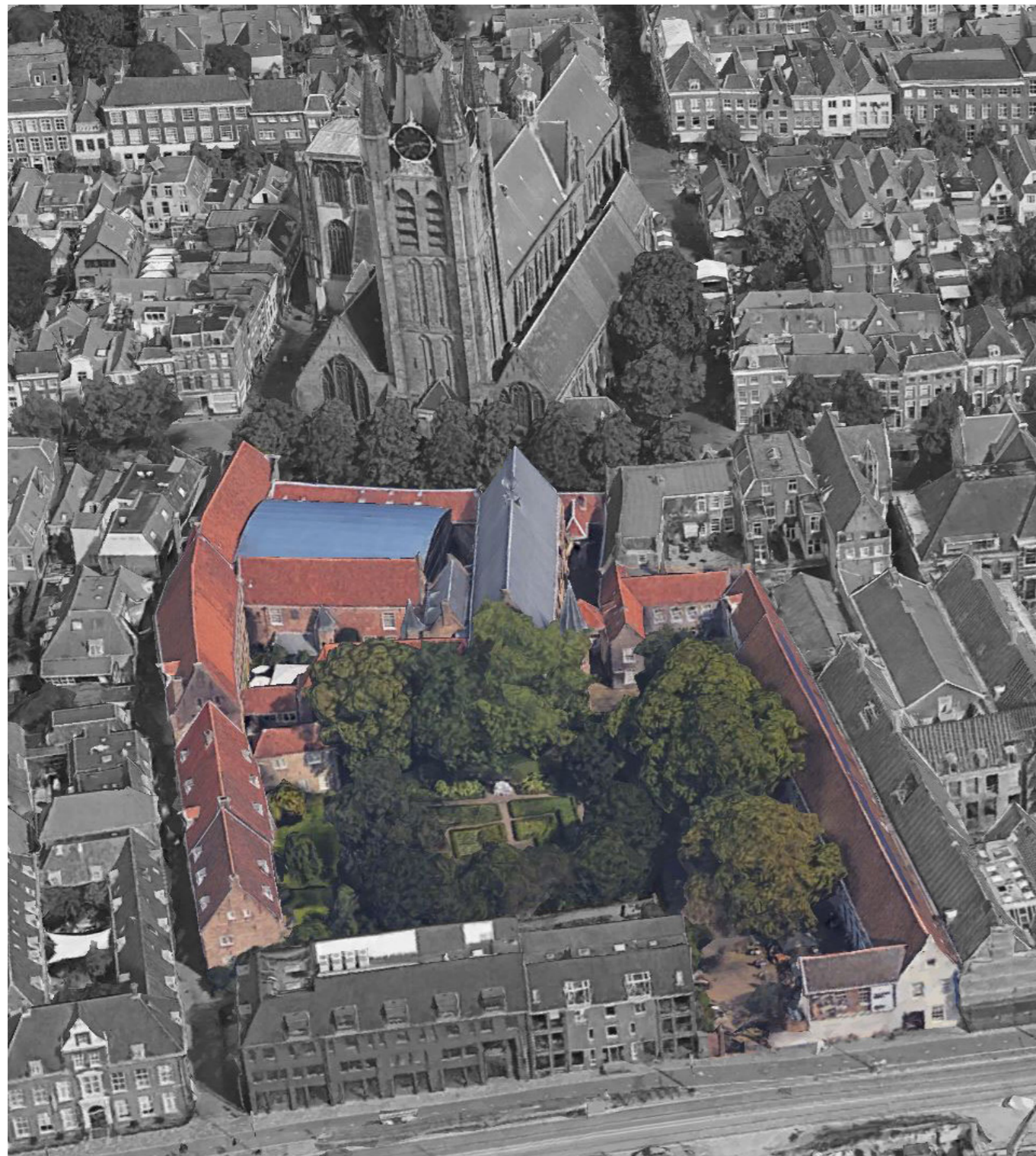


MUSEUM PARK PRINSENHOF DELFT

P5 GRADUATION PRESENTATION



Author: Mick Bloemendal
Student number: 4296281
Hobbies: Cooking, Football
Date / location: 30/06/2021 - Delft

Main mentor: Ir. A.C. de Ridder (design)
Second mentor: Ir. P. Tomesen (building technology)
Research mentor: Dr. B. de Andrade (research)

HERITAGE4ALL - UNIVERCITIES
AR3AH105 Graduation Studio Adapting 20th Century Heritage (2020/21 Q1)
P5 GRADUATION Presentation

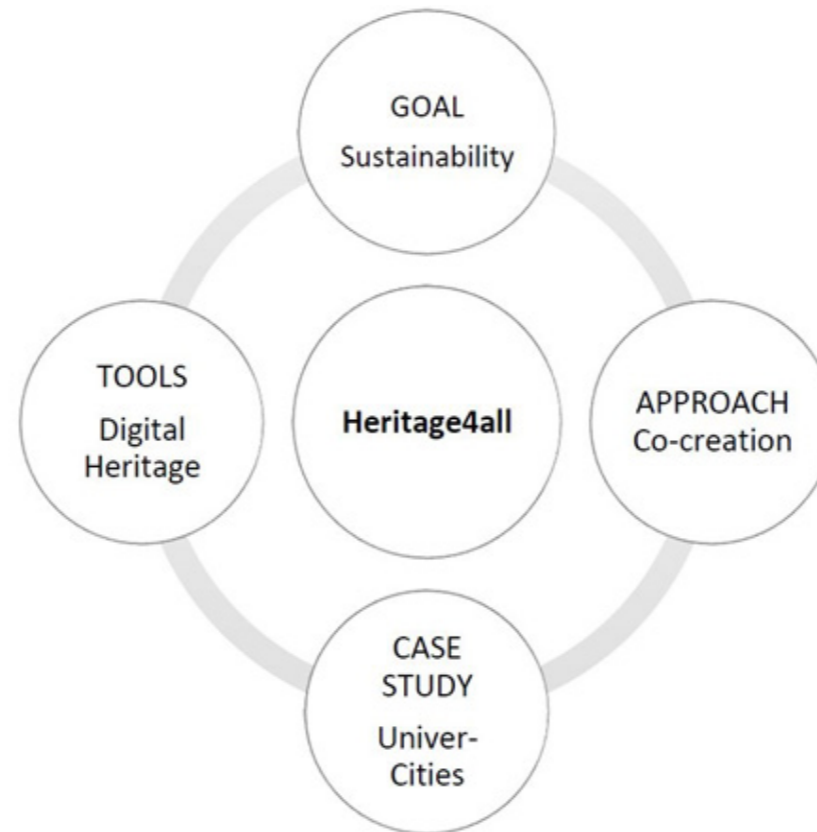
STUDIO THEMES OF HERITAGE4ALL | UNIVER-CITIES

SUSTAINABILITY

- Interventions
- Zero carbon
- Values v.s. sustainability

DIGITAL HERITAGE

- Minecraft
- Geogaming
- 3D modelling

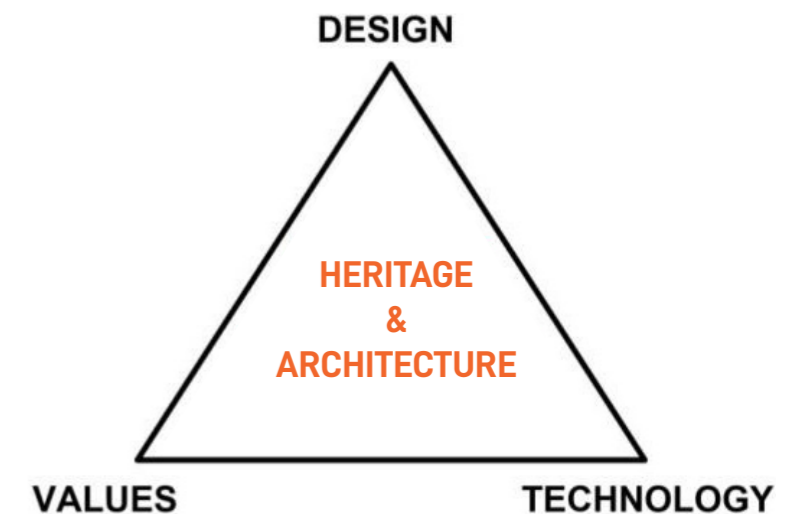


CO-CREATION

- Workshops
- Co-design
- Stakeholders

UNIVER-CITIES

- TU Delft campus
- City of Delft
- Relationship



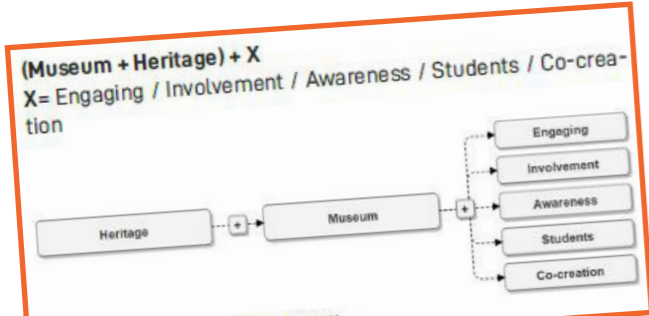


Figure 2 - Research terms, self made (2020)

THEORY ON VALUES

Primary values	Secondary Values	References
Social	Spiritual	beliefs, myths, religions (sacred or not), legends, stories, traditions of past generations;
	Emotional individual	memory and personal experiences, notions related with cultural identity, motivation and pride, sense of "place attachment" and communal value;
	Emotional collective	objects/places representatives of some social phenomenon;
Historic	Subcultural	heritage used as a potential to gain knowledge about the past in the future through;
	Historic-artistic	quality of an object to be part of a new or unique testimonial of historic, stylistic or artistic movements, which are now part of the history;
	Historic-conceptual	quality of an object to be part of a new or unique testimonial that retains conceptual signs (architectural, urban planning, etc.) which are now part of history;
Scientific	Symbolic	fact that the object has been particularized with an important event in the past;
	Technological	connected with historic civilisations;
	Workmanship	original result of human labour, craftsmanship;
Age	Technological	skillfulness on techniques and materials, representing an outstanding quality of work;
	Conceptual	integral materialisation of conceptual intentions (empty or conceptual background);
	Workmanship	craftsmanship value oriented towards the production period;
	Workmanship	piece of memory, reflecting the passage/flow of past generations;
	Maturity	marks of the time passage (patina) present on the forms, components and materials;
	Substantial	

The relevant cultural values. Self made and inspired by: "Cultural Heritage Management and Heritage (Impact) Assessments", by Tarrafá Silva & Pereira Roders (2012).

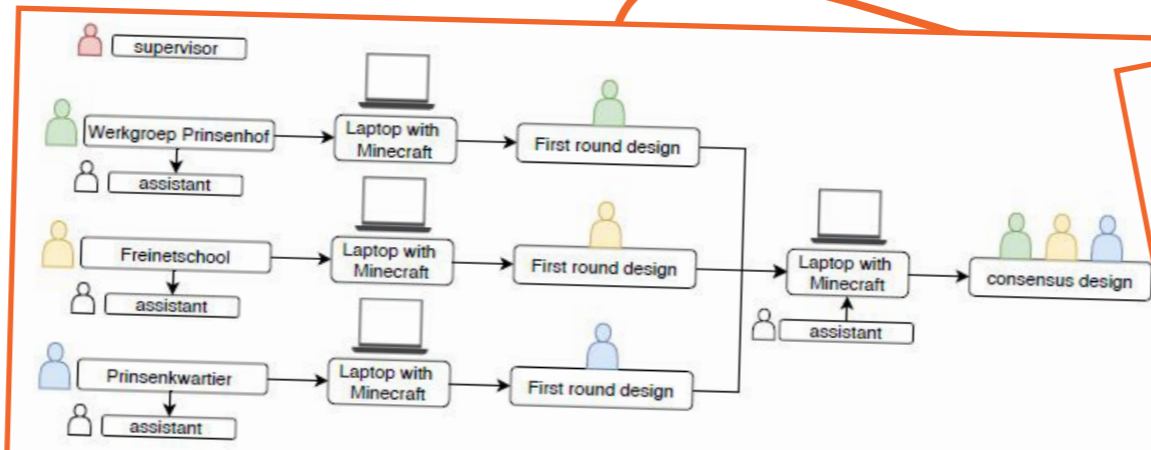


Figure 109 - Workshop structure flow chart, self made (2020)

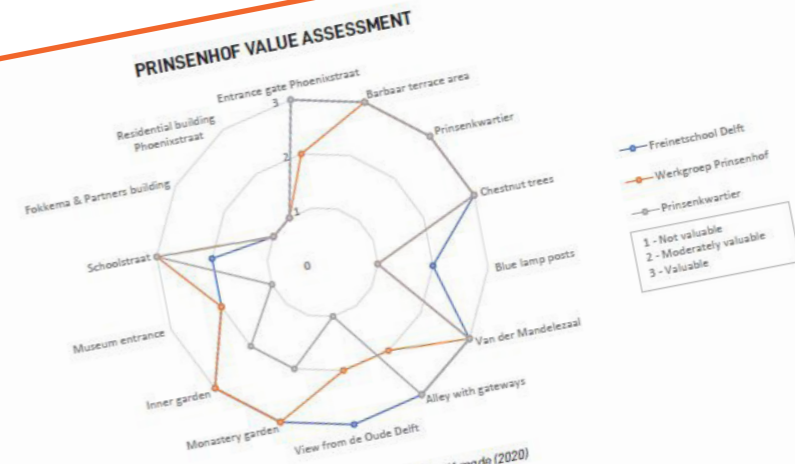


Figure 120 - Radar chart on the value assessment Prinsenhof, self made (2020)

Minecraft Workshop with Prinsenhof Stakeholders

Date: 3rd of December 2020
 Method: Physical workshop held at the Faculty of Architecture;
 Minecraft 1.12.2
 Virtual Minecraft location: Prinsenhof
 Stakeholders: Prinsenkwartier, Werkgroep Prinsenhof, Freinetschool Delft
 Facilitator: Mick Bloemendal
 Assistants: Pien Tol, Diana Ugnat
 Supervisor: Bruno de Andrade

ENTRANCE OF THE COMPLEX FROM THE PHOENIXSTRAAT



Figure 123 - Personal observation drawing Phoenixstraat, self made (2020)

Positive value (lined in orange):

- The gateway to enter the Agathaplein is iconic and has high value in my opinion
- The building of the Prinsenkwartier/Barbaar Delft are of high value and fit the spirit of place
- The seating (on the right) provides people to rest while not disturbing the public space
- The Barbaar terrace (on the left) provide the place with some liveliness, attracting factor

Negative value (transparent orange):

- The buildings highlighted don't fit the style of the Prinsenhof ensemble, they feel dated and out of place. They also block the view on the Prinsenhof itself. A more modern solution would work better here in my opinion.

Value Assessment / Waardering Prinsenhof Delft

Naam :
 Organisatie / beroep :
 Niet waardevol / mag worden gesloopt
 Gemiddeld waardevol / aanpassing of verbetering vereist
 Waardevol / moeten worden behouden



EXPERT INTERVIEWS WERE CONDUCTED WITH REPRESENTATIVES OF:

- TU DELFT CAMPUS DEVELOPMENT
- TU DELFT REAL ESTATE DEVELOPMENT
- MONUMENT ADVISOR MUNICIPALITY OF DELFT
- CE DELFT - SUSTAINABILITY
- DELFT DESIGN - PRINSENKWARDIER
- DUWO - STUDENT HOUSING
- FOKKEMA & PARTNERS - PHOENIXSTRAAT
- 'SLAG OM PRINSENHOF' - CITIZEN ACTION GROUP
- 'WERKGROEP PRINSENHOF' - CITIZEN COLLABORATION FOR NEW PLANS

Werkgroep Prinsenhof Delft:

On the monastery garden and square:
 "It must **continue** to be a **square and or a garden**, but then without the fence and wall, **because it blocks the view** on the Prinsenhof very much"

CE Delft:

On implementing new climate solutions:
 You would have to **rebuild the entire inside and also the inside is quite beautiful**. So you don't want that."

Delft Design:

On the community at Prinsenhof:
 "... we are part of Prinsenkwardier, **let's say a greater community within the Prinsenhof ensemble**, where Delft Design is one of the members of."

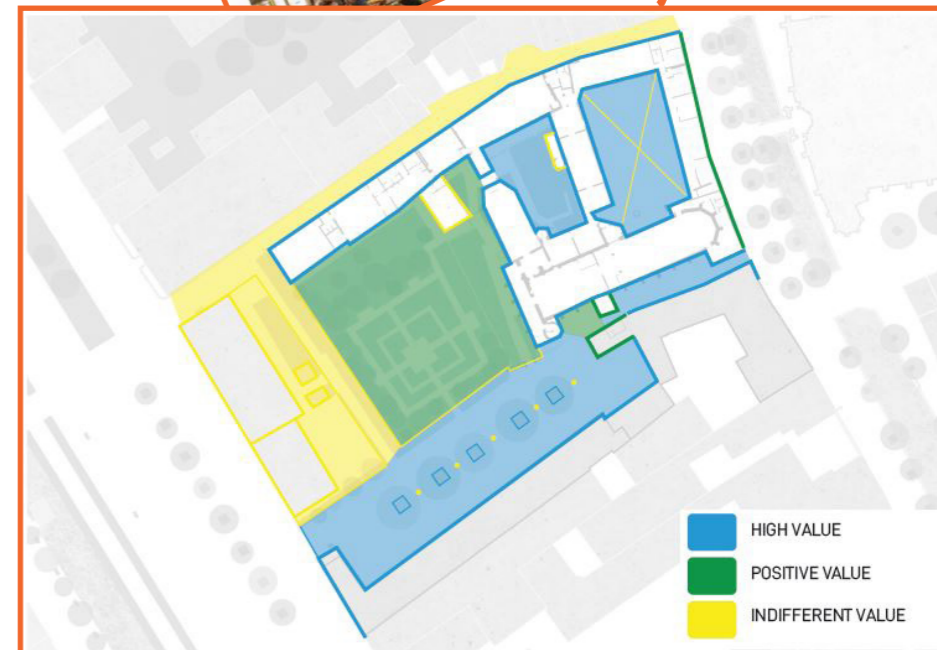


Figure 138 - Final Value Assessment map, self made (2020)

RESEARCH QUESTIONS

STUDIO THEMES

- Co-creation
- Digital Heritage
- Univercities
- Sustainability

MAIN RESEARCH QUESTION

How to involve citizens into the adaptive design process of heritage museum buildings?

SUB-QUESTIONS

How to raise awareness on citizens about the cultural significance of the Prinsenhof ensemble, in particular historic, social, age and scientific values?

How to use co-creation (digital games/gaming tools) to involve stakeholders in the re-development of heritage museum buildings?

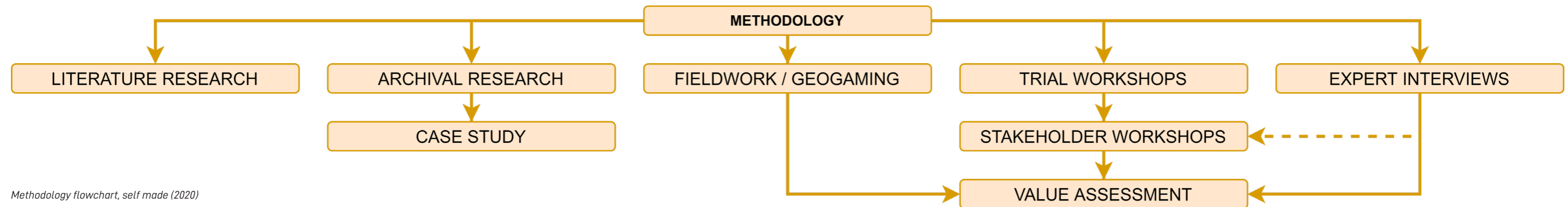
What will be the advantages and disadvantages of using digital games (Minecraft) for the redesign and decision making process of the Prinsenhof museum?

How does the quality of the Prinsenhof ensemble contributes to the needs of the TU Delft campus?

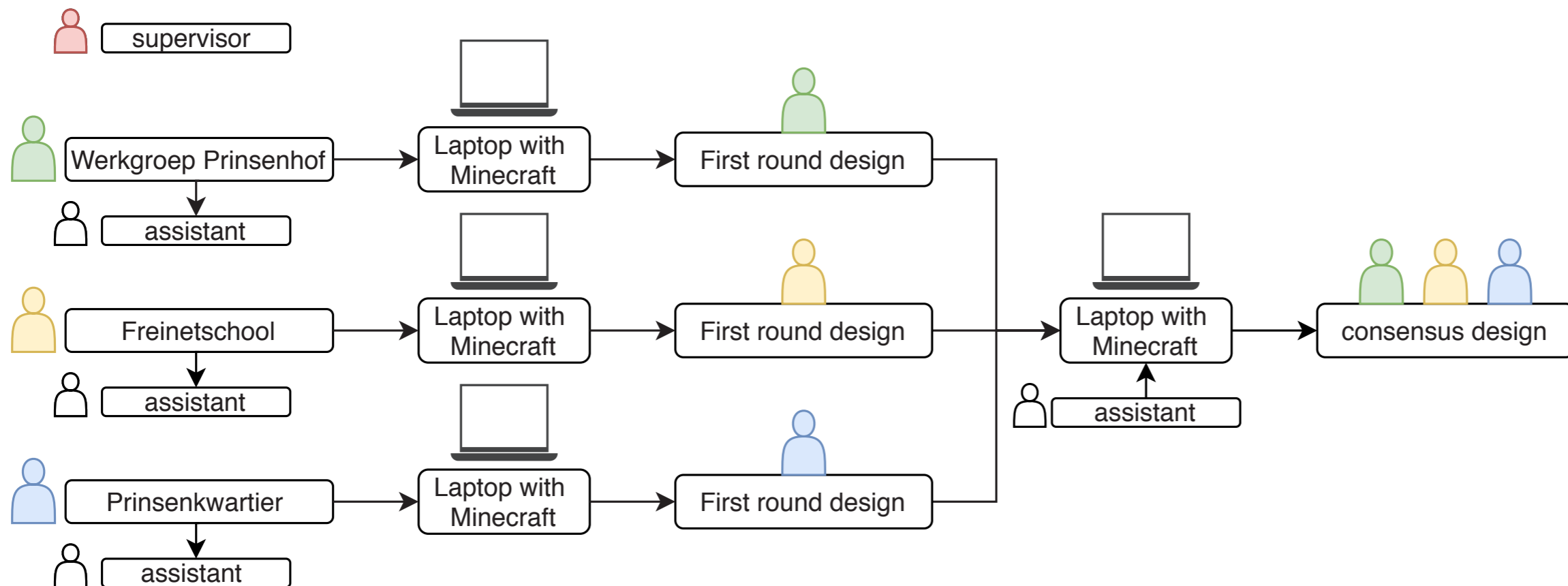
How to engage museum visitors by applying new technologies and mixed use in the design program?

METHODOLOGY

Methodology during first semester

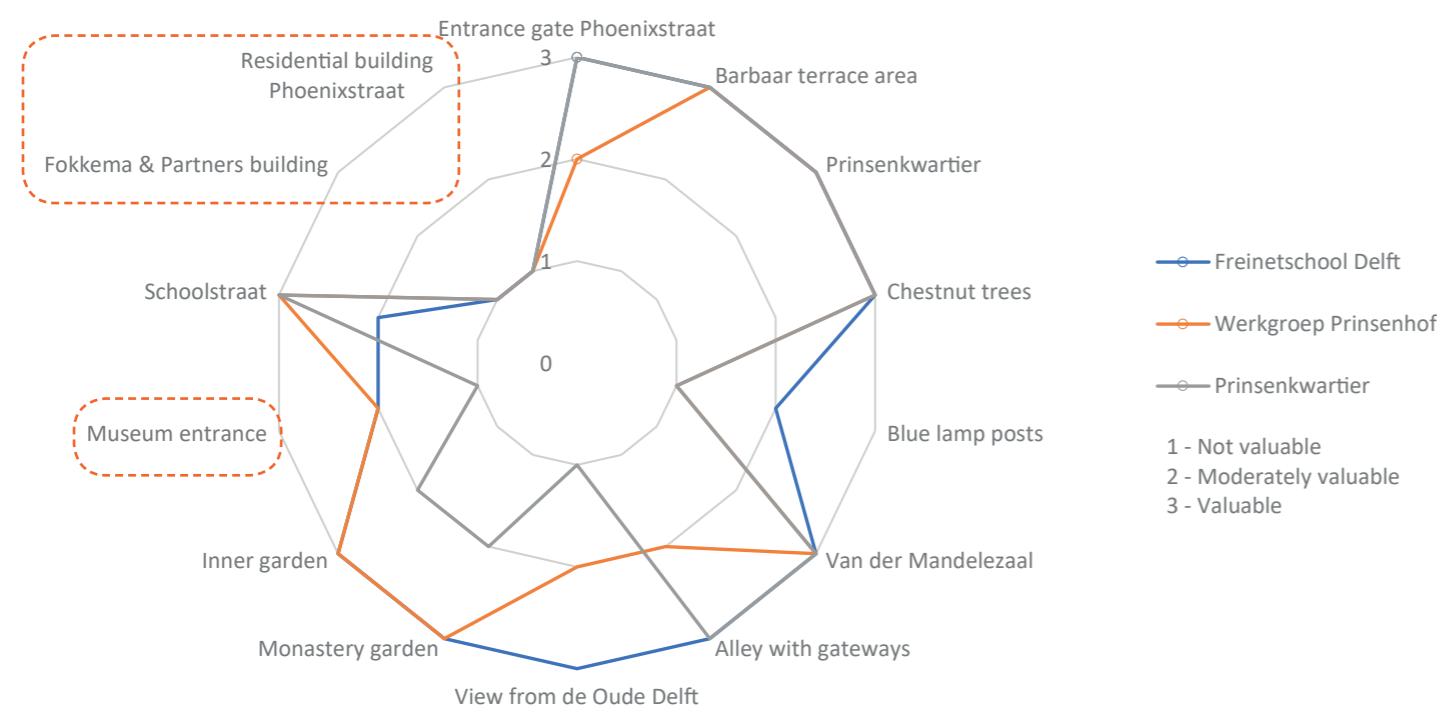


Methodology during stakeholder workshops Prinsenhof

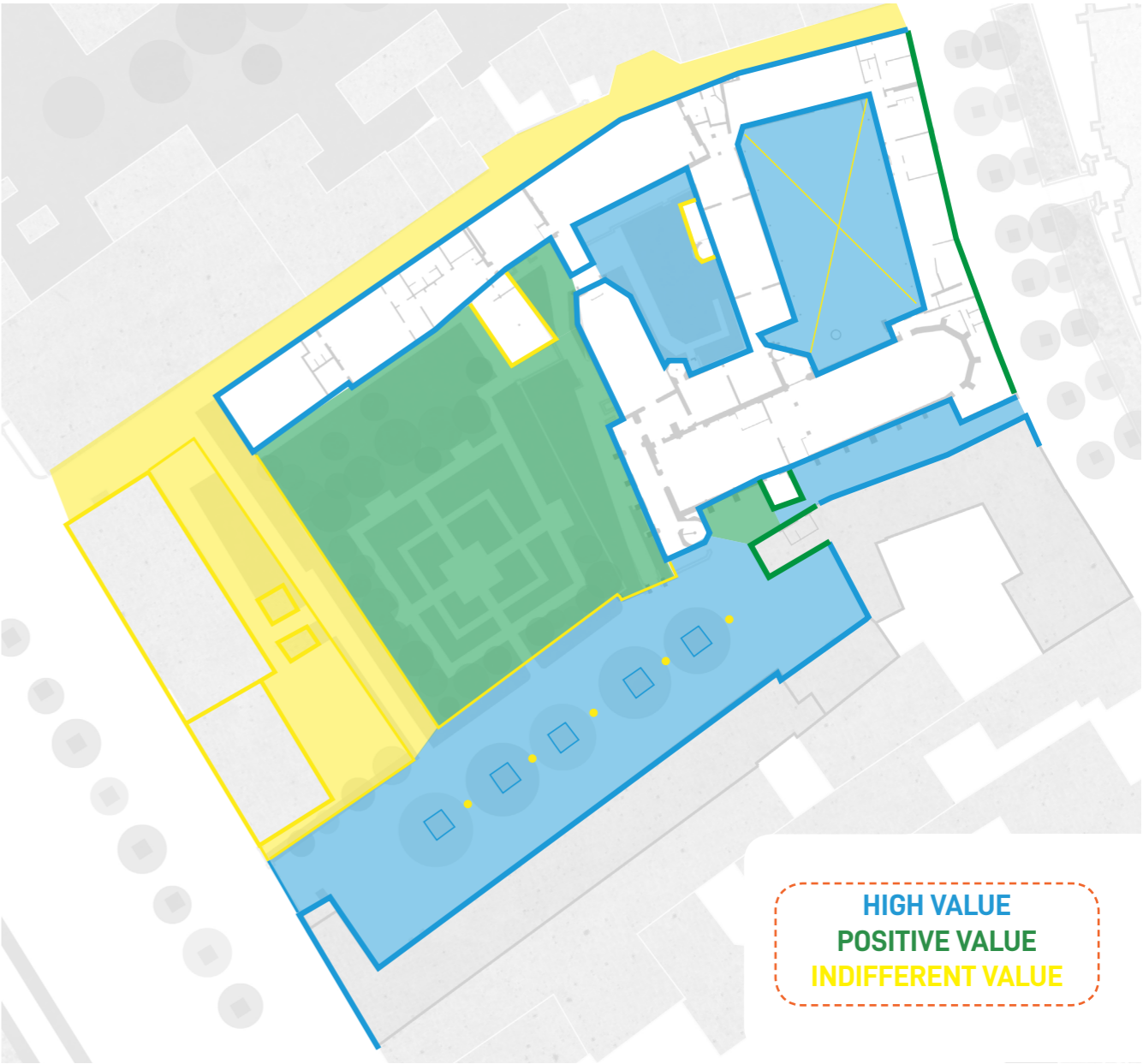


RESEARCH RESULTS

Radar graph value assessment survey result



Concluding value assessment map



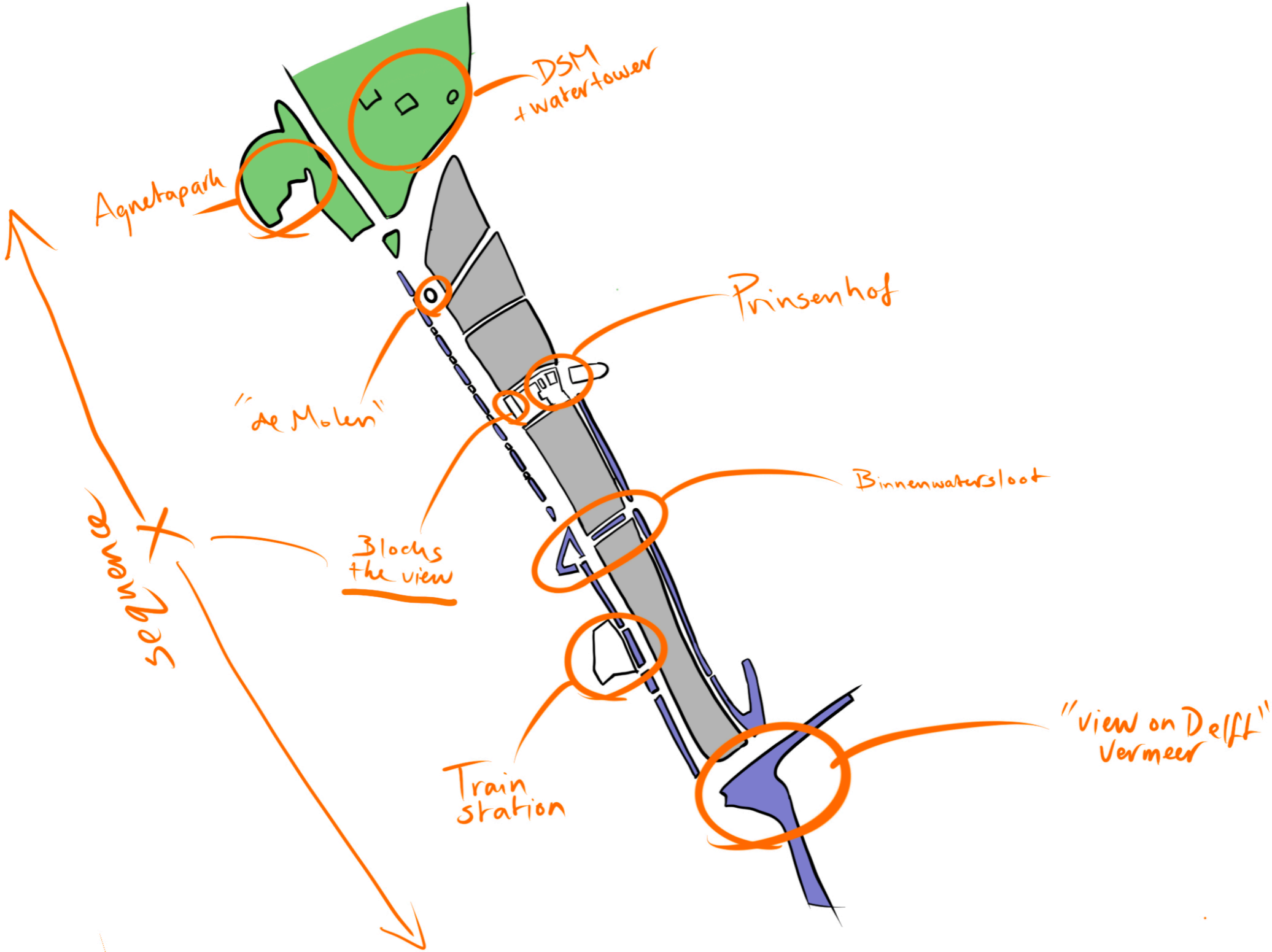
Original situation Phoenixstraat before workshop



Situation Phoenixstraat after stakeholder's interventions

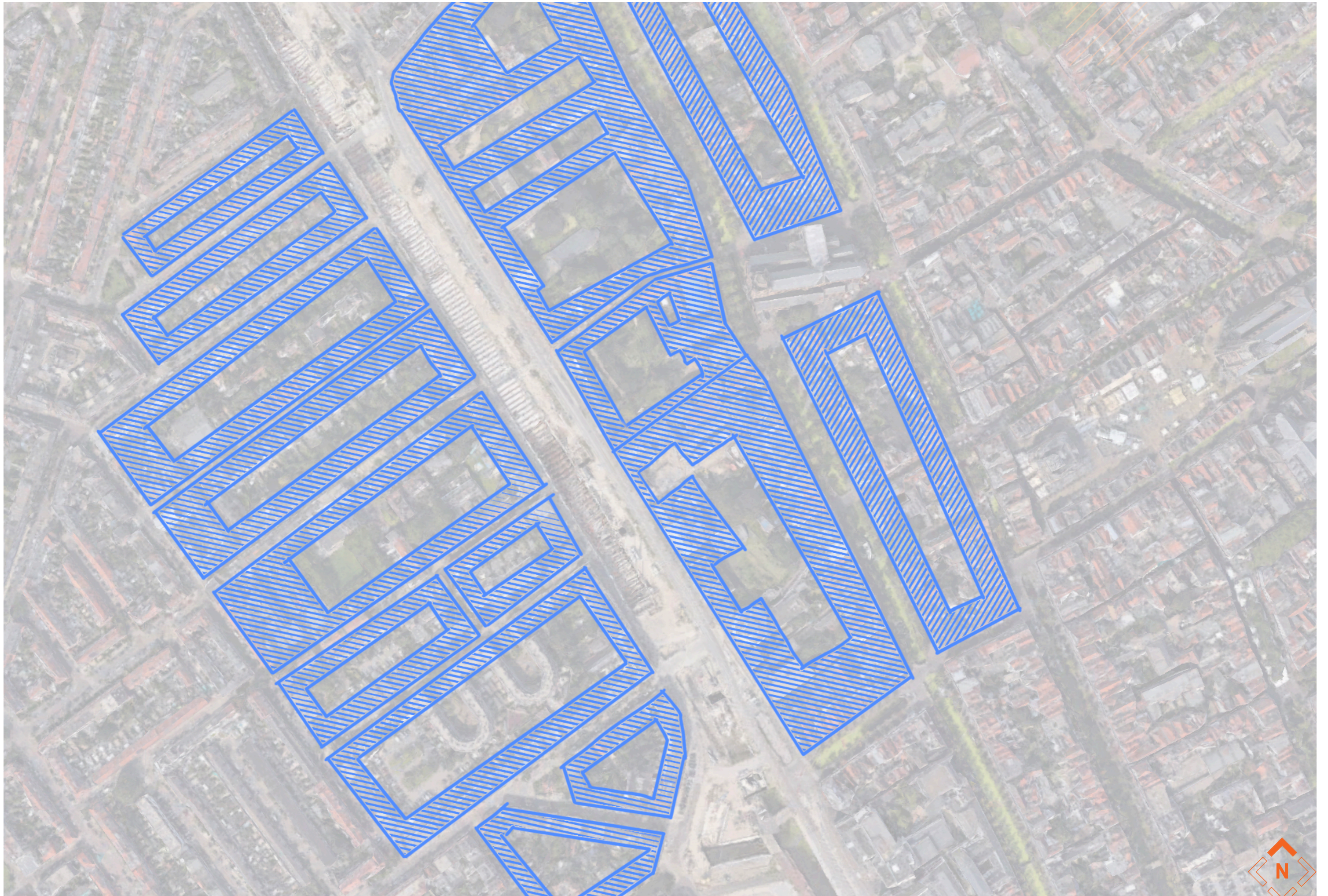


SEQUENCE

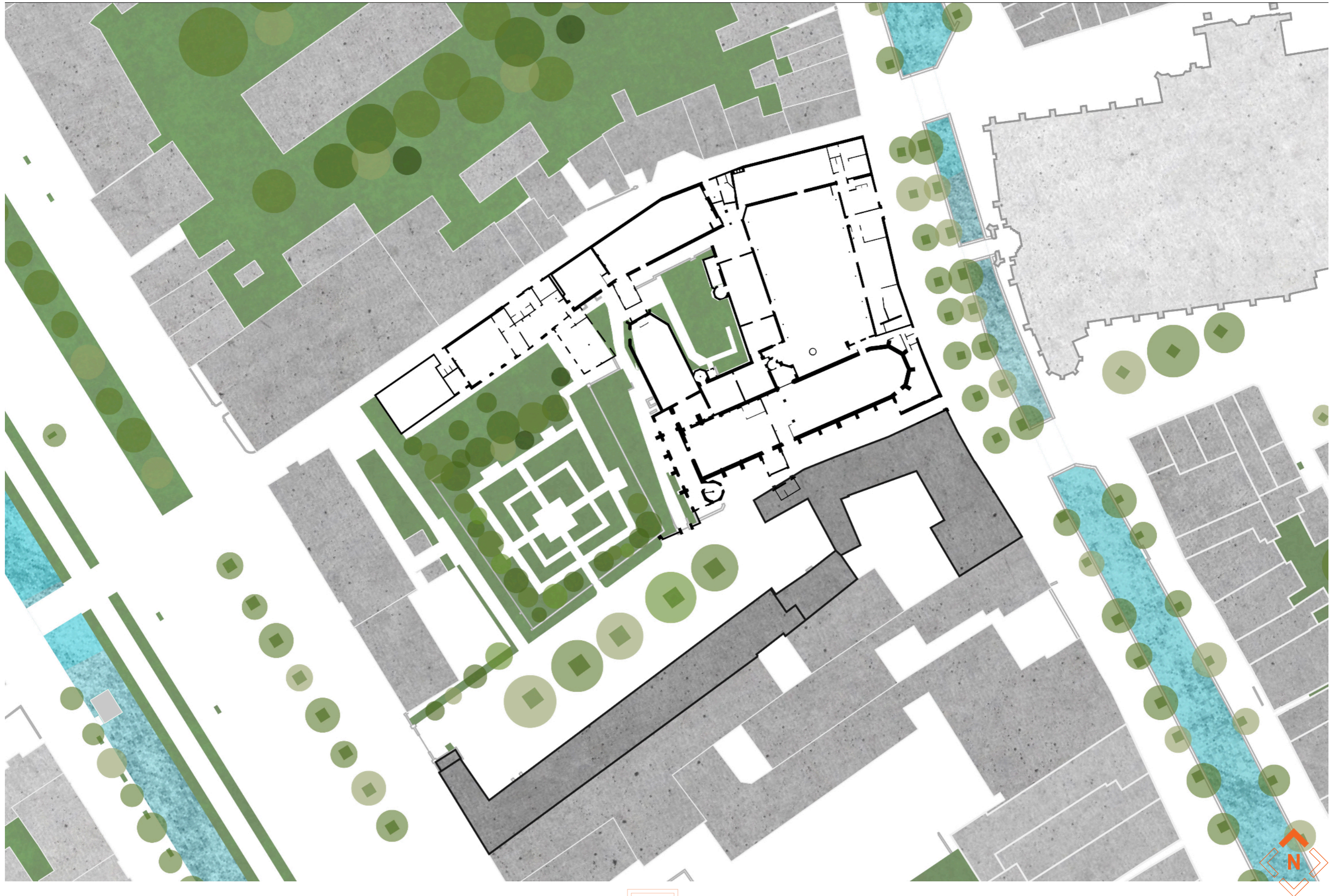




COURTYARD STRUCTURE



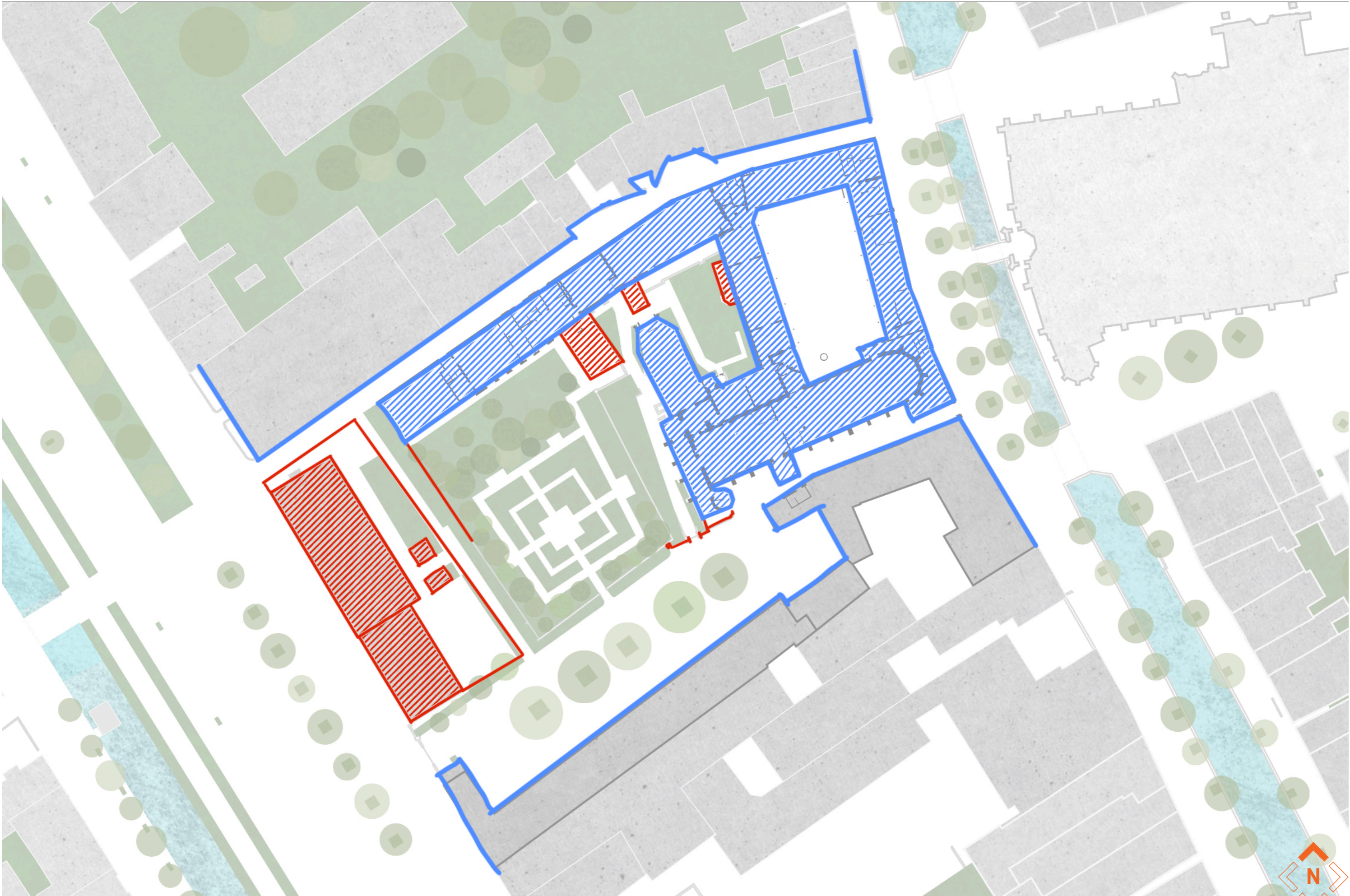
CURRENT SITUATION



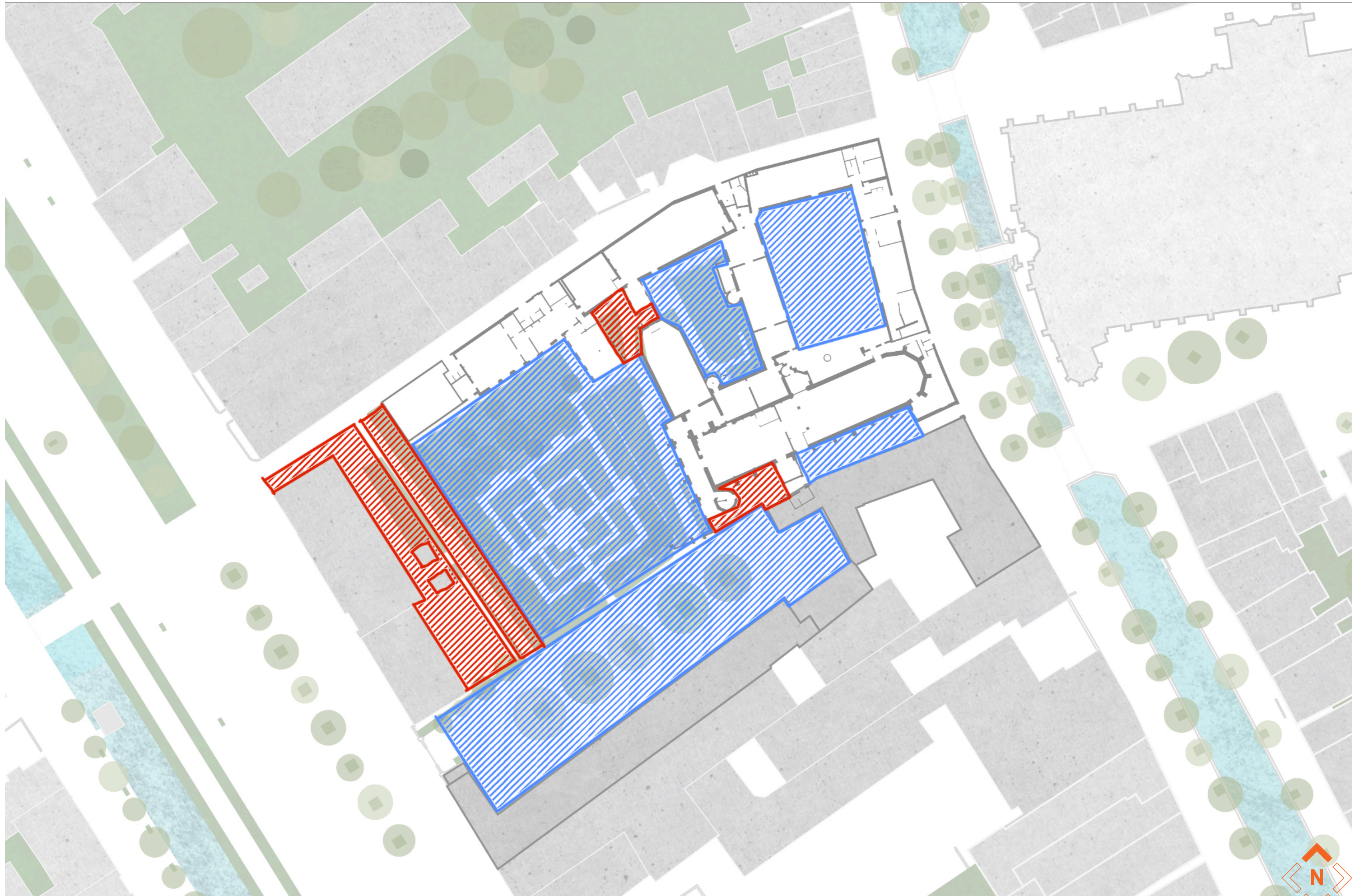
DOMINANT AXIS



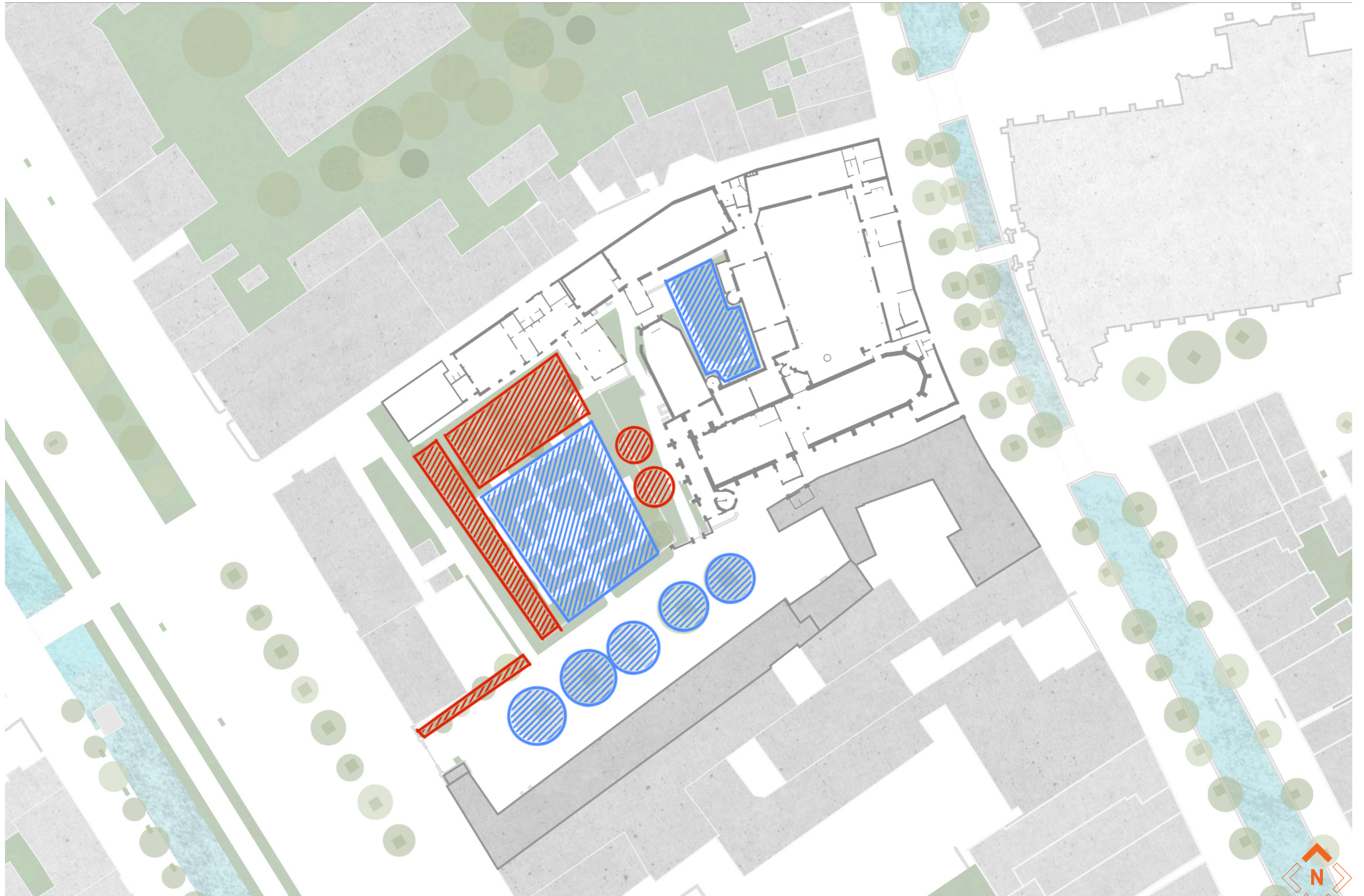
(LOW) VALUABLE VOLUMES

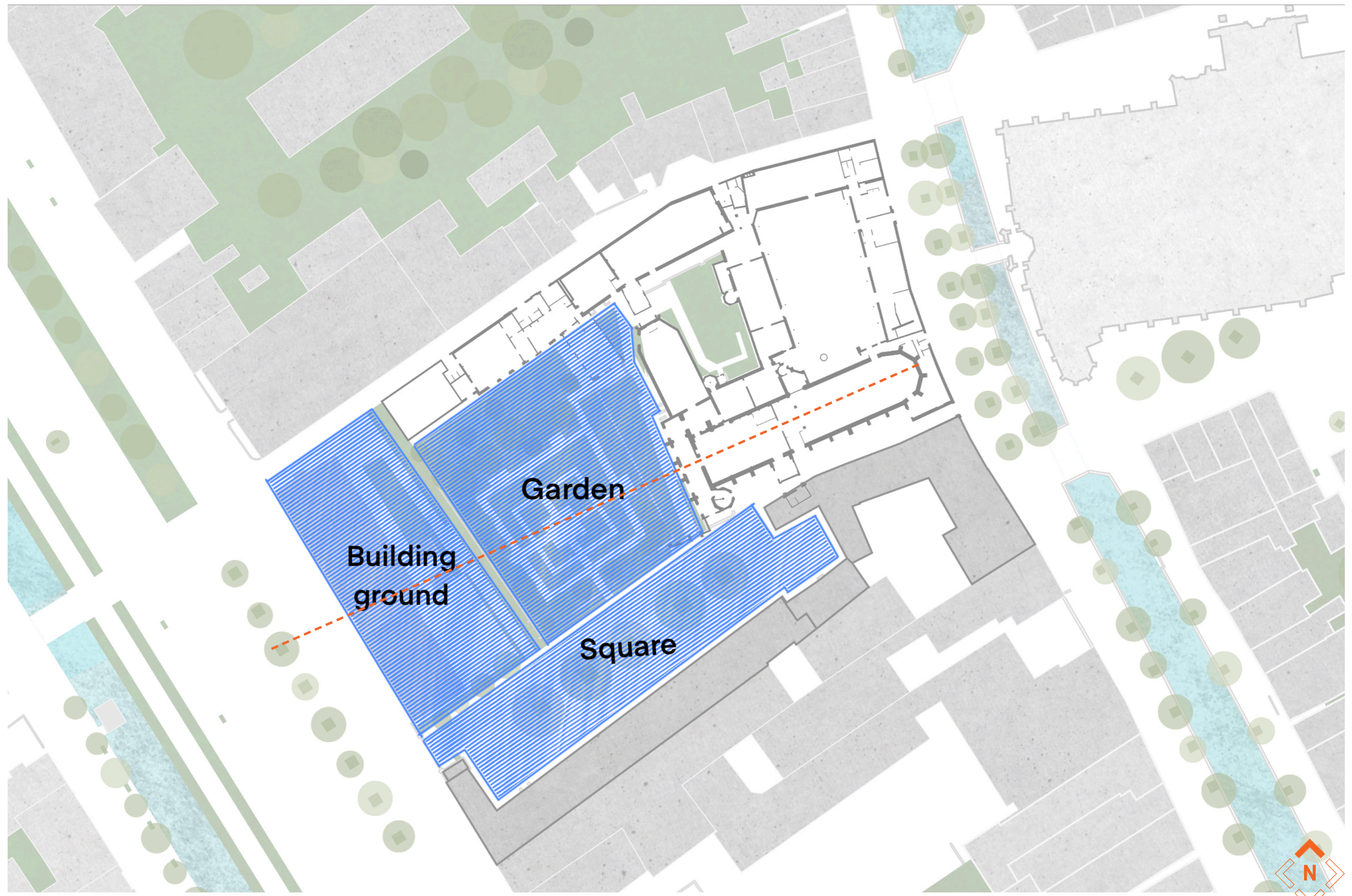


(LOW) VALUABLE OUTDOOR SPACE

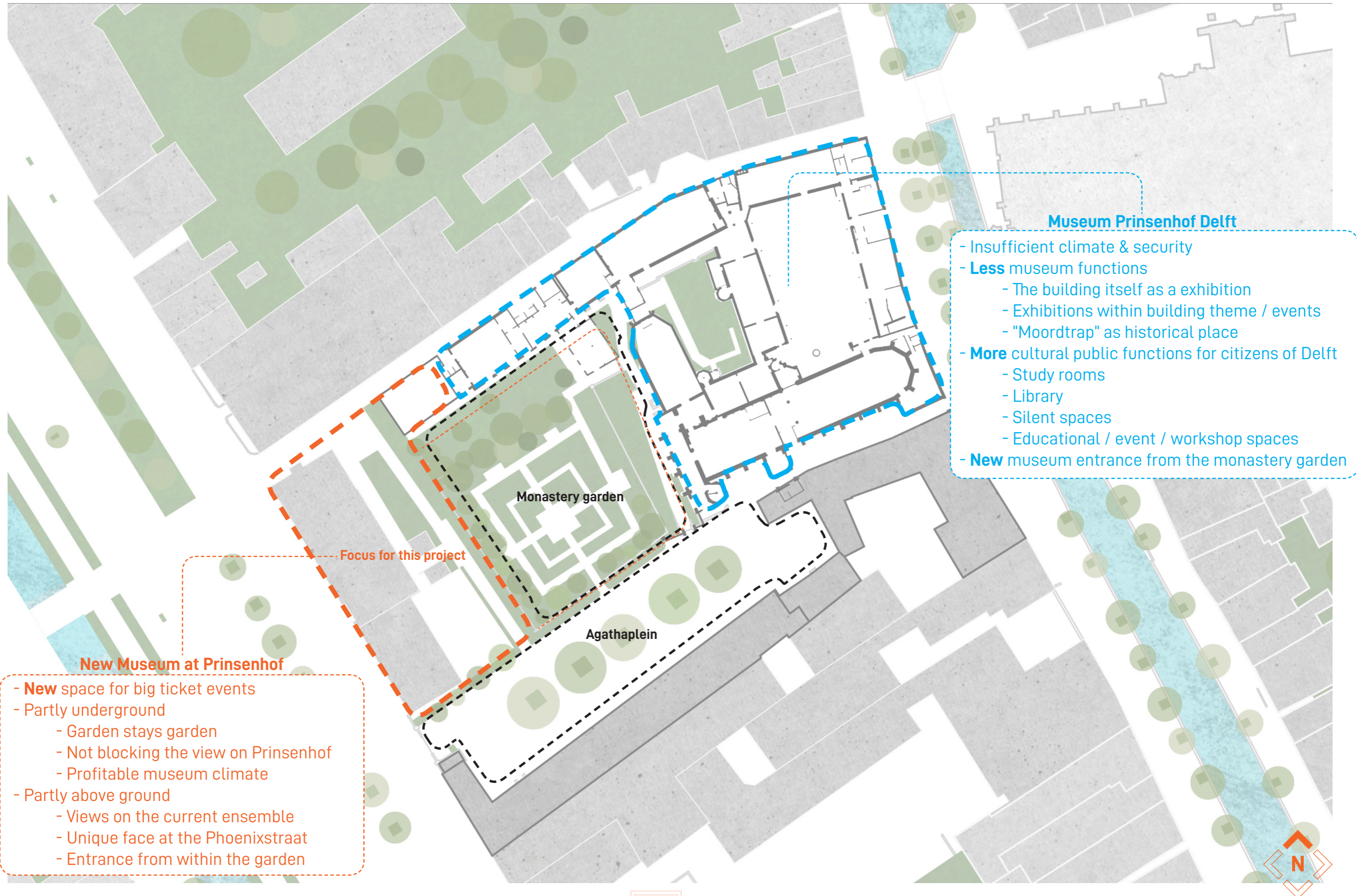


(LOW) VALUABLE GREEN SPACE





1 + 1 = 3 (museum + museum = museum park Delft)



MASTERPLAN

NEW MUSEUM

OFFICES P.H.

CURRENT MUSEUM P.H.

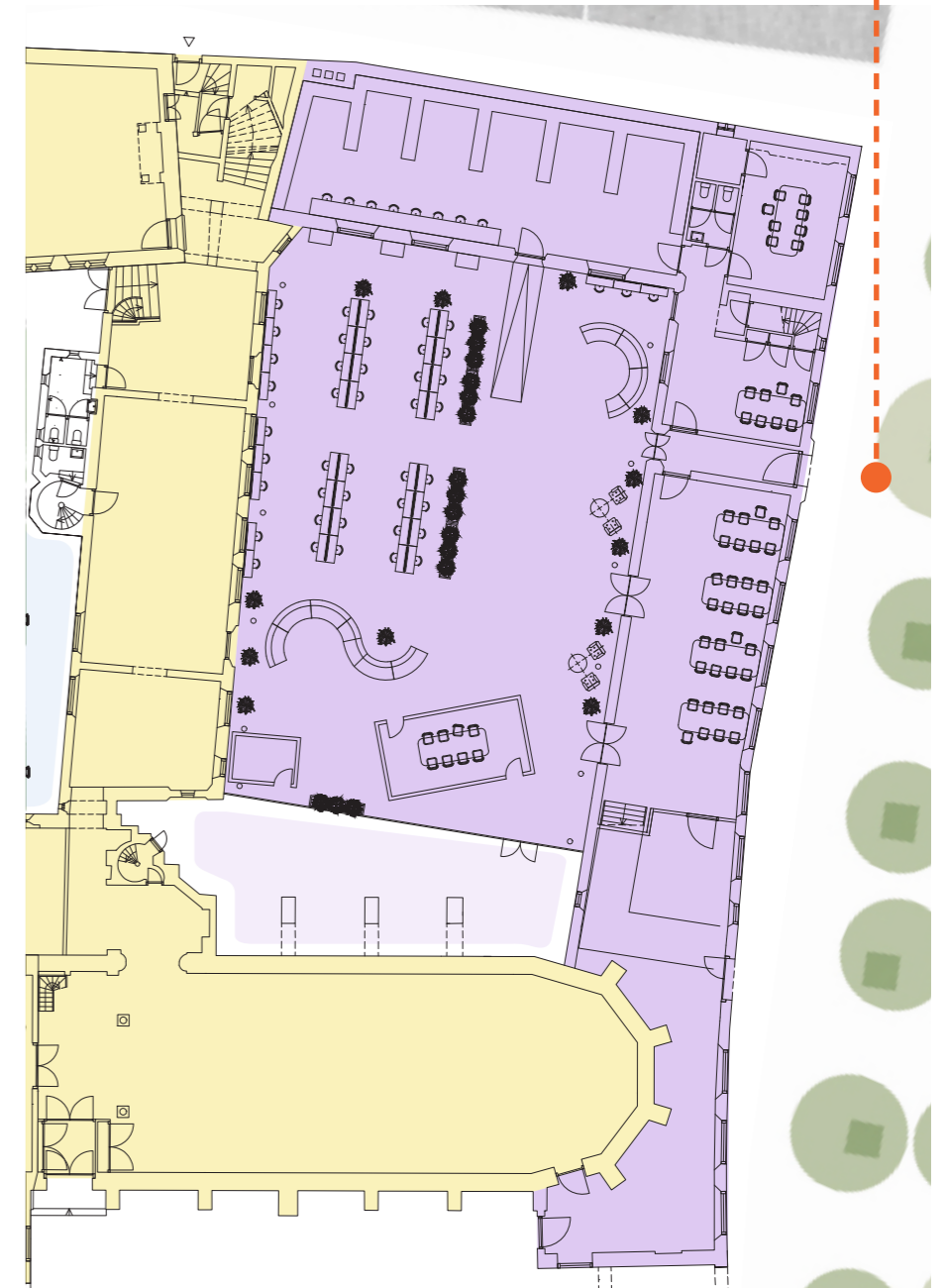
NEW CULTURAL HUB DELFT



NEW CULTURAL HUB DELFT



Entrance at the Oude Delft

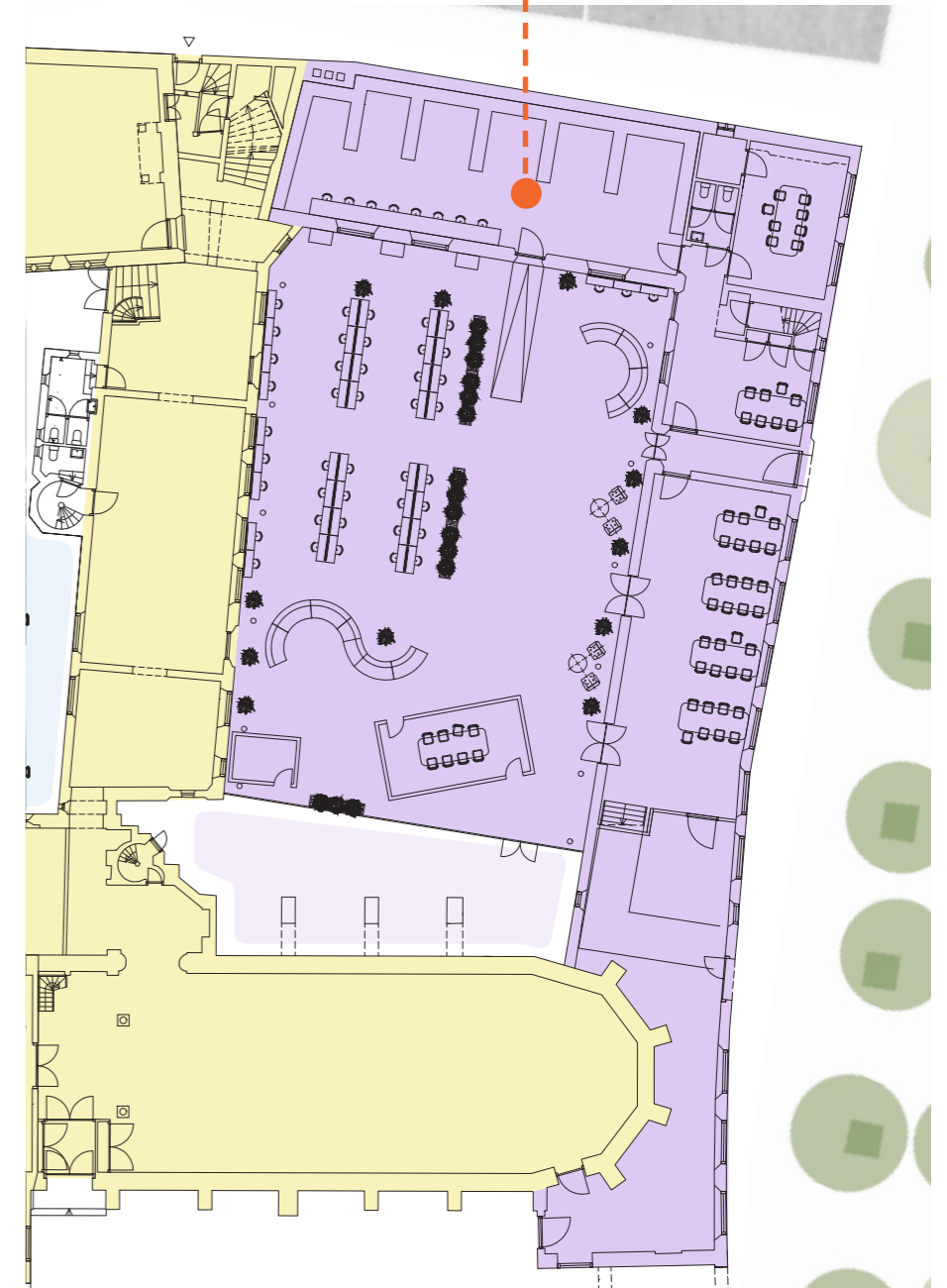


Map of Cultural Hub Delft

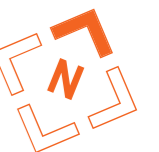
NEW CULTURAL HUB DELFT



Public library



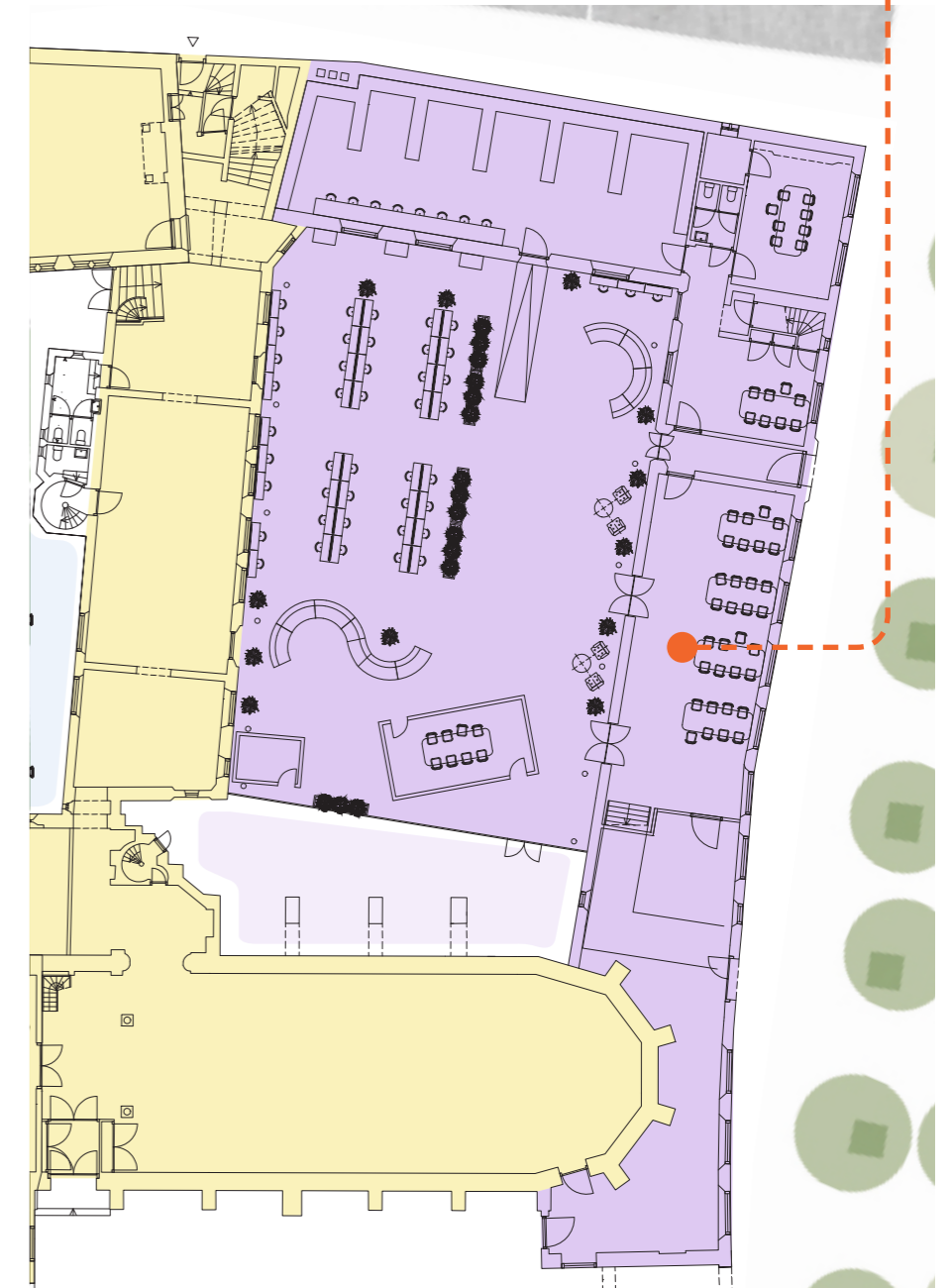
Map of Cultural Hub Delft



NEW CULTURAL HUB DELFT



Workshop spaces

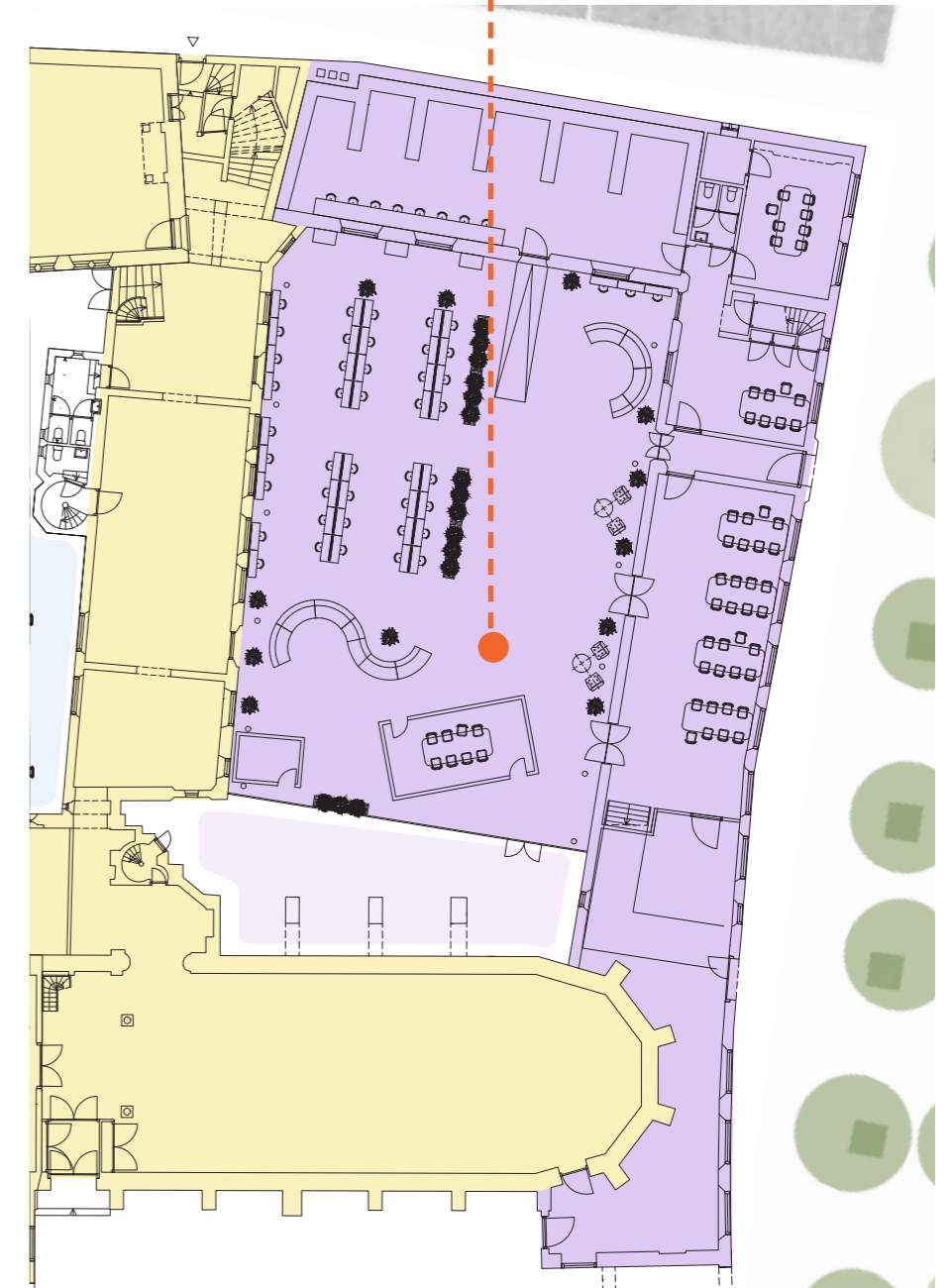


Map of Cultural Hub Delft

NEW CULTURAL HUB DELFT



Flexible space van der Mandelezaal



Map of Cultural Hub Delft



PHOENIXSTRAAT WALL



PHOENIXSTRAAT WALL

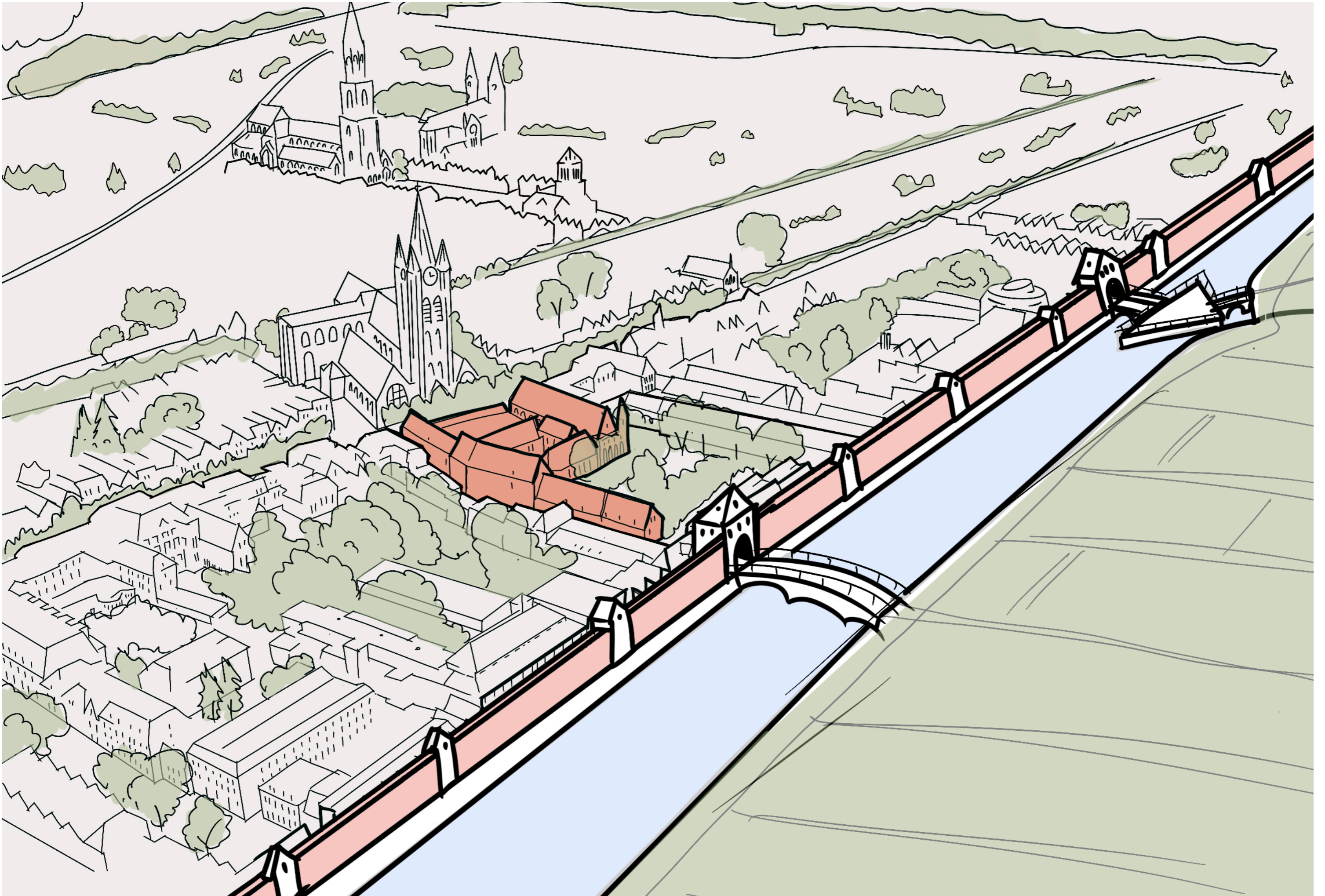
- Buildings face same direction
- Clear street and alleyway cutouts
- New volume to keep this structure



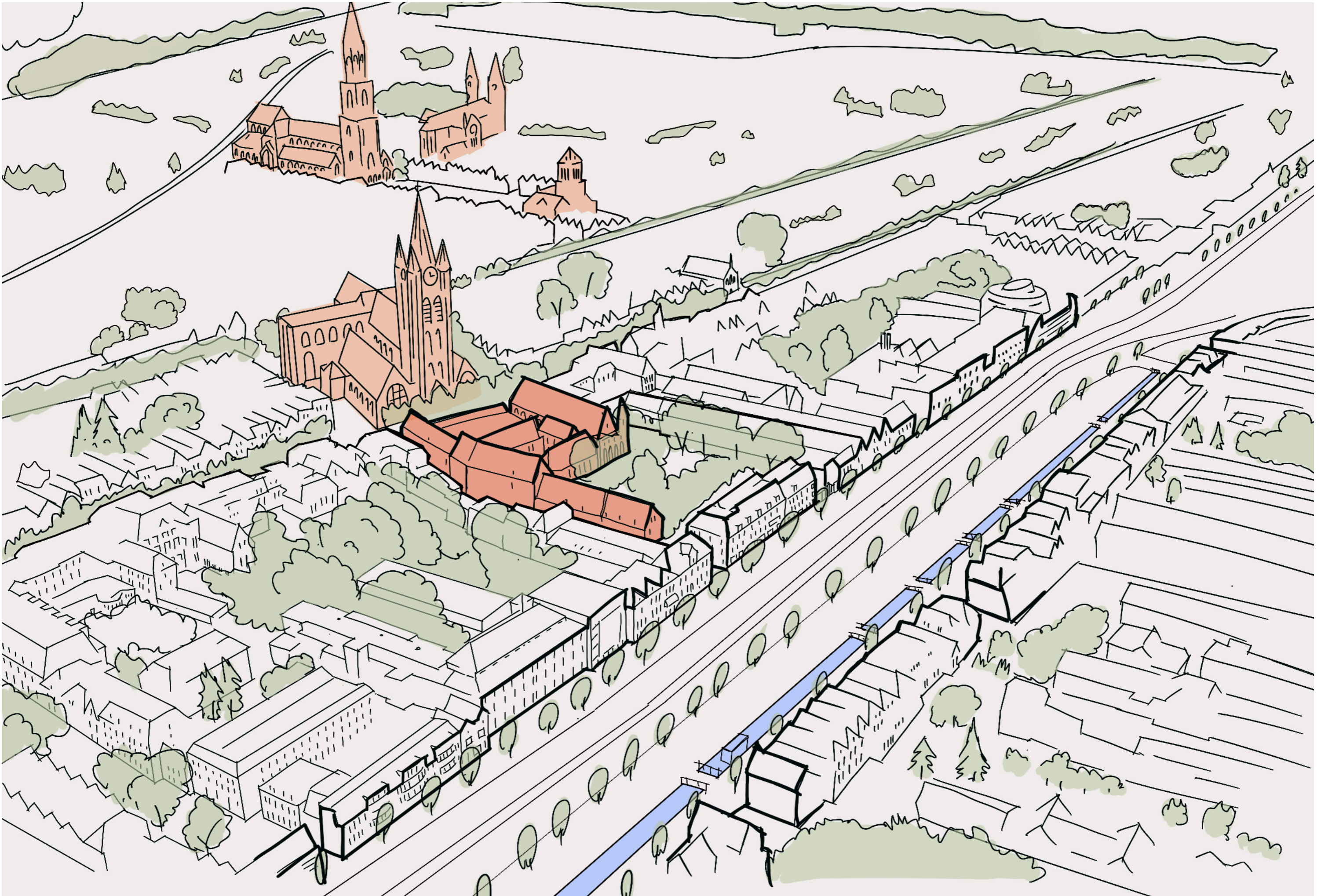
PHOENIXSTRAAT WALL FACES



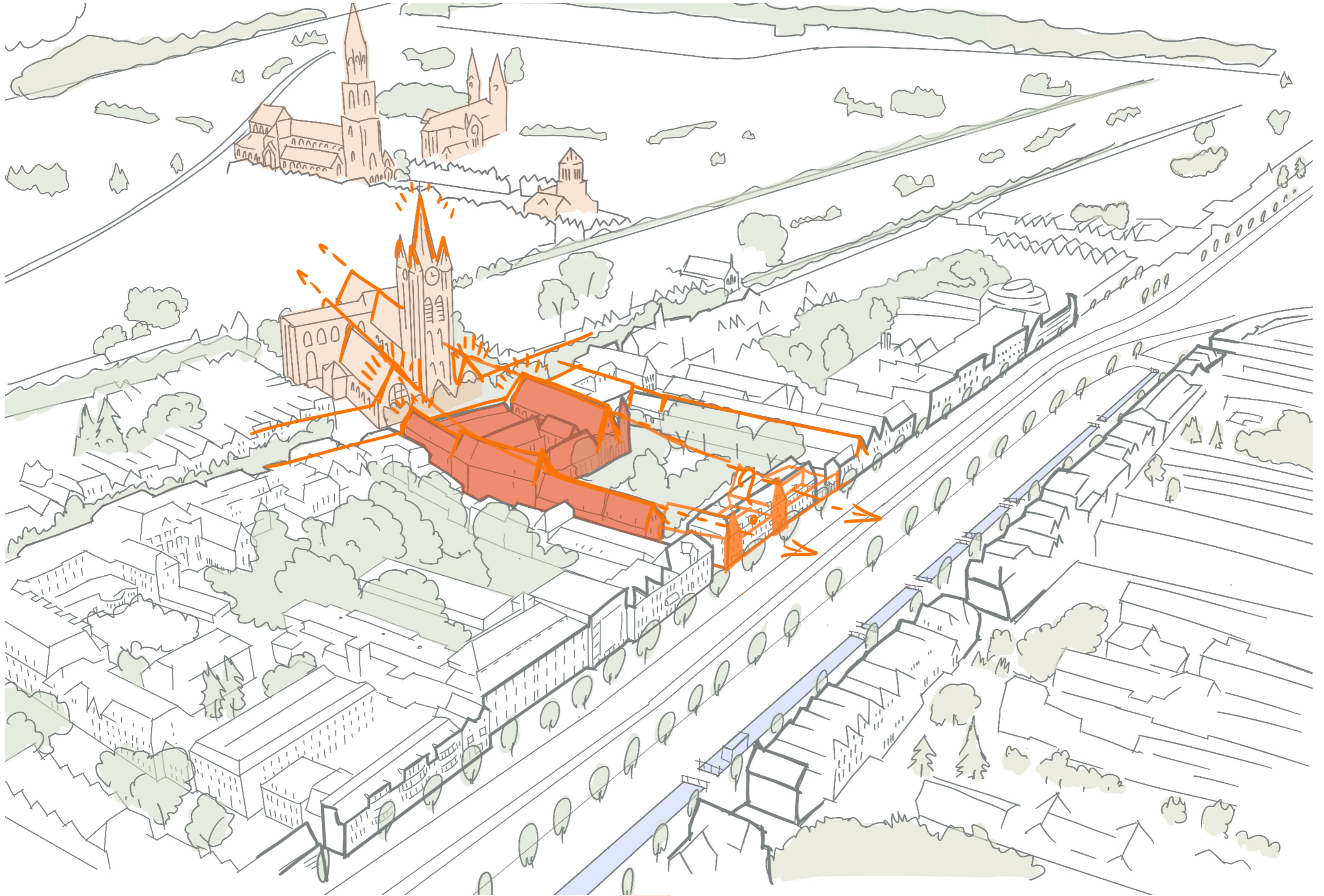
FORMER CITY WALL



CURRENT SITUATION



ROOM FOR AN ACCENT



ROOM FOR AN ACCENT

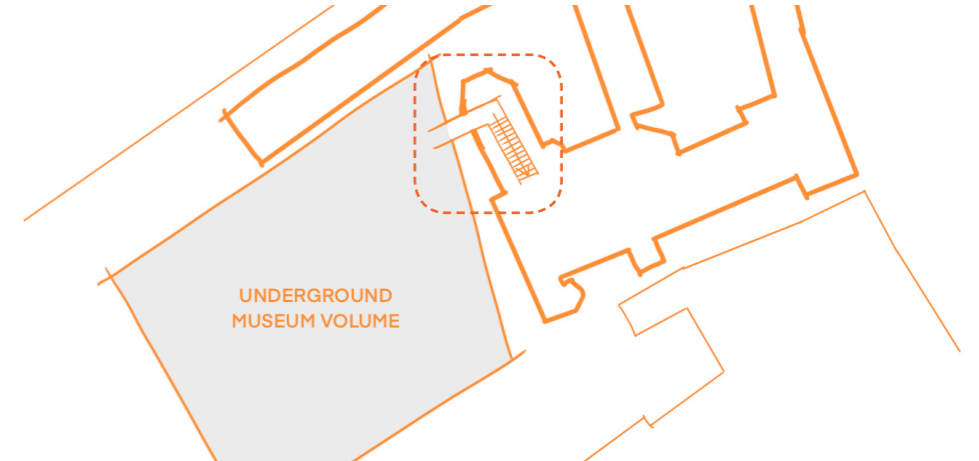
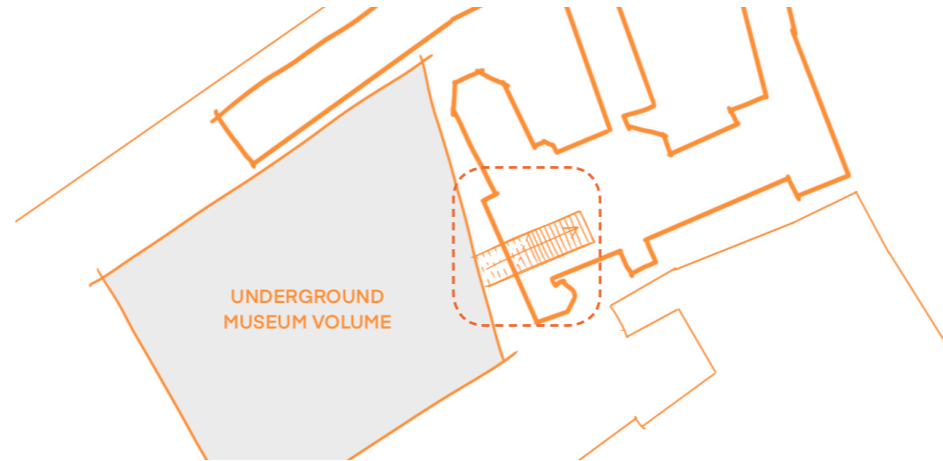
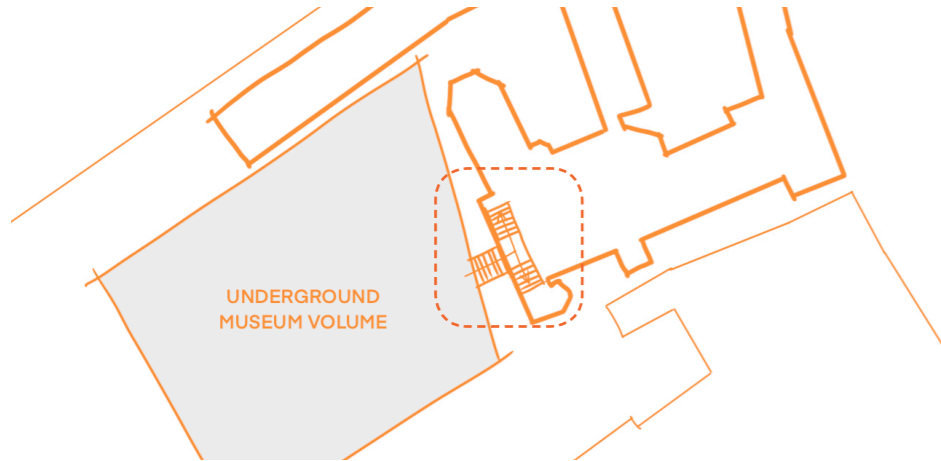
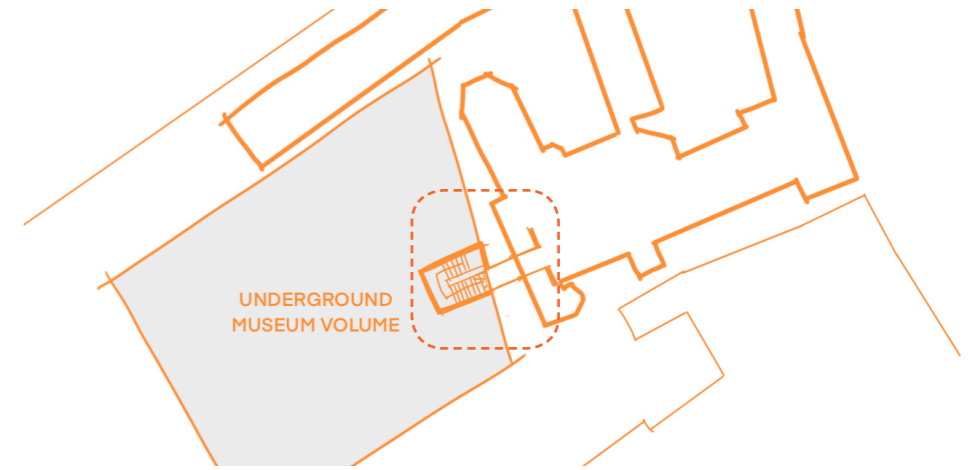
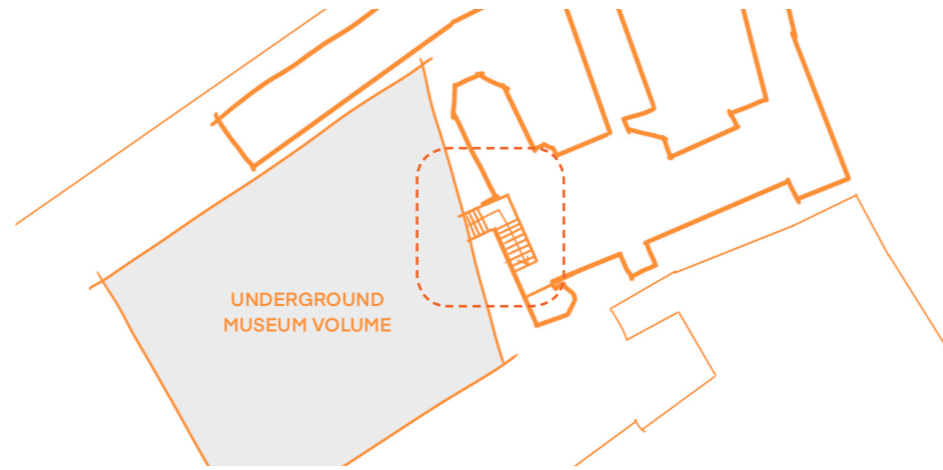


DESIGN DILEMMAS

PHYSICAL CONNECTION WITH CURRENT BUILDING?

- Underground staircase **demolishes** heritage basement
- Seperate staircase/elevator volume **blocks view** on current building
- Each option demands demolishing a part of the current
- **No clear benefit** for physically connecting the "extension" volume

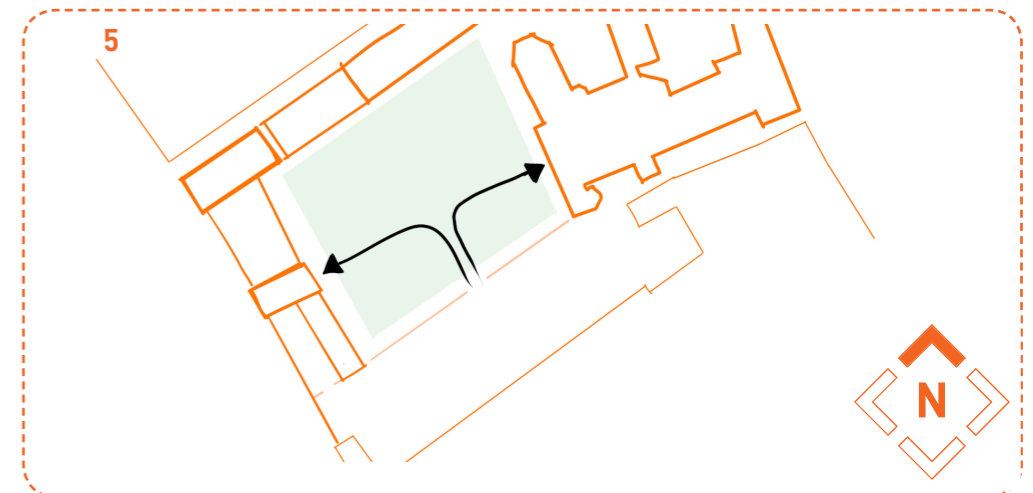
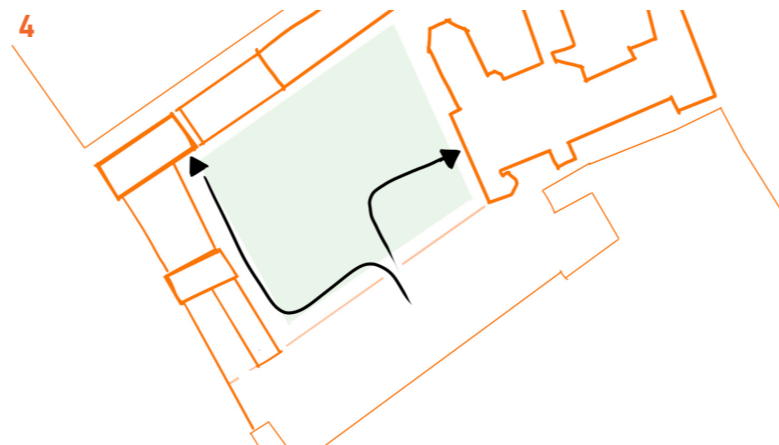
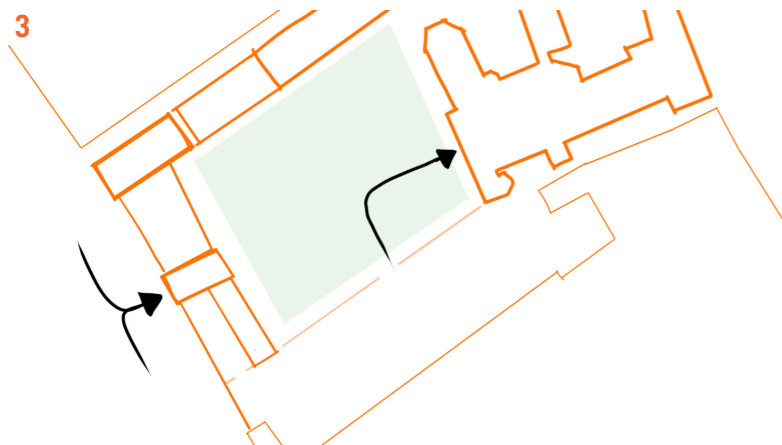
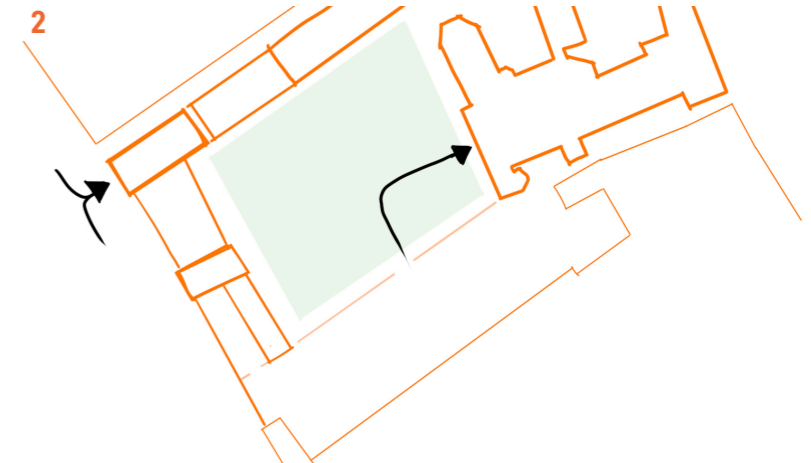
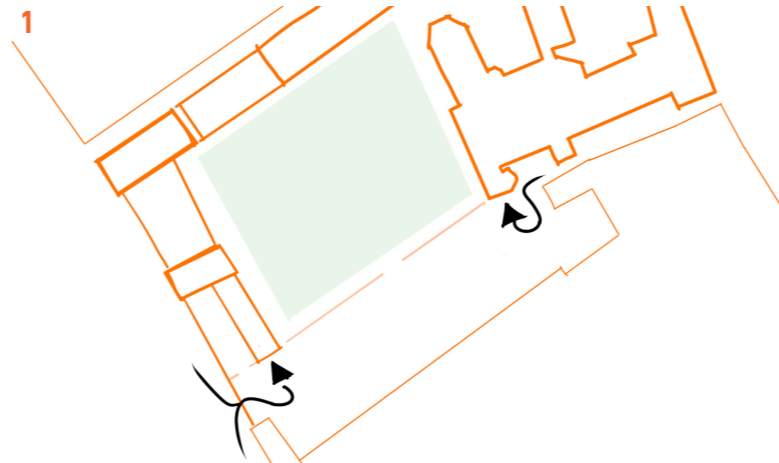
Concluding: forcing a physical connection between the current and new volume does not have enough benefits. **A seperate museum** would be sensible. Why a new museum at this location? This heritage locations deserves to be **a museum park in Delft**, a place were all functions flourish and **strengthen eachother**.



LOCATION OF ENTRANCES

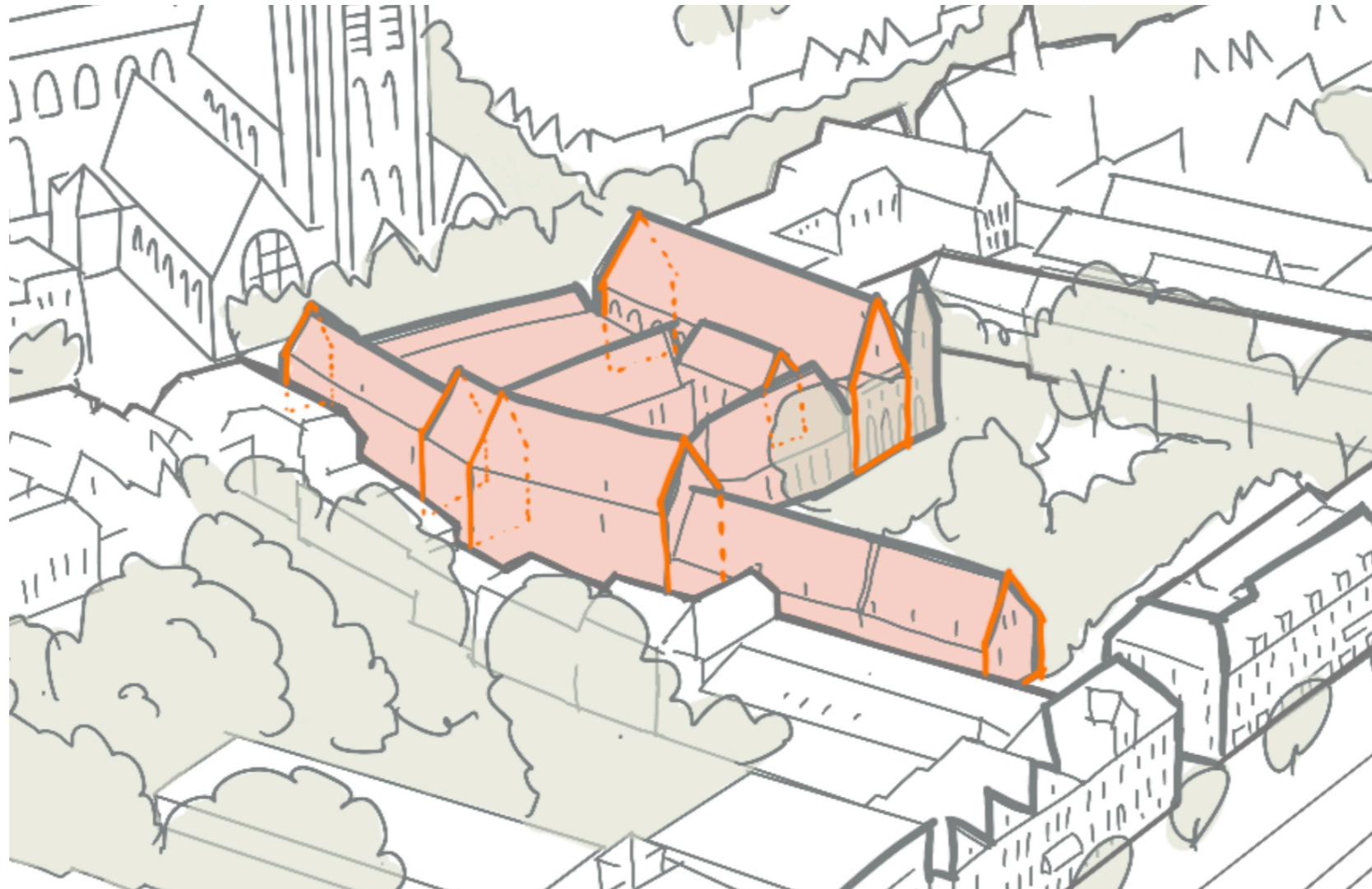
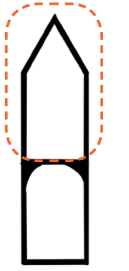
- Entrance for current **and** new museum
- Making use of the garden and square, give **reason** to these spaces
- **Transition** from busy - moderate - quite spaces is ideal
- Monumental **axis** should be considered

Concluding: The best option for both entrances **option 5**, this option makes use of the transition from busy - moderate - quite with the sequence Oude Delft/Phoenixstraat - Agathaplein - Monastery Garden. Also the monumental axis of the Waalse Kerk is accentuated.



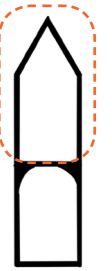
GABLED VOLUMES

above ground

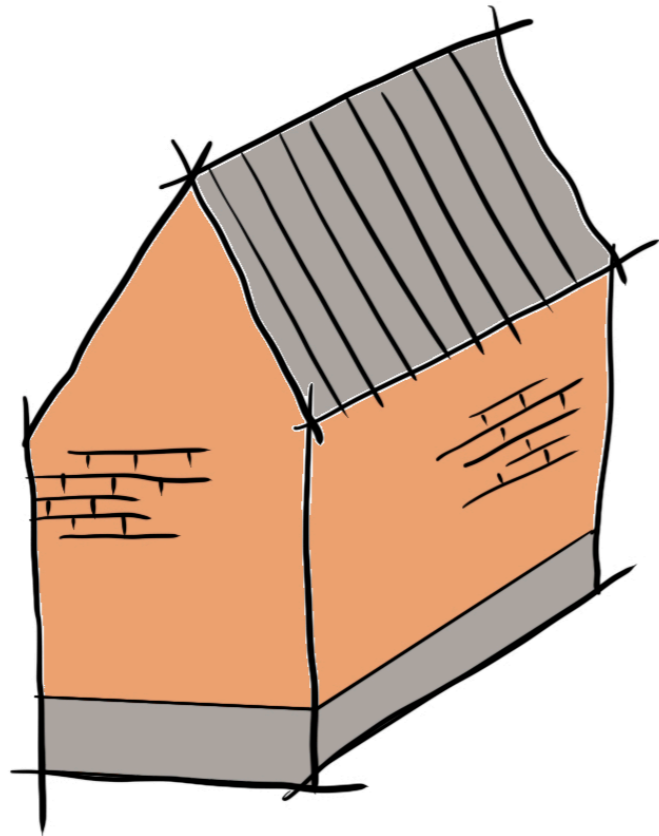


GABLED VOLUME MATERIAL

above ground

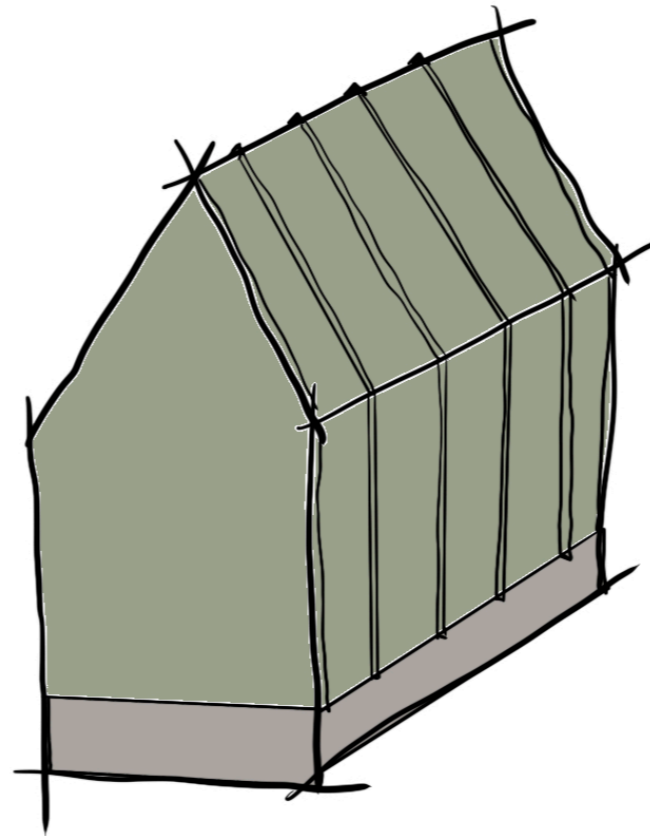


"New volume should have a different / modern materialisation ... distinct itself from the current" *(Werkgroep Prinsenhof, 2020)*



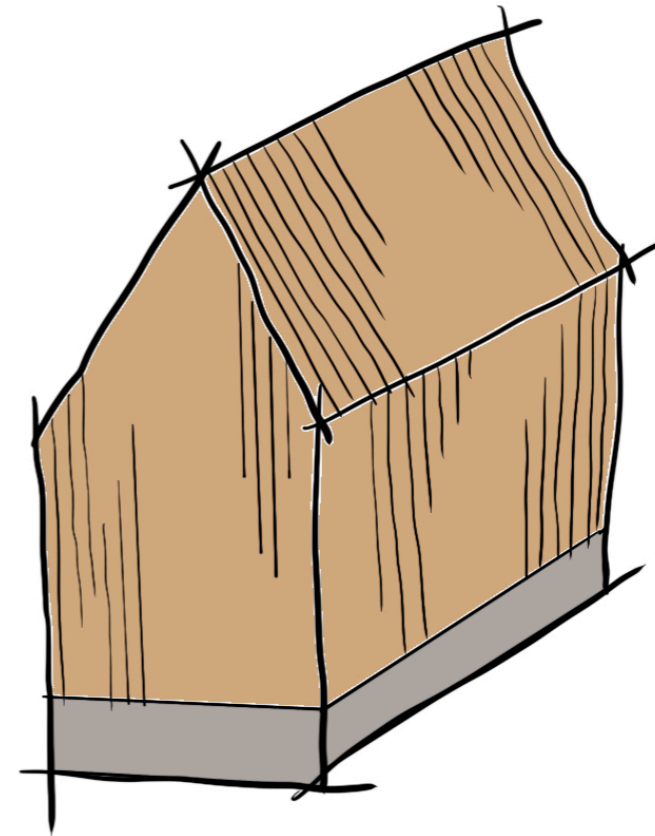
+ Tactile

- Different / Modern



- Tactile

+ Different / Modern

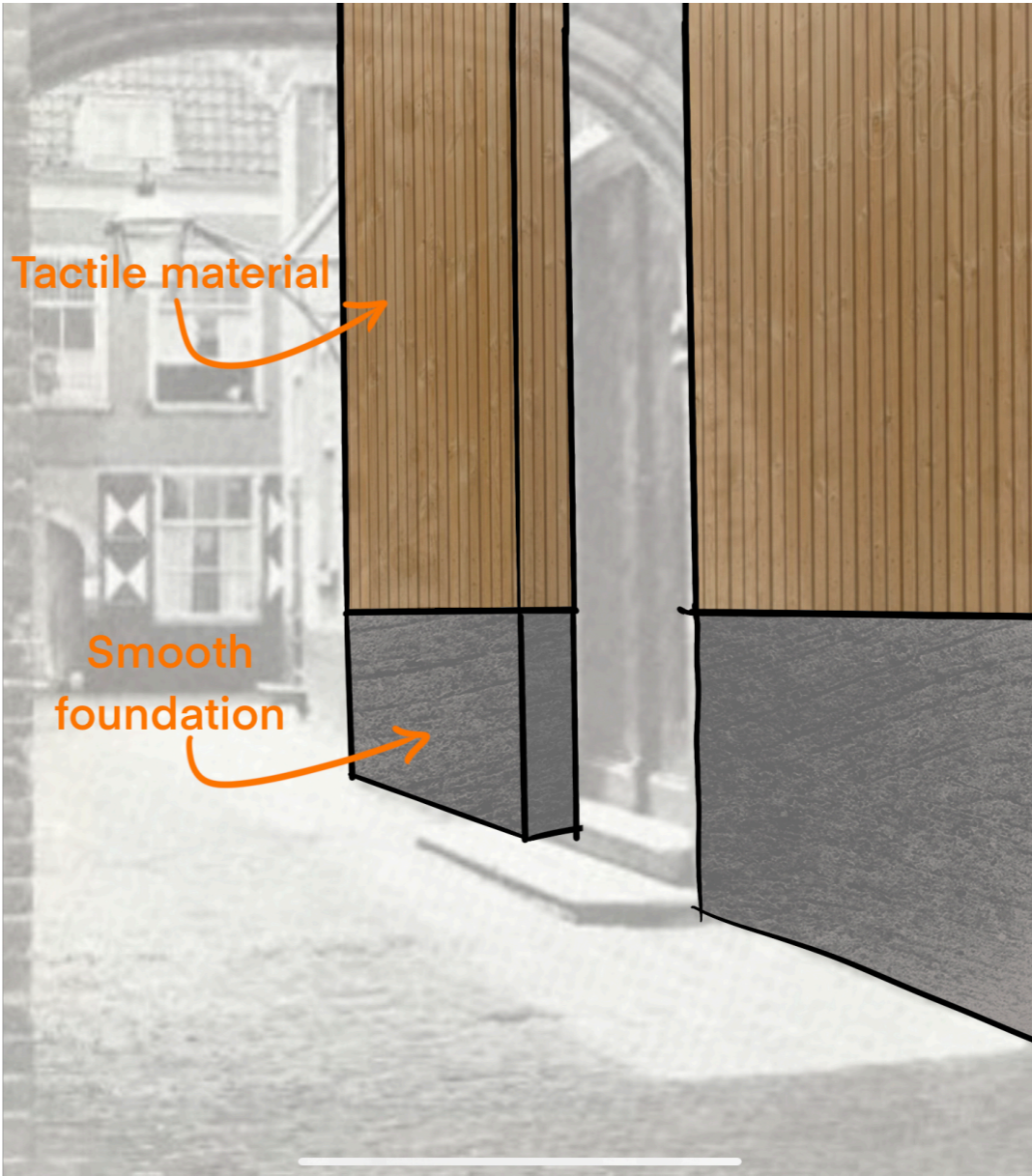
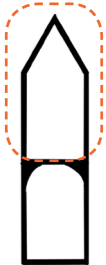


+ Tactile

+ Different / Modern

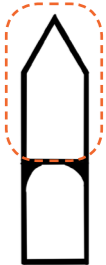
GABLED VOLUME MATERIAL

above ground



WEATHERING LARCH WOOD

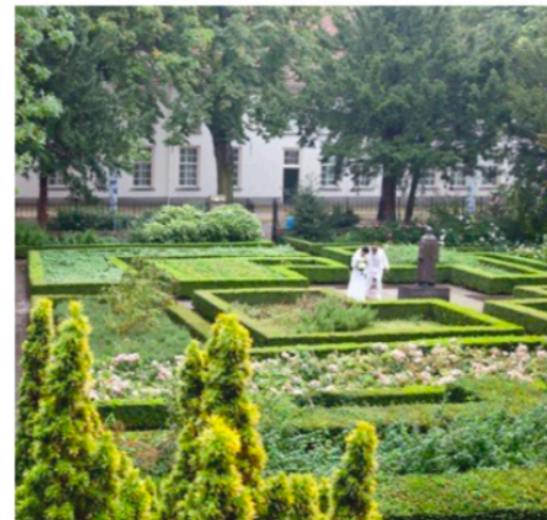
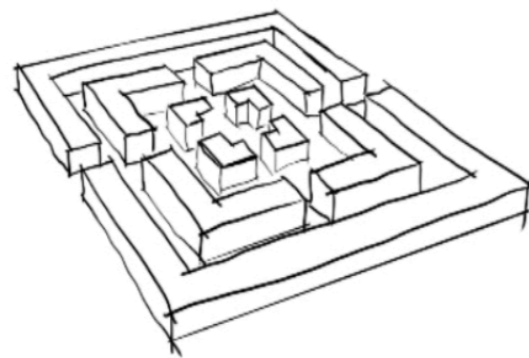
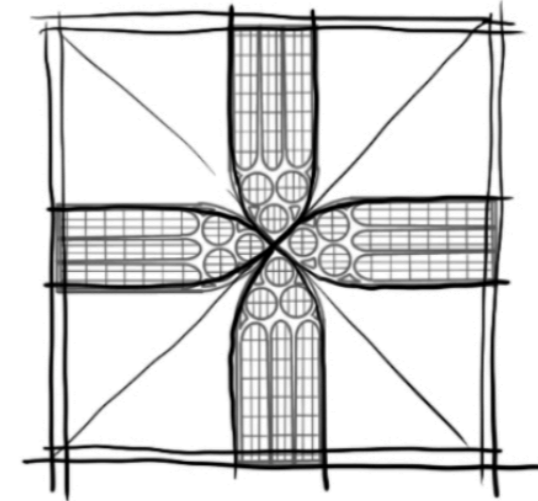
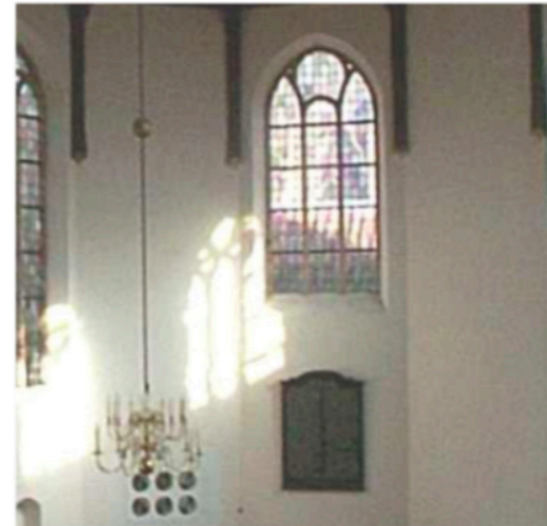
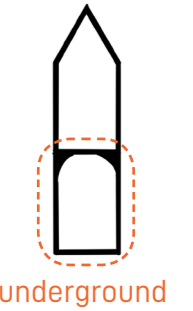
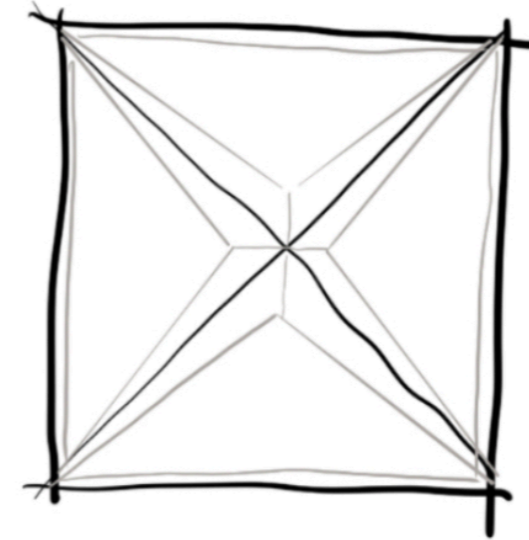
above ground



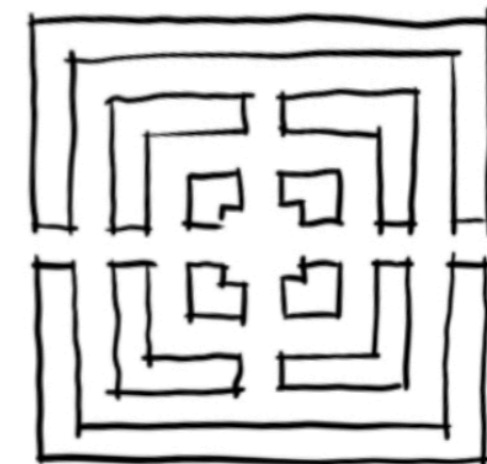
CONCRETE PATTERN RESEARCH

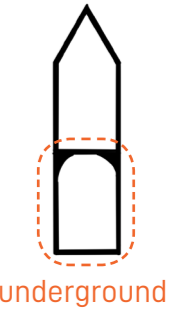


plaster finish / concrete look
vaulted ceilings



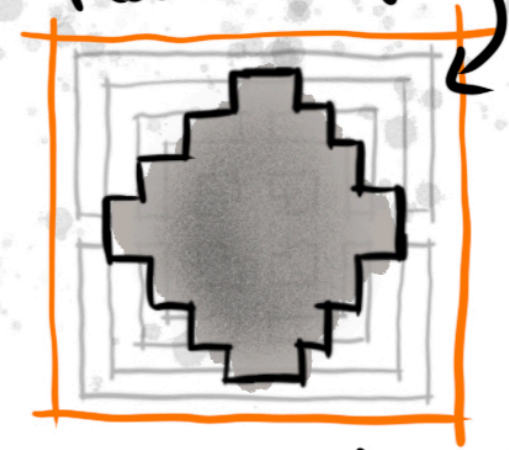
garden pattern in concrete



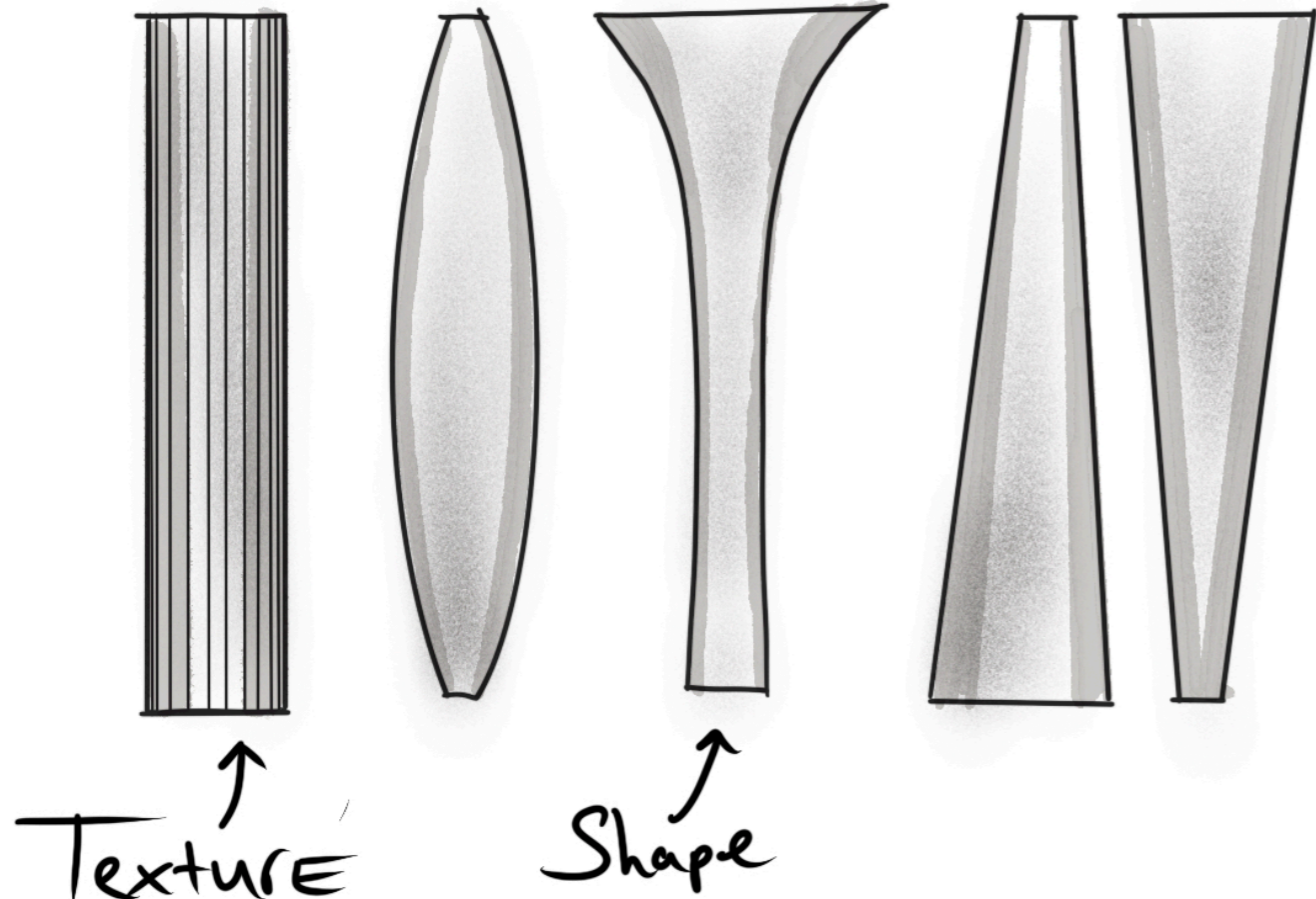
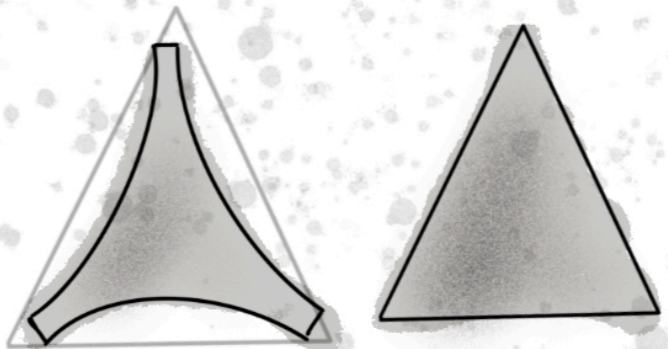
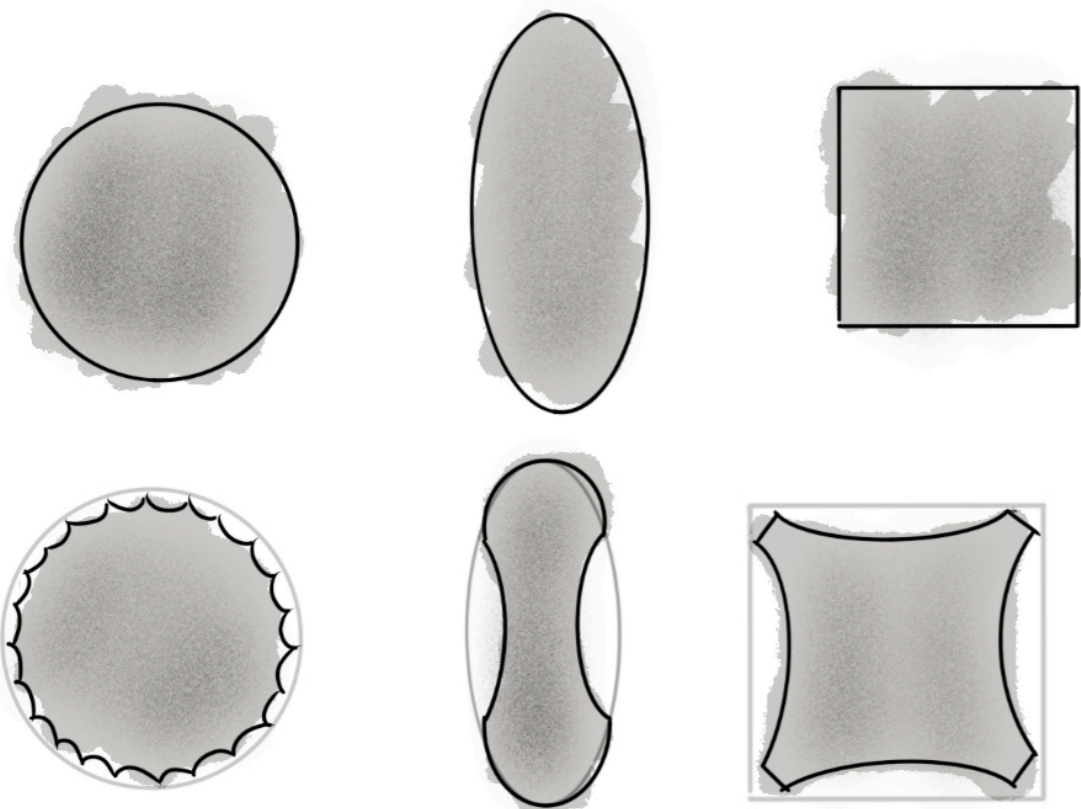
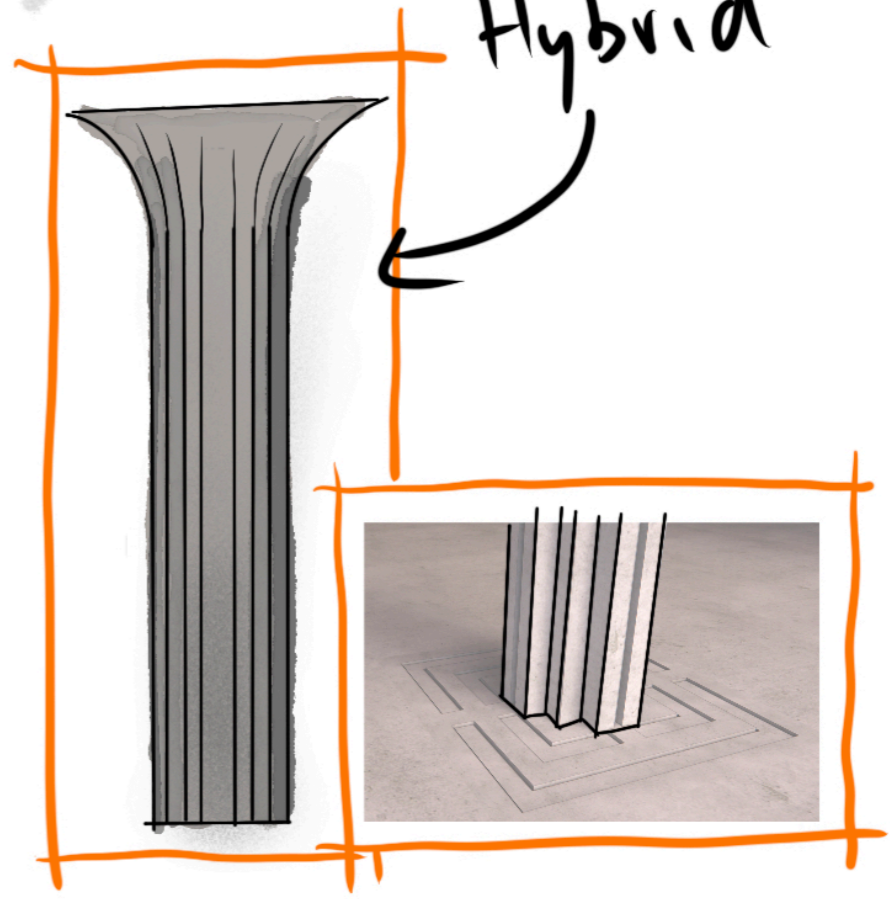


columns

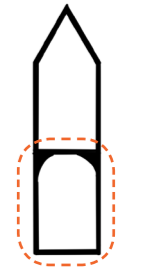
SECTION
Main shape



Hybrid



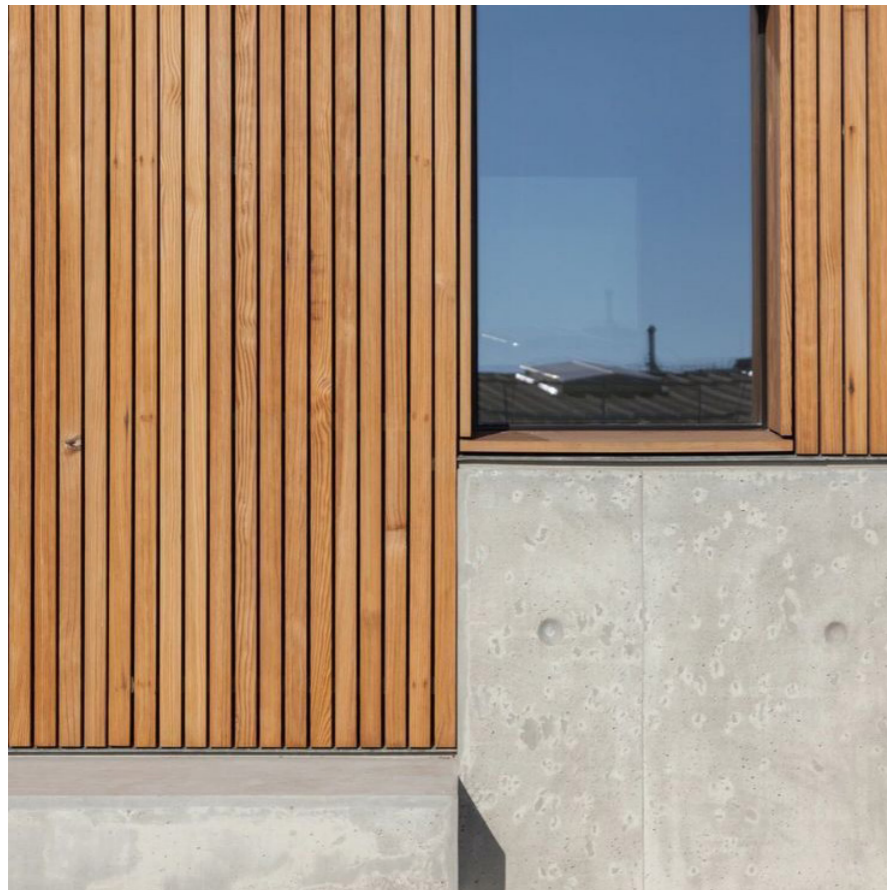
COLUMN VISUAL



underground

MATERIALISATION

LARCH WOOD CLADDING



- Siberian larch wood slats
- High resin content makes it ideal for exterior use
- Highly durable and insect repelling
- Weathers over time / turns more grey

CLT CONSTRUCTION



- Cross laminated timber construction
- Light, easy to assemble on site and demountable
- Easy modifications for extensions or changes
- No finish needed, so construction stays visible

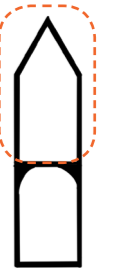
THERMACORK INSULATION



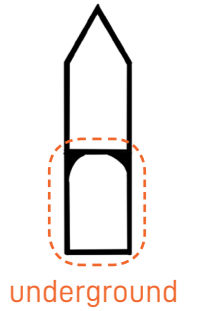
ThermaCork
 ✱100% Natural Cork Insulation✱

- Thermacork insulation ($\lambda = 0.0037$)
- 100% natural, renewable, recyclable, and biodegradable
- Cork forests have great importance in CO2 reduction
- Quality, durability and efficiency

above ground



MATERIALISATION



LARCH WOOD FLOORING



- Siberian solid larch floor
- Durable, waterproof and extremely strong
- Insect repelling and rot resistance
- Makes connection with outside cladding

ASHCRETE CONSTRUCTION



- Ashcrete concrete (fly ash)
- More sustainable than regular concrete (97% recycled)
- Highly waterproof / perfect for underground structures
- Remarkable strength (twice of Portland cement)

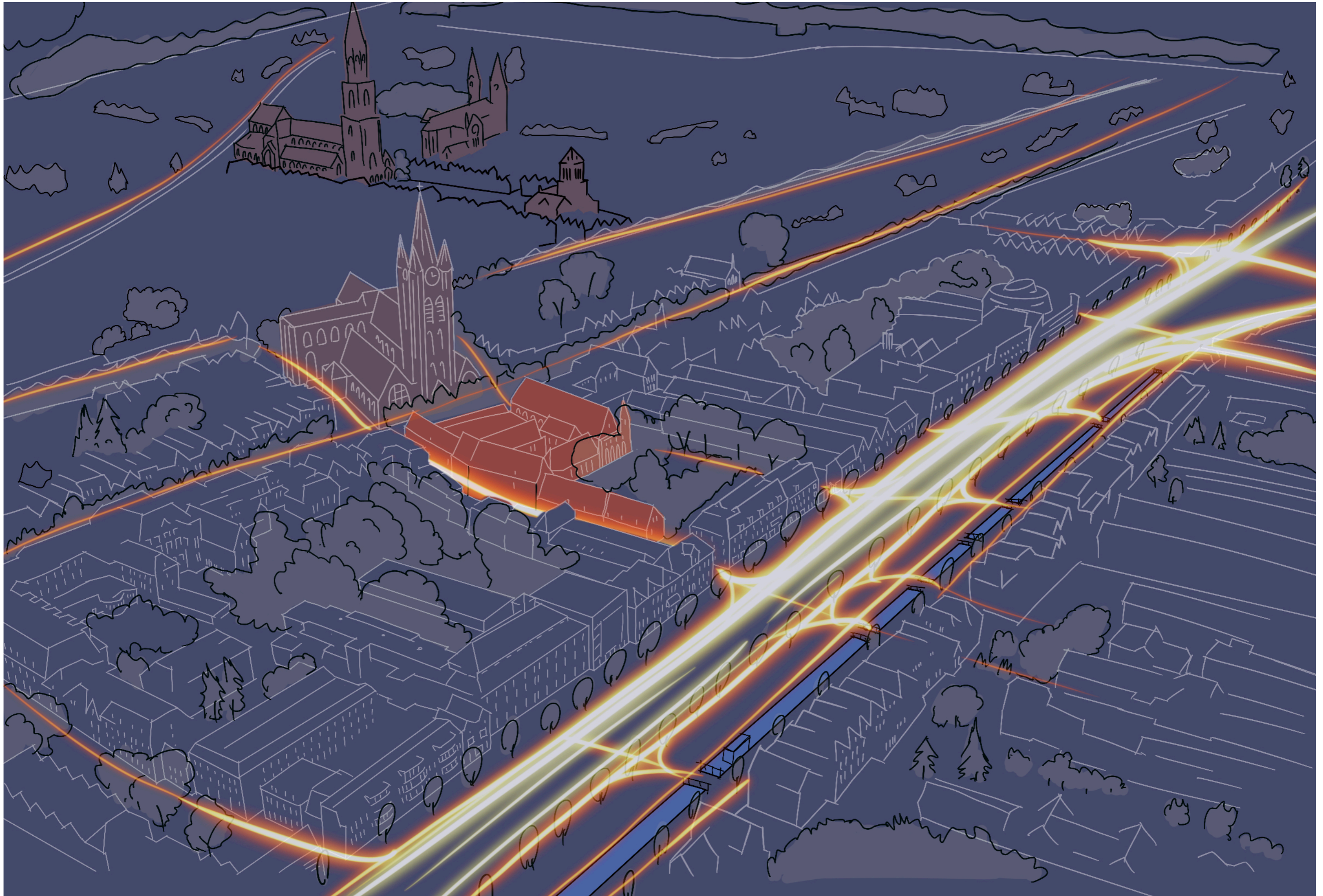
THERMACORK INSULATION



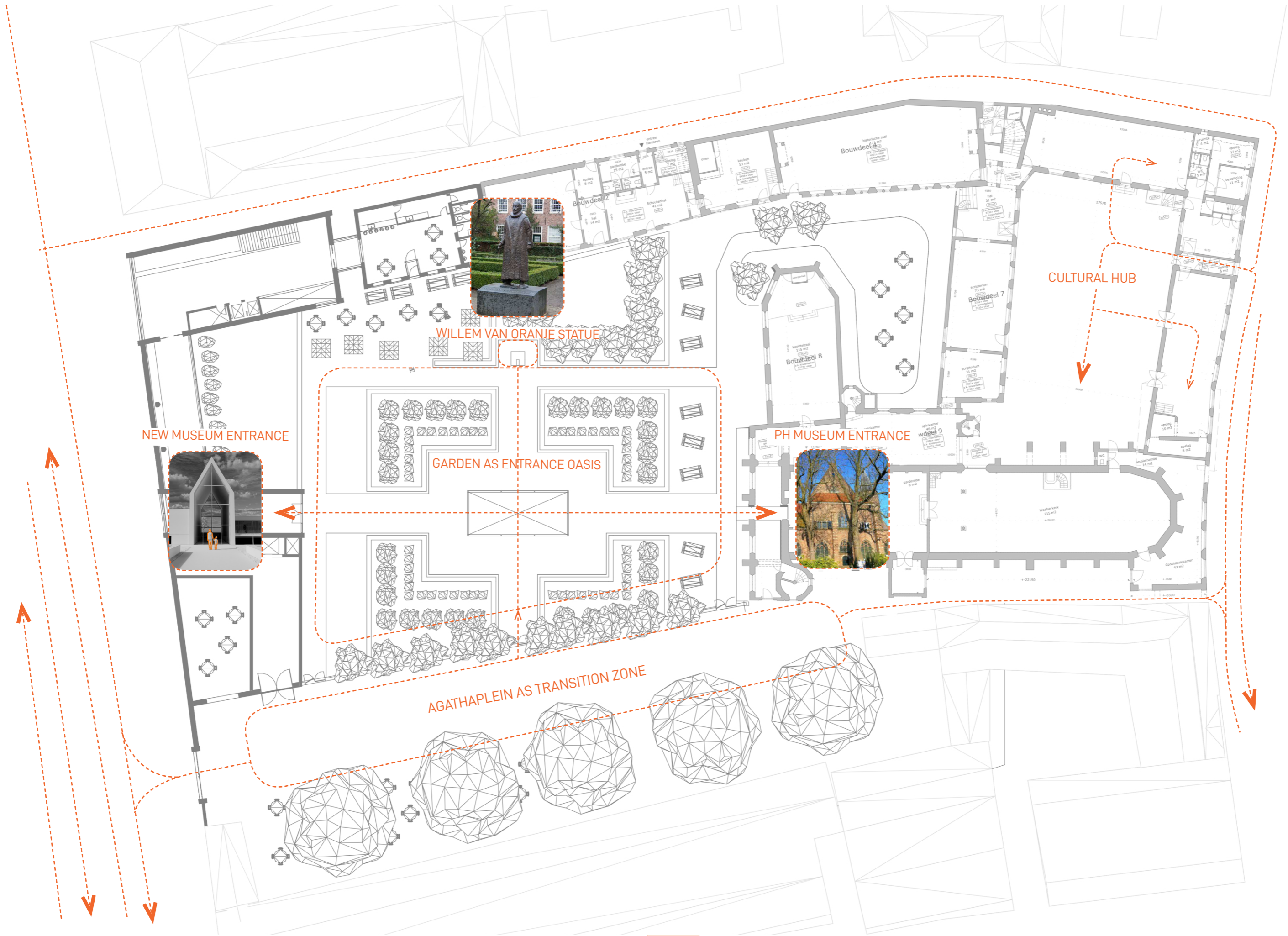
ThermaCork
✱100% Natural Cork Insulation✱

- Thermacork insulation ($\lambda = 0.0037$)
- 100% natural, renewable, recyclable, and biodegradable
- Cork forests have great importance in CO2 reduction
- Quality, durability and efficiency

CITY TRAFFIC (CAR/BIKE/FOOT)



SITE PLAN



MASTERPLAN

NEW MUSEUM

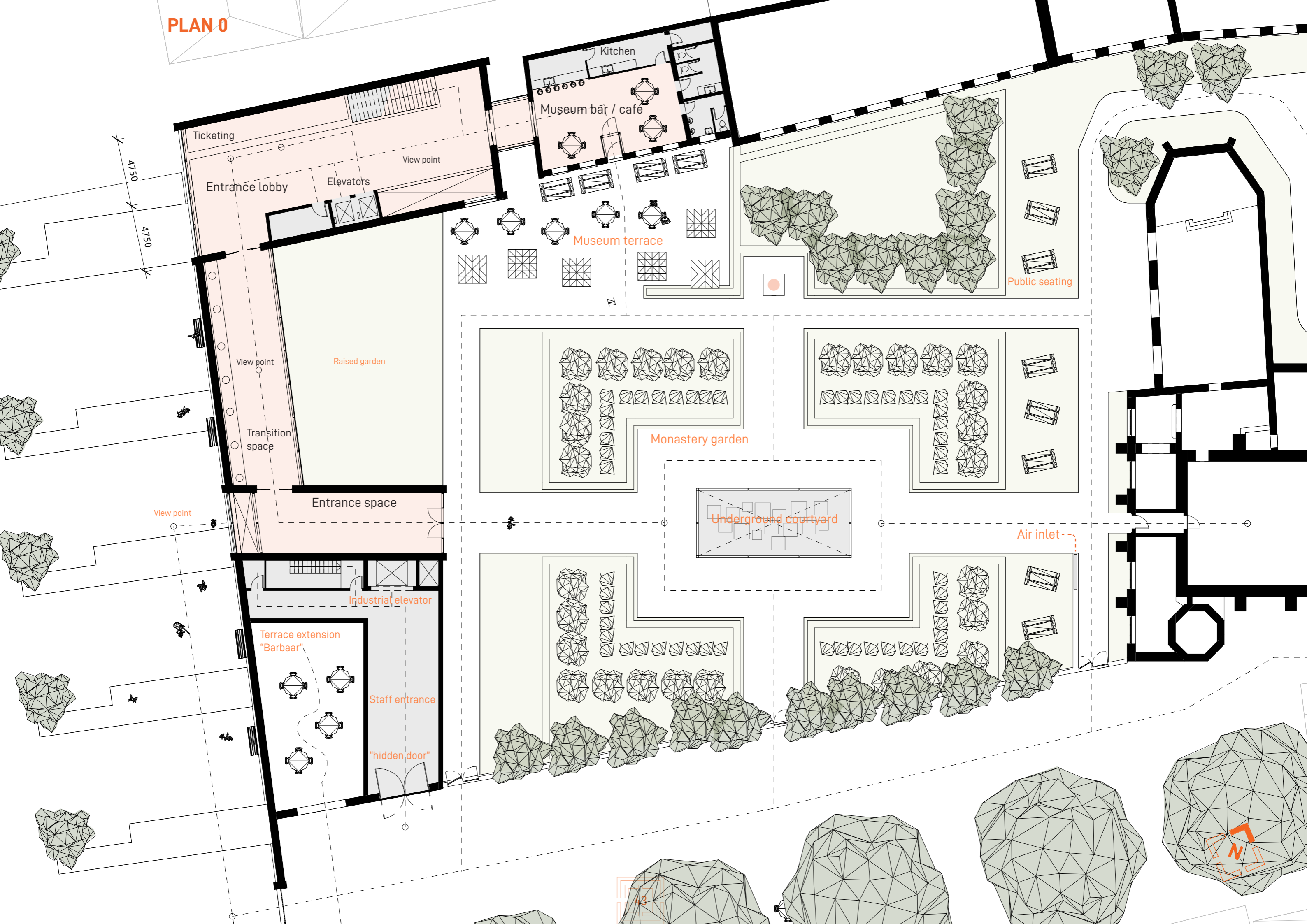
OFFICES P.H.

CURRENT MUSEUM P.H.

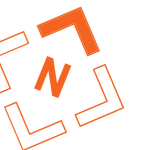
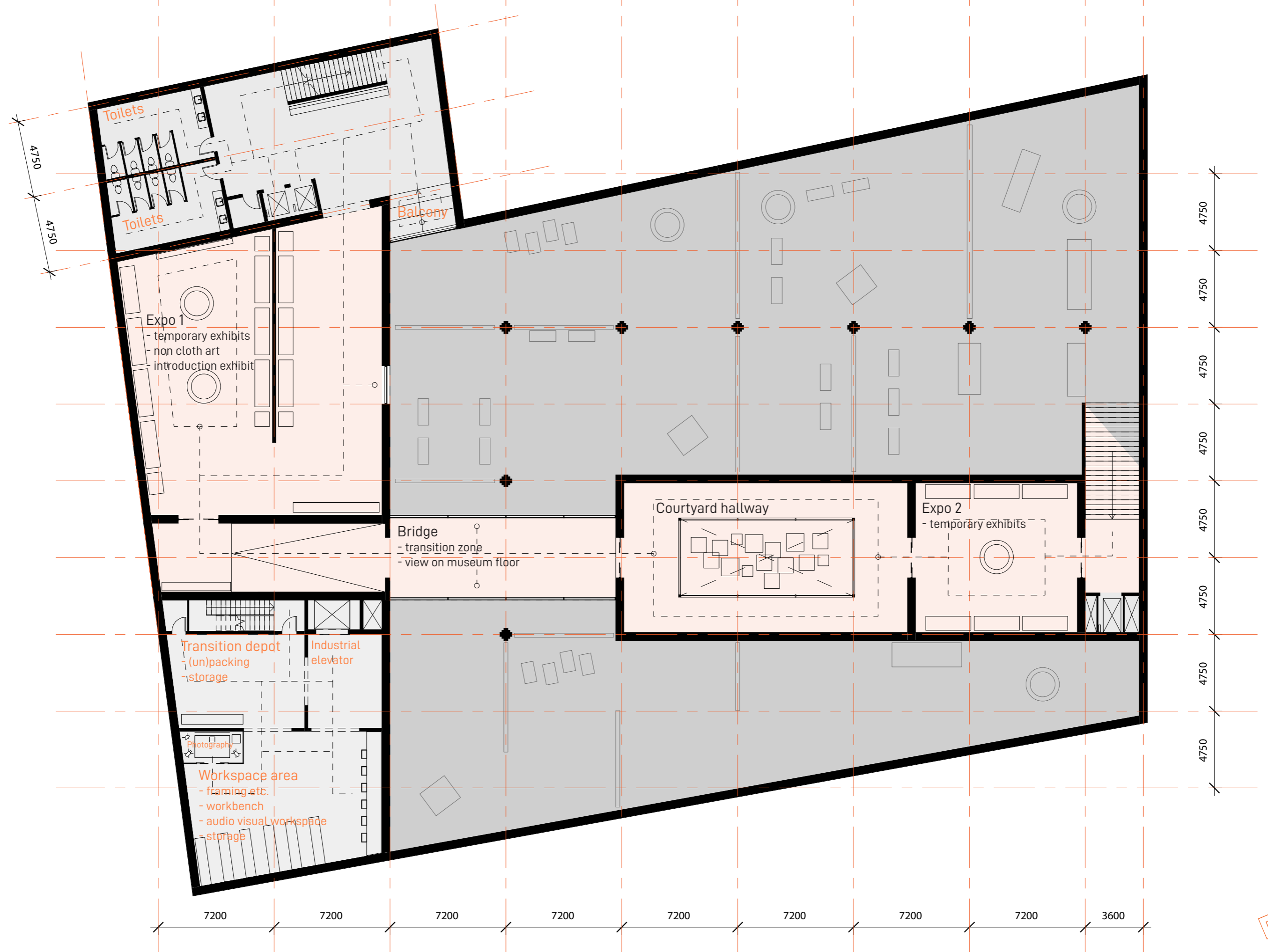
NEW CULTURAL HUB DELFT



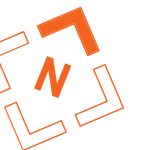
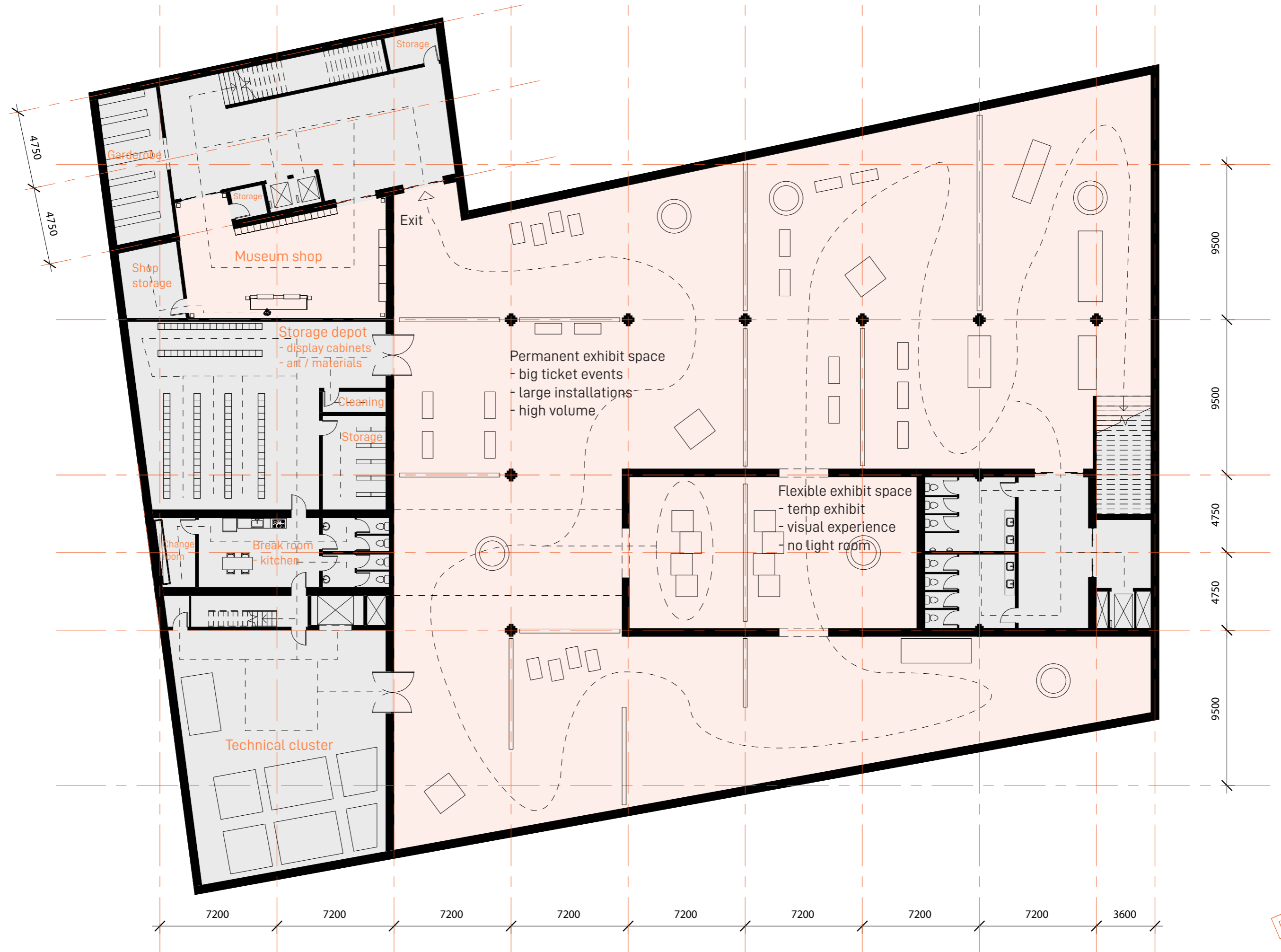
PLAN 0



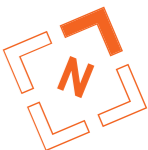
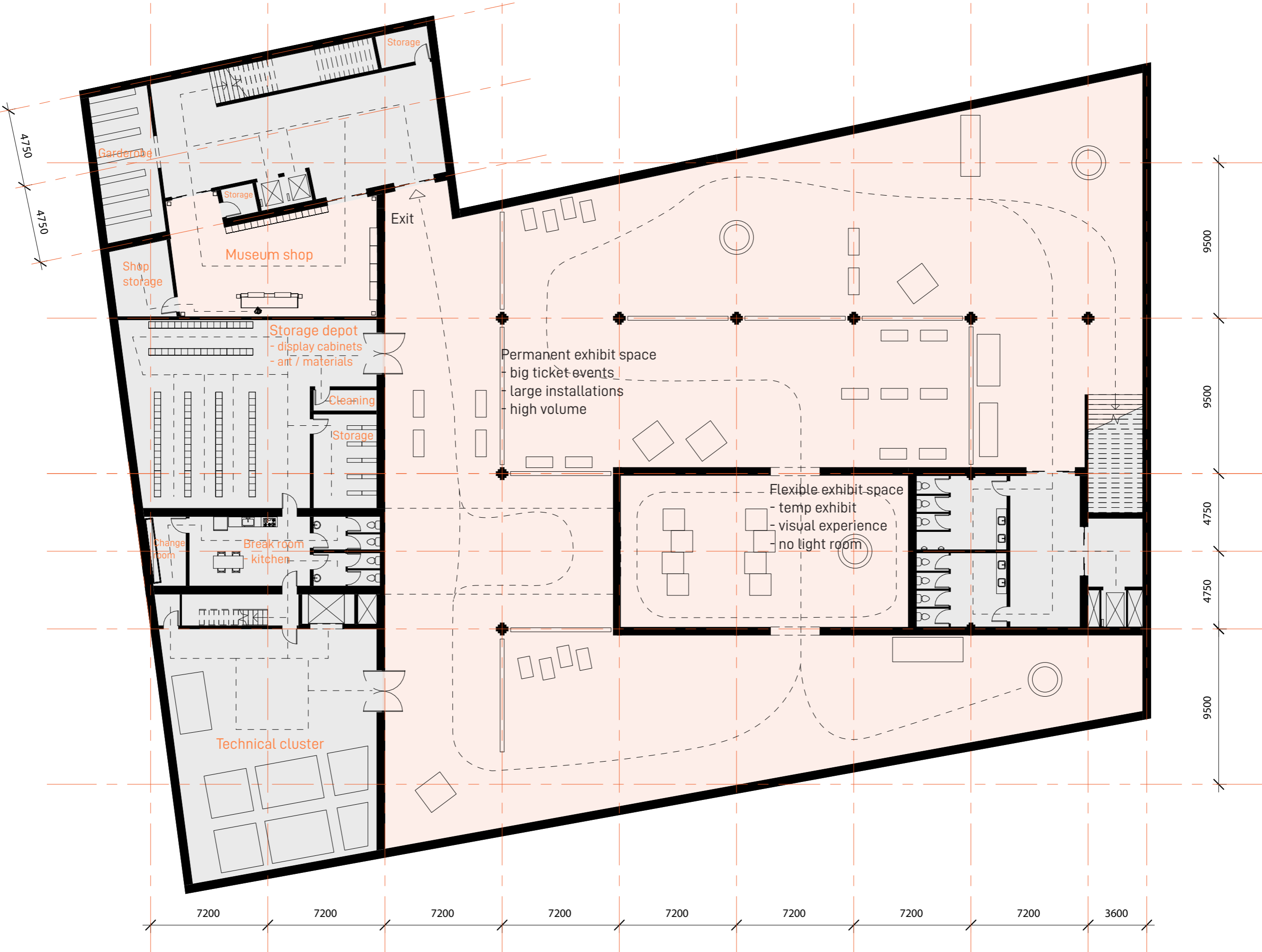
PLAN -3800



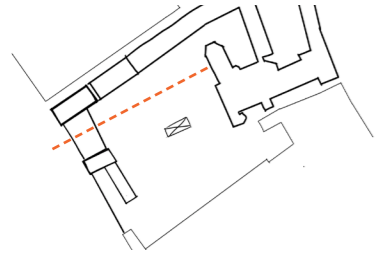
PLAN -9000



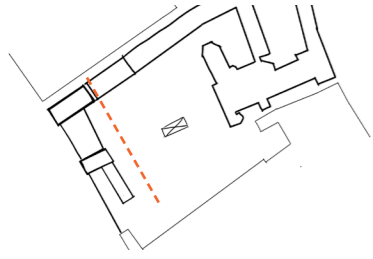
PLAN -9000 alternate



3D SECTION 1



3D SECTION 2



SEASONS



SPRING / SUMMER



WINTER

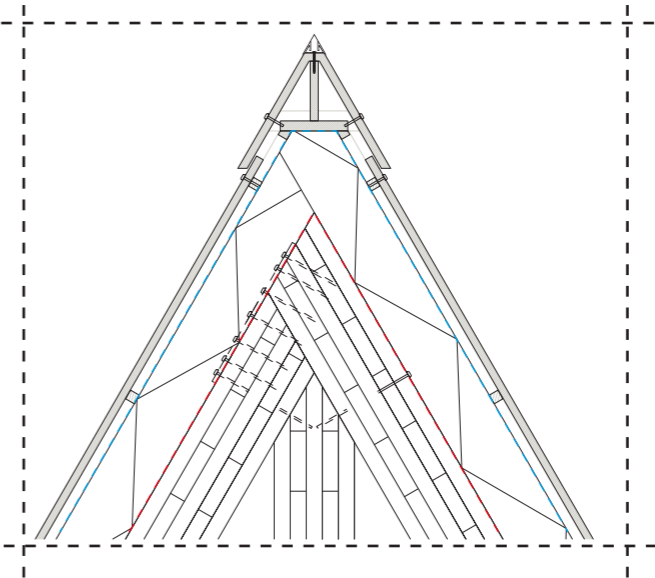


AUTUMN

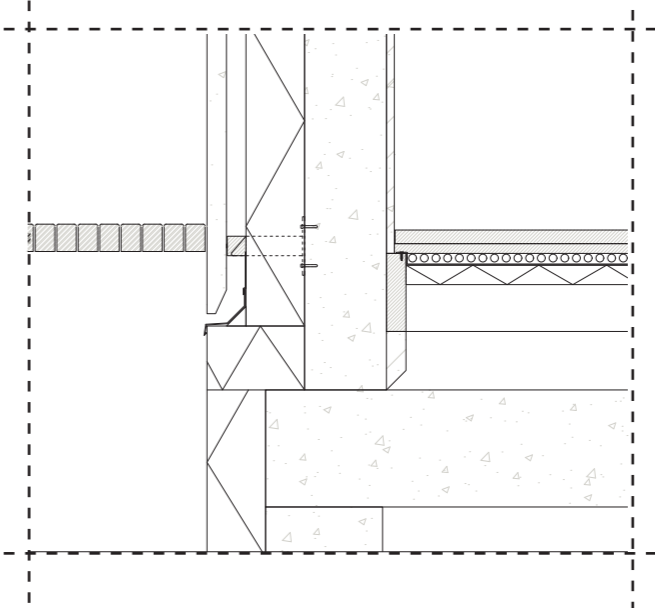
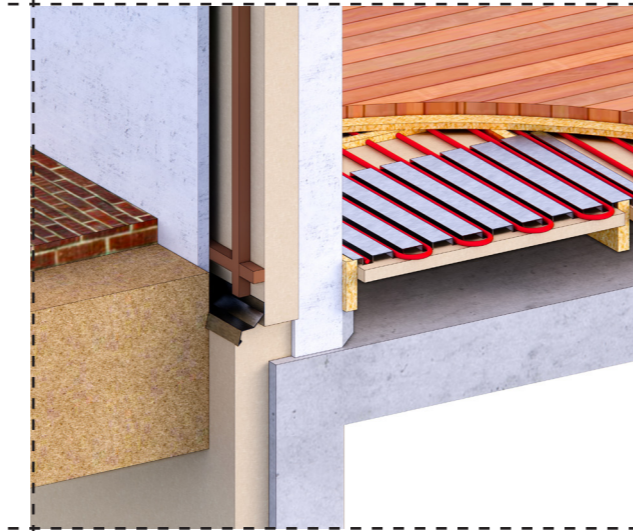
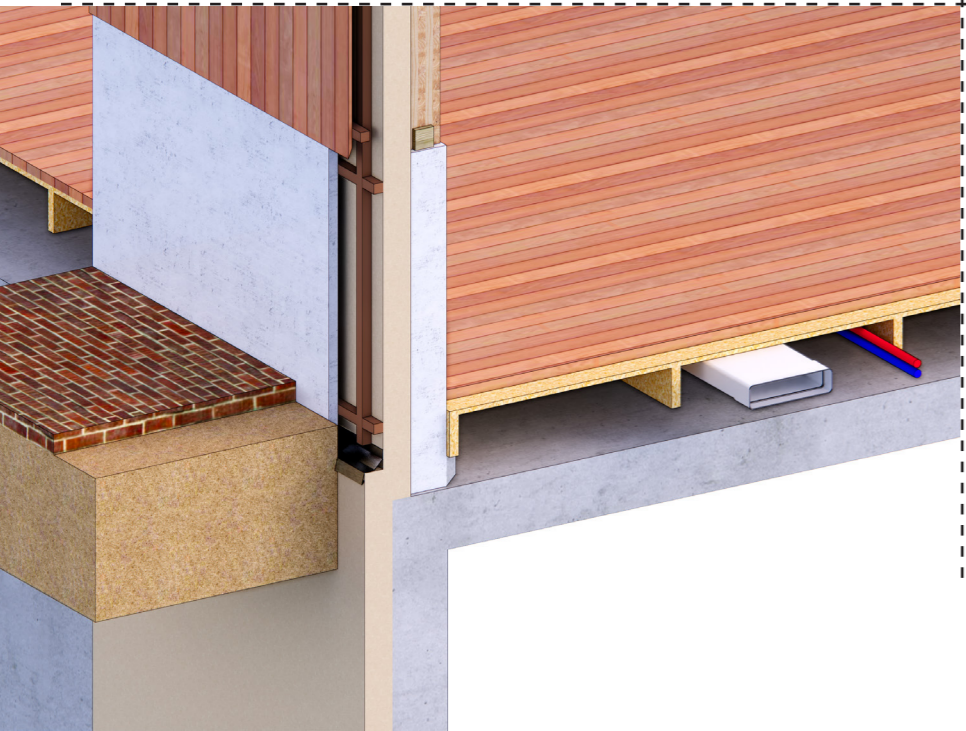
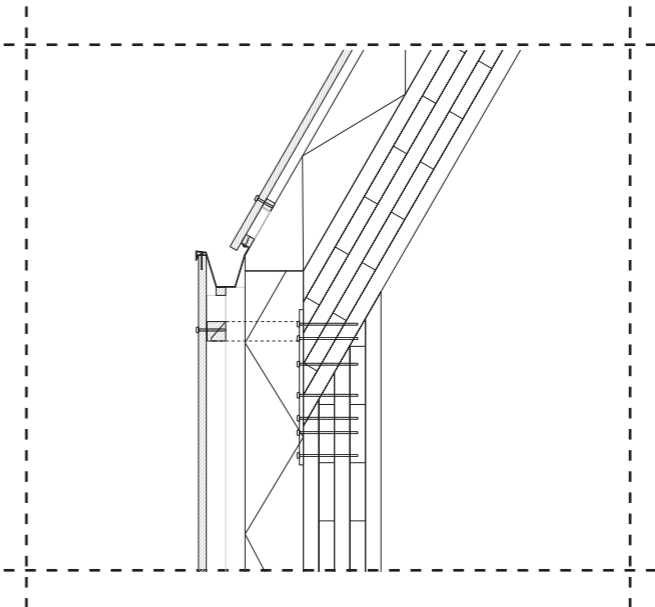
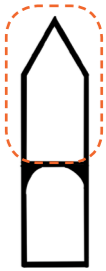
ELEVATIONS



DETAILS

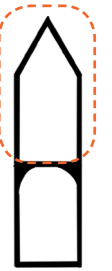


above ground



DETAILS

above ground



INTERIOR

- 20mm polished concrete finish
- 210mm reinforced concrete wall support
- Vapor barrier
- 150mm ThermaCork insulation ($\lambda = 0.0037$)
- Waterproof barrier
- Wooden stud wall system supported by metal wall tie
- 50mm polished concrete for splash rain protection

EXTERIOR

stopped gutter to prevent puddling

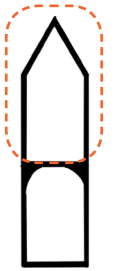
INTERIOR

- 35mm solid larch wood flooring
- 25mm MDF floor support
- Underfloor heating / cooling system
- Folded steel tray to fit heating pipes
- 50mm ThermaCork insulation with reflective foil
- 200x50mm wood support beams
- Raised floor cavity for installations
- 300mm reinforced concrete floor (cast in situ)

EXTERIOR

DETAILS

above ground



INTERIOR

- 200mm CLT constructional roof element
- Vapor barrier
- 150mm ThermaCork insulation ($\lambda = 0.0037$)
- Waterproof barrier
- Wooden stud system for roof finish support
- 20mm larch wood roof slats

EXTERIOR

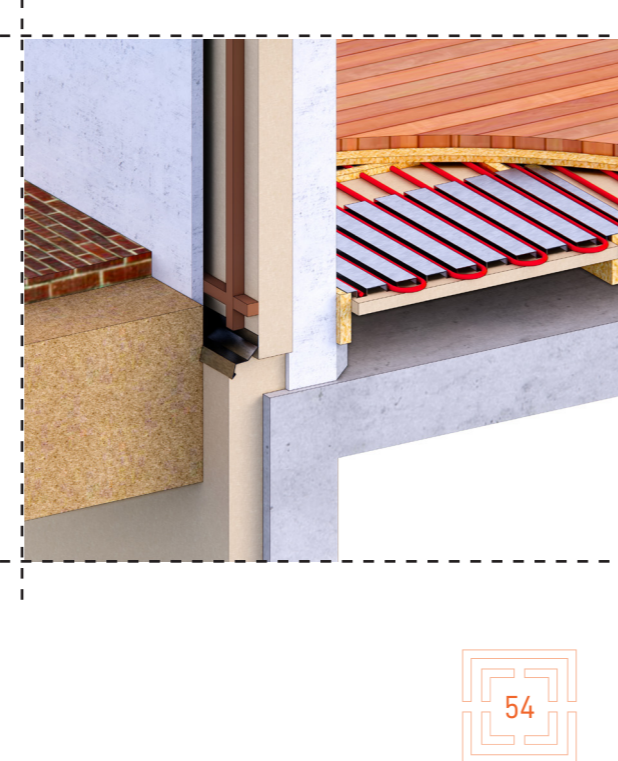
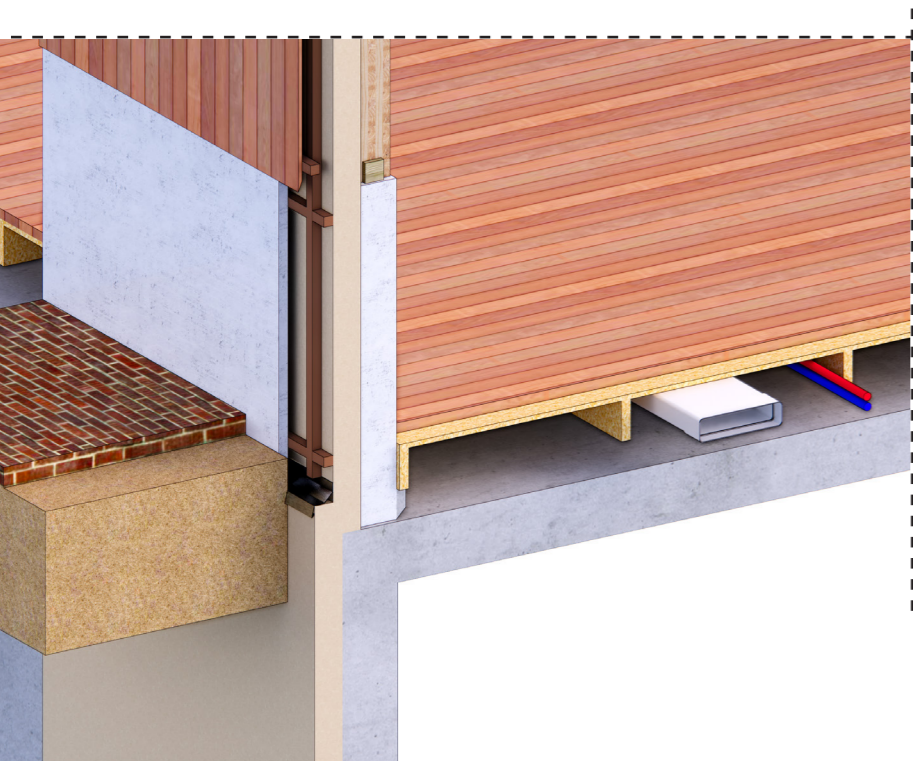
hidden rain
water gutter

INTERIOR

- 200mm CLT constructional wall element
- 200mm CLT constructional roof element
- Vapor barrier
- Steel fastening plate with bolts for CLT joining
- 150mm ThermaCork insulation ($\lambda = 0.0037$)
- Waterproof barrier
- Wooden stud wall system supported by steel wall tie
- 20mm larch wood facade slats

EXTERIOR

DETAILS

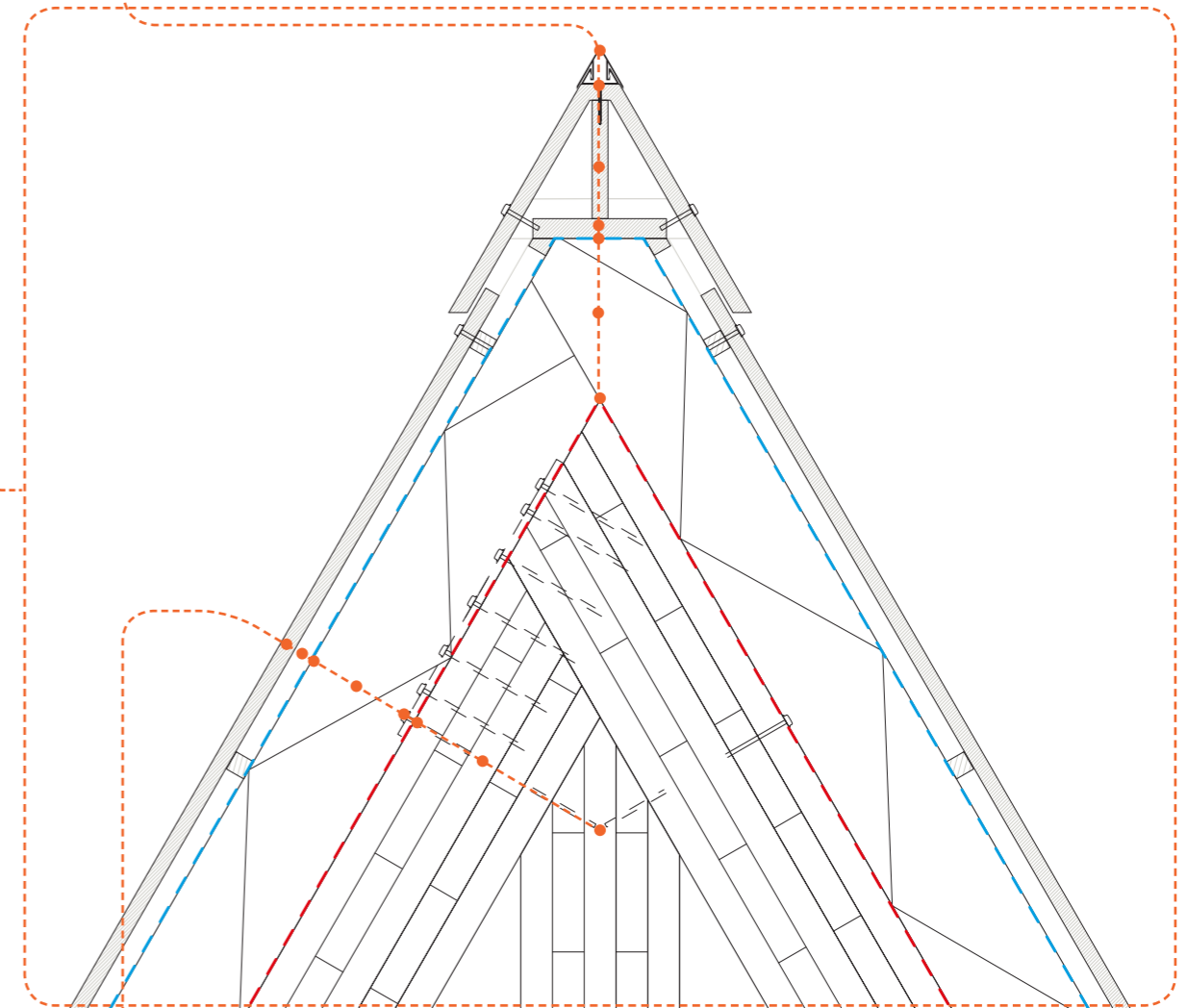
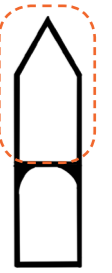


INTERIOR

- Vapor barrier
- 150mm ThermaCork insulation ($\lambda = 0.0037$)
- Waterproof barrier
- 25x170mm wood support beam horizontal
- 20x150mm wood support beam vertical
- 20mm larch wood top roof slats
- Aluminium screwed in profile
- Aluminium roof finish profile clicked in

EXTERIOR

above ground

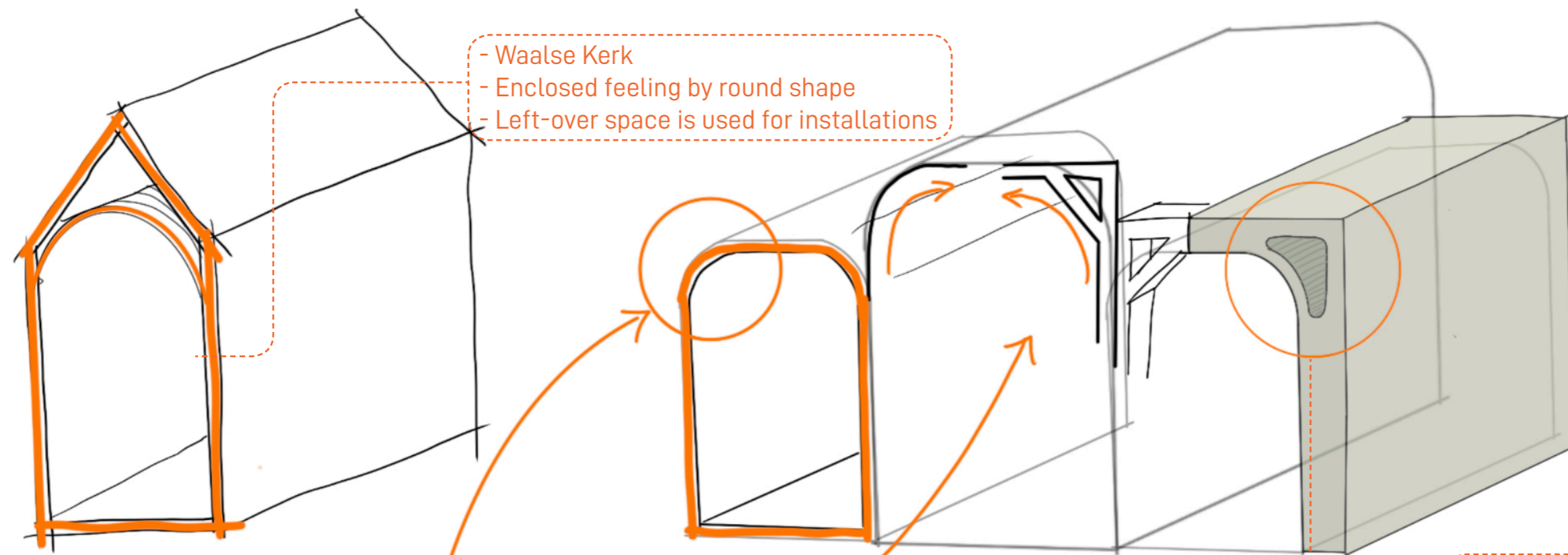


INTERIOR

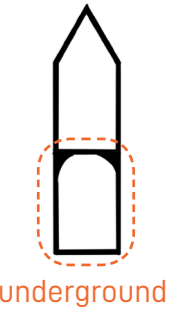
- 200x500mm CLT support beam
- 200mm CLT constructional roof element
- Vapor barrier
- Steel fastening plate with bolts for CLT joining
- 150mm ThermaCork insulation ($\lambda = 0.0037$)
- Waterproof barrier
- Wooden stud system for roof finish support
- 20mm larch wood roof slats

EXTERIOR

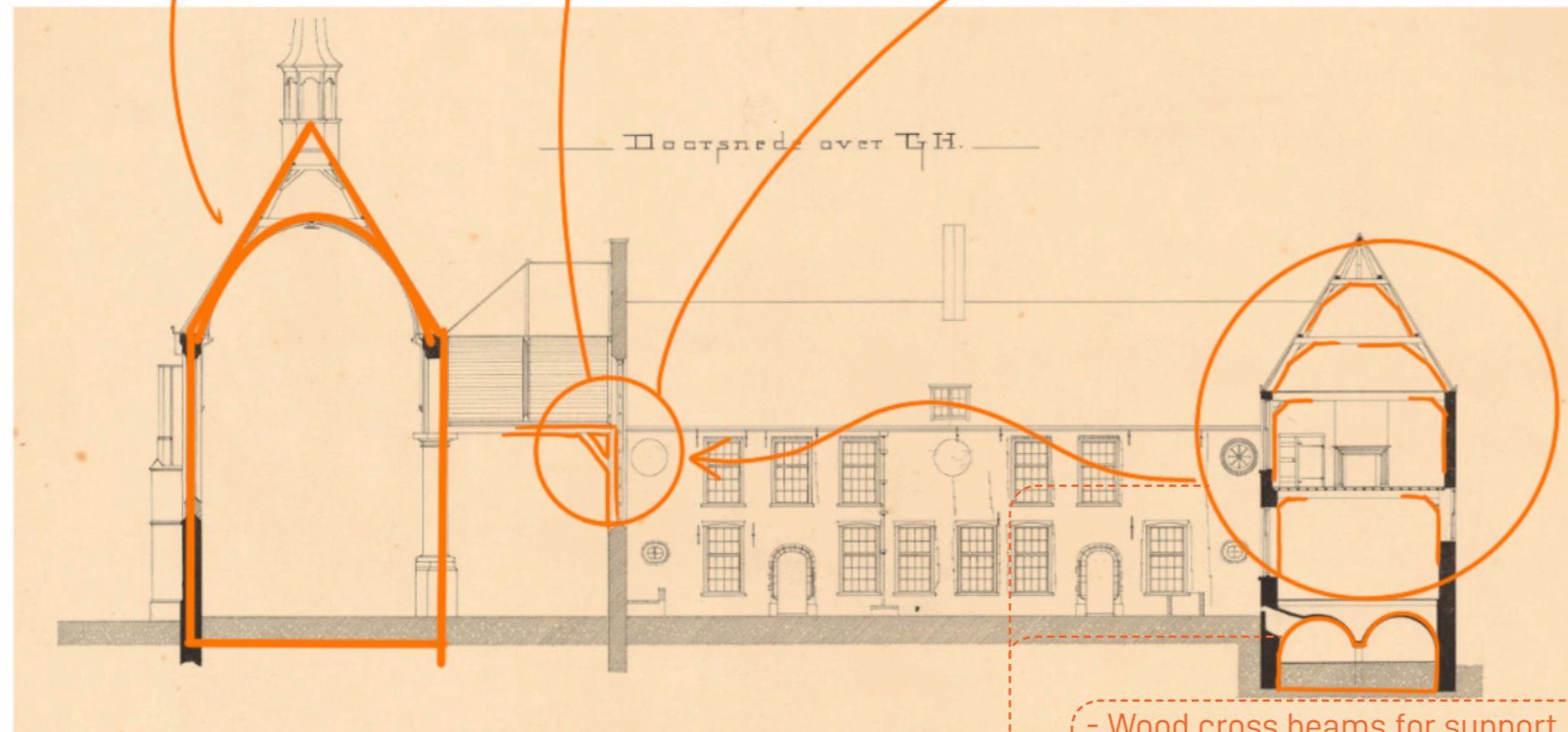
DESIGN RESEARCH UNDERGROUND



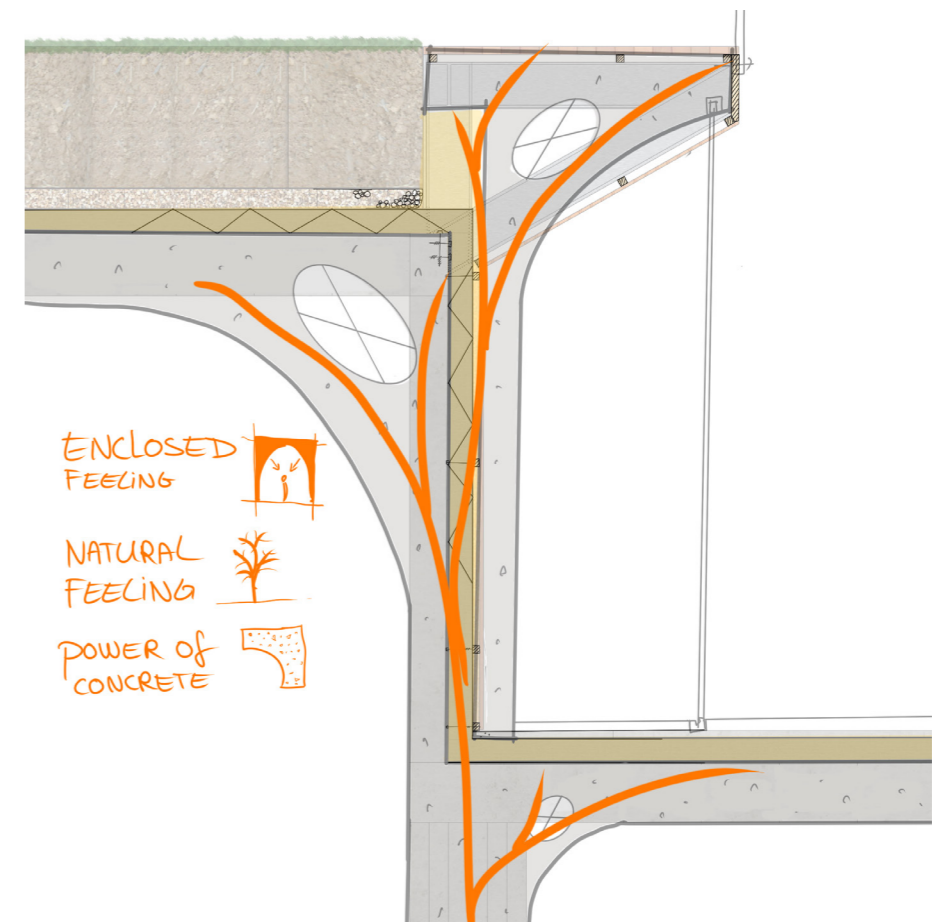
- Waalse Kerk
- Enclosed feeling by round shape
- Left-over space is used for installations



- Rounded concrete, just like basement
- Enclosed feeling by round shape
- Left-over space is used for installations

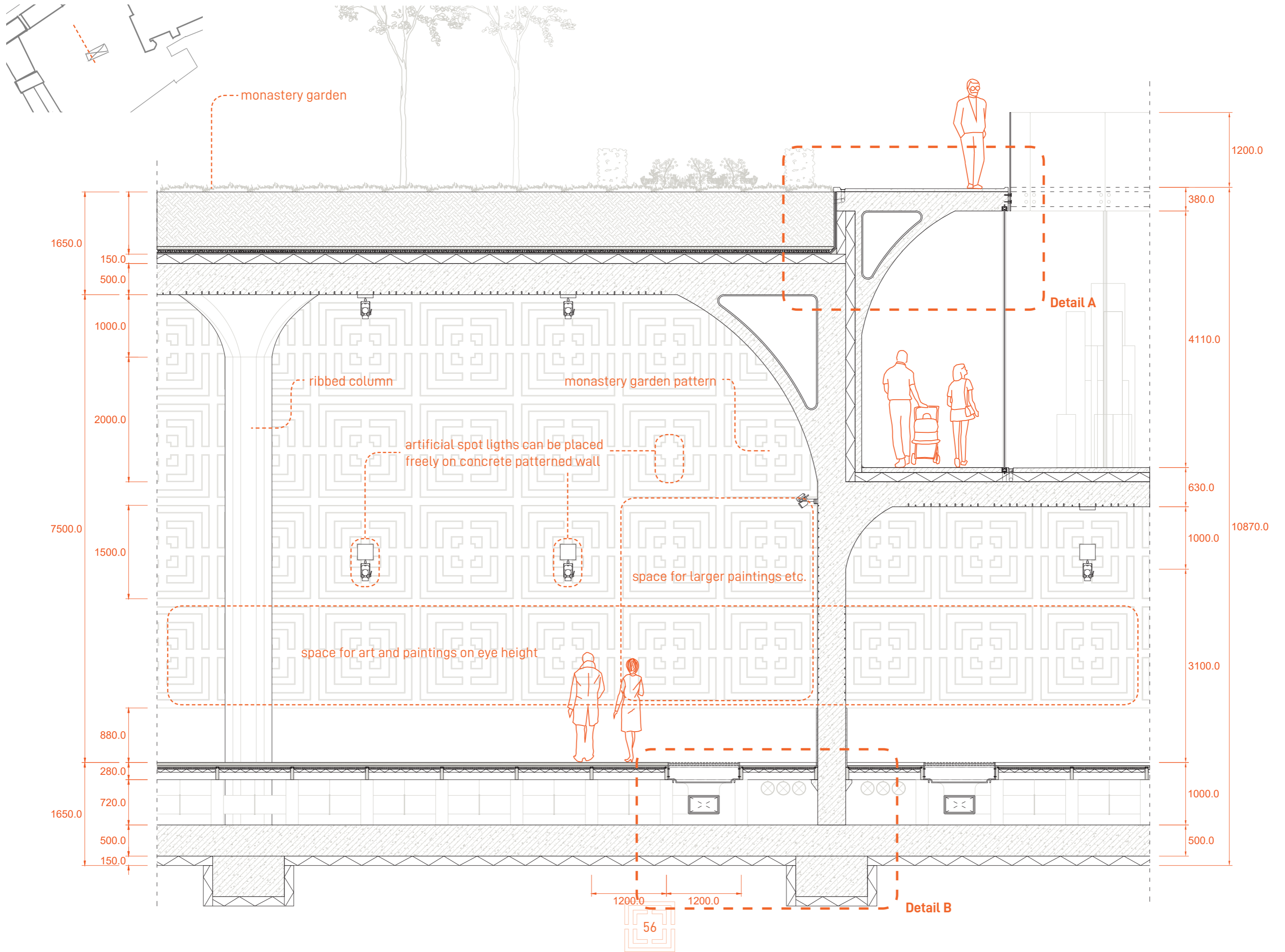


- Wood cross beams for support
- Shows craftsmanship
- Basement are rounded off

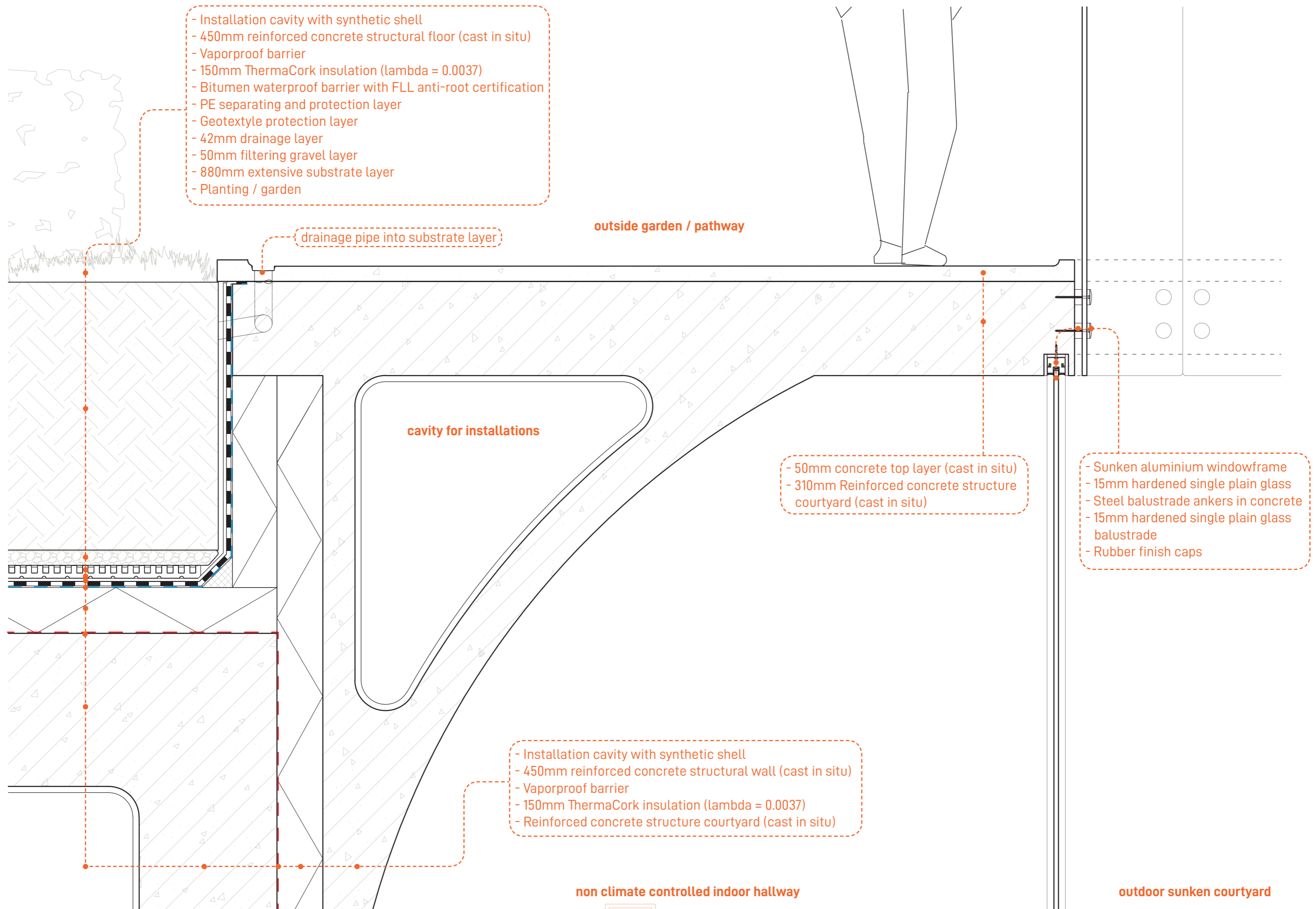


- ENCLOSED FEELING
- NATURAL FEELING
- POWER OF CONCRETE

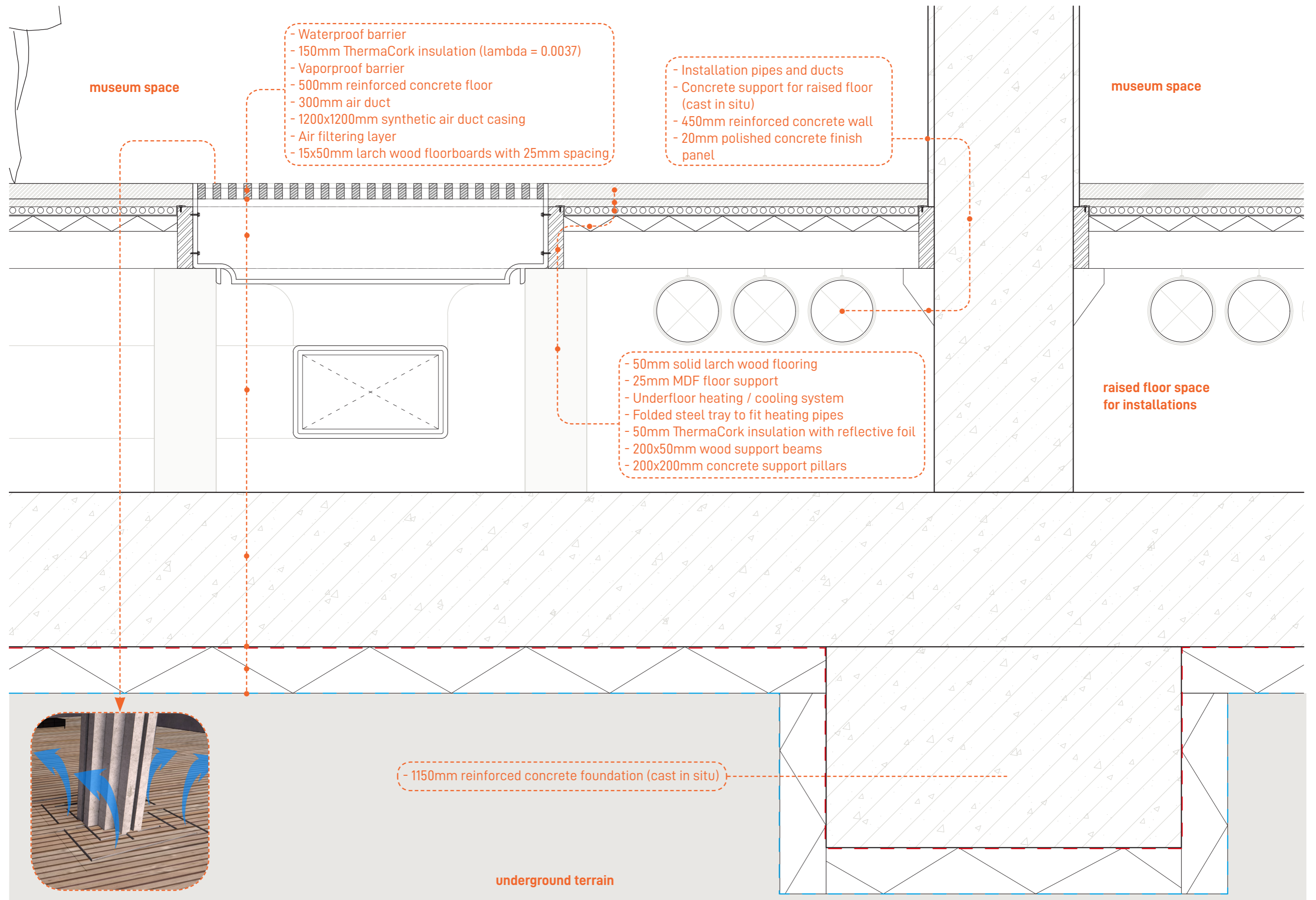
1:50 SECTION



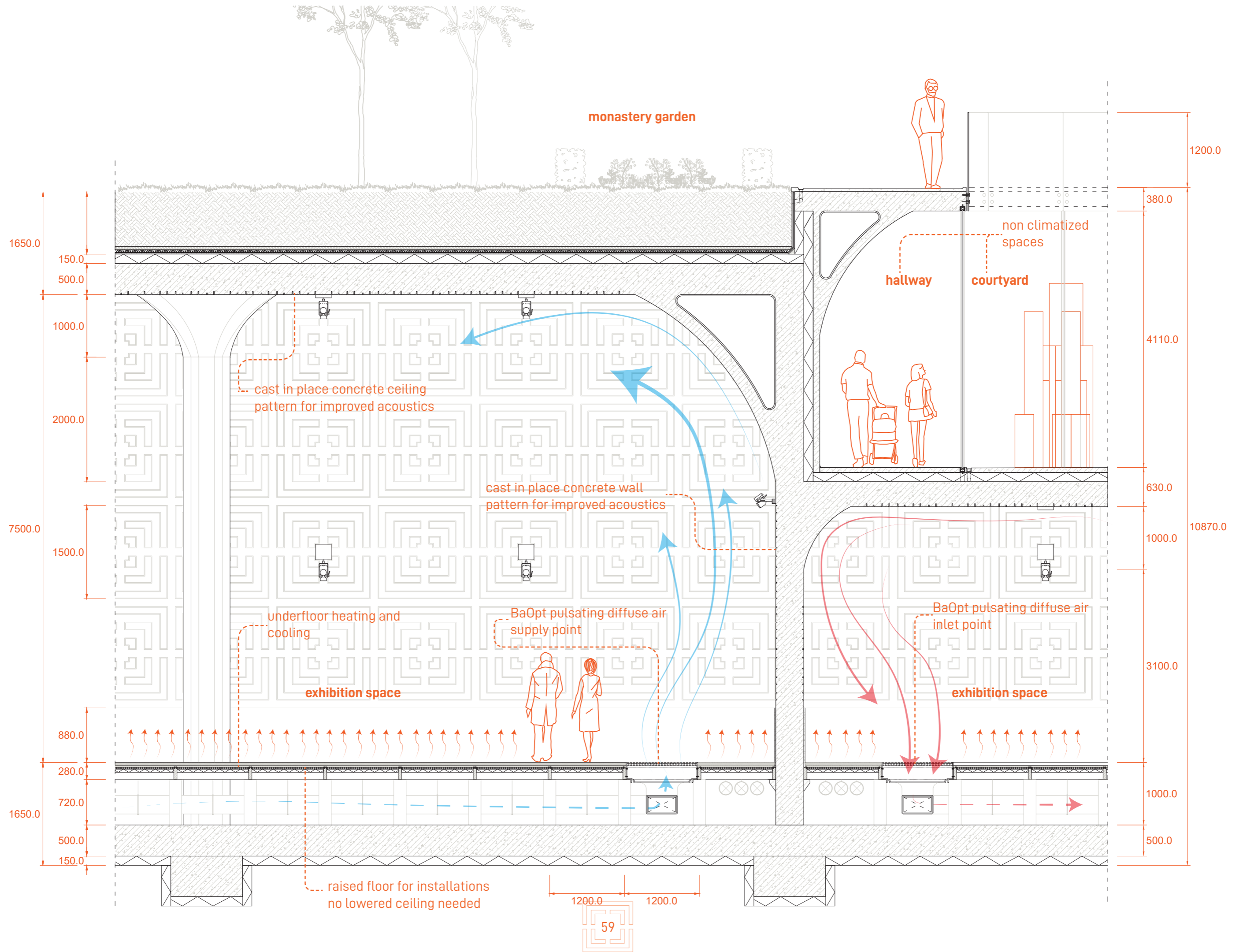
Detail A - 1:10



Detail B - 1:10



CLIMATE

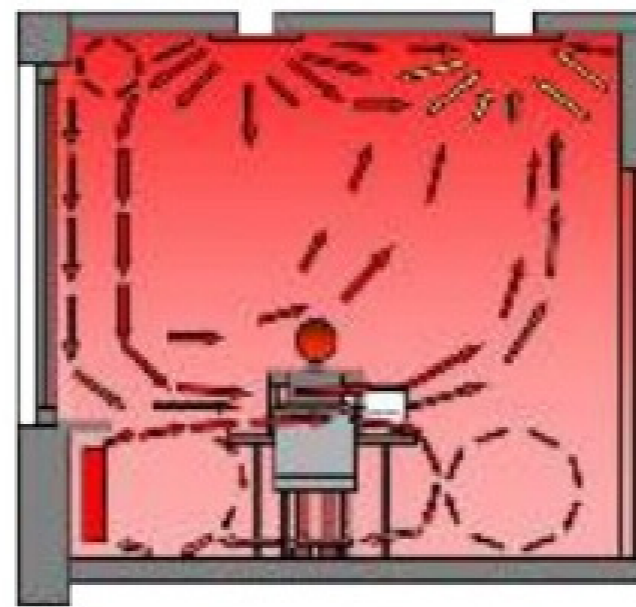


BaOpt ventilation system

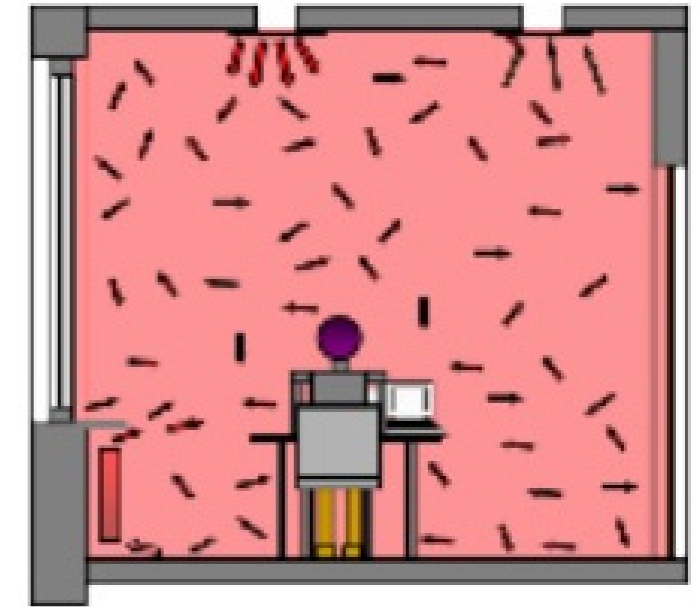
- diffuse ventilation system
- less installations needed (no lowered ceiling)
- ideal for large spaces
- pressure difference pulses of air supply instead of large continuous airflows
- works from the floor as well as from the ceiling
- can even be installed within current installations

VENTILATION AND RAISED FLOOR

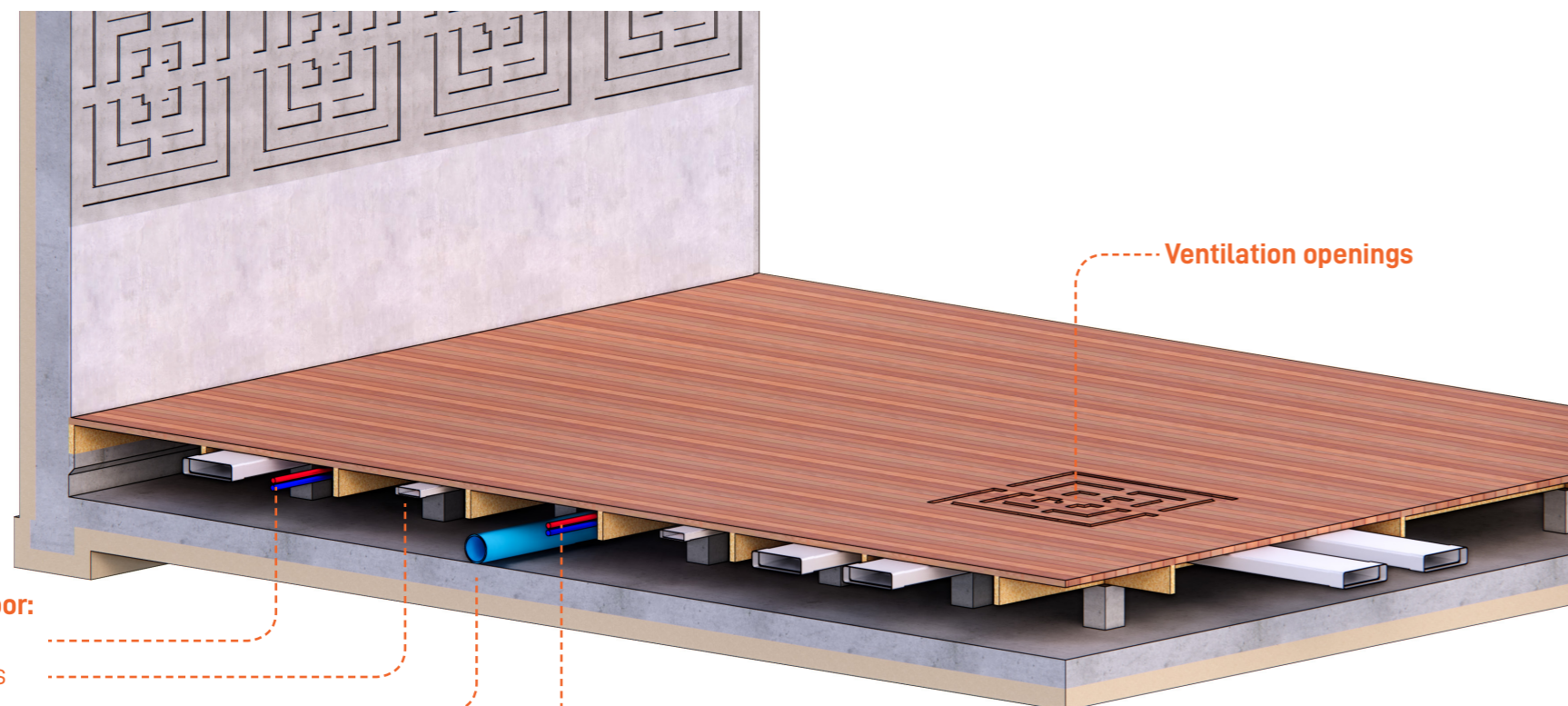
CONVENTIONAL SYSTEM



BAOPT VENT. SYSTEM



RAISED FLOOR



Raised floor:

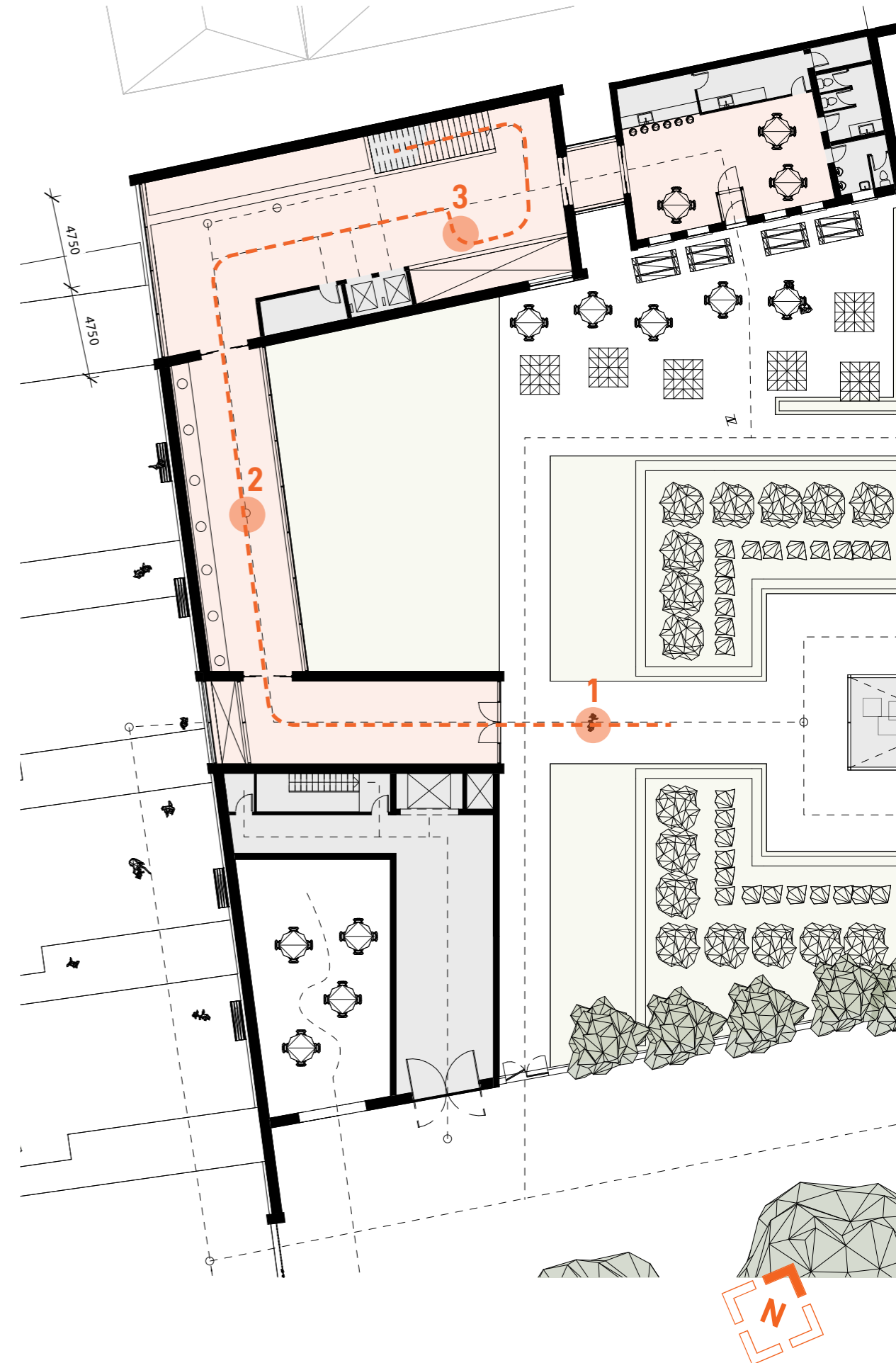
- Heating
- Air ducts
- Sewage
- Electricity

Ventilation openings

UNDERFLOOR HEATING



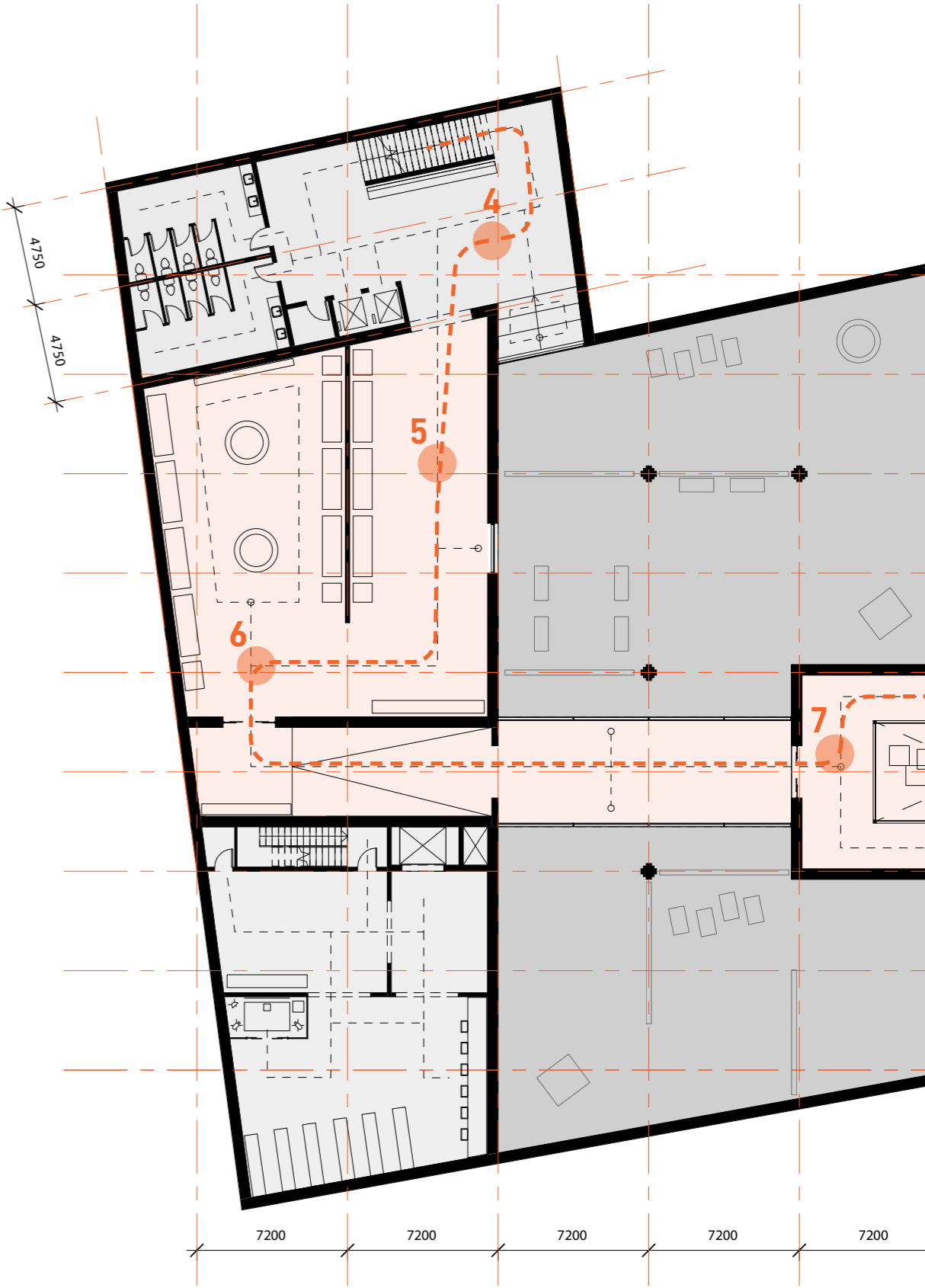
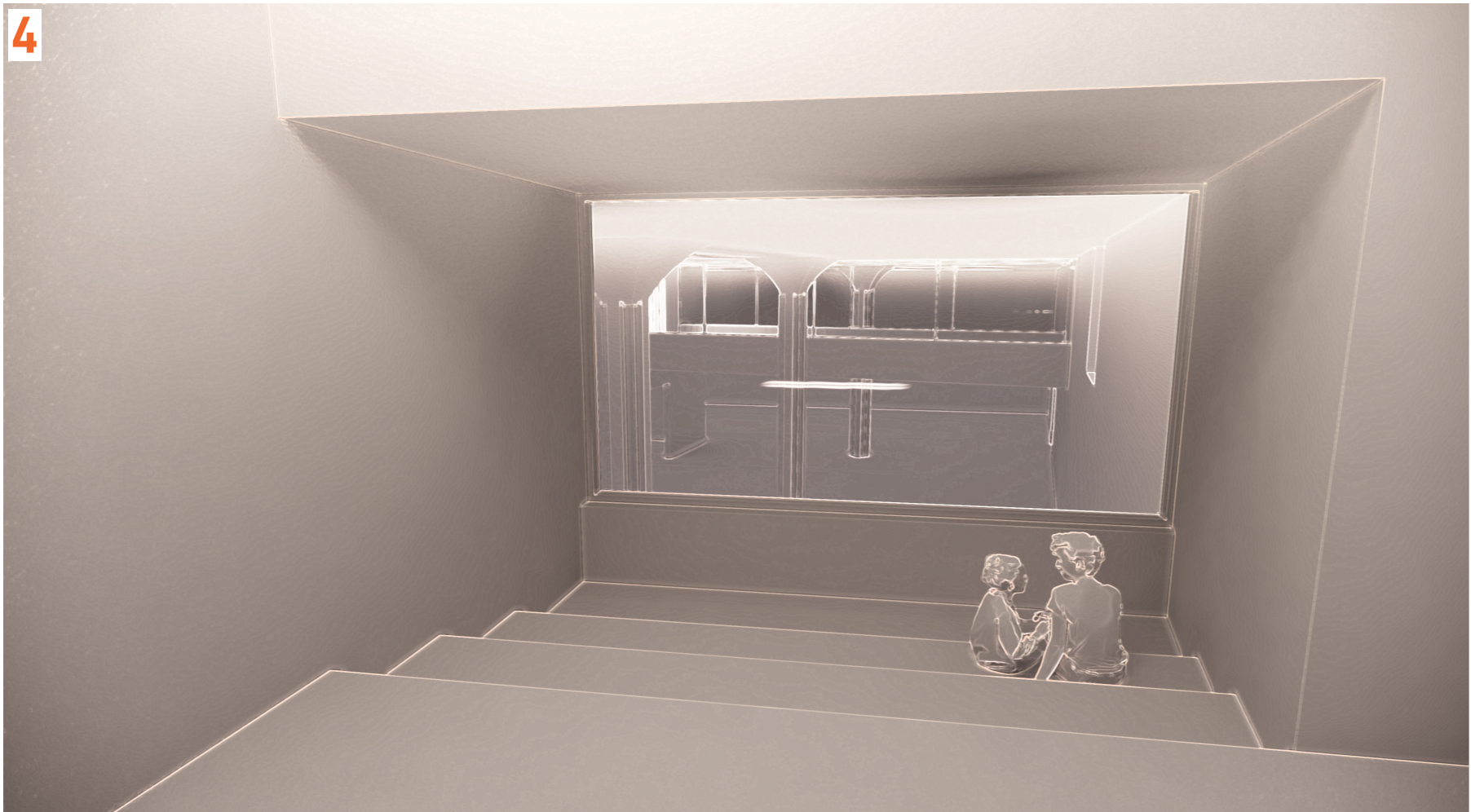
SCENIC ROUTE



3

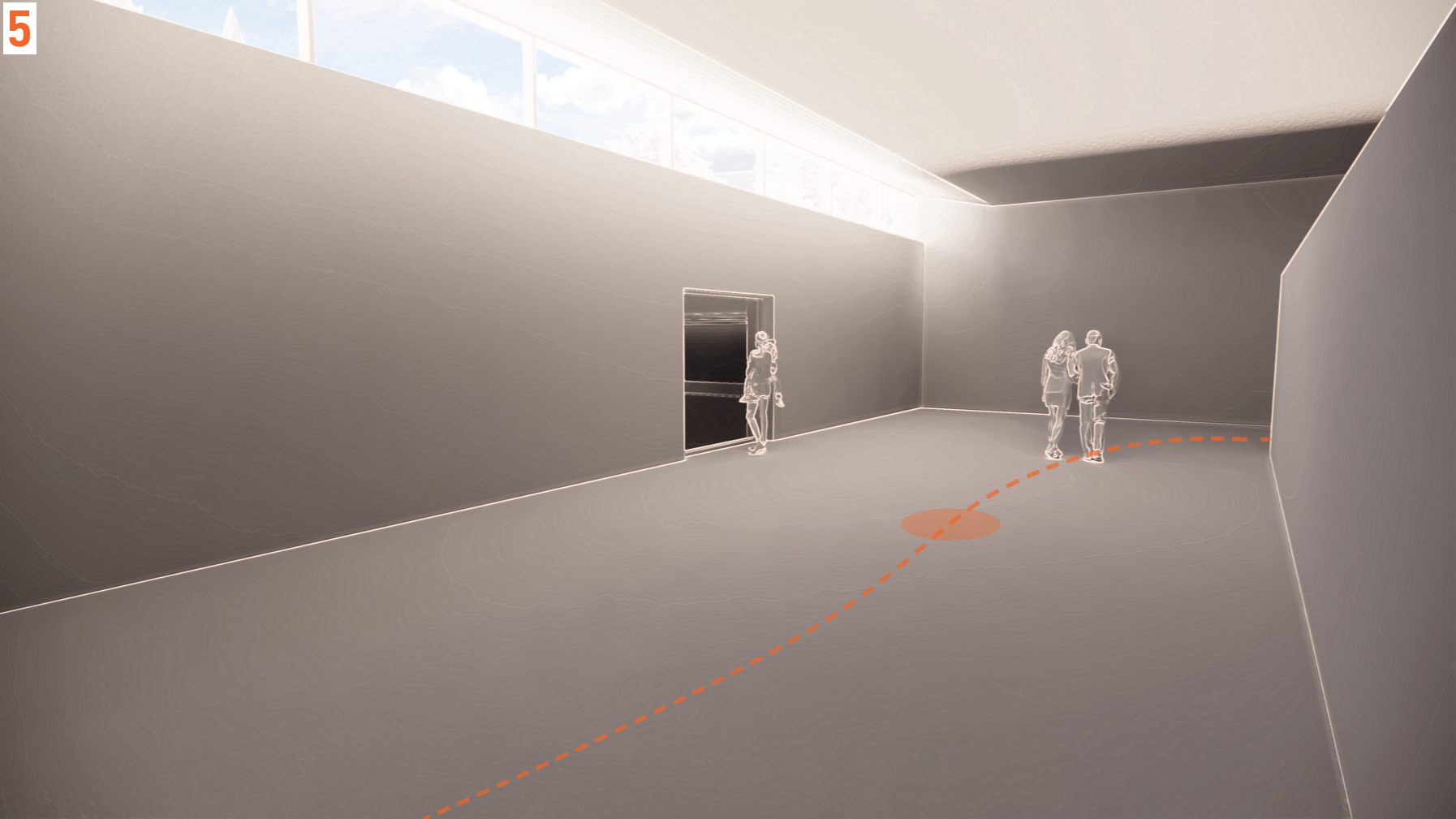


4



SCENIC ROUTE

5



6

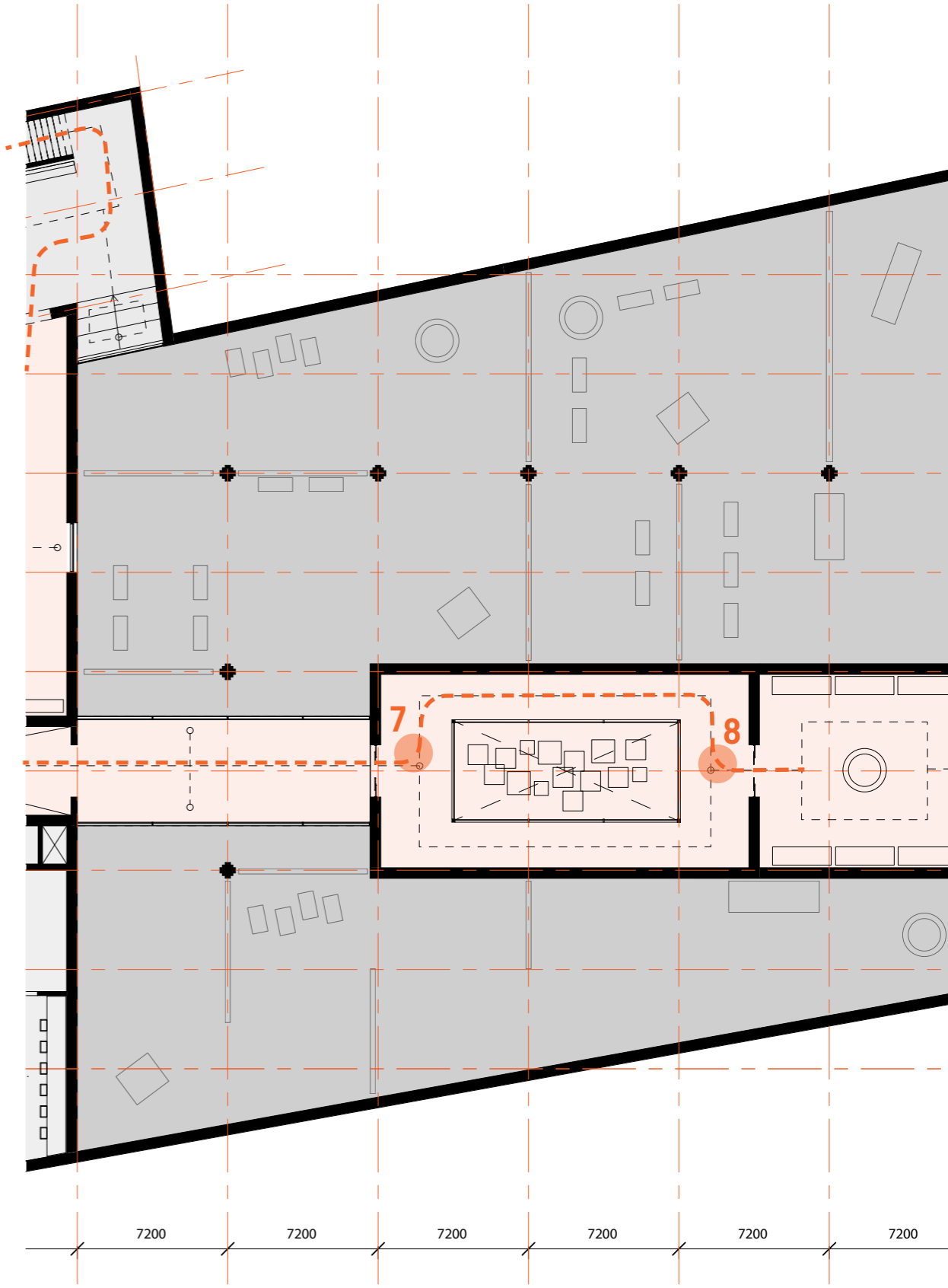
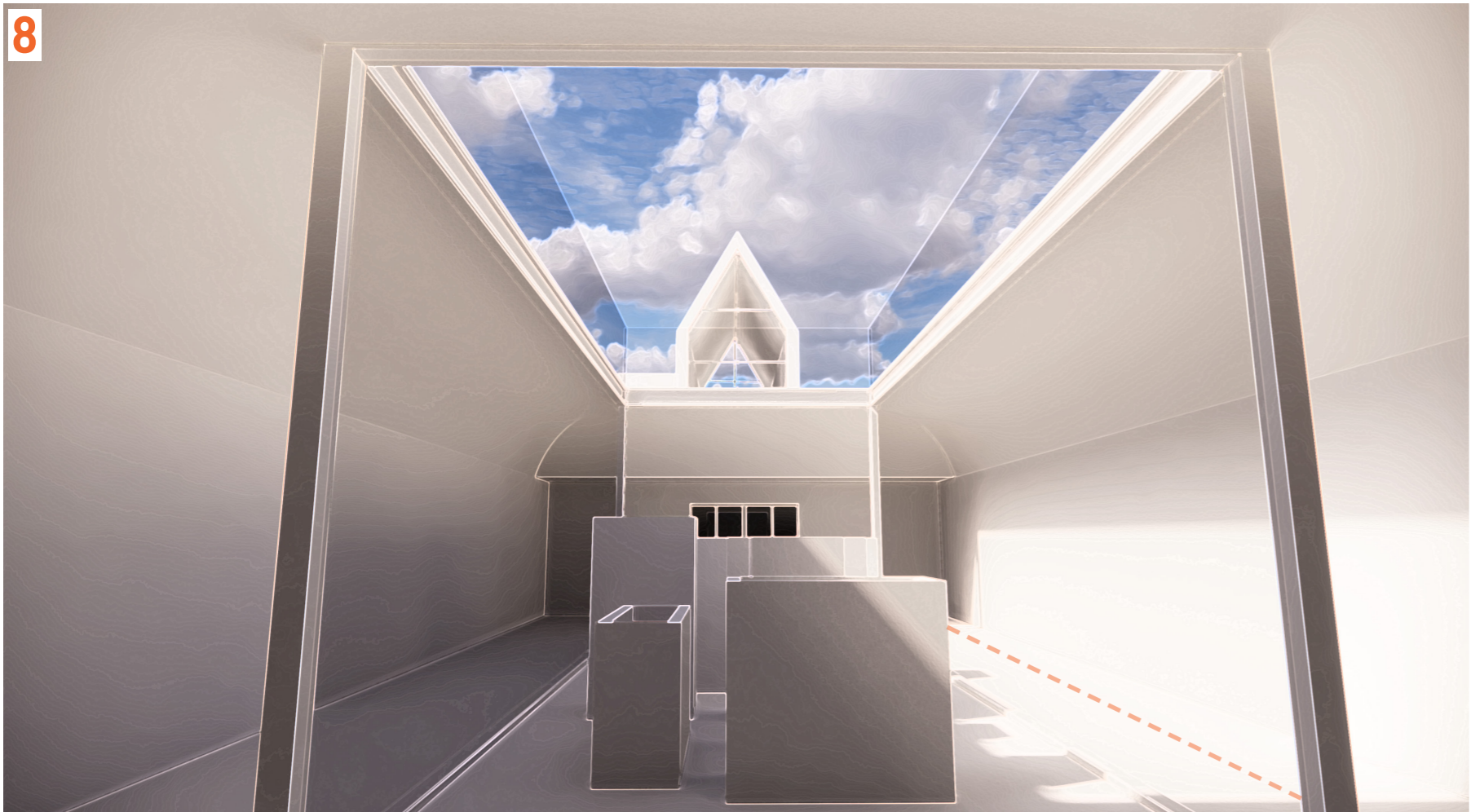


SCENIC ROUTE

7



8



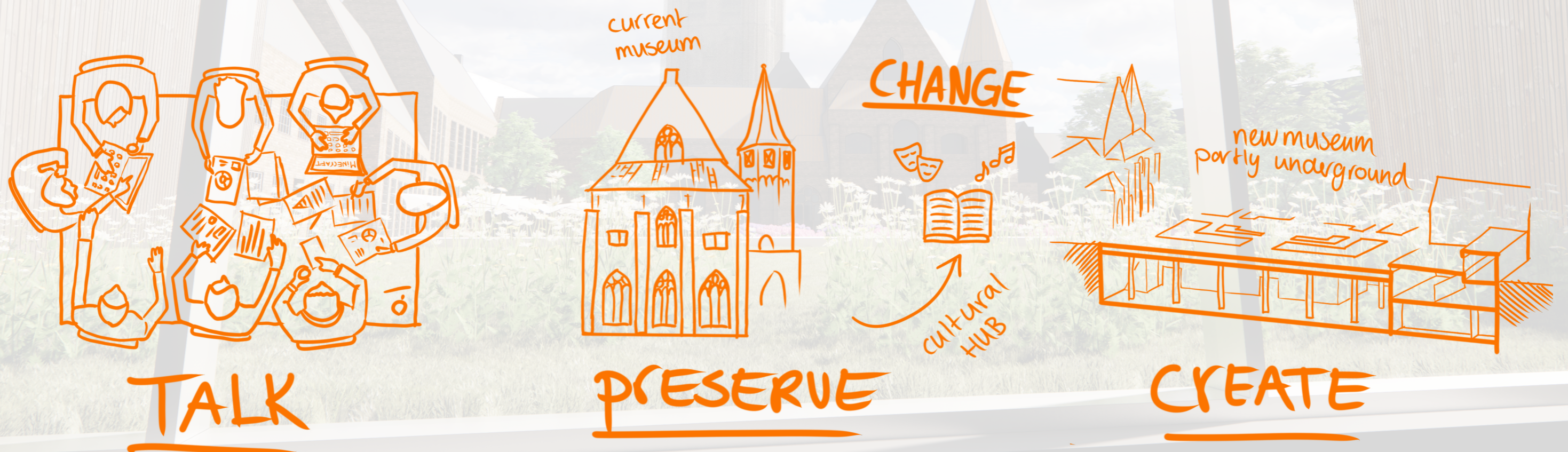


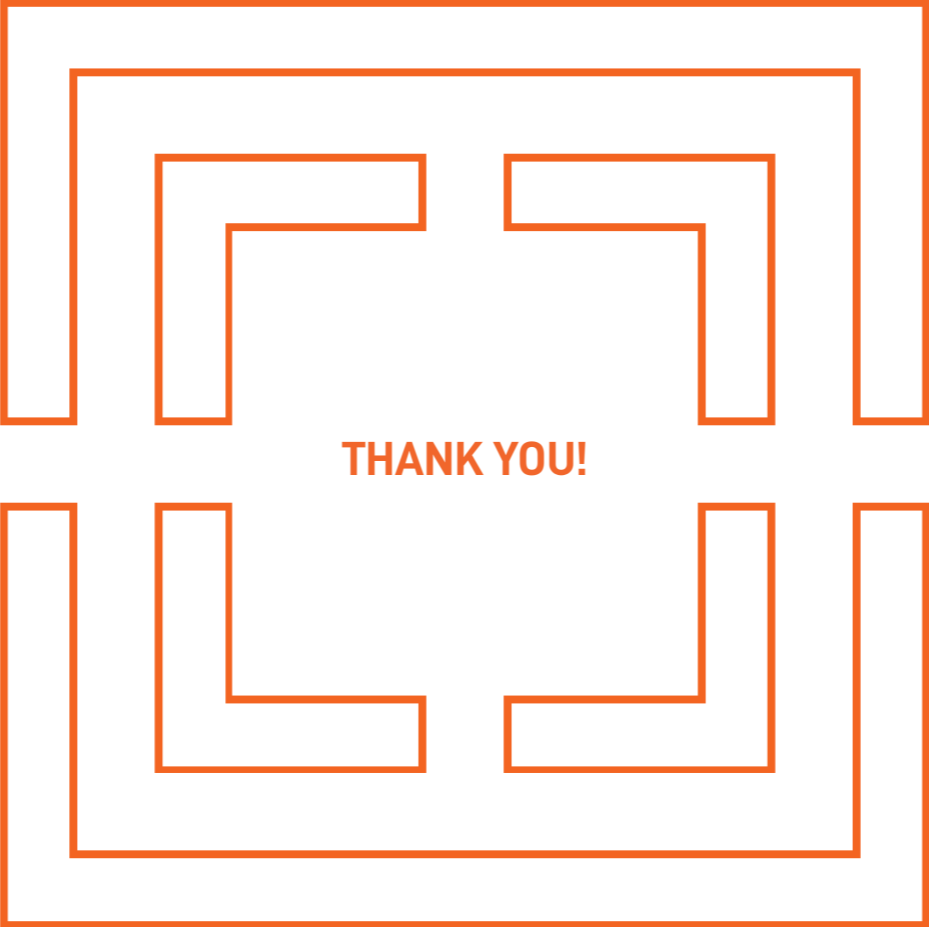
VIEW ON GARDEN



Through co-creation workshops and interviews **with stakeholders**, a well-considered value assessment was made to form **the base** for the design process.

The presented project **preserves the current** Prinsenhof building with its garden as much as possible, **adds a cultural hub** of Delft within the current complex and of course **creates a new** museum underneath the monastery garden to synergize the entire ensemble.





THANK YOU!