Architecture Portfolio

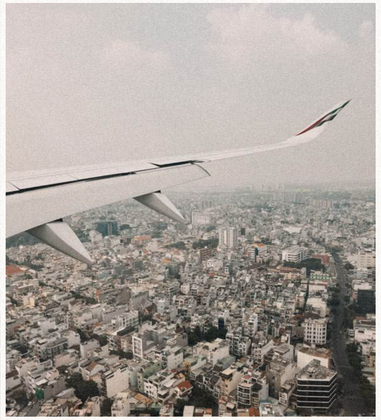
ataraxi Sen Bloom design studio

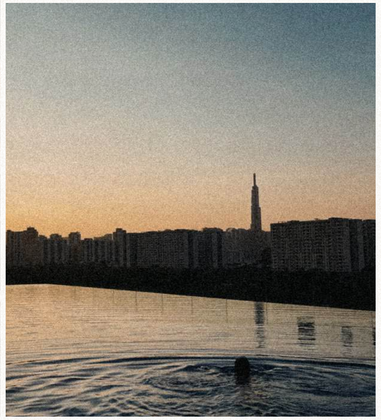
Foreword

This project proposes a library in Vauxhall, Liverpool, as an intercultural hub responding to the studio theme of inclusion and exclusion. The library is repositioned as a space of connection rather than collection, integrating knowledge, enterprise and public realm within a single civic framework. Amid widespread UK library closures, the project questions how the typology can evolve to support learning, production and social exchange. Integrated digital hubs and VR connect communities beyond the physical site, enabling shared learning between Liverpool and Ho Chi Minh City and positioning the library within a wider global network.

This work was completed while living and studying in Ho Chi Minh City, away from my home near Liverpool during a personally transformative period. Experiencing a different climate, pace of urban life and architectural atmosphere highlighted the importance of wellness considerations in our built environment. These observations have informed the project's response to Liverpool's seasonal climate, particularly in addressing the impact of seasonal depression that so many suffer from in the UK.







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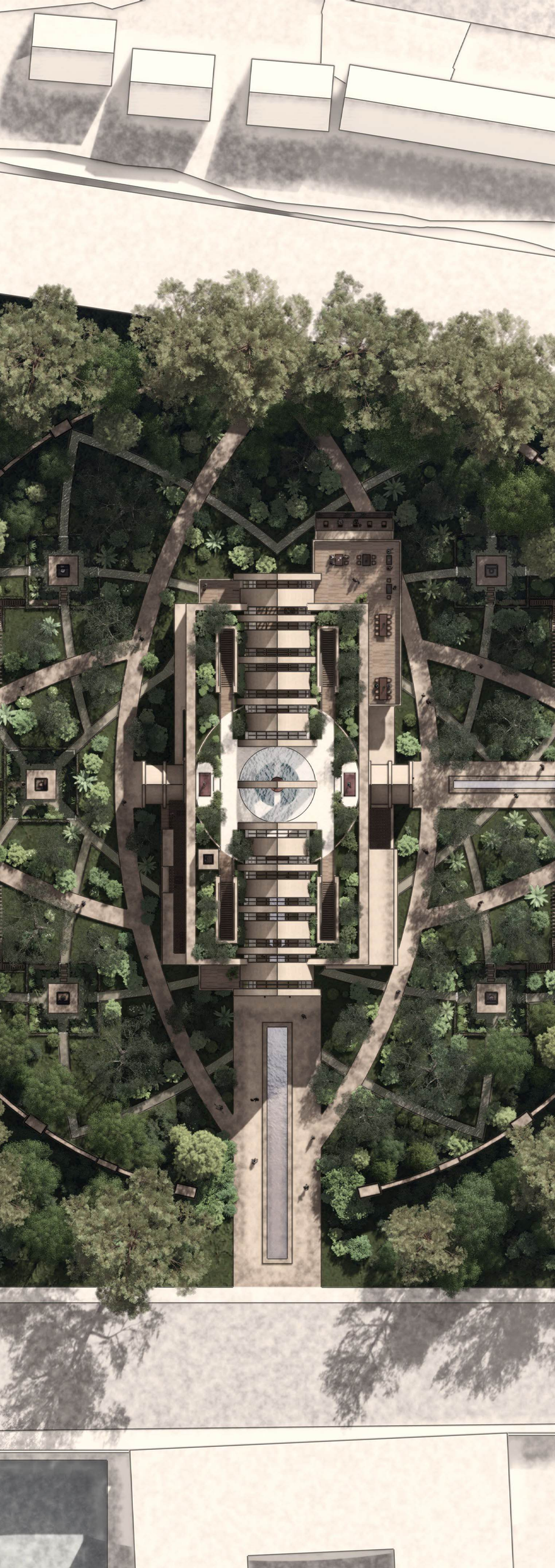
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I

Project Position

Defining Library

This design project challenges me with the primary function of a library, and so to ensure a clear project direction, it is crucial to first determine how I define the library as a typology. The Cambridge definition reduces knowledge to something static and stored, overlooking the spatial, social and civic dimensions that shape how it is experienced. I expanded the idea of collection beyond books and media to include people, spaces and methods of learning, shifting the library from a passive archive to an active instrument of inclusion.

From this refined definition, the library emerges as a system of conditions enabling both deep individual focus and collective intellectual exchange, giving rise to the research question that guides the project.

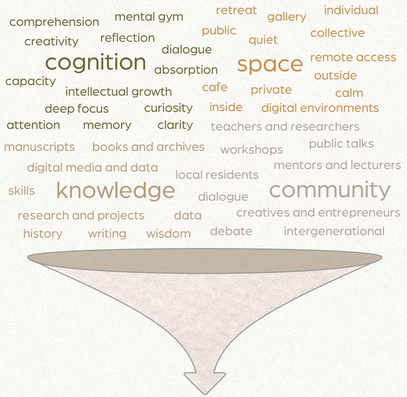
Cambridge Dictionary

library | noun [C]
UK /ˈlaɪ.brər-i/

"A building, room, or organisation that has a collection esp. of books, music and information that can be accessed by computer for people to read, use, or borrow."

Distilling Meaning

The library seen as a collection of objects. I see it as more:



My Definition

A library is a collection of knowledge, and of the conditions that enable optimal learning. It must support deep individual focus while enabling collective exchange. It is both sanctuary and forum: a place to withdraw into quiet study and to return to the civic realm, an intellectual 'town square,' to share, debate and produce knowledge together. As such, the library acts as the cognitive infrastructure of a community, fostering private reflection and collective intellectual growth.

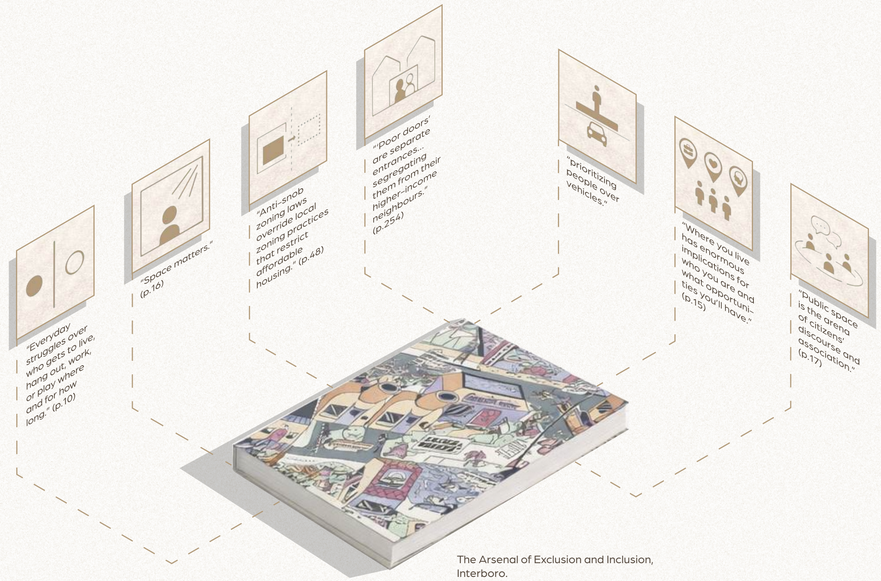
Research Question

What spatial, material and environmental conditions enable a library to function optimally as a hybrid sanctuary for deep focus and civic forum for collective knowledge exchange?

II

Context & Inclusion Framework

Intellectual Lens



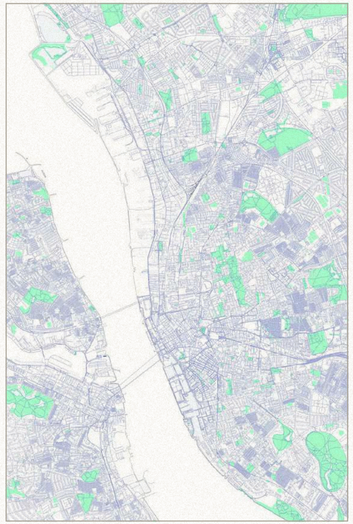
The Arsenal of Exclusion and Inclusion, Interboro.

This particular book has taught me various considerations for the lens of which I shall analyse Liverpool. Small spatial decisions regulate access and behaviour. The built environment shapes health outcomes. In Liverpool's low-light climate, form, section, and materiality become tools for restoring mood and productivity. We can override exclusionary spatial systems. Architecture can redistribute environmental quality.

Circulation encodes value, and so a single entrance and shared space reinforce inclusion. Liverpool is mostly car-centric, almost designed with hostility to the pedestrian. Liverpool dictates its occupant's health and happiness and if opportunities are limited, so is the future of the residents. Architecture and city design is a way to shape this life for the public. There is potential to create a central intellectual social hub for the city.

Liverpool Macro Analysis

Liverpool's history reveals a cycle where economic instability, environmental exposure and social migration compound one another. Access to knowledge and civic space has consistently acted as a stabilising force through periods of crisis.



PESTLE

Political Economic Social Technological Legal Environmental

Pre 20th Century

1700s–1800s
Port wealth concentrates near waterfront; dock workers face poor conditions and spatial inequality

1830
World's first intercity railway opens; Liverpool pioneers transport connectivity

1845–49
50,000 Irish famine migrants arrive; many housed in overcrowded Vauxhall cellars

1852
Liverpool Public Library opens; first free public lending library

1855
Severe winter weather disrupts port, triggers bread riots

1870
Content Stanley Park opens; one of Liverpool's earliest public wellbeing spaces

20th Century

1919
Post-war job scarcity fuels racial violence across the city

1940–42
Blitz destroys large areas; windswept, exposed landscapes persist

Post-WWII
Industrial decline brings mass unemployment and urban decay

Late 1900s
Containerisation closes docks; technology displaces thousands of workers

21st Century

2008
European Capital of Culture; cultural investment reshapes city identity but benefits bypass deprived wards

2010s
Library closures across UK reduce access to safe civic environments

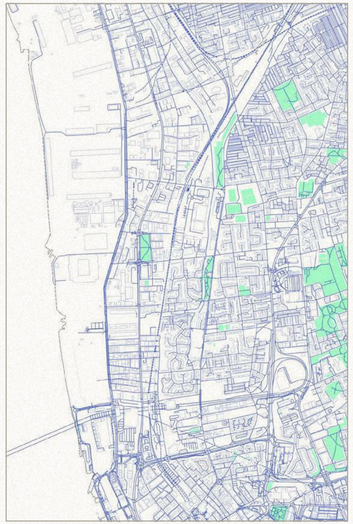
2021
Waterfront loses UNESCO World Heritage status

2020s
Post-COVID isolation highlights need for accessible third places beyond home and work



Vauxhall Meso Analysis

Vauxhall has been shaped by industrial efficiency rather than human wellbeing, producing generations of spatial neglect that compound health and social issues. Despite nearby investment, the ward remains without a civic anchor capable of addressing its many vulnerabilities.



Political **E**conomic **S**ocial **T**echnological **L**egal **E**nvironmental

Pre 20th Century

1700s–1800s
Vauxhall develops as dock infrastructure; built for storage and export, not people

1800s
Dense brick warehouses, hard dock walls, minimal green space; harsh materiality embedded

1845–49
Irish famine migrants housed in Vauxhall cellars; extreme overcrowding

Late 1800s
Rapid worker housing with poor ventilation, limited sunlight and wind exposure

20th Century

1940–42
WWII bombing destroys housing stock; physical decline deepens deprivation

Mid–1900s
Eldon Grove estate declines; overcrowding, poor quality housing, social stigma

1960s–70s
Low civic investment; no new public wellbeing infrastructure built in the area

1970s–90s
Containerisation closes docks; land left vacant and fragmented

Late 1900s
Broken street continuity; Vauxhall physically and socially disconnected from city centre

Late 1900s
Generational poverty entrenches; physical decline reinforces psychological decline

21st Century

2000s
Stanley Dock and Titanic Hotel regenerated; investment stops at Vauxhall's edge

2010s
Among Liverpool's most deprived wards; poor mental health outcomes persist

Ongoing
no high-quality civic space; poor public realm quality

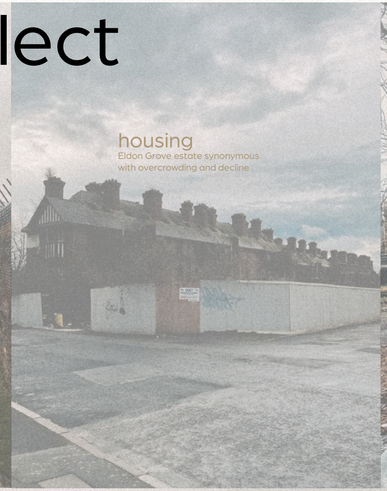
Ongoing
Low income + poor housing + limited green space amplifies seasonal depression vulnerability

rich in neglect



hope
£150m+ invested nearby at Stanley Dock; interest exists but opportunity hasn't yet reached Vauxhall's core

isolation
disconnected from waterfront regeneration 500m away



housing
Eldon Grove estate synonymous with overcrowding and decline





early grave
male life expectancy up to 12 years lower than wealthier Liverpool postcodes



grey space
very limited public green space per resident versus city average

deprivation
top 1% most deprived wards in England

Stakeholders

All relevant stakeholders have been identified, categorised and plotted according to two variables: influence and vulnerability. This mapping establishes a clear view of who currently holds decision making power within the civic environment and who is most affected by spatial outcomes. The two diagrams compare the existing power structure with a proposed civic rebalancing, being a means of ensuring those most impacted by the library are prioritised.

Core Users
1. Vauxhall Residents
2. Children
3. Teenagers
4. Students
5. Elderly Residents
6. Unemployed Residents
7. Remote Workers
8. Immigrants
9. Vulnerable / At-Risk
10. Tourists

Knowledge & Education
1. Teachers
2. Librarians
3. Academics / Researchers
4. Liverpool Central Library
5. British Library Network

Enterprise & Economic
1. Start-ups
2. Investors
3. Liverpool Chamber of Commerce
4. Developers (Future Phases)
5. Cafe Staff

Civic & Governance
1. Liverpool City Council
2. Liverpool City Region Combined Authority
3. Public Health / Mental Health Organisations

Infrastructure & Digital
1. Merseyrail
2. Logistics & Delivery Companies
3. Digital / VR Technology Providers

Operational Backbone
1. Operational & Facilities Staff





Stakeholder mapping was used to identify who the library serves and redistribute design priority toward those most in need:

– Conventional hierarchies concentrate influence with institutional and economic actors, leaving vulnerable groups with minimal agency.

– The revised diagram shifts core users upward, redistributing influence toward those most affected by the building's outcomes.

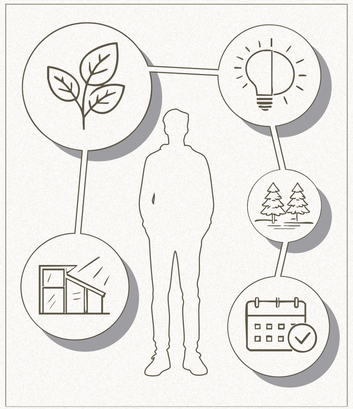
– Overlapping stakeholder groups reveal opportunity zones for collaborative programmes such as learning exchange, public health and digital access.

– Design priority is given to groups in the upper right, ensuring the library responds first to those most dependent on it.

Client Profiles

Daniel Hughes

The Seasonal Depression Sufferer



Profile

32, remote graphic designer. Lives alone in Vauxhall. Winters are heavy. Grey skies reduce his productivity and motivation. He avoids social interaction when his mood dips.

Wants

- Warm, light-filled spaces
- Exposure to daylight
- Gentle social proximity
- Greenery, natural materials

Adapt

- Daylight-maximising spaces
- Soft materials, warm tones
- Circadian lighting strategy
- Evergreen foliage

Arthur Bennett

The Isolated Former Traveller



Profile

74, widower. Spent decades travelling. Once globally connected, now locally confined. Feels culturally disconnected and intellectually uninspired. Health now limits his travel.

Wants

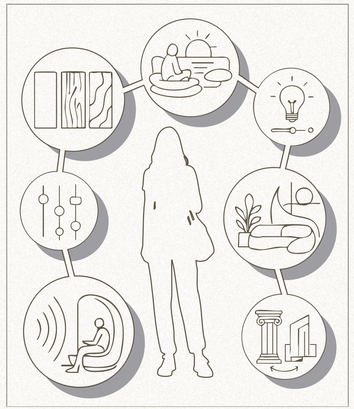
- Intercultural exchange beyond books
- Global connections
- Conversation-based learning
- Dignified social participation

Adapt

- International discussion / cultural exchange room
- Cafe discussion tables
- Acoustic calm zones
- Spaces that foster conversation between generations

Maya Thompson

The Aesthetic-Sensitive Learner



Profile

21, architecture student. Finds she concentrates differently depending on atmosphere. Brutalist spaces mute her creativity, soft organic environments calm and inspire her.

Wants

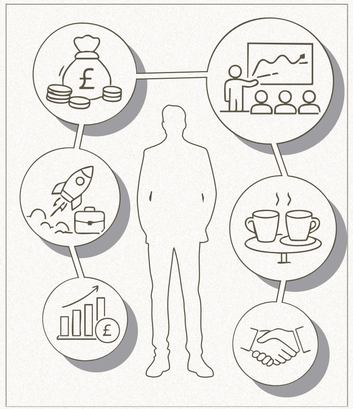
- Flexible aesthetic environments
- Immersive, quiet study rooms
- Ability to "switch" spatial mood
- Creative experimentation zones

Adapt

- Adaptable learning spaces
- Contrasting styles (minimalist / biophilic / classical)
- Programmable lighting environments
- Deep focus spatial immersion study pods

Richard Thornton

The Profit-Driven Investor



Profile

55, property investor. Interested in return on investment and commercial viability. Sees the site as a financial opportunity rather than a social one.

Wants

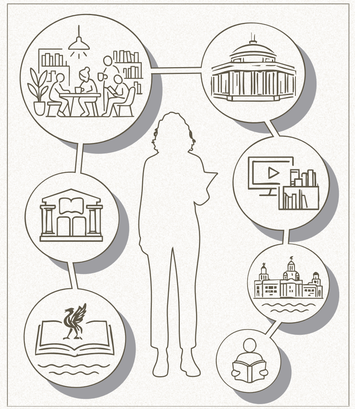
- Revenue generation
- Enterprise incubation
- Foot traffic increase
- Long-term asset value

Adapt

- Support for start-ups
- Cafe revenue stream
- Event space networking and hire potential
- Profits reinvested into financial avenues

Sarah Jones

The Vauxhall Librarian



Profile

46, grew up in Vauxhall. Works at a local branch library. Has seen budget cuts, declining visitors and shrinking relevance. Fears that libraries are becoming obsolete.

Wants

- Reinvention / evolution of the typology
- Digital integration
- Community activation
- A sense of optimism for the profession

Adapt

- Hybrid physical–digital knowledge spaces
- Intergenerational programming
- Digital tools for inclusive learning and future-proofing
- Flexible programming spaces

Client profiles translate the stakeholder analysis into everyday experience, grounding abstract systems in the real social and emotional conditions present in Vauxhall.

- Vulnerable users require light, warmth, social connection and dignity.

- Students need adaptable environments supporting different modes of focus.

- Institutional figures require spaces demonstrating the evolution of the library typology.

- Economic stakeholders introduce viability without compromising social purpose.

- Together, these ensure design decisions prioritise community impact while remaining operationally realistic.

III

Typology & Evolution

Typology Studies

Nine libraries across three eras were analysed through simplified diagrams of context, plan, section, circulation, spatial relationships and lighting to trace the evolution of the typology.

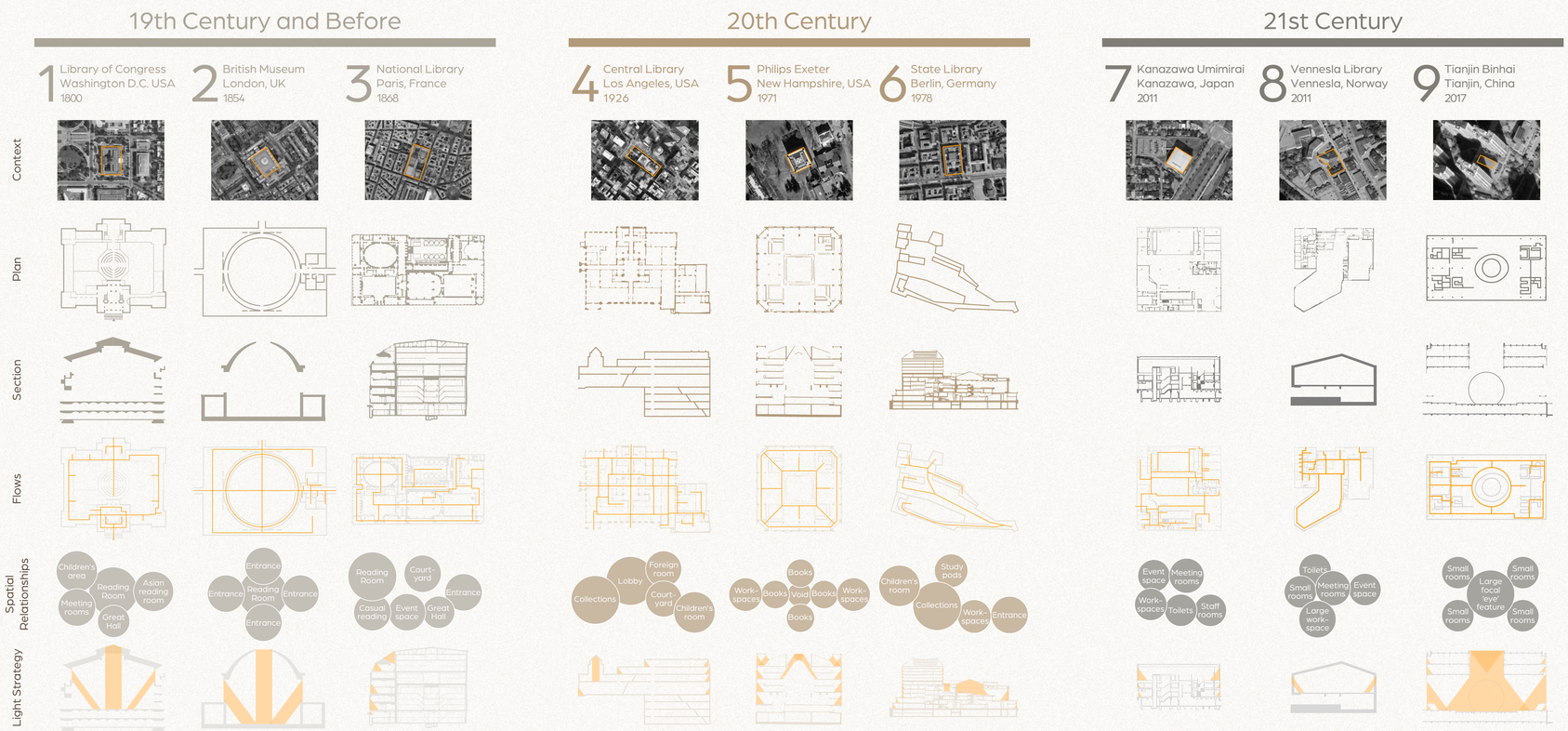
– Early libraries centre on monumental reading halls, reinforcing the library as a symbolic civic space.

– Later examples introduce distributed systems combining communal spaces with quieter study and specialist areas.

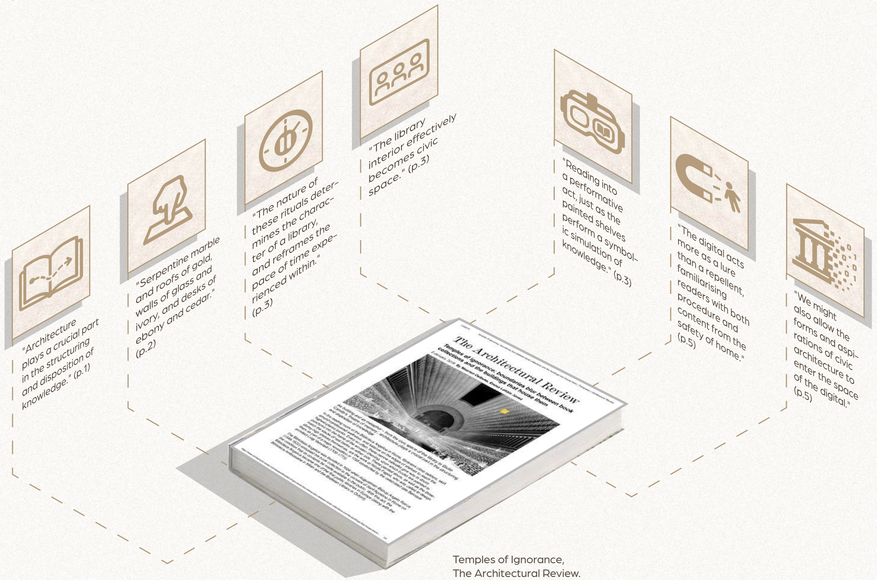
– Natural light consistently shapes the reading environment, frequently entering via overhead domes or skylights.

– A recurring balance between collective and individual learning environments persists across all eras.

– Large monolithic forms and central focal points remain defining characteristics of the typology.



Temples of Ignorance



Temples of Ignorance, The Architectural Review.

This reading redefined the library as an active force in shaping our thoughts, feelings, and connections. Authors Delbeke and Jones outline how materiality, spatial rituals, and the link between physical and digital knowledge shape the library experience. Quality materials create an environment for productive thinking. Rituals for entering and moving through the space establish the library's identity. The interior serves as a public space. Most importantly, digital access draws people to the physical library, so civic architecture should also reach into digital spaces. For my project, this supports the use of warm, tactile materials as therapeutic tools to combat Liverpool's low-light climate.

It also highlights the need for thoughtful spatial rituals to help with seasonal depression and for a VR social hub that extends the library's civic presence internationally. These concepts guide the following pages, where the library is presented as a globally connected wellness centre and a third place for the mind.

Library as a Third Place

since 2010

773
libraries closed
(CIPFA)

7,000
pubs lost
(ONS / BBPA)

1,243
youth centres closed
(UNISON)

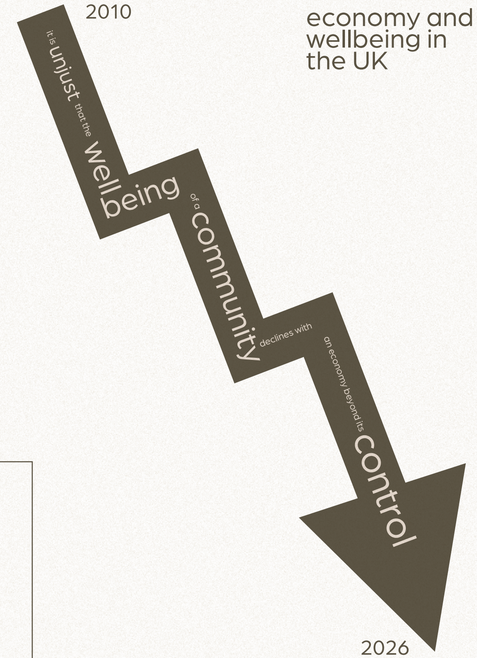
43%
spending cut on culture & leisure
(IFS / LGA)



Ray Oldenburg's Definition

An informal public gathering space that acts as an anchor for community life distinct from the "first place" (home) and the "second place" (work).

1st 2nd 3rd



economy and wellbeing in the UK

Across the UK, prolonged austerity has stripped third places from the neighbourhoods that need them most. In Vauxhall, their loss compounds existing deprivation and isolation. The library presents an opportunity to reclaim the third place, positioning connection, restoration and knowledge as civic entitlements.

IV

Site Interrogation & Strategy

Site Options

Two sites in the Vauxhall area of north Liverpool were identified for the library, each presenting distinct urban conditions.

Site 1, the Stanley Dock complex, occupies a post-industrial waterfront bordered by an elevated railway line and Regent Road, acting as a threshold between Liverpool's residential quarters and its historic port.Site 2, the derelict Eldon Grove, sits within a residential context, posing the challenge of integrating new civic architecture with existing built heritage.





Site Locations 200 m 1:8000 @A3

1.







2.



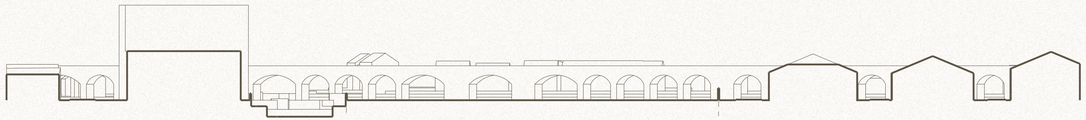




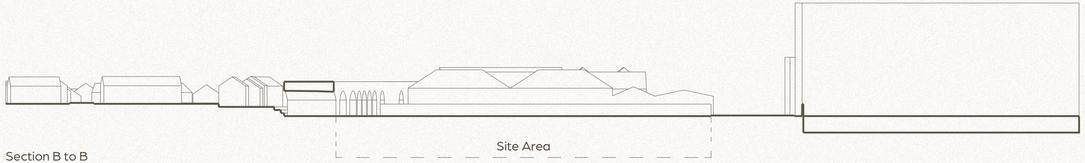
Site 1
Stanley Dock

1:1000 @A3

0 20 50 100



Section A to A



Section B to B

The Stanley Dock complex sits on Liverpool's historic waterfront, bounded by Regent Road to the west and a canal to the North. An elevated railway line runs along the eastern edge, forming a hard boundary between the site's industrial character and Vauxhall's residential streets beyond. The site currently operates as a lorry yard and building materials storage, with new residential construction underway across the northern canal.

The brief identifies this area as a threshold between Liverpool's port heritage and its residential quarters. Once complete, the library would sit opposite the new northern residential development, establishing two new buildings on a site that has long served only industrial logistics. The flat, open terrain and canal frontage offer strong potential for a civic landmark, though noise from Regent Road and the railway present challenges that any focus-function design must address.



Section and View Locations

N

1:4000 @A3

– Surrounding area vertically varied with canal and bridge to north, but site itself is flat open space, offering freedom.

– Good southern exposure, though tall warehouses may overshadow in winter, enforcing the need for daylighting design strategies.

– Main road for vehicles, footpaths for pedestrians, potential for future train station stop improving civic accessibility.

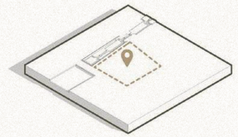
– Very little green; temporarily used as a lorry lot so all is dead. Opportunity to introduce green infrastructure where none exists.

– SW to NE prevailing winds due to Mersey proximity, large buildings redirect but cannot fully block. Building form must respond.

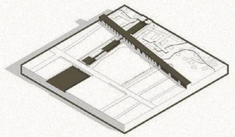
– Industrial port and warehouses west, residential east, divided by elevated railway, providing acoustic separation

– Views north over canal to new residential, south to historical Tobacco Warehouse and Mersey, limited east. Canal frontage favours a public-facing entrance.

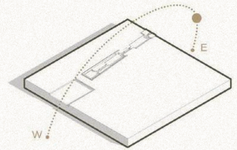
– Immense noise pollution from passing trains and busy main road. Acoustic mitigation essential for library design.



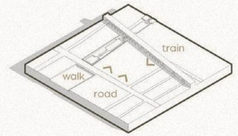
Site



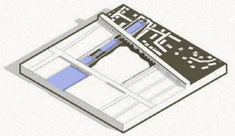
Topography



Sun Path



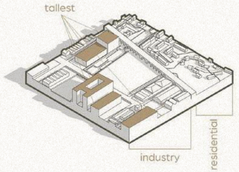
Access



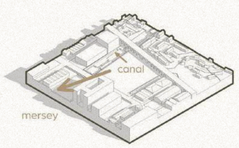
Nature – Blue and Green



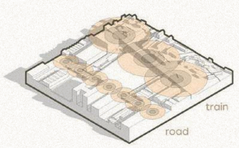
Wind Path



Neighbours



Views



Noise

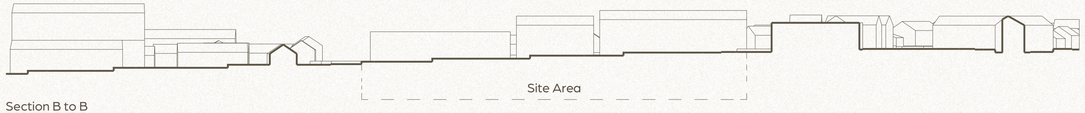
Site 2
Eldon Grove

1:1000 @A3

0 20 50 100



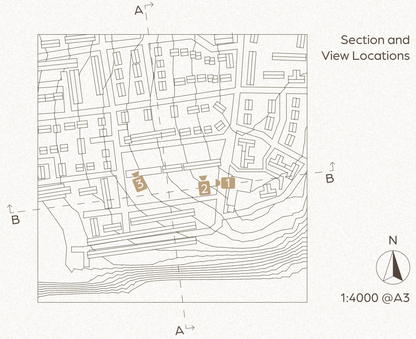
Section A to A



Section B to B

Eldon Grove is a Grade II listed group of three mock-Tudor tenement blocks opened in 1912 as labourers' dwellings, among the first council housing outside London. Once considered some of the finest pre-war social housing in the country, the buildings were later converted to student accommodation before investment dried up and they fell into total dereliction. Multiple regeneration attempts have stalled, and Eldon Grove has sat abandoned for over two decades.

The ruin is a constant reminder of the neglect Vauxhall receives. Minutes away sits the Titanic Hotel, a luxury destination, yet residents on Eldon Grove's doorstep occupy council housing in one of the most deprived wards in the country, many on benefits, from minority backgrounds, elderly, disabled, or otherwise vulnerable. The most neglected community lives beside the most neglected building. Any proposition here must acknowledge that weight rather than erase it.



Section and View Locations

1:4000 @A3

– Slight incline but not steep due to scale. Gentle terrain for accessible design.

– No tall neighbours, sunlight unobstructed. Strong daylighting potential year-round.

– Residential streets, low traffic, pedestrian access from all sides. Encourages arrival on foot.

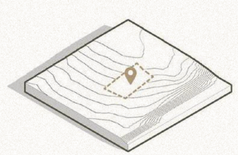
– Green reclaiming the site after decades of neglect. Opportunity to integrate existing growth into gardens.

– Sheltered by surrounding homes so wind is minimal, though upper floors exposed due to building height.

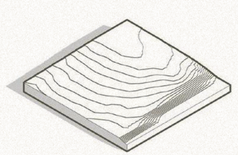
– Primarily residential, nearby church the only outlier. Quiet domestic context suits a civic programme.

– Views to nearby homes highlight Vauxhall's deprivation; wider city views including Radio City Tower also possible.

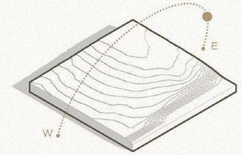
– Very quiet. Church bells hourly the loudest sound; distant carriageway almost entirely blocked. Favourable acoustic environment.



Site



Topography



Sun Path



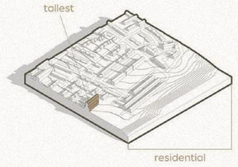
Access



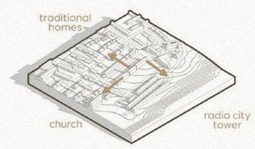
Nature - Green



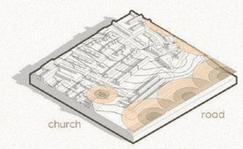
Wind Path



Neighbours

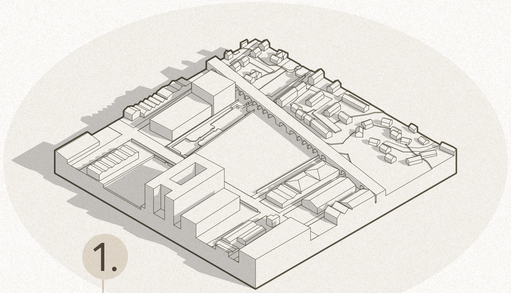


Views

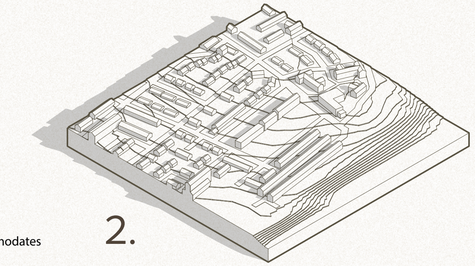


Noise

Site Selection



accomodates



why

Strengths

- Open blank slate, full creative freedom
- Large site accommodates high footfall
- Threshold between port and residential Liverpool
- No nearby libraries, fills a genuine civic gap

Opportunities

- Future train stop increases accessibility and mitigates noise
- Multimodal access via road, rail, canal and footpath
- New residential development brings future users
- Revenue potential to spark wider Vauxhall investment
- Blank slate allows building form to respond to harsh weather
- New jobs in site security and surveillance

Weaknesses

- Significant noise from railway and road
- No existing green or biodiversity
- Harsh weather from Mersey exposure

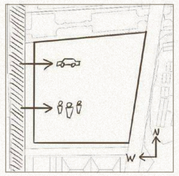
Threats

- High crime area, risk of vandalism and theft
- Remote location may deter visitors

landscape design

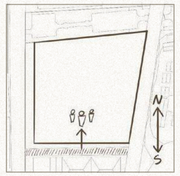
Suitability of both sites was determined, with Site 1, Stanley Dock, being strongly aligned with the project ambitions, while its key weaknesses and threats can be addressed through design interventions, as indicated on the right.

Site Strategy



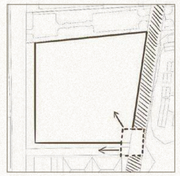
primary access

west-facing, arrival from main road for vehicles and pedestrians.



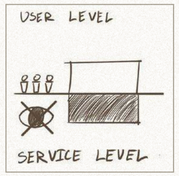
secondary access

south-facing, arrival from smaller road for pedestrians.



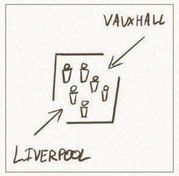
train stop

new station on elevated railway increases citywide accessibility.



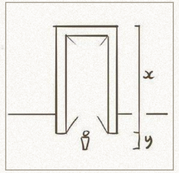
hidden services

parking, loading bay, utilities, below ground to preserve public experience.



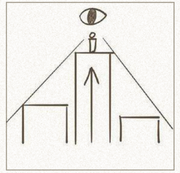
public square

new community gathering space / town square for social exchange.



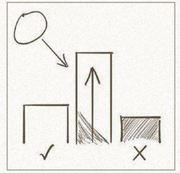
monolithic entrances

grand civic thresholds inspired by Liverpool's historic library entrances.



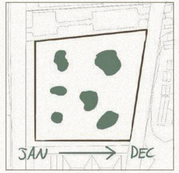
vertical view expansion

Upper levels rise to capture site, city and mersey views.



vertical light expansion

Height maximises daylight penetration into deep plan spaces.



evergreen landscape

year-round planting for constant nature immersion regardless of season.



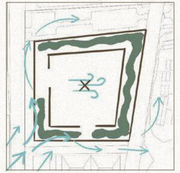
green perimeter

planted boundary creates an immersive buffer between site and beyond.



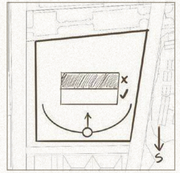
noise mitigation

site green shields public spaces from railway and regent road traffic.



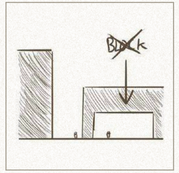
wind response

enclosed garden and perimeter walls shelter spaces from prevailing winds.



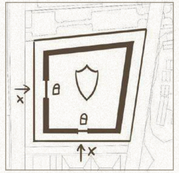
daylight orientation

south-facing priority spaces receive maximum natural light year-round.



scale and massing

respectful of neighbouring residences scale while maintaining civic presence.



security

perimeter wall with lockable gates at night, staffed during operating hours.

V

Concept Translation

Environmental Psychology





A contrast in environment is a contrast in mind, and a mandate for design.

Seasonal **A**ffective **D**isorder

2 million UK SAD sufferers

9.6 million workdays lost annually

£34.9 billion annual cost of mental health

SAD is less common near the equator

Environmental psychology examines how physical surroundings influence mental health, mood and cognitive performance. This is not a critique of Vauxhall or Liverpool, but of the climate and geolocation that leave residents vulnerable to its psychological effects. The impact of our environment hits deeper than anticipated.

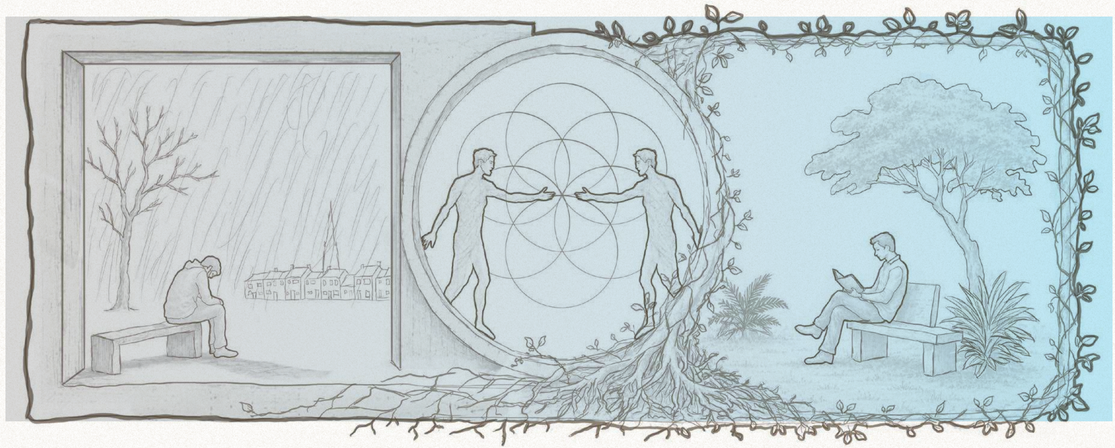
– Vauxhall's overcast skies, limited green space and understimulating streetscapes compound deprivation and fuel Seasonal Affective Disorder.

– First-hand photographic evidence between Liverpool and Ho Chi Minh City quantifies the contrast: cool greys against rich greens and vibrant blues.

– SAD is significantly less common near the equator, where consistent sunlight sustains circadian rhythm.

– If environment shapes mental state, architecture becomes an opportunity to deliver inner peace and comfort in otherwise deprived areas.

Concept Drawing



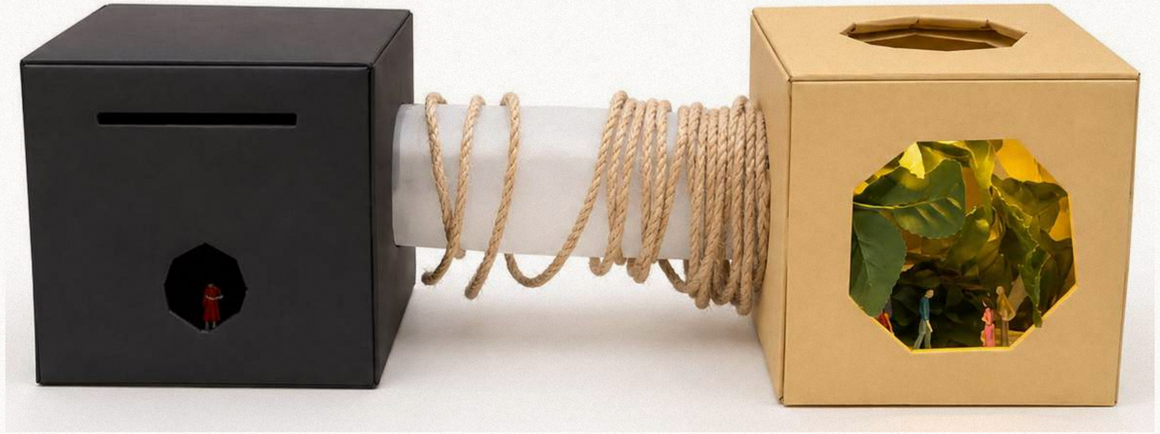
The same person, the same activity, but radically different spatial conditions. Vauxhall's long winters compound seasonal depression, while Ho Chi Minh City enjoys near-permanent summer and year-round greenery. A connection between the two could channel the therapeutic qualities of one into the other.

Concept Model

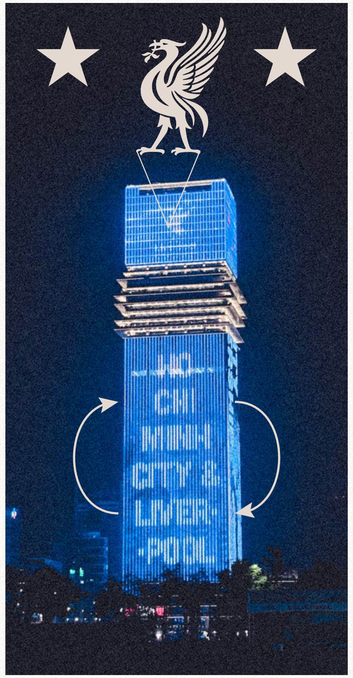
The dark box embodies Vauxhall's sensory deprivation, where limited daylighting and isolation mirror seasonal depression. The warm box proposes a response through biophilic immersion and communal gathering, informed by restorative environments in Ho Chi Minh City. The thickening rope represents social bonds strengthening as communities connect, proposing that connection itself becomes the architecture of wellbeing.

R1.

Vauxhall Connection Ho Chi Minh City



Defining Direction



value 1 international connectivity

Virtual reality bridges Vauxhall to the wider world, with Ho Chi Minh City as a pilot connection.

- Library as global social hub, not local institution
- Isolation replaced by community without proximity limits
- Real time shared spaces between Liverpool and Vietnam achieved via VR technology



value 2 wellness architecture

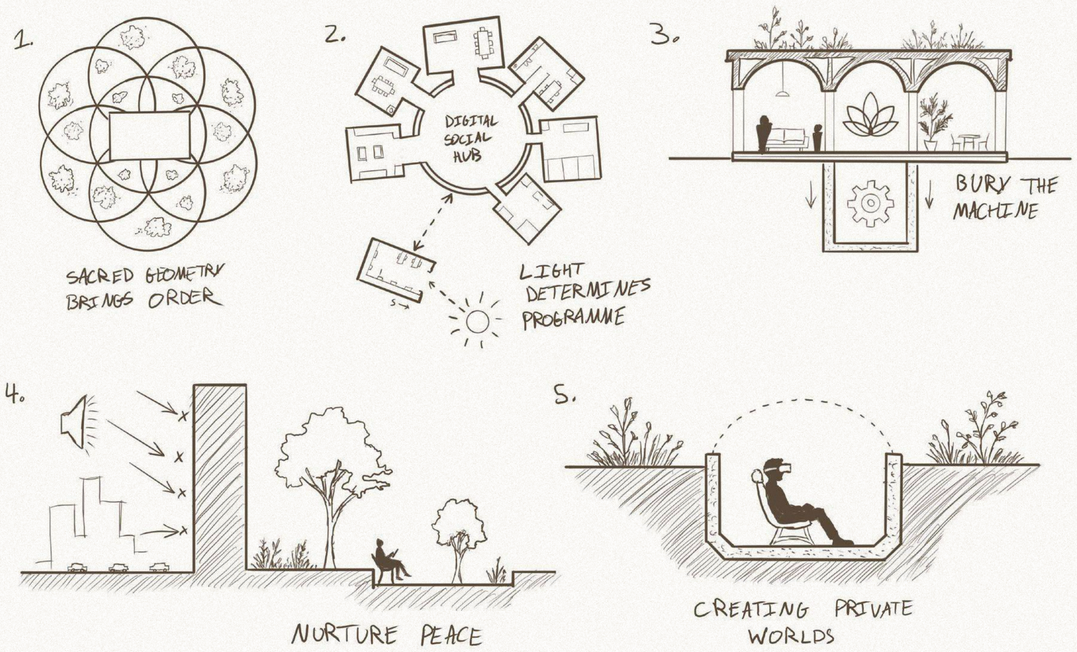
Architecture becomes the direct counter to Vauxhall's seasonal depression and sensory deprivation.

- Warm ambient lighting and generous skylights
- Biophilic planting, water, and natural stone throughout
- Every design decision guided by wellness and productivity



A library that dissolves distance and nurtures wellbeing.

Parti Diagram



VI

Programme & Spatial Ideology

Architecture of Assembly



Imagining an Architecture of Assembly, DETAIL.

According to Merrill, the primary goal of architecture is assembly, which creates a space for celebration of community. He uses the example from Vitruvius about strangers meeting around a bonfire in an open field to identify four elements of public space: openness and enclosure, polarity and neutrality, provision and availability, and individual and communal. Vitruvian open field, which is porous and has a focal point, resonates well with a central atrium space, which attracts visitors by offering interesting play of light. The concept of the "space of appearance" in Arendt's theory supports the idea of using virtual reality in such spaces since the public space must continually recreate itself through acts. Digital technologies can contribute to expanding this recreation beyond geographical limitations.

Programme

The programme weaves together library, enterprise, and public space through a wellness-driven lens, responding to Vauxhall's social isolation, Liverpool's library closures, and the impact of seasonal light deprivation. The Immersive Enterprise Hub merges co-working, events, and digital production into a single adaptive space powered by VR, positioning the library as a place of connection rather than collection.

Spaces are arranged along a gradient from public encounter to solitary reflection. The public realm draws the community in through the cafe, lobby, and gardens, while the central VR hub acts as a digital town square, connecting Vauxhall to communities worldwide. The core library offers focused study and archival engagement, and above, wellness spaces including a rooftop meditation room support the building's therapeutic role.

Public Realm

1. reception & lobby
2. cafe
3. train station stop

Core Library

4. reading room
5. archive
6. leisure reading space
7. individual immersive study pods

Immersive Enterprise Hub

8. digital social hub
9. meeting rooms
10. event space
11. co-working social workspace
12. learning space & discovery zone

Wellness & Contemplation

13. meditation & reflection room
14. gardens – communal & contemplative

Back of House

15. cafe kitchen
16. staff room
17. staff toilets
18. loading delivery bay
19. mechanical plant room

Shared Amenities

20. toilets
21. car park

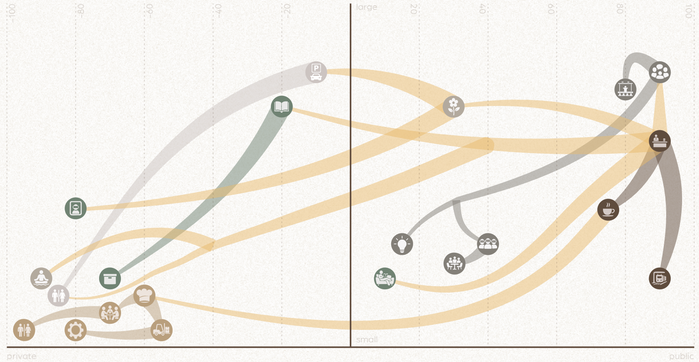
A programme tells us what a building **contains.**

Spatial organisation determines whether those spaces can **heal.**

Spatial Organisation

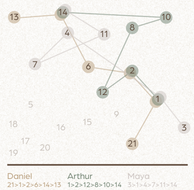
Programme Relationship Mapping

helps justify spatial hierarchy, public-to-private transition, adjacency, and relative programme scale



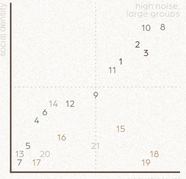
User Journey

helps justify circulation and sequence



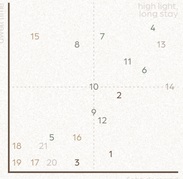
Acoustic Zoning

helps justify separation and buffering



Natural Light Demand

helps justify placement



Icons and numbering correspond to the programme page, which acts as the key for all four diagrams.

– Programme relationship mapping plots spaces across public/private and small/large axes, with the public realm cluster acting as central distributor between core library and enterprise hub.

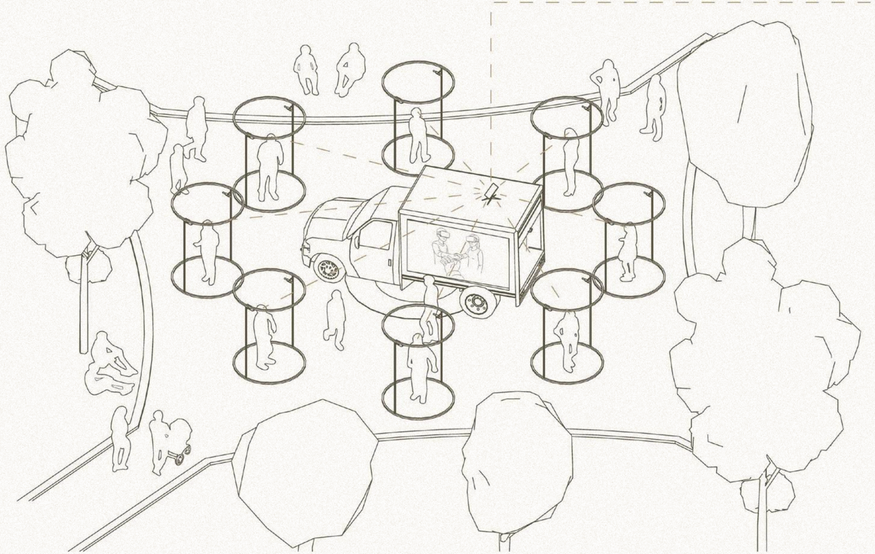
– Back of house clusters in the private/small corner, confirming it can be internalised without compromising user experience.

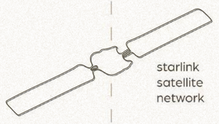
– User journey traces three client profiles, all converging at reception and gardens but diverging through the middle.

– Acoustic zoning maps noise against social density, identifying the event space and digital hub as loudest, requiring buffering from quiet study pods and meditation.

– Natural light demand maps light need against dwell time, forming a therapeutic priority cluster of spaces needing maximum daylight exposure to support treatment of seasonal depression.

Pop-Up - VoRtal



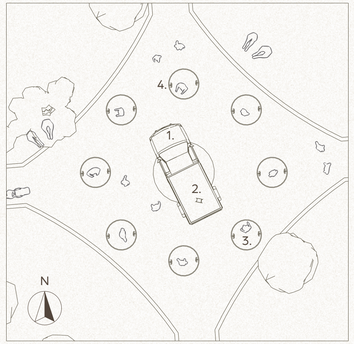


communities across the world

connectivity

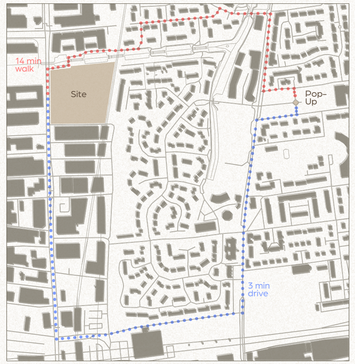
user headset
↓
starlink terminal
↓
starlink satellite
↓
starlink terminal
↓
global communities

VoRtal is a mobile immersive pop-up that introduces the Liverpool wellness library through a temporary installation in Silvester Street Park. The transportable 27 cubic metre unit acts as a teaser, proof of concept and community testing ground, allowing visitors to experience key ideas before the permanent building is realised. Through VR and AR, visitors explore early library designs, test immersive study environments and meet users in shared digital spaces worldwide, with LiDAR capture, live translation and captioning reducing barriers of language, hearing and distance. The initial pilot connects Liverpool to a corresponding installation in Ho Chi Minh City, with potential to expand into a wider international network of connected libraries.

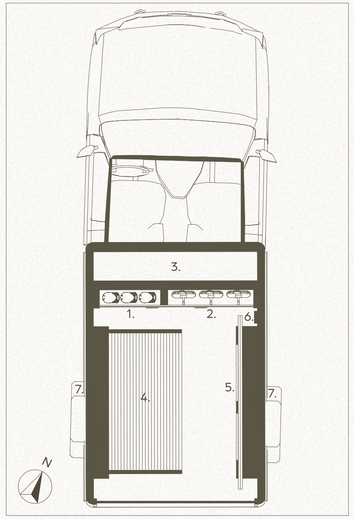


Site Plan 10 m 1:250 @A3

1. Pop-Up Mobile Unit
2. Starlink Terminal
3. VR zones
4. VR Lidar Tracking Camera

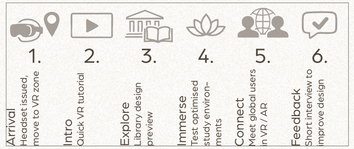


Route to Pop-Up 200 m 1:7000 @A3



Mobile Unit Plan 1 m 1:50 @A3

1. VR Headset Charging Rack
2. LiDAR Tracking Cameras Charging Rack
3. Extended Battery Capacity
4. VR Zone Circular Poles
5. VR Zone Supporting Beams
6. Starlink Router
7. Large Side Screens



User Experience Process

Positioned minutes from the selected site, VoRtal extends the library proposal into the public realm. The site plan, route diagram and mobile unit plan explain deployment, storage and transport, while the internal layout organises headset charging, LiDAR tracking, VR zones and display screens within a compact mobile unit. Starlink infrastructure supports stable connection between the van, satellite network and remote users.

The user experience follows a clear sequence from arrival and headset collection through VR induction, library exploration, wellness testing and global interaction, concluding with recorded feedback. Visitors leave a short interview responding to both the spatial experience and the emerging library design, making VoRtal a live testing ground where public participation directly informs development of the Liverpool Wellness Library.

Cognitive Performance

+6%
productivity in biophilic workspaces
(HUMAN SPACES, 2015)

+15%
creativity in spaces with natural elements
(HUMAN SPACES, 2015)

+15%
higher wellbeing in green environments
(HUMAN SPACES, 2015)

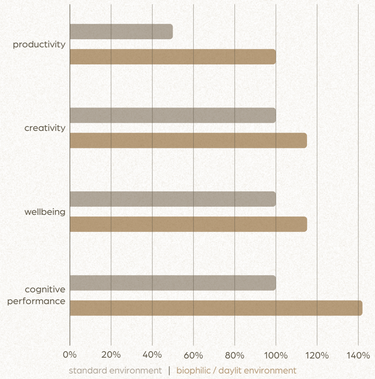
+42%
cognitive performance with optimised daylight
(JCSM, 2020)

7–10%
faster reactions under bright daylight
(UNI. OF MANCHESTER, 2026)

4x
focus struggle if affected by SAD
(SPRING HEALTH / MHA)

50%+
less productive in UK winters
(CHARLIE HR / OAG)

+37
min sleep with optimised daylight views
(PMC / NLM, 2020)



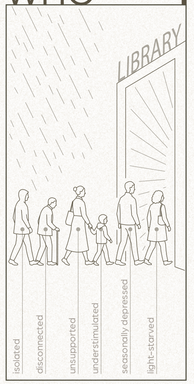
"i can't create when i'm dying inside."
Guardin, Nicholas Jordan Kerr-Carpenter, singer-songwriter

"happiness, the feeling of positivity, really is the foundation of productivity."
Miguel McKelvey, co-founder of WeWork

The evidence is clear. The built environment shapes how inhabitants think, focus, and create. For a building with the function of learning and mental exploration, ignoring these findings would undermine its purpose. A library that considers light quality and connection to nature as secondary issues is not enough. Liverpool's limited winter daylight and high seasonal depression rates make cognitive performance a primary design consideration. This is not just a goal. It is a responsibility.

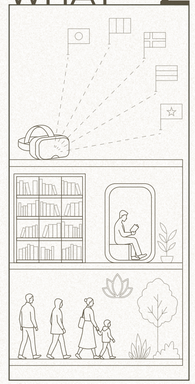
Five Big Ideas

WHO 1



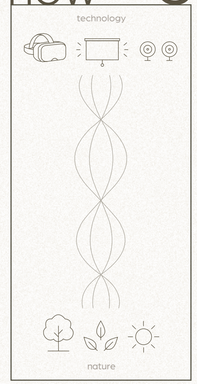
liverpool's light-starved community

WHAT 2



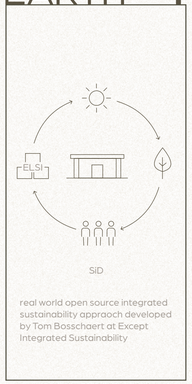
therapeutic library & global portal

HOW 3



biophilia meets immersive technology

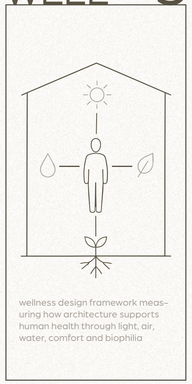
EARTH 4



real world open source integrated sustainability approach developed by Tom Bosschaert at Except Integrated Sustainability

symbiosis in development

WELL 5



wellness design framework measuring how architecture supports human health through light, air, water, comfort and biophilia

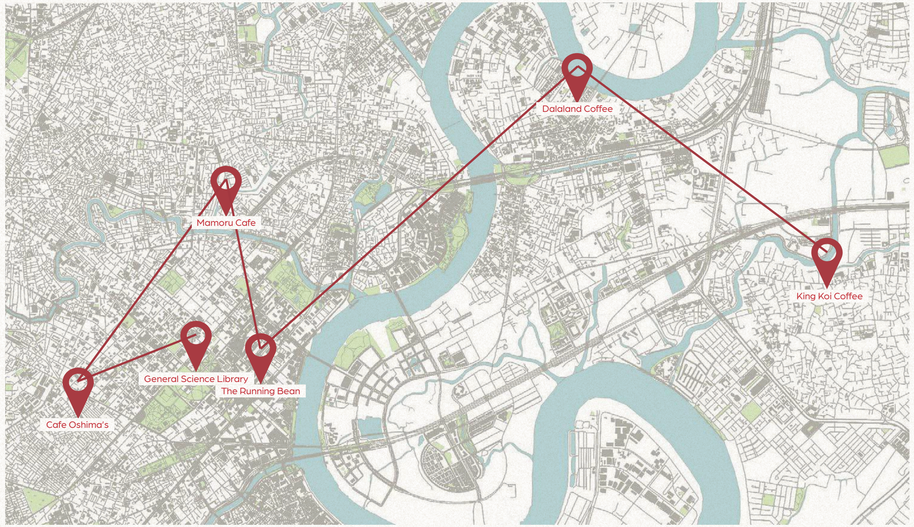
designing for human health

These five principles establish the conceptual foundation of the proposition. The building serves Liverpool's light-starved community through a therapeutic programme that fuses biophilic design with immersive technology, grounded in the Symbiosis in Development ecological framework and measured against the WELL Building Standard. Each idea introduced here will be expanded upon and spatially resolved through the design development that follows, translating these principles into architectural form.

VII

Precedents & Architectural Language

Precedents
My Journey

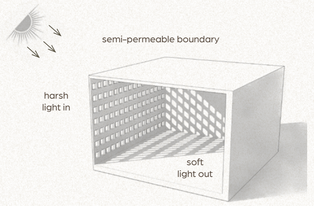


In November 2025, I moved from near Liverpool to Ho Chi Minh City. The contrast in climate and daylight had an immediate effect on mood and productivity, reinforcing the environmental psychology research explored earlier in this portfolio.

Vietnam's cafe culture operates as a network of third places, spaces where people work, socialise and rest for hours at a time, functioning much like the library typology I aim to propose for Vauxhall. The places mapped here became regular working environments, and each offered spatial lessons in how light, planting, water and material can actively support wellbeing. What follows are the key observations carried forward into the design.



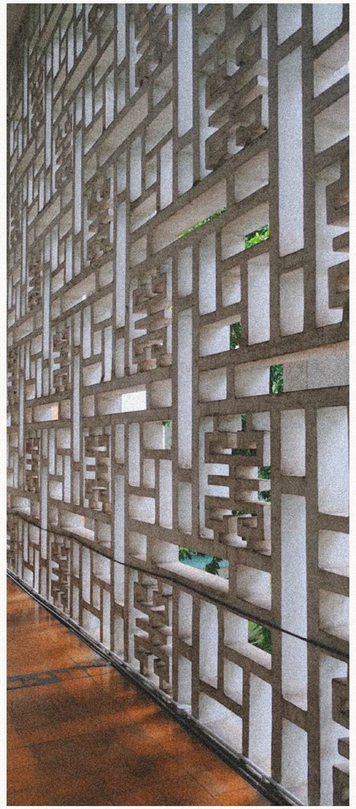
Sketch



Takeaways

- Harsh light + geometric shading = patterned glow
- Screen doubles as environmental filter and facade
- Water at base amplifies filtered light through reflection

General Science Library



The General Science Library of Ho Chi Minh City is a modernist civic building, and its stripped-back design language is not naturally aligned with wellness. Concrete frames, exposed structure and minimal ornamentation prioritise function over feeling.

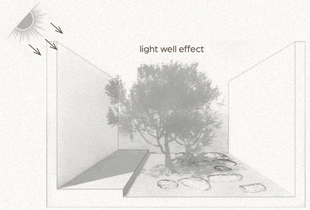
Yet within that restraint, two elements stand out.

The geometric brise-soleil shading screen that wraps the upper facade transforms direct tropical sunlight into a play of light across the interior floors, casting shifting patterned shadows that change with the sun's angle throughout the day. The effect is meditative, turning harsh environmental conditions into spatial quality through geometry alone.

Shallow water channels run along the base of the building, catching and reflecting this filtered light upward onto the soffit, doubling its reach. Together, screen and water demonstrate that even within a rigid modernist frame, light can be sculpted into something therapeutic.



Sketch



Takeaways

– Courtyard draws daylight deep into interior
– Ground textures slow movement and encourage pause
– Dense planting achievable in tight footprints

Cafe Oshima's

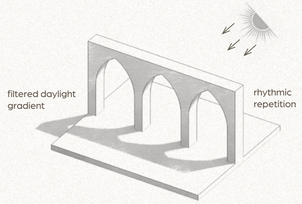




– Biophilia thrives within a monolithic material palette
– Split-level greenery intensifies wellness through section
– Informal seating invites spontaneous occupation

Mamoru Cafe

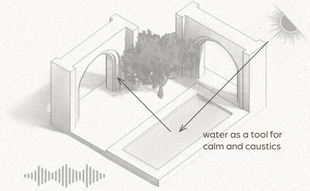




– Repeated arches create civic warmth and rhythm
– Arch geometry filters daylight into shaded gradient
– Warm materials and lighting create a civic beacon

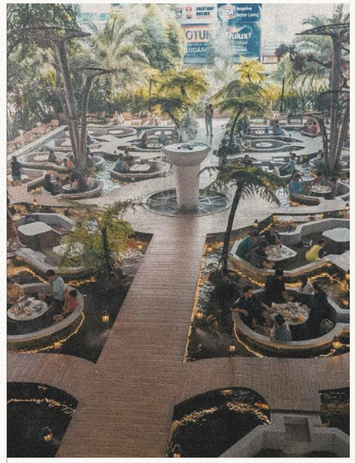
The Running Bean

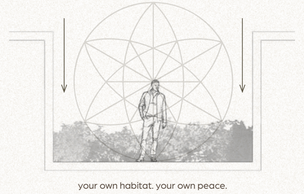




– Colonnades layer light and greenery sequentially
– Water reflects daylight and caustics onto ceilings
– Water sound masks noise and promotes calm

Dalaland Coffee





– Sunken pods create territory within shared space
– Walkway patterns reinterpretable as sacred geometry
– Sensory immersion compensates for deprived climates

King Koi Coffee

The five precedents share a common spatial argument.

Gardens and courtyards draw daylight inward, even in dense urban conditions. Planting at multiple levels surrounds the user in nature rather than placing it at a distance. Arched openings filter light and give rhythm to facades that would otherwise recede into their context. Water, whether still or flowing, reflects light upward and introduces acoustic calm. And circular, sunken seating pods create individual territories of focus within an otherwise shared social setting, connected by walkway networks whose geometry suggests a deeper organising logic.

These observations inform the architectural language and the treatment of interior space as a restorative environment, no matter the climate.

Materiality



lime render
exterior and interior walls
lancashire-sourced, diffuses light softly

tadelakt plaster
interior feature surfaces
waterproof, pairs with water features

bronze metalwork
window frames, shading screens
warm tone, weathers in maritime climate

yorkshire sandstone
floors, water channels, counters
regional civic tradition, warm buff tone

evergreen planting
biophilic interior planting
low-light tolerant species for liverpool winters

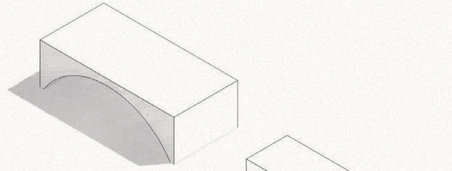
dark stained oak
floors, furniture, frames
british oak, absorbs glare, adds warmth

water
reflection pools, cascading features
multiplies light, calming sensory element

The mood board establishes the sensory and material identity of the project, grounded in locally sourced and climate-appropriate materials. Lancashire lime render and Yorkshire sandstone connect the building to the region's civic tradition, while tadelakt plaster and bronze metalwork respond to Liverpool's maritime moisture. Stained British oak absorbs glare and adds warmth in low-light months, and evergreen planting and water features provide the sensory richness needed to counter seasonal darkness.

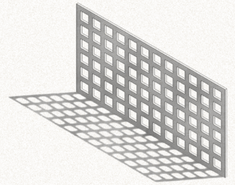
Design Language

form.

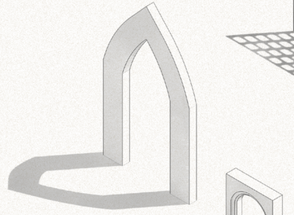


vaulted ceilings





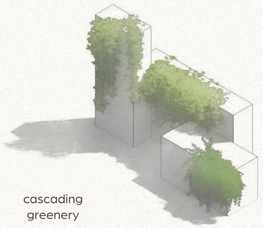
shading screen



pointed monolithic arch

soft rounded arch

feel.



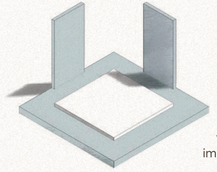
cascading greenery



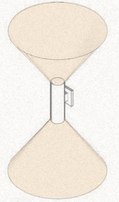
water caustics



immersive greenery



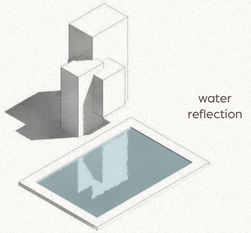
water immersion



warm ambient lighting



sacred geometry

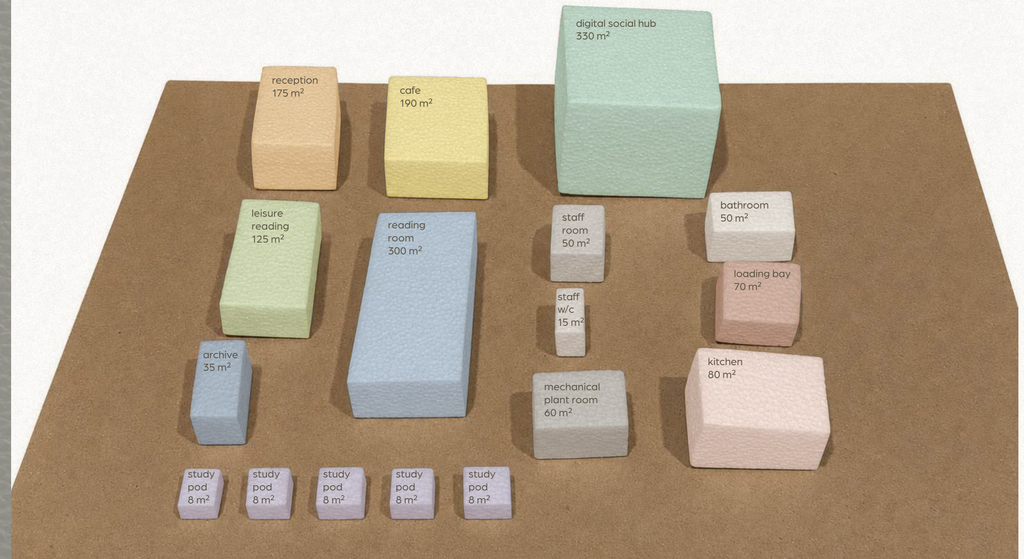


water reflection

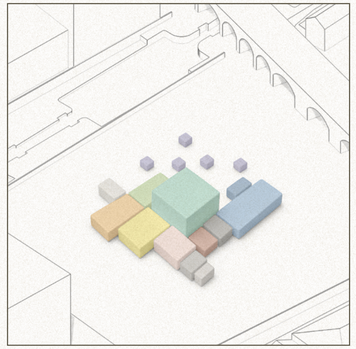
The design language inventory distils the key architectural principles drawn from the precedent studies and mood board into a toolkit of formal and atmospheric devices. These elements will be combined with the massing strategy in the design development chapter, where they are tested, refined and assembled into the final proposition.

Massing

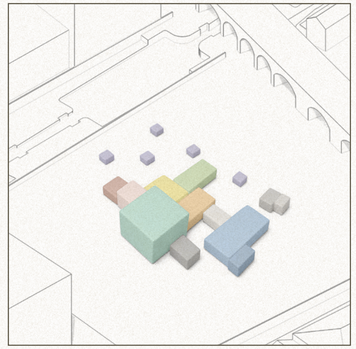
Massing inventory of programme spaces, cut as foam blocks at 1:200. Each block is scaled to its approximate floor area and colour-coded by function. These are arranged on the site base in four variations to test different spatial relationships before committing to a final form.



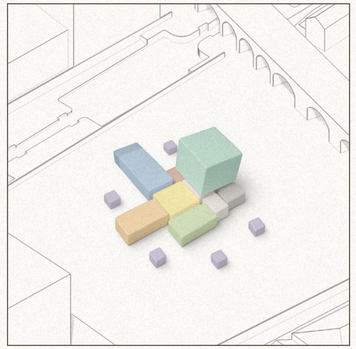
Option 4 was selected as the preferred massing strategy. Burying the service programme below ground allows the public experience to remain uninterrupted, prioritising wellness at every point of contact. The reception and cafe frame a monolithic entrance, the hub commands the centre as the civic heart, and the study pods disperse across the landscape as moments of solitary retreat.



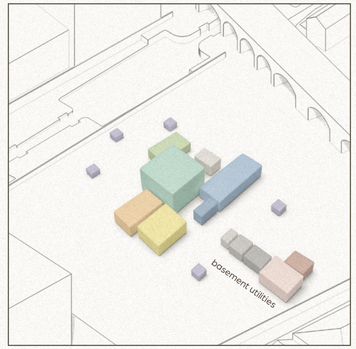
1 centralised
all programme wrapped tight around the hub



2 linear
hub anchors one end, wings extend outward



3 rising
hub elevated at rear, monolithic civic form with stepped approach



4 split-level (selected)
main building above, service programme buried below

IX

Design Development

Design Progression

vector equilibrium sacred geometry



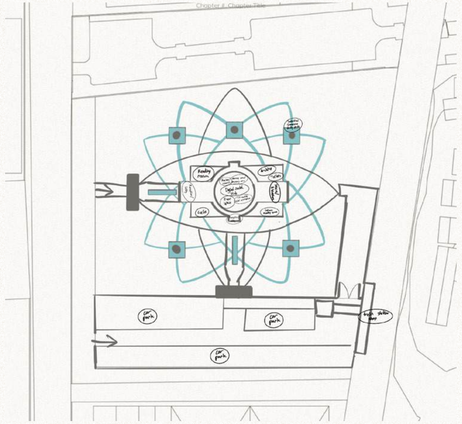
The Vector Equilibrium was chosen as the library's spatial organiser because its geometry embodies absolute balance and harmony. Two are overlaid and rotated to generate the garden layout, with lines translated into footpaths and water channels radiating from the building.

study pod placement



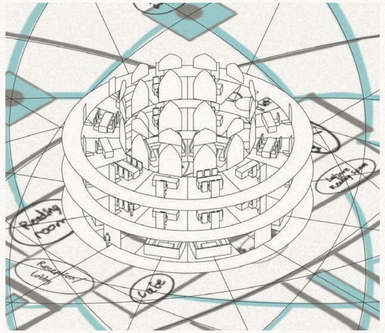
Where two forces meet in balance, stillness is found.

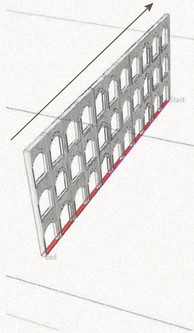
initial site sketch

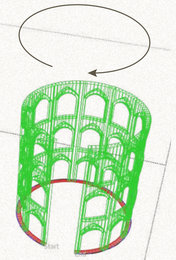


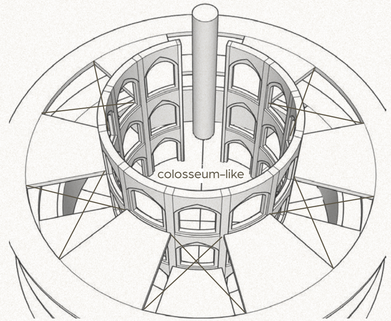
In sacred geometry, the intersection of two vector equilibriums represents a point of energetic convergence and balance. The study pods are placed at these points, grounding each in focused equilibrium to support concentration and calm. This informs the initial site sketch to the right.

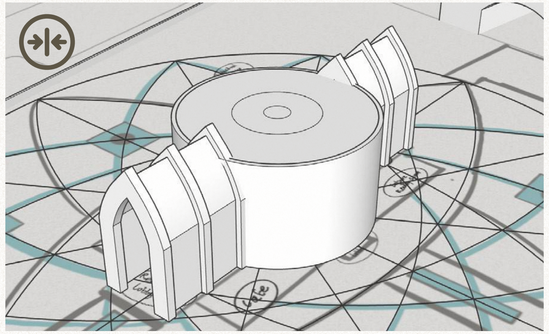
core building construction

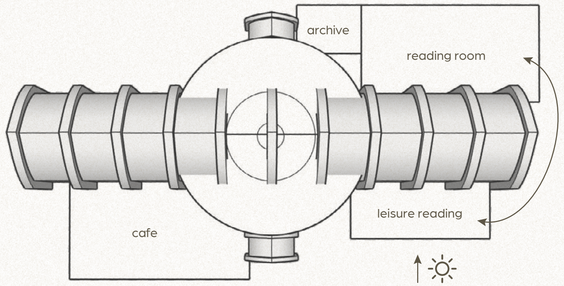






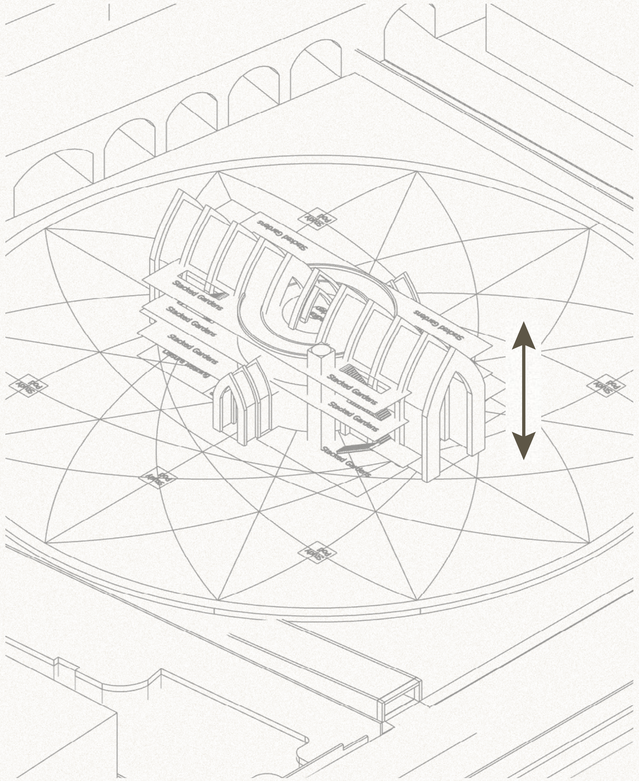




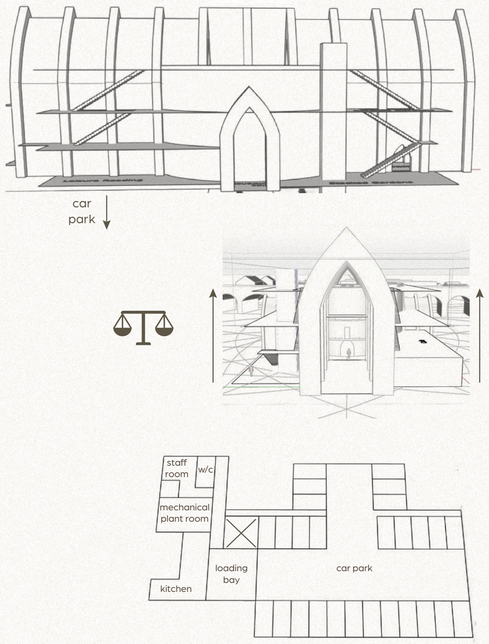


The circular Digital Social Hub is placed at the centre, where the most sacred geometry intersections converge, eliminating spatial hierarchy so every user faces the centre equally. This establishes the collective heart, balanced against the individual study pods in the garden. The hub is enclosed and a monolithic arched hallway added as the central spine. Surrounding rooms are placed around the hub, with the reading room repositioned south after early testing revealed insufficient daylighting.

vertical strategy and form

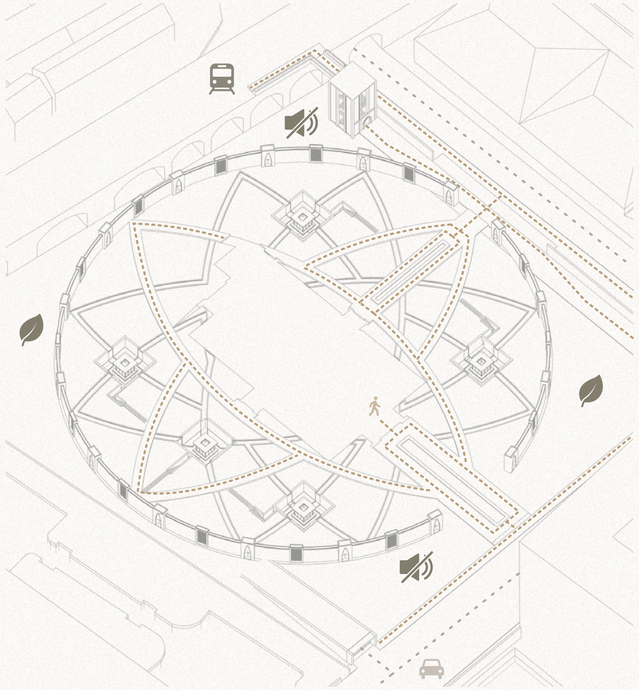


north, west and basement views



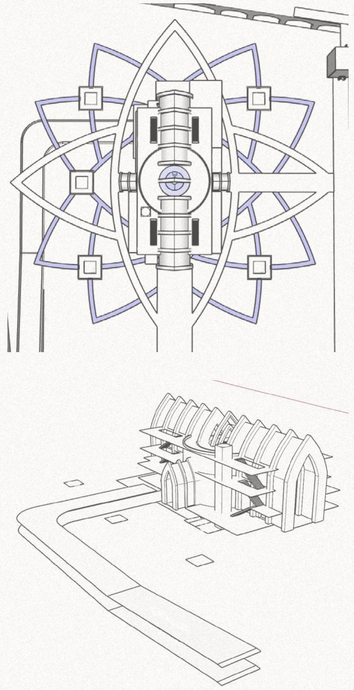
Basement, terraces and rooftop meditation are stacked vertically, with planted external terraces added to balance the building's form. The car park was moved underground as the sacred geometry scaled up to fill the site, keeping utilities hidden to preserve the wellness experience.

garden layout – study pods, foorpaths, water

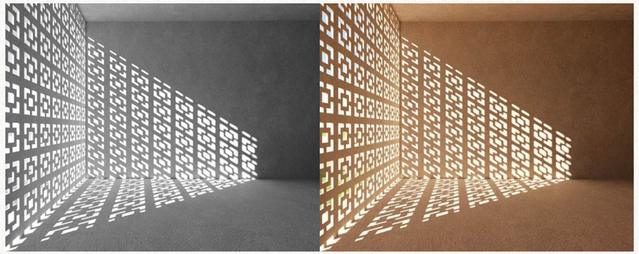


The garden is enclosed by a perimeter wall to create full nature immersion and block urban noise, providing acoustic separation from the street. In a city of grey skies and low winter light, internalised evergreen planting guarantees year-round biophilic access that Vauxhall currently lacks. Sunken pods offer naturally sheltered, thermally stable environments for focused study. A south entrance connects the building to a future train station stop via a water-lined footpath, whilst a tunnel that leads to the underground car park accompanies the main entrance on the western side.

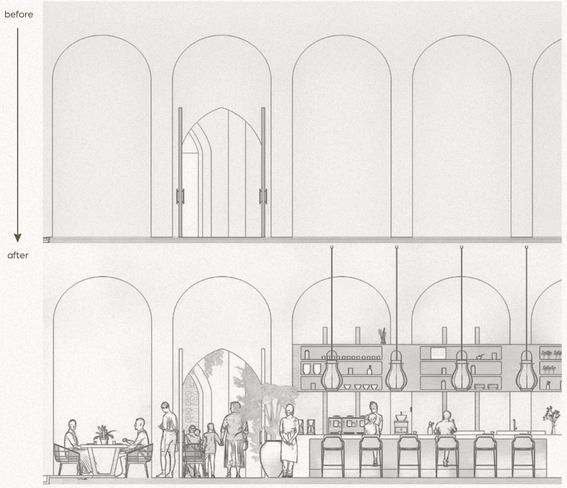
site access and connectivity



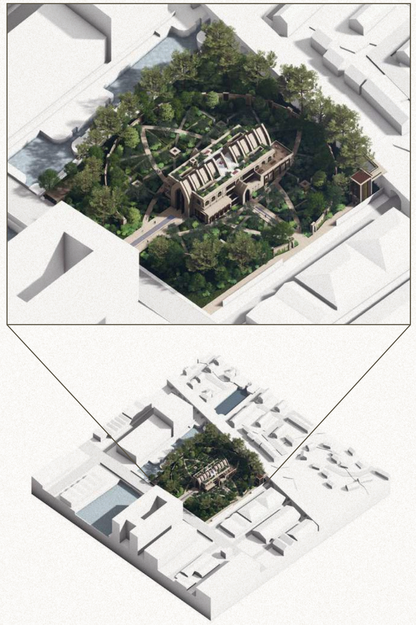
shading screen play of light



interior spatial development – cafe



immersive nature site within context



With the base form resolved, the design language inventory is applied to complete the model. Shading screens filter natural light into patterned shadows, while vaulted ceilings, furniture and planting complete the interior wellness environment. The perimeter wall shelters evergreen planting from Liverpool's climate while creating a portal-like threshold that transports users from the urban condition into an immersive restorative landscape.

Sustainability Strategy

SiD Symbiosis in Development

Symbiosis in Development (SiD) is an open-source sustainability framework created by Tom Bosschaert, CEO of Except Integrated Sustainability, where I have worked for almost two years now. Applying SiD to the library ensures the building is treated as an interconnected system rather than an isolated structure, addressing energy, ecology, society and individual wellbeing as linked layers.

Architecturally, this ensures that material choices, environmental controls and spatial strategies are resolved as parts of one system. Lehmbau earth walls serve structural, thermal and biophilic roles simultaneously, expanding upon the earlier CLT-only construction approach, while the walled garden addresses biodiversity, mental health and noise mitigation in a single move.



X

Final Design Proposal

Sen Bloom

An intercultural wellness library in Vauxhall, Liverpool, blooming outward through digital portals to treat seasonal depression and connect global communities.



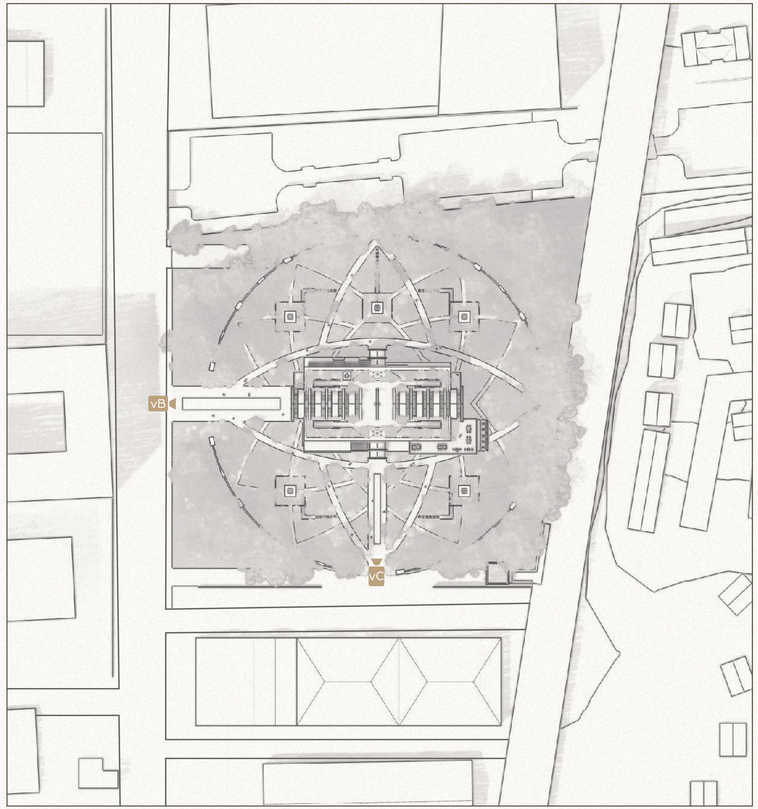
R2.

vA. The meditation terrace – sacred geometry, water and filtered light converge to restore the spirit and ease the weight of seasonal darkness.

Site Plan

Perspective views have titles"vX" that correspond to camera locations on the plan view views:





Site Plan
Wider Context

N

1:1000 @A3

0 50 100

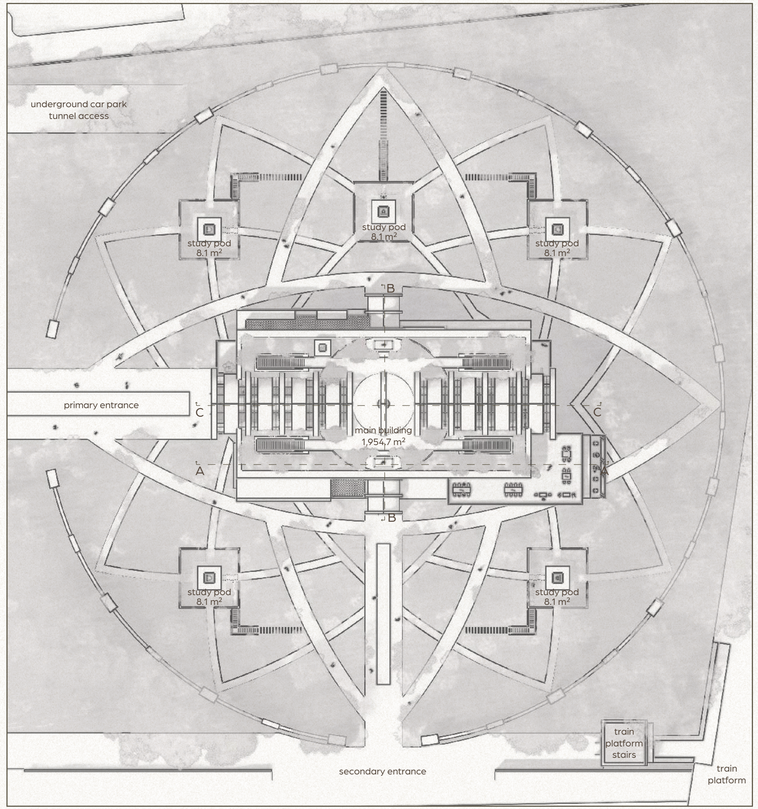
Total GIA: 1,995.2 m²
Main Building: 1,954.7 m²
Study Pods: 40.5 m²

Site Plan
Design Area

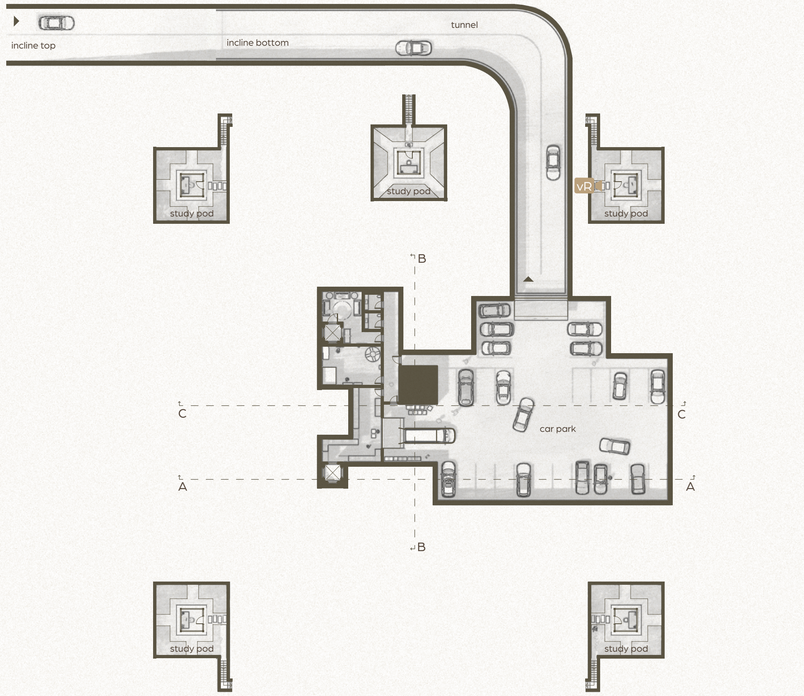
N

1:500 @A3

0 10 20 50



Floor Plans

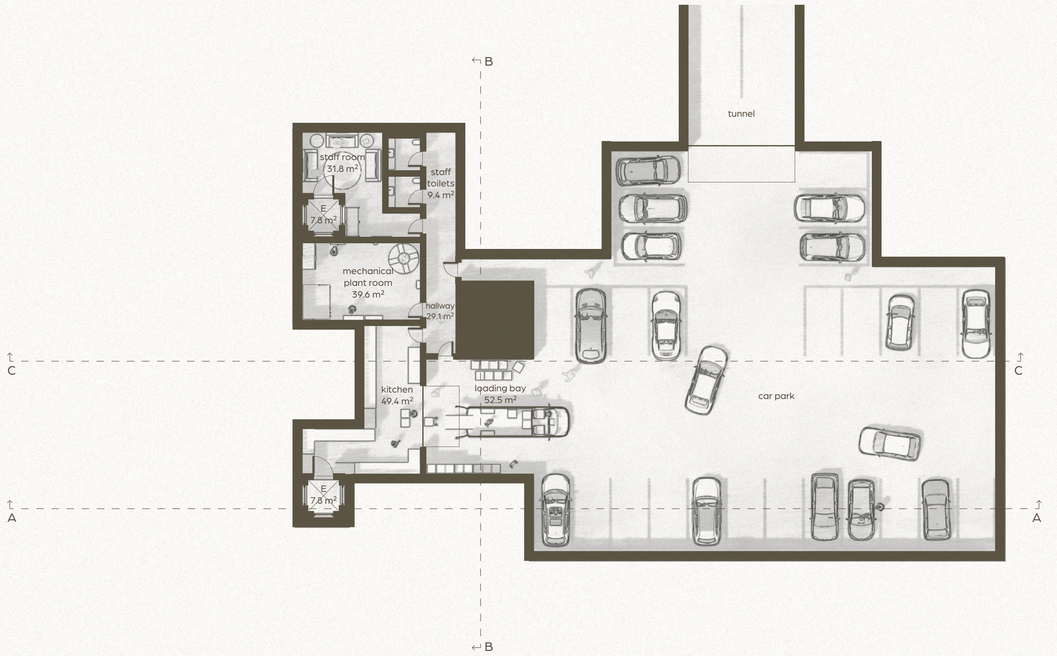


N

Main Building, Tunnel and Study Pods
Basement Plan

1:400 @A3

0 5 10 20 40



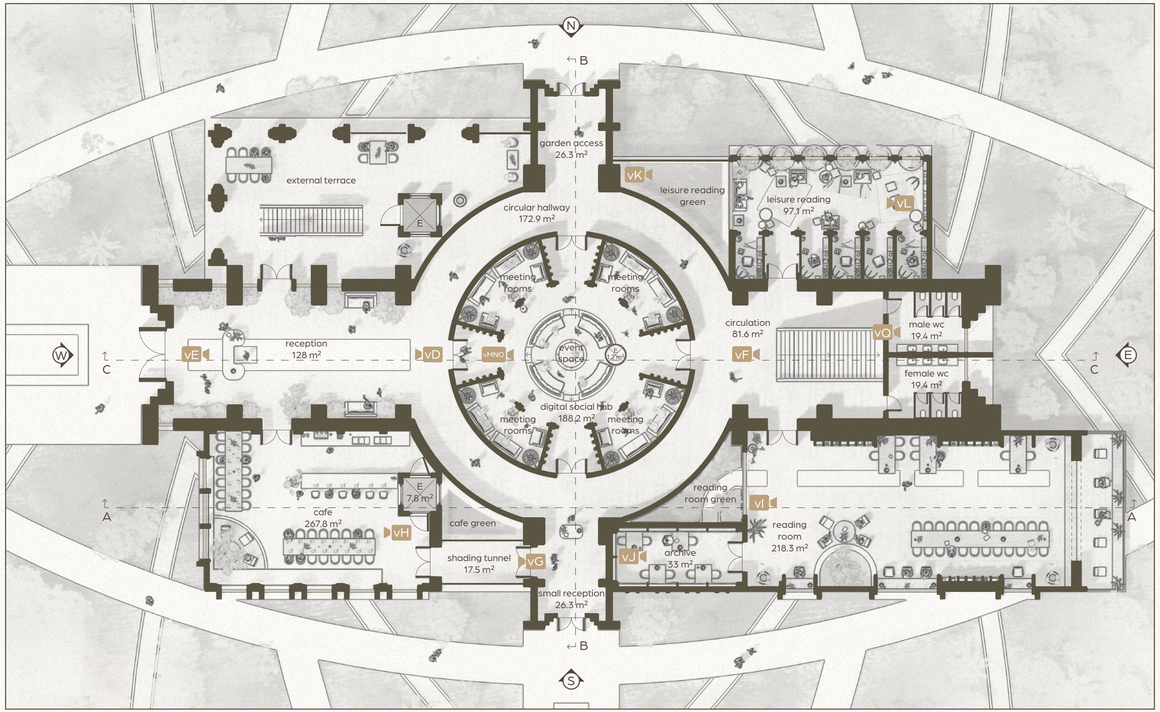
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Main Building
Basement Plan

GIA = 227.4 m²

1:200 @A3

0 5 10 20



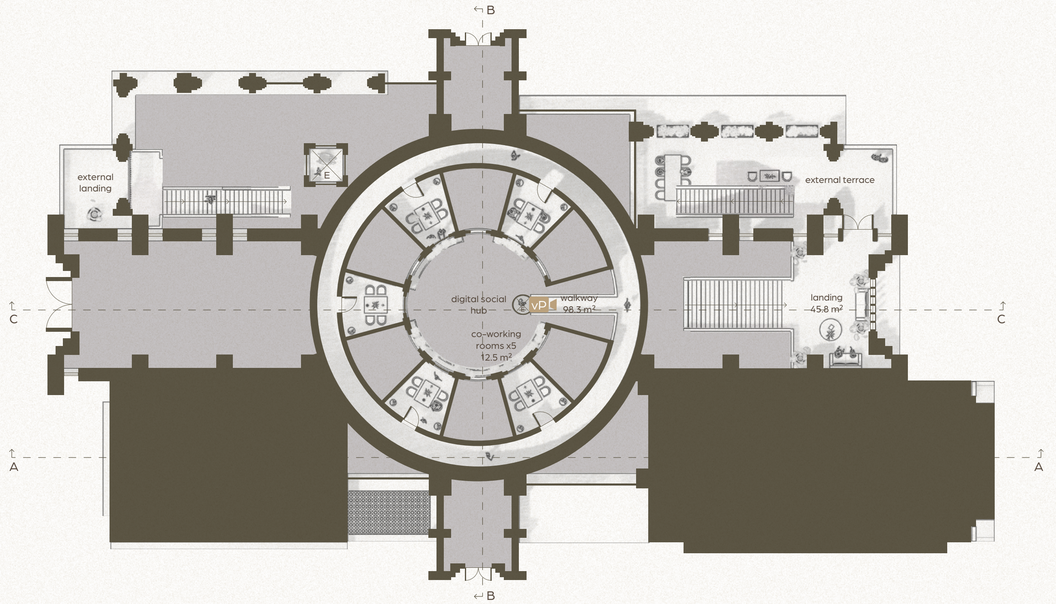
N

Main Building
Ground Floor Plan

GIA = 1,312.6 m²

1:200 @A3

0 5 10 20



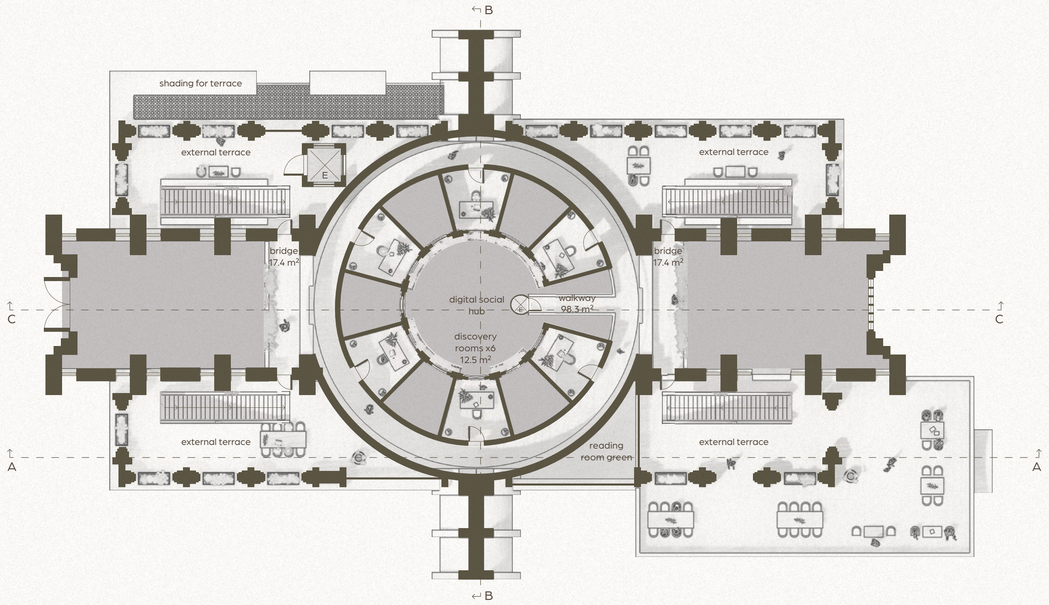
N

Main Building
First Floor Plan

GIA = 206.6 m²

1:200 @A3

0 5 10 20



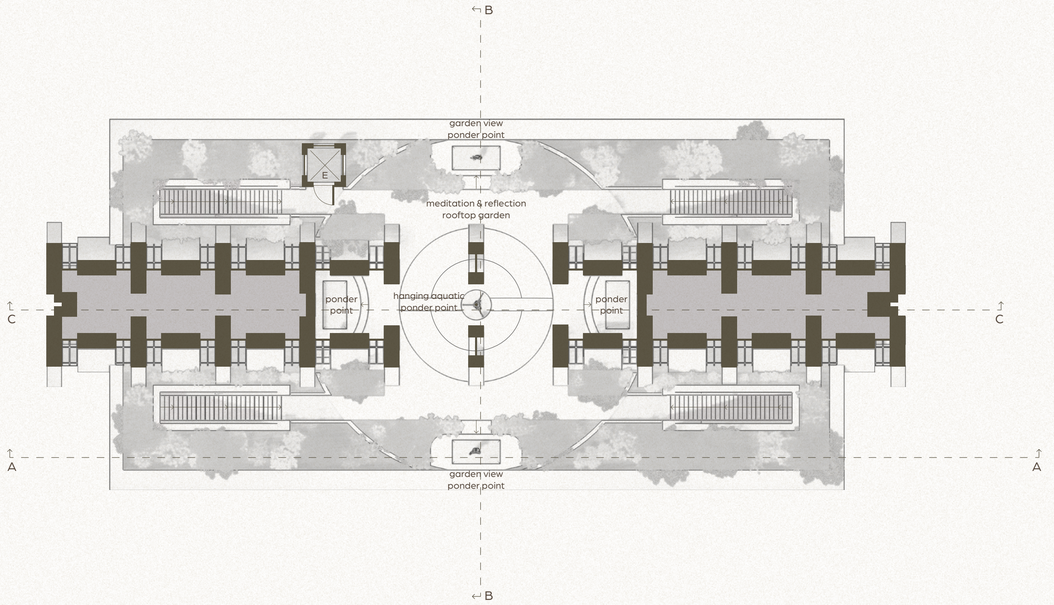
N

Main Building
Second Floor Plan

GIA = 208.1 m²

1:200 @A3

0 5 10 20

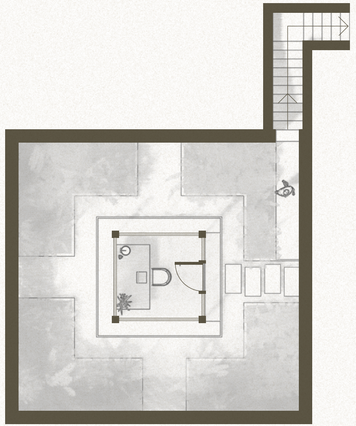


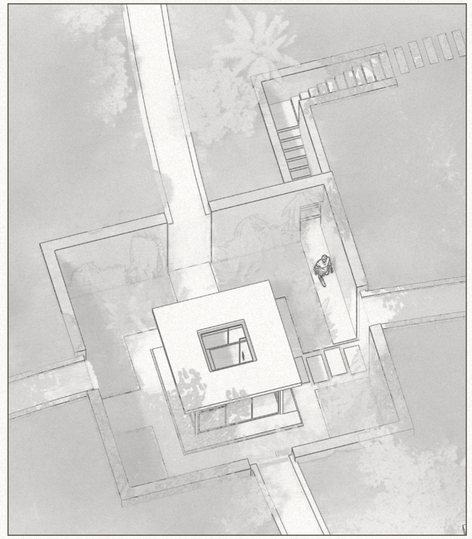
N

Main Building
Third Floor (Roof Terrace) Plan

1:200 @A3

0 5 10 20





N

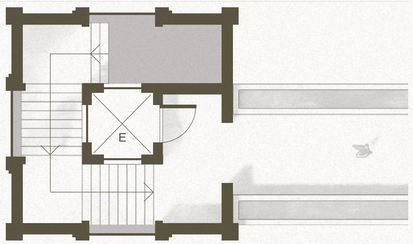
Study Pod Base – 5x
Floor Plan and Axonometric

GIA = 5x 8.1 m²

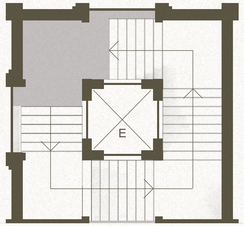
1:100 @A3

0 5 10

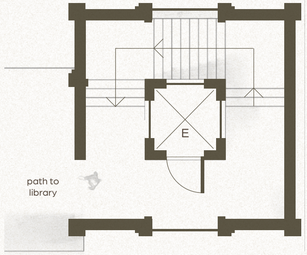
Second Floor Plan – Platform Level

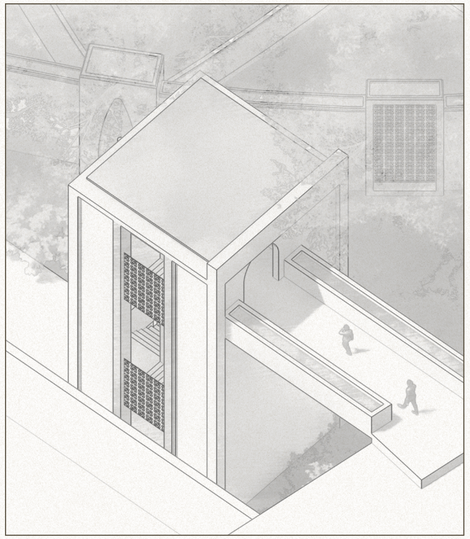


First Floor Plan



Ground Floor Plan





N

Train Platform Stairs
Floor Plans and Axonometric

GIA = N/A for Exterior Space

1:100 @A3

0 5 10

Elevations



1:200 @A3

0 5 10 20

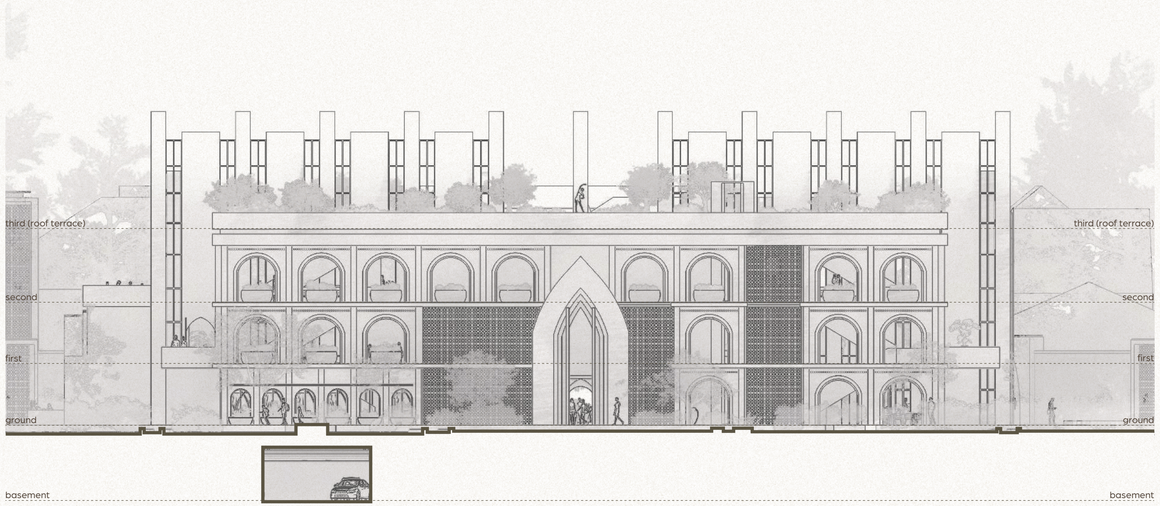
Elevation West



1:200 @A3

0 5 10 20

Elevation East



1:200 @A3

0 5 10 20

Elevation North



1:200 @A3

0 5 10 20

Elevation South

Sections



1:200 @A3

0 5 10 20

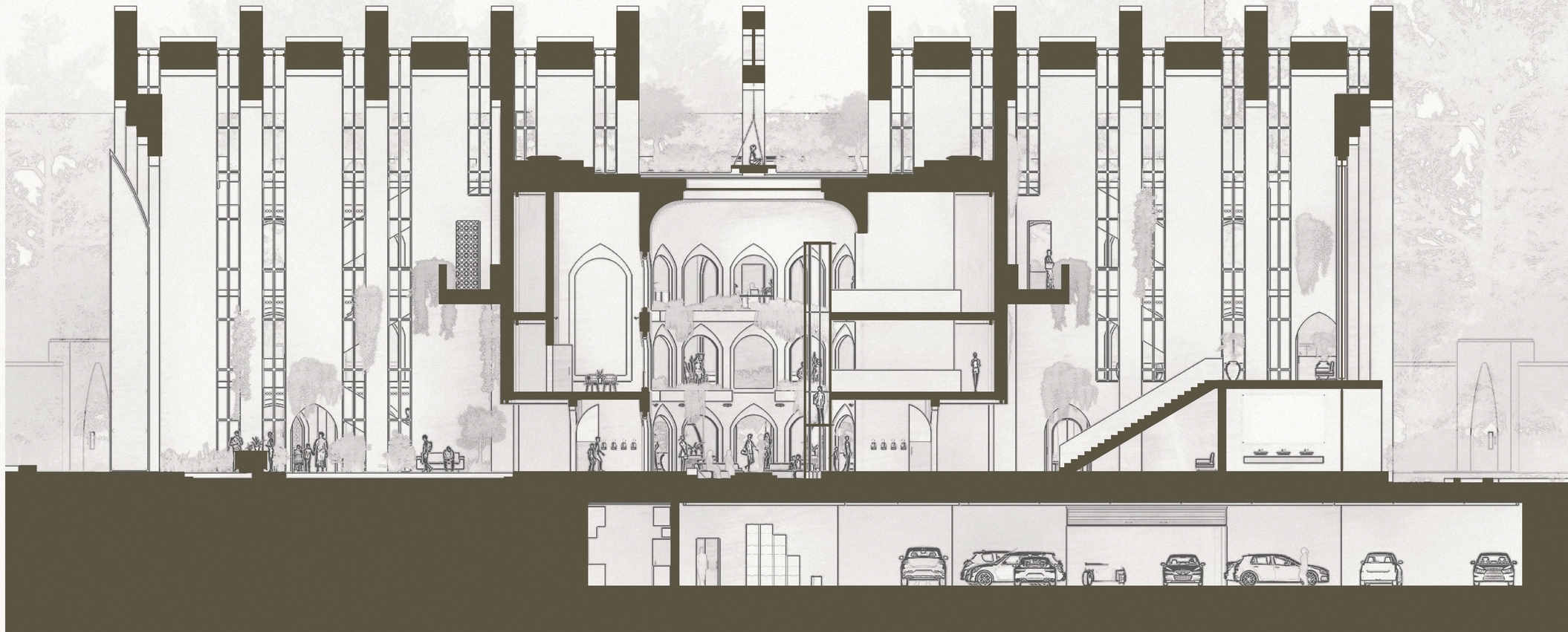
Section A–A



1:200 @A3

0 5 10 20

Section B–B



Section C-C

1:100 @A3

0 5 10

Wander

Take a stroll.

The following pages present a series of Lumion renders with post-production, capturing the building as you might experience it yourself, moving from the public garden through to the most intimate corners of the design.



vB. The approach – a still water axis draws the visitor inward, the soaring spire announcing a new civic threshold between city and self.



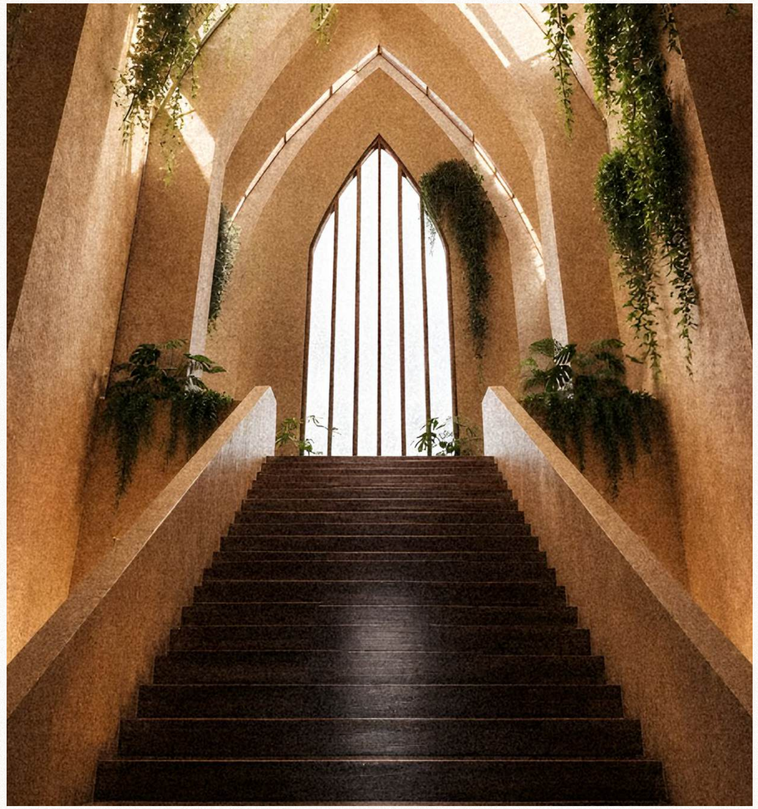
vC. Dusk over the gardens – oriented to catch both the rise and fall of the sun, the building remains a warm, illuminated beacon through the darkest hours of the northern day.

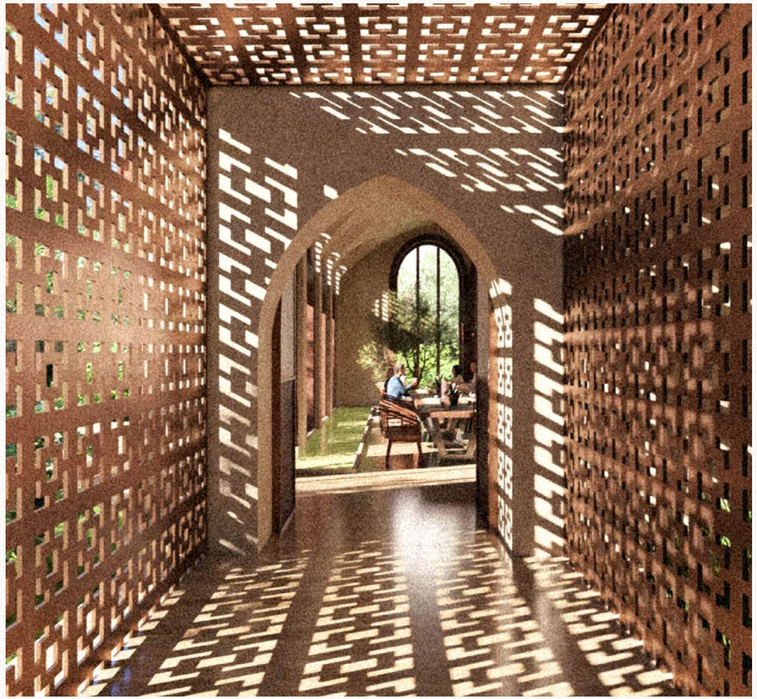
R3.
vD. The arrival hall – light, water and green guide the visitor from city noise into calm and collective belonging.

R5. vF. An ascent through cascading greenery and golden light becomes an act of awakening.

R4.
vE. Layered gothic arches draw daylight deep into the building.



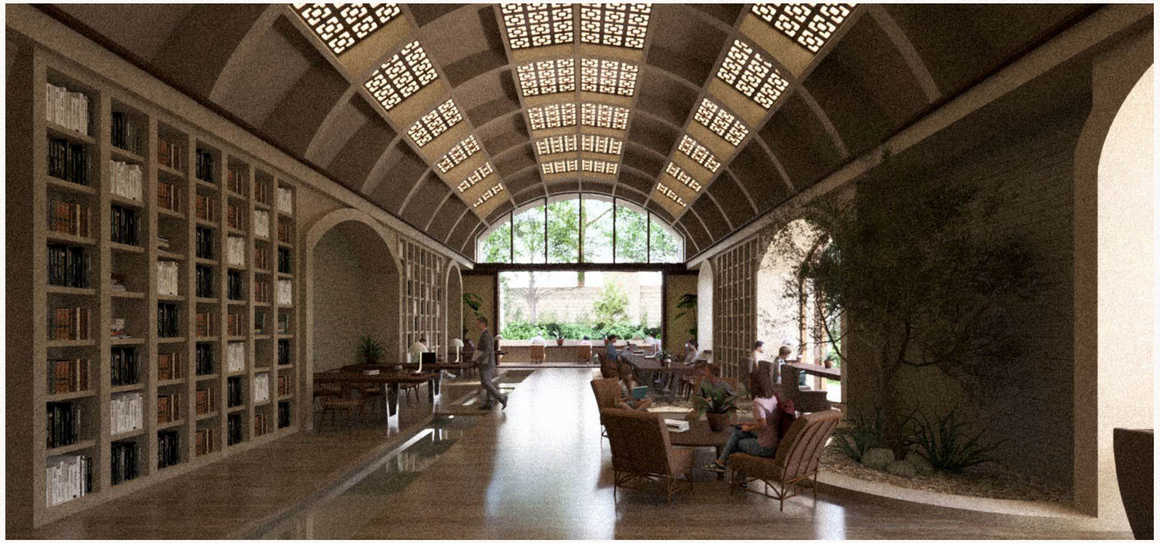




vG. The corridor screen – a shadow tradition echoing from Hanoi to Marrakech, geometric light as a universal language of shelter and belonging.



vH. The café – a vaulted, garden-facing space where visitors share the simple ritual of warmth and nourishment.



vI. The reading room – designed to ensure the act of learning becomes inseparable from the feeling of wellbeing.



vJ. The archive – global knowledge held together in a symbol of connection over collection.



vK. The leisure reading room – seen through a veil of geometric shadow, the shading screen bathes readers in living, patterned light.



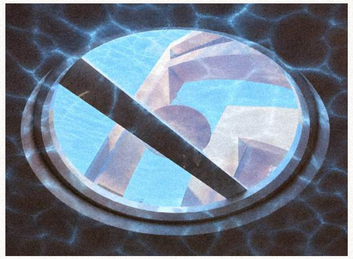
R6. vL. Soft light and quiet company, a space for those who need permission simply to rest.

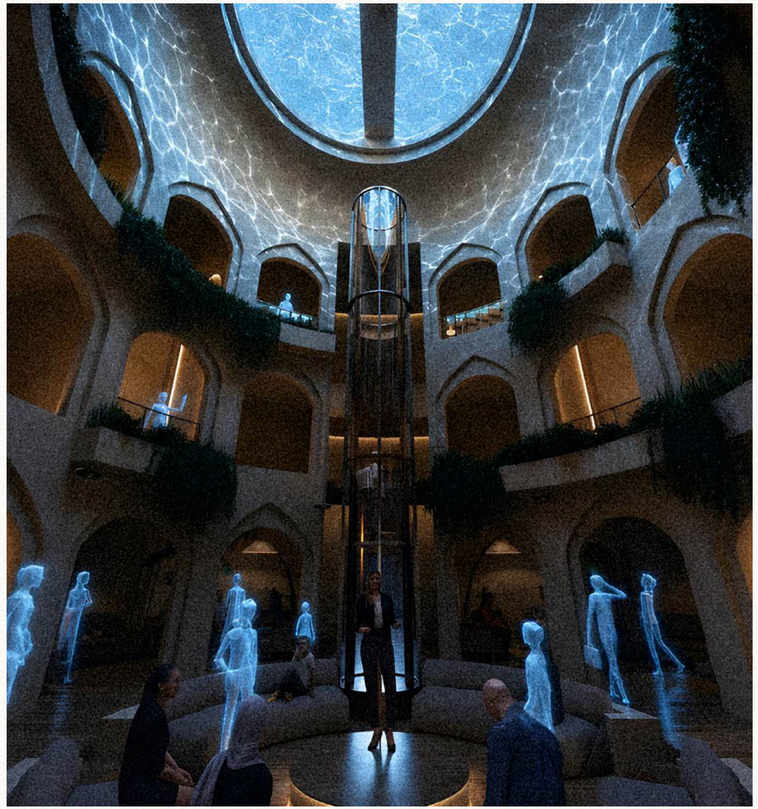


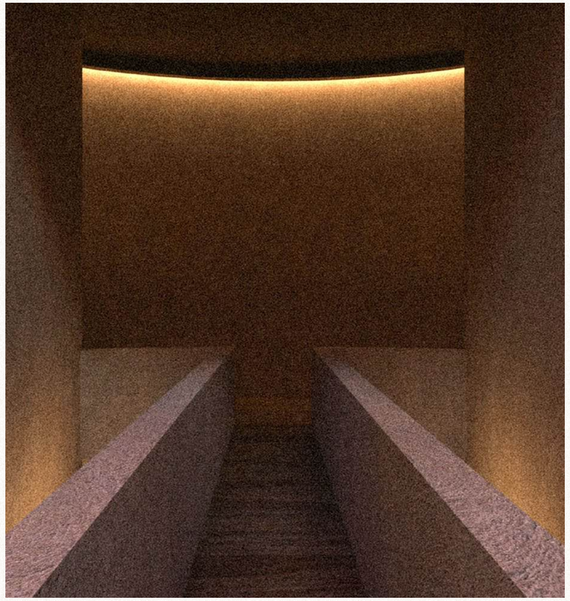
R7.
vM. The digital social hub oculus – the sacred geometry of the dome becomes a portal through which Liverpool reaches out to the world.

R9. vO. Holographic figures from across the world gather beneath the dome, VR headsets dis–solving distance, making the presence of a stranger in another continent attainable.

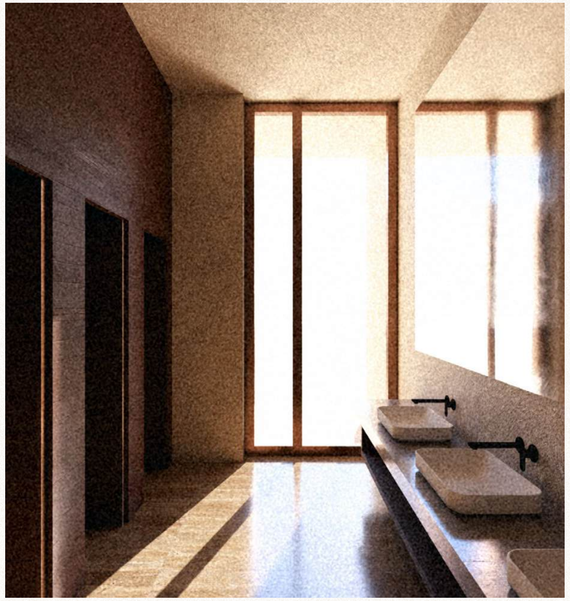
R8.
vN. The pool's surface refracts the oculus above into cascading caustics – the sole thread of natural light reaching this subterranean world of global connection.







vP. Warm ambient lighting is applied across the site to ensure a continuous sense of calm and wellbeing, a gentle counter to the northern dark.

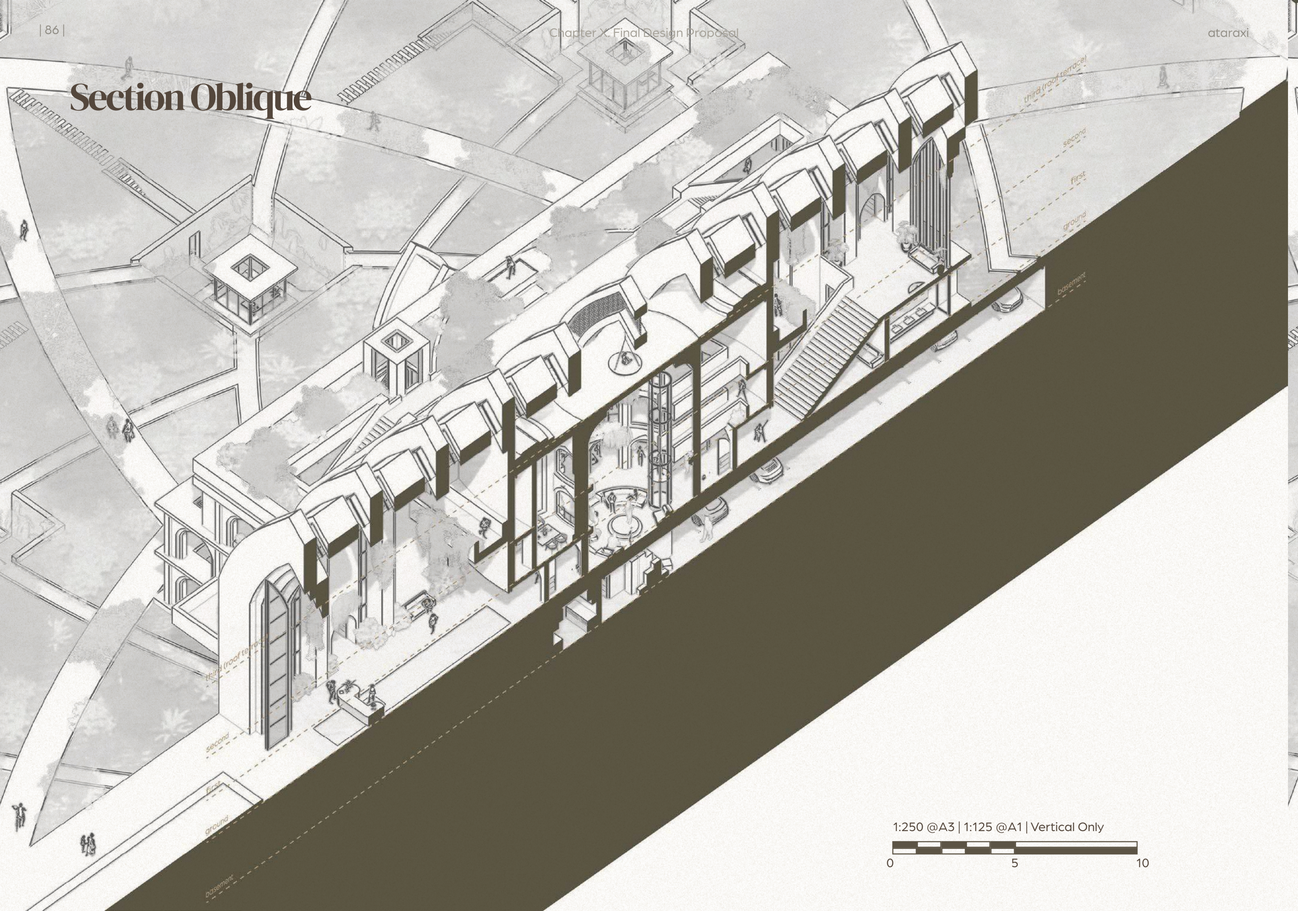


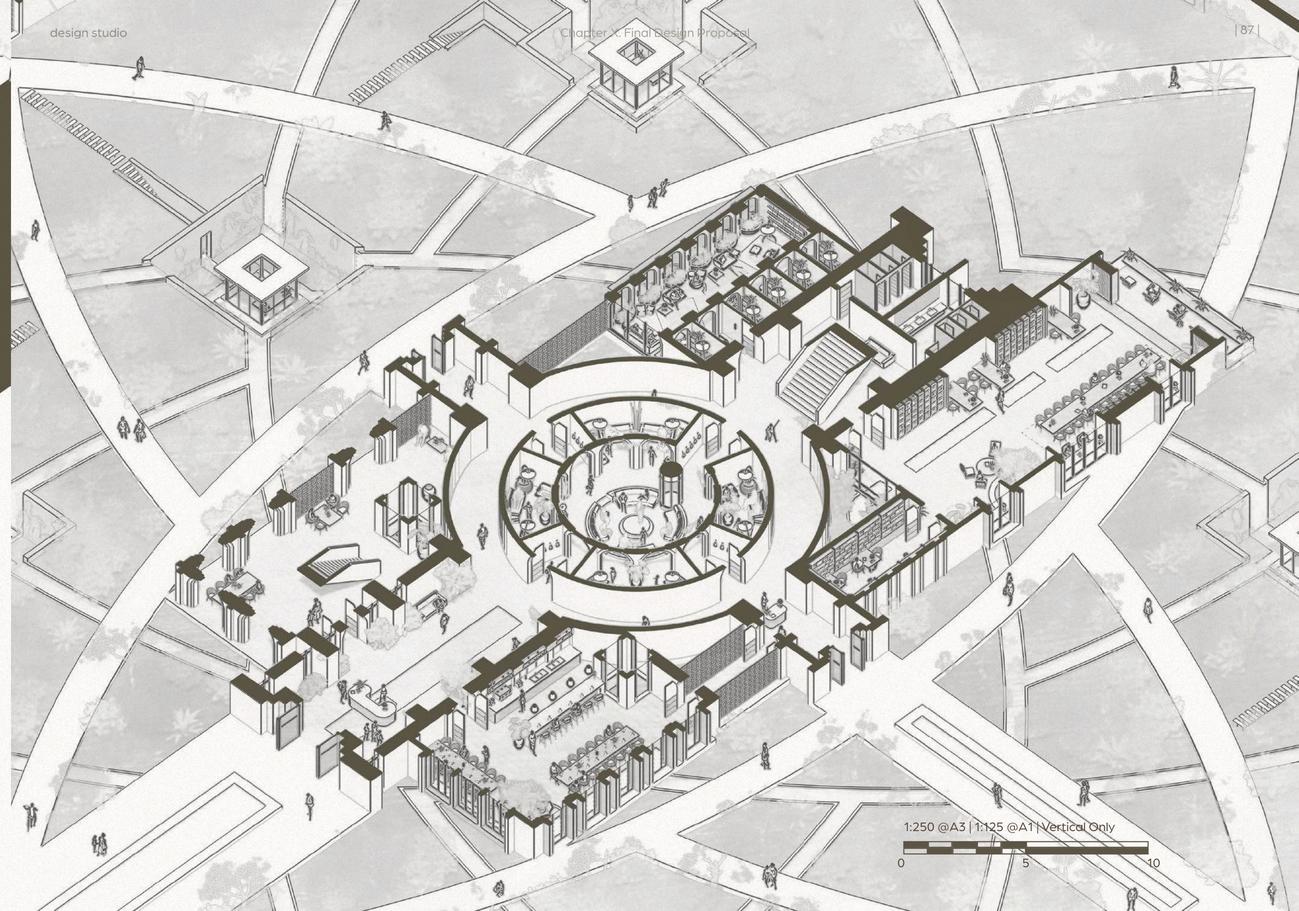
vQ: The wellness washroom – natural stone and soft daylight ensure even the ordinary is treated as worthy of care.



R10. vR: Study pods are suspended between water–falls and green, forming private worlds of focus carved from nature.

Section Oblique



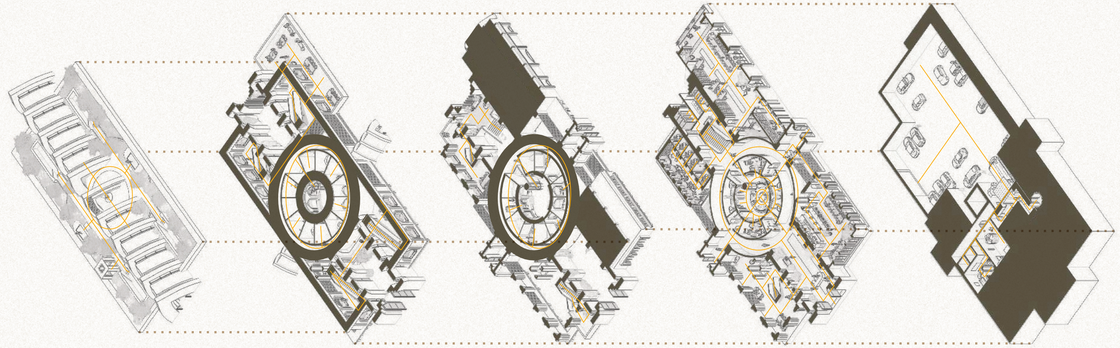


Axonometric

1:250 @A3 | 1:125 @A1 | Vertical Only

0 5 10

Exploded Axonometric



1:800 @A3 | 1:400 @A1 | Vertical Only

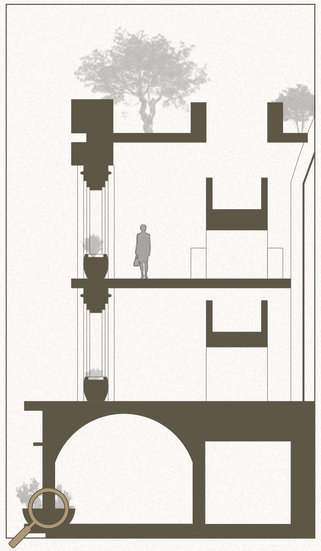
0 10 20 50

Main Building Circulation

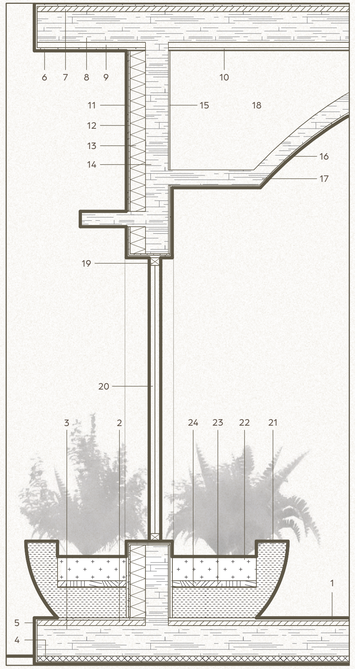
Bay Study



Facade Elevation



Facade Section



Window + Planter Technical Detail Bay Study

1:100 @A3

0 5 10

1:20 @A3

0 0.5 1 2

Key

#	Name	Thickness (mm)
	...	
	Ground Floor Slab	300
1	Timber floorboards	20
2	Screed	30
3	CLT slab	200
4	Compacted hardcore / gravel	35
5	Concrete foundation with clay finish	15
	First Floor Slab	300
6	Clay finish	20
7	Screed	30
8	CLT slab	200
9	Service void	35
10	Clay finish interior	15
	Wall	300
11	Clay render finish exterior	15
12	Weather membrane	10
13	Insulation (rigid PIR)	100
14	CLT wall panel	150
15	Vapour barrier	10
16	Clay render finish interior	15
	Internal Arched Wall	
17	Timber frame	100
18	Void	N/A
	Window	75
19	Steel window bars	75
20	Double glazed window	75
	Planter	1700
21	Vase bowl (terracotta)	200
22	Growing medium / soil	160
23	Drainage layer	40
24	Root barrier	5

Physical Model

Made at 1:100, not applicable to below images.
Challenged to create all models within one day.
Future projects to have HQ models made in university lab.







XI

Concluding

Reflection

With the design complete, I look back and ask whether this intervention genuinely serves the community of Vauxhall and answers the questions I set out with.

- Research question answered through daylight strategy, biophilic space and VR connectivity.

- All client profiles addressed: light as medicine, global connection, spatial variety, a reinvented typology and commercial viability.

- Five Big Ideas delivered: evidenced community need, a programme that heals and connects, biophilia fused with immersive tech, and SiD shaping material decisions.

- WELL review: strongest in Light, Mind and Community. Air and Water need more technical resolution.

- If repeated, I would refine earlier pages and models. Without university workshop access, I prioritised design, presentation and international learning.

- I would conduct a deeper SiD cycle, something I do thoroughly in my professional career at Except Integrated Sustainability, but had to balance the brief's wider deliverables.

This project carried a personal weight. Having lived through seasonal depression across the two most difficult years of my life, arriving in Ho Chi Minh City showed me what light, warmth and colour can do for recovery. I am grateful to now give some of those learnings back to the people in Liverpool who need wellness spaces just as much as I did.

Thank you for the start in my wellness architecture journey,

Sen Bloom.



"i want my memories to have colour"

Luka Mitchell, my own quote, something I said to my family when I returned to the UK for two months. two weeks later, I was back in vietnam.

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23. AI Acknowledgment
I acknowledge the use of ChatGPT (OpenAI) for icon generation and light image editing, and Claude (Anthropic) for refining author-written text. All outputs were manually reviewed and edited before inclusion.

OpenAI (2025–2026) ChatGPT responses to Luka Mitchell, November 2025 – May 2026.

Anthropic (2025–2026) Claude responses to Luka Mitchell, November 2025 – May 2026.

R#.	input	prompt	output
R1.		enhance model photo, remove background, add warm lighting to right box, improve material contrast, clean edges.	
R2.		add water reflections, warm lighting to opposite side, deepen atmosphere, warm tones.	
R3.		enhance warm lighting, increase depth, soften arched corridor glow, realistic nature.	
R4.		enrich foliage density, enhance dappled light through timber canopy, warm tones, improved materials, greater contrast.	
R5.		warm interior lighting, enhance window glow, add depth to arched hallway, match material textures from previous.	
R6.		enrich planting, amplify warm ambient light, add realistic furniture detail, deepen shadows.	

R#.	input	prompt	output
R7.		add trailing caustics, blue atmospheric tone, enhance oculus detail, increase structural definition.	
R8.		transform skylight to water caustic effect, shift to cool blue tones, add light refraction.	
R9.		add blue ambient caustic lighting, enhance dome interior, replace blank people with projected hologram figures.	
R10.		improve cinematic atmosphere, enrich garden planting, add foam at base of waterfalls, change water tone.	
R11.		add dramatic night lighting, illuminate model interior, warm glow through openings.	

Annotations: R#.

Process for each image:

1. Claude refine prompt
2. ChatGPT image edits
3. Photoshop post-processing

prompt

Architecture Portfolio

ataraxi Sen Bloom design studio