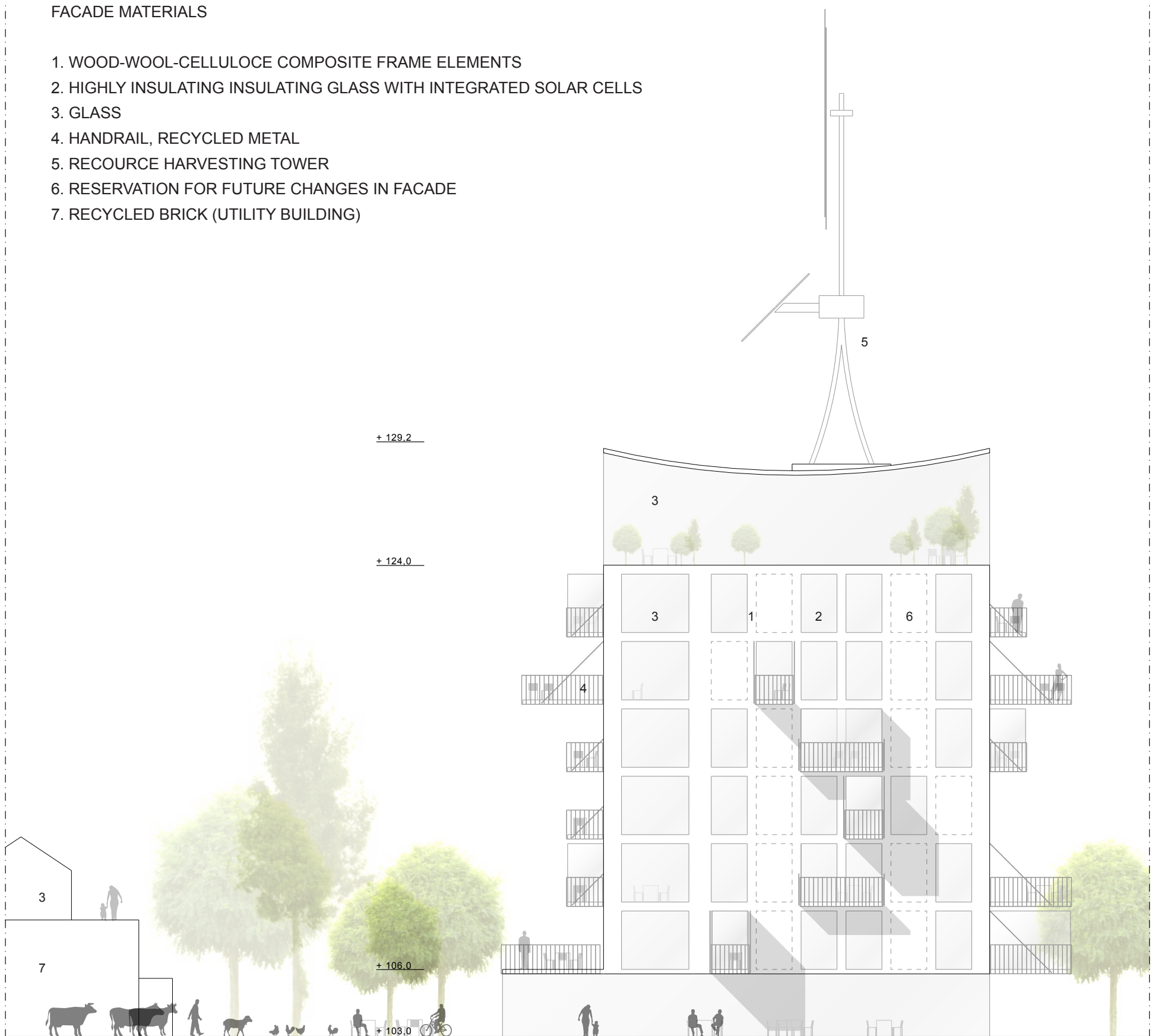
1:200



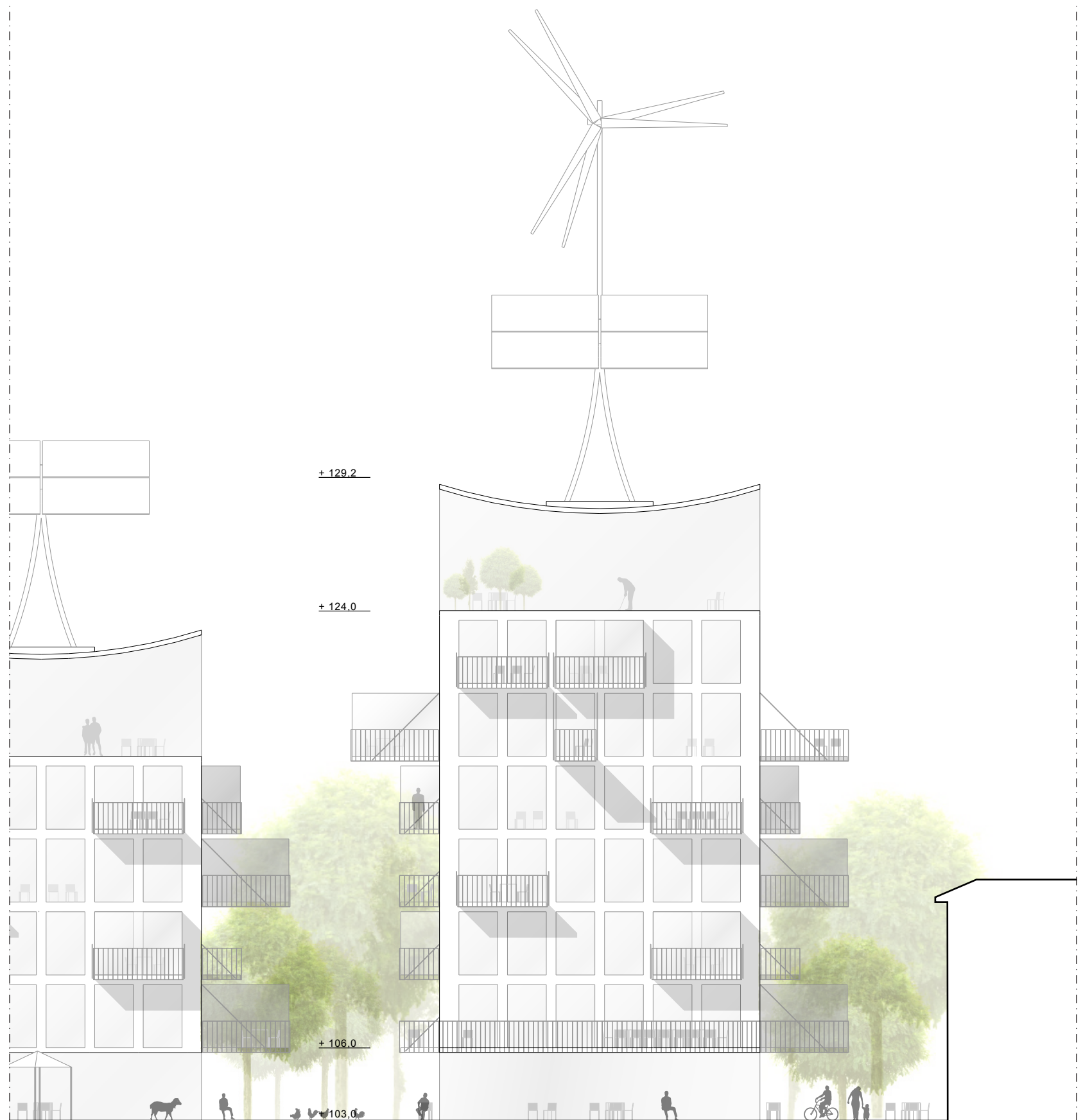
ENTRANCE TO NEIGHBORHOOD

FACADE MATERIALS

- WOOD-WOOL-CELLULOCE COMPOSITE FRAME ELEMENTS
- HIGHLY INSULATING INSULATING GLASS WITH INTEGRATED SOLAR CELLS
- GLASS
- HANDRAIL, RECYCLED METAL
- RECOURCE HARVESTING TOWER
- RESERVATION FOR FUTURE CHANGES IN FACADE
- RECYCLED BRICK (UTILITY BUILDING)



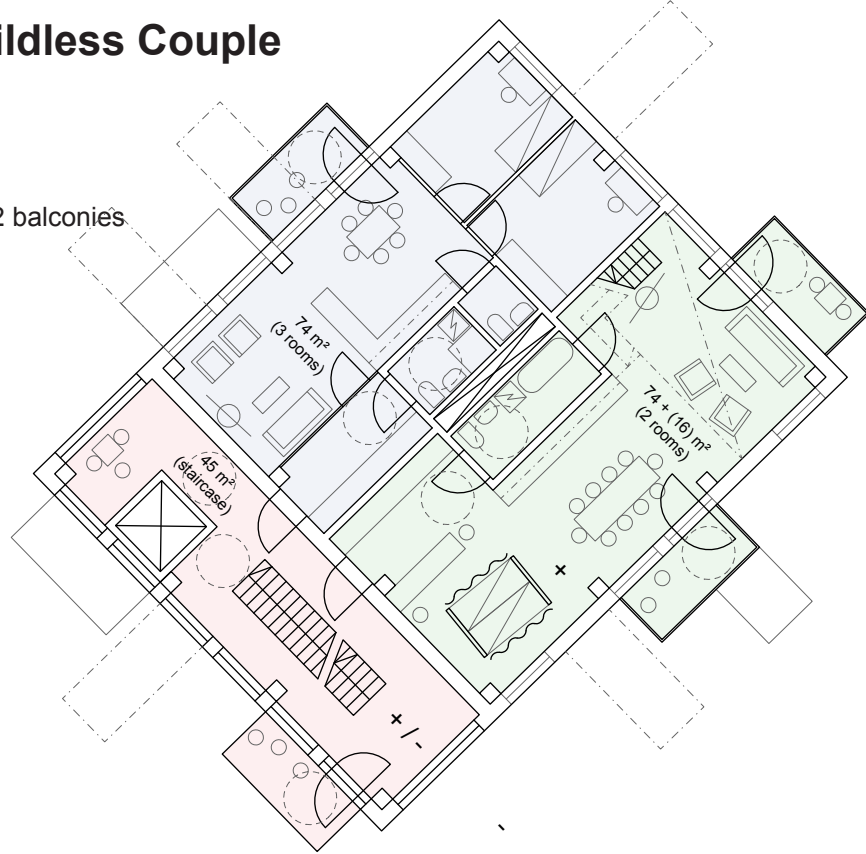
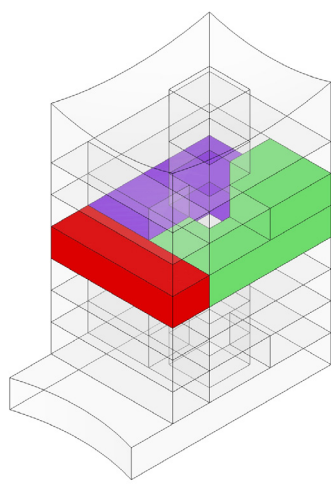
HOUSE A SOUTH EAST FACADE 1:200



HOUSE A SOUTH WEST FACADE 1:200

House A, 5th Floor: Elderly Couple + Childless Couple

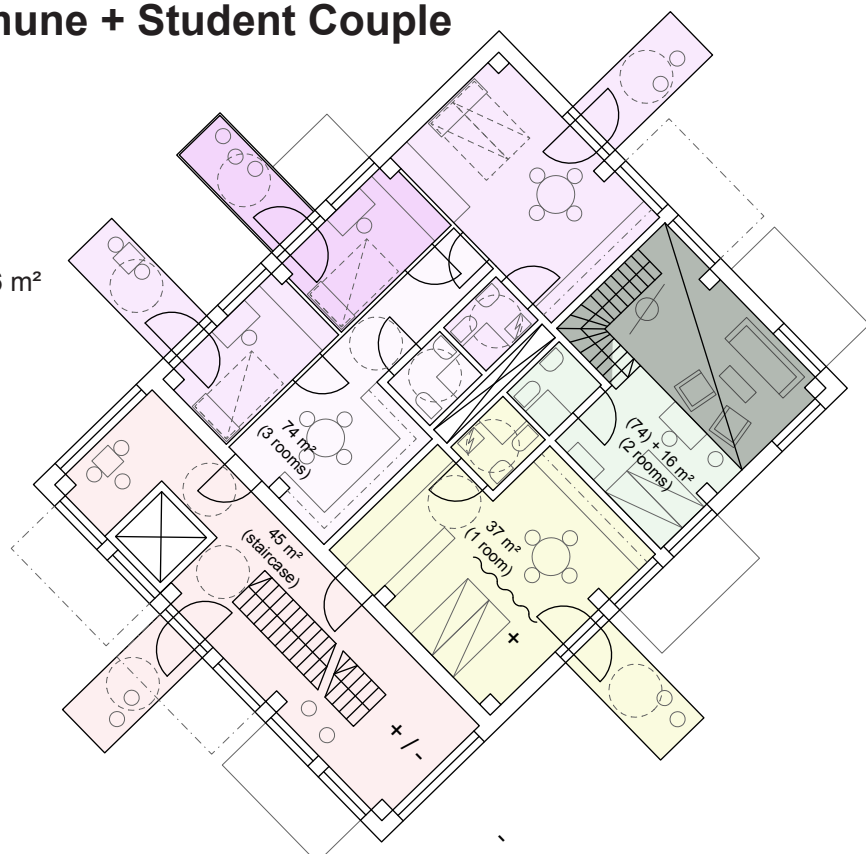
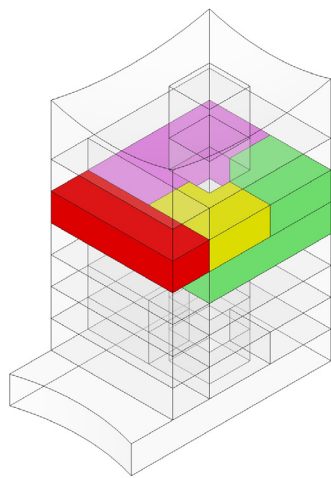
- 3 room apartment for elderly couple 74 m² + 1 balcony
 - separate bedrooms because of snoring husband
- 1/2 floors, 2 room apartment for childless couple 74 + (16) m² + 2 balconies
 - large dining / living room for frequent dinner parties
 - mobile furniture module for sleeping, work and storage
- semi-cold common spaces, 45 m² + 1 balcony



1:200

House A, 6th Floor: Single People Commune + Student Couple

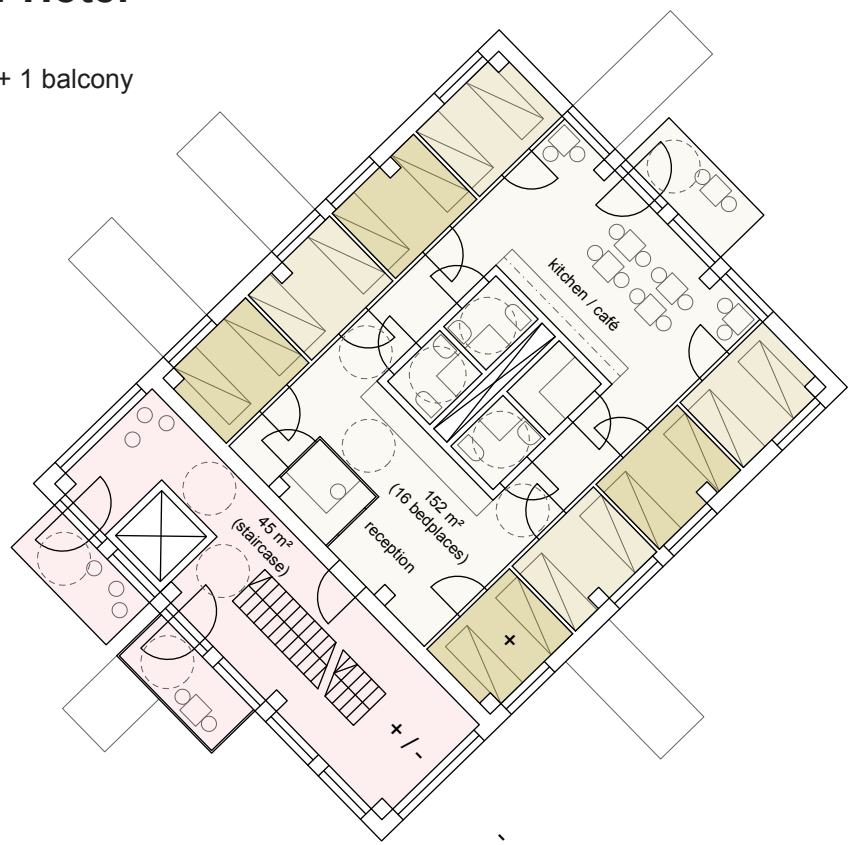
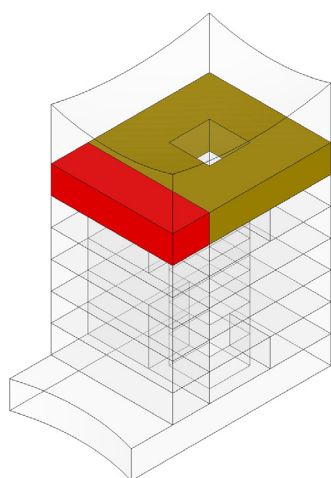
- 3 room cell apartment for single people commune 74 m²
 - two 10 m² studios with common kitchen and bathroom
 - one 24 m² studio with own kitchen and bathroom
- 1 room studio apartment for student couple 37 m²
- 2/2 floors, 2 room apartment for childless trendy couple (74) + 16 m²
 - loft with own bathroom for overnight guests
- semi-cold common spaces, 45 m² + 1 balcony



1:200

House A, 7th Floor: Human Care Center / Hotel

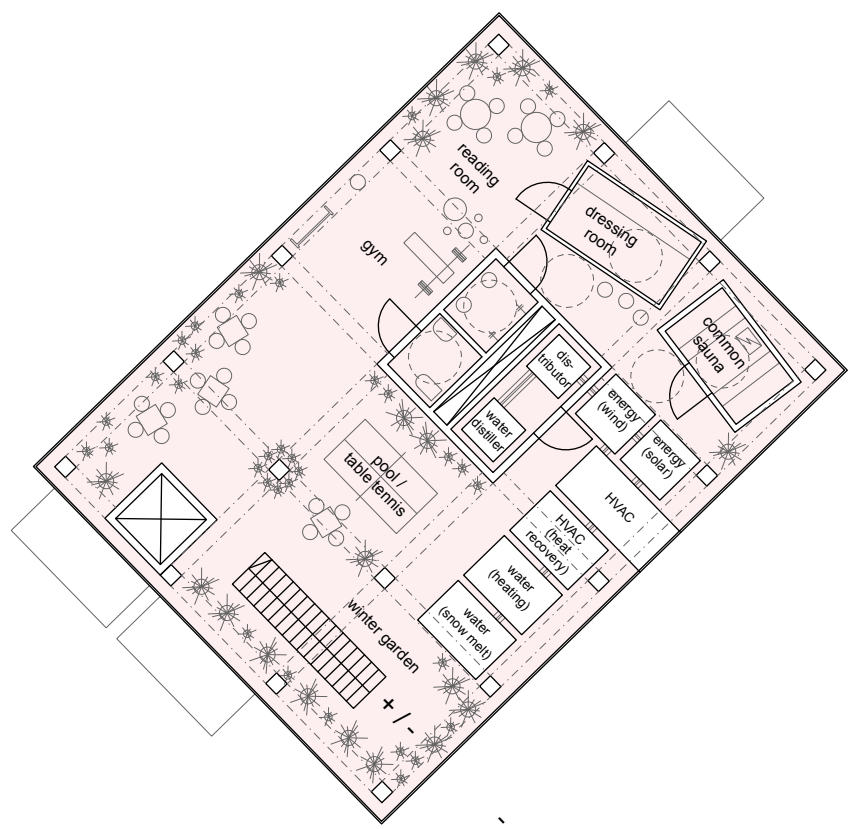
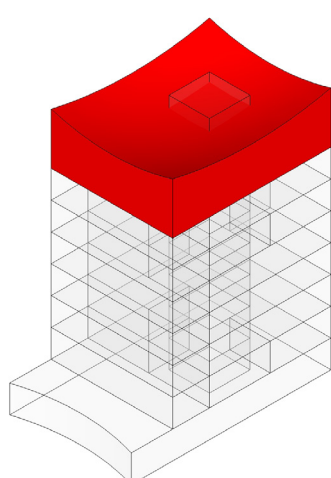
- 16 bed places for elderly and sick people / 8 room hotel, 152 m² + 1 balcony
 - reception booth and cloakroom
 - common kitchen / café
- semi-cold common spaces, 45 m² + 2 balconies



1:200

House A, 8th Floor: Semi-Cold Common / Technical Spaces

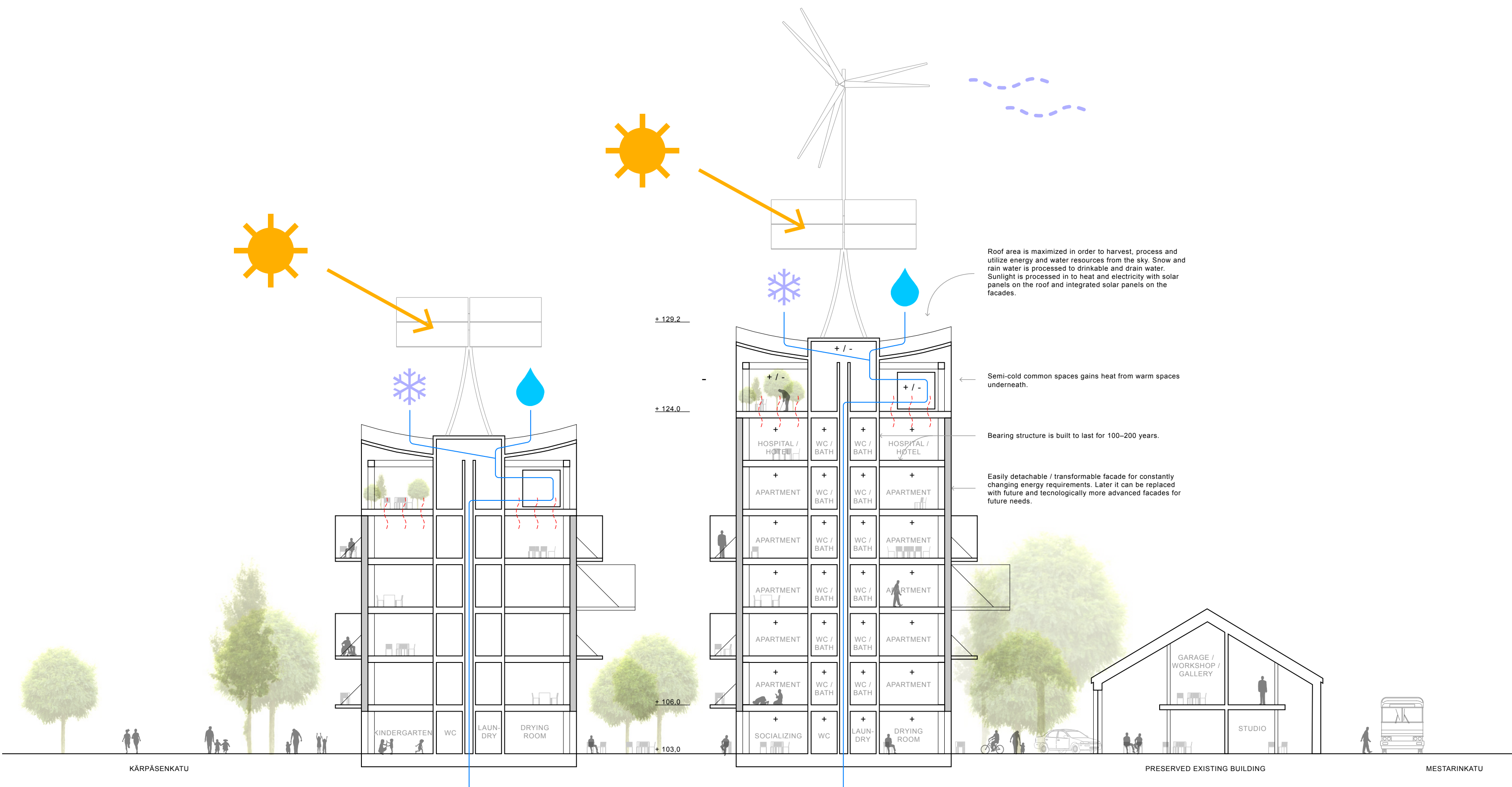
- semi-cold common / technical spaces 220 m²
 - mobile sauna and dressing room
 - winter garden
 - table tennis / pool table
 - gym
 - reading room
 - technical appliances for water and HVAC management



1:200



8TH FLOOR SEMI-COLD COMMON / TECHNICAL SPACES (Materials: Coloured Concrete, Wooden Columns and Beams)



SECTION A-A 1:200