



Lon Y **LAW**

**ARCHITECTURE  
PORTFOLIO**  
2016-2022

# Lon Y Law

RIBA Part 2 Architecture Student

**lonylaw.com**

I am a part 2 student with the ability to develop and design tailored custom tools to enhance the design process through the use of parametric tools and generative solutions. My thesis on an urban scale and participation in multiple projects in varying scopes during my year out have provided me with good knowledge in building systems, urban patterns and carbon neutrality. I am interested in architectural regionalism where my dissertation researched into traditional Chinese architecture in a 21st century modern city. I mostly enjoy acquiring new knowledge in my free time through reading, practicing various arts as well as imagining the future.

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More projects on **lonylaw.com**

## **Education**

2020-2022  
MANCHESTER SCHOOL OF ARCHITECTURE  
CPU (Complexity, Planning and Urbanism) Studio  
2021 // Jicwood Prize nominee

2016 - 2019  
UNIVERSITY OF NORTHUMBRIA (UK)  
BA (Hons) Architecture - Second Honours Upper Class  
2016 // Scholarship recipient

2010 - 2016  
YEW CHUNG INTERNATIONAL SCHOOL (HK)  
2016 // International Baccalaureate Diploma  
2014 // IGCSE (9 A-C, includes English and Mathematics)

## **Experiences**

2019-2020 // Aedas Ltd (HK)  
- *Arena in Cotai, Macau. Project architect.*  
Coordinated with consultants on structure, MEP, acoustics and fire safety. Created 3D models (sketchup), 2D cad drawings  
Chaired consultant meetings, frequent site visits and assisted in project admin matters.

- *Casino-hotel complex in Manila, Philippines. Design architect.*  
Space planning, massing and facade design, part of design team.  
Created 3D models (sketchup) and hand sketch drawings, involved in contract, tendering and project admin matters.

- *Cultural district in Guangdong, China. Feasibility stage.*  
Master planning of a cultural district connecting Guangzhou South high speed railway station and Chimelong amusement park.

2018 // Guangdong Nanhai International Architectural Design Co. Ltd (CN) (*summer intern*)  
Learned Revit, Internal checking on drawings and BIM model.

2017 // Oneday Group (HK) (*summer intern*)  
Graphic design, motion graphics, application UI and UX design

## **Languages**

Cantonese | English | Mandarin | Japanese

## **Personal Skills**

Problem analysis and solving, team work, communication, critical thinking, leadership and many more

## **Professional Skills**

Advanced  
Hand sketching, Idea generation, Photoshop, Indesign, Adobe XD, AutoCAD, Lightroom, SketchUp, Lumion

Intermediate  
Model making, Illustrator, Revit, HTML, After Effects, 3D Studio Max, Rhino, Grasshopper

## **Personal Interest**

Reading | Calligraphy | Music | Physics | Philosophy | Sustainability | Video Games

(References available upon request)

# New All Saints Library

Manchester School of Architecture | 2021 Jicwood Prize

This adaptive reuse project redesigns the existing MMU library considering alternative future scenarios for the campus. By working with MMU estates as a live client, a futures methodology was used to research and design plausible trajectories into our adaptable spatial strategy to address the client brief. By doing this, we follow established research methods to achieve an adaptable, flexible and resilient design.

The new proposal features a new vertical high-tech extension and internal adaptations while the exterior façade reintroduces and reconfigures the bricks as a new permeable skin with an aluminium panel system that mimics the bricks. This new proposal draws out new qualities the internal spaces such as the twisted internal atrium and the archive tower while offering comfortable and controlled augmented learning spaces and open plan study spaces.



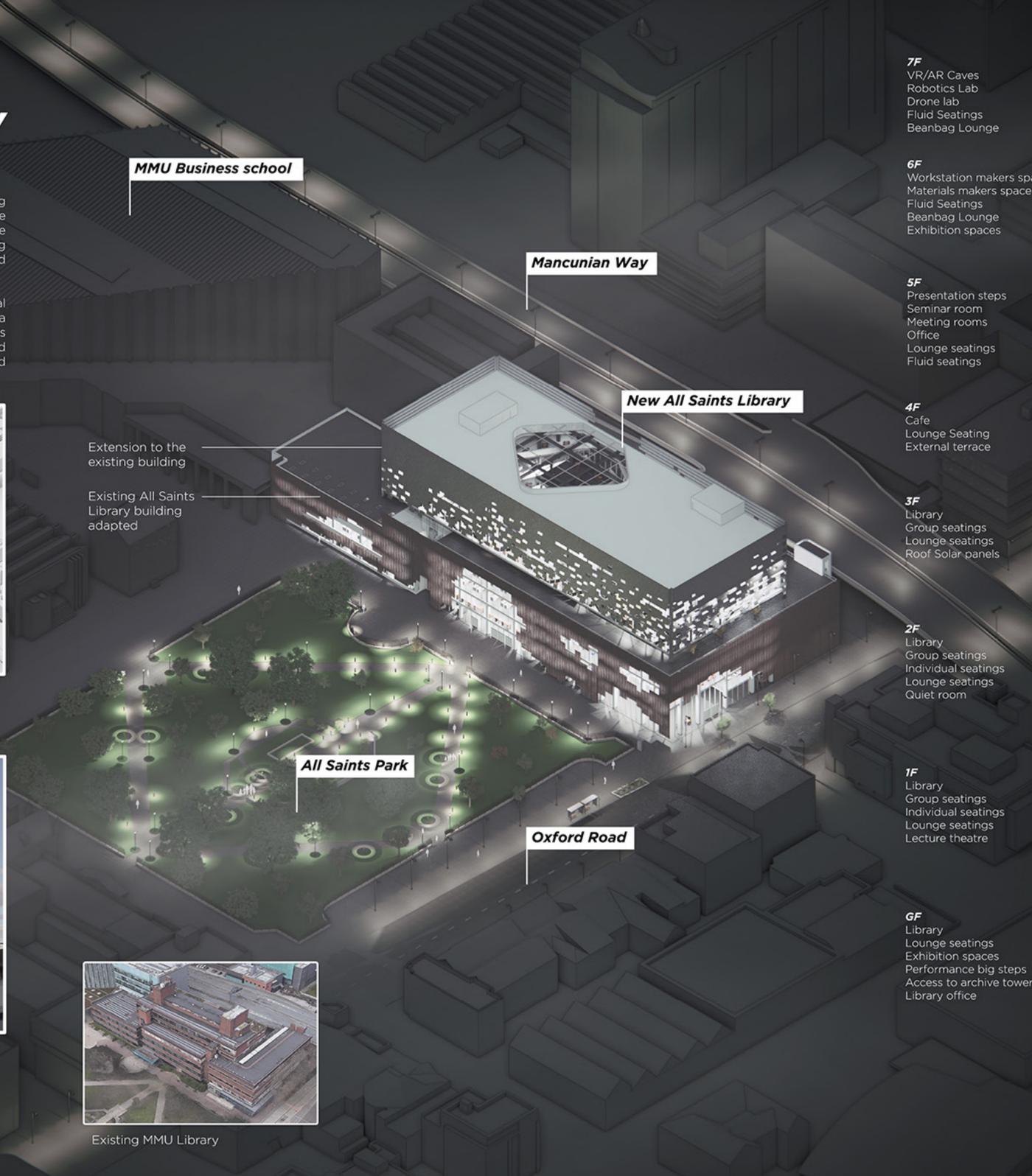
Building viewed from Oxford road at Dawn, with the extension facade blending in with the sky to lighten the appeared weight



Building viewed from Mancunian way, showing the back facade of the building from an elevated level



Existing MMU Library



MMU Business school

Mancunian Way

New All Saints Library

All Saints Park

Oxford Road

**7F**  
VR/AR Caves  
Robotics Lab  
Drone lab  
Fluid Seatings  
Beanbag Lounge

**6F**  
Workstation makers space  
Materials makers space  
Fluid Seatings  
Beanbag Lounge  
Exhibition spaces

**5F**  
Presentation steps  
Seminar room  
Meeting rooms  
Office  
Lounge seatings  
Fluid seatings

**4F**  
Cafe  
Lounge Seating  
External terrace

**3F**  
Library  
Group seatings  
Lounge seatings  
Roof Solar panels

**2F**  
Library  
Group seatings  
Individual seatings  
Lounge seatings  
Quiet room

**1F**  
Library  
Group seatings  
Individual seatings  
Lounge seatings  
Lecture theatre

**GF**  
Library  
Lounge seatings  
Exhibition spaces  
Performance big steps  
Access to archive tower  
Library office

Twisting atrium

Archive tower

Building extension: 3 additional levels

Presentation steps

Existing library spaces reused

Lecture theatre

Performance big steps

Student entrance

Public entrance

## All Saints Library Adaptive Re-use

Library | Manchester, UK

Student project, 2021 / Part 2  
Group of 4

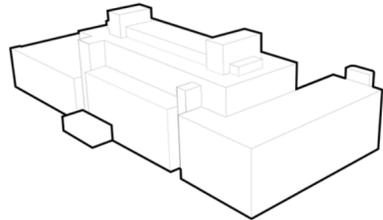
The project works with MMU estates (Manchester Metropolitan University building asset development department) to explore the future resiliency of its library. Through research it envisions 3 plausible trajectories of future and strive to provide for them through a new spatial strategy.

The design reuses the bricks from the existing library to make a new perforated facade and floats a hat above that mimics the bricks with a new aluminium panel system. It draws out the hidden archive of the existing library and celebrates it, creating a center pillar that stands the full height of the building visible from all angles.

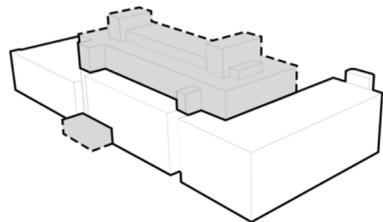
^ Jicwood Prize nomination submission cover panel

## Building massing

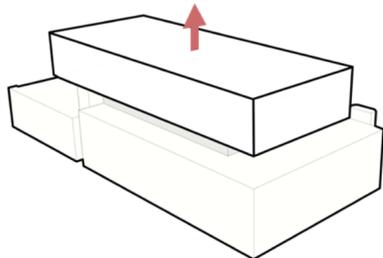
00 EXISTING



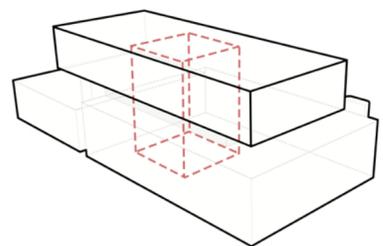
01 UNIFY



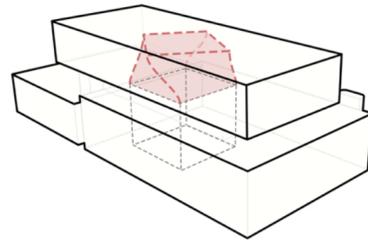
02 HAT



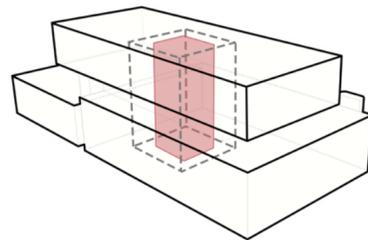
03 ATRIUM



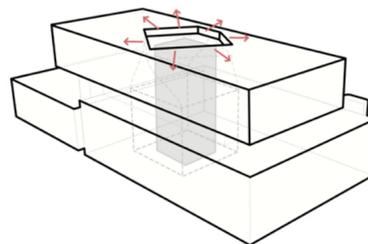
04 TWIST



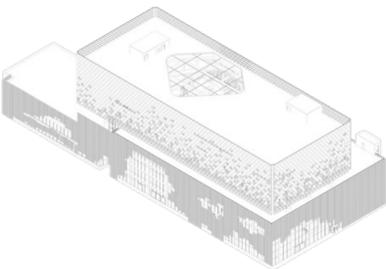
05 "THE PAST IS A PILLAR OF THE FUTURE"



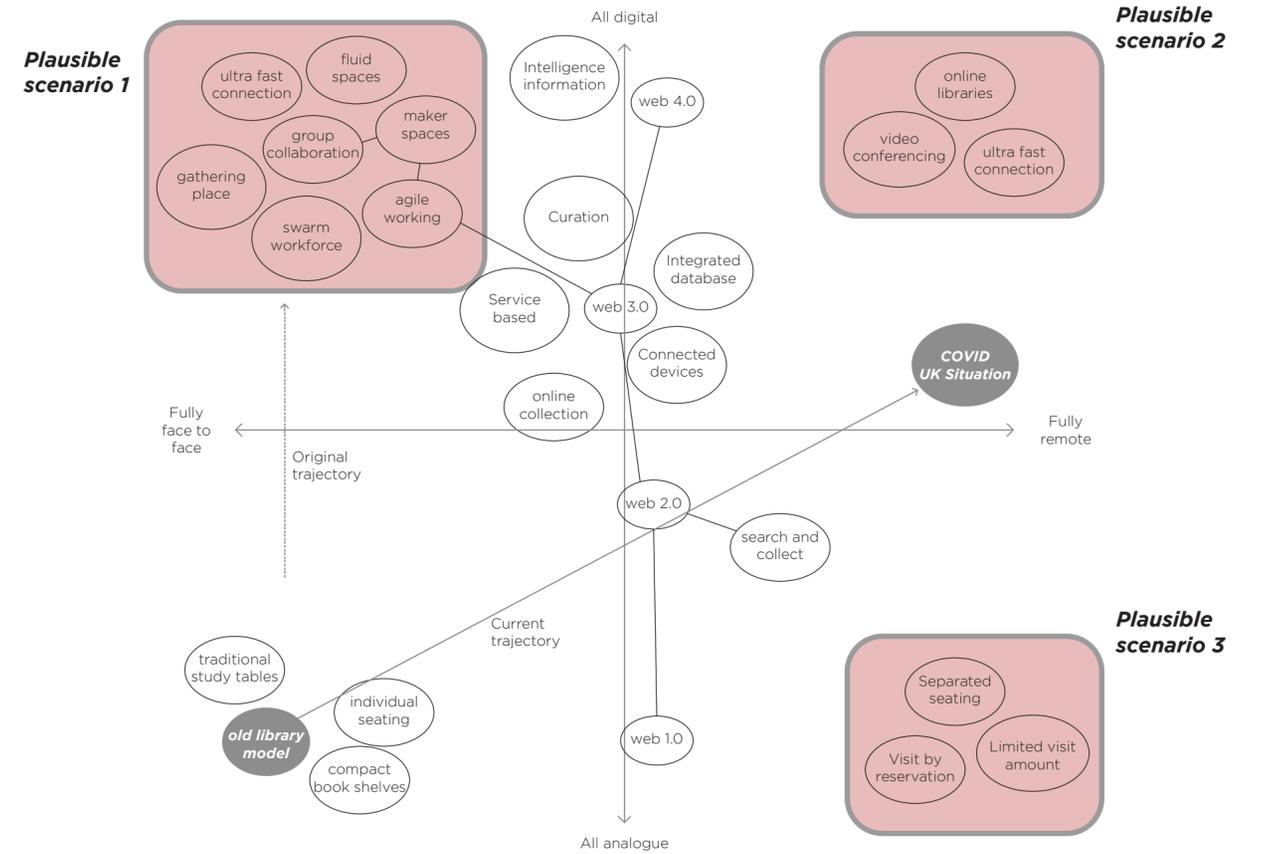
06 SKYLIGHT



07 ALL SAINTS LIBRARY



## Remapping scenario planning actors by remoteness & digitisation



**Plausible scenario 1**  
fully face to face - all digital

The development of the web allows hyper connectivity through the cloud as well as **instantaneous collaboration**, **disconnecting from the traditional table and chairs** for a more fluid setting

plausible spaces:  
fluid study and work spaces  
makeshift furnitures

gathering area  
collaboration area

**Plausible scenario 2**  
fully remote - all digital

Cloud based databases means users can **access the library without being present inside a library**, opening up possibilities to much more diversified spaces

plausible spaces:  
scattered seating  
conference spaces

"anywhere" working spaces  
untethered specialist spaces

**Plausible scenario 3**  
fully remote - all analogue

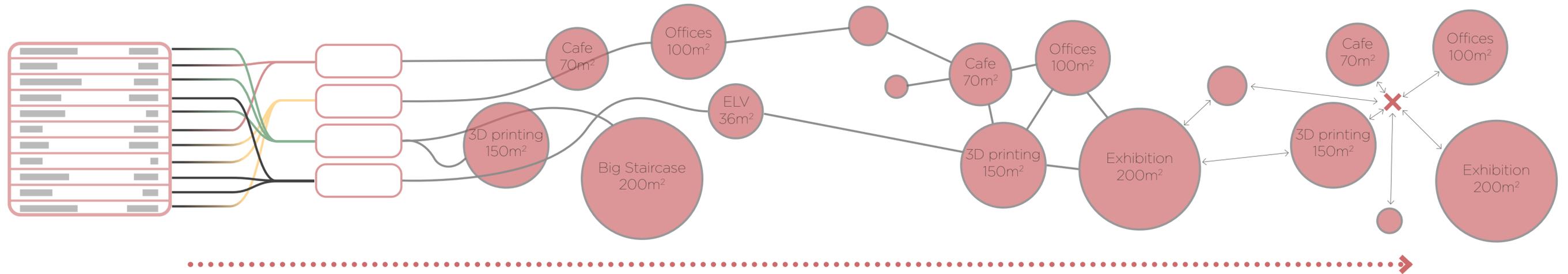
Analogue means physical presence in the library, but being fully remote requires users to be separated, this could happen in an **archive**, and often times dealing with analogue requires a lot of space

plausible spaces:  
reserved visit  
large tables

separated seating

These 3 scenarios represents a likely future of where the typology of a library is heading and will be what the building aims to accommodate

## Spatial strategy, designing a generative spatial algorithm using Grasshopper



### Building Programme update

The existing building programme is recategorised and new programme generated by scenario planning design framework is added

### Spatial requirements

By calculating the new GFA, area can be allocated to individual programme

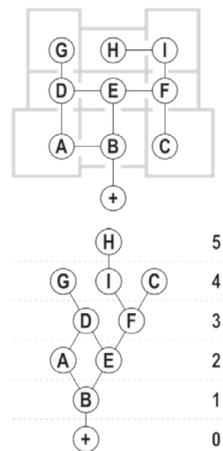
### Spatial relationships

Grasshopper is used to visualise and establish the relationships and adjacencies between spaces

### Archive as the center point

Based on the spatial relationships, an attractor is utilised to find the distance to the archive, and moving them closer or further based on programme

The generative spatial algorithm, based on the Space syntax theory, takes user input spatial relationships, area and attractor point and calculate the most efficient route in between spaces that incorporate all given instructions. The result is analysed further to choose 1 to take forward.



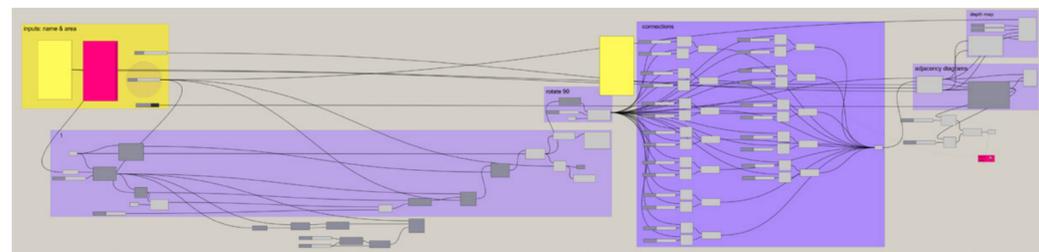
### Space syntax & Axial depth map

The generative spatial algorithm draws its framework from space syntax theory, which is a set of theses that analyse spatial layouts and spatial behavioural actions in buildings and the urban fabric. It is how they move, choose and adapt base on spatial layout.

One of the space syntax thesis is axial mapping, by drawing linear connections in the different spaces and creating a depth logic to show circulation logic.

The algorithm is used for the ground floor and the additional 3 floors on top of the existing building.

### Grasshopper script

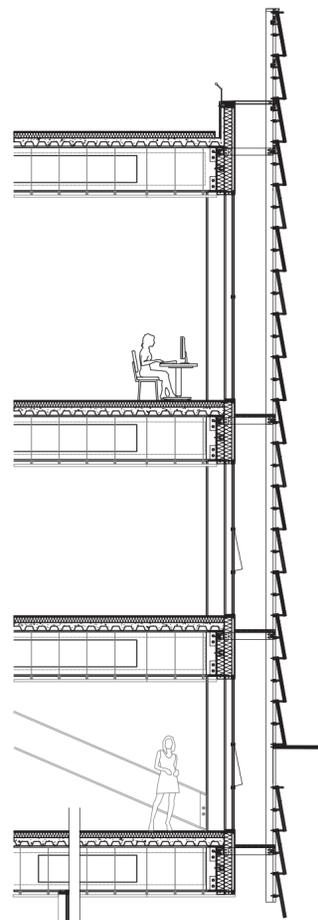
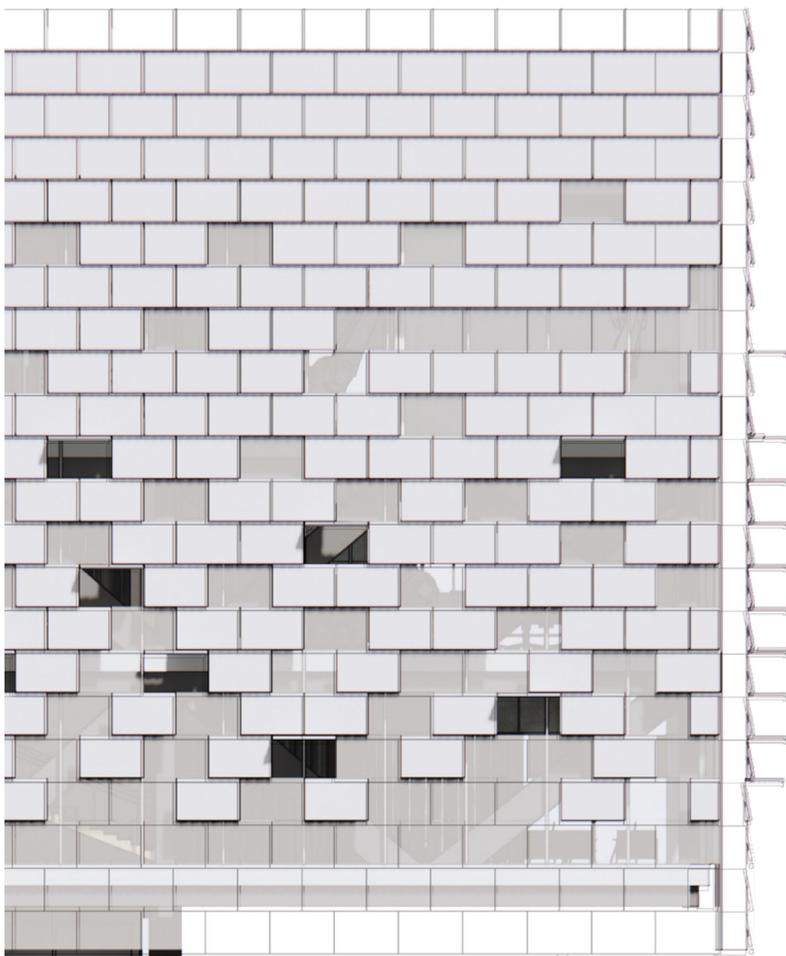


### Generated iterations for G/F

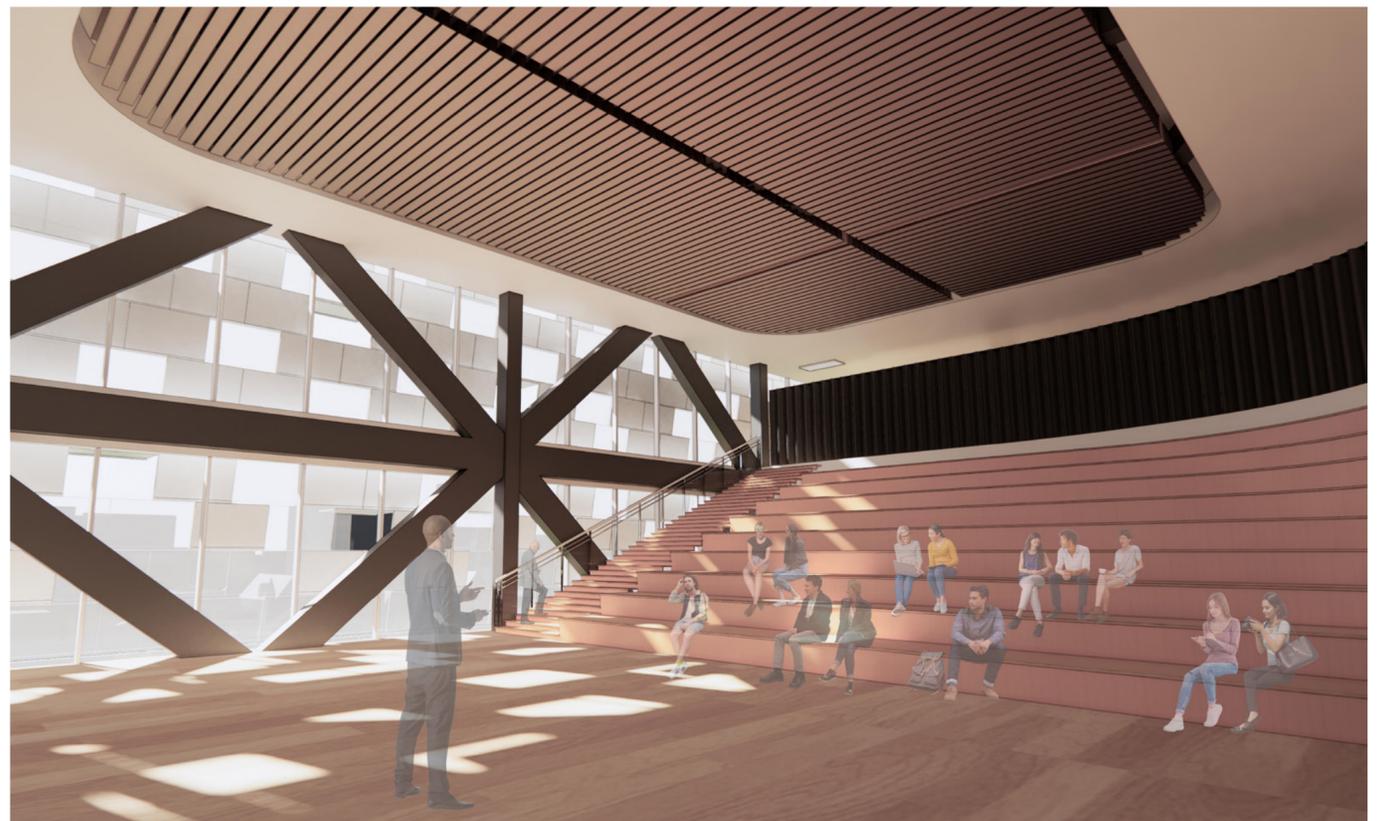
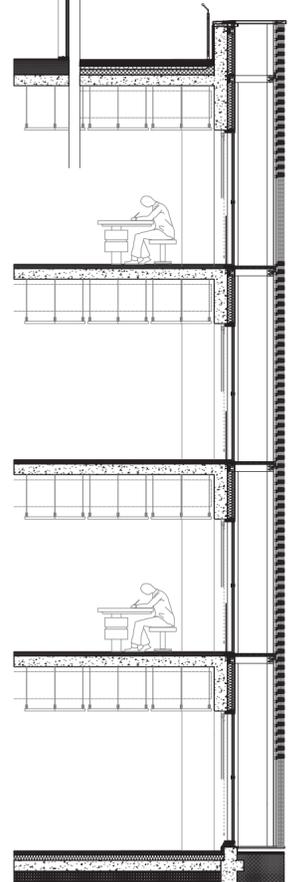
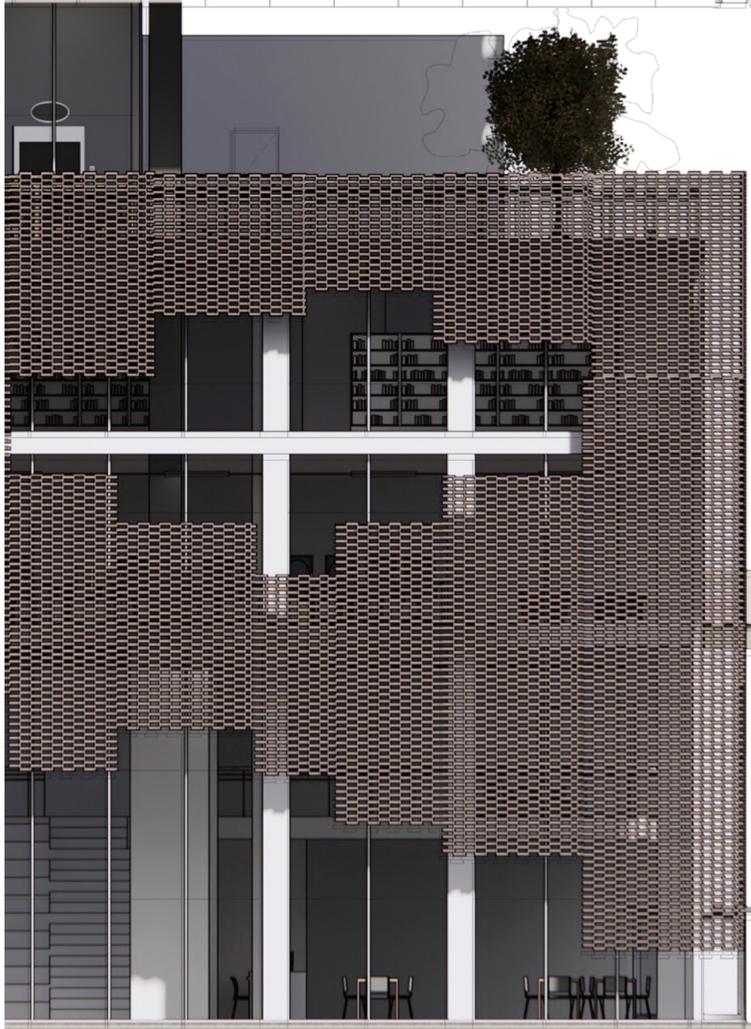


3 iterations with the closest generated spatial relationship compared to the given relationship links are then reviewed using a spatial separation analysis, evaluating spaces and given a number based on how separated they are. The analysis compare the 3 iterations with an ideal result and the best performing result is then selected to further develop in detail.





Building from Oxford road



5th floor presentation steps



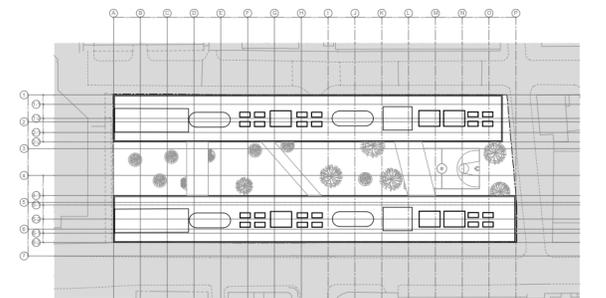
## The Lucent

Student accommodation | Manchester, UK

Student project, 2020 / Part 2  
Group of 2

The project is a new build project, designing a purpose built student accommodation (PBSA) while exploring the future of student accommodations in the UK through an innovative building method of **Design For Manufacturing and Assembly (DFMA)**. It brings versatility to the building allow it to maintain its competitiveness compare to the ever changing student housing market as a valuable asset to the university.

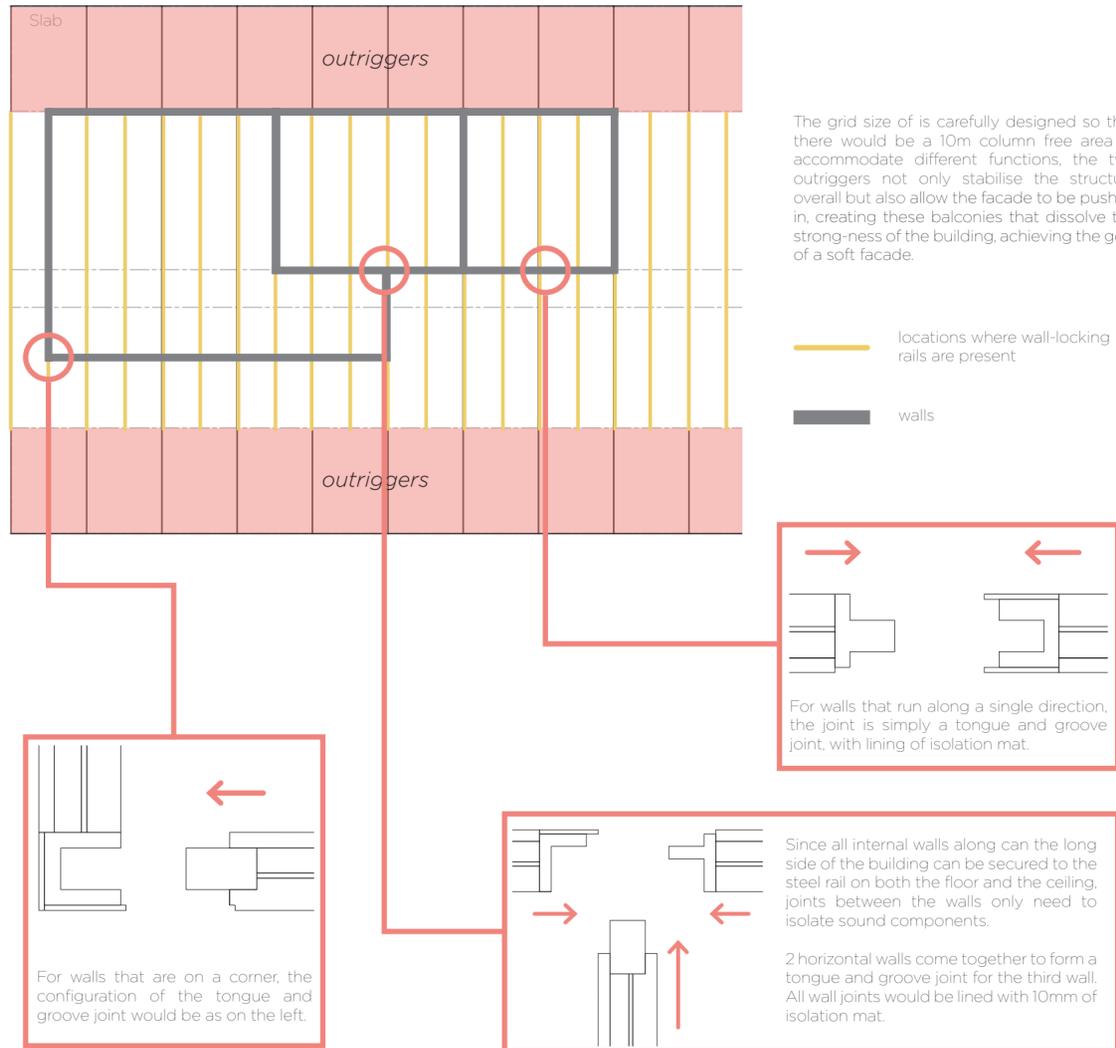
The design aims to soften the transition entering the university as well as celebrating the entrance into the MMU campus from the West side, transitioning visitors from the buzzy street to the quiet campus. The word have the meaning of both translucent and glowing, describing the quality of the building in day & night respectively.



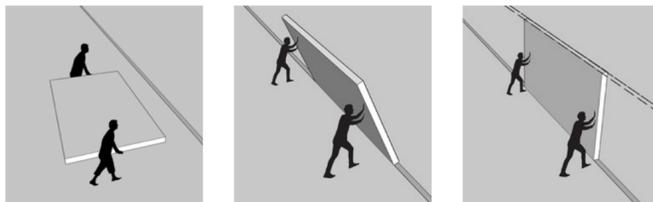


## Walls panels

Wall panels are one of the main components in making the flexible system work. These wall components would need to be removable and be able to lock themselves in place. There are 2 types of walls, external and internal, which would be locked into hidden rails in the slab panels that can be revealed by removing a metal cover.

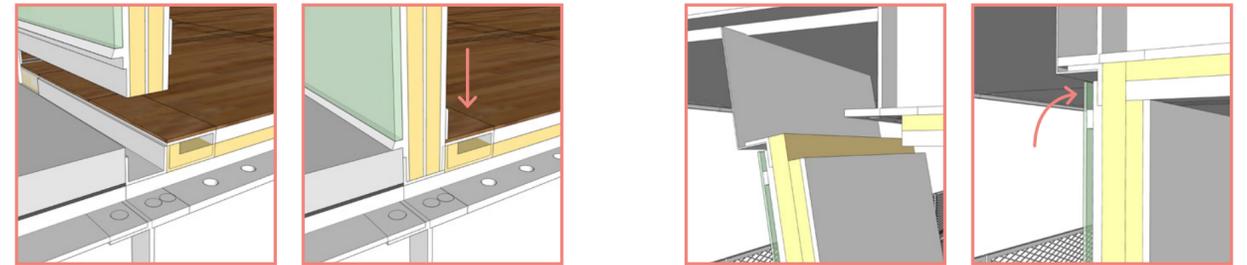


### Process of installing a wall



## External wall

External walls utilise a C-channel system at the bottom and uses bolts to secure at the top. After sliding in and erecting to the correct position the wall would be bolted to the ceiling structure to secure it in place.

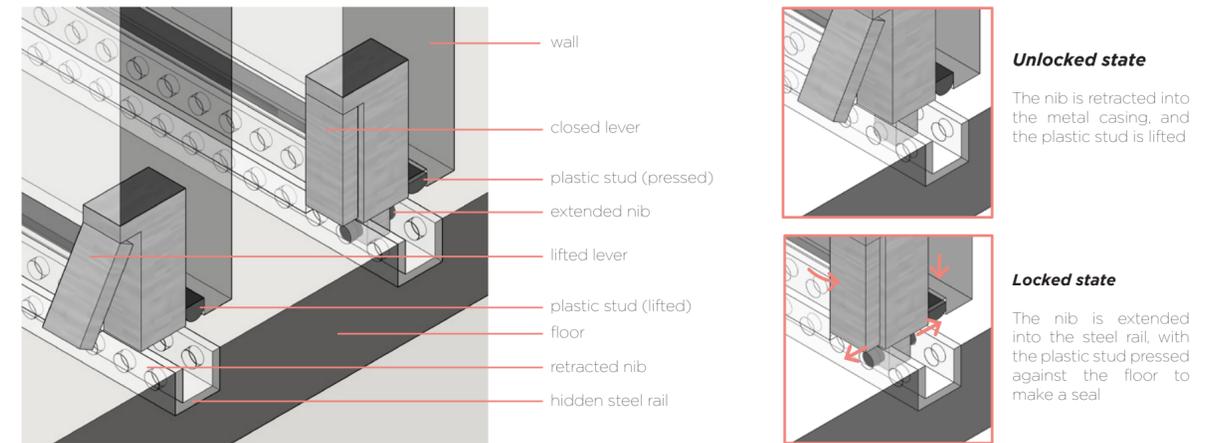


Slotting into the floor C-channel

Bolting to the ceiling

## Internal wall

Internal walls are fitted with a locking device that locks the walls into place. Walls are brought horizontally into place, erected, then slid into the steel rail in the floor and on the ceiling. To lock the system in place, the lever is pressed in to extend both the nib and to push the plastic stud against the floor, creating a sound barrier and using friction to hold the wall in place.



### External walls

Externals walls separate the internal and external part of the building, providing thick insulation and facade panels.

Wall build up Left to right (outside to inside):

- Semi-transparent Facade panel
- LED strip / batten
- Brushed metal panel
- 100mm insulation
- 50mm rigid insulation
- 28mm OSB
- Internal finish paint

#### Installation:

Inserted in horizontally, erected and slotted in, bolted on top

### Internal walls

Internal walls provide separation between spaces and have one lining of insulation.

Wall build up Left to right :

- Socket faceplate
- Internal finish paint
- 42mm OSB
- 10mm isolation mat
- 50mm rigid insulation
- 150X50mm cable tray inside wall
- 38mm OSB
- internal finish paint
- socket faceplate

#### Installation:

Inserted in horizontally, erected and slotted in, close lever to push plastic stud against floor and ceiling and nib into them



## Heaton House

Musical performance hall | Newcastle Upon Tyne, UK

Student project, 2018 / Part 1  
Individual project

Heaton park is a transitional zone separating the urban Newcastle and the conservation area of Jesmond Dene. It is also part of the Urban core plan for Newcastle 2010-2030 to be transformed into a wider district for creative industries, fostering new ideas and culture.

Inspired by the transitional nature of Heaton park, the building transitions its spaces and programme with vertical columns, also mimicking the trees present in the site.

^ Central Courtyard of the building

# The transitional space of Heaton Park



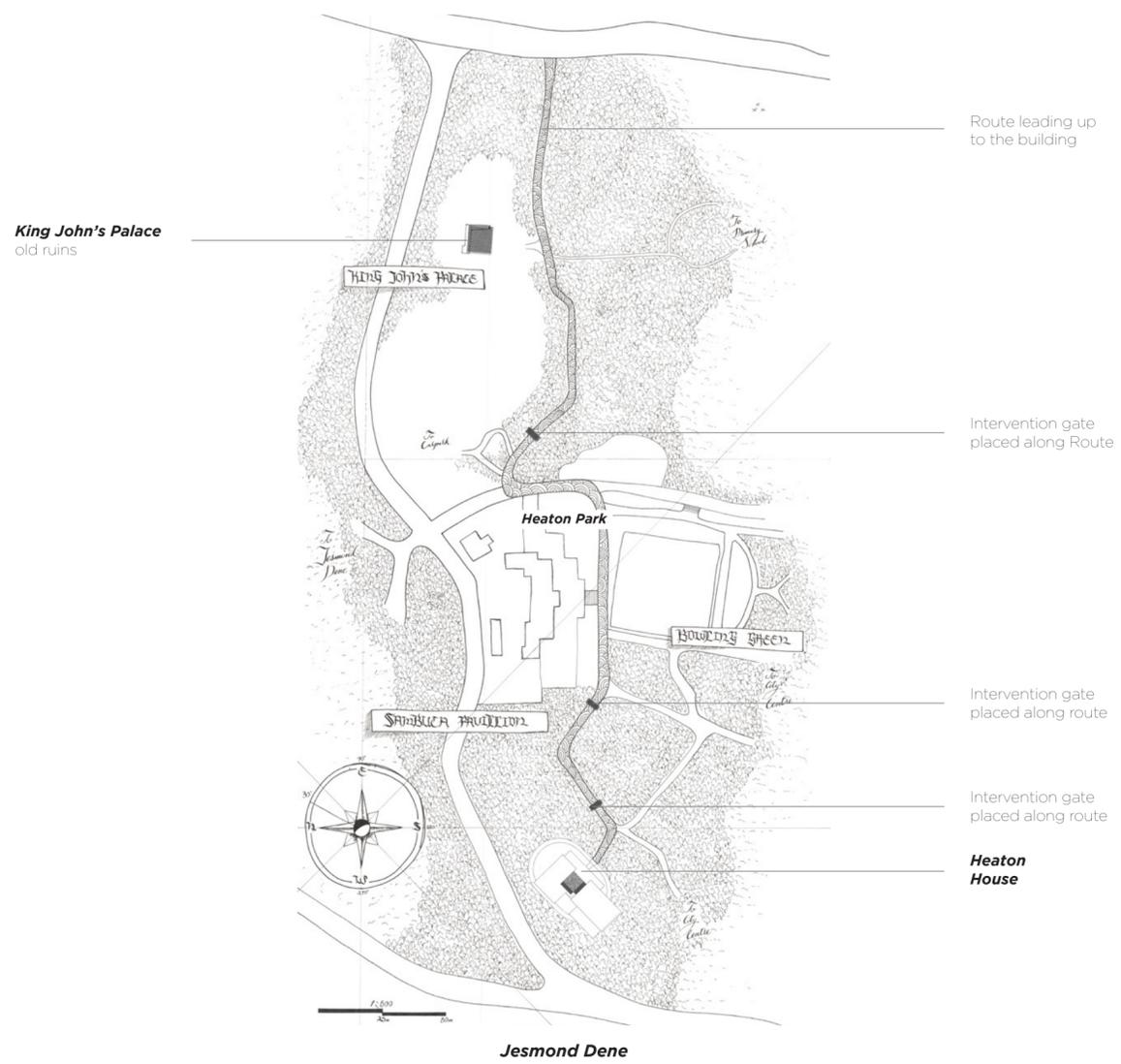
Jesmond Dene  
(Nature)

Heaton Park  
(Transitional)

Urban Jesmond  
(City)

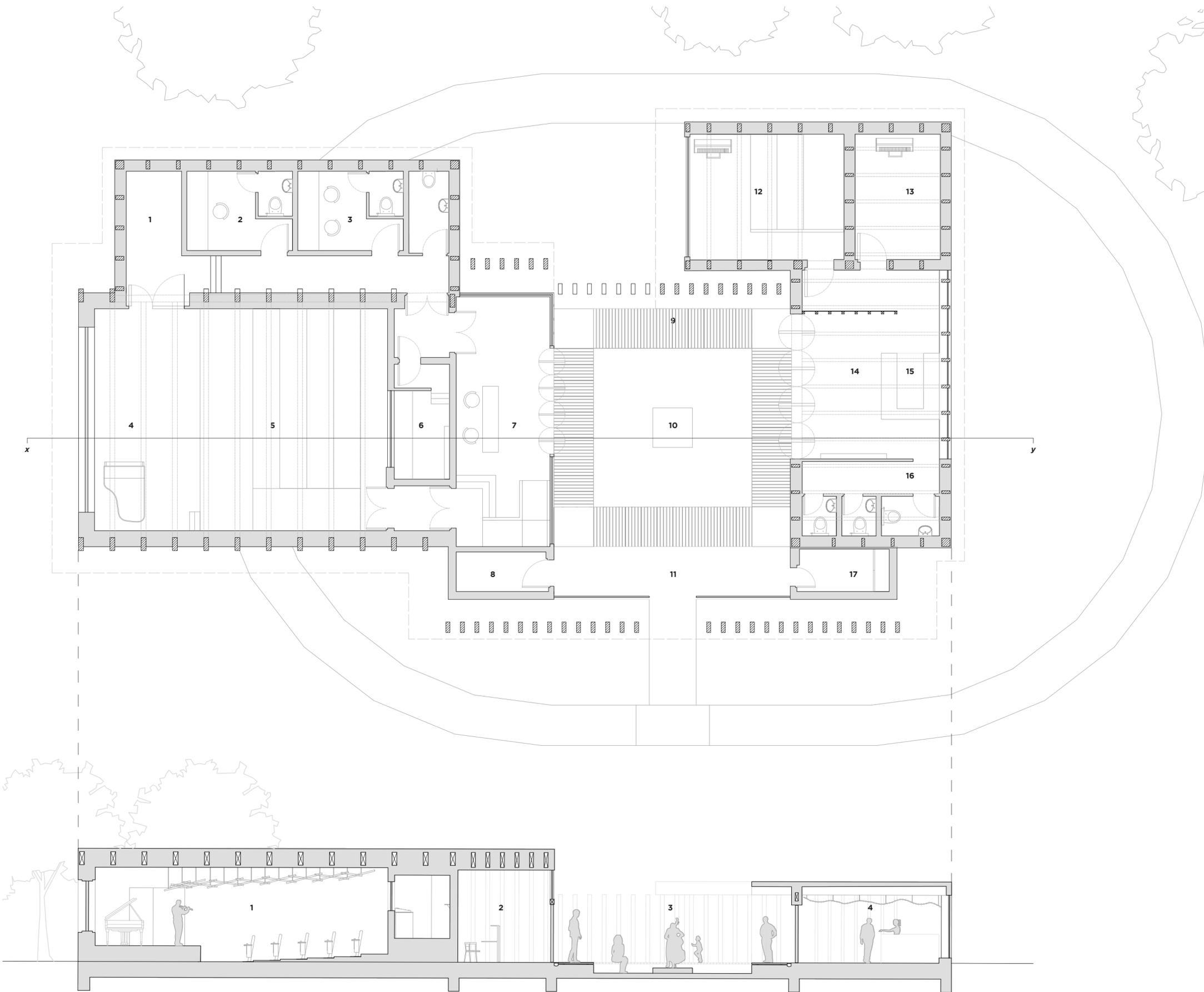


## Urban Newcastle



Leading up to..





**Heaton House**



**Floor plan**

- 1 Instruments storage
- 2 Dressing room 1
- 3 Dressing room 2
- 4 Auditorium stage
- 5 Auditorium seating area
- 6 Auditorium control room
- 7 Auditorium Foyer
- 8 Stairs to plant room underground
- 9 Open space/ Circulation space
- 10 Outdoor performance space
- 11 Entrance
- 12 Small performance house
- 13 Practice room
- 14 Secondary Foyer
- 15 Cafe POS (point of sale)
- 16 Restrooms
- 17 Staff changing room

**Section xy**

- 1 Auditorium
- 2 Auditorium Foyer
- 3 Outdoor Performance Space
- 4 Secondary Foyer

