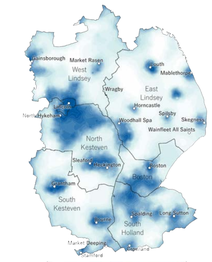
THE MEMORY GARDEN

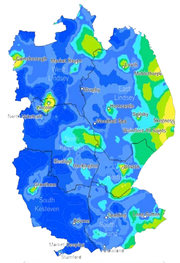
Elderly Community Centre

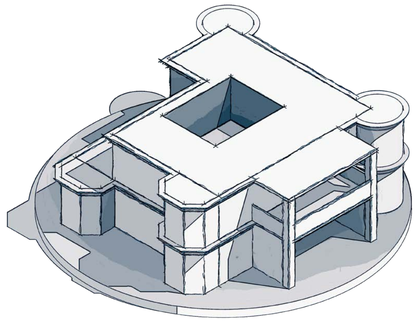
Proposing an elderly community centre space for the youth and elderly to socially interact with one another. Suggests an intergenerational framework where the exchange of knowledge and skills is conducted between the elderly users and the younger generation. East Midlands is a region that experiences the rising rates of social deprivation, health disparity, and unavailability of health care services, especially in respect of the senior population, this building aims to prevent these outcomes.

Access to Healthcare



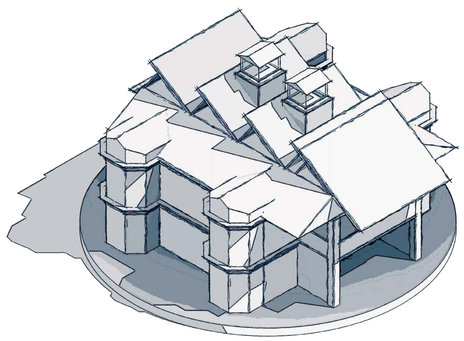
Deprevation





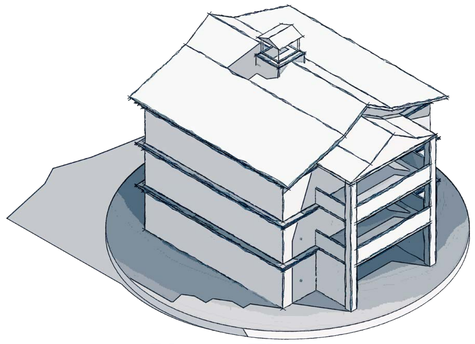
Phase One

The design development for the project continuation started with the original building as a guideline.



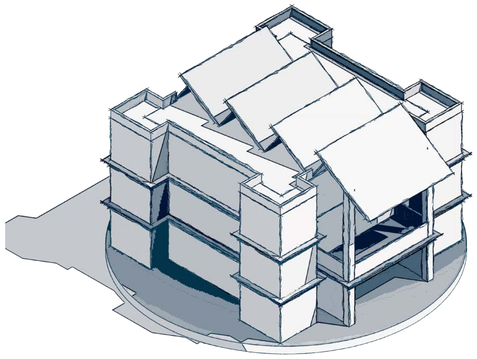
Phase Two

The first design iteration introduces a sawtooth roof with a wider width of the building, exploring how the building could better relate to its context.



Phase Three

The second iteration refines the proposal, making it more slim and taking advantage of the views offered by having a taller height.



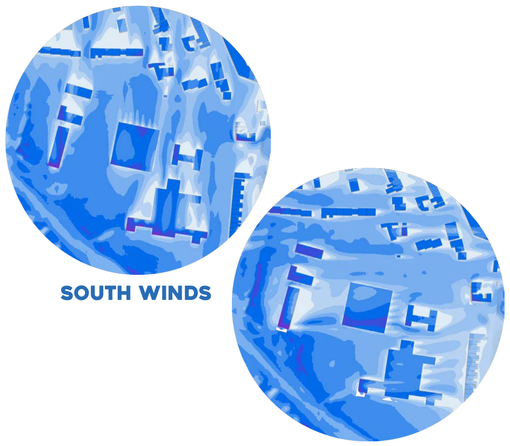
Final Phase

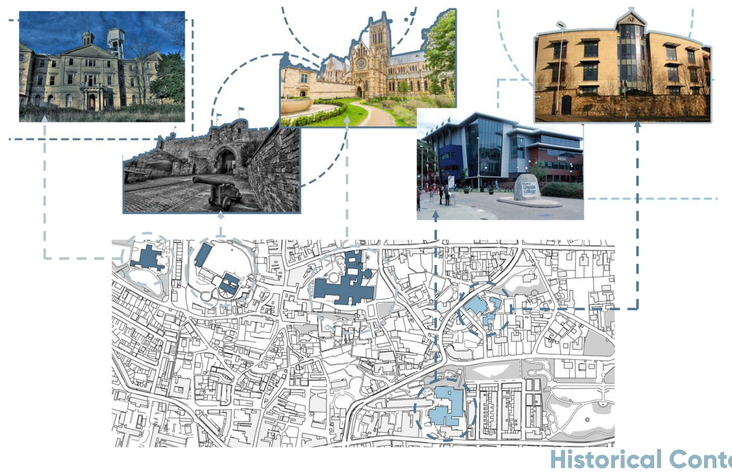
The final phase brings together the key strengths of Phase 2 and Phase 3. The sawtooth roof form developed in Phase 2 is retained to maximise natural daylight and optimise the orientation for south-facing photovoltaic panels.

Sun and Noise

Existing Structure

Views from Building





Historical Context

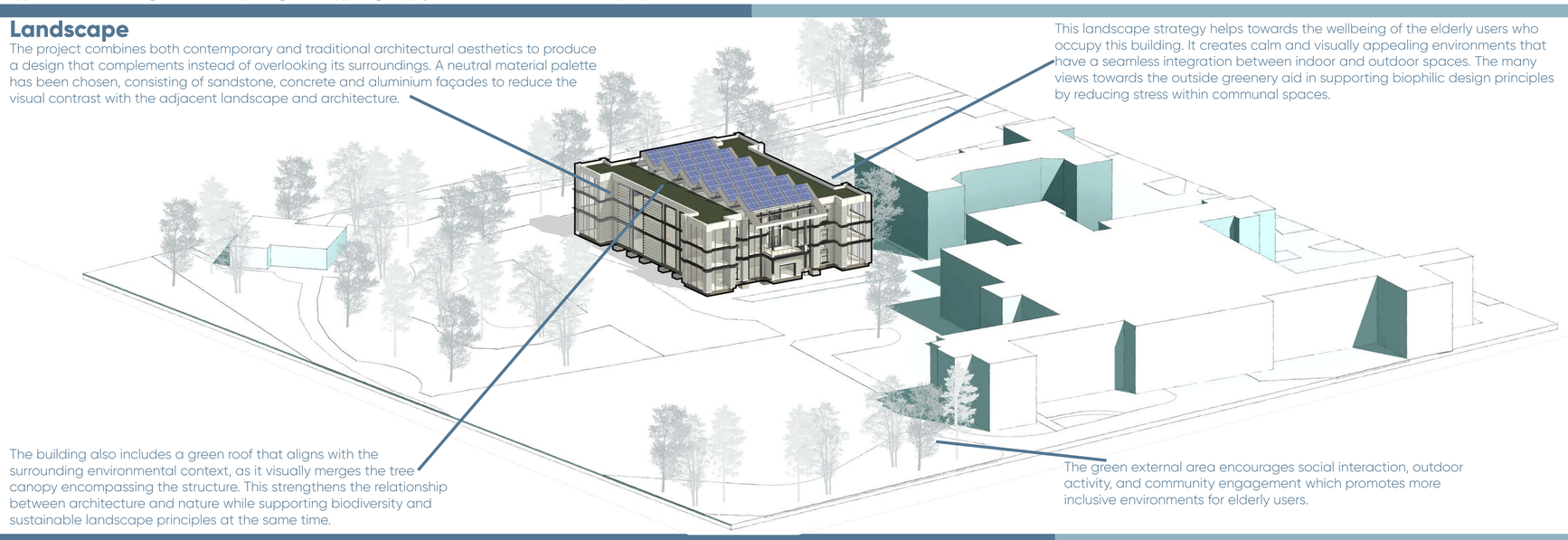
The site sits between historic landmarks and modern educational buildings, creating an opportunity for architecture to unite generations. The historic surroundings support memory and orientation for elderly users, while nearby schools encourage intergenerational interaction, making a blend of traditional and contemporary design both relevant and meaningful.

Site Analysis

The Lawn was selected as the final location due to its strong relationship with nature, historical context, and semi-secluded location. Unlike the more urban and heavily active alternatives, the site provided a peaceful environment better suited to elderly wellbeing and community interaction. The surrounding greenery, existing architectural character, and elevated open setting created opportunities for natural light, and landscape integration, supporting the project's focus on connection between people, architecture, and nature.

Landscape

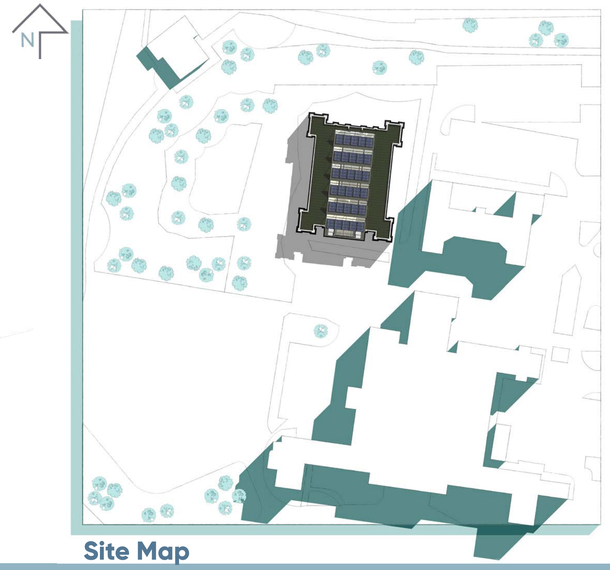
The project combines both contemporary and traditional architectural aesthetics to produce a design that complements instead of overlooking its surroundings. A neutral material palette has been chosen, consisting of sandstone, concrete and aluminium façades to reduce the visual contrast with the adjacent landscape and architecture.



This landscape strategy helps towards the wellbeing of the elderly users who occupy this building. It creates calm and visually appealing environments that have a seamless integration between indoor and outdoor spaces. The many views towards the outside greenery aid in supporting biophilic design principles by reducing stress within communal spaces.

The building also includes a green roof that aligns with the surrounding environmental context, as it visually merges the tree canopy encompassing the structure. This strengthens the relationship between architecture and nature while supporting biodiversity and sustainable landscape principles at the same time.

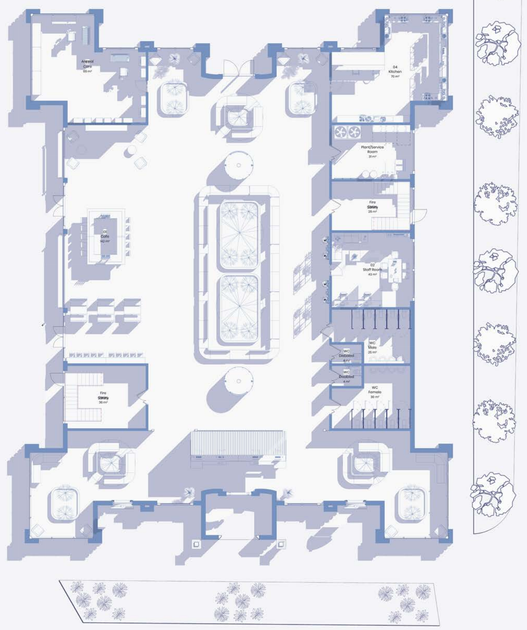
The green external area encourages social interaction, outdoor activity, and community engagement which promotes more inclusive environments for elderly users.



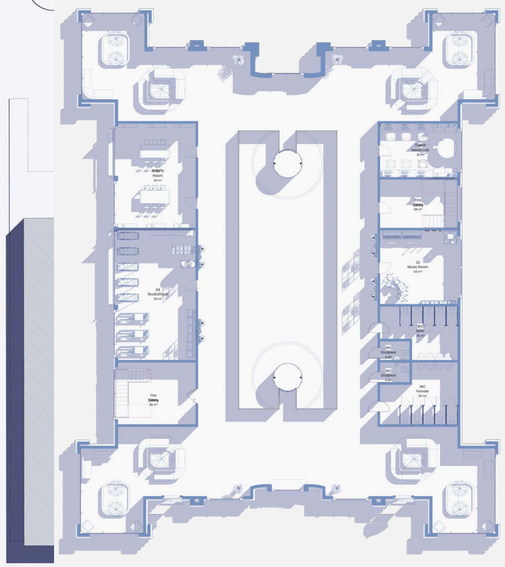
Site Map

FLOOR PLANS

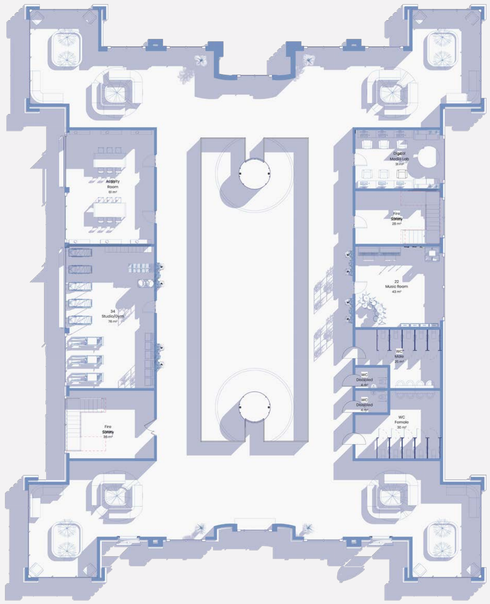
Ground Floor Plan | Scale 1:100



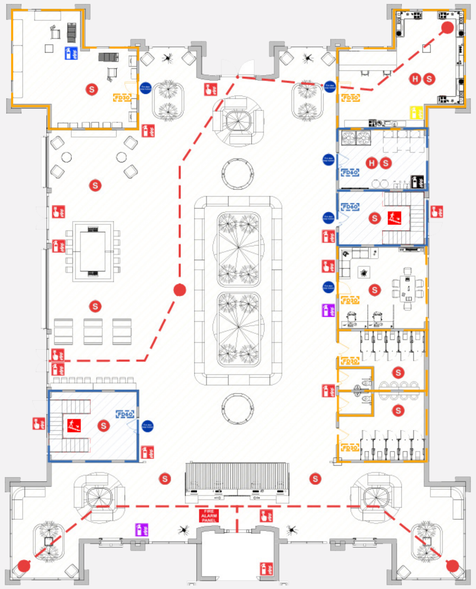
First Floor Plan | Scale 1:100



Second Floor Plan | Scale 1:100



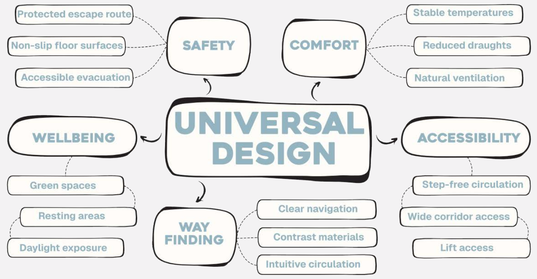
Fire Safety | Scale 1:100



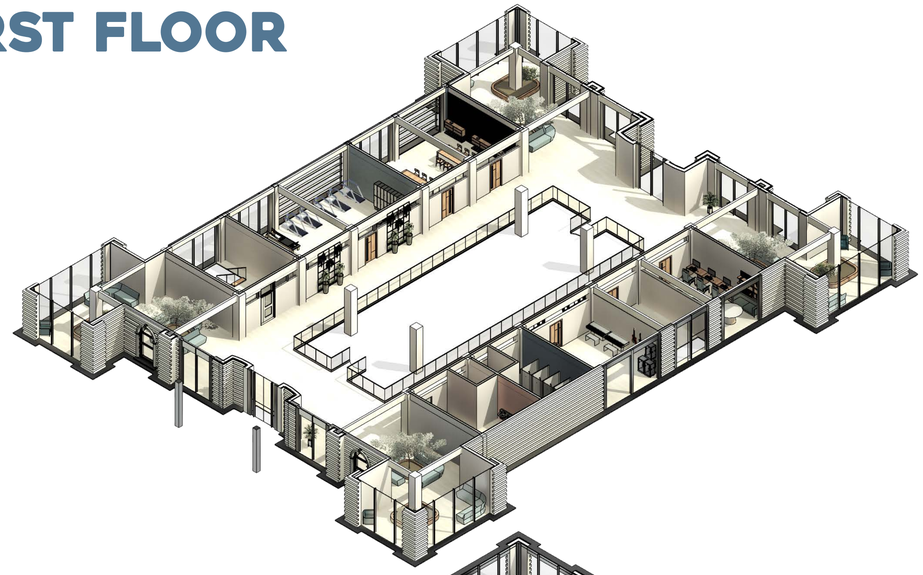
1 3 5
0 2 4 10
Scale 1:100

Accessibility and Inclusive Design

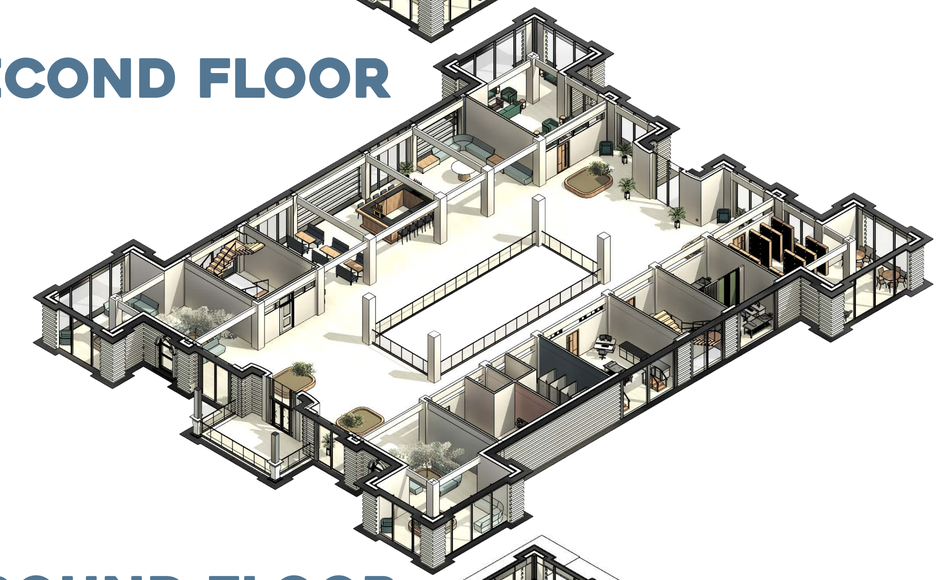
Part M ensures buildings are accessible and inclusive for all users, including people with disabilities and reduced mobility. This influences the spatial organization and circulation of the building to ensure it remains easily accessible and inclusive for all users. All entrances are step-free access, with ramps provided where necessary. Throughout the building there are dedicated rest points. Circulation routes are spacious with clearly defined way finding to ensure users do not get lost and to accommodate those with mobility aids. Accessible WCs are provided on every floor and meet part M requirements, with suitable turning circles and grab rails for disabled toilets. The interior layout prioritises wayfinding throughout the building. This allows for more safer and user-friendly communal spaces.



FIRST FLOOR



SECOND FLOOR

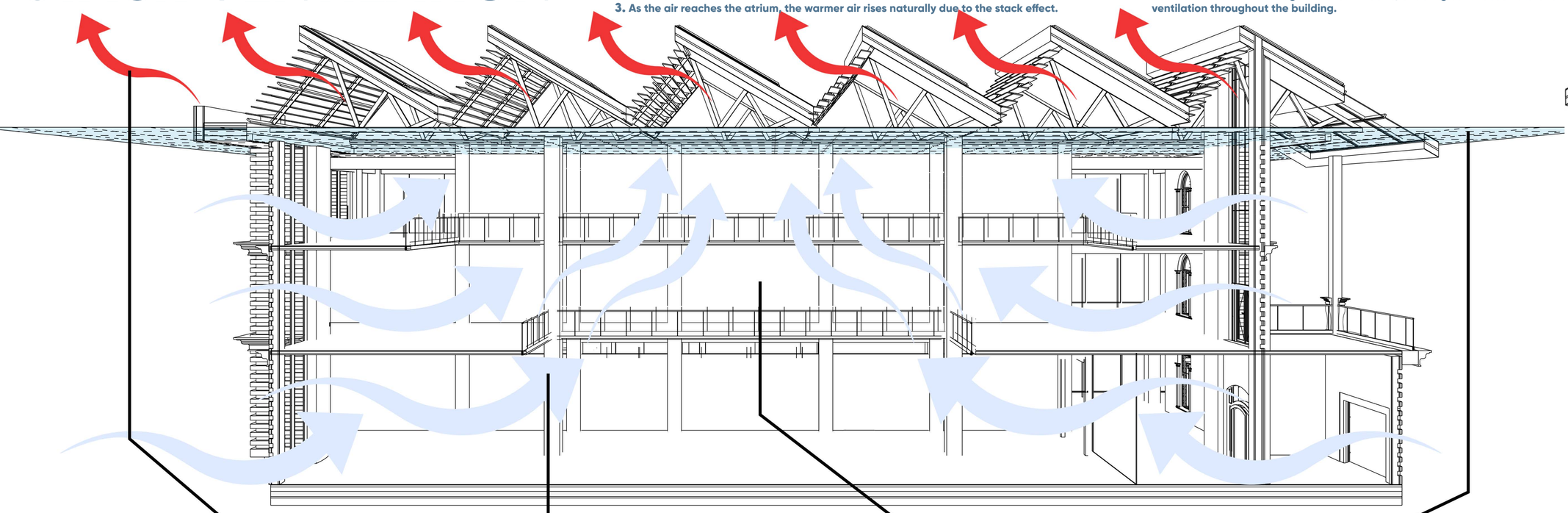


GROUND FLOOR

ENVIRONMENT & STRUCTURE

STACK VENTILATION

1. Fresh air enters the building through the inlet openings.
2. The cooler air moves across the floor plane and gradually warms as it absorbs heat from the internal environment.
3. As the air reaches the atrium, the warmer air rises naturally due to the stack effect.
4. The warm air is then exhausted through the outlet openings at a higher level.
5. As the warm air exits the building, it creates negative pressure that draws additional cool air in through the inlet windows, enabling continuous natural cross ventilation throughout the building.



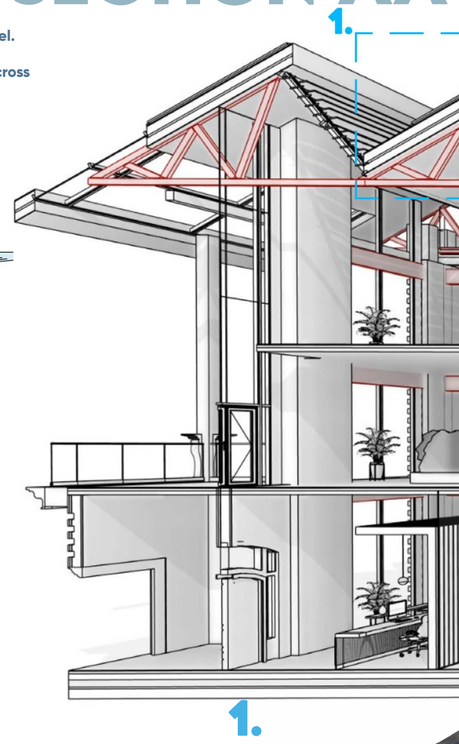
RED ARROW:
OUTLETS (WARM AIR) GOING OUT BUILDING

BLUE ARROW:
INLETS (COOL AIR) GOING IN BUILDING

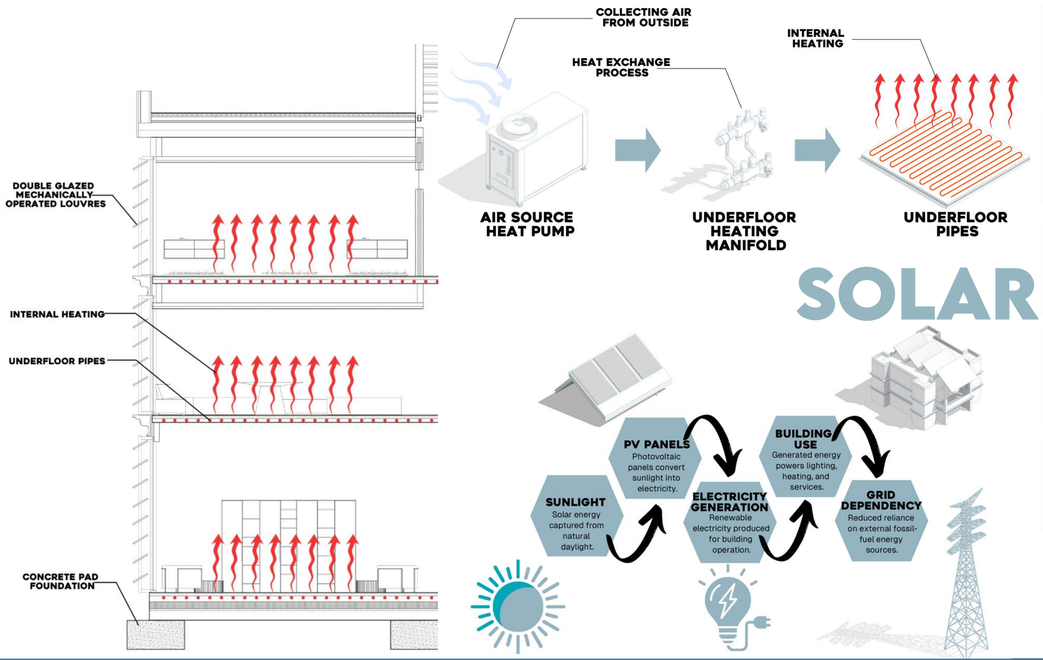
CENTRAL ATRIUM:
SAWTOOTH ROOF VENTILATION STACK

NEUTRAL PLANE:
ALL INLETS BELOW AND ALL OUTLETS ABOVE IT

SECTION AA'



AIR SOURCE HEAT PUMP



SOLAR

GREEN ROOF

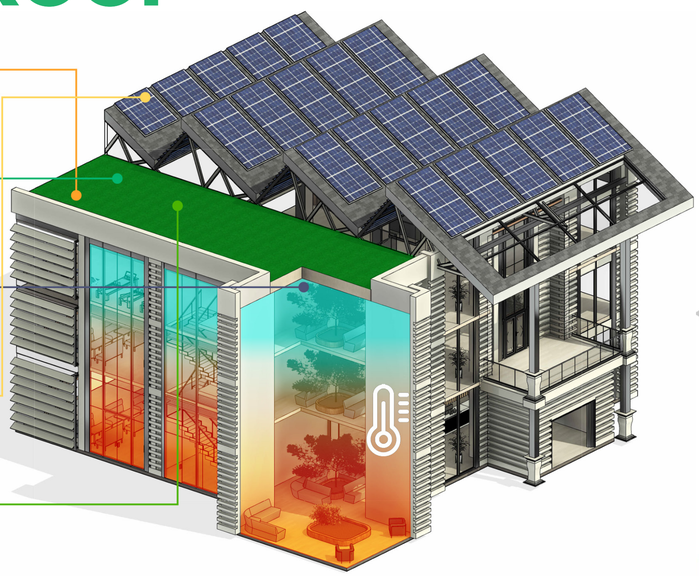
REDUCE HEAT
Green roof cools rooftops by up to 30° celsius, easing urban heat islands.

BOOST BIODIERSITY
Native plants attract pollinators and create microhabitats.

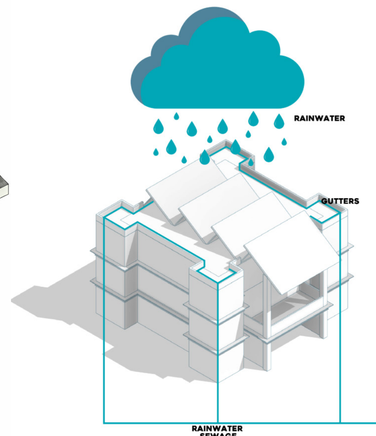
SAVE ENERGY
Lower rooftoop temperatures reduce indoor cooling demand.

SOLAR ENERGY
Solar panels generate electricity to reduce use of fossil fuels.

LANDSCAPE INTEGRATION
Integrates well with the surrounding green landscape.



WATER MANAG

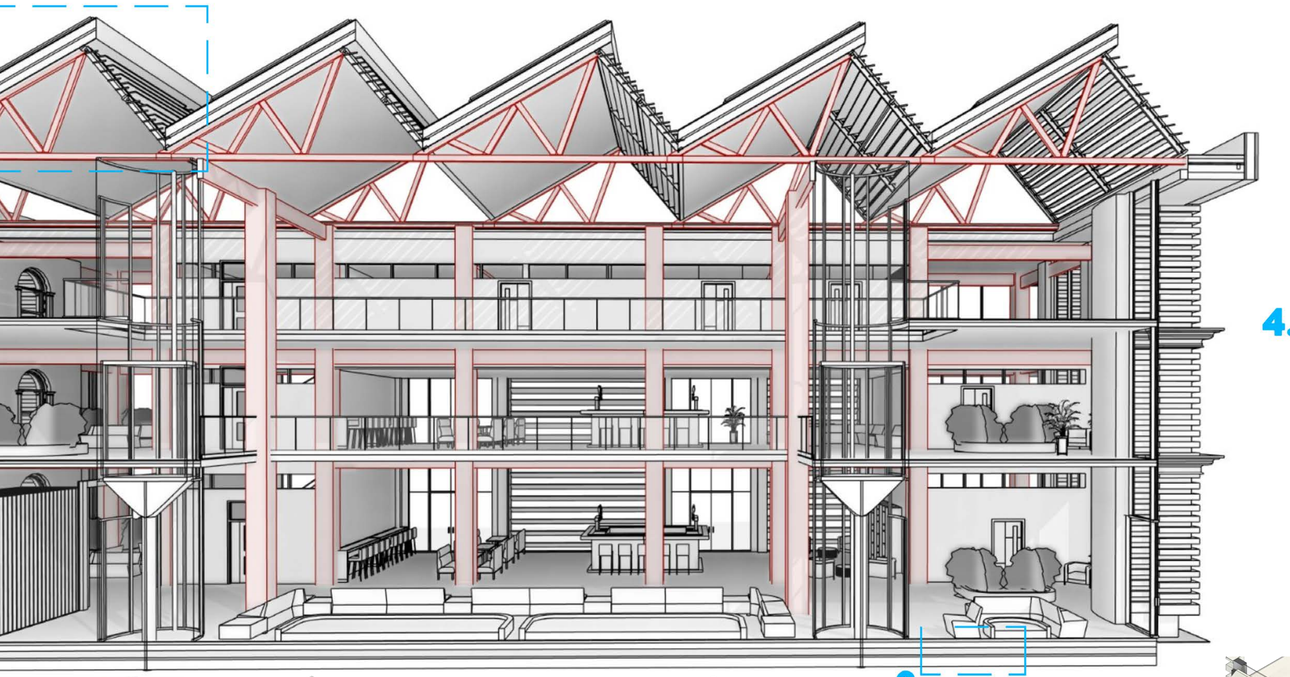


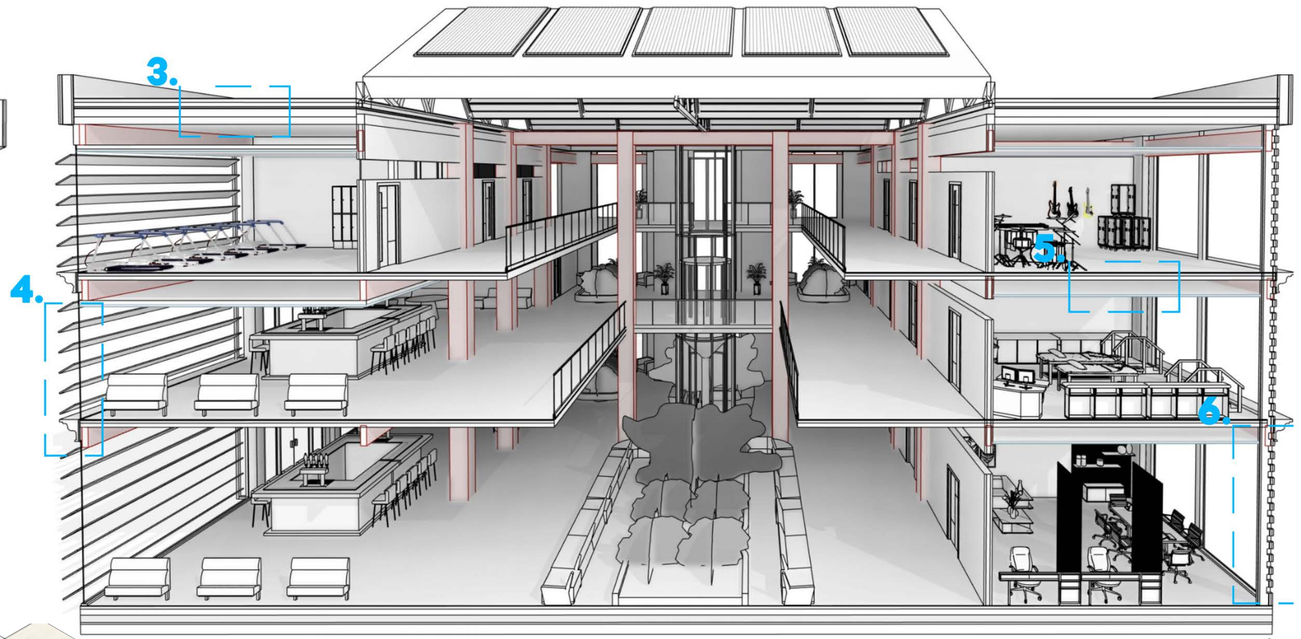
STEP 1
The project uses a combination of rainwater harvesting and grey water recycling to reduce water consumption and runoff from the building.

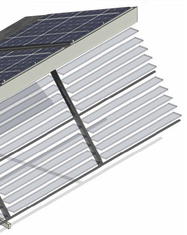
STEP 2
Rainwater is collected from gutters on the roof's surface, then going through a pipe system that leads it through filtration systems and stored in underground tanks.

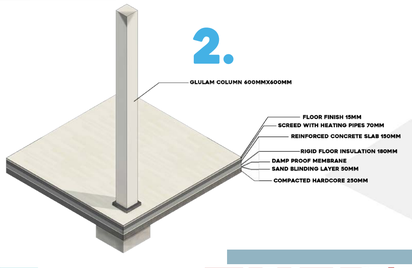
1:100

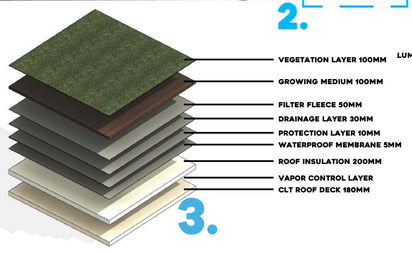
SECTION BB' 1:100

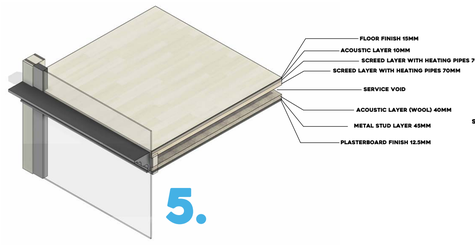


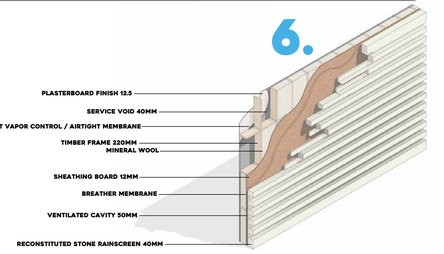












EMENT

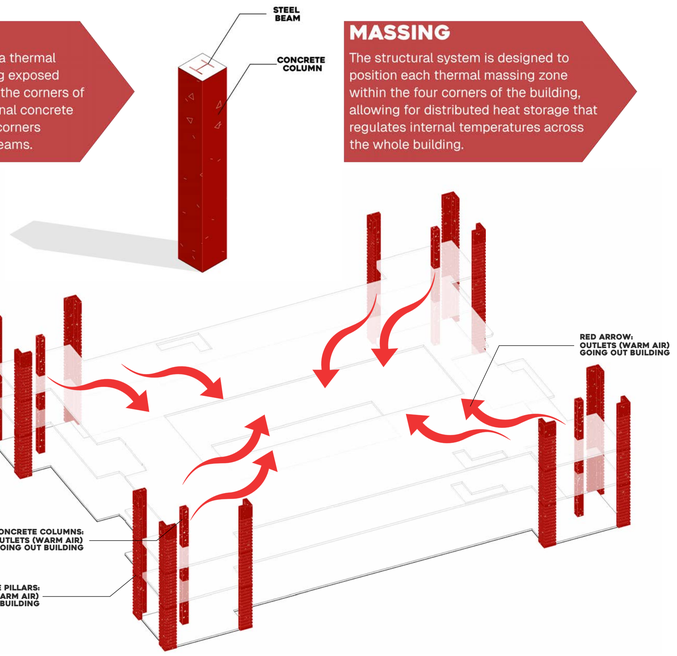
THERMAL MASSING

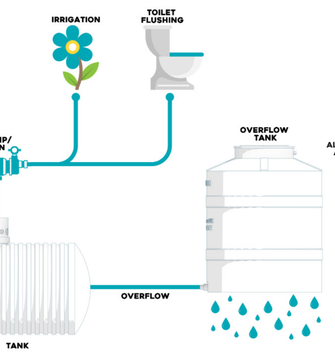
THERMAL

This project incorporates a thermal massing strategy by using exposed external concrete around the corners of the building, with an internal concrete column at each of these corners wrapped around steam beams.

MASSING

The structural system is designed to position each thermal massing zone within the four corners of the building, allowing for distributed heat storage that regulates internal temperatures across the whole building.

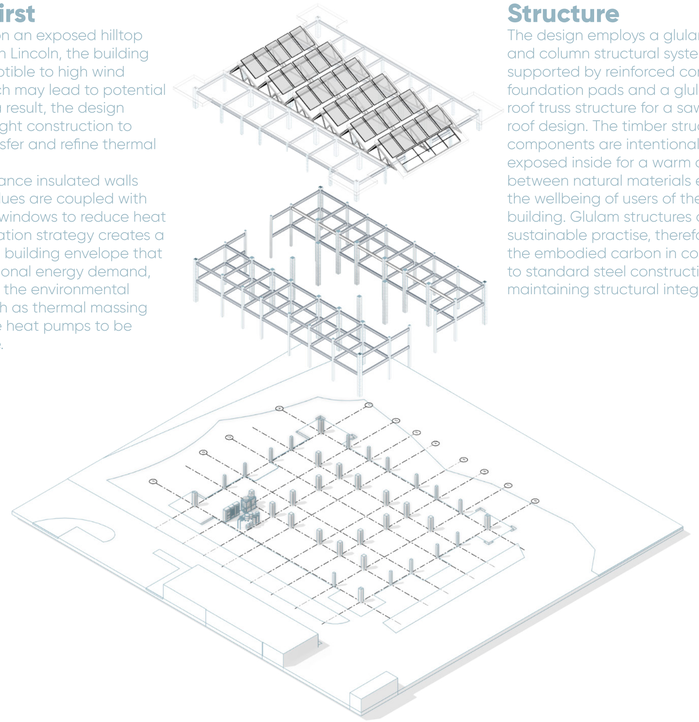




STEP 3
The collected water is reused for landscape irrigation, toilet flushing, and external maintenance purposes.

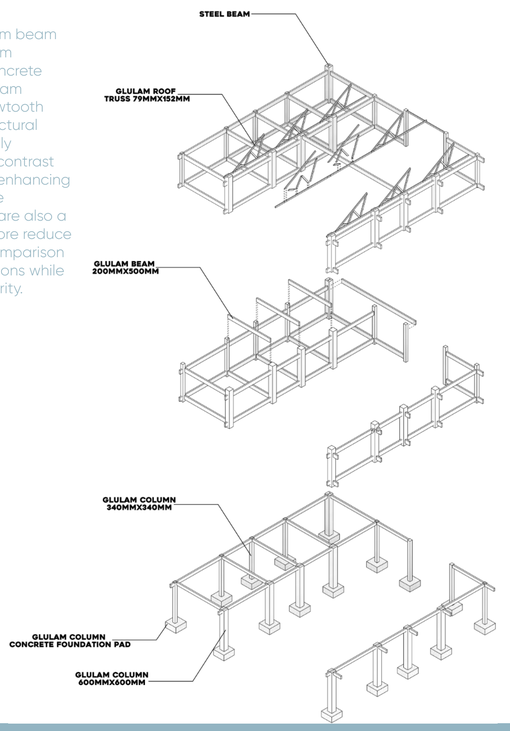
Fabric First

As the site is on an exposed hilltop on The Lawn in Lincoln, the building is more susceptible to high wind exposure which may lead to potential heat loss. As a result, the design prioritises airtight construction to limit heat transfer and refine thermal efficiency.
High-performance insulated walls with low U-values are coupled with triple-glazed windows to reduce heat loss. This insulation strategy creates a well-insulated building envelope that lowers operational energy demand, and allows for the environmental strategies such as thermal massing and air source heat pumps to be more effective.

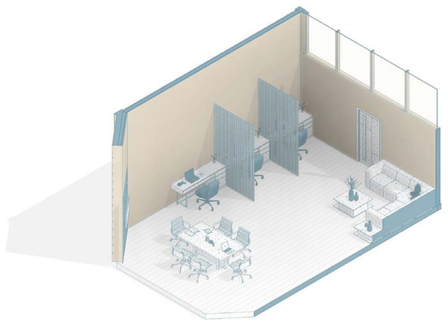


Structure

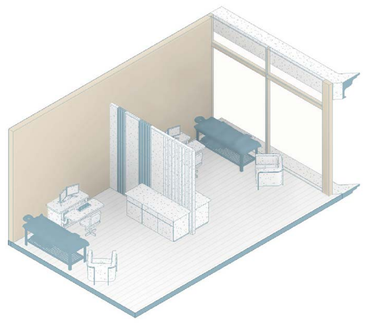
The design employs a glulam beam and column structural system supported by reinforced concrete foundation pads and a glulam roof truss structure for a sawtooth roof design. The timber structural components are intentionally exposed inside for a warm contrast between natural materials enhancing the wellbeing of users of the building. Glulam structures are also a sustainable practise, therefore reduce the embodied carbon in comparison to standard steel constructions while maintaining structural integrity.



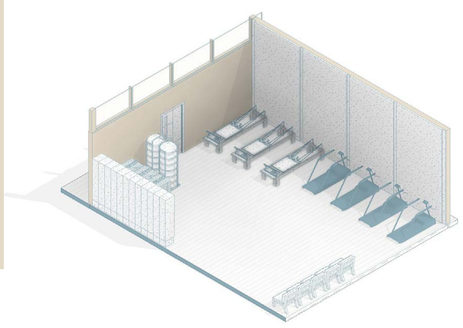
ATMOSPHERE
SPATIAL TYPOLOGY



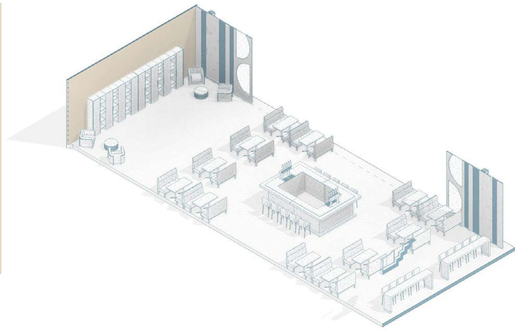
STAFF



PHYSIO

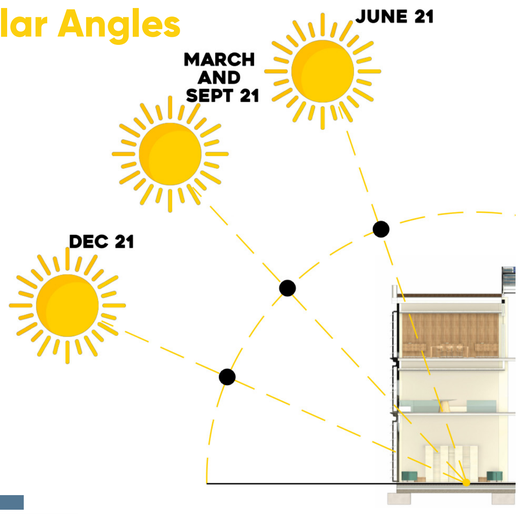


STUDIO

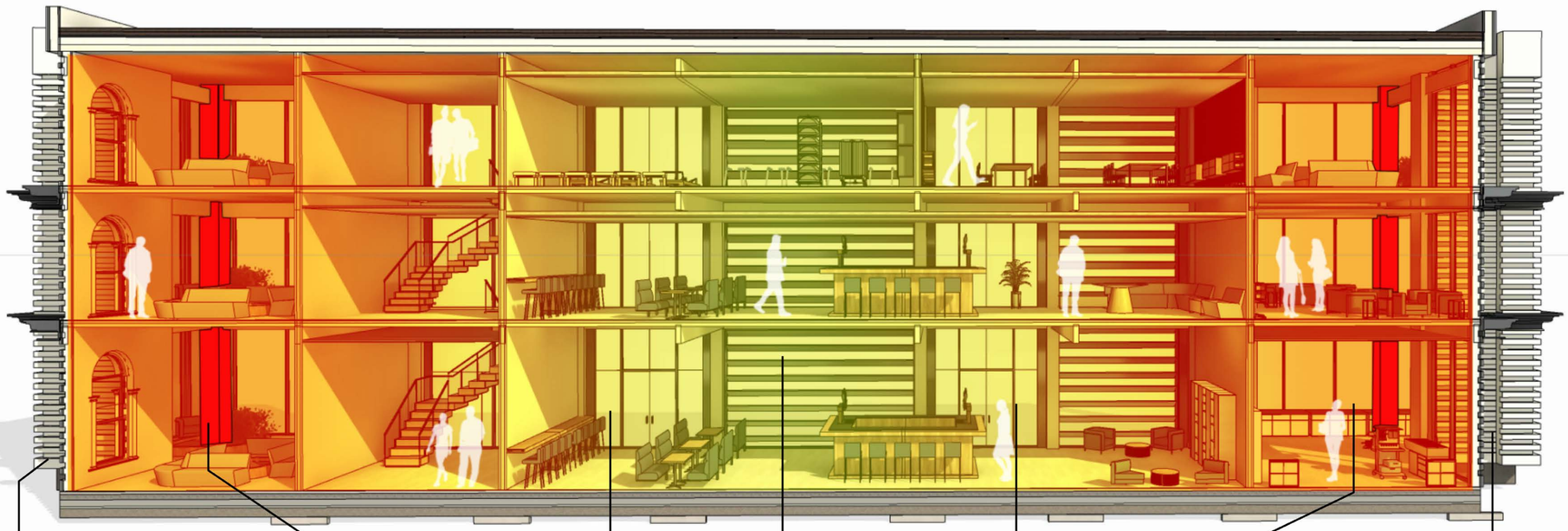


CAFE

Solar Angles



ZONING



SEMI-PUBLIC

SERVICES

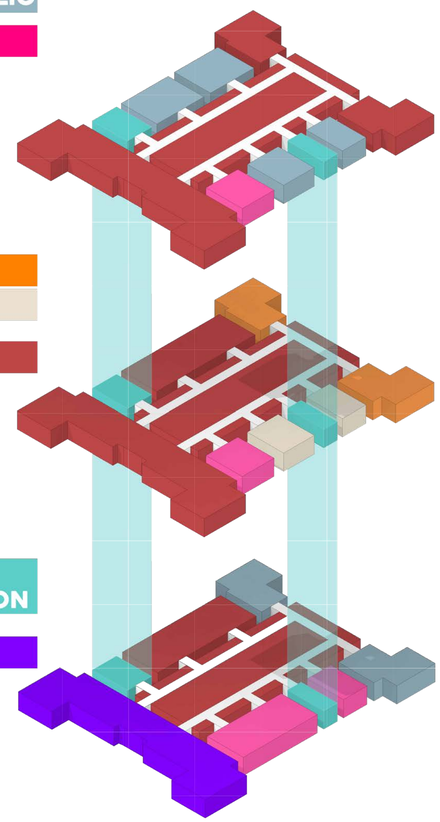
QUIET

PRIVATE

PUBLIC

VERTICAL ESCALATION

LOBBY



PROPOSED ELEVATIONS

South Elevation
1:200

West Elevation
1:200

East Elevation
1:200