

Rehabilitation as a strategy for urban acupuncture.

Rehabilitation and consolidation of two residential buildings to obtain new housing in the old city of Barcelona.

Type of intervention

Restoration Rehabilitation / Renovation

Concerned elements on the intervention project

- 1. Foundations and underground structures
- 2. Vertical structures
- 3. Horizontal structures and vertical connections
- 4. Roof and terraces
- 5. Façade and building envelope
- 6. Finishes and completion elements
- 7. Integrate services
- 8. General strategies for building recovery

Site Carrer Robadors 25, Barcelona, Catalunya, Spain

Objectives Integral rehabilitation through the consolidation of two properties to obtain new housing with current habitability standards.

Property Public

Designer Chief architects:
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Carme Ribas

Date 2019-2021



Background to the intervention

The Raval neighborhood in Barcelona has the typical fabric of a historic center, with a high urban density and very often narrow plots. The neighborhood, like other historic centers of Mediterranean cities, has suffered impoverishment processes that have been accompanied by the degradation of its buildings due to lack of maintenance. The original dimensions and characteristics of the buildings, very often below the standards of habitability required today, contribute to the processes of urban degradation, since the resident population cannot afford housing with a higher standard of habitability and, therefore, a higher value.

The intervention is part of the Robador and San Ramón Conservation and Rehabilitation Area, which includes 62 buildings on these two streets. The stated objectives of this project are:

1. To rehabilitate degraded buildings, façades or substandard housing.
2. To favor social cohesion.
3. To avoid over- and under-occupation.

In this context, a comprehensive intervention was carried out in Robador 25-27, joining two properties, now of public property, to be used for social housing.



Fig.1: Proposal of properties to be rehabilitated in the ACR Robador Sant Ramon.

Description of the building

The site consists of two adjoining properties located at number 25-27 Robador Street in the municipality of Barcelona, Ciutat Vella district. It is occupied by two buildings consisting of a first floor and five upper floors, with a walkable flat roof. The floor slabs of the two buildings are not at the same height.

- Plot size 234 m² (R-25 182 m² and R-27 52 m²).
- Built area 1,410 m² (R-25 1,090 m² and R-27 320 m²).

The documentary origin of property No. 25 dates from the first third of the XVII century, according to its records, the first building dates from between 1711 and 1713. Farm No. 27 is recorded as originating at the end of the 18th century.

Initially, the vertical structure of this set of two buildings is solved by main bearing walls of masonry, of thickness between 15 and 30 cm, which support the set of ceilings all of them resolved by wooden joists (of varied sections although there are predominant joists of 16*22 cm with an interaxis of 60 cm) and vaults of flat brick vault, and balconies resolved with metal profiles embedded in the load-bearing wall of the façade and double-layered flat brick vaults. The staircases are all resolved by double-layered Catalan vaults that are embedded in the side walls of the stair core.



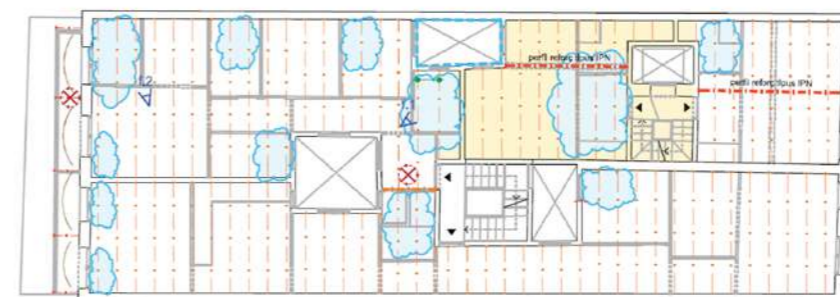
Fig.2-3: Robador Street in the 1960s (left) and today (right).



Fig.4: Location of properties 25-27



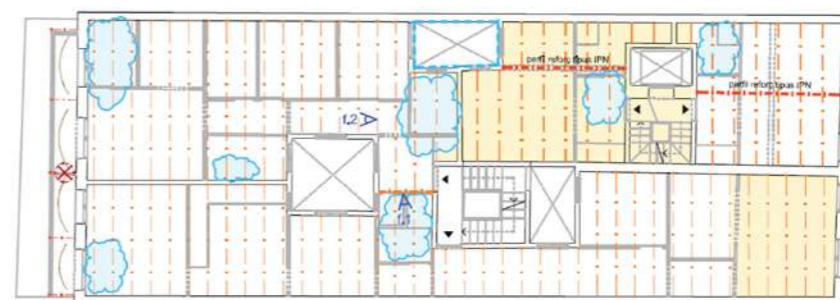
GROUND FLOOR



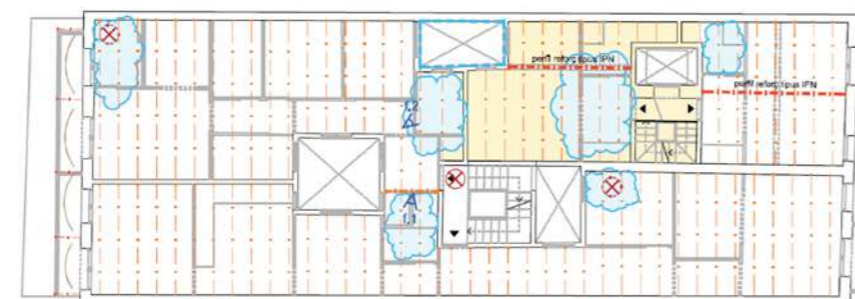
SECOND FLOOR



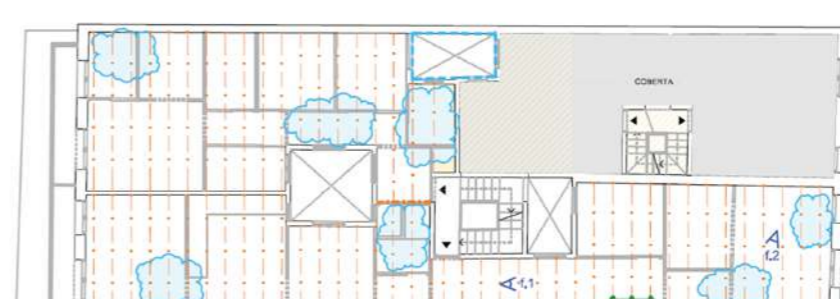
MEZZANINE FLOOR



THIRD FLOOR



FIRST FLOOR



FOURTH FLOOR

Fig.5: Original floor plans of the two buildings

The Diagnosis of the building (values and state)

The property at number 25 is in a regular state of conservation, but with the possibility of being rehabilitated. The property at number 27 is in a very poor state of conservation.

As values, we can highlight the contextual heritage value with the rest of the urban area and the use of traditional construction techniques. However, the original buildings do not stand out for their uniqueness or exceptionality.



Fig.6: Condition of the inner patio prior to the intervention.

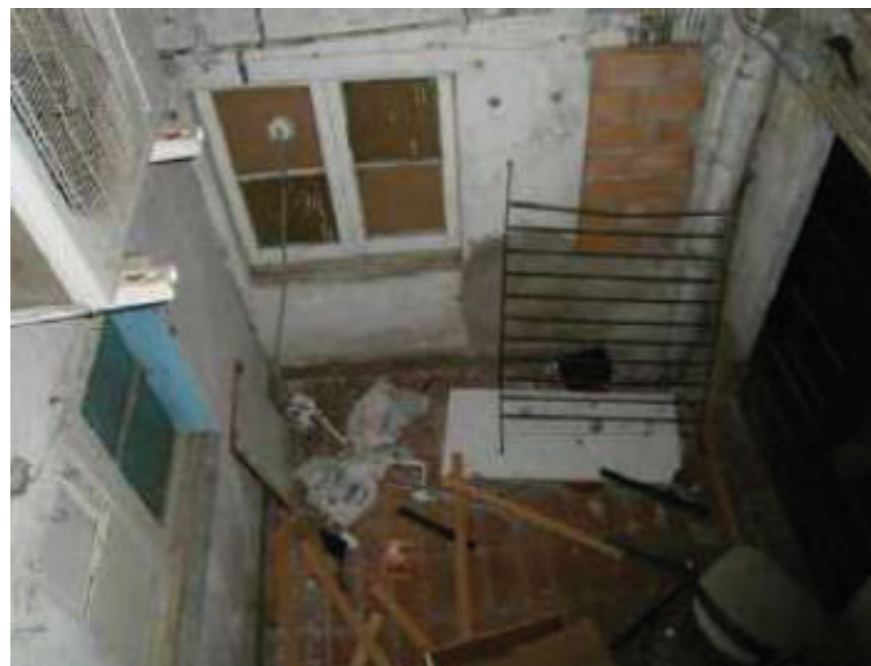


Fig.7-8: Conditions of the patio and rooftop prior to the intervention.



Fig.9: Conditions of the interior of dwellings prior to the intervention.

Rehabilitation works

The integral rehabilitation proposed for the properties located at 25 and 27 of Robador Street aims to optimize the sum of the two houses in order to improve the environmental conditions and comfort of the complex, while maintaining the original housing program. The proposal is based on minimizing debris and making the most of the existing structures and elements. The functional unification of the two properties requires the demolition of one of the two communication cores and the decision is made to maintain the one that is located more in the center of the site and that, therefore, allows a better distribution of the accesses to the different dwellings. The staircase is maintained in its entirety, with the exception of the first ascending flight from the street. A new elevator is connected to this staircase. Next to the core of the staircase, a new large ventilation courtyard is opened which, together with the existing courtyard in building no. 27, will guarantee the illumination and cross ventilation of the living units.

In reference to the program of needs, the use of housing on the ground floors is maintained, using the roof as a possible community space and a space under the roof as storage rooms for the dwellings. The first floor maintains the commercial use.

The typologies resulting from the improvement of the dwellings offer different solutions that in height allow different family structures to be accommodated. The resulting building has three dwellings per floor. Two of them overlook a quiet interior of the block and the third absorbs the unevenness of the old buildings with façade to Robador street, also maintaining in its configuration a room and a bathroom accessible on the main level.

On the first floor, the mezzanine is eliminated and a single large access to the 13 dwellings, with common spaces, is created. The second access now corresponds to a local that is incorporated into the public network of spaces to promote local

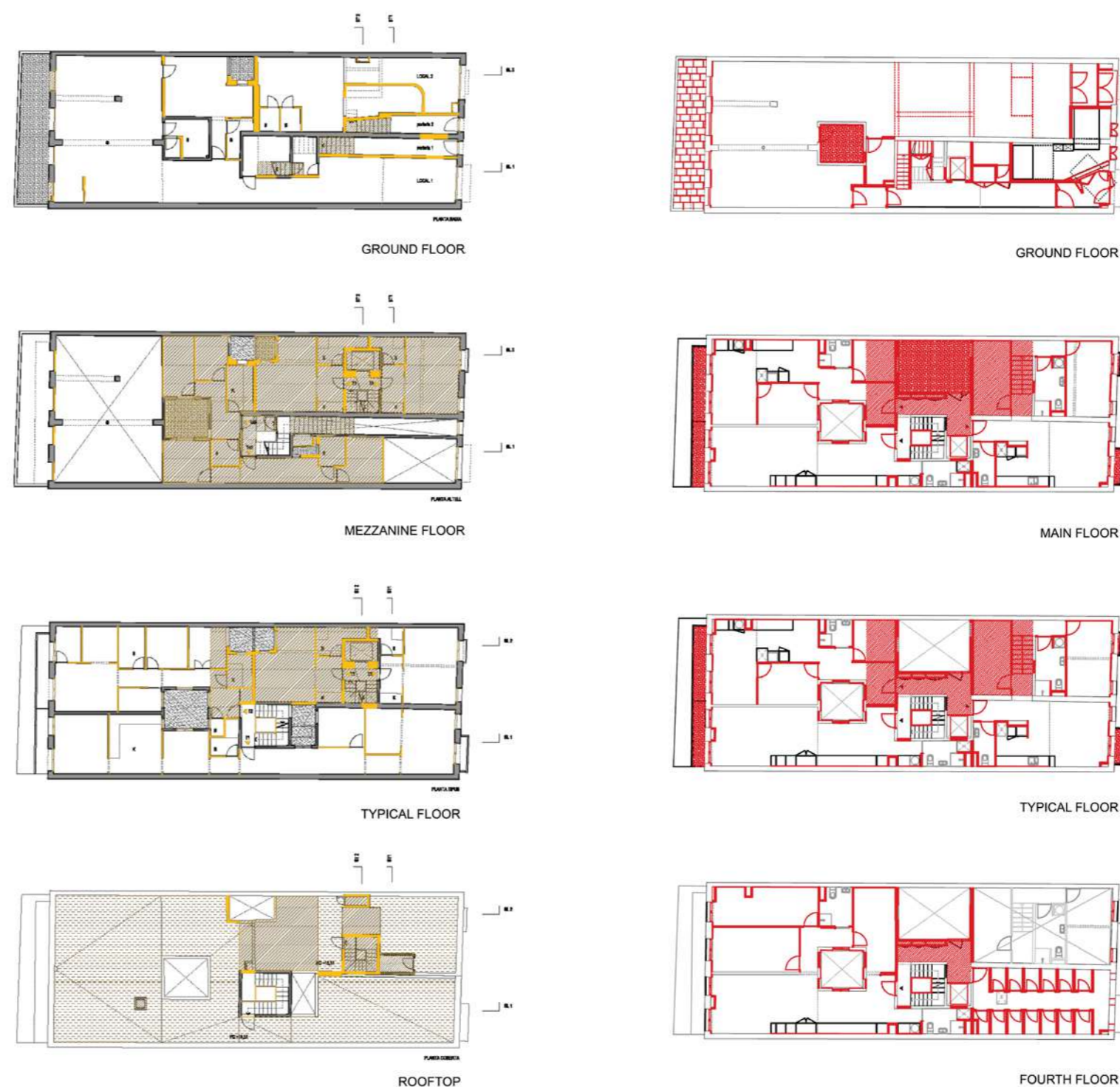


Fig.10: Demolition and new construction plans of the intervention.

development. On the first floor, the mezzanine of the old bar is eliminated, which, as in the characteristic bars of the area, offered sex work. This creates a single, wide access to the 13 dwellings, with common spaces. The second access now corresponds to a store that is added to the public network of spaces to promote local development.



Fig.11: Sections.

The sum of properties with different levels is overcome with the difficulty of providing the compressed fabric of the old town with a substantial improvement in accessibility and in the environmental conditions and comfort of the housing complex. The new accessibility is concentrated in the most generous nucleus, which, located in the center of the complex, facilitates the clearing of the new elevator access to the dwellings. The original materiality of the staircase space takes center stage in its vertical development. The cleansing and improvement of these spaces, accompanies one of the main contributions of the project: the opening of a new ventilation courtyard that illuminates and generates cross ventilation throughout the dwellings. The dimension achieved by this new courtyard is relevant if we compare it with the usual dimensions of similar spaces in neighborhoods with such old and dense buildings, such as the Raval.

As already mentioned, during the development phases of the project it has been a premise to minimize debris and make the most of the existing elements. The resulting material experience is sensitive to the pre-existences and leaves remnants that allow us to get closer to the memory of past spaces.



Fig.12: Drawings of the front & back façades.



Fig.13: Front façades.



Fig.14: Back façade.

Assessment of the results

The rehabilitation of the two properties will respond to the housing needs of 13 families in a situation of residential vulnerability. An existing building will be put into use, adapting the habitability standards to those required today.

References

<https://ravetllatarquitectura.com/About>

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Fig.15: Selection of interior photos of the finished intervention.