

# Other Traditions

Inter cultural place-making, and  
forestation of the Stockholm  
City Library, Sweden.





# Content

- Context
  - First Impressions
  - Opportunities and Constraints
- Problem Statement
- Project
  - City: Urban Forest
  - Building: Asplundhuset
  - Interior: Inter-cultural placemaking

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P5 Graduation Presentation- Friday, 28th June 2024.

**Interiors Buildings Cities Graduation Studio 2023/24**

**Situated Architecture**

**Faculty of Architecture and the Built Environment**

**TU Delft**





# Context

1:25 assembly series. Photos.  
*The library as an assembly of things.*



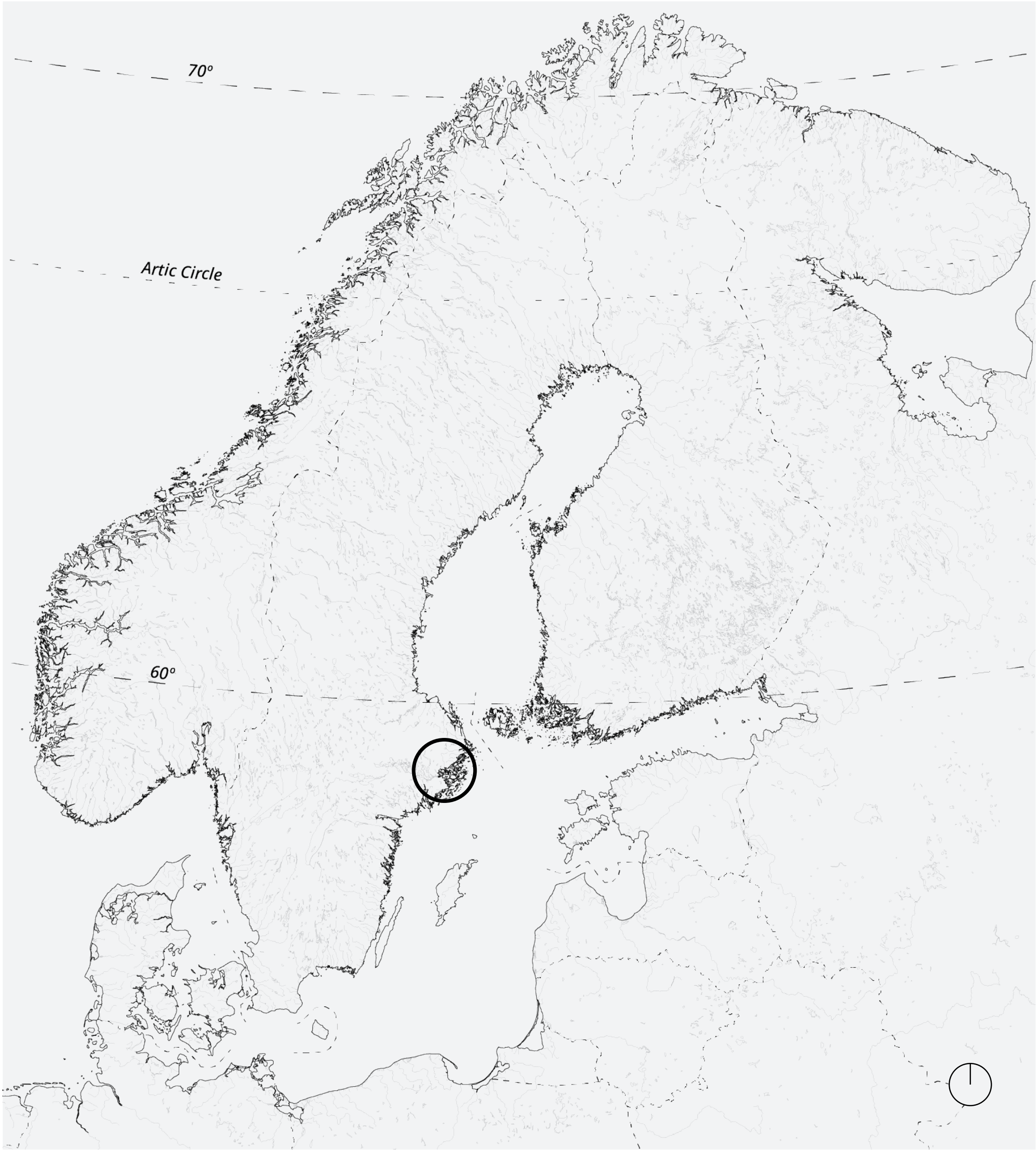


# Site Location

Stockholm, Sweden

*Fennoscandia, Site location map. NTS.*

*Stockholm lies on the 59th parallel line,  
and has a humid continental climate.*



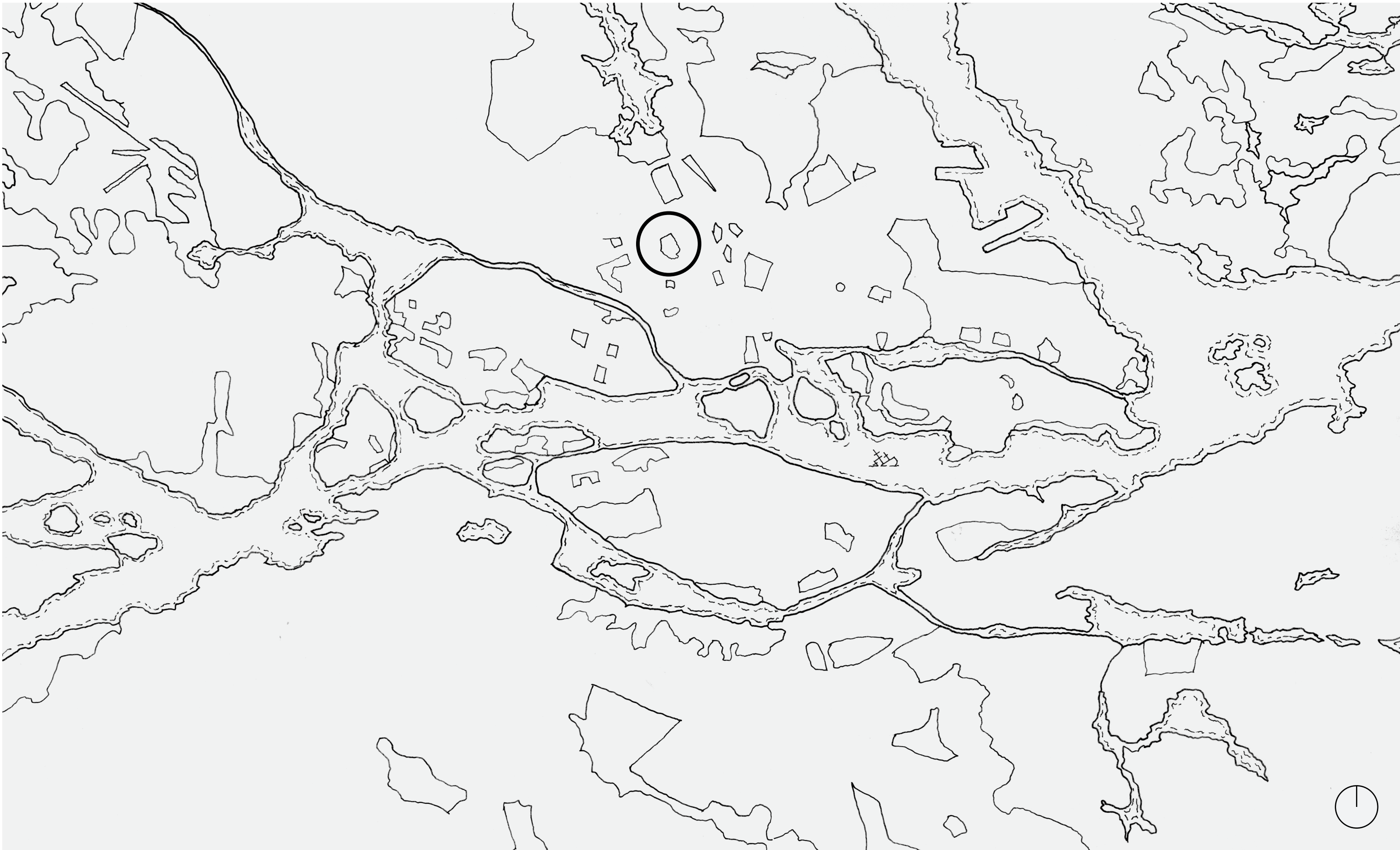


# Site Location

Stockholm, Sweden

Stockholm, Site location map. NTS.

The site is located in the Vasastan district of Stockholm, on the north side of the Riddarfjärden.





# Site Location

*Observatory Hill  
Environs*

*Site location plan. 1:2000 @ A3.*





# Building

*Stockholm City Library,  
1922-28,  
Eric Gunnar Asplund.*

*Stockholm City Library, at the corner  
of Sveavägen and Odengatan. Digital  
photograph.*

*Photo: David Grandorge*



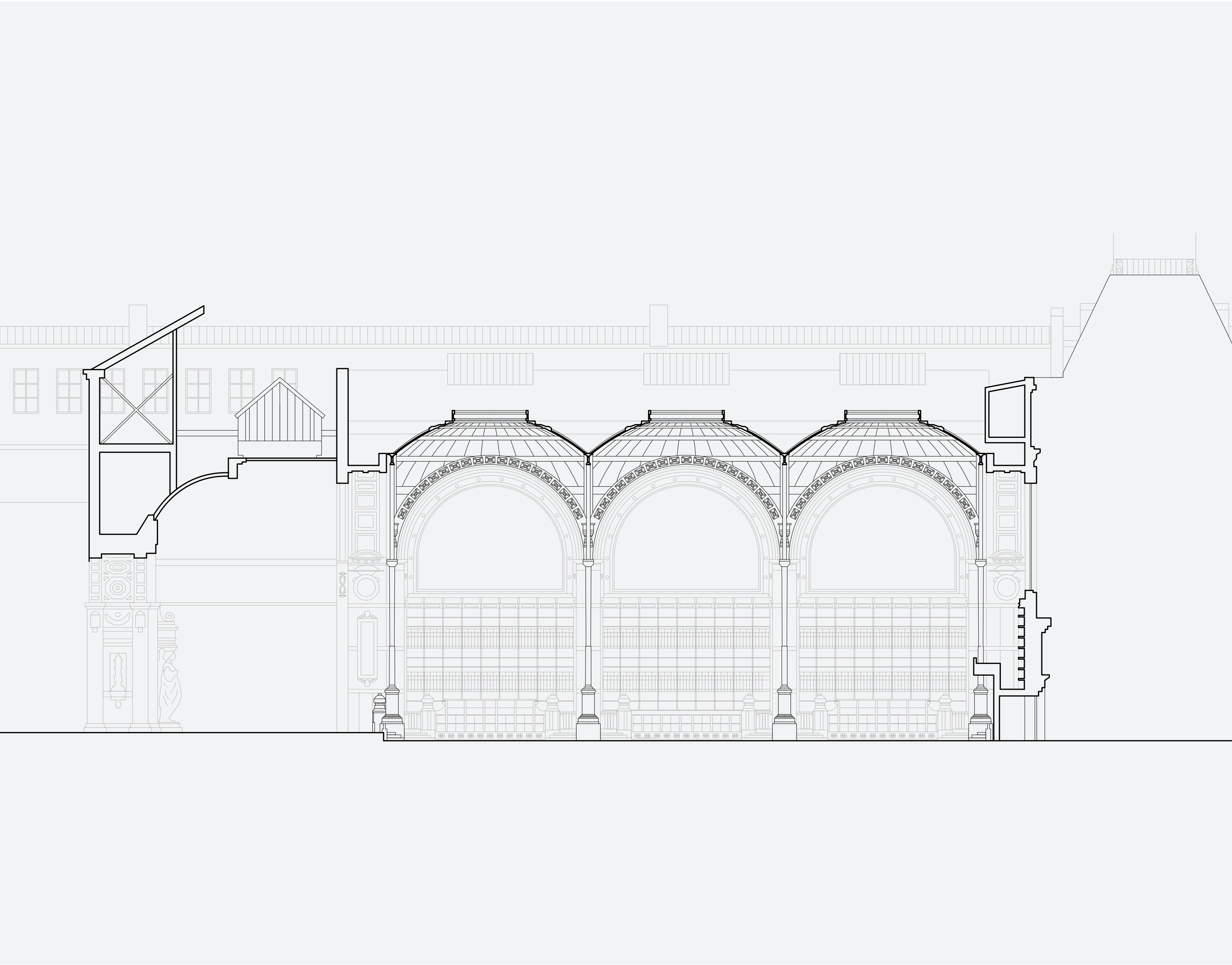


# Research

*Understanding the  
modern public library*

*The Labrouste Reading Room at the  
National Library of France Richelieu (La  
Salle Labrouste, Bibliothèque Nationale de  
France) (1854-75). 1:500 @A3.*

*Credits: IBC Graduation Studio 2023/24*





# Research

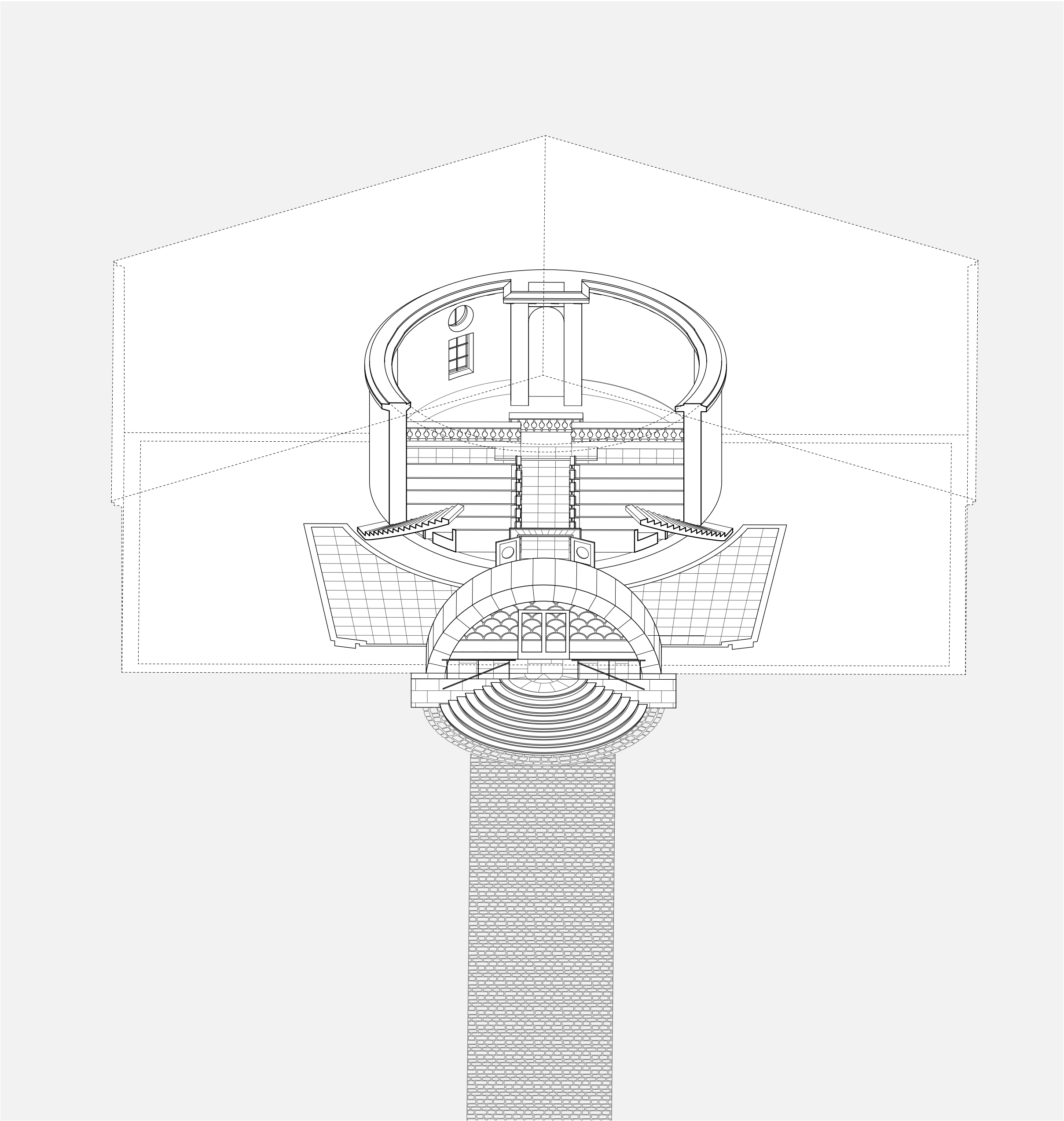
*Understanding Eric  
Gunnar Asplund*

- *Lister County Courthouse parti diagram.*

*Credits: IBC Graduation Studio 2023/24*

- *Lister County Courthouse window detail, photograph.*

*Photo: Lasse Olsson.*



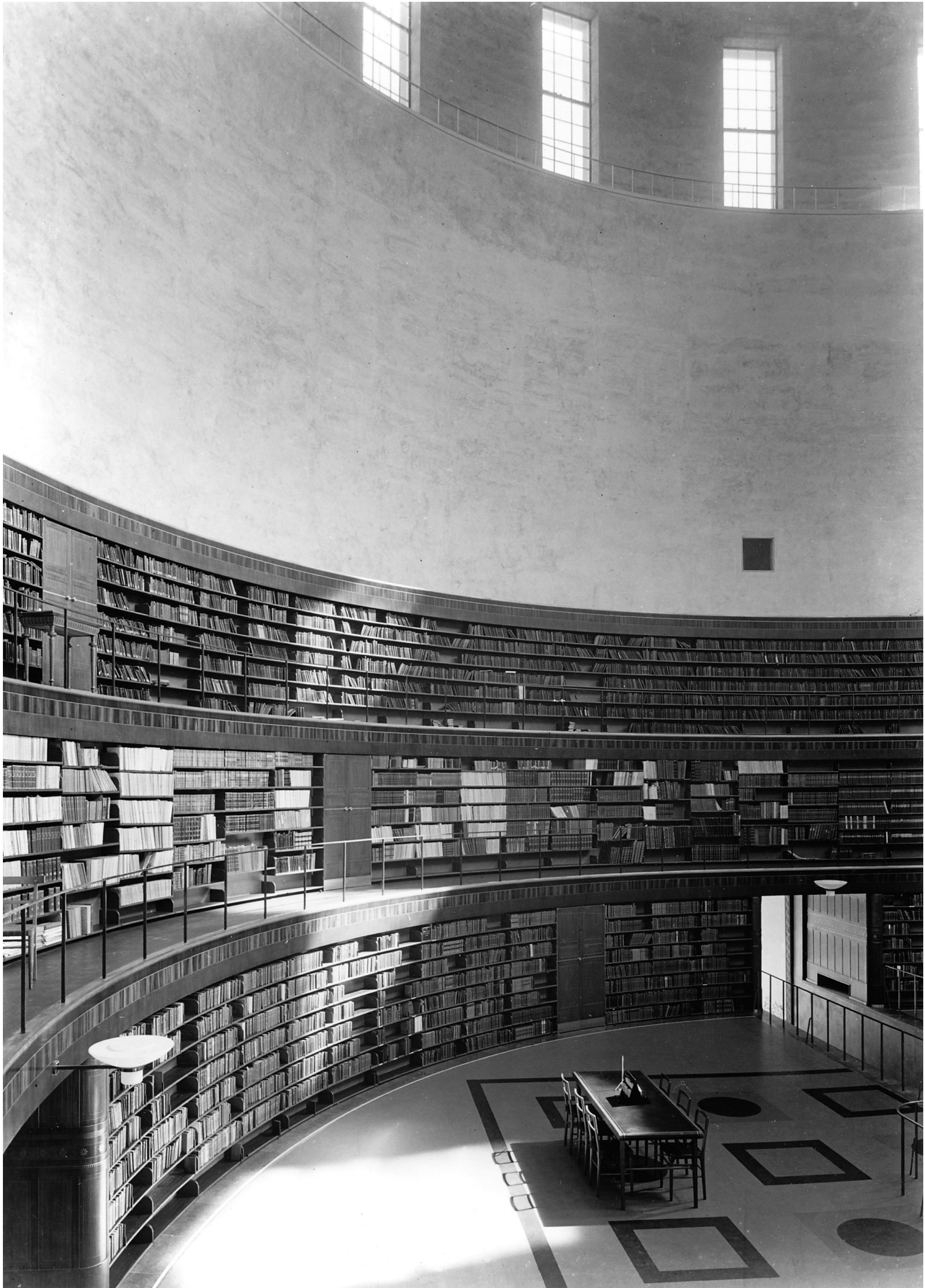


# Research

*Understanding the  
Asplundhuset*

- ▶ *Rotunda. Stockholm City Library (1928), Erik Gunnar Asplund. Archival Photograph.*
- ▶▶ *1:25 model of Stockholm City Library rotunda (2023).*

*Credits: IBC Graduation Studio 2023/24*





# First Impressions

*Landscape, and Opportunity*

- ▶ *Section sketch, Observatory Hill.*  
*Author's sketchbook: 25th Sept. 2023.*
- ▶▶ *Stockholm CItY Library west facade. Digital photograph.*  
*Photo: David Grandorge*
- ▼ *Section elevation, Observatory Hill.*  
*Author's sketchbook: 25th Sept. 2023.*





# Positioning

## International Competition Briefs

*(Descending; left to right):*

**2006 Competition**

*Swedish Association of Architects. (May 2006). Asplund Architectural Competition, The Stockholm City Library: Competition Brief. Stockholm.*

**2012 Care Programme**

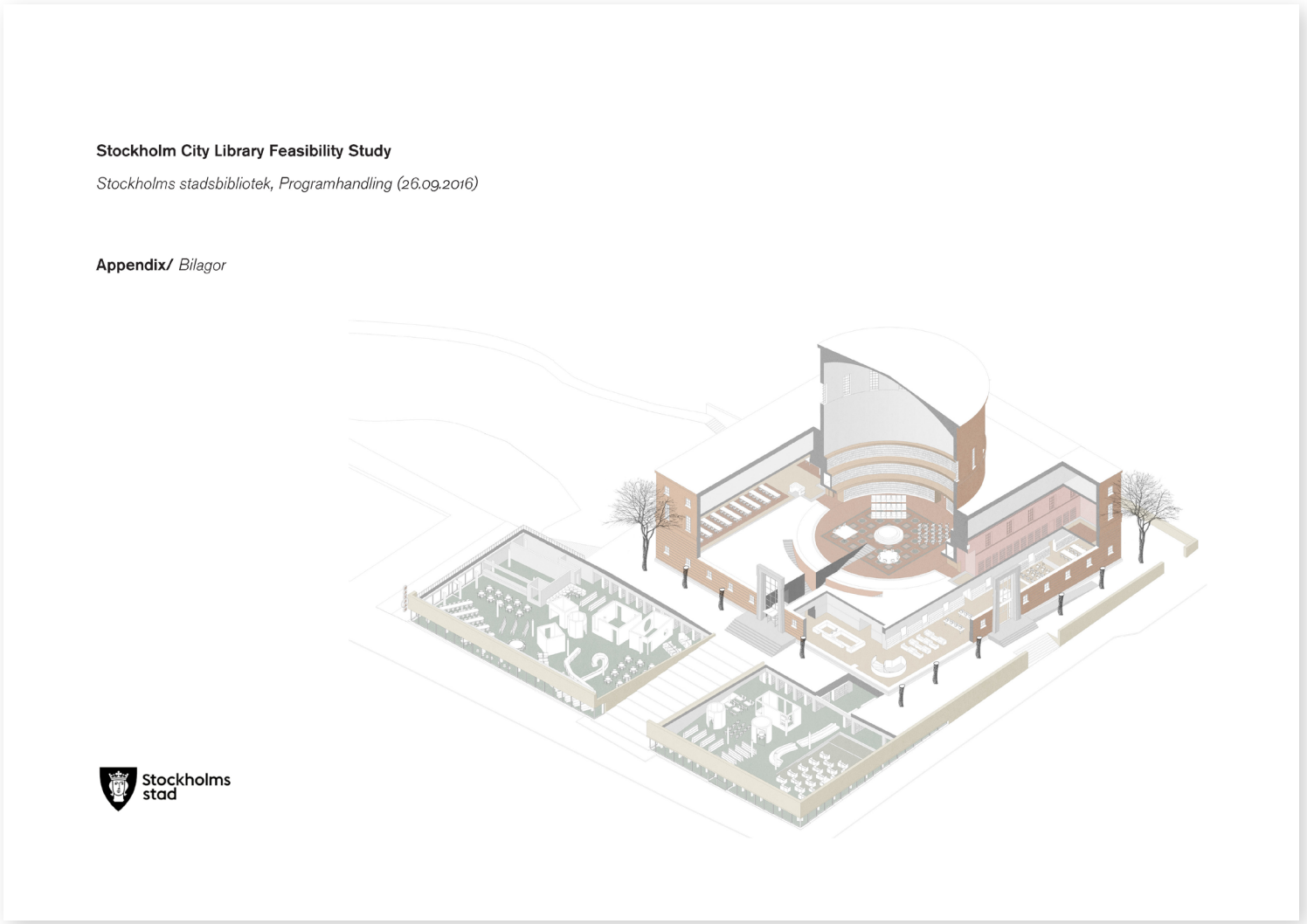
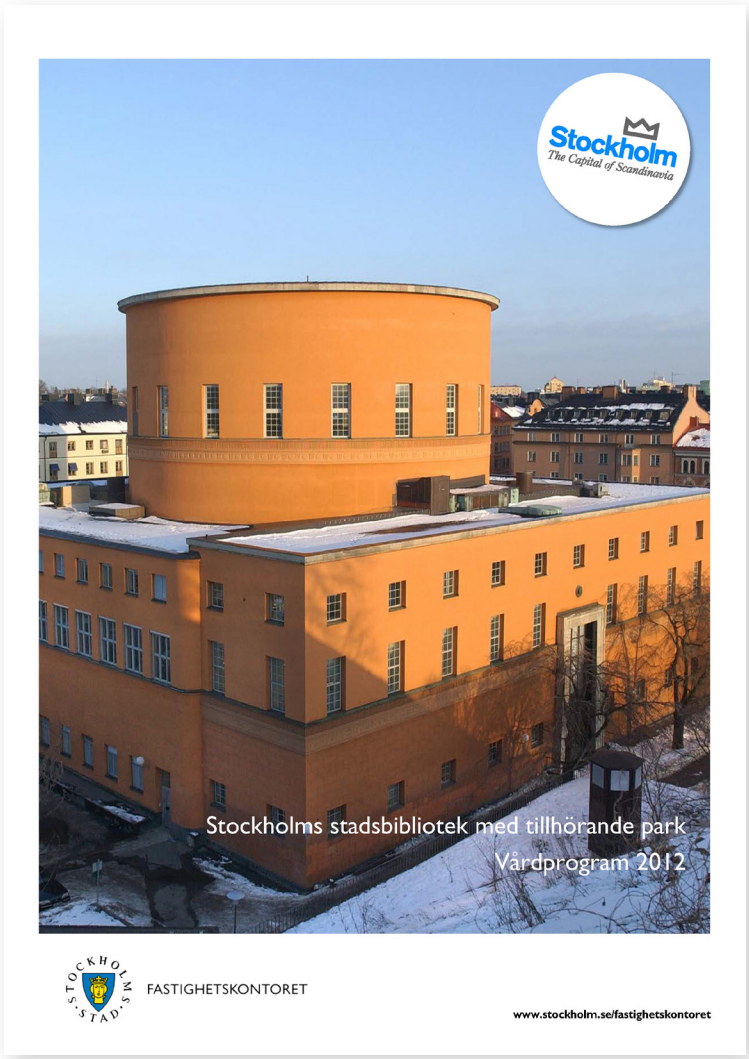
*Stockholms Stad. (2012). Stockholms stadsbibliotek med tillhörande park Vårdprogram 2012. Stockholm.*

**2014 Operational Programme**

*Stockholms Stad. (2014). Förnyat Stadsbibliotek i Stockholm Verksamhetsprogram 2014. Stockholm.*

**2016 Caruso St. John Feasibility Study**

*Stockholms Stad. (26th Sept. 2016). Stockholm City Library Feasibility Study. Stockholm.*



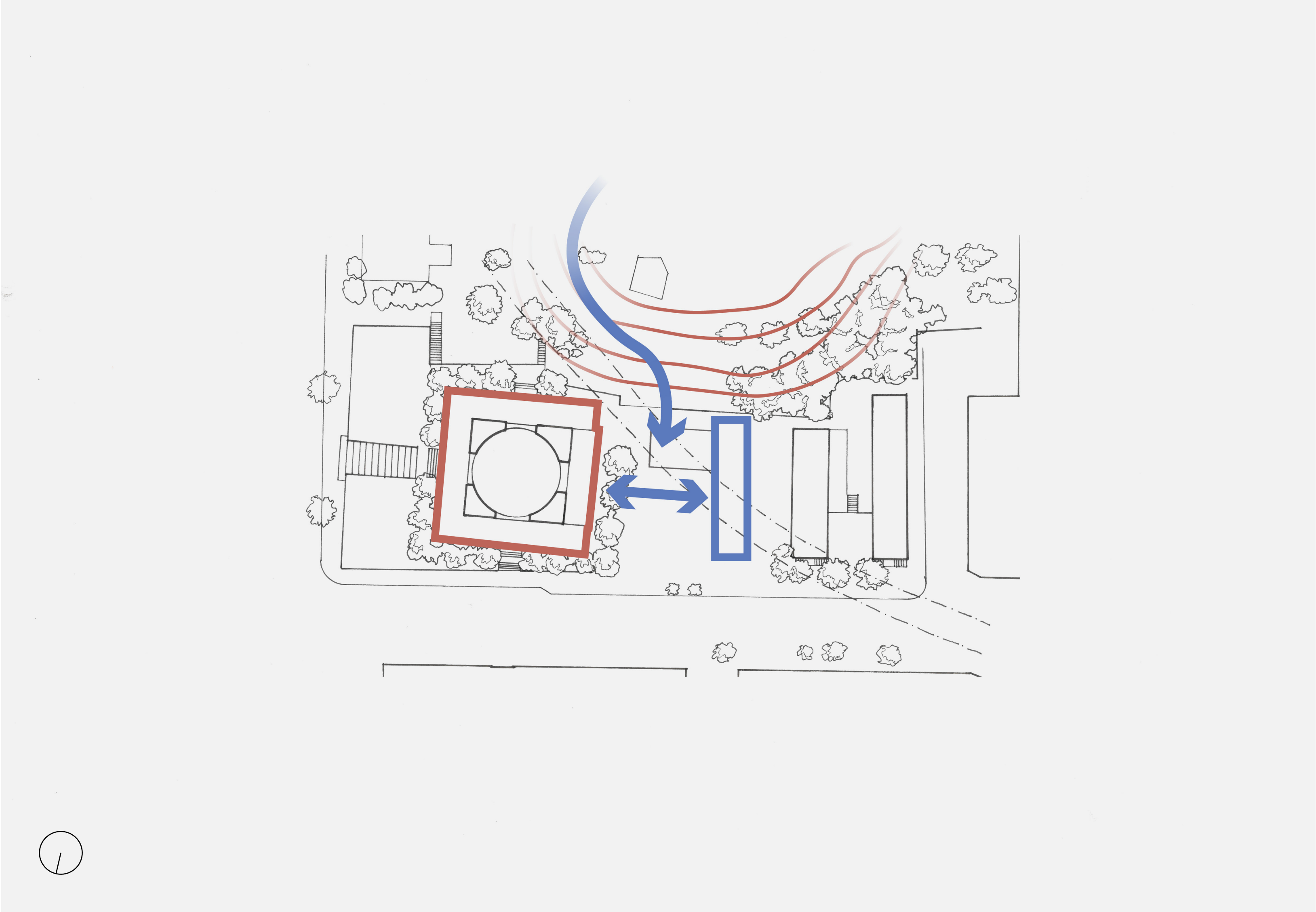
2012 Brief



# Opportunities and constraints

Site Plan, Existing, 1:1000 @ A3.

The existing condition.





# Problem statement

*Poché room, Stockholm City Library. Digital photograph.*

*Photo: David Grandorge*





# Problem statement

*Al Madhafah - The Living Room at the Van Abbemuseum, Eindhoven, the Netherlands. (2017). DAAR.*

*Photo: Peter Cox.*





# Problem statement

*Stockholm City Library west facade. Digital photograph.*

*Photo: David Grandorge*





# Problem statement

## Programmatic objective:

*Connect the Asplundhuset to Spelbomskan 16 with a suite of small private and group work rooms.*

## Social objective:

*Formulate interior spaces conducive to dialogue, language learning, and storytelling. Spaces are be identifiable to the majority and minority groups.*

## Ecological objective:

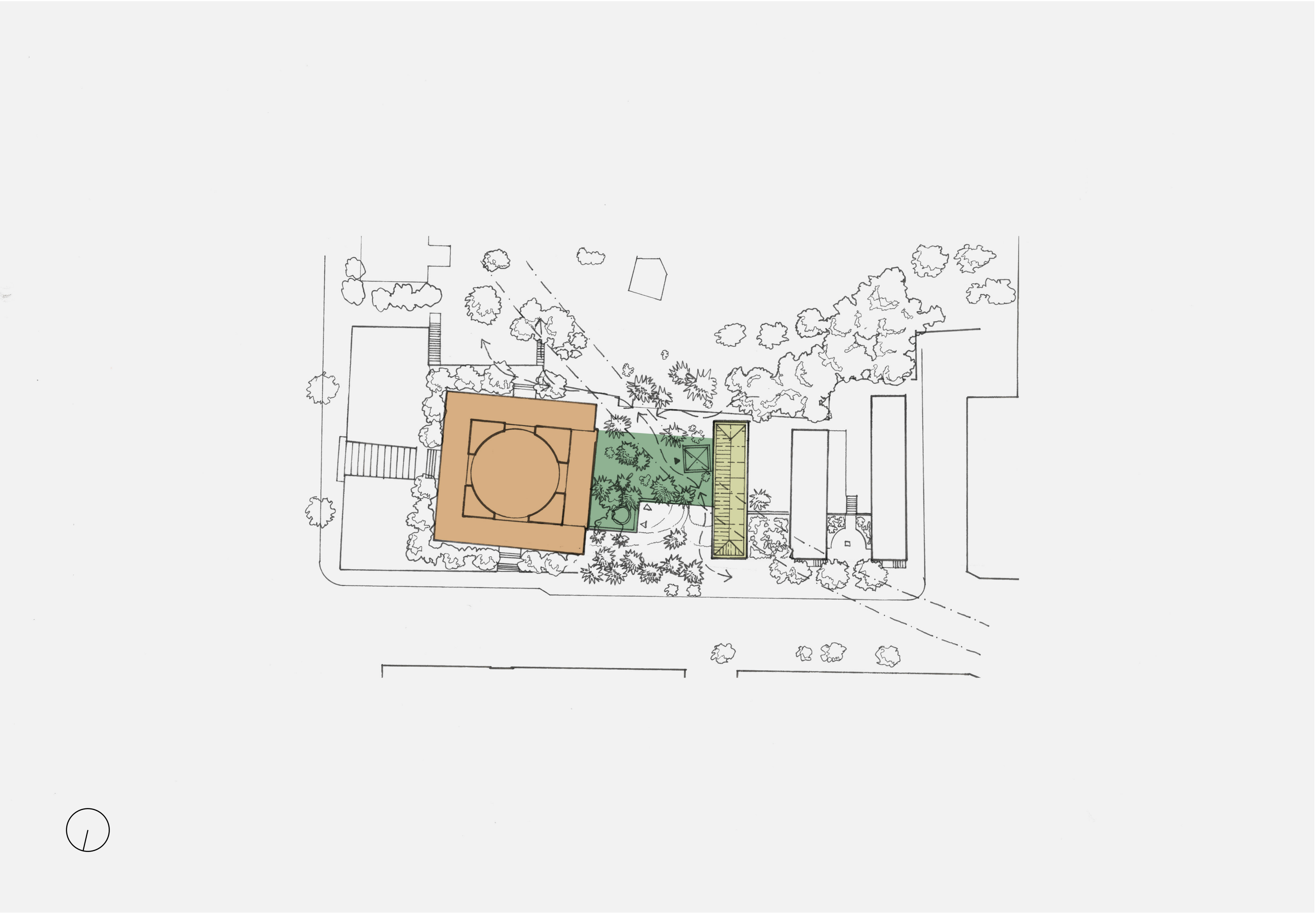
*Expand, diversify and strengthen existing Observatory Grove to form an urban forest.*



# Programme

Site Plan, Existing, 1:1000 @ A3.

The existing condition.





# Graduation Project





# Urban Forest





# Research

*Stockholm Municipality  
Environment and  
Biodiversity Policies*

- *Stockholms Stad. (25th May 2020).  
Environment programme 2020–2023. City  
Executive Office, Stockholms Stad.*
- *Stockholms Stad. (February, 2023).  
Stadsdelsvist åtgärdsförslag för biologisk  
mångfald: Kungsholmen, Norrmalm,  
Östermalm och Södermalm. Stockholms  
stad.*

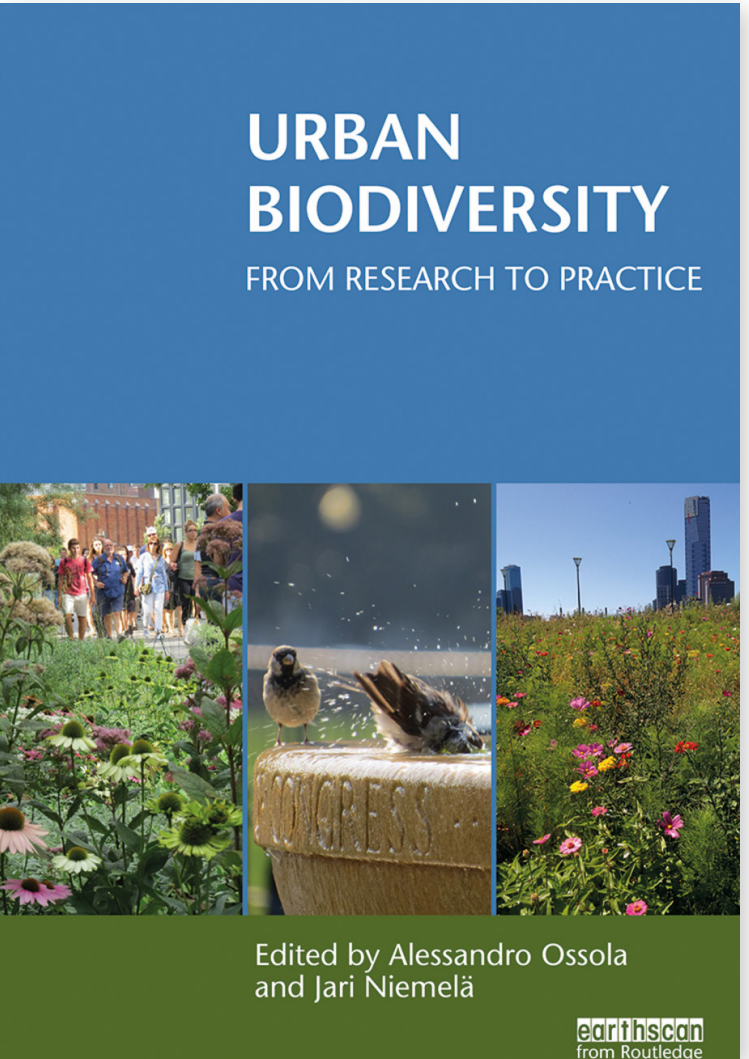
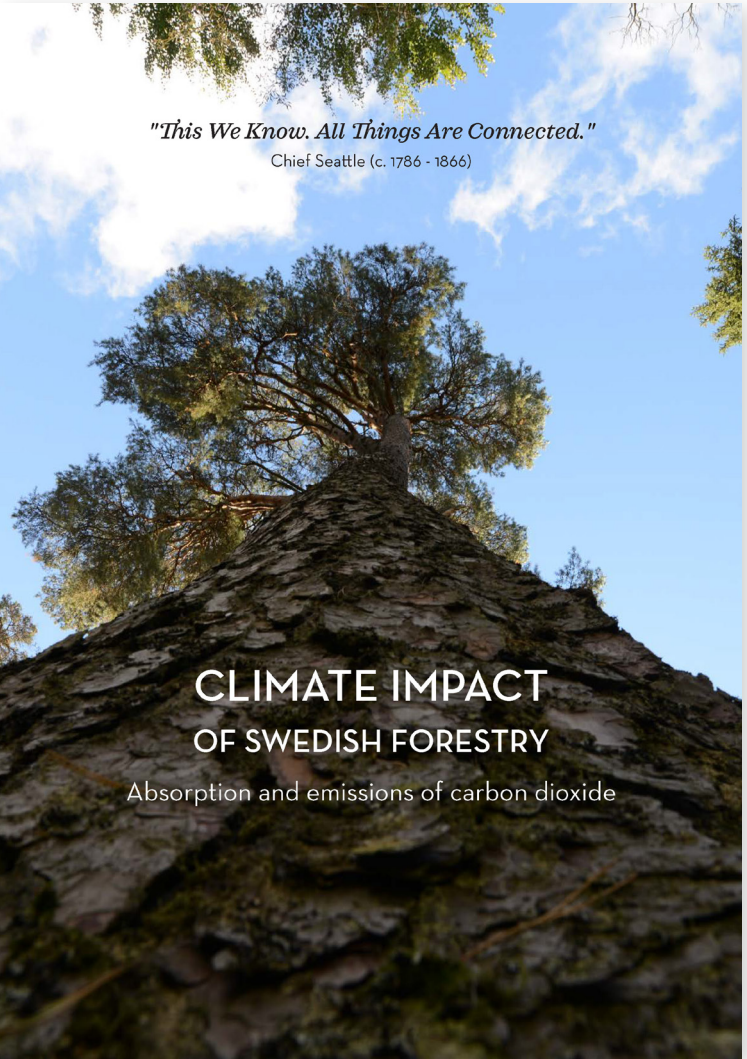
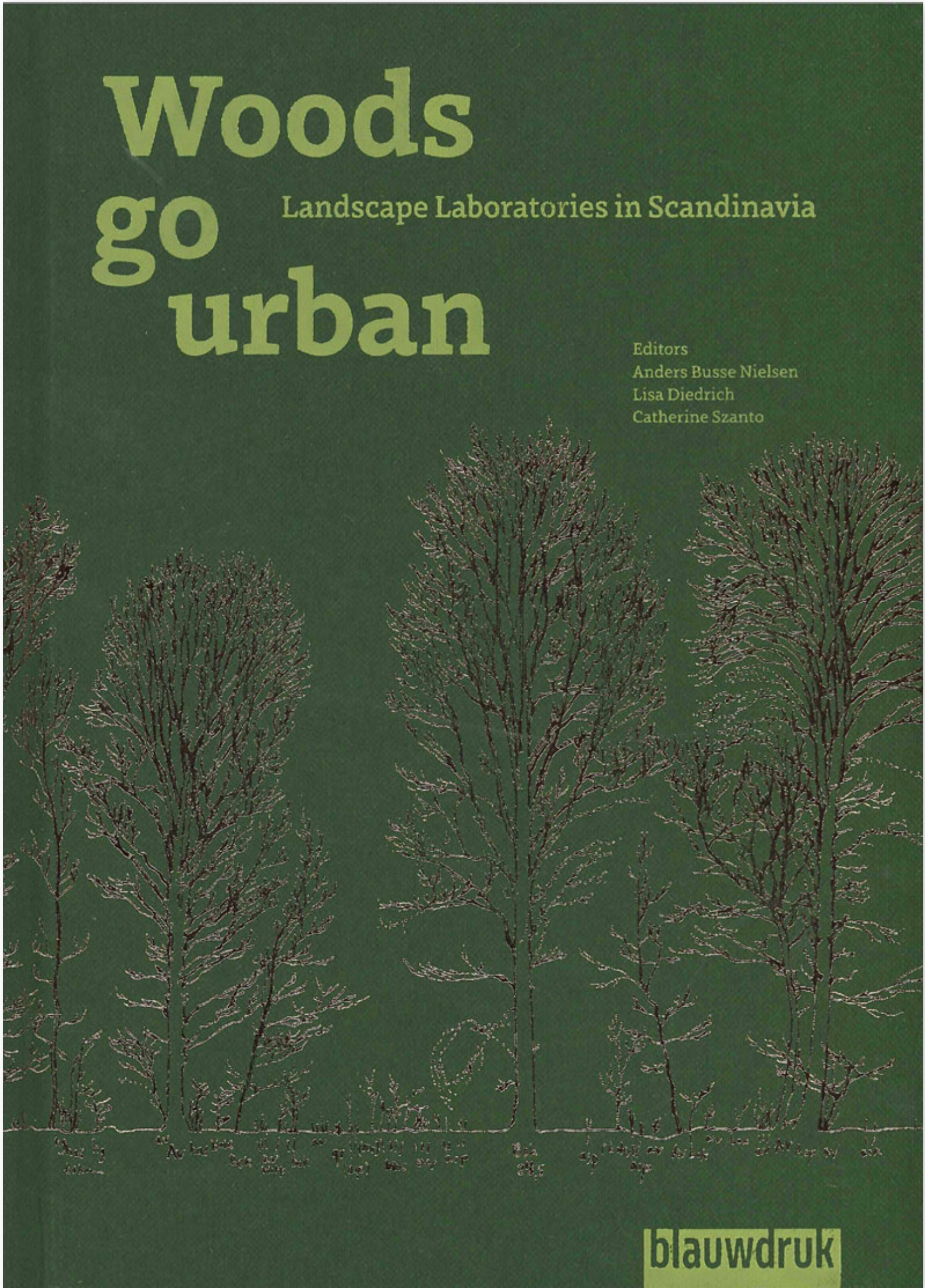




# Research

*Urban Forest and Biodiversity*

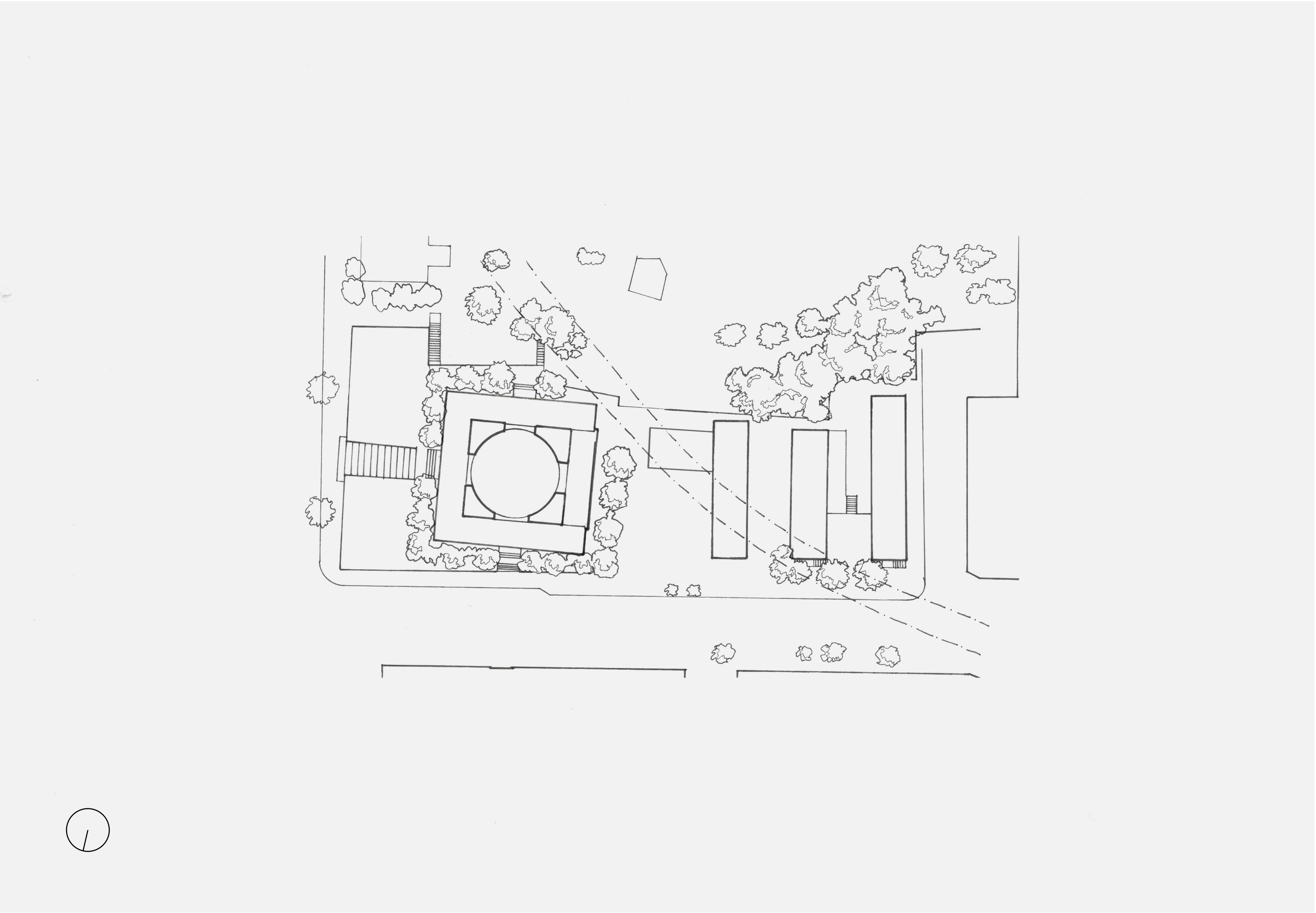
- *Nielsen, Anders Busse; Diedrich, Lisa; Harsema, Harry (eds.). (June 2023). Woods go urban: Landscape Laboratories in Scandinavia. Blauwdru Publishers, Wageningen.*
- *(Descending; left to right):*  
  
*Björheden, Rolf. (ed.). (2019). Climate Impact of Swedish Forestry: Absorption and emissions of carbon dioxide. Skogforsk, Uppsala.*  
  
*Ossola, Alessandro; Niemelä, Jari. (eds.). (2018). Urban Biodiversity: From Research To Practice. Routledge, Milton Park, Abingdon, Oxon; New York, NY.*  
  
*Stockholms Stad. (2017). Grönare Stockholm Riktlinjer för planering, genomförande och förvaltning av stadens parker och naturområden. Stadsledningskontoret, Stockholm.*





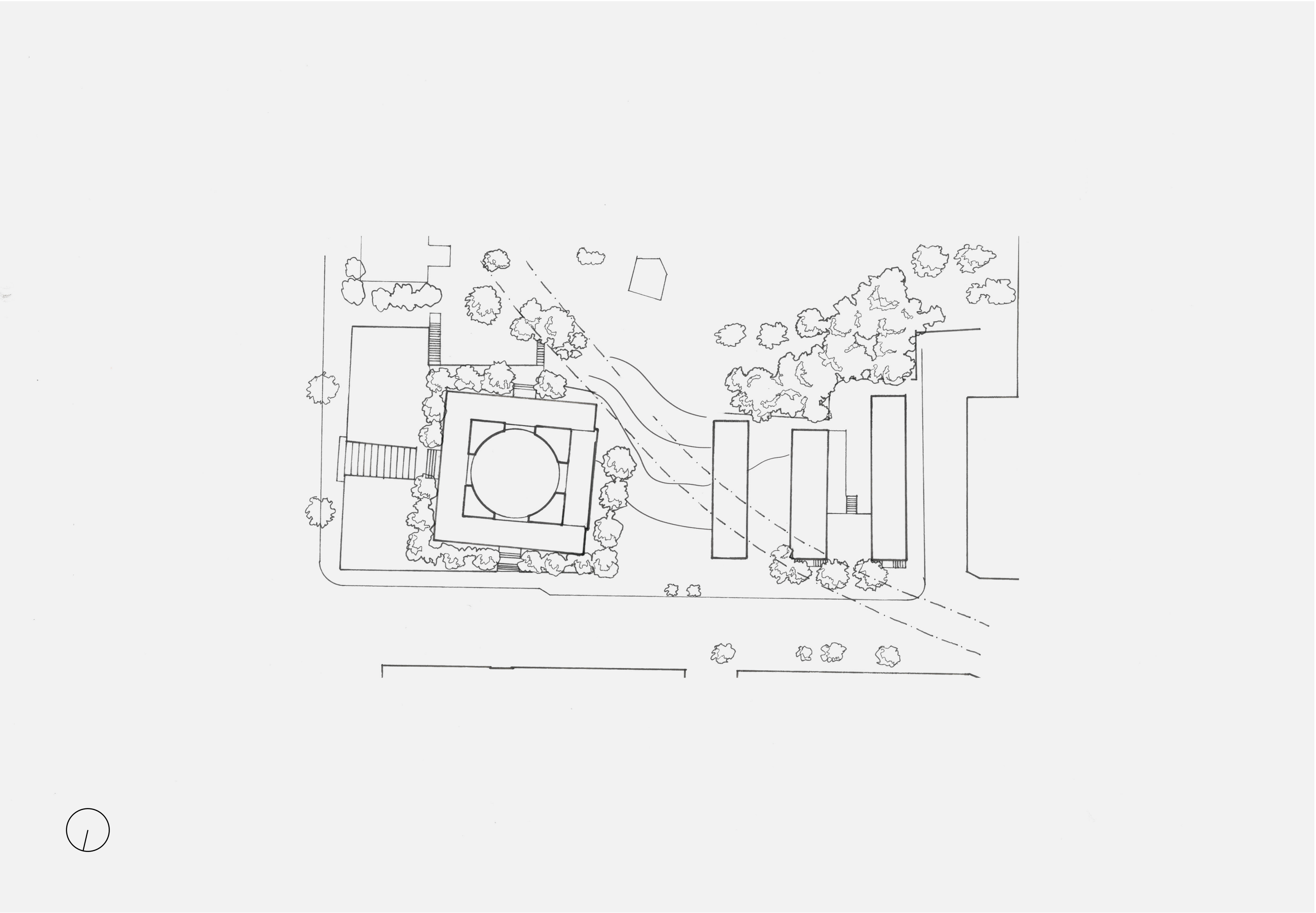
Site Plan, Existing, 1:1000 @ A3.

The existing condition.





Site Plan with spilling Observatory Hill,  
Existing, 1:1000.



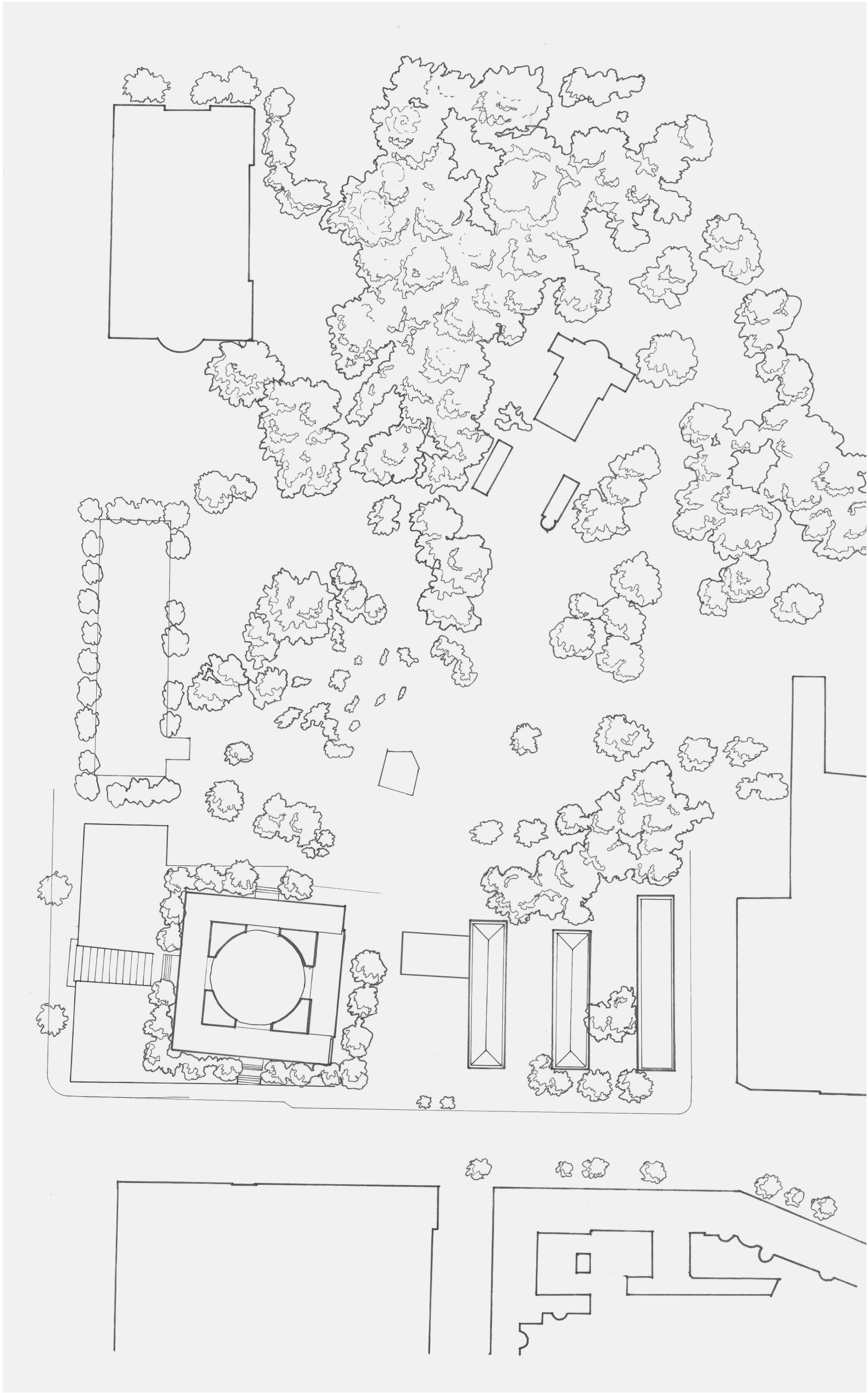


► Existing Site Plan, 1:2000 @ A3.

*The Observatory Hill boasts a magnificent cluster of mature deciduous trees on its south side, surrounding the Stockholm Obsertvatorium. The thick canopy affords shelter and dampens city noise. It enriches the lives of urban dwellers; birds, plants, small mammalia and humans alike.*

►► Proposed Site Plan, 1:2000 @ A3.

*I propose removing the hall of the first annex building closest to the Stockholm City Library, International Library (Odengaten 59). In my view, this volume held back the Observatory Hill and the growth of plant-life. Once removed, the hill is released into the vacant space. Coniferous trees are planted to develop the biodiversity of the Observatory Hill urban forest, and extend the cross-site access for smaller animals and insects.*





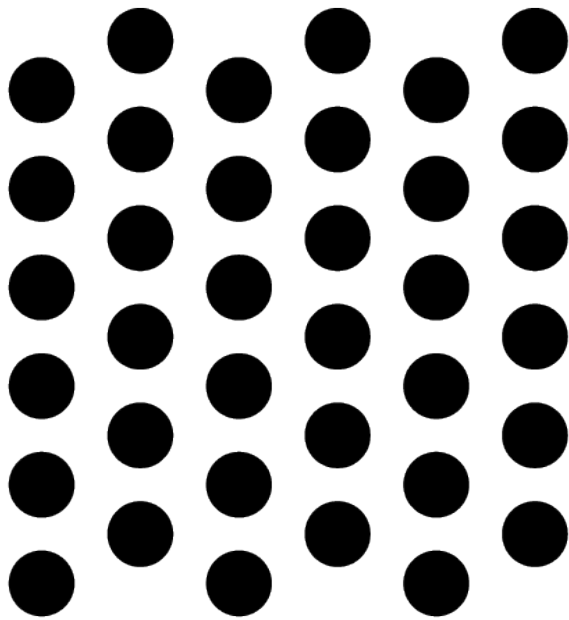
# Research

## Forest Cultures, and Stand Structures

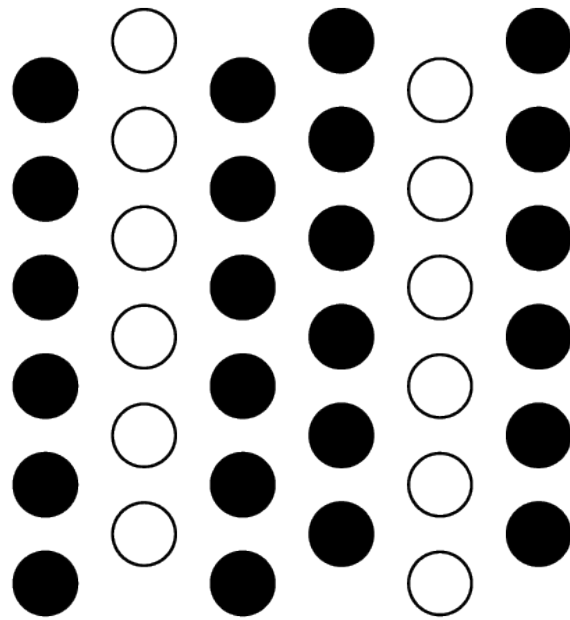
Forest Culture and Stand Diagrams

Within the landscape laboratories, stands are units of distinct woodland vegetations structure. The stands are prototypes of different structural types that can be observed over time and interacted with. Within the stands, sub-structures of the main structural types can be developed over time through creative management and enrichment planting.

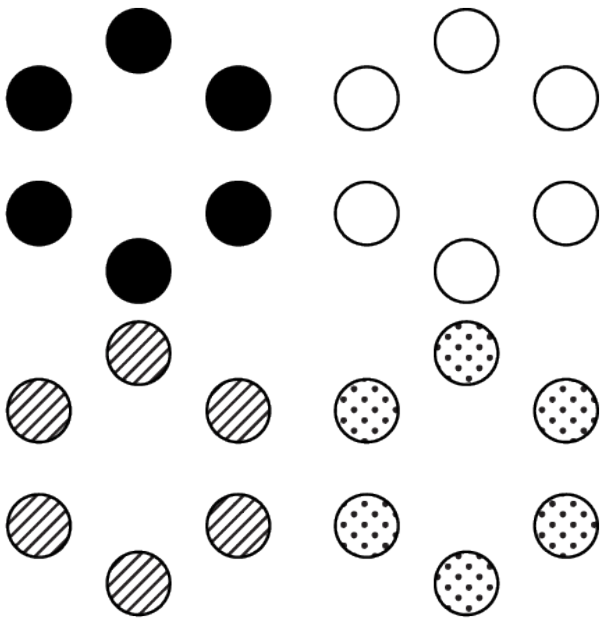
1. The Monoculture (Classical forestry).



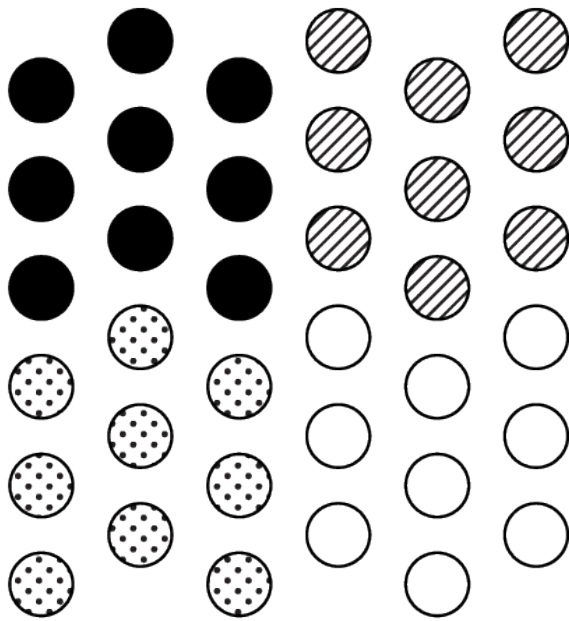
2. The Monoculture with nurse trees of minimal species mixture (Classical forestry).



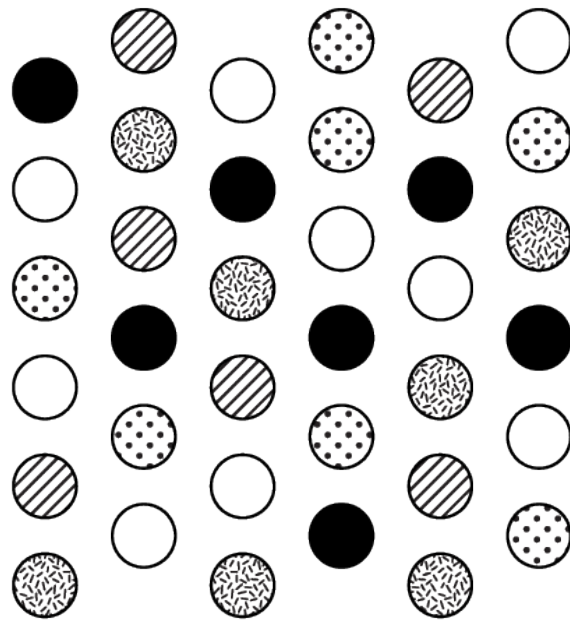
3. The 'designed' culture.



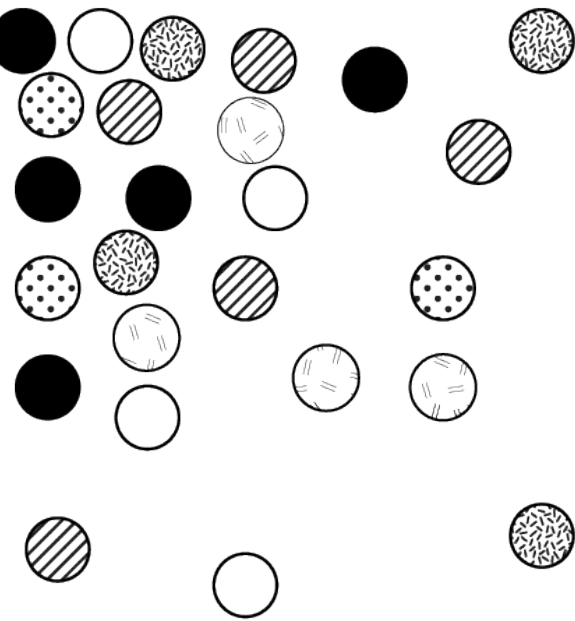
4. Multiple species structured culture (Nature based forestry).



5. Multiple species nonstructured culture (Nature based forestry, and Landscape laboratory).



6. Gradient culture or natural succession (Nature based forestry, and Landscape laboratory).



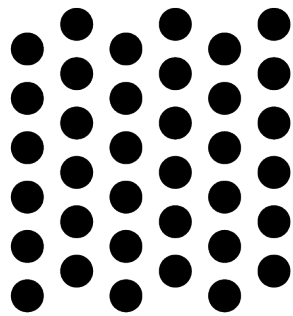


- **Woodland Cemetery (1918-1940).**  
*Skogskyrkogården, Stockholm. Erik Gunnar Asplund & Sigurd Lewerentz. Photo by author: 25th Sept. 2023.*

*I did not know this at the time, but this place would have a profound impact on the development of my graduation project. The quality of natural canopy light, the tree techtonics and phenomenality of landscape evoke a perception and feeling of place that I would hope to borrow for the Stockholm City Library and Observatory Hill environs.*

- ▼ **Forest Culture and Stand Diagram**

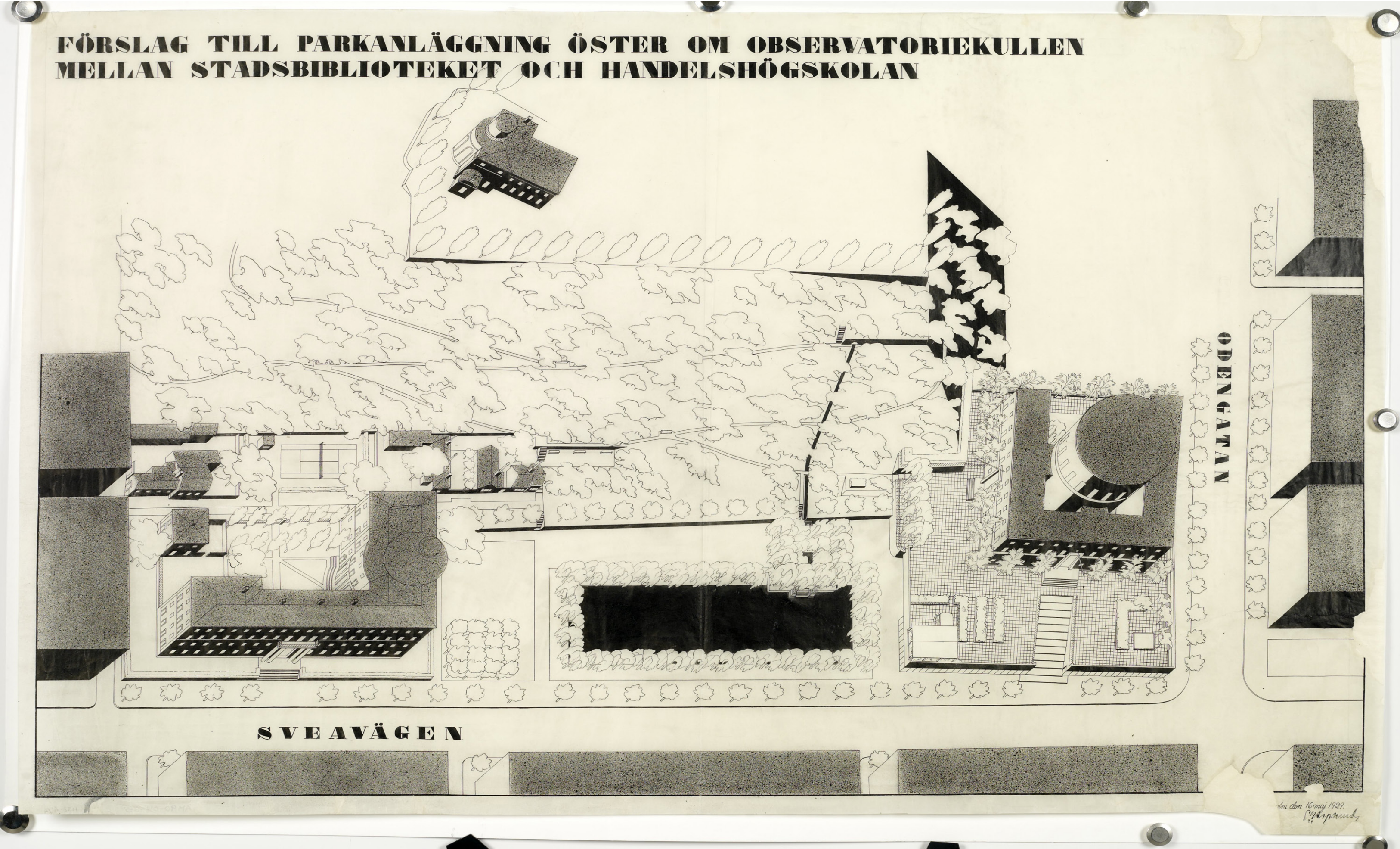
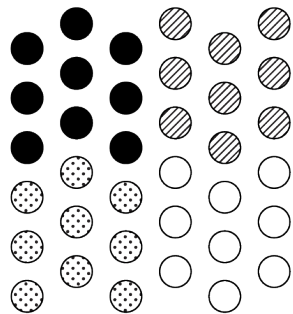
*Monoculture stand structure.*





Asplund and the  
Observatorielunden

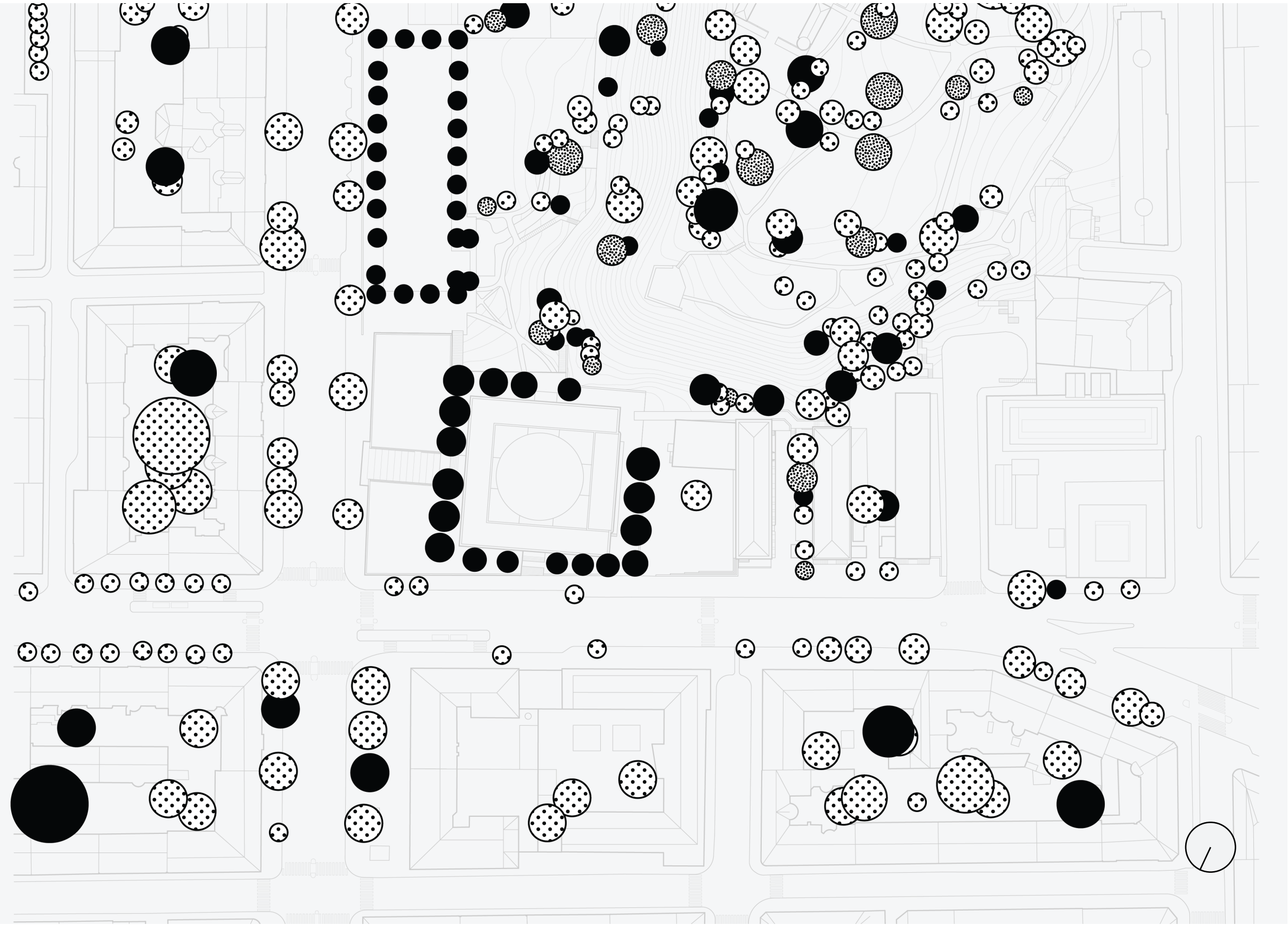
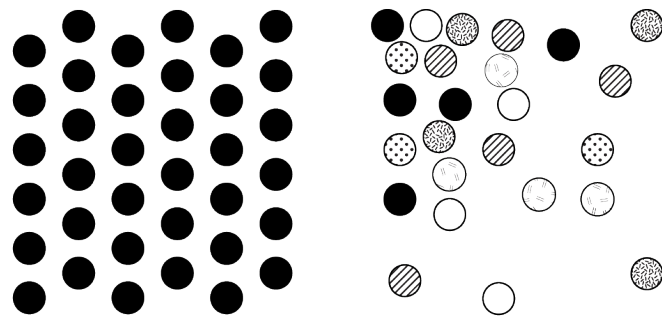
- Observatory Grove site plan (16th May 1929). Isometric drawing. Eric Gunnar Asplund.  
  
ARKM.1990-04-58.jpg.
- ▼ Forest Culture and Stand Diagram  
  
Multiple species structured culture (Nature based forestry) stand structure.



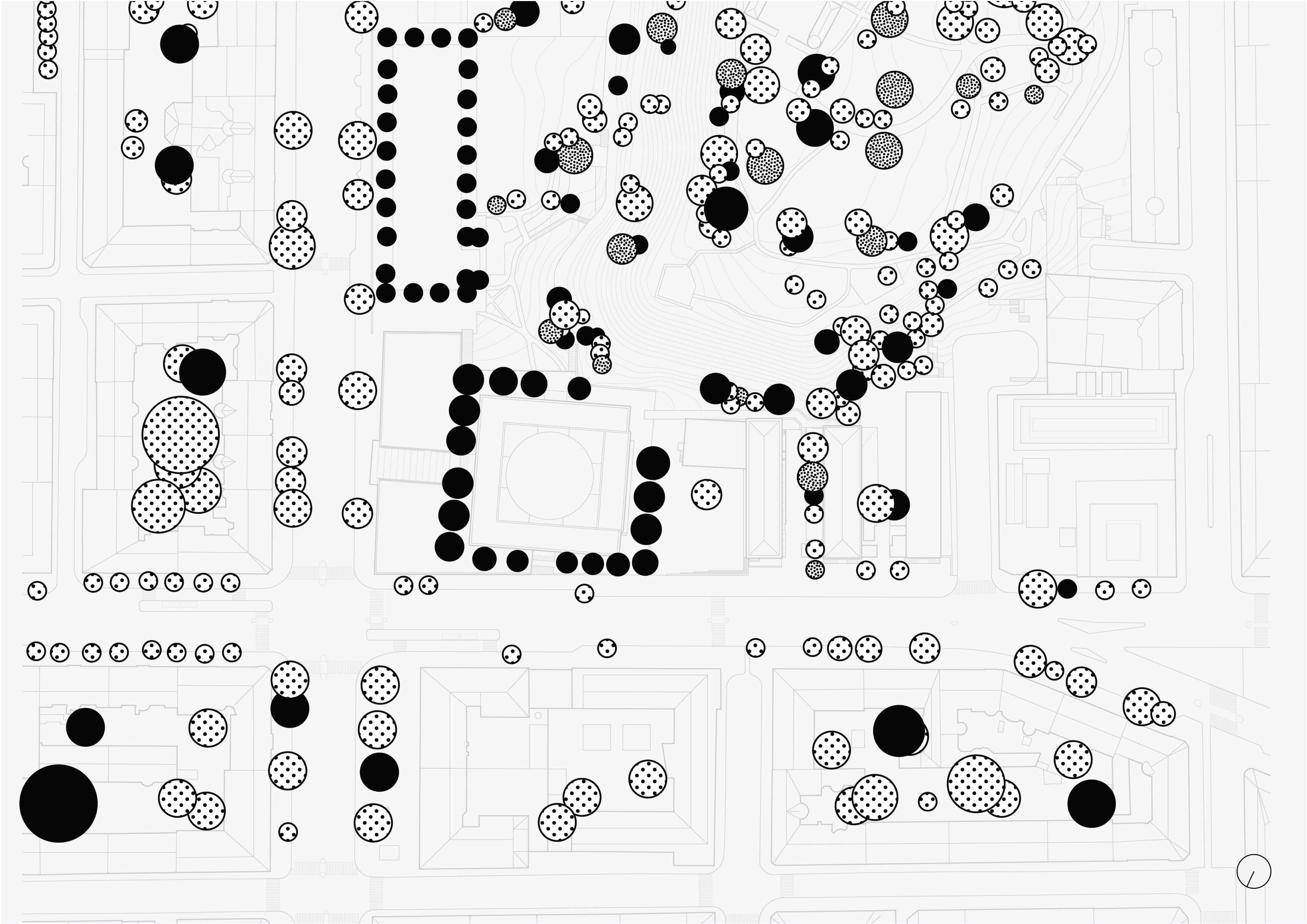


Visual Terminology

- *Site Plan. NTS.*  
  
*Over the past century the Observatory Grove has developed a gradient culture or natural forest succession, while the pond and Stockholm City Library host mono-cultural perimeters of willow and elm.*
- ▼ *Forest Culture and Stand Diagrams*  
  
*Monoculture stand structure*  
  
*Gradient culture or natural succession (Nature based forestry, and Landscape laboratory).*









Visual Terminology

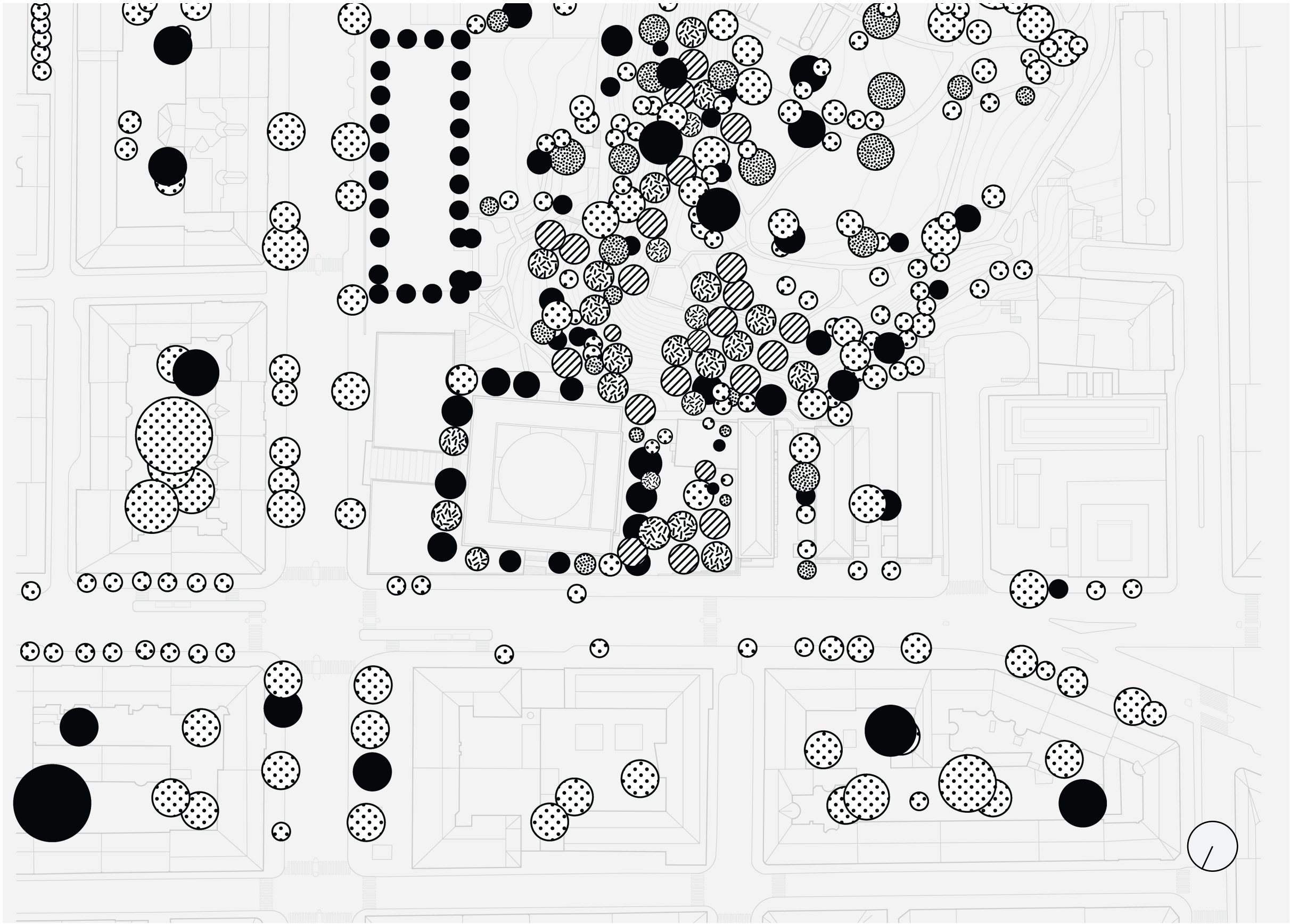
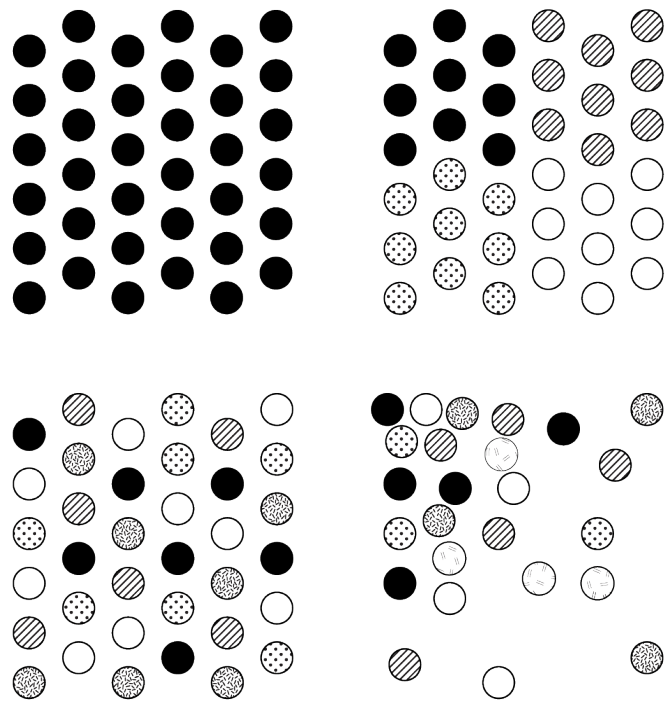
- Site Plan. NTS.
- ▼ Forest Culture and Stand Diagrams

Monoculture stand structure

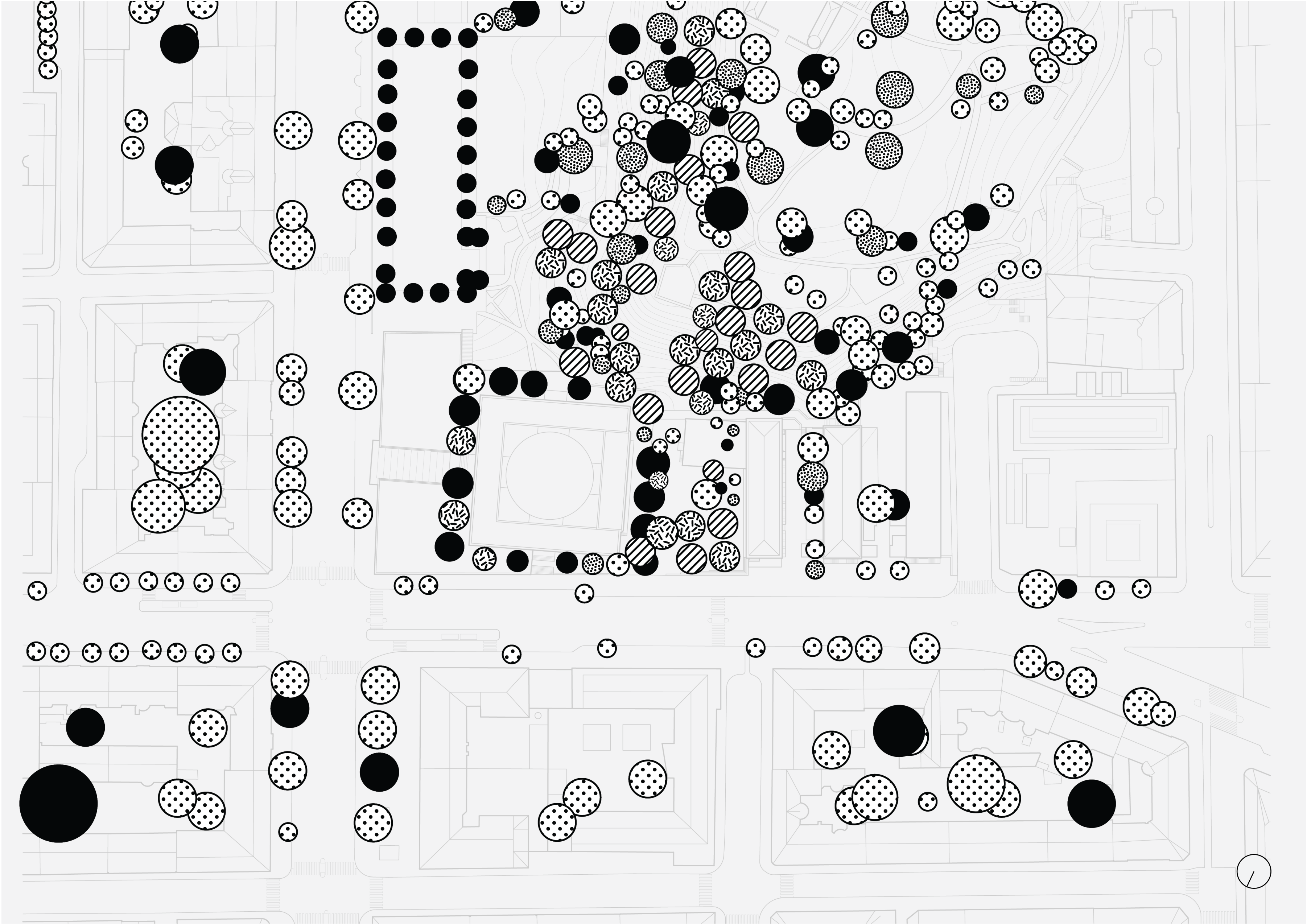
Multiple species structured culture (Nature based forestry).

Multiple species nonstructured culture (Nature based forestry, and Landscape laboratory).

Gradient culture or natural succession (Nature based forestry, and Landscape laboratory).









# Existing

## Observatory Grove

*Aerial photograph, Spring-summer 2022.  
(Source: Google Earth).*

*The existing urban forest predominantly occupies the south-east half of the Observatory Hill. The photograph records the condition of the biodiversity core during a period of drought. Interestingly, the north side of the hill has been able to retain water content.*





# Proposal

*Observatory*  
*Urban Forest*

*Aerial render. Digitally photomontage.*

*The northward expansion of the Observatory Grove enriches the biodiversity core, and enhances the cool micro climate on the north side of the hill.*





# Proposal

*Odengatan becomes a  
forest edge condition*

*North elevation. 1:100 model.*





# Proposal

*Landscape through  
stage design and  
layering.*

*North elevation. 1:100 Model.*





# Proposal

*Landscape design as  
storyteller*

*North Elevation. 1:100 Model.*





# Proposal

*Monumental approach and entrance at ground level*

- *Universally accessible monumental entrance. 1:100 Model.*
- *(Descending):*  
*Stockholm City Library east facade & main entrance.*  
  
*Photo: David Grandorge*  
  
*Megalithic pediment. Elevation drawing, 1:200 @ A3.*





# Proposal

*Current condition*

*View on Odengatan. Photograph.*

*Photo: author.*





# Proposal

*Proposed edge*

*View on Odengatan. 1:100 Model.*





# Proposal

*Ascending and  
descending the hill*

*Views above forest to steps of urban forest.  
1:100 Model.*





# Proposal

## Alterations

- Interior view of the 1932 west wing reading hall. Digital photograph.  
*Photo: David Grandorge*
- Interior view of the 1932 west wing reading hall with added floor level fenestration. Sketch.



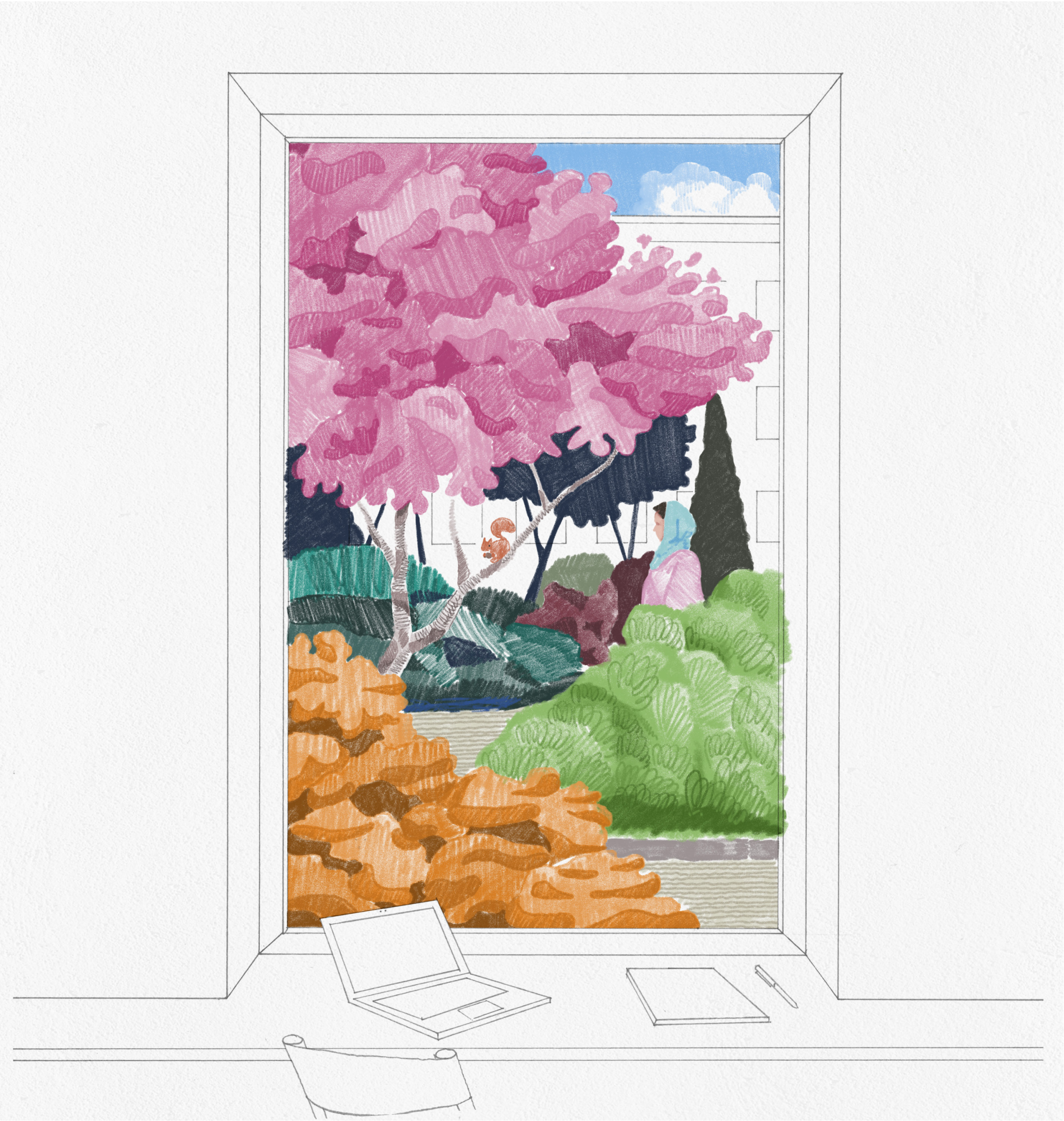


# Proposal

## Respite

- Views from west wing reading hall. Sketch.
- ▼ *Lady Writing a Letter with her Maid* (1670-1671).

Johannes Vermeer (Dutch, 1632-1675),  
Oil on canvas,  
71.1 × 60.5 cm,  
National Gallery of Ireland.





# Proposal

## Respite

*Views from west wing reading hall. 1:100  
Model*

*The relationship between the Asplundhuset  
interior and the urban forest looks and  
feels as intended. :)*





# Proposal

Catalogue

► Views from within the forest. Digital render.





# Proposal

## Promenade

- ▶ *Exterior view of the South wing corner and passage. Digital photograph.*  
*Photo: David Grandorge*
- ▶▶ *Exterior view of the South wing corner and passage. 1:100 Model.*  
*The passage becomes a nature promenade enclosed by the forest and ecology.*





# Proposal

*Movement through the landscape conceals and reveals*

*Exterior view of the South wing corner and passage. 1:100 Model.*

*Movement around the existing retaining walls allows for the architecture to be revealed like how the Asplundhuset is revealed by in the Observatorielunden.*





# Proposal

*Movement through the landscape conceals and reveals*

*Exterior view of the South wing corner and passage. 1:100 Model.*

*Movement around the existing retaining walls allows for the architecture to be revealed like how the Asplundhuset is revealed by in the Observatorielunden.*





# Proposal

## The Myth of Autochthony

- ▶ *(Descending)*  
*Landscape as a charter myth. Erechtheion (c.421 BCE).*  
  
*Photo Source: [@noteable-trees](#)*  
  
*Tetra-style portico of the Resurrection Chapel (1921-1925; 1952). Skogskyrkogården, Stockholm. Sigurd Lewerentz. 25th Sept. 2023.*  
  
*Photo: author.*

- ▶▶ *Exterior view of the Spelbomskan 16 side entrance. 1:100 Model.*  
  
*What does it mean to be autochthonous?*  
  
*How do global and local ecological systems understand indigeneity and international borders?*  
  
*How do we accommodate both political and climate refugees of all species?*





# Proposal

*Living laboratory*

*Sectional model as a profile diagram. 1:100 Model.*

*Horticulture and architecture intersect.*





# Ecosystems

## Carbon Stock

Carbon Stock Table

(Source:) Sjöman, Johanna Deak; Östberg, Johan. (2020). i-Tree Sverige För strategiskt arbete med träds ekosystemtjänster. Sveriges Lantbruksuniversitet (SLU), Alnarp. pp. 36, 45.

\* Stockholm urban forest coverage: 20,700 hectares

\*\* Proposed urban forest coverage: 1.265 hectares

	Stockholm	Per hectare*	Proposal**
Amount of carbon storage in tonnes	262,590	12.7	16.0
Corresponding amount of carbon dioxide in tonnes	962,918	46.5	58.8
Represents annual CO2e emmissions from the number of passenger cars	641,945	31.0	39.2
Global economic value in Swedish Krona	SEK 1,097,726,520.00	SEK 53,030.27	SEK 67,083.29

### Carbon stock conclusion

The proposed mixed species, mixed age urban forest will store approximately **16 tonnes of carbon**, equivalent to **58.8 tonnes of CO<sup>2</sup>** at mature stages of forest succession.



# Ecosystems

## Carbon Sequestration (annual)

Carbon Stock Table

(Source:) Sjöman, Johanna Deak; Östberg, Johan. (2020). i-Tree Sverige För strategiskt arbete med träds ekosystemtjänster. Sveriges Lantbruksuniversitet (SLU), Alnarp. pp. 36, 48.

\* Stockholm urban forest coverage: 20,700 hectares

\*\* Proposed urban forest coverage: 1.265 hectares

	Stockholm	Per hectare*	Proposal**
Amount of Carbon uptake/sequestration in tonnes	9,344	0.5	0.57
Corresponding amount of carbon dioxide in tonnes	34,264	1.7	2.09
Represents annual CO2e emmissions from the number of passenger cars	22,842	1.1	1.40
Global economic value in Swedish Krona	SEK 10,799,220.00	SEK 521.70	SEK 659.95

### Carbon sequestration conclusion

The proposed mixed species, mixed age urban forest will sequester approximately **0.6 tonnes of carbon**, equivalent to **2.1 tonnes of CO<sup>2</sup> annually** at mature stages of forest succession.



# The Stockholm City Library



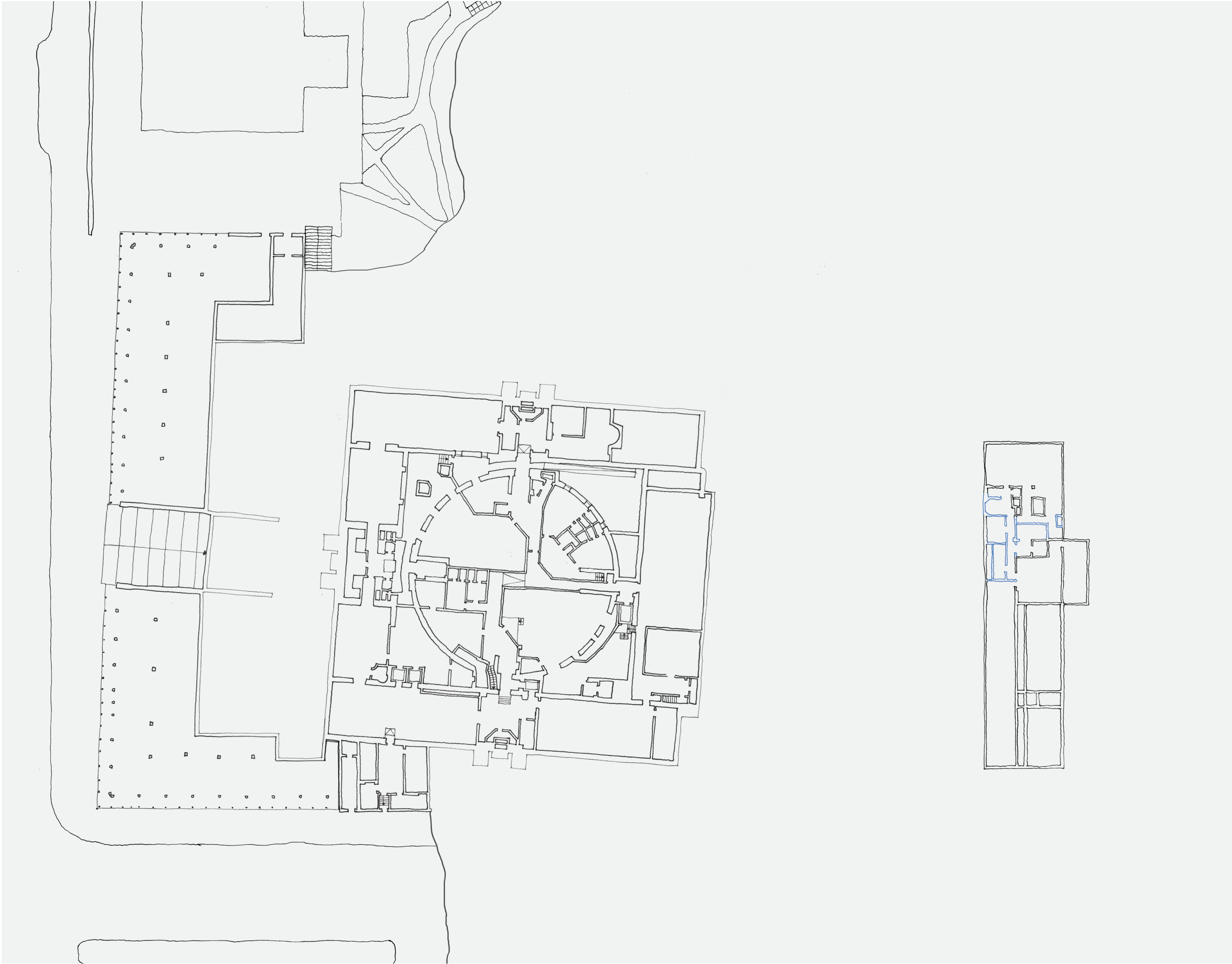
*Stockholm City Library west facade.  
Photograph.*

*Photo: David Grandorge*



# Existing

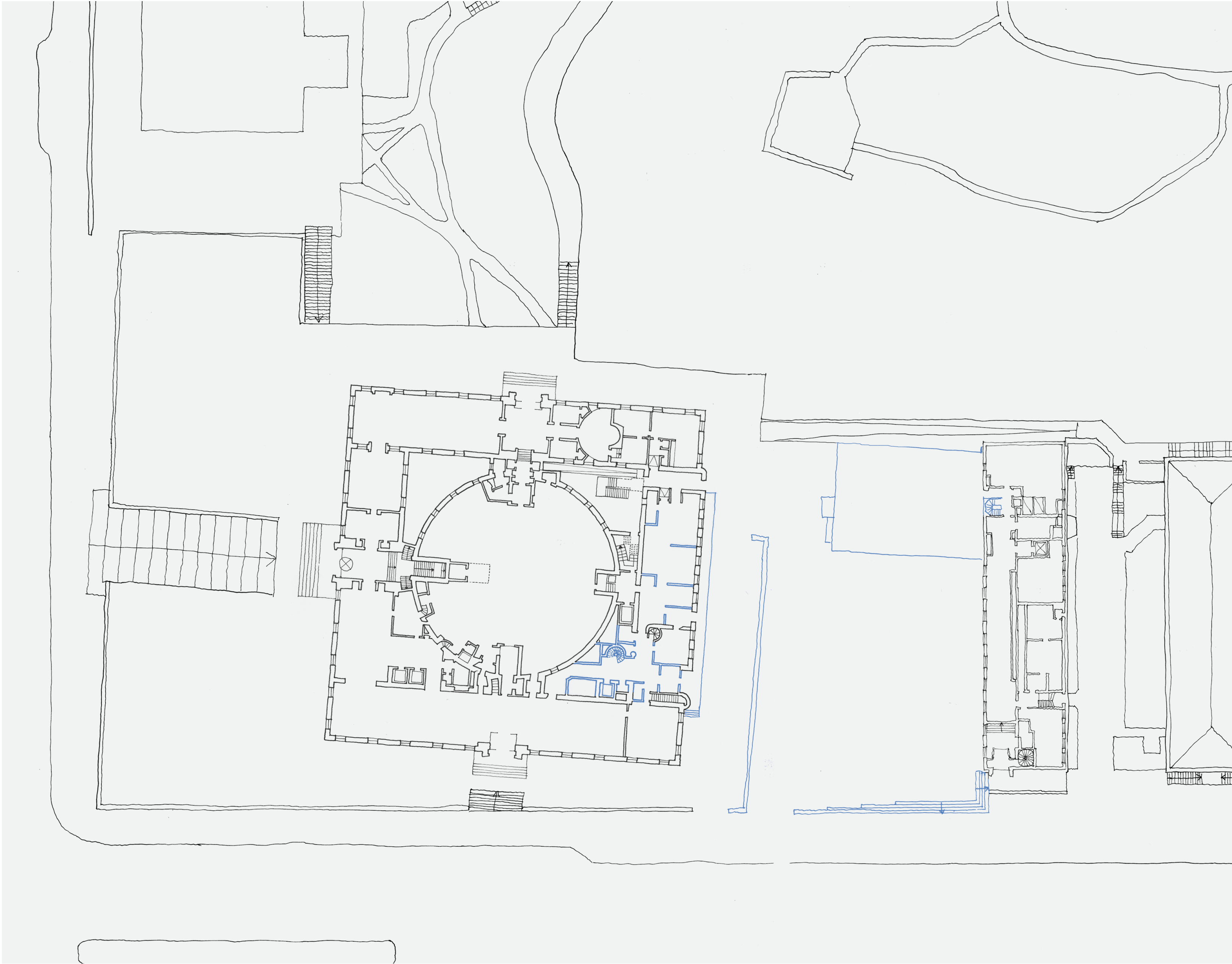
*Existing basement Level*  
(00)





# Existing

*Existing entrance level*  
*(01)*





# Proposal

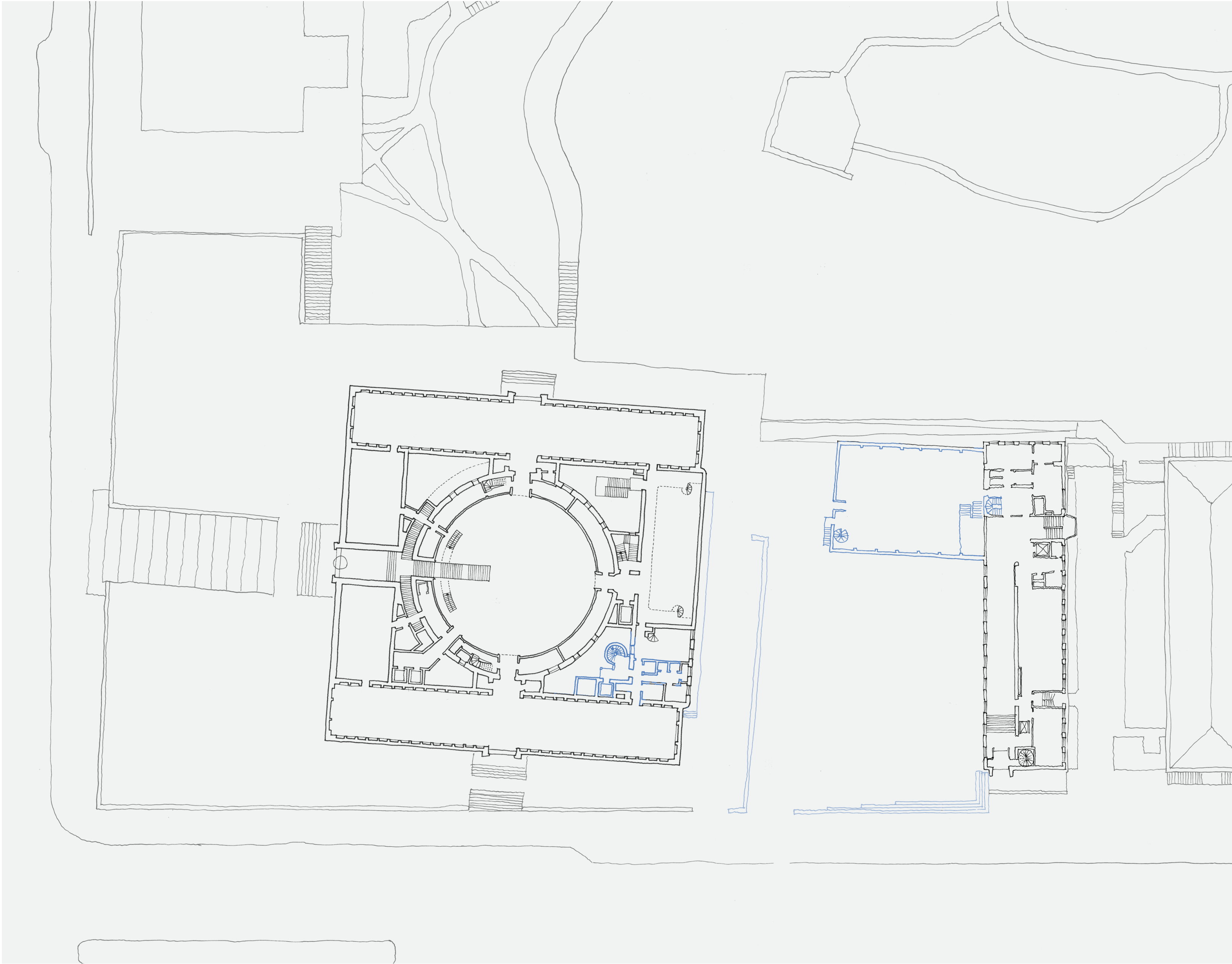
*Proposed entrance level,  
with extension (01)*





# Proposal

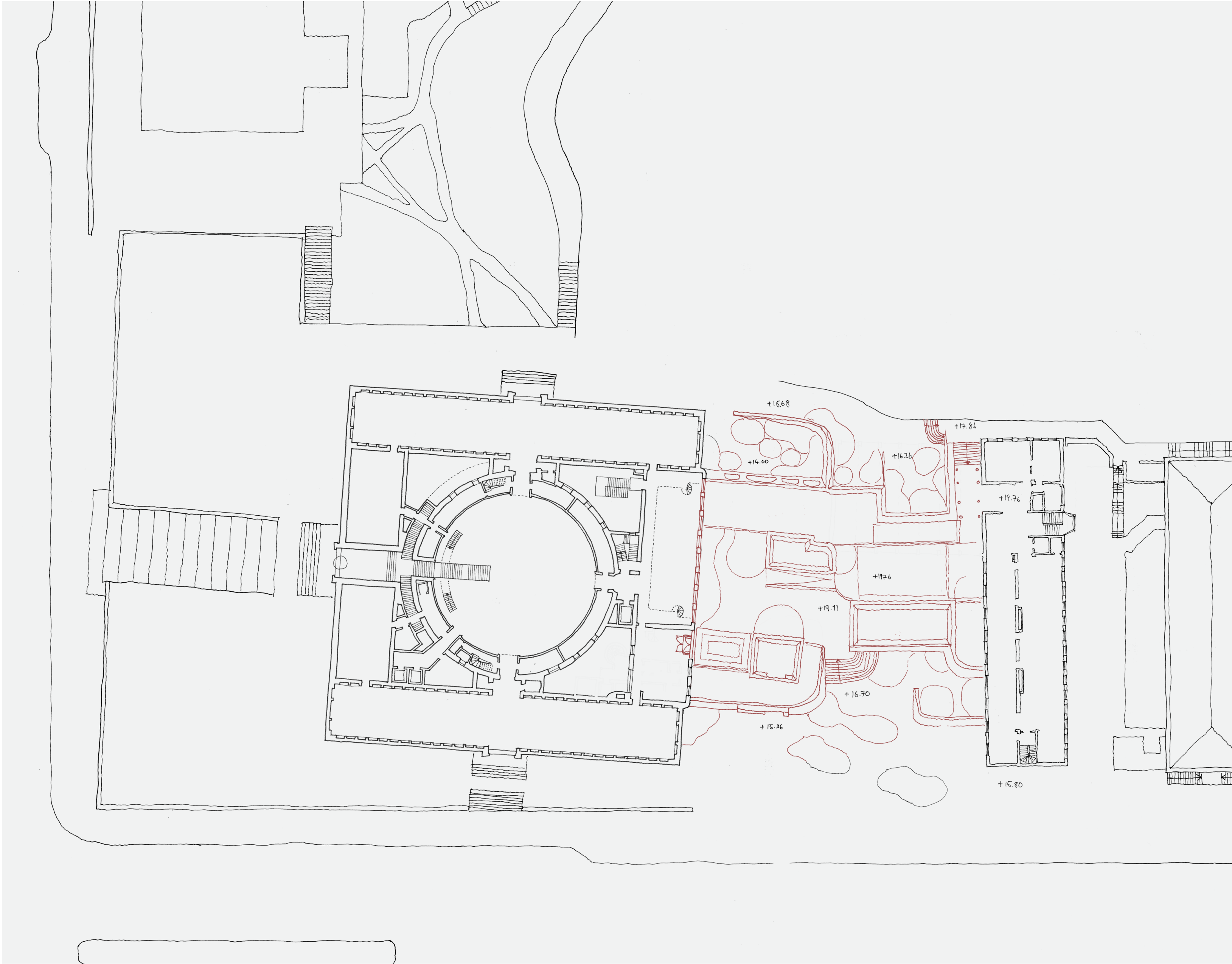
*Existing rotunda level*  
(02)





# Proposal

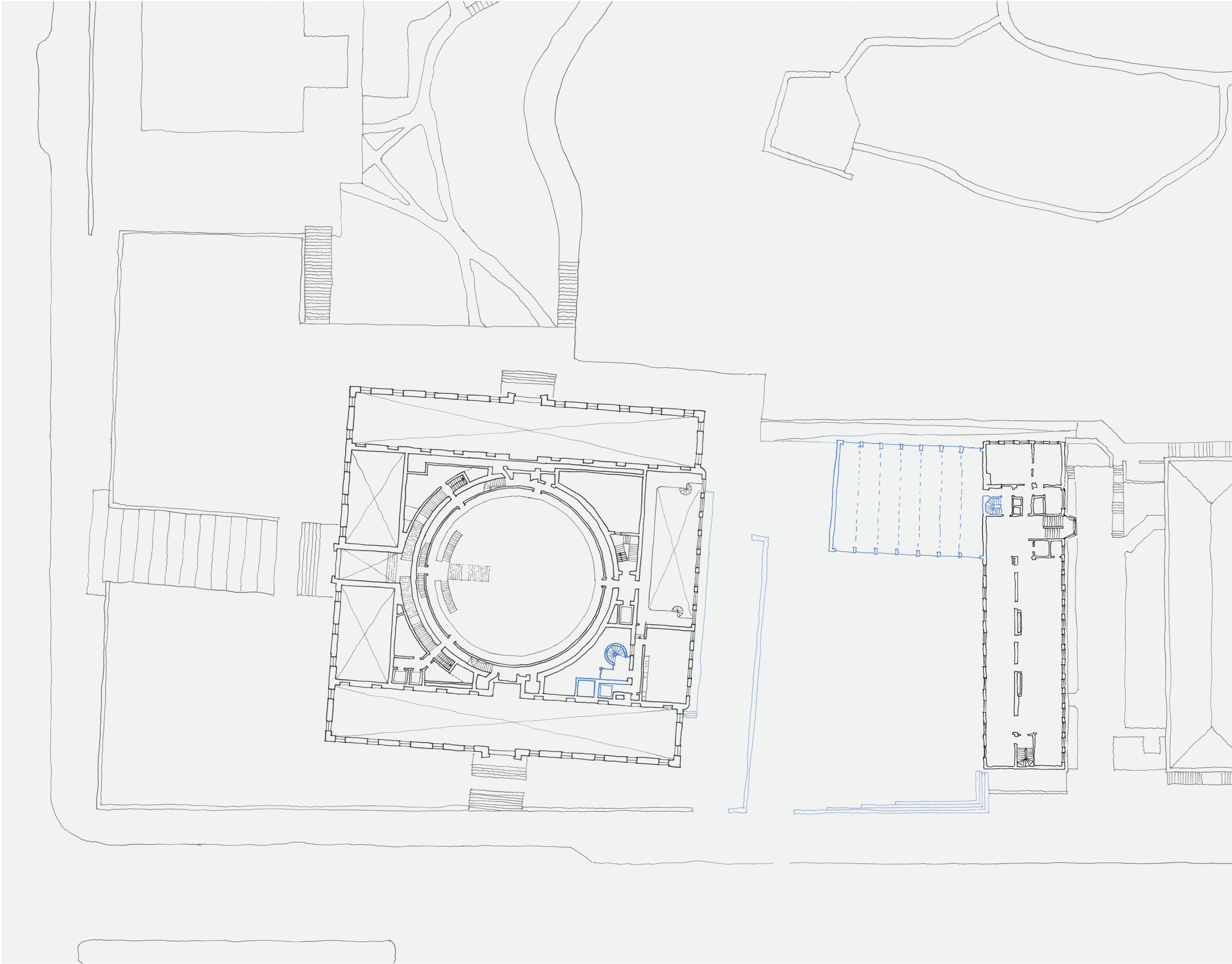
*Proposed rotunda level,  
with extensuion and  
urban forest (02)*





# Proposal

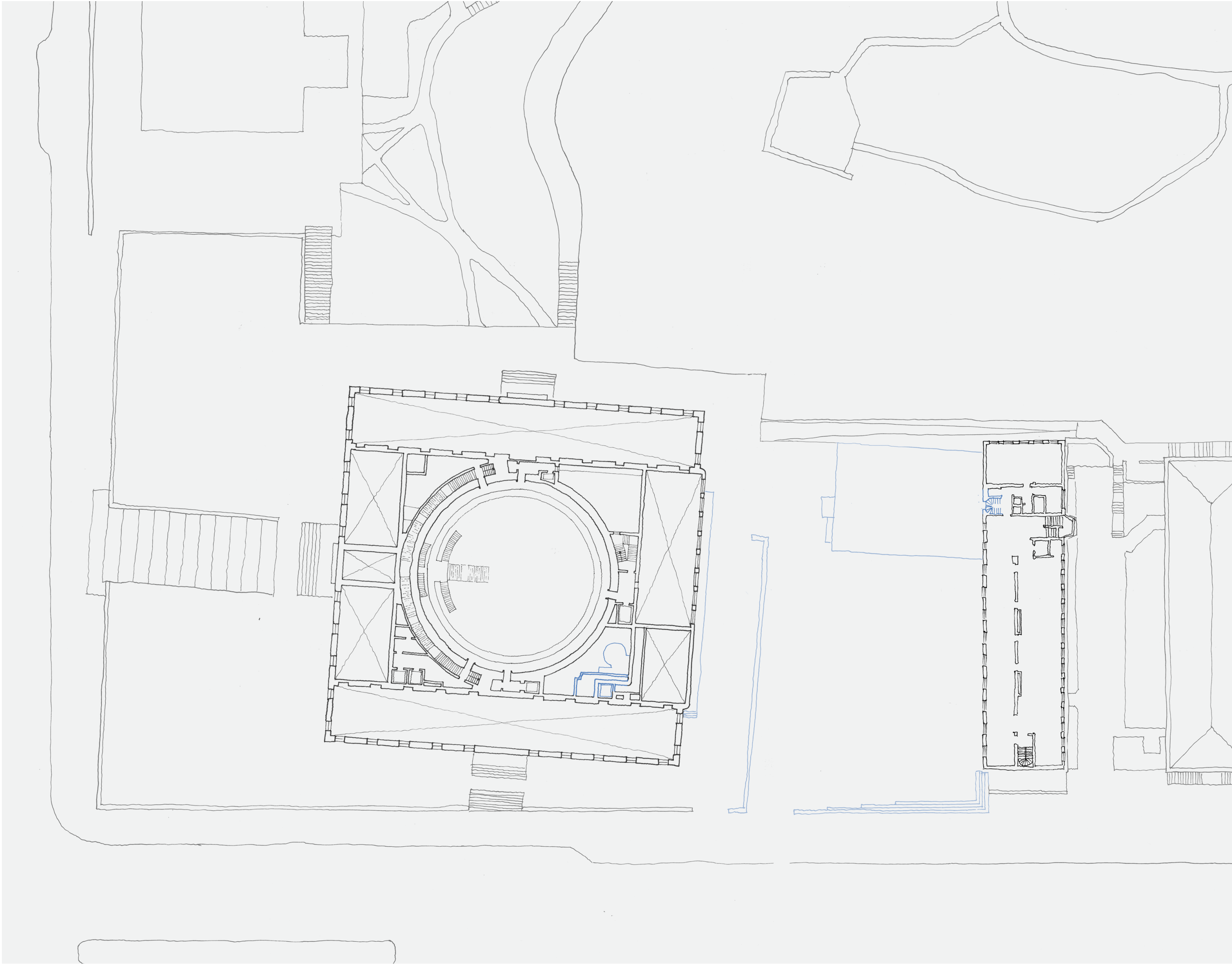
*Existing west wing level*  
(03)





# Proposal

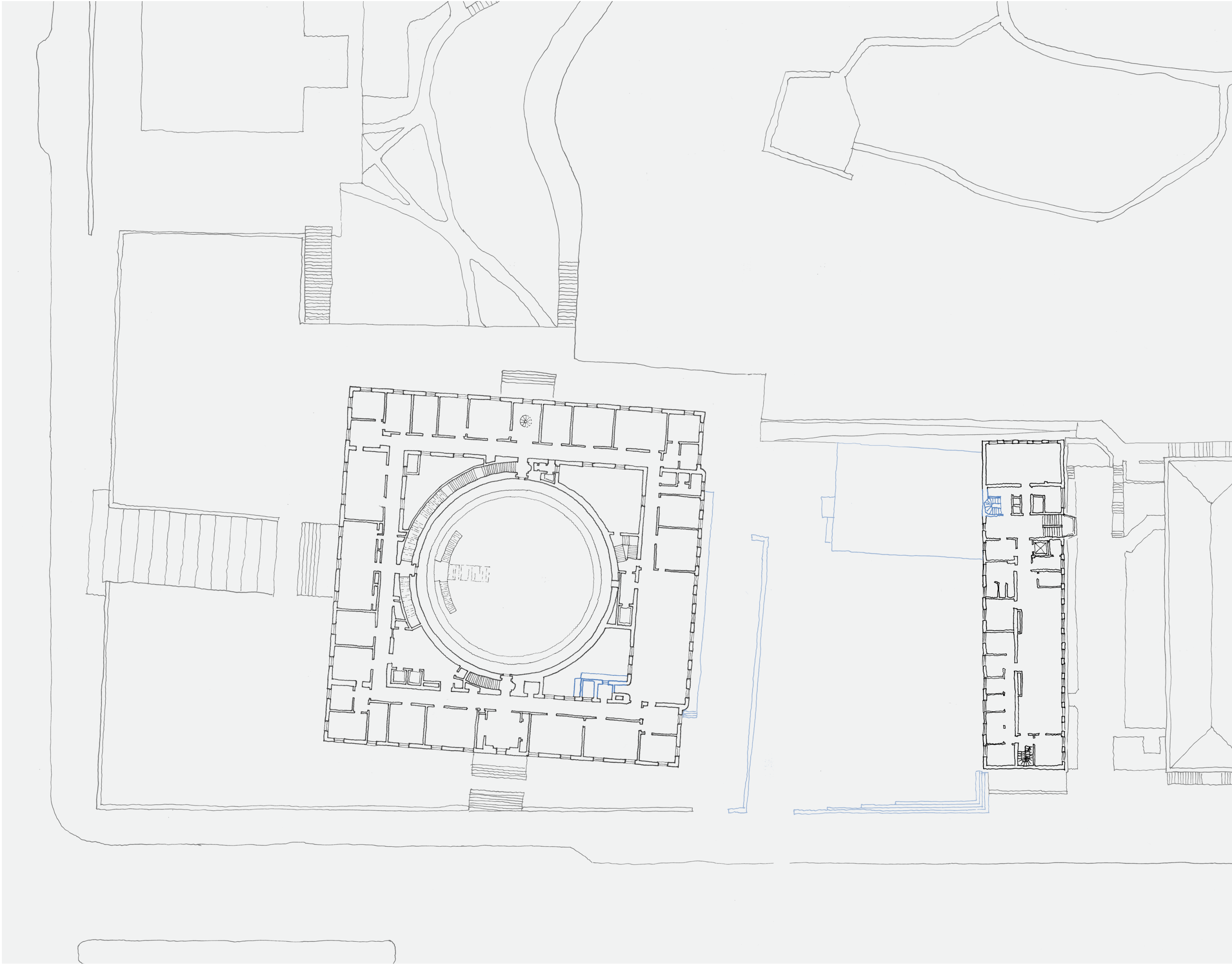
*Existing poché level (04)*





# Proposal

*Existing office level (05)*





# The International Language Rooms



*Interior view of International language rooms. Sketch.*



# A room for a Library

*Interior concept*

*A room for a library, a story-telling space.*

*Every story is a conversation. Before the book, stories were expressed through oral tradition. This room for a library gives space to that and other traditions. It democratises the right to speak and be heard by levelling the relationship between the storyteller and the listeners; a centralised plan affords everyone the role of narrator.*





*A room for a library, a story-telling space.*

*A perimeter bench with alcoves for those with limited mobility offers communality around a skylight hearth. Major and minor storytelling spaces allow for cross-communication and encouraged participation. Ornament adorns a coved ceiling and panel recesses to spark imagination, conversation and cultural acceptance.*





# Qa'a

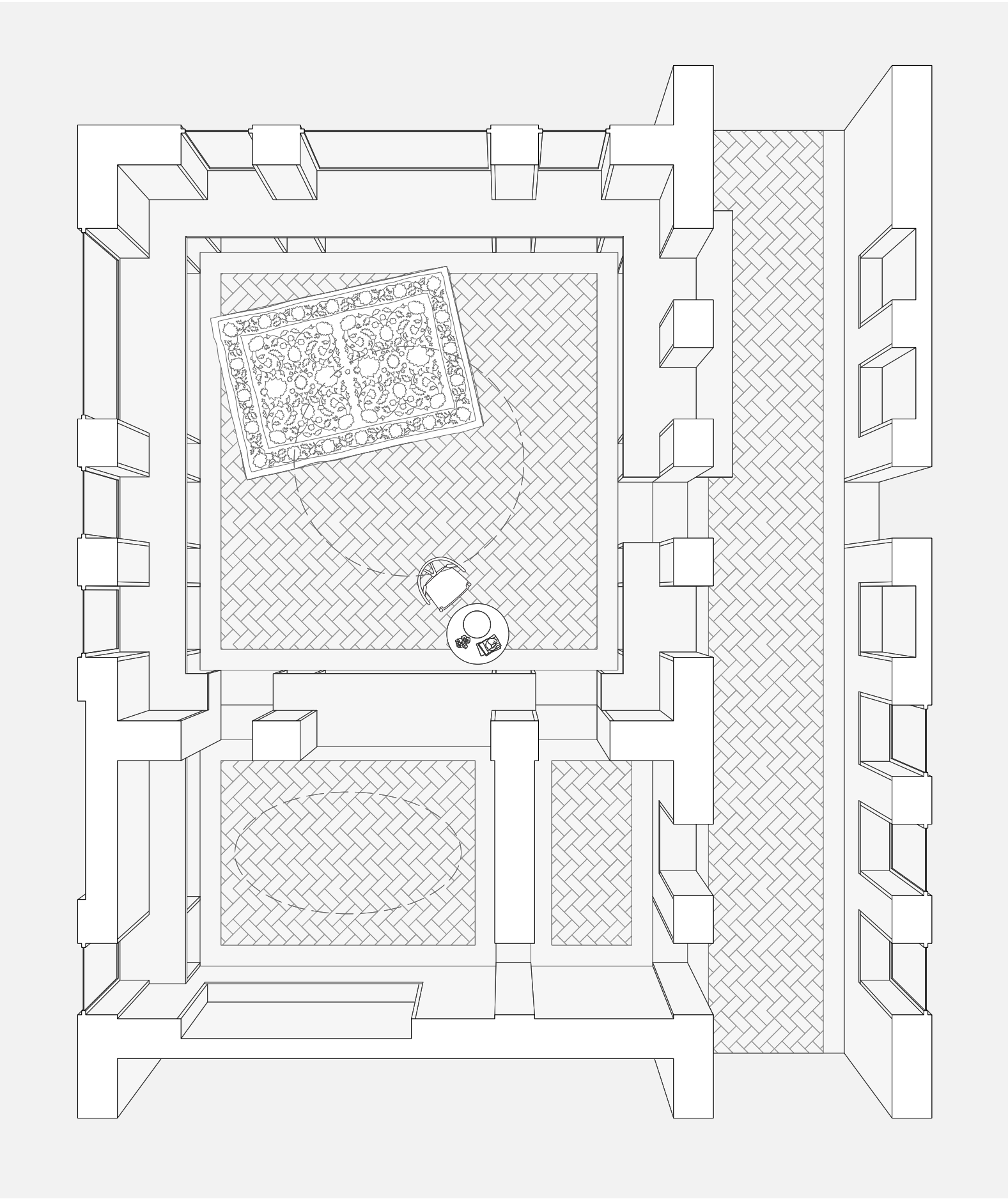
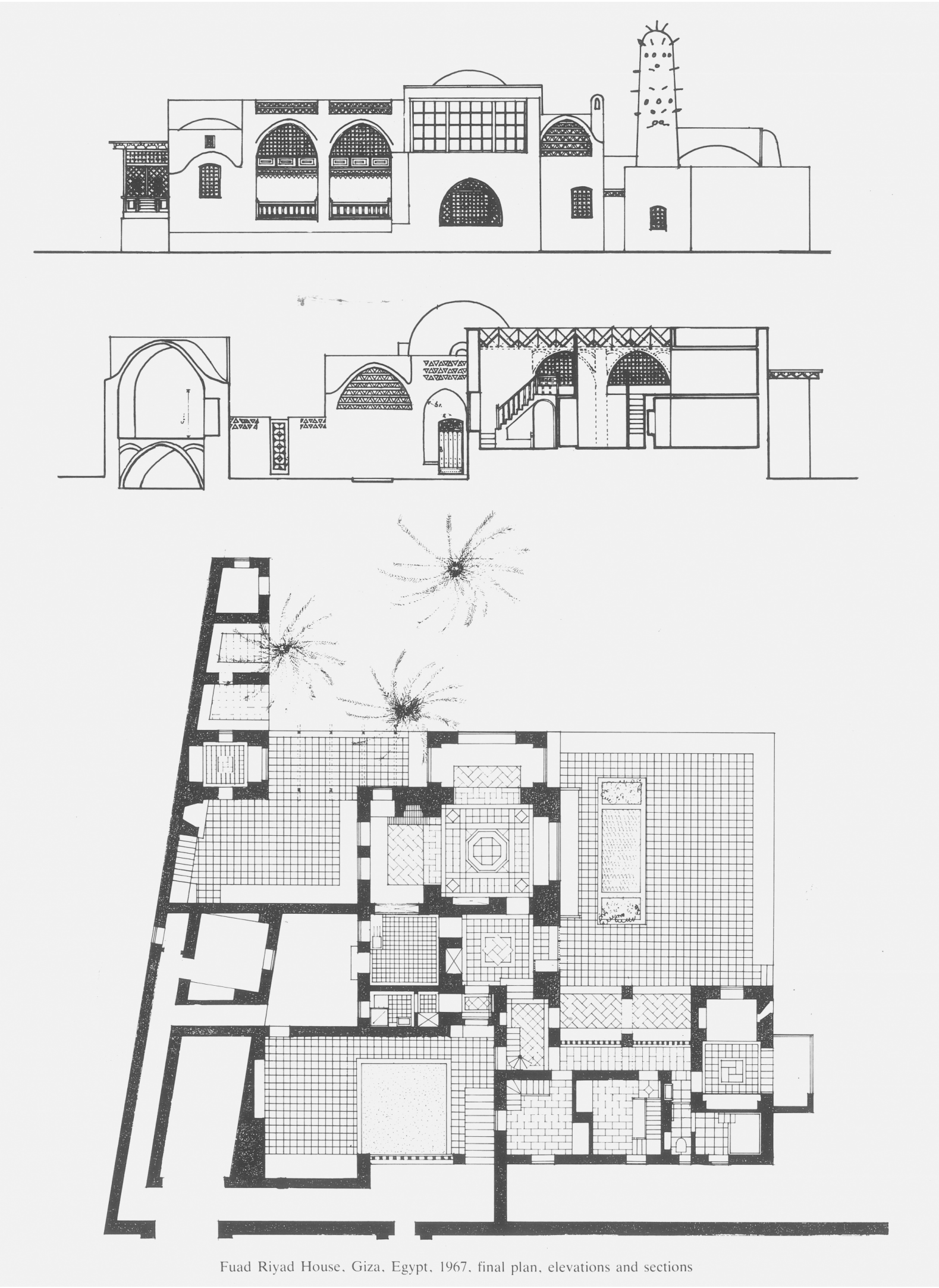
*Prototype for international language rooms*

- *Plan, section & elevation for Fuad Riyad House, Giza, Egypt (1967). Hassan Fathy*

*Steele, J. (1988). Architectural Monographs: Hassan Fathy. Academy Editions.*

- *A room for a library perspective plan, NTS.*

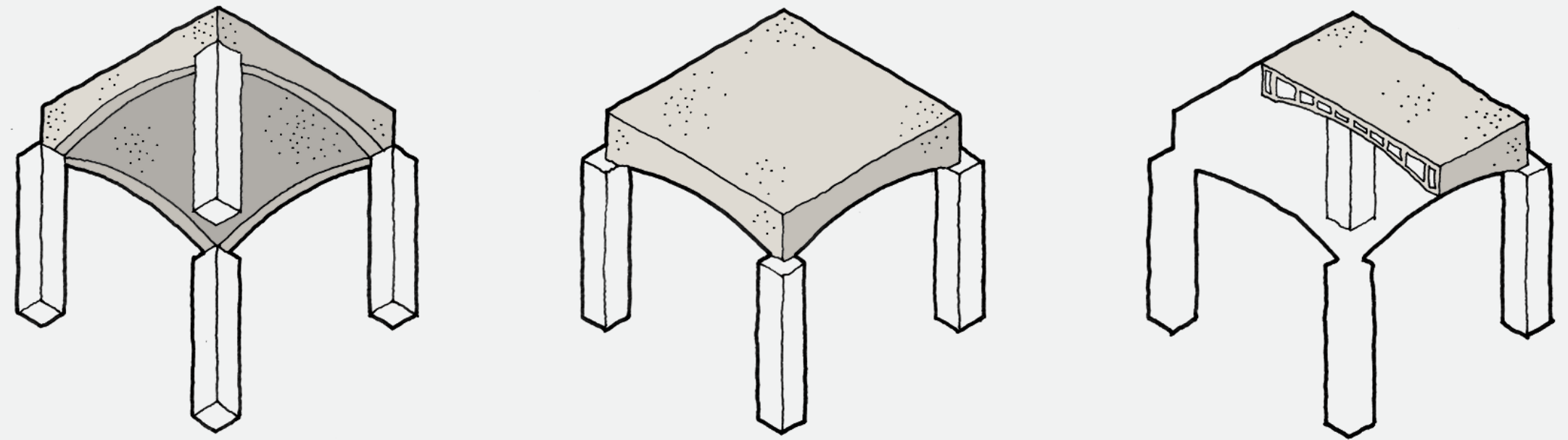
*A Qa'a as a room for a library.*





# Spatial composition by structure

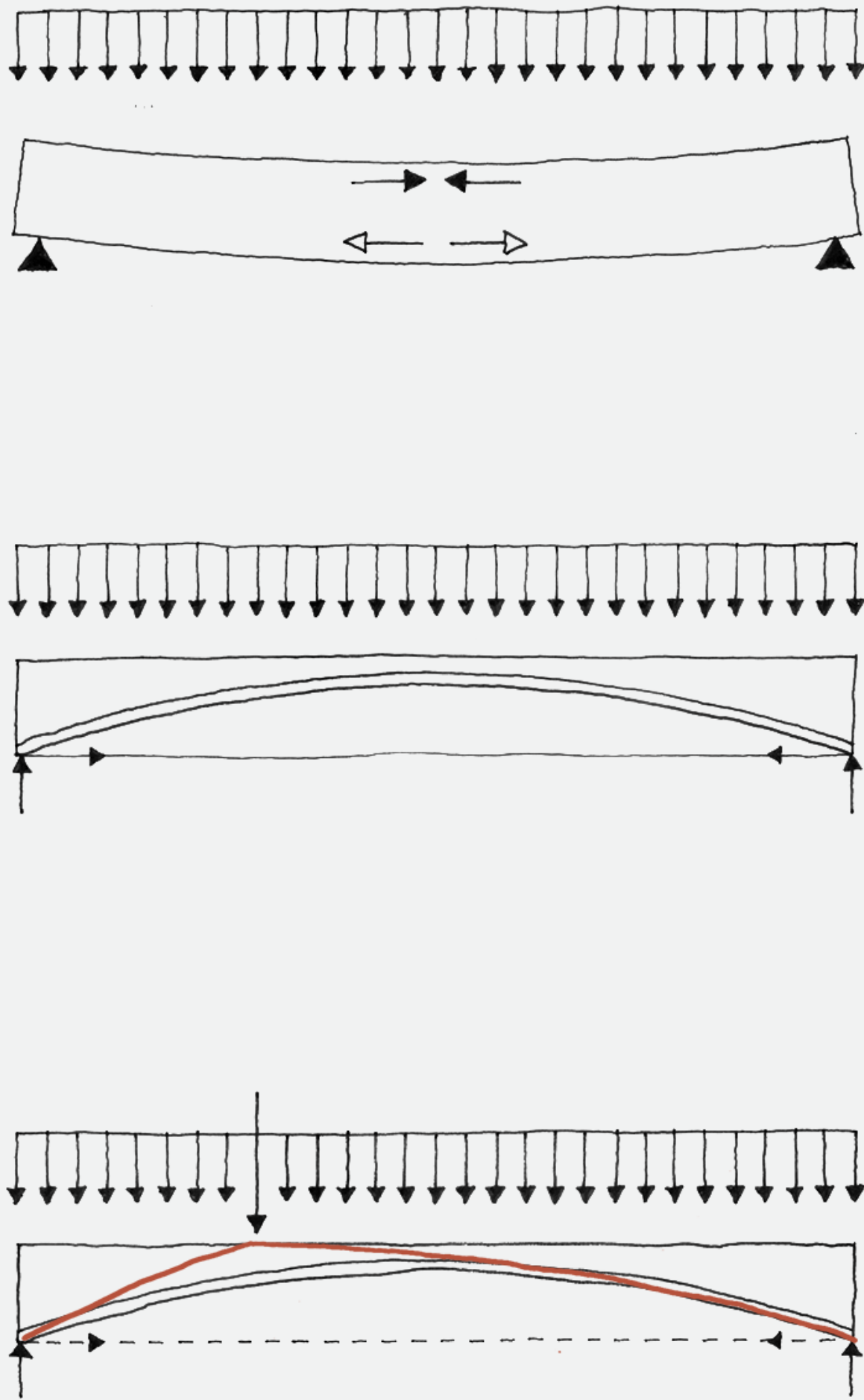
*The funicular shell:  
advanced concrete  
technology and  
minimising embodied  
carbon.*





# Spatial composition by structure

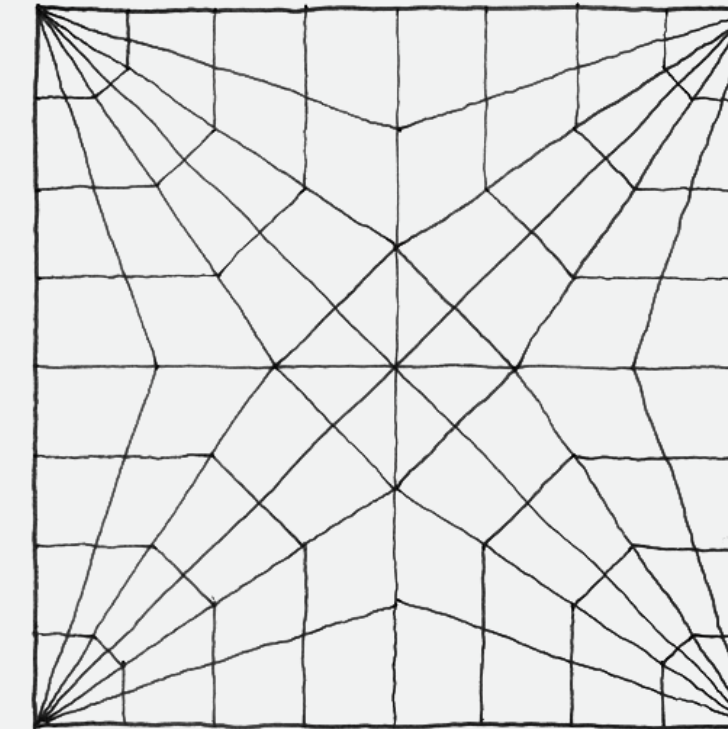
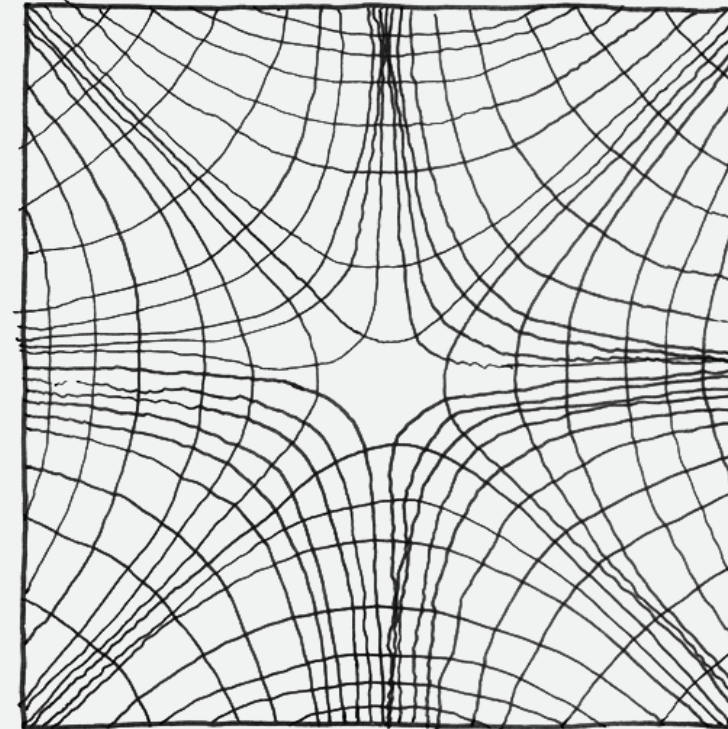
*Loads, forces, and shells*





# Spatial composition by structure

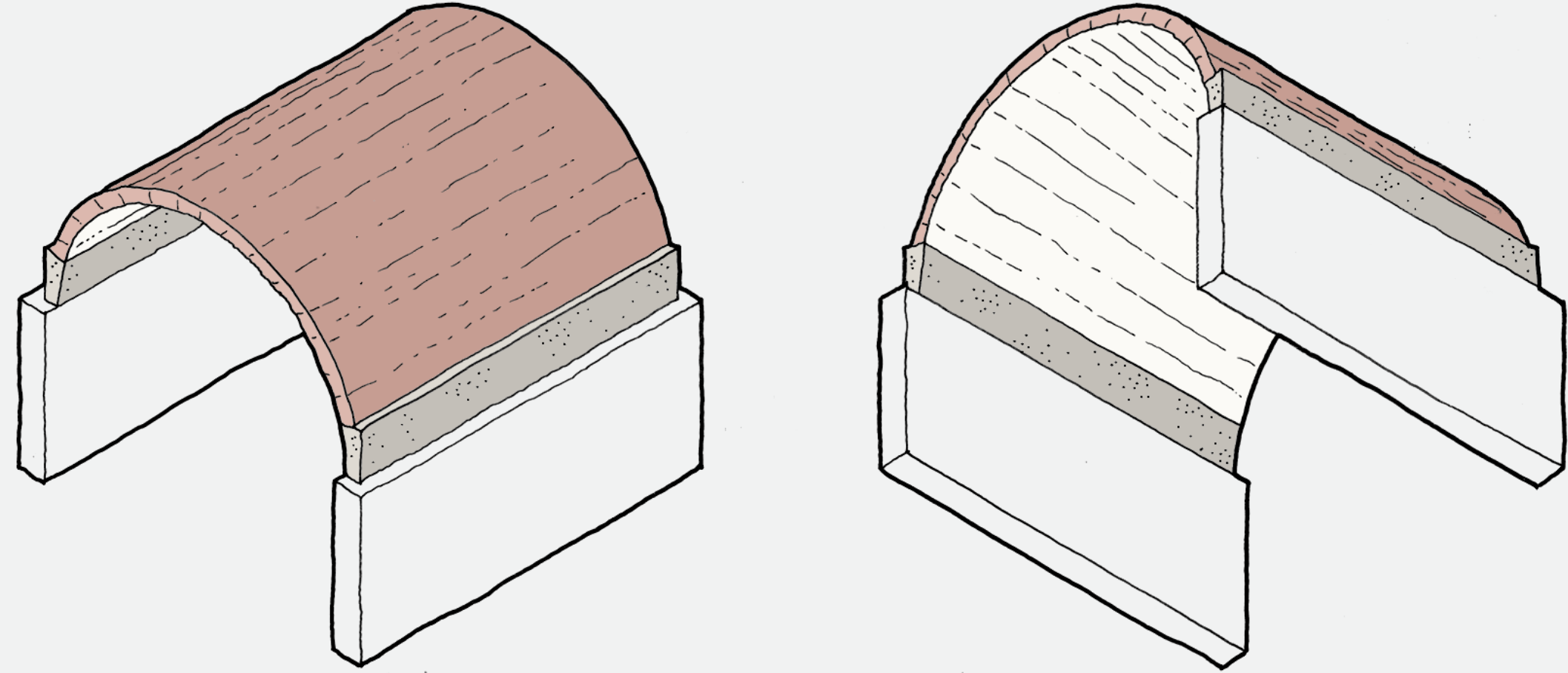
*Stress pattern and  
design.*





# Spatial composition by structure

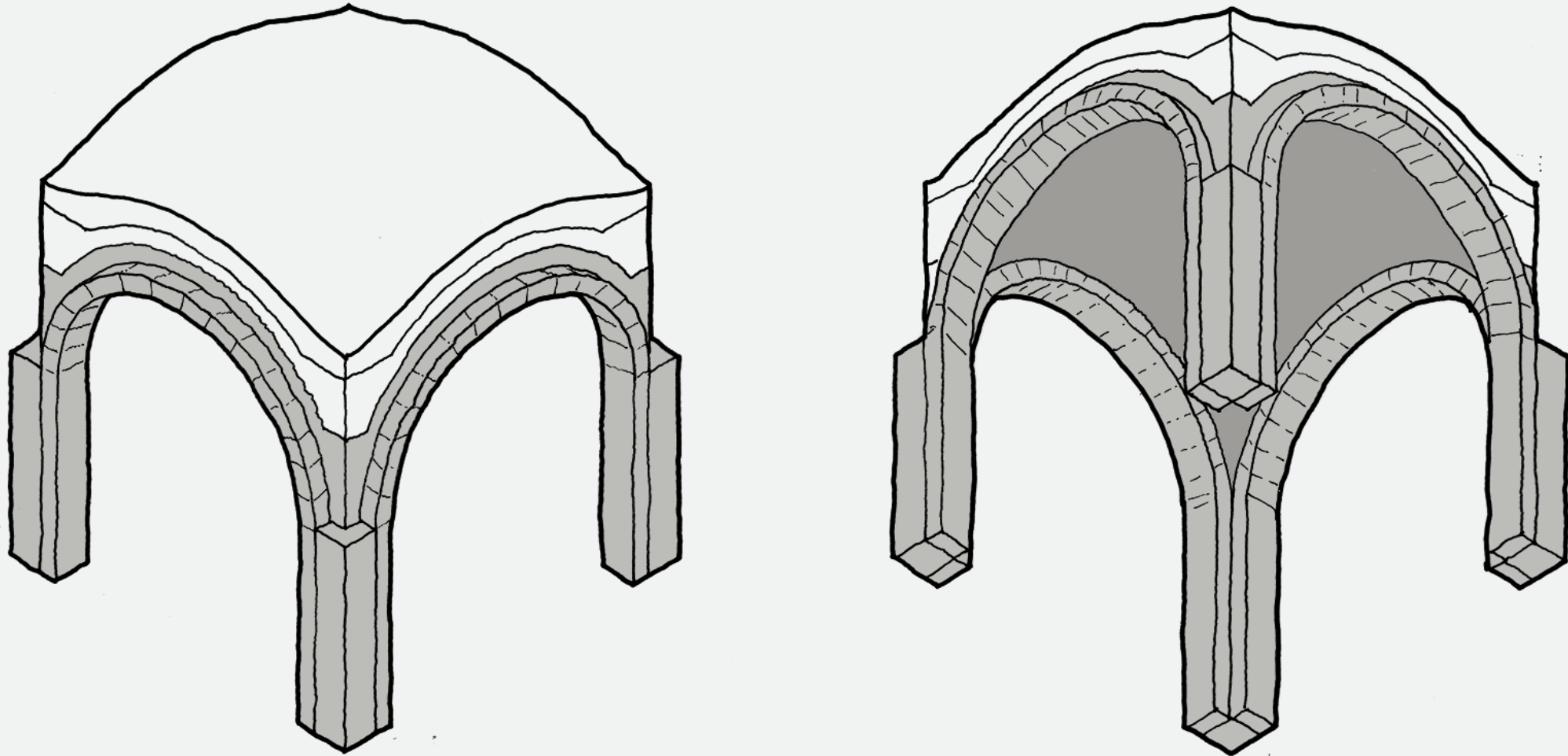
*Ceiling as spatial  
definition: Masonry  
barrel vault*





# Spatial composition by structure

*Ceiling as spatial definition: Masonry dome*

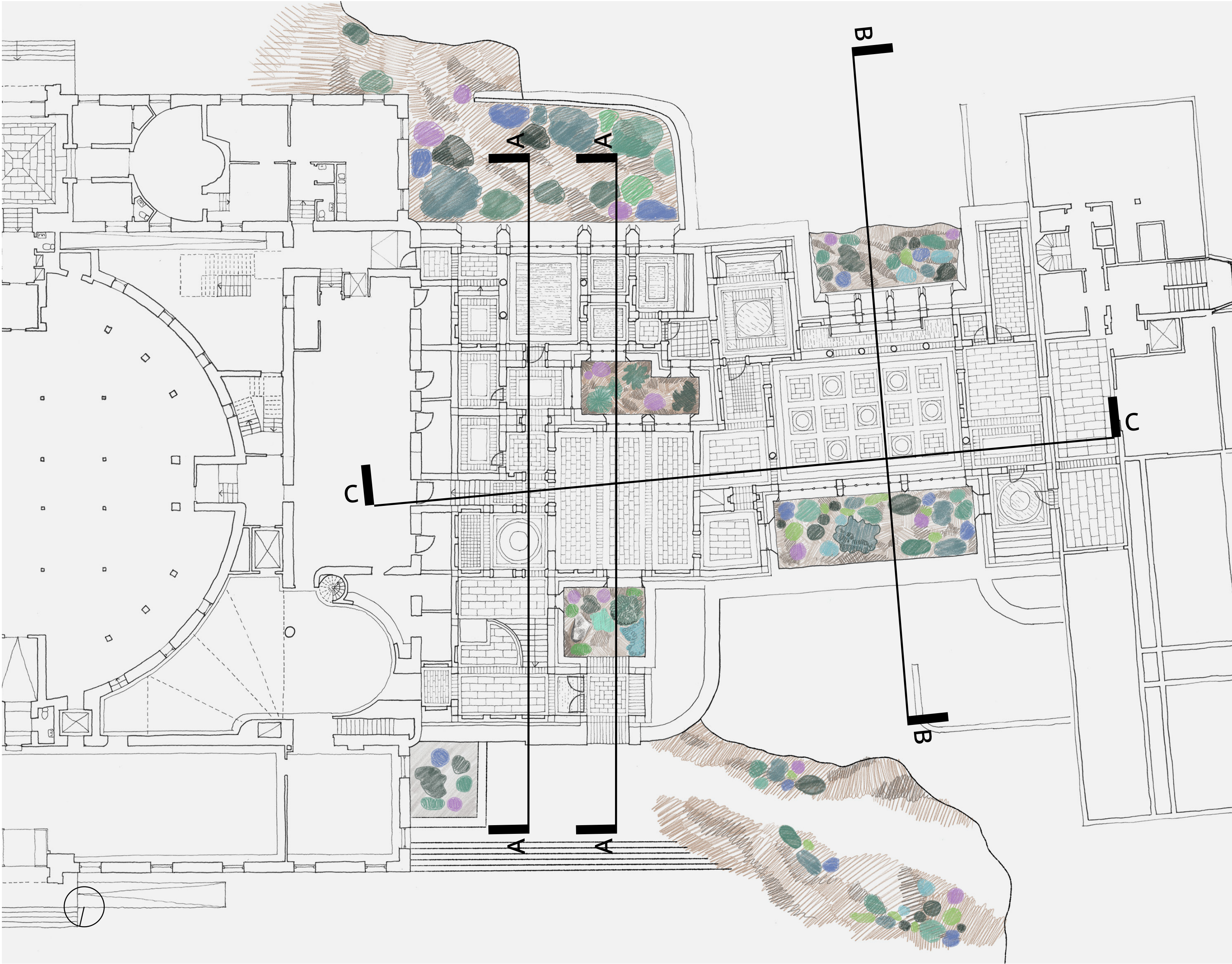




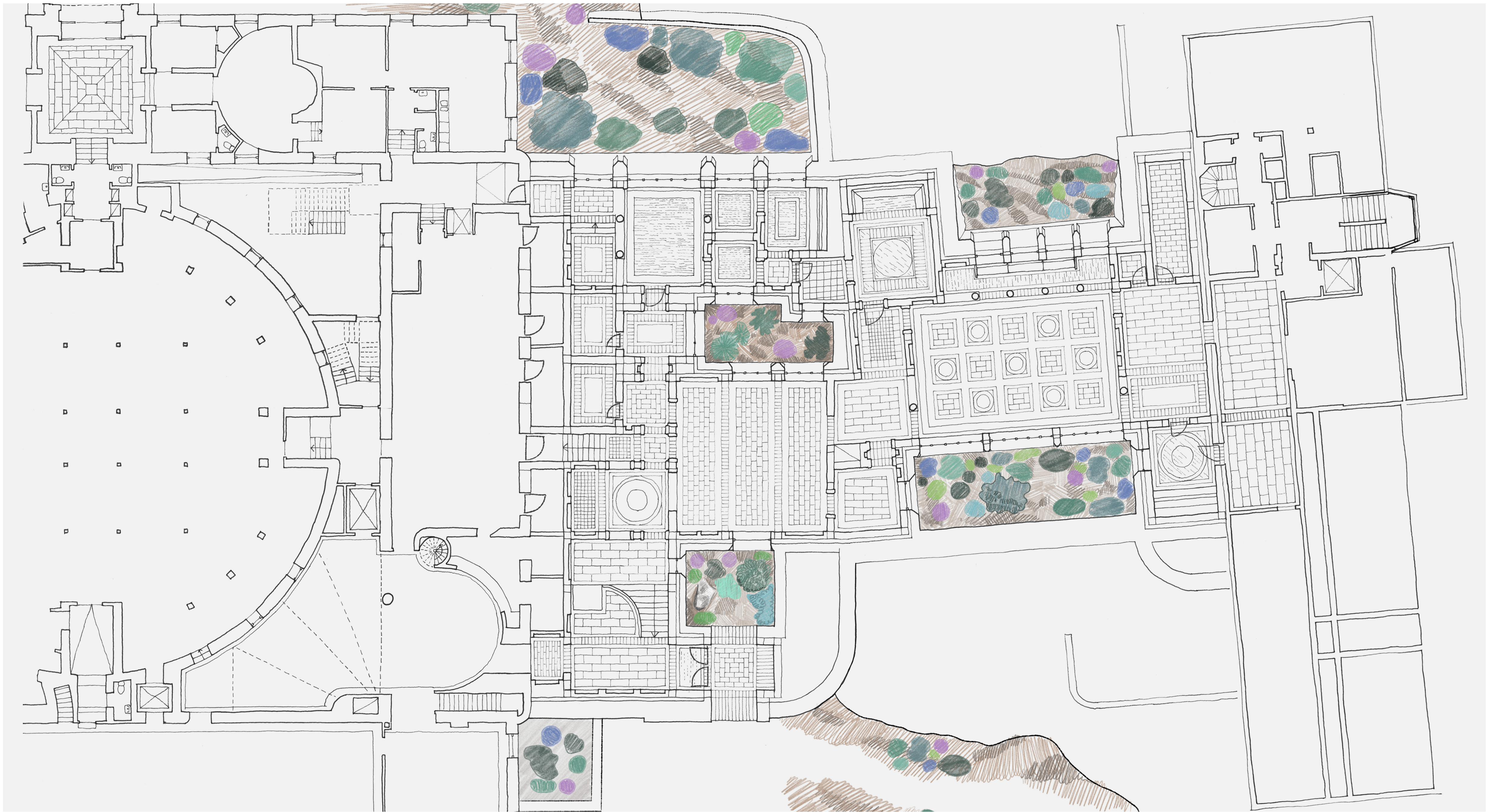
# Drawings

## Extension Plan

Ground/Entrance level plan, 1:100 @ A2









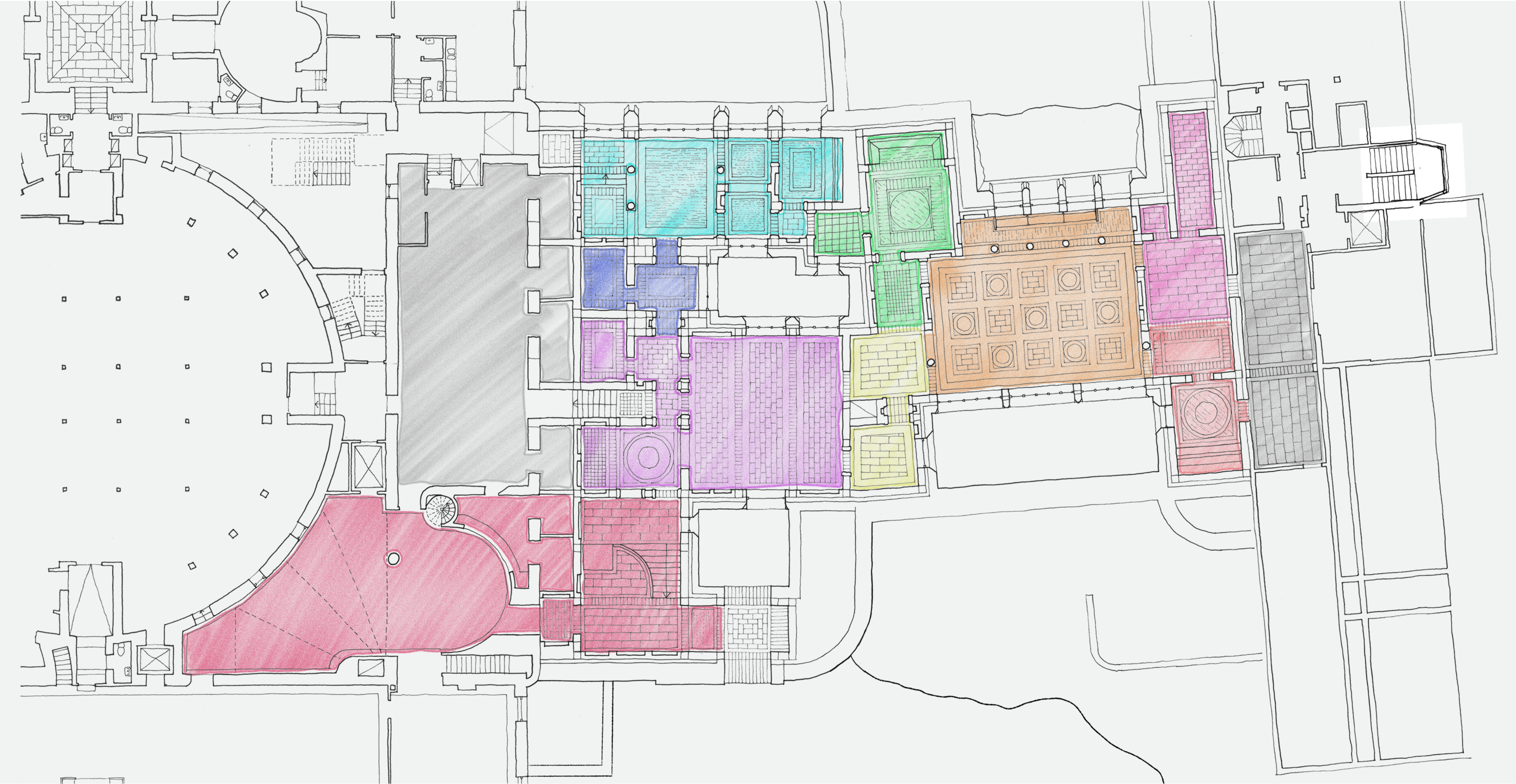
# Drawings

*Programme and  
functions*

*Ground/Entrance level plan, 1:100 @ A2*









# Drawings

*Courtyards,  
construction and the  
Asplundhuset*

Section AA-1, 1:100 @ A2.









# Drawings

*Courtyards,  
construction and the  
Asplundhuset*

Section BB, 1:100 @ A2.









# Drawings

Addressing levels

Section AA, 1:100 @ A2





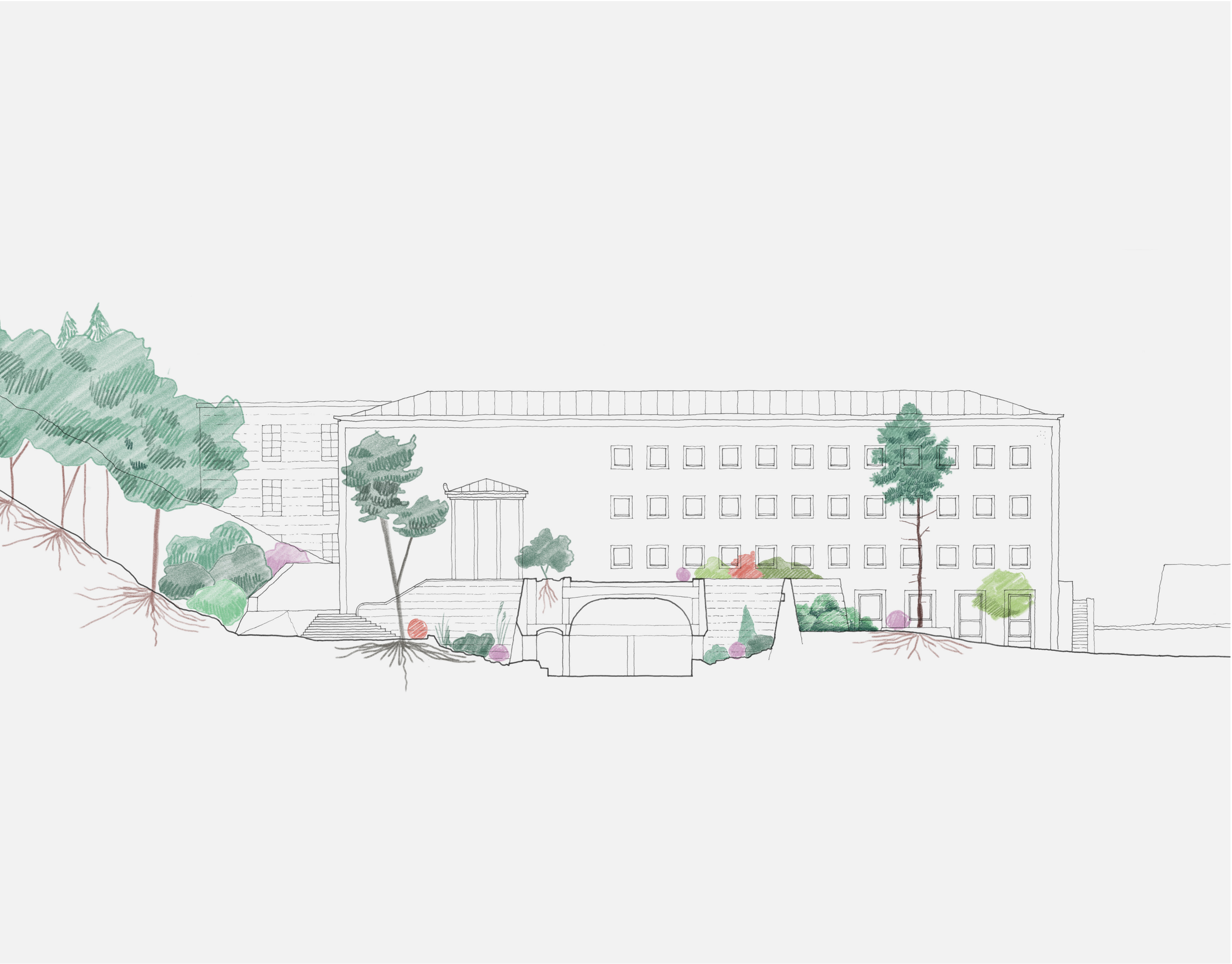




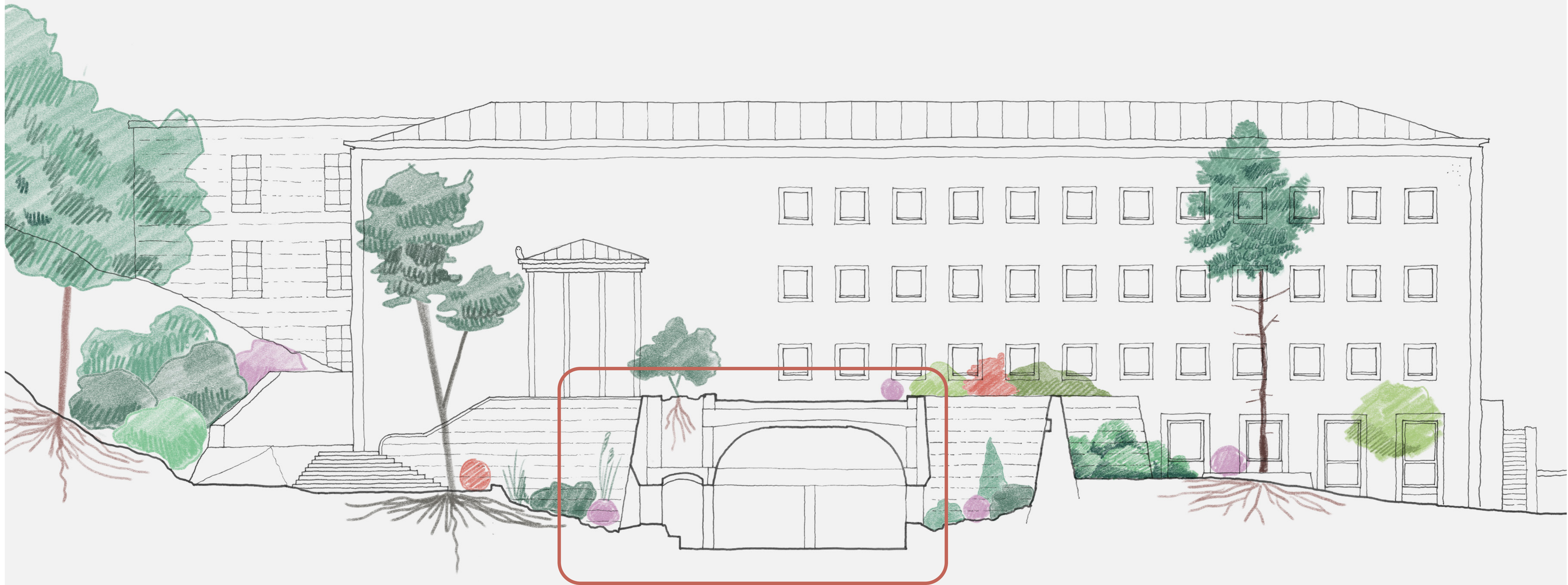
# Drawings

*Courtyards,  
construction and the  
Asplundhuset*

*Section BB, 1:100 @ A2.*





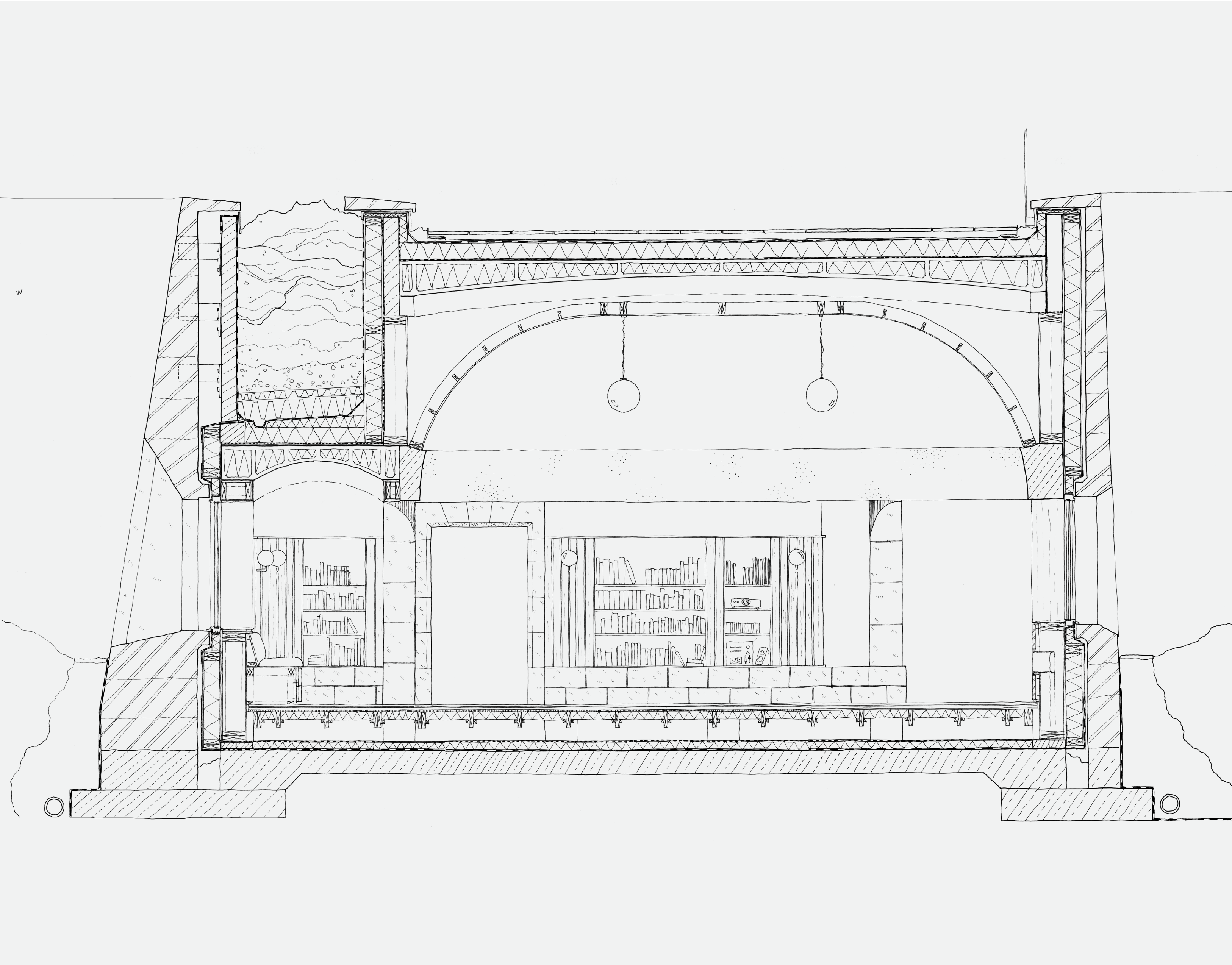




# Drawings

*Courtyards,  
construction and the  
Asplundhuset*

Section BB, 1:100 @ A2.

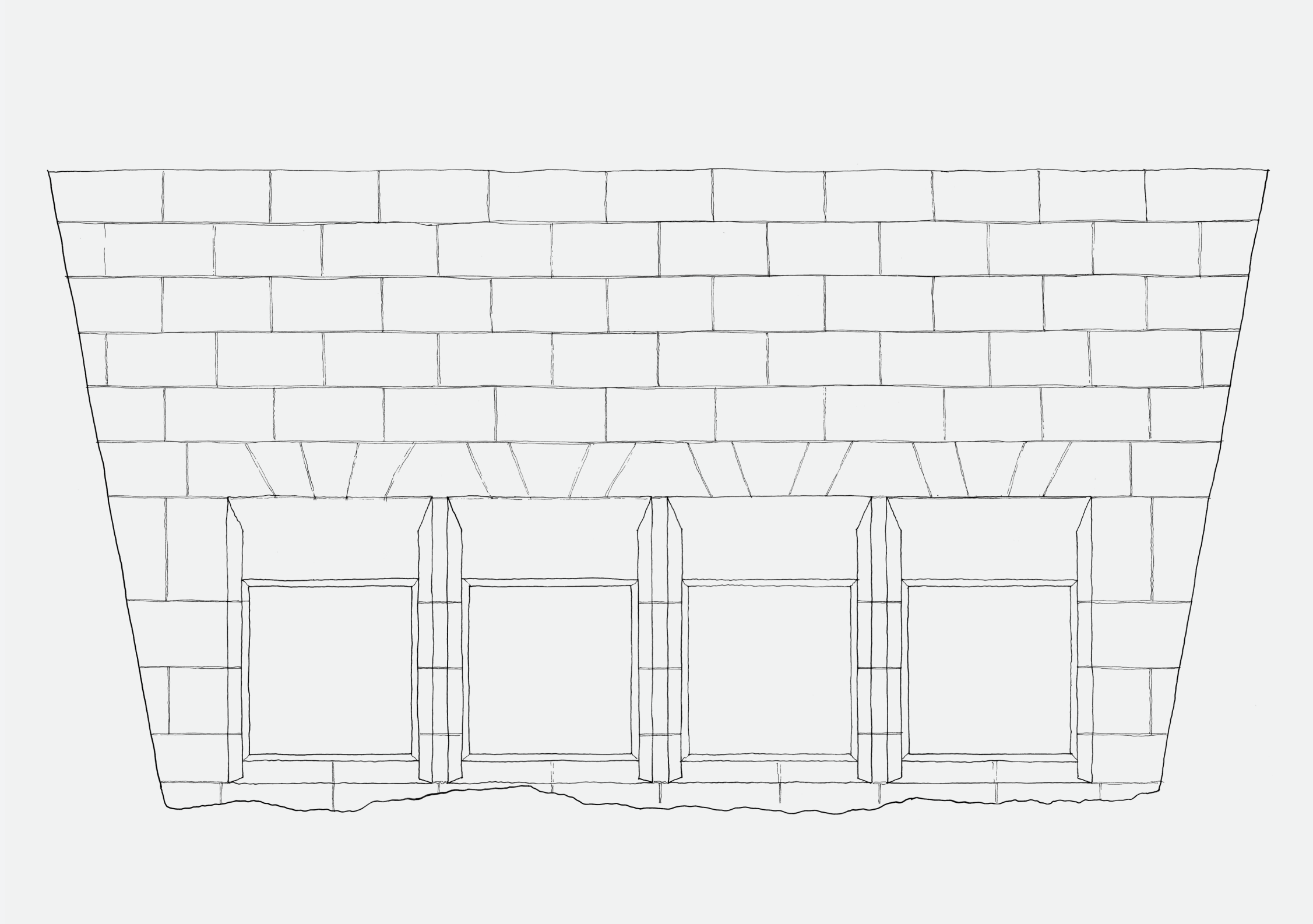




# Drawings

*Courtyards,  
construction and the  
Asplundhuset*

Section BB, 1:100 @ A2.

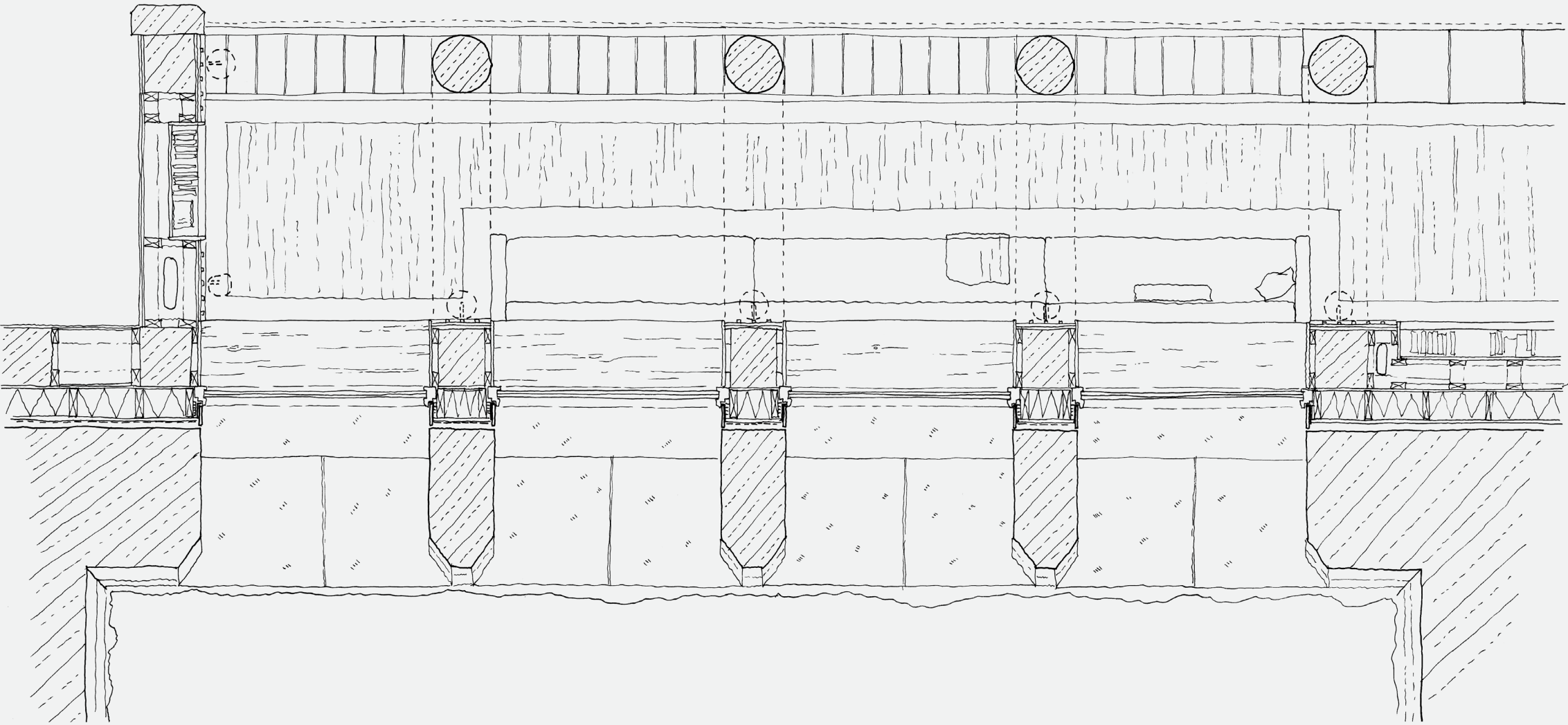




# Drawings

*Courtyards,  
construction and the  
Asplundhuset*

Section BB, 1:100 @ A2.





# Drawings

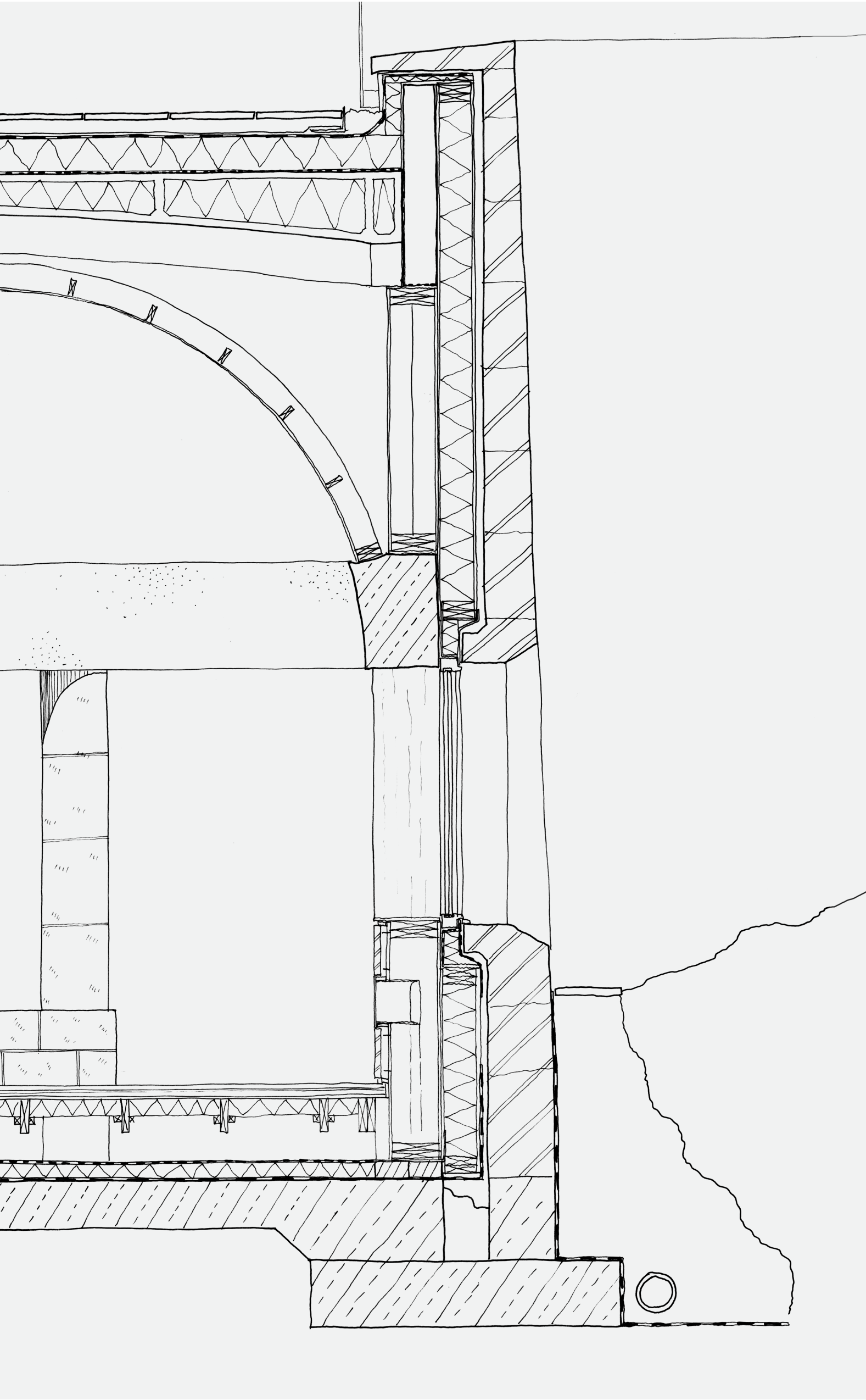
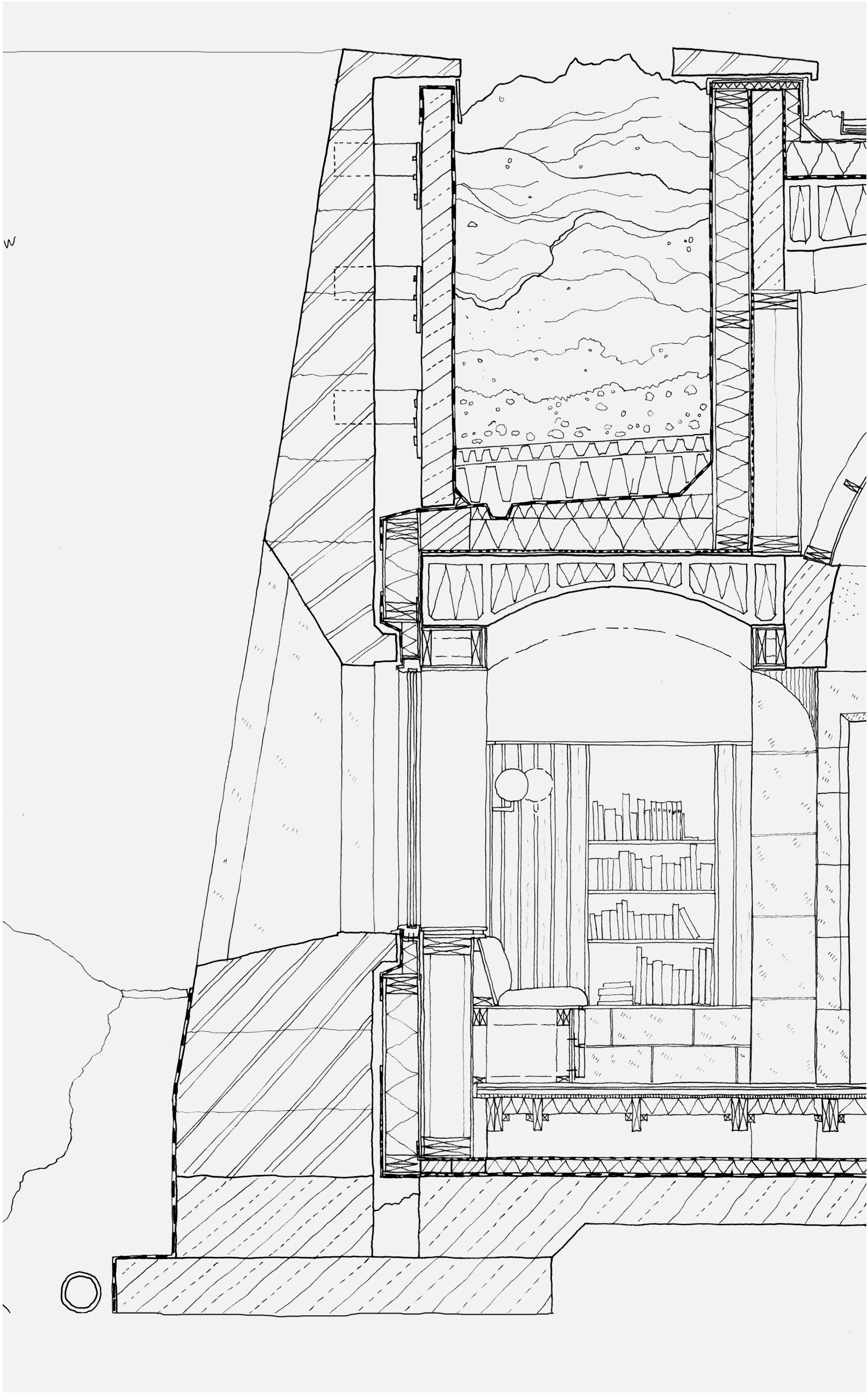
## Construction

Detail, 1:20 @ A3.

- Roof construction:**
- Growing medium (soil) 400-1000 mm
  - Filtration membrane
  - Drainage layer 150 mm
  - Waterproofing layer
  - Insulation 200 mm
  - Structure. 200-700 mm

- Wall construction:**
- Silver Grey Bohus (granite). Lime mortar, and weep ventilation. 200-350 mm
  - Cavity 50 mm
  - Bitumen impregnated softboard 18 mm
  - Rigid insulation 200 mm
  - Smartply Propassiv (OSB 3, integrated vapour control and air barrier properties). 12.5 mm
  - Plywood 12.5 mm
  - Lime plaster 10 mm

- Floor construction:**
- Jämtland grey planed limestone. 30 mm
  - Impact insulation layer 20 mm
  - Screed with underfloor heating 80 mm
  - Seperating layer
  - Rigid insulation 200 mm
  - Suspended reinforced concrete slab with T-profile concrete beams. 150 - 400 mm
  - Cavity
  - Strip foundation

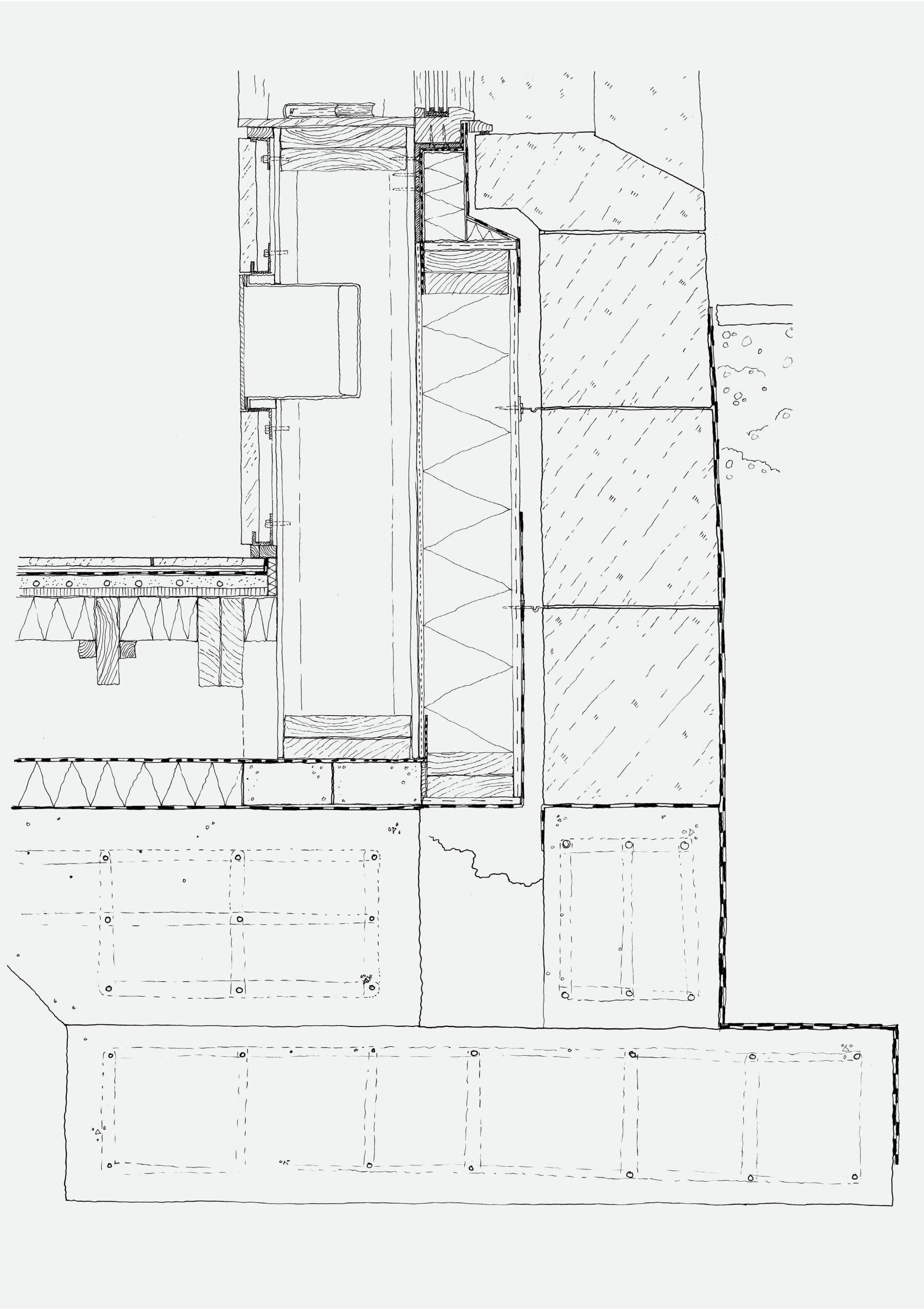




# Drawings

## Construction

Foundation and window cill detail, 1:5 @ A3.

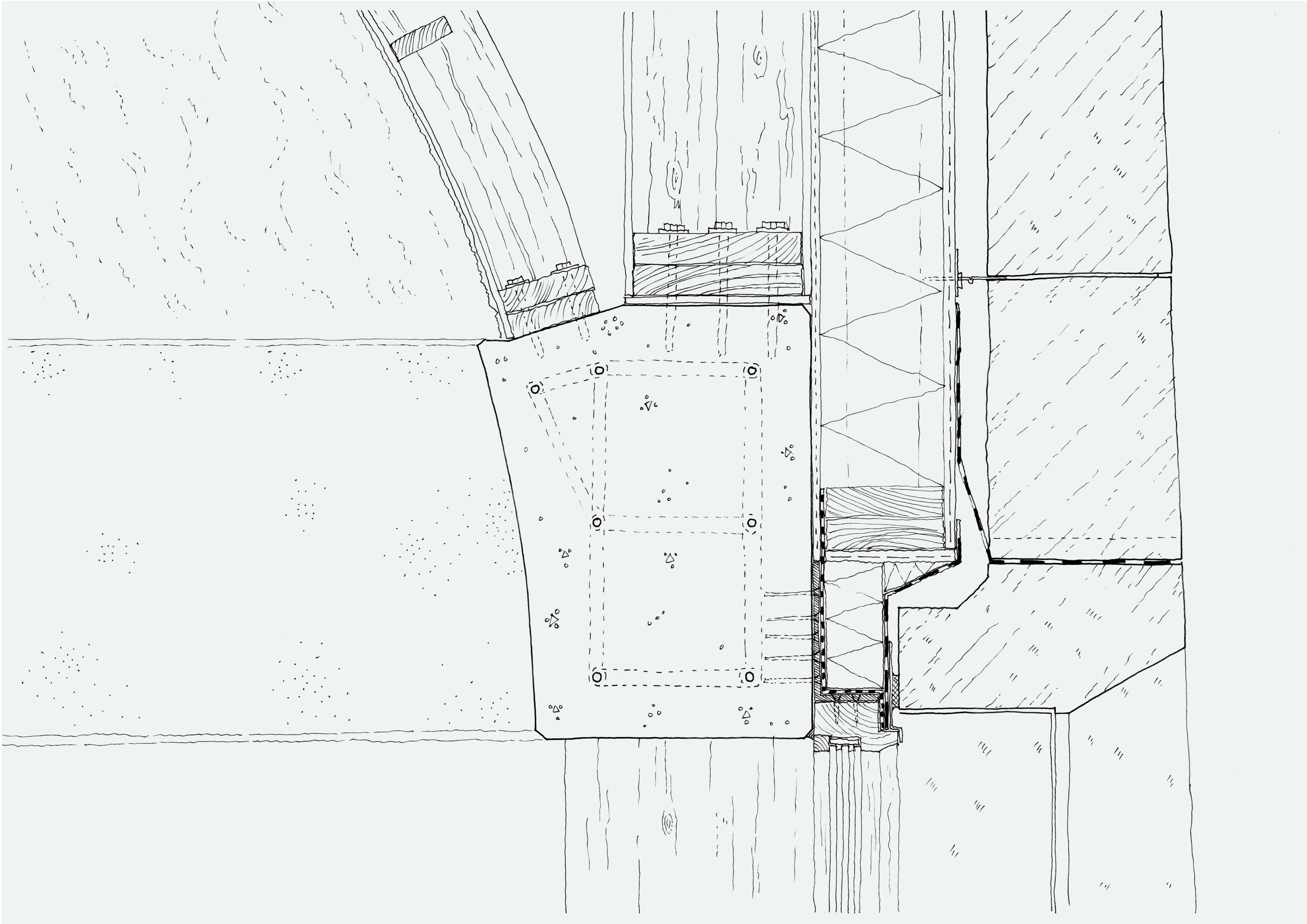




# Drawings

Construction

*Lintel detail, 1:5 @ A3.*

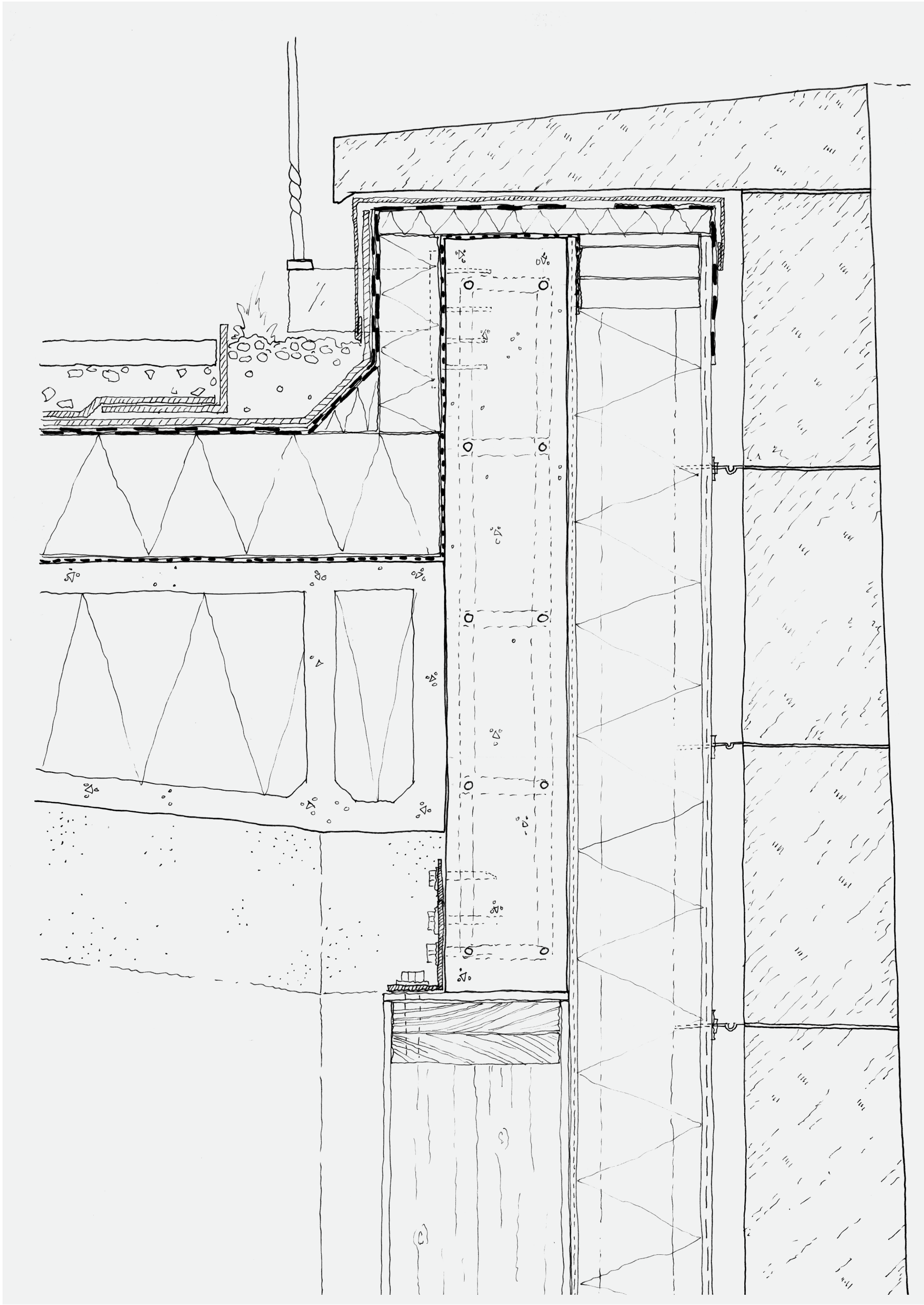




# Drawings

Construction

Lintel detail, 1:5 @ A3.



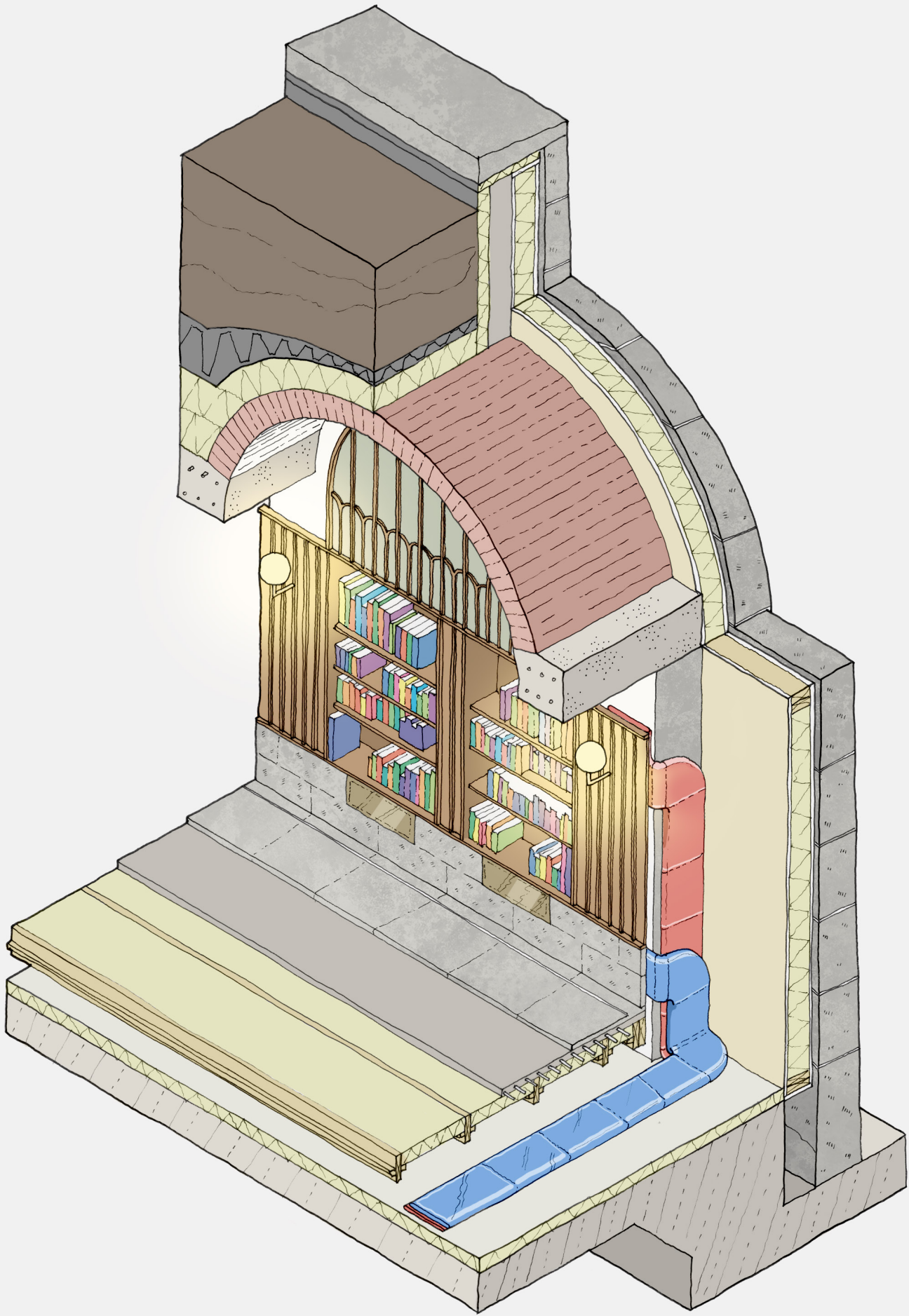


# Drawings

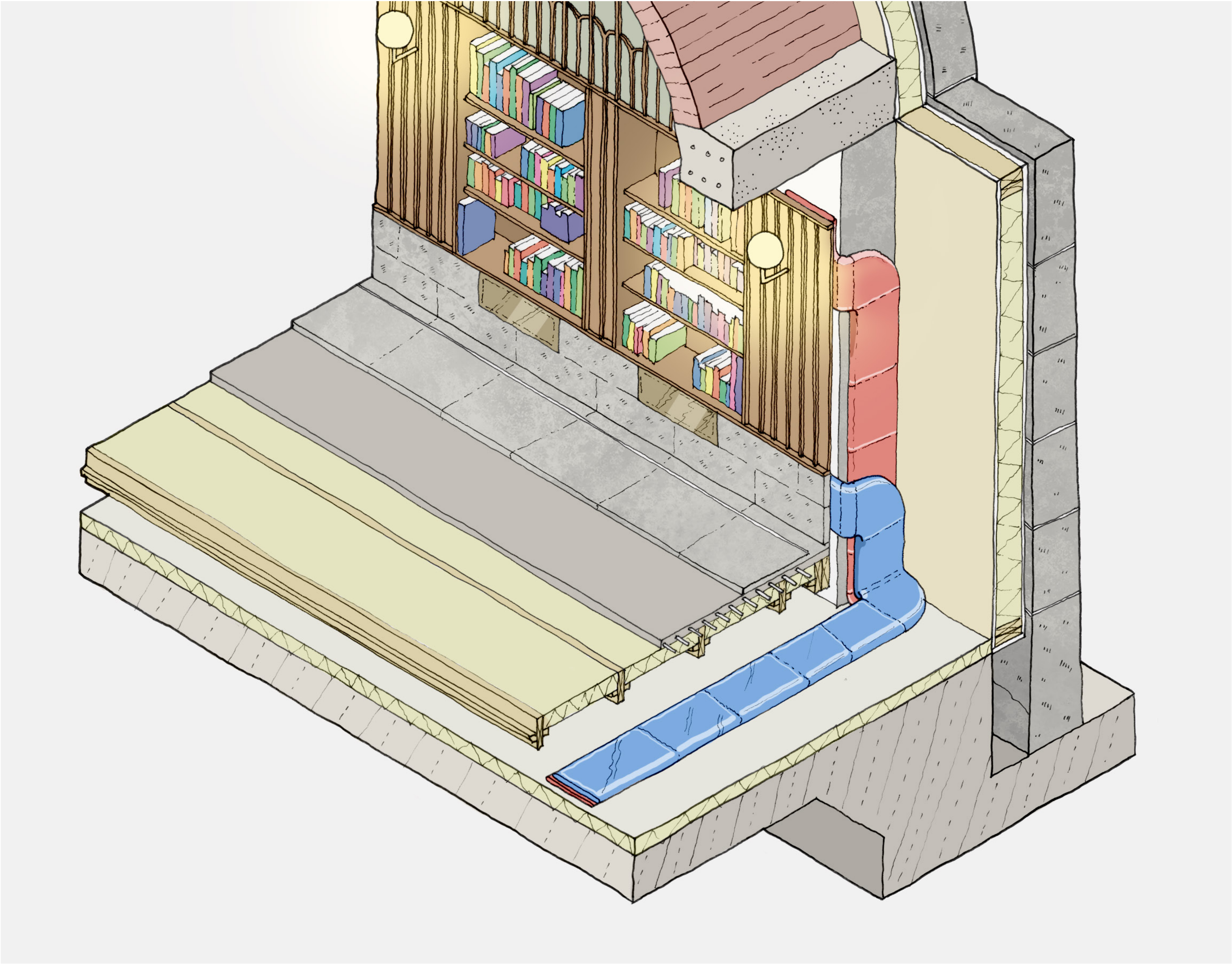
## Interior environment

Interior environment cutaway diagram.

- Ventilation
- Acoustics
- Insulation
- Thermal mass
- Construction
- Materiality





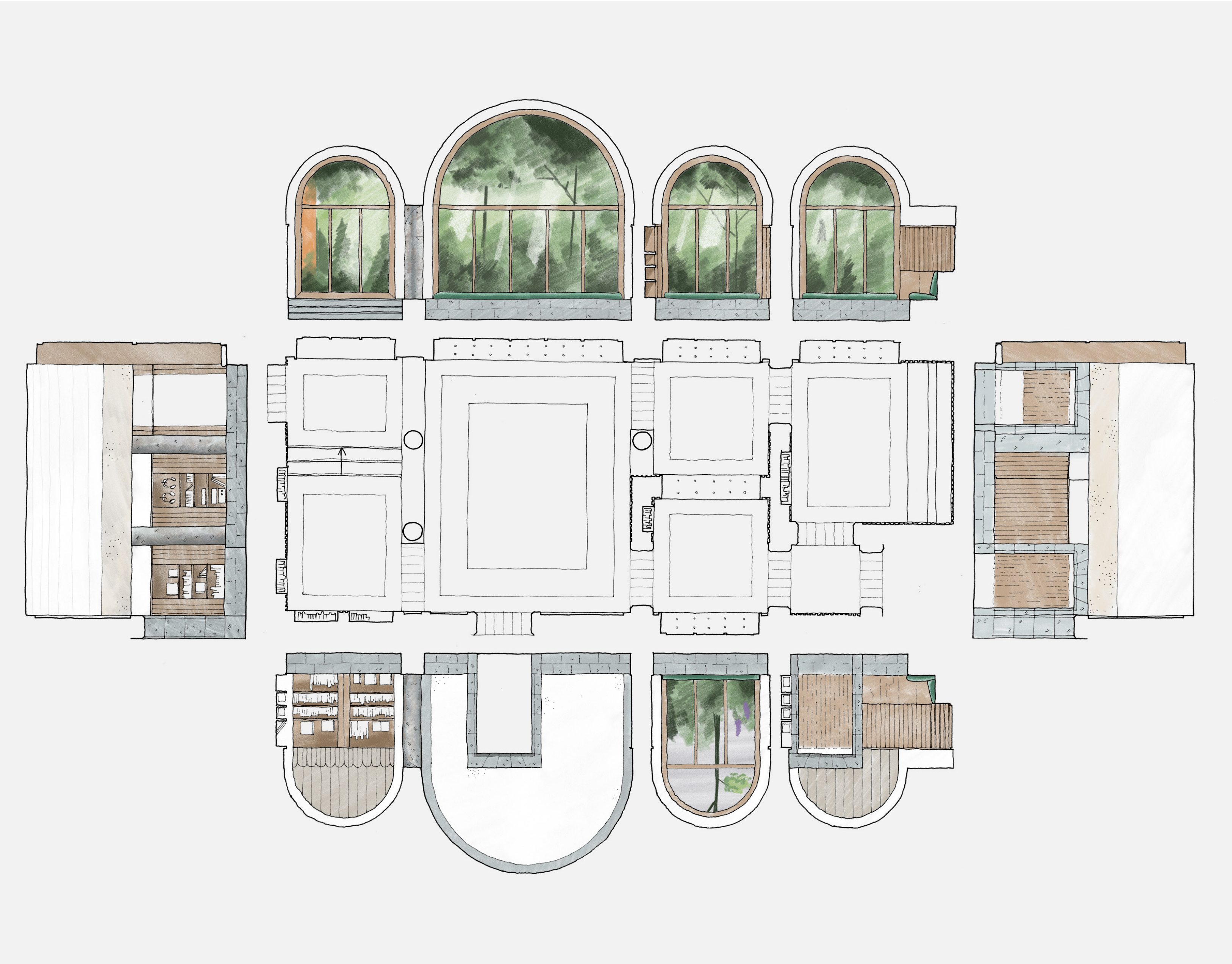




# Rooms

## *Vaulted Suite*

*Section on structural bays with concrete shell and stone dome structures.*





# Rooms

*Vaulted Suite*

*Section on structural bays with concrete shell and stone dome structures.*









# Rooms

Exhibition Space

Section on structural bays with concrete shell and stone dome structures.





# Rooms

*Painted Room*

*Section on structural bays with concrete shell and stone dome structures.*









# Atmospherics

*Interior*

- ▶ *Qa'a space. Interior render.*
- ▼ *Viewpoint locator.*









Thank you.

