

Living Cell

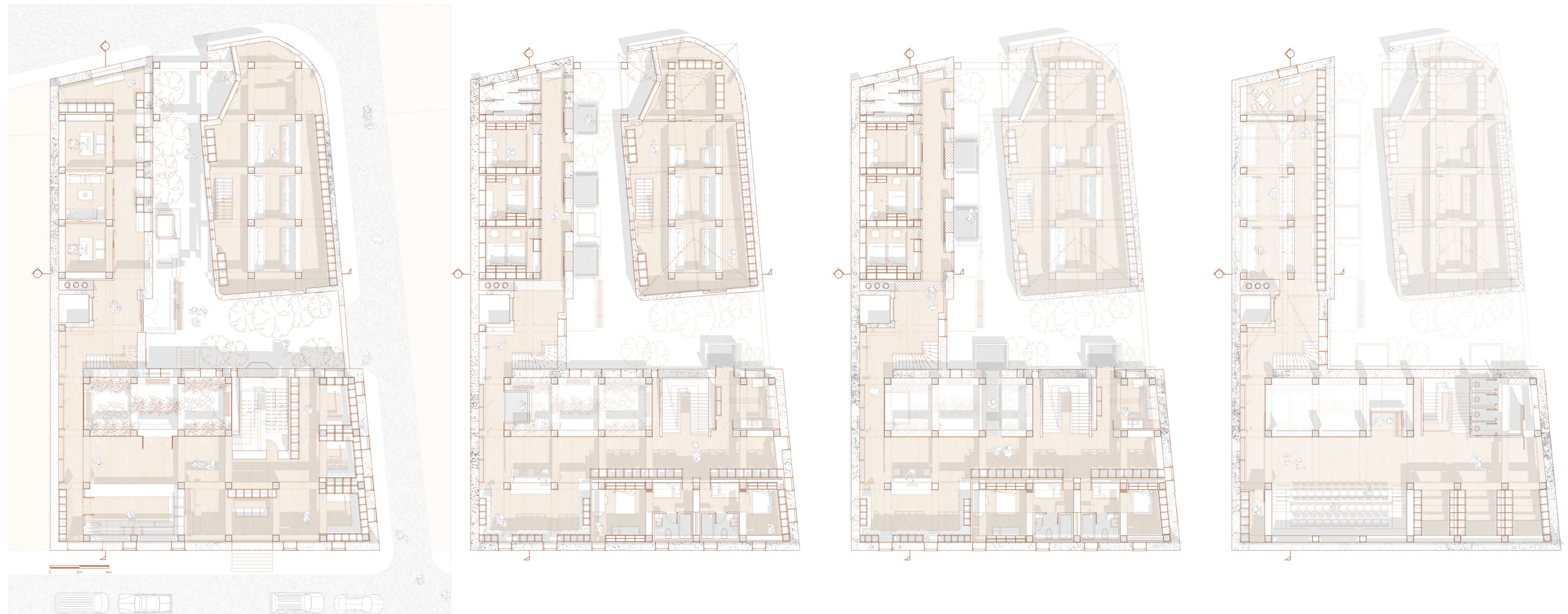
The adaptive reuse of 1 Charlotte Square transforms the historic site into a self-sustaining, nature-integrated home for asylum seekers, reducing both living costs and environmental impact. A key feature of the design is the integration of food-growing systems, helping residents become more independent while significantly cutting grocery expenses. By cultivating their own fresh vegetables, herbs, and fruits, residents gain access to nutritious food without relying on costly supermarkets.

The Coach House on the ground floor houses a controlled-environment greenhouse, equipped with UV growing lights to support year-round food production. This setup ensures that crops continue to thrive even during the dark winter months, maximizing food yield and providing a stable source of fresh produce. Meanwhile, the third floor features a hydroponic greenhouse that utilizes natural daylight and a water-based growing system to produce food with minimal soil and water usage. This system not only saves space but also reduces waste by circulating nutrients efficiently.

By incorporating these two levels of urban farming, the project fosters self-sufficiency, food security, and financial relief for asylum seekers. The combination of artificial and natural growing conditions ensures continuous production, reinforcing the vision of a resilient, self-sustaining community where nature and architecture work together to create a stable, supportive home.



- Material Palette
- Material 1
Brick/ Reclaimed
 - Material 2
Light Oak
 - Material 3
Dark Oak
 - Material 4
Gypsum Board
 - Material 5
Stainless Steel
grade 304
 - Material 6
Laminated and
toughened glass
 - Material 7
Polyester Green
fabric





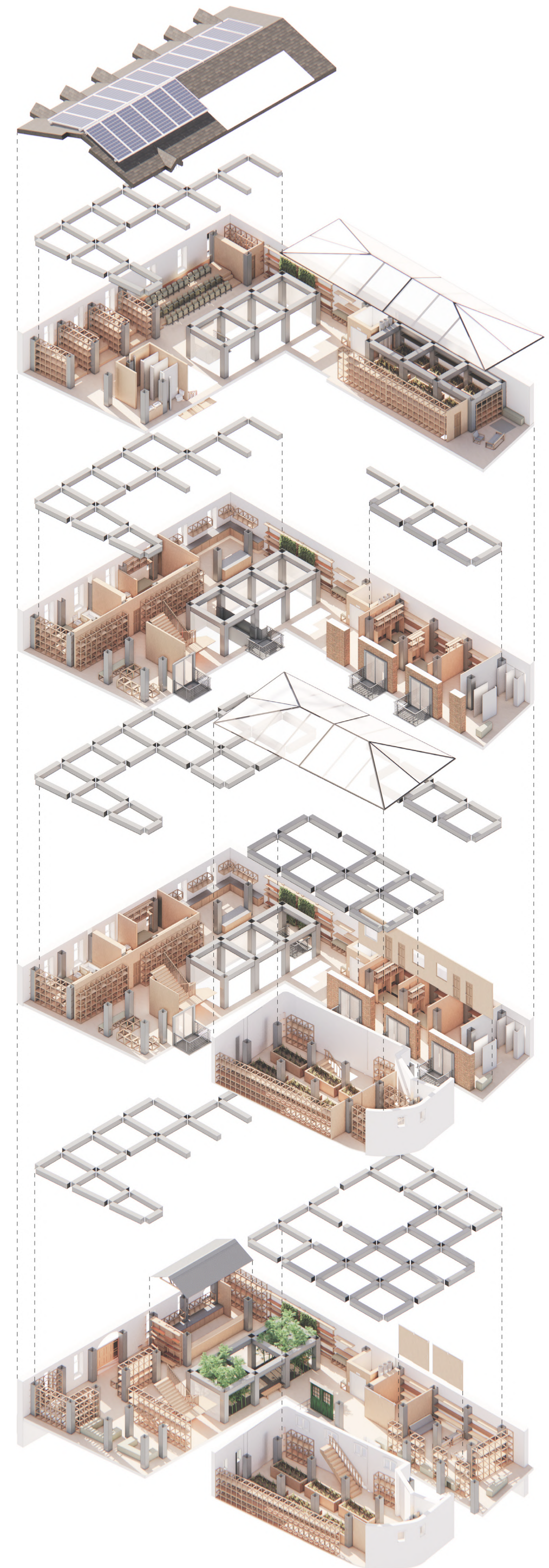
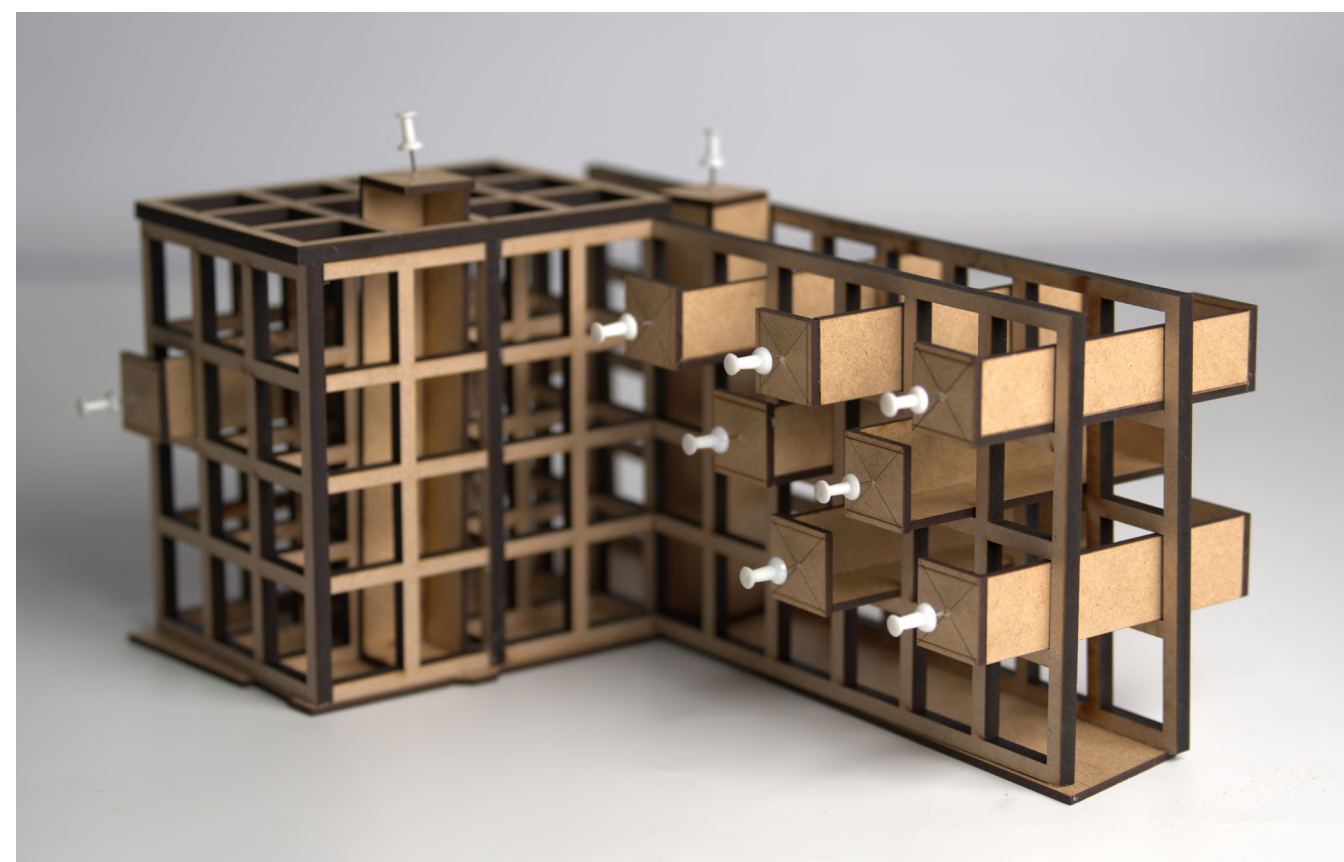
1) Photovoltaic solar panels harness renewable energy for sustainable operation.

2) Open roof section admits air and rain to indoor garden below.

3) Stainless steel roof gutters harvest greywater to ground-floor storage tanks below.

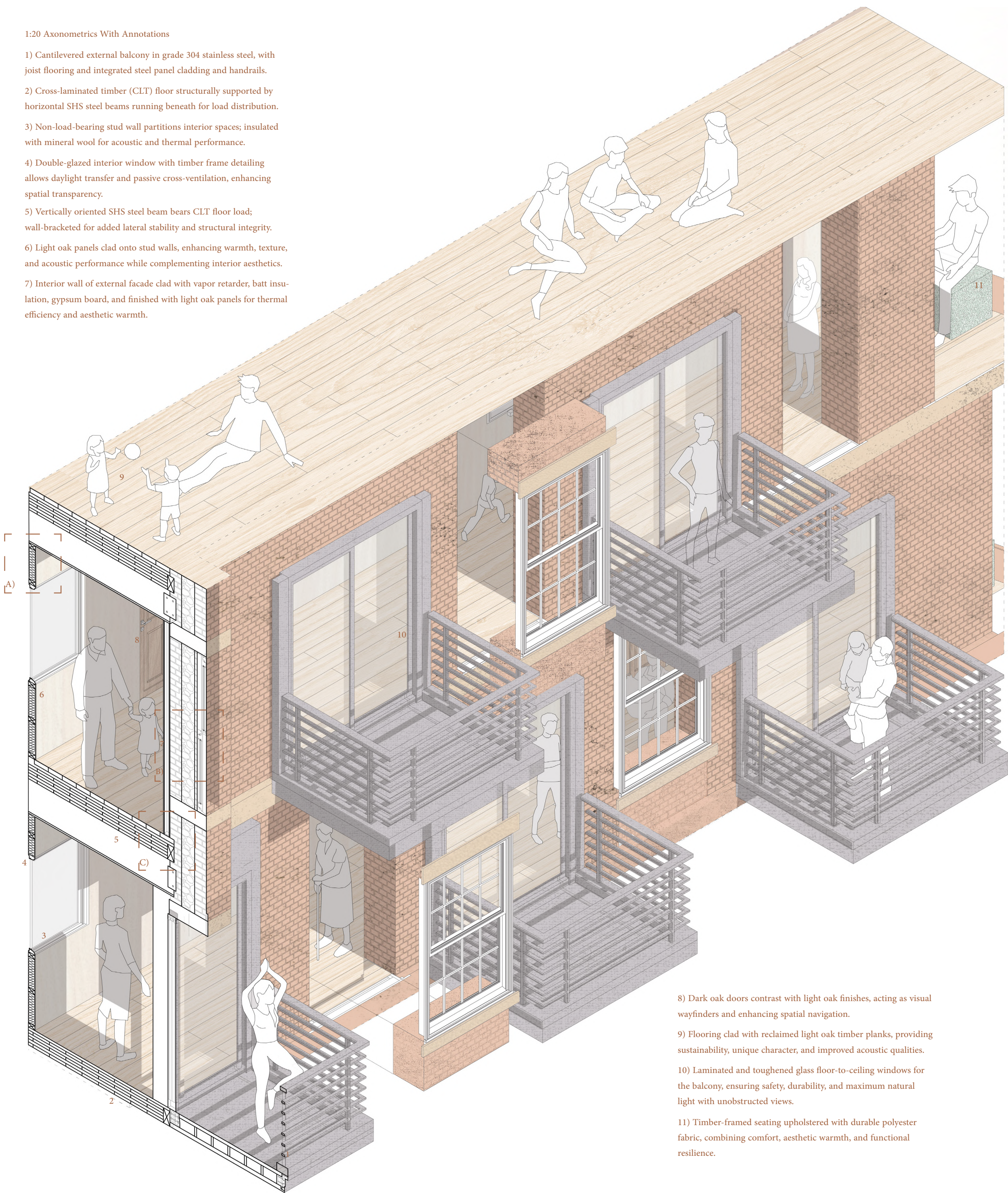
4) Polyethylene water tanks – UV-resistant, Filtration system, Overflow outlet and Pump

5) Therapeutic garden in courtyard enhances biodiversity and residents' mental well-being.



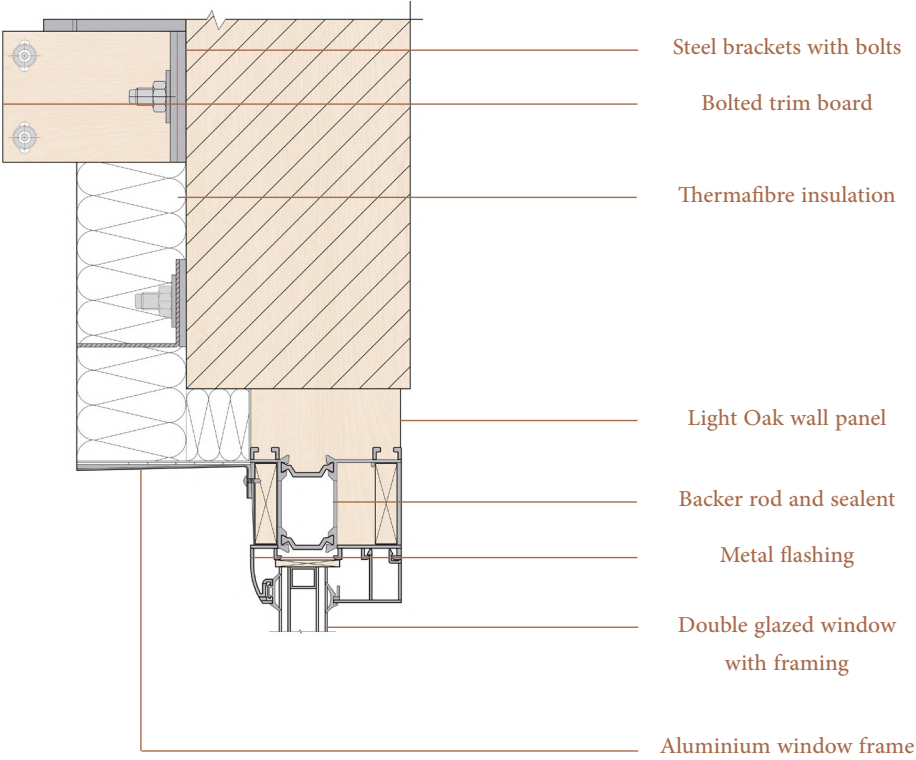
1:20 Axonometrics With Annotations

- 1) Cantilevered external balcony in grade 304 stainless steel, with joist flooring and integrated steel panel cladding and handrails.
- 2) Cross-laminated timber (CLT) floor structurally supported by horizontal SHS steel beams running beneath for load distribution.
- 3) Non-load-bearing stud wall partitions interior spaces; insulated with mineral wool for acoustic and thermal performance.
- 4) Double-glazed interior window with timber frame detailing allows daylight transfer and passive cross-ventilation, enhancing spatial transparency.
- 5) Vertically oriented SHS steel beam bears CLT floor load; wall-bracketed for added lateral stability and structural integrity.
- 6) Light oak panels clad onto stud walls, enhancing warmth, texture, and acoustic performance while complementing interior aesthetics.
- 7) Interior wall of external facade clad with vapor retarder, batt insulation, gypsum board, and finished with light oak panels for thermal efficiency and aesthetic warmth.

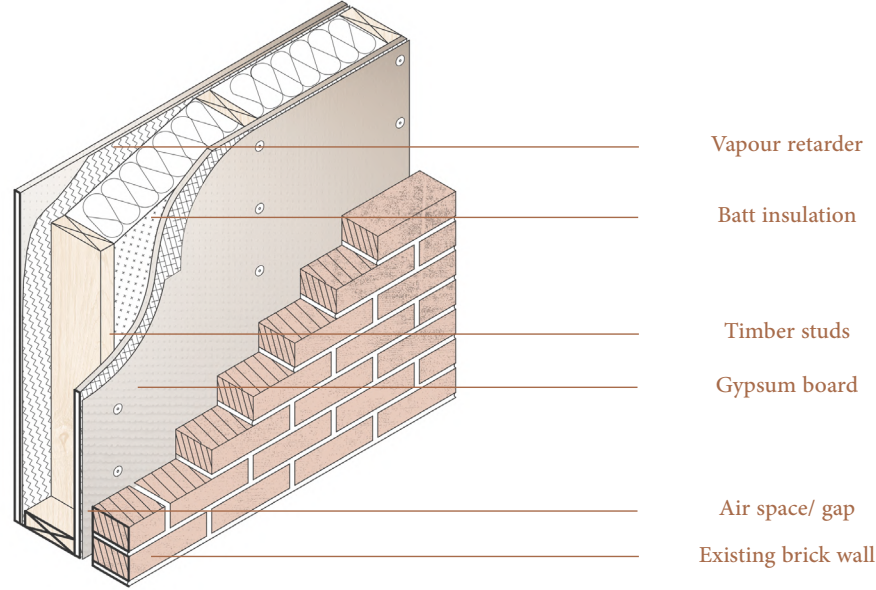


- 8) Dark oak doors contrast with light oak finishes, acting as visual wayfinders and enhancing spatial navigation.
- 9) Flooring clad with reclaimed light oak timber planks, providing sustainability, unique character, and improved acoustic qualities.
- 10) Laminated and toughened glass floor-to-ceiling windows for the balcony, ensuring safety, durability, and maximum natural light with unobstructed views.
- 11) Timber-framed seating upholstered with durable polyester fabric, combining comfort, aesthetic warmth, and functional resilience.

A) 1:5 Window Detail



B) 1:10 Wall Detail



C) 1:10 Floor Detail

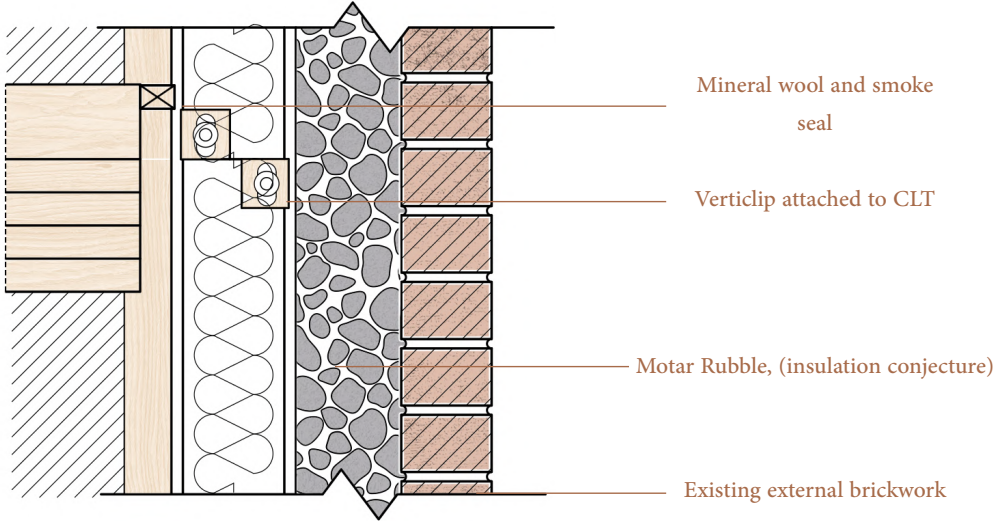




Fig 1. Cafe space beside glass atrium overlooking enclosed outdoor garden area.



Fig 2. Balcony view from glass atrium, overlooking garden with triple-height roof.



Fig 3. Family bedroom for four, filled with personal paraphernalia and belongings.



Fig 4. Community-driven growing space with storage shelves for collaborative use.



Fig 5. Layered corridor – refuge, connection, light.