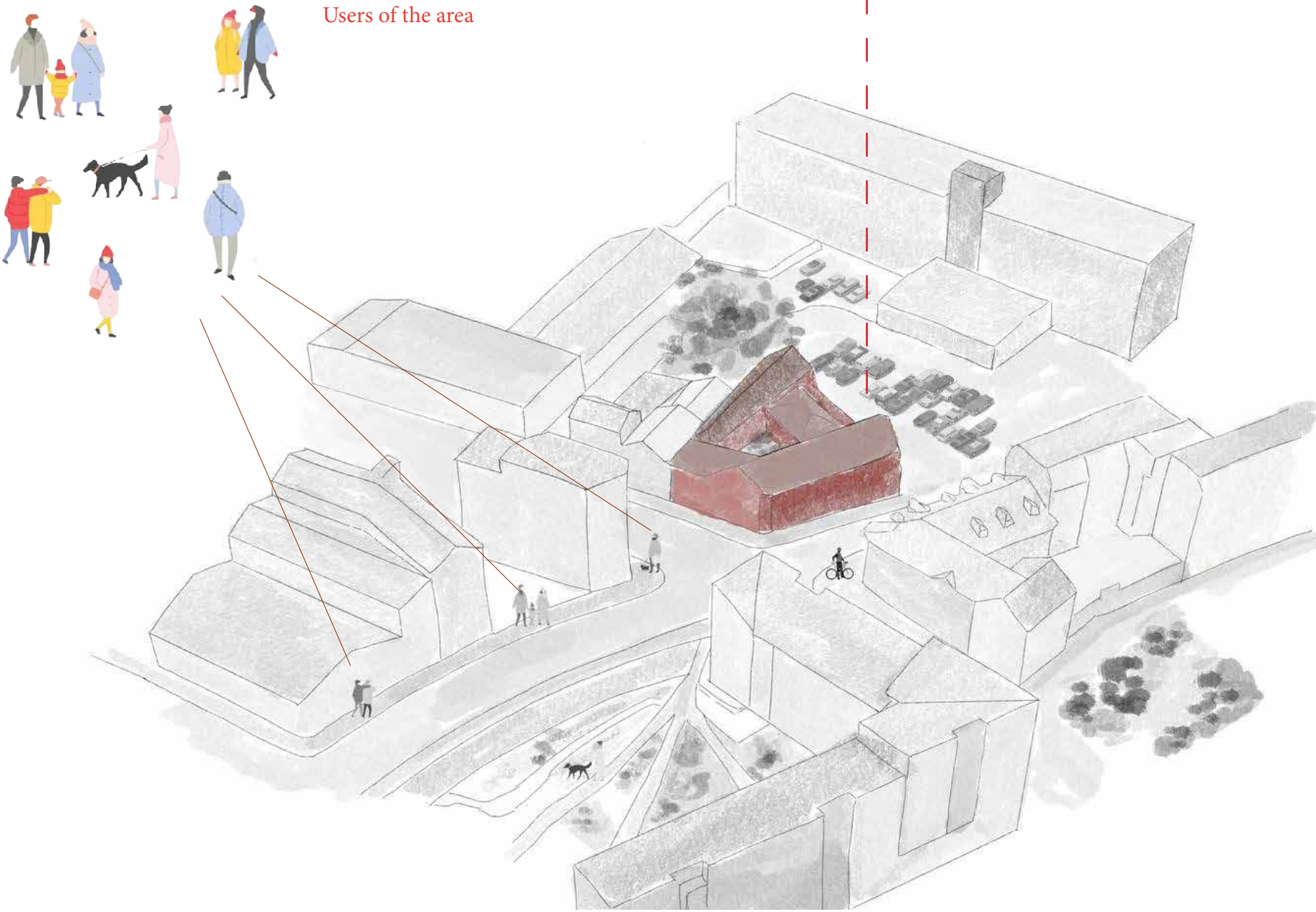


# THE PLANT LAB

Users of the area



The Plant Lab is a forward-thinking educational initiative situated within a greenhouse environment, designed to promote awareness of nutrition, sustainability, and personal well-being. Through structured volunteer programs and hands-on workshops, participants gain practical skills in cultivating fruits and vegetables. The space serves not only as a hub for environmental education but also as a platform to reconnect with nature, experience fresh organic produce, and inspire lasting engagement in sustainable practices and urban agriculture. In direct response to the climate emergency, The Plant Lab empowers individuals and communities to adopt low-impact, climate-conscious lifestyles. By encouraging local food production, it reduces dependency on industrial agriculture and long supply chains, thereby helping to lower the overall carbon footprint.



spring/summer time



Sunrise around 6am

autumn/winter time



Sunrise is quite dark at 8 am, this is 11am, where some light is shown.



8am - 12am most sunlight at the east side of the building.



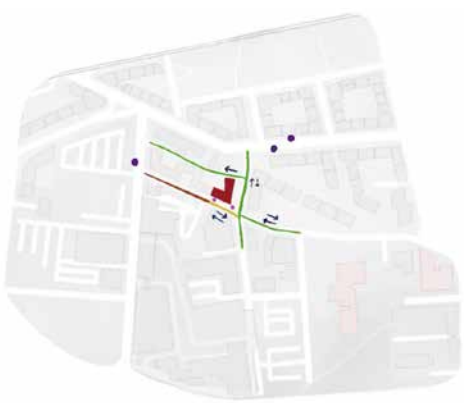
Time close to 4 pm and onwards.



1pm - until the sunset the shadow goes to the east side.

SUN ANYLISYS DIAGRAM

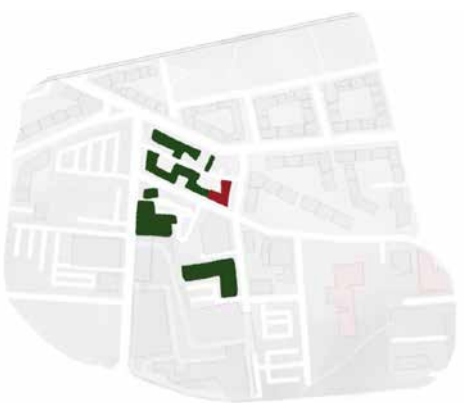
The amount of light reaching the building varies significantly with the changing seasons. During spring and summer, the site receives the most sunlight, which is especially beneficial for the building's intended use. These seasons also align with the peak period for crop growth. In contrast, winter offers the least access to natural light, which presents challenges when planting seeds during that time.



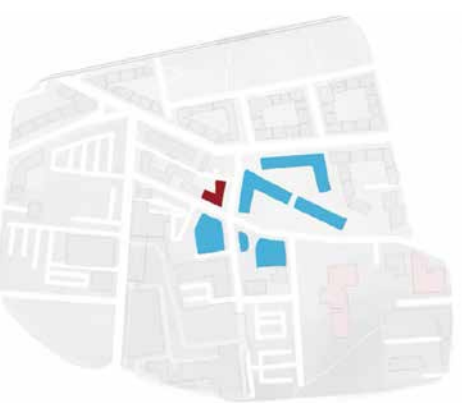
1



2



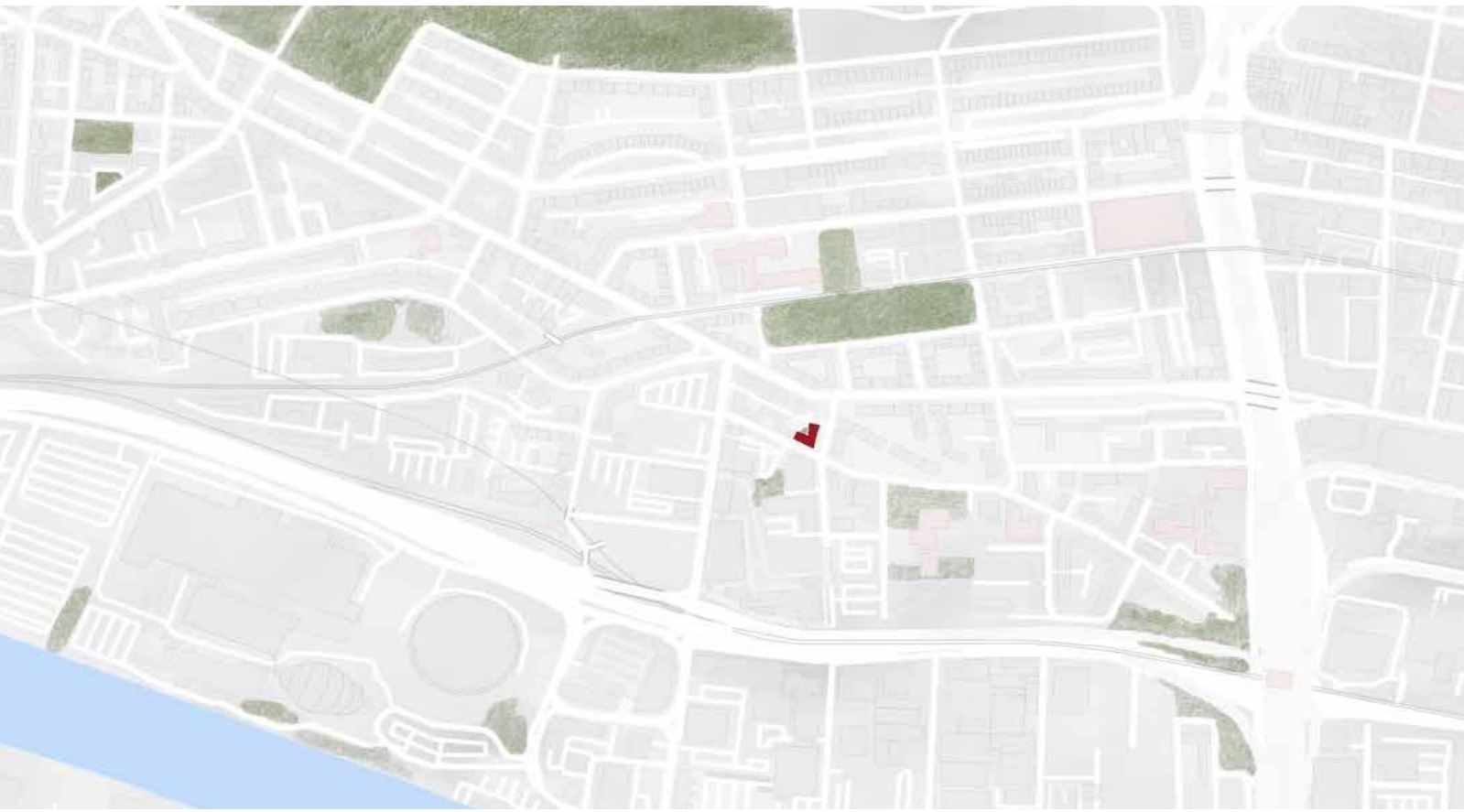
3



4

- 1 - Car/pedestrian flow with the nearest transportation
- 2 - Parking lots map
- 3 - Commercial offices around
- 4 - Residential properties

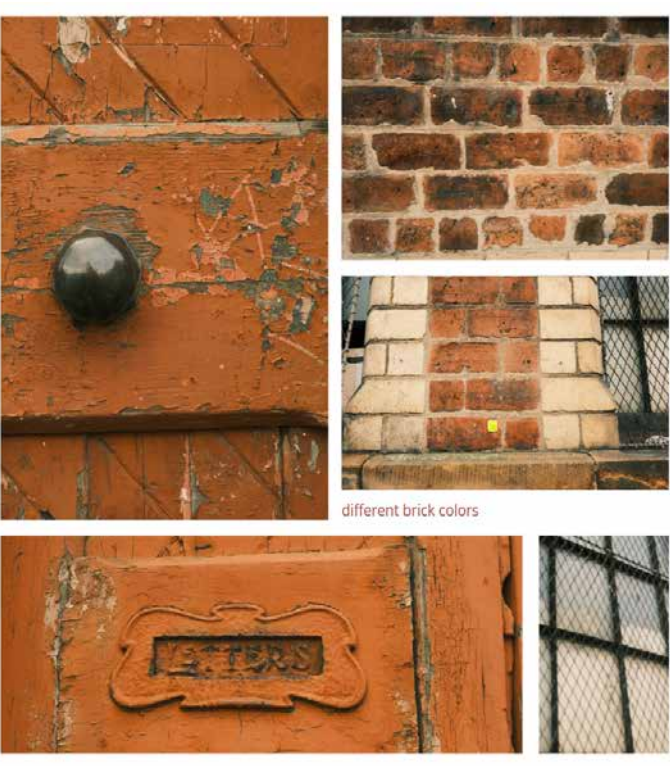
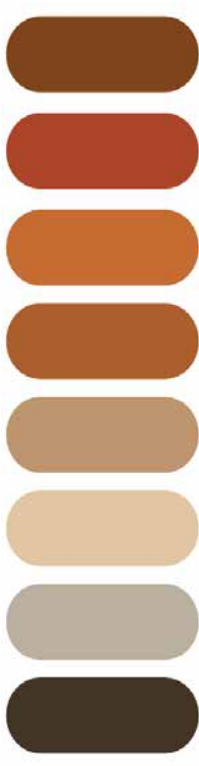
The area features a nearly equal distribution of residential and commercial buildings, indicating a diverse demographic profile. While small green spaces are accessible within a 5-minute walk and a major park lies within a 20-minute walk, the overall distribution of greenery in the vicinity of the site appears inconsistent with strong environmental integration.



SITE ANALYSIS



Construction and demolition waste observed on-site has been carefully assessed and integrated into the design approach to minimize environmental impact. The project embraces a low-waste philosophy by repurposing salvaged materials—such as reusing broken bricks to reconstruct existing walls and reclaiming structural beams to support the ground-floor void. This strategy not only reduces the need for new materials but also actively diverts waste from landfills, aligning the project with circular economy principles and sustainable construction practices.



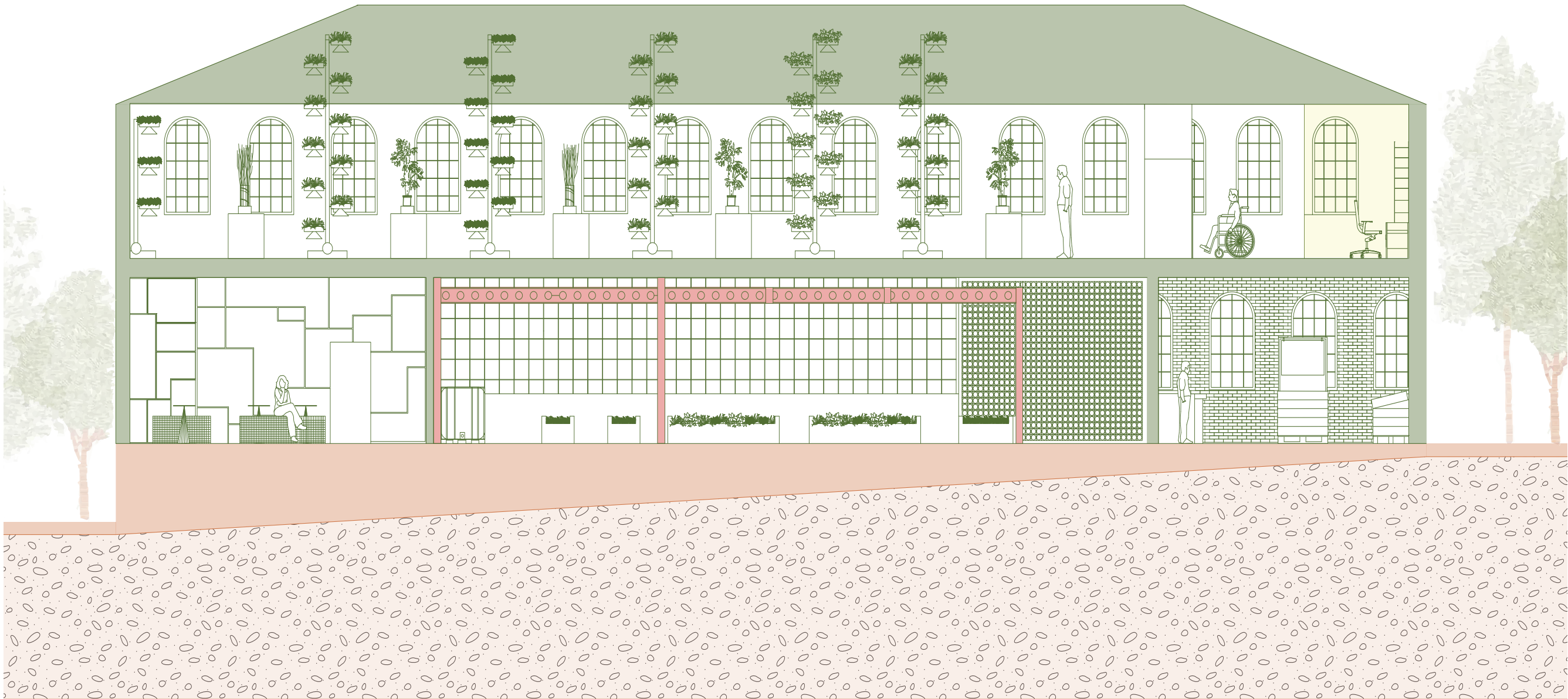




# THE CENTRAL ALLOTMENT AREA



The central allotment area is carefully organized, with fruits and vegetables—such as tomatoes and cucumbers—positioned according to their sunlight requirements. A striking red beam structure, reinstated from the original loft design, adds character and continuity to the space. Adjacent to the allotment, a market stall provides a direct link to the community by offering fresh, site-grown produce for sale.



selling shop





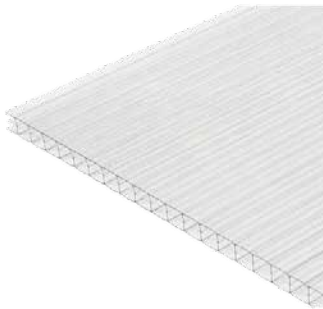
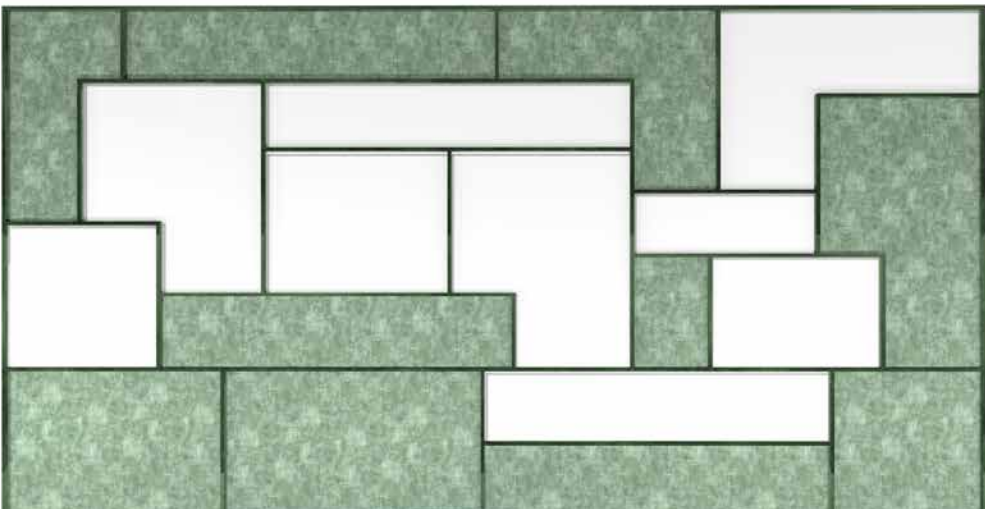


allotment area

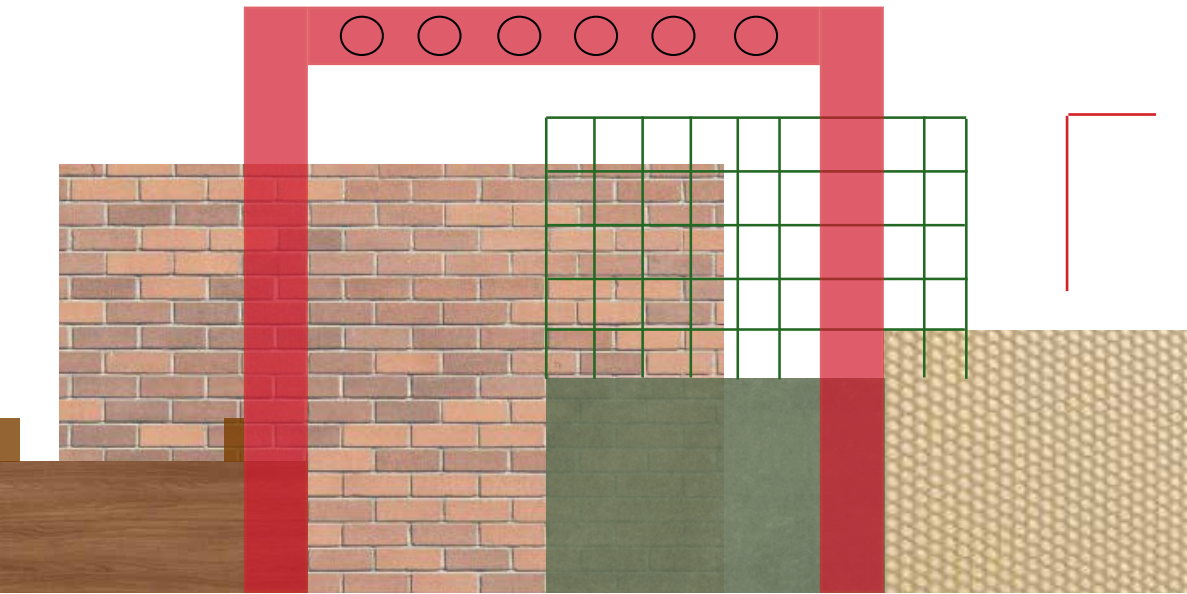
## GROUND FLOOR DESIGN

The space includes an allotment area, a kitchen with a dining spot where meals are prepared using freshly harvested crops. Additionally, it features a children's classroom that hosts workshops focused on nutrition awareness and teaching children how to grow their own food at home, fostering healthy habits and environmental consciousness from an early age.

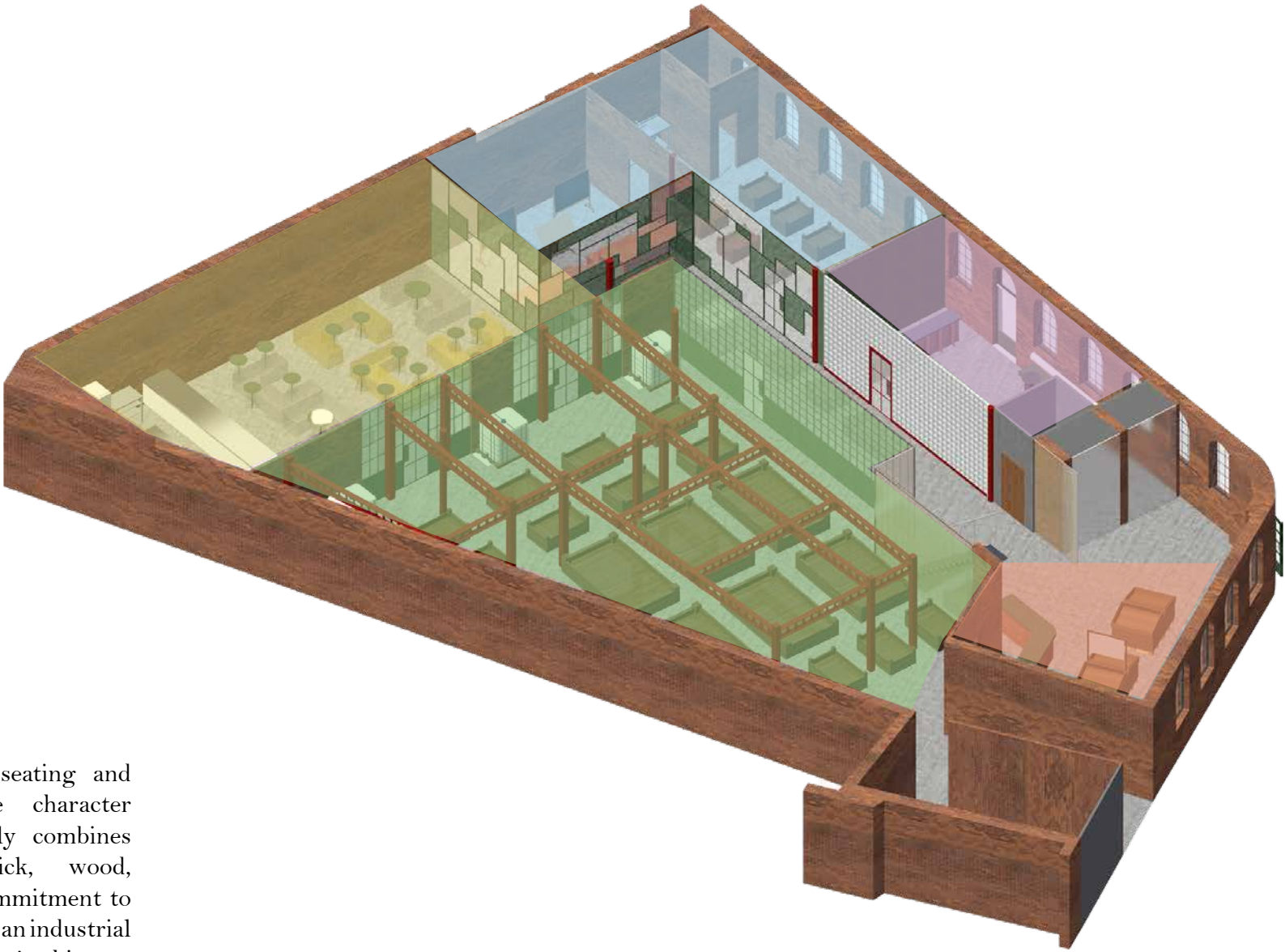
Polycarbonate panels combined with green paneling are used throughout the design to enhance transparency and allow natural light to flow through the space. This creates an open, visually connected atmosphere that encourages curiosity and exploration. By maximizing daylight and reducing reliance on artificial lighting, the material choice contributes to a more energy-efficient and environmentally responsive design.



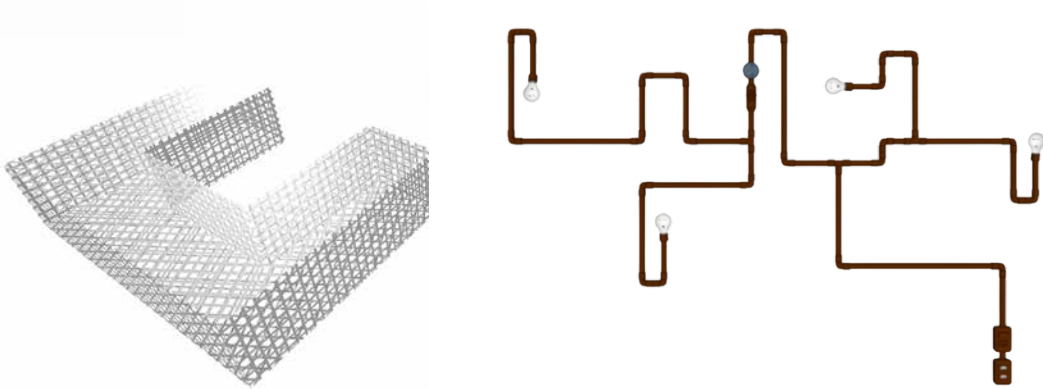
polycarbonate used in white spaces



Material palettes



enseign of the space



kitchen/lunch spot

Bespoke furnishings, including mesh seating and industrial-style lighting, define the character of the space. The design thoughtfully combines materials such as reclaimed brick, wood, metal, and glass panels—reflecting a commitment to sustainable construction while preserving an industrial aesthetic that resonates with the site's history.

children classroom

tea cafe room

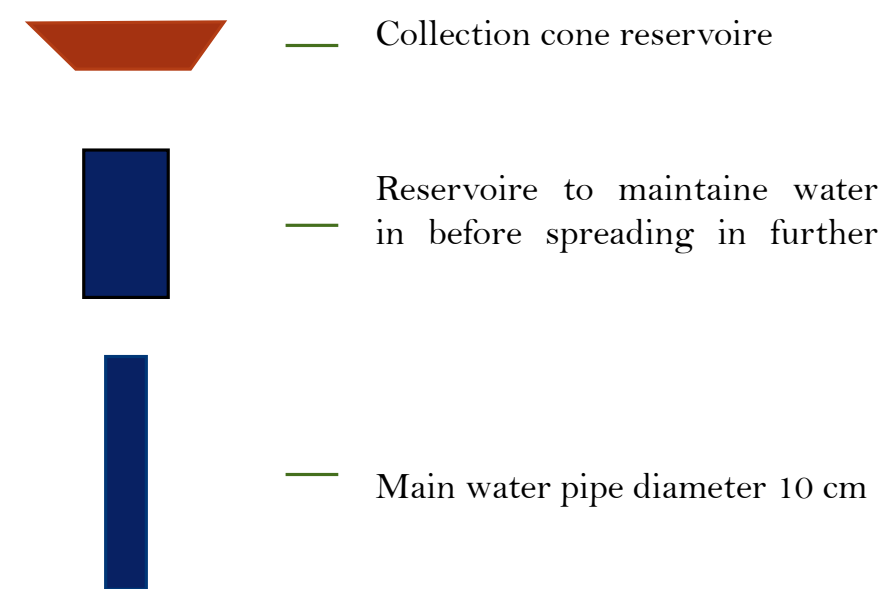
The tea room offers both takeaway and dine-in experiences, inviting visitors to enjoy traditional Scottish tea accompanied by a selection of healthy baked goods. A glass block wall subtly reveals glimpses into adjacent spaces, inviting visitors to discover and engage with other areas of the site through visual connection and spatial intrigue.



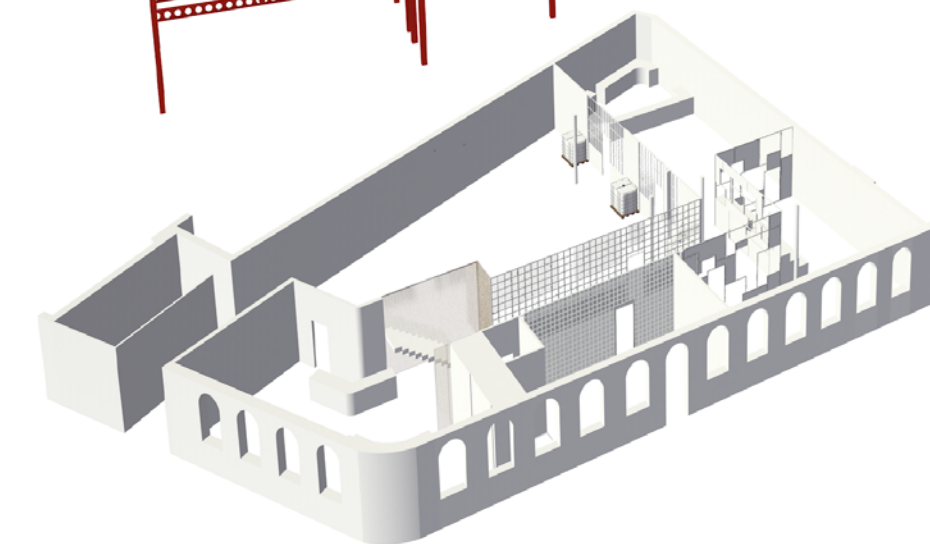
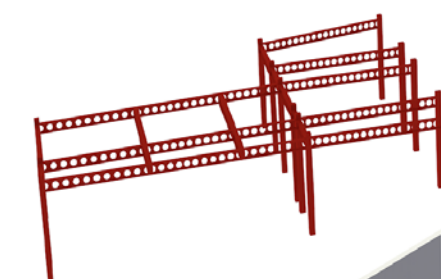
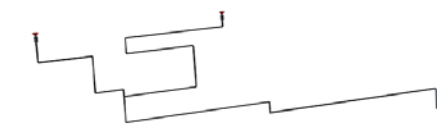
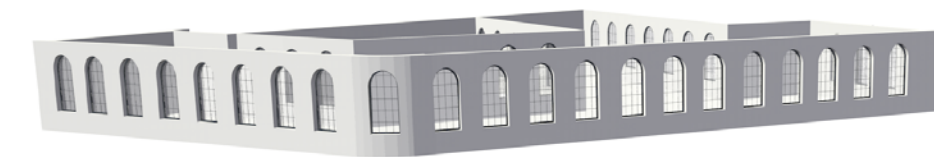
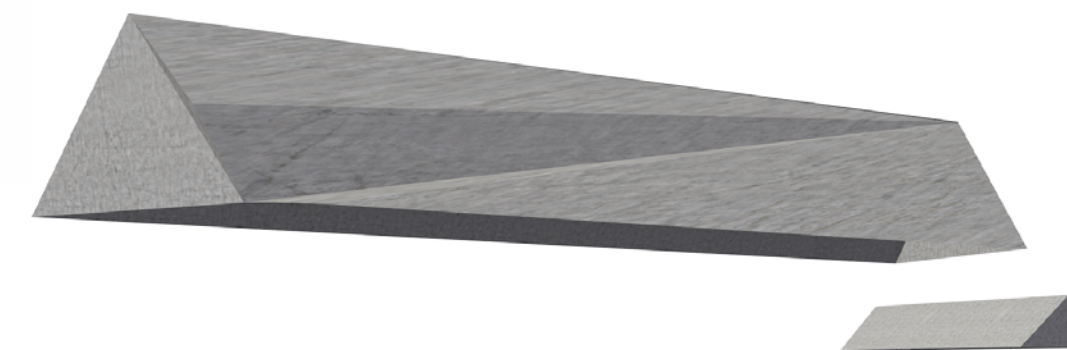
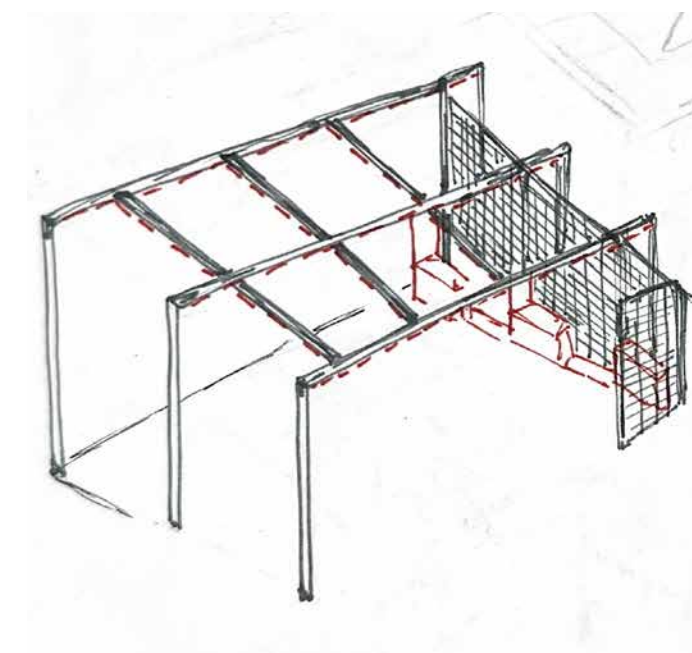


- 1 Vertical Farming
- 2 Stuff Room

The design features a rainwater collection system that uses a network of pipes connected to main storage tanks located in the allotment area. This efficient setup enables sustainable irrigation with minimal energy use, promoting environmentally responsible plant care and reducing reliance on potable water sources.



A vertical farming installation is incorporated into the project, enabling high-yield crop production within a compact footprint for local distribution. This approach reduces the environmental impact of traditional agriculture by conserving resources and cutting transport emissions. The produce is sold in an on-site shop, strengthening community resilience, supporting the local economy, and fostering healthier, more sustainable lifestyles.



## FIRST FLOOR DESIGN - VERTICAL FARMING

