

Madroel Village

Intergenerational living

The goal with the project is to design a building, which reduces the negative impact on the climate and improves the lives of those who will live there.

Madroel Village is a residential building complex located in the outer banks of Pernis. The building is erected according to local climatic conditions to best utilize sun energy, shield from noise and wind and secure against flooding. By including energy efficiency measures such as passive strategies to maximize the buildings performance, thereby minimizing the buildings total energy consumption and implement renewable energy sources it was possible to achieve a Zero Energy Building.

A great focus have been to reduce the negative impact on the environment by designing architecture with great conscious of materials and CO₂ emissions, why Madroel Village is build mainly of bio-based materials and with a focus of minimizing the use of heavy carbon emitters.

To provide a healthy home, which would improve the life of residents of Madroel Village, it was important to ensure quality, comfort, and safety. Why another great focus have been on indoor environment, ensuring acoustic, thermal, visual comfort.

The design introduces mixed use of the site, offering functions for both public and residents, whereby it constitutes as a meeting point for all citizens of Pernis. By ensuring mixed use of the site, the site is experienced as lively and safe all hours of the day.

The courtyard represents the heart of the design, providing a space for children to play and for outdoor social gatherings as well as providing space for individual contemplation in beautiful green surroundings.

User group

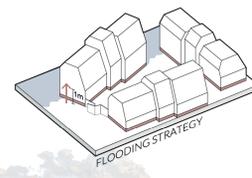
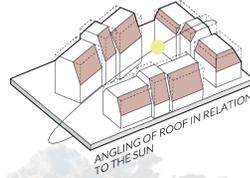
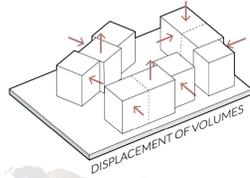
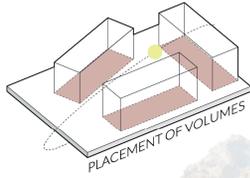
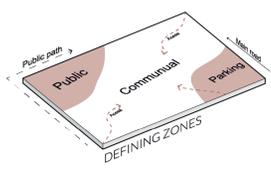


Social Aspect

"Co-housing practices promote close relationships, regular social contact, and perspective-taking among neighbours. Such social practices lead to a feeling of belonging and connectedness to the community." - Beck (2020)

Intergenerational users are a focus for the project because of the many benefits that comes from having a multigenerational user, where different generations connect, promoting understanding that can lead to respect and compassion. Having intergenerational users living together is shown to have a positive effect on elders experiencing much less depression, better physical health, and higher degrees of life satisfaction - they tend to be happier with their present life and more hopeful for the future. The benefits for youth include: increased academic achievement, reduced delinquent behavior and improved social-emotional skills.

In Pernis the age distribution points to a larger amount of middle aged and elderly, why it would be favourable to attract young new families, which will also have an increased longevity of stay.

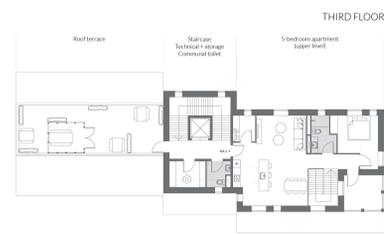


NORTH BUILDING - SOUTH ELEVATION 1:100



NORTH BUILDING - NORTH ELEVATION 1:100

NORTH BUILDING - FLOOR PLANS 1:200



Exterior

The facade reflects the division of functions inside the building, vertically transitioning from public to private. Public and shared functions are made visible for people passing by a higher level of transparency on lower levels.

Apartments

Apartments are placed from first floor and up, thereby ensuring more privacy for residents. On top of each cluster is a communal roof garden/terrace. A centrally placed stairway allows access to 2 or 3 apartments on each floor. Each cluster contains apartments varying from a 1 to a 4 bedroom apartment, thereby accommodating mixed residents with different needs.

All apartments are lit from both sides, to optimize the daylight and the quality of light inside the apartments. In addition, all apartments have an open plan kitchen/dining and living room to afford families to be together both in common activities and when performing different activities.

The diagram opposite illustrates applied measures in order to minimize the buildings' energy consumption. Passive strategies including shading, natural cross and stacked ventilation and an airtight building envelope maximizes the buildings performance saving energy.

Renewable strategies as photovoltaics and solar thermal collectors are integrated to further improve the buildings' energy performance, as well as being a source to produce heat and domestic hot water. Thereby reaching a Zero energy building.

Furthermore, it is illustrated how easy pipework is ensured by placing vertical internal cores throughout the building.

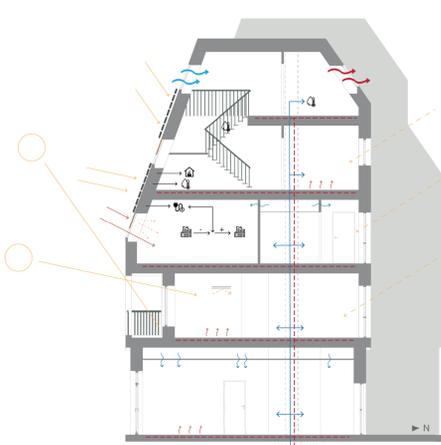


DIAGRAM 1:100



Courtyard terrace



Courtyard SUDS

Outdoor spaces

Outdoor terraces are placed in relation to functions inside of the buildings; one in relation to the public cafe and another in relation to the communal multiroom, thereby offering the opportunity to dine outside. The terrace in relation to the cafe is placed in accordance to sun hours offering a nice and sunny outdoor space - and as a public terrace with a view to the water, makes for a great gathering point for residents in all of Pernis.

The courtyard has a multifunctional purpose as a collection point for water, when there is excessive rain. Canals running along the edge of the courtyard leads water to the collection point. A waterfall contributes to acoustic experiences of zisling water.

