

# The Dancer’s Heart/O Coração dos Dançarinos

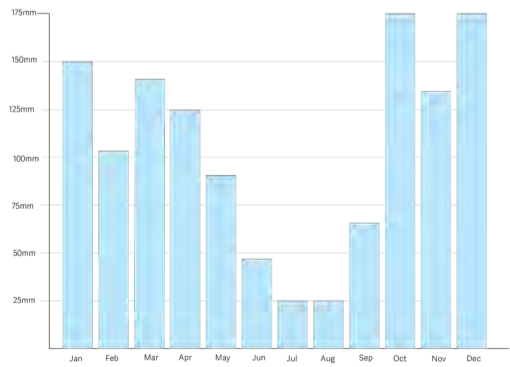
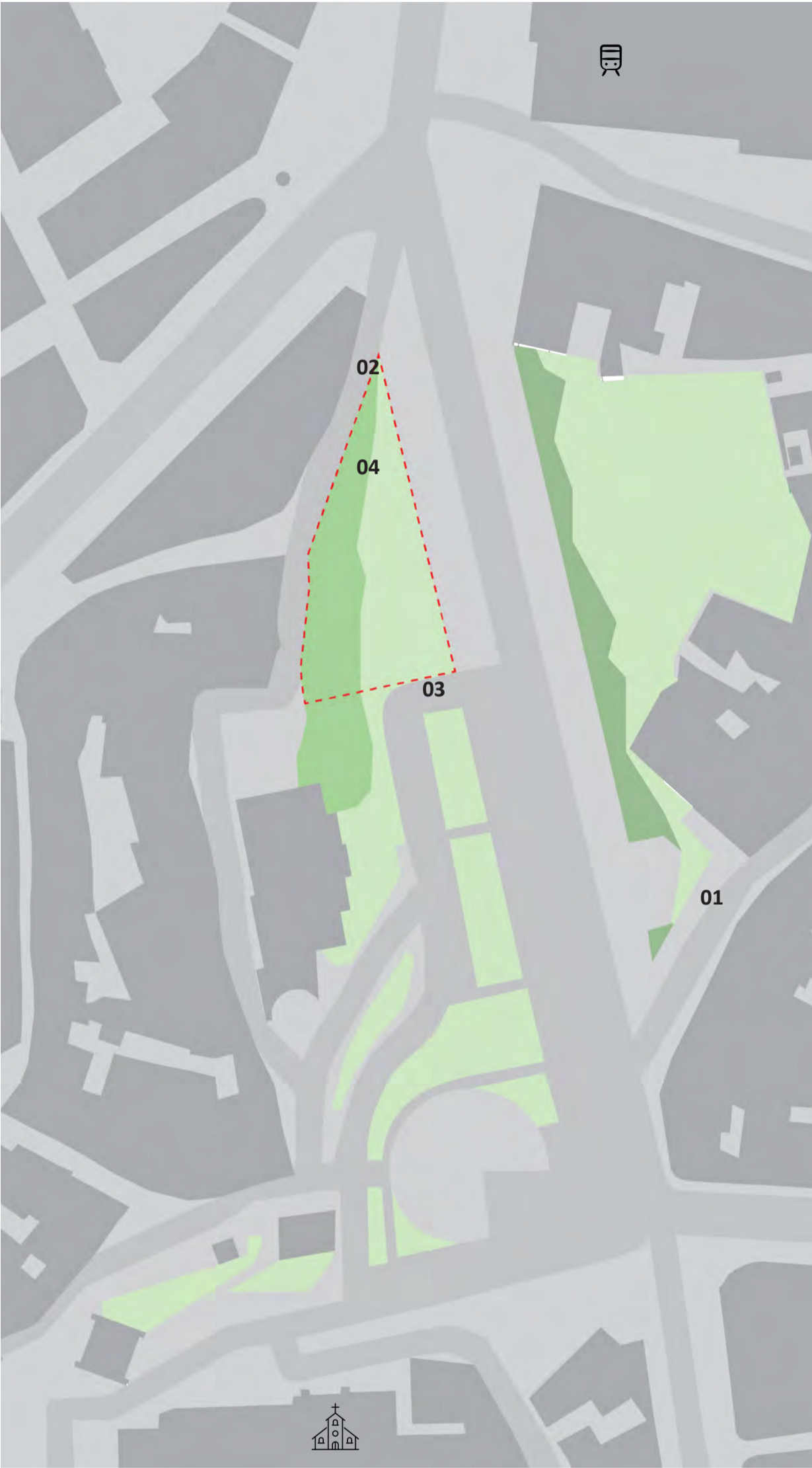
Brief Narrative

Dance, an ever important part of traditional and current Portuguese culture. Within the realm of dance in Portugal, there has been a resurgence in interest in traditional Portuguese dances such as Vira and Corridino. However, with this interest, a lot of the knowledge is held with individuals/elders of the community. The Dancer’s Heart is a dance education centre which will provide spaces for the rich art of Portuguese folk dance and modern Portuguese dance to be taught, to be performed, and to grow.

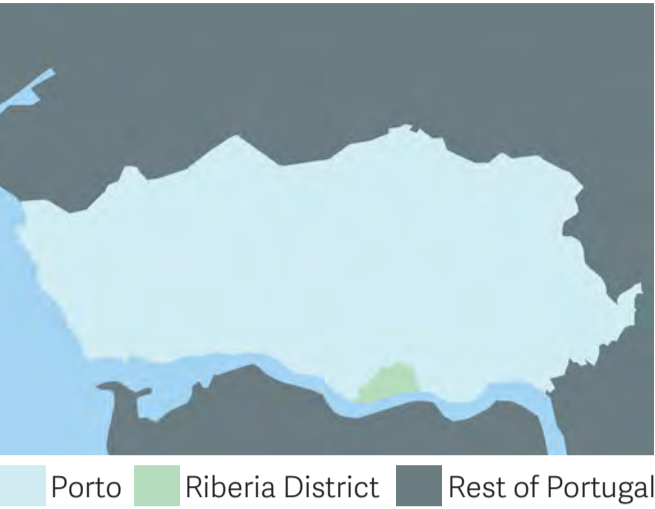
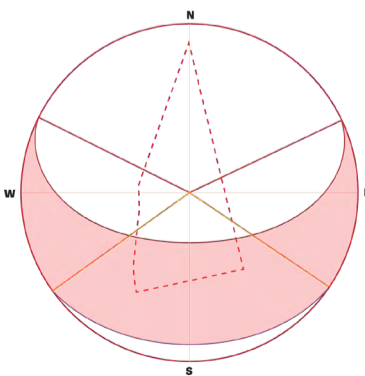


Ribeira District, Porto

Locating site and its qualittes



The site gets alot of rain in the winter months and doesn't receive much shade all year round due to there not being any buildings on the east and southern side of the site



The site is located in the Ribeira district of Porto, Portugal. It has multiple level changes on the street that its located on and within the terrain that is on the site. It is located within a 5 minute walk of the Sao Bento Train Station, the metro, the Church Se do Porto and the Ponte Luis Bridge allowing for alot of foot traffic to pass by the site creating a perfect opportunity for a public building



01 The Site from the hill opposite



02 North end of site



03 South end of site with the semi-used road



04 The hilly rocks from the middle of site

Ribeira District, Porto

Analysing and understanding the functions and pricing of existing performance venues



01 Teatro de Marionetas do Porto

Price Range: 3.50

Specialises in : Marionette/Puppet Theatre



02 Teatro Municipal de Porto - Rivoli

Price Range: € 7 - € 12

Specialises in : Variety of Theatrical Performances



03 Coliseu Porto Ageas

Price Range: €14 - €50

Specialises in : Music



04 Teatro Nacional São João

Price Range: €10 - €40

Specialises in : Dramas/Theatre



05 Teatro Sá da Bandeira

Price Range: €10 - €24

Specialises in : Musicals, Stand up comedy and Dramas



06 Teatro Carlos Alberto

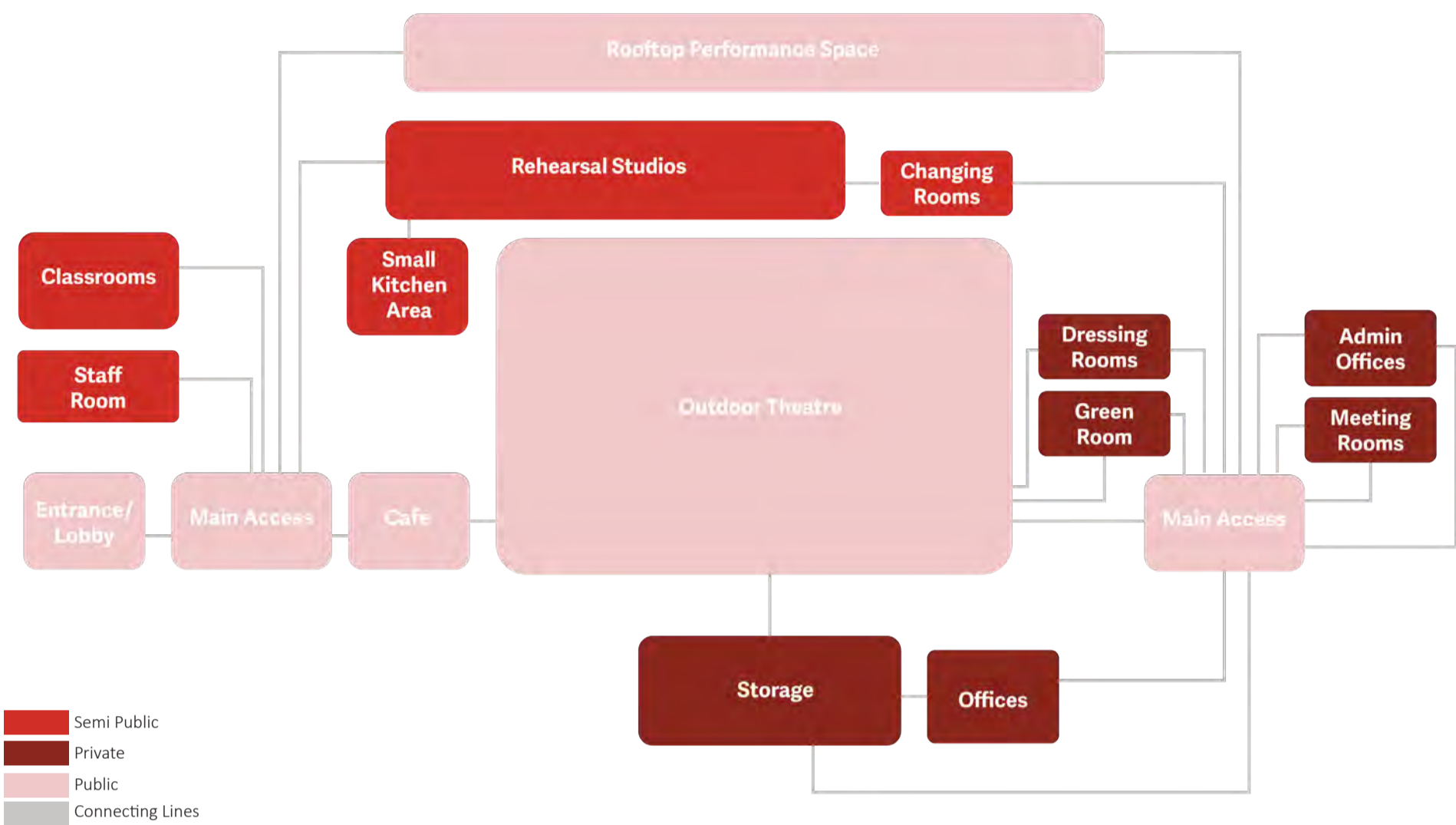
Price Range: €6 - €20

Specialises in : Variety of Theatrical Performances

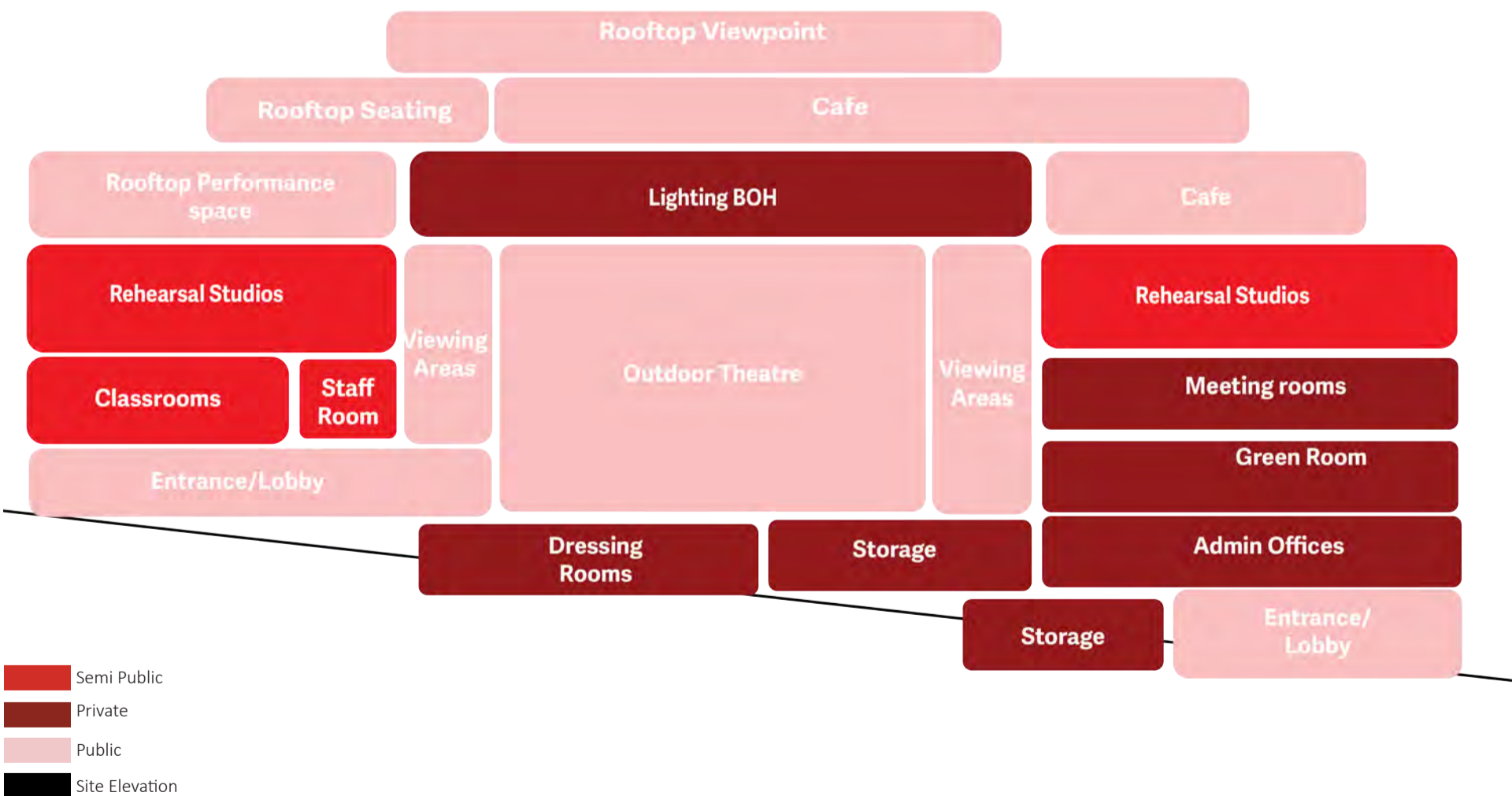


Organisational Diagrams

Understanding space connections



Organisational diagram exploring how the different spaces of the building are connected with the outdoor theatre being the main central space of the building



Exploring the how the layout/connections of the organisational diagram would sit within the sloped nature of the site and the hierarchy of the different spaces in section

Precedents

Analysing existing buildings

The Cineroleum (2010) by Assemble



Located on Clerkenwell Road, London was a project that transformed a petrol station into a cinema in 2010. This project had classical elements of golden age picture palace recreated using cheap industrial, reclaimed or donated materials. These materials were then used to refurbish the shop into a foyer and for creating an auditorium surrounded by a curtain.

The curtain was handmade by volunteers, hand-sewing around 3km of seam into a roofing membrane. By having a curtain surround the auditorium, they were able to determine when this seemingly outdoor space became an intimate indoor space where you are able to disconnect from the noise of the busiest road.

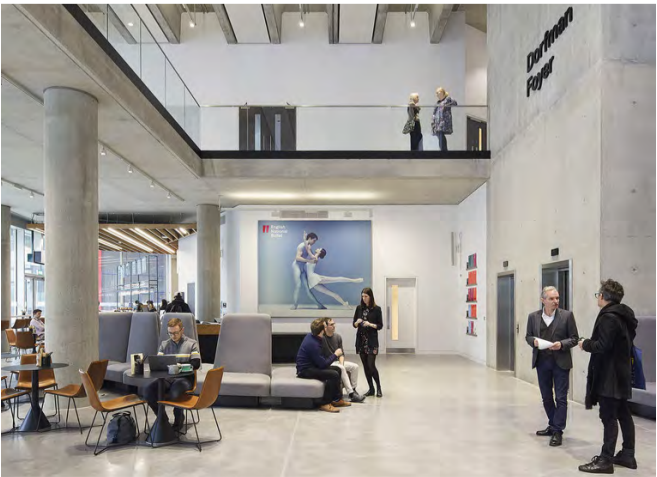


English Ballet School/ Dance Factory (2019) by Glen Howells Architects

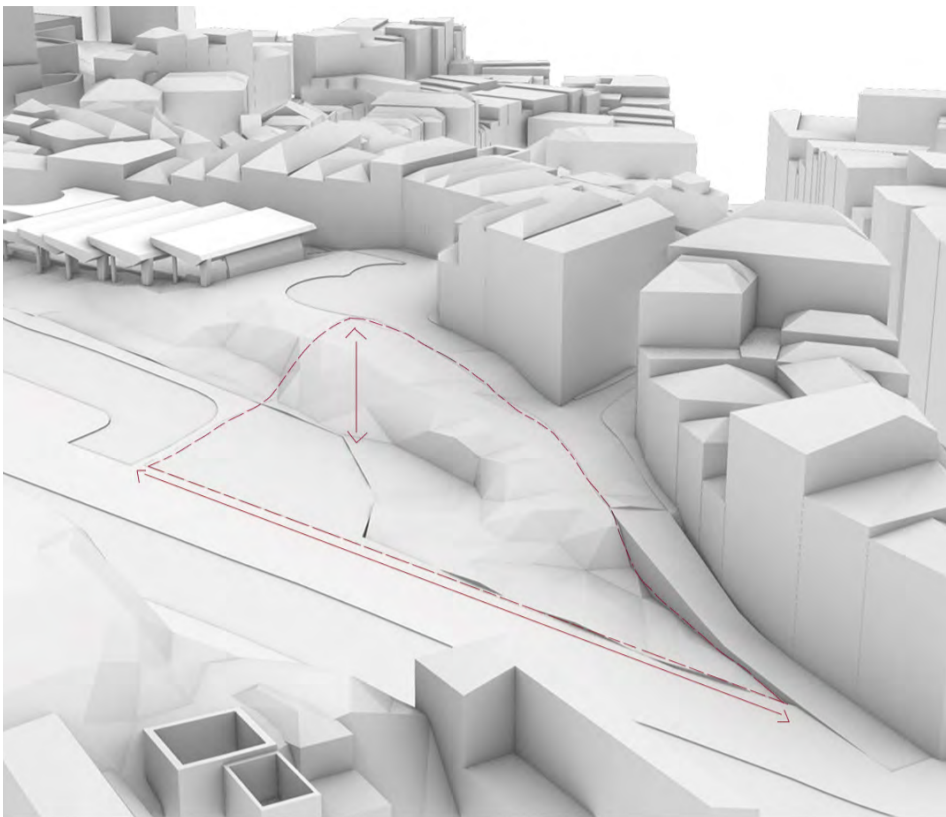


Located on London City Island, London, the Dance Factory is a building that accommodates the England National Ballet company and school. It provides 7 full sized rehearsal studios, costume, medical and production facilities as well as multiple dedicated engagement and learning spaces. The English National Ballet School is accommodated on the top two floors with student rehearsal rooms, lecture rooms and changing rooms.

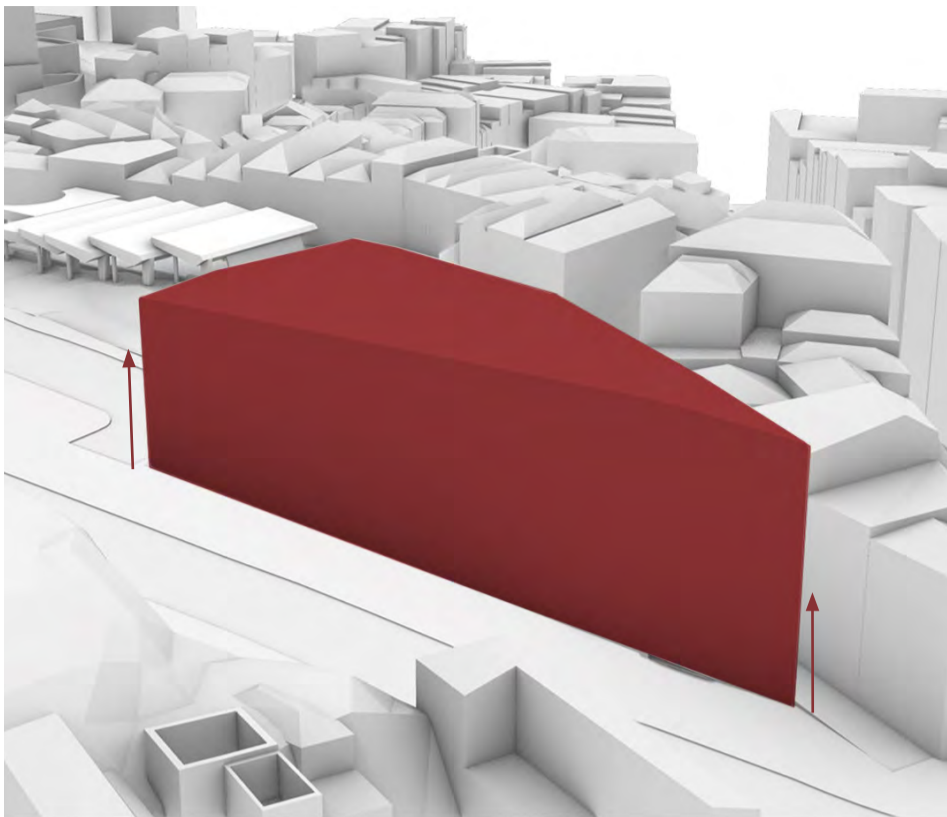
In addition to the rehearsal and production spaces, there is also a public cafe and multiple exhibition spaces to encourage the interactions between the school and the company.



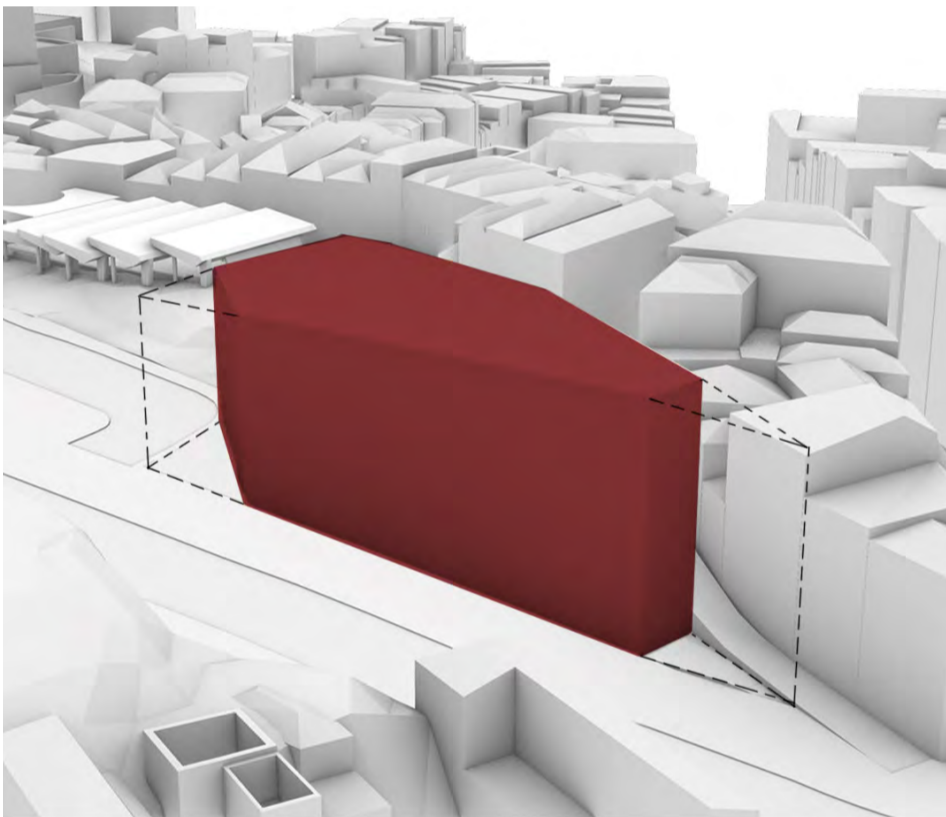
**Design Development**  
Cutting and sculpting the form of site



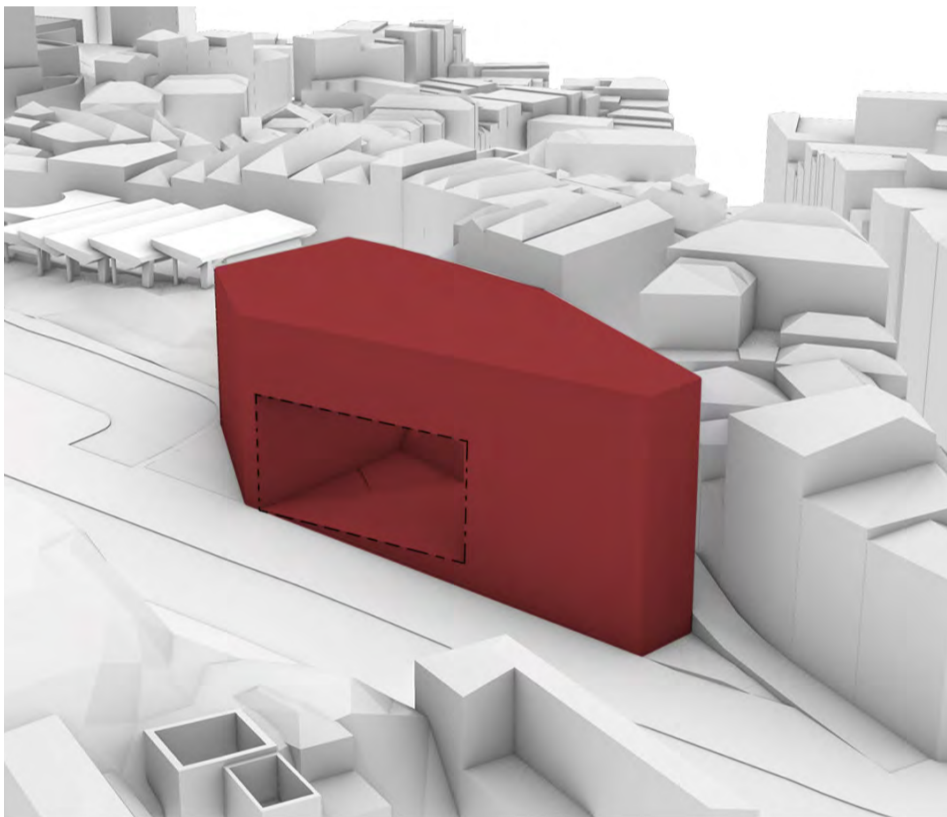
A Sloped site with many different levels changes experienced across



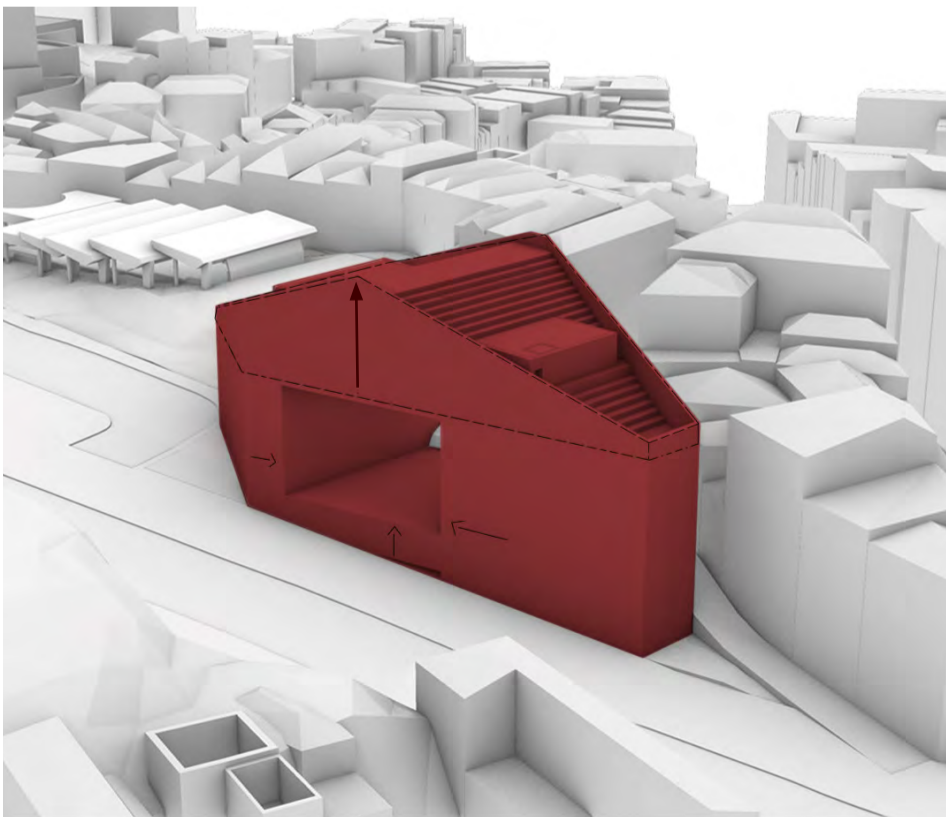
Extruding the site



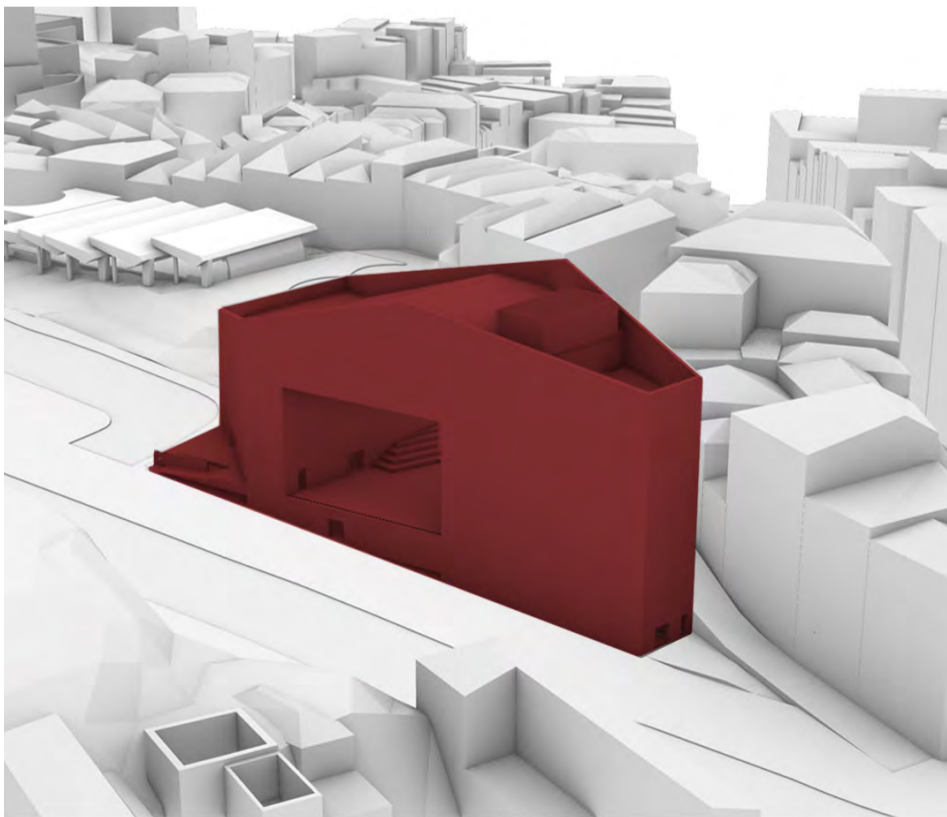
Cutting Away North and South Ends



Cutting Covered Performance space



Sculpted Exaggerated Roof Form



Introducing rooftop performance space

Contextual Aerial View



External Views



Southern Entrance



Northern Entrance

External Views



South Eastern



South Eastern Performance

Internal Views



Southern Entrance



The Bar

Internal Views



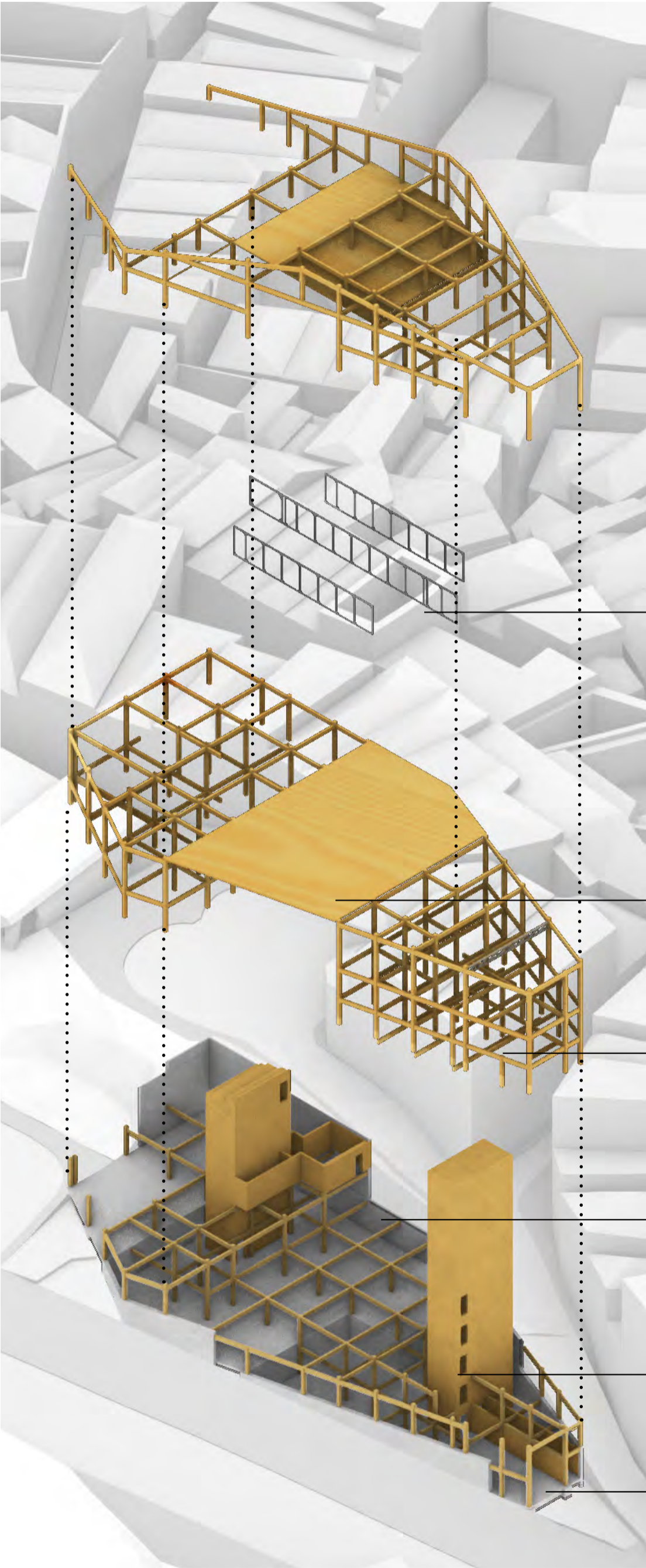
External Cafe Seating



Outdoor Theatre

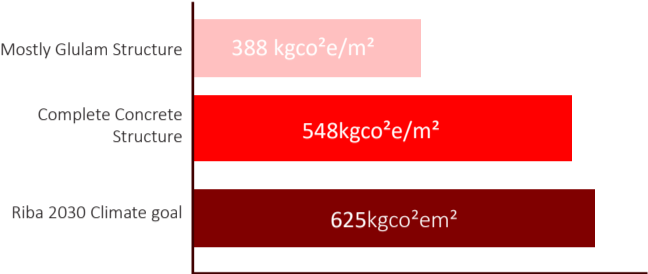
Structural Strategy

Glulam timber beam and column structural system



Embodied Carbon Calculation

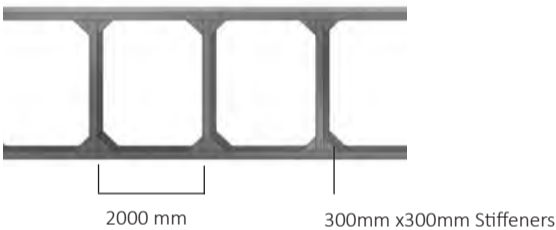
Understanding the carbon impact the building has depending on what material(s) are used. Below, comparing a mostly glulam and clt structure to an almost complete concrete structure against the RIBA 2030 Climate Goal



As seen above, although having a complete concrete structure for this building would result in the carbon impact meeting the riba 2030 climate goal, it shows that having a mostly glulam and clt structure significantly reduces the carbon impact of the building. In this case by around 160kgco<sup>2</sup>e/m<sup>2</sup>. To further minimise the carbon impact that the concrete has, one can use alternatives such as green /eco-friendly concrete

Vierendeel Steel Truss

Used to create open spaces for the public and staff of the building to walk through



CLT Floor Slab

Glulam Column and Down stand Beams

Green Concrete Retaining Wall

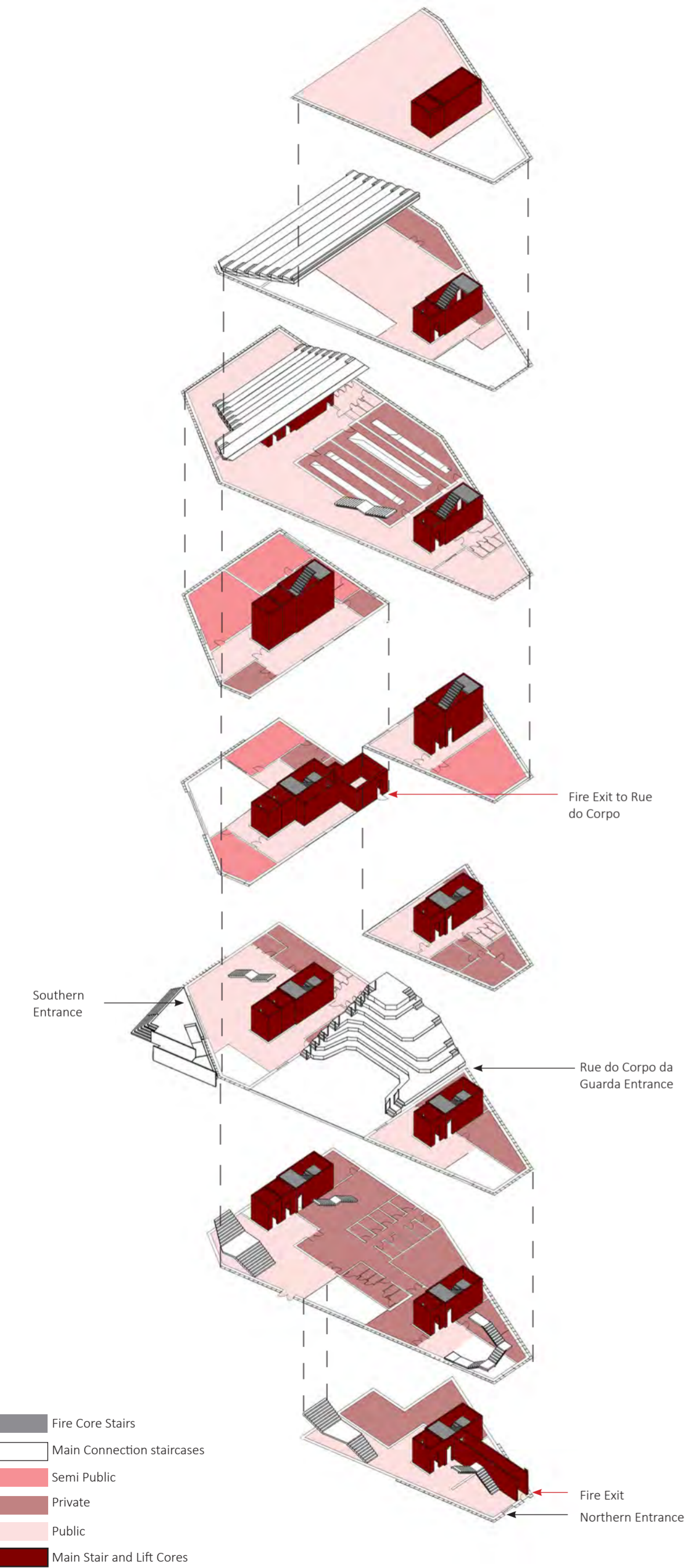
Green Concrete (Eco-concrete) uses recycled and/or waste materials such as fly ash and recycled aggregates, as a substitute for cement minimising the carbon impact of the concrete

CLT Fire Core

Green Concrete Raft Foundation

Access Strategy

There are two main points of access, one core in the southern side of the building and one in the north



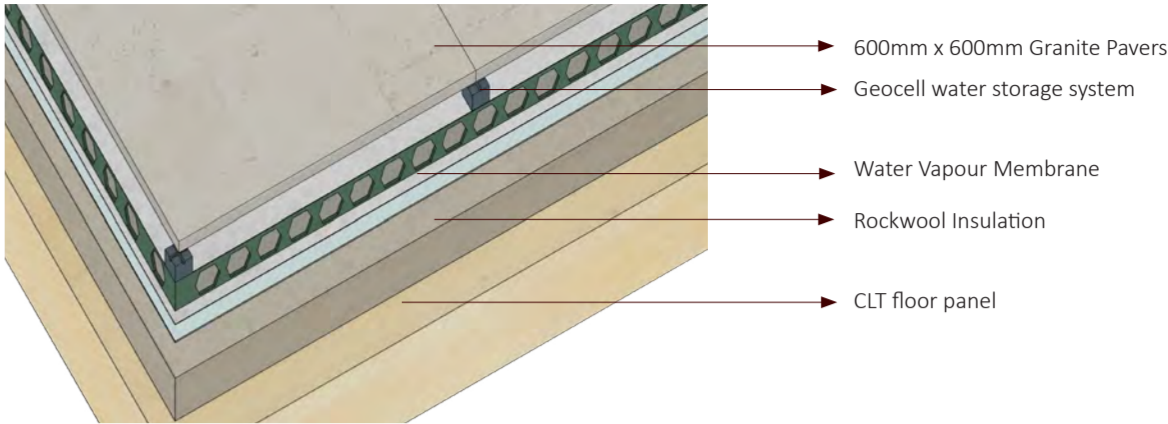
Environmental Strategy

Solar Shading

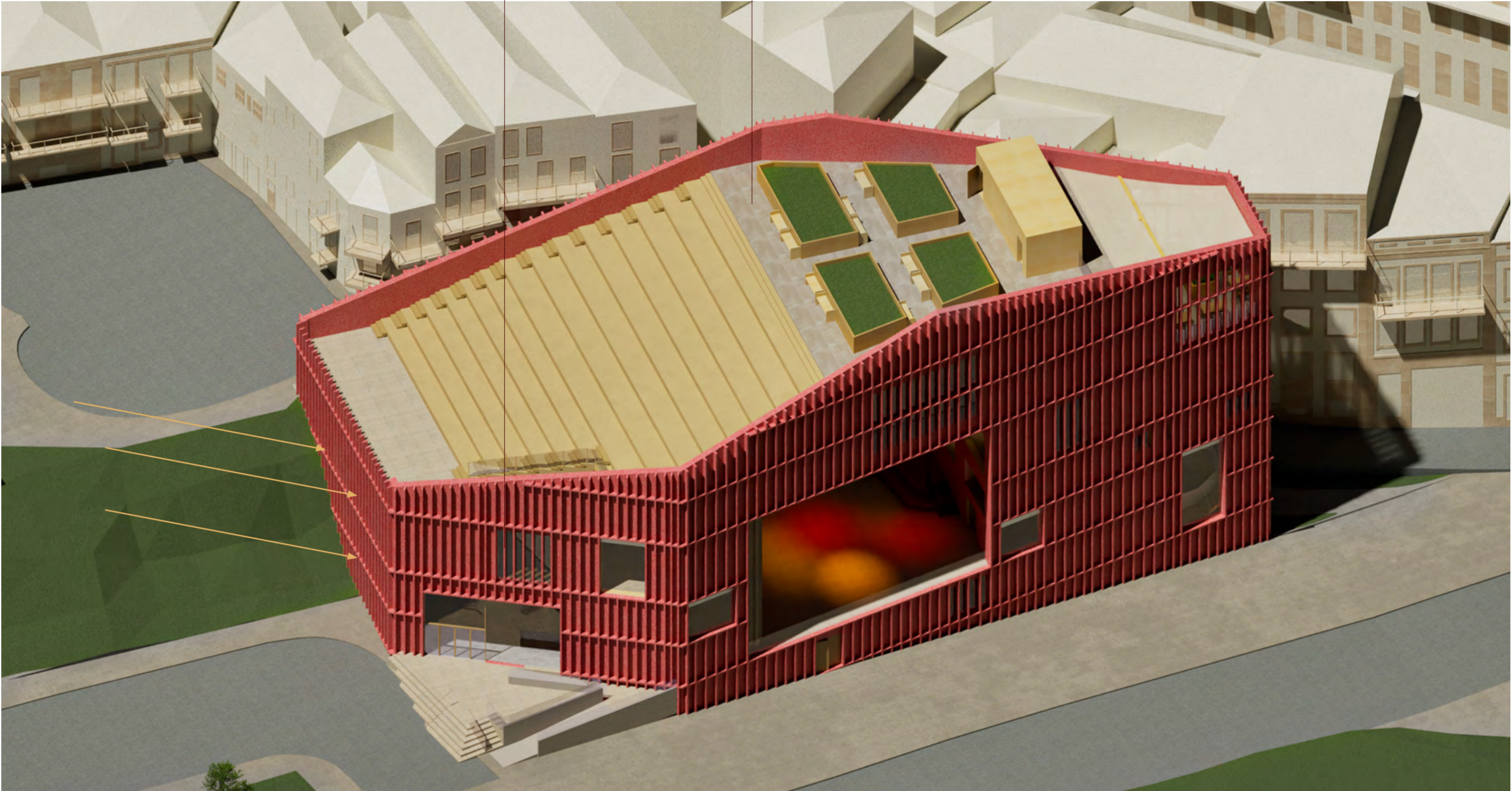
Due to the building getting alot of sunlight throughout the day, the fins will also act as solar shading allowing natural light in whilst preventing the building from overheating

Blue Roof Water System

A Bluerroof is a system that is able to retain water from rainfall and control the drainage of the roof allowing the captured water to be used in functions such as toilets withiin the building



Direction of the suns rays at 12pm



Material Strategy

All the materials chosen have been chosen so that they either come from or will be implimented into the circular economy of building materials. Allowing them all to be reused after the buildings lifetime minimising the carbon impact of the building

Materiality colour Palette inspired by the colours found in portugeuse folk dance costumes



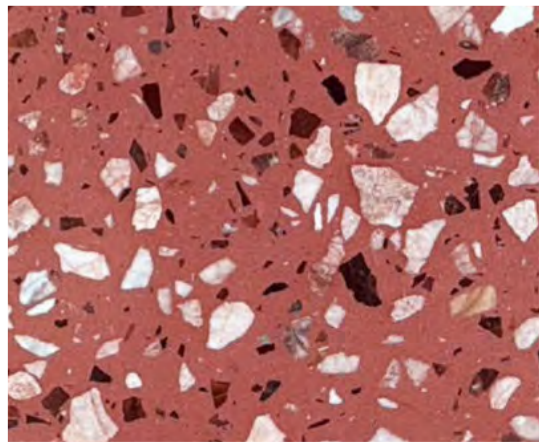
Granite- Used in the exterior ramp and as a stone floor finish in the cafe areas



Tulle/Cotton- Used as the curtains for the outdoor theatre

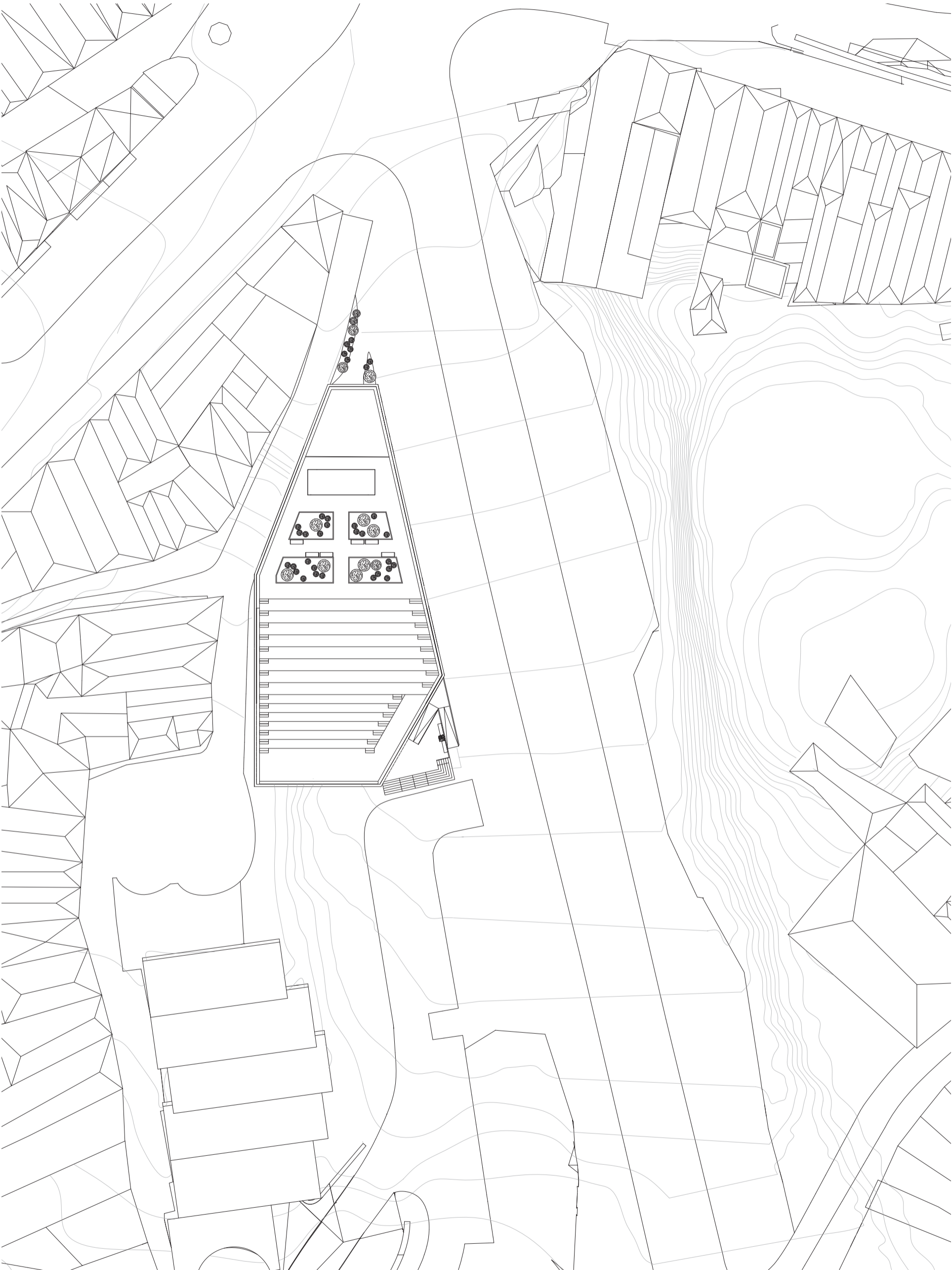


CLT- Used as the main wall finish to achieve a welcoming atmosphere

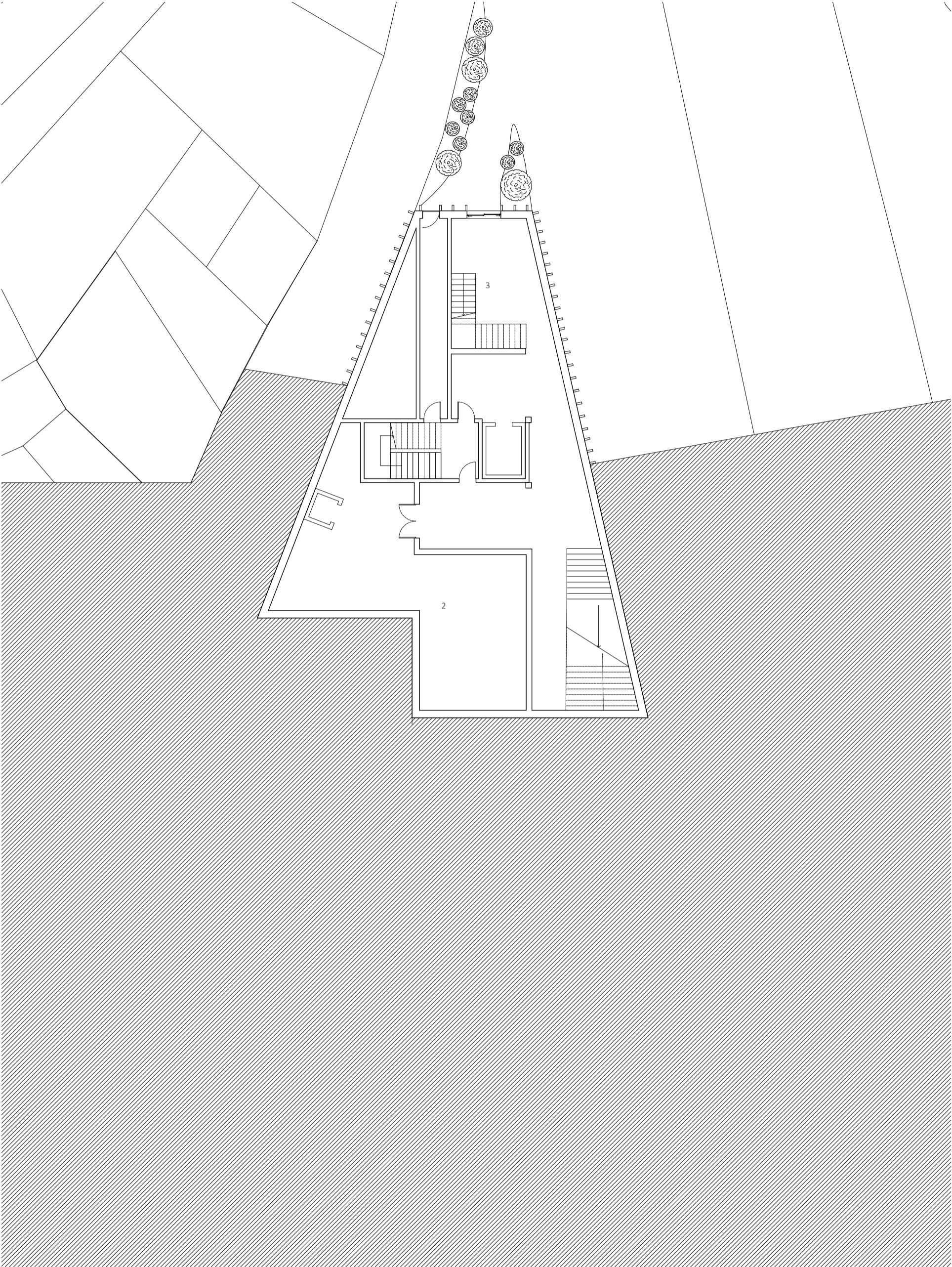


Terrazzo- Used internally as a programme indicator as well as externally

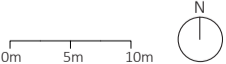
Site Plan



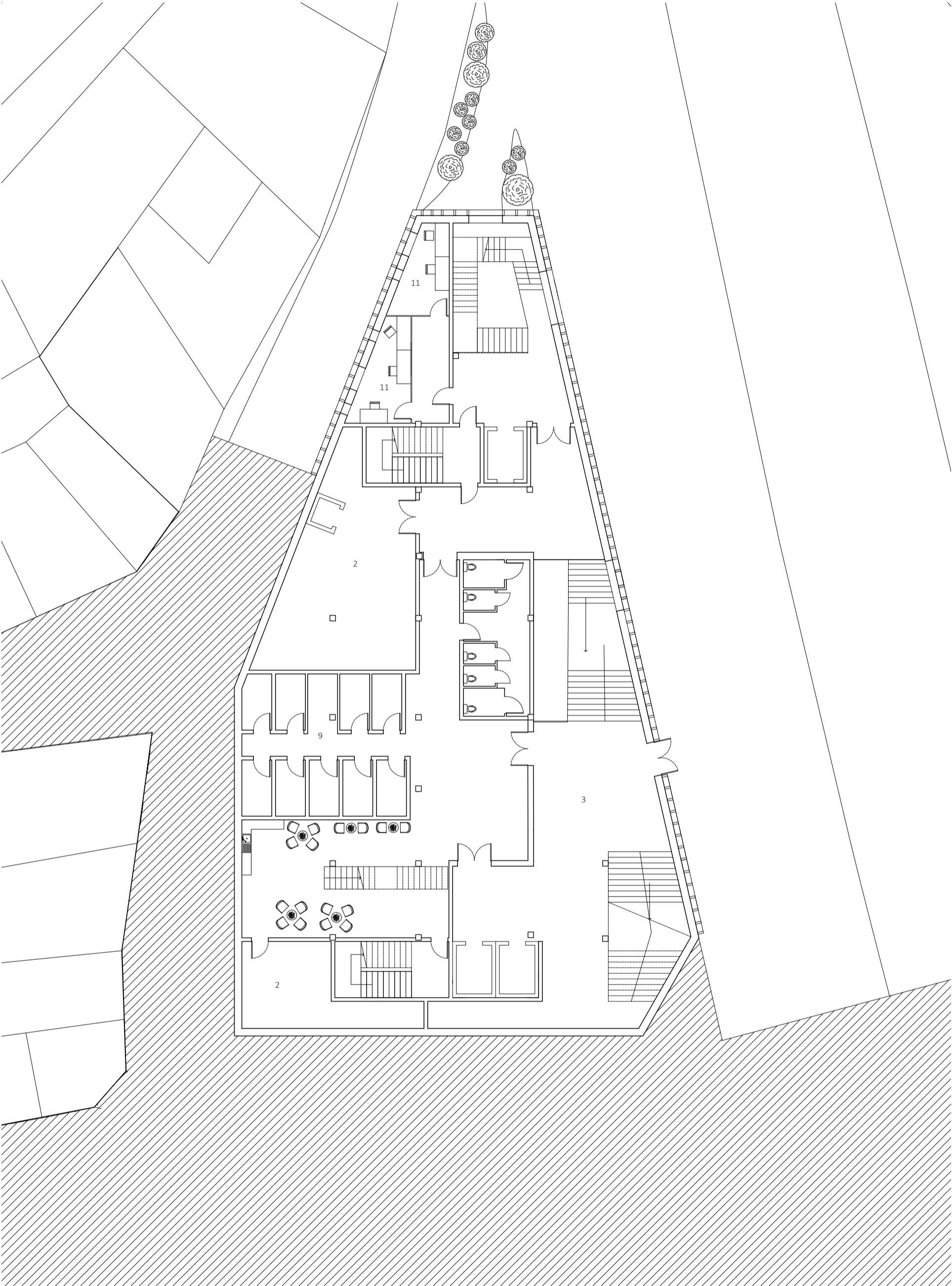
Ground Floor Plan



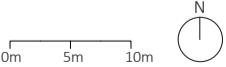
- Key
- |                         |                              |
|-------------------------|------------------------------|
| 1- Outdoor Amphitheatre | 10- Lighting Control         |
| 2- Store Room           | 11- Office                   |
| 3- Lobby                | 12- Meeting Room             |
| 4- Cafe                 | 13- Viewing Room             |
| 5- Cafe BOH             | 14- Staff Room               |
| 6- Classroom            | 15- Changing Room            |
| 7- Rehearsal Studio     | 16- Rooftop Performance Area |
| 8- Green room           | 17- Sound and lighting booth |
| 9- Dressing Room        | 18- Bar                      |



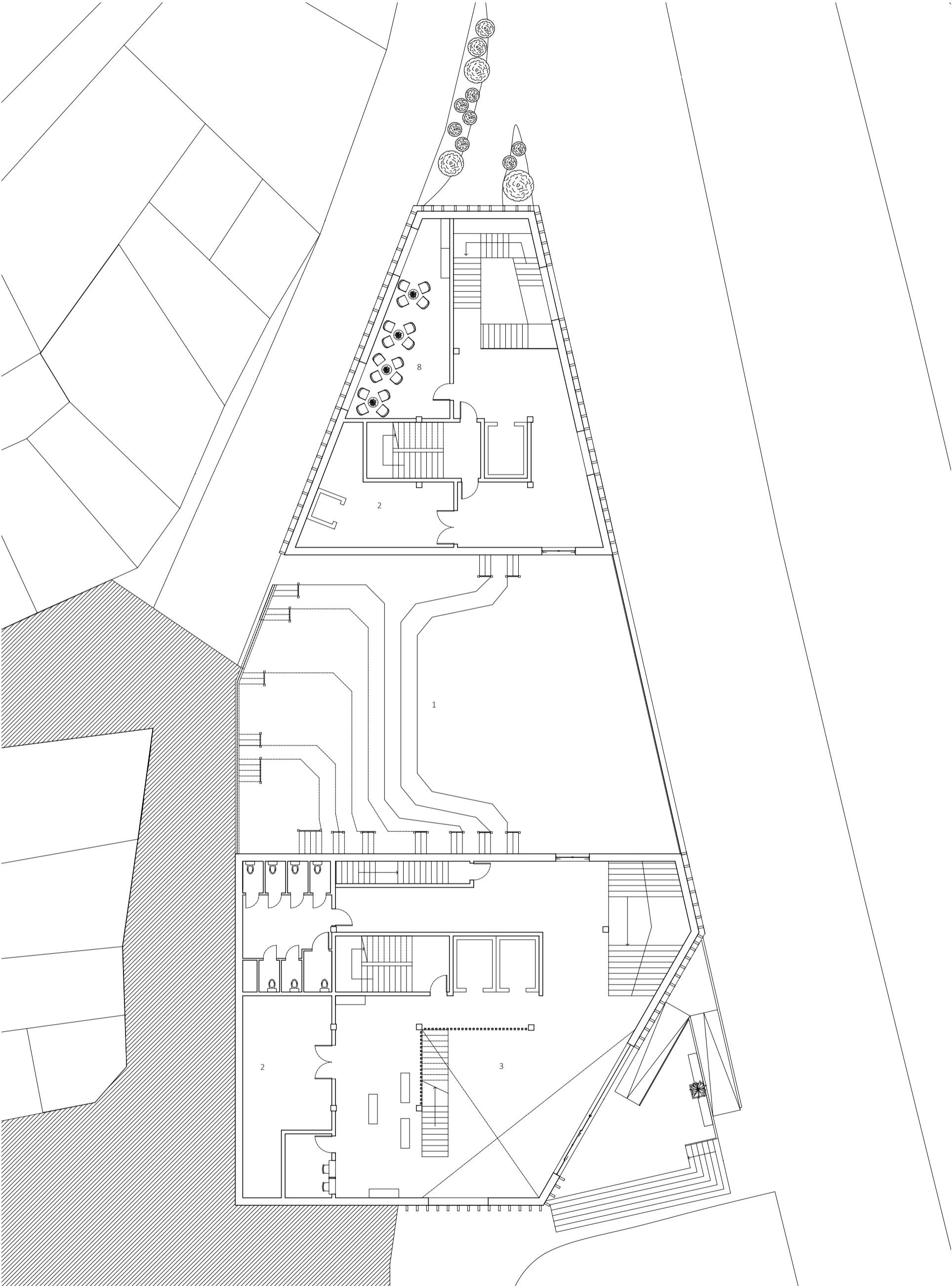
First Floor Plan



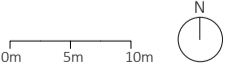
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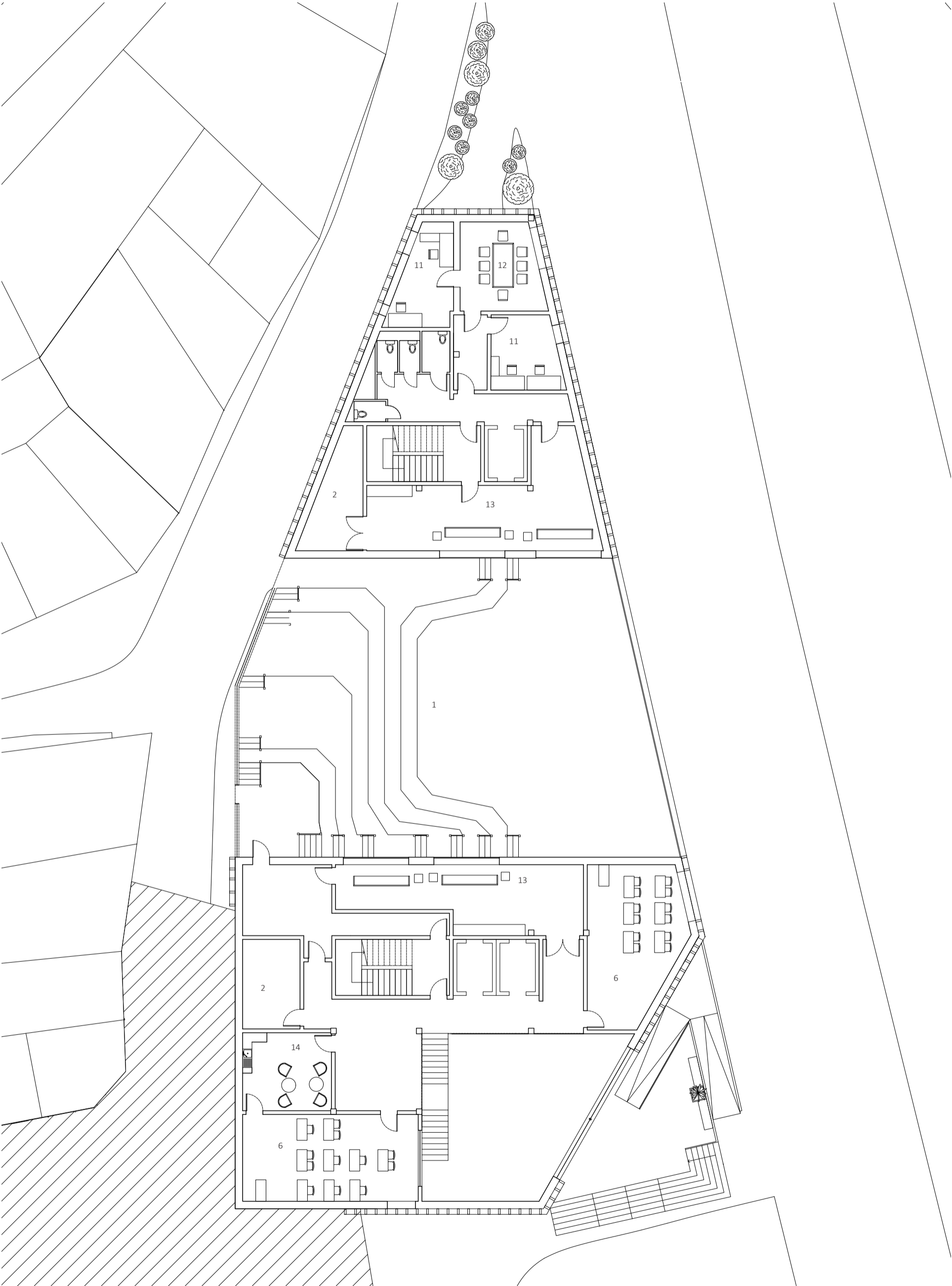
Second Floor plan



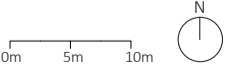
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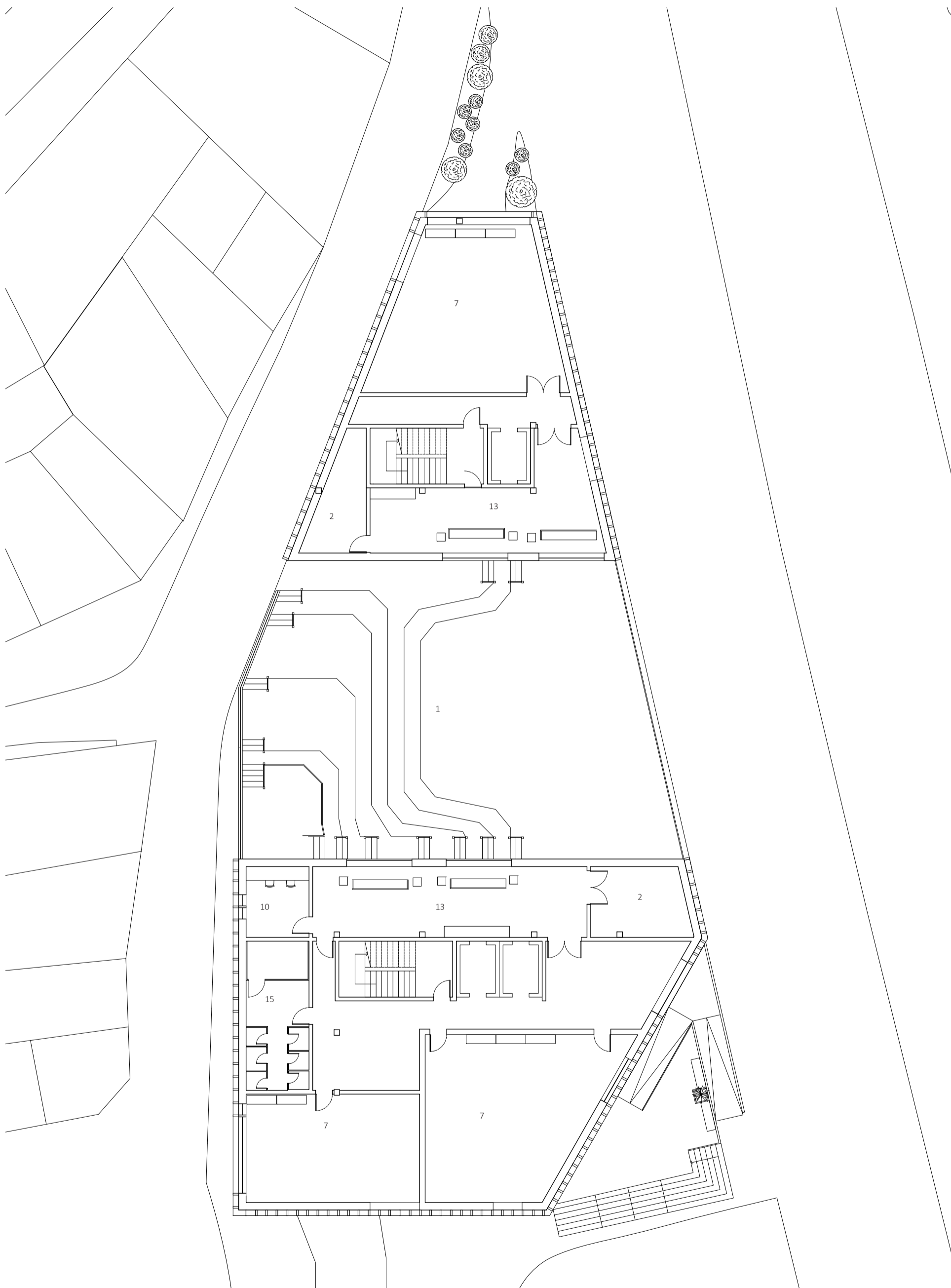
Third Floor Plan



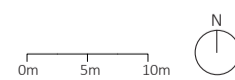
- Key
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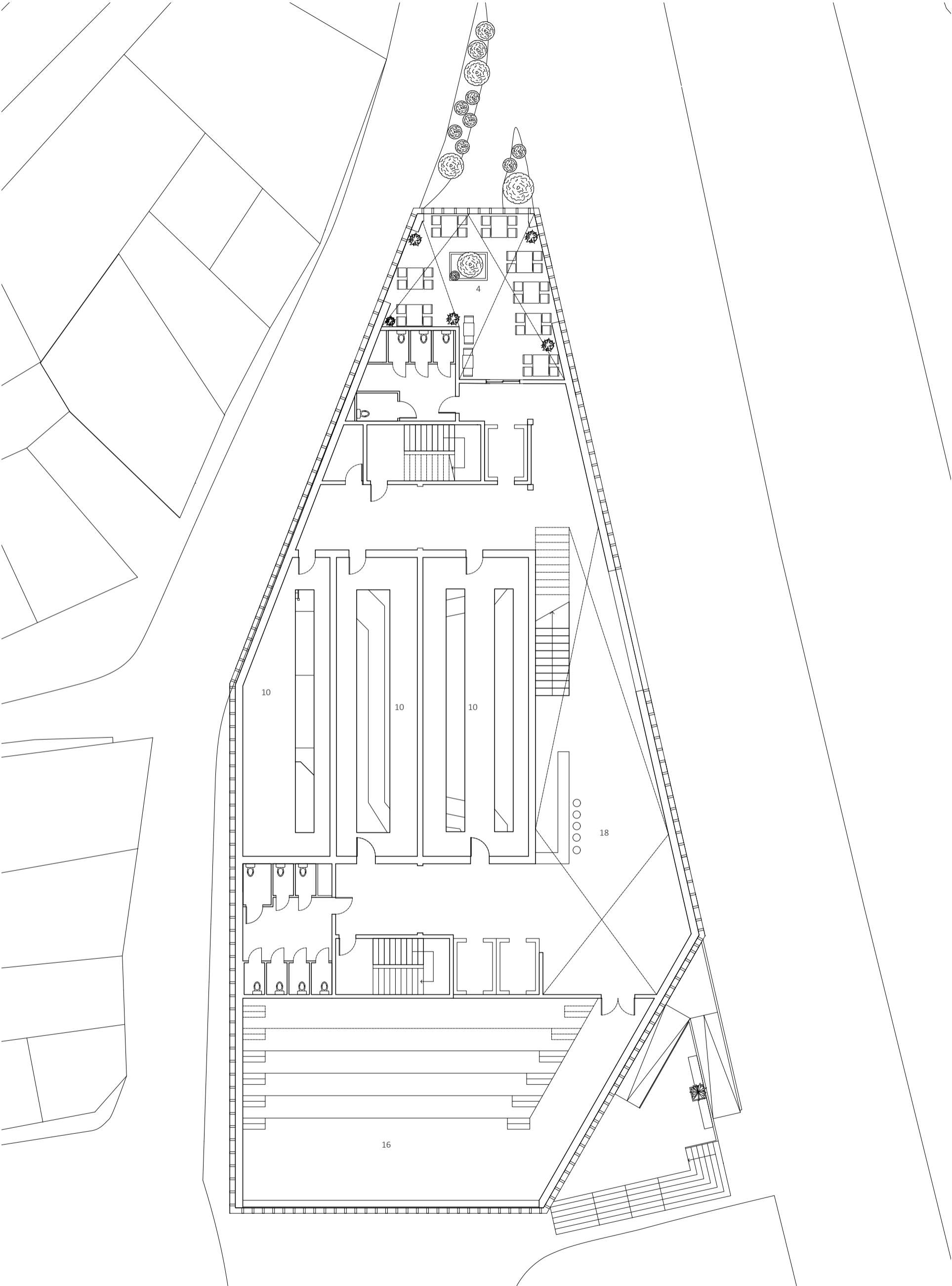
### Fourth Floor Plan



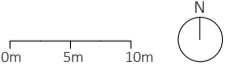
- | Key                     |                              |
|-------------------------|------------------------------|
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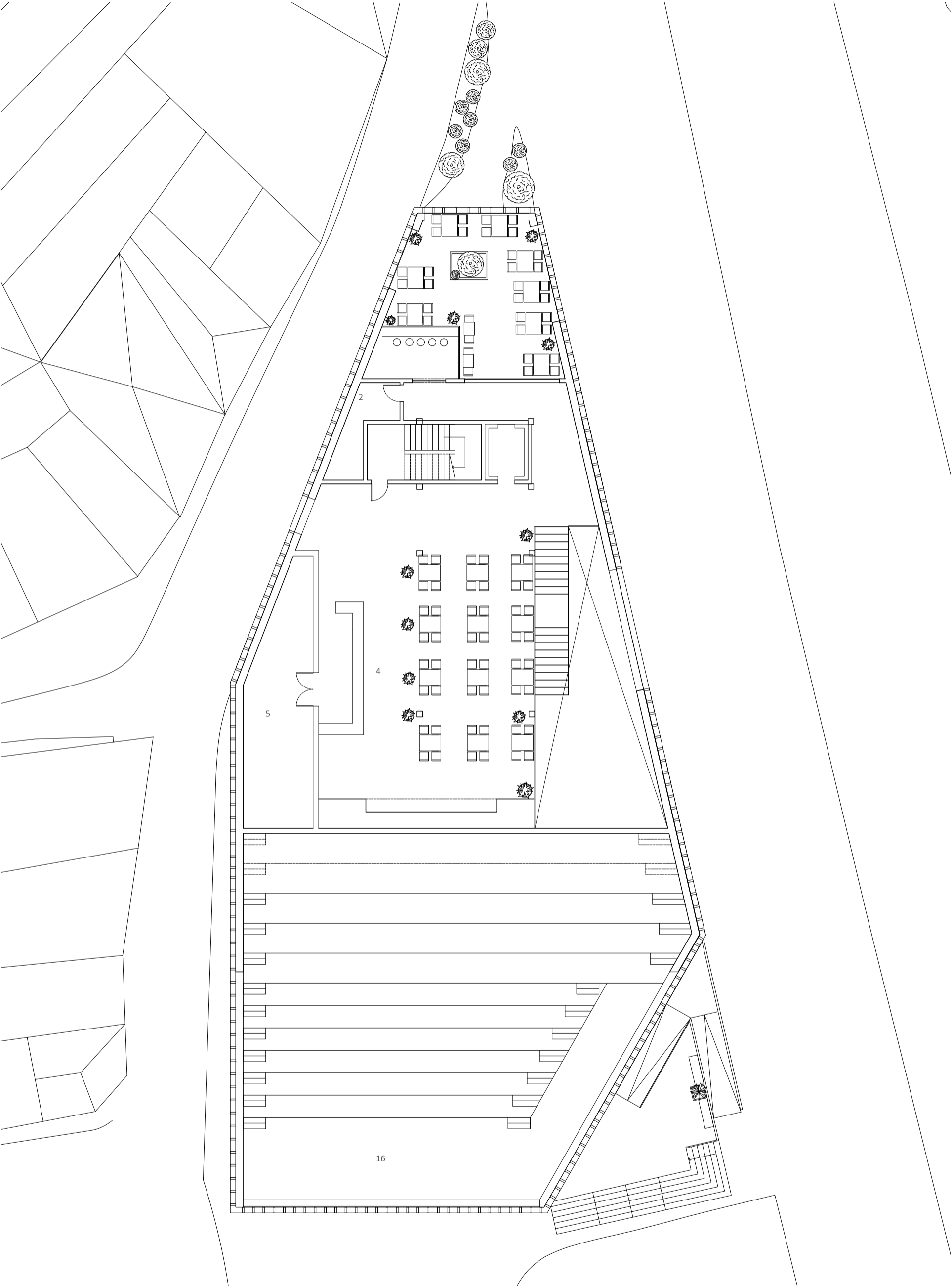
Fifth Floor Plan



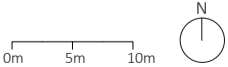
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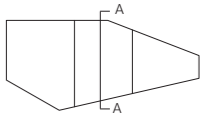
Sixth Floor Plan



- Key
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|-------------------------|------------------------------|
| 1- Outdoor Amphitheatre | 10- Lighting Control         |
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Section A-A



- Key
- 1- Outdoor Amphitheatre
  - 2- Store Room
  - 3- Lobby
  - 4- Cafe
  - 5- Cafe BOH
  - 6- Classroom
  - 7- Rehearsal Studio
  - 8- Green room
  - 9- Dressing Room
  - 10- Lighting Control
  - 11- Office
  - 12- Meeting Room
  - 13- Viewing Room
  - 14- Staff Room
  - 15- Changing Room
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0m 2m

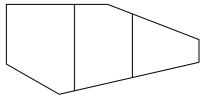
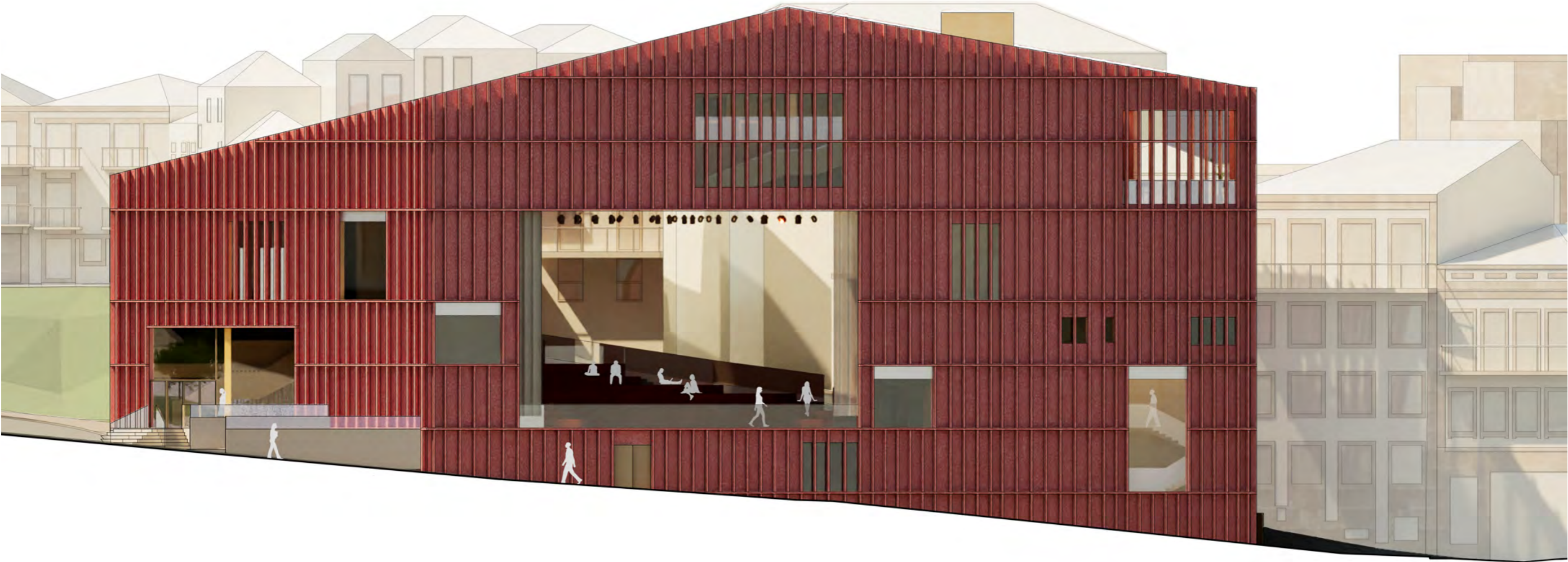
Section B-B



- Key
- 1- Outdoor Amphitheatre
  - 2- Store Room
  - 3- Lobby
  - 4- Cafe
  - 5- Cafe BOH
  - 6- Classroom
  - 7- Rehearsal Studio
  - 8- Green room
  - 9- Dressing Room
  - 10- Lighting Control
  - 11- Office
  - 12- Meeting Room
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  - 14- Staff Room
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0m 2m

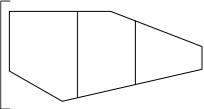
East Elevation



- Key
- 1- Outdoor Amphitheatre
  - 2- Store Room
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0m 2m

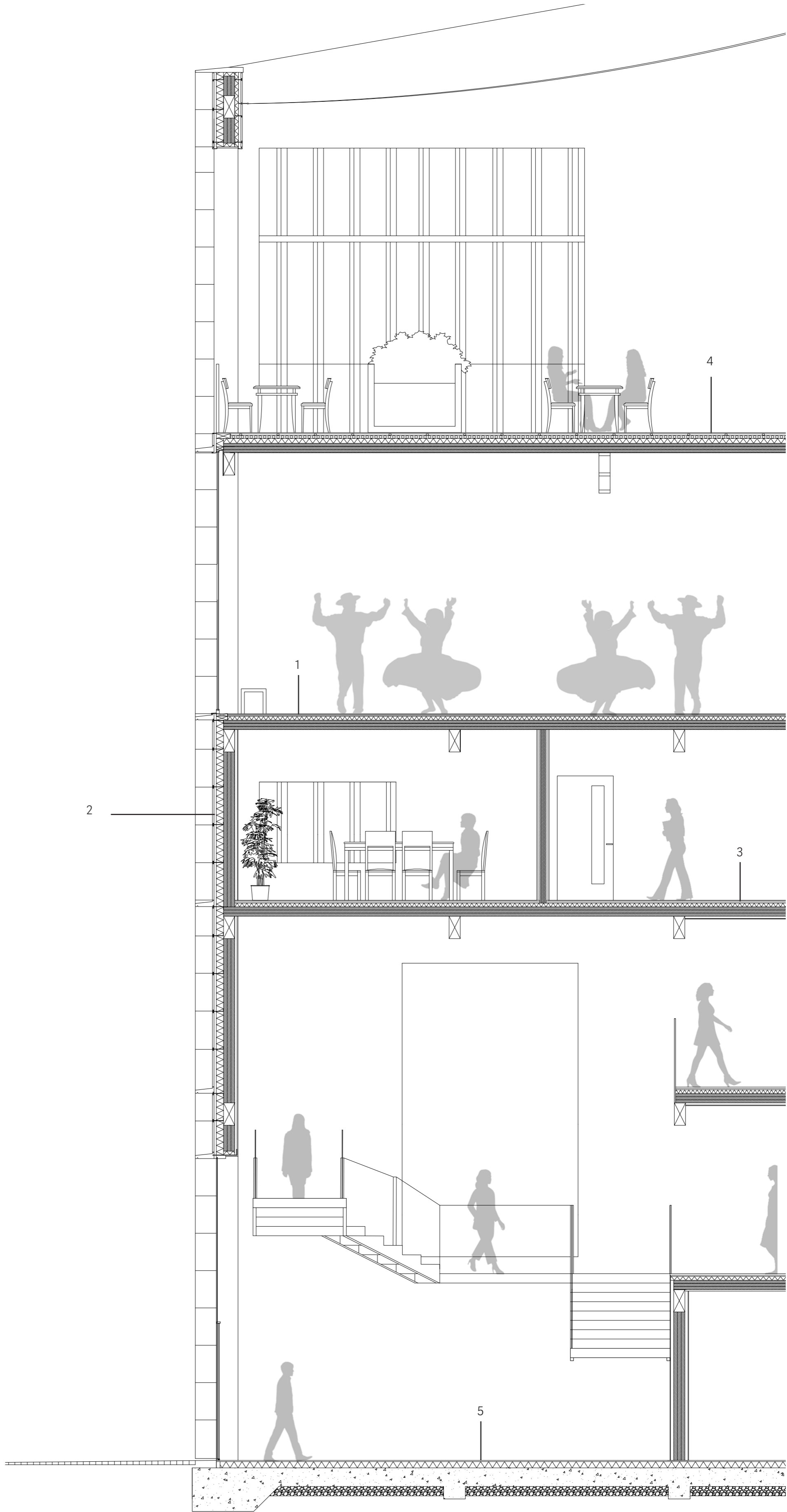
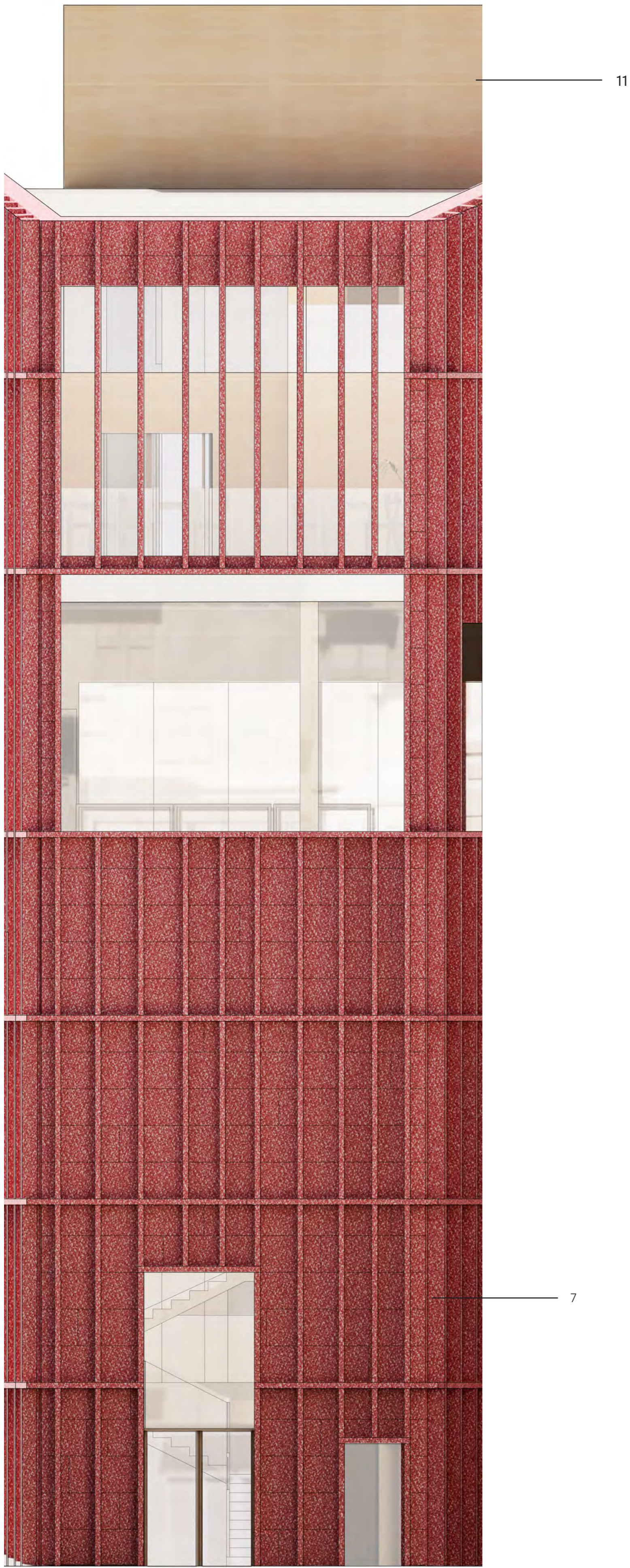
South Elevation



- Key
- 1- Outdoor Amphitheatre
  - 2- Store Room
  - 3- Lobby
  - 4- Cafe
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0m 2m

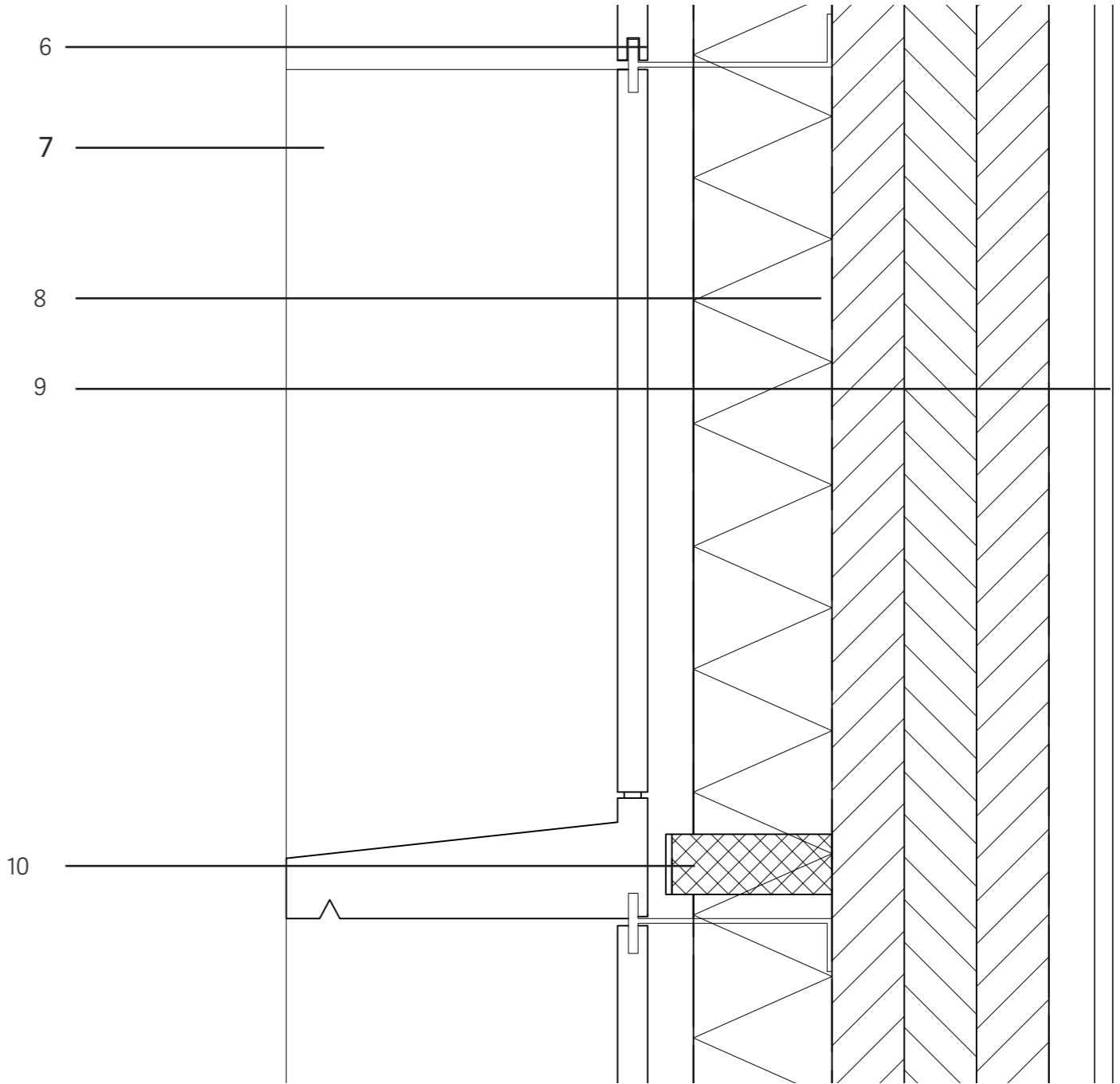
Northern Facade  
1:50 bay Study

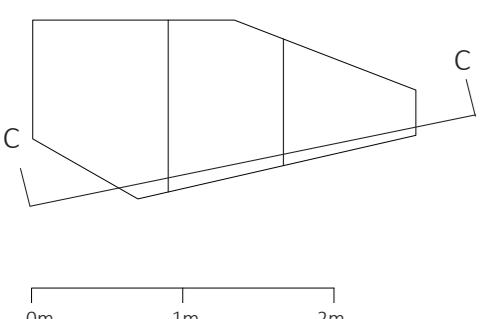


Key

- |   |  |
|---|--|
| 1- 4mm hardwood<br>14mm thick 2 ply engineered hardwood<br>10mm single layer semi flexible suspension panel<br>24mm cellular polyurethane<br>2mm damp proof membrane<br>100mm sound absorber insulation<br>150mm CLT floor slab | 7- Bespoke precast terrazzo tiles              |
| 2- 25mm bespoke pre-cast terrazzo tiles<br>38mm ventilation gap<br>2mm vapour membrane<br>40mm rockwool insulation<br>180mm CLT wall panel<br>75mm insulation<br>43mm plasterboard plank<br>12.5mm gyproc sandbloc plasterboard | 8- 180mm CLT panel                             |
| 3- 25mm insitu terrazzo tiles<br>20mm acoustic insulation<br>60mm rockwool insulation<br>150mm CLT slab   | 9- 10mm plasterboard with a matte white finish |
| 4- 18mm hardwood floor finish<br>28mm roof pedestal system<br>40mm bluroof system<br>2mm waterproof membrane<br>150mm CLT floor slab  | 10- 80mm x 50mm fire stop                      |
| 5- 20mm insitu terrazzo panels<br>100mm rockwool insulation<br>300mm green concrete raft foundation<br>200mm hardcore   | 11- CLT Fire protected core                    |
| 6- 3mm Steel rail supports  |  |

1:5 Fin connection detail





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1:200 Performance Facade Model

