Barcelona-La Verneda (ES)

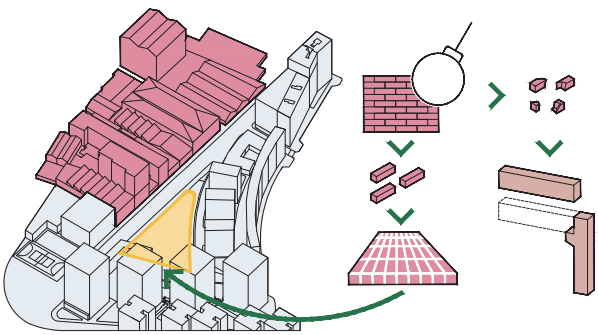
RECYCLING ENCOUNTERS

NOTES ON THE PROJECT

Grounded in the industrial past of the area, the concept of “recycling encounters” refers both to the literal reuse of construction waste and to the reactivation of local social dynamics.
As the surrounding fabric undergoes rapid change, the project positions itself as a mediating layer-scavenging from what is being erased, transforming it, and reintegrating it into new urban life.

The project proposes a regenerative approach tied to the transformation of the Prim sector, embracing material reuse, urban resilience, and low-tech adaptability.

Central to the design strategy is the reuse of materials recovered from demolition. Brick dust is repurposed as a partial replacement for raw material in the production of precast concrete components, reducing the project’s embodied carbon. Salvaged bricks are reused in the construction of permeable pavements. These are applied with varying joint widths—narrow joints for slow vehicular circulation zones and wider joints for pedestrian areas, small plazas, the workshop area, and the community pavilion. Stabilised sand, processed on-site from crushed demolition debris, is used to create accessible courtyard surfaces. Areas of fertile soil support the growth of native plant species, including low-maintenance shrubs and grasses that contribute to biodiversity and reduce long-term upkeep.
The streetscape is treated as an active ecological infrastructure. By increasing the permeability of existing surfaces and reintroducing natural soil wherever possible, the project improves stormwater absorption and contributes to mitigating the urban heat island effect. Construction waste is also reinterpreted as urban furniture, used to form benches, low walls, and other functional landscape features. These elements not only extend the life cycle of materials but also reinforce the aesthetic of continuity with the industrial history of the site.



URBAN STRATEGY

The broader urban strategy treats the site as a hinge between two neighbourhoods—one established, one emerging. The ground floor becomes a shared territory, offering a mix of functions accessible to all residents: play, work, leisure, and rest. Living units are elevated above this layer, maintaining privacy while allowing visual and physical permeability. A neighbourhood-scale green corridor weaves through the site, extending existing ecological networks and strengthening connections with adjacent public spaces. This green infrastructure is both spatial and social, offering places for informal gatherings, seasonal activities, and ecological continuity.

CREATING THE OPPORTUNITIES FOR ENCOUNTERING

The project also proposes small-scale interventions that respond directly to the local context. Casa del Bari is extended into a

clearing among newly planted trees, becoming a quiet social anchor. Opportunities are created for diverse activities throughout the year, from collective gardening and repair workshops to children's play and informal markets. Play spaces are distributed strategically across the site, connecting with a broader network of recreational areas at the neighbourhood scale. New programmatic points of reference are introduced, including a multifunctional community pavilion that can operate as a summer kitchen, event space, yoga platform, or sheltered extension of the playground. A repair workshop supports material reuse and local skills exchange. Productive and leisure gardens invite residents to participate in both growing and gathering. A summer café activates the edge of the site, forming a soft transition between private dwellings and the public realm.

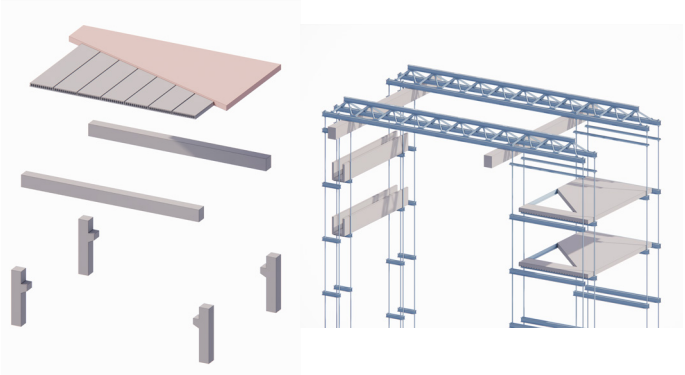
ELEMENTS

Architecturally, the building maintains the height limit of a medium-rise typology, staying within fire protection thresholds and cost constraints. Its structural system is based on pile foundations, which reduce the extent of excavation and associated environmental disruption. The above-ground structure is composed of prefabricated concrete columns, beams, and hollow-core slabs. This system enables high load-bearing capacity and supports future flexibility in the layout of interior spaces where modules can be occupied in varied ways, but also for accommodating future programs beyond residential use.

The use of light, non-load-bearing partition walls between living units allows for the easy reconfiguration and merging of modules, enabling diverse spatial arrangements and adaptive reuse over time. This structural clarity supports a resilient architectural framework capable of evolving with changing needs.

The façade is articulated to enhance both environmental and acoustic performance. Its geometry reduces wind exposure and filters noise from the surroundings.
Powder-coated aluminium joinery is selected for its durability and minimal maintenance requirements, with each unit easily replaceable if damaged.

Terraces and integrated planters are designed



as independent structural elements, ensuring that the building's thermal envelope remains within a minimal volume. Excavated soil is reused to reshape the topography of the site, improving universal accessibility and reducing the import of new material.

LOW- TECH

Technical systems are deliberately kept simple, robust, and low-maintenance. The building is designed without suspended ceilings, exposing the concrete slabs and increasing thermal mass, which contributes to stable indoor temperatures.
Cross ventilation is achieved by aligning wet rooms vertically, allowing air to move efficiently between units via ventilation shafts. This system eliminates the need for complex mechanical ventilation while enhancing interior comfort.

The building is prepared for the integration of photovoltaic panels on the roof, with sufficient surface area and orientation to support future

renewable energy generation.

Precast terraces are shaped to balance daylight access, privacy, and solar shading. These modules serve both as environmental buffers and as private outdoor spaces. Vegetation on terraces and roofs is selected for insect-friendliness and resilience, further reducing operational demands. Rainwater is collected and reused within the building for toilets, appliances, and irrigation of green roofs and gardens, closing the loop on site water consumption.
The construction strategy is based on standardised prefabricated systems. The typical floor construction includes a precast concrete hollow-core slab with a reinforced topping layer, a lightweight leveling bed of expanded clay granules, mineral wool insulation, a two-layer gypsum fibre dry screed, and a vinyl finish The roof system is divided into two types: a warm roof with sloping screed and insulation below the waterproofing layer, and an intensive green roof with root-resistant membranes, drainage and filter layers, deep substrate, and native planting.

Façade types vary according to orientation and environmental exposure. The northwest façade features a lightweight infill parapet, aluminium-faced insulation panels, and integrated planters made of recycled aggregate concrete. The southeast façade combines precast recycled aggregate concrete panels and terraces, while the southwest and northeast façades use a lightweight infill construction clad in recycled aggregate concrete panels.

WATER MANAGEMENT

Water management is a central ambition.
The goal is to prevent, reduce, and delay the discharge of polluted rainwater into surface water bodies or sewers. The strategy includes decentralised collection and treatment of hydrocarbons, monitoring of sludge levels, and widespread infiltration. Rainwater is guided into the soil wherever feasible, depending on permeability and groundwater levels. Preference is given to surface-based systems—such as infiltration basins, trenches, wadi

zones, and ponds—due to their ecological benefits and ease of maintenance. Where reuse is appropriate, water is stored for irrigation and non-potable building uses. Buffered storage areas help manage peak flows, while controlled discharge into public systems is used only as a last resort.

At the neighbourhood scale, green-blue infrastructure is conceived as a functionally connected system of landscape and water features. The rainwater sewer is designed to drain into low-lying surface water wherever possible. Large existing urban surfaces—such as avenues, parking lots, and parks—are integrated as secondary retention and emergency buffering spaces. At the local level, the site introduces permeable pavements, infiltration crates, pocket wadis, water plazas, green roofs, and cisterns. These systems are simple, effective, and scalable.
Taken together, the project outlines a strategy for transformation and new construction through recovery, resilience, and reuse. It frames architecture and urbanism not as ends in themselves, but as tools for ecological repair and social continuity.

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NUMBERS

Summarised, the building is roughly composed of the following:
The main bearing structure consists of 81 precast concrete beams, 180 precast concrete columns and 576 hollow core slabs. Vertical circulation is provided through a pair of elevator cores serving the full height of the building, and a pair of spiral staircases comprised of 10 prefabricated elements each.
The overhead structure consists of 9 trusses comprised of 18 IPE240 beams as top and bottom chords and 396 80x50mm steel tubes as diagonal members, resting on two precast concrete beams. 64 suspension cables with a solid core and 288 IPE200 beams support 64 prefabricated concrete terrace elements and 64 prefabricated concrete planters.

The ground floor pavilion structure comprises a supporting truss composed of HEB320 profiles and 9.5 IPE180 beams.

MAKE IT HAPPEN!

The project employs an efficient and sustainable construction process that relies extensively on prefabricated elements. This approach enables a significantly shorter timeline—from groundbreaking to completion in approximately 8 months—compared to the 1 to 2 years typically required for traditional construction methods.

The use of prefabricated components not only accelerates the overall schedule but also enhances sustainability by reducing on-site labor, improving quality control, and minimizing material waste and environmental impact.

A key factor contributing to the project’s efficiency is the repeated use of standardized elements for the façade, terraces, and interior finishes, which simplifies both manufacturing and installation processes.