

A new village center for all.
Improving a village's architectural, social,
and economic quality by dealing with what
is already here.



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« I cannot pursue my architecture without considering the minimization of energy consumption, simple and direct technologies, a respect for site, climate, place and culture. Together, these disciplines represent for me a fantastic platform for experimentation and expression. Of particular importance is the junction of the rational and the poetic resulting hopefully in works that resonate and belong to where they reside».

Glenn Murcutt

Abstract

Manigod is a small village located in the French Alps, attracting many visitors due to its location and landscape. However, newcomers with urban lifestyles and good incomes have participated in the spatial and cultural transformation of the territory. This gentrification leads to significant effects on land prices, commercial offers, and the transformation of landscapes, which can lead to an increase in social inequalities and exclusion processes.

This creates also an imbalance between the heart of the village and the ski resort located further. The ski resort has for many years a good dynamism during tourist season, especially during winter thanks to snow activities while the heart of the village became a place of passage over the years.

However, we know that snow will become rarer and rarer in villages like Manigod with an average altitude. If the municipality wants to continue to take advantage of its tourism we have to start thinking about a renewal for the tourist activities and imagine winter without snow. Moreover, it is essential to give back the importance of the inhabitants, who have been somewhat forgotten in favor of tourism.

Besides, different empty existing buildings in the village have the potential to be renovated to become part of the village's life and welcome various activities.

From this assessment, I want to suggest a project that answers those issues to revitalize the heart of the village. I want a project that gathers people whether locals or tourists with the idea to create a harmonious space.

We know that the construction sector is responsible for an important part of the CO2 emissions so in this report I also want to show that sometimes using what is already there instead of constructing new buildings can also generate nice spaces. This is why I want to study one of the existing empty buildings as part of my thesis and think about a better way to renovate it and offer a program determined by the challenges of living together and revitalizing the village.

This thesis seeks to provide solutions for the sustainable development of the village by respecting its history, its identity, and its heritage.

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Introduction

Manigod is an attractive village because of its rural mountain context, it offers a privileged and preserved environment. However, the lifestyle evolutions, the overabundance of secondary homes, and the concentration of services in Thônes, the nearest city, led to a decrease in places and opportunities to meet and left several buildings vacant in the center of the village. It seems essential to me to bring conviviality back to the village's heart.

Car dependency in rural areas is a major problem that seems difficult to solve at large scales. For Manigod and its center, it is however important to give back more space to pedestrians with particularly a pedestrian path allowing them to cross the village without danger and close contact with cars.

The population of Manigod is aging and the financial pressure linked to a large number of second homes does not allow a renewal of the population. It is therefore essential to rethink the services and housing offers to adapt and propose other forms of housing.

Manigod is today a touristic destination that takes advantage of its ski resort and winter activities. Developing the heart of the village with new services and activities can be a starting point for future diversity needed to adapt to climate change.

I choose to work on the heart of the village in order to suggest different complementary propositions that participate in its regeneration. It is important to me to highlight the value of what is already existing thanks to rehabilitation, and create a link between different components with the goal of bringing back life in the heart of the village.

The first step will be an urban thought on the heart of the village to offer a coherent project. Then I will focus on one existing building that I will develop further by proposing a program fitting the issues.

I. Living in Manigod today : analysis of a territory

1. Location and natural context

Manigod, village with about 1000 inhabitants (« Legal populations 2019 » , 2021) is located in the French Alps. More precisely, it is situated in the valley of « Les Aravis » in the department of Haute-Savoie (Fig.1).

The defining characteristic of Manigod is the absence of flat terrain, with steep slopes present throughout the area. This natural feature has been a major challenge for the development of the town over the years, and residents have had to adapt to the difficult terrain. As a result, there is no historical central square in the village, which may be attributed to the challenging topography of the area.



Fig.1 : Illustrations to situate Manigod, in France

Another point about Manigod is the abundance of the forest. According to its etymology, «Maningot means inhabitants of forests or alpine pastures».¹ With the years, Maningot became Manigod. The village is located in a mountainous landscape of 4400 hectares and it is composed of 328 hectares of forests. The forests used to be exploited in a natural way to fulfill individual or collective needs, for construction or firewood.

The village is overhung by several summits culminating at more than 2000m. The geographical constitution of this village is made on two slopes separated by the Fier, a river which takes its source at the Mont Charvin. The part with southern exposure is called the Endroit, and the part with northern exposure is called the Envers.

In the 1970s, the construction of the D6 road, which leads to the Col de la Croix-Fry ski resort, was completed and became the main road in the area (Fig.2). Currently, the department is responsible for maintaining this road, while the municipality is responsible for maintaining the others. As a result, the main road now runs through the heart of the village, making it more of a thoroughfare than a destination (Fig.3). The lack of a square does not help this issue.

The village's center is now dispersed along the departmental road, and increasing the density of the village could help to define a new central hub that aligns with current usage patterns. This would also make the center more noticeable for those traveling along the main road.

The nearest city with all the services needed is Thônes, located 5km further. People leaving in Manigod are then dependent on their cars. During tourist seasons, buses are available. They bring you on one way to Thônes and on the other way to the ski resort and the next village La Clusaz where more services are available. The timetable is one bus per hour.

¹ « The History of Manigod », Tourism Office of Manigod, <https://www.manigod.com/histoire-de-manigod.html>



Fig.2 : Aerial photo showing the village in the lower left corner and the zigzag road up to the Col de la Croix Fry. Taken from <https://www.geoportail.gouv.fr/>



Fig.3 : View of the heart of the village crossed by the road to the Col de la Croix Fry. © Angèle Golliet

2. Urban context

- An ancestral practice: scattered construction

The department of Haute-Savoie has always known a dispersed environment. The agro-pastoral² system originally required farmers to spend a significant amount of time in mountain pastures, leading to the construction of chalets that were only occupied for part of the year. These chalets were built in close proximity to the grass resource and provided ample space for the animals. Today, these chalets are randomly scattered throughout the region, contributing to its unique atmosphere.

This construction principle has also become a characteristic element of modern architecture in Haute-Savoie. The creation of ski resorts, the development of villages and hamlets, and the extension of individual housing have almost systematically taken it up: each new construction is positioned freely in the middle of the plot. As a result, the traditional urban street, formed by the alignment of facades, is not a common mode of urbanization in the region. In the case of Manigod, the urbanization followed the path of the D6 road to the Col de la Croix Fry, which leads to the ski resort (see plan on the right).

- Density

The department of Haute-Savoie is known for its exceptional level of attractiveness with an urban population who still prefer to live in the countryside (Exhibiton CAUE, 2023).

This leads us to question the density of these cities and villages. In recent years, there has been a growing awareness that housing projects must limit urban sprawl in order to preserve agricultural activity, landscapes, and biodiversity. Housing construction tends to consume less space.

This search for density can only result in new ways of living: collective housing, grouped individual houses, and shared housing. However, this evolution must be balanced with a strong social demand for individual houses, proximity to nature, and calm.

² agropastoral : which concerns both agriculture and breeding



Fig.4 : Aerial photo showing the dispersed houses, the main organisation of construction in Manigod. © Tourism Office of Manigod



⌚ 1:10000

The figure-ground diagram shows the density of Manigod along the main road. We can see scattered constructions without logical organisation.

3. Architectural heritage

The architecture of Manigod has been strongly influenced by its location and resources, resulting in a unique and distinctive identity that is characterized by the use of wood, the ability to build on sloping terrain, and the emphasis on the surrounding views.

Today, the architectural landscape is composed of chalets all over the territory that was built as the commune developed. These chalets demonstrate a high level of craftsmanship and a deep understanding of how to build on sloping terrain, with careful use of spruce beams. All these constructions face the panorama that the village offers. All the traditional houses have been influenced by agriculture, the main economic sector for many years.

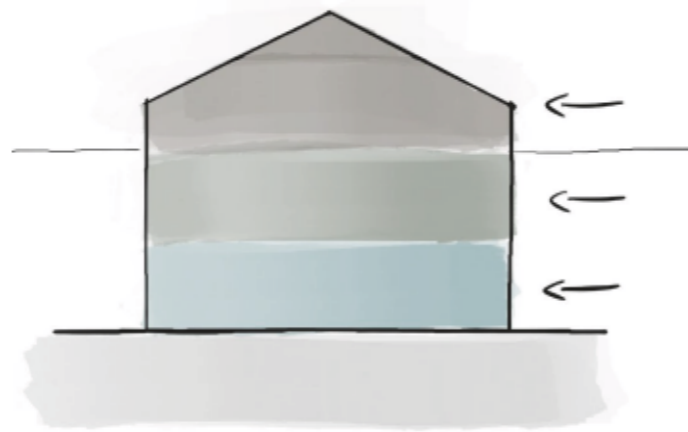
- An architecture linked to lifestyles.

As previously mentioned, the houses in Manigod and the wider Alps region are representative of the traditional habitats that were essential for agropastoral exploitation. These buildings were designed to serve various functions, including providing shelter for both humans and animals, as well as producing cheese.

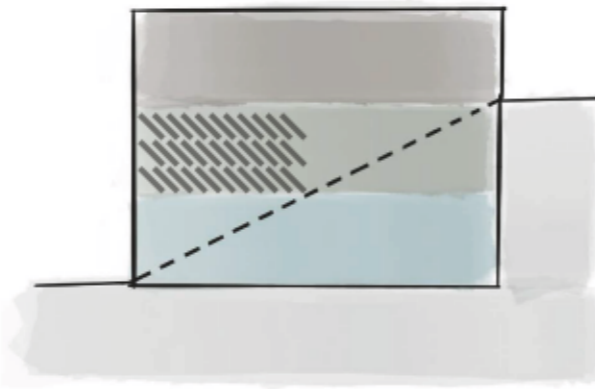
The traditional chalets in Manigod are constructed according to a simple organizational structure. They are built in alignment with the slope and access to different levels is distributed accordingly. Agriculture has greatly influenced the architecture, and the spaces were organized to integrate the presence of animals within the building.

The living spaces are placed facing the sun and the view, and the space for the animals is placed against the land, on the side of the slope. This arrangement ensures that the living spaces benefit from the heat produced by the animals and the bioclimatic comfort provided by the sun.

The influence of agriculture on the architecture is also visible in the vertical arrangement of the spaces. The first level included the cellar and the stable for horses, which were used for work in the fields. The second level had the stable for cows and the living spaces with the fireplace. Finally, the third and topmost level was used to store hay, and it also helped to insulate the lower spaces.



Elevation of a traditional house. Thanks to the good use of the slope, each level has direct access.



Section of a traditional house. The living space is located on the second level facing the view. It is surrounded by areas dedicated to the animal, the cowshed behind, and the stable under. Above, the last level is used to store hay. With this organization, the living spaces are well insulated and they enjoy the sun during the good days.

- ③ HAY BARN
- ② LIVING SPACES, COWSHED
- ① CELLAR, STABLE, STORAGE

- An architecture linked to its environment.

The sometimes difficult building environment in Manigod has strongly influenced the local building culture. The plan is built on a square base, and the volume is compact and divided into two entities: the stone base and the wooden elevation. The main structure of the chalet is symmetrical and supports a gable roof with large overhangs to protect the facade but also to allow circulation in snowy weather. Horizontally, the chalet is composed of three distinct levels as seen previously.

The rooms are delimited and separated by wooden partitions that are generally visible from the outside.

The presence of spruce on the territory has influenced local construction. These wooden houses were built of solid wood. It is based on the optimization of the use of spruce, the center of the trunk, which was used to create planks, the main elements of the walls. They were cut with notches so that they could be assembled.

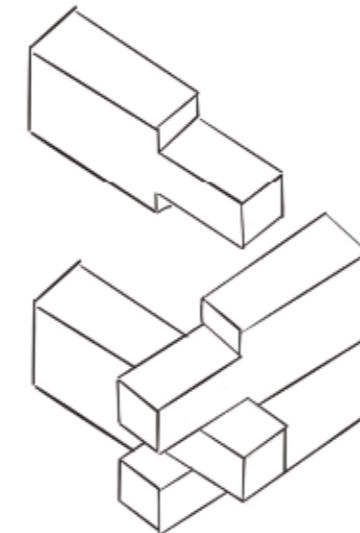
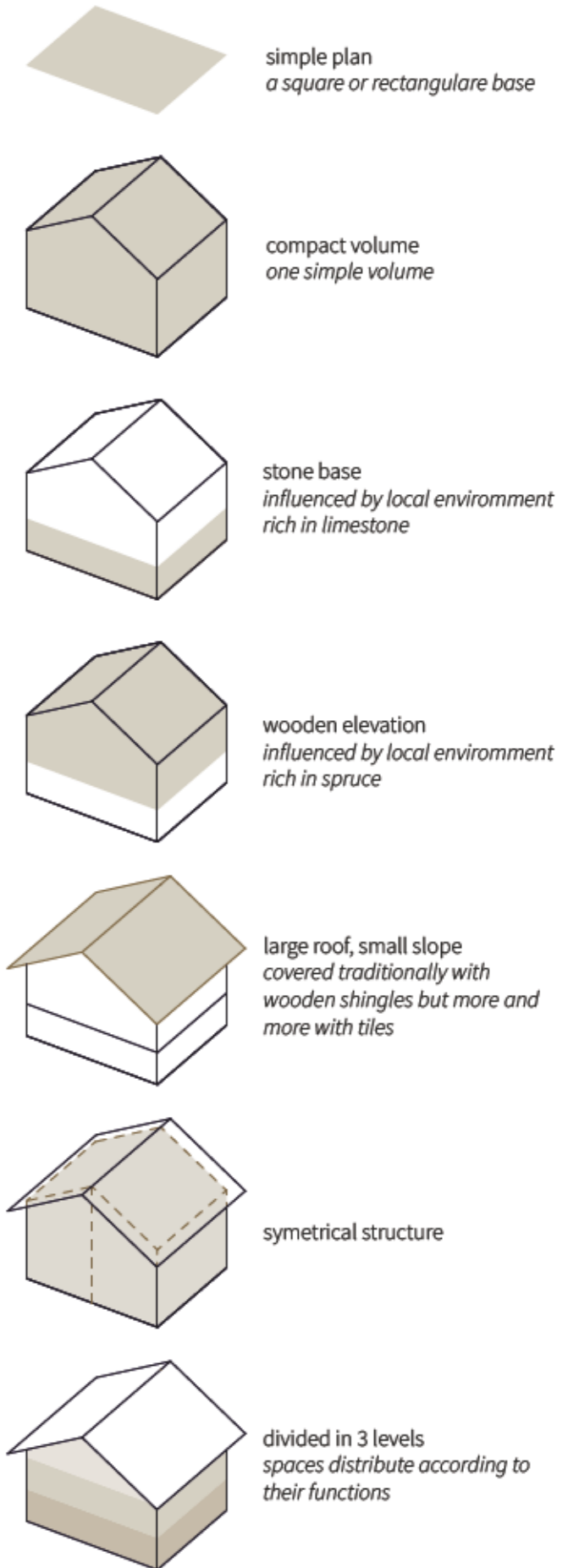


Diagram timber assembly. This is the traditional way to build wooden wall. The notches allowed for the planks to be interlocked, creating a solid and stable structure.

I. Living in Manigod today



Principles of a traditional house

- An evolving architecture

The changes in the way of living have brought transformations in the organization of spaces within houses in Manigod. Traditional houses are no longer optimized for agriculture-related functions and have become less functional but more comfortable. The basement now typically serves as a garage for cars, while the intermediate level is converted into living space with a kitchen, living room, and dining room. The uppermost level is reserved for bedrooms.

In addition to changes in the use of space, the use of concrete as the primary building material has also become widespread in the area, leading to constructions that are detached from the local building culture. This shift to concrete has allowed for quick and cost-effective building, but it has also resulted in a disregard for the traditional ways of building in the area. Furthermore, new constructions are no longer necessarily built in accordance with the slope, and we can observe significant cuttings in order to install these new buildings.



Facade of a traditional house : stone basement that give access to differents cellar, living spaces, on the second floor, behind a wide gallery, last floor used as a barn with a low sloping roof. The facade is symmetrical and the solid wood structure is visible from the outside as well.



Fig.5 : Traditional house in Manigod with stone base and wooden elevation. We can see the three levels, the symmetrical facade, the small openings, and the large roof. The construction method of solid wood is also visible from the outside. We guess the different possible entries according to the slope. © Unknowned



Fig.6 : Mountain House, a contemporary house by Studio Razavi Architecture in Manigod. The main differences are the concrete base, the roof aligned with the facade, and the large openings. The construction method and the number of floors are not perceptible. The entry seems only possible from the ground floor. © Studio Razavi Architecture

- Public buildings that reflect the times.

In the heart of the village, various public buildings were built during the 19th and 20th centuries. They are made of mineral materials, either stone or concrete. They reflect the different collective dynamics of each era.

Although these public buildings do not follow the traditional building culture of Manigod, they still contribute to the village's unique atmosphere and historical identity.



Fig.7: The Old City Hall/School built in the 19th century for public services, reflects the importance of local government, administration and education in the community. Today, it represents a central point of the village with an important past. © Angèle Golliet



Fig.8: The Post Office built in the 1912. It was constructed for the post office and the accommodation of the postmaster. In 1919, following the abolition of the postmaster's office, the building was transformed into a postal agency on the ground floor and a flat on the first floor. It has been renovated in 2022 by the architecture office «Atelier Canopée». It welcomes now two housings, one on each level while there is still the post office on the ground floor.



Fig.9: The Old House of Heritage. It used to host an animated exhibition to better understand the life of the inhabitants in the old days, both at home and in the fields. Unfortunately, it closed a few years ago, because of a lack of people to take care of it. It is now an empty building. The heritage association that initiated this exhibition is still present in the associative life of Manigod.



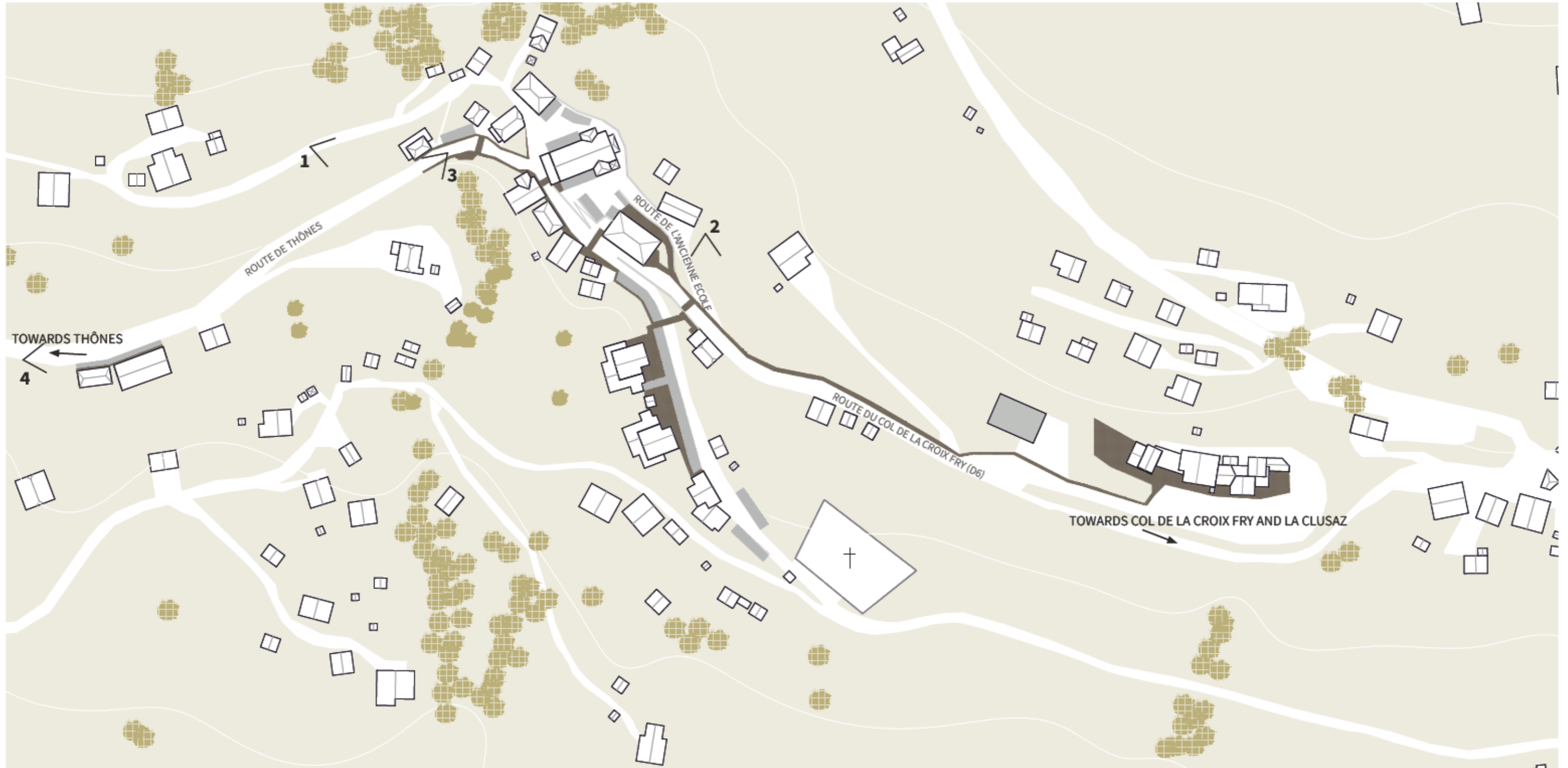
Fig.10: The Community Hall. It was built in the 20th century on the initiative of the inhabitants who mobilized to carry out the work of this imposing building. It used to be a youth hostel on the upper floor, a community hall on the ground floor and a kitchen and storage underground. Today, only the ground floor is used for different events.

4. Village composition

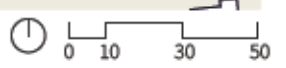
The village has been built following the contours of the terrain. When the road D6 was built in 70's the buildings continued to be developed along this main road. Parking spaces are mainly related to the roadside. Regarding the pedestrian areas, due to the importance of cars in rural areas, we can see a lack of spaces dedicated to pedestrians.



■ Pedestrian areas ■ Car park



Existing plan of Manigod



a. A village with dispersed public buildings

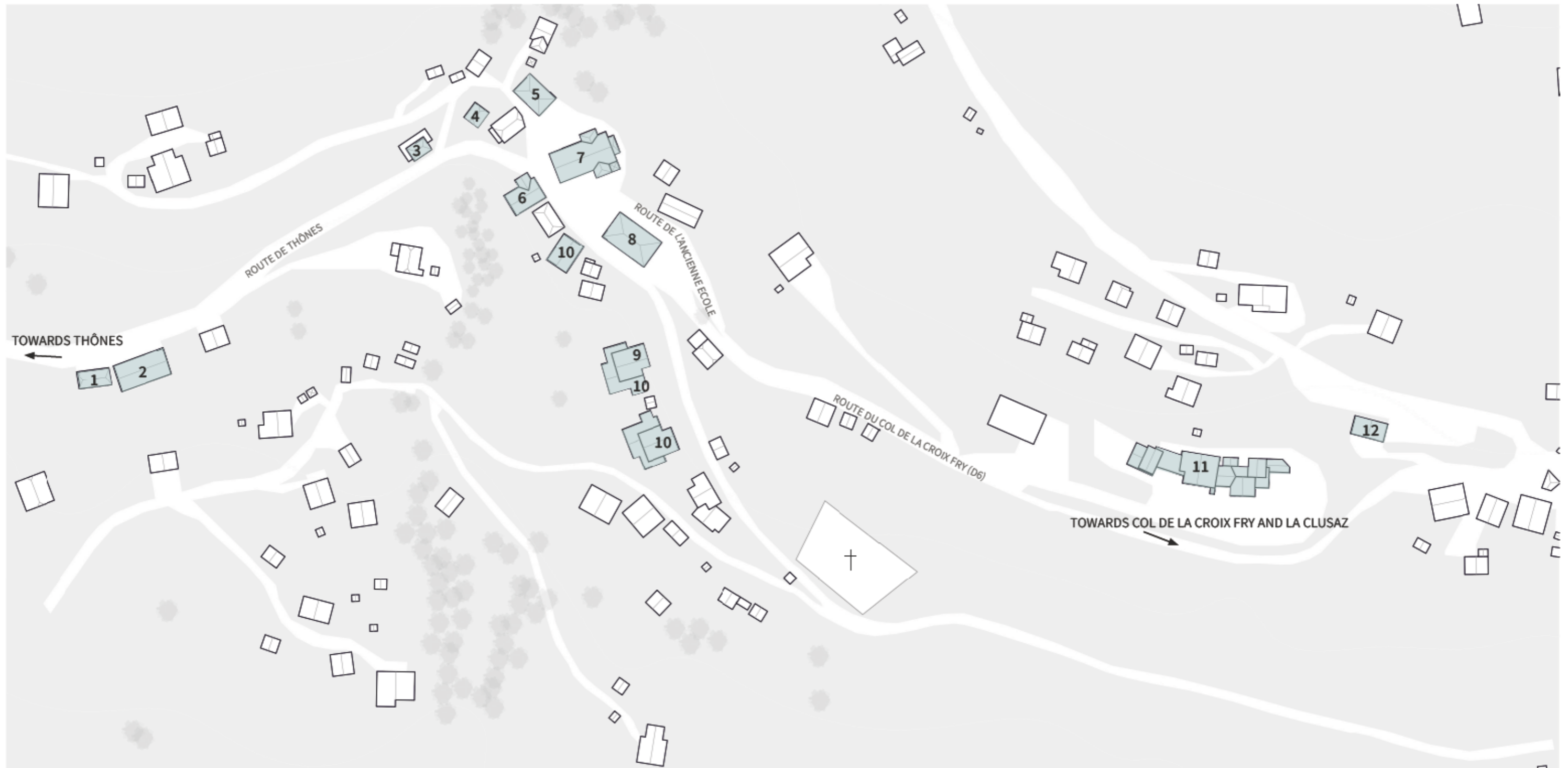
We can see in this plan that the spaces welcoming people are dispersed. This does not help to define the village's heart and leads to a loss of identity when you cross it. It encourages people who do not know Manigod to just cross it by car and continue toward the road that leads to Le Col de la Croix Fry in one way or Thônes in the other way.

Moreover, today few buildings are not in use or are

partly used. It is the case for the two first buildings you see when you arrive in Manigod. The first one used to be the Heritage House and the second one is used partially. The ground floor is used as the Village Hall when there are events but the other floors are currently empty. The third empty building is the Old City Hall/School. Recently it welcomed the library, two housings, and spaces for associations but due to its conditions, it is now empty.

- 1. Old Heritage House // *not in used*
- 2. Community Hall // *partly used*
- 3. Post Office
- 4. Bakery
- 5. Childcare Centre
- 6. Tourism office and City Hall
- 7. Church
- 8. Old City Hall/School // *not in used*
- 9. Restaurant

- 10. Shops, activities
- 11. School
- 12. Cafe concept store



Plan with highlighted public buildings.

b. A disrupted traffic

1. There is no continuous safe sidewalk from the bakery to the current Village Hall and Old Heritage House. These two buildings seem disconnected from the rest of the village.

2. There is a passage too narrow, when two cars cross each other, one must encroach on the sidewalk.

3. The passage to go to le Col de la Croix-Fry is adapted for only one car, there are some conflicts between cars and trucks when the circulation is dense.

Areas dedicated to the car

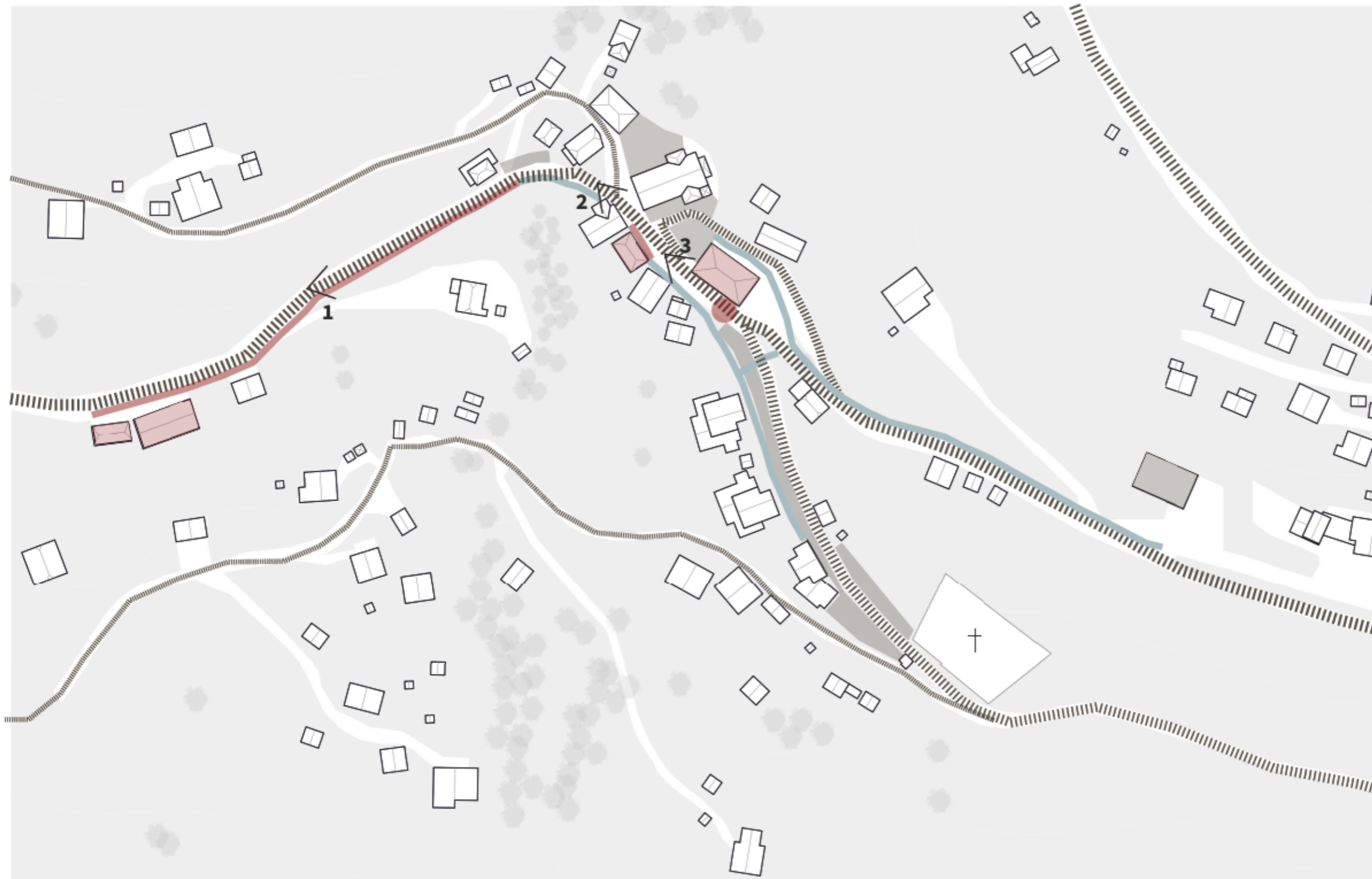
■ parking area

▤ main roads

Areas dedicated to pedestrians

▬ secured pedestrian areas

■ flow conflicts



Plan showing the different flows of cars and pedestrians.



c. Local urbanisation plan

The new local urbanism plan was designed in 2018. This one comes after the will of the commune to face the problems encountered within the village such as parking and traffic difficulties, the closure of some shops, underused and aging buildings, and the lack of accommodation due to the number of secondary

homes. The idea is to densify the village and the hamlets around it accessible by foot in order to leave as many as possible natural spaces in the rest of the village. Here, it is a simplified plan of the current local urbanisation plan (See Appendix 1).

Urbanised areas

- Uv - Heart of the village (permanent population, facilities and services compatible with housing)
- Ue - Reception area of facilities of collective interest and public services

Areas to urbanise

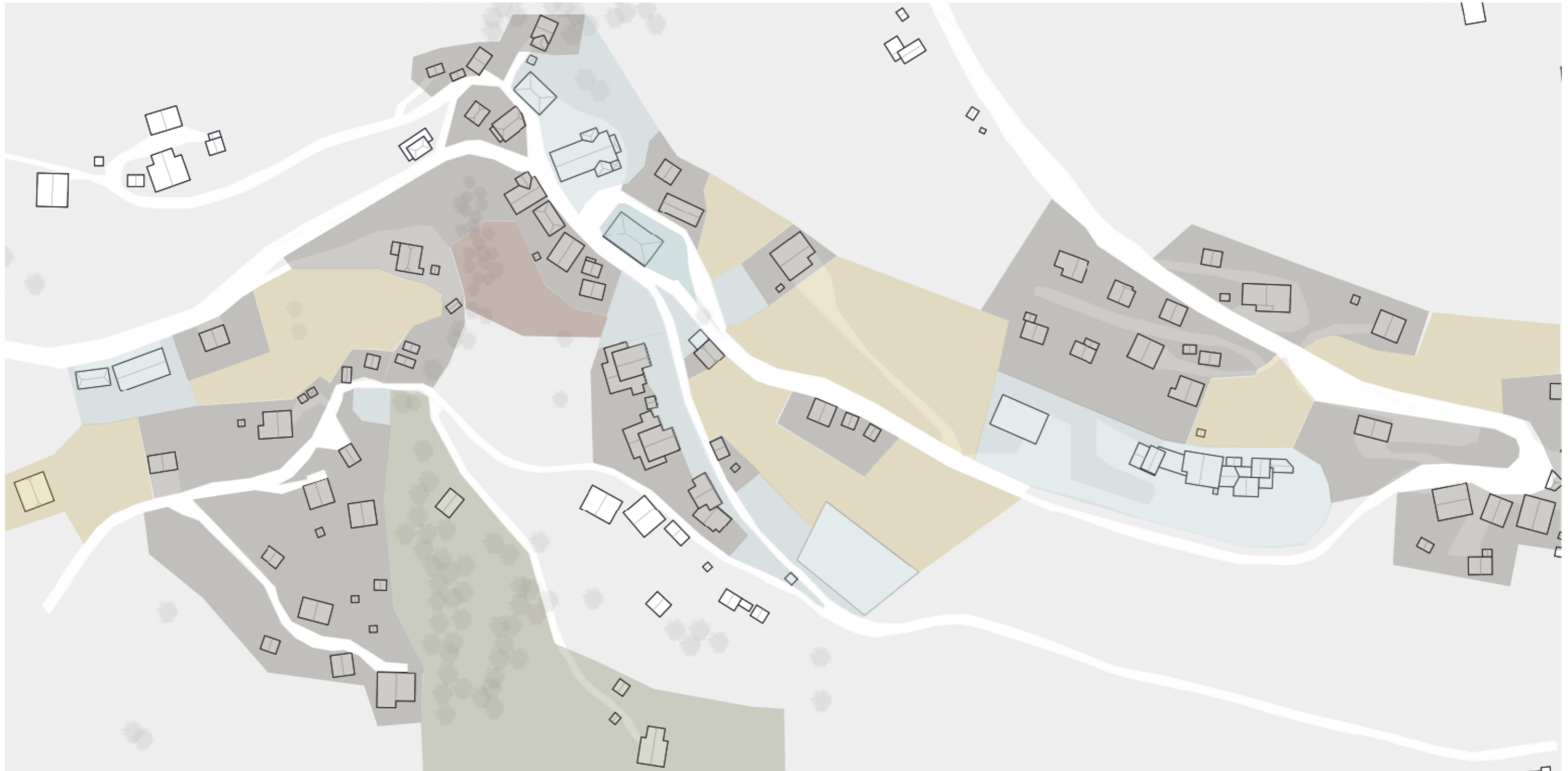
- 1AU - Area intended to be opened to urbanisation in the short term

Agricultural areas

- A - Land and farms

Natural and forest areas

- N - Woods and natural areas, area with vocation of valorisation of natural spaces
- Shared garden



Simplified local urbanisation plan focused on the village. Reproduced from Local Urbanism Plan Manigod by Weisé G. (2019). 1:2500, Department of Haute-Savoie, Manigod

8. Climate

There are marked seasons in Manigod with warm summer and cold winter, the average temperatures varies between -3°C and 22°C throughout the year. The precipitation are more important during winter and due to the low temperatures it leads to snow weather. The wind is present during the winter while it is at its lowest speed during summer, with August the month the less windy. The strongest wind comes mainly from the south east and then from the north west. However, in general, the wind speed is not too strong the highest speed is around 19km/h while the average is around 5km/h (See Appendix 2).

- Climate change consequences

Thanks to study made between 1979 and 2023, we have no doubt that temperatures are increasing while the precipitation are decreasing. This will lead to much less snow during winter and a drought period during summer with probable heat waves.

This climate change has had an important impact on the development of Manigod. Indeed, since it is a touristic destination, especially during winter for the activities linked to the snow, the resort has to think about new activities than ski and developing more of the four seasons tourism in order to maintain the attractiveness of Manigod. This can also be an argument to rethink the heart of the village to offer services and activities that can last throughout the year.

For many years, we perceive the consequences of climate change on our environment. We see it through the different seasons such as real hot summer with a heatwave or a winter with almost no snow because of the warm weather. I remember when I was a child we had a lot more snow than what it is today.

Today, architectural choices have to answer to those changes and architects have to suggest new ways of seeing architecture. I believed that as professionals we have the power to change things to hope for a better future. For that, I believe that we have to go back to vernacular architecture by using natural and local materials and reusing what we can. Another important point is to deal with what is already built before constructing new buildings.



Fig.11 : Manigod in winter. ©Tourism Office of Manigod



Fig.12 : Manigod in summer. ©Tourism Office of Manigod

9. Population

The department of Haute-Savoie is characterized by an exceptional level of attractiveness with an urban population who nevertheless wishes to live in the countryside.

Manigod is no exception to the rule. We know that the number of inhabitants is multiplied by 10 during the tourist seasons, and that there are around 80% of secondary homes (« Evolution and structure of the population », 2023).

- The locals

They are stable, settled in their house. They have several generations who have lived there before and have a strong attachment to their village and its traditions. For those who are farmers, their life is punctuated by the animals. Thanks to the production of AOC cheeses, such as Reblochon, in this region, farmers can work not only for the profit of their farm but also for the pleasure. This is linked to the attractiveness of the region and the reputation of the cheeses they produce (Reblochon, Abundance...)

The other endemic families are no longer farmers but have had farmers in their previous generation. They do not work in Manigod but in the surrounding towns, they are dependent on their car whether for work or for their private life.

- The newcomers

They live in Manigod but they are originally from somewhere else. They are the first generation settling in Manigod. They usually have good incomes, few of them live all year in Manigod while the others only have a secondary home and come during their vacation. They are looking for peacefulness and nature.

Being a newcomer is synonymous with a certain standard of living since you have to have the means to pay for real estate. On the contrary, the farmers or endemic families have much lower standards of living than these new arrivals. This gentrification leads to significant effects on land prices, commercial offers, and the transformation of landscapes, which can lead to an increase in social inequalities and exclusion processes.

- The tourists and seasonal workers

Attracted by the ski resort, the mountains and the calm, they come temporarily for vacations. They live in the many accommodations available for short-term rental. On one hand, they are important for the economy of the village, but on the other hand, they are responsible for the increase in the price of land and the difficulty in renewing the population. They also contribute to the difference between life in season and off-season, especially in the resort.

- A need to renew the population

It is difficult for young people to settle in Manigod, just as it is difficult for the children of endemic families to return to settle. However, it is not the desire that is missing but rather the financial means. The price of land is very high. And few adapted accommodations are available except for seasonal rentals, dedicated to tourism. The constant decline in school enrollment and the growing proportion of elderly people are indicative of this effect.

Newcomers to Manigod are happy to live in such a privileged environment but miss the advantages of the town, such as the shops, cafes... This is a good thing for the dynamism of the village because it means that if we develop different types of services, they will use them. An example of this is the new cafe concept «Lo Garajo» located near the heart of the village. Surprisingly, this cafe concept works quite well throughout the year and also appeals to the local younger generation. «It's nice to see some dynamism in the village». It's a sign of hope for the future of the village.

- A need to find a balance between the different actors in the territory

These different lifestyles have one thing in common, which is the attraction for the territory and its landscapes.

However, as property values increase, it can become more difficult for long-time residents, especially those with lower incomes, to afford to stay in the area. This can lead to displacement and a loss of community cohesion. Additionally, as new businesses and services cater to the tastes and preferences of the newcomers, it can further widen the gap between the different groups in the community. It is important for local stakeholders to be aware of these dynamics and work to ensure that the benefits of development are shared more equitably among all residents. Communicating with these different actors of the territory and understanding the needs of each one and their different lifestyles is essential for the future of Manigod and its good development. We must find solutions that suit everyone, without leaving out any part of the population.

A general awareness of the non-renewal of the population and the disappearance of services is necessary. Bringing the population back to the town would bring services and activities back to the heart of the village and improve the daily life of many. On the other hand, it would allow the municipality to continue to provide again certain basic services.



Conclusion

The first section of my thesis aims to provide a comprehensive background on Manigod, including its context, history, development, inhabitants, and challenges. In my opinion, such background is essential to propose a coherent project that effectively addresses the village's issues. Moreover, it enables readers to understand the projected design in the context of Manigod's unique characteristics.

What to remember from this chapter is that Manigod is a small village located in a rural area with a rich natural and architectural heritage. However, the village faces various challenges, such as a lack of clear urban structure and central core, the dominance of cars over pedestrian spaces, and the declining availability of services. These factors have contributed to the declining attractiveness of the village, particularly to younger households, and the aging of the population. Additionally, the changing climate and the imbalance between winter-based tourism and other activities require rethinking the village's tourism strategy.

Furthermore, Manigod is home to a diverse population with different income levels and lifestyles, leading to an imbalance in the cost of living and a decrease in the overall population. This situation is not unique to Manigod, as many other villages face similar challenges. Therefore, this thesis aims to propose changes that can revitalize Manigod and enhance its quality of life for all inhabitants.

The next chapter will focus on the changes we can apply to improve the quality of life in the village. A first part will deal with the urban scale while a second part will be oriented on a particular building.

II. Living in Manigod tomorrow : a revitalized village

A. Urban reflection

- Revitalize the village center

It's important to prioritize pedestrian safety and create spaces that encourage community gathering and local business growth.

The conflicts of flow, between cars and pedestrians, require a reorganization of the village center to allow better cohabitation and fluidity. I want to give more importance to pedestrians and reduce the amount of cars inside the village. I create a parking space at the west entrance of the village to reduce traffic congestion and create a more pleasant environment for pedestrians. The new passable roundabout allows for a better fluidity of the traffic.

To adapt the public space to pedestrians, I create a new public square with a characteristic new pavement. This new square can serve as a hub for social activities and events, bringing the community together and fostering a sense of belonging. Its situation offers a sheltered and sunny outdoor space (Fig.27).

Moreover, by offering premises for rent and temporary stores, we encourage the installation of new local businesses in order to contribute to the vitality and sustainability of the village.

The aim is to create spaces in favor of everyone, and offer services which are cruelly lacking today when crossing the village. These initiatives can enhance the quality of life for both residents and visitors, making Manigod an even more attractive and vibrant place to live and visit.

- Fight against vacancy

Many public buildings are currently used with a low percentage or are vacant. The imagined scenario proposes new functions for these buildings in order to give them back all their values. The aim is to value the old buildings by rehabilitating them to offer adapted services that are useful for the municipality's economy and the life of inhabitants and tourists.

More precisely, the work will be concentrated on one building in particular, that is the old town hall/school in order to valorize this heritage which is a central point of the village.

- Strengthen the role of centrality

To strengthen the centrality of the village's heart, I want to connect people and public buildings between them. This translates into the creation of a pedestrian zone, either the new public place but also the extension of the side walks until the village's entrances. This intervention helps to mark out the village's boundaries, as much as densifying.

In accordance with the local urban plan, the new plan projects new constructions for housing. The idea is to develop new ways of living to make it easier to access housing and to counter the exodus of the younger generations from the commune. Housing for seasonal workers and hotel offers are also planned.

The aim is to encourage people to stop and stay in the village, rather than simply driving through it.



- A dynamic new village center for all

The goal is to recreate a central entity in Manigod, a dynamic village center on a human scale, creating links between the inhabitants through its activities and public spaces while promoting the identity of the commune. This project is a holistic approach to improving a place's architectural, social, and economic quality by dealing with what is already here.

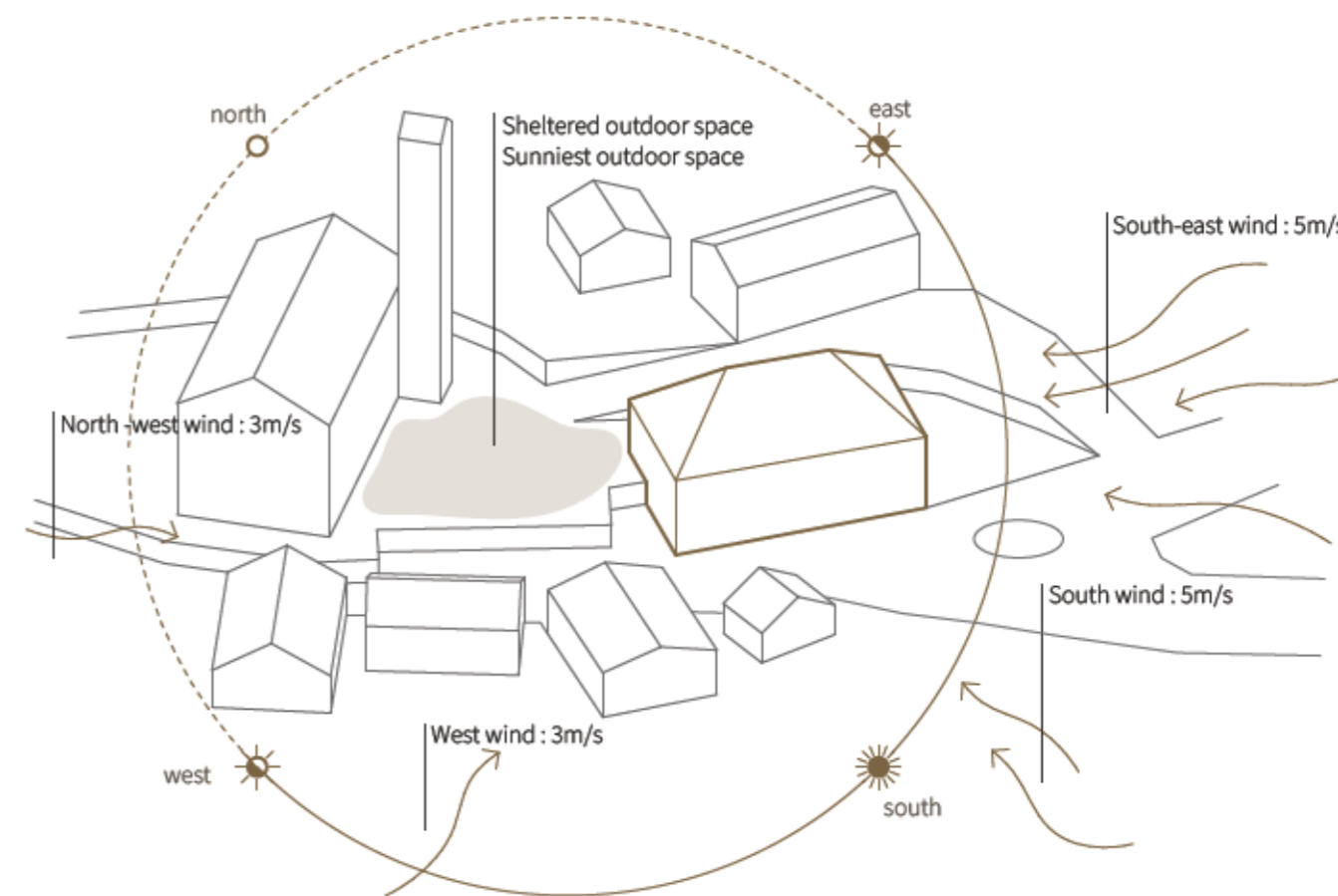


Fig.13 : Outdoor climate diagram showing the qualities of the projected public square. It has a central position in the village and it is sheltered from the strongest wind thanks to the surrounding building. Moreover, thanks to the sloping terrain this space has a good sunlight potential.

1. Urban changes

1. Revitalize the village center

- Give more importance to pedestrians
 1. Create parking lots at the entrances to the village
 2. Characterize spaces with adapted pavements
 3. Develop a new square (meeting space,

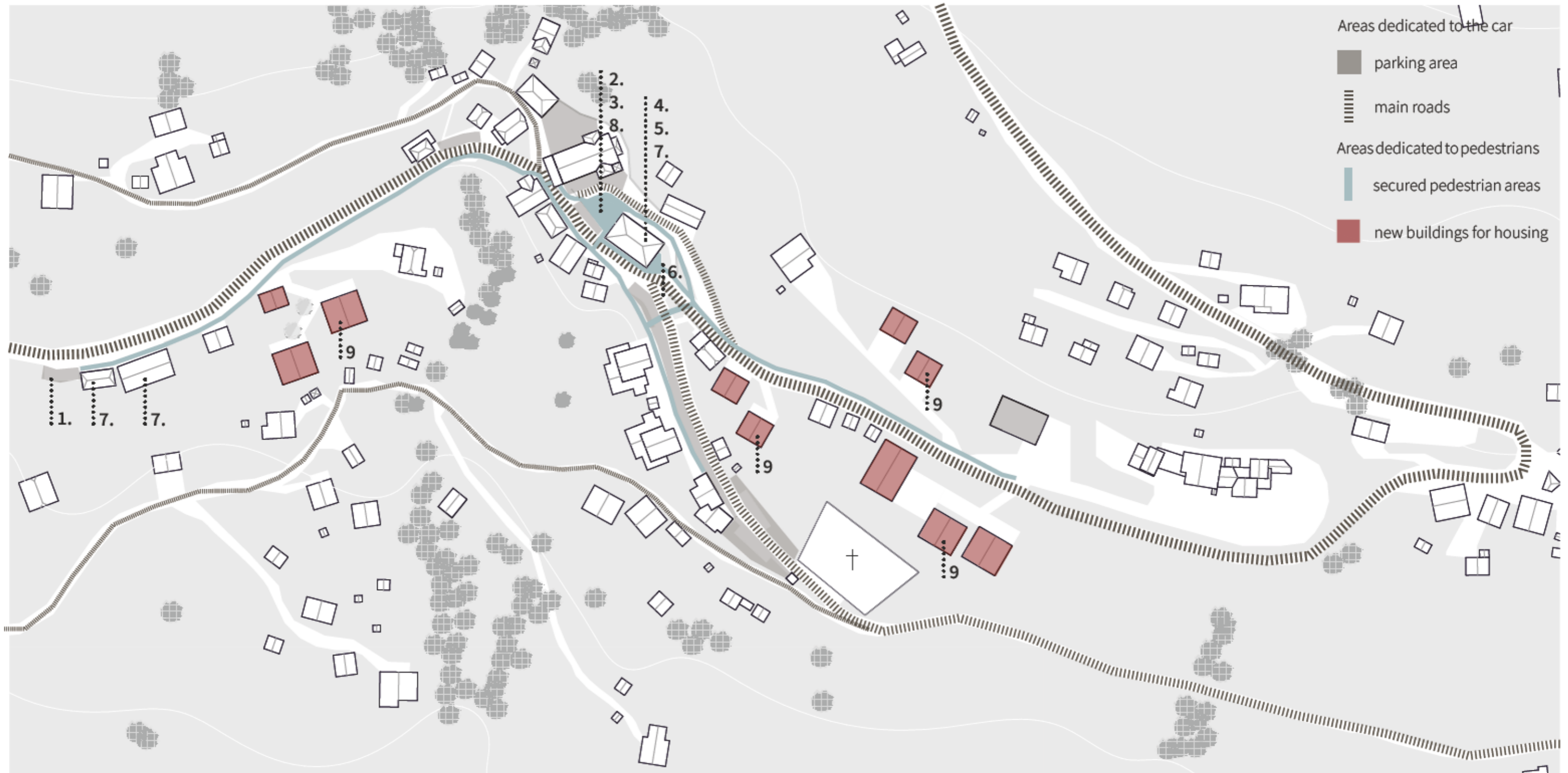
- events, terrace, market...)
- Encourage the installation of new local businesses
 4. Lease agreements to prioritize the establishment of businesses
 5. Municipal premises for temporary stores
 - Improve the flow of traffic
 6. Passable roundabout

2. Fight against vacancy

- Value the old
 7. Rehabilitate old buildings in order to offer adapted services

3. Strengthen the role of centrality

- Connect people and public buildings together
 8. Creation of spaces dedicated to pedestrians
- Mark out the village's boundaries
 9. Densify to offer residential opportunities



Plan showing the main projected urban changes.

2. Public buildings renovation, changes of function

The older buildings of the village are renovated, and some functions changed of buildings to find again the place of important buildings in the history of Manigod.

The Heritage House is restored.

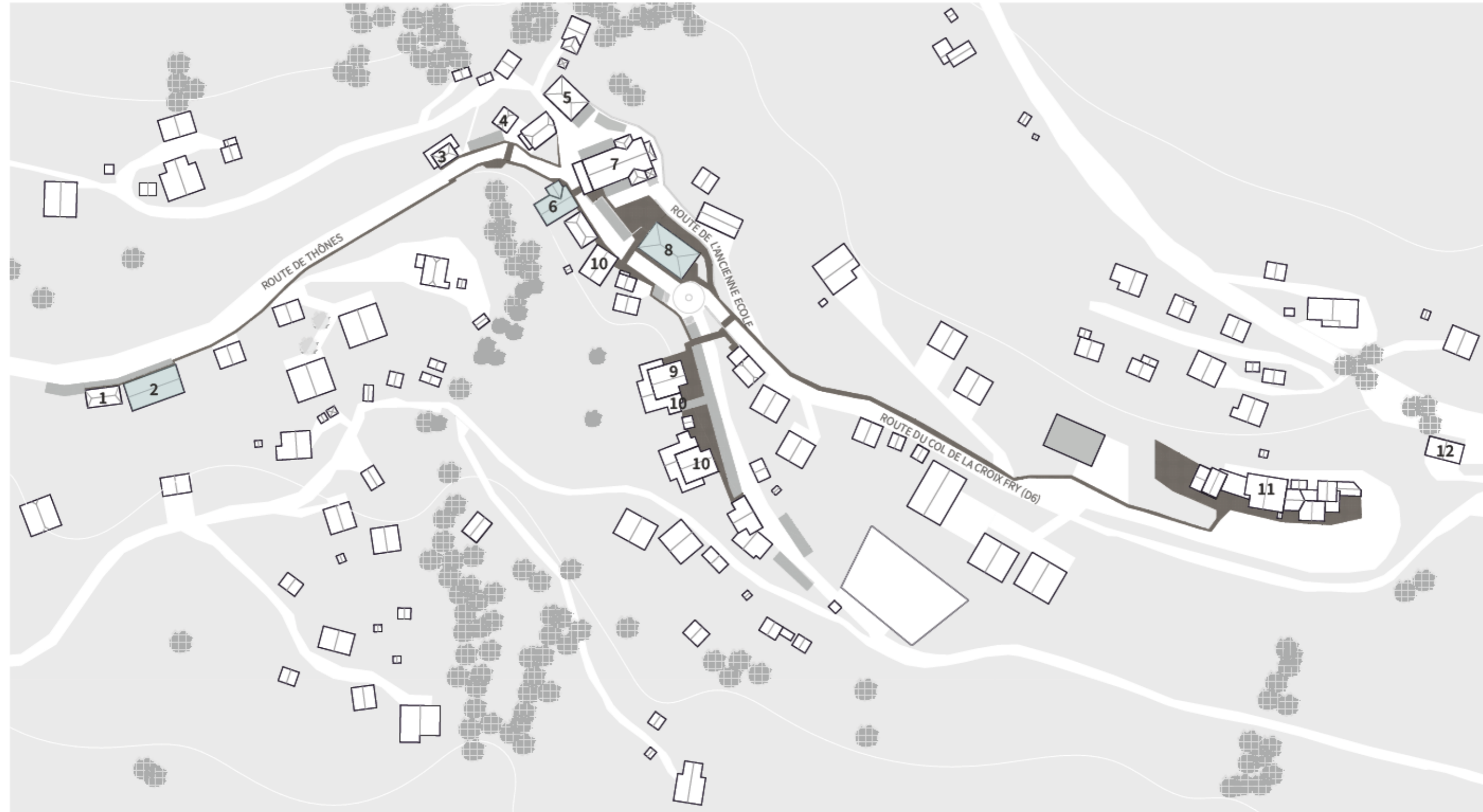
The Community Hall is preserved, the lower ground floor is transformed into workshops and the floors are transformed into a youth hostel.

The current City Hall is transformed into accommodation for seasonal workers.

The Old City Hall/School which is currently empty is renovated and transformed into a multifunctional building that hosts the new City Hall, and the Tourism Office among other functions.

- 1. Heritage House
- 2. Community Hall, Workshops for craftsmen or artists, Youth Hostel
- 3. Post Office
- 4. Bakery
- 5. Childcare Centre
- 6. Housing for seasonal workers
- 7. Church

- 8. City Hall, Tourism Office, Offices, Stores, Library, Associations Room, Cafe
- 9. Restaurant
- 10. Shops, activities
- 11. School
- 12. Cafe concept store



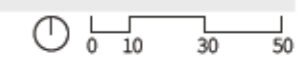
EXISTING SERVICES

- bakery
- stores
- post
- childcenter
- cafe
- restaurant
- village hall
- school

ADDED SERVICES

- heritage house
- hostel
- workshops
- offices
- stores
- cafe/snack
- associations dedicated room
- permanent library

Projected plan of Manigod





The new parking space at the entrance of the village completes the existing parking areas. This frees up space currently used for cars in the village center to be used for pedestrians. It also provides easy access to the Village Hall and Heritage House and enhances the feeling of entry into the village.



The new pavement connects the Village Hall and the Heritage House to the other public buildings in order to reinforce their sense of belonging to the heart of the village. This intervention puts the pedestrian at the center of the reflection and offers them more safety.



The new roundabout and the removal of the church access slope will widen the road and make traffic flow more smoothly. A pedestrian strip has been created along the former town hall/school building and provides safe access for pedestrians. The new square is now easily accessible on foot and provides a nice safe space for users. A new parking space is also added .

B. The renovation of an emblematic building : the Old City Hall/ School

1. Existing site plan

The site plan shows the central place of the Old City Hall/School on the village that offers it lot of potential and a particular importance on the village's indentity. However, as it is today, some changes need

to be done to take advantages of the qualitie of its surroudings and improve the life in the village's heart. We can see the importance of car spaces that creates an imbalance between cars and pedestrians.

The building is compressed by the road D6. We can also see the discontinuity that exists for a pedestrian that wants to access the building. Two facades of the building are open to pedestrian areas, this could be improved to even more highlight the building.



Existing pavements



asphalt



light concrete



grass

Existing site plan

2. History - 1870 to 2004



Fig.14: Aerial photo from 1950-1960. An existing building in place of the current Town Hall-School building has been demolished. It was surrounded by roads. Taken from <https://www.geoportail.gouv.fr/>



Fig.15: Aerial photo from 2020. The building is today surrounded by a road on its south facade, parking space on its west one, and finally pedestrian areas on the two other facades. Taken from <https://www.geoportail.gouv.fr/>



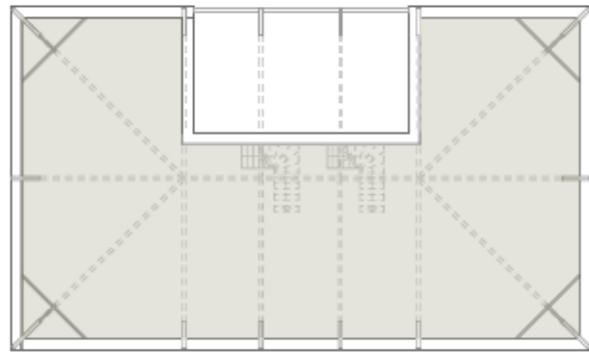
Fig.16: The Town Hall and School building was built in 1870. At this time the current road D6 was still mainly a pedestrian road, or used by horse-drawn carriages. The main entrance was on the facade along this road. Taken from Les Amis du Val de Thônes, Les écoles de la Vallée de Thônes au fil des siècles, Imprimerie J.Hacquet, 2020, p.76



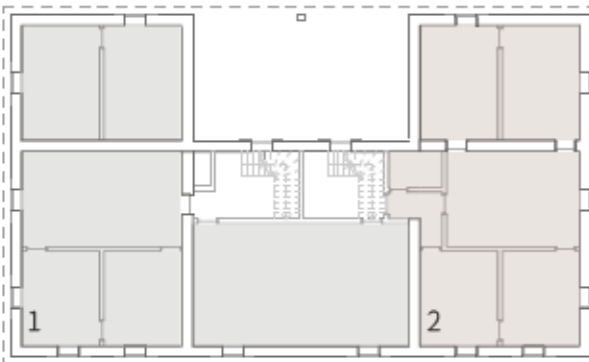
Fig.17: The Old Town Hall and School today. From the outside, the building did not change since its construction, we can only see the wear marks over time. The surroundings changed a lot, especially the creation of road D6 leading to the ski resort that passes in front of the main facade. Accordingly, changes have then been made to the use, like the main entrance that has been moved. © Angèle Golliet

1870. Town Hall and Boy School

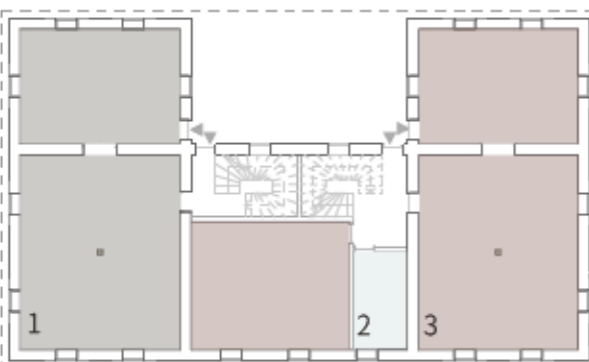
The institutional building was built in 1870 to determine the place of the state within the municipality. It was here to define the center of Manigod. The materials used were a way to contrast with the local construction culture, giving prestige to the building. It was built by a company called Agostinelli after the demolition of an older building became unhealthy.



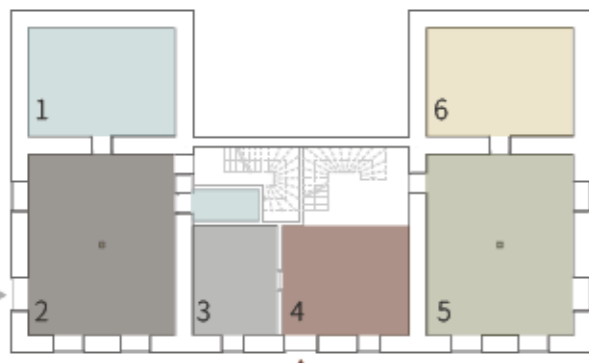
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SECOND FLOOR : 1. teachers apartments, 2. secretary apartment



FIRST FLOOR : 1. school, 2. toilets, 3. city hall
▶ secondary entrances



GROUND FLOOR : 1. storage, 2. school canteen, 3. prison, 4. hall, 5. agricultural union¹, 6. cellar for maturing reblochons
▶ main entrance ▶ secondary entries

¹ «The agricultural union was a shop where the inhabitants could find the material and goods necessary for breeding and agriculture: cereals for the animals, tools, seeds...» (Village of Manigod: from yesterday to today, 2016)

1980. Town Hall and Mixed School

Due to the lack of students the municipality with the Academy are forced to group the student, it is the beginning of the mixed school.

2004. The School moved to a new building.

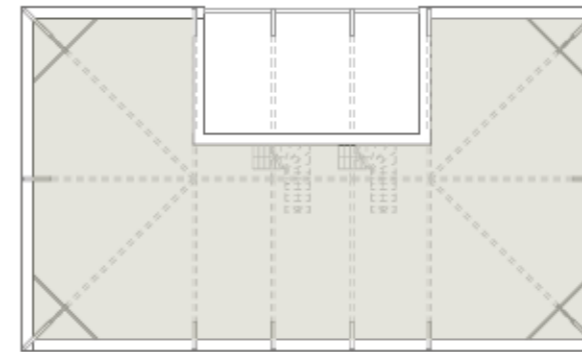
The school finally used the entire building until 2004 when the municipality inaugurated the new school located further up the road. The new school has been built by Masson Architecture, an office in Thônes.

1989. The Town Hall moves to an other building

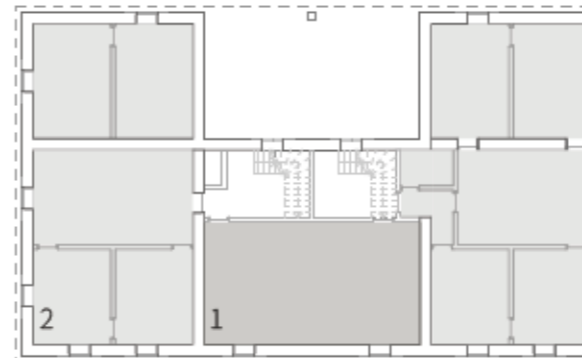
The entire building is used for school premises. The canteen is moved to another building because it became too small.

Over time, this building has been populated with new functions such as library, multipurpose room, and housings.

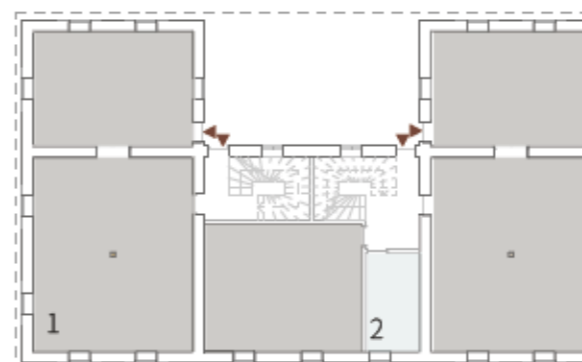
Today, the old City Hall/School is very little used, has lost its prestige and no longer offers the welcoming possibilities it could have had.



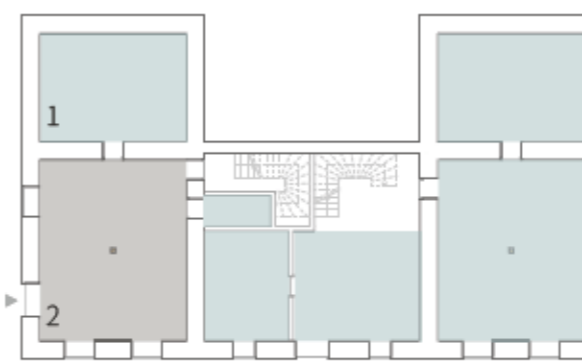
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SECOND FLOOR : 1. school, 2. teachers apartments



FIRST FLOOR : 1. school, 2. toilets
▶ main entrances



GROUND FLOOR : 1. storage, 2. bible study room
▶ secondary entrances

3. Current situation

- Ground floor

The ground floor is currently used to store old furnitures of the old school or belongings from the current Tourism Office. The old canteen is an empty space not in used anymore. The hall that used to be the main entrance space is not in used anymore because of the lack of safety due to the road that goes in front of the door. As a pedestrian, in this level you have to walk on the road to enter the building and join the other upper level.

Overall, most of the spaces are raw, without finishing touches. The floor is raw concrete and when there is coating on the walls, it crumbles. Only the old canteen has finishes. There are tiles on the floor, wainscoting on the ceiling and the lower part of the walls and coating on the upper part of the walls. The wooden stairs leading to these spaces are not in good condition and need to be changed. The windows are single-glazed.

Functions

1. Old canteen : 54sqm
2. Old prison: 19sqm
3. Hall : 38sqm
4. Storage 1 : 54sqm
5. Storage 2 : 32sqm
6. Storage 2 : 32sqm
7. Storage 3 : 4sqm
8. Circulation 1 : 10.5sqm
9. Circulation 2 : 7sqm

Total : 250.5sqm

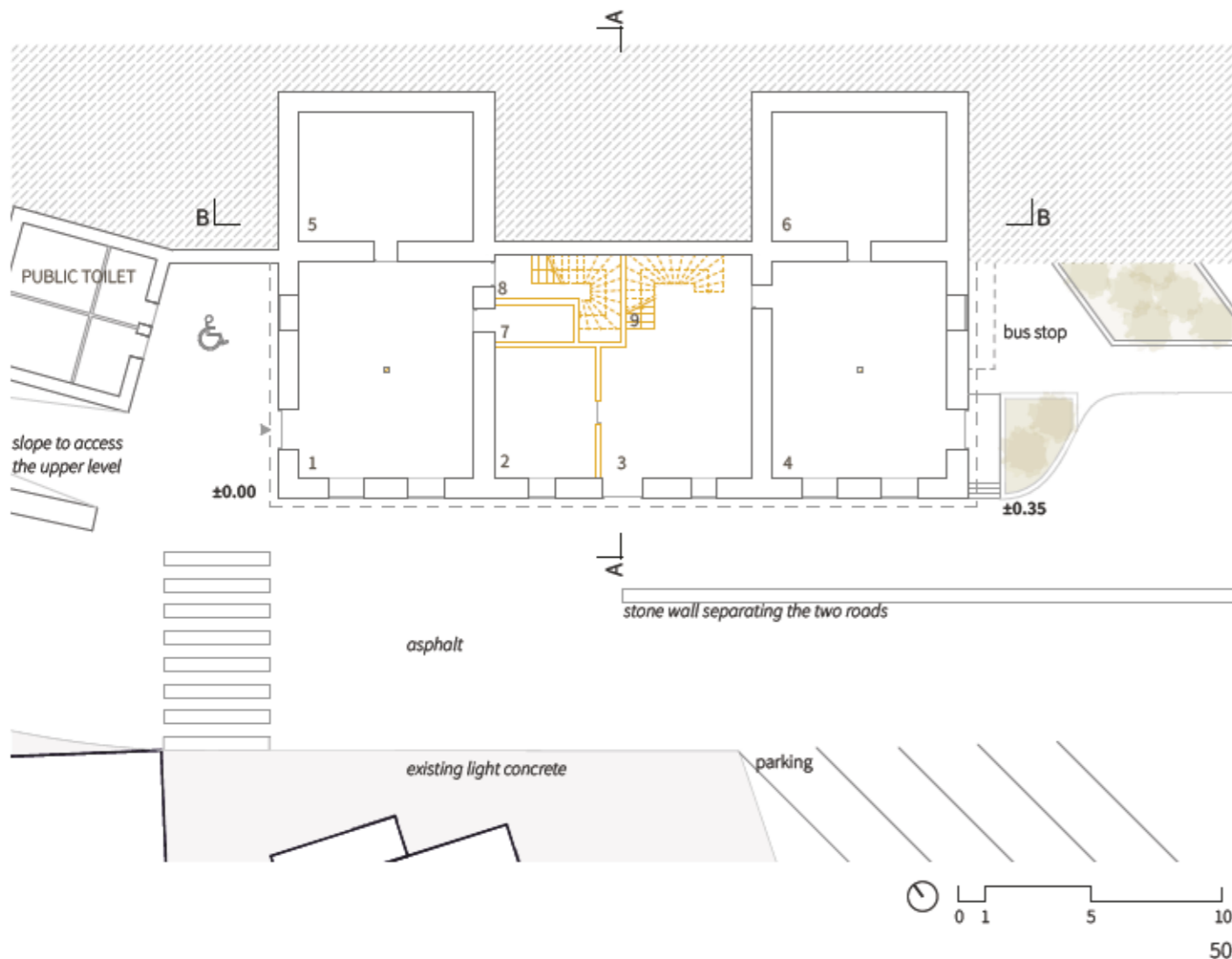


Fig.18 : The traditional main facade along the road D6 with the old main entry. © Angèle Golliet



Fig.20 : The South East facade with the bus stop and a green space. © Angèle Golliet



Fig.19 : The interrupted pedestrian crossing, there is no connection with a pedestrian area. © Angèle Golliet

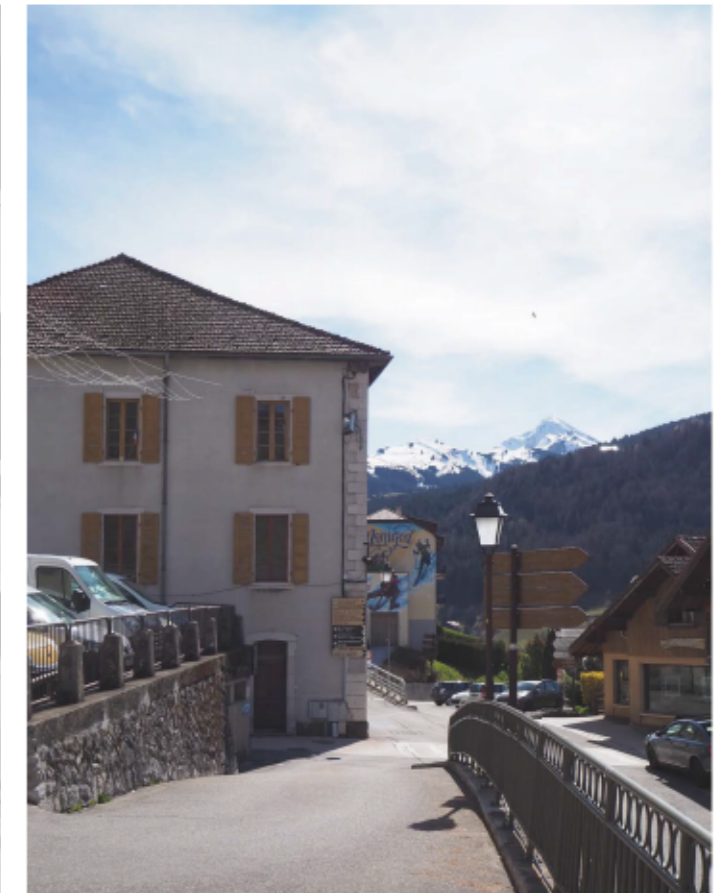


Fig.21 : The North West facade with slope giving access to the upper level. © Angèle Golliet



Fig.22 : The original main door with its moldings is not in used anymore because of the busy road that runs along the facade. In French «Mairie» means «City Hall». © Angèle Golliet



Fig.24 : One of the storage space.



Fig.26 : The old kitchen and canteen.



Fig.23 : The quoin and the stone base that anchors the building to the space. © Angèle Golliet



Fig.25 : The stairs to access to the ground floor from inside is not in good condition.



Fig.27 : The old entrance hall is currently used to store belongings of the current Tourism Office.



Fig.28 : The ground floor is mainly used to store stuffs. Here old school furnitures.

• First floor // 252sqm

On this level, outside, there is currently a parking areas that used to be the schoolyard as an extension to the covered playground. A pedestrian area links this level to a sidewalk leading to the bus stop and further, the current school.

The first floor is the most well-maintained floor because it has been open to the public for the longest time. Lately, it used to welcome the library and a space available for the associations. There are double-glazed windows. The floor is covered with linoleum in the library and association room, tile in the current toilet and it is wooden floor on the other spaces. There is also wall paper in the library's ceiling. There are still wainscoting on the lower part of the walls and coating with paint on the upper part of the walls. Overall, very bright colours have been used.

Functions

1. Association room : 100sqm
2. Empty room : 40sqm
3. Toilet : 10.5sqm
4. Library : 100sqm
5. Circulation 1 : 13sqm
6. Circulation 2 : 16.5sqm

Total : 280sqm

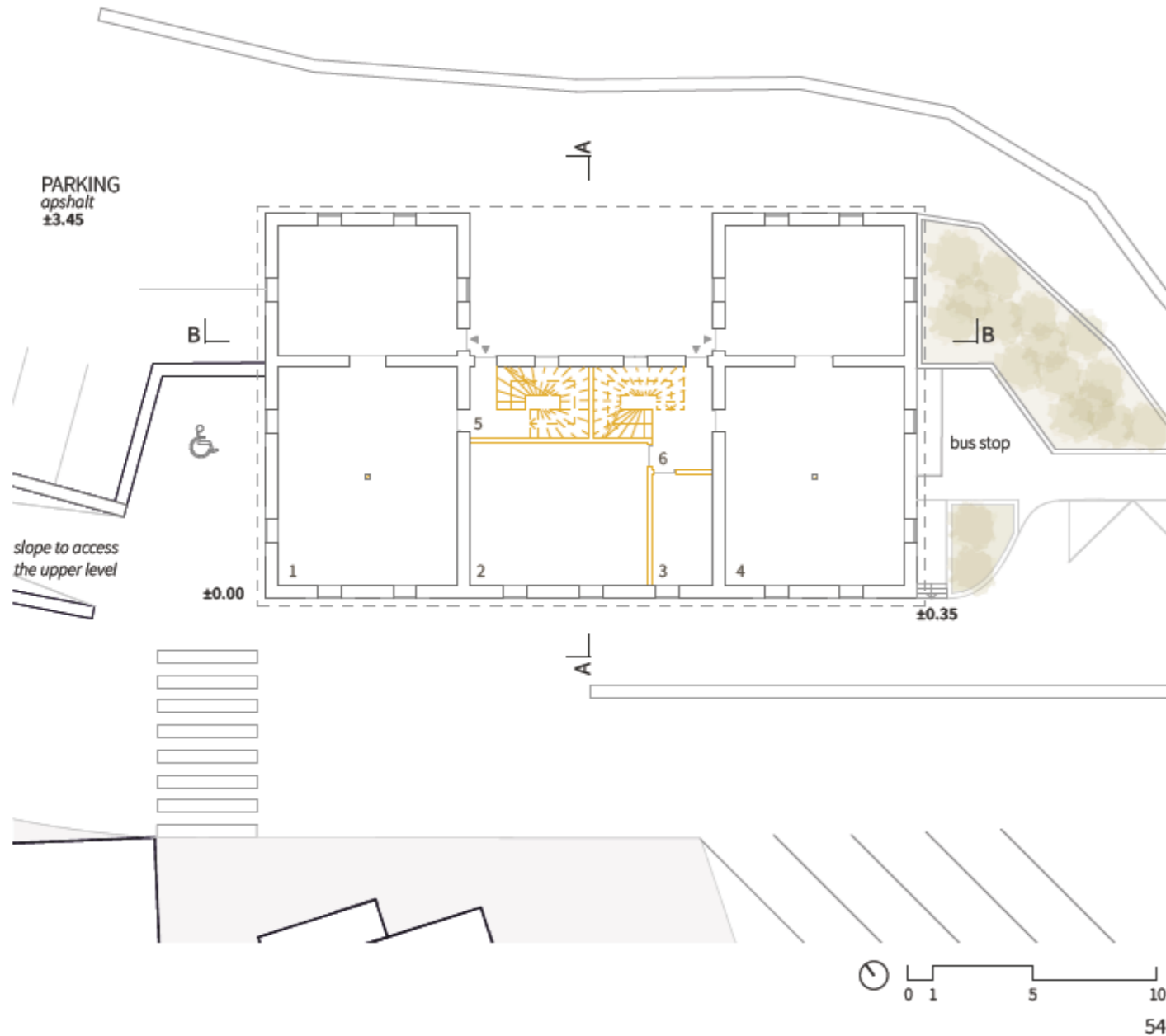


Fig.29 : The North East facade with the covered playground. We can still see on the ground the signs of children's games. We also see a new structure that takes up the weaknesses of the roof. © Angèle Golliet



Fig.30 : The current parking space in front of the north west facade, between the church and the building. © Angèle Golliet



Fig.31 : The pedestrian acces to the building. © Angèle Golliet



Fig.32 : This was the library, temporarily relocated to the current school because of the high cost of heating necessary to provide comfortable premises for users.



Fig.34 : The sanitary space that is also used as a storage space. I guess that it is not used anymore.



Fig.33: This room is available for associations during the warmer months. It is the most well-maintained room with double-glazed windows.

• Second floor

The second floor welcomed three apartments that are today in bad conditions. The floor is composed of an old thin wooden floor left as it is or covered with linoleum, or carpet. The acoustic performance is not assured. Windows are simple-glazed, wear and tear and dampness marks are present on the walls. They are covered with white coating that needs to be redone.

This level is in bad conditions, without thermal or acoustic insulation and some of the wooden joinery has damaged.

Functions

1. Appartment 1 : 100sqm
2. Appartment 2 : 54.5sqm
3. Appartment 3 : 100sqm
4. Circulation 1 : 14.5sqm
5. Circulation 2 : 11sqm

Total : 280sqm

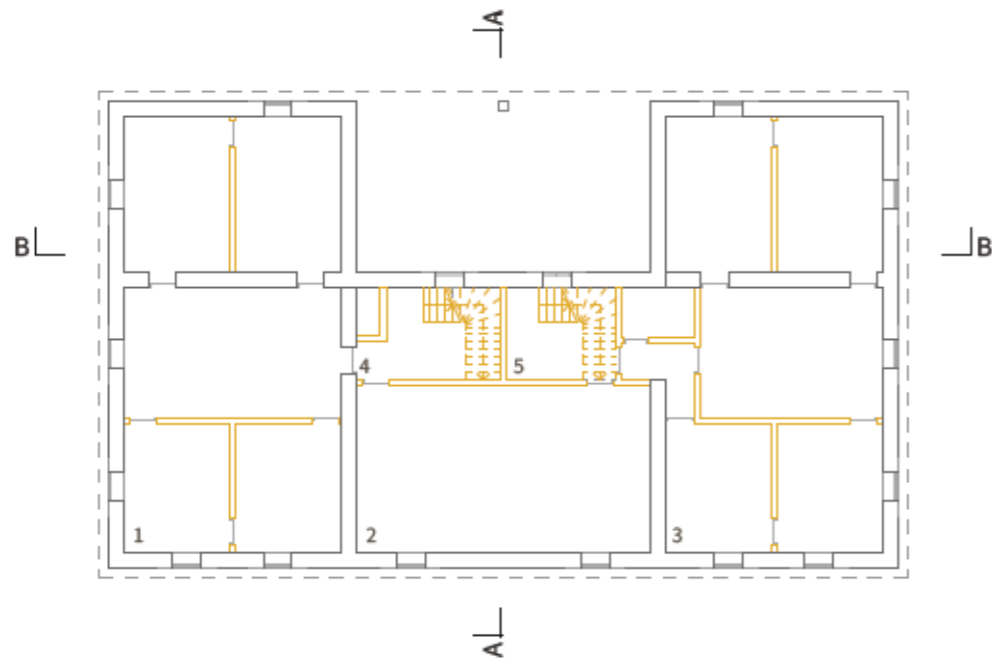


Fig.35 : There is a nice potential for natural light thanks to the existing large windows. Mark of humidity are visible on the walls near the window. This can be due to the simple glazed and the lack of insulation that does not help to maintain a comfortable space.



Fig.36 : The corridor giving access to the apartment. We can see the poor condition of the flooring and walls coating.



Fig.37 : The existing wooden floor is in bad condition and there is also marks of humidity damages.

• Attic

The top floor is unfinished but has the potential to be so thanks to the high ceilings and a wooden structure in good condition. For now, it is quite a dark space that needs to be lighted.

Important works have to be done since there is no insulation, the roof is only composed by tiles. The floor is the same as the lower floor, thin raw wooden structure.

Functions

1. Empty space : 236.5sqm
2. Circulation 1 : 5sqm
3. Circulation 2 : 5sqm

Total : 246.5sqm

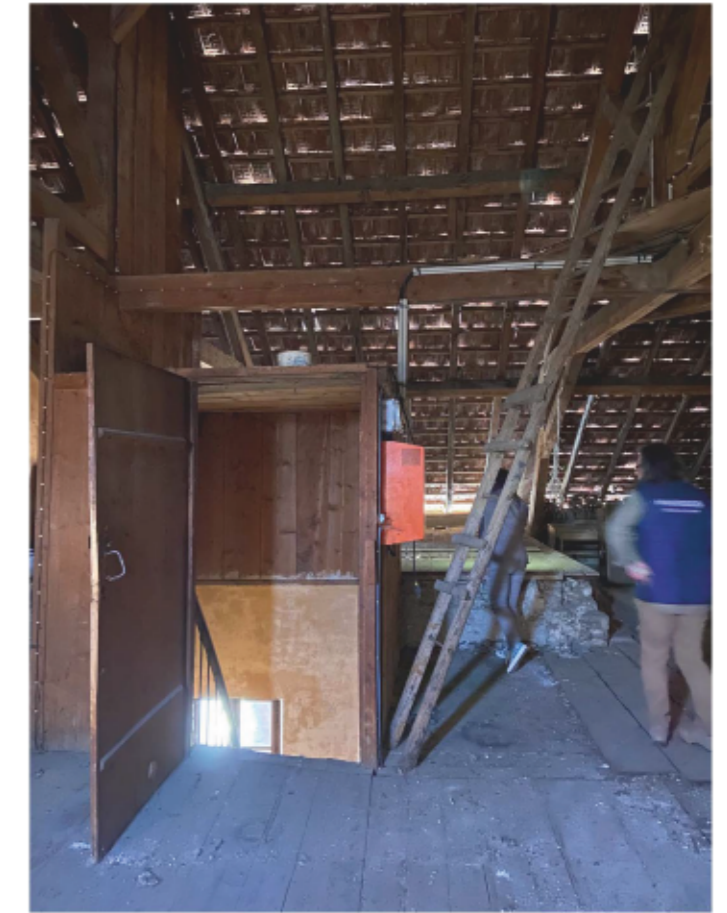
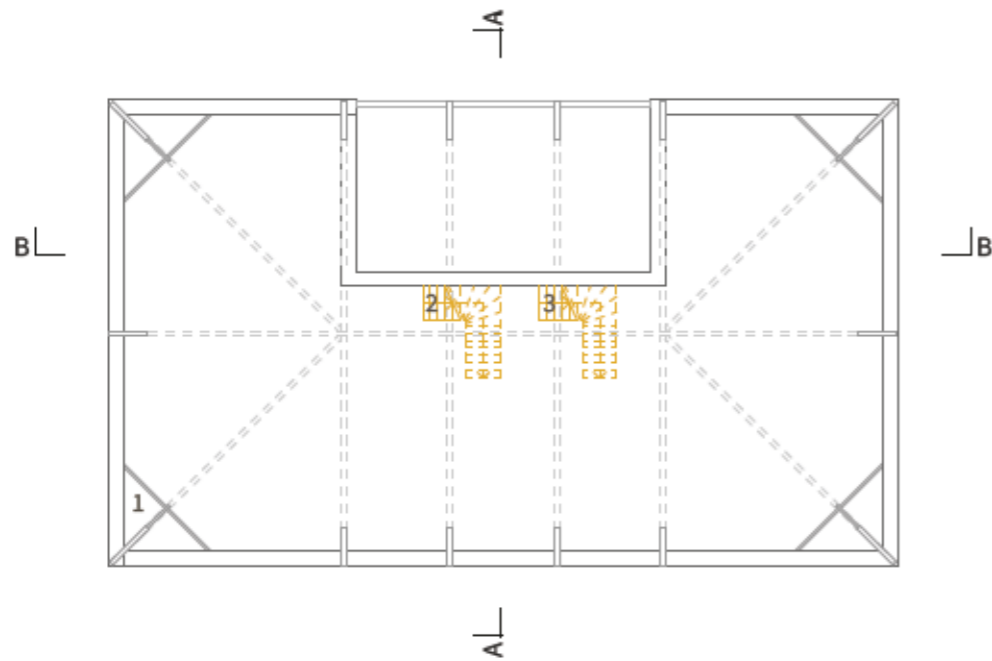
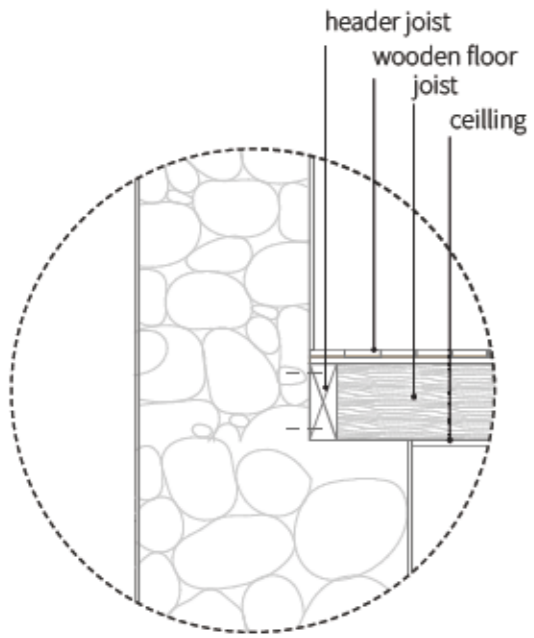
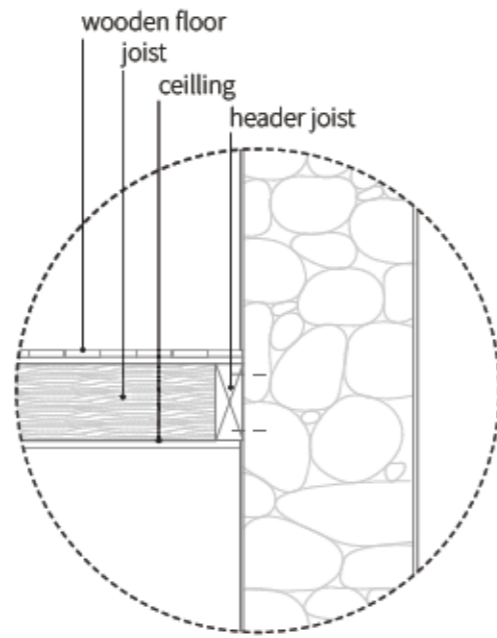


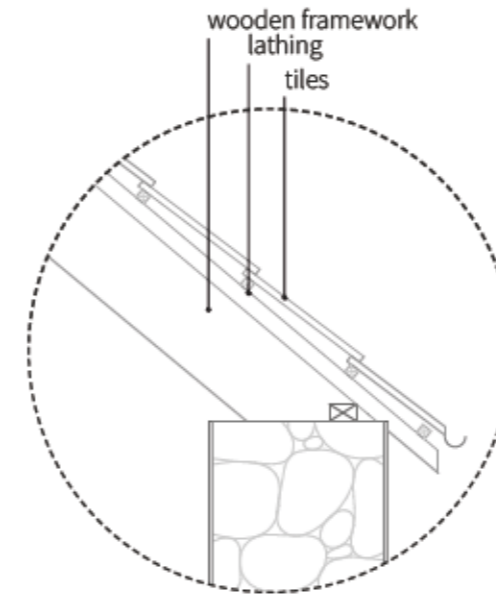
Fig.38 : The roof is only made of tiles, without insulation. Occasionally, there are transparent tiles that light up the attic. Here, the floor is a wooden one such as the two levels below.



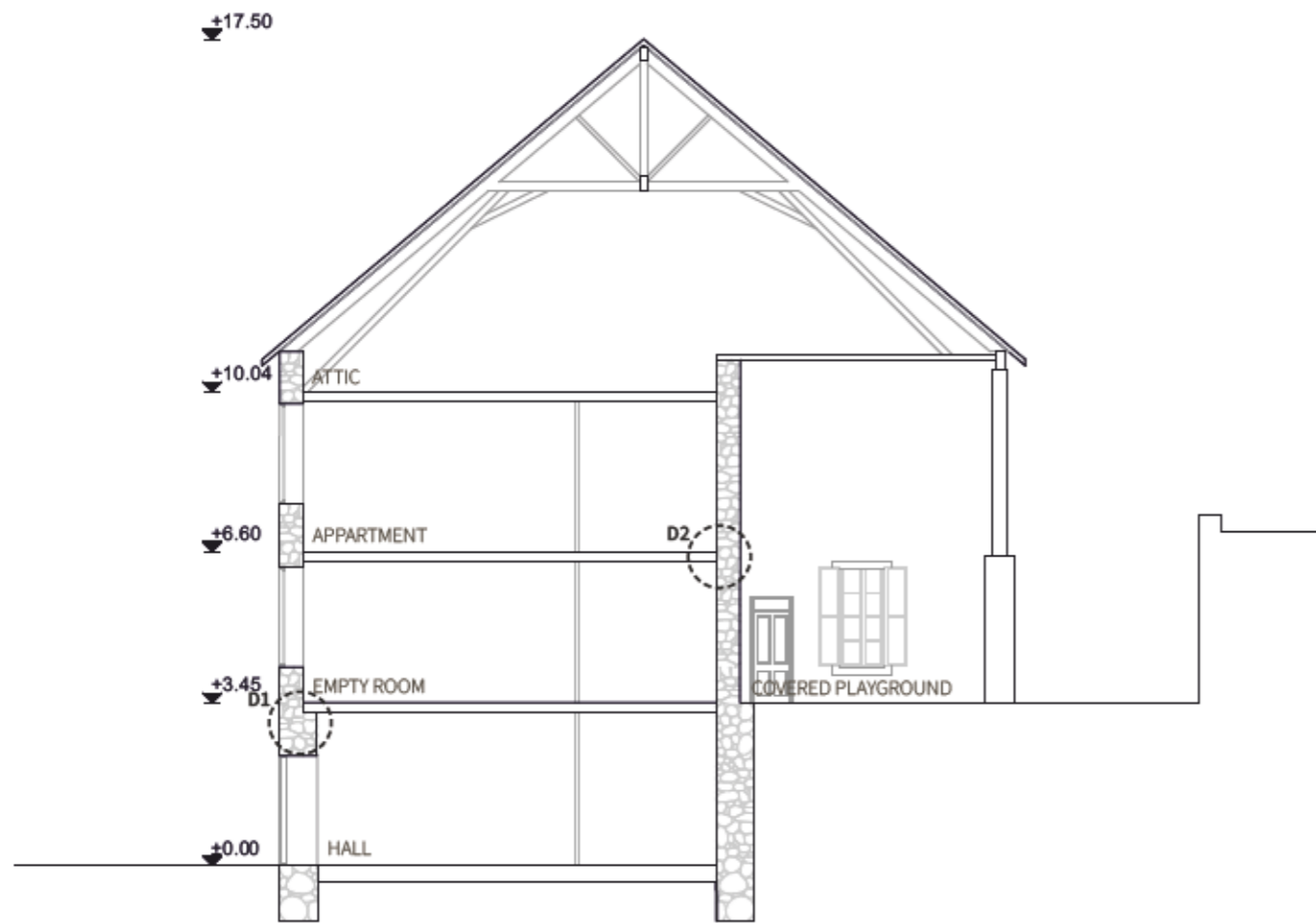
D1. First floor slab supported by the stone wall



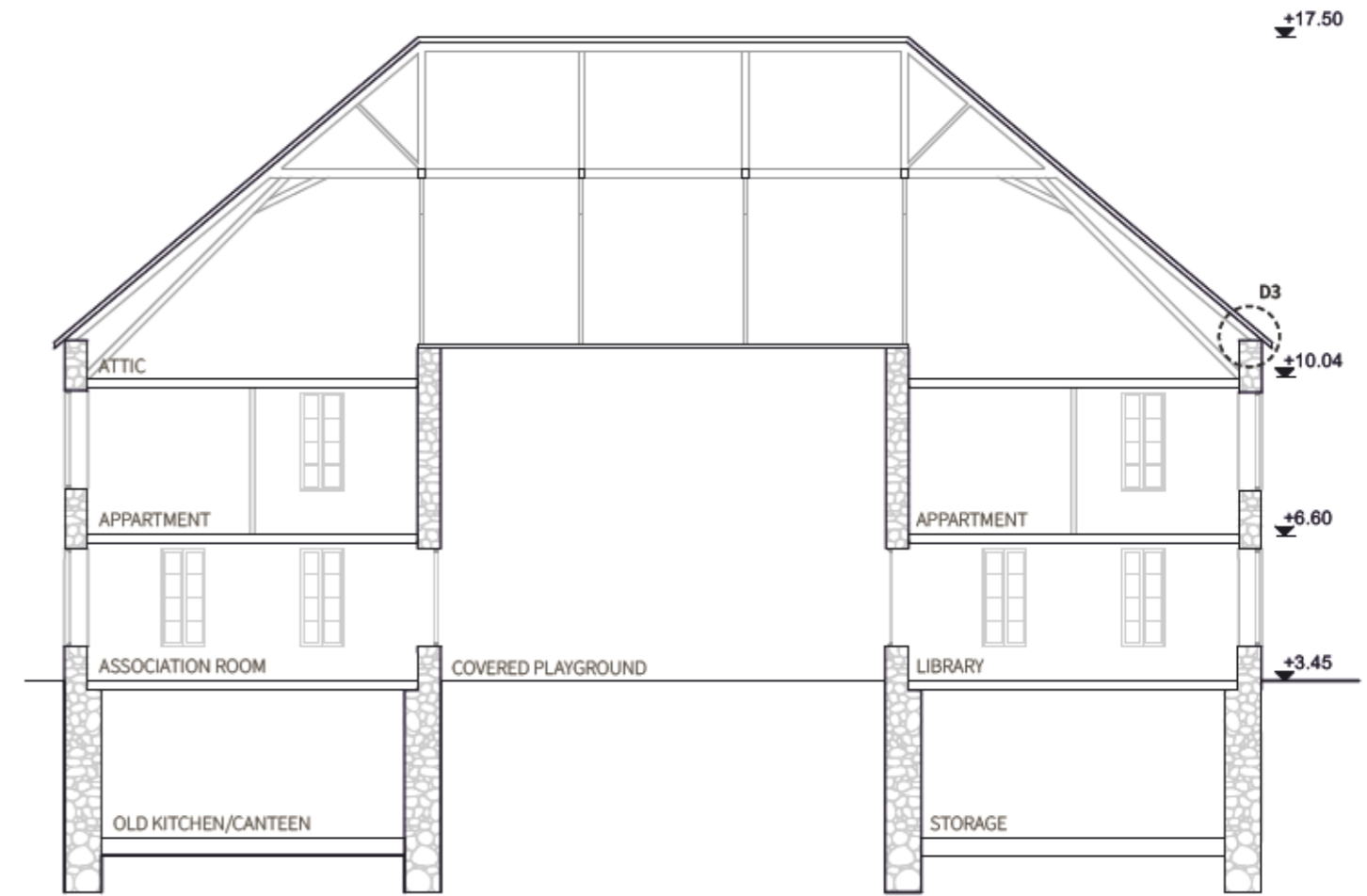
D2. First/Second floor slab anchored to the stone wall



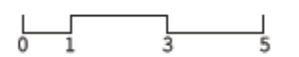
D3. Roof composition



Section A



Section B



4. Heritage values

- Landscape heritage

The building is visible from far away, which gives it a certain importance, gives it a landmark role and reinforces its role in the identity of the village. Moreover, the building itself offers nice views on the landscape and mountains.

- Urban heritage

The building is strategically located in the village, centrally located, making it easily accessible and visible from the main road. In addition, two of its facades overlook entirely pedestrian spaces and there is potential to pedestrianize the spaces adjacent to the two remaining facades. Finally, it is a building that persists over time, due to its history or its structure.

- Architectural heritage

Institutional building

This building was in its past an institutional building with important functions within a community such as the town hall or the school. Made of stone in the 19th century, its facades characterize this period and participates in the identity of the commune. In this, the preservation of this building in the heart of the village remains an essential challenge in the valorisation of the identity of Manigod.

Roof

Widely visible from the heights, the roofs are a real issue for the identity of Manigod. Here we have a 4-sided roof that contrasts with the traditional 2-sided roof of the chalets, which gives the building a different character. The roof is made of terracotta tiles, which is still the most used roofing material in the commune today because it is more resistant than shingles.

Framework

An exposed framework in good condition composes the last level of the building. It reflects the traditional know-how of woodworking in construction.

Facades

The building has facades representative of its time and its institutional character by its strict rhythm, its ornaments, its quoins. These are load-bearing facades made of rubble stone bound with lime mortar and then covered with a covering plaster composed of lime and sand as protection against the weather.

South West Facade :

The main façade is aligned with the D6 road. It is easy to guess that when the building was constructed, the road did not yet exist. The main entrance was therefore accessible. Today this one is not used anymore because of lack of safety.

South East Facade :

A waiting area for the bus has been set up in front of the façade. It is used by students during school periods.

North West Facade :

This facade opens directly onto a space connected to the church. This area was used as a playground when the building was used as a school, it is now used as a parking area.

North East Facade :

This is the only non-linear facade that creates a weather-protected courtyard. There are different entrances that were originally secondary but are now the main entrances. We can see new framing elements that have been added to reinforce a certain weakness in the original roof framing.

Doors and windows

They are made of wood, more or less maintained according to the use of the space they serve. However, they show a rich know-how, as much in the work of the masonry (lintels, jambs), as in the carpentry (design, ornamentation, division of the panes and small woodwork).

Qualities of the interior spaces

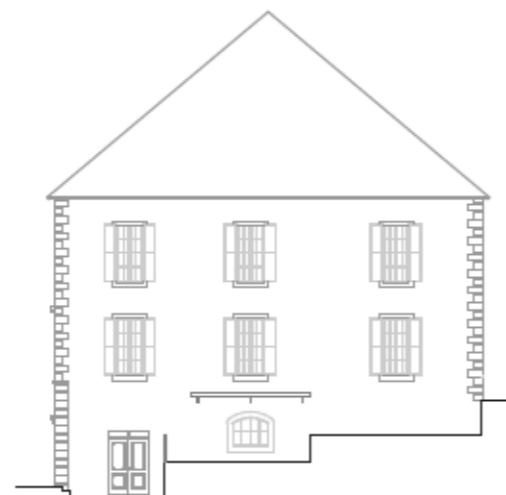
There are high ceilings, and the spaces are bright thanks to the generous size of the windows.



Fig.39 : This picture shows the importance of this building in the landscape of the village. It is easily visible from afar. This reinforces its role in the identity of the village. © Angèle Golliet



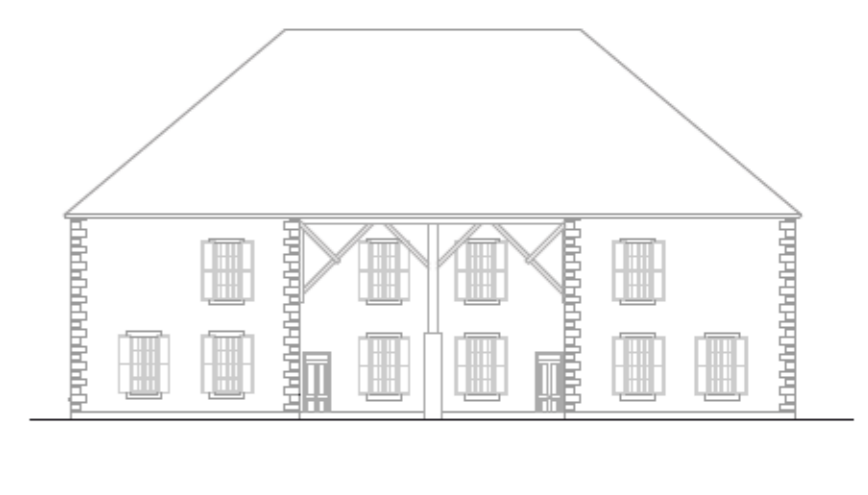
1. South West Facade



2. South East Facade



3. North West Facade



4. North East Facade

Existing facades

5. Structural assessment

The load-bearing structure consists of four facades and shear walls. They are made of rubble stone and mortar. The ground floor's walls measure 80cm and the other level's wall measure 50cm. The span is between 4.3 and 5m.

There are also indoor point columns that help to support the structure.

The floors in the three upper levels are wooden floors.

The roof is supported by a wooden framework.

It is difficult, at my level, to confirm or not the quality and resistance of the current structure. Currently, the municipality has commissioned an engineering office to carry out an advanced study. Unfortunately, I cannot wait to obtain the results to propose a project. Thus within the scope of this thesis, I suppose that the structure of the building is sufficient and still resistant enough to engage a renovation of it.



Fig.40 : One of the wooden columns that takes up the span.



Fig.42 : The two wooden staircases crossing all the floors are not in good condition and need to be changed.

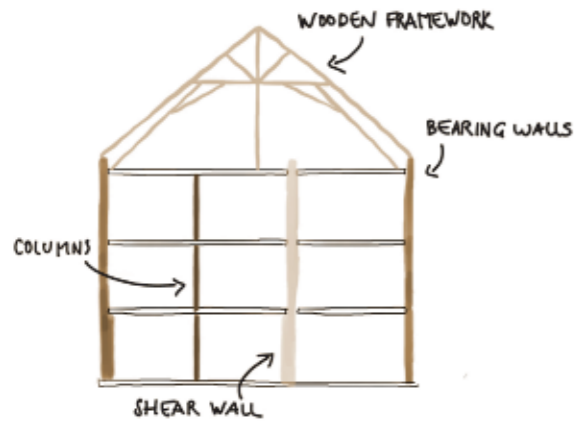
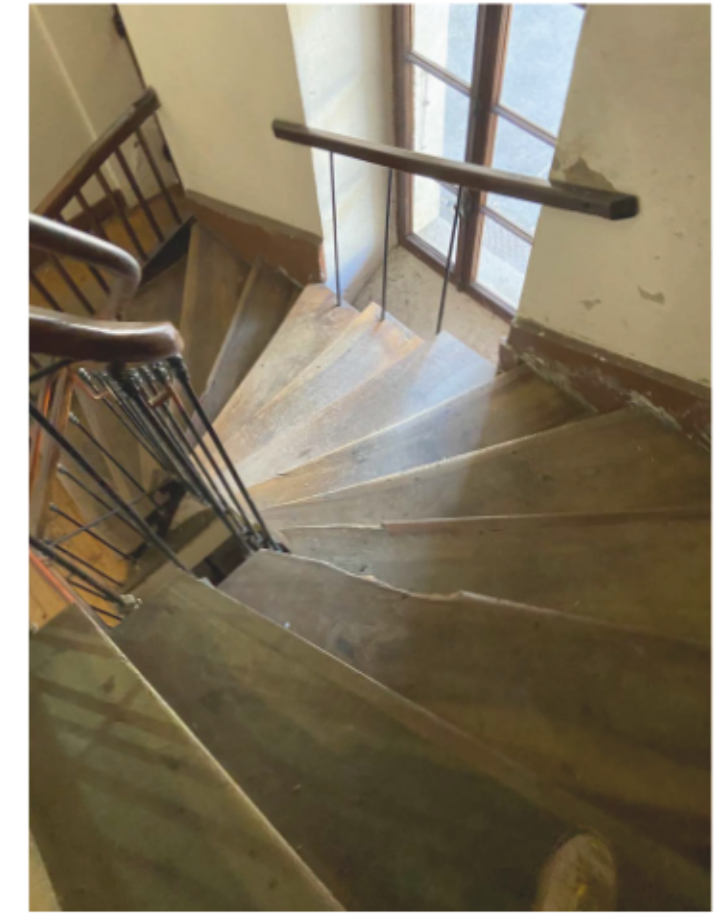
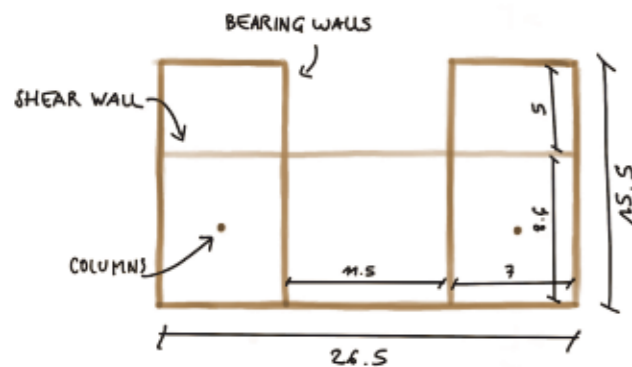


Fig.41 : We can see the thickness of the load bearing walls on the upper floors (50cm).



Structural elements sketches

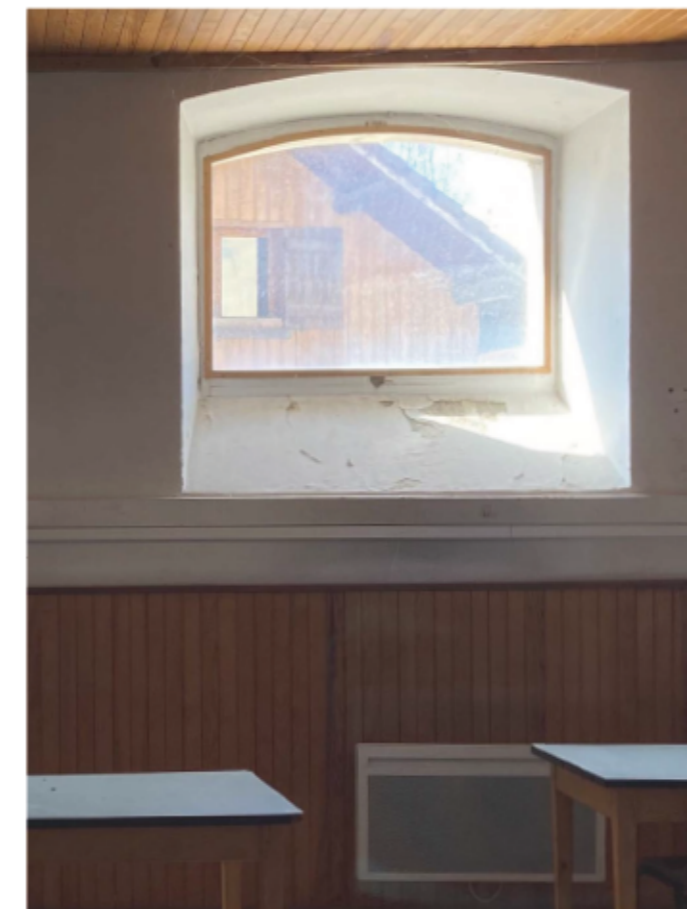


Fig.43 : We can see the thickness of the load bearing walls on the ground floor (80cm).



Fig.44 : We can see the thickness of the shear wall (80cm here).

6. Environmental part

- Building conservation to save energy

Preserving existing buildings is crucial for reducing the overall energy consumption and carbon footprint, as it avoids the significant energy expenditures associated with demolition and new construction. This is particularly important when considering the entire life cycle of materials, not just the final energy consumption of the building.

Demolishing a building requires energy for the demolition process, transportation of materials, and waste treatment, while new construction requires even more energy for extracting and transforming raw materials, transportation, and use of materials. Therefore, renovating or rehabilitating an existing building is often a more sustainable choice, especially if the building has already demonstrated constructive and thermal qualities.

If a demolition is necessary, it is essential to recover any materials that could be reused in the future, promoting a circular economy and extending the life cycle of materials.

By renovating the Old City Hall/School we can then save a lot of energy. The idea is also to use as many bio-based/geo-based and local materials to reduce as much as possible our impact on the environment.

- Analysis of the thermal capacities of existing buildings

The traditional materials of the old building often have very interesting thermal properties. It is the case of stone, clay and rammed earth, straw, lime and many others. They have been used for centuries in construction for this reason. These materials have high thermal mass, meaning that they can store and release heat slowly, which helps to maintain a stable temperature inside the building.

In the case of the Old City Hall/School, we have stone walls covered with lime plaster. We can then consider that these materials have good thermal functions.

Lime plaster is also a traditional material that has been used for centuries as a finish coat over stone or adobe walls. Lime plaster is breathable, allowing moisture to escape from the walls and preventing humidity, and

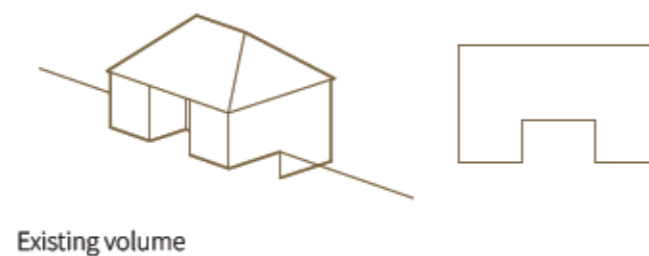
it has good insulating properties, helping to keep the building cool in the summer and warm in the winter. Using traditional materials in the renovation of the Old City Hall/School can help to maintain its thermal qualities and improve its energy efficiency.

- Thermal and energy improvement

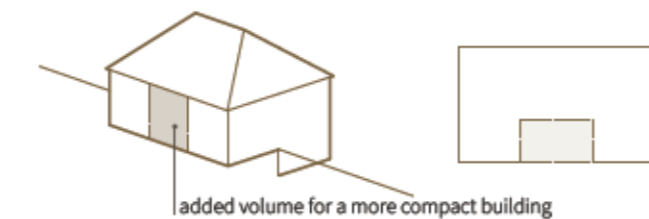
The goal of thermal and energy improvement of a building is to prevent heat accumulation in summer and avoid heat loss in winter. « When we study the thermal losses of a building we realize that the roof and the air renewal system total more than 50% of the losses. Then come the floor and the walls (about 16% each), the doors and windows (about 13%) and the thermal bridges (about 5%)» (Archipat, 2015).

In the case of the Old City Hall/School, thermal losses are significant due to the lack of insulation in the roof, which is only made up of tiles, and the walls that are also not insulated. Additionally, single glazing in most windows leads to a loss of comfort.

To optimize thermal comfort, reduce losses, and achieve cost savings, it is important to increase the building's compactness. One solution is to complete the North-East facade with a new facade, which creates a new interior space and avoids isolating the three walls of the courtyard. This extension offers improved comfort to the community and its inhabitants from a financial, thermal, and architectural perspective.



Existing volume



Projected volume

7. Contradictions about its future

A survey (Magazine municipal manigod, 2022) was conducted in 2022 among the population of Manigod, concerning the future of the old Town Hall/School building. Its objective was to know the wishes of the inhabitants on the future of this emblematic building of the village.

The numbers below are taken directly from the magazine.

Between the destruction and renovation of the building, the tendency is not very strong: 55% of the respondents to this survey want the destruction of the building while 45% want the renovation.

- In case of a renovation :

61% of people are in favor of restoring the building and keeping its current exterior.

Functions :

- community halls, apartments for permanent housing and a library
- commercial premises : the sale of local food products, rooms for cultural use (exhibitions, film screenings in particular)
- construction of an underground parking lot

- In case of a demolition :

Functions :

- development of a village square with a market hall, a granary or a kiosk, with a fountain in particular
- development of a crossroads
- construction of an underground parking lot

Finally, in the open-ended responses, people repeatedly express the wish to have a place to stop and rest for more life in the village and more conviviality between its inhabitants.

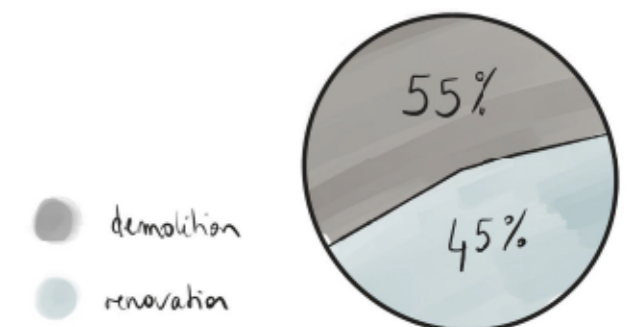
- Conclusion

This survey is really interesting and confirms the needs of the population today. Whether it's those who want to demolish it or those who want to keep it, what stands out is the desire for a place to gather.

Moreover, it finally emerges that the part of the population who wish to keep the building are those who have used it, who have spent time in it.

This demonstrates the influence that architecture, or a specific building, can have on us, even unconsciously. Even if the building in question is not the most beautiful, we are attached to it in a certain way, without even being able to explain it sometimes.

This is what I find fascinating, about architecture - the impact it can have on our lives and our relationship with space.



8. A project determined by the challenges of living together and revitalizing the village

In this last part of my thesis, I present the design I imagined to renovate the existing building analyzed in the previous parts. Guided by all the theoretical analyses done in the first chapter and applying all the knowledges I learned during my studies, this project tries to answer the issues the village of Manigod is facing today. From the urban scale of public space to the details of construction.

In order to find the ideal program, it is important to identify and describe the main people living in the community and potentially the first users of the building. In the first chapter, we have already analyzed these three main groups, which are: locals, newcomers and tourists/seasonals workers (p.34). Here, the goal is to detail each of these users with the help of scenarios.

Pierre, 54 years old, farmer

Pierre has lived in Manigod since he was a young boy. He owns a farm with 50 cows and produces reblochon, the famous cheese of the valley. He knows many people in Manigod, especially locals. He likes to meet them to play cards and he is also involved in two of the many associations that characterize Manigod.

Anna, 41 years old, engineer

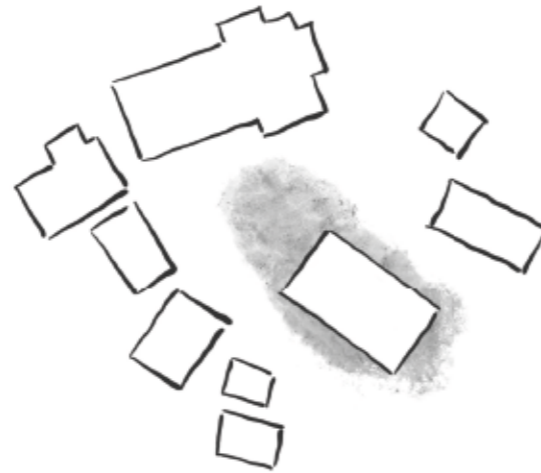
Anna has been living in Manigod for 10 years now. When she was younger, she used to come here on vacation with her parents and she fell in love with the view and the tranquility that Manigod offers. She has a good income and knows she is lucky to live here. She has lived in Paris before and still enjoys the advantages of the city, such as the stores, the cafes, the cultural activities...

Julie, 32 years old, photographer

Julie is visiting Manigod for the first time. She is here for vacation, renting an apartment for a week. She likes to hike and meet new people when she travels.

Based on these users, and the will to give back all its strenght to the Old City Hall/School, I obtained two main characteristics for the building.

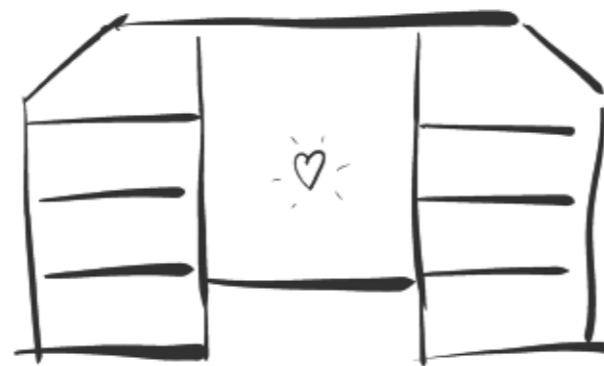
- A building that shines.



With its strategic location in the village, its new public square and its surrounding pedestrian space, the building shines even more. It invites people to come and see what's going on inside and gives importance to pedestrians in a rural space usually dominated by cars.

The public square associated with it allows to weave a link between inhabitants. This space can be used for any kind of events, market, village dance, fairs...

- A building that gathers.



I wanted to keep this small village spirit where everyone knows each other and where people cross paths easily.

This is a public building with different functions that create an harmony. In one hand, it offers essential services a village needs that where already existing but have been relocated in this institutionnal building. It is the case for the city hall, the tourism office, the library. In the other hand it offers new functions that are missing and that people want, or the municipality needs, such as an association room, shops, a new café/snack bar, a multipurpose room, offices for rent.

The idea with this renovation is to reflect the image of Manigod, to represent all the actors who make the commune live, without hierarchy. This is reflected in the fact that in this building, you can meet :

Juliette, the oldest lady of the village who joins Tom her grandson around a coffee.

Alain, the mayor, who is about to marry Anna and Paul, two young people who came to Manigod a few years ago.

Pascal, working at the tourist office who receives a delivery for the next village event.

Julie, a tourist who came to get some information at the tourist office and who finally takes the opportunity to visit the exhibition in progress in the multipurpose room.

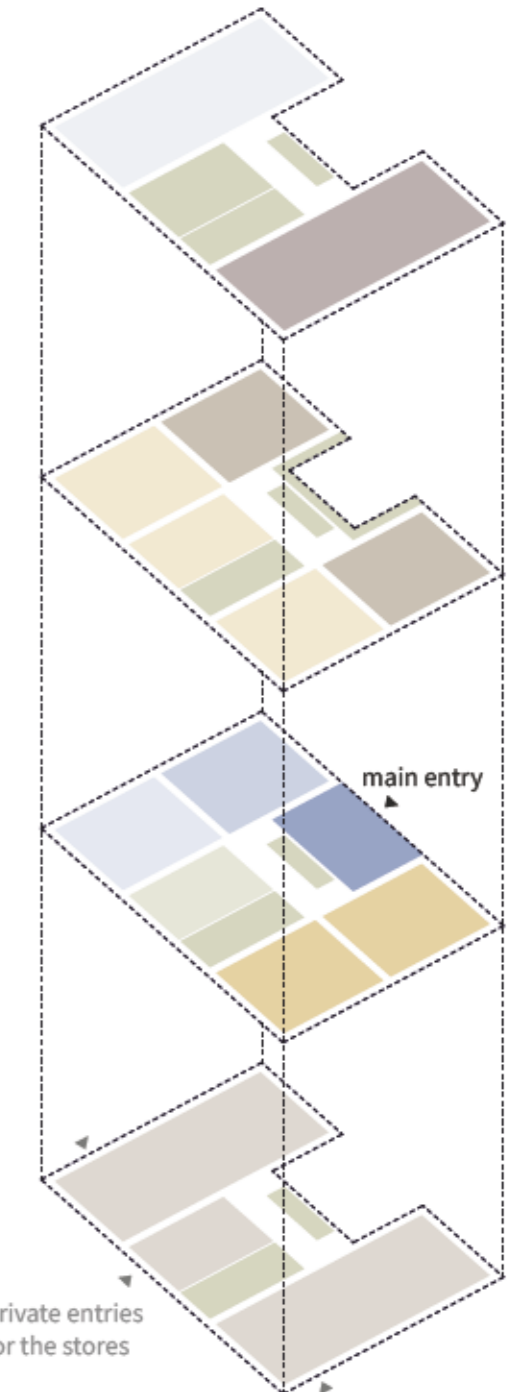
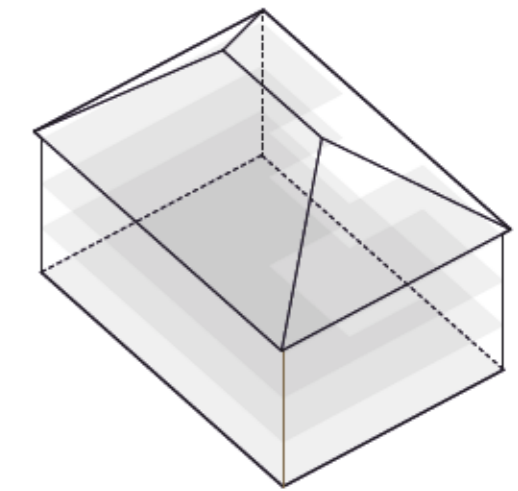
Manon who comes with her son Léo to borrow books from the library.

Lola, member of an association who joins her friends for their monthly meeting.

Pierre who, like every month, comes to discover the pop-up store.

Isabelle, an entrepreneur who receives a client in the offices she rents on the second floor.

- Attic
 - Library
 - Association room
- Second floor
 - Offices
 - City Hall
- First floor
 - Reception
 - Café/snack bar
 - Multipurpose room
 - Tourism Office
- Ground floor
 - Shops, pop-up store
- Serving areas
 - Kitchen
 - Stairs, lift, sanitary, storage



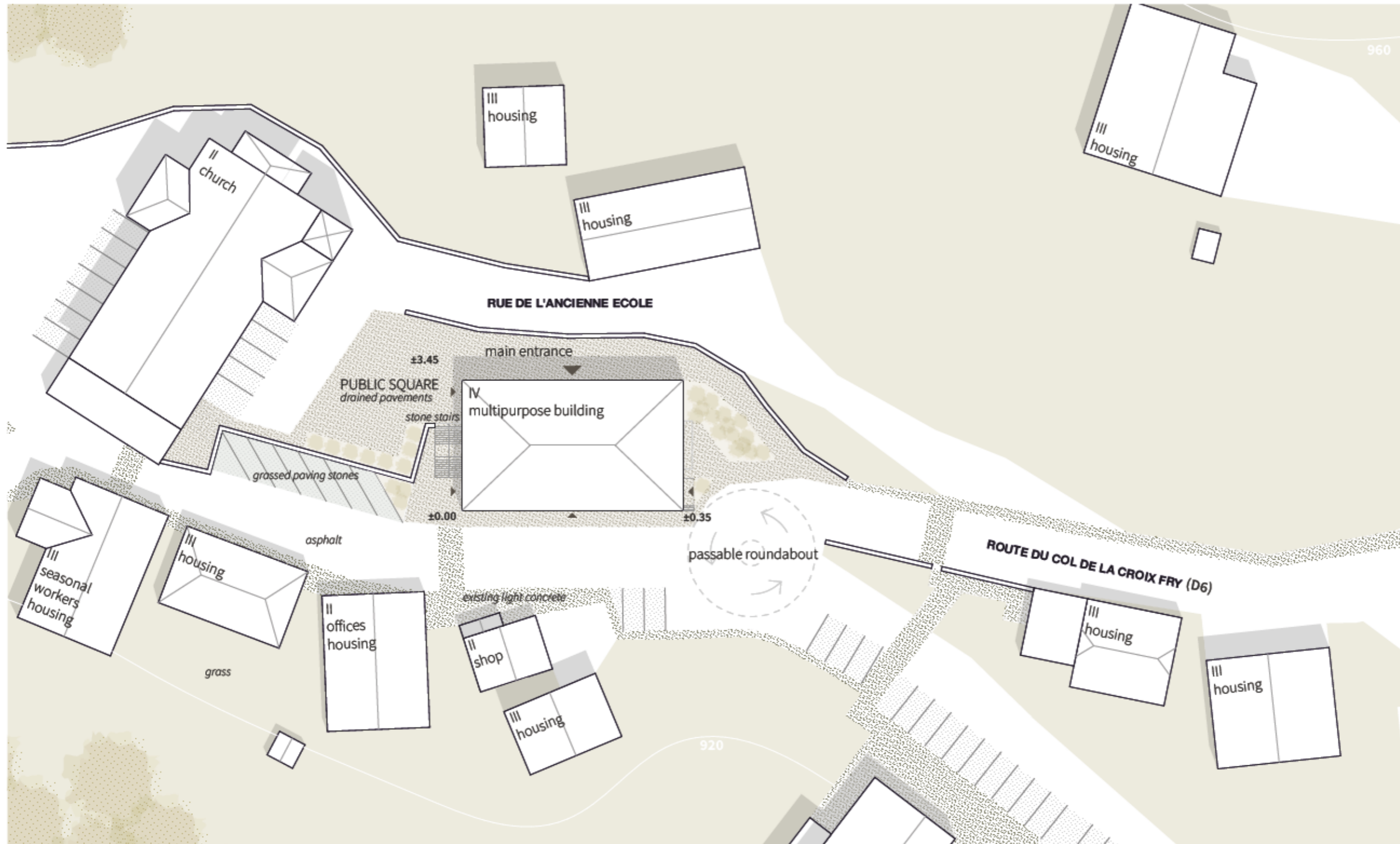
Functional diagram

• Site plan

The creation of a crossable roundabout relieves traffic and offers a more pleasant space around the building. Thanks to this intervention, a sidewalk is created in front of the south east facade. The creation of a public square completes the pedestrians space and by adding a stairs we have now a continuous walk around the building. Car spaces are created in the place of the old access

slope to the forecourt. New green spaces are added to make the area more pleasant and new pavements used are permeables.

The building is not listed or classified as a historical monument, but it is part of the communal heritage. This type of construction is common in rural areas and deserves careful rehabilitation.



New pavements



Existing pavements



Projected site plan



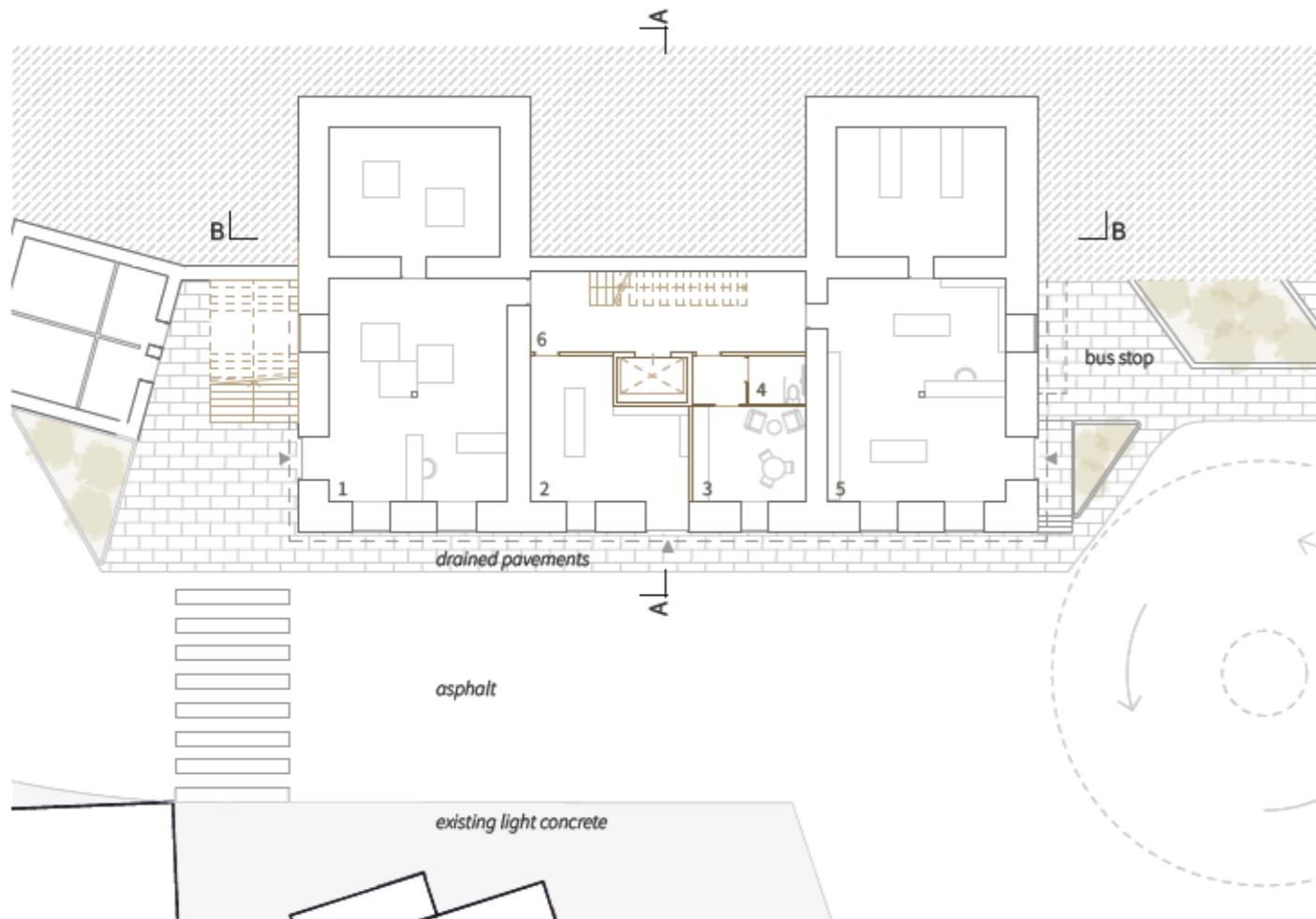
• Ground floor

The ground floor welcomes three different stores. Two of them are available for rent while the last one is a pop-up store that welcome different brands each month. Placing them on the first floor allows better visibility from the road and offer a private entrance for each of them. They are easily accessible thanks to the new sidewalk that goes allong the facade. Parking places are also available near the stores.

Functions

1. Store 1 : 77sqm
2. Pop-up store : 24sqm
3. Leisure area : 13.5sqm
4. Toilet 3.5sqm
5. Store 2 : 77sqm
6. Circulation : 31.5sqm

Total : 226.5sqm



The new parking space provides easy parking to encourage people to stop and visit the village. The pedestrian area that goes all around the building gives more importance to the inhabitants and visitors and offers a safe place for them to enjoy the village. The new facilities allow easy access to the village square by any means of transport.



The stairs offers a continuous pedestrian way to go to the public square or access to the building.



On the groundfloor, two premises are available for new stores. Here, a pottery with its workshop behind.

• First floor

On the level of the first floor we find the new public square. It is defined by a drained pavements made of porous concrete.

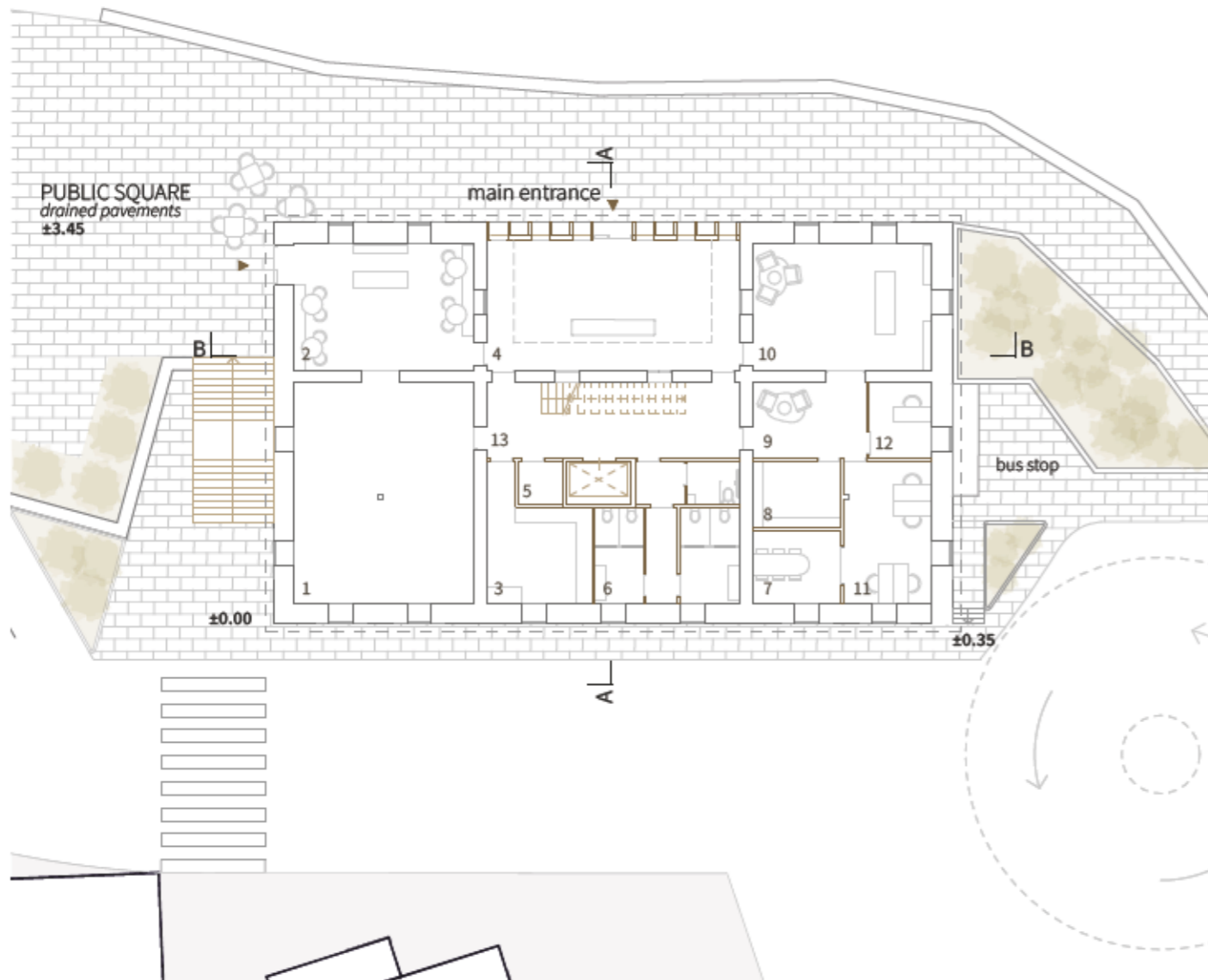
On the first floor we have access to the main entrance on the northeast side, where the new façade can be seen. It opens onto a bright space with high ceilings. The café opens onto the new public square with its own entrance and communicates with a multi-purpose room that can be used for different events. The tourism office is also located near the main entrance to be visible to tourists when they enter the building.

The project is based on a simple way of circulate inside the building. There is no hierarchy. This means that everyone use the same stair and lift.

Functions

1. Multipurpose : 58.5sqm
2. Cafe : 33.5sqm
3. Kitchen : 17sqm
4. Reception : 48sqm
5. Storage : 3sqm
6. Toilets : 24sqm
- Tourism office : 90sqm
7. Meeting room : 9.5sqm
8. Storage : 9sqm
9. Leisure area : 12.5sqm
10. Shop : 33.5 sqm
11. Office 1 : 18.5sqm
12. Office 2 : 7sqm
13. Circulation : 31.5sqm

Total : 305.5sqm



The new public space is accessible to all, by car for people with reduced mobility or on foot. It is the place to gather for events and also offers facilities to simply enjoy the place on a daily basis. The posts delimiting the space can be embedded in the ground to make the space accessible to cars in case of need (emergency, delivery).



The café on the first floor of the building opens onto the public square with its terrace. The pedestrian zone encourages visitors to walk through the building and access the main entrance on the north-east façade. The new façade consists of vertical wooden slats that extend to the roof. It gives the building an elegant and modern look.



The main entrance gives access to a double height reception area located in the extension of the building. It is bathed in light from the generous openings in the facade and from the openings in the roof. From here you can be guided into the building by the reception staff.



Inside, the café offers a warm space that opens up on all four sides. It is therefore a space with a fixed area but which can also be extended: on the square outside, in the multi-purpose room or in the reception area during an event, a buffet area during an exhibition opening for example.



There is a main staircase and a lift common to all in order to mutualise the serving spaces and thus to reduce them in favour of served spaces. This also reflects the spirit of the village where everyone knows each other and crosses paths regularly.



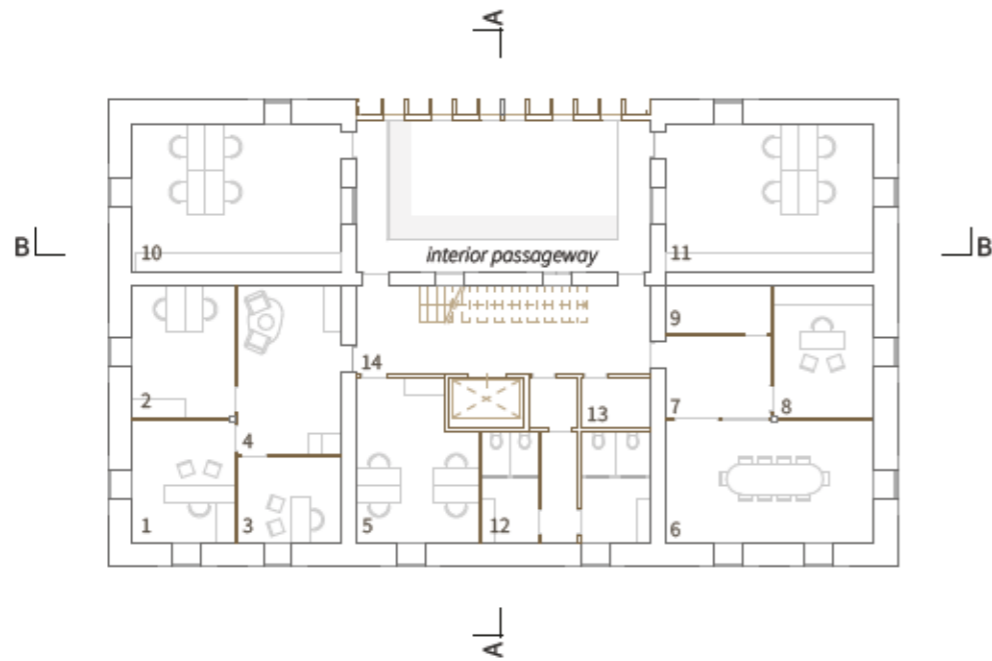
The tourism office is easily accessible from the reception area to facilitate the visitor experience.

• Second floor

According to the users and for more privacy, the city hall is located on the second floor. In this floor we find as well two offices for rent. They have their own access from the interior passageway.

Functions

- City Hall : 133.5sqm
- 1. Office 1 : 13.5sqm
- 2. Office 2 : 14.5sqm
- 3. Office 3 : 9.5sqm
- 4. Leisure area and printroom : 19sqm
- 5. Office 4 : 20sqm
- 6. Board room : 28sqm
- 7. Ciruclation : 9.5sqm
- 8. Mayor office : 14sqm
- 9. Archives : 5.5sqm
- 10. Office 1 : 33.5sqm
- 11. Office 2 : 33.5sqm
- 12. Toilets : 24sqm
- 13. Storage : 4sqm
- 14. Circulation : 39sqm
- Total : 267.5sqm



The board room of the Town Hall used for meeting between the mayor and its counsellors or wedding.



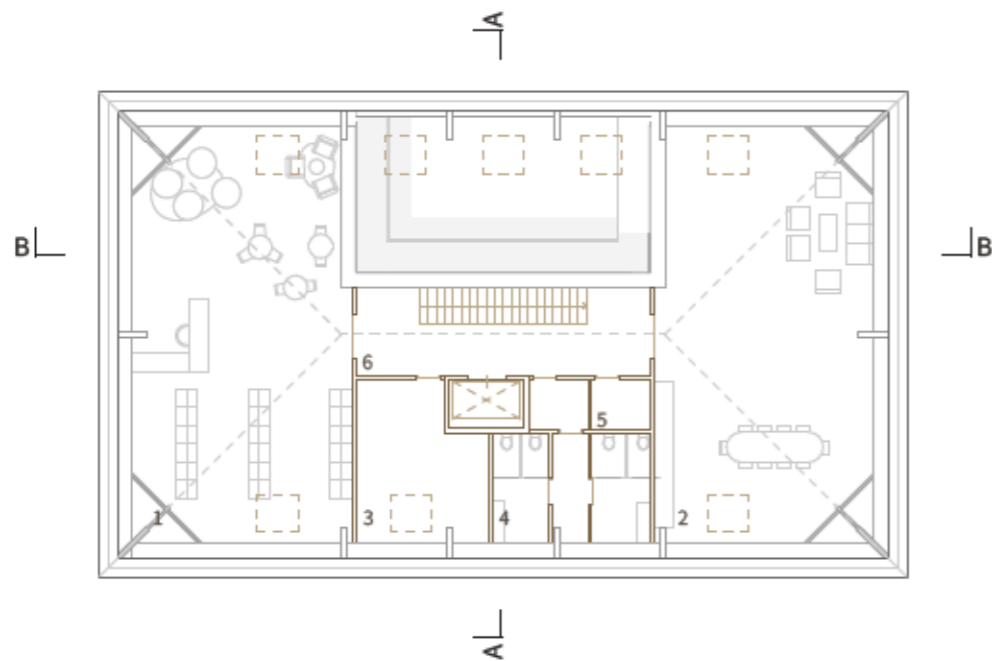
In order to encourage the establishment of new businesses, two office spaces are available for rent. These offices have their own access via the interior passageway.

• Attic

Finally, in the attic, we find the functions that require fewer partition walls to enhance the wooden frame. We can find the library with a quieter space and the association room. Knowing that there are a lot of various associations in Manigod, it is something important for the locals. This is why I want to offer them a new quality space to gather and continue to animate village life with their different events.

Functions

1. Library : 83sqm
 2. Association room : 83sqm
 3. Storage : 19sqm
 4. Toilets : 16.5sqm
 5. Storage : 3sqm
 6. Circulation : 31.5sqm
- Total : 236sqm



The library

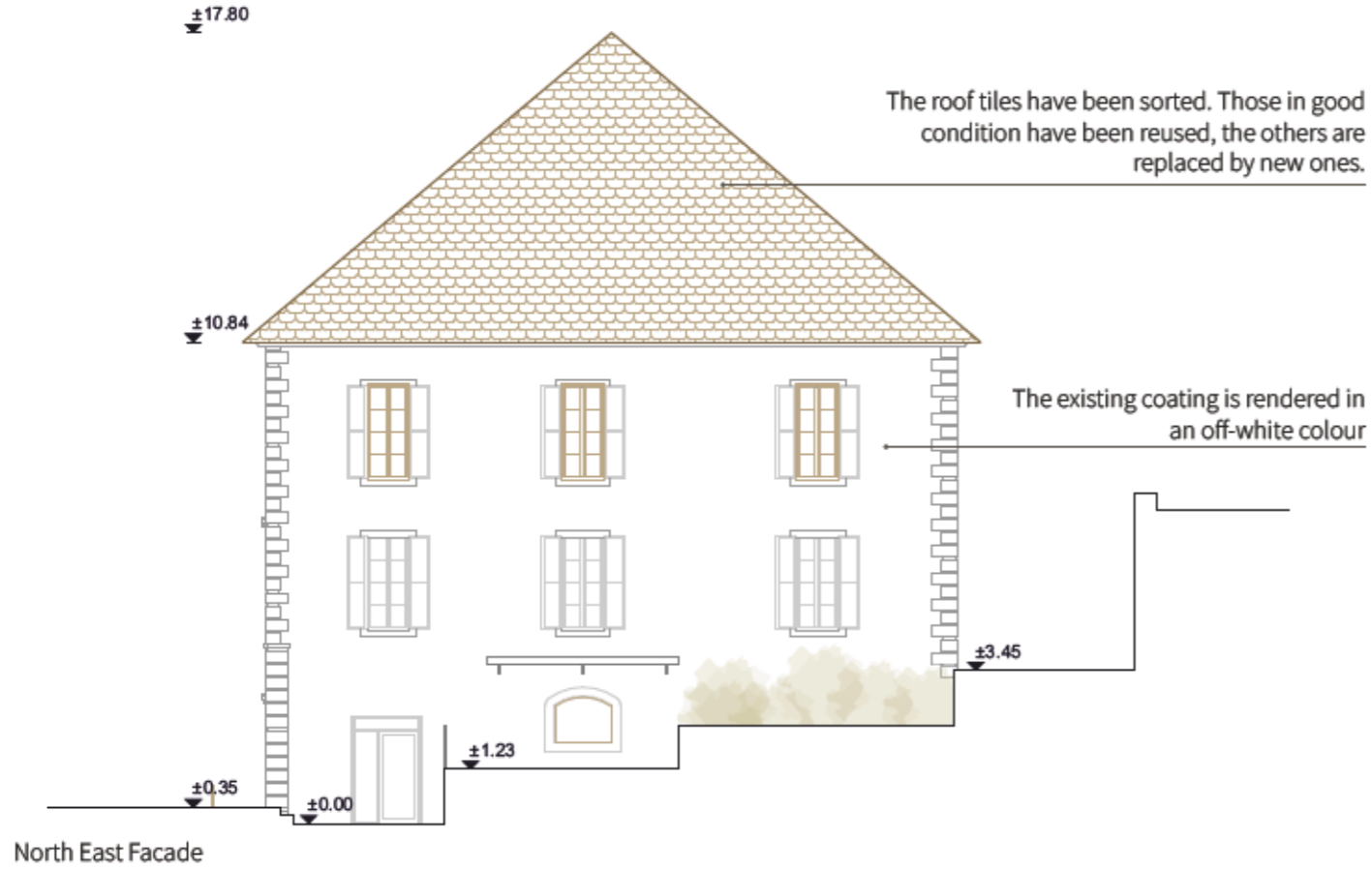


The association room.

• Facades

The existing facades are restored identically to preserve the heritage identity of the building. The old windows are changed to have double glazed and

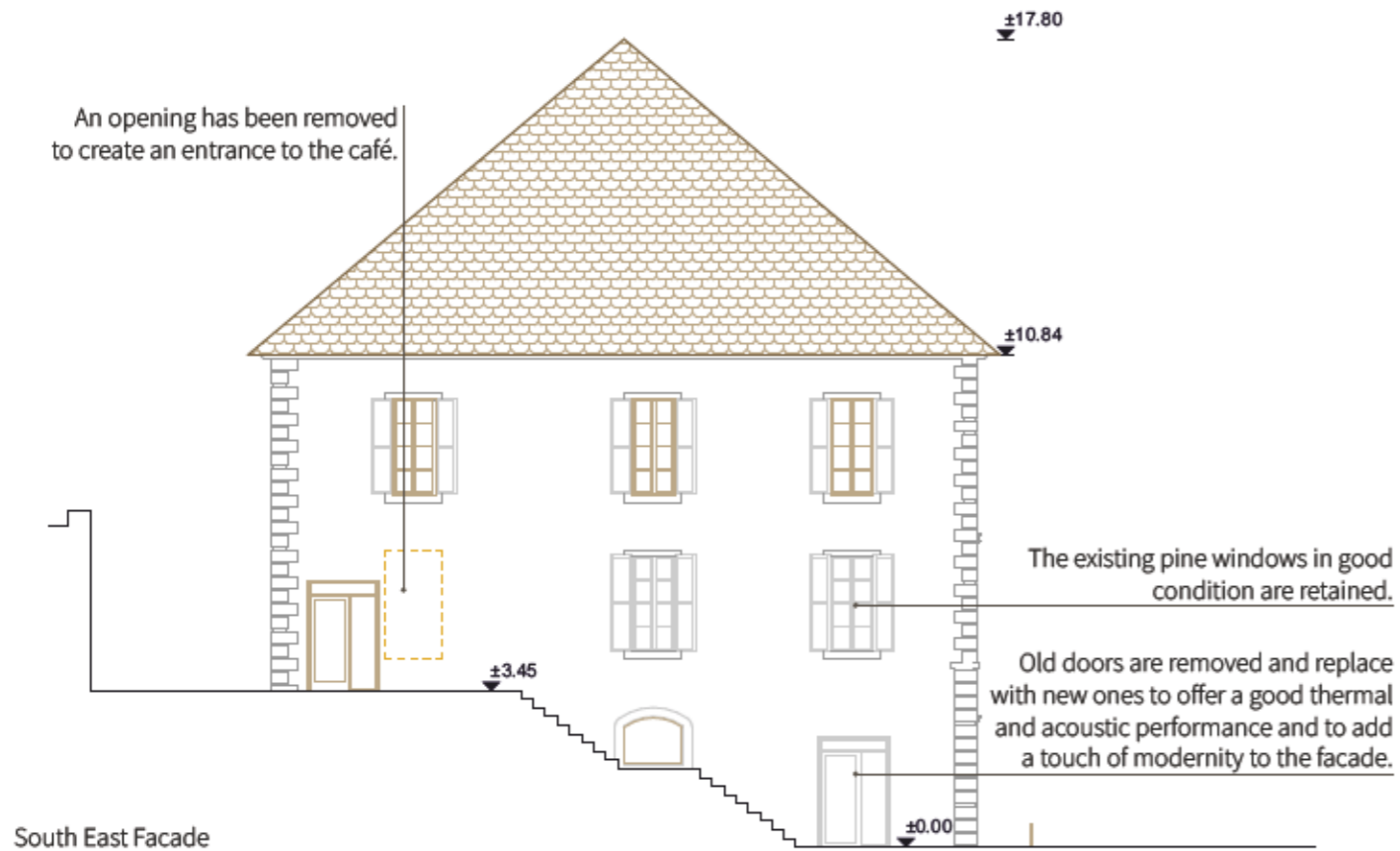
the new doors offer a good thermal and acoustic performance as well. Openings are created on the roof to light the attic



North East Facade



South West Facade

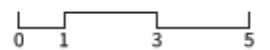


South East Facade



North West Facade

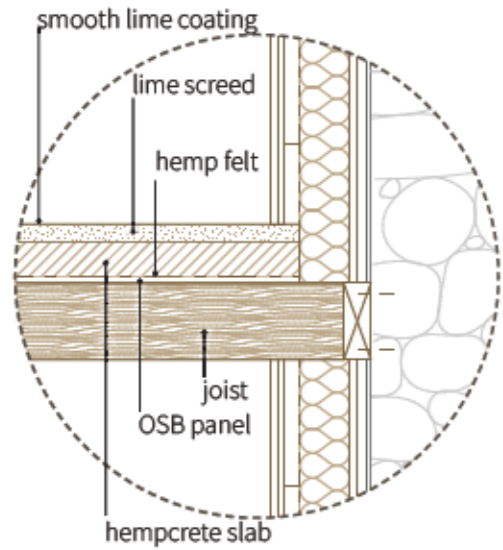
The new facade improves the compactness of the building. The vertical rhythm given by these slender pieces of wood gives a certain elegance and modernity to the building.



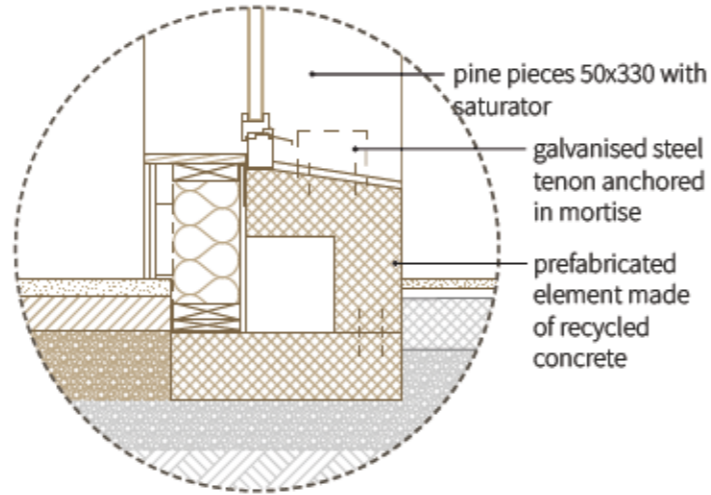
• Sections

The renovation of this building allows to maintain an activity in the heart of the village, which is essential for its future. On the other hand, as stated in the previous chapter, this kind of old buildings are not exceptional but have architectural and constructive qualities that are economically difficult to find in a

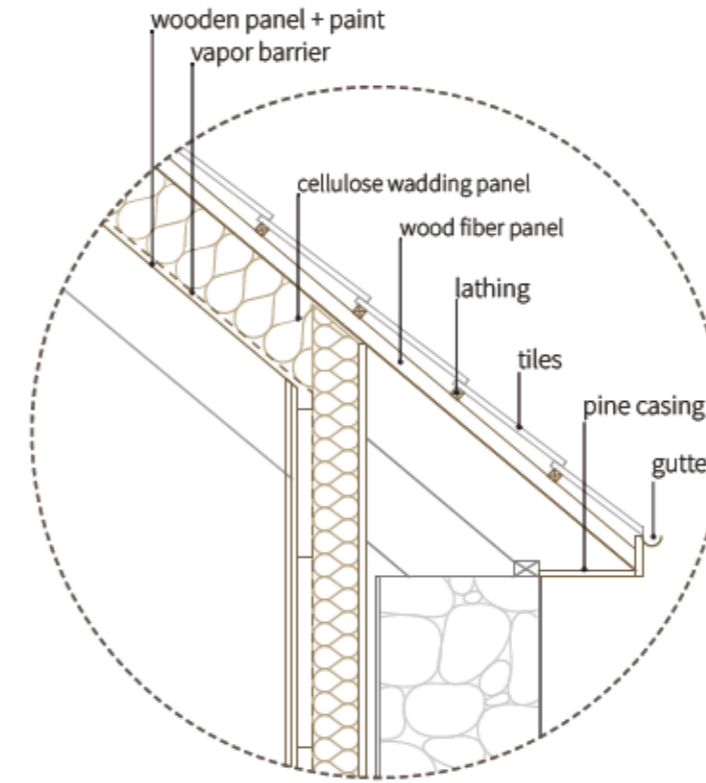
new construction. This is the case here with the ceiling heights, the solid wood frame or the stone masonry. The main transformations made mainly concern the creation of new floors, roof openings, replacement of carpentry, and thermal insulation.



D1. Floor slab supported by the stone wall
±17.80



D2. Added facade



D3. Roof composition

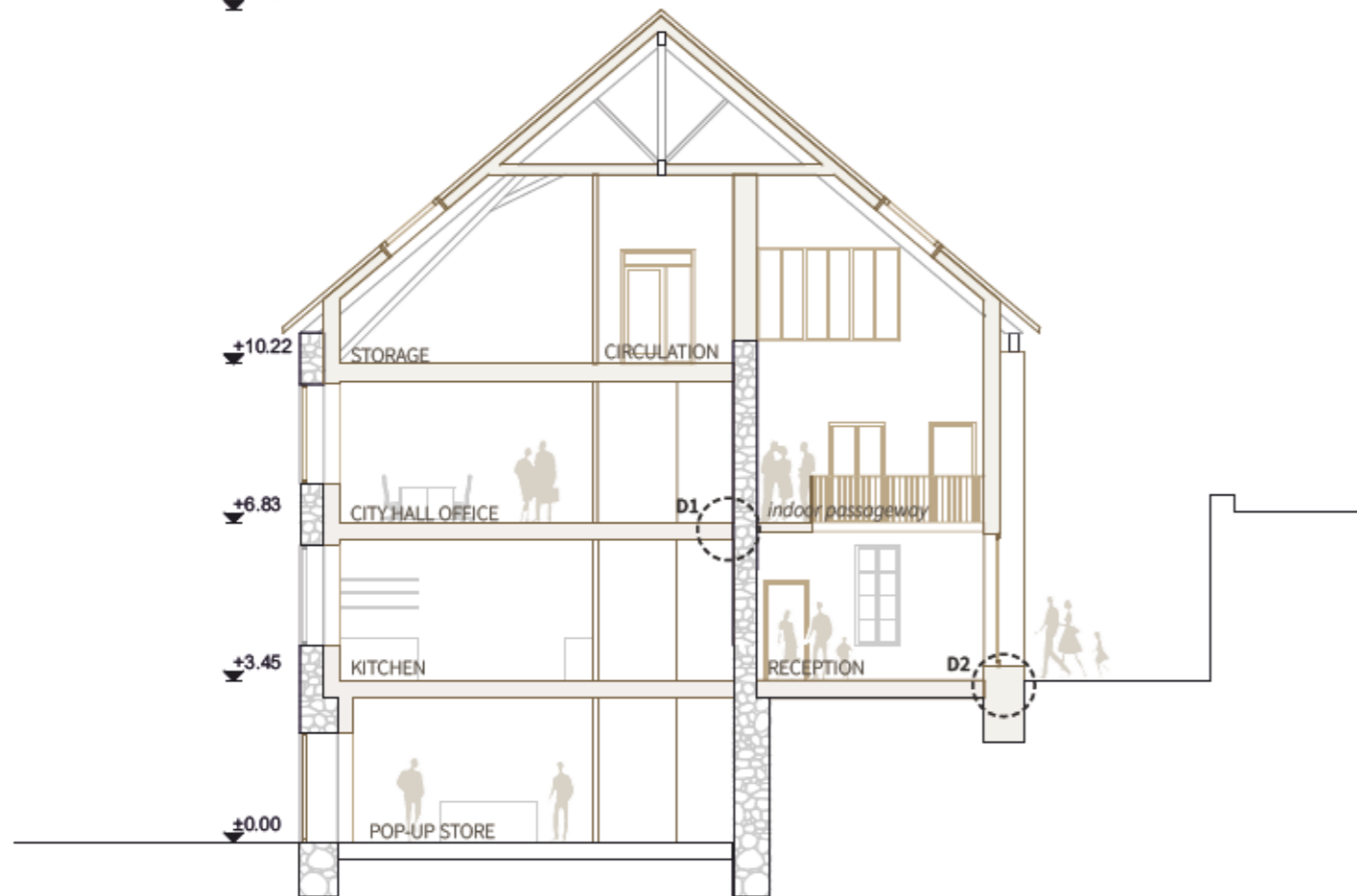
The materials used are mainly natural, bio-based, breathable, and based on ancient techniques. Knowing that we have stone walls, it is necessary to use insulation that «breathes» to allow the wall to better evacuate moisture.

I choose to use cellulose wadding panel for the insulation. Derived from paper recycling, it is a breathable material suitable for indoor use.

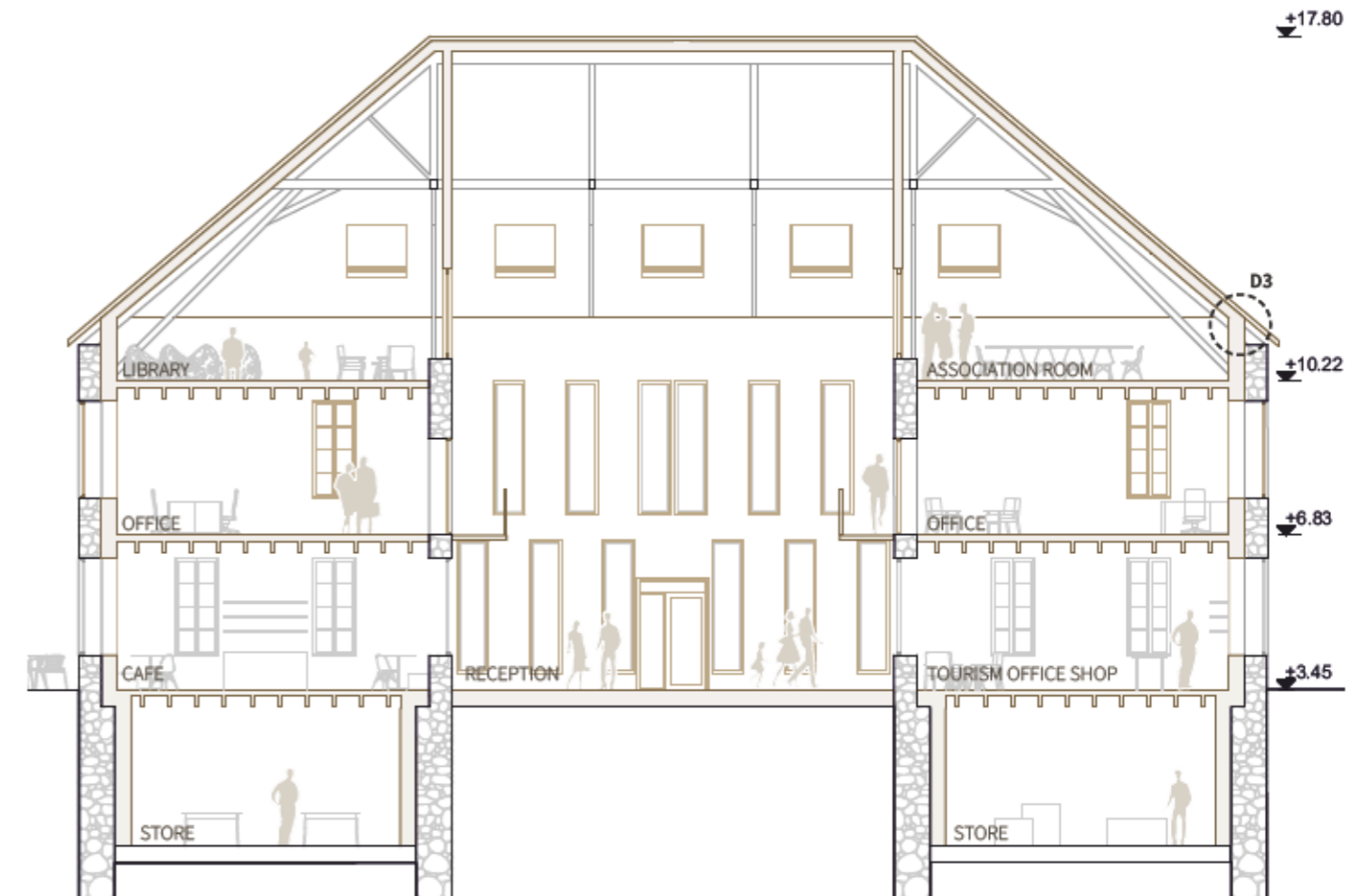
Lime coating is recommended in the case of a renovation since it lets the wall breathe to avoid any humidity problem. It improves the comfort inside the building and offers a beautiful aesthetic to the facade.

The new floor are a mix between hempcrete and wood to offers a good acoustic insulation.

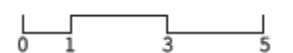
The structure of the new facade is made with local pine wood. All materials used come from French companies as close as possible to the site and all items deposited in good condition will be given to a re-use centre (see Appendix 3).



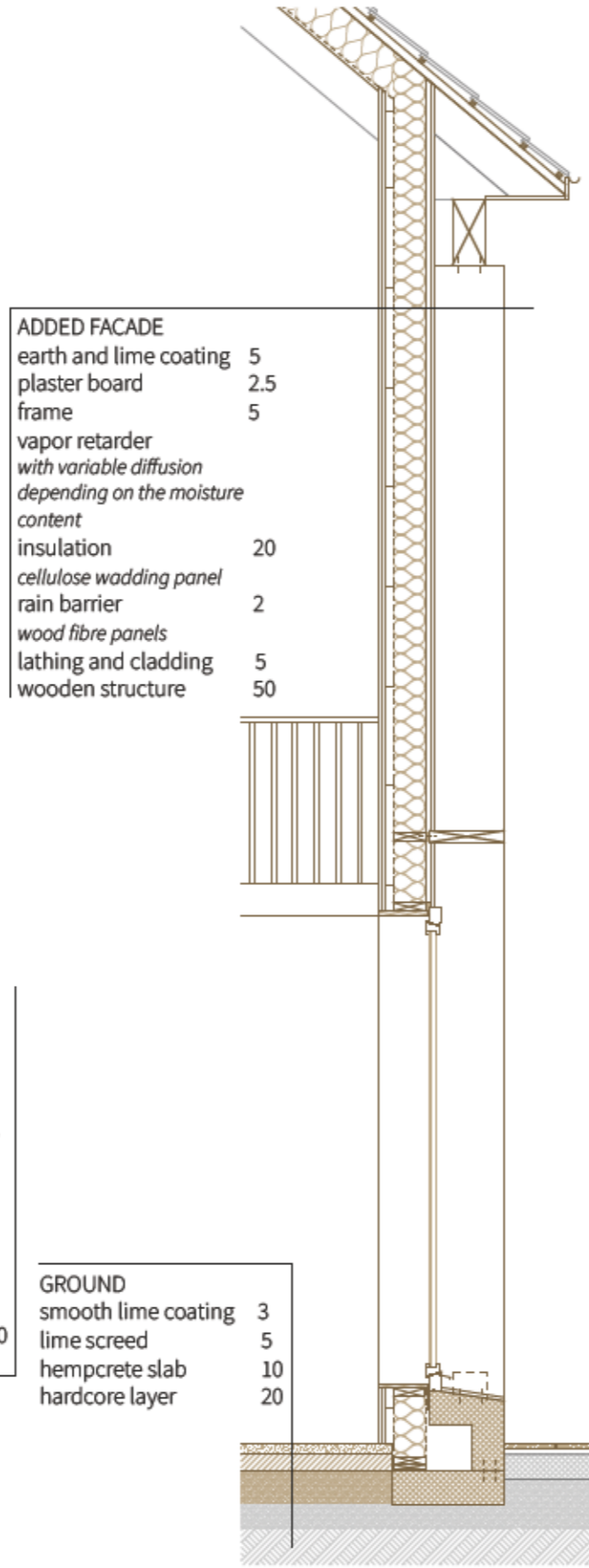
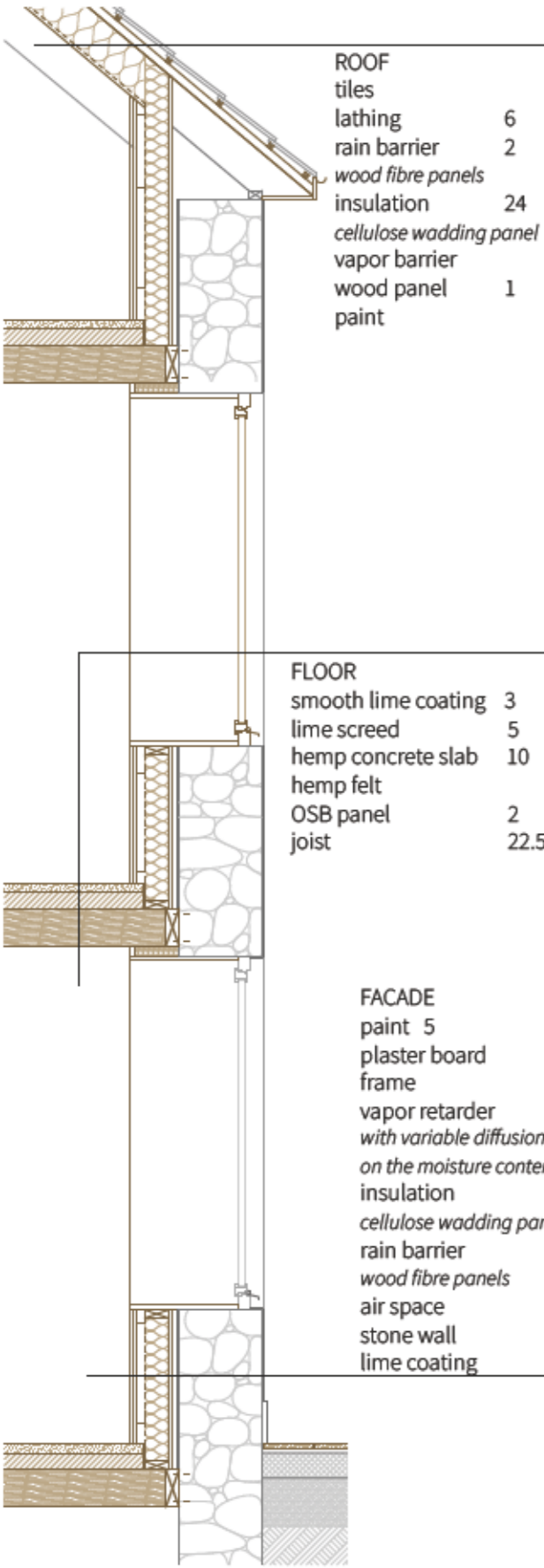
Section AA



Section BB



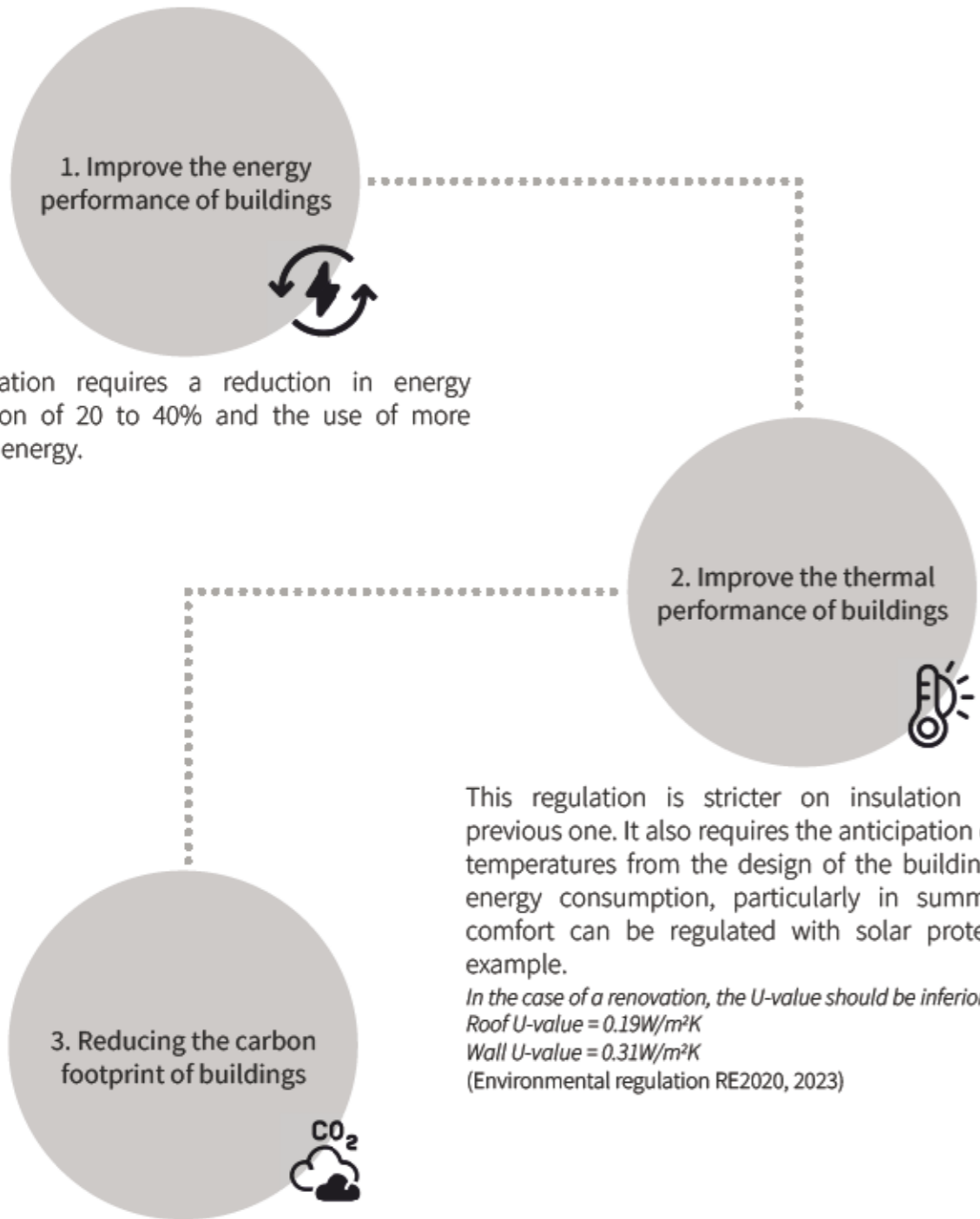
• Construction / Materiality



- Environmental regulation RE2020

RE2020 is an environmental regulation with the aim of reduce greenhouse gases and improve the energy performance of new and renovated buildings (Environmental regulation RE2020, 2023).

The main principles of this regulation are :



The regulation requires a reduction in energy consumption of 20 to 40% and the use of more renewable energy.

This regulation is stricter on insulation than the previous one. It also requires the anticipation of interior temperatures from the design of the building to limit energy consumption, particularly in summer when comfort can be regulated with solar protection for example.

In the case of a renovation, the U-value should be inferior or egal to :
 Roof U-value = 0.19W/m²K
 Wall U-value = 0.31W/m²K
 (Environmental regulation RE2020, 2023)

The goal is to reduce greenhouse gas emissions and encourages building actors to use low-carbon materials. It provides for the development of sustainable solutions, notably with the use of bio-based materials.

How this regulation is implemented in the project ?

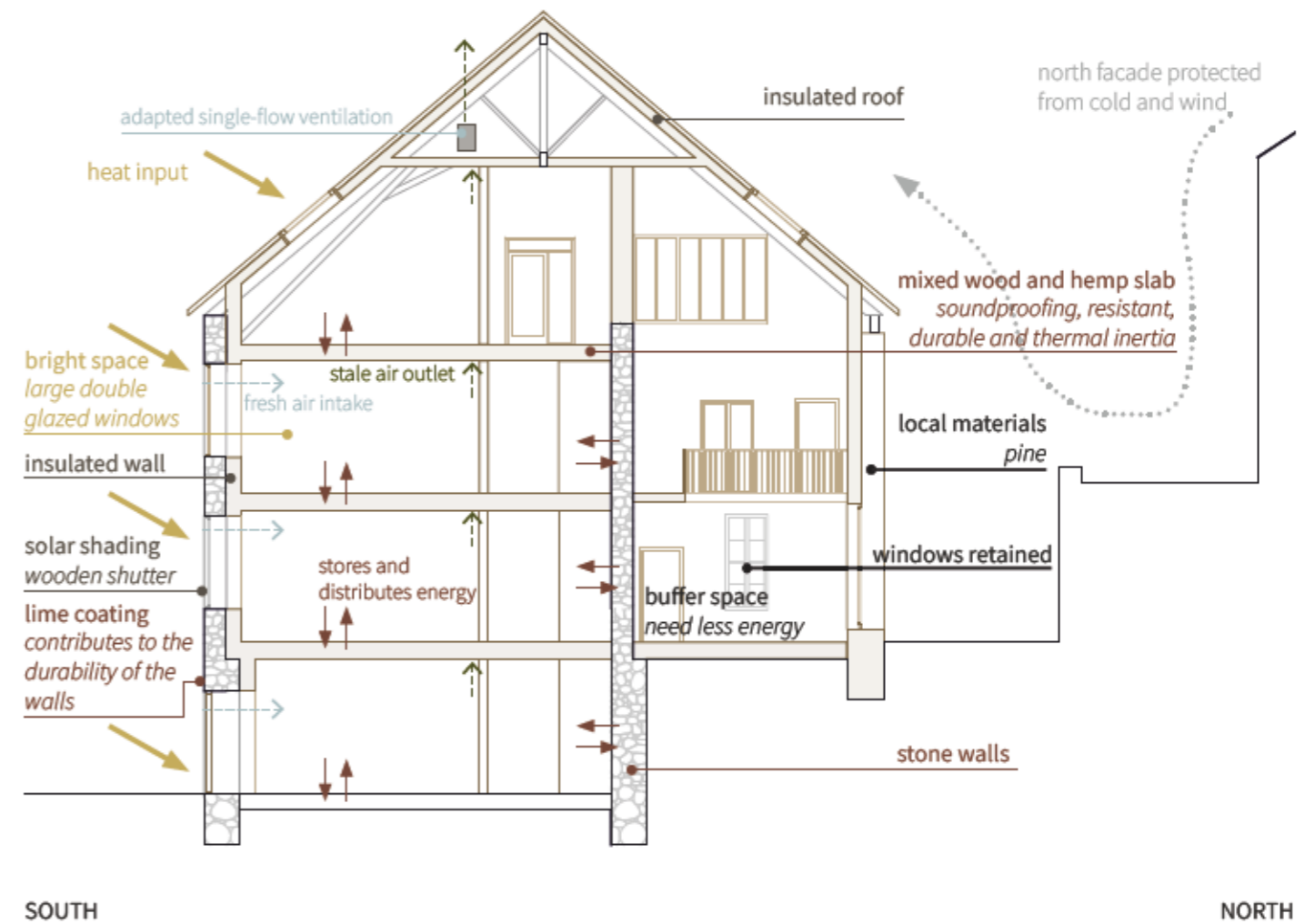
SITE MANAGEMENT STRATEGIES

- REUSED MATERIAL**
carefully dismantled given to a reuse centre
- LOCAL MATERIALS**
pine wood
- CONSERVATION OF ELEMENTS IN GOOD CONDITION**
windows, doors
- LOCAL OR FRENCH COMPANIES**
see Appendix 3

BIOCLIMATIC STRATEGIES

- CAPTURE SOLAR ENERGY** →
south facade openings
- STORE AND DISTRIBUTE ENERGY** ↑↓
internal thermal mass
mixed wood and hemp slab
stone walls
- TRANSFORM, DIFFUSE HEAT** ↓↑
ventilation
- PROTECT**
biobased thermal insulation
cellulose wadding panels
solar shading
obstacles in the north
- COMPACT VOLUME** 🏠

Roof U-value = 0.16W/m²K
 Wall U-value = 0.23W/m²K
 (see Appendix 4 for the detailed calculation)



Conclusion

In the second chapter of this thesis, I propose a potential development plan for the village of Manigod to address the challenges discussed in the first chapter.

- Urban changes

The new city plan is designed to enhance the village's center by creating pedestrian-friendly spaces and a central gathering place for the community.

If the plan were to be implemented, we would have to plan over several years for the various changes desired and to deepen certain intentions.

The new arrangement of the road leading to the Col de la Croix Fry should be confirmed by specialized professionals and thorough studies (traffic flow, feasibility...) should be done.

With the aim of thoughtful densification in the already urbanized areas, I propose new constructions dedicated to new forms of housing. It would be necessary to push the reflection on these new ways of living which could give the chance to young families with average incomes to be able to settle in Manigod. All the existing old buildings that I planned to renovate would also be subjected to structural studies to confirm their robustness to be renovated.

These changes would need many years to be implemented but in the end they would offer a new dynamism to the village of Manigod.

- The renovation of an emblematic building

The renovated building is designed to serve the diverse needs of the community and bring people of different ages, interests, and backgrounds together.

Overall, I wanted to create a space that is not only functional but also fosters a sense of community and social cohesion, which is so important in rural areas.

As mentioned in the part about the structure assessment, if the projected plan for this building would be implemented a thorough structural study will be carried out and will serve as a basis for the development of the project.

I tried as much as possible to reach the goals of the environmental regulation RE2020 by choosing the

right materials, the rights composition for walls, floors and roof and by thinking about bioclimatic strategies. As the U-values obtained correspond to the objectives of the standard, the project could be implemented in reality, after budget estimation.

Overall, this thesis was meant to show what is possible to do to improving a village's qualities and to sensitize the importance of heritage value and the potentiel of renovation whether it be environmental, architectural or economic.

Closing words

The topic of my thesis came up last spring when I learned about the municipality's survey of the former town hall/school. I realized that it was a building that concerned everyone and had an important place in the lives of the inhabitants. I also had memories of this building, which also saw my parents' generation grow up, and I felt the need to go further than just answering this survey and make it the subject of my Master's thesis.

In the summer of 2022, I was also working in an architectural office in the center of the village and this was my first experience in a rural environment which confirmed my desire to direct my future professional practice on serving rural areas.

After spending a year and a half abroad for my master's degree, it was important for me to get closer to my origins to do this thesis. After talking to the inhabitants, I felt the need and the desire to transform the village center. It was a big challenge for me, which was not always easy to take up. It is not always easy to project yourself in a place you know so well, to reinvent a village you know by heart and a building where I spent part of my school life as well.

It was also an opportunity for me to work on a renovation project which was a new process because I didn't have the opportunity to do it during my studies. It is a branch of architecture that interests me more and more and in which I see myself developing as an architect.

I would like to thank the people who accompanied me during these months of research and reflection. The Town Hall and more particularly Didier Rolland and Elisabeth Vaisy from the Manigod town planning department. The inhabitants that shared with me their memories of the Old Town Hall/School and my family for their moral support.

Finally, my tutor, Anu Soikkeli, for her advice and help throughout the semester. The University of Oulu for hosting me for my Master's degree. I discovered a new culture and a way of learning architecture that enriched me and that I will take with me throughout my professional life.

Finally, this thesis and these last two years have been a great way for me to conclude my life as a student and has strengthened me in the way I wish to apply all that I have learned during these five years of study. To practice responsible architecture that raises awareness of space. To show that it is possible to make beautiful things with local knowledge and respect the environment.

I know that the reality of the profession is not easy and is not always ready to open this new chapter of construction but I am convinced that the architect has his role to play in order to hope to live in a better world.

Sources

BOOKS

Hermann, M. (2002). *Architecture et vie traditionnelle en Savoie*. [Architecture and traditional life in Savoy]. La Fontaine de Siloé.

Council of Architecture, Urbanism and Environment. (2009). *Balades culturelles en Haute-Savoie- Morzine, architecture traditionnelle*. [Cultural walks in Haute-Savoie- Morzine, traditional architecture]. CAUE de Haute-Savoie.

Les Amis du Val de Thônes. (2020). *Habiter en Val de Thônes : Maisons et chalets du XVII^e siècle à nos jours*. [Living in the Val de Thônes: Houses and chalets from the 17th century to today]. YcoPub.

Les Amis du Val de Thônes. (2020). *Les écoles de la Vallée de Thônes au fil des siècles*. [Schools in the Thônes Valley over the centuries]. Imprimerie J.Hacquet.

Stanwix W., Sparrow A. (2021). *The Hempcrete Book : designing and building with hemp-lime*. Green Books.

WEBSITES

Mairie de Manigod. 2023. *A propos de Manigod*. Visited 27.02.2023 from <https://mairie-manigod.fr/index.php/a-propos-de-manigod/>

Insee. (2021). *Legal populations 2019*. Visited 27.02.2023, from <https://www.insee.fr/fr/statistiques/6005800?geo=COM-74160>

Insee. (2023). *Evolution and structure of the population*. Visited 06.03.2023, from <https://www.insee.fr/fr/statistiques/2011101?geo=COM-74160>

Manigod Heritage Blog . (2016). *Village of Manigod: from yesterday to today*. Visited 19.04.2023, from <https://www.manigod-patrimoine.fr/village-de-manigod-dhier-a-aujourd'hui-expo-photo-2016/#h2sjcmesppu1f7cdtmixjptx117by5e>

Ministry of Ecological Transition. (2023). *Environmental regulation RE2020*. Visited 21.04.2023, from <https://www.ecologie.gouv.fr/reglementation-environnementale-re2020>

EXHIBITION

Arnaud Dutheil, Isabelle Leclercq, Dany Cartron, Jacques Fatras. (2023, January 16-February 18). *S'emparer des lieux : Nouvelles architectures en Haute-Savoie* [Exhibition]. CAUE, Thônes, France.

DIAGRAMS

Meteoblue. Simulation of historical climate and weather data for Manigod. https://www.meteoblue.com/fr/meteo/historyclimate/climatemodelled/manigod_france_2996205

Meteoblue. Climate change Manigod. https://www.meteoblue.com/fr/climate-change/manigod_france_2996205

All diagram without an identified author are from Olga Golliet.

MAGAZINES

Chausson, S. (2022, November). Result of the survey on the old Town Hall / School building. *Magazine Municipal Manigod*, 8, p.4

MAPS

Weisé G. (2019). *Local Urbanism Plan Manigod, 1:2500*, Department of Haute-Savoie, Manigod

ONLINE DOCUMENT

Archipat. (2015). *Diagnostic Patrimonial et environnemental*. [Heritage and environmental diagnosis]. [PDF files]. <https://mairie-barraux.fr/site/wp-content/uploads/2020/09/DIAGNOSTIC-PATRIMONIAL-ET-ENVIRONNEMENTAL.pdf>

Ageden. (2022). *L'isolation du bâti ancien*. [Insulation of old buildings]. [PDF files]. https://www.infoenergie38.org/wp-content/uploads/isolation_bati_ancien.pdf

SKECTHES AND PICTURES

All sketches and pictures without an identified author are from Olga Golliet.

Appendix 1 - Local urbanisation plan

Urbanised areas

- Uv - Heart of the village (permanent population, facilities and services compatible with housing)
- Ue - Reception area of facilities of collective interest and public services

Areas to urbanise

- 1AU - Area intended to be opened to urbanisation in the short term

Agricultural areas

- A - Land and farms

Natural and forest areas

- N - Woods and natural areas, area with vocation of valorisation of natural spaces

Easements and reserved spaces

- Site reserved for the construction of housing

Dictate

- Area subject to Development and Programming Orientation
- Watercourse
- Reserve of biodiversity
- Identified heritage buildings
- Pedestrian path, existing or to be created
- Commercial ground floors

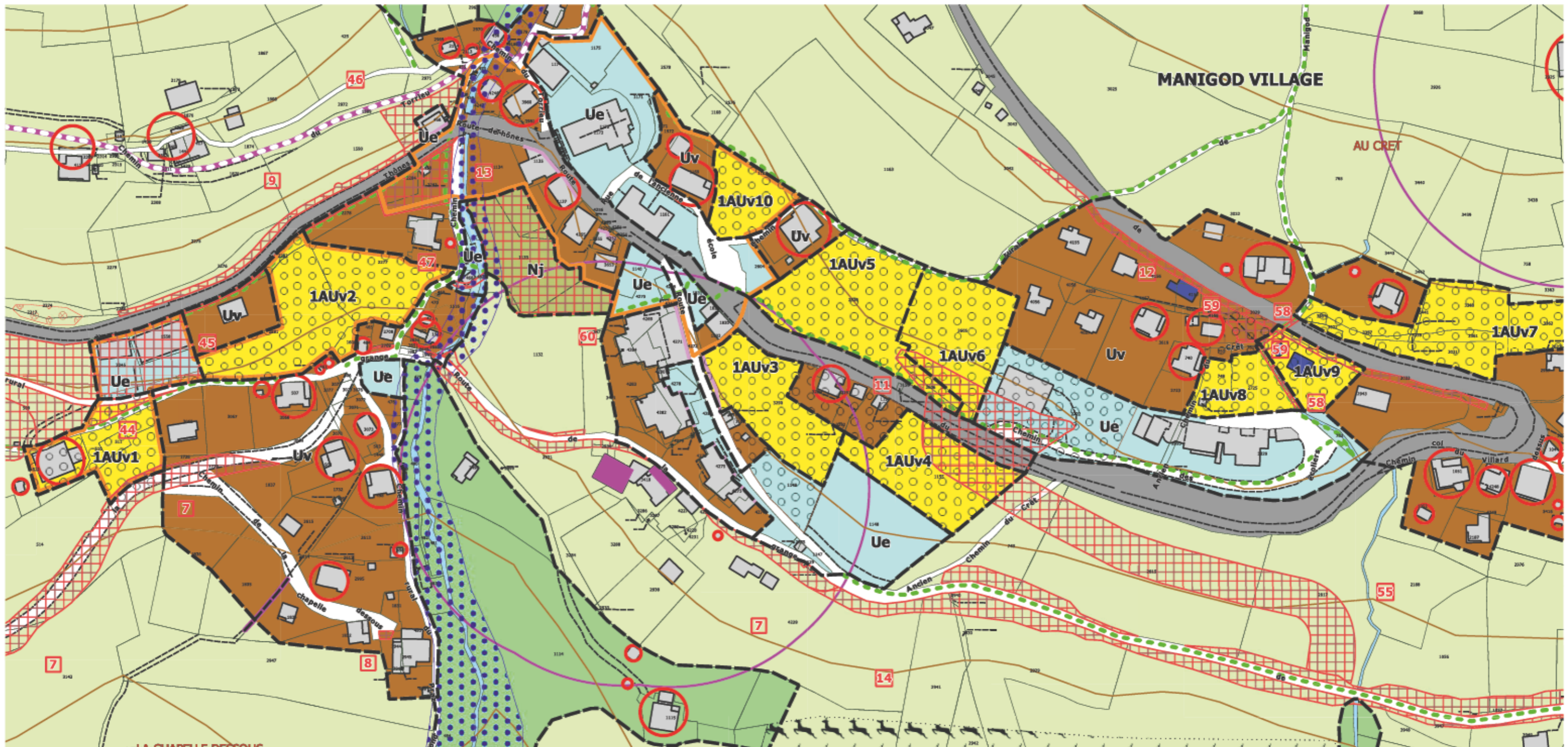


Fig.45 : Local urbanism plan focused on the village. Reproduced from Local Urbanism Plan Manigod by Weisé G. (2019). 1:2500, Department of Haute-Savoie, Manigod

Appendix 2 - Climate study of Manigod

- Average temperatures

The «daily average maximum» (red line) shows the average maximum temperature of a day for each month for Manigod. Similarly, the «daily average minimum» (blue line) shows the average minimum temperature. Warm days and cold nights (dashed blue and red lines) show the average of the warmest day and coldest night of each month for the last 30 years.

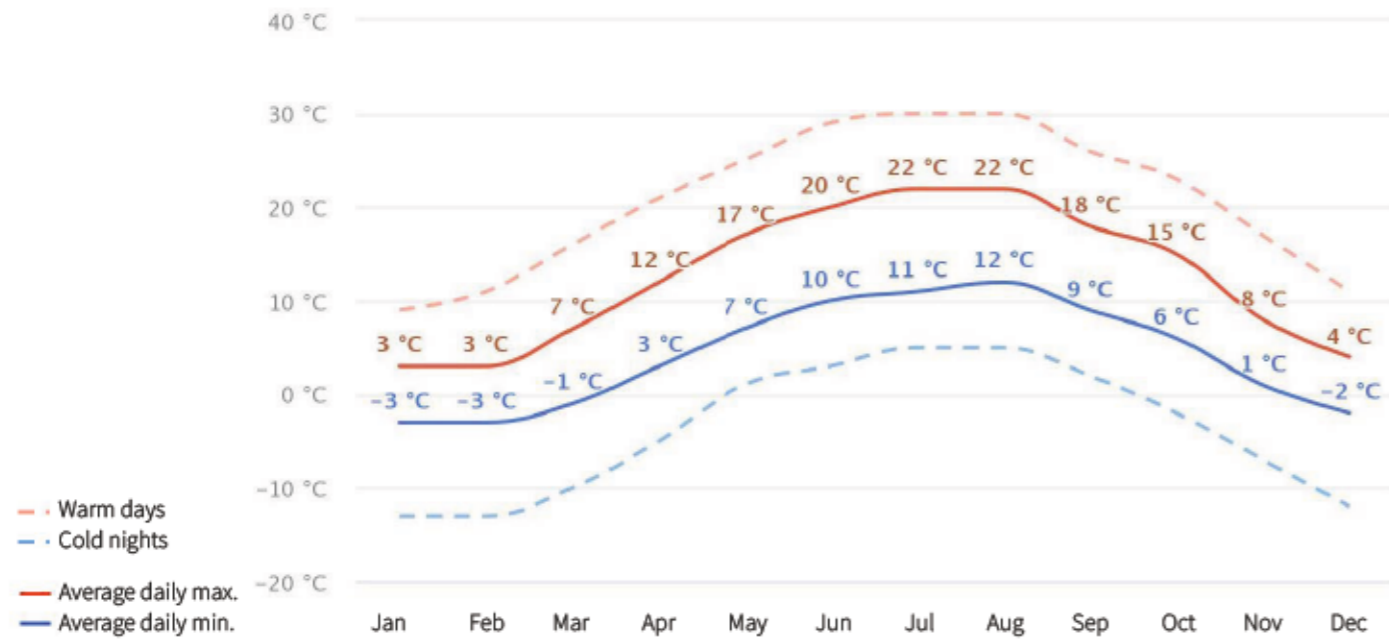


Fig.46 : Average temperatures diagram. Taken from «Simulation of historical climate and weather data for Manigod». Meteoblue https://www.meteoblue.com/fr/meteo/historyclimate/climatemodelled/manigod_france_2996205

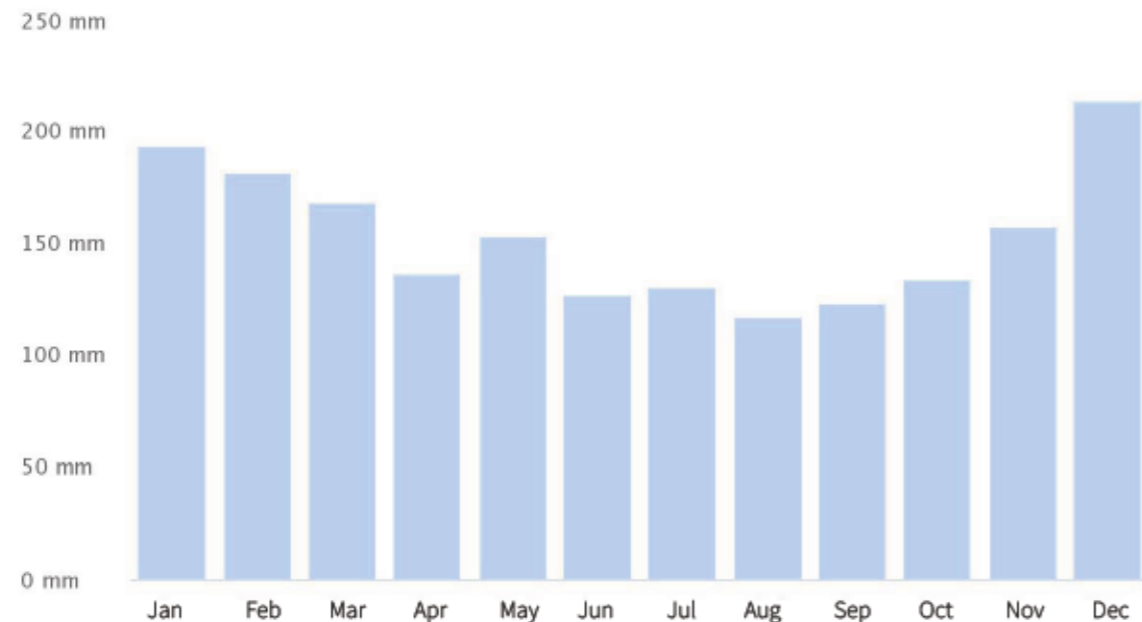


Fig.47 : Average precipitations diagram. Taken from «Simulation of historical climate and weather data for Manigod». Meteoblue https://www.meteoblue.com/fr/meteo/historyclimate/climatemodelled/manigod_france_2996205

- Average precipitations

This diagram shows the difference in precipitation throughout the year. We can see that the highest precipitation exist during the winter months that lead to snow. May is the more humid month during the spring season.

- Average wind speed

This diagram shows the wind speed during the year.

- Wind Rose

The Wind Rose shows how many hours per year the wind blows in the indicated direction.

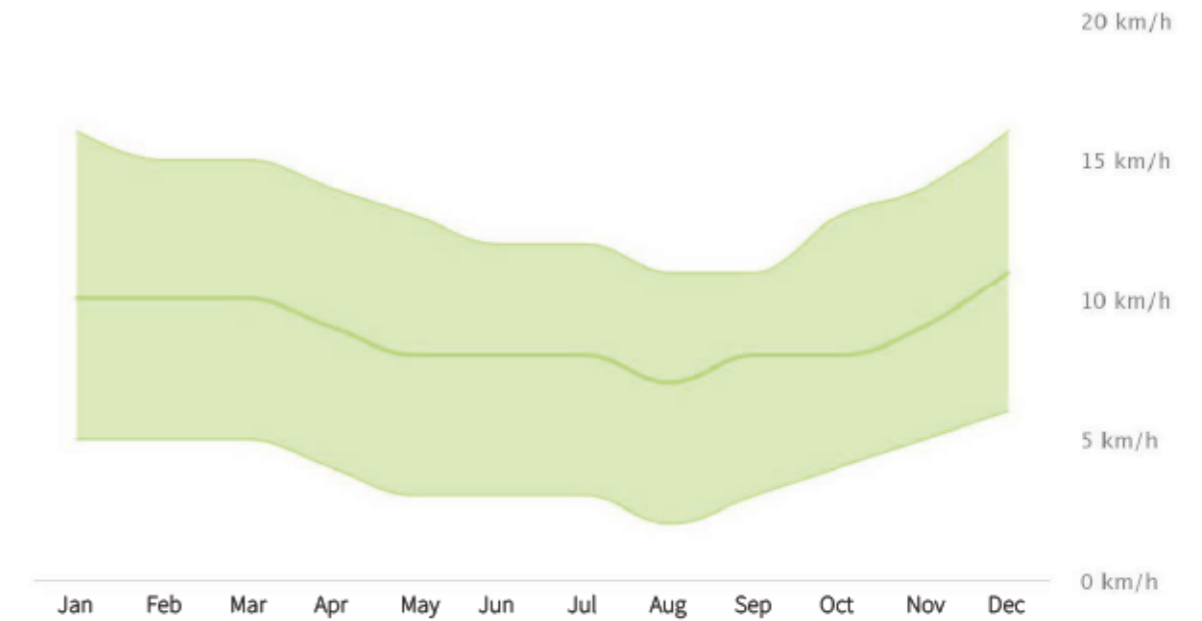


Fig.48 : Average wind diagram. Taken from «Simulation of historical climate and weather data for Manigod». Meteoblue https://www.meteoblue.com/fr/meteo/historyclimate/climatemodelled/manigod_france_2996205

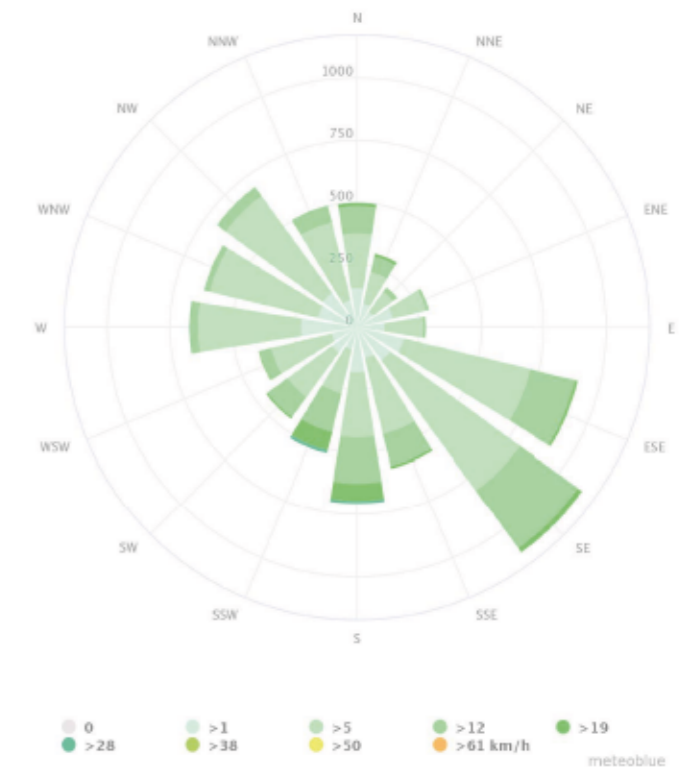


Fig.49 : Wind Rose for Manigod. Taken from «Simulation of historical climate and weather data for Manigod». Meteoblue https://www.meteoblue.com/fr/meteo/historyclimate/climatemodelled/manigod_france_2996205

- Average temperatures estimation with climate change
- Average precipitations estimation with climate change

The upper graph shows an estimate of the mean annual temperature for the Manigod area. The blue dashed line represents the linear trend of climate change. Thus, it can be seen that it is getting warmer in Manigod due to climate change.

At the bottom of the graph are the «warming bands». Each colored band represents the average temperature of a year - blue for colder years and red for warmer years.

The upper graph shows an estimate of the average total precipitation. The blue dashed line represents the linear trend of climate change. It can be seen that the line decreases with each year.

In the lower part, the graph shows the precipitation bands. Each colored band represents the total precipitation for a year - green for the wettest years and brown for the driest years.

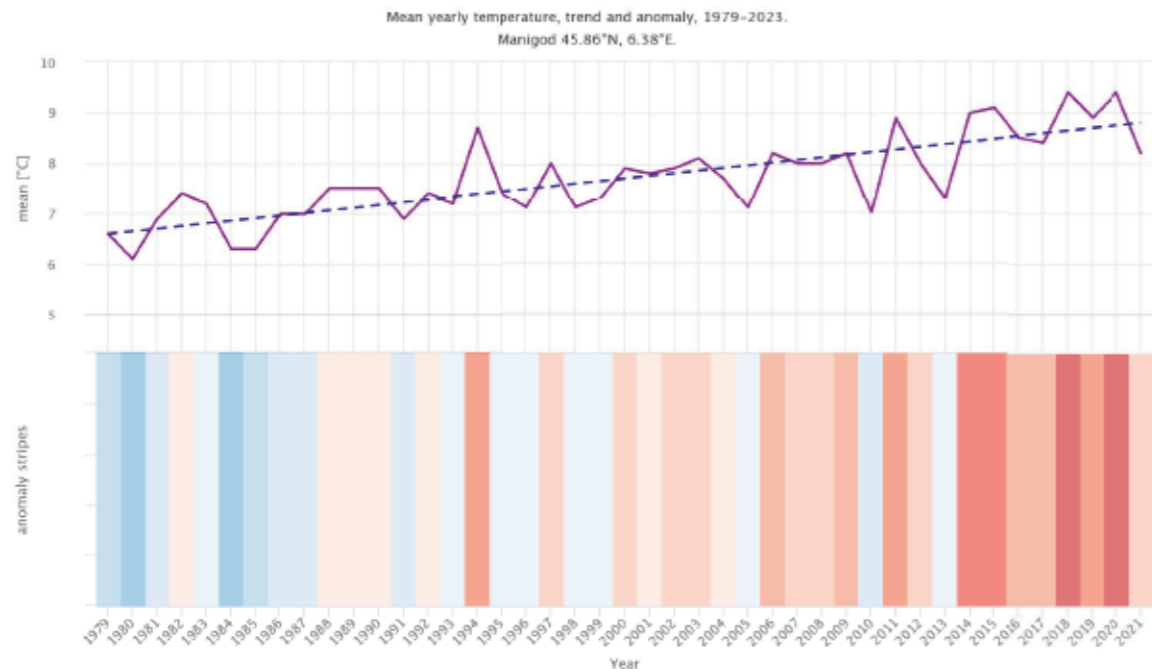


Fig.50 : Average temperatures diagram. Taken from «Climate change Manigod». Meteoblue https://www.meteoblue.com/fr/climate-change/manigod_france_2996205

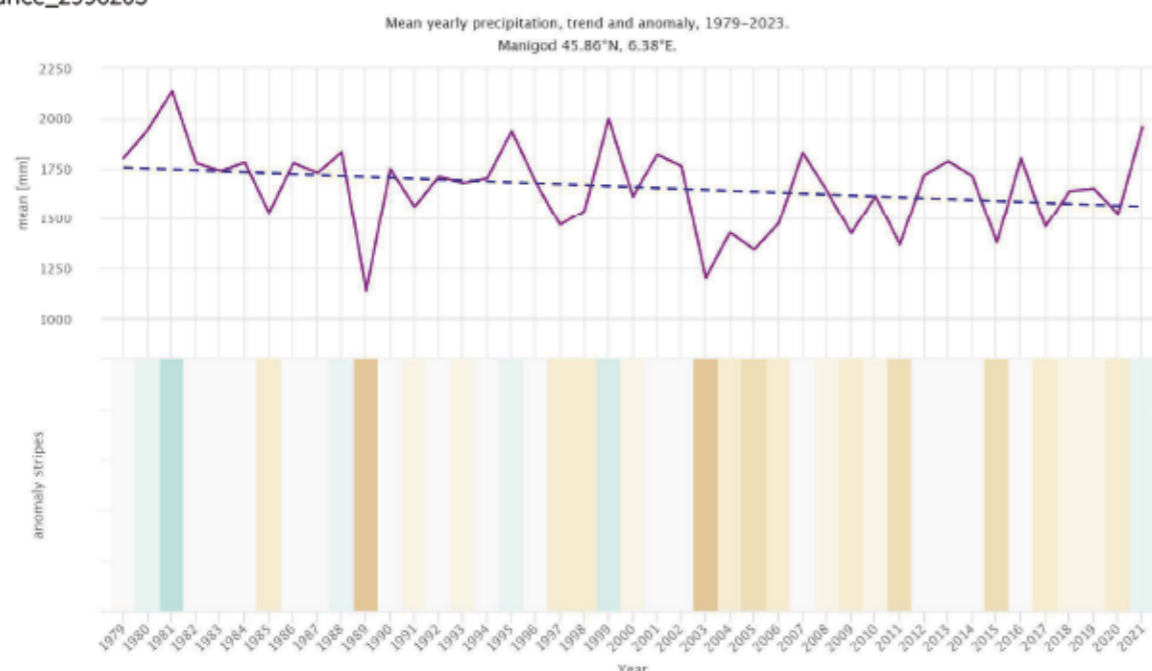


Fig.51 : Average precipitations diagram. Taken from «Climate change Manigod». Meteoblue https://www.meteoblue.com/fr/climate-change/manigod_france_2996205

Appendix 3 - Map of origin of the main materials



1. Insulation : Cellulose Wadding Panel

Company : Biofib

Location : Sainte-Gemme-la-Plaine - 730 km from the site

Product description : https://www.materiaux-naturels.fr/doc/product/n_1013.pdf

2. Vapor Retarder with variable diffusion depending on the moisture content

Company : Intello

Location : Saint-Pierre-en-Faucigny - 34 km from the site

Product description : https://www.materiaux-naturels.fr/doc/product/n_500.pdf

3. Hempcrete

Company : Tradical

Location : Chatillon-le-Duc - 220 km from the site

Product description : <https://www.weber-tradical.com/le-beton-de-chanvre/beton-de-chanvre-chape-isolante/>

4. Rain barrier : Wood Fibre Panels

Company : Steico

Location : Brumath - 460 km from the site

Product description : https://www.materiaux-naturels.fr/doc/product/n_402.pdf

5. Re-use center

Company : Enfin Réemploi

Location : Chambéry - 80 km from the site

Website : <https://enfin-reemploi.fr/>

6. Recycled concrete

Company : Alp'beton

Location : Douvain - 80 km from the site

Website : <https://www.alp-beton.com/>

Appendix 4 - Calculation of the U-value

Roof U-value

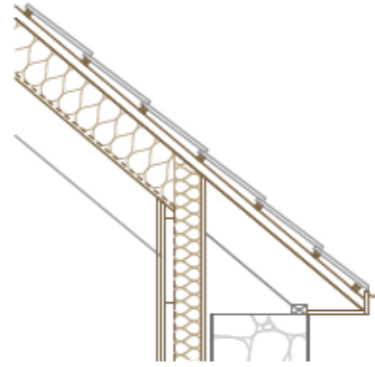
wood panel	$\lambda = 0.140\text{W/mK}$	$e = 0.013\text{m}$
cellulose wadding	$\lambda = 0.042\text{W/mK}$	$e = 0.24\text{m}$
wood fiber panel	$\lambda = 0.100\text{W/mK}$	$e = 0.02\text{m}$

$$R = \sum (e/\lambda)$$

The total thermal resistance R is equal to : 6.18 m².K.W-1

$$U = 1/R$$

The heat loss U is equal to: 0.16 W/m²K



ROOF COMPOSITION

tiles	
lathing	6
rain barrier	2
wood fibre panels	
insulation	24
cellulose wadding panel	
vapor barrier	
wood panel	1
paint	

Wall U-value

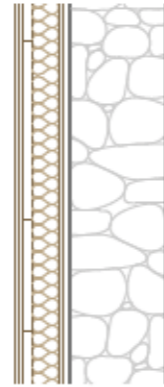
plaster board	$\lambda = 0.250\text{W/mK}$	$e = 0.025\text{m}$
cellulose wadding	$\lambda = 0.042\text{W/mK}$	$e = 0.15\text{m}$
wood fiber panel	$\lambda = 0.100\text{W/mK}$	$e = 0.02\text{m}$
air gap	$\lambda = 0.500\text{W/mK}$	$e = 0.02\text{m}$
stone wall	$\lambda = 1.400\text{W/mK}$	$e = 0.50\text{m}$

$$R = e/\lambda$$

The total thermal resistance R is equal to : 4.44 m².K.W-1

$$U = 1/R$$

The heat loss U is equal to: 0.23 W/m²K



FACADE COMPOSITION

paint	5
plaster board	2.5
frame	5
vapor retarder	
with variable diffusion depending on the moisture content	
insulation	15
cellulose wadding panel	
rain barrier	2
wood fibre panels	
air space	2
stone wall	50/80
lime coating	1

