



OVERVIEW

**Project specifications**

gross external area (GFA) green area: 5.000m<sup>2</sup>  
 gross sealed surface area: 6.000m<sup>2</sup>  
 gross floor area (GFA): 12.600m<sup>2</sup>

Building class: IV

7 Buildings  
 Eaves heights: 7,50 to 10,00 metres  
 Overall heights: 9,00 to 12,00 metres

**Functions**

Living „Golden Age“: 38 units, 68m<sup>2</sup> each  
 Living family: 6 units, 100m<sup>2</sup> each  
 Single apartments: 21 units, 70 to 85m<sup>2</sup> each  
 Temporary living: 18 units, 35m<sup>2</sup> each  
 Living and craft: 2 units, 180m<sup>2</sup> each  
**total: 85 units, 35m<sup>2</sup> to 100m<sup>2</sup>**

**Rescue Center MA 70**

Carpark: 800m<sup>2</sup>  
 Carpark reserve: 400m<sup>2</sup>  
 Staff rooms/ sleeping: 690m<sup>2</sup>  
 Courses of instruction: 300m<sup>2</sup>

Public parking: 52 Parking spaces  
 7 Disabled parking spaces

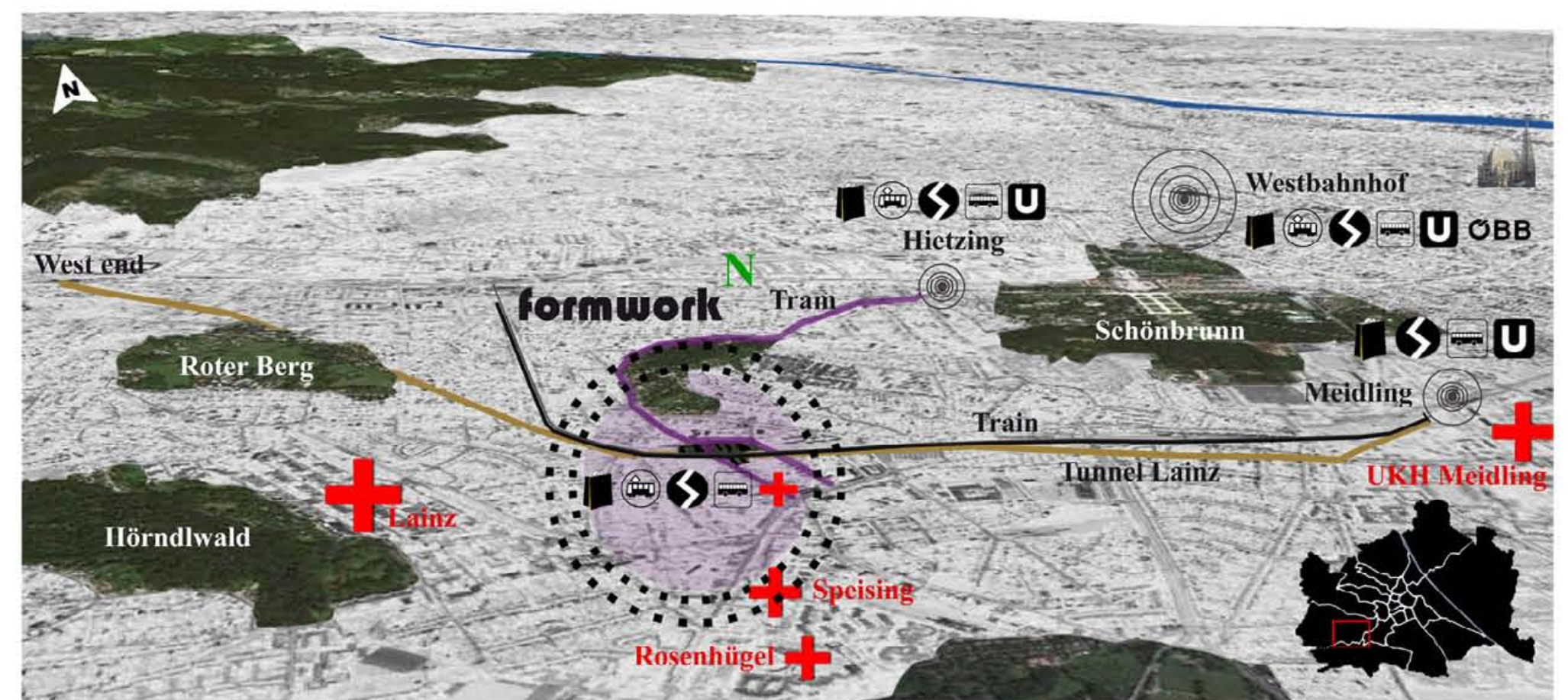
Medical Center: 310m<sup>2</sup>  
 Sports center: 380m<sup>2</sup>  
 Multi-purpose hall: 300m<sup>2</sup>  
 Pavillon of generations: 130m<sup>2</sup>  
 Retail space: 280m<sup>2</sup>  
 Kindergarden: 200m<sup>2</sup>



TOPVIEW Building site M : 1000

**Traffic concept**

The project site is well connected to the public transport service of Vienna. Through urban enhancement measures and optimized traffic solutions a modernized new urban transportation hub, where three major means of transport, train, tram and buses, meet is created. The site and its inherent functions should work as a connecting platform to bigger transportation hubs and provide an area of gentrified urban quality in Wien Hietzing.



TRAFFIC CONCEPT

**Tectonics**

Tectonics have always shaped our living environment. The project immanent assigned functions including living, working, and sanitary facilities require defined spaces. Through tectonic elevation those functions get enwoven to the site while creating negative and positive spaces and defining buildings and landscape.

**Tunnel metaphor**

The underlying Lainz tunnel contributes a narrative element to the project design. Tunnels, made by people, represent a protected space in the midst of tectonic reality and nature. The wooden formwork used in tunnel construction finds a conceptual reference in the bearing structure.

**Regenerative Design**

The regenerative approach combines aspects of society, technology and nature. The term „regenerative“ itself describes processes that restore, renew or revitalize their own sources of energy and materials, creating sustainable systems that integrate the needs of society with the integrity of nature. The model is meant to be applied to many different aspects of human habitation such as urban environments, buildings, economics, industry and social systems. Formwork N is a complex cohesive network that could be a new source for a community spirit in the middle of Hietzing. The sustainable building structure, landscape design, use of materials, energy efficiency, microclimatic aspects and the creation of functioning social space serve the diversity of human protagonists of every age in order to produce a regenerative environment in which the general output is way higher than the output of its individual components.

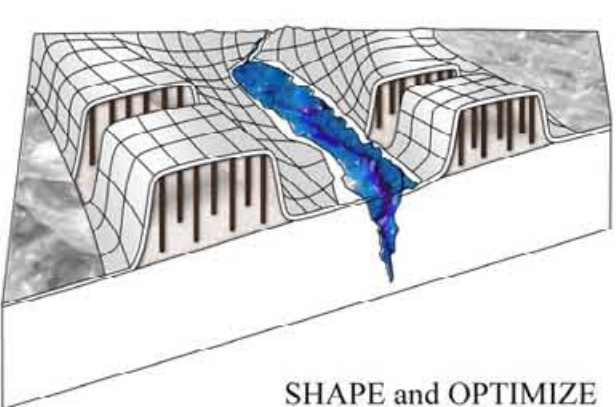
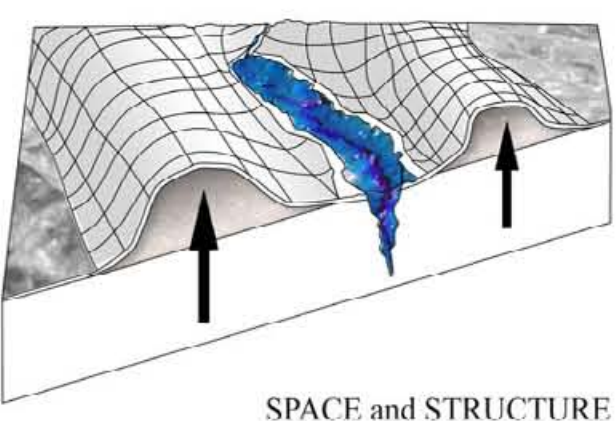
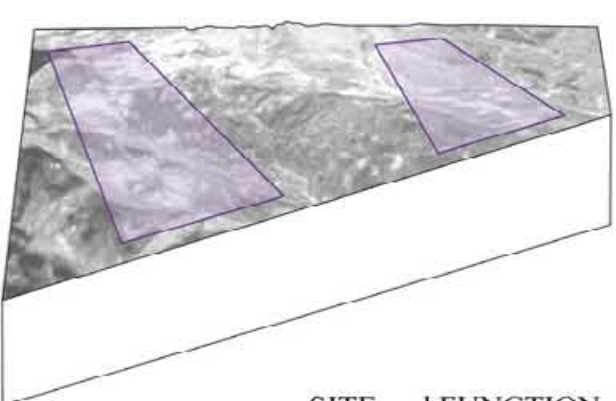
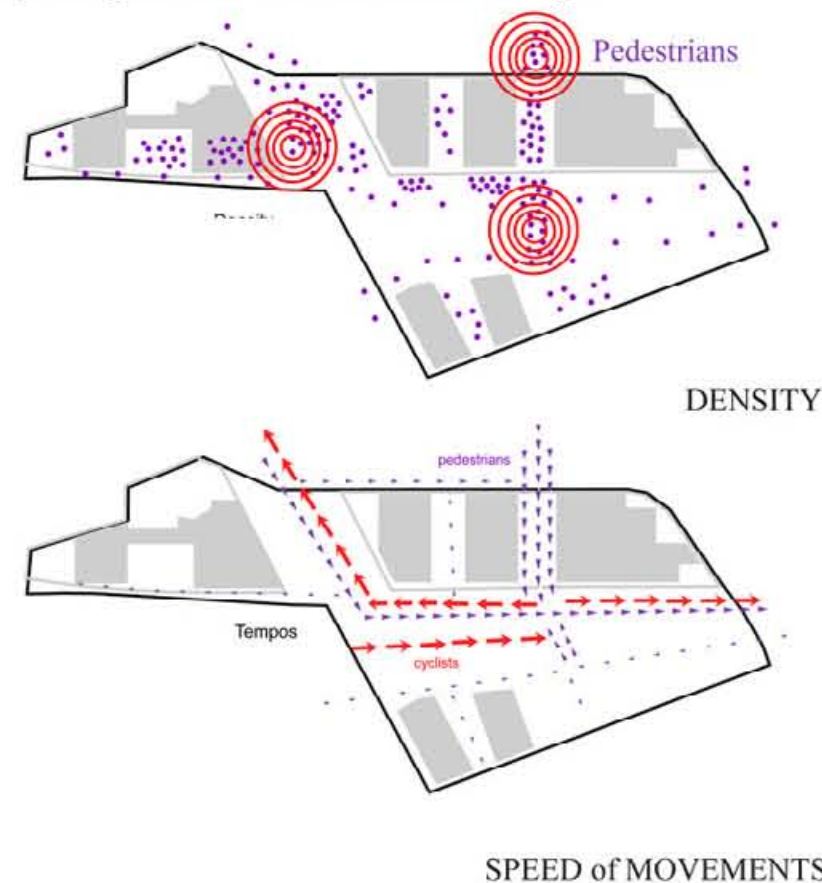
**Positive Space**

Positive space, created by tectonic elevation, forms the protective building structure against surrounding negative influences. It's core function is social interaction.

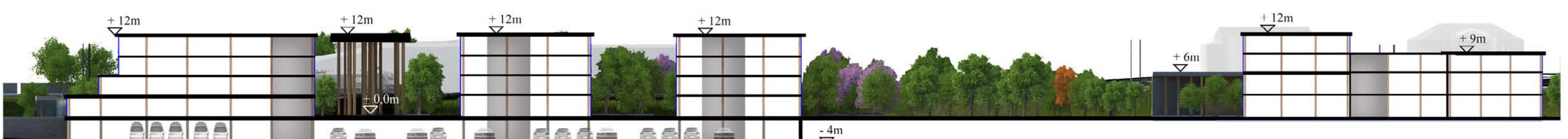
**Negative Space**

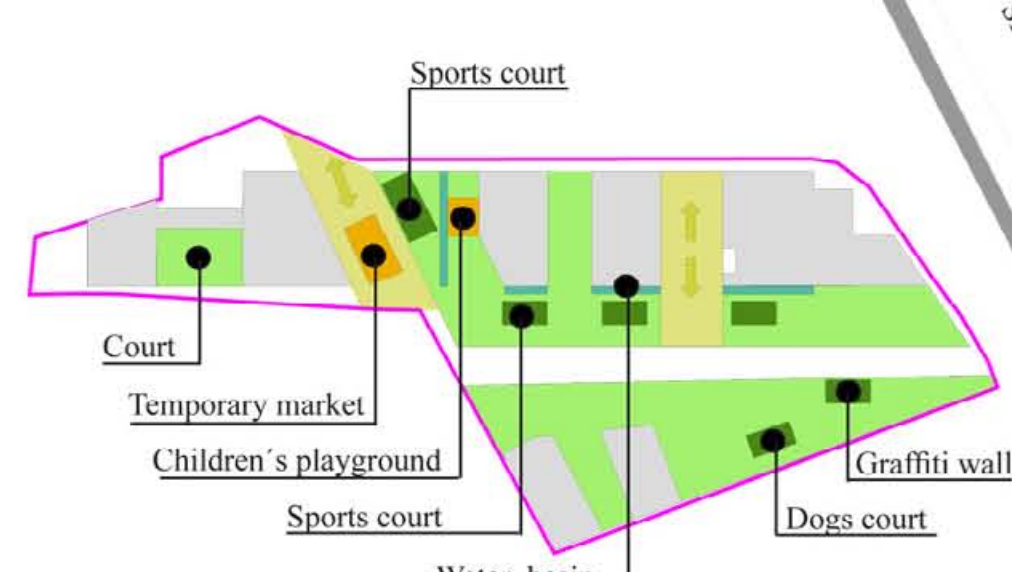
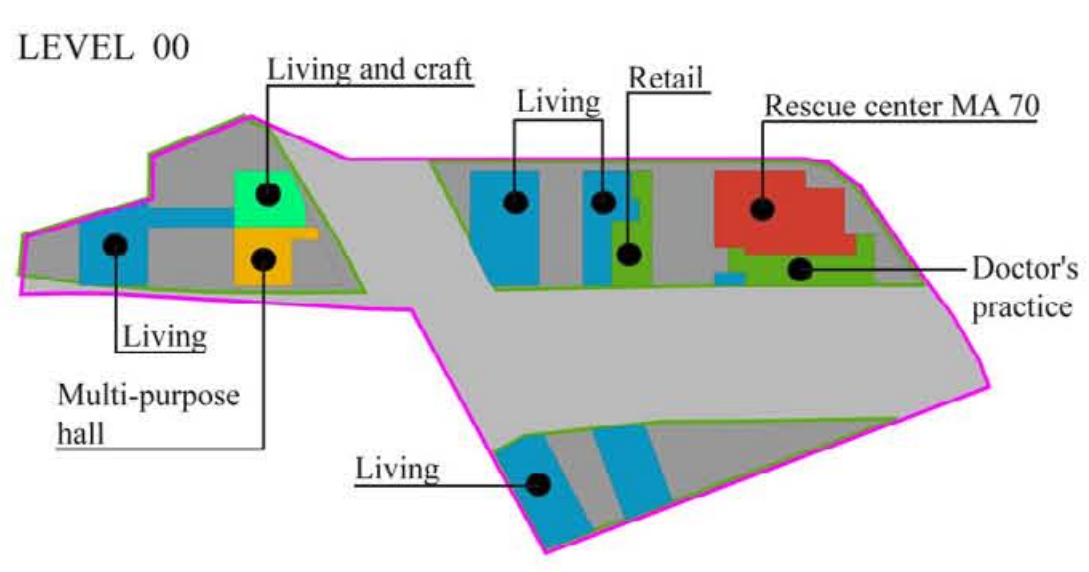
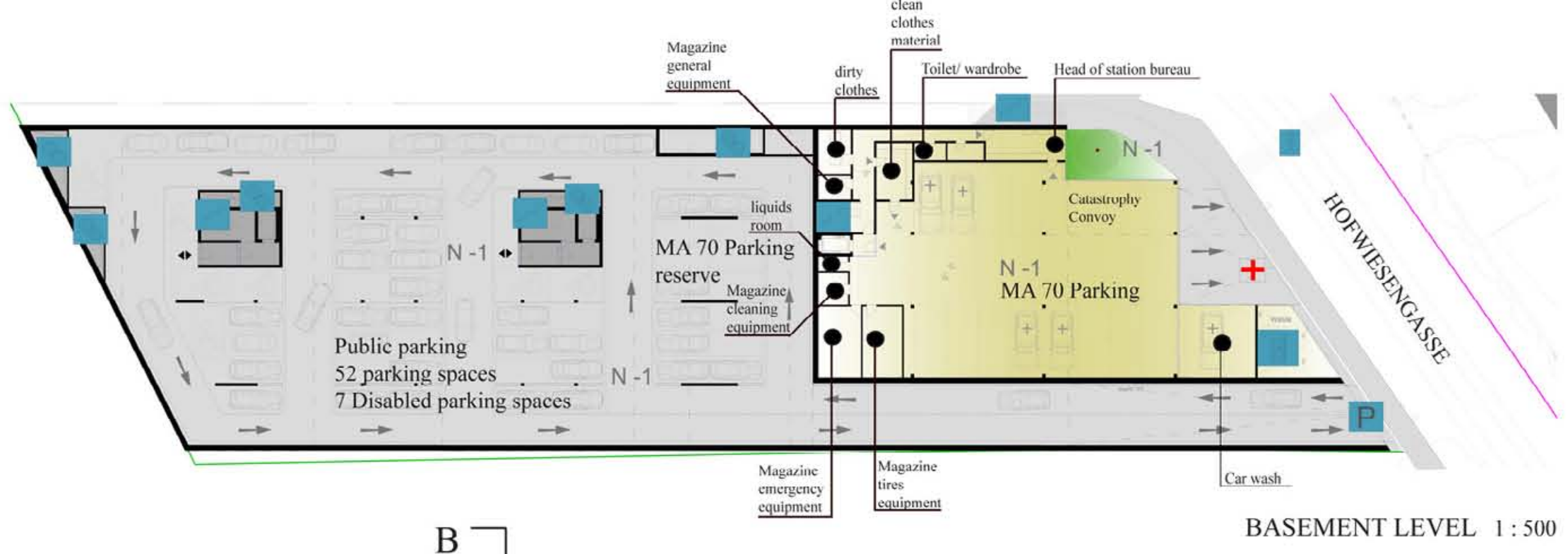
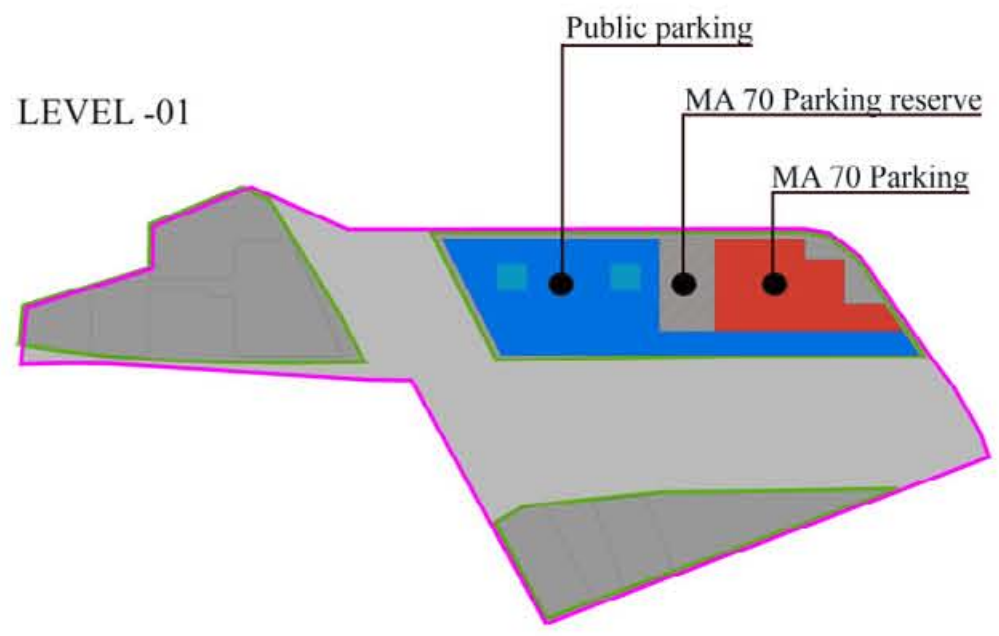
Negative space, a consequence of tectonic elevation is used as the main design principle in landscape design. The originated tectonic gaps get filled up with water and are major parts contributing to the onsite microclimate.

**Density and speed of movements on site concept**

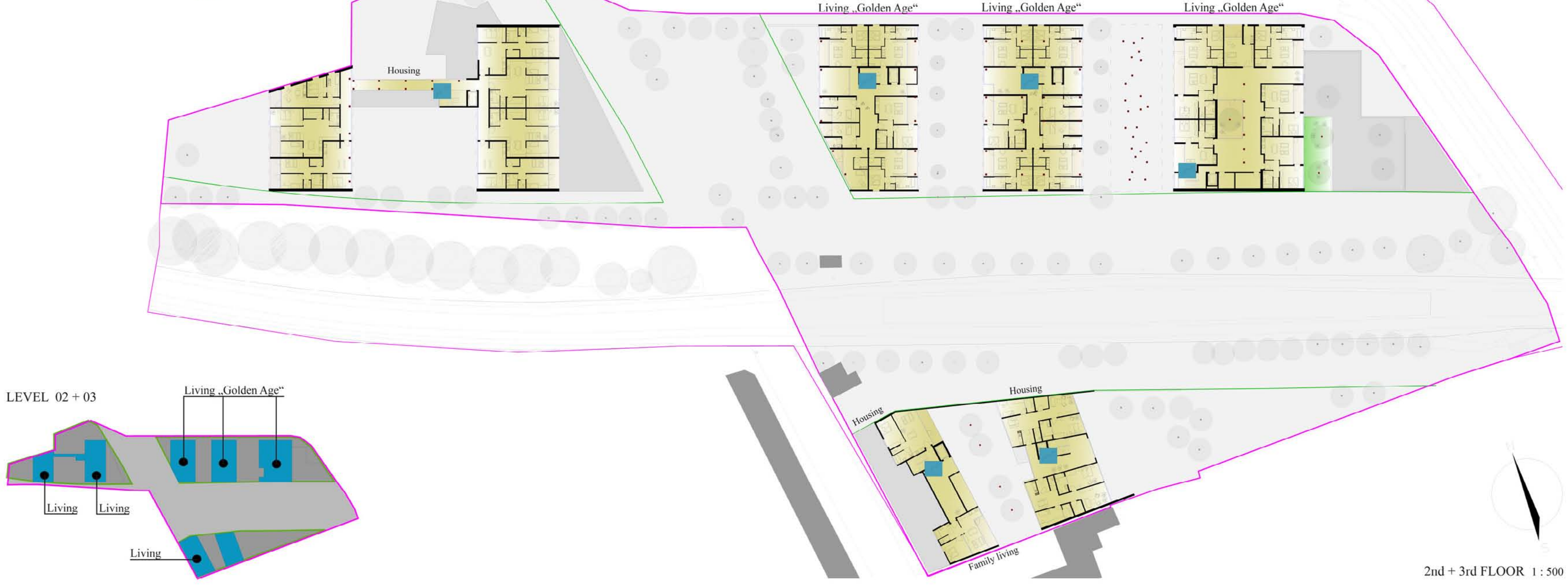


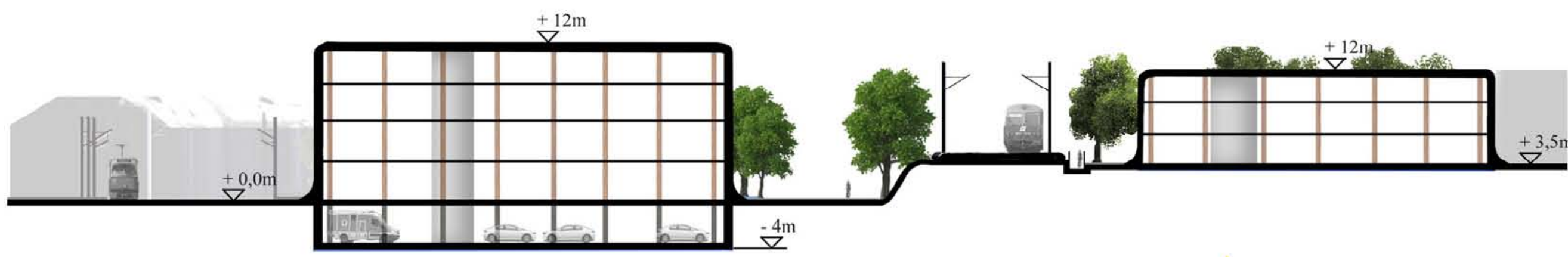
MAIN PASSAGE





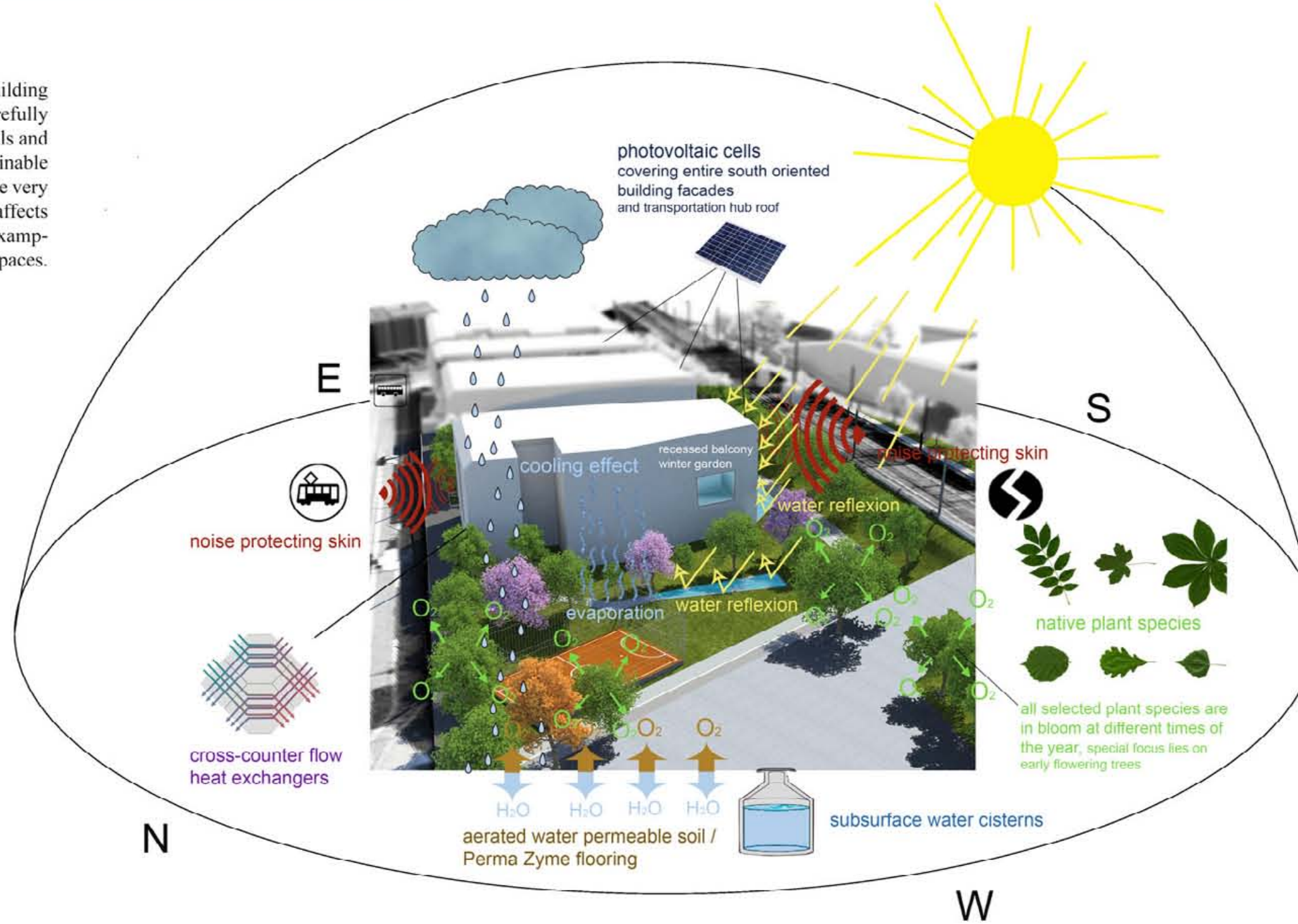
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**Microclimate**

In view of the increased CO2 emission building materials and landscape elements were carefully chosen. Main focuses are recyclable materials and renewable resources. The creation of a sustainable microclimate is not only a way to improve the very specific climatic conditions onsite, it is also affects the near surroundings and can be seen as an example for the sustainable development of urban spaces.



**SECTION B 1 : 500**

**Materiality concept**

Wood, a renewable resource is used as main element of the structure; natural stone panels cover the building skin. Outdoor flooring contributes essentially to the microclimate. Fact is, if flooring is sealed, like asphalt, it enables the generation of low level ozone which causes an increased sanitary exposure of high-risk groups. Perma zyme, a byproduct of sugar production is used on landscape paths, as well as bike lanes and public spaces. It is a hundred percent recyclable material, a pure natural product, non corrosive and innocuous for flora and fauna. It can be used in different densities and colors.

**Water concept**

Green spaces improve the energy balance fundamentally. Evaporation has the biggest effect on microclimates, it causes a cooling effect for the immediate surroundings and facades. Rain water is saved in subsurface cisterns and is used to fill the water spaces and for the watering of the lawns. It could also be used as water for firefighting. By using natural passive cooling, mechanical cooling systems like airconditions become almost obsolete.

**Energy concept**

All buildings are planned as "Klima-aktiv" houses, a term that refers to enhanced passive housing strategies. The material fraction of wood in each building is at least 50%, all used insulating materials are of recyclable origin. The entire south facade consists of photovoltaic cells. Due to their orientation and the sunlight reflecting water basins at the base, solar energy is highly efficient collected and provides a major part of the electric power supply. The passive solar energy use takes advantage of the natural light incidence due to the east-west orientation of the building axis. Highly efficient cross-counterflow heating exchanger serve three functions; ventilation, heating and warm water heating. They extract about 90% thermal energy of the exhaust air. The remaining energy is used for heating and water heating. Additionally required energy will be extracted environmentally friendly from the outside air. Solar panels also enable the running of onsite light fixtures, water cisterns give additional water supply. All recessed balconies can be used as winter gardens, they represent a passive house standard immanent strategy. An integrated hot water tank always guarantees warm water supply.

**Noise reduction concept**

Shape, materiality and building orientation serve multiple purposes. Through the east-west orientation of all facilities and apartments there is no direct noise exposure to the two main sources of noise, the tram on the north side and the train running along the south side of the site. The enclosed north-south facades of the building function as noise reducing skins trying to absorb as much noise as possible.

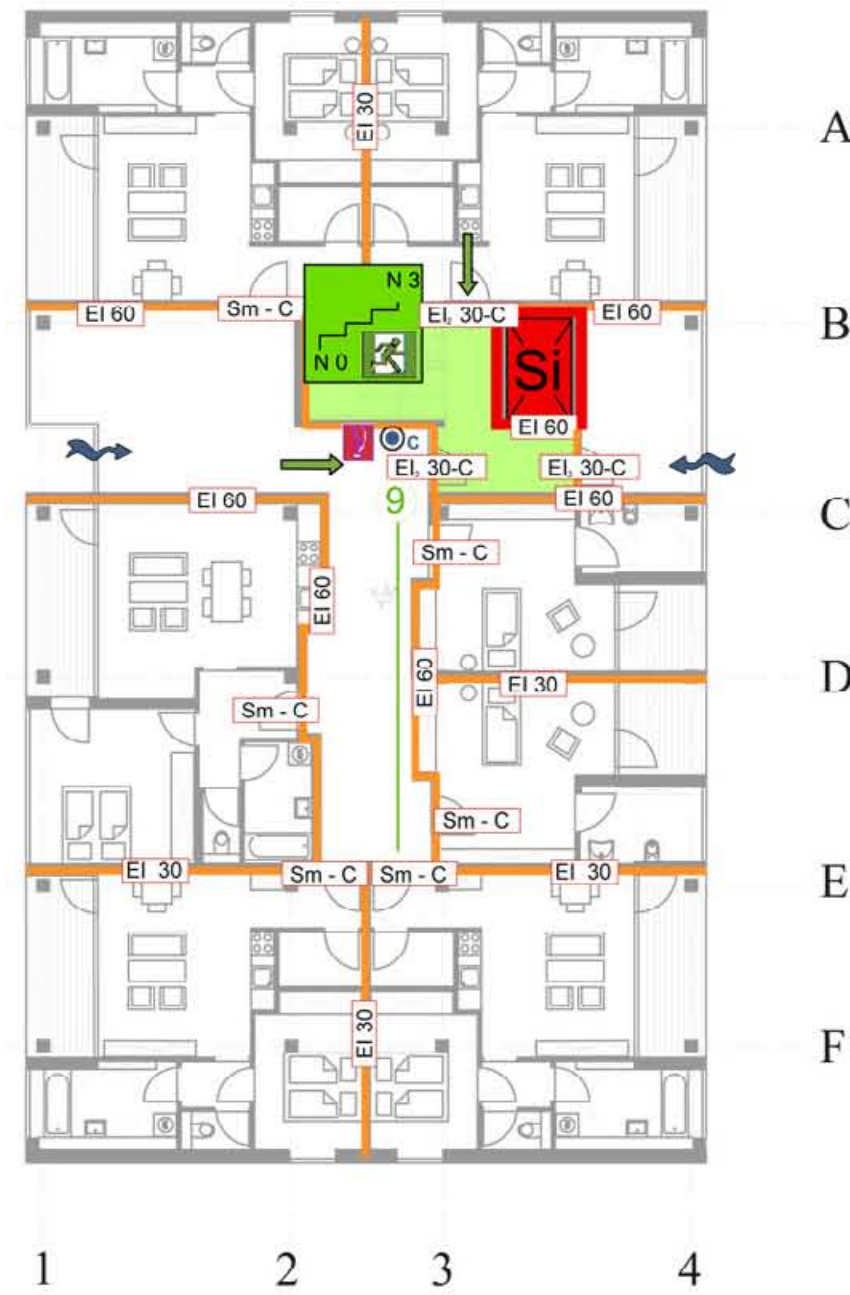
**Flora concept**

A diversity of trees and bushes amplify the microclimatic effect and ensure an attractive landscape and living space for vermin in terms of "nature also works on a small scale". By mixing domestic trees and native plant species with exotic early flowering elements like Japanese cherry trees a sustainable planting concept with surprising elements is created.

**Fire safety concept Living „Golden Age“**



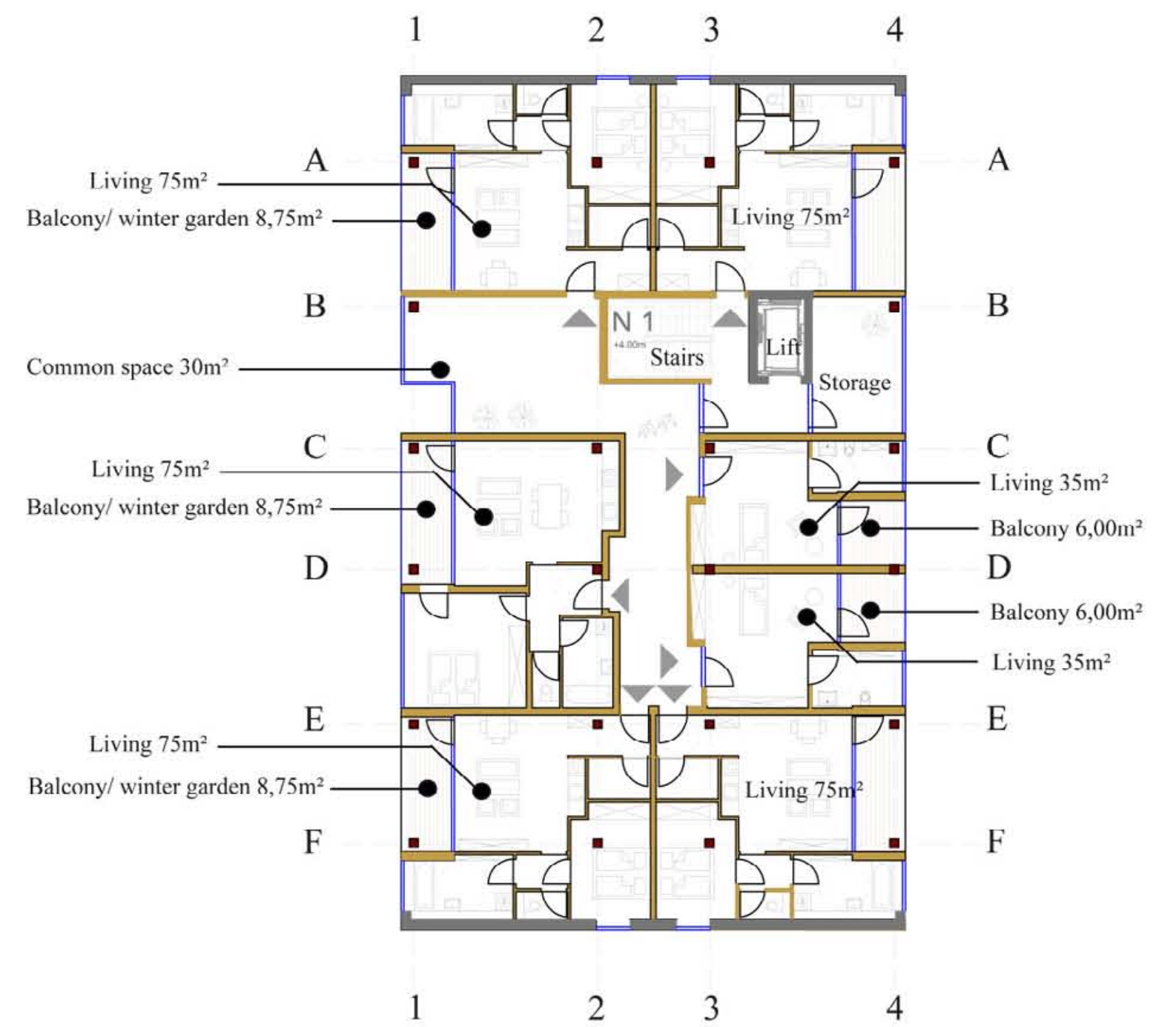
- Safety elevator
- Escape Stairway REI 60
- Partition Wall Apartment - Floor EI 60
- Partition Wall Apartment - Apartment EI 30
- Columns REI 60/ N-1 REI 90 A2
- Slabs REI 60/ N-1 REI 90
- Wet riser + Extinguisher
- Short escape ways
- Fire detection system
- Safety lighting



GROUND FLOOR 1 : 200

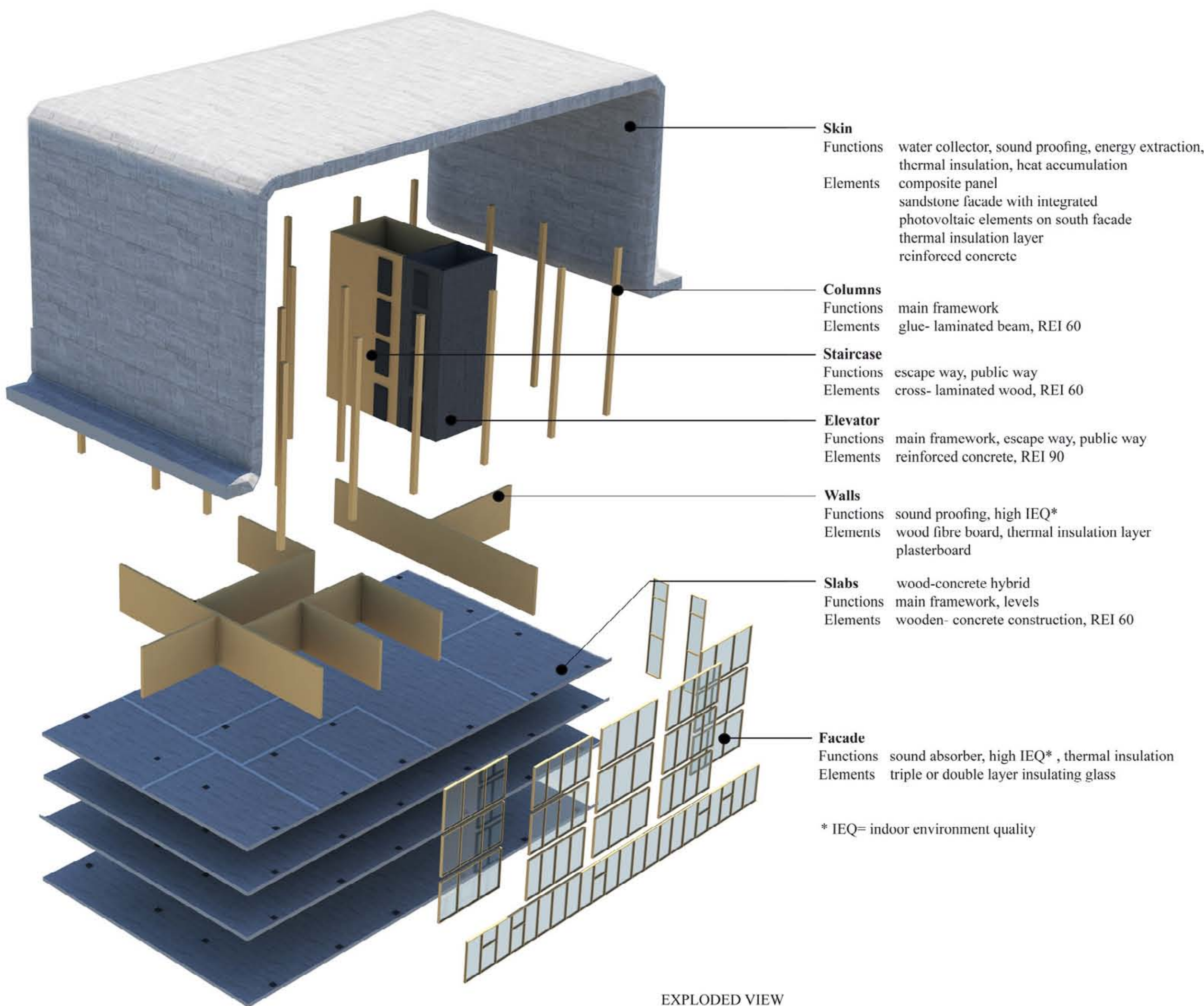
2nd FLOOR 1 : 200

**Typical floor plan Living „Golden Age“**



2nd FLOOR 1 : 200

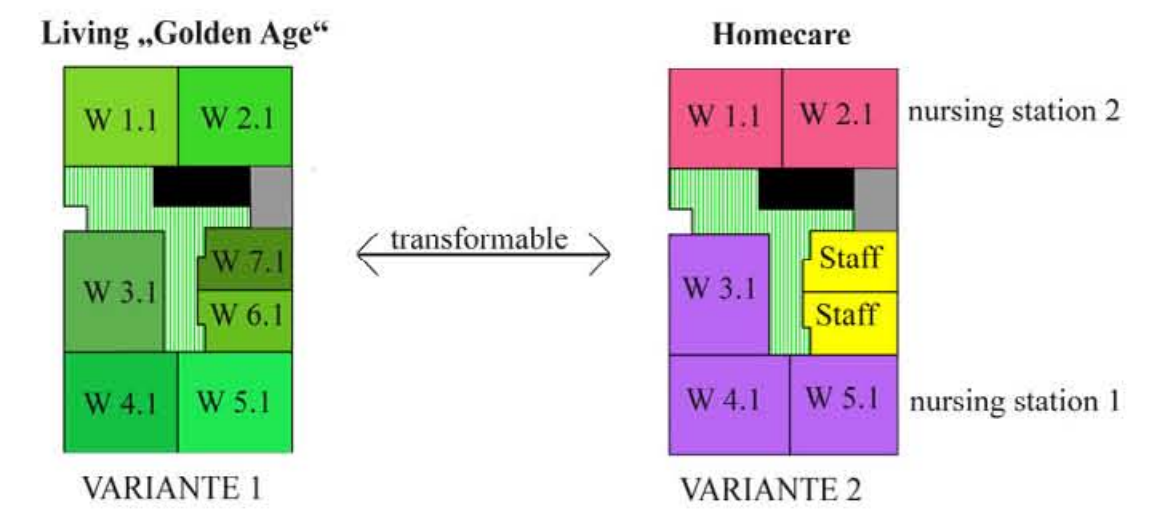
**Structural system upper levels**



EXPLODED VIEW

**Living „Golden Age“ and Homecare**

Main characteristics of the age-based housing units are spacious floor plans and complete barrier-free accessibility from carpark to each apartment bathroom. Level 0 contains recreational community facilities and all required spaces for supply and disposal. All age-based apartments are transformable to permanent homecare facilities. In this case nursing staff is accommodated in the temporary living units on each floor where they can easily take care of 1 assigned nursing station which equals 3 to 4 units.



**Cost efficiency and ecological system**

All upper levels consist of intelligent, hybrid construction techniques. They are cost efficient and ecologically sustainable. Wood columns are cheaper than concrete columns and ensure a quick and clean construction progress. Reinforced concrete floors on the other hand are economically advantageous in comparison to wooden floors and have a better structural-physical performance.

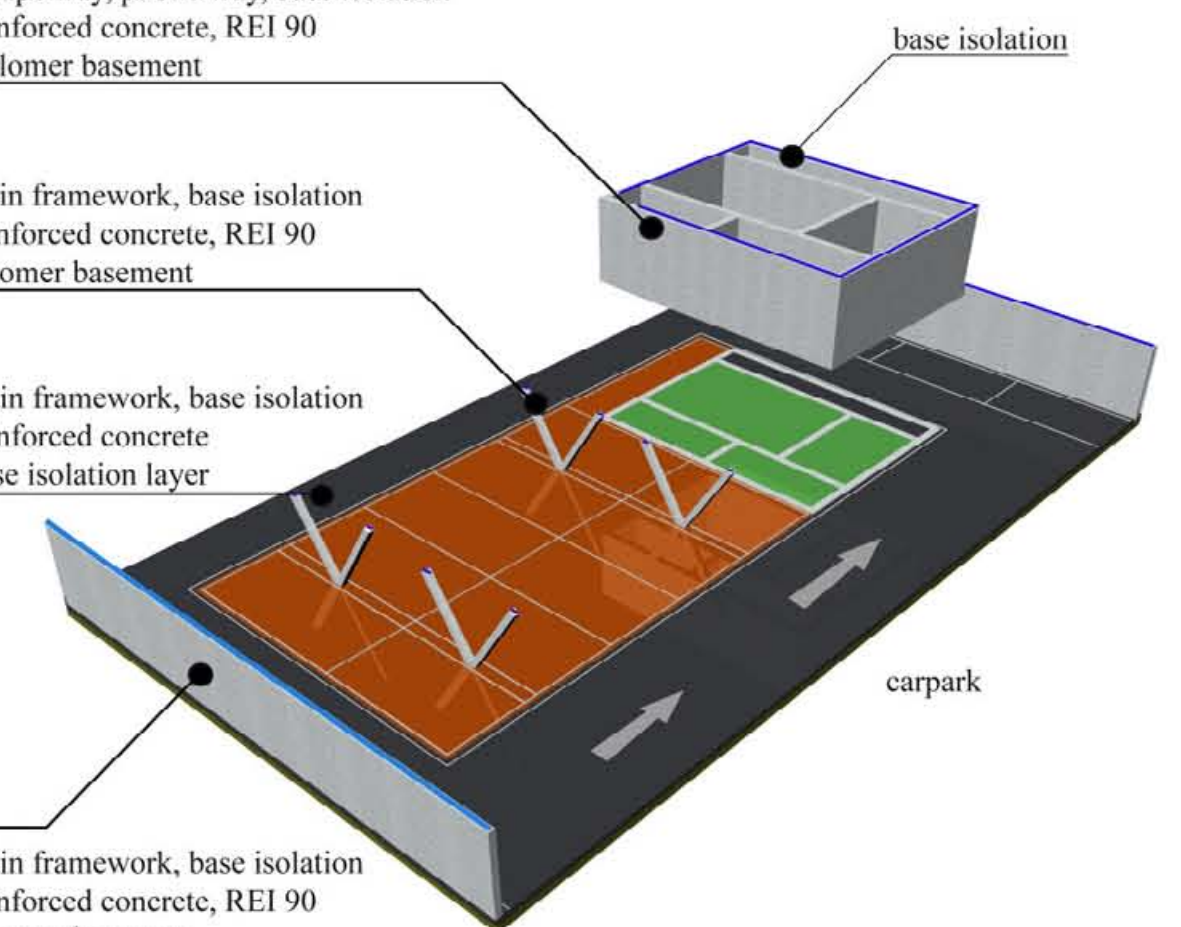
**Structural system basement**

**Staircase and elevator**  
Functions: escape way, public way, base isolation  
Elements: reinforced concrete, REI 90, sylomer basement

**Columns**  
Functions: main framework, base isolation  
Elements: reinforced concrete, REI 90, sylomer basement

**Basement**  
Functions: main framework, base isolation  
Elements: reinforced concrete, REI 90, sylomer basement

**Walls**  
Functions: main framework, base isolation  
Elements: reinforced concrete, REI 90, sylomer basement



EXPLODED VIEW