

Politecnico di Torino
College of Architecture
Master's Degree Course in
"Architecture for Sustainability"
A.A. 2022/2023

Restoration of a Catalan Masia

Les Casetes del Roure, Begues, Barcelona

Candidate:
Eleonora Benetti 287953



Relator: Prof. Daniele Regis
Corelator: Prof. Roberto Olivero



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Abstract

The thesis is driven by the desire to raise awareness and enhance the theme of Catalan masias, typical rural constructions of the territory of northern Spain, and proposes the case study of Les Casetes Del Roure, a masia built in the municipality of Begues, near Barcelona, around 1800. The work develops from a description of Catalunya, its climate, crops and the characters that identify it, and focuses on the study of the Begues area, from which emerges the importance of the Garraf Natural Park, the rocky nature of the landscape, composed of limestone and dolomitic rocks, the prevalence of sown cereal fields, vineyards and olive trees, and the conspicuous number of wooded areas, resulting from the increasing abandonment of agricultural activity. Through a careful analysis of the architectural, compositional and textural elements of Catalan rural architecture, a comparison with contemporary Italian architecture, which shows similarities typical of the Mediterranean area, and an in-depth historical and evolutionary study of the typology of the masia, its close link with the land and place is revealed. Indeed, it is emphasized how in the past these buildings held the role of elements of control and management of the territory, ordering the system of surrounding fields, woods and pastures and at the same time giving rise to a farming and family social organization. The relationship to the landscape is made visible in their construction by the use of local materials, such as limestone extracted from quarries, sand from river beds, lime from the nearest kilns, and wood from forests. A photographic survey of these, which has generated a true atlas, provides insight into the current state in which these artifacts are found and the awareness that nowadays this subtle connection is being lost. The research aims, therefore, to educate about the value of the masia, understood as an agricultural system, and as a sustainable model viable in the present, and to propose a strategy to reintroduce the "fil rouge" between it and its territory. The project for the recovery of Les Casetes del Roure sees, first, the practice of an historical and evolutionary investigation of the ruin, which revealed its stratification process and its dual matrix as a peasant residence and artisanal site, as a furnace for glass production; second, the examination of the belonging context, composed of agricultural fields subdivided by ancient dry stone walls and of the network of paths and connections with the masias in the area. The knowledge attained, in the closing part of the thesis, takes shape and suggests the conversion of the building into a family-run rural farmhouse, in a vision of sustainable and low-density tourism, the redevelopment of the municipality's routes, the insertion of e-bike stations at strategic masias and the repurposing of public and abandoned ones, in order to educate about the natural and architectural heritage. The case study itself, in relation to the wide system of the other artifacts, hosts teaching activities, including educational gardens, and a dedicated space for holding workshops and craft laboratories, in continuity with its past matrix and provides for the reintroduction of pre-existing cultures, ordered by the restoration of the ancient dry stone walls. The same "reconnection" approach is applied to the existing volumes, currently disjointed, through the integration of a patio in the central area, which becomes a unifying lobby and common space and features a glazed roof to recall past glass production. The recovery has been designed with the utmost respect for the existing, with flexible and coherent interventions in the choice of materials and has been guided by the application of principles of sustainability, in terms of construction, finding local materials, of energy, for the reuse of water and the employment of thermal and solar panels, socially for the functional proposal, which promotes inclusion, and of mobility, encouraging the use of bicycles. The project delivers the feasibility of a circular economy farm model of production, consumption and sharing.respect to the landscape.



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Introduction

1 The purpose of this thesis arises from the interest and curiosity in the topic of the Catalan masia, which is very influential and multifaceted in the context of Barcelona and Catalunya. In fact, there has been a widespread trend in recent years towards the refurbishment of these buildings, accompanied by considerable research and demand for rural housing solutions. This has allowed, thanks to refurbishment interventions, in many cases to avoid the abandonment of farmhouses and farmsteads, but very often to the implementation of works without awareness, which do not enhance their memory and nature.

The intent of the paper turns out, therefore, to provide the reader with a complete picture of this architectural typology, the history, the inescapable relationship with the landscape and the soil, the distinctive features, and the appropriate methods of rehabilitation, in the definition of intervention and design tools. The study is first developed from the desire to describe the area in question, highlighting its defining features, its agricultural past, and the naturalistic value, in particular, of the Garraf Natural Park. This is followed by a research regarding the aspects of the rural architecture

of the place and a comparison with the Italian one, then bringing attention to the specific typology of the masia. A photographic atlas of the current state of the masias in Begues, a municipality located in the Baix Llobregat, is selected because it is dotted with the presence of these buildings and is the main destination for architectural restorations. Among them, only a minority today is revealed to be in a state of disuse and abandonment, including the masia of Les Casetes del Roure, which stands out for its peculiar past as a glass furnace and the presence of a well-preserved arch, interpreted as a typological element of great potential. The second part of the work sees the elaboration of a design proposal for this site and its context, which arose from the conscience that emerged in the first section, and which identifies as its main aim the restoration of the memory of the building its reconnection to the landscape. Indeed, as argued in the Krakow Charter, we share the view that: "Landscape understood as cultural heritage results from the prolonged interaction in different societies between man, nature and the physical environment. It bears witness to the evolutionary relationship of society and individuals with their

environment. Its conservation, preservation and development refers to human and natural characteristics, integrating mental and intangible values. It is important to understand and respect landscape characteristics and apply appropriate laws and regulations to harmonize relevant land functions with essential values. In many societies, landscape is historically related to urban territories."¹

The survey, the evolutionary, material and historiographical analysis of the architectural complex in synergy with the territorial studies, clearly highlight the path to be pursued for the refurbishment, which will see the realization of a small rural farmhouse, equipped with artisan workshops and educational activities, and connected in a network of routes and initiatives to the other masías in the area, allowing the enhancement and awareness of the architectural and natural heritage.

¹ "Charter of Cracow 2000. Different types of built heritage, Article 9.", <https://www.triestecontemporanea.it/pag5-e.htm>



“There is nothing more fragile than the balance of beautiful places. Our interpretations leave even the texts intact, they survive our comments; but the slightest careless restoration inflicted on stones, a paved road contaminating a field where grass had been sprouting peacefully for centuries create the irreparable. Beauty recedes; authenticity as well.”²

Marguerite Yourcenar

² Yourcenar, Marguerite. *Memorie Di Adriano. Seguite Da Taccuini Di Appunti*. EINAUDI, 2014



The local territory

Catalunya and the Baix Lobregat

Catalunya is a region and autonomous community in Spain with a great diversity and wide variety of landscapes, a consequence of centuries of human activity. The term landscape refers to a historical, socio-economic and cultural phenomenon with a physical and natural basis. On the one hand, production techniques, which enable the exploitation of land resources; on the other hand, social relations, which regulate access to them and organize their exploitation, conditioning human action and effect on the environment. Thus, for example, in the mountain context, pastures and forests are communally owned and collectively used, while in places where ownership is private they are individually managed. In other words, the environment always depends on the gaze of the people who observe and interpret it. For all that, these are not static realities, but in a continuous process of transformation and change. Architectural elements, and especially those with traditional roots, are a means of relating to the surrounding space and at the same time are also the result of this relationship. People interact with the context through constructions, adapting to it, according to their needs. Therefore, constructions dealing with natural exploitation have wide repercussions in the physiognomy of landscapes and are one of their most significant features.³

The region is located in the northeastern part of the Iberian Peninsula. Its capital is the city of Barcelona and ranks second to Andalusia in population, with 7,727,029 inhabitants in 2020.⁴

Industrial, commercial and tourist activities predominate; in particular, textile, mechanical, metallurgical, chemical and petrochemical industries are of greater importance. Agriculture takes a lesser role than secondary and tertiary activities, but is more developed in the provinces of Tarragona and Lérida.⁵

With an area of 32,107 square kilometers, Catalonia features a highly varied and compartmentalized orography, with mountain ranges running along the coast, depressions in the interior, peaks reaching 3,000 meters in the Pyrenees and, 250 kilometers to the south, a delta into which one of the country's most impressive rivers, the Ebro, flows. At the meeting of the Pyrenees and the Mediterranean Sea begins the 214-kilometer-long Costa Brava, full of rocky areas with numerous inlets and wide beaches in the Gulf of Roses and Estartit-Pals. The coastline, in total, measures 547 kilometers in length.

Such varieties of territories and contexts influence climatic characters. Winters can be defined as mild and summers as hot and dry, and there are large temperature variations between the inland plains and the coast. During cold periods the average temperature is around 6 to 7 degrees, while in early spring it is between 11 and 13 degrees and rises to 17 in May. During the summer it goes from 24 degrees in June, July and August to 20 in September, and in the fall it drops, with 17 degrees in October and 11 in November. However, along the coasts and in the inland plains these temperatures are higher in

3 Van Geert, Fabien, and Ferran Estrada Bonell. "CONSTRUINT EL TERRITORI. Arquitectura Tradicional I Paisatge a Catalunya. CATÀLEG DE L'EXPOSICIÓ." Generalitat de Catalunya, Departament de cultura, https://cultura.gencat.cat/web/.content/cultura_popular/05_documents_i_recursos/04_exposicions_itinerants/Construint_territori/SD_Construint_territori.pdf

4 "Catalonia." En [wikipedia.org/wiki/Catalonia#/media/File:Cataluna_in_Spain_\(including_Canarias\).svg](https://en.wikipedia.org/wiki/Catalonia#/media/File:Cataluna_in_Spain_(including_Canarias).svg).

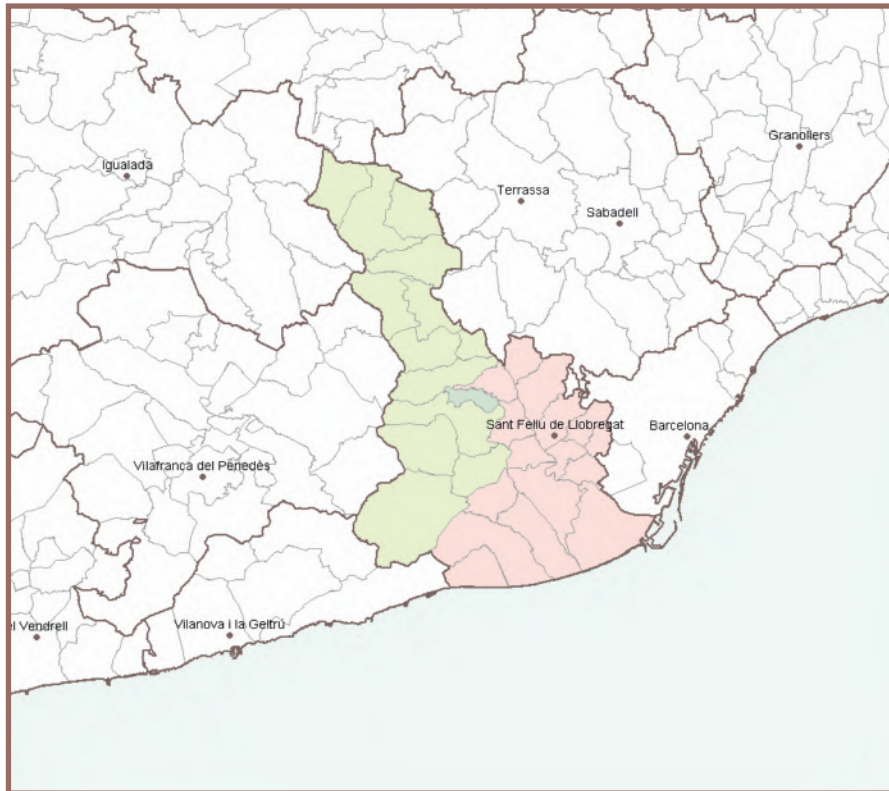
5 "Catalogna Nell'Enciclopedia Treccani." Treccani, www.treccani.it/enciclopedia/catalogna/.



Catalunya region in the Iberian Peninsula.

summer, often reaching 30 degrees. In winter, on the other hand, in the Pyrenees and central depression they are found to be considerably lower. Precipitation is also very erratic, with heavy snowfall on the Pyrenean peaks starting in December, which usually continues until the spring season⁶.

⁶ "Territorio Y Población." Gencat.cat, web.gencat.cat/es/temes/catalunya/coneixer/territori-poblacio/.



Localization of Baix Llobregat.⁷

“Baix Llobregat (Catalan for “Lower Llobregat,” referring to the river of the same name; Spanish for Bajo Llobregat) is one of Catalunya’s 41 comarcas, with a population of 757,814 and an area of 485.7 square kilometers. Its capital is Sant Feliu de Llobregat. Administratively, it is part of the province of Barcelona, which includes 11 comarcas.”⁸

⁷ “MUC Mapa Urbanístic de Catalunya. Dades Bàsiques Municipals i Comarcals Baix Llobregat MUC Mapa Urbanístic de Catalunya.” Generalitat de Catalunya Departament de la Vicepresidència i de Polítiques Digitals i Territori, Oct. 2022, https://territori.gencat.cat/web/.content/home/06_territori_i_urbanisme/07_observatori_territori/mapa_urbanistic_de_catalunya/mapes_dades_indicadors/dades/baix_llobregat.pdf

⁸ “Baix Llobregat.” Wikipedia, 20 Dec. 2021, it.wikipedia.org/wiki/Baix_Llobregat.



The Garraf Natural Park

"The Garraf Natural Park is located between the districts of Baix Llobregat, Alt Penedès and Garraf, in the southwest sector of the Serralada Litoral Catalana. Its boundaries are represented by the lower Llobregat valley, the Mediterranean Sea and the Penedès depression."¹⁰ The total area of the park reaches 12,820 hectares, the majority of which is included within the municipality of Begues. The natural site is composed of two geologically distinct sections: one characterized by limestone and dolomitic rocks and a small band of reddish sandstones, located in the eastern area of the park. In general, we can call it a rocky landscape, distinguished by numerous underground cavities, generated by erosion exerted by water on limestone. There are also some dry streams embedded in the rocks, which are called "fondos". The highest peaks correspond to Morella (594.6 m) and Rascler (572 m).

The vegetation that distinguishes the area consists, mainly, of Mediterranean maquis, holm oaks, pine forests, undergrowth, grasslands and, in many places, is covered with bare rock. The location, near the coast, influences the climate, which can be defined as typically Mediterranean. Rainfall is low, but tends to become torrential in the spring and winter period. Summers, on the other hand, being hot and dry, determines the presence of a small number of animal species. Likewise, plants and vegetal species to adapt tend to develop specific adjustments and forms of resistance. Due to soil characteristics, there has been a gradual abandonment of agricultural activity, increasing the likelihood of the occurrence of fires, due to the spread of steppes, grasses and pines distributed in fallow land and pastures.¹¹

10 Ajuntament de Begues. "El Parc Del Garraf." Ajuntament de Begues, www.begues.cat/begues/llocs-dinteres/el-parc-del-garraf/#prettyPhoto.

11 "Parcs de Catalunya Xarxa de Parcs Naturals Parc Del Garraf. Paisaje." Parcs.diba.cat, Diputació de Barcelona, parcs.diba.cat/es/web/garraf/paisatge.





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Typical rocks.¹²

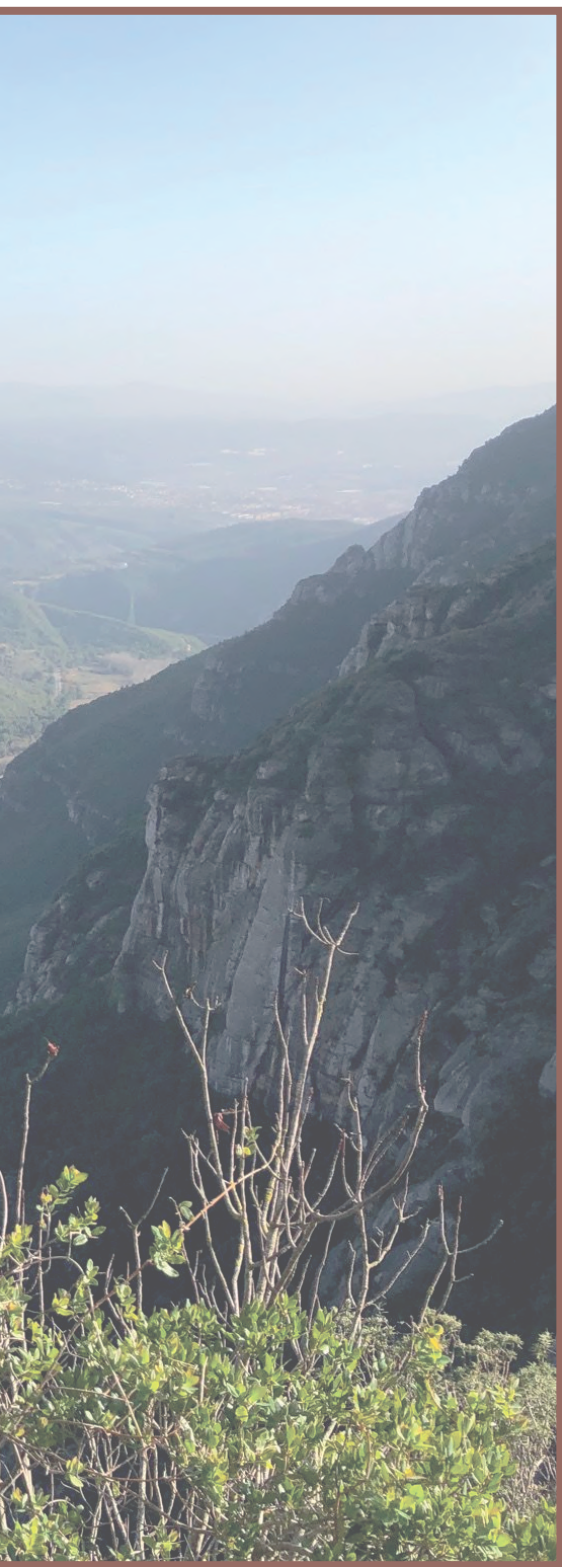
“The park has been twinned with the Monte Soratte Nature Reserve since 2000 and with the Maremma Nature Park since 2001. The collaboration agreement between the Garraf Natural Park and the Monte Soratte Nature Reserve led to the twinning of two municipalities in both parks: Begues, on the Catalan side, and Sant’Oreste, on

the Italian side.”¹³ The main objective of park management is, through participatory and consensual formulas, to respect its special plan by ensuring the preservation of natural and cultural values, respectful public use of the mountains, and cultural, pedagogical, scientific and socioeconomic needs.

¹² “I migliori sentieri della fauna selvatica in Parc del Garraf”, AllTrails, <https://www.alltrails.com/it-it/parchi/spain/barcelona/parc-del-garraf/wildlife>

¹³ “Parcs de Catalunya Xarxa de Parcs Naturals Parc Del Garraf. Paisaje.” Parcs.diba.cat, Diputació de Barcelona, parcs.diba.cat/es/web/garraf/paisatge.





01

The municipality of Begues

The municipality of Begues occupies an area of 50.44 square kilometers, of which 4,659, 92.4 percent of the total, are classified as undevelopable land. Of these, 2,949 are part of the “Special Plan for the Protection of the Physical Environment and Landscape of the Garraf Natural Area” (PENG). It constitutes the largest municipality in the Baix Llobregat region and is positioned in the center of the Garraf massif. The built-up area is located in a flat area, bordered by the natural areas of the Garraf and Ordal mountains, and as for the other municipalities, with Olivella to the west, Olesa de Bonesvalls and Torrelles de Llobregat to the north, Sant Climent de Llobregat and Gavà to the east, and Sitges to the south. The census dating back to 2010, reports a population of 6,408. Geomorphologically, the district is part of the Serralada Coastal, which has a Paleozoic basin of laminar-textured materials. They are manifested on the route from Gavà to Begues, where limestone levels alternating with red sandstones, conglomerates and argillites, limestones and dolomites, remarkably karstified, can be observed. As already anticipated, the mountainous character of the territory prevails, with peaks up to 600 and 650 m above sea level, interrupted only by the plain on which the municipality is located, at an elevation of about 400 m.

Also of note is the presence of the Begues creek basin, which has a clear east-west orientation and is in turn part of the Torrelletes and Salom creeks used for forestry. Together they form the broad valley, called Poljé de Begues.¹⁵ The rural origin of the area makes it possible to locate a significant number of farmhouses on undeveloped land, mostly located in lowland areas, but also in sites far from the municipal territory, within the Natural Park. Such buildings possessed, especially those furthest from urban centers, a clear function of colonization and custodianship of the land, which in many cases ensured the preservation of the natural and/or rural environment. As a result of the above, the Special Plan of the Catalog of Farmhouses, Countryhouses and other Constructions is seen as an opportunity for Begues to strengthen its social and natural functions and, at the same time, to allow the regulation of actions against the artifacts placed on the municipality's undevelopable land.¹⁶



¹⁵ Ajuntament de Begues. "El Municipi." Ajuntament de Begues, www.begues.cat/begues/el-municipi/.

¹⁶ Vallhonrat, Espasa, and Eduard Fenoy Palomas. *Pla Especial de Catàleg de Masies, Cases Rurals i Altres Edificacions En SNU de Begues*. Begues, Ajuntament de Begues, 2013.

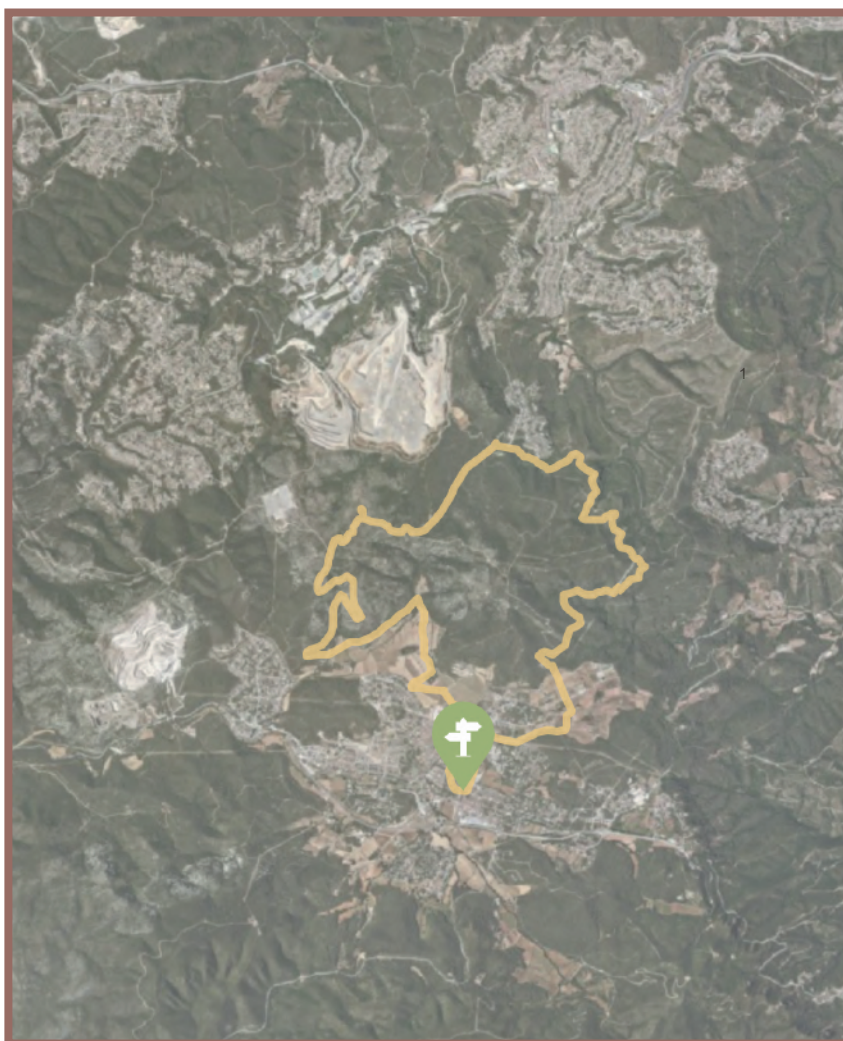


The trekking route of the masias of Begues

The circular walking and biking route, proposed by BEC-CEB and cataloged as PR-C 160 by FEEC, crosses the agricultural plain of Begues, passing some farmsteads, to head towards Vallirana, in the Ordal Mountains sector. There are views of the municipality, Vallès and Baix Llobregat. In the high areas, elements of karst relief, such as potholes and sinkholes, stand out. On the plains, farms and fields, hallmarks of an agricultural past that still endures. Among the elements that dot the route: the church of Sant Cristòfol, the farms of Can Martí and Can Pau, with their sundials. The latter features a centuries-old holm oak in the courtyard. A few meters later is the Can Sadurní masia, surrounded by a postcard of vineyards, fruit trees and cereals. Next, the chasm of Can Sadurní, the plain of the Ossos gorge, with karst features in which the large doline of the Les Alzines gorge can be glimpsed. Then, the cross of Ardenya, towards the plain of Ardenya, where the presence of pines among the dominant mass of Aleppo pine is noticeable. One rounds the Sierra del Mas, noting a ruined farmstead. One then descends to the farmstead Les Fonts (the fountains), finding the first fountain under a walk of shady plane trees. Returning toward Begues, new views open up to Montserrat and a bird's eye view of the city of Barcelona.¹⁷










¹⁷ "Ruta de Les Fonts (PR-C 160) - Senderismo Autoguiado." Naturalocal.net, naturalocal.net/es/rutas-btt-catalunya/rutas-btt-barcelona/rutas-btt-begues/ruta-de-les-fonts-pr-c-160#ficha.



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Circular route.¹⁸

 TIPOLOGY Circular	 DIFFICULTY Easy/ medium	 DURATION 2 h/4 h	 SLOPE 325.00 m
 DISTANCE 14.80 km	 THEME Landscape Architecture Geology	 ACTIVITIES Biking On foot	

¹⁸ "Ruta de Les Fonts (PR-C 160) - Senderismo Autoguiado." Naturalocal.net, naturalocal.net/es/rutas-btt-catalunya/rutas-btt-barcelona/rutas-btt-begues/ruta-de-les-fonts-pr-c-160#ficha.



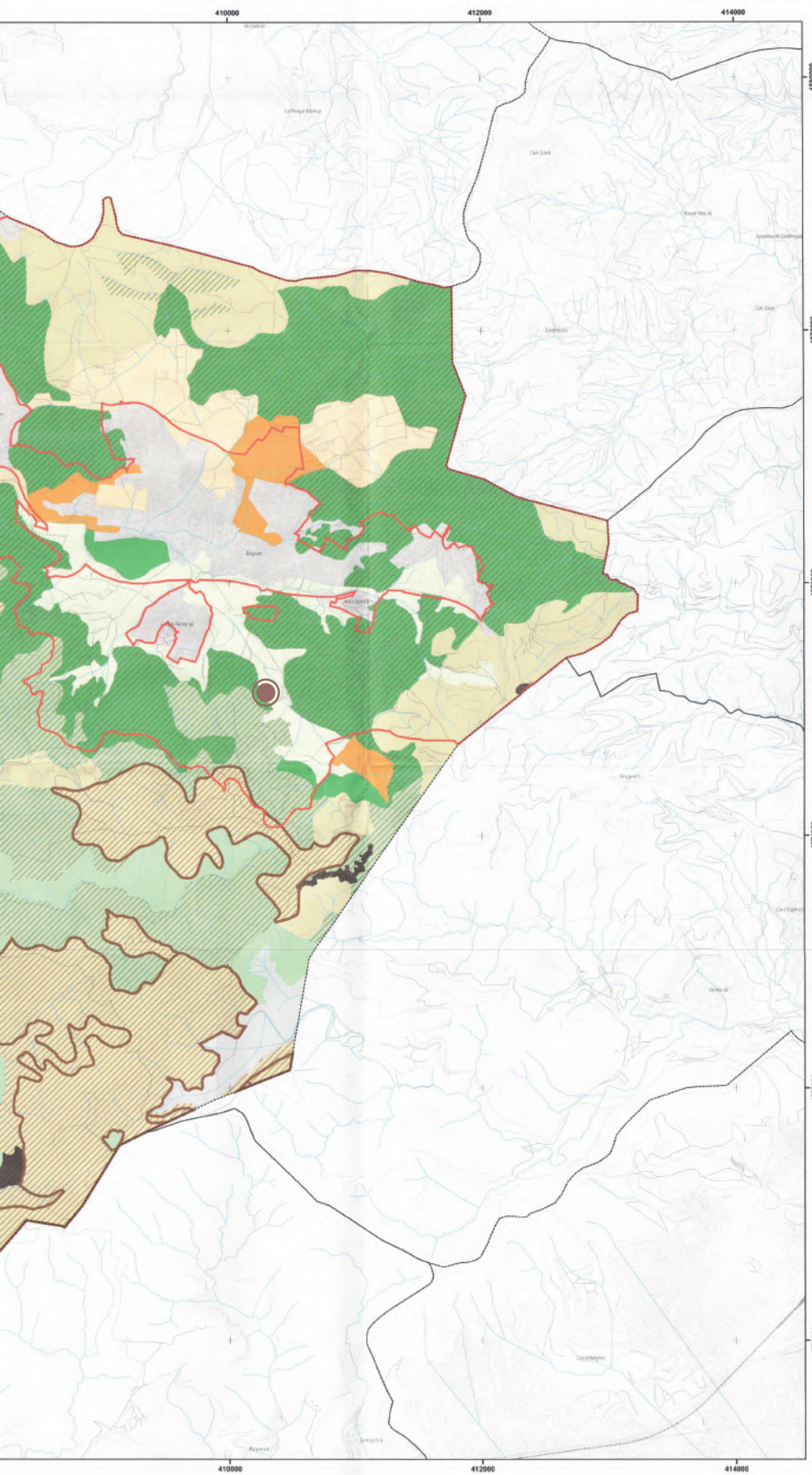

















01

Analysis of the case study geographical context

The following is an analysis of the territory of Begues through the information Plans made by the municipality. These allow the acquisition of several relevant information for the project, which concern the uses of open spaces and infrastructures. Specifically, they respectively represent: the types of outdoor environments and natural areas; land uses; environmental hazards of different areas of the municipality; roads and infrastructures; mining activities; hunting activities; and areas of potential restoration for agricultural use.

20 "RPUC - Registre de Planejament Urbanístic de Catalunya." Dtes.gencat.cat, 2009, dtes.gencat.cat/rpucportal/AppJava/cercaExpedient.do?reqCode=veureDocument.

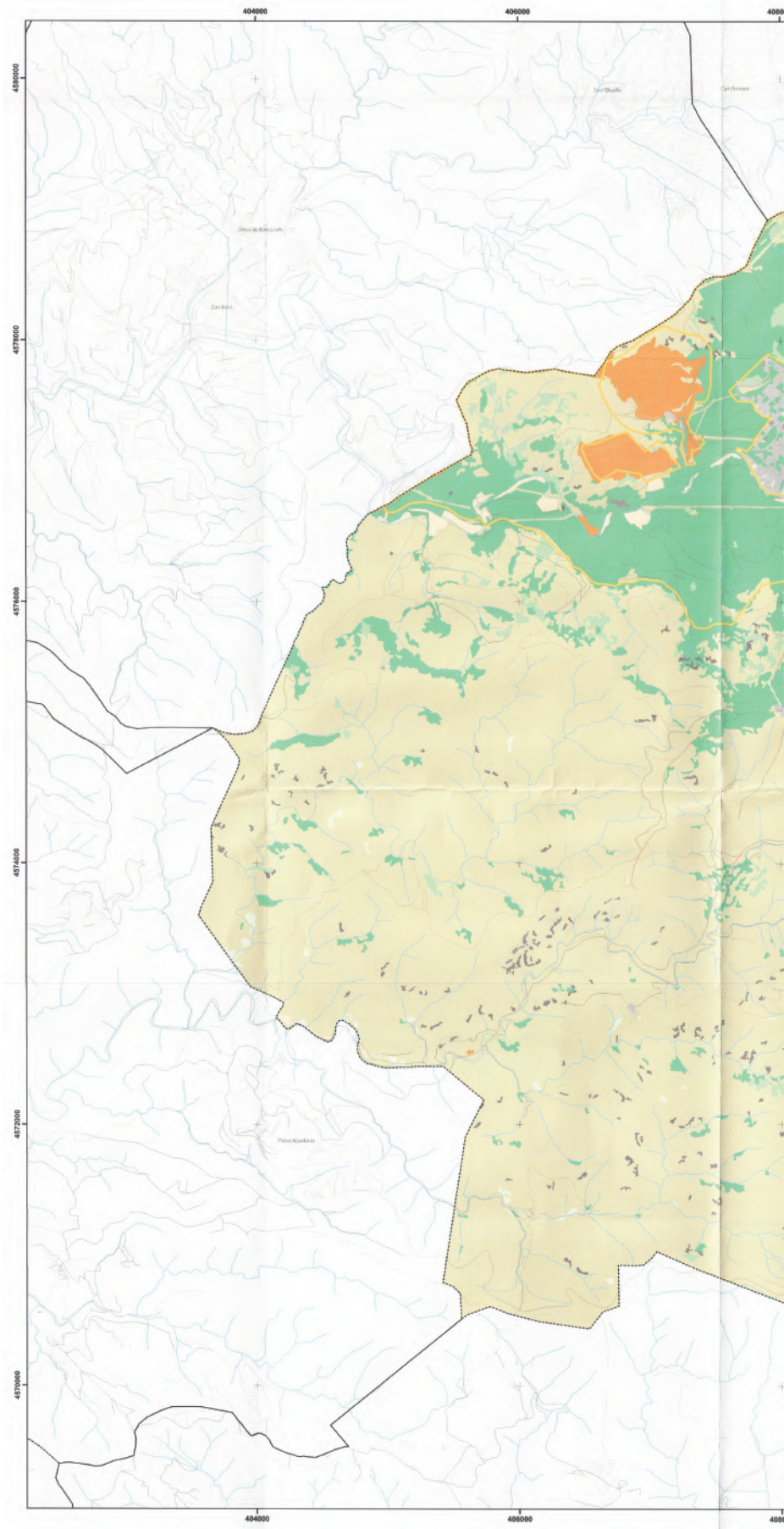


-  Scope of modification
-  Broadleaf forests
-  Sclerophyll and laurel forests
-  Mountain forests and mosses
-  Mediterranean woodlands
-  Abandoned fields
-  Cities, towns and industrial areas
-  Herbaceous crops
-  Tree crops
-  Grassland
-  Rocks
-  Areas of community interest
-  Areas of priority community interest
-  Municipal boundaries
-  Les Casetes del Roure

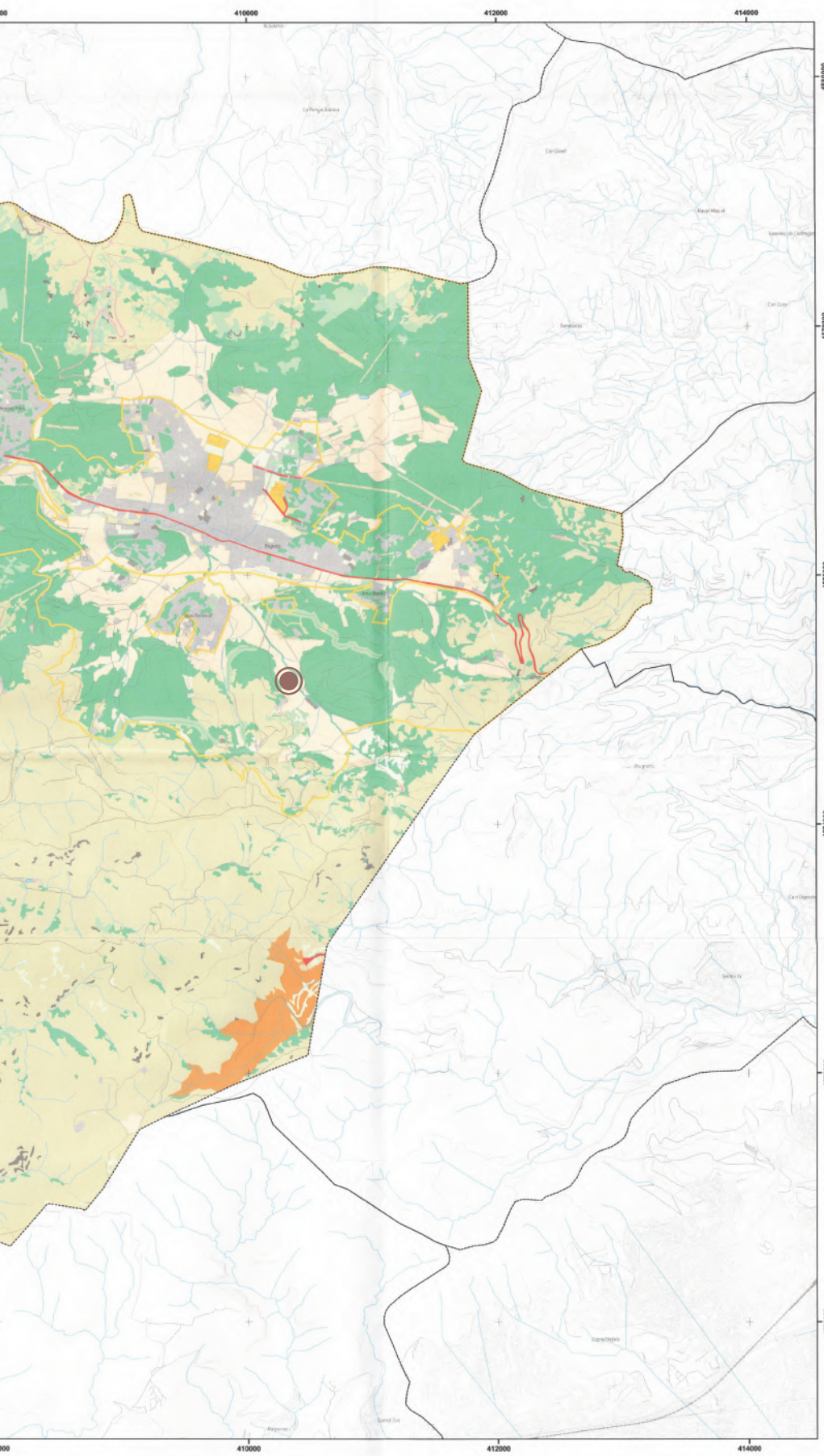


Land use map²¹

This map indicates the presence of several canals in the municipality that facilitate agricultural irrigation and an additional activity of significance, such as mining, practiced in two macro-areas. These are mountainous areas in characterized by limestone rocks, rich in silica. Again, rural and natural prevalence is observed over urbanized. The main cultures prevalent in the municipality are vineyards and cereals. The presence of a single main thoroughfare is evident, around which the urban center of Begues has developed. The closest urbanized center to the masia Les Casetes del Roure is represented by the residential nucleus of the masia Mas Ferrer. Finally, it can be seen that the surrounding area is characterized by grasslands and, as already mentioned, wooded areas.



21 "RPUC - Registro de Planeamiento Urbanístico de Cataluña." Dtes.gencat.cat, 2009, dtes.gencat.cat/rpuportal/AppJava/cercaExpedient.do?reqCode=veureDocum.



Scope of modification



Light forests



Dense woodlands



Canals



Crops



Groves



Grasslands



Rocky areas



Forest soil



Urban soil



Gravel



Communication routes



Mining areas



Sports and recreational areas



Municipal boundaries

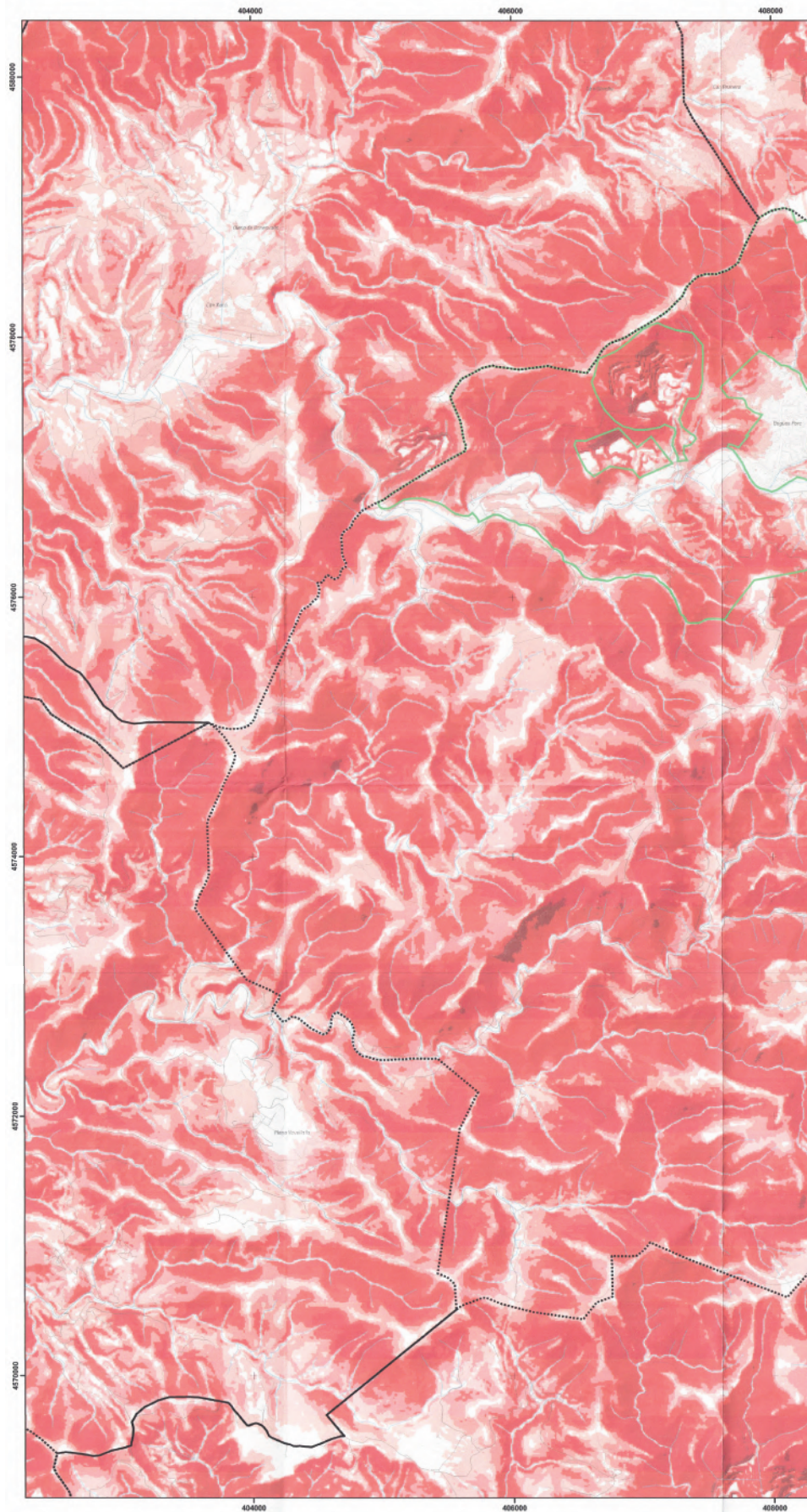


Les Casetes del Roure

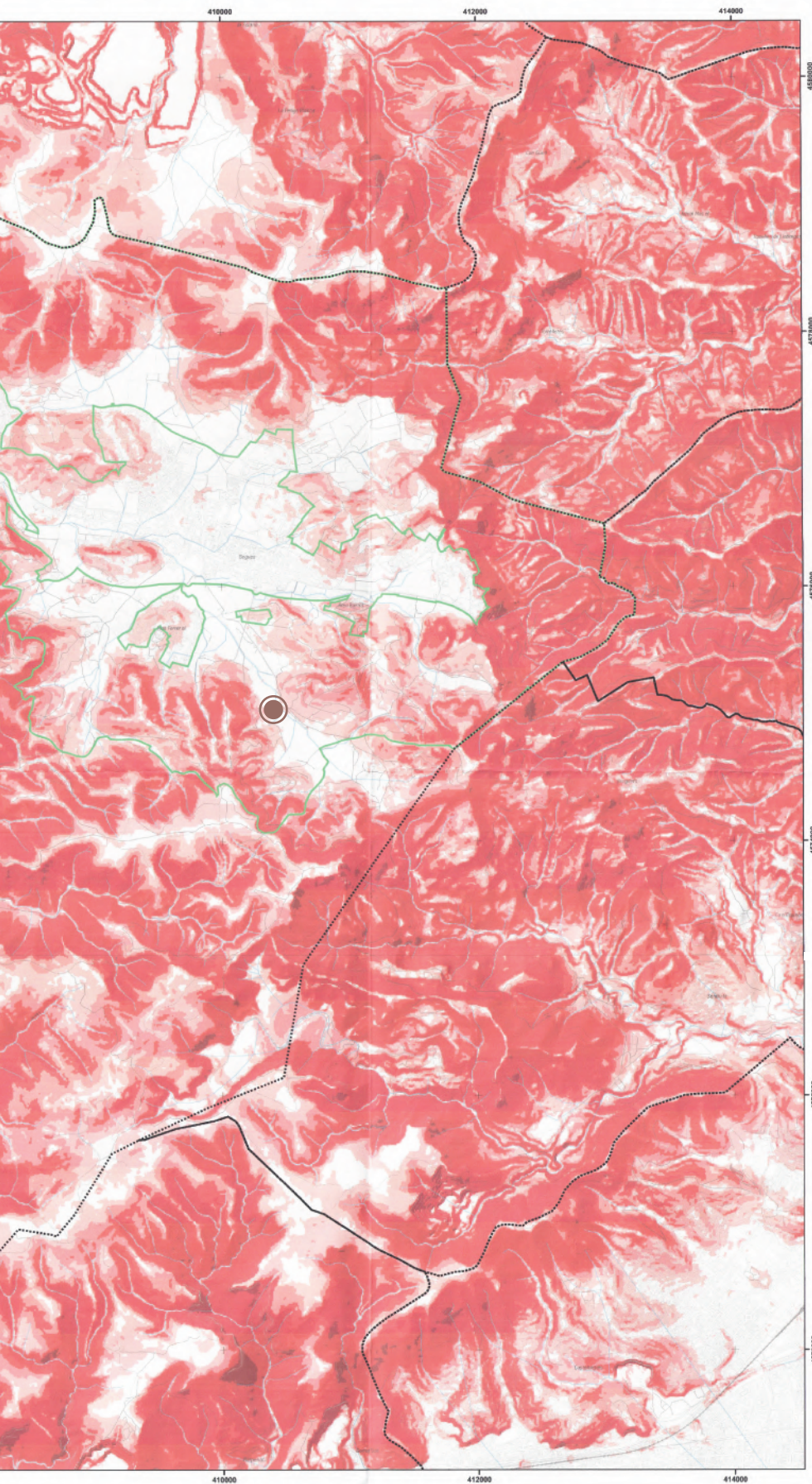



Map of environmental risks²²

The analysis shows that the urban area is the one with the lowest environmental risk, since it is located in the only plain in the site. The surrounding area of mountainous character, on the other hand, has a higher ambient risk, which must be taken into account in the design phase. As indicated, Les Casetes del Roure is located in a semi-flat area of grasslands and vineyards and is studded with two hilly areas, where environmental risks increase, therefore. In particular, the greatest hazard is highlighted in the area west of the masia.



²² "RPUC - Registro de Planeamiento Urbanístico de Cataluña." Dtes.gencat.cat, 2009, dtes.gencat.cat/rpucportal/AppJava/cercaExpedient.do?reqCode=veureDocum.



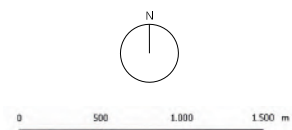
 Scope of modification

Percentage



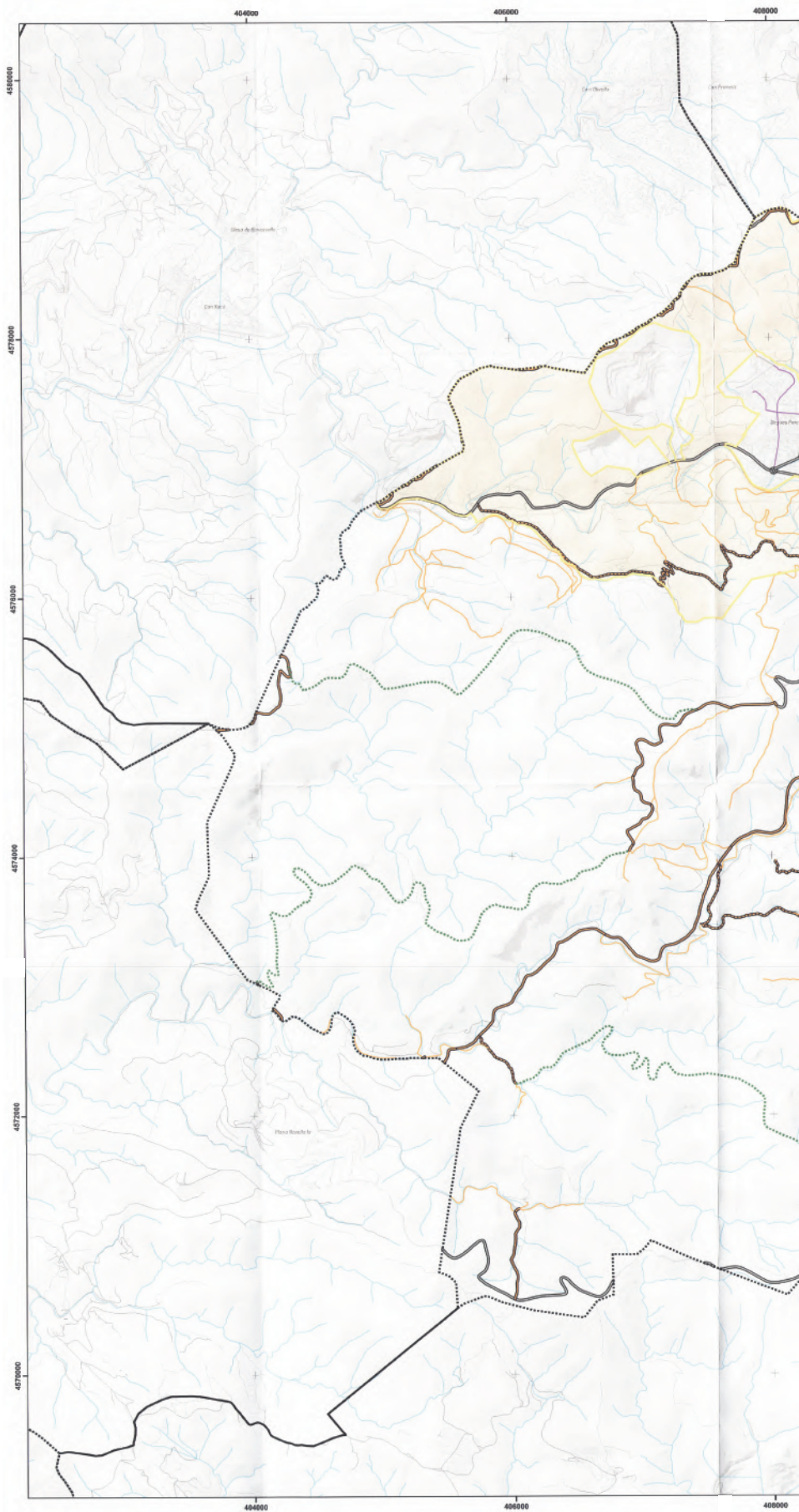
 Municipal limits

 Les Casetes Del Roure

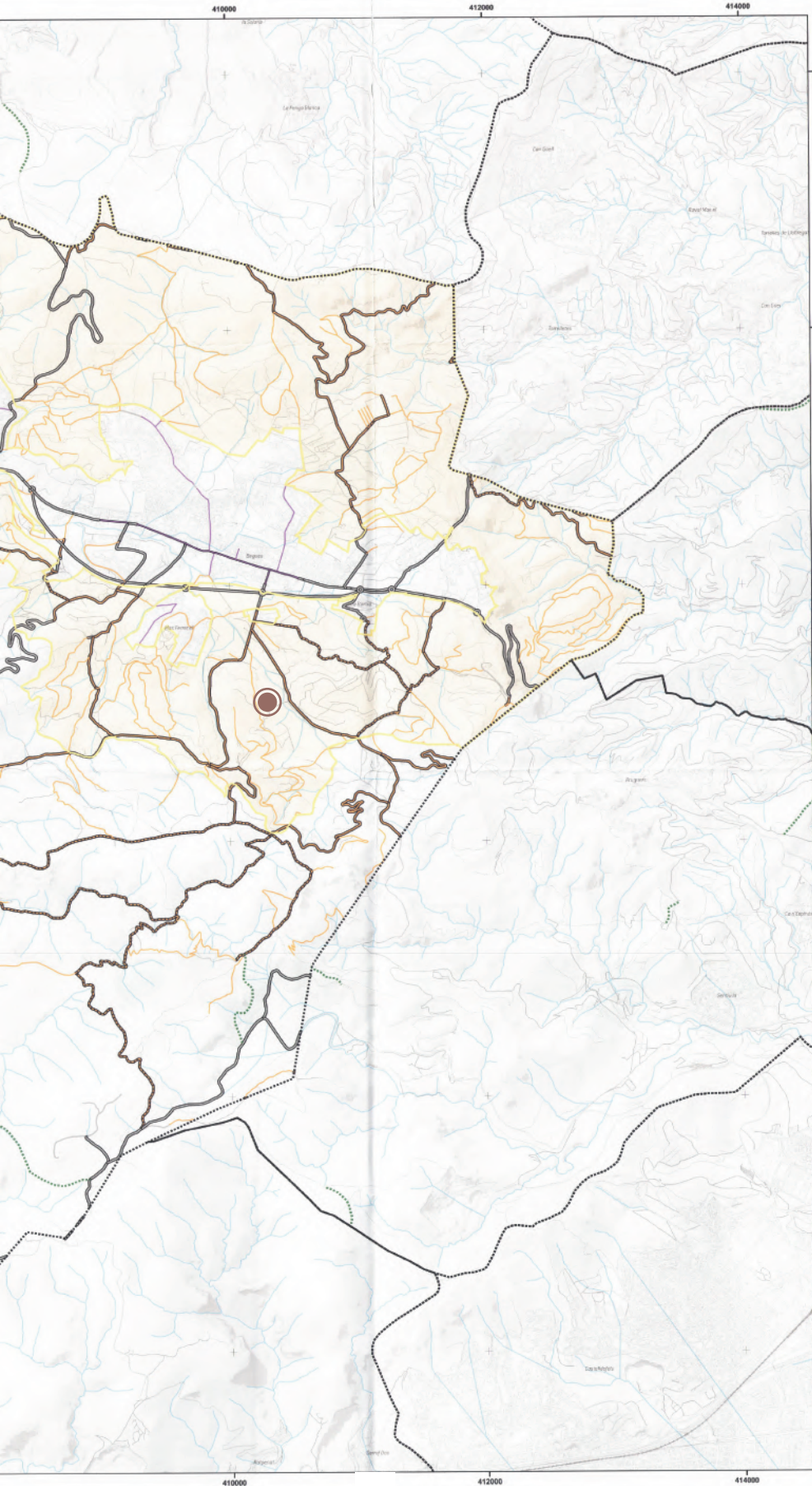


Viability²³

With regard to roads, minor roads and roads of the XVB in arrangement are predominantly distinguished, and one main paved road is noted to run through the municipality. The term in arrangement means unpaved dirt roads, revealing the poor accessibility of rural residences outside the municipality. From the location of the Casetes del Roure we see that the access road is unpaved and connects to a minor paved road, which in turn leads to the main Begues road. Thus, the site has reduced accessibility, but is at the same time easily accessible by car from the built-up area of Begues and in prossemity of the main services.



23 "RPUC - Registro de Planeamiento Urbanístico de Cataluña." Dtes.gencat.cat, 2009, dtes.gencat.cat/rpucportal/AppJava/cercaExpedient.do?reqCode=veureDocum.



Scope of modification



Road network



Highway expressway



XVB freeway or expressway



Road or paved route



XVB road



Road of XVB in arrangement



Minor roads



Minor roads of the XVB



Minor roads of the XVB in arrangement



Paved urban streets



Minor roads under construction



Municipal limits



Les Casetes Del Roure

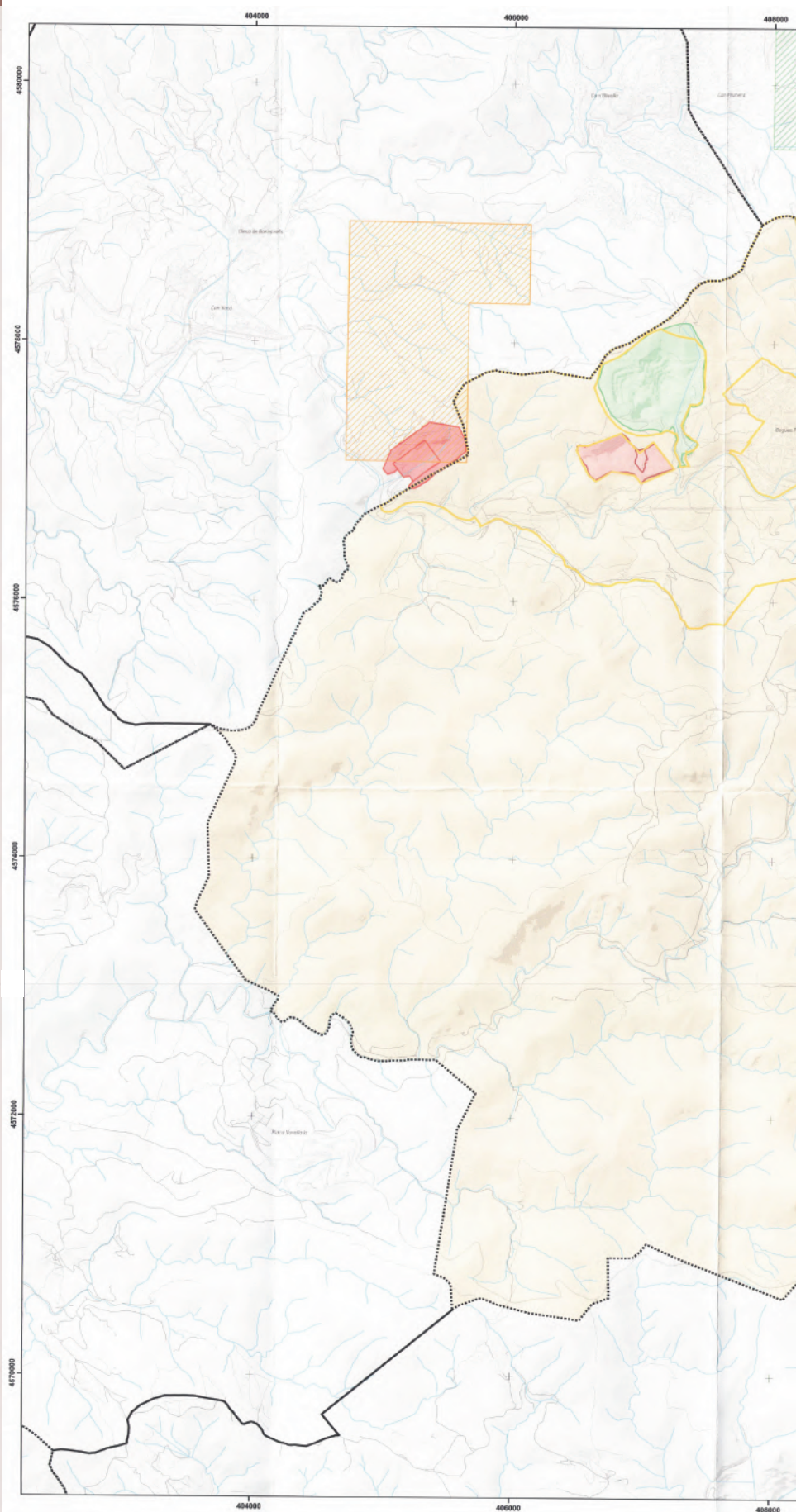
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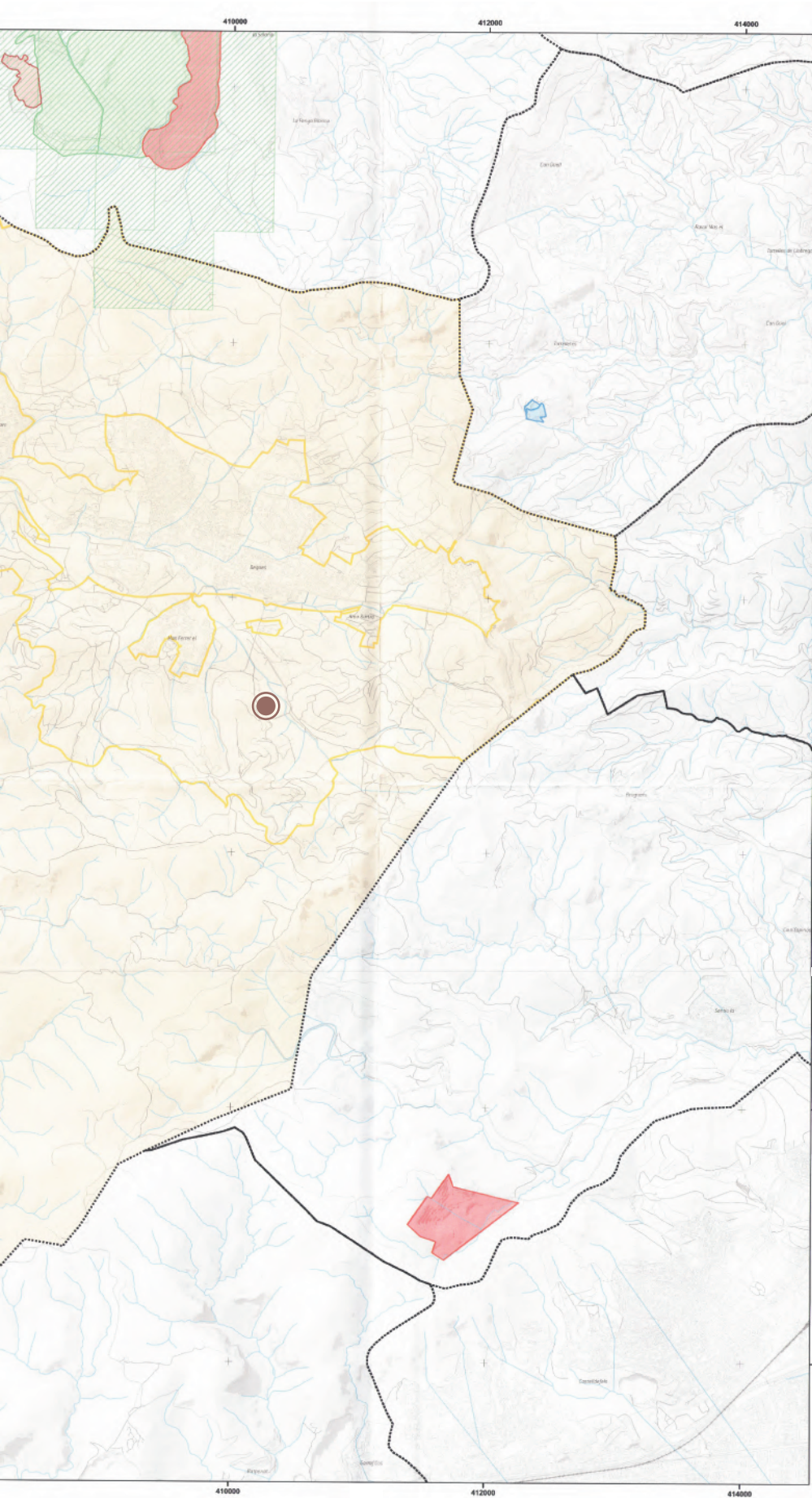
0 500 1.000 1.500 m


Map of mining activities²⁴


The map shows how the area is characterized by the practice of mining activities. They are located outside the inhabited municipality and in mountainous areas of limestone nature, for this reason they do not prove to be invasive with respect to urbanized land. The abundance of limestone resources justifies the rise, in the mid-1800s, of three glass-burning furnaces within the municipality, one of which is located right in the Casetes del Roure. It is pointed out, how the quarries are located in areas distant from the masia in question. It is assumed that the source used for the ancient furnace was the one closest to the town of Begues, located northwest of Les Casetes.





²⁴ "RPUC - Registro de Planeamiento Urbanístico de Cataluña." Dtes.gencat.cat, 2009, dtes.gencat.cat/rpucportal/AppJava/cercaExpedient.do?reqCode=veureDocum.





 Scope of modification

 Mining activities

 Activities pending regularization

 Activities in place with integrated restoration

 Activity in place with restoration not begun

 Activity incorporated into new operation


 Activity completed

 Activity not begun

 ATORGAT

 TRAMIT

 Municipal limits

 T.M de Begues

 Les Casetes Del Roure

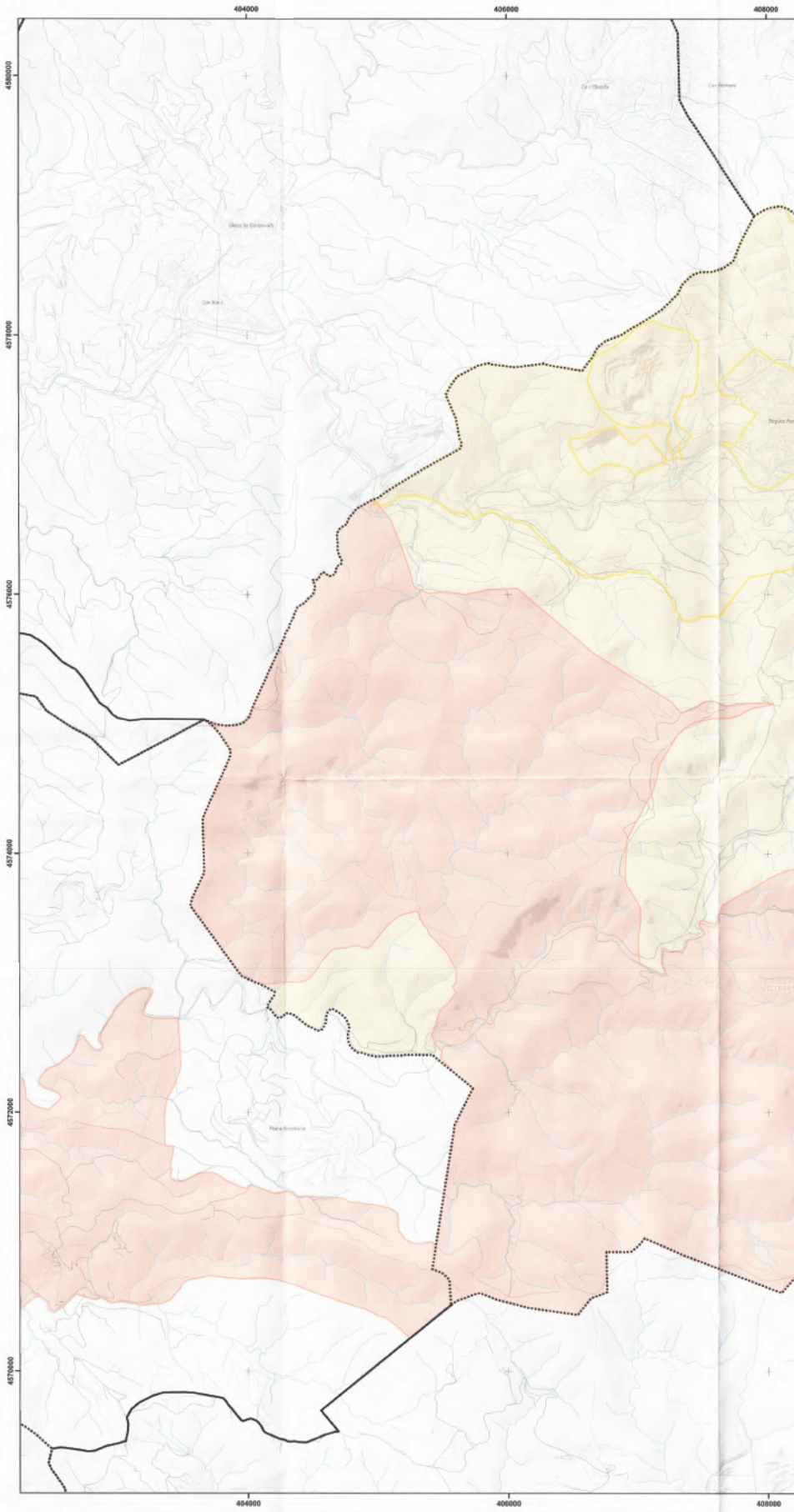
30



0 500 1.000 1.500 m

Map of hunting activities²⁵

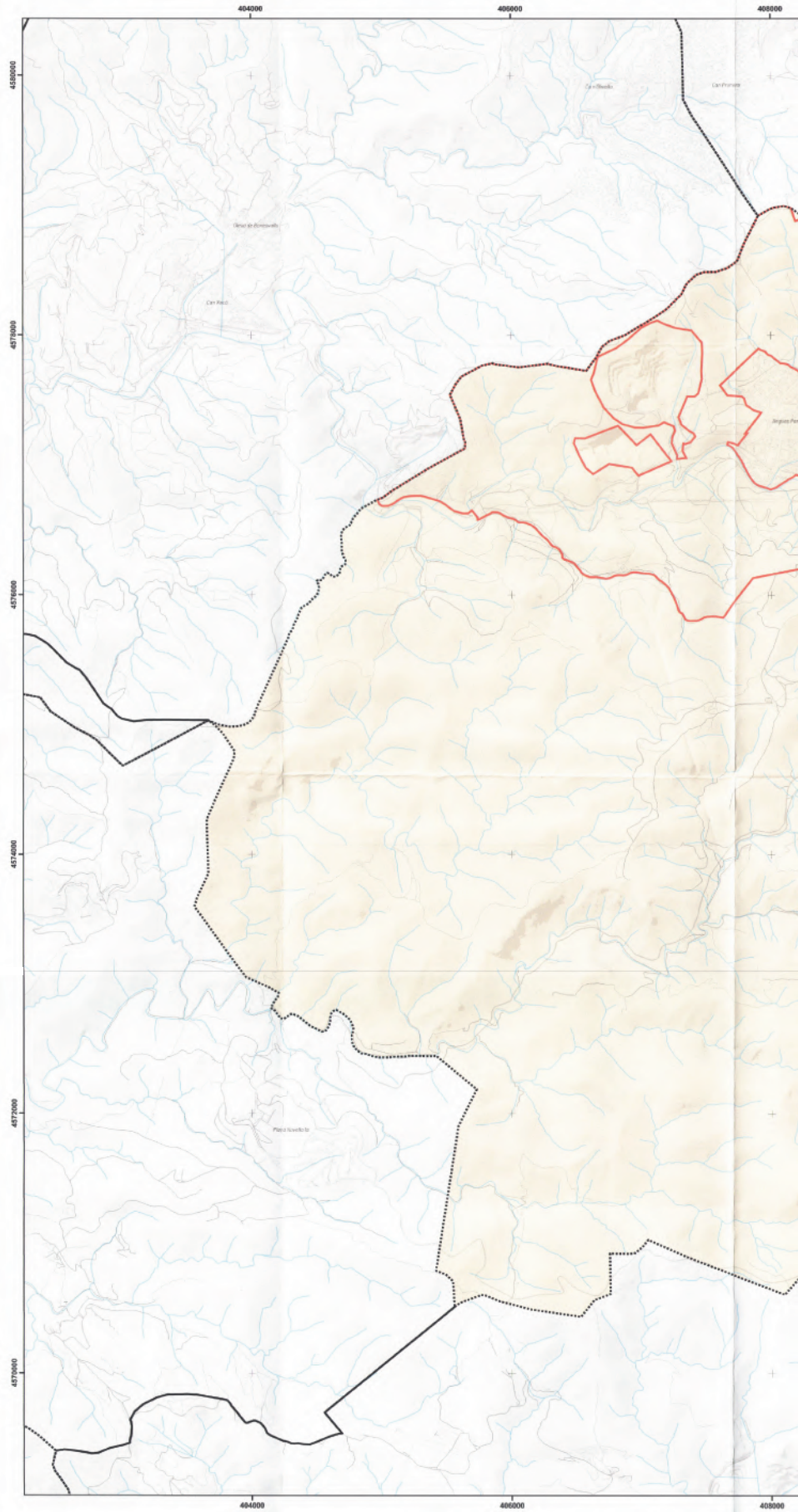
The area where hunting is practiced is considerably extensive and denotes the rural and forested predominance of the municipality. It is located outside the municipal area and at a distance from population cores in the commune and, in particular, in the area southwest of the commune of Begues. Les Casetes del Roure are not located within the hunting area, despite being located near numerous forests and grasslands.



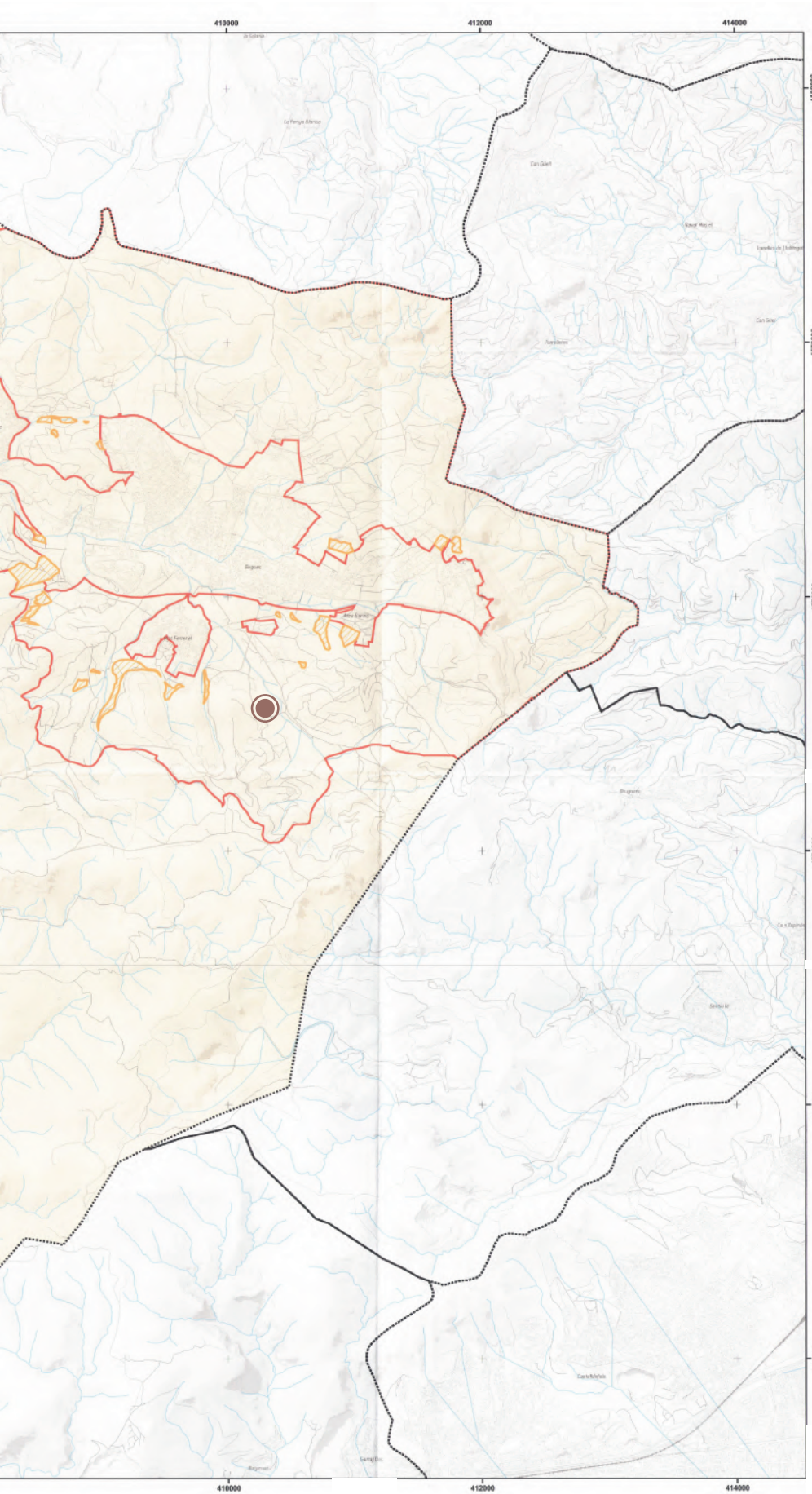
25 "RPUC - Registro de Planeamiento Urbanístico de Cataluña." Dtes.gencat.cat, 2009, dtes.gencat.cat/rpuportal/AppJava/cercaExpedient.do?reqCode=veureDocum.






Map of areas of potential recovery²⁶

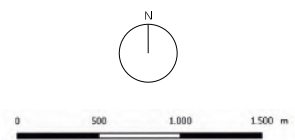
This map is interesting because it shows areas of potential agricultural recovery and manifests the municipality's desire to recuperate the agricultural matrix of the area. These are formerly cultivated fields that nowadays are in a state of disuse and are easily accessible through the infrastructure in the area. Their disused state corresponds to that of the masias and the growth of the tertiary sector that has affected Catalunya in the last century. The interested areas closest to the masia Les Casetes are those pertaining to the Mas Ferrer.



26 "RPUC - Registro de Planeamiento Urbanístico de Cataluña." Dtes.gencat.cat, 2009, dtes.gencat.cat/rpuportal/AppJava/cercaExpedient.do?reqCode=veureDocum.



-  Proposed zones for the recovery of agriculture
-  Scope of modification
-  Municipal boundaries
-  Begues municipal territory
-  Les Casetes Del Roure



02

Catalan rural architecture

Rural building has been a hegemonic form of control over the Catalan countryside, particularly in Old Catalunya, since feudalization in the 11th and 12th centuries. This region was characterized by intense population growth that led to the spread of establishments of this type, both residential and purely agricultural. The configuration of the rural space has lasted for centuries, as was also the case with the country house, which formed its core, undergoing, however, significant changes. In fact, major contemporary social transformations, with the depopulation of the countryside and the change in agricultural activities, have radically altered it. There is no clear information on the evolution of rural homesteads before the 15th and 16th centuries, that is, until the adoption of the typology known as the classical farmstead: a building with three parallel naves, presided over by a raised room in the central body. Between the feudal or late feudal farmhouse and the villas of the end of the Roman Republic and since the arrival of the Empire there is no correlation. They constituted the essence of rural space until the dissolution of the Roman social order between the fifth and sixth centuries, when they became completely extinct after a long process of gradual abandonment. They were structures from which both domination and exploitation of the land were exercised; they therefore comprised a rustic part and an urban part, intended, on the one hand, for the accommodation of servants, cultivators and agricultural equipment, and on the other for the proprietary and his family.

They were mostly complexes with irregular development, articulated by corridors, courtyards or peristyles, with the noble spaces on the ground floor, sometimes richly decorated, accompanied by warehouses for processing the products of the land. These villas are, therefore, far different from the exclusively peasant character of the early feudal farm, which never coincided with the exercise of land lordship. This, in fact, was a very simple architecture, stylistically not very elaborate. However, the primitive mas or rural house did not directly succeed the Roman villa, but in the long period from the end of the Empire to the year 1000 new types of farm settlements were established. The transformation affected not only the peasant villa, but also the overall configuration of rural space, since in the same period there was a great expansion of the population on territories not occupied in Roman times. The country house, established from the year 1000 until the crisis of feudalism in the 14th and 15th centuries, did not become a defined architectural type, due to the lack of building entity and compositional regularity. They were very simple and tiny, strongly adapted to the places where they stood and their building resources, and made up of very few elements of primary functional specialization, which could be arranged either horizontally or vertically.²⁷ The architectural weakness that led to the widespread disappearance of the mas before 1500 must be seen historically as a product of the rural condition at the peak of the feudal era, which made engineering works very difficult.

27 "Arquitectura Rural | Enciclopedia.cat." www.enciclopedia.cat, www.enciclopedia.cat/lart-gotic-catalunya/arquitectura-rural-0.

The disappearance of primitive or preclassical farmhouses, within which typological diversity and a still largely unknown evolution should not be forgotten, is contrasted by the long-lasting farming architecture that emerged between the 15th and 16th centuries and consisted of a new type of classical farmhouse. This must be understood as the manifestation of the rural order that emerged from the crisis of feudalism. Its autonomy from the forms of stately farming architecture of the same period should be emphasized, since in no case does the new peasant house come close to the typology of the fortresses or castles of the 15th-17th centuries, which consisted of buildings with an inner court. In sum, the new peasant house constituted an innovative typology, unique in some regions of the Catalan countries and independent of the dominant currents of contemporary European farming architecture. Some farmhouses of the new classical typology used in the 16th and 17th centuries, or beyond, a number of elements of late Gothic morphology. These included round-headed doorways with highly developed vaults, crown, cross, and Nordic-influenced windows, often lobed arches, with frequent examples of elaborate moldings and fine sculptural work. Within the same process it is possible to understand the explosion of rustic epigraphy that dated the buildings. The monumentalization, artistic decoration, and commemorative epigraphy present in the classical masia are, no doubt, expressions of a rural civilization that, as a result of social changes, had moved from subordination to full awareness

of its new situation as a historical subject.²⁸ Three factors influenced the spread of rural architecture: the presence of water sources, proximity to forests, and the characteristics of the relief. In addition, it did not necessarily include isolated houses, but also referred to settlements, from which in some cases towns sprang up. The appearance of the ancient rural farmhouse and that of the village allows us to understand the economic-agrarian situation of the region at the time of historical construction.²⁹

Example of a classic farmhouse.³⁰



Building typologies

Rural architecture basically comprises two types of buildings with completely different historical and construction conditions. On the one hand, the architecture of the rural houses, which was rather elementary, structurally and constructively, far from stylistic formalization and made of simple and minimally processed materials obtained from the neighboring lands. These factors of adaptation to the environment, its resources and the needs of agricultural activities gave rise to buildings that were typologically unique, heterogeneous and, therefore, poorly regulated. Of these, very little remains intact or is greatly diluted and modified in later constructions, which is why knowledge of them must be gained primarily through archaeological studies.

There were, then, the possessions of the feudal power in rural areas, basically castles and monasteries. However, most of these were not properly Gothic works, because their genesis and architectural configuration was earlier and between the 13th and 15th centuries they were only enlarged, reformed or embellished. Seigneurial authority and, above all, the lower nobility gave rise to a new type of structure, the "fortified houses", in which the fortress character was attenuated and the aristocratic character developed, almost always following the Gothic model of the urban house with courtyard. This same type of houses was built until the 17th and 18th centuries, albeit according to the new ornamental languages, and many of them survived often through conversion into farmers' houses.

With regard to rural monasteries, as in the case of castles, between the 13th and 15th centuries there were no or very few new settlements, and only the large houses of ancient foundation managed to undertake Gothic architectural reforms and extensions, which often led to the creation of second enclosures around the previous cloistered cores of the Romanesque period. The stratification and autonomy of members of religious communities produced architecture designed to house the most important offices, especially for the dignity of the abbot, with houses or palaces of considerable monumentality. This process, in parallel with the increasing complexity of heritage management, generated new building complexes, often organized around the primitive core and protected by fortified enclosures. Monasteries, unlike castles, remained active during the period of late feudalism, but did not survive the fall of the ancien regime and were destroyed or abandoned after the events of 1835 and the subsequent official exclusion and confiscation measures. Rural architecture of an eminently lordly character should also include hydraulic watermills, which in the Gothic period acquired great numerical importance, territorial extent and sometimes monumental and fortified character, based on types modeled around the 13th century. In many cases they served, expanded and reformed, until the 20th century and in recent times have attracted considerable interest.

Finally, in the area of rural architecture, we are faced with road equipment. The stone bridges,

hospitals, complements, structures, erected on main roads, and term crosses, which correspond to an element of a sacred and propitiatory nature. It must be said that much of the road installations in rural areas, instead of obeying the internal dynamics of peasant society, were direct or indirect products of the new urban network. The most significant examples are eminently urban in character and arose related to the city walls, for which they constituted an element both of connection with the immediate rural environment and of interrelation at a higher territorial scale.³¹

In Catalunya we find different designations of the rural house: the Villa, the Mas or masia, the Torre house, the Can or the Borda. The villa is understood as a set of rural dwellings, has medieval origins and has a main body around which service areas and rooms are developed. The masia varies according to its location and the activities it houses; it has a simple structure, usually with a pitched roof. The tower-house sees the inclusion in the masia of a circular or rectangular defensive tower and galleries and porches. It was built with stones, was dedicated to openings, and was distributed so that on the ground floor were the lord's rooms and on the upper floor were spaces for the family. The main purpose was to facilitate surveillance and protection from attack or invasion. The Borda, is a type of building constructed of wood and covered with materials of plant origin, such as leaves and branches and almost completely disappeared due to fires.

Nowadays, some shepherds' huts can be observed as earthen or stone huts consisting of a single space covered by the ground and with a chimney.³²

Terminologies for the rural farmhouse in Catalunya.³³



- Vila
- Mas
- Masia
- Torre
- Can
- Borda

31 "Arquitectura Rural | Enciclopedia.cat." [www.enciclopedia.cat, www.enciclopedia.cat/1art-gotic-catalunya/arquitectura-rural-0](http://www.enciclopedia.cat/1art-gotic-catalunya/arquitectura-rural-0).

32 "Il parte - marco teórico. Cap. 4. Vivienda Unifamiliar En Cataluña.", https://www.tdx.cat/bitstream/handle/10803/6113/05PARTE2_4.pdf

33 Vila, Marco Aurelio, and Montserrat Sagarra. *La Casa Rural a Catalunya*. 6a ed./Edicola-62, 1980.



The Villa.³⁴

³⁴ "Masia Catalana: El Estilo Y La Arquitectura Rural Catalana." Metrovacesa, 20 May 2020, metrovacesa.com/blog/masia-catalana-el-estilo-y-la-arquitectura-rural-catalana.



The Masia.³⁵

³⁵ "Las Mejores Masías Del Empordà Para Una Escapada Rural." Petits Grans Hotels de Catalunya, www.petitsgranshotelsdecatalunya.com/catalunya/las-mejores-masias-del-emporda-para-una-escapada-rural.



The mas Torre.³⁶

³⁶ "La Torre de La Vall - Casa Rural - Tavertet - Osona - Catalunya." www.torredelavall.com, www.torredelavall.com/es/.



44

The Borda.³⁷

³⁷ "Borda." Wikipedia, 1 Dec. 2021, ca.wikipedia.org/wiki/Borda.

A comparison with Italian rural architecture

In Italy, as well as in Catalunya, the rural architectural heritage presents a wide variety, from alpine wooden architecture, to the “casoni” of the Veneto, the “trulli” of Puglia, the farmhouses of Lombardy, the Tuscan colonial houses and the “masserie” of southern Italy.

Since the nineteenth century, numerous architects, historians, geographers and scholars have taken an interest in this typology with the intention of cataloging its artifacts, analyzing its characters and purposes. This tendency intensified during the twentieth century and, in particular, in recent decades there has been an increase in research on the subject and attention to the recovery and preservation of the buildings in question. From the point of view of documentation and bibliography on the subject we know, that in the first half of the last century, manuals concerning the construction of agricultural buildings contained a cost analysis and an estimate of expenses, showing how economic criteria determined typological choices, and various data on local traditions, the use and reexperimenting of materials and construction techniques in relation to the site and context. During the Fascist period, the drawings prove to be very technical and design-focused, with a variety of references by building type, in a vision aimed at propagandizing the process of ruralization, supported by the thesis that the countryside guaranteed greater healthfulness. During the 1940s, however, the conception of functionalism prevailed, where the form of buildings was a direct consequence of human needs, as evidenced by the studies of geographer and ethnologist Renato Biasutti. He, in fact, made an important contribution, initiating CNR's

research on rural houses, which would later be further investigated in the 1970s by Lucio Gambi and Giuseppe Barbieri and continued by other scholars.

It is interesting that in them they identify the correlation between types of rural dwellings and the agronomic system that surrounds them, which was also reconfirmed by Emilio Sereni in the postwar period, who emphasized the importance of the interpretation of the landscape, its forms of management and cultures.³⁸

Scholars Pagano and Daniel in 1936 produced an in-depth analysis of farmhouse typologies in the Peninsula, curated for the Triennale exhibition. In this, the evolutionary process and differentiations of type are reported, arguing how rural architecture is moved by a relationship between function and building form. They also emphasize the close connection with the geological, agricultural, climatic and economic conditions of the environment and consequently with the activities that are carried out in the area. The building systems and techniques adopted are constrained to the context.³⁹

We also find a rural urbanism approach in the works of Amos Edallo and Giò Ponti, in “Ruralistica: urbanistica rurale”⁴⁰ in which they promote the equivalence of rural and workers' housing and the need to form an Autonomous Institute for Rural Housing. Since the 1970s there have been a variety of in-depth studies and publications, including “La casa rurale in Italia”⁴¹ (1970) by Lucio Gambi and Giuseppe Barbieri, “Architettura Primitiva”⁴² by Enrico Guidoni, and the documentary work of Andrea Emiliani and Paolo Monti.

38 “Lettura E Valutazione Del Contesto 2.1. Premessa.”,

https://re.public.polimi.it/retrieve/handle/11311/853534/276974/CD%20allegato_cap2_lettura%20e%20valutazione%20contesto.pdf

39 Pagano, Giuseppe, and Daniel Guarniero. *Architettura Rurale Italiana*, 1936.

40 Edallo, Amos. *Ruralistica, Urbanistica Rurale, Con Particolare Riferimento Alla Valle Padana*. Milano, Hoepli, 1946.

41 Barbieri, Giuseppe, and Lucio Gambi. *La Casa Rurale in Italia*. Firenze, Olschki, 1970.

42 Enrico Guidoni. *Architettura Primitiva*. Milano, Mondadori Electa, 1975.

In this period, important studies are produced at the Institute for Cultural Heritage of the Emilia Romagna Region, regarding regional buildings, and using numerous images and photographs. They are joined, then, by "Architettura popolare in Italia: Piemonte"⁴³ the sixth volume of the series by Vera Comoli, which includes, in addition to the typological study, a cartographic approach, and regarding the Alpine territories "Quaderni di cultura alpina"⁴⁴ by Giuseppe Dematteis, which deals with the culture and traditions that distinguish the area, professions, history, art, environment and architecture. Next comes the increasingly central theme of graphic restitution, enabled by accurate laser scanner surveys, of which the work "Atlante dell'edilizia rurale in Ticino"⁴⁵ published by the State of Canton Ticino and disseminated internationally is an example. This encompasses technical drawings and descriptive sheets, aimed at delving into the use of materials, construction techniques and distribution choices. Finally, on the topic of the relationship with the landscape, we quote a reflection belonging to the international and national debate that has arisen since the 2000 Landscape Convention: "Landscapes have always undergone change and will continue to change, whether as a result of natural processes or human action. In fact, the goal to be pursued should be to accompany future changes by recognizing the great diversity and quality of the landscapes we have inherited from the past, striving to preserve, or even better, to enrich that diversity and quality instead of letting them fall into disrepair."⁴⁶

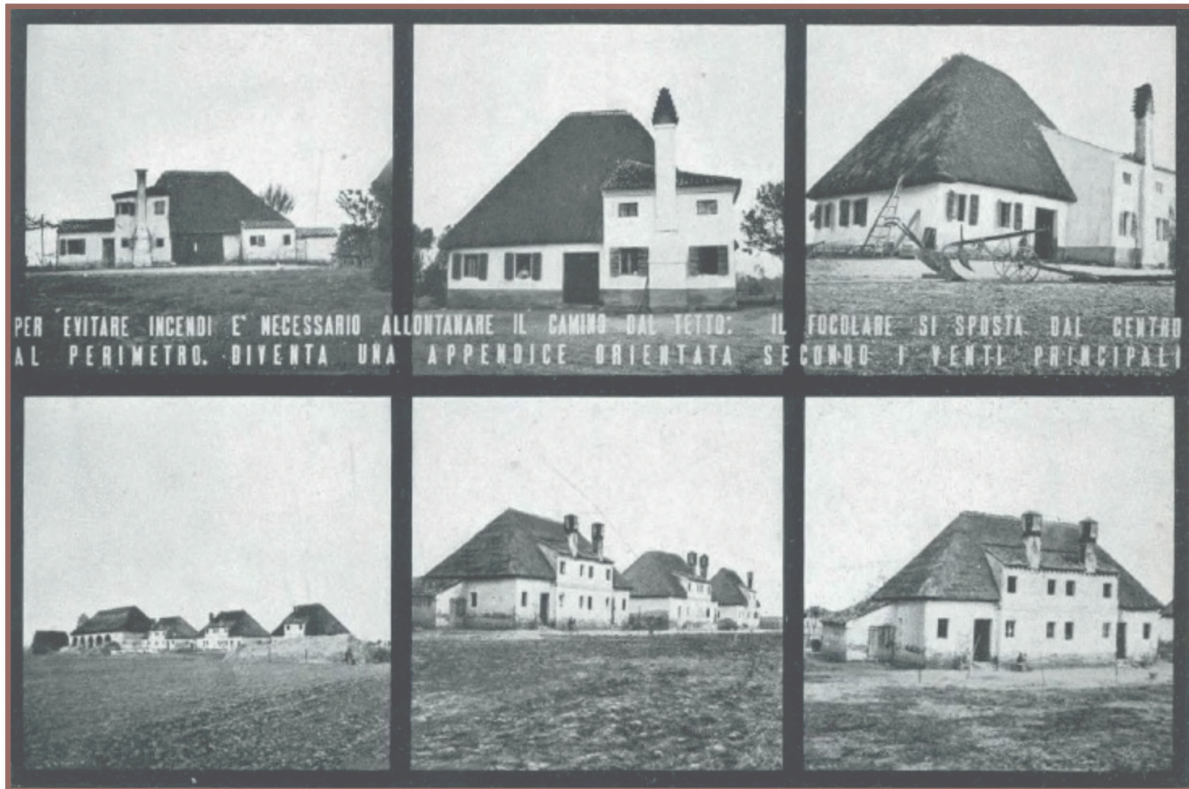
As premised and confirmed by the studies reported here, the Italian territory is distinguished by typological varieties in rural areas. In particular, in Padania we find farmhouses and farmsteads, the result of a centuries-old tradition; in the Chiana and Maremma valleys, in Tuscany, the colonial tradition emerges, derived from the eighteenth-century grand-ducal land reclamation and in some cases strongly influenced by late Renaissance models, connected to the noble residences and the Medici country houses. A reference is the villa at Poggio a Caiano, in which Giuliano da Sangallo, at the end of the 15th century, designed the combination of the function of vacationing and agriculture. Further typologies are represented by the Palladian villas, erected for the Venetian bourgeoisie, which had a monumental and rustic value, and the Sicilian masserie, called bagghiu, which were protected by fences and independent thanks to the presence of wells and internal courtyards. Then we distinguish alpine constructions, such as malghe and baite, masserie and trulli and casedde in Puglia, pinnette in Sardinian territory or dammusi in Pantelleria. Corresponding to these different building types are equally different building traditions, from the use of wood, stone, vaulted brick buildings, with tholos vaults and the use of unfired earth. The gradual abandonment of the countryside, corresponding with the economic boom, also affected Italy and saw a split between rural buildings and the purpose for which they were built. In recent years, however, there has been a phenomenon of recovery of these structures

43 Comoli, Vera. *Architettura Popolare in Italia: Piemonte*. Taranto, Laterza, 1988.

44 Dematteis, Luigi. *Quaderni Di Cultura Alpina*. Torino, Priuli & Verlucca, 1996.

45 Buzzi, G. *Atlante Dell'edilizia Rurale Del Canton Ticino. Valle Di Blenio*. Locarno, 1993.

46 Cadinu, Mario. <https://www.teknoring.com/Wikitecnica/Storia-Dell-Urbanistica/Architettura-Rurale/>, 2012.



Giuseppe Pagano, pages from the catalog of the exhibition *Architettura Rurale Italiana* at the VI Milan Triennale, 1936.⁴⁷

for the purpose of tourism and second homes, not always, however, in relation to the landscape. Grassi, in this regard explains must maintain a deep relationship with its fundamentals: "in which the simplicity and clarity of the purpose, the precision of the means, the security of the solutions stand out, where each element responds to a defined expectation, so one is tempted to speak first and foremost of right ideas." A holistic approach, which considers technical, typological, structural and consolidation, seismic and energy, social and anthropological, and landscape aspects, is considered essential in the restoration of such buildings. The relationship to the land, its materials and products is, therefore, fundamental.⁴⁸

⁴⁷ Pagano, Giuseppe, and Daniel Guarniero. *Architettura Rurale Italiana*, 1936.

⁴⁸ Acciai, Serena. "Architettura Rurale, Quali Strategie per Il Recupero?" *Giornale Dell'Architettura*, 6 July 2022, ilgiornaledellarchitettura.com/2022/07/06/architettura-rurale-quali-strategie-per-il-recupero/.

Given, the variety of architectural types in the Italian territory, the following is an analysis of the typical farmhouse in the territory of Alto Mugello, Tuscany, which has many peculiarities with the Catalan masia. "It, after the extinction of sharecropping, remained the most significant, and appreciated, evidence of the agrarian landscape of which it was an integral part, of what, that is, as already mentioned, has been called the beautiful Tuscan landscape"⁴⁹ often positioned in difficult morphological situations and in close contact with the context. In fact, it was often erected in stony areas unsuitable for cultivation, where, however, solid foundations could be grafted.

According to the construction aspect, farmhouses are characterized by the use of the same materials, which had to be easily available in the area and put in place through simple and quick techniques. "The habits of the peasant society to provide by their own means, according to the needs of life and work, prompted them to build with the materials of immediate and easy availability, using common and proven technologies, so as to obtain maximum solidity and durability."⁵⁰ This dwelling, moreover, reported a careful distinction of interior spaces so as to accommodate, inside, both humans and animals, according to the needs of its inhabitants. The plan of the analyzed buildings was initially rectangular

rectangular ; in some cases this layout has remained unchanged until today, while in others, to respond to the growth of the family unit, livestock, or agricultural activity, extensions were added with new volumes outside or close to the original element, generating often irregular floor plans. Just as in the Catalan masia, therefore, the typological evolution and the form of living responds to the functional needs and requirements of the family that inhabits it. As for, the exteriors, face stone was used and the main facade was higher than the rear facade, which rested on the higher ground floor. Consequently, the entrance was on the second floor from the upstream side, without the use of stairs, while the entrance to the ground floor was on the downstream side. The housing unit was located on the first floor, with the entrance door covered by a small porch, in which there was often a small oven. The main room was the kitchen, which housed the living and working function, and around which, the bedrooms were directly arranged. The kitchen and the stable were placed on top of each other and communicated through a trapdoor, allowing both to take advantage of the passive heat produced by animals and fires and to exit the building, in particular, on winter days. In most cases, toilets were absent.⁵¹

49 "L'architettura Rurale in Toscana E Le Sue Specifiche Caratteristiche in Ambito Europeo. Una Guida Alle Buone Pratiche Architettoniche." Georgofili.net, 2009, www.georgofili.net/File/Get?c=e23f8613-806e-4188-b610-f1f821f210ff.

50 Op. Cit.

51 Conti, Leonardo, et al. "Caratterizzazione Architettonica E Valorizzazione Dell'edilizia Rurale-Storica Dell'alto Mugello." Researchgate, 2009,

https://www.researchgate.net/publication/237214166_CARATTERIZZAZIONE_ARCHITETTONICA_E_VALORIZZAZIONE_DELL%27EDILIZIA_RURALE-STORICA_DELL%27ALTO_MUGELLO



Model floor plan of the farmhouse.⁵²

49



Examples of a farmhouse.^{53 54}

52 Conti, Leonardo, et al. "Caratterizzazione Architettonica E Valorizzazione Dell'edilizia Rurale-Storica Dell'alto Mugello." Researchgate, 2009, https://www.researchgate.net/publication/237214166_CARATTERIZZAZIONE_ARCHITETTONICA_E_VALORIZZAZIONE_DELL%27EDILIZIA_RURALE-STORICA_DELL%27ALTO_MUGELLO
 53 "Storia Della Casa Colonica Toscana." Mugello & Tuscany, 15 Nov. 2019, www.mugello-tuscany.com/2019/11/15/casa-colonica-toscana/.
 54 Acciai, Serena. "Architettura Rurale, Quali Strategie per Il Recupero?" Giornale Dell'Architettura, 6 July 2022, ilgiornaledellarchitettura.com/2022/07/06/architettura-rurale-quali-strategie-per-il-recupero/.



The masias: introduction and historical memory



Joan Miró. The masia 1921-22.⁵⁵

⁵⁵ "La Masia Catalana: Forma d'Estructuració Social." Fotent's Blog, 24 Sept. 2011, fotent.wordpress.com/2011/09/24/la-masia-catalana-forma-destructuracio-social/.

Historical notes

A masia is defined as a farm consisting of the farmhouse, surrounding land, woods and pastures. The whole represents the result of the historical evolution of the land's agricultural and pastoral past, institutions and agricultural tradition. In this analysis, the study of the agrarian evolution of the system and units of agricultural exploitation is proposed, so that the restoration takes into account the natural and characteristic elements of the context. The word *mansus* dates back to the 10th century and is found in several documents belonging to Catalan counties, in the Pyrenean area, but also in the lowlands and on the coast. Early farms consisted of peasant houses housing a single family. In the Pyrenees, the farm was organized with the dwelling and its properties: land, vineyards and, in some cases, rights of use over woods and scrublands. In other areas, however, at least before the mid-11th century, this type of composition is much more occasional. The process of colonization of Catalan territory contributed, in the 9th and 10th centuries, to the spread of *masias*. As early as the 11th century, in fact, farms possessed the role of economic exploitation, in which agriculture was combined with animal husbandry and handicrafts. Starting from the 11th century, and especially in the 12th and 13th centuries, new elements from existing ones, transformations and new interventions multiplied in the territory.

Fractionation and expansion of villages were

widespread, corresponding with hereditary divisions and the granting of new agricultural leases. Moreover, this type of building proved important for the seigniorial rule of much of the land of Old Catalunya. On the one hand, beginning in the second half of the 10th century, it began to replace towns and cities, also performing a fiscal function. During the 11th century, the process of feudalization increased the benefits required of peasants, generating as a consequence the fact that lords had to change the management of their domains and adapt it to exploitative structures, namely farms. During the 11th century a revolt of Catalan nobles occurred, causing new taxes to be imposed on the farmers. Because of the vastness of the seigniorial domains, which were coming to overlap in the same parish, in ancient Catalunya, and especially in the bishopric of Girona, the lords, during the 11th and 12th centuries, invented a system to make tax collection more efficient. The interest was to ensure the stability of the families who lived and worked the farmsteads in their domains, leading to the appearance of lieutenants, whose function was to control the succession of properties. In the same period, beginning in the second half of the 12th century, the first acts of serfdom began, as lords controlled the marriages of people on their farms, again with the aim of controlling them. In the first half of the 14th century, the *masias* were inhabited houses, characterized by a

marked modesty: from the furniture inventories we can only assume the existence of a storeroom, a bedroom, a kitchen and a dining room, and separately stables. The differences with other peasant houses consist of two elements: first, that they were almost always isolated in the middle of farmland; second, that they represented the center of farms, consisting of several plots dedicated to the intensive exploitation of land for the production of grain and wine. In addition, the inhabitants of these settlements had rights of use over the forests, where they grazed their livestock and where they procured firewood and other resources, and over water due to their ownership of several hydraulic mills. In addition to their physical constitution, their territorial extent is interesting. In the 14th century there were real networks of *masías*, embedded within different parishes, which the lord managed according to his needs for management and control.

During the 11th and part of the 12th century new types of *masías* spread, smaller in size, separated from the original core, from which they maintained ties of dependence, and rural towns manifested a very important growth in the population of the urbanized area. In addition, emigration to New Catalunya, Majorca or Valencia was increasingly practiced at the end of the 13th century. The maintenance of the agricultural system of the lords, around 1300, required constant dedication on their part, and the case

of lieutenants without successors or of abandonment was widespread. The lord could choose to recover, in the form of "*benevis*," the rights of the lieutenant or he could seek a new family to occupy the hamlet. Despite seigniorial control, householders possessed hereditary and indefinite rights to the property, in full accordance with Roman law, "*domini utili*." In this way, it was possible to guarantee production, assign sub-established plots to others, and organize the land. Thanks to these conditions, in the 13th and 14th centuries the inhabitants of the *masías* held greater economic power than the rest of the rural population. During the 14th and 15th centuries, a series of negative events occurred: droughts, famines, plagues, earthquakes, etc. Recent historiography has studied the effects of the Black Death: it seems to have affected half or two-thirds of the population and destabilized the countryside. Many farmhouses were abandoned, giving rise to the *masos ronès*, some due to the disappearance of the owners and others due to abandonment by the lieutenants. Faced with this, some neighboring peasants took over small farms; the lords, on the other hand, seeing the decline in population and income, intervened and pressured the peasants. Despite the compartmentalization of the plots, the farm constituted a unified and compact system for the extraction of income, because appurtenances were associated with each of them.

Between 1486 and 1640, the owners strengthened the rights derived from the useful domain against the rights demanded by the direct lords. The result was seen in the mid-1700s, when many farmhouses were expanded and decorated, contributing to the consolidation of the masia architectural typology that has been handed down to the present day. Agricultural growth in the 18th century was managed by the farm owners without changing the terms of the farmstead contracts imposed in the 17th century. These provided for control of the farm for a maximum period of five years, during which the lieutenant had to reside continuously and cultivate the land. Landlords, on the other hand, were responsible for controlling the process of farmland expansion. In the viticultural areas of the interior, such as Begues, Anoia, Penedès or Vallès, and even on the coast, such as Masesme, the use of the dead "rabassa" prevailed.

If we analyze the social categories listed in the Floridablanca census of 1787, it is evident that most of them were day laborers. The workers' houses were usually old, with two rooms. Small peasants, on the other hand, lived in villages, as a result of the process of fragmentation of property plots, which had been established to build houses and gardens, in exchange for the payment of a census tax and an annuity, which, often, was financed by the use of credit. Due to wars and political changes in the late

1700s and early 1800s, many farm owners, especially the wealthier ones, decided to move to the city permanently. This was the era of the financiers, which also saw liberal reform and intensified industrialization. The three main measures that were introduced were: the abolition of seigniorial rule, confiscation, and disempowerment laws, which only indirectly affected the agricultural environment. The high prices of the French War period (1800-1814) were followed by lower prices that led to the agrarian crisis of the 1820s. Potato cultivation spread to small peasant family economies after the French War and, in general, the limitations of intensive labor, which was poorly justified when applied to small plots, were noted. In the middle decades of the century, proposals were made to replace landowners with lieutenants and to convert the cultivation of grain for human consumption, which formed the farm's agricultural base, to the cultivation of fodder plants. Neither proposal, however, went through, and, in general, the masias culture was maintained under the routine grain system. Thereafter, during the first half of the century the hunger for land continued, as the population continued to increase and there was little opportunity for livelihood from the products of the land. The continued practice of allocating and distributing small plots of land generated great changes in the agrarian landscape. Vineyards, olive groves, orchards, and, in general, intensive cultivation caused

new plots to be transformed into a working spaces. Riparian trees were planted in the forests, especially in the cork oak area and those near rivers. Farms, sometimes cramped, continued to be characterized by the importance of grain cultivation. Changes since the late 1800s in farmland holdings led to a decrease in peasant ownership, with an increase in direct exploitation. The consequence of this process was the fragmentation of the masia as a unit of exploitation, sometimes to the point of its disappearance. The other important development of this period was the lack of demand for large estates among the social sectors with the greatest capacity for accumulation. In the 1960s and 1970s, the growing disinterest of the landowner in controlling agricultural production revealed a profound crisis in the sector, which led to an irreparable loss of the farm population's wealth. Since the 1960s, the use of mechanization and the combination of changes defined as the "green revolution" have led to an intense rural exodus, resulting in the gradual abandonment of much land and, even, many masias. The ultimate dissolution of the farm has occurred in recent decades, fueled by European agricultural policy and the new prospects for rural tourism. The spread of this trend has favored the sale of farmsteads as living places for rural tourism and not as centers of agricultural exploitation. These, in fact, are being used as second homes, restaurants and

hotels and are being made independent of the farmland traditionally associated with them and which was their *raison d'être*. Their preservation, restoration and maintenance would counteract the increase in forest and uncultivated land, which has increased in recent years. The landscape continues to be dotted with masias, but it is the most visible evidence of the end of their role as a form of organization of rural space.⁵⁶

⁵⁶ Gonzalez, Antoni, et al. *La Masia Catalana: Evolució, Arquitectura i Restauració*. Figueres, Brau, 2005.

Building typologies

According to an architectural analysis, the masia manifests itself in a wide variety of forms. The intensification of its architectural interest can be found in the 1970s, in the works carried out in Canton Ticino between the years 1974 and 1976, drafted by architect Aldo Rossi and published in 1979. The typology reported consists of a three-body house with a large room on the ground floor and in the center of the building, which Danès called a classical structure. These were buildings made of dry-stone, with single-pitch roofing made of wood and earth or stone slabs, and with a minimum of two sections: one for humans and one for animals. The rooms, mostly rectangular in shape, and which generally did not communicate with each other, were sufficient to meet the most basic needs: the kitchen with a fire, also the family bedroom and spaces for domestic animals. The primitive form of masia is called "horizontal house"⁵⁷ and consists, therefore, of single-story constructions divided by at least two rectangular elements made with dry stone walls and grafted to the mountain slope, appropriately, excavated to serve as the back wall of the construction.

These rooms were used to house people, one, and animals, the other, and therefore had separate doors. The roof was single-sided and consisted of stone slabs, floor and rafters, and was supported by a wooden beam. This type of construction dates back to the period between the 10th and 13th centuries, although the majority persisted until the crisis of the late Middle Ages. There are also records of more complex constructions, with a greater number of rooms for people and animals. Such progressive articulation may indicate that the spaces in which the different activities and functions of daily life took place began to be physically differentiated: cooking, storing, sleeping and eating. Parallel to the horizontal farmhouse, especially from the 12th and 13th centuries, another type of building from rectangular to square plan began to spread, with masonry between 70 and 110 cm thick and formed by regular rows of well-cut stones fixed with lime mortar, allowing the height of two or three floors. Again, the roofs are single-sided, made of tiles supported by beams. These were divided internally into two or three rooms and possessed a vaulted

⁵⁷ Gonzalez, Antoni, et al. *La Masia Catalana: Evolució, Arquitectura i Restauració*. Figueres, Brau, 2005.

as the main entrance. In addition, a clear separation of interior spaces can be seen, with the entrance and animal area on the ground floor and the family rooms on the upper floors. Here, the master bedroom, dining room and kitchen were located, and in some cases the barn. The term *mas Torre* refers to the architectural conformation that characterises it, due to the presence of fortification and typically defensive elements. Its definition was coined by Joan F. Cabestany, based on his studies of three farms in the district of Pontons (Alt Penedès) and was later reiterated by the scholar Manuel Riu, during his analysis of the *mas Torre de la Vall* (Solsonès).

Next, we call two-body houses: buildings composed of a rectangular or square plan, usually about 4-5 m on a side, and divided internally into two sections. From the hypotheses realised, it is thought that it had two floors and that the functional distribution was more or less the same as that of the *mas Torre*. The ground floor was the place where cattle were kept and, in some cases, was also a storage area. Often, wooden trestles were placed between floors,

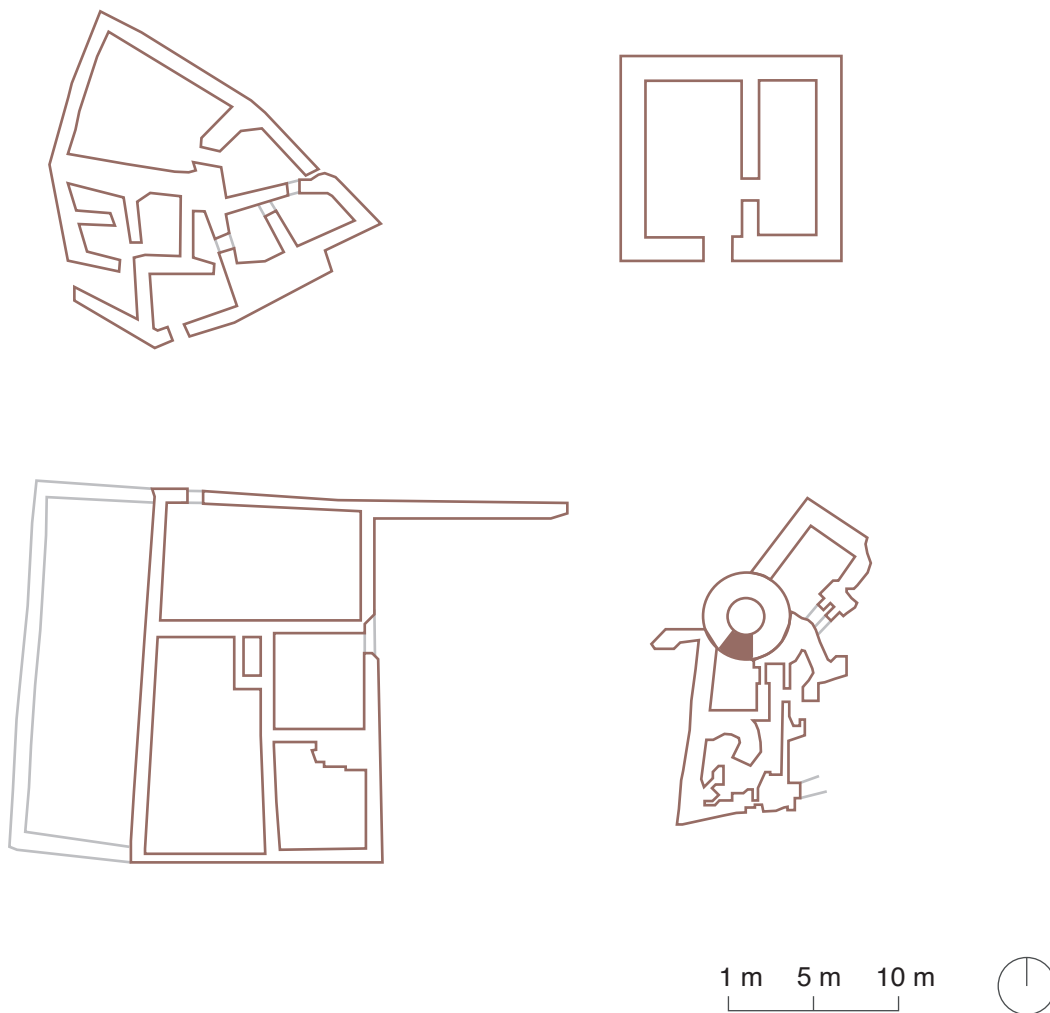
with the advantage of transmitting the heat, generated by the animals, upwards. Finally, the roof was almost always pitched, and fences and minor elements for livestock were set up outside. In the case of a sloping context, the building was erected so that it was adjacent to the slope and provided direct access to the upper floor and through the back. The types described belong to the 15th or perhaps early 16th century. The typological similarity between them is obvious and leads to speculation that the former may be the predecessor of the latter, which in turn may be the precursor of the three-story house of the modern era.⁵⁸ The construction of both types was generally logical and sensible, with load-bearing walls supporting the beams used to build trestles and roofs. In the former case, which refers to buildings with two extended roofs but no internal bearing walls, the ridge of the two-sided roof coincided with or was perpendicular to the central wall connecting the two bodies. For the floors and roofs of both solutions, a logical construction method was applied within the conventional and basic structure.

⁵⁸ "L'arqueologia Dels Masos I Enciclopedia.cat." www.enciclopedia.cat, www.enciclopedia.cat/lart-gotic-catalunya/larqueologia-dels-masos.

It should be emphasized that the architectural and functional vision of the farmhouse was already completely defined with this sort of building: a two-storey home with a single, shared entrance for people, occasionally with a third floor or attic a stairway that connected this space with the portion of the level above, where the kitchen distributor for the bedrooms on the same floor was placed. The presence of a single space, later given the name of room, which serves as the distinguishing feature between the architecture of the farmhouse and any other of similar historical or ethnographic circumstances, was the most significant aspect of these two types of masia construction in the late 1300s or early 1500s, as previously mentioned. These kinds of buildings always featured a room on the ground level that was readily accessible, bigger than the other rooms, and had a window above the entrance door. The idea that the establishment of the three-body typology was the consequence of the farmhouse's simple extension for utilitarian reasons is specifically due to the instance of the addition of a new body that leaves the room in

the farmhouse's center location. The aim of these modifications or reforms, which also include the roof structure so that the ridge lines up with the room's longitudinal axis, is to place this space and its exterior representation in the middle of the complex of buildings. In this kind, the room only serves as a distribution point for the dependents and is never where the family's everyday activities take place. Instead, it is only used for family or professional gatherings.⁵⁹

59 Gonzalez, Antoni, et al. *La Masia Catalana: Evolució, Arquitectura i Restauració*. Figueres, Brau, 2005.



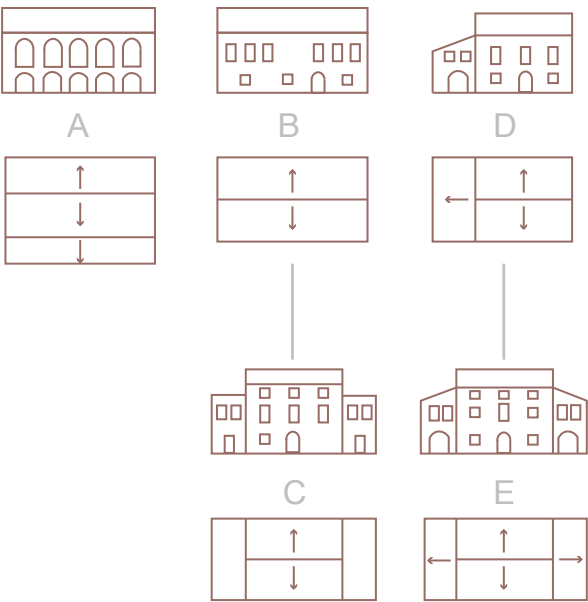
Representation of the typology of 13th-15th century farmhouses according to their layout: horizontal farmhouse, Vilosiu; mas Torre, Can Rei; two-faced farmhouse, la Posada; farmhouse associated with a tower, Torre de la Poble.⁶⁰

⁶⁰ "L'arqueologia Dels Masos | Enciclopedia.cat." www.enciclopedia.cat, www.enciclopedia.cat/lart-gotic-catalunya/larqueologia-dels-masos.

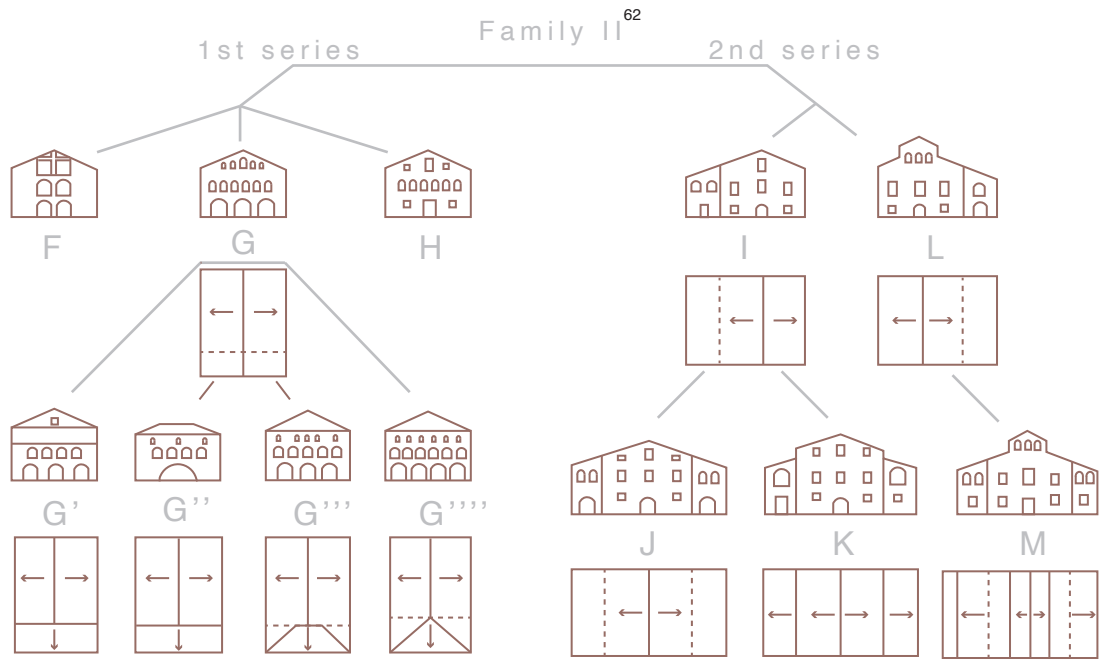
As for the typological study of the masia from the 14th century, about which we possess the most information, the best known study is the work of Joseph Danés i Torras (1891-1955), who developed categories based on the roof layout and the location of the galleries, resulting in three groups, called families:

- Family I: when the roof has pitches facing the main facades. This type of group normally includes the oldest farmhouses, a consequence of the continuous evolution from a first small body. This core dates back to the 14th and 15th centuries and has as its characters: a ground floor with few openings, housing the livestock, a second floor, which was accessed by an external stone staircase with a Romanesque structure and consisted of a single room in which there was a fireplace, sink and window. Many of them had a small third floor, where the bedroom was located.

Family I⁶¹



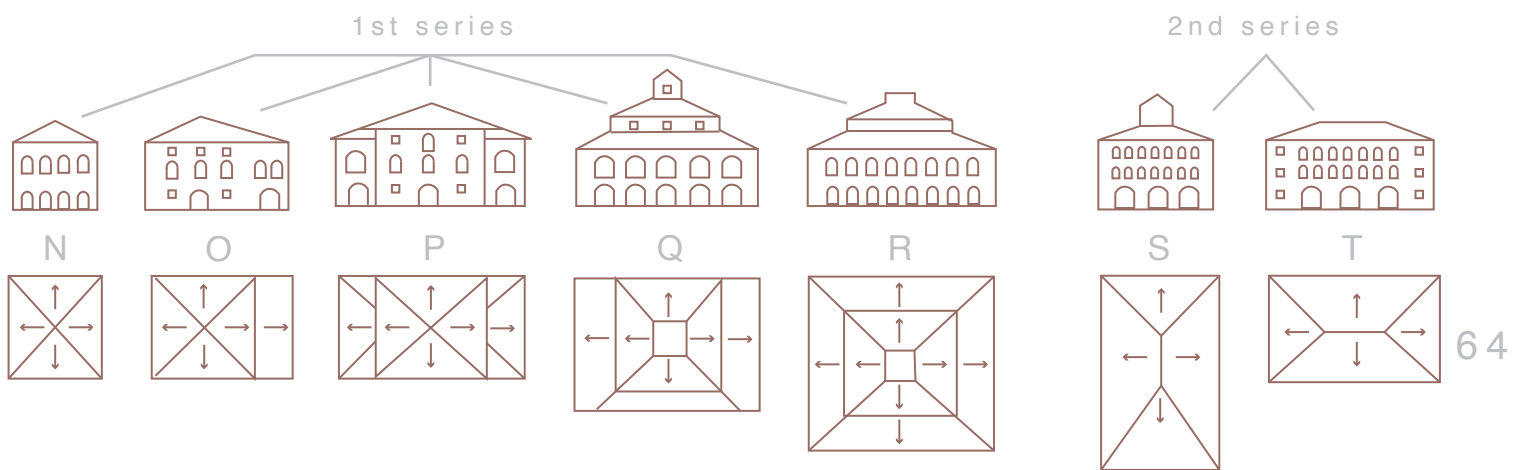
61 Danés i Torras, Josep. *Materials per a l'Estudi de La Masia*. Girona, Associació d'Història Rural de les Comarques Gironines: Centre de Recerca d'Història Rural de la Universitat de Girona: Documenta Universitaria, 2010.



These buildings are distinguished by a sloping roof facing the side facades of the building. These are the most common type of farmhouses, and erected in a single phase between the 16th, 17th and 20th centuries. They usually have three bays.

62 Danès i Torras, Josep. *Materials per a l'Estudi de La Masia*. Girona, Associació d'Història Rural de les Comarques Gironines: Centre de Recerca d'Història Rural de la Universitat de Girona: Documenta Universitaria, 2010.

Family III⁶³



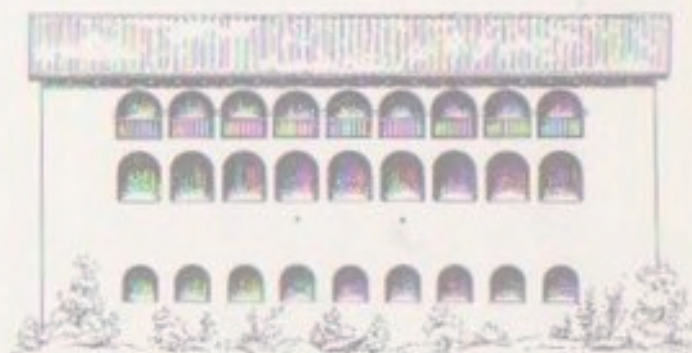
This family features a gabled roof and a stately character. The most common are the buildings of the 17th, 18th and 19th centuries. They spread in a single phase, giving rise to a neat building category. In terms of distribution, the floor plan is square, and in many cases it is built around a central courtyard to ventilate and order the building.

⁶³ Danès i Torras, Josep. *Materials per a l'Estudi de La Masia*. Girona, Associació d'Història Rural de les Comarques Gironines: Centre de Recerca d'Història Rural de la Universitat de Girona: Documenta Universitaria, 2010.



EL PUIG

1. El Puig. Vall de Bianya, Garrotxa.



COLLDECARRERA

CASTELLAR de la MUNTANYA

2. Colldecarrera. Castellar de la Muntanya, Garrotxa.



MASSEGUR

EL PRIVAT de BAS

3. Massegur. Sant Privat d'en Bas, Garrotxa.



EL CALLÍS

EL SALVADOR de VIANYA

4. El Callís. Vall de Bianya, Garrotxa.



FERRÓ

VALL de VIANYA

5. El Ferró. Vall de Bianya, Garrotxa.



L'HOSTAL del GRAU

JOANETES

6. L'Hostal del Grau. Joanetes, Garrotxa.

Materials and building systems

The farmer's economic sense involved the use of simple and basic materials. Therefore, it is interesting to observe, in the vicinity of the farmsteads, the presence of the quarry and riverbed where the farmer procured stone, the stream where he took sand, and the kiln where lime was produced. An exercise in concreteness that can help to understand, from a construction point of view, that the farmhouse was born from the direct manipulation of materials from the land. A peculiarity that allows to reduce costs and facilitate the transportation of materials due to the precariousness of roads and routes in the pre-industrial era. Raw materials obtained in the surroundings of the farm that enhance the relationship between the house and the land. Clay was used in the most austere farmhouses, as it was synonymous with simplicity, or in areas without stone. Its main characteristics are: speed of handling, low cost, easy handling, good insulation and non-combustibility. It also has remarkable strength and durability for brick walls or as mortar for stone ones. Sand represents another fundamental material for making mortars and is obtained from the banks of rivers or streams. Stone, in particular, is one of the main materials for most rural buildings. Its characteristics are compactness, strength and durability. The farmer selected those that were easier to obtain, transport and handle, placing the horizontal part and the horizontal veins, repeating the same position used in the quarry. Limestone, consisting of calcium carbonate, is characterized by light shades, often forming

sheets separated by layers. It is a very suitable stone due to its geometric and faceted shapes that facilitate its laying. Before placing it, the farmer would let the limestone dry to make it more resistant to frost. It was also often pricked with a metal element to detect, through noise, its strength and firmness. Lime was obtained by calcining limestone in lime kilns located near villages. The firing process produced quicklime, while the foreman obtained slaked lime, bringing the quicklime into contact with water. This was ideal for the manufacture of mortar or for whitewashing houses. Plaster is obtained in a very similar way to limestone: dehydration is carried out by the firing of calcium sulfate hydrate. It is grayish in color and was used both for plaster and for plastering of interiors. To give a better finish, it was necessary to apply a surface mixture of better quality white gypsum called lime putty. Pottery was used in most farmhouses for the construction of vaults, ceilings and floors. The common curved tile was used for the roof, and the tiles were laid from the bottom up, first the channels and then the siding. The good characteristics of the curved tile justified its use as a building element in most houses in the country. Brick, because of its strength and durability characteristics, was used to make pillars, vaults, ovens, partitions, etc. Finally, the wood used for farm construction depended on the forests in the region and was obtained after sawing the logs of dry trees. Depending on the size of the sawn timber, beams, pillars, boards, logs, etc. were obtained.

Its most important applications are structural elements, floors, and siding, as well as the production of doors and windows.⁶⁵

A traditional structural system is used to construct farm homes. It consists of bays of load-bearing walls with partitions and a roof made of rafters. For easier roofing, the walls are spaced 3 to 5 meters apart. This practice entails building enclosures with gaps formed by load-bearing walls that are constructed in a regular way using orthogonal patterns of right angles. The positioning of the structural bays is influenced by a variety of elements, including sunshine, topographical suitability, and wind protection. The load-bearing wall may be constructed of drystone, mud (tapia), or stone and mortar (masonry). The clay soil is plowed and crushed into a mold to create the rammed earth wall, which when dried increases strength and thickness (40 or 50 cm). To avoid distortion, the wooden boxes must be supported internally by supports via the wall and externally by needles. The physical characteristics of the wall are determined by the quality of the clays and silts and the amount of water in the mud. Sand, gravel, ceramic fragments, and lime have to be added for hardening and to increase its strength. To shield walls from the effects of moisture and weathering, lime mortar is often used. The hammering procedure is necessary for them to be built in order to coagulate the soil mass inside the formwork.



Due to its affordability, versatility, strength, and longevity, this form of masonry has been employed extensively in the past, particularly in rural farmhouses. The inner spaces are next filled with paving on a bed of sand, which helps to position the sections at ground level. The perimeter and center routes are first built out to act as guides. The final cohesiveness is achieved by grouting with mud or lime mortar. Oak, chestnut, or pine 2 to 3 cm thick planks are fastened straight to the rafters to form the

⁶⁵ Gonzalez, Antoni, et al. *La Masia Catalana: Evolució, Arquitectura i Restauració*. Figueres, Brau, 2005.

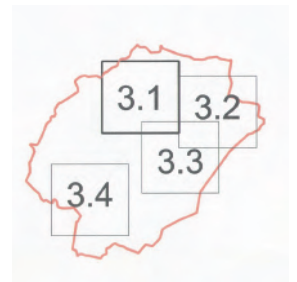


the flooring on the higher stories. The staircases have boards on the higher stories and are constructed of crushed stone. Then, on the bottom floor, 2 to 3 cm thick tiles are installed; on the top stories, tiles are set on tin. We may distinguish between farmhouses with regular brickwork and a certain degree of symmetry and farmhouses with distinct wings depending on the kind of distribution plan of each building. The architectural connection between masonry and nave is one important feature, as well as it is considered crucial to be aware of construction phases and construction techniques. Therefore, we may distinguish between farmhouses erected in one main phase, two main phases, or a succession of various and succeeding stages based on their evolutionary history. Understanding the organic development process is crucial to analyze the primary, secondary, and succeeding components of each construction.⁶⁶

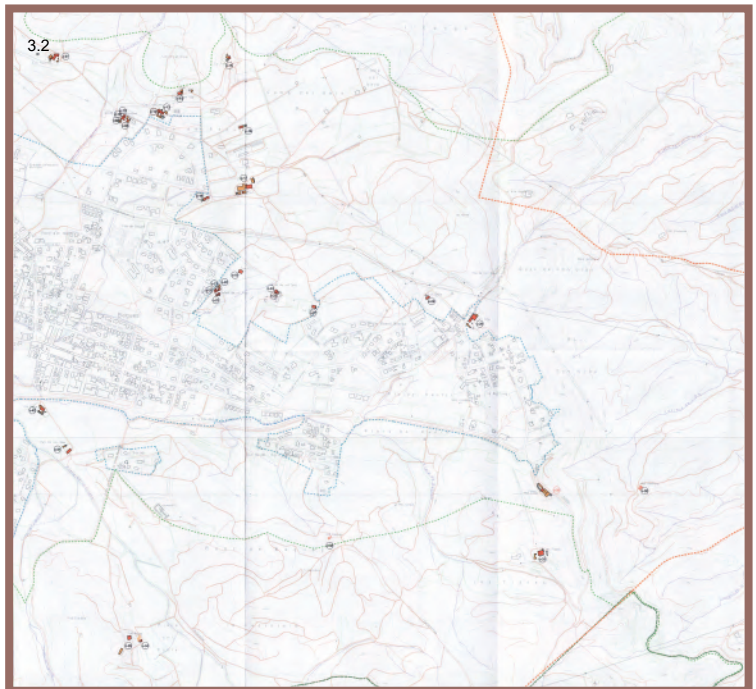
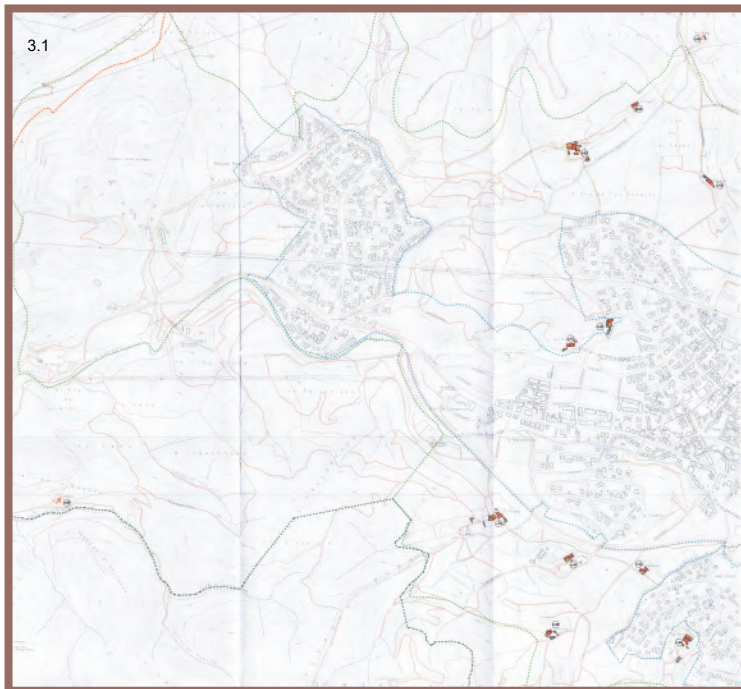
⁶⁶ Gonzalez, Antoni, et al. *La Masia Catalana: Evolució, Arquitectura i Restauració*. Figueres, Brau, 2005.

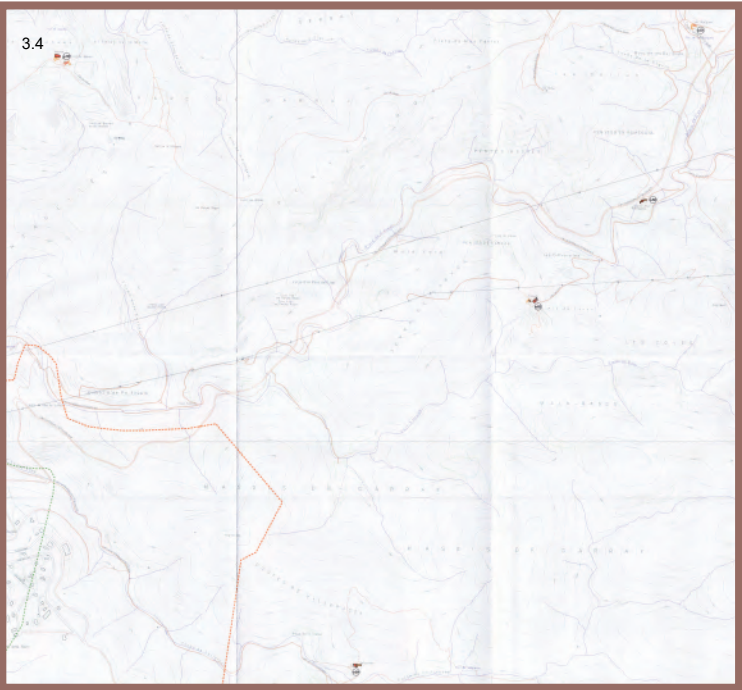
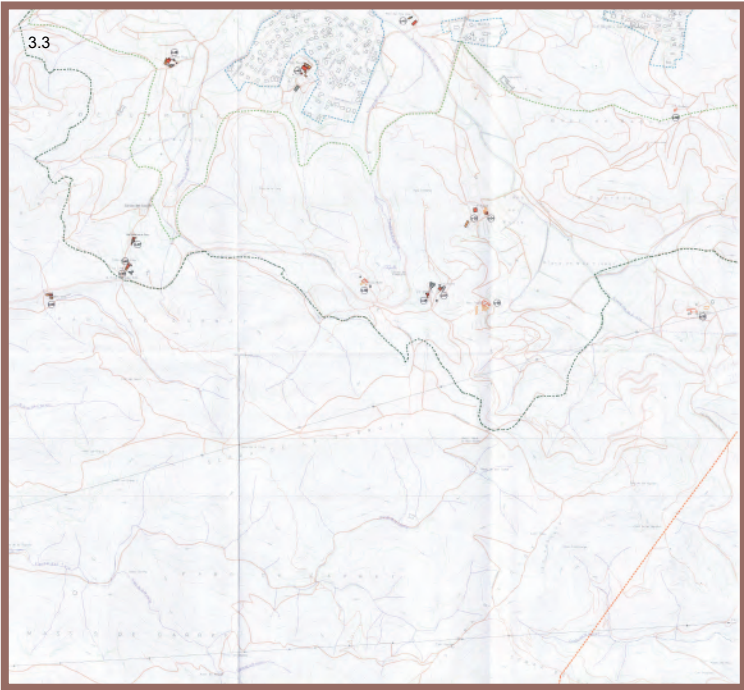
Distribution of the masias of Begues

Special plan of the catalog of farmhouses, rustics and other buildings of interest on unbuildable land.⁶⁷



⁶⁷ "RPUC - Registre de Planejament Urbanístic de Catalunya." Dtes.gencat.cat, 2013, dtes.gencat.cat/rpucportal/AppJava/cercaExpedient.do?reqCode=veureDocument&codintExp=263860&fromPage=.





03 Photographic atlas of the masias of Begues

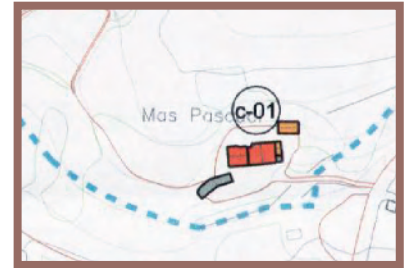
Mas Pasqual

CATEGORY: private and residential

CLASSIFICATION: square-plan farmhouse with double-pitched Arabian tile roof and ridge perpendicular to the facade. It consists of ground floor, first floor and attic

YEAR OF CONSTRUCTION: 14th century

COORDINATES: Latitud: 41.33635
Longitud: 1.91181
UTM Est (X): 408948
UTM Nord (Y): 4576667



Current state of the building.⁶⁸

⁶⁸ "Mas Pasqual. Begues | Mapes de Patrimoni Cultural." Patrimonicultural.diba.cat, patrimonicultural.diba.cat/element/mas-pasqual.



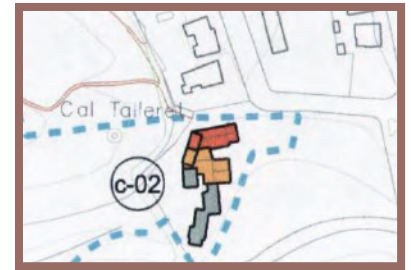
Cal Tailereit

CATEGORY: disused and private

CLASSIFICATION: ruined farmhouse with a rectangular plan, from whose structure can be seen the perimeter walls and a transverse wall inside, which would have divided the space into two sectors

YEAR OF CONSTRUCTION: 13th century

COORDINATES: Latitud: 41.33589
Longitud: 1.91339
UTM Est (X): 409079
UTM Nord (Y): 4576615



Current state of the building.⁶⁹

⁶⁹ "Mas Alemany. Begues | Mapes de Patrimoni Cultural." Patrimonicultural.diba.cat, patrimonicultural.diba.cat/element/mas-alemany.



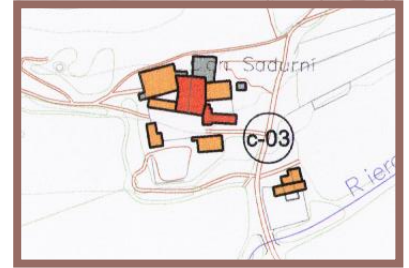
Can Sadurn

CATEGORY: residential and public

CLASSIFICATION: large farmhouse, rectangular in plan with ground floor, loft and attic, and Arabian tile roof with double pitch, with the ridge perpendicular to the facade. The openings are symmetrically distributed

YEAR OF CONSTRUCTION: 15th century

COORDINATES: Latitud: 41.34395
Longitud: 1.91175
UTM Est (X): 408953
UTM Nord (Y): 4577511



Current state of the building.⁷⁰

70 "Can Sadurni. Begues | Mapes de Patrimoni Cultural."
Patrimonicultural.diba.cat, patrimonicultural.diba.cat/
element/can-sadurni.



Cal Gepet

CATEGORY: disused and private

CLASSIFICATION: rectangular plan farmhouse with asymmetrical roof and arranged on two sides and with a ridge perpendicular to the main facade

YEAR OF CONSTRUCTION: 19th-20th century

COORDINATES: Latitud: 41.33494
Longitud: 1.92163
UTM Est (X): 409767
UTM Nord (Y): 4576501



Current state of the building.⁷¹

⁷¹ "Cal Gepet / Cal Gpes. Begues | Mapes de Patrimoni Cultural." Patrimonicultural.diba.cat, patrimonicultural.diba.cat/element/cal-gepet-cal-gepes.



Can Vinyes

CATEGORY: disused and private

CLASSIFICATION: a medium-sized farmhouse consisting of a main volume of ground floor, second floor and attic with an attached building to the west and another to the north

YEAR OF CONSTRUCTION: 18th-20th century

COORDINATES: Latitud: 42.08405
Longitud: 2.05805
UTM Est (X): 422092
UTM Nord (Y): 4659538



Current state of the building.⁷²

⁷² "Can Vinyes. Lluçà | Mapes de Patrimoni Cultural."
Patrimonicultural.diba.cat, patrimonicultural.diba.cat/
element/can-vinyes.



Can Pau

CATEGORY: residential and private

CLASSIFICATION: farmhouse that consists of a main body with a rectangular plan and several outbuildings to the west and east. The building has a symmetrical roof on two sides with a ridge parallel to the facade

YEAR OF CONSTRUCTION: 16th century

COORDINATES: Latitud: 41.32847
Longitud: 1.92197
UTM Est (X): 409787
UTM Nord (Y): 4575782



Current state of the building.⁷³

⁷³ "Can Pau. Begues | Mapes de Patrimoni Cultural." Patrimonicultural.diba.cat, patrimonicultural.diba.cat/element/can-pau.



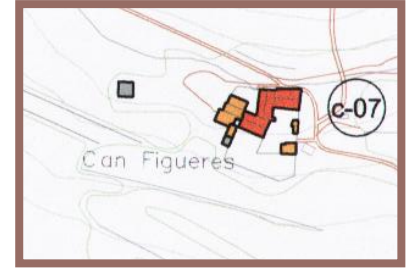
Can Figueres

CATEGORY: residential and private

CLASSIFICATION: rectangular building, consisting of basement, an attic, a basement, and a roof

YEAR OF CONSTRUCTION: 19th century

COORDINATES: Latitud: 41.48164
Longitud: 2.26823
UTM Est (X): 438907
UTM Nord (Y): 4592484



Current state of the building.⁷⁴

⁷⁴ "Can Figueres. Tiana | Mapes de Patrimoni Cultural." Patrimonicultural.diba.cat, patrimonicultural.diba.cat/element/can-figueres-2.



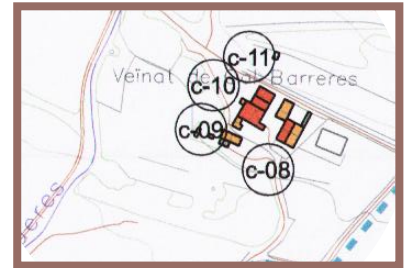
Can Barreres

CATEGORY: residential and private

CLASSIFICATION: architectural complex consisting of several houses that make up the Cal Barreres neighborhood. The Cal Barreres farmhouse is a square building with a ground floor and a double-pitched Arab tile roof with the ridge perpendicular to the main facade

YEAR OF CONSTRUCTION: 18th century

COORDINATES: Latitud: 41.33967
Longitud: 1.92603
UTM Est (X): 410142
UTM Nord (Y): 4577021



Current state of the building.⁷⁵

⁷⁵ "Cal Barreres. Begues | Mapes de Patrimoni Cultural."
Patrimonicultural.diba.cat, patrimonicultural.diba.cat/
element/cal-barreres.



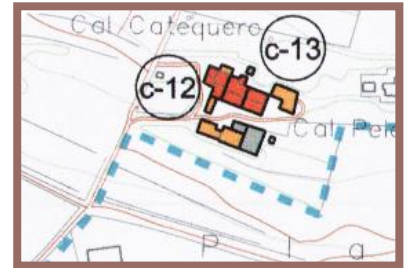
Can Catequero

CATEGORY: residential and private

CLASSIFICATION: architectural complex consisting of a farmhouse with several outbuildings, now divided into two parts. The main building is rectangular in shape with a ground floor and a double-pitched Arabian tile roof with the ridge perpendicular to the facades

YEAR OF CONSTRUCTION: 19th century

COORDINATES: Latitud: 41.33995
Longitud: 1.92788
UTM Est (X): 410297
UTM Nord (Y): 4577050



Current state of the building.⁷⁶

⁷⁶ "Cal Catequero / Cal Cataquero. Begues | Mapes de Patrimoni Cultural." Patrimonicultural.diba.cat, patrimoni cultural.diba.cat/element/cal-catequero-cal-cataquero.



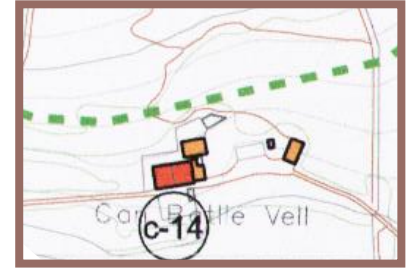
Can Batllell

CATEGORY: residential and private

CLASSIFICATION: rectangular farmhouse with a double-pitch Arabian tile roof with the ridge perpendicular to the facade. The right side looks like a semi-detached building with a single-sided roof, and the appearance of a basilica plan

YEAR OF CONSTRUCTION: 18th century

COORDINATES: Latitud: 41.34066
Longitud: 1.92881
UTM Est (X): 410376
UTM Nord (Y): 4577128



Current state of the building.⁷⁷

⁷⁷ "Cal Batllell. El Papiol | Mapes de Patrimoni Cultural." Patrimonicultural.diba.cat, patrimonicultural.diba.cat/element/cal-batllell.



L'Alzina

CATEGORY: residential and private

CLASSIFICATION: architectural complex consisting of several buildings of an agricultural nature arranged along a road. It is a rectangular building with a ground floor, attic and loft, and a double-pitch Arabian tile roof

YEAR OF CONSTRUCTION: 19th century

COORDINATES: Latitud: 41.33702
Longitud: 1.93217
UTM Est (X): 410652
UTM Nord (Y): 4576721



Current state of the building.⁷⁸

⁷⁸ "L'Alzina. Begues I Mapes de Patrimoni Cultural." Patrimonicultural.diba.cat, patrimonicultural.diba.cat/element/lalzina.



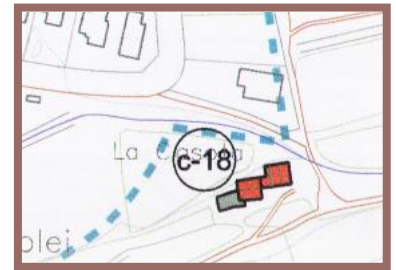
La Casota

CATEGORY: private and residential

CLASSIFICATION: rural architectural complex consisting of three buildings built in different phases and attached to each other. The main building has a square plan, with a ground floor and first floor, and a double-pitch Arabian tile roof.

YEAR OF CONSTRUCTION: 19th century

COORDINATES: Latitud: 41.33664
Longitud: 1.93017
UTM Est (X): 410484
UTM Nord (Y): 4576680



Current state of the building.⁷⁹

⁷⁹ "La Casota. Begues | Mapes de Patrimoni Cultural." Patrimonicultural.diba.cat, patrimonicultural.diba.cat/element/la-casota.



Cal Ros

CATEGORY: private and residential

CLASSIFICATION: rectangular-plan farmhouse with a pitched roof and ridge perpendicular to the main elevation. It consists of a central body, with ground floor and first floor, and two smaller outbuildings to the east of the building

YEAR OF CONSTRUCTION: 18th century

COORDINATES: Latitud: 41.33253
Longitud: 1.93575
UTM Est (X): 410946
UTM Nord (Y): 4576218



Current state of the building.⁸⁰

⁸⁰ "Cal Ros, Begues | Mapes de Patrimoni Cultural."
Patrimonicultural.diba.cat, patrimonicultural.diba.cat/
element/cal-ros.



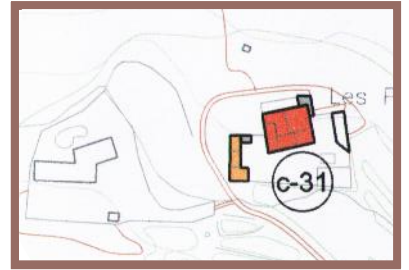
Masia Les Planes

CATEGORY: private and residential

CLASSIFICATION: square plan masia with ground floor, two floors and a double-pitched roof with a ridge perpendicular to the main facade

YEAR OF CONSTRUCTION: 14th century

COORDINATES: Latitud: 41.32315
Longitud: 1.94753
UTM Est (X): 411919
UTM Nord (Y): 4575165



Current state of the building.⁸¹

81 "Les Planes. Begues | Mapes de Patrimoni Cultural."
Patrimonicultural.diba.cat, patrimonicultural.diba.cat/
element/les-planes.



La Clota

CATEGORY: disused and private

CLASSIFICATION: these are the remains of a rectangular masia, of which the vestiges of the facade, the partition walls of the inner rooms, and an oven are preserved

YEAR OF CONSTRUCTION: 17th century

COORDINATES: Latitud: 41.98739
Longitud: 2.38059
UTM Est (X): 448692
UTM Nord (Y): 4648562



Current state of the building.⁸²

⁸² "La Clota. Taveret | Mapes de Patrimoni Cultural."
Patrimonicultural.diba.cat, patrimonicultural.diba.cat/
element/la-clota-1.



Les Casetes del Roure

CATEGORY:	disused and private
CLASSIFICATION:	farmhouse composed of buildings with symmetrical roofing, on two sides, perpendicular to the main facade. The facings are of mortar-bonded stone and modern concrete
YEAR OF CONSTRUCTION:	18th century
COORDINATES:	Latitud: 41.31965 Longitud: 1.92672 UTM Est (X): 410172 UTM Nord (Y): 4574798



Current state of the building.⁸³

⁸³ "Les Casetes Del Roure. Begues | Mapes de Patrimoni Cultural." Patrimonicultural.diba.cat, patrimonicultural.diba.cat/element/les-casetes-del-roure.



Mas Trabal

CATEGORY: disused and private

CLASSIFICATION: farmhouse that consists of several bodies of buildings, with a very complex spatial structure. Its current state does not allow detailed observation

YEAR OF CONSTRUCTION: 16th century

COORDINATES: Latitud: 41.32497
Longitud: 1.94197
UTM Est (X): 411456
UTM Nord (Y): 4575373



Current state of the building.⁸⁴

⁸⁴ "Mas Trabal / Mas Treval / Mas Traval. Begues | Mapes de Patrimoni Cultural." Patrimonicultural.diba.cat, patrimonicultural.diba.cat/element/mas-trabal-mas-treval-mas-traval.



Puig Moltó

CATEGORY: disused and private

CLASSIFICATION: set of abandoned buildings belonging to the former farm of Puig Moltó. It has several bodies, the first being an enclosed enclosure with masonry walls bonded with lime mortar

YEAR OF CONSTRUCTION: 15th century

COORDINATES: Latitud: 41.31682
Longitud: 1.92102
UTM Est (X): 409691
UTM Nord (Y): 4574490



Current state of the building.⁸⁵

⁸⁵ "Puig Moltó. Begues | Mapes de Patrimoni Cultural."
Patrimonicultural.diba.cat, patrimonicultural.diba.cat/element/
puig-molto.



Mas ferrer

CATEGORY: residential and private

CLASSIFICATION: renovated farmhouse of large size, consisting of a main body, rectangular plan with double-pitched roof, with ground floor, attic and loft, to which two built-up bodies are attached

YEAR OF CONSTRUCTION: 14th century

COORDINATES: Latitud: 41.32506
Longitud: 1.91781
UTM Est (X): 409434
UTM Nord (Y): 4575408



Current state of the building.⁸⁶

⁸⁶ "Mas Ferrer. Begues | Mapes de Patrimoni Cultural."
Patrimonicultural.diba.cat, patrimonicultural.diba.cat/element/
mas-ferrer.



Cal Gepis

CATEGORY:	residential and private
CLASSIFICATION:	fenced farmhouse with rampart, accessed through a modern gateway. The main building has a symmetrical roof on two sides with a ridge parallel to the facade
YEAR OF CONSTRUCTION:	19th century
COORDINATES:	Latitud: 41.3321 Longitud: 1.924 UTM Est (X): 409962 UTM Nord (Y): 4576183



Current state of the building.⁸⁷

⁸⁷ "Cal Xepis / Cal Gepis / Cal Jepis. Begues | Mapes de Patrimoni Cultural." Patrimonicultural.diba.cat, patrimonicultural.diba.cat/element/cal-xepis-cal-gepis-cal-jepis.



Can Rigol

CATEGORY:	residential and private
CLASSIFICATION:	was originally an L-shaped farmhouse with the main part on two floors and covered by two gables.
YEAR OF CONSTRUCTION:	contemporary
COORDINATES:	Latitud: 41.32812 Longitud: 1.91177 UTM Est (X): 408933 UTM Nord (Y): 4575754



Current state of the building.⁸⁸

⁸⁸ "Relotge de Sol de Can Rigol - 2. Begues | Mapes de Patrimoni Cultural." Patrimonicultural.diba.cat, patrimoni cultural.diba.cat/element/rellotge-de-sol-de-can-rigol-2.



Can Tèrmens

CATEGORY: residential and private

CLASSIFICATION: building with a rectangular floor plan and pitched roof

YEAR OF CONSTRUCTION: contemporary

COORDINATES: Latitud: 41.32973
Longitud: 1.9083
UTM Est (X): 408645
UTM Nord (Y): 4575936



Current state of the building.⁸⁹

⁸⁹ "Can Tèrmens. Begues | Mapes de Patrimoni Cultural." Patrimonicultural.diba.cat, patrimoni cultural.diba.cat/element/can-tèrmens.



El Mas Roig

CATEGORY: residential and private

CLASSIFICATION: farmhouse that consists of several building bodies of different heights. The main buildings are aligned with the facade, rectangular in plan, and have a roof with a ridge parallel to the facade

YEAR OF CONSTRUCTION: 14th century

COORDINATES: Latitud: 41.33322
Longitud: 1.92401
UTM Est (X): 409964
UTM Nord (Y): 4576307



Current state of the building.⁹⁰

⁹⁰ "Mas Roig. Begues | Mapes de Patrimoni Cultural."
Patrimonicultural.diba.cat, patrimonicultural.diba.cat/
element/mas-roig.



Cal Pepet de la Creu

CATEGORY: disused and private

CLASSIFICATION: rectangular-plan agricultural building with ground floor and attic, and double-pitch Arabian tile roof with the ridge perpendicular to the facade

YEAR OF CONSTRUCTION: 19th century

COORDINATES: Latitud: 41.31833
Longitud: 1.9092
UTM Est (X): 408704
UTM Nord (Y): 4574670



Current state of the building.⁹¹

⁹¹ "Cal Pepet de La Creu, Begues | Mapes de Patrimoni Cultural." Patrimonicultural.diba.cat, patrimonicultural.diba.cat/element/cal-pepet-de-la-creu.



Les Borigues

CATEGORY: disused and private

CLASSIFICATION: very simple building, formerly used as an enclosure. This consists of a square building, used as a dwelling, with a ground floor and an attic

YEAR OF CONSTRUCTION: contemporary

COORDINATES: Latitud: 41.311
Longitud: 1.8942
UTM Est (X): 407438
UTM Nord (Y): 4573872



Current state of the building.⁹²

⁹² "Les Borigues. Begues | Mapes de Patrimoni Cultural."
Patrimonicultural.diba.cat, patrimonicultural.diba.cat/element/
les-borigues.



Corral d'en Romagosa

CATEGORY: private and public

CLASSIFICATION: a building of folk type, consisting of a living space and a cattle pen. The house part has a square plan with a ground floor and attic, and a double-pitched roof

YEAR OF CONSTRUCTION: 20th century

COORDINATES: Latitud: 41.3043
Longitud: 1.89172
UTM Est (X): 407221
UTM Nord (Y): 4573130



Current state of the building.⁹³

⁹³ "Corral d'En Romagosa. Begues I Mapes de Patrimoni Cultural." Patrimonicultural.diba.cat, patrimonicultural.diba.cat/element/corral-den-romagosa.



Carxol

CATEGORY: disused and private

CLASSIFICATION: a building of folk type, consisting of a living space and a cattle pen. The house part has a square plan with a ground floor and attic, and a double-pitched roof

YEAR OF CONSTRUCTION: 18th century

COORDINATES: Latitud: 41.30043
Longitud: 1.88624
UTM Est (X): 406757
UTM Nord (Y): 4572707



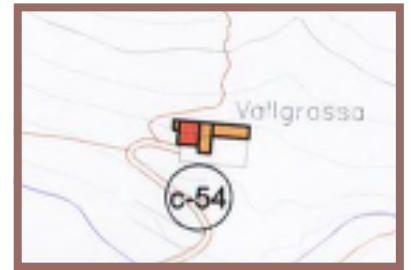
94 "Carxol. Begues | Mapes de Patrimoni Cultural." Patrimonicultural. diba.cat, patrimonicultural.diba.cat/element/carxol.

Current state of the building.⁹⁴



Vallgrassa

CATEGORY:	scientific and public
CLASSIFICATION:	square-plan farmhouse with ground floor and first floor and double-pitched roof. The main facade has openings arranged symmetrically with wooden lintels
YEAR OF CONSTRUCTION:	19th century
COORDINATES:	Latitud: 41.28634 Longitud: 1.87746 UTM Est (X): 406002 UTM Nord (Y): 4571152



Current state of the building.⁹⁵

⁹⁵ "Vallgrassa. Begues | Mapes de Patrimoni Cultural." Patrimonicultural.diba.cat, patrimonicultural.diba.cat/element/vallgrassa.



Jaques

CATEGORY:	disused and private
CLASSIFICATION:	farmhouse with an agricultural character, consisting of several buildings, one of which is devoted to housing and others to enclosures
YEAR OF CONSTRUCTION:	18th century
COORDINATES:	Latitud: 41.30955 Longitud: 1.86186 UTM Est (X): 404729 UTM Nord (Y): 4573746



Current state of the building.⁹⁶

⁹⁶ "Jaques. Begues | Mapes de Patrimoni Cultural." Patrimonicultural.diba.cat, patrimonicultural.diba.cat/element/jaques.



Corral Petit Canigó

CATEGORY: disused and private

CLASSIFICATION: rectangular building in a very advanced state of disrepair. It does not preserve the roof, which was on a single slope

YEAR OF CONSTRUCTION: 18th century

COORDINATES: Latitud: 41.32675
Longitud: 1.94761
UTM Est (X): 411930
UTM Nord (Y): 4575565

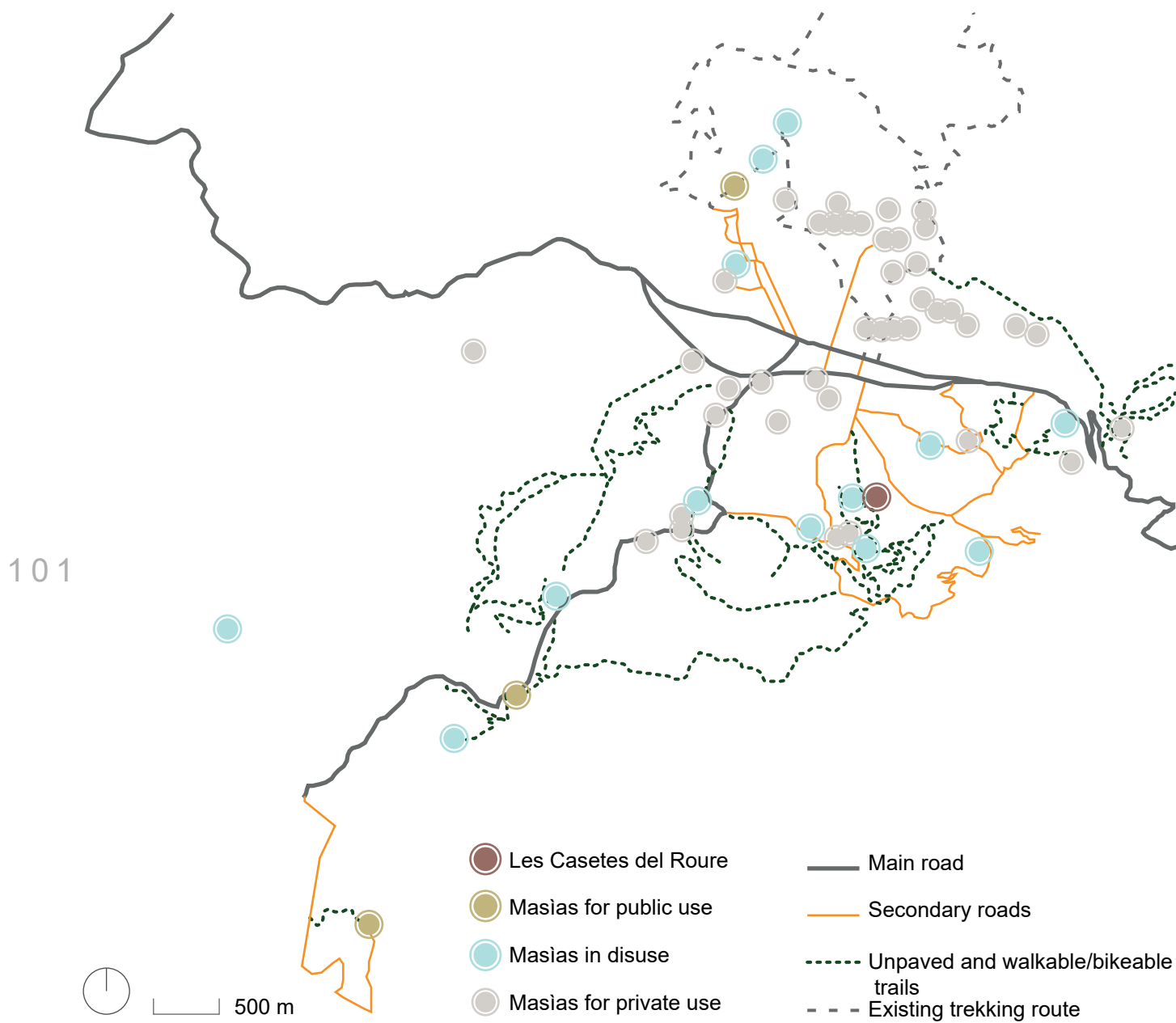


Current state of the building.⁹⁷

⁹⁷ "Corral Petit Canigó. Begues | Mapes de Patrimoni Cultural." Patrimonicultural.diba.cat, patrimonicultural.diba.cat/element/corral-petit-canigo.



Network of masias and existing routes



This scheme summarizes the information about the different masias in the Begues area and highlights, indeed, how the prevalence is for private use and there is a tendency on the part of residents to renovate these buildings for housing purposes, not agricultural or tourist purposes. In addition, several abandoned farmsteads are noted, which may represent an opportunity for recovery, where a relationship with the land and the masias network itself can be re-grafted. As for the paths, numerous unpaved roads are distinguished, which can be crossed on foot, by bicycle or for trekking excursions, and it can be seen that many masias turn out to be connected and accessible, only, through them.

Recommended practices of masias restoration

Architectural heritage is not limited to buildings declared monuments by the public administration or catalogs. Apart from the responsibility of the institutions, it is the duty of the community, to ensure that it is respected, preserved in the best possible way and to intervene with the utmost care. In this study, a conservative type of restoration is proposed, which consists of understanding the peculiarities of the artifact, defining its authenticity, and ensuring the permanence of its essential values. First we report on the refurbishment of masias in the municipality of Begues and in the territory of Catalunya, which have affinities with Les Casetes in terms of their use of materials, construction techniques, and relationship with the landscape.

Next, the restoration works of architect Massimo Carmassi are identified as a design reference, which although they do not share the same functional characteristics and historical roots as the masia, show wisdom and awareness in the treatment of pre-existences and of new architectural elements, in a respectful and coherent vision.

BEGUES

Corral d'en Romagosa

98 "Inicio | Corral D'en Romagosa."
Corral De n Romagosa,
www.corralderomagosa.com.

The Corral was reconstructed while maintaining the essence of the original building, but new spaces were created. The farmhouse has been decorated with a harmonious color scheme and natural furniture. A charming rustic fireplace presides over the main living room, and all the rooms and patios of the house are oriented toward the monumental Peña del Àguila.

Image of the renovated building.⁹⁸



Building of popular type, of great simplicity, consisting of a dwelling and a cattle pen. The area of the house, which is small in size, has a square plan, with a ground floor, an attic and a double-pitched roof. The distinctive elements of the intervention are the preservation of the pre-existing volume and the desire to maintain the original and typical materials of the place, including the use of exposed stone, terracotta for the floors, wood for the windows and doors, and arabian tiles for the roof.

Photos of the interior in its current state.⁹⁹



⁹⁹ "Corral d'En Romagosa. Begues I Mapes de Patrimoni Cultural." Patrimonicultural.diba.cat, patrimonicultural.diba.cat/element/corral-den-romagosa.

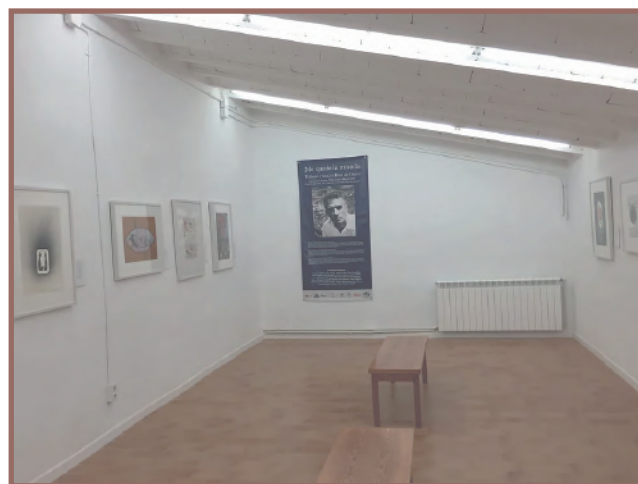
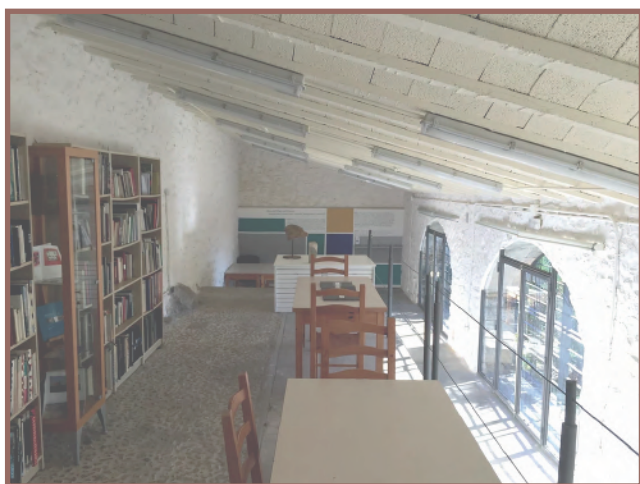
Vallgrassa. Centre Experimental de les Arts

100 "Vallgrassa. Centre Experimental de Les Arts - Garraf."
Parcs.diba.cat, parcs.diba.cat/web/garraf/detall/-/contingut/182160/
vallgrassa-centre-experimental-de-les-arts.

Located in the heart of the Garraf Park, it is a farmhouse, once associated with the exploitation of goat livestock, rehabilitated by the Diputació de Barcelona as an educational facility, to develop artistic and cultural activities, information and training for the general public and schoolchildren. Vallgrassa aims to be an open, living and multifunctional project, a laboratory of the arts, a space for dialogue and discovery to deepen the knowledge of different artistic languages, a space for permanent debate aimed at everyone.

Image of the renovated building.¹⁰⁰





Photos of the interior in its current state.¹⁰¹

The main facade has symmetrically arranged openings: two on the ground floor (the entrance portal, with a low arch, and a window on the left, rectangular and with wooden lintels) and two windows on the second floor, also with wooden lintels. The surface of the facade consists of irregular stone blocks, and is painted white, except in the corner area, where the stone has been left exposed. Prominent in the left corner of the facade is a semi-cylindrical annex body, which reaches the height of the second floor, and corresponds internally to a wood-burning oven located in one of the rooms. We notice the main hall positioned on the ground floor of the main building, inside which the fireplace emerges and to its left the wood-burning oven, characterized by its square shape. The floor inside the oven is made of clay tiles and the domed vault is made of stone. Attached to the right of the main building is a rectangular, stone, double-pitched roofed body with three external arches, inside which is housed a room for temporary exhibitions, which in the past served as a stable. In this case, the materials preserved are stone, which, however, is mostly painted white, Arabic tile, and wood for the beams.

¹⁰¹ "Vallgrassa. Centre Experimental de Les Arts - Garraf." Parcs.diba.cat, parcs.diba.cat/web/garraf/detall/-/contingut/182160/vallgrassa-centre-experimental-de-les-arts.

CATALUNYA

Rehabilitación Masía / Hernández Arquitectos

102 "Rehabilitación Masía / Hernández Arquitectos." ArchDaily En Español, 17 May 2014, www.archdaily.cl/cl/02-361949/la-hedra-hernandez-arquitectos.

The building is located on top of a hill and enjoys views of the valley. Both the existing and newly created volumes are sensitive to the topography of the land, creating a U-shape. The existing buildings were stripped of their old cladding, leaving exposed natural stone, while the newly created volumes were clad with white cement mortar, clearly distinguishing the new from the old.

Current state of the building.¹⁰²



The main building faces south and is flanked by two other volumes that embrace the large terrace, which represents the nexus of the whole, as well as constituting an outdoor space designed and cared for to the smallest detail. Presiding over this space is a native plane tree, which it was important to preserve and serves as a sign and thread between the house and the landscape. On the ground floor we find the living room, an open space, in which the dining room is separated by a wall with niches that houses two sliding doors, allowing it to be isolated.

Ground floor plan.¹⁰³



103 "Rehabilitación Masía / Hernández Arquitectos." ArchDaily En Español, 17 May 2014, www.archdaily.cl/cl/02-361949/la-hedra-hernandez-arquitectos.



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Photos of the interior in its current state.¹⁰⁴

The volume located to the west serves as an entrance filter, allowing access to the terrace, the distributor of the whole. The eastern part of it is used for services and houses the kitchen, laundry, toilets, pantries and cold rooms, as well as the housekeepers' quarters. Both sections have a similar height and all rooms are connected to the outside by glass doors, establishing a direct relationship with the terrace. Finally, the main body, facing south, has three floors and a belvedere. The three levels are connected by a newly constructed tower, which articulates and distributes the space in the most orderly manner, via stairs and an elevator.

¹⁰⁴ "Rehabilitación Masía / Hernández Arquitectos." ArchDaily En Español, 17 May 2014, www.archdaily.cl/cl/02-361949/la-hedra-hernandez-arquitectos.



Floor plan of the first floor.¹⁰⁵

On the second floor there are 7 bedrooms, all with private bathrooms and private terraces. It also has a game room of more than 150 sq. m. with television area, fireplace, billiards, table tennis, table soccer and game table. The surrounding area has been landscaped with native trees and shrubs, which demarcate spaces and define paths. The slopes, lined with vegetation, slope down to the pond. In this case, the original materials retained correspond to the stone cladding for the exterior and the use of wooden beams, and the volume turns out to be considerably modified to meet the needs of the client.

¹⁰⁵ "Rehabilitación Masía / Hernández Arquitectos." ArchDaily En Español, 17 May 2014, www.archdaily.cl/cl/02-361949/la-hedra-hernandez-arquitectos.

Masía en Santa Eulalia / NeuronaLab

106 "Masía En Santa Eulalia / NeuronaLab." ArchDaily En Español, 7 Oct. 2021, www.archdaily.cl/cl/969349/masia-en-santa-eulalia-neuronalab.

Restoration of a rural house that arose from the need to get away from the city and take care of the elderly who live in the farmhouse next door. It is a trapezoidal house that belongs to a group of buildings formerly associated with the agricultural exploitation of the area, the Can Barnils farmstead.

Current state of the building.¹⁰⁶





Floor plans of the building.¹⁰⁷

The house was small in size, some areas were used as stables for horses or hens coops, and were not connected to the rest of the rooms. The north façade, where the summer porch is now located, has been completely enclosed and the floor plan layout has been functionally improved, in particular, in circulation to promote mobility in the space. The distribution is flexible for temporary use: there are only two rooms, but they can accommodate up to twelve people, to facilitate community living.

¹⁰⁷ "Masía En Santa Eulalia / NeuronaLab." ArchDaily En Español, 7 Oct. 2021, www.archdaily.cl/cl/969349/masia-en-santa-eulalia-neuronalab.



114

Photos of the interior in its current state.¹⁰⁸

This project mainly reuses materials from the area, many of them from demolition. The starting principle was to consolidate the envelope, improve it thermally with cork insulation, and enhance the century-old building system. An in-depth study was conducted on sunlight, natural cross ventilation, and the use of well water with a filtration system. In terms of interior design, the original floors, beams, and woodwork were recovered in dialogue with new, unprocessed materials such as clay and concrete, natural stone, and wood. This approach allows residents to connect with the natural environment, surrounded by greenery, reducing the stress level characteristic of urban life.

¹⁰⁸ "Masía En Santa Eulalia / Neuronalab." ArchDaily En Español, 7 Oct. 2021, www.archdaily.cl/cl/969349/masia-en-santa-eulalia-neuronalab.

Casa Pairal, Espolla, Girona

109 Casa Pairal | José Antonio Coderch de Sentmenat.
joseantonioderch.org/casa-pairal/.

"This house of our elders, which I managed to recover 14 years ago, was restored with the utmost respect for the building. While we were doing the work, there was a kind of dialogue with him, and his grumbles and complaints helped us a lot to treat him with due respect. It was a very time-consuming job because of his difficulties, our lack of experience in restoration, and, of course, financial difficulties."

J.A. Coderch de Sentmenat

Current state of the building.¹⁰⁹



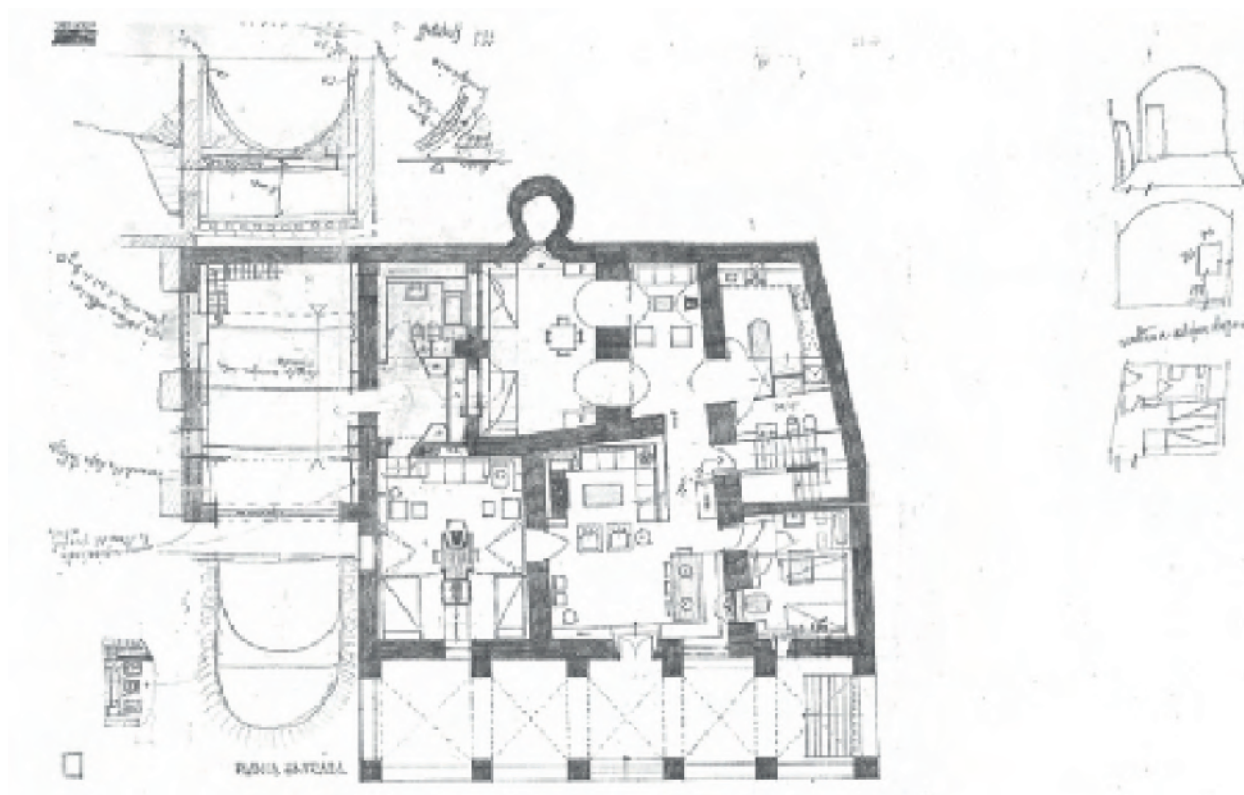
Casa Coderch is located in a prominent position in Espolla. The elevated location manifests its importance: at the top of the hill, it acts as a boundary, with part of the property jutting into the land, and at the same time, at a lower level with the urban fabric. The context and the relationship with the surrounding area coincide with the descriptions of the Catalan countryside by Esteban de Corbera, cited by Sandiumenge and in turn by Leopoldo Torres Balbas in which the landscape is constructed on the basis of the historical tradition of structuring, social and productive territory.¹¹⁰



Relationship of the building to the context.¹¹¹

¹¹⁰ Rodríguez, Ana, et al. *Coderch Y Las Bóvedas de Espolla*. Vol. 3, 2007, p. 1429, www.sedhc.es/biblioteca/actas/Rodr_guez%20Garc_a.pdf.

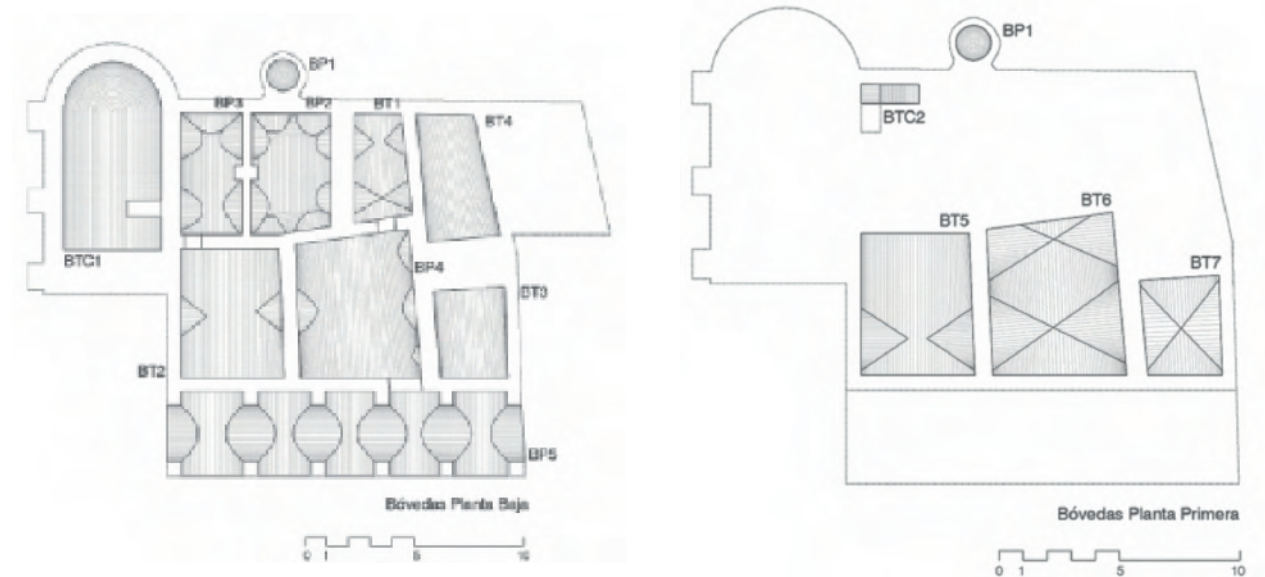
¹¹¹ Rodríguez, Ana, et al. *Coderch Y Las Bóvedas de Espolla*. Vol. 3, 2007, p. 1429, www.sedhc.es/biblioteca/actas/Rodr_guez%20Garc_a.pdf.



The ground floor plan sketch.¹¹²

One of the most important works undertaken, consists of the arrangement of the access from the outside to the second floor, creating a free entrance space, under which the garage was obtained, taking advantage of the difference in height. This is a space of considerable height divided into two floors and covered by a newly constructed vault in the lower part, with a span of 4.40 meters, consisting of a barrel vault ending in a hemispherical vault supported by a curved wall, also cylindrical, against the ground. A small detail of the ground floor plan drawn in pencil on a sketch, shows us schematically the typical section of the vault.

112 Rodríguez, Ana, et al. *Coderch Y Las Bóvedas de Espolla*. Vol. 3, 2007, p. 1429, www.sedhc.es/biblioteca/actas/Rodríguez%20García.pdf.



Vaults' scheme.¹¹³

The intervention goes far beyond a simple renovation, it is a transformation that reinterprets the pre-existing house and enhances it for contemporary living, significantly improving it, adding another phase to the long history of the family home. It signifies the connection with the past, with his family's ancestors, with the tradition of the Catalan countryside, with his deepest roots, and in this sense the vaults of the house play a key role.

¹¹³ Rodríguez, Ana, et al. *Coderch Y Las Bóvedas de Espolla*. Vol. 3, 2007, p. 1429, www.sedhc.es/biblioteca/actas/Rodr_guez%20Garc_a.pdf.



Stone masonry vault on the ground floor; at the back, the rear facade well through which the room is ventilated and lit.

Photograph by Ana Rodríguez García.¹¹⁴

¹¹⁴ *Casa Pairal* | José Antonio Coderch de Sentmenat joseantoniocoderch.org/casa-pairal/.



Stone masonry vault on the ground floor, built with a reed formwork on earthen formwork.

Photograph by Ana Rodríguez García.¹¹⁵

¹¹⁵ Casa Pairal | José Antonio Coderch de Sentmenat. joseantonioCoderch.org/casa-pairal/.



OTHER
REFERENCES

"Building and restoration are two different actions, but each needs the other. Without having experience in the technological and figurative field of modern architecture, one cannot do even good restoration. It often happens that transformation comes at the expense of preservation."¹¹⁶

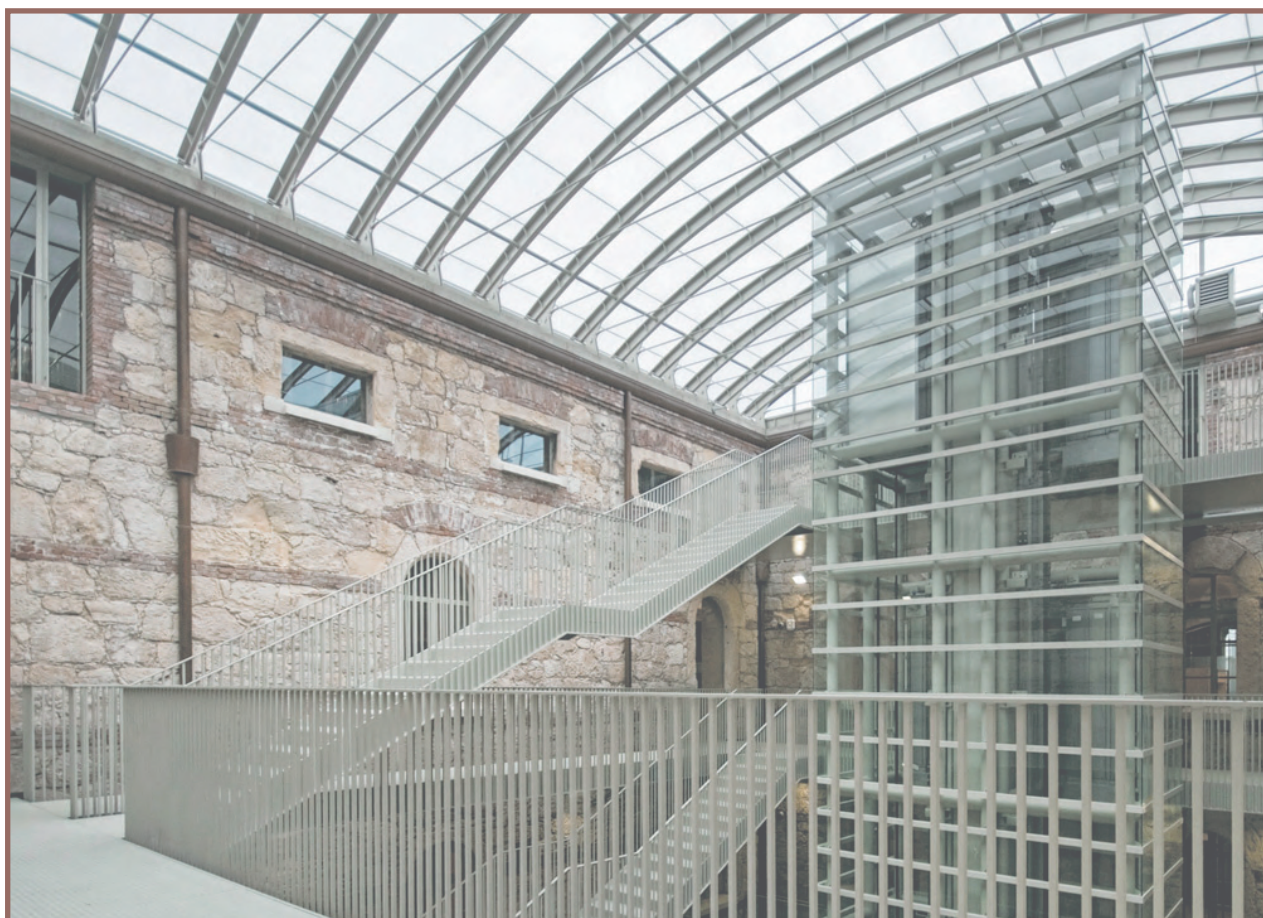
The best practice cases illustrated in this chapter involving Catalan buildings prove to be limited and show, to be sure, some critical issues. First, due to the fact that in most of them the agricultural or artisanal matrix they originally possessed is erased. It is considered very important to analyze the past functional characteristics of an artifact, which determined its form and evolution, and to respect its continuity in recovery interventions. The dynamic that emerges in Catalunya, however, shows little consideration of this factor and a desire to meet economic and commercial requirements more than anything else on the part of the client. The result manifests the tendency to redevelop a large number of masias for exclusively residential purposes and in a conception disconnected from the territory and the network of other farmsteads in the area. This is not only a functional deficiency, but an approach aimed at the economic and practical objective, which does not stop to carefully investigate the historical memory, because it is dysfunctional to the design times and does not set out to consciously and coherently analyze volumetric and material choices. The consequence is the loss of a valuable architectural heritage, which as premised, it is argued should be protected.

In this context, it is considered useful to the elaboration of the design of Les Casetes to bring back the vision of the Tuscan architect Massimo Carmassi, in particular, for the treatment he gives to the different elements that make up a recovery: the envelope, the layering of the masonry, the window and door frames, the coverings, the decorations and the distribution of the spaces in respect of the functional matrix. Carmassi argues that the "character" of a building must be understood, first and foremost, with the goal of relating it to the new use, seeking harmony between past and present material culture. What is added, in fact, must relate with balance to the aesthetic atmosphere of the whole. The method that distinguishes it is based on a thorough research of the type-morphological structures and construction techniques used, which determine the compositional rules. Moreover, "the Carmassian language" is defined by the use of large wall surfaces, usually brick, in assonance with glass walls, steel, wood and brass structures, and all arranged according to primary forms, such as the square, triangle or circle. It results in a conservative attitude, with the restored building and its history at the center, overlaid with a lighter contemporary last layer. Such prostheses are used to respond to functional issues and are intended to interfere as little as possible with interior spaces.¹¹⁷ Some of the guiding principles are: homogeneity, simplicity, neutrality and consistency, expressing a strong relationship with context and memory.¹¹⁸

116 Caldelli, Valeria. "Come Si è Trasformata Oggi L'architettura." Meer, 1 Apr. 2019, www.meer.com/it/51983-come-si-e-trasformata-oggi-larchitettura. Accessed 8 Jan. 2023.

117 Zanichelli, Sergio. "La Poesia Del Restauro, Dialogo Con Massimo Carmassi." Architettare, 2007, www.architetti.re.it/wp-content/uploads/2009/05/architettare_02.pdf.

118 Carmassi, Massimo, and Gabriella Carmassi. *Opere e progetti*. Milano, Electa, 2004.



Ex Santa Marta Barracks, Verona.¹¹⁹

In this intervention, the main elements that we identify as good practice are the work of cleaning the masonry surfaces, allowing the original texture to re-emerge, the rehabilitation of the vaulted structures and the wooden roof system, and the use of glazed surfaces, which allow for the illumination of the spaces and greater thermal and acoustic efficiency.

¹¹⁹ Viasolferino, Pubblicato da: "Viasolferino Blog | Santa Marta - Archeologia Industriale - Carmassi." Viasolferinohome.it, 18 Sept. 2018, www.viasolferinohome.it/it-road/it-road-3-ex-panificio-della-caserma-santa-marta-verona/.



Gonzaga Palace, Guastalla.¹²⁰

In this case, the enhancement of material and decorative layers is noticeable, respecting the past life of the building. In addition, the search for lightness for today's layer, which consists of the roofing, is evident, and it rests on the preexistent structure, illuminating it and ensuring its natural rewarming.

120 "Il Restauro Del Palazzo Dei Gonzaga a Guastalla." larchitetto.it/articoli/il-restauro-del-palazzo-dei-gonzaga-a-guastalla/.



Antonelliana Municipal Library, Sanigallia.¹²¹

In the building shown here, we can see the architect's use of simple volumes composed of glass and steel. These are perfectly recognizable for the respect to the pre-existence, partly due to the use of glass that allows transparency and a visual continuity.

¹²¹ Nastro, Santa. *Le Nuove Residenze Del Mattatoio Di Roma* *Artribune*. 6 Mar. 2021, www.artribune.com/arti-performative/2021/03/mattatoio-residenze-pelanda/.



Antonelliana Municipal Library, Sanigallia.¹²²

In this project also inspiring may be the proposed solution for the window and door frames, which are composed of thin metal elements and grafted into the inner side of the openings.

¹²² Nastro, Santa. *Le Nuove Residenze Del Mattatoio Di Roma Artribune*. 6 Mar. 2021, www.artribune.com/arti-performative/2021/03/mattatoio-residenze-pelanda/.

04

Les Casetes del Roure: historical notes

Catalunya in the 18th century

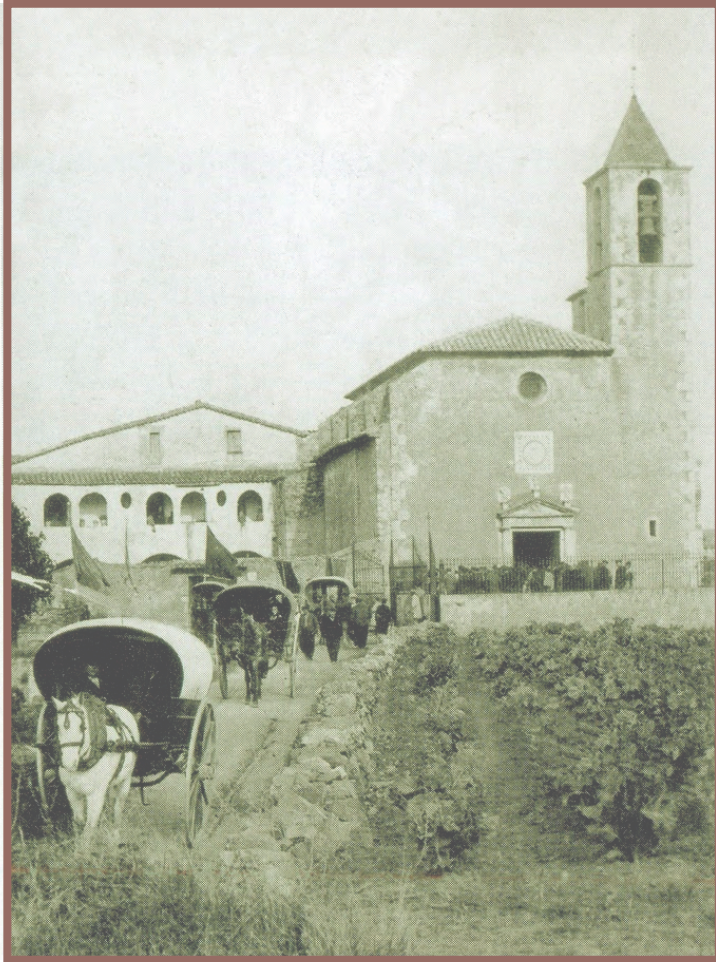
At the end of the 17th century, Catalunya showed signs of economic recovery. However, both the Nine Years' War and the period toward the War of Succession (1705-1714) weakened economic development and impoverished the lifestyles of much of Catalan society. At the beginning of the 18th century there were nearly half a million inhabitants living in Catalunya. Most of them were engaged in agriculture, aimed at commercialization. Of note was the agricultural upswing experienced by some counties, such as Baix Llobregat, Vallès Oriental and Occidental, El Maresme or Camp de Tarragona, where a process of profit growth linked to the world of farms gave rise to the economic growth of the 18th century, despite the defeat of 1714 and the dramatic consequences of the war. This situation did not affect the entire country, however, as most of the interior faced the consequences of plagues and military invasions. The Catalan countryside presented a reality of profound social differentiation, heralding the end of traditional communal solidarity and the gradual increase in the number of day laborers. As for the cities, the world of urban manufacturing was experiencing a situation of decline, pushing the processes of industrial decentralization.¹²³ The active sector of

merchants based in Barcelona had strengthened a powerful internal and external network, which mainly exported brandy to the Dutch and English from West Coast ports and imported textiles. This explains the coincidence of interests with the Austrian party formed in 1702 and composed of bourgeois and nobles, which took the form of a protectionist economic program.¹²⁴ At the same time, however, the Catalan bourgeoisie gradually participated in the Atlantic trade, enabling the spread of various companies to various cities and areas of the country. Due to the continuous military invasions, there was a surrender of loyalty to King Philip V and the signing of the Pact of Genoa in 1705. From that date the country experienced a situation of systematic repression, worsening the living conditions of much of the population. The history of Catalunya, and that of its people, followed a gradual decline from then on: the proclamation of Archduke Charles of Austria as emperor, the abandonment of Barcelona, and the peace of the English with France, resulting in the treaties of 1713 and 1714. After this date, the country plunged into a historical chapter dominated by the right of conquest and a repression at all levels.¹²⁵

123 Vallhonrat, Espasa, and Eduard Fenoy Palomas. *Pla Especial de Catàleg de Masies, Cases Rurals i Altres Edificacions En SNU de Begues*. Begues, Ajuntament de Begues, 2013.

124 Begues, Ajuntament de. "El Municipi." Ajuntament de Begues, www.begues.cat/begues/el-municipi/.

125 "Can Figueres. Tiana | Mapes de Patrimoni Cultural." <https://Patrimonicultural.diba.cat/Element/Can-Figueres-2>, patrimonicultural.diba.cat/element/can-figueres-2.



Begues rectory.¹²⁶

Following the defeat of Philip V's first war, the implementation of the Decree of 1714, and the subsequent legal developments that led to the abolition of the public law hitherto in force in the Principality of Catalunya, Begues municipal organizations were affected by profound restructuring and changes that manifested themselves in different ways. The most notable among them were the reorganization of municipal government, the imposition of new taxes and transformations in municipal government disrupted the system of councils then characteristic of Catalan municipalities and, in this context, Begues ceased to be part of the Vegueria de Barcelona and became part of the new Corregiment de Barcelona. The municipality, however, remained under the control of the barony of Eramprunyà, which at the same time resulted under the orders of the Bourbon administration. In 1727 the authorities of the University granted the inhabitants of Olivella the right to graze and make firewood within the municipality of Begues. In return, the latter contributed feudal rights payments to the barons of Eramprunyà in compliance with the peace stipulated and signed.¹²⁷ At the end of the same century, the construction of the Molins de Rei bridge (1769) and Ordal street led to the marginalization of the rural road of Begues and the stagnation of the population.

¹²⁶ Railsiferradures. "Rails I Ferradures: El Camino Begues-Gavá Y La Granja Petit Canigo." Rails I Ferradures, 13 Sept. 2014, railsiferradures.blogspot.com/2014/09/el-camino-begues-gava-y-la-granja-petit.html.
¹²⁷ "El Municipi." Ajuntament de Begues, www.begues.cat/begues/el-municipi/.

Begues, in fact, did not reach 500 inhabitants until in the mid-19th century, at the same time as the formation of the fractions of La Canonica, Santa Eulàlia, Campamà, Barceloneta and carrer Major. In 1881 the train arrived in Gavà, and from here came the project to open the road to connect the Gavà station with Begues, and which was inaugurated at the great celebration of the year 1886, a time when the population reached 1000 inhabitants.

The following year, however, came the phylloxera plague, which marked the beginning of the decline of agriculture and led to the abandonment of the poorest and most remote vineyards. The train and the new road facilitated the arrival of curious strangers, with the beginning of spelunking (1897) and scientific excursions, or in search of pure, healthy air, and eventually the trend of second residences, some as emblematic as the Bosch Foundation Tower. By mid-century, documentation shows economic recovery and related population growth.¹²⁸



The roads of Begues.¹²⁸

¹²⁸ Railsiferradures. "Rails I Ferradures: El Camino Begues-Gavà Y La Granja Petit Canigo." Rails I Ferradures, 13 Sept. 2014, railsiferradures.blogspot.com/2014/09/el-camino-begues-gava-y-la-granja-petit.html.

The Mas del Roure

The first indications showing the existence of a farmhouse, identified by the authors of the Special Plan for the Protection of the Heritage and Catalogue of the Architectural, Historical and Environmental Heritage of Begues as the Mas del Roure, date back to July 4 1389, in a document that refers to various comparisons with the farmhouses of La Clota, Mas Traval, Fontanelles, Bartró, Mas Ferrer, Mas Estanyol and La Parellada, mentioning another farmhouse called Ça Rovira or Rovira.¹²⁹ In this document, Guillem Vendrell de Conquista confessed that, through the sale made by Antoni Rovira, he acquired the building from the Baron of Eramprunyà through the payment, each year, of a quarter of gold. Geographical descriptions coincide with the present location of the Mas del Roure, therefore, the correspondence of Mas Ça Rovira with the Roure is plausible.¹³⁰ When one considers, moreover, that the Vendrell del Roure family was in charge of the masia until the 1950s, the hypothesis is supported. From the 16th century onward, news of the masia, since then known as del Roure, became commonplace. The Vendrells del Roure were one of the most active families in Begues: in 1574 Joan Vendrell signed a contract to begin work on the new rectory church.¹³¹ In 1597 Montserrat Vendrell wrote to the barons of Eramprunyà describing the Mas del Roure and mentioning an enclosure and stable that were part of its zootechnical infrastructure. In an inventory of Montserrat Vendrell of

Roure's furniture and buildings made in 1650, we find information about the structure of the Roure farm and the uses and functions that its inhabitants attributed to the farm's different out buildings.¹³²

In the last third of the 18th century, the Mas del Roure housed three or four families, an average of fifteen people, which prompted the compartmentalization of the building and the need to build new spaces for its workers, called Casetes del Roure. The plain that stretched in front of the Roure, with Traval and Clota masias, was one of the most densely populated places in Begues. The three remaining casetes, along with others that have disappeared, such as Bartró and Mas Fontanelles, offered work and lodging to the families who owned them and their associates, shepherds, and young workers.

Around the second of the 19th century the heyday of these farmhouses was recorded, later diminished by the arrival of phylloxera and the disappearance of many vineyards. The last year that the Vendrell family lived in the Roure manor house was 1837: upon the death of Magdalena Petit, widow of Anton Vendrell del Roure, his son Cristòfol and his wife moved in.¹³³ At the beginning of the 20th century, the house fell into disrepair, in 1954 it was bought by Jordi Guasch Paucirerol, and in 1978 it was sold again in favor of Maria Lluïsa Frontera Ferrer, except for the Casetes del Roure and Mas Traval, from the Guasch family.¹³⁴

129 Vallhonrat, Espasa, and Eduard Fenoy Palomas. *Pla Especial de Catàleg de Masies, Cases Rurals i Altres Edificacions En SNU de Begues*. Begues, Ajuntament de Begues, 2013.
130 *Can Sadurní (V-F)*. Vol. r. 57, 1394.

131 *AHPB, Parish Fund*. Vol. f. 32r, 1574.

132 *ABE UC 17*. Vol. f. 15v, 1597.

133 *AHPB, Parish Fund*. Vol. UC 689, 1837.

134 *AHPB, Parish Fund*. Vol. UC 690-726, 1838-1886.



Mas del Roure and Les Casetes del Roure. Ink drawing made by Ramon Paucirerol Vendrell in the 1940s. Photograph provided by his daughter Carme Paucirerol. It is the only image we know of where the Casetes del Roure can be seen.¹³⁵

¹³⁵ Parellada, Xavier. Archive: Center for Beguetan Studies.

Les Casetes del Roure

The group of houses located southwest of the Mas del Roure is known as Cases or Casetes del Roure. The archaeological reality, at least in the present state of knowledge, reveals a settlement pertaining to the mid-1800s. As anticipated, in the last third of the 18th century, the Mas del Roure housed an average of three or four families in the same building and due to the progressive growth of its inhabitants there was a need to build new outbuildings. In 1774 the rector of Begues mentioned such extensions.¹³⁶ As for Les Casetes, we possess no further documentary information until the opening of the Roure glass kiln in 1835 with a remodel of the existing hut.¹³⁷ In the first year of operation it appears that the furnace employed nine people and that the main house was divided into compartments to accommodate these workers.¹³⁸ The parish archives report that in 1838 there were twenty-seven workers and document a growth in industrial activity, with a moment of crisis in the year 1840, with only 10 workers. The year 1841 with twenty-seven workers demonstrates a new strong revival, culminating in 1842 with thirty-three workers, until the date of the last report of the furnace in 1843.¹³⁹ Probably the technical obsolescence and poor profitability of the kiln with the number of workers employed in it led to its closure. However, it is interesting to note that although the industrial activity of the furnace had lasted only 9 years, the Mas del Roure became known as "Forn de Vidre."¹⁴⁰

Localization of Les Casetes del Roure and Mas del Roure.¹⁴¹



¹³⁶ AHPB, *Parish Fund.* Vol. UC 628, 1774.

¹³⁷ AHPB, *Parish Fund.* Vol. UC 687, 1835.

¹³⁸ AHPB, *Parish Fund.* Vol. UC 689, 1837.

¹³⁹ AHPB, *Parish Fund.* Vol. UC 692-695, 1840-1843.

¹⁴⁰ AHPB, *Parish Fund.* Vol. UC695, 1843.

¹⁴¹ "Begues, Barcelona, Spain.", www.google.com/maps/place/08859+Begues.

In the seven years since the furnace closed from 1843 to 1850, the architectural ensemble varied particularly. In 1846 there were two apartments and the population of El Roure added to Les Casetes numbered 15 people.¹⁴² The following year there were three apartments or houses without specifying their location, populated by seven people, while the total of Roure and le Casetes was 19 people.¹⁴³ Finally, in 1850, the four apartments or houses recorded in the parish fund saw the maximum population within the architectural ensemble. Between 1850 and 1950 new outbuildings were built and some of the four existing houses were renovated. This also seems to be the phase when two pigsties and two stables were built, one of which was later than the early 20th century as it was built with uralite. In 1858 four families settled in Les Casetes: the Mirabent, Figueres, Milà and Ràfols families.¹⁴⁴ In the early 1900s eight families lived in the manor house and in the Casetes until its final closure in the middle of the century. Between 1940 and 1960 there were only two houses with their pens for rabbits, hens and goats, and those for pigs. The 1960s marked the decline of this architectural complex, until the roof and facade of the two houses were renovated in 1960. Between 1960 and 1965 their residents moved to the village, the enclosures were destroyed and the owner, in this space, built the brick house where Pepeta Serra lived. In 1973 the Casetes del Roure were completely abandoned.¹⁴⁵

Fragment of the drawing of the Mas of Roure and Casetes del Roure, by Begues resident Ramon Paucirerol, in which the two pigsties of phase 4 are still visible.¹⁴⁶



¹⁴² AHPB, *Parish Fund*. Easter greeting book.

¹⁴³ AHPB, *Parish Fund*. Vol. A03.01.05.

¹⁴⁴ Oral communication of Ulpiano Fernández Ramos and Laura Milà Gonzálbez.

¹⁴⁵ Vallhonrat, Espasa, and Eduard Fenoy Palomas. *Pla Especial de Catàleg de Masies, Cases Rurals i Altres Edificacions En SNU de Begues*. Begues, Ajuntament de Begues, 2013.

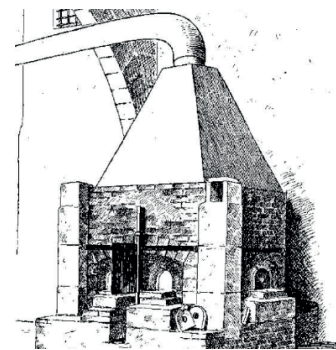
¹⁴⁶ Fierro Milà, Elicinia, and Manuel Edo i Benaiges. *Seguiment arqueològic informe preliminar*. Oct. 2019.

The glass production process

Glass manufacture in Catalunya had a rebirth beginning in the late Middle Ages, reaching high levels of quality to the point of competing with the Venetians between the 16th and 17th centuries. The model used was that of the traditional Catalan and Majorcan kiln, preserved until the early 20th century, which consisted of a large kiln, covered by a raised vault of refractory stone, with several holes around it, the obralli, through which the vitreous material was deposited and extracted at the time of firing. The materials used were brick and stone. The production process involved burning wood to heat the kiln and firing the glass paste together with silica sands and carbonate ash such as sodium and potassium; this was followed by melting the glass after eight hours in the kiln at a temperature of about 1300 degrees, until a "liquid mass" was obtained, with the practice of blowing it through the end of a tube and adding a mixture of products to obtain the desired color. Finally, a holding furnace was used in which the temperature gradually decreased over four hours from 1,300 degrees to room temperature.

As for Begues, its proximity to Barcelona and its growth during the 19th century may be the economic reason for its involvement in the industrial activities typical of karst territories. Indeed, in the municipality, materials needed for glass manufacture were abundant and plentiful: limestone for lime production and wolfsbane salt (calcite or calcium carbonate), one of the main bases for artisanal glass production. These activities also meant the reactivation of the woodcutting and charcoal making trades, as both lime and glass furnaces were consu-

mers of firewood. For this reason it was very common for kilns to be located in wooded areas. The first reports of the Roure furnace, which produced glass from wolf salt, extracted from the various mines, basically chasms and caves, still scattered in the Garraf limestone mountains, date back to 1835. It must, moreover, be considered the coincidence of the dates of the start of their activities for the three known furnaces in the Garraf massif: in 1933 the Ordal furnace, in 1934 the Cervelló furnace, and in 1935 the Roure furnace. The expansion of the vineyard in the Garraf massif during the nineteenth century as a result of phylloxera, coupled with the change in the Catalan agricultural production pattern, must have led to a progressive shortage of wood, which is perhaps part of the reason why, in the mid-nineteenth century, the Roure glassmaking activity ceased.¹⁴⁷

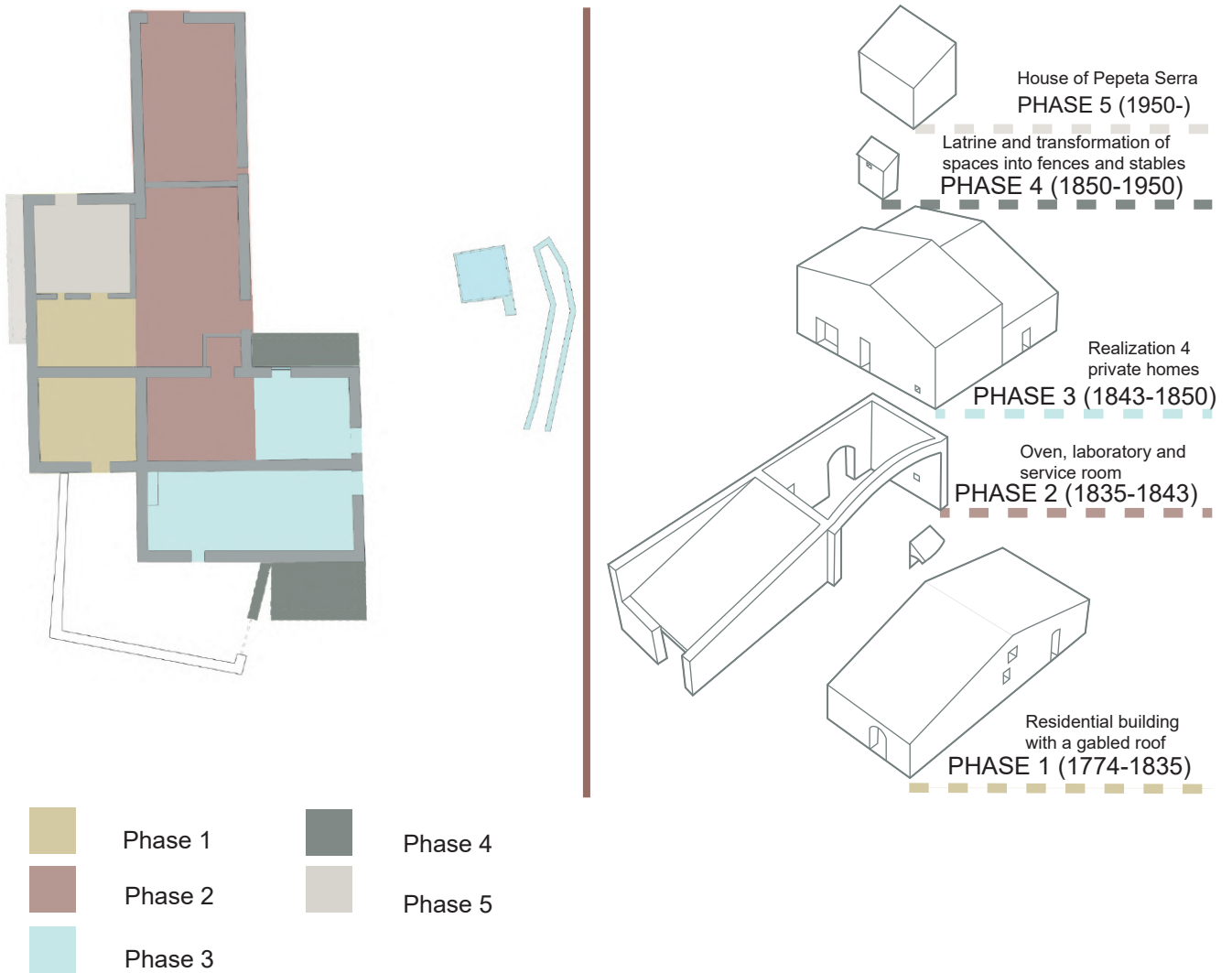


Typical Majorcan glass furnace, with its characteristic semicircular arc.¹⁴⁷

¹⁴⁷ Fierro Milà, Elicinia, and Manuel Edo i Benaiges. *Seguiment arqueològic informe preliminar*. Oct. 2019.

Building evolution of Les Casetes

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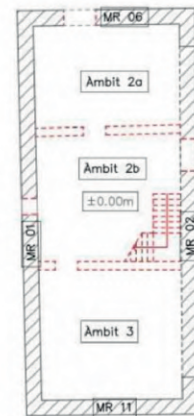


PHASE 1 (1774-1835)

At this stage the construction of the first building that would occupy the present areas 2a, 2b and 3 was carried out. The first mention of the Roure houses is from 1774, although it is possible if the start date is two or three years earlier.¹⁴⁸ This building, as can be seen from the preserved facade (MR 01) had a gabled roof. From the existing ashlar windows in this wall and signs of old beams, we can infer that it was two-story (second floor) and had a small attic in the central part. We do not know what would be the main entrance to this first building; we can assume that it was on the east facade, but very little is preserved of this wall (MR02). The only door that we can ascribe to this early phase is on the north facade (MR06), although we cannot be sure it is in its original position, it is true that this is where the old road that connected the masia Roure with the village passed.

Based on the traditional configuration of this type of farmhouse, we can assume that both the second floor and the second floor would be divided into three interconnected rooms, and it is very likely that the staircase was located in the central body. We can also hypothesize that each of the rooms had a window facing the south façade to take advantage of the daylight hours, but we are not aware of this, nor can we know the exact distribution and uses of the rooms, as very few elements have been preserved from this early phase.

Archaeological analysis¹⁴⁹ GROUND FLOOR 1:400



FIRST FLOOR 1:400



¹⁴⁸ AHPB, *Parish Fund*. Vol. UC 628, 1774.

¹⁴⁹ Fierro Milà, Elicinia, and Manuel Edo i Benaiges. *Seguiment arqueològic informe preliminar*. Oct. 2019.



MR 01 with double-pitch roofing.



140

MR 06 with entrance door.

PHASE 2 (1835-1843)

The space for glass production is enabled. From the documentation we know that the furnace was active between 1835 and 1843.¹⁵⁰ The existing farmhouse was undergoing an absolute transformation. Its east wall (MR02) disappeared almost completely and was replaced by a semicircular arch (MR02) that covered almost the entire length of the facade. The old divisions and floors of the farmhouse were dismantled and the space doubled, creating a new east elevation (MR03) advanced from the arch at the same distance as the width of the old farmhouse. On the new north façade (MR05) was a large gate to allow the entry and loading of wagons with goods produced in the industrial plant. It is on this side that we find the road that connected the kiln with the village of Begues, and it is here also, on both sides of the old road, that we find the highest concentration of glassmaking remains.

The building in this phase occupied areas 1, 2, 3 and 4a, and consisted of a furnace (est. 1), a workshop (areas 2, 3 and 4a) and a service room. We do not know the dimensions of the furnace structure itself, but we have a vague idea of its location outside the west facade (MR01). In this phase the window openings on the west facade and the door on the north facade (MR01 and MR06), which already existed in the previous phase and have survived to the present day, were preserved. In addition to these preexisting openings, there were present several window frames, although most

transformed by later renovations.

It was at this stage that the arched doorway of the south facade (MR11), which later became smaller, and the doors of the east facade (MR03) were made, one of which would face the workshop and retain its function as a door, and the other, currently walled up and transformed only into a small opening, would give access to area 1. In this facade (MR03) we also find an old window wall. From this phase we should also note the construction of a buttress (MR02) on the south side, which responded to the needs of making the arch.

Archaeological analysis¹⁵¹

1:400

GROUND FLOOR

FIRST FLOOR



150 AHPB, *Parish Fund*. Vol. UC687, 1835 and UC695, 1843.

151 Fierro Milà, Elicinia, and Manuel Edo i Benaiges. *Seguiment arqueològic informe preliminar*. Oct. 2019.



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Replacement of MR02 with a semicircular arch covering almost the entire length of the facade.



MR11: realization of arched door.



MR11: realization of arched door.

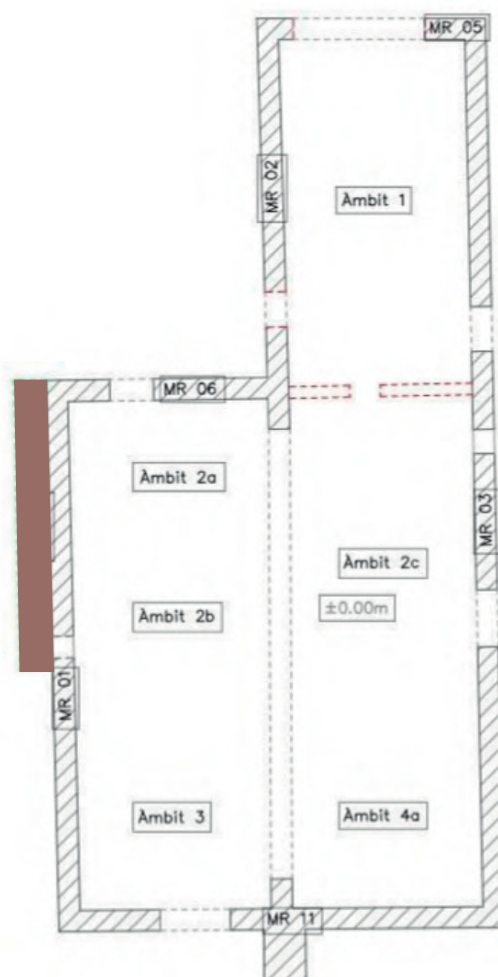
144



Area 1, facade MR05: a room that probably featured a gate and was used to store firewood.



Residuals of the structure of the combustion glass furnace.



Hypothetical location of the glass furnace in the ground floor.¹⁵²
1:200



PHASE 3 (1843-1850)

In this phase we again witness the transformation into houses: we observe the existence of 4 houses, which we believe would have been located in areas 4 and 5. It was at this time, the kiln having disappeared,¹⁵³ that the whole of the Casetes del Roure acquired the volume that has come down to us, exploiting part of the workshop walls (MR03 and MR11) and blinding the arch.

It is assumed that the complex had been divided into 4 houses or small apartments, evidence of which are the marks of a pre-existing wall (MR10) that divided area 5 in half. Another reason for this thesis is the doors: in addition to the two on the east façade (MR04) that have survived to the present day, there were two other doors that would have been the entrances to these other apartments. One of them was located on the west façade of this building (MR02), next to the buttress and is currently bricked up, and the other, which gave access to area 4a, was located on the north façade (MR10), later used to give access to a latrine built inside the inner courtyard (area 2c). It can be supposed, moreover, that in this phase, once areas 4 and 5 were built, area 3 was closed, building wall MR09, clearly later, as it was attached on adjacent walls (MR01 and MR10).

It appears, then, that to give access to the apartment a step was built toward the interior staircase, and a door on the west façade (MR01), indicating that land had already been added to this part of the house to cover the remains of the old glassworks. The construction of an outdoor kitchen oven (structure 2) in front of the east façade of the complex, which, once the combustion furnace of the industrial plant had been buried and damaged, was probably attributed to this phase in order to bake bread and cook.

Archaeological analysis¹⁵⁴

1:400

GROUND FLOOR

FIRST FLOOR



¹⁵³ AHPB, *Parish Fund*. Easter fulfillment notebooks, 1846-1850.

¹⁵⁴ Fierro Milà, Elicinia, and Manuel Edo i Benaiges. *Seguiment arqueològic informe preliminar*. Oct. 2019.



Remains of the partition between houses 5a and 5b.

147



Ground floor of house 5a. We find the door next to the buttress bricked up.



148

Construction of two entrance doors to the two apartments 4b and 5b on the east facade (MR04).



The door on the MR01 façade of the upper floor of area 3 was made after the lower floor of the façade was filled with sediment, probably, to hide the combustion of the glass furnace.



The arc of the furnace is blinded.

PHASE 4 (1850-1950)

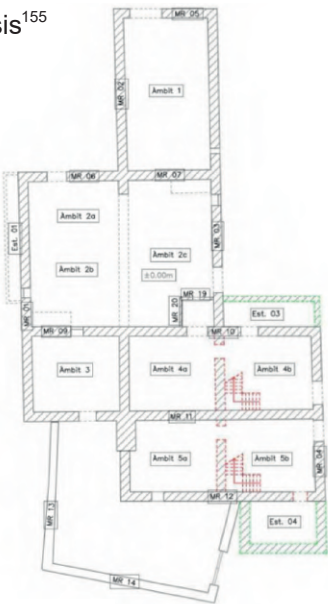
Survival of two farmhouses (areas 4 and 5) and transformation of the rest of the spaces into enclosures, stables, cellars, courtyards and other dependencies related to subsistence farming and animal husbandry.

After a few years, it seems that areas 4a and 4b, and 5a and 5b had been reformed by unifying the previously divided interior spaces. It had, then, been closed the door on the west facade (MR02) in area 5 and the door on the north side of area 4 (MR10) to build a latrine. In addition to the renovations in these areas 4 and 5, some changes were also being made to the rest of the building to adapt the space to accommodate various farm animals.

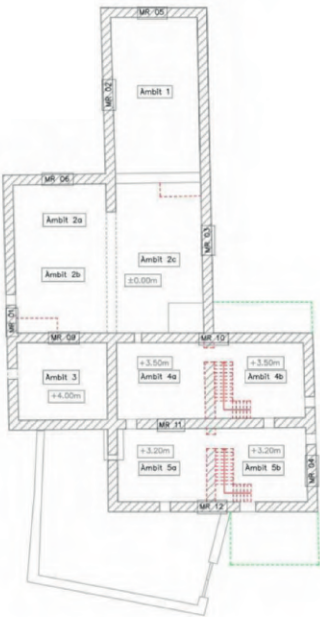
To this phase can also be attributed the construction, on both sides of areas 4 and 5, of two small buildings (Est. 3 and Est. 4) that served to have the pigsty. These were dismantled at a later stage and we know of their existence only thanks to a drawing made by a Begues neighbor around 1940.

As for area 2 we note in elements MR03and MR09 the profile marks of a shed made of uralite or corrugated fiber cement, clearly marking its construction during the twentieth century (uralite was born in 1907).

Archaeological analysis¹⁵⁵
GROUND FLOOR
1:400



FIRST FLOOR
1:400



155 Fierro Milà, Elicinia, and Manuel Edo i Benaiges. *Seguiment arqueològic informe preliminar*. Oct. 2019.



Area 3, ground floor. Remains of the dining room.

151



Remains of uralite cladding on the wall of area 2b, on the patio used as a laboratory for the glass furnace.

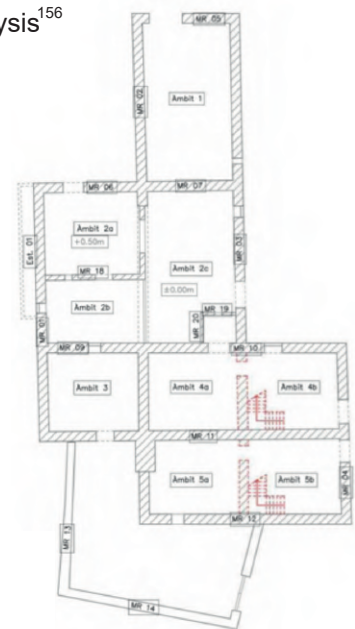
PHASE 5 (1950-)

Around 1960 the pig pens (est. 3 and 4) and cattle pens that had been placed where the central part of the kiln workshop (zone 2) had once been located were dismantled. In this space a new house was being built (zone 2), made of masonry and intended for one person whose name we know from oral memory: Pepeta Serra. The building used part of the walls of the original farmhouse (MR01 and MR06) and the old vaulted doorway (MR06: UE0602) as the main entrance. The interior was divided by partitions (MR15, MR16, MR17, and MR18) into a bedroom, a latrine, and a third space where the entrance, kitchen, and dining room fit. Outside, a small partition wall was built up to half height (MR02: EU0206), thus privatizing a part of the courtyard where the enclosures used to be (area 2b).

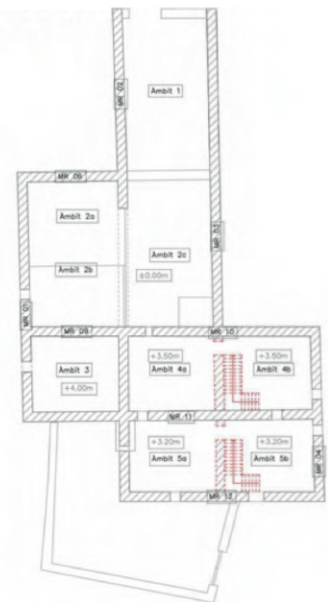
ABANDONMENT

Around the 1970s, the brick house (area 2) and the two townhouses (areas 4 and 5) were abandoned, and the whole complex underwent a rapid process of deterioration.

Archaeological analysis¹⁵⁶
GROUND FLOOR
1:400



FIRST FLOOR
1:400



¹⁵⁶ Fierro Milà, Elicinia, and Manuel Edo i Benaiges. *Seguiment arqueològic informe preliminar*. Oct. 2019.



153



Pepeta Serra's house. Located in the area 2 and built with bricks.

05

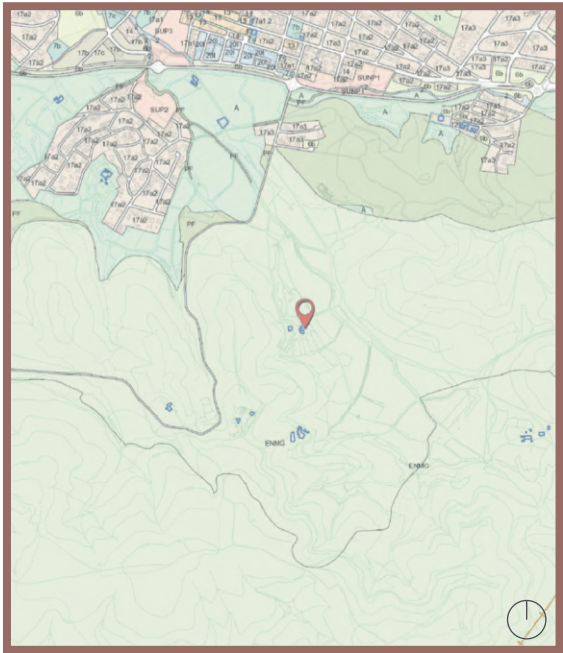
Les Casetes del Roure: the current status

The status of the site

The architectural complex is located in the Plans del Roure, 250 m south of Puig Castellar, in an agricultural plain made up of old agricultural fields, now disused, and a hundred meters from the border of a protected natural space, the Garraf Natural Park. Highlighted in the immediate vicinity of the masía are the dry stone walls, which, in addition to forming terraces and demarcating plots, constitute suitable habitats for numerous animal species like invertebrates, insects, reptiles, small mammals and amphibians, and for some plant species. In the past, in fact, there was a custom of extracting stones from cultivated fields, which hindered plowing and planting. They, once removed were arranged in an orderly manner, forming the dry stone walls, which have the function of demarcating fields and properties and ordering the landscape. These structures dam slopes by forming terraces and allowing arable land to be gained where the slope previously prevented it. They also allow rainwater to stop the flow of water, retain moisture and prevent erosion. In this way, the land becomes arable while simultaneously being used to divide the property, store stones, and, on sloping land, prefigure terraces or steps that are filled with land and become crops.

To ensure the preservation of dry stone heritage, it is important to understand that it is not only an architectural element of historical interest, but also an element of functional and environmental conservation.









Localization.¹⁵⁷



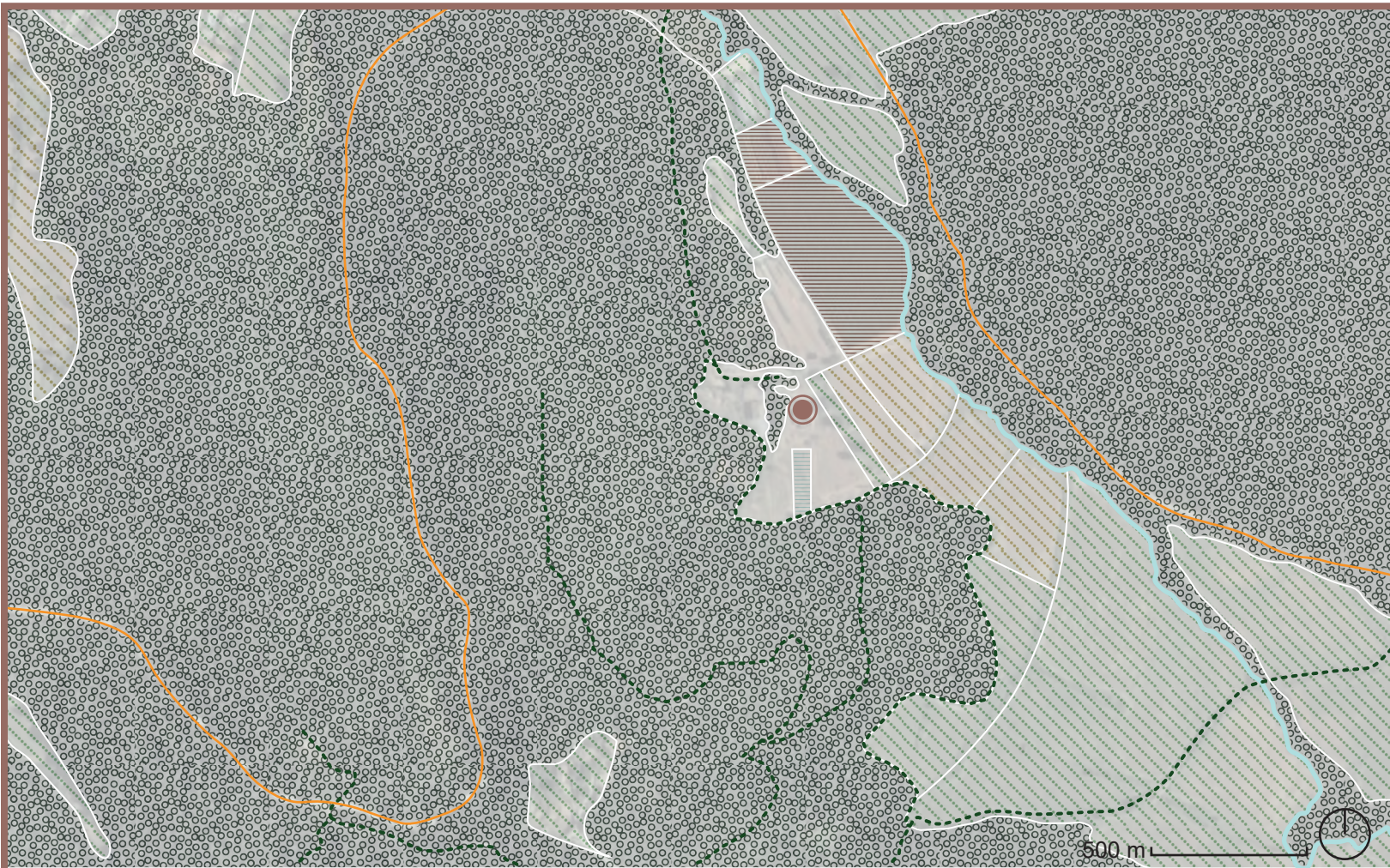
¹⁵⁷ "Sede Electrónica Del Catastro - Fondo Mapa de España." Sedecatastro.gob.es, 2023, www1.sedecatastro.gob.es/Cartografia/mapa.aspx?refcat=08020A02000010&from=OVC Busqueda&pest=rc&final=&RCCompleta=08020A0200001000000B&ZV=NO&ZR=NO&anyozv=&tematicos=&anyotem=&del=8&mun=20.

The cultures of Begues area and sources of stone and silice



-  Quarries for the extraction of stone for masia construction and silice for the furnace
-  Wooded areas for the supply of furnace wood
-  Vineyards
-  Urbanized areas
-  Olive trees
-  Sown grain
-  Grasslands
-  Les Casetes del Roure

The cultures of the Les Casetes area and the sources of stone and silice



- Unpaved trails
- Paved paths
- Stream and silice source
- Wooded areas for the supply of furnace wood
- Vineyards
- Olive trees
- Sown grain
- Grasslands
- Les Casetes del Roure

→ Access from the public grid: Cami del Roure

→ Existing private access road to Les Casetes

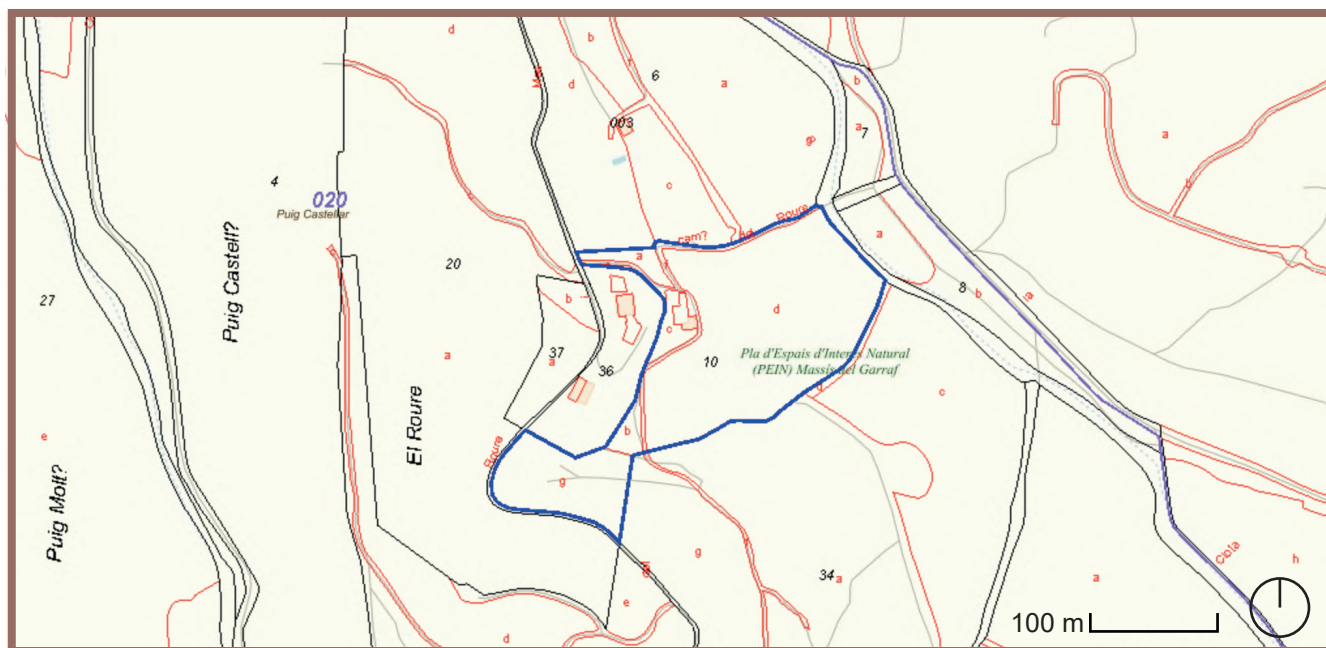


159

Cadastral data¹⁵⁸
Class: rustic

Main use: agrarian
Built area: 78 square meters

Parcel area:
30,036 sq. m.
Year of construction: 1800



¹⁵⁸ "Sede Electrónica Del Catastro - Fondo Mapa de España." Sedecatastro.gob.es, 2023, www1.sedecatastro.gob.es/Cartografia/mapa.aspx?refcat=08020A02000010&from=OVCBusqueda&pest=rc&final=&RCCCompleta=08020A020000100000OB&ZV=NO&ZR=NO&anyoZV=&tematicos=&anyotem=&del=8&mun=20. Accessed 8 Jan. 2023.

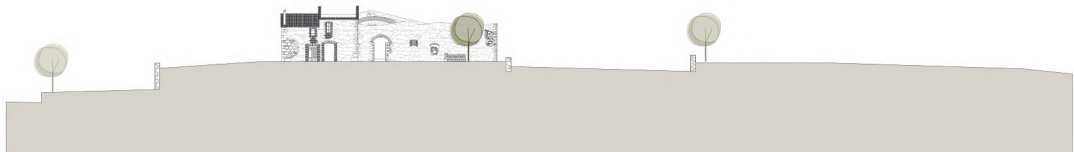
Masterplan
1:1000



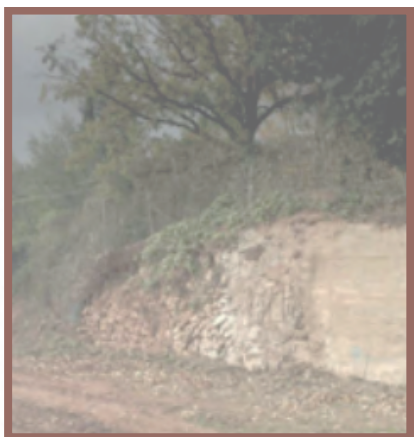
Sections
1:1000



Section A-A'

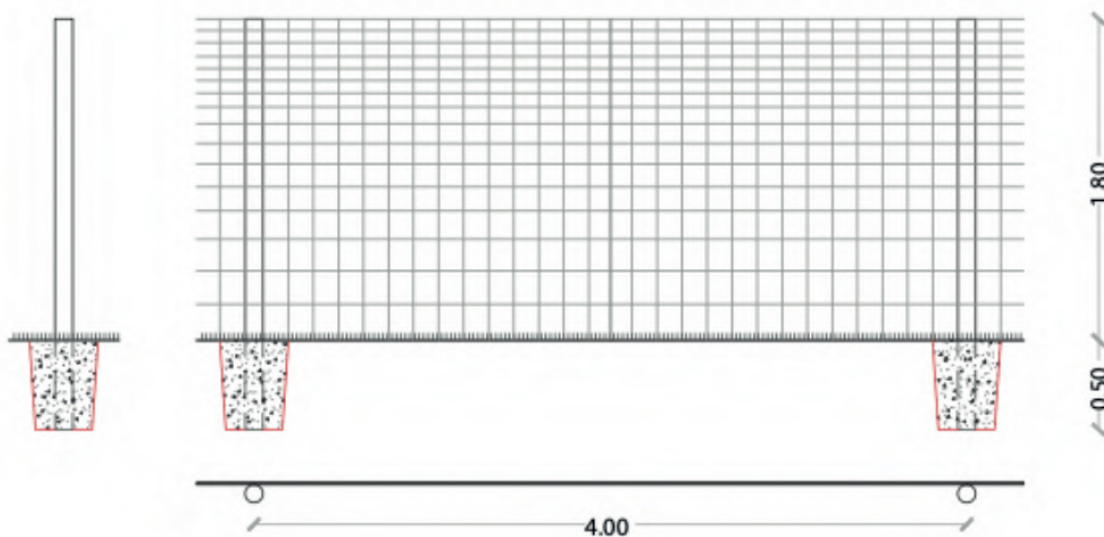


Section B-B'



Layout of dry stone walls.

161

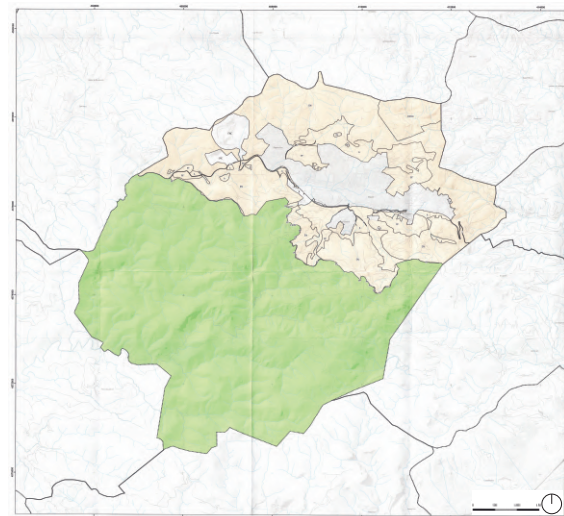


Characteristics and detail of livestock pens in the area.

Urban planning and normative framework

The municipality's current planning consists of the Begues General Management Plan, which was finally approved by the Barcelona City Planning Commission at its session on October 15, 1997. It deals with the urban structure, which it calls the urban model, describing the main actions expected: the road network, the urban open space network, the transformation of routes and the low-density residential model. Lands where urbanization processes are not allowed are considered non-urbanizable in order to ensure the continuity of natural conditions and current use, the maintenance of the diversity of uses, and the preservation of the ecological and landscape values of Begues. Regarding these areas, the general plan distinguishes between those within the perimeter of the Garraf Natural Park and other soils outside it. In the areas outside the natural space, the Plan aims to ensure the quality of the landscape by enhancing, in particular, the character of land uses, visual appearance and ecological functioning. The General Plan proposes the following areas of the SNU outside the scope of the PENG: Natural Space, Forest Park, Agricultural, Rustic, Committed Natural Space, Ordal Mountains Natural Area. It also establishes the following as permissible uses in the undevelopable land: agricultural and livestock-forestry use, temporary housing and mining use.

Begues general management plan:
current planning.¹⁵⁹



- SNU not included in Garraf park
- SNU included in the Garraf park
- SNU urbanizable
- Municipal limits

¹⁵⁹ "RPUC - Registre de Planejament Urbanístic de Catalunya." Dtes.gencat.cat, 2009, dtes.gencat.cat/rpucportal/AppJava/cercaExpedient.do?reqCode=veureDocument&codintExp=248004&fromPage=.

Under Law 23/1983 of Nov. 21 on planning policy, three spatial planning instruments are defined:

- The General Territorial Plan
- Sectoral spatial plans
- Partial territorial plans

The Catalunya General Territorial Plan (PTGC), presents the objectives of defining the territorial balance of general interest and directing the actions to be taken to create suitable conditions that attract economic activity.

The PTGC defines 6 territorial functional areas (AFTs) and the municipality of Begues is delimited in the metropolitan AFT that includes the counties of Alt Penedès, Baix Llobregat, Barcelonès, Garraf, Maresme, Vallès Oriental and Vallès Occidental. Specifically, the municipality of Begues is bounded within the articulation systems between territorial functional areas, which the PTGC defines as nascent urban systems characterized by resource potential and high land reception capacity. For these systems, the PTGC proposes to encourage the development of land for different uses (residential, industrial and tertiary) as well as to accompany this development with sufficient equipment, services and parks. At a general level, the PTGC relies on the road Plan to define the road system and requires for land useful for urbanization to have a slope of less than 20 percent.

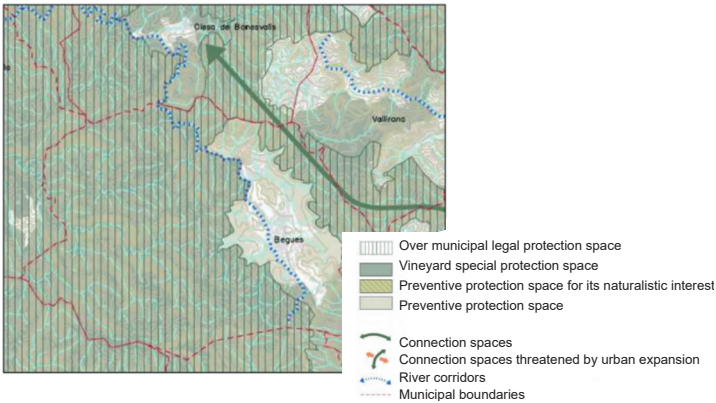
Environmental aspects are sparsely addressed in the PTGC and generally have low

level of specificity. The General Territorial Plan is to be developed through partial spatial plans and sectoral spatial plans.

Other planning and information tools include the Barcelona Metropolitan Territorial Plan (PTMB), which proposes the establishment of three territorial subsystems on which all proposals are structured: the settlement system, the open space system and the mobility infrastructure system.¹⁶⁰

The PTMB assigns Begues the urban strategy of moderate growth: the maximum urban extension may not exceed 30 percent. It also assigns it the role of a lead town for other smaller cores and specialized settlements in the same or neighboring municipalities.

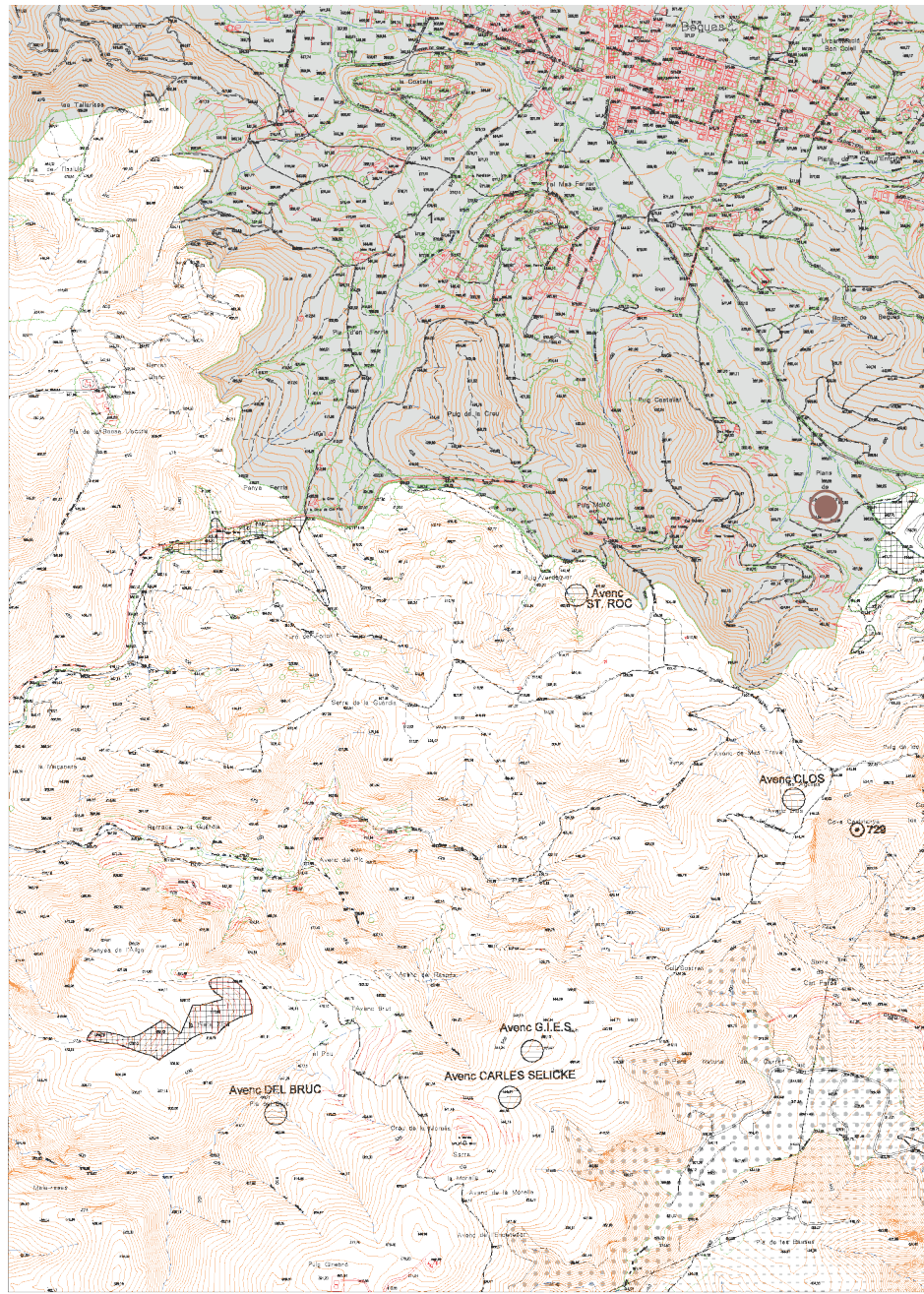
PMTB¹⁶¹



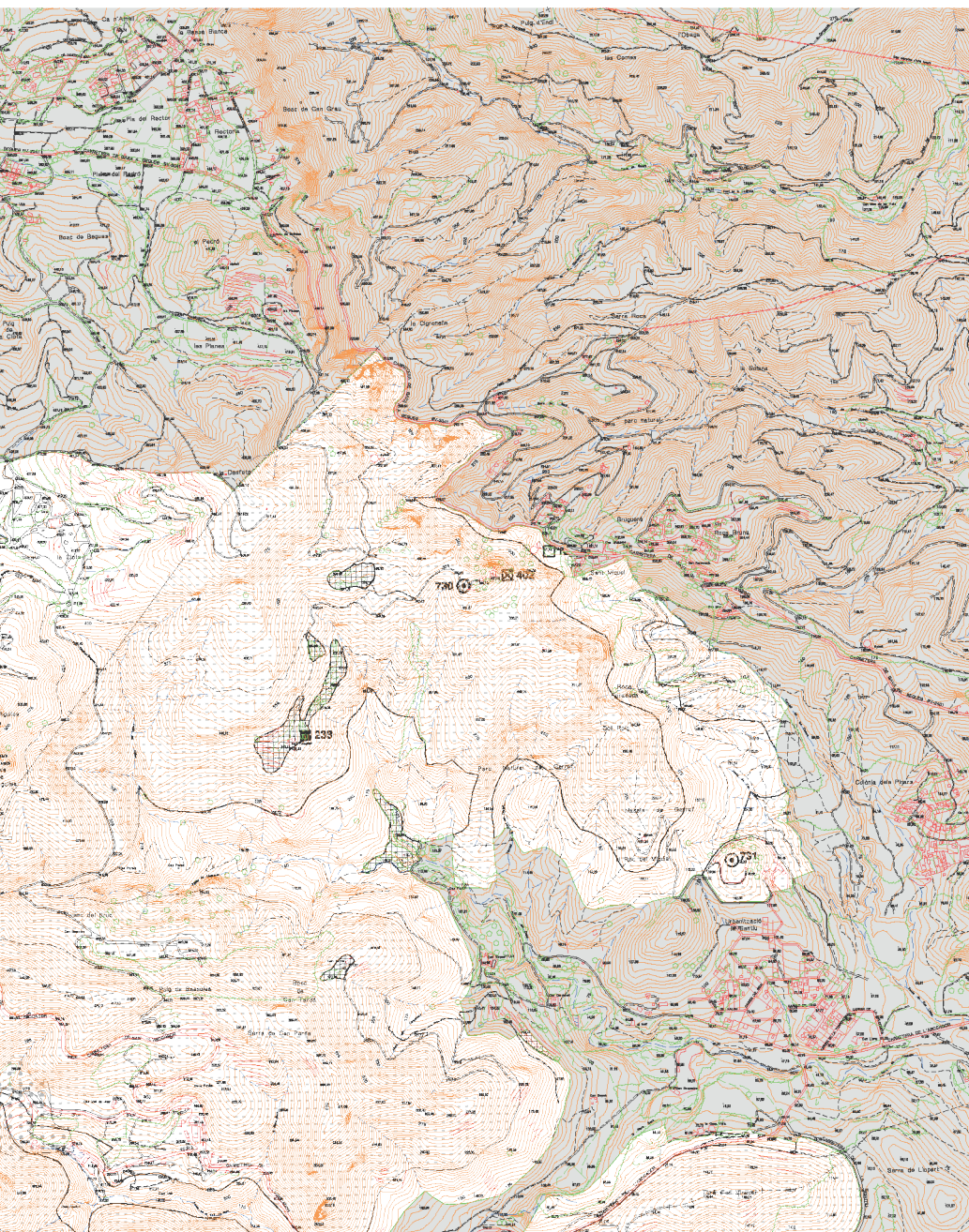
160 "Plans Territorials." Departament de Territori, territori.gencat.cat/ca/01_departament/05_plans/01_planificacio_territorial/plans_territorials_nou/.
161 "RPUC - Registre de Planejament Urbanístic de Catalunya." Dtes.gencat.cat, 2010, dtes.gencat.cat/rpucportal/AppJava/cercaExpedient.do?reqCode=veureDocument&codintExp=252472&fromPage=. Accessed 8 Jan. 2023.

Peng: Special Plan for the Protection of the Physical Medium and Landscape of the Garraf Natural Space.¹⁶²

We can see that the area in which the Begues municipality is included is characterized by numerous zones of ecological and landscape interest and the presence of masias and buildings of agricultural scope. In addition, we highlight the location of the Plan del Roure on the border with the Garraf forest park. In fact, the masia Les Cases del Roure is located near a forest park system and several areas of high ecological interest.




162 "Area d'Espais Naturals", Dtes.gencat.cat, Barcelona, 1999:
<https://parcs.diba.cat/document-s/182160/182282/p10d143us5.pdf/5f6a9a74-bda3-4262-ba9e-c5015ffc2e4e>



Les Casetes del Roure

 Area of high ecological interest


 Area of pre-existing management

 Forest park system


 Religious buildings

 Masias


 Complementary agricultural areas

 Buildings of a military character


 Built-up cores

 Other elements

 Archaeological elements

 Initial approval

 Provisional approval

 Final approval



0 500m

Special Plan of the Catalog of Farmhouses, Cottages and other Buildings on Unbuildable Land: orthophoto of the municipal district¹⁶³

The masías assume considerable importance in the municipality of Begues, where there was no real historic center, and its formation since the early decades of the 1900s has included a significant number of farmhouses. The Catalan Cultural Heritage Inventory, defined in Law 9/1993 of September 30, incorporates among others, the Architectural Heritage Inventory and the Archaeological Heritage Inventory. The municipality of Begues has a cultural heritage map that includes 454 heritage elements grouped into five categories:




- Property
- Movable property
- Documentary heritage
- Intangible assets
- Natural heritage

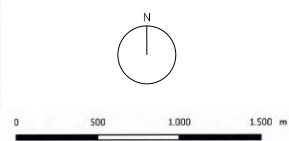
"Law 8/2005, of June 8, on the protection, management and planning of Catalunya's landscape, creates the landscape catalog as a new tool for the Catalunya's spatial planning",¹⁶³ as well as in sectoral policies. It is a useful facility for heritage planning and management from the perspective of spatial planning, the scope of which corresponds to that of partial spatial plans.

163 "RPUC - Registre de Planejament Urbanístic de Catalunya." Dtes.gencat.cat, 2010, dtes.gencat.cat/rpucportal/AppJava/cercaExpedient.do?reqCode=-veureDocument&codintExp=252472&fromPage=. Accessed 8 Jan. 2023.



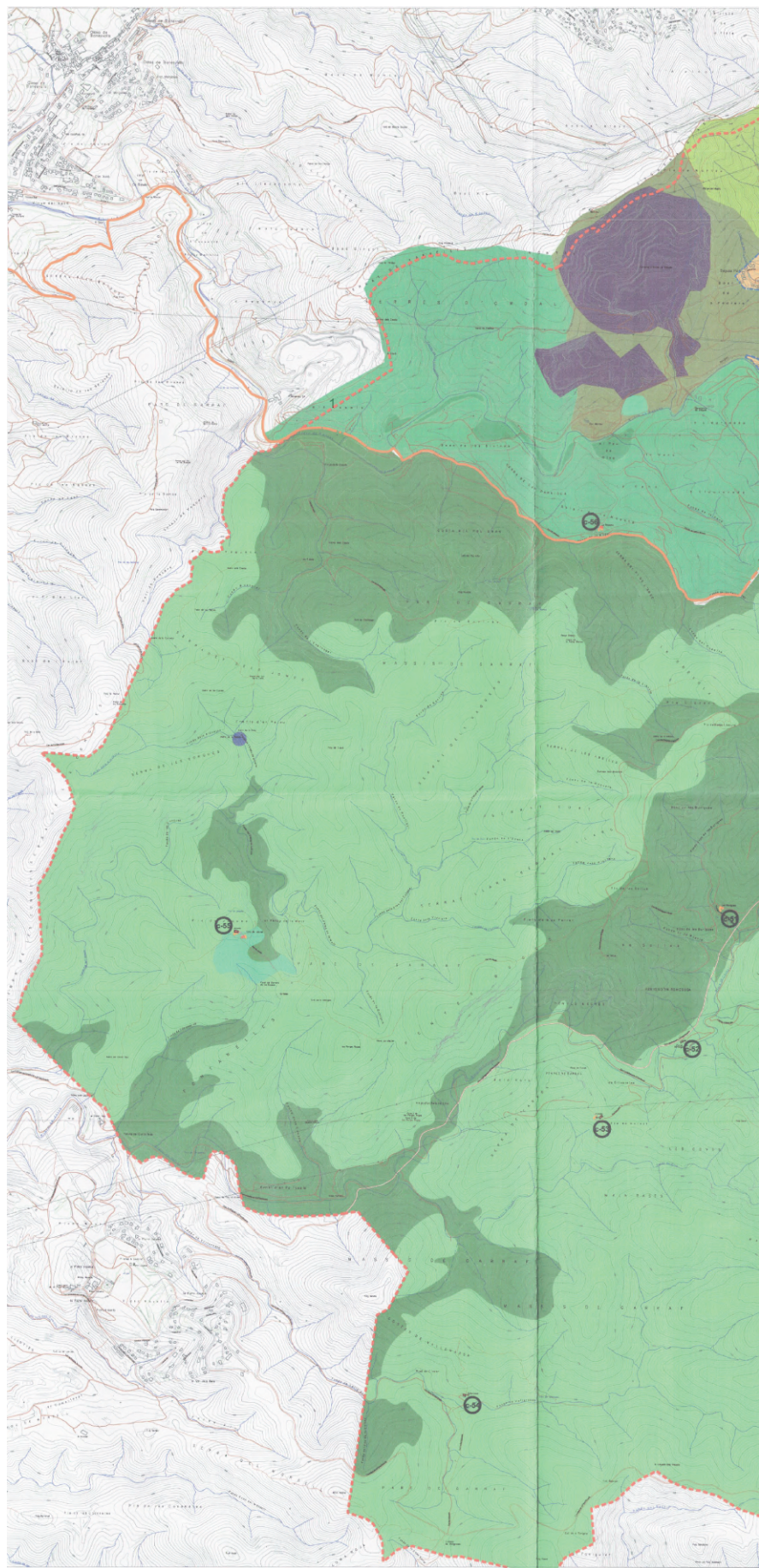


-  Municipal boundaries
-  Identification of masías and rural houses
-  Identification of other buildings in not urbanizable land

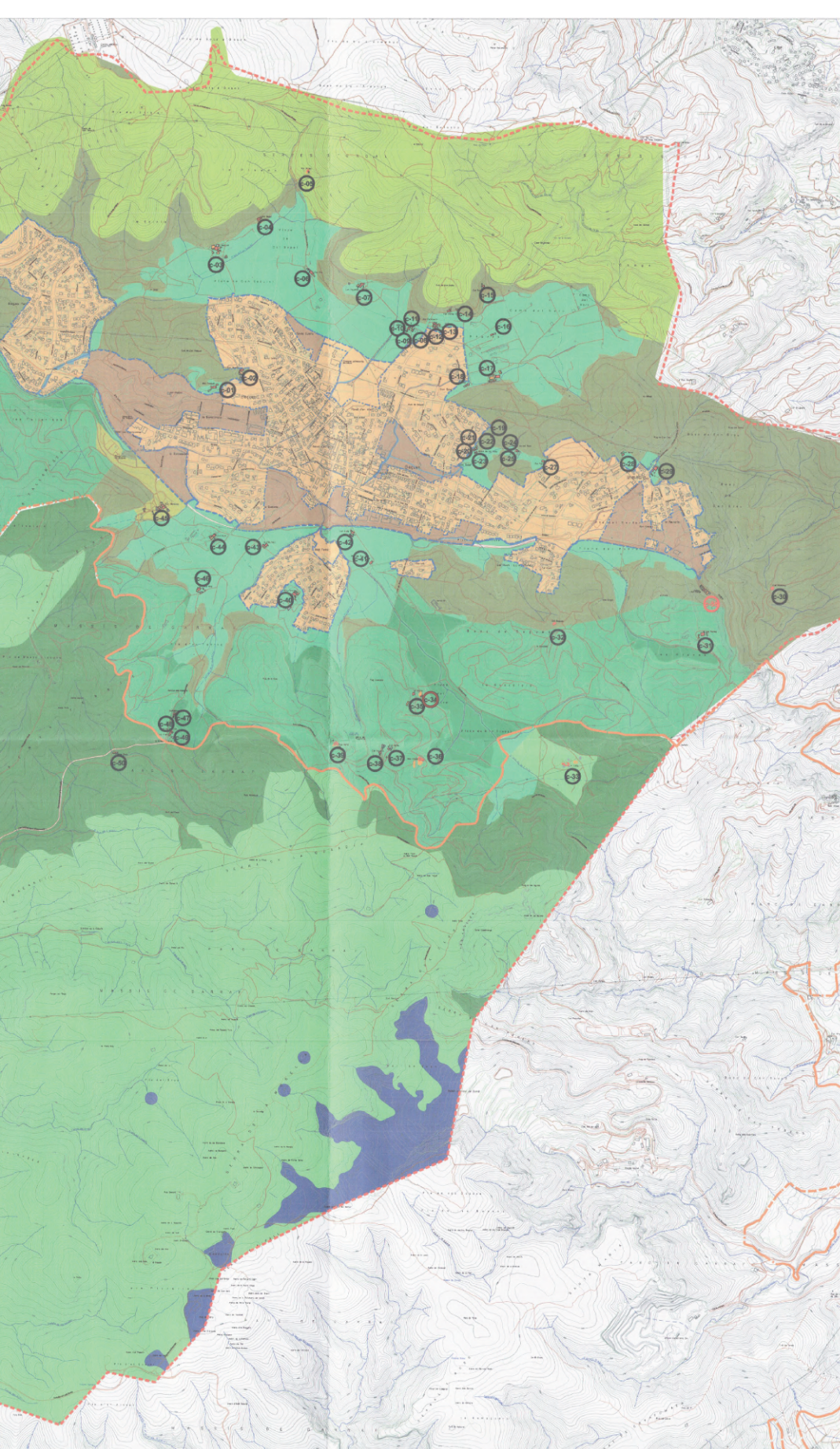


Special Catalog Plan of Farmhouses, Cottages and other Buildings on Unbuildable Land: Current Plan¹⁶⁴

The plan shows indicated as c-34 the masia Les Casetes del Roure and highlights the agricultural and rustic character of the area pertaining to it. In addition, the surrounding land does not appear to be urbanizable and the adjacency to the Ordal Mountains is noted. The proximity to the Garraf Park area of natural interest is emphasized. It can be seen how the architectural elements are in close contact with the natural ones and the need to reconstruct a relationship between them.



164 "RPUC - Registre de Planejament Urbanístic de Catalunya." Dtes.gencat.cat, 2013, dtes.gencat.cat/rpucportal/AppJava/cercaExpedient.do?reqCode=-veureDocument&codintExp=252472&fromPage=. Accessed 8 Jan. 2023.



- Municipal limits
- Limit of non-urbanizable land
- Natural park boundary
- Rustic zone (R)
- Agricultural (A/A')
- ENMG Agricultural (ENMG ZA)
- Forest (PF/F')
- EN Ordal Mountains (ENMO)
- ENMG natural interest (ENMG ZIN)
- Natural space (EN)
- Committed natural space (ENC)
- Special protection (PE)
- Urban/ urbanizable land
- Identification of masías
- Identification of other buildings in non-urbanizable soil



0 500 1.000 1.500 m

An important part of the text of the General Plan, in addition, to these area-specific regulations, also establishes limitations with the aim of protecting the landscape. Finally, it draws up a list of buildings that fall within the municipality's own architecture and are subject to protection, providing that a Special Plan be drawn up. Included among these is Les Casetes del Roure and Article 256 regulates:

(a) the increase in volume is limited to a maximum of 10 percent of the current main building, establishing special conditions and contemplating exceptions.

(b) Basements are not allowed. Articles 254, 255 and 257 also regulate the conditions of use, determining:

(a) Uses of the permitted: single-family housing, two-family housing, summer, educational and cultural colonies related to the environment. The use of a restaurant related to respecting and maintaining the traditional characteristics of the building is also allowed.

(b) On unbuildable land, the General Plan provides that special plans for the improvement of the rural environment may prohibit harmful uses and impose restrictions on uses. According to Article 10 of the PENG, the regulations of the "Special Plan for the Protection of the Garraf Natural Area" will prevail over those of this "Special Plan for the Catalogue of Farmhouses, Rural houses and other Buildings on Unbuildable Land". Article 16, pertaining to general criteria, states that the basic criterion in the intervention on cottages, rural houses and other buildings is the preservation and/or recovery of architectural and typological constants. The

basic interpretative criteria will be:

(a) 1. Respect and revaluation of the most significant architectural elements.

2. The strict preservation of the typological characteristics of the building.

3. The preservation and restoration of the exterior volume and treatment of the facades.

4. The scrupulous respect of elements of historical interest.

(b) It is considered a priority to preserve and respect the original volume of the main building and allow for its restoration.

c) Any intervention must respect the elements of architectural composition of the main building, with particular regard to openings, roof pitches and ornamental elements.

d) Final materials and colors must correspond to the spatial context.

Roofs will be solved using very simple configurations. The roofing material will always be the common arabic tile; as such, roofs with slopes greater than 30 percent will not be accepted.

Historic exterior wall cladding should be preserved as much as possible. Plastering of exposed stone walls with gray cement mortar will not be allowed and, in case of need for rehabilitation or plastering, it will be preferable to use a lime mortar mixed with local aggregates. It will be necessary to respect the proportions of openings and the ratios of solids to voids, characteristic of the geographical area.

(e) Passive energy-saving systems such as orientation, natural ventilation and solar protection or mass storage and thermal inertia will be used.

The surrounding agricultural landscape

The natural vegetation of the Begues area can be described as mediterranean, with a predominance of rosemary and winter heather. Currently, white pine is the predominant tree in the forest masses and alternates with oak trees in the steepest and driest sections. This is characterized by its great dispersing capacity, relatively fast growth and low soil quality requirements. These aspects make it effective in colonizing vast agricultural areas that have been abandoned over the years.¹⁶⁵ As for agriculture, it now plays a secondary role and is mainly of the dry type, such as cereal crops, vineyards and olive trees. Livestock farming and limestone and sandstone mining, however, continue to play an important role. The farmland surrounding Les Casetes del Roure is currently disused, although from records we know that in the past it was used for raising pen animals, such as pigs, chickens and cows, and for growing vegetables, olive trees and vineyards.

The tree types present in the area of the property, as we can see from the legend, are: holm oak, Aleppo pine, oak, Japanese medlar, and olive. While, we can notice in the immediate vicinity at the boundaries of the lot the presence of vineyards and wooded areas, including one belonging to the Garraf Natural Park.

The landscape¹⁶⁶



¹⁶⁵ "El Municipi." Ajuntament de Begues, www.begues.cat/begues/el-municipi/.

¹⁶⁶ "Begues." www.catalunya.com, www.catalunya.com/begues-2-1-80207?language=en.

The architecture and the current status

Two bodies attached to the original farmhouse are currently preserved, a stable in the south area, the remains of the inner courtyard that housed the old glass furnace, a possible cellar in the north wing, and a third body used as a dwelling, also abandoned, within the primitive building. In all cases, the Arabian tile roof was built at two heights, measured from zone 3, because it has a sloping roof facing into the central courtyard. The upper part of the two townhouses and the rest of the original farmhouse are made of Arabic tiles. The ridge of the two terraced houses is parallel to the facade. The structure of all buildings is of common wall of stone bonded with mortar and modern cement. Remnants of lime plaster are preserved, which probably covered the walls in the past, but today these are without cladding, with some locks recently joined with cement mortar. Semi-detached house 4 has remnants of white painted plaster on the interior of the upper floor. The window frames in both zone 4 and 5 have also been plastered and painted, which assumes the same treatment in the interior room.

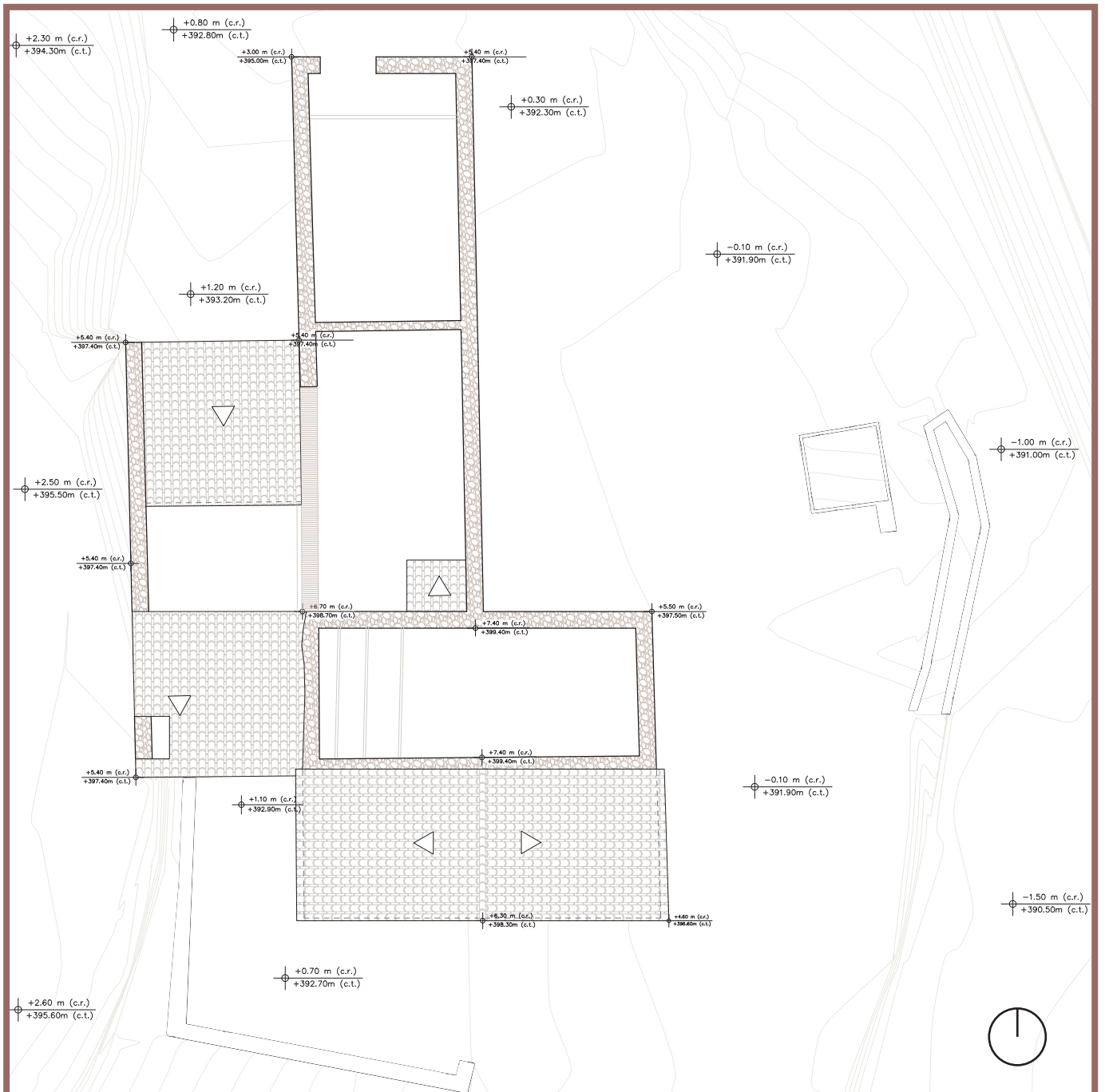
All the doors and windows in the building complex except the two windows on the west elevation and on the doorway located on the north façade have brick lintels. The teeth of these doors and windows have bricks forming a low arch, much more pronounced in the case of the doors. The vaulted door on the north facade and the two windows on the west facade are very different from those on the rest of the architectural ensemble. On the north side of the east facade, the remains of the facade of the former glass furnace with a large low arched doorway, also made of brick, a window and another doorway, currently walled up, are preserved as a bastion. Inside the present central courtyard, a remnant of the old glass furnace, is a large brick arch, also made of brick, which supported the roof of the old furnace laboratory.

Access to the property is on the west side via a sloping path; the old entrance is abandoned and vegetation allows entry only on foot. In the immediate vicinity are dry stone walls that mark and level the land. The remains of a small outdoor kitchen oven are also present.

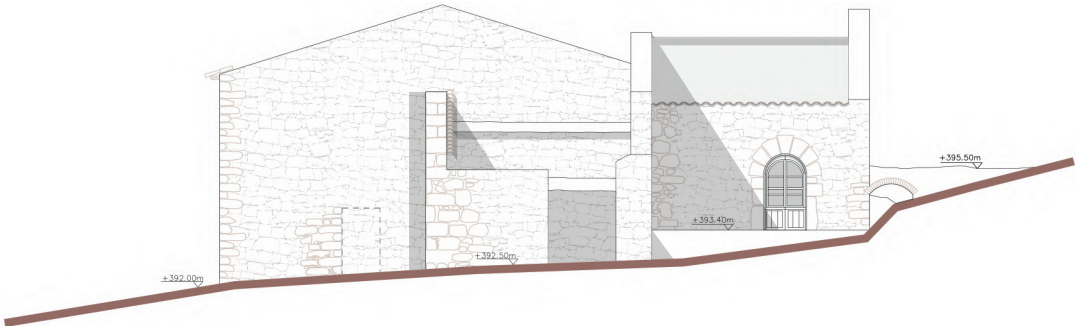
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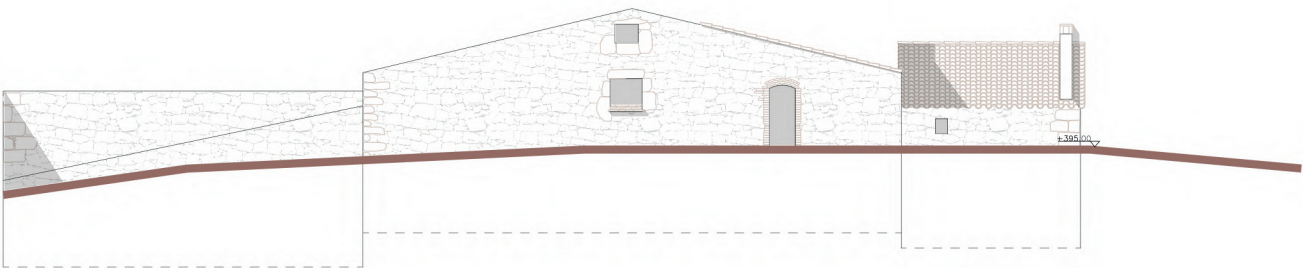


Elevations
current state
1:200



North elevation

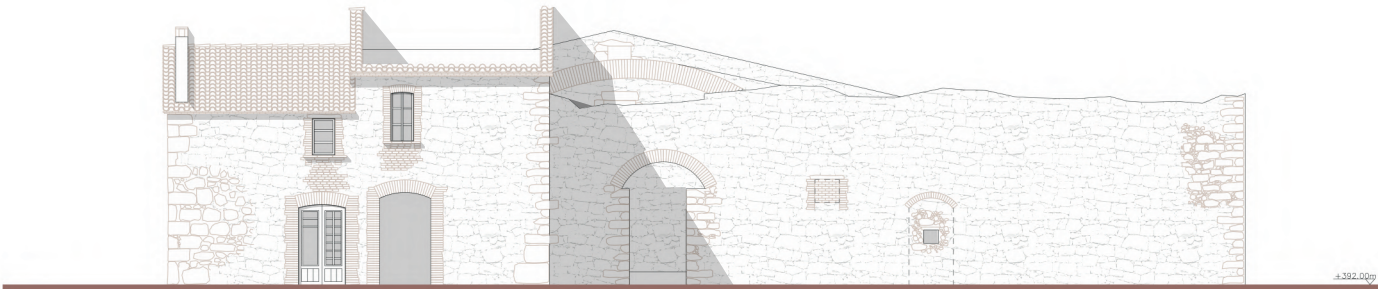
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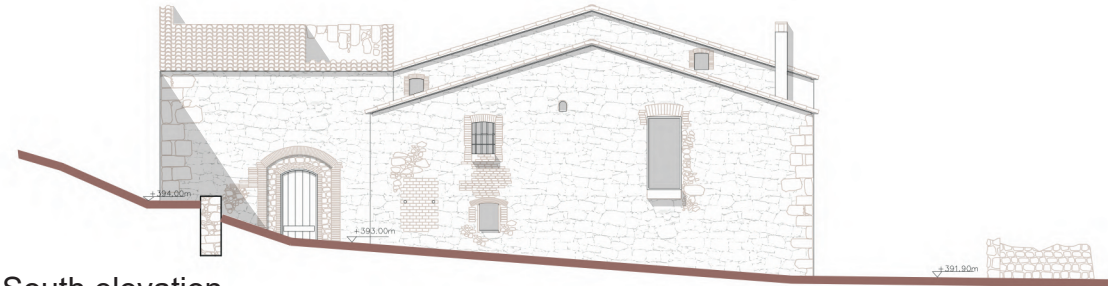
West elevation

Elevations
current state
1:200

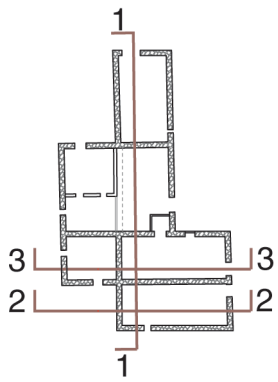
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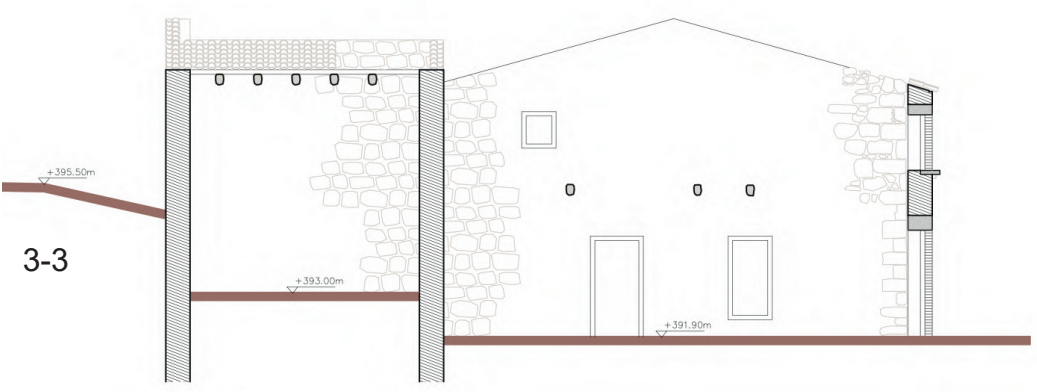
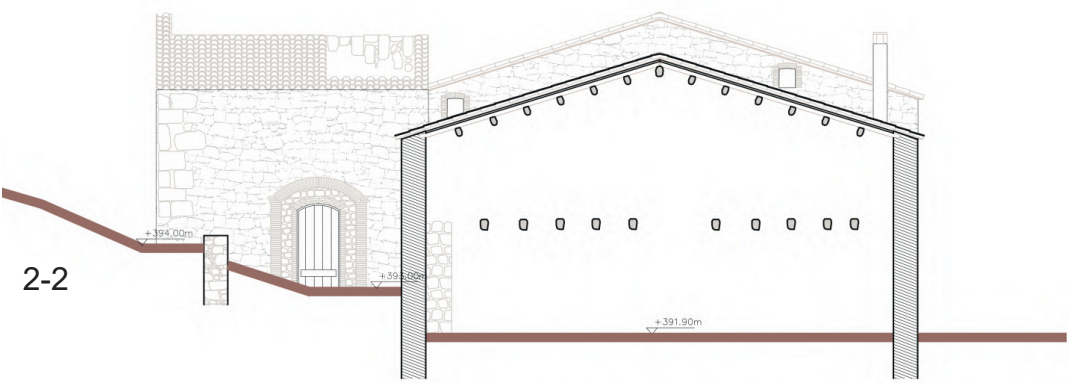
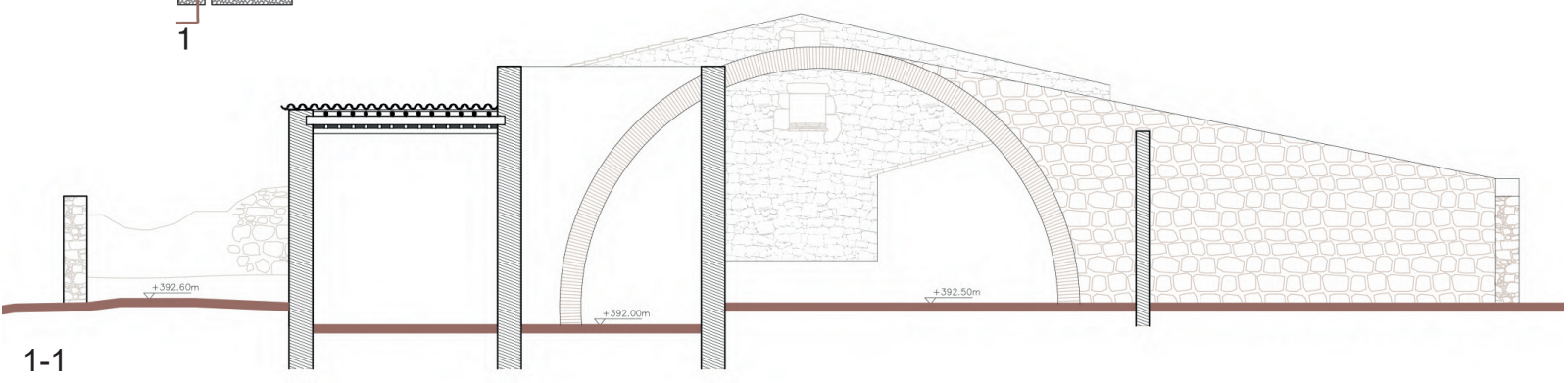
East elevation

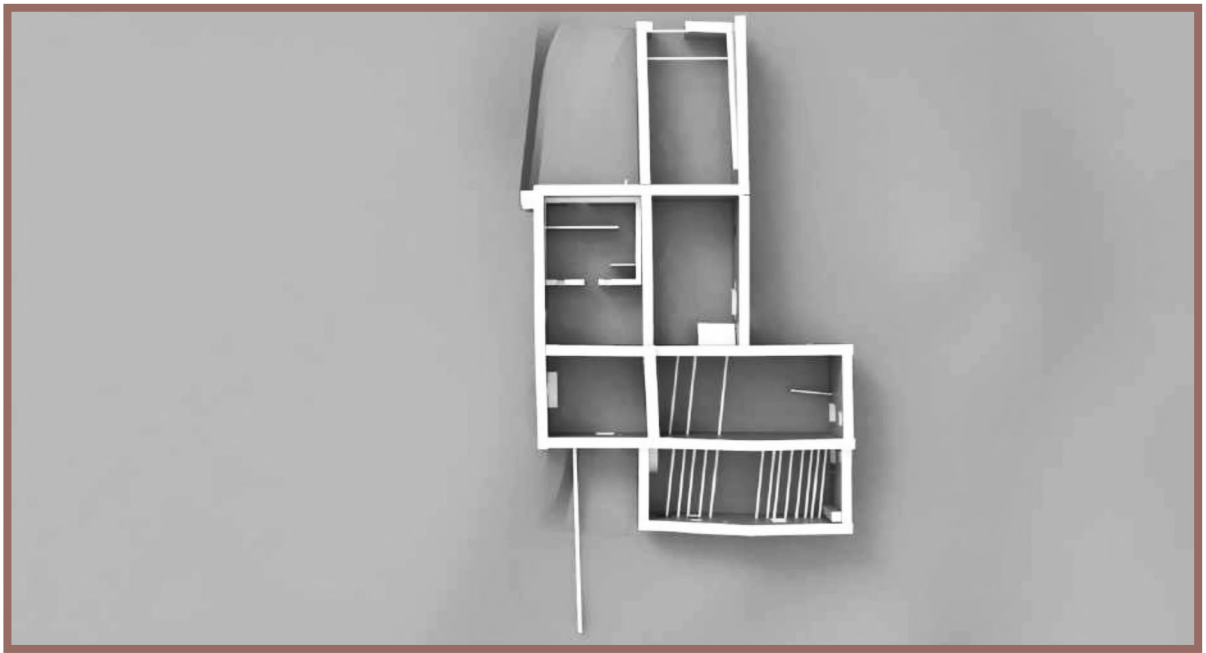


South elevation

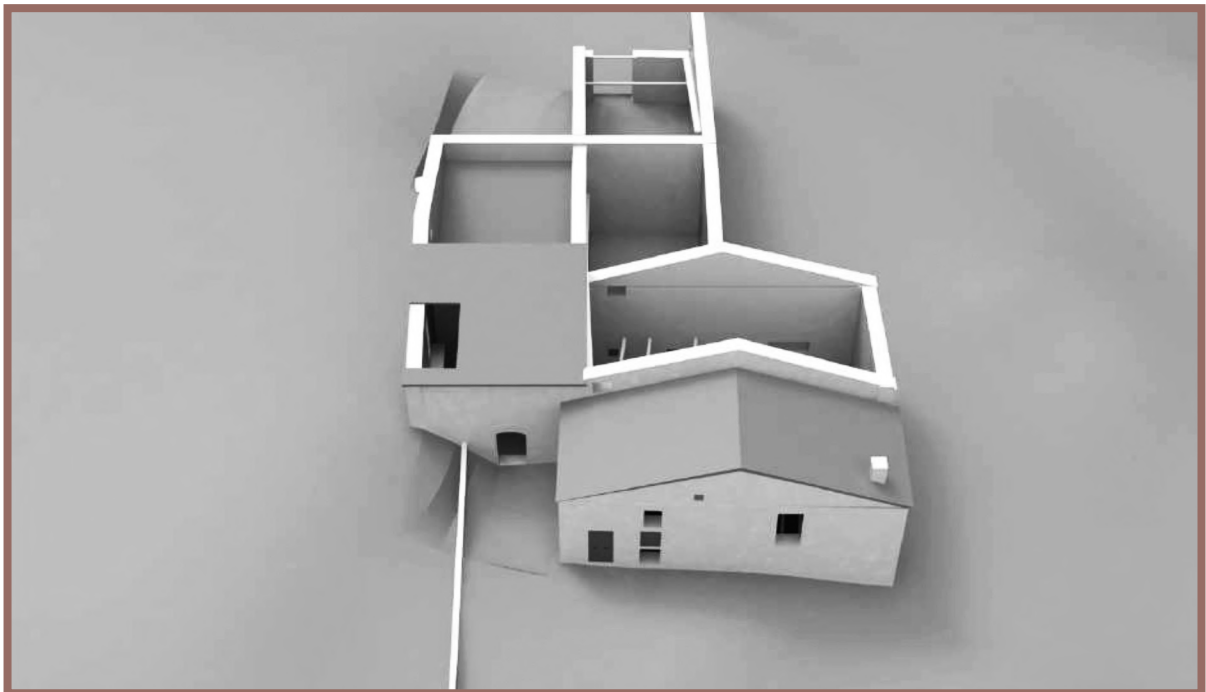
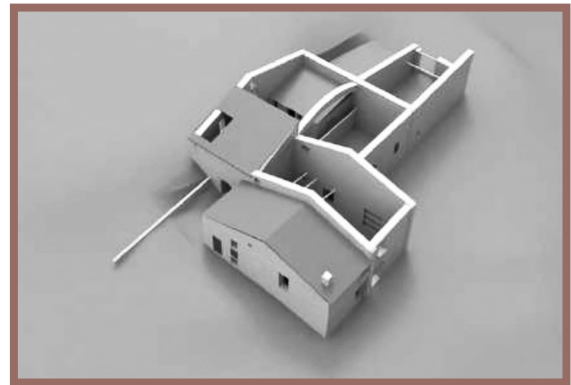
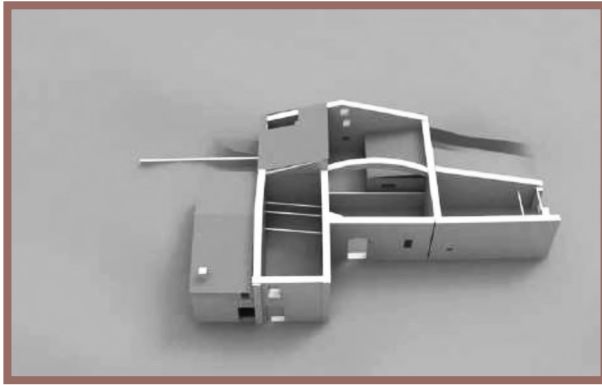


Sections
current state
1:200





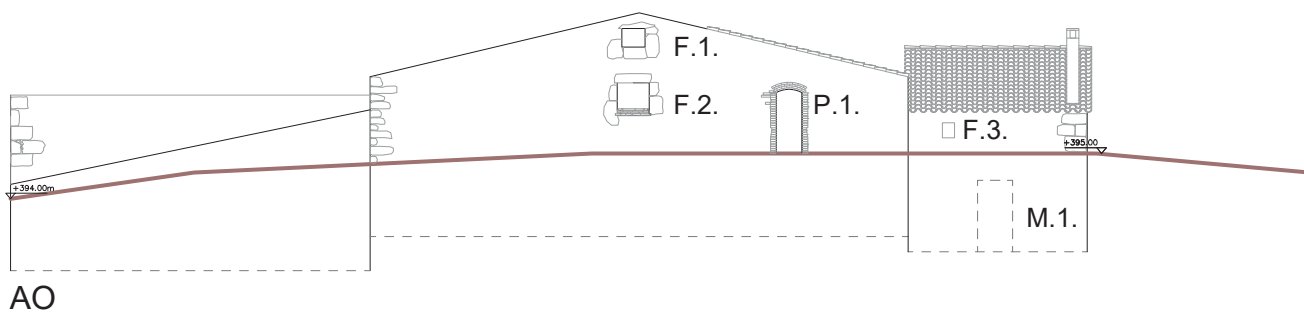
179



05

Catalogue of the main elements

Catalog of
plugged openings
1:200

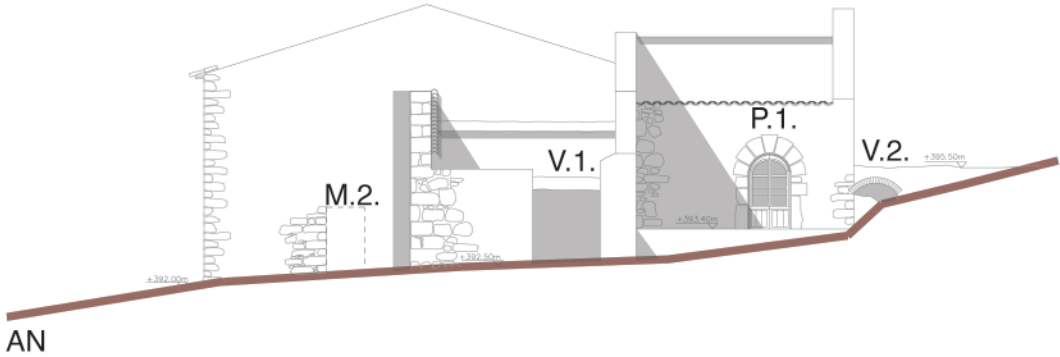


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M.1.



Catalog of
plugged openings
1:200

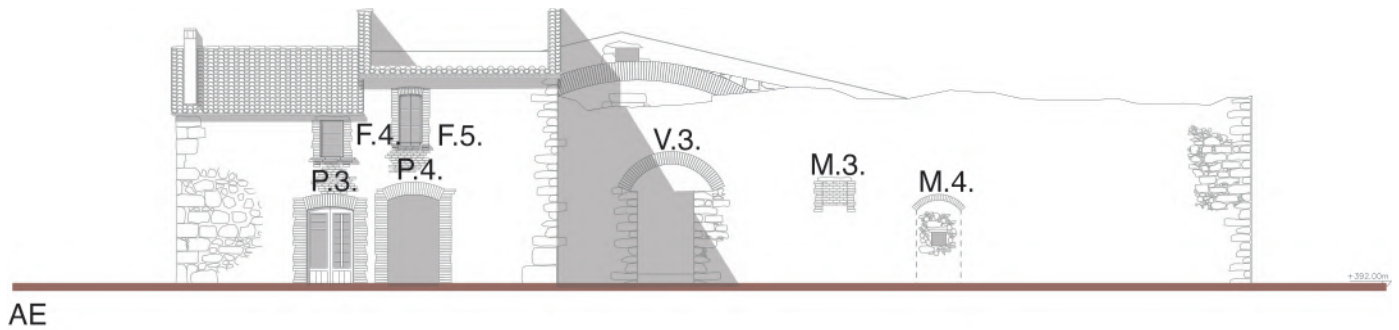


181

M.2.



Catalog of
plugged openings
1:200



M.3.



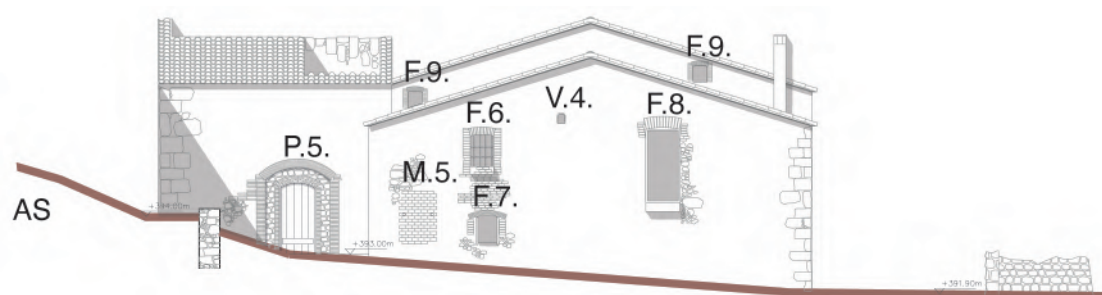
M.4.



Catalog of
plugged openings
1:200

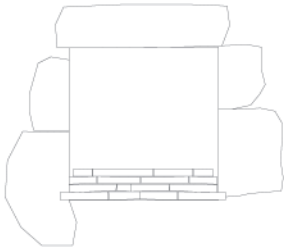
M.5.

183





F.1.



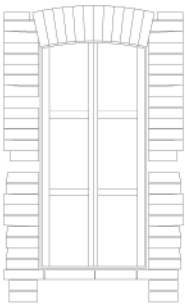
F.2.



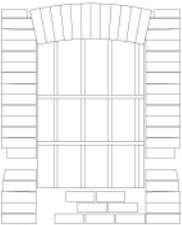
F.3.



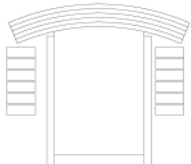
F.4.



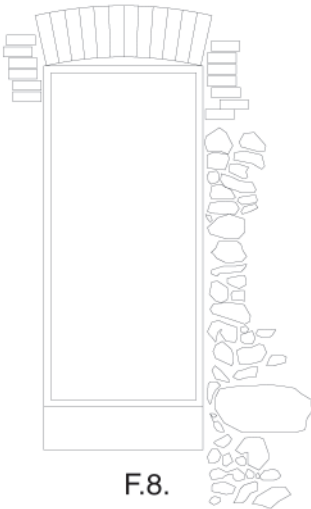
F.5.



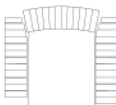
F.6.



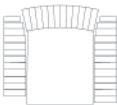
F.7.



F.8.



F.9.



F.9.



F.1.; F.2.



F.3.



F.4.; F.5.



F.6.; F.7.

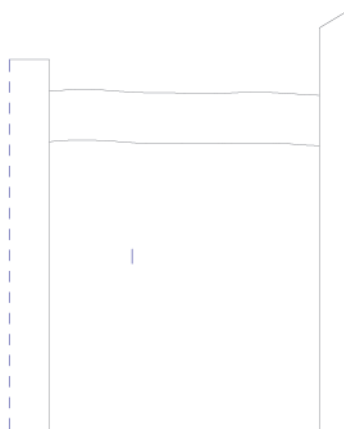


F.8.; F.9.

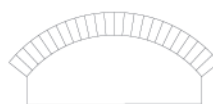
Catalog of wall
openings
1:100



V.1.



V.1.



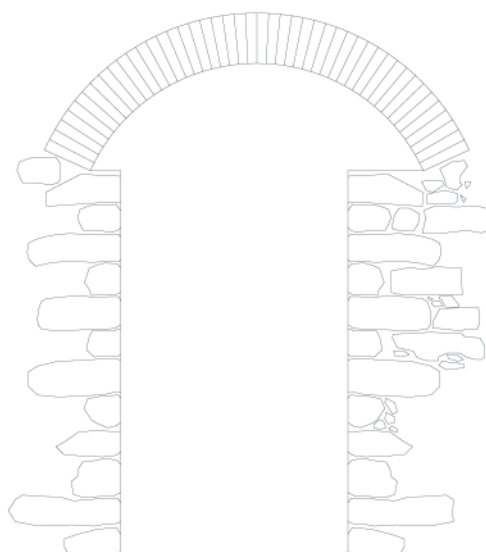
V.2.



V.3.



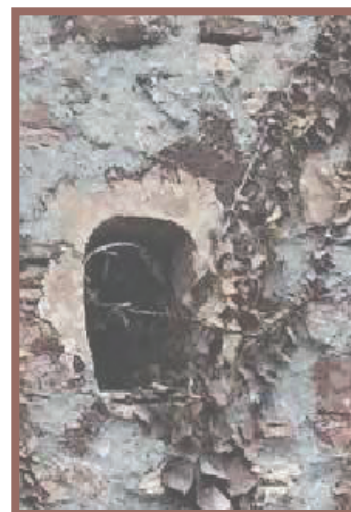
V.2.



V.3.



V.4.

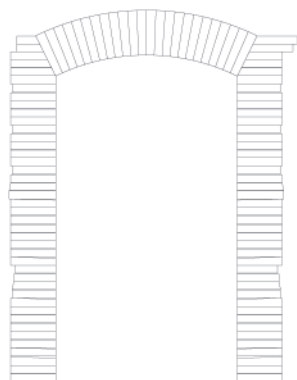


V.4.

Catalog of doors
1:100



P.1.



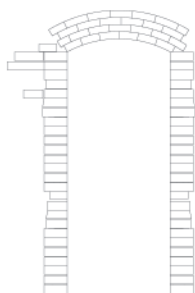
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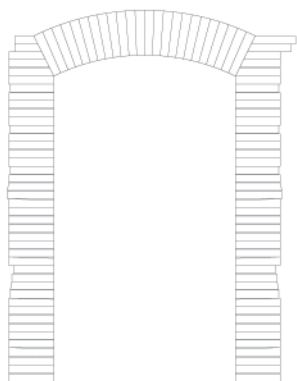
P.1.



P.4.



P.2.



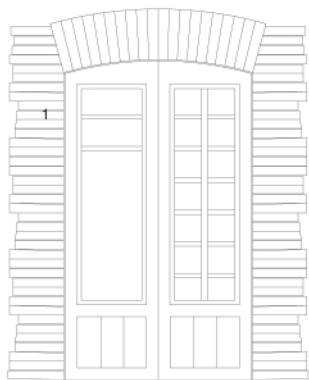
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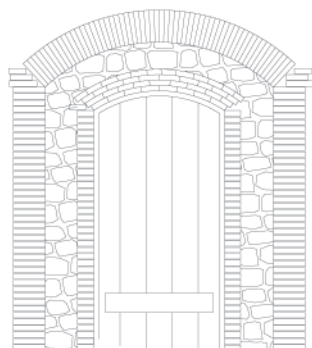
P.2.



P.4.



P.3.



P.5.

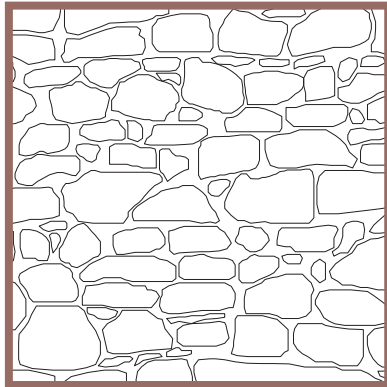


P.3.



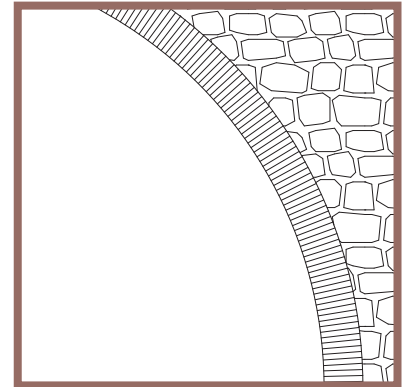
P.5.

Catalog of masonry



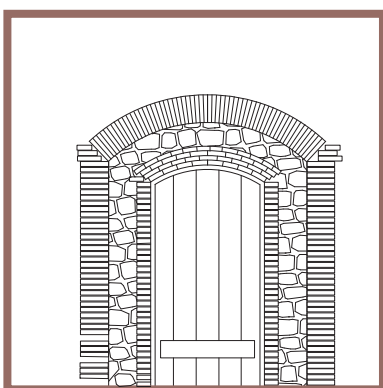
MR 01 (PHASE 1)

The masonry consists of stone bonded with mortar and modern cement. Remnants of lime plaster that probably covered the paretl in the past are preserved.



MR 02 (PHASE 2)

Brick masonry arch, which supported the roof of the ancient kiln workshop. In its present state it is partially infilled with stone masonry on one side and brick masonry on the other.



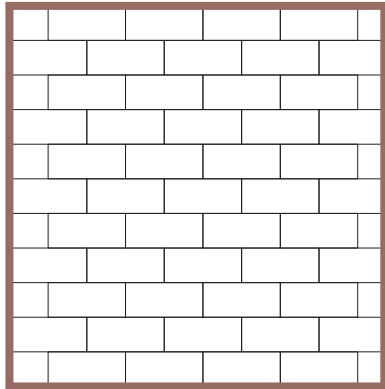
MR 11 (PHASE 2)

Openings may have lintels made of brick.

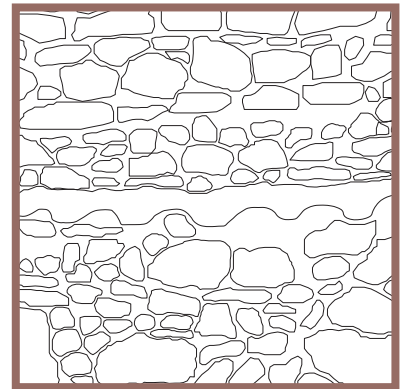


MR 06 (PHASE 2)

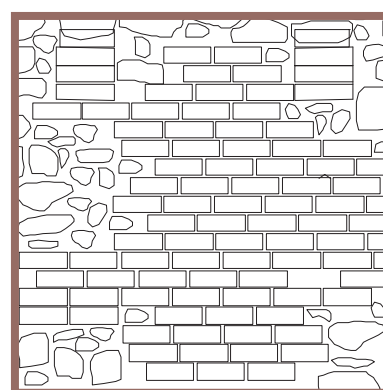
Openings may have stone lintels.



MR 18 (PHASE 5)
Construction of brick masonry for Pepeta Serra's house.

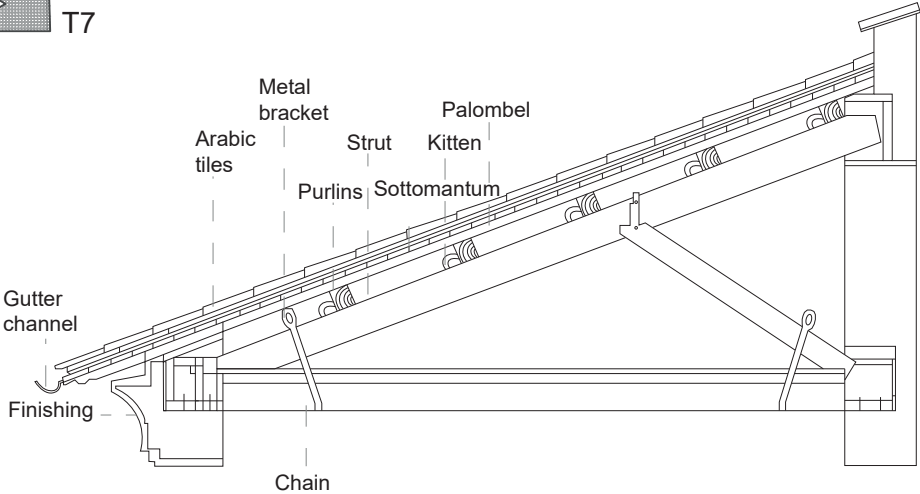
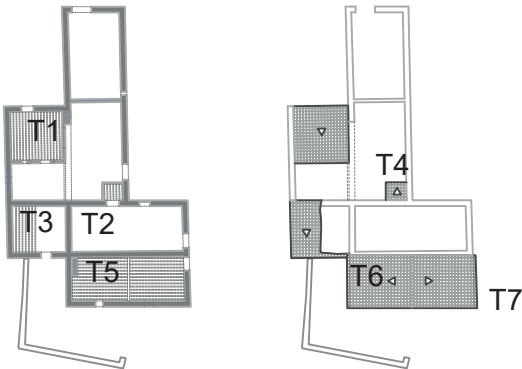


MR 01 (PHASE 4)
Remnants of uralite cladding.



MR 11 (PHASE 3-4)
Mixed masonry composed of stone with mortar and cement and bricks placed at a later stage to wall pre-existing openings.

Catalog of the roof typologies



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T1



T2



T3



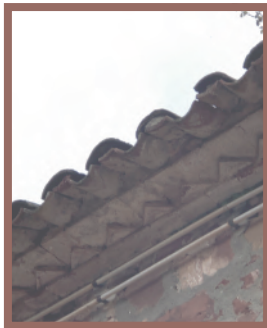
T4



T6



T5



T7

06

A future for Les Casetes del Roure

SWAT analysis

Strengths

- Historical-architectural value
- Distinctive element of the arch
- Proximity to the urban center of Begues
- Proximity to the airport and the city of Barcelona
- Strategic location for tourism
- Proximity to the natural park of the Garraf
- Presence of a trekking route and several masias

Opportunities

- Tourism development
- Restoration of agricultural activity and rehabilitation of disused fields
- Raising awareness of the heritage of the masias and agricultural production
- Recovery of the ruined building
- Educational activities in contact with nature
- Strengthening of the network of masias through paths and activities



Weaknesses

- Poor state of preservation of the building
- Onerousness of the intervention
- Unpaved access road
- Location on land that is not buildable and, therefore, not expandable
- Presence of a weak relationship between architecture and landscape

Threats

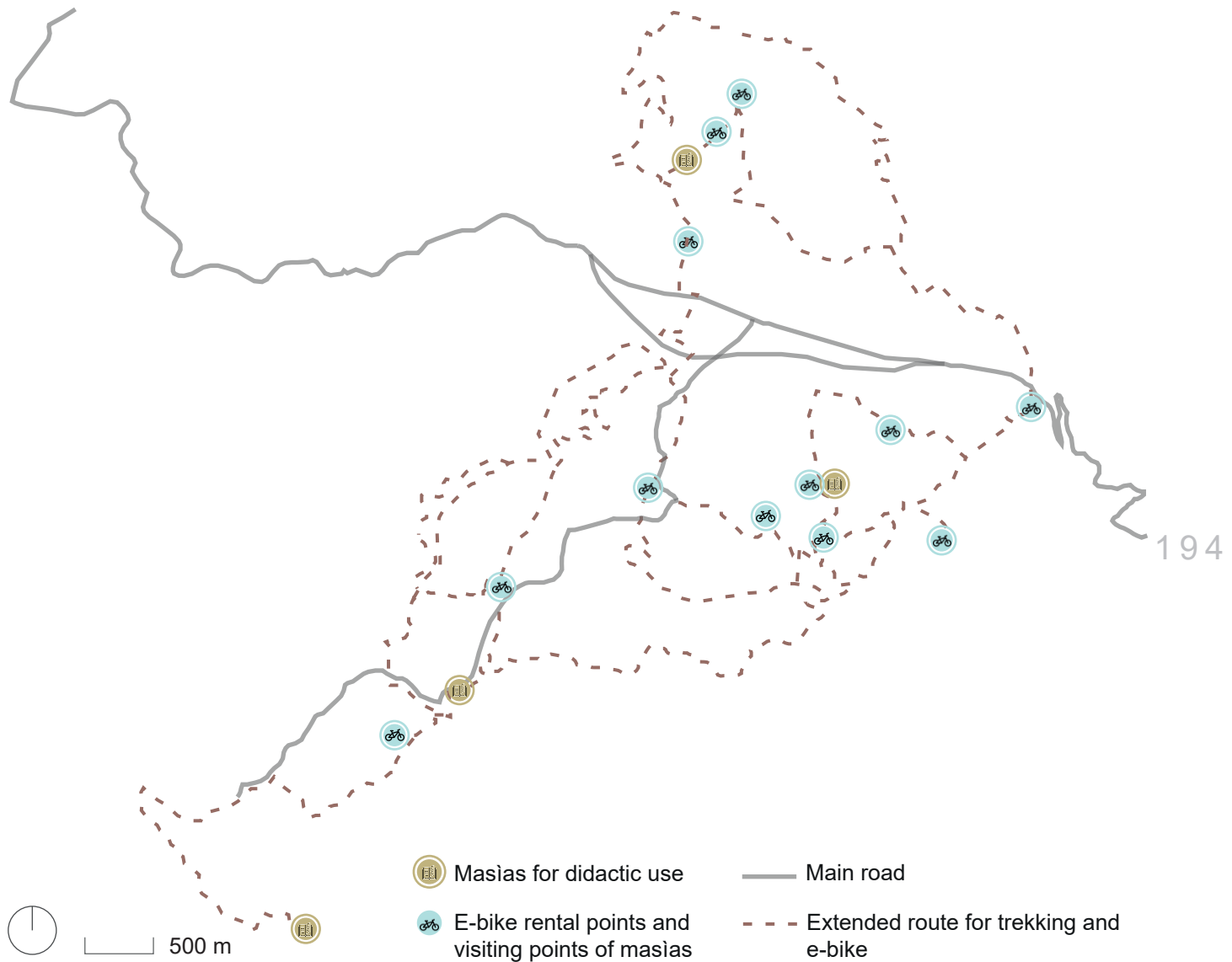
- Poor tourism promotion of the municipality
- Low frequency and quality of public transportation
- Presence of essential services
- Need for careful maintenance and management

The design concept

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- From the study of the evolution of the masia as an agricultural unit, understood as a Catalan system of land management, emerges the need to reconnect the masie in the area through paths and initiatives and to recover the rural areas surrounding the building, reactivating the pre-existing cultures and the relationship between architecture and landscape.
- Willing to maintain the dry stone walls as a tool for the organization of the territory, of paths and activities.
- The existing access road is maintained with a reduction of the slope and the path on the west side of the building is restored, providing direct entrance to the breeding area and cultivated fields.
- New outdoor paths are provided, practicable by e-bike and on foot, which follow the course of the pre-existing dry stone walls.
- Integration between activities inside and outside the building is planned in a circular economy concept.
- As a result of the archaeological and evolutionary study of the architectural complex, is expected to:
 - respect the existing volumetry
 - maintain and restore the brick arch
 - rebuild the external bread oven
 - enhance the glass-burning furnace
 - restore the north facade portal, openings and facade eaves
 - study the possibility of leaving the walled openings exposed
- not preserving the volume of the Pepeta house realized in the 1960s
- Thanks to the study of the existing Plans in the territory, the project includes:
 - the respect and restoration of the main architectural elements
 - the maintenance of the volumetry, openings, roof pitches and ornamental elements
 - the maintenance of original materials and colors: the use of Arabian tiles and stone
 - the use of energy-saving systems
 - the educational and cultural use mixed with the tourist and residential function
 - the absence of basement
- The intention is to respect the maximum expansion of 10% of the volume and to use different materials than the pre-existing ones for the newly inserted elements, so that the intervention is visible with respect to the original structure.
- The central space becomes the element that unifies the currently decomposed volumes and provides a glazed roof to ensure lighting and ventilation and to convey continuity with glass production. The resulting courtyard becomes the common entrance space of the building and will feature plaques commemorating past craftsmanship.
- The main function will be that of a sustainable tourist facility with the integration of activities related to the area, such as educational gardens, a cooking workshop of agricultural products, a bioshop, and a taller of handicrafts.

New network of masias and new paths



As a result of the analysis on the masias theme in the municipality of Begues, it appears necessary an intervention of connection and enhancement of them, which can reconcile a touristic, historical and didactic, sports and naturalistic purpose. For this reason, it was decided to propose an extension of the existing trekking route, so that it can connect all the public masias, places of educational and agricultural activities, and the abandoned ones, which will become important sites of historical knowledge, given by observation and new signage inherent to the study of the ruins, and which will include an e-bike rental point. This will result in a sustainable network of territory awareness, suitable for adults and children, usable flexibly at short or longer distances and spaced with the presence of stops of information and observation points.

The masterplan and landscape design 1:1000

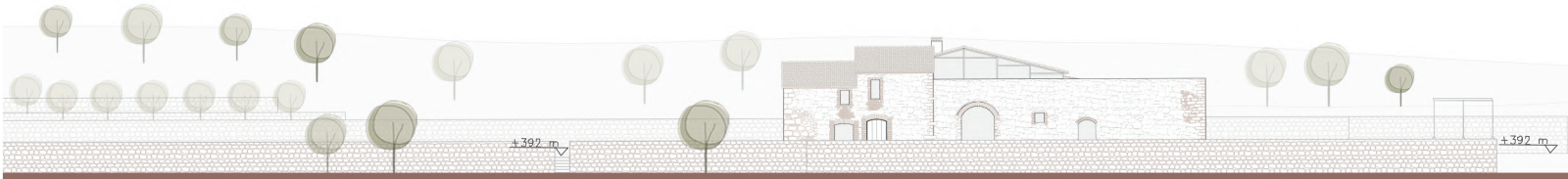
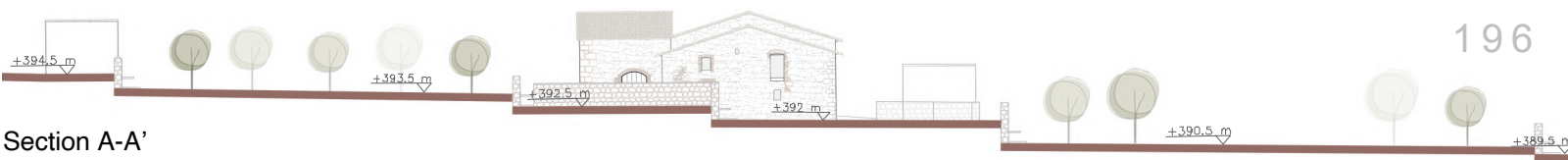
Regarding the design of the exterior spaces of the masia, the concept consists of maintaining and reconstructing the preesistent dry stone walls, which guide the design of new paths and pedestrian and bicycle circulation. The two unpaved access roads are maintained, with a slope reduction intervention, to allow car access and for the loading and discharging of materials. In general, the intent is to preserve the terraced layout and organization, introducing as little paved area as possible and maintaining the relationship with the natural surroundings.



Territorial sections

1:500

The sections show the organization of the terraced landscape, characterized by the refurbishment of the dry stone walls, and the slope between the different elevations, which is almost in all locations about 1 m with 2 m high walls, so as to allow the presence of a parapet. In addition, two iron pergolas can be seen, integrated into the landscape, which partially rest on the dry stone walls to maintain the relationship between new and old, and which allow photovoltaic and solar panels to be grafted onto their upper surface.

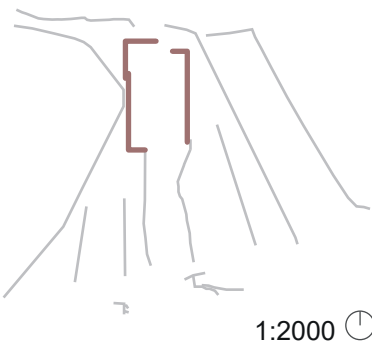


Section B-B'

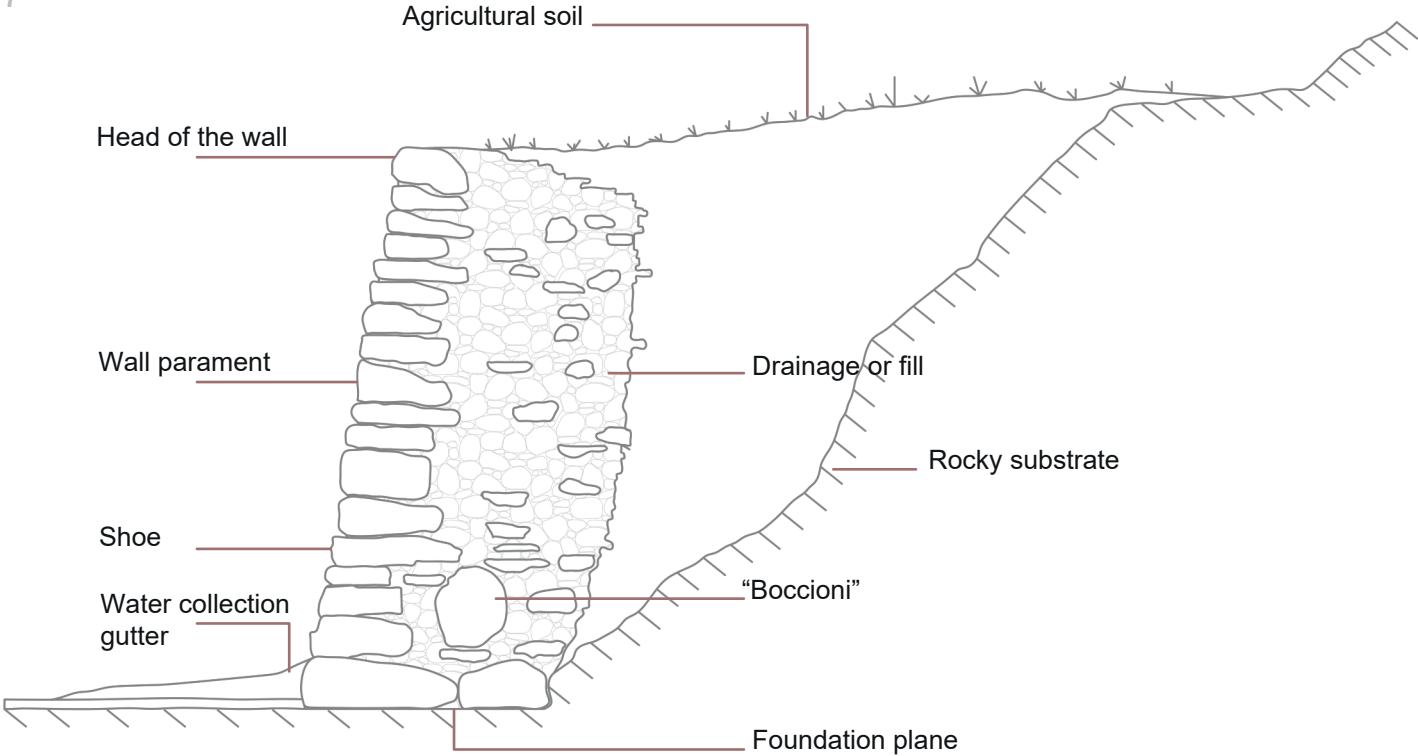
Dry-stone walls as a tool for organization of the territory

It is decided to restore the pre-existing dry stone walls, maintaining their character and course. New walls are introduced at the level of the building, regular and square in shape for functional issues and so that they can be distinguished from those that already exist.

- Existing dry-stone walls
- New built dry-stone walls



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Pathways and functional organization of areas
1:1000



1 Parking area

The parking area is planned at the end of the existing road and must be as little impact to the environment as possible. For this reason, permeable flooring was chosen in order for the soil to drain, that is aggregates from a local quarry. The result is the complete absorption of rainwater by making it drain into the ground and from the color point of view the inclusion in the shades of the context. In addition, it is positioned so as not to obstruct the view of the valley, but as a filter between the road and the building.

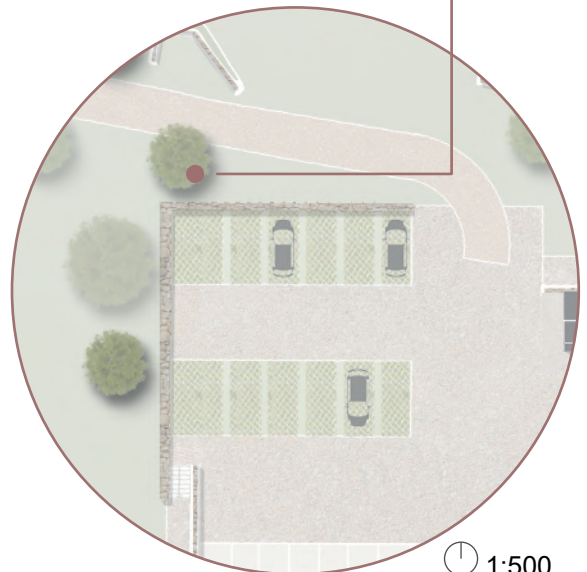
The desire is to preserve the existing vegetation whose types, in the case of the parking lot, are *Pinus Halepensis*. The spaces, as can be seen, are also delimited by the presence of the dry stone walls.

Pinus Halepensis



199

167 "Pinus Halepensis." bellepiante.it/pinus-halepensis/.



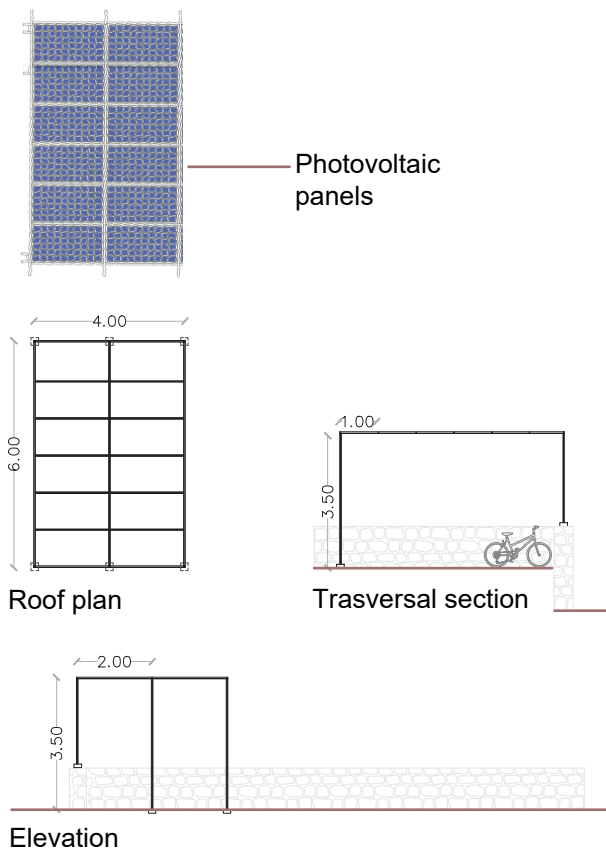
2 E-bike rental area

In relation to the introduced network of masías, a storage and parking area for bicycles and e-bikes is planned. The intervention involves all the bicycle routes, marked on the map and includes the installation of signage, indications on distances and difficulties of the routes between the masías, and rental boxes for bicycles and e-bikes, powered by solar panels and operating autonomously, which allow visitors to deposit and pick them up, without the need for the presence of operators.

The structure that houses the bicycles at Les Casetes consists of an iron pergola of 2 m x 1 m modules, leaning against the dry stone wall and has solar panels on the roof. This provides permeability to the landscape and is clearly distinguished from the existing stone buildings.

168 "Nespolo Giapponese - Eriobotrya Japonica." www.giardinaggio.it, www.giardinaggio.it/frutteto/nespolo_jap/eryobotria.asp.

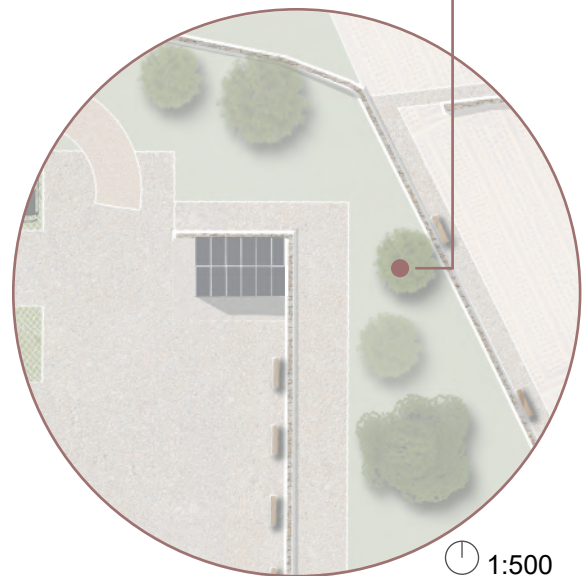
Iron pergola for bike storage and supporting photovoltaic panels 1:200



Eriobotrya Japonica



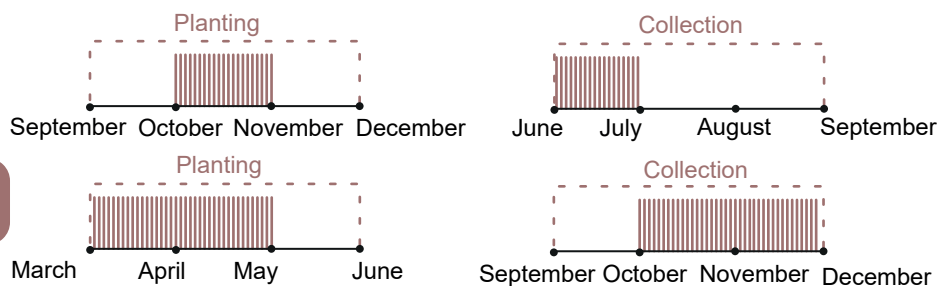
200



3 Cereal fields

It was decided to restore cereal cultivation, typical of the Begues area, and which characterized the eastern fields of the Les Casetes property. Specifically, it is planned to plant oats, spelt, ancient grains, millet, barley, chickpeas, beans and lentils, following sustainable techniques aimed at the production of slow food and the preparation of dishes such as stone-ground flours, spelt, durum and ancient wheat pasta and soups. Generally, sowing of these crops takes place between October and November for the "winter crops," which require more moisture, and for the rest in the spring period. Distribution is done by means of special machines in closely spaced parallel rows with a regular depth of 2-3 cm.

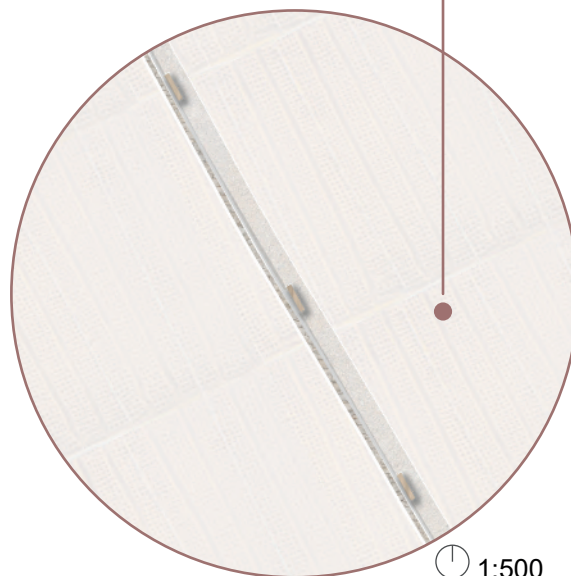
201



Bakery products



169 Solutions, A. L. "Bio Agriturismo Il Cerreto - Toscana." Il Cerreto, www.bioagriturismoilcerreto.it/it/fattoria.html.



1:500

4 Green areas

Green spaces not dedicated to specific activities see the maintenance of pre-existing tree types and their enhancement. As already illustrated, the property is characterized by the presence of two types of oak trees, from which the name "Les Casetes del Roure," translated "The Oak Cottages," is also derived: *Quercus Ilex* and *Quercus Robur*. Their distinguishing fruits are single acorns or in groups of 2-5, dark brown, which ripen in autumn. In folk medicine they were used for medicinal purposes, cooked raw or roasted for astringent and antiseptic uses.

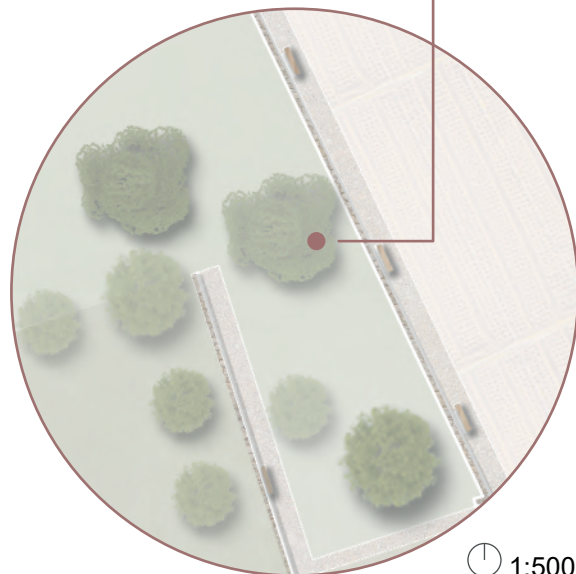
We also find *Pinus Halepensis*, usually, with a height of about 15 m and needle-shaped leaves, 5 to 10 cm long and distributed in groups of two. Finally, *Eriobotrya Japonica*, with very large oval leaves that bloom fragrant little white flowers in autumn and in spring produce roundish orange edible fruits with 3-5 brown seeds inside. These will be offered in the bioshop with jams and preserves, as well as acorns from which spreadable creams will be made. In addition, a botanical explanation trail will be introduced with the aim of enhancing these elements.

Acorns of the oaks



202

170 "Le ghiande di oggi sono le querce di domani." www.aula41.com/2018/01/21/le-ghiande-di-oggi-sono-le-querce-di-domani/.

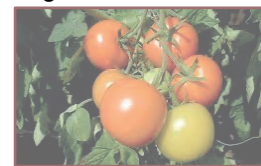


🕒 1:500

5 Educational gardens

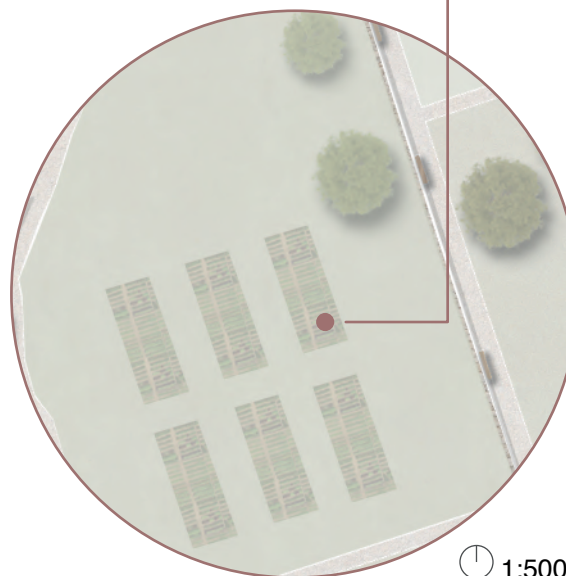
As stated above, the introduction of the educational gardens activity is proposed, which allows food production for the facility's kitchen and for the sale of products at the bioshop and "soil" awareness and education for visitors to Les Casetes. It also fosters inclusion, collaboration between different generations, and sociability. The gardens system is arranged externally, in established areas, and organized in rectangular elements. The crops sown are onions, whose appropriate spacing for transplanting is 25 cm between each bush and which are transplanted in July or August and harvested in October; tomatoes, installed in May, which require a spacing of 40 cm between each bush; peppers, which are sown in January, February or March and are arranged at 25 cm intervals; and eggplants, which are sown in April or May and are harvested in August, when they turn a purplish color. The appropriate distance for transplanting is 30 cm between each bush. Then, carrots sown throughout the year, avoiding the extremely cold months, in very loose and fertilized soils; zucchini, to be sown in March and April and directly in the crop, flower bed or pot from April to June, to avoid the last frosts of the year; potatoes, to be sown in mid-April; lettuce and garlic, which are sown directly in the flower bed, ridge or pot in November or December, leaving 20 cm between plants.

Vegetables



203

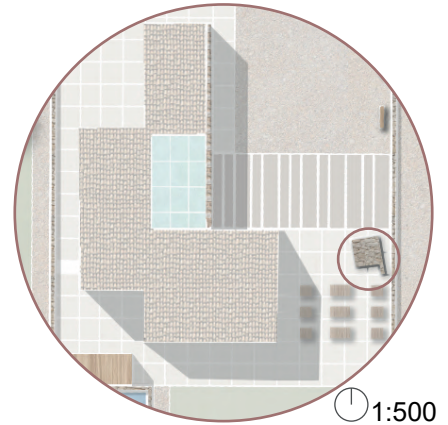
171 "Come coltivare i pomodori nell'orto: una guida completa, semplice e pratica." Pellegrini Garden, 8 Apr. 2019, www.pellegrinigarden.it/news/come-coltivare-i-pomodori-nell-orto.



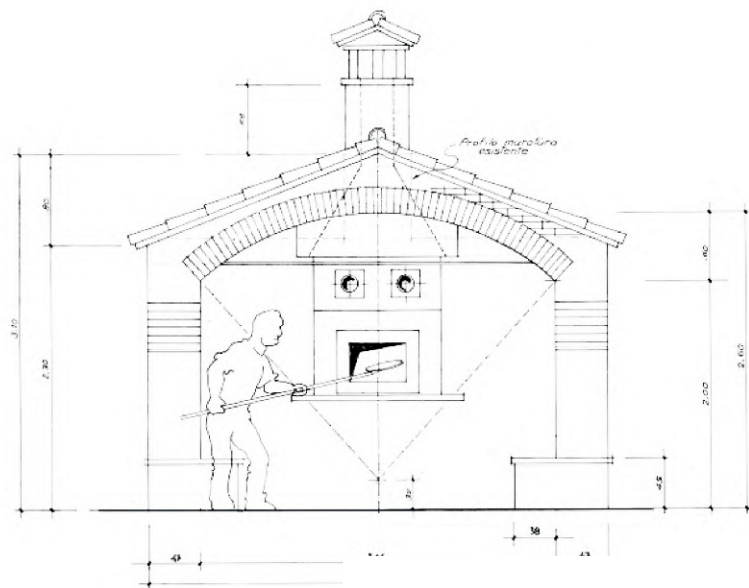
🕒 1:500

Ancient bread oven

An additional feature for the exterior layout is the ancient bread oven. The choice was to preserve it by restoring it and making minor changes to fit the new configuration of the master plan and exterior. It was reconstructed respecting the original designs of the old ovens of the time and is only slightly moved from its previous location to be functional for the dining room and kitchen.



175 Ghidorzi, Giuseppe. "I forni a legna di Giuseppe Ghidorzi: forno comunitario di Cascina Croce." I forni a legna di Giuseppe Ghidorzi, 2011, giuseppighidorzi.blogspot.com/2011/01/forno-comunitario-di-cascina-croce.html.



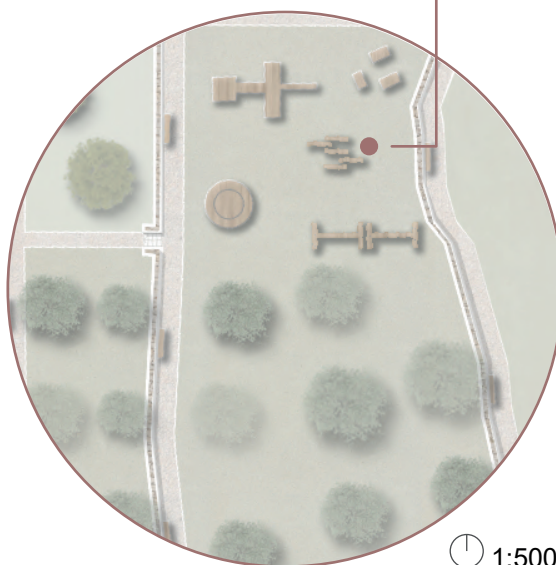
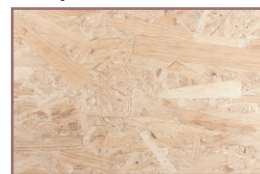
6 Furnished green areas

In support of the educational and tourism purposes of the building, it is planned to introduce a play area nestled in the garden and in the vicinity of the educational gardens. It has been designed with sustainability as the focus, both in terms of the use of inclusive play, accessible to children with disabilities, and the use of sustainable materials, such as mostly recycled wood and recycled plastic. Included will be a swing for group play, whose basket has a capacity for 3 or 4 children, followed by a slide equipped with two side-by-side tracks that induce social interaction, a structure consisting of a wooden tunnel that can be used for climbing, outdoor furniture with a table, benches, and a bench with a backrest, a static structure for collective play and socialization of children consisting of a large tunnel raised from the ground, which due to its robustness can also be used as climbing by the youngest.

205

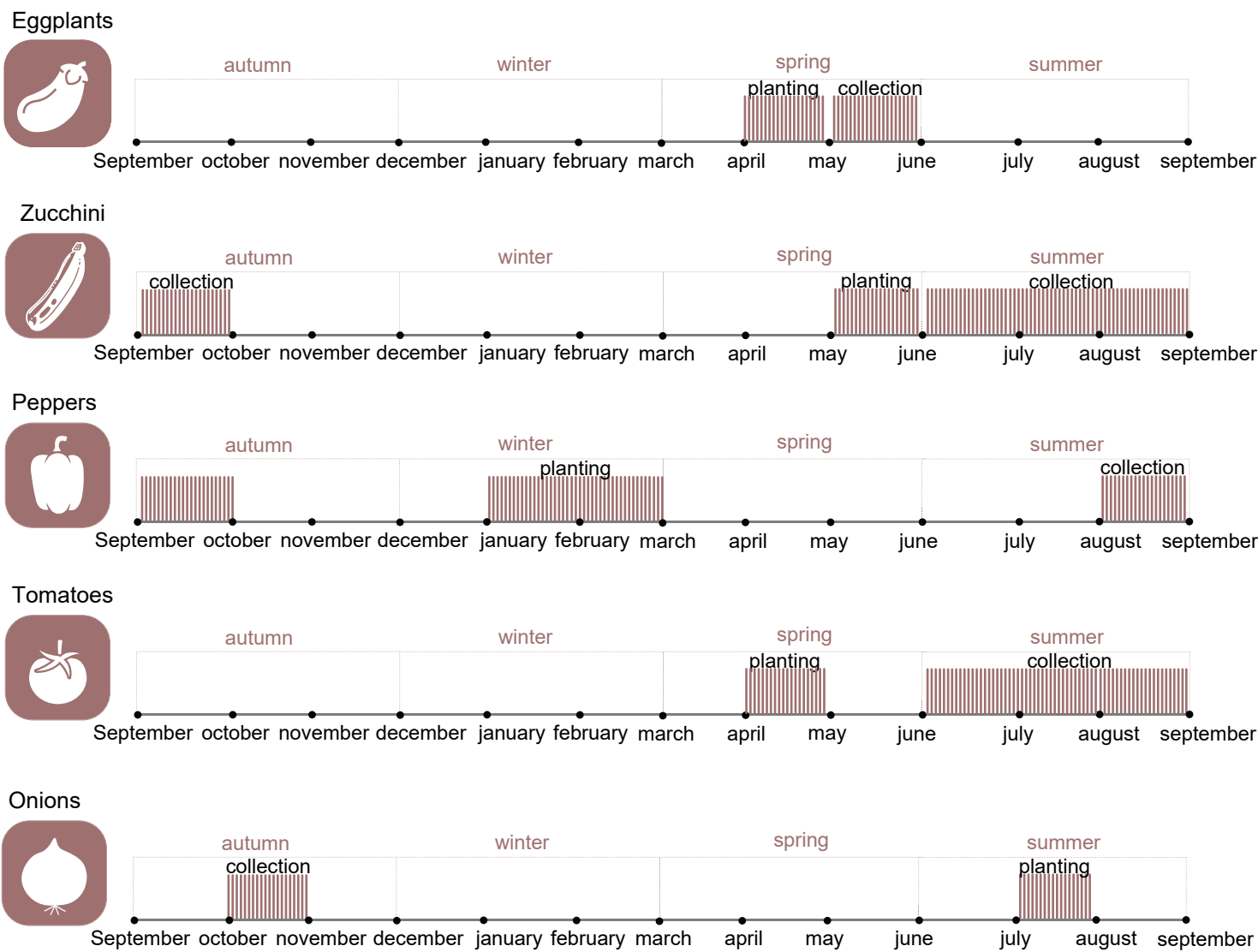
172 "Sostenibilità: Il gruppo lombardo Saviola primo al mondo nel realizzare pannelli con 100% legno riciclato."
Gruppo Saviola, 17 June 2019, www.grupposaviola.com/2019/06/17/sostenibilita-il-gruppo-lombardo-saviola-primo-al-mondo-nel-realizzare-pannelli-con-100-legno-riciclato/.

Recycled wood

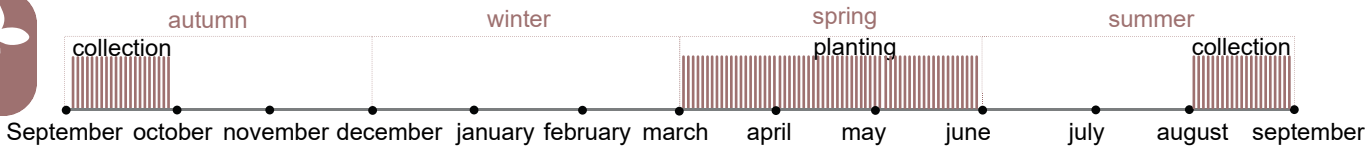


1:500

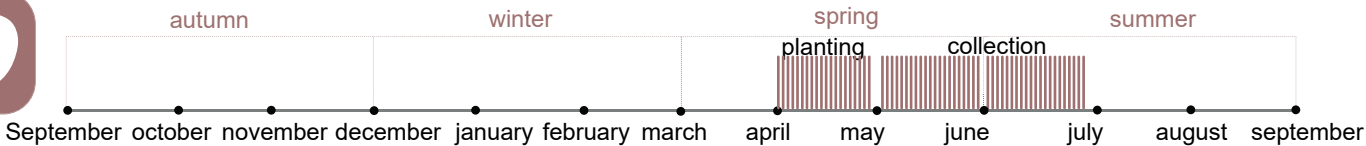
Planting and harvesting schedule



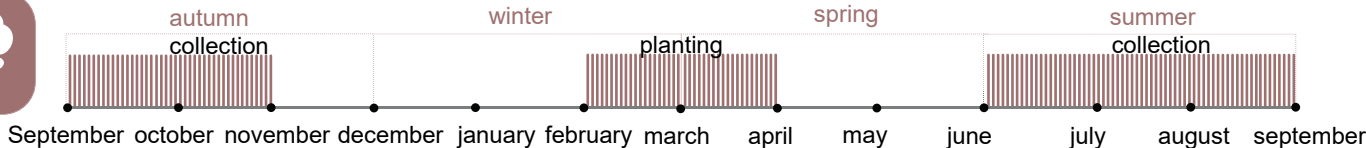
Carrots



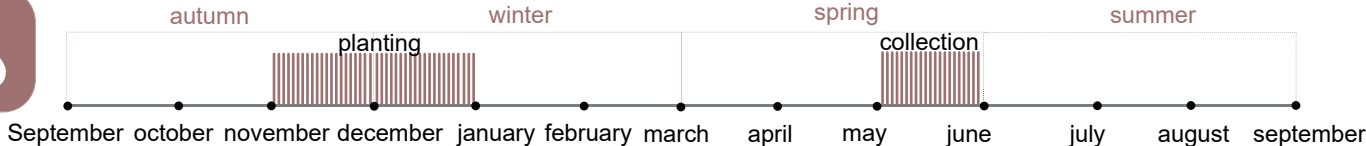
Potatoes



Salad

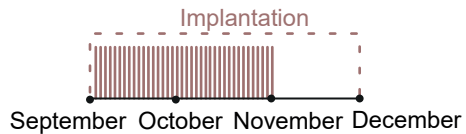


Garlic



7 Olive trees areas

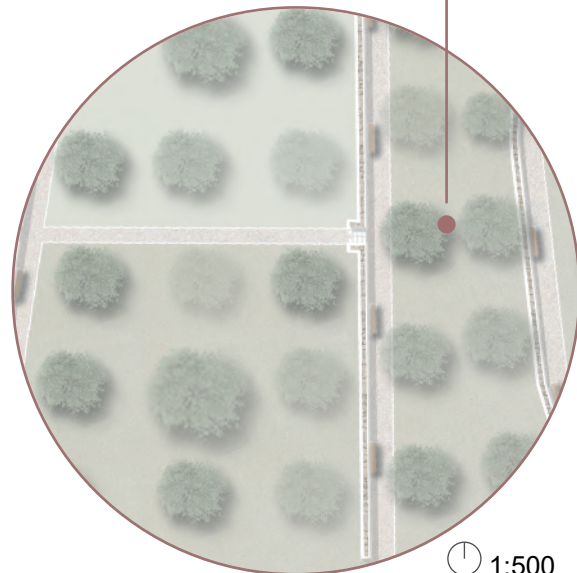
In the area belonging to Les Casetes there is currently an olive tree crop, which will be preserved and expanded with the extension to the upper areas of additional trees in order to increase oil production. The distance between plants is generally 5 x 5 meters, so the newly planted ones are placed at a greater distance than 5 m to hinder the spread of diseases. The installation of the new trees is recommended in the fall by plowing and digging a 50-cm hole, as is the olive harvest, which is done manually in the fall.



Olives



173 "In che periodo si raccolgono le olive? - Fratelli Carli." www.oliocarli.it, www.oliocarli.it/magazine/conoscere-olio/in-che-periodo-si-raccolgono-le-olive.



1:500

8 Animal husbandry area

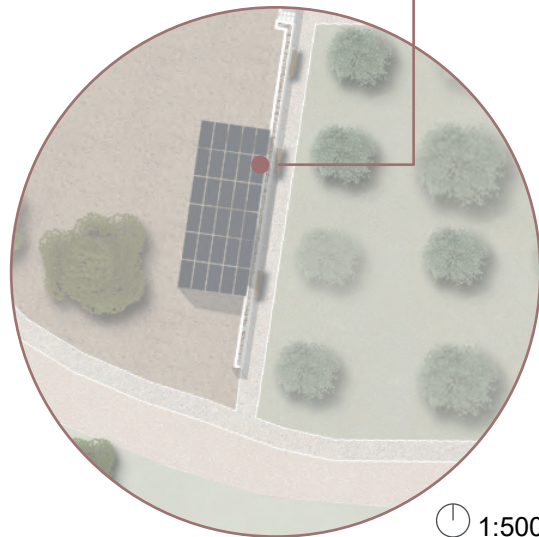
In an area spaced away from the building and more private will be placed the activity of raising hens for egg production, and of sheeps and goats, for that of milk and cheese. The ideal time to purchase hens is spring, so that they start laying eggs after a few weeks. These need approximately 10 sq. m. each with a laying nest, perch, watering trough, feeder and a fence of about five meters. Feeding is done with pellets and broken grains, and waste from the property's crops can be used for this. For the baby goats and sheeps, on the other hand, a shelter area, a fence more than 1.5 meters high, and troughs are arranged. Natural food consists of grapes, hay, fruits and grains. Finally, the manure produced will be reused for fertilizing fields and gardens, increasing the water retention capacity of the soil.

209

174 "Formaggio 100% Latte Di Capra."

www.mozzarellidibattipaglia.com, www.mozzarellidibattipaglia.com/gli-stagionati/62-formaggio-di-capra.html.

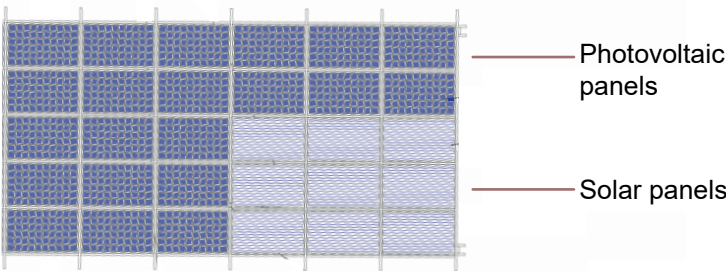
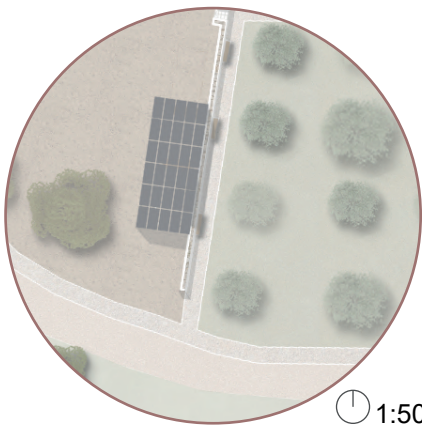
Goat cheeses



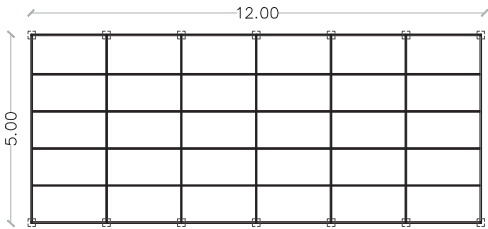
⌚ 1:500

Energy cycle

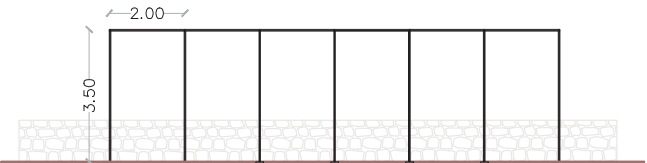
It was decided to take advantage of the area's exposure to the sun's rays to produce thermal and electrical energy, with the inclusion of 21 photovoltaic panels and 9 solar panels for a total power output of about 20 kw. The chosen area is spaced away from the building to minimize the aesthetic impact. In addition, the panels are placed over an iron pergola that is coherent with that of the e-bike rental area, with modules measuring 2 m x 1 m and with two support elements leaning against the dry stone wall. This serves as a shelter for the animals, and as an area for their feeding and watering.



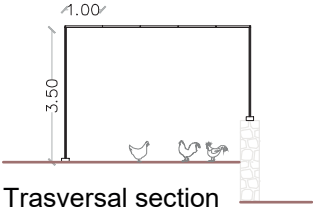
Iron pergola for sheltering animals and supporting solar thermal and photovoltaic panels
1:200



Roof plan

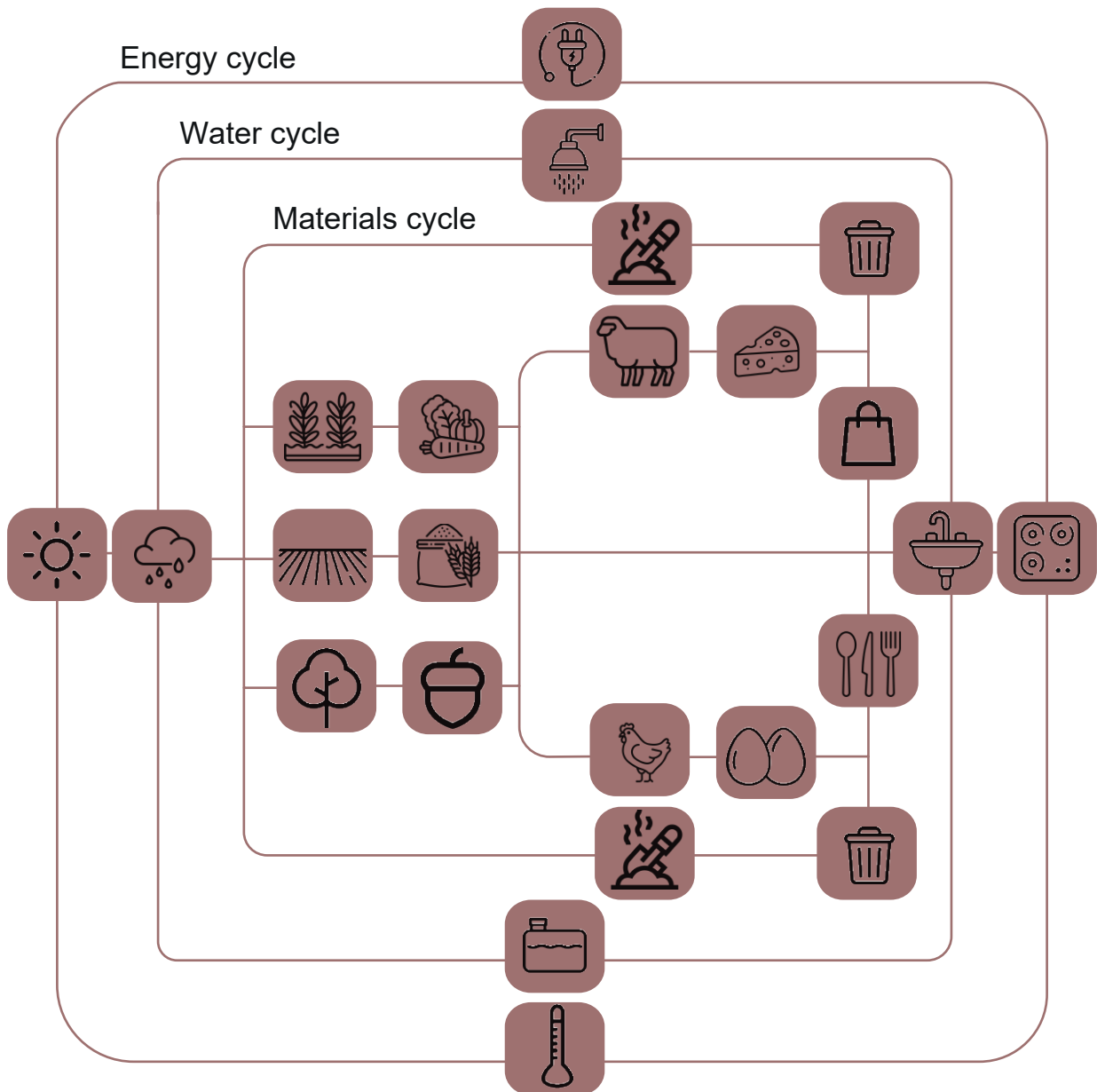


Elevation

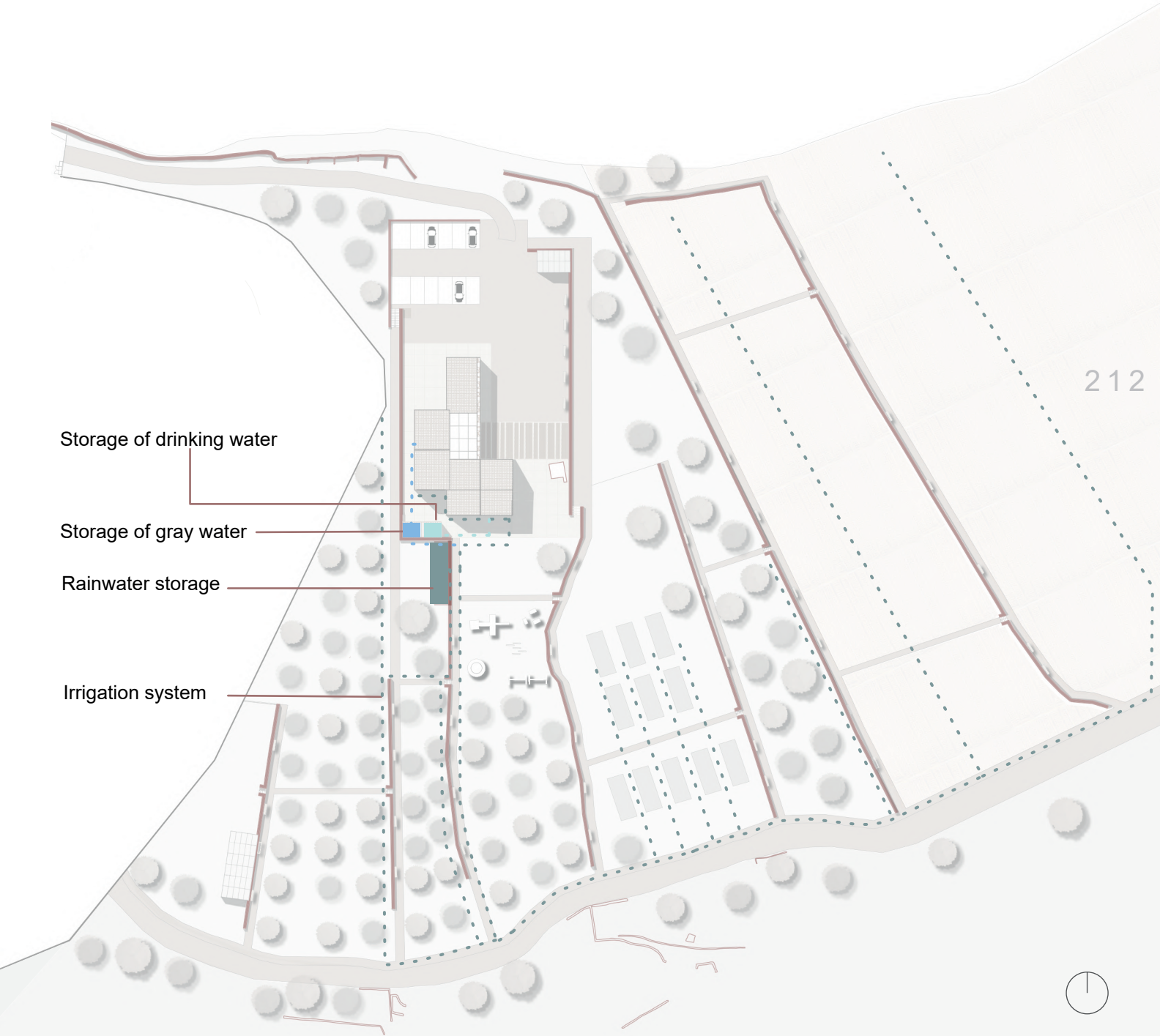


Trasversal section

The concept of circular economy

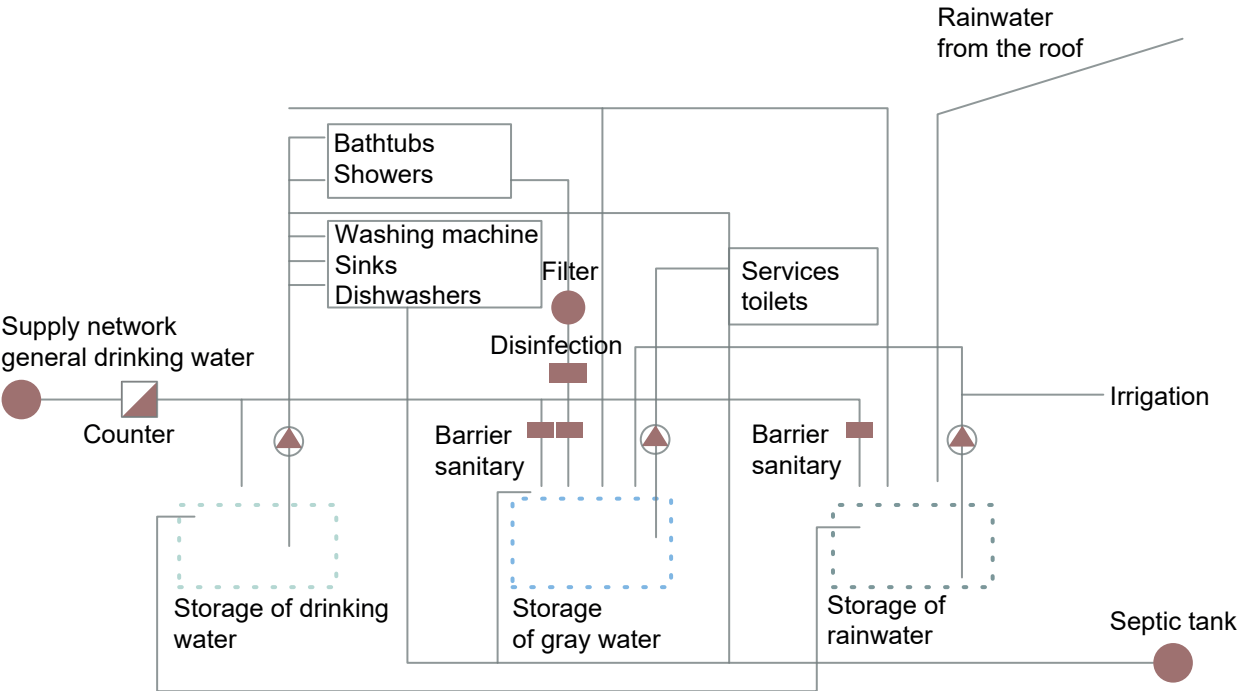
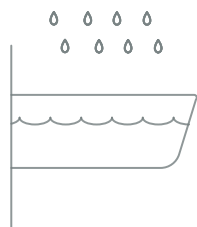


Water cycle
1:1000



The objective is to recycle water for the use of toilets, dishwashers and washing machines, and for the irrigation of outdoor spaces. It is proposed to collect water from roofs and terraces to store rainwater in an underground cistern next to the technical room. In order to have a good utilisation rate of this stored water, a high storage capacity of approximately 10 m3 is required.

The regeneration and reuse of water from toilets and kitchens is a measure that can save a lot of consumption. By installing a compact treatment system, we can restore water to quality levels suitable for certain uses, such as filling cisterns, watering gardens and cleaning. As illustrated in the diagram, grey water from baths and showers will be recycled, once filtered and disinfected, for domestic purposes and to support rainwater for irrigating fields.



The activities program

As already mentioned, the building's new functional proposal envisages the creation of a low-density agritourism, which features the integration of the owners' living spaces and those for visitors, a family and self-productive management. The activities follow a concept of inclusiveness and participation and are embedded in the educational theme of the masias network.



Area animal husbandry

- Sheeps
- Goats
- Hens



Activity animal husbandry

- Milk collection
- Egg collection
- Production of cakes and km0 cookies



Workshops

- Making dairy products
- Cooking workshops



Agricultural area

- Cultivation of cereals
- Educational gardens
- Olive trees areas



Agricultural activity

- Oil production
- Grain and flour production
- Fruit and vegetable collection
- Production of legumes



Workshops

- Oil tastings
- Production of bread and homemade pasta
- Jam production
- Outdoor lessons
- Cooking workshops



Dining area

- Restaurant Km 0
- Common kitchen
- Equipped spaces



Community areas

- Handicraft workshops
- Bio-shop
- Educational gardens
- Outdoor play area



Service areas

- Tools storage room
- Food handouts
- Parking area
- Bathrooms










Internal mobility

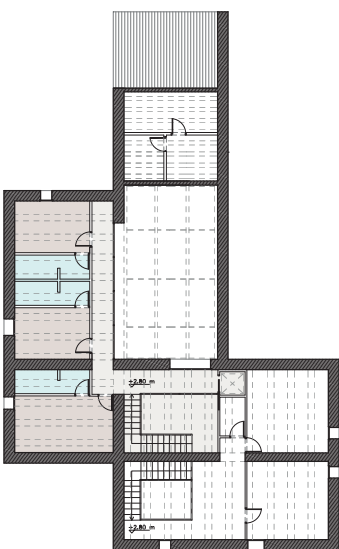
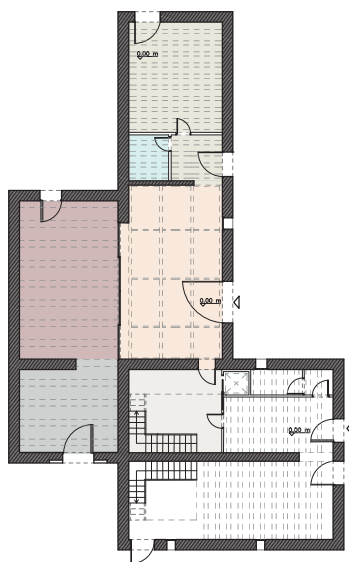
- Bike-box

Functional interior proposal

Public spaces for the hospitality
Ground floor and first floor
1:400

	Kitchen and dining room 43.7 m²		Common spaces 40 m²
	Entrance hall 49.2 m²		Workshop and educational hub 45 m²
	Bio-shop 22.8 m²		Bathrooms 28.6 m²
	Guest rooms 37 m²		

There is a manifest desire to respect the pre-existing functional diversification of the Casetes, assigning the function of workshop and educational hub to the area formerly used as a furnace and factory, and the residential and hospitality function to the remaining ones.



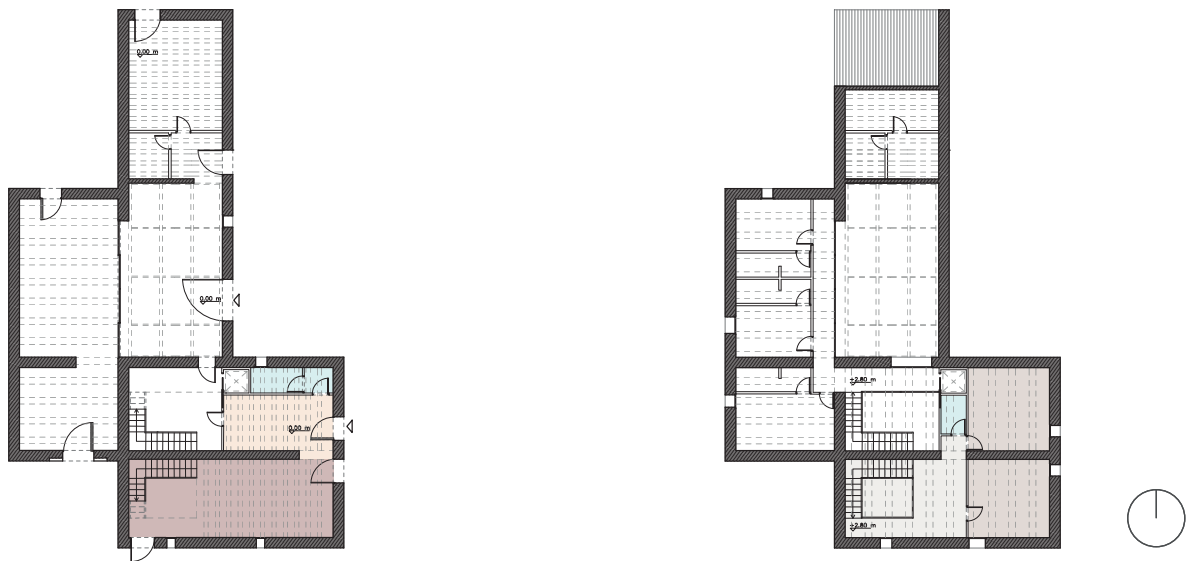
Functional interior proposal

Residential spaces for the hosts
Ground floor and first floor
1:400

- Kitchen and dining room 44.7 m²
- Entrance hall 18.4 m²
- Reading area 26.5 m²
- Bedrooms 36.8 m²
- Bathrooms 8.5 m²

The spaces dedicated to residential use by the owners of the activity are located on the southeast side, which due to its existing conformation is more isolated than the central courtyard and with more privacy

217



Internal circulation

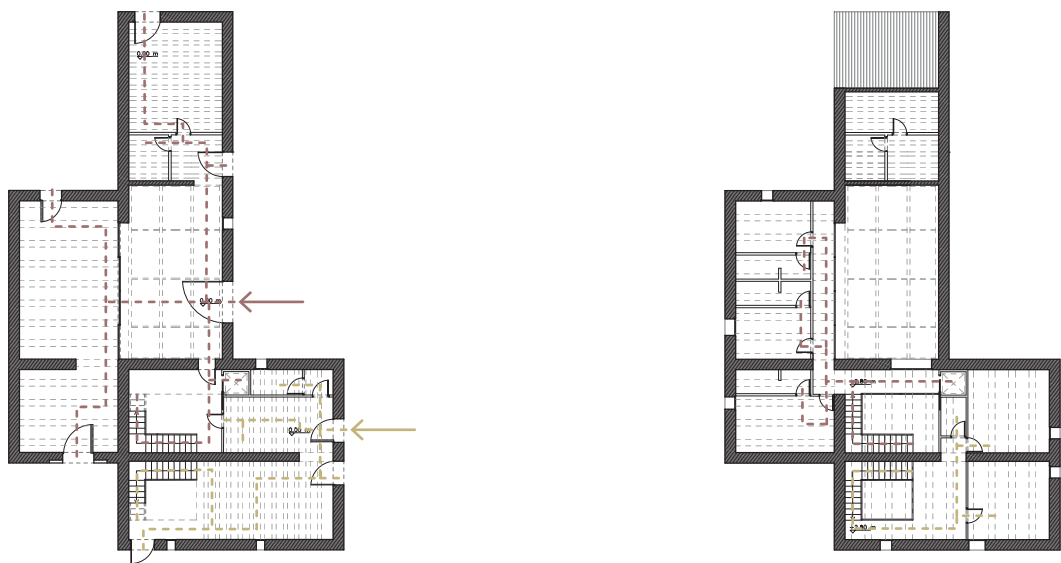
Ground floor and first floor
1:400

- Private circulation

----- Public circulation
- ← Private entrance

← Public entrance

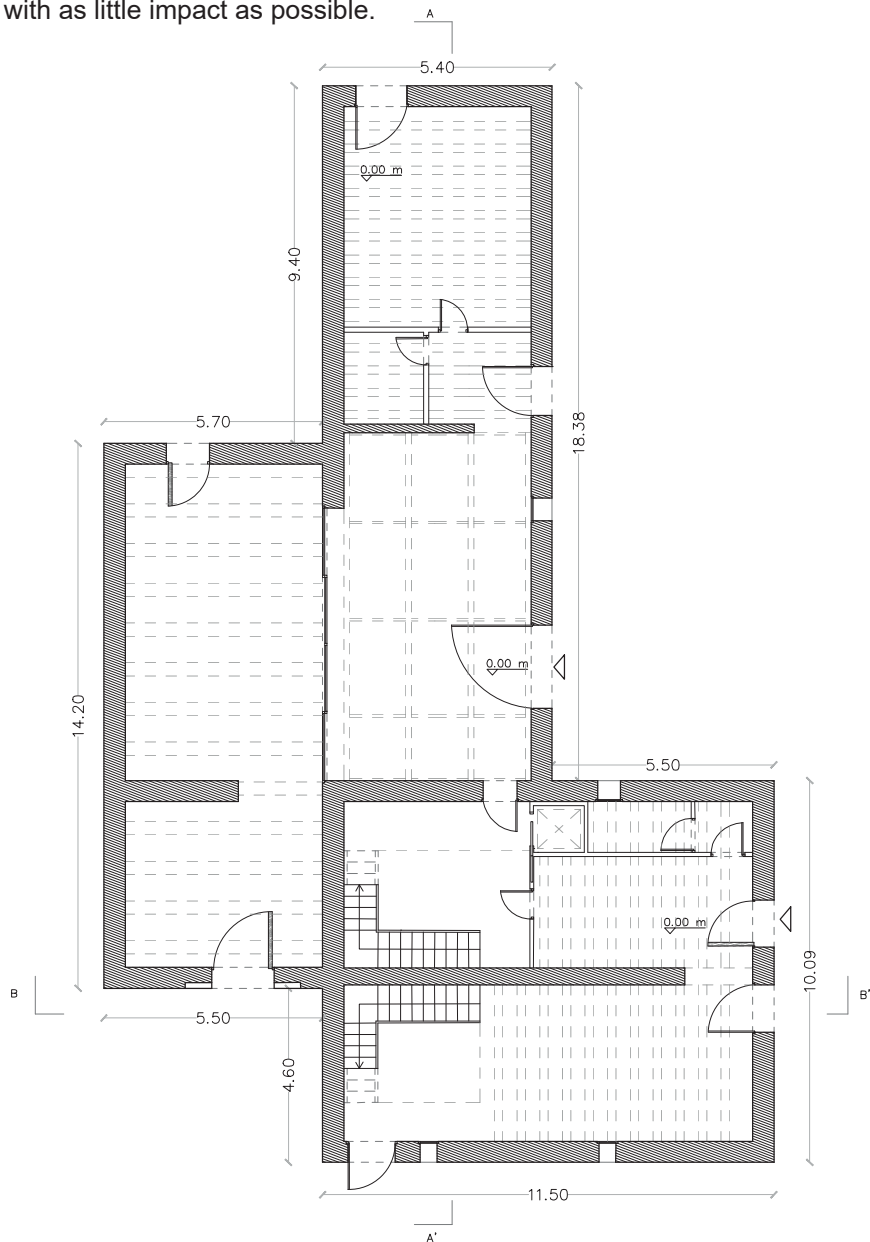
As visible in the functional distribution, the areas dedicated to guests and the management family are separated, and the central atrium serves as a distributor of spaces.



The architectural project

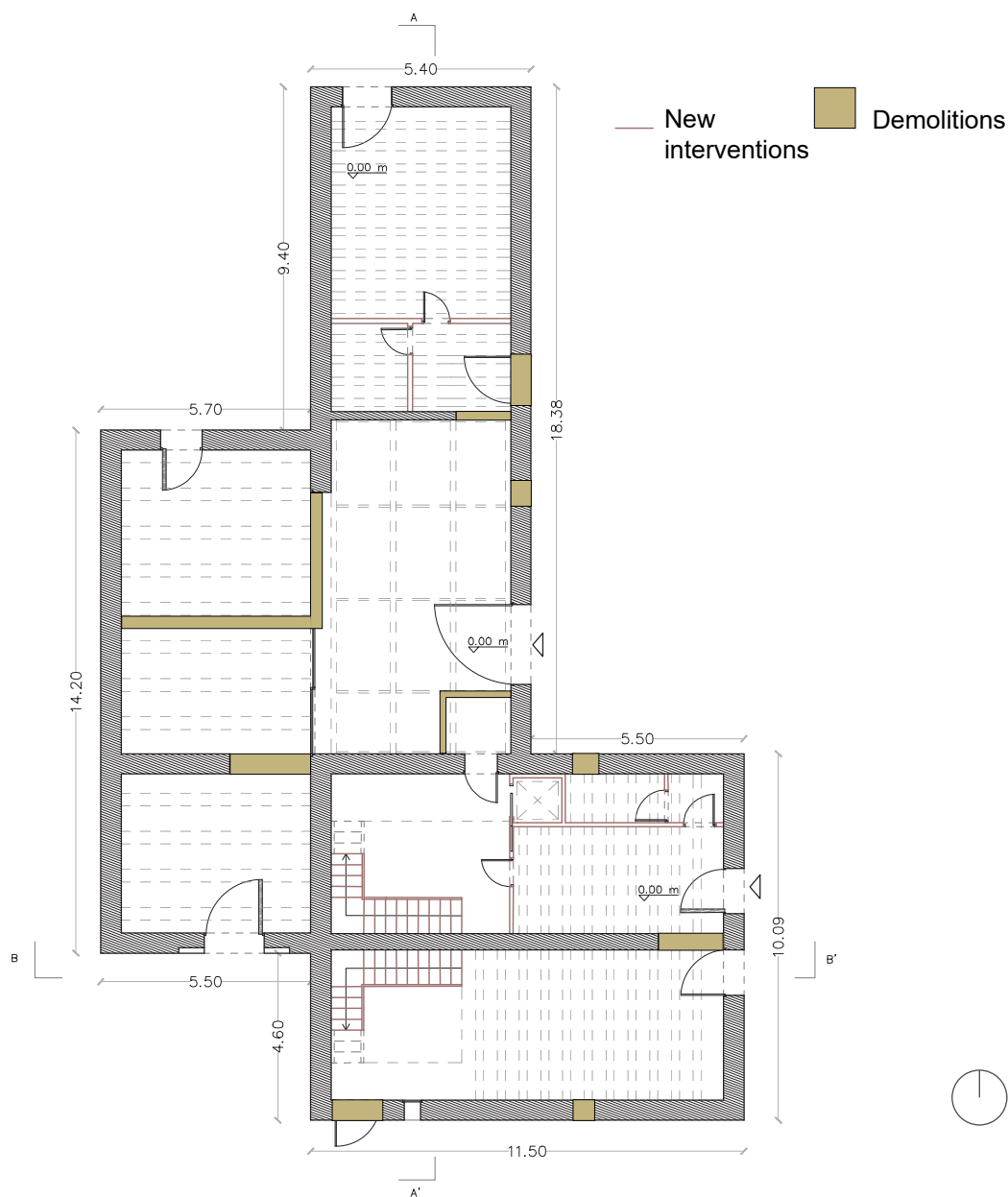
Ground floor plan
1:200

The architectural design follows a conservative line, in which the will corresponds in preserving the existing elements as much as possible, restoring them in order to be coherent with their original appearance. In addition, the principle of reversibility and flexibility is applied in the introduction of new elements, in which they fit in with as little impact as possible.



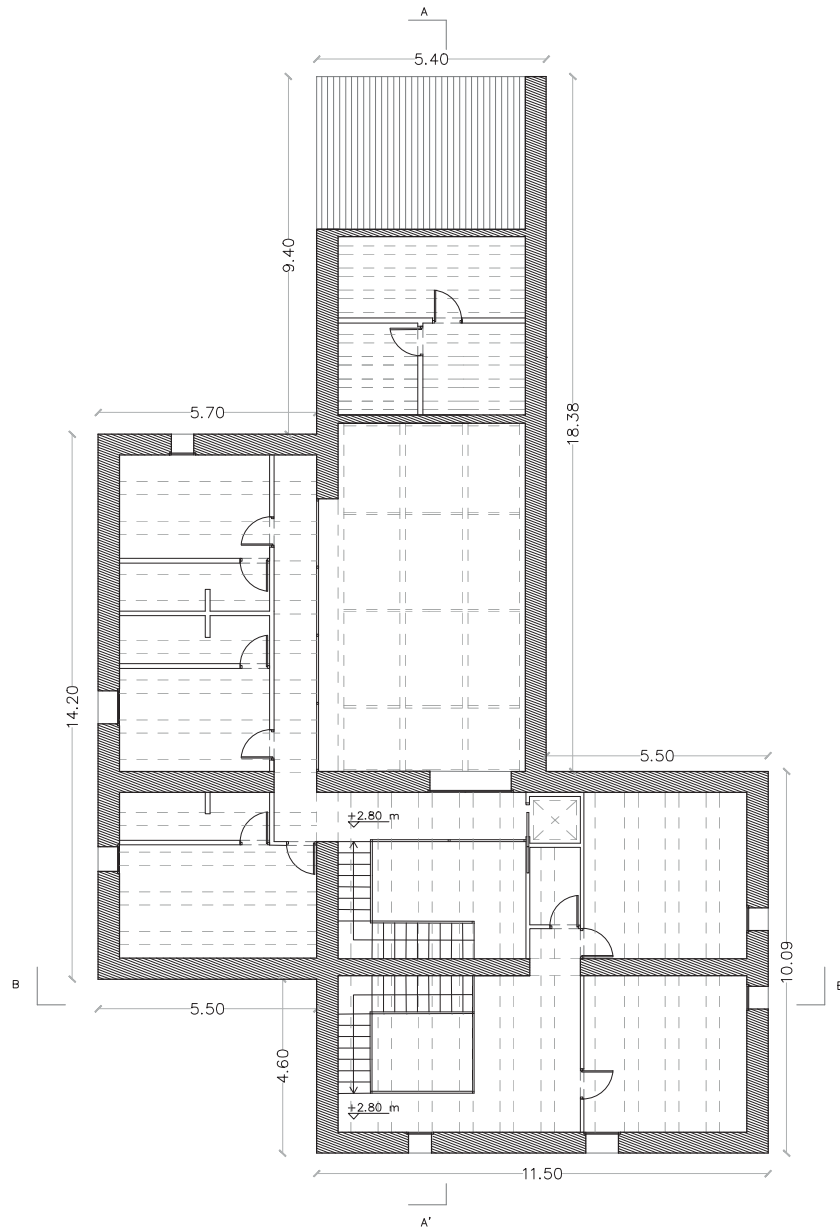
New interventions and demolitions

Ground floor plan
1:200



First floor plan
1:200

It can be noticed that the upper floor slab is reconstructed, leaving two double-height spaces at the L-shaped stairs. The choice of these vertical connections is due to the assumption of their existence in the residential phase of the artifact.



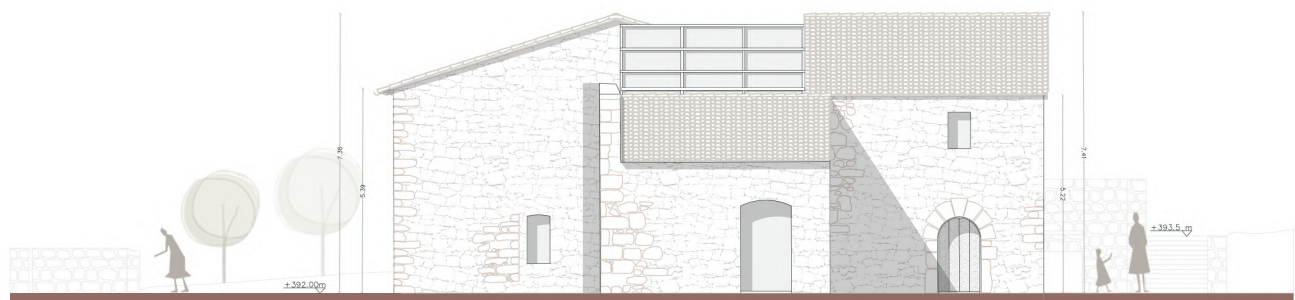
New interventions and demolitions

First floor plan
1:200

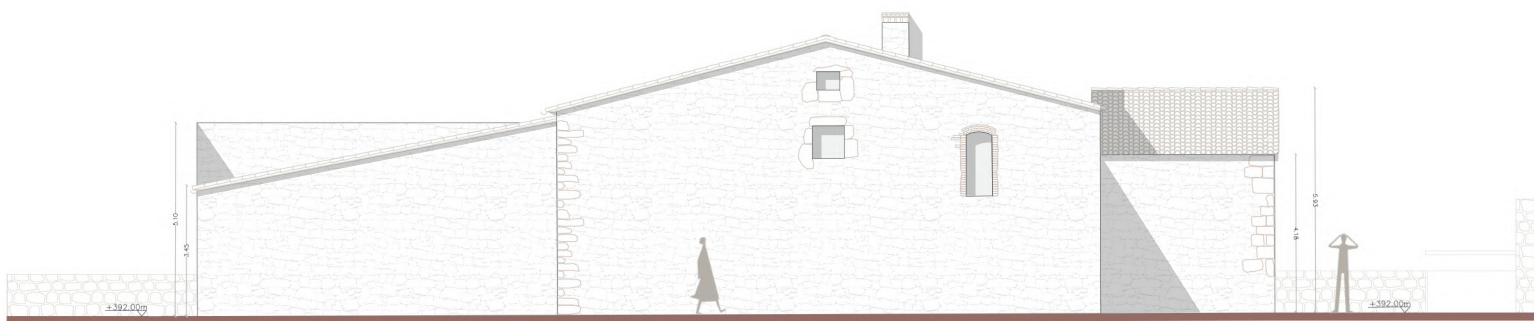


Elevations
1:200

The conservative will can also be noticed in the elevations, where new openings are introduced only if strictly necessary for factors of brightness and ventilation, and from a typological point of view they reproduce the shapes and characters of the pre-existing ones (analyzed in the catalog of openings in Chapter 5). In addition, it was decided to reopen all apertures that were walled up in the process of stratification of the building.



North elevation

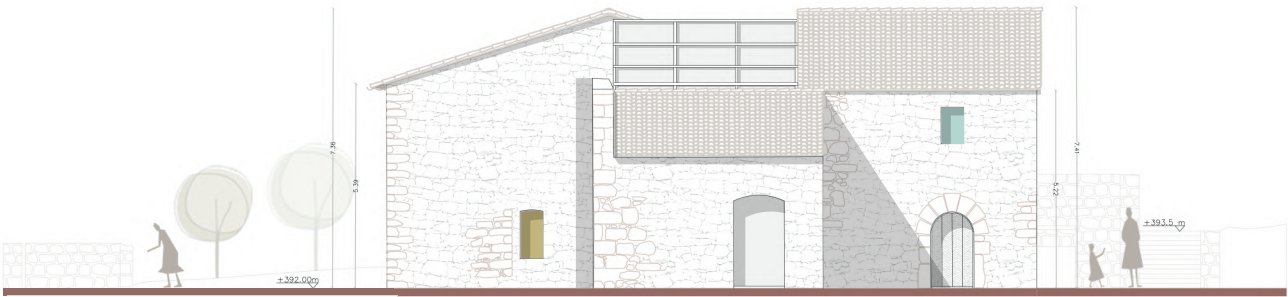


West elevation

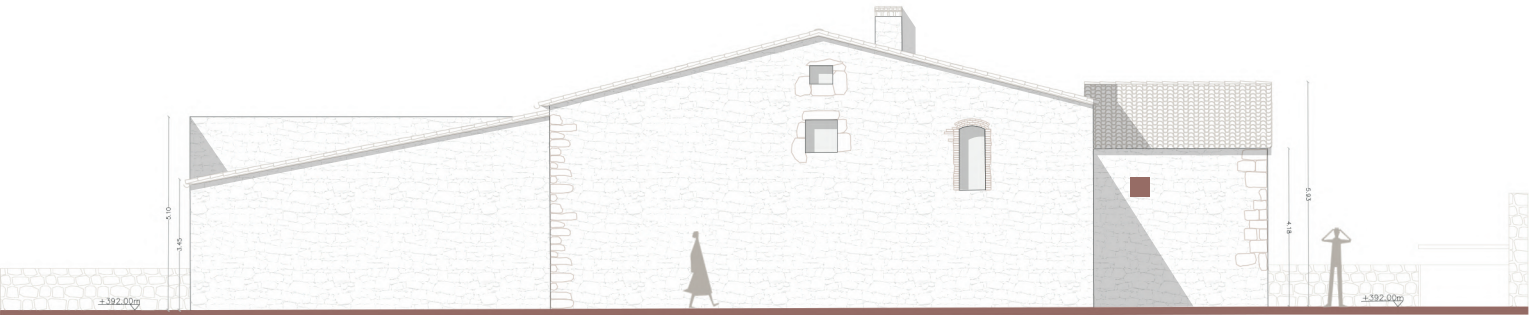
Elevations' interventions

Elevations
1:200

- Plugged openings
- Openings restored
- New openings



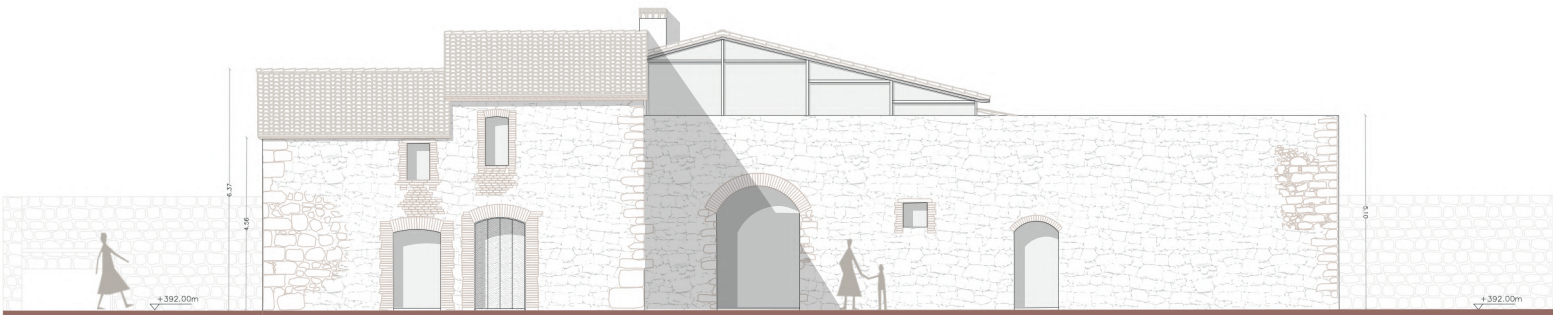
North elevation



West elevation

Elevations
1:200

In the elevations, we note the inclusion of the new glazed roof, which differs materially from the existing one, and in addition to its functional role presents a compositional purpose, as it consists of the extension of the roof slope of the north volume and reconnects the decomposed volumes of les Casetes.



East elevation

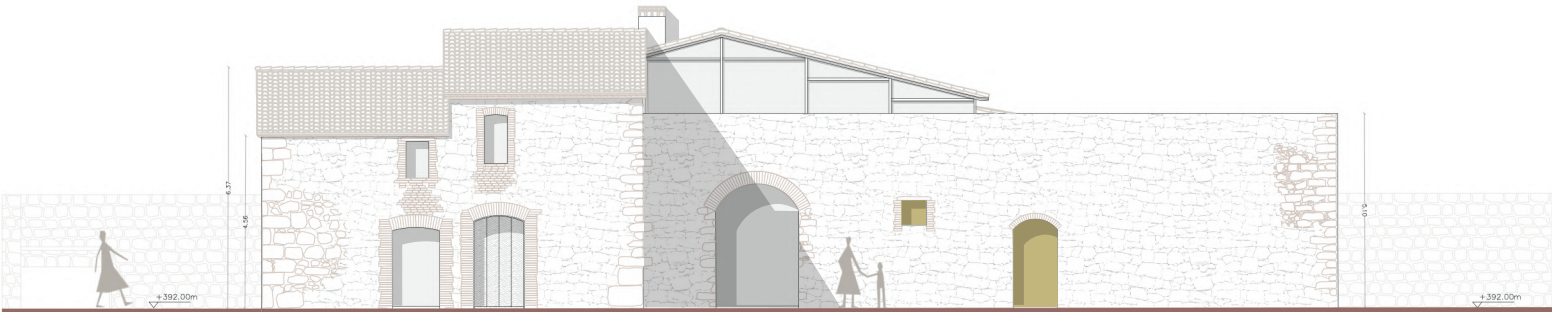


South elevation

Elevations' interventions

Elevations
1:200

- Plugged openings
- Openings restored
- New openings



East elevation

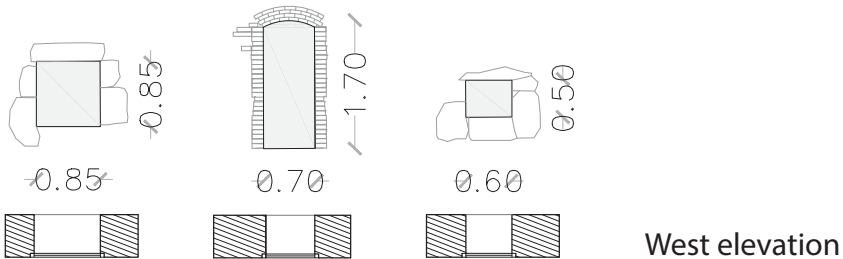
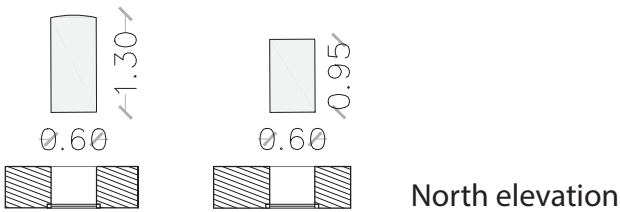
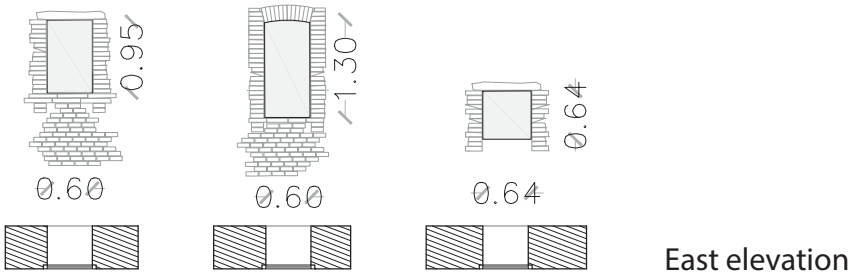
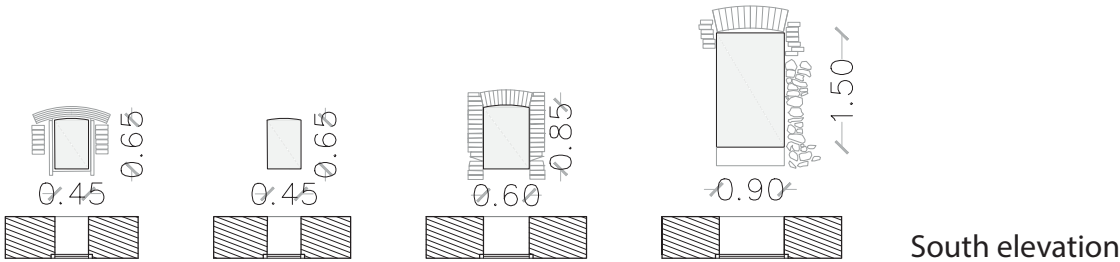


South elevation

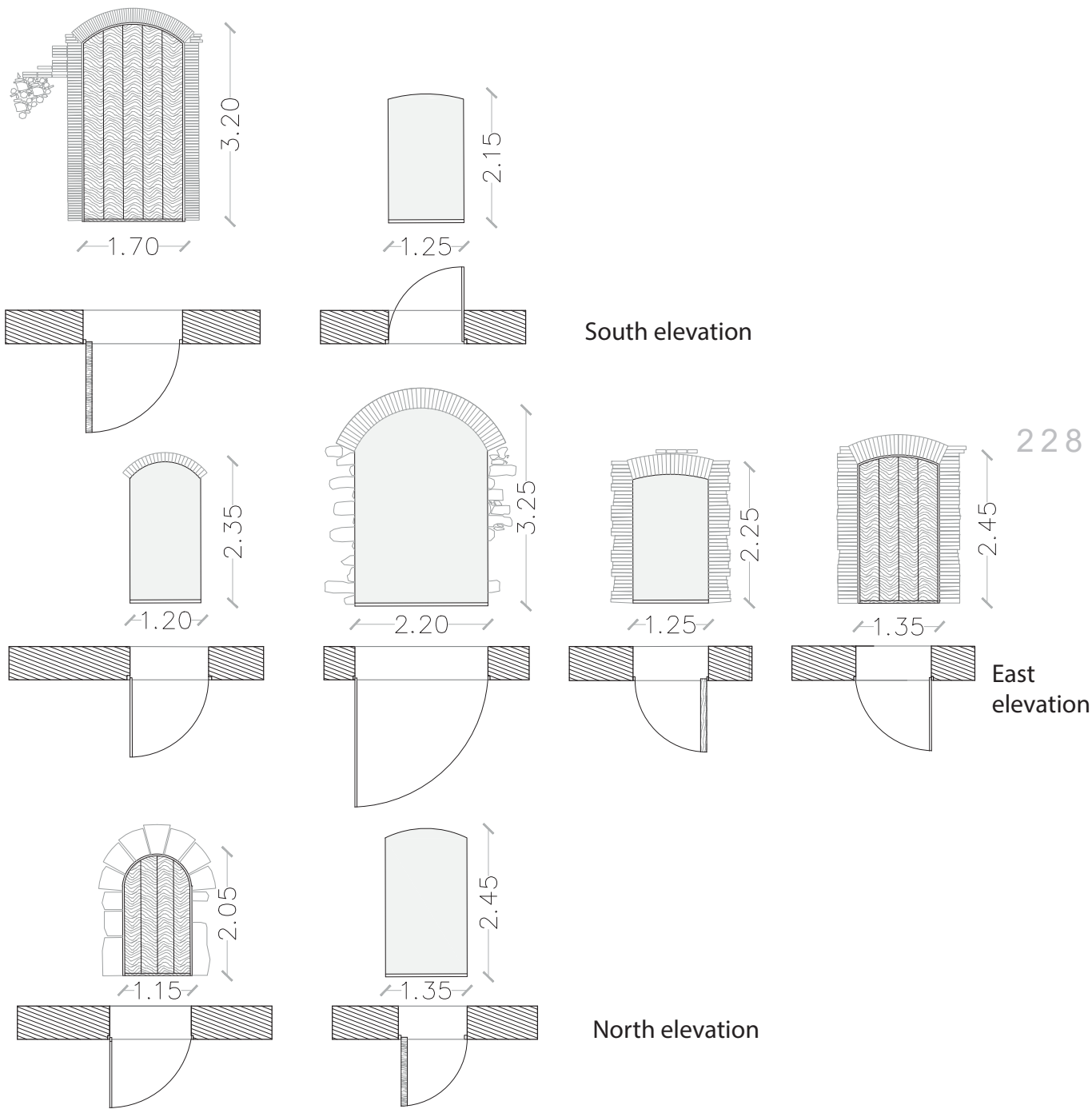
Catalog of windows

1:100

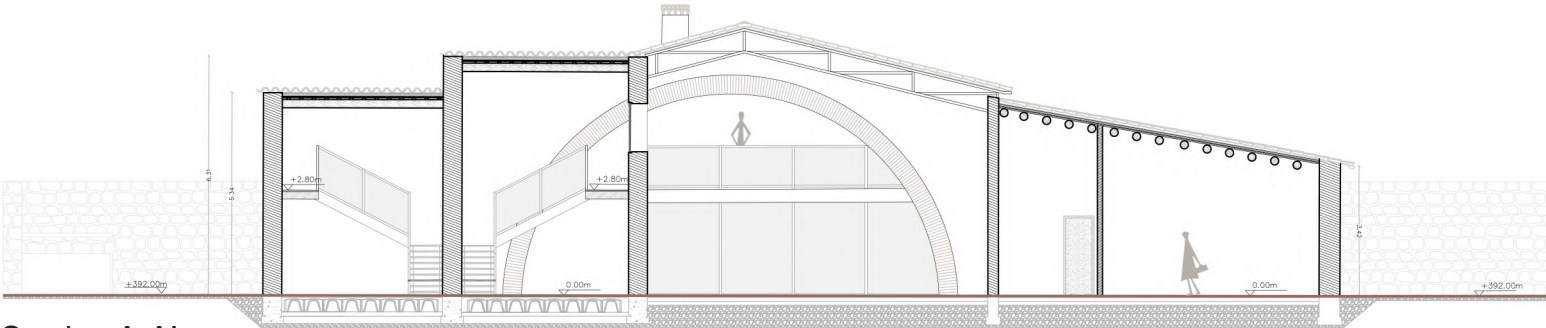
Regarding openings, the choice corresponds to keeping and respecting existing ones as much as possible. When new elements are introduced, the same language is used, with the existing sizes and shapes. In addition, chestnut wood doors are planned where there were previously wooden doors and, for the remaining openings, the use of iron fixtures with internal wire frames, so that on the outside they are not invasive and allow only the glazed windows to be seen.



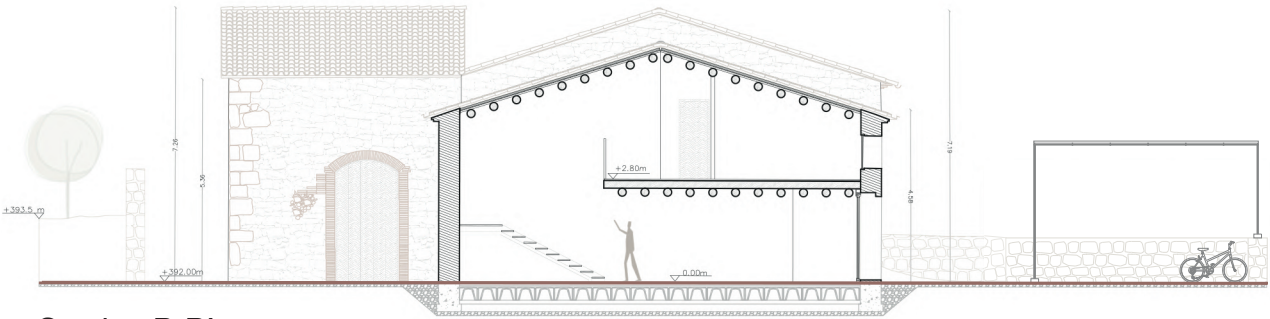
Catalog of doors
1:100



Sections
1:200

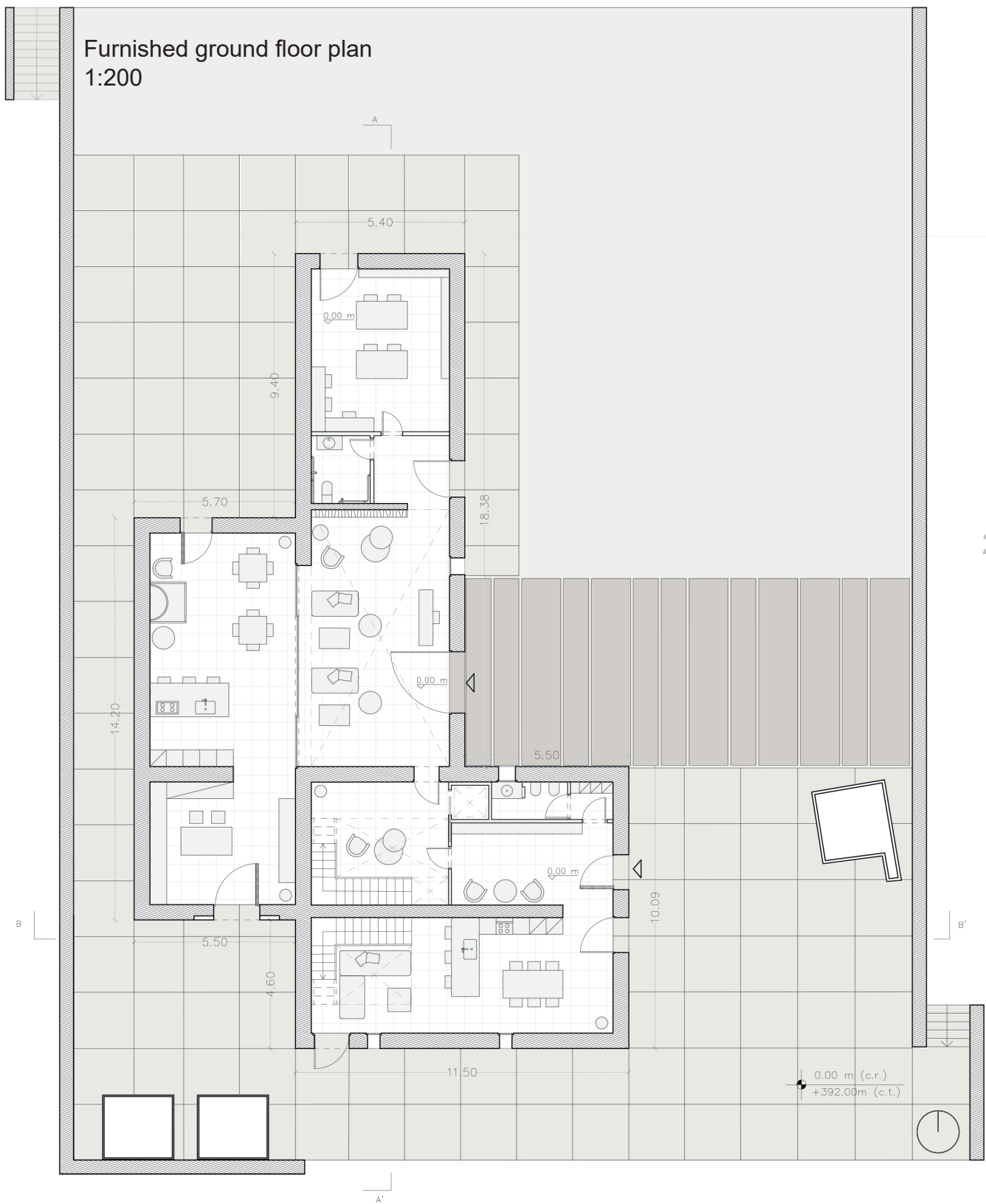


Section A-A'

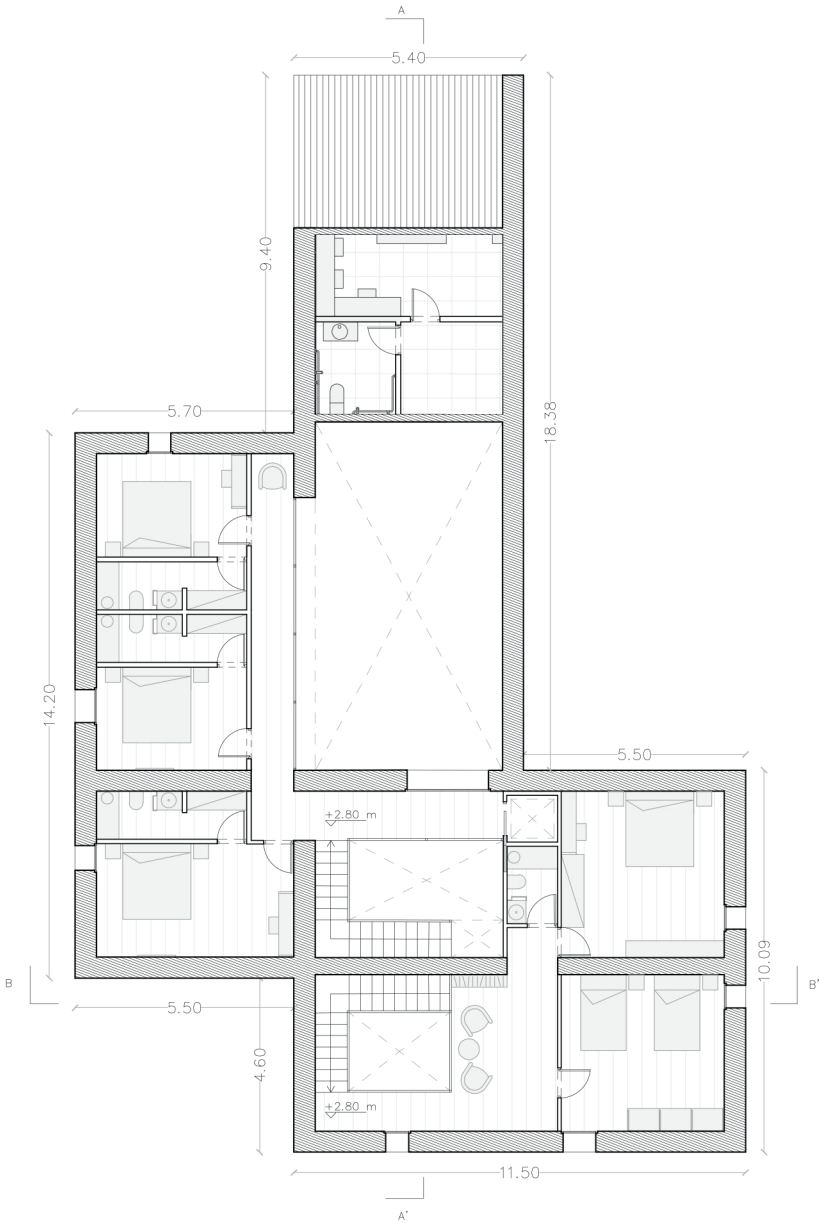


Section B-B'

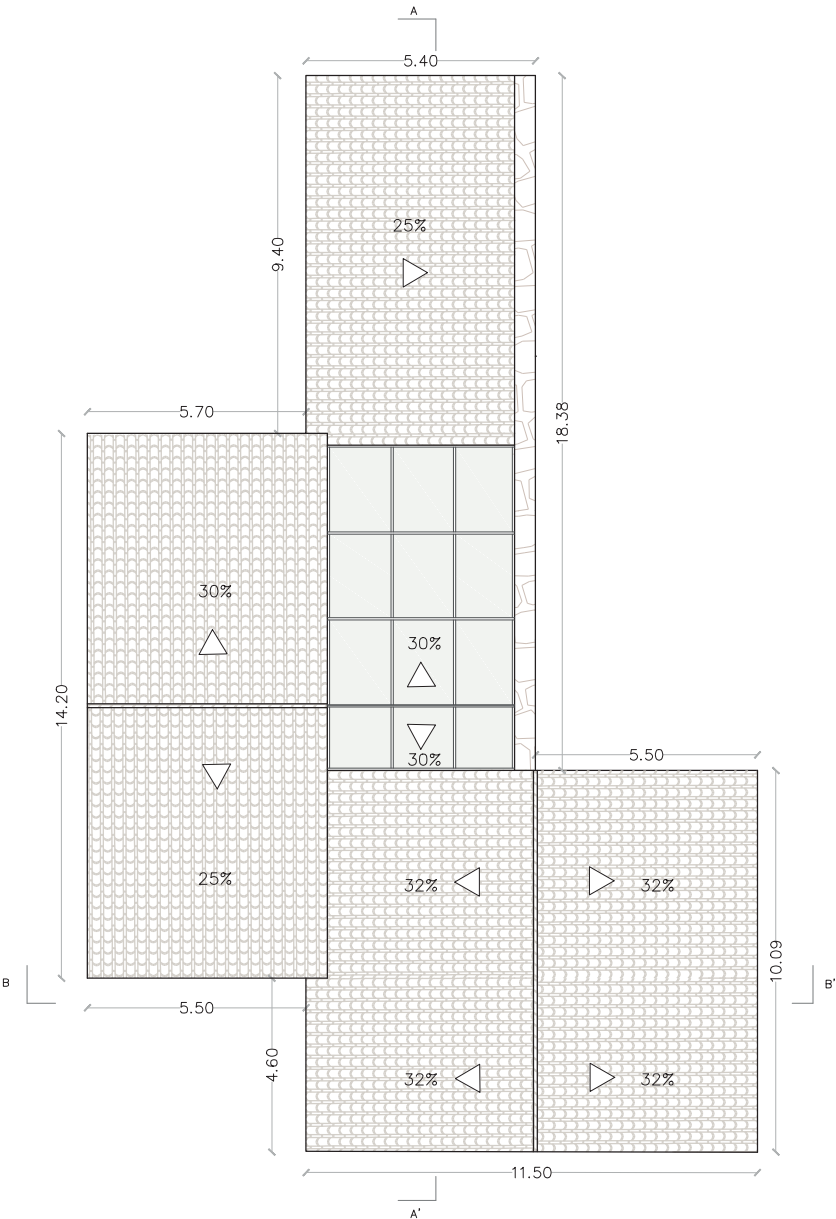
Furnished ground floor plan
1:200



Furnished first floor plan
1:200

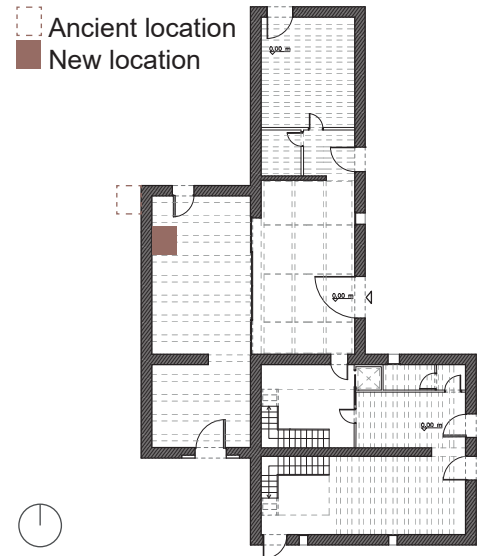


Roof plan
1:200



Reconstruction of the ancient glass furnace

The reconstruction of a typical Majorcan oven is opted for, respecting the tradition of glass furnaces in the area, from the point of view of the choice of materials and construction methods used. First, the base for the stove is fabricated, positioned 65 cm from the ground and measuring 132 x 136 cm, the same as the kiln top. A mold is employed, the internal measurements of which are 43 wide, 90 deep and 35 high. Next, a chimney is introduced, measuring internally 10 cm wide and 30 cm long, and the oven door is prepared with an additional mold, in the shape of an arch. We proceed with the construction of the actual kiln, mounted with bricks and placed on a base of crushed crystals, expanded clay and salt, so as to isolate it from the rest of the structure. This has, in accordance with tradition, the shape of a vault, enabled by the application of the rope system, which is anchored in the center of the kiln and marks the necessary distance and inclination for the bricks. In addition, the structure is covered with a layer of thermal insulation and a thick layer of plaster. Finally, the opening door is made of 10 mm thick iron plate, coated internally with arlite with refractory cement, and with an appropriate insulation to prevent deformation. The objective of the intervention is configured as symbolic and practical: in the first case, it reveals respect for the artisanal matrix of the building and the desire to disseminate the history of glass furnaces and its production processes; in the second, it is used for the production of cheese and artisanal products, in association with a laboratory, where educational activities of workshops and sharing take place. In conclusion, the function of the glassworks is not restored, but it is decided to integrate the artisanal past of the structure with the hosting task of the present.¹⁷⁶

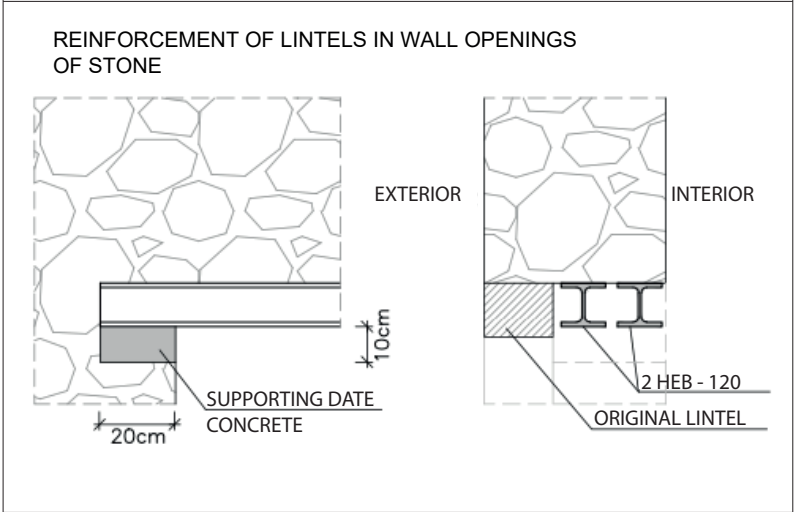
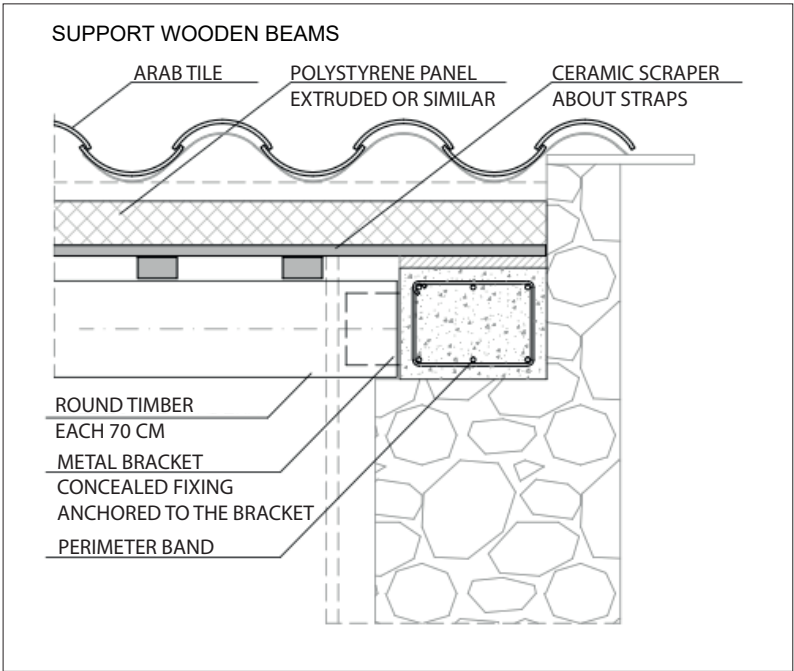


Relocation of the glass furnace.
1:400



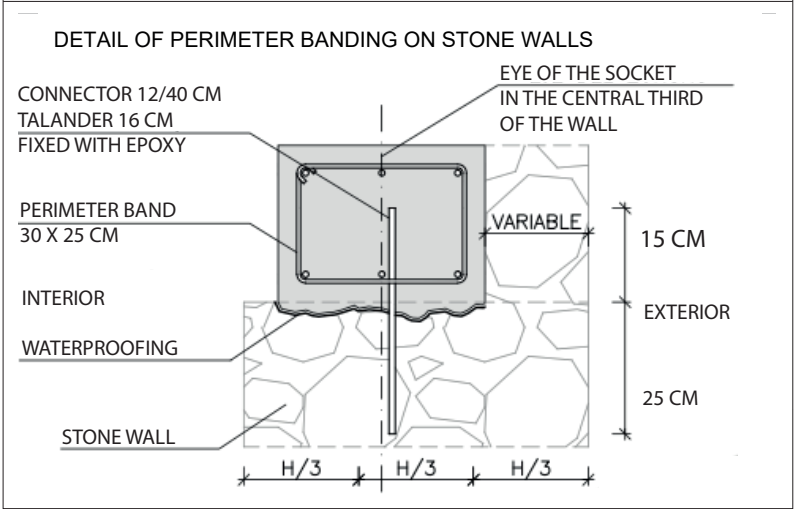
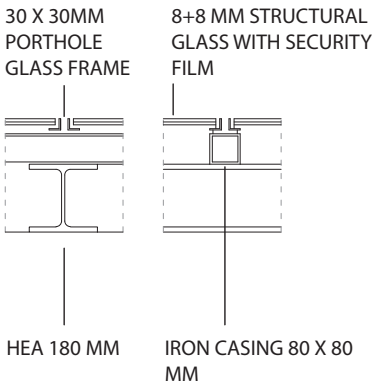
¹⁷⁶ "Hornos artesanos de obra." www.hornosartesanos.com, www.hornosartesanos.com/sanchez.htm.

Construction details
1:20



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DETAIL OF THE GLAZED ROOF



The choice of materials

Regarding the use of materials, the choice is that of a uniform language, including the preservation of the existing, wood, exposed stone, Arab tiles, clay, sand, limestone, lime, ceramic, brick, and the introduction of glass, iron, and plasterboard for the new interventions. Specifically, the beams and floors will be kept in wood, as well as the stairs and entrance doors, the existing walls in exposed stone, while the new interior partitions will be made of taupe-colored plasterboard, and, finally, unpainted iron will be used for the window frames of the openings, the central roofing, and the stair beams. Pavements, on the other hand, will be made of local clay, limestone and wood for the upper floor.



East
façade

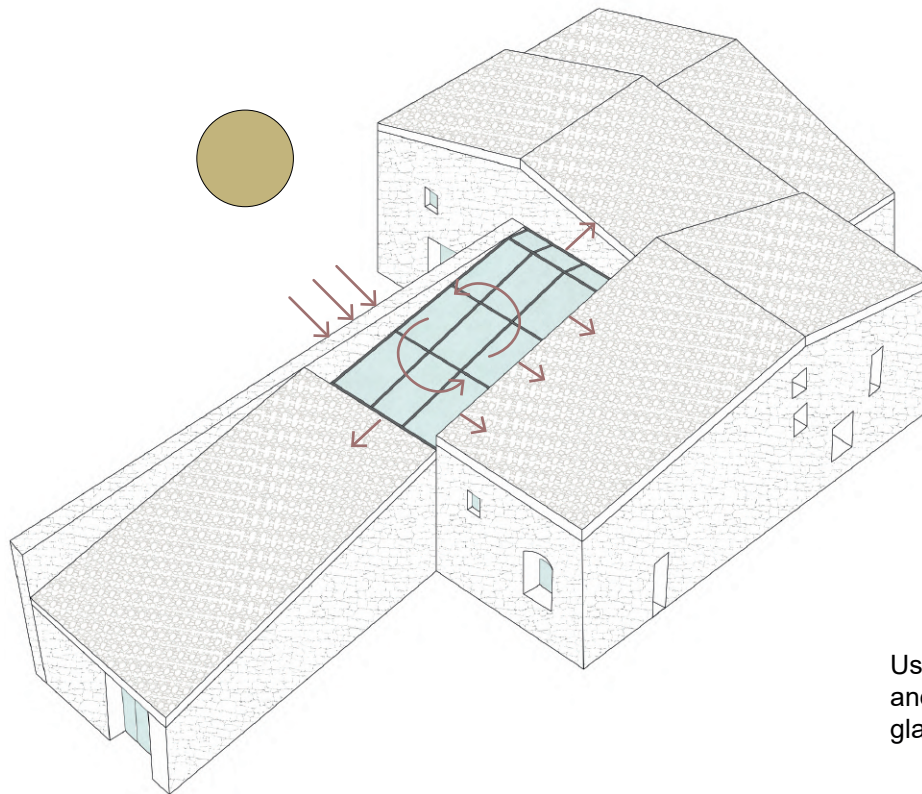


North
façade



Atrium

The atrium as a passive system



238

Use of iron trusses
and selective double
glazing

It was decided to introduce a glazed roof, first, to exploit the spaces and expand the usable surfaces, choosing to assign the area the function of entrance and lobby, unifying with respect to the different cores that make up the building. Secondly, to allow the material continuity of glass, in relation to the old furnace, to distinguish the new intervention from the pre-existence and ensure the entry of light and a visual continuity. The framing is made of unpainted iron and consists of four trusses that allow the support of the two existing side walls to be used. In addition, the intent also corresponds in improving the thermal performance of the building by taking advantage of the solar greenhouse effect, which allows solar radiation to be transformed into thermal energy, stored inside and distributed, thanks to its central location, to the rooms around it. In addition, for the summer season, there are opening parts in the front part of the gable that provide ventilation, and there are sail curtains in the inner part that ensure shade.



Glazed
roofing



Glazed
roofing

This view shows the common area adjacent to the lobby which leads to the guest rooms on the upper floor. It can be seen how the pre-existing stone of the walls is left exposed, as well as the brick archway, behind the stairs, and the choice of wood for the treads and the floor slab, while that of iron for the consical beams. Finally, the glass parapet and clay paving typical of the area.



Wooden
stairs

Conclusions

Conclusions

At the end of this work, it is possible to understand how the ultimate aim is configured in presenting a comprehensive picture of the knowledge of the Catalan masia and in providing suggestions for the recovery of these elements within the territory.

The underlying principle guiding the project is the return to the land and to the conception of the masia as an ordering element and at the center of the redevelopment of the landscape. It is envisaged as an element of connection between past and future and between agricultural and urban realities. It is placed in a vision of valorizing the tangible, the local architecture, the materials that characterize it and the territory that surrounds it, with its products, and the intangible skills, such as building traditions, productive artisan practices, cultivation and breeding methods, dairy and culinary techniques.

The strategy adopted corresponds to an overall vision of the intervention, conceived as a system of masias and paths, fused into a coherent landscape design. The common thread linking these elements is the didactic one in synergy with the tourist activity, which aims to create a new offer of experiences in the area with an attractive and at the same time educational potential. The interventions start from economically viable ideas, such as the expansion of some trails, signage and electric bicycle rentals, which the Begues Municipality with European funds could implement, to the creation of a masia encompassing the above themes and ideally a network of masias operating in the same way. The principles conveyed are the importance of evolutionary analysis and understanding of the agricultural and artisanal nature of farmsteads, and the value of working in restoration in a conservative way, to maintain its memory and transmit it to those who visit and experience it. Thus, in symbiosis with the material aspect, the feasibility of a circular economy model of agricultural production and activity is emphasized, recovering the race of the past and proposing a sustainable, low-density tourism paradigm.

In conclusion, the goal is to achieve an awareness of the architectural and natural heritage and sustainable strategies useful for its protection, aimed both at institutions and administrative management and at those who, following the growing trend of moving to the countryside, decide to buy and restore ancient masias.

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