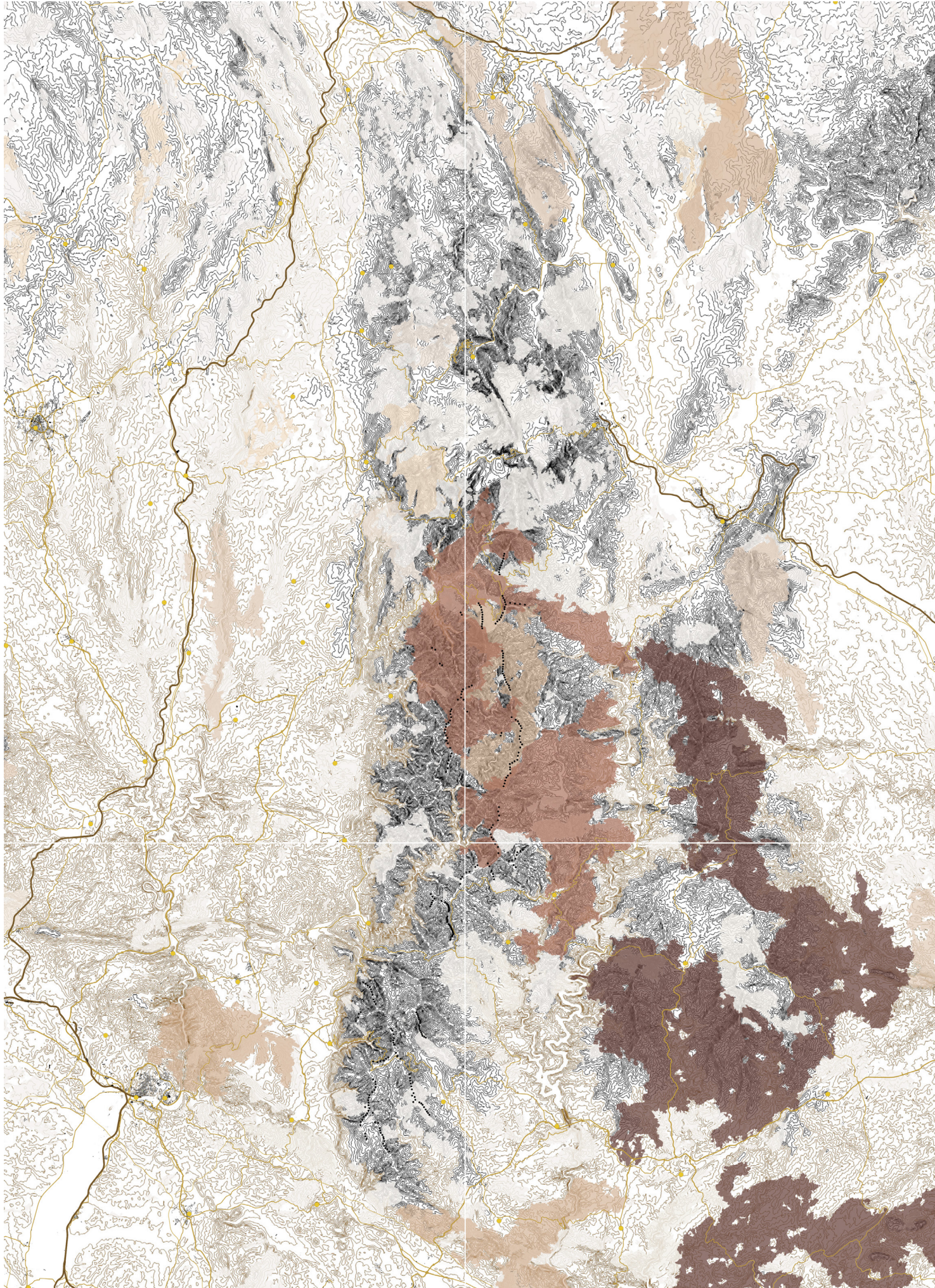


AGAINST THE INHERENT PARADOX,
STEWARDSHIP AND EDUCATIONAL FOREST CENTER

ECOLE POLYTECHNIQUE FÉDÉRALE DE LAUSANNE
Master I - semestre II - Studio Harry Gugger
Mathias Gommier



Territorial analysis

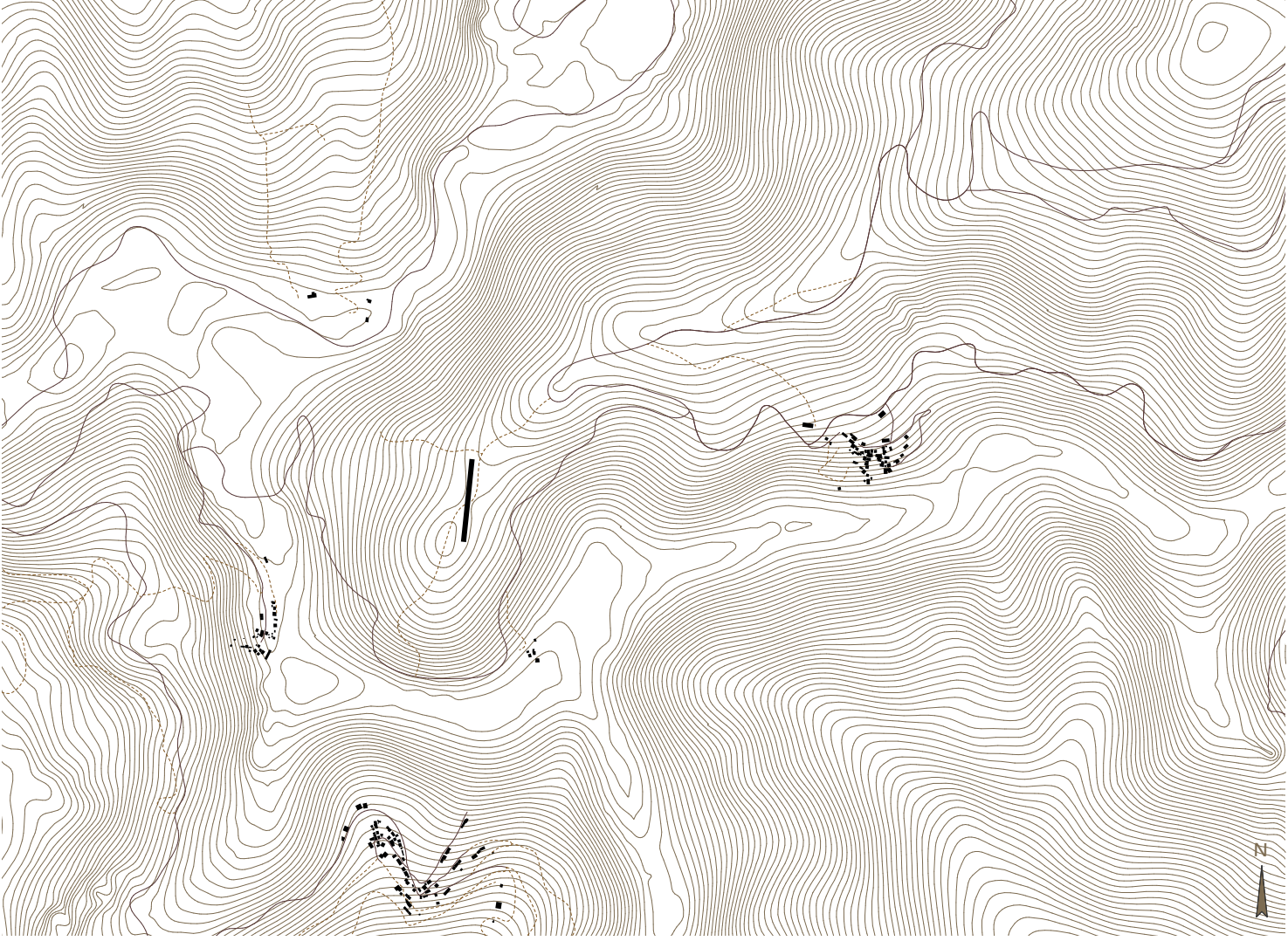
Legend
Burnt areas (>50 000 ha)
Burnt areas (>10 000 ha)
Burnt areas (>5 000 ha)
Burnt areas (>1 000 ha)
Trails
Primary roads
Secondary roads
Fire routes

The problem of wildfires is increasingly overwhelming for Portugal, now the most concerned country in Europe. In the north of the country, forest management is hampered by the private ownership fragmented in 1 ha average parcels. Moreover, the population is aged and live mainly far from their properties. This abandonment of the forests leads to a higher risk of fire ignition because of the accumulation of combustible residues.

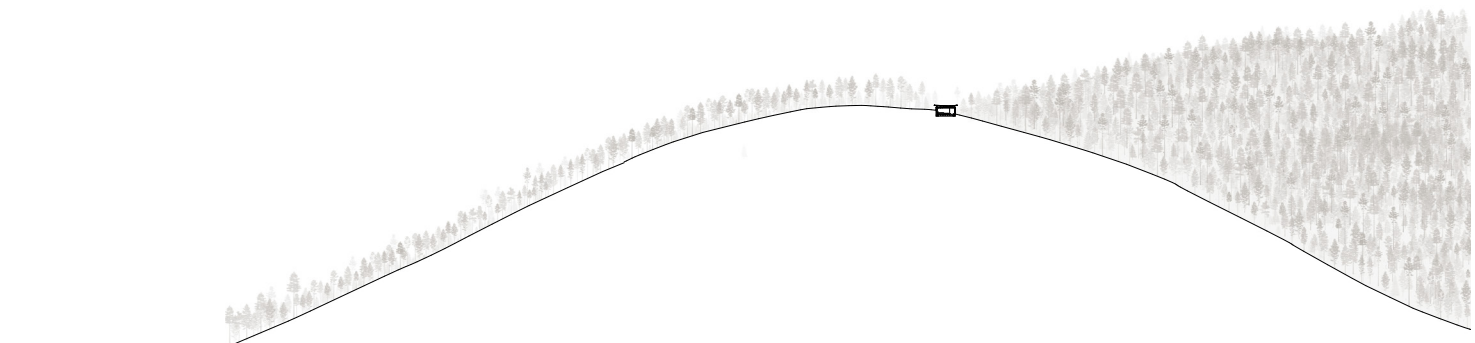
The aim of this project is to improve the detection of fire ignition by setting up infrastructures that will allow forest guards to stay permanently close to risk areas, inverting the actual paradox where dedicated infrastructures are localized too far from the concerned areas. The project also includes educative facilities promoting global population sensitization, focusing on primary and high school students through immersive experiences leading to deeper territorial connection. The strategic position of education center, near the city of Coimbra, located halfway between Porto and Lisbon, allows to consider the involvement of the majority of schools in the country. The education center is located within the Serra da Estrela mountain range, at the meeting point between the end of the valley penetrating the mountains from the city of Gois and the mountain ridges. The permanent presence of rangers near the villages aims to raise awareness and help the local population on a daily basis, while improving the preventive mobile monitoring of the territory by exploiting the network of roads established during the installation of wind turbines on the ridges. The project is hosting five forest guards permanently throughout the year, while an additional ten men provide reinforcement during the risk period, from June to September.

Access to the building is made via an existing dirt path crossing the forest. Rangers use it by car, while visitors are invited to walk from the car park placed at the beginning of the path, amplifying their experience of discovering the site. The project aims to highlight the slight slopes of the land, while addressing the two sides of the hill, offering unobstructed views of the mountains and surrounding villages. Thus, the northern part of the project, which hosts the infrastructure dedicated to the forest guards, tends to open towards the west while the southern part, which hosts the educational center, opens to the east. All the spaces are distributed by a continuous corridor offering several experiences of the surroundings, including subtle variation of ceiling height according to the topography, and being an interior space or an exterior one when leading to the forest guards bedrooms.

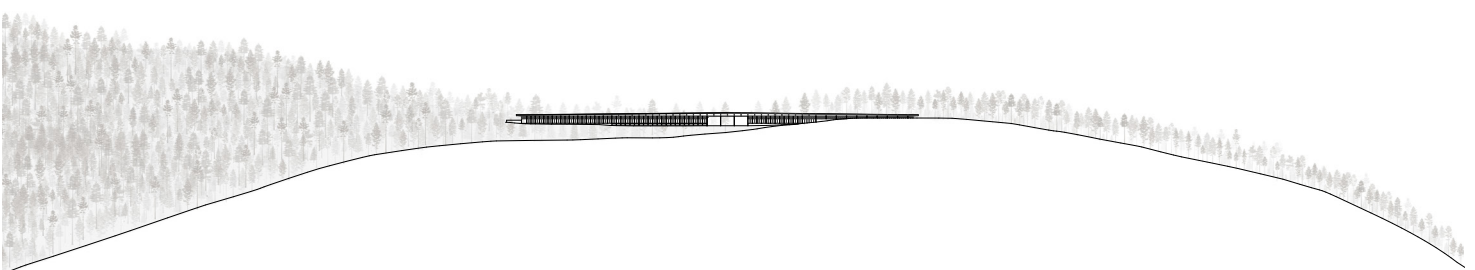
All the dwellings are located at the tips of the building, while the central part hosts common functions. Simultaneously, the rhythm of the structural gantries vary, increasing this feeling of porosity and openness in the middle part of the building, where the hill is the narrowest and where is located an exterior space, covered by a continuous zinc covered roof slightly sloping towards the end points of the building where two water tanks collect the rainwater in order to fulfill the building's needs. Tilting windows placed in height on each side of the building allow a natural ventilation of the education center, requiring the involvement of residents promoting the use of sustainable passive energy strategies.



Implantation - 40°08'04.9 N 7°58'12.0 W -



Transversal section



Western facade



East side - model 1.1'000 -



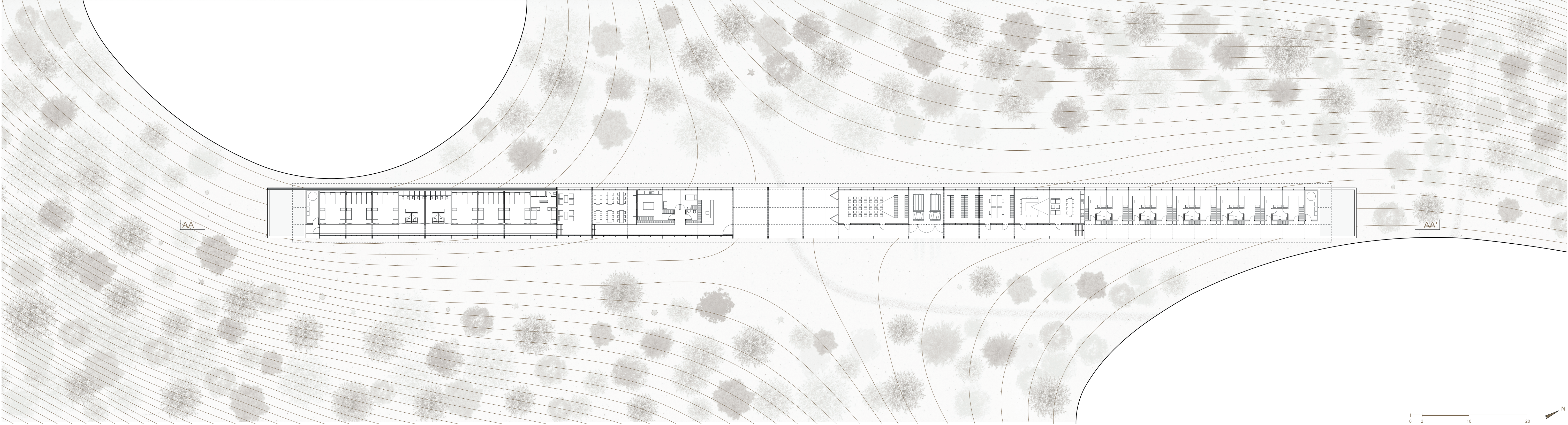
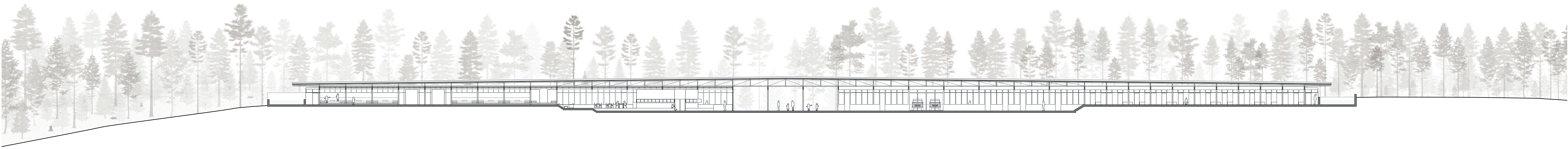
Exterior covered space - model 1.200 -



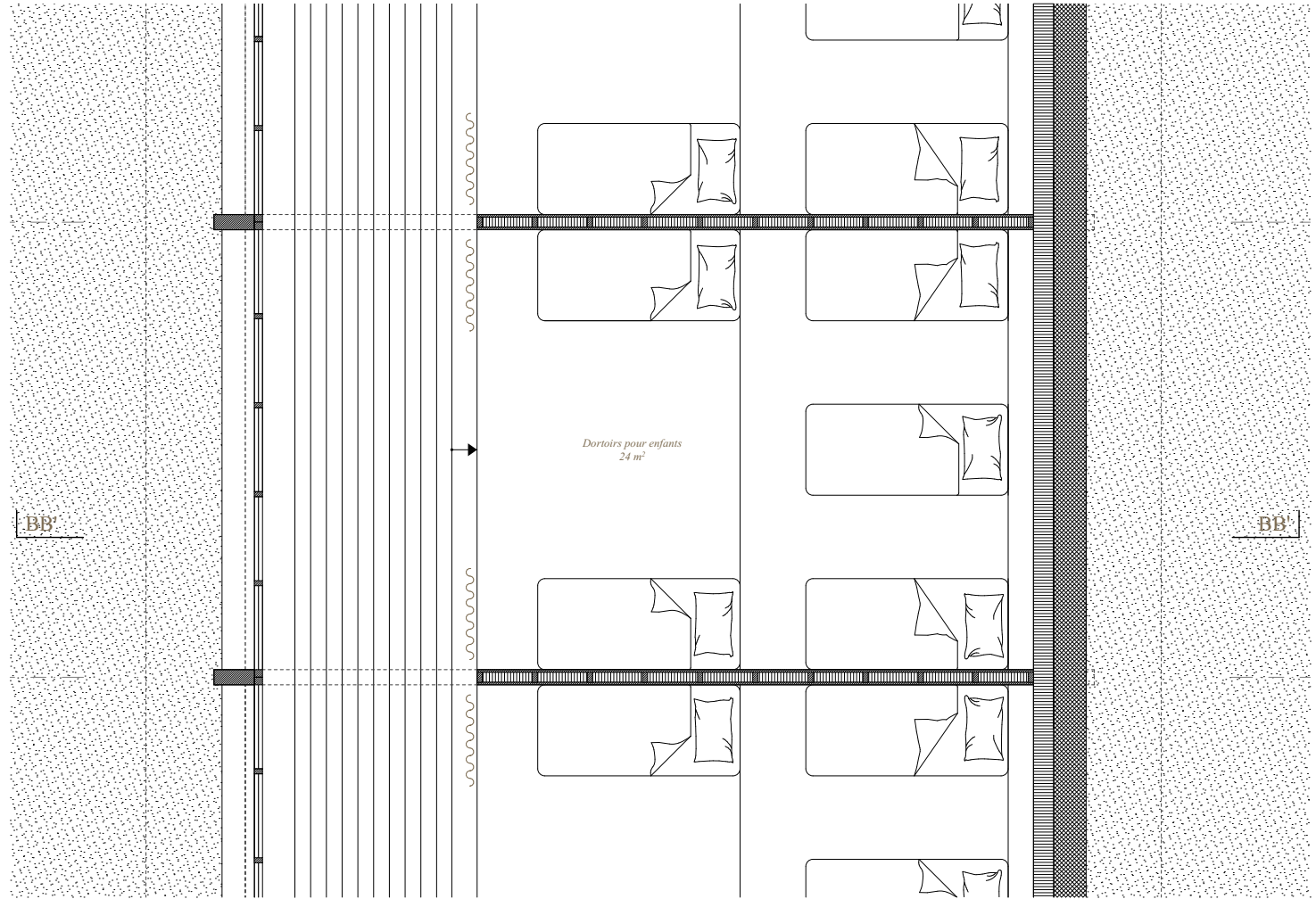
Northern part, West facade - model 1.50 -



Northern part, transversal section - model 1.50 -



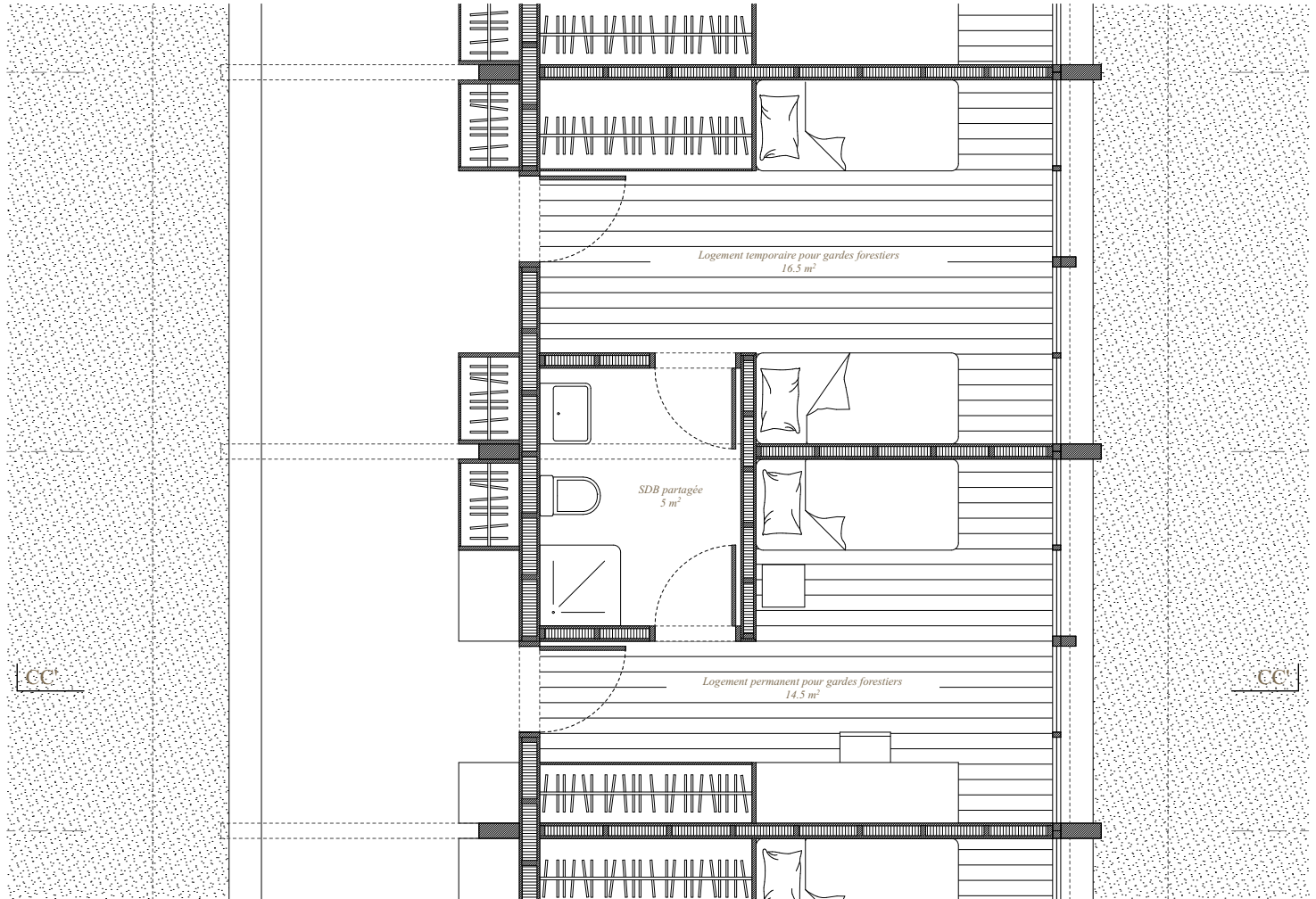
0 2 10 20 N



Dormitories dedicated to the scholar groups



View of the dormitories dedicated to the scholar groups - model 1.20 -



Bedrooms dedicated to the forestguards

