

BRNKY REGENERATED

Bc. Marion M. Mayfield

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Vernacular Architecture Heritage Design Studio  
Czech Technical University in Prague

Master's Diploma Project | May 2024



I would like to thank my supervisor doc. ing. arch. Tomáš Efler for his  
patience, enthusiasm, and encouragement.

I would like to thank those that without whom this path would have  
been far more difficult.

I would like to thank myself for not giving up. Ever.



<b>CZECH TECHNICAL UNIVERSITY IN PRAGUE</b> <b>FACULTY OF ARCHITECTURE</b>	
<b>AUTOR, DIPLOMANT: bc. MARION MICHELE MAYFIELD</b> <b>AUTHOR OF THE DIPLOMA WORK / DIPLOMA PROJECT</b> Academic Year ..... <b>LS 2023 / 2024</b> ..... Semester	
<b>TITLE OF THE DIPLOMA WORK / DIPLOMA PROJECT</b> (IN CZECH LANGUAGE) <b>Adaptive Reuse of Brnky Castle Area, Prague / Regenerované Brnky</b> <b>TITLE OF THE DIPLOMA WORK / DIPLOMA PROJECT</b> (IN ENGLISH LANGUAGE) <b>Adaptive Reuse of Brnky Castle Area, Prague / Brnky Regenerated</b> <b>LANGUAGE OF THE DIPLOMA WORK / DIPLOMA PROJECT: ENGLISH</b>	
<b>Diploma Work / Diploma Project Supervisor</b>	<b>Ústav/ Department: DEPARTMENT OF ARCHITECTURAL CONSERVATION</b>  <b>doc. Ing. arch. TOMÁŠ EFLER</b>
<b>Diploma Work / Diploma Project Opponent</b>	<b>Ing. arch. TOMÁŠ KOCOUREK</b>
<b>Key Words (Czech)</b>	<b>conservation, adaptive-resuse, heritage, / konzervace, adaptace, památka</b>
<b>Annotation (Czech)</b>	<p>Předmětem této diplomové práce je areál zámku Brnky a bývalého hospodářského dvora a zemědělských pozemků. Zámek je srdcem obce Brnky, v blízkosti Prahy. Dlouho opomíjená stavba má komplikovanou historii, která přispěla k jejímu současnému neutěšenému stavu. Od roku 1958 je zámek památkově chráněn.</p> <p>Návrh intervencí v tomto projektu si klade za cíl zachování a znovuoobnovení identity místa a rehabilitace historické hodnoty zámeckého souboru a zároveň vytvoření víceúčelového areálu, ve kterém dochází k propojení a naplnění potřeb současných i budoucích generací lokality Brnky; revitalizuje a regeneruje to, co bylo kdysi tvořilo centrum obce.</p>
<b>Annotation (English)</b>	<p>The subject of this diploma thesis is the premises of Brnky castle and its former agricultural farm complex and grounds. The castle is the heart of the village of Brnky, close to Prague. Long neglected, the structure has a complicated history which has contributed to its current derelict state. The castle has been under monument protection since 1958.</p> <p>The interventions in this project aim to maintain and reestablish the identity and historic value of the castle grounds, while creating a multi-purpose site that engages with and meets the needs of present and future generations of Brnky; revitalizing and regenerating what had once been considered the village center.</p>

## The Author's Declaration

I declare that I have elaborated the submitted diploma work / diploma project independently and that I have stated all the used information sources in coherence with the "Methodological Instruction for Ethical Preparation of University Final Works".

(The complete text of the methodological instruction is available for download on <http://www.fa.cvut.cz/En>)

In Prague on ..... **24.5.2024** .....  ..... Signature of the Diploma Project Author

*This document is an essential and obligatory part of the diploma project / portfolio / CD.*



Czech Technical University in Prague, Faculty of Architecture

## ASSIGNMENT of the Diploma project

Master's degree

Name and surname: Bc. Marion M. Mayfield  
Date of Birth: 05.11.1982

Academic Year/ Semester: 2023/2024 Summer Semester

Department Number/ Name: 15114 Department of Architectural Conservation

Diploma Project Leader: doc. Ing. arch. Tomáš Efler

### Diploma Project Theme:

See the Application Form for DP

### Assignment of the Diploma Project:

1/ Description of the project assignment and the expected solution objective:

The village of Brnky is located to the north of Prague, east of the Vltava, and is part of the Zdiby municipality. Within the village is the long neglected Brnky Castle that has been under monument protection since 1958. The structure has a complicated history which has contributed to its current derelict state.

The village has had some recent improvements to the green spaces adjacent to the castle site. Part of the goal of this project is to better integrate the castle site with its surroundings, incorporating suggested amenities, and revitalizing what had once been the village center.

The valid urban plan from 2010 will be referenced along with the anticipated changes according to the newly prepared urban plan of the Zdiby municipality.

The castle site historically contained a farmyard, gardens, and orchards which will be reintroduced, according to the design, with an emphasis on regenerative, biodynamic, symbiotic, and ecologically friendly practices.

A multi-purpose site and structure that engages and meets the needs of present and future generations.

Castle structure proposed program includes (potentially): Reconstruction of the chapel within the castle structure which could be used as an events space (wedding venue), accommodation, and farm-to-table restaurant.

New structures program (potentially): Community center, local amenities/ public service functions, educational greenhouses, storage/ farm yard facilities.



Castle site and structure interventions will aim to maintain and reestablish the identity and historic value they bring to the village of Brnky, while implementing elements of sustainability and positive reengagement with the community and visitors/tourists of the area.

2/ Description of the final result, outputs, and elaboration scales:

Introduction, history, analysis of site and situation  
Site integration in accordance with the old (valid) and new urban plan  
Information about project goals and regenerative agriculture  
Reference/ precedent projects  
Drawing of wider relations 1: 10 000- 1: 20 000  
Design situation, wider urban plan 1:500- 1:2000  
Plans, sections, elevations 1:100-1:500  
Materiality/ mood  
Interior and exterior visualizations

2 copies printed portfolio in A4 format  
4 x A1 sheets of required drawings for exhibition and defense of project

3/ List of further agreed-upon parts of the project (model):

Physical model of the design solution

To this list further attachments can be added according to necessity.

Date and Signature of the Student: 19.02.2024

*Marion Mayfield*

Date and Signature of the Diploma Project Leader:

*Tomáš Efler*

Date and Signature of the Dean of FA CTU:

*Ilja Šavíř*

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Introduction

## Location



The subject of this diploma thesis is the premises of Brnky castle and its former agricultural farm complex and grounds. The site is physically situated approximately 9 kilometers north from the center Prague.

The castle is the heart of the village of Brnky, which is part of the Zdiby municipality. Long neglected, Brnky castle has been under monument protection since 1958. The structure has a complicated history which has contributed heavily to its current derelict state.

All structures aside from the castle itself no longer stand. What remains are the scattered stones of their foundations.

The goal is reference the ghosts of these structures to create a multi-purpose site that engages with and meets the needs of present and future generations, revitalizing and regenerating what had once been considered the village center.

The castle site historically contained a farmyard, gardens, and orchards which will be reintroduced, with an emphasis on regenerative, biodynamic, symbiotic, and ecologically friendly practices.

The proposed program for the conserved and reconstructed castle includes the preservation of the chapel which would be used as a wedding venue, events, and gallery space. The castle provides accomodation for these activities.

Castle site and new structure interventions will aim to maintain and reestablish the identity and historic value potential to the village of Brnky, while facilitating positive reengagement with the community and visitors/tourists of the area.



# Transport from Prague



The village of Brnky is accessible by all means of transport. However, bus routes do not run on weekends and holidays.

Transport by car is the most convenient; followed by bus on the weekdays. It is possible to arrive to the site via bicycle paths along the Vltava river.

Another option is to take the train or bus (available weekends) to Roztoky train station, walk, and take the ferry across the Vltava and continue your adventure from there.

- Car 25min/ 19.6km
- Bus 31min/ 9km (from Kobylisy)
- Bike + Walk 59min/ 237min/ 14.8km
- Alt Bike + Walk
- Train
- Ferry



## Cultural Context

The village rests upon the Prague Plateau, through which the Vltava river carves its valleys to the west of the castle site.

Brnky has the privilege of being mostly comprised within the boundary of the Dolní Po-vltaví nature park, which in itself is a tourist destination.

The plateau has traditionally been used for agricultural purposes, providing favourable locations for castles.

This local network of castles, churches, and chapels are well connected by walking and biking paths.

Proposed improved connectivity via the new urban plan has the potential to draw additional tourists to the area.

- Brnky Castle
- Castles
- Museums
- Churches + Cha-
- Ancient Hillfort
- Nature Park



## Brnky Amenities

Brnky is devoid of amenities such as local food markets, restaurants, pubs, schools, and libraries.

Residents are dependant on neighboring Zdiby for supplies and essentials. The nearest pub lies just to the north of the border of Brnky.

This provides an opportunity for the grounds of Brnky to not only provide a number of these amenities, but in a way that contributes to the well being of the members of its community.

- Bus Stops
- Train Station
- Restaurants
- Pubs
- Markets
- Education + Library
- Parks + Gardens
- Proposed Bike Path (New UP)



# Site

Brnky Castle is at the top of Roztocká street which meanders through a valley formed by the natural drainage from the plateau to the Vltava in the west.

This street is a main road, its name changing to Na Návsi and Přemžšlenska as it makes its way around the north and eastern edge of the site.

The street in front of the castle is Sedlecká cesta.

Across these streets from the castle are recently improved public greenery including a natural amphitheater.

Two important trees also reside here.

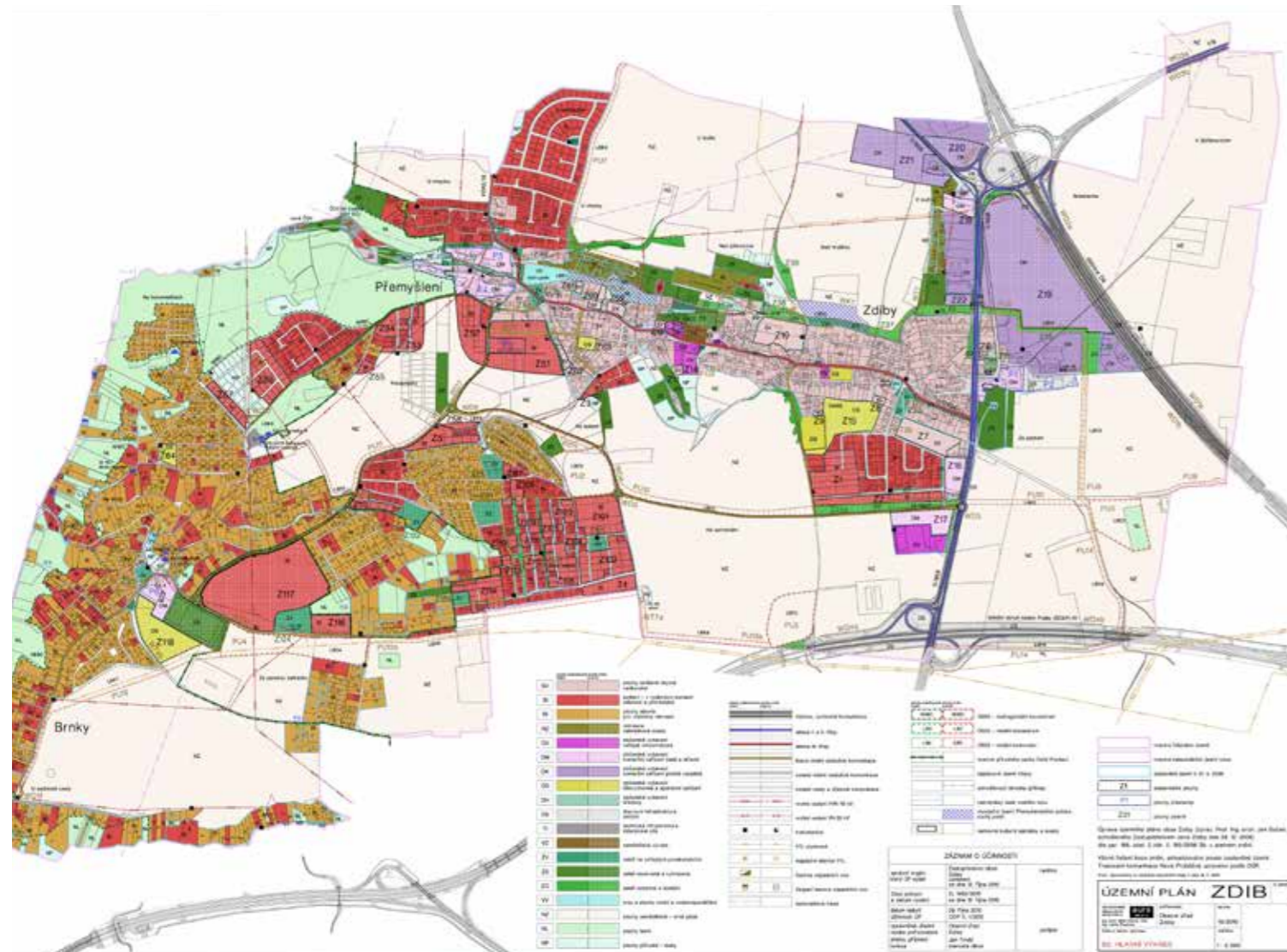
The site has a conveniently placed bus stop.

- Site Plots
- Site Border
- Castle
- Main Roads
- Parks + Gardens
- Important Trees
- Bus Stops



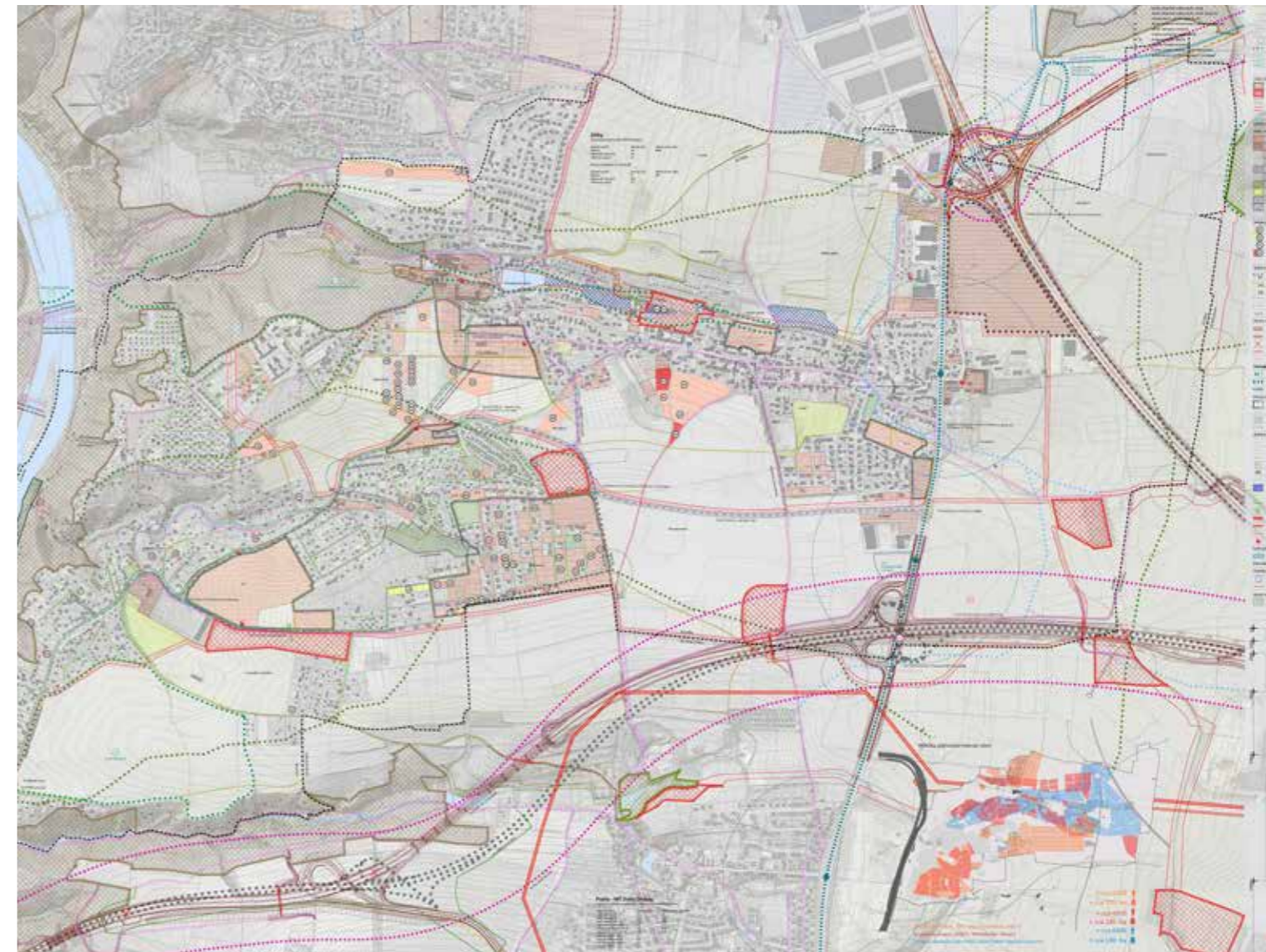
Scale 1:2000

Urban Plan 2010 (Valid)



Scale: 1:25 000

New Urban Plan



Scale: 1:25 000

# Urban Plan 2010 (Valid)

## Stabilised Surfaces / Changes

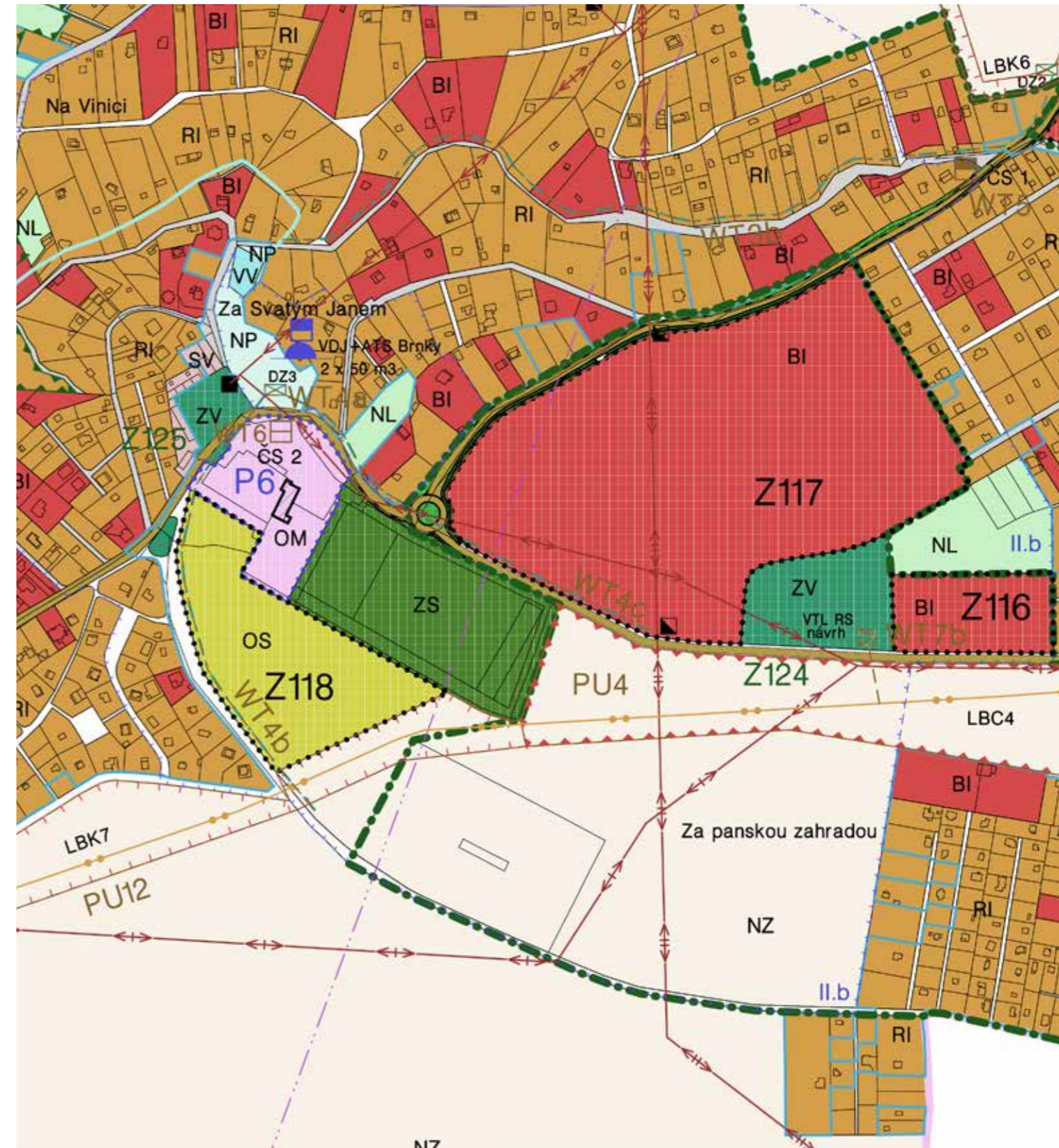
	state	draft	
SV			mixed residential (rural areas)
BI			urban/ suburban res. (family homes)
RI			family recreation
RZ			garden areas
OV			civic equipment- public infrastructure
OM			civil equipment- commercial small/ med.
OK			civil amenities- extensive commercial
OS			civil equipment- phys. ed. and sports fac.
OH			civic equipment- cemetery
DS			transport infrastructure- road
TI			technical infrastructure- utility network
VZ			agricultural production
ZV			greenery in public spaces
ZS			greenery- private and reserved
ZO			greenery- protects and isolates
W			streams/ areas of water/ water manag.
NZ			agricultural areas- arable land
NL			forest areas
NP			natural areas- meadows

## Stabilised Areas / Changes

	state	design	
NRBC			ÚSES- supraregional biocenter
LBC			ÚSES- local biocenter
LBK			ÚSES- local bio-corridor
			border of the Dolní Povltaví nature park
			floodplain of the Vltava
			drainage ditch
			piped watercourse section
			inundation area- dry polder
			immovable cultural monuments and campuses
			boundaries of the area being addressed
			borders of cadastral territories of municipality
			built-up areas as of 31/5/2009
Z1			stoptable surfaces
P1			area of reconstruction
Z31			green areas

## Stabilised Areas / Changes

	state	design	
			highway/ expressway
			roads- class I and II
			roads- class III
			main local service roads
			other local service communications
			other roads and purpose-built roads
			110 kV VHV overhead line
			HV overhead line 22 KV
			substation
			VTL gas pipeline
			regulation station VTL
			wastewater treatment plant
			sewage pumping station
			radio relay route



Scale: 1:5000

# New Urban Plan

- border of the municipality
- boundaries of the cadastral territory
- plot boundaries
- buildings

## Intentions from ZÚR

- project corridor with designation
- place of intention with designation

## Plans from ÚS landscape ORP

- measures against wind erosion
- biotechnical anti-erosion measures
- soil protection anti-erosion mod./sev.
- piped waterways for review
- ÚSES to be abolished
- ÚSES designed- biocentre
- ÚSES proposed- mesophilic bio-corridor
- ÚSES designed- hydrophilic bio-corridor
- place of landscape character

## ÚSES (ÚS, ÚS of neighboring municipalities, ZÚR)

- functional biocenter
- non-functional biocenter
- functional bio-corridor
- non-functional bio-corridor

## Intentions of the spatial plan

### Zdiby/ surrounding villages

- areas of residential land
- areas of civil amenities
- mixed residential areas
- areas of technical equipment
- areas of transport infrastructure
- production area
- areas of public green spaces
- recreation and sports areas
- condition of issuing regulatory plan
- condition of processing a territorial study

## Intentions and requirements for the Ú solution

- housing
- recreational equipment
- traffic areas
- civic amenities

## Identified transport infrastructure plans

- expressway
- class I road
- class II road
- main local service road, class III
- local service communication, class III
- bicycle path
- Ring road around Prague and D8 highway, plan
- SKOP 519-main route
- DS and reconstruction of MÚK Zdiby
- interrupted connections
- proposed connections
- proposed routes in the country (bicycle)
- Tram line Prague Kobylisy-Zdiby, replacement
- tram stop
- tram line
- tram line, view
- Port of Zdiby, plan
- project boundary/ port area
- water surfaces
- park areas
- communication (cycle path and service road)

## Identified technical infrastructure plans

- gravity sewage network
- sewage pressure network
- storm sewer network
- pumping station
- rain delay
- water supply
- dry polder
- gas pipeline STL
- gas pipeline VTL
- control station VTL/STL
- ZVN overhead line
- VVN overhead lines
- VN underground
- substation

## Other identified intentions from the strategic plan

- swimming pool reconstruction plan

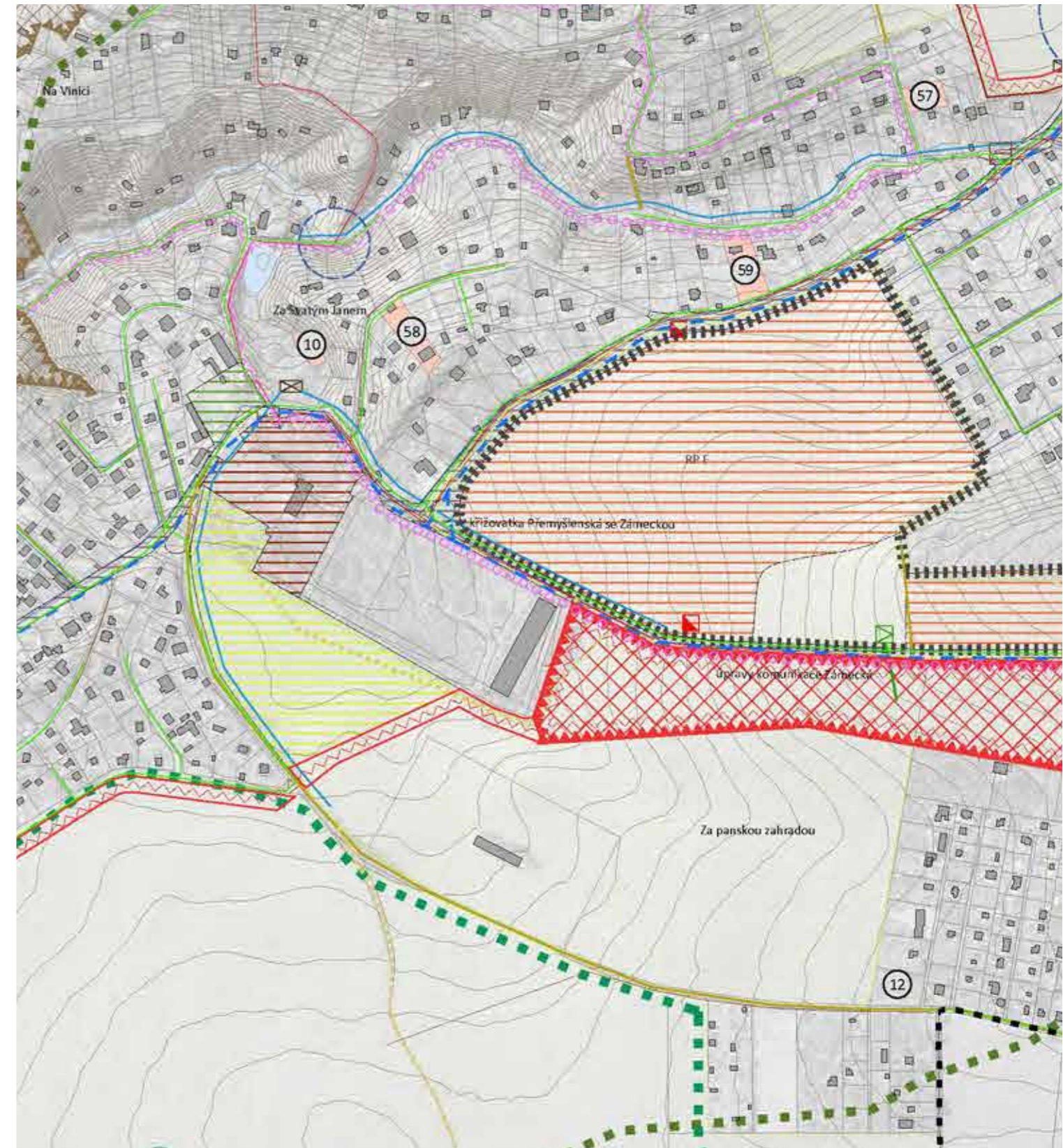
## Reimagined stream designed for revitalisation

## Initiatives - Community Development Commission

- problem areas of water drainage
- unpaved paths and connections

## Intention of the Na Čihadlý forest park

- boundaries of intent



Scale 1:5000

## S.W.O.T. Analysis

The premises of Brnky castle is almost a blank slate. The strengths and opportunities outweigh the negative elements of this analysis. Most of the potential problems could be resolved with cooperation, financial backing, and a plan for the site that would not only make it highly frequented space, but also self-supporting in its continued existence.

### Strengths

- Located outside of Prague
- Accessible by public transport
- Listed as a cultural monument
- Historical garden spaces remain
- Baroque architectural elements
- Baroque chapel
- Plot is not built-up
- Space for civic development
- At the center of Brnky
- Surrounded by public green spaces
- Proposed better connectivity in new urban plan; including bike path

### Weaknesses

- In extremely poor condition
- Some dark history
- Uncertainty of current owner's intentions.
- High selling price
- Lack of funding for reconstruction
- Inferred indifference from village residents
- Lack of local amenities

### Opportunities

- Could be part of a network of restored castles/ chateaus in the area
- Tourism development; foreign and domestic
- Potential job creation
- Potential local small business creation
- Multifunctional revitalisation of the Brnky village center
- Social spaces
- Restoration/ preservation of a cultural monument
- Create functional green spaces
- Regenerative practices
- Implementation of sustainable technologies
- Provide PR and promotion for the castle

### Threats

- Conflicting goals with adjacent plot owners
- Competition from other cultural monuments/ tourist destinations in the area
- Potential to be held as an asset only; without benefit to the public or village of Brnky
- Continued deterioration/ potential collapse
- Economic factors (inflation)
- Socio-political changes
- Expensive to reconstruct and rebuild the site.





Brnky 1941

History

# History



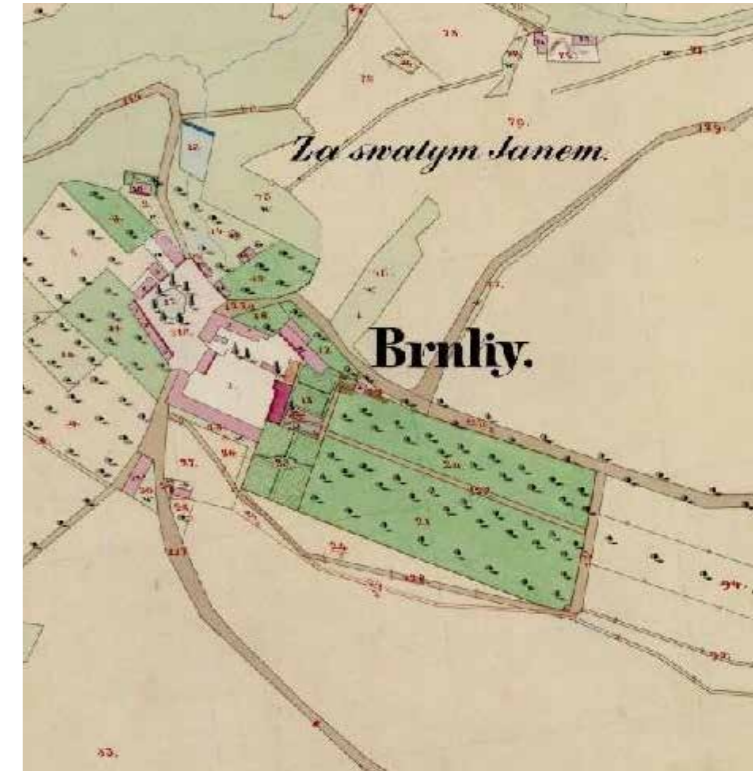
First Military Survey 1764-1768



Second Military Survey 1836-1852



Third Military Survey 1869-1885



Stable Cadaster 1842

The earliest mention of the village of Brnky comes from 1233 as a property of St. Georges Monastery at Prague Castle. Later records from 1406 confirm fees paid to Břevnov Monastery.

During the Hussite Revolution the village was placed under the administration of Old Town Prague

1547 the farm of Brnky was confiscated from Old Town and sold to Jan Sr. Kalenice despite the property having been purchased nine years earlier to a man from Moravia by the name of Martin. His two sons refused to give up the property to the new owner until faced with a large armed group and threat of death if they did not promise serfdom.

Lawsuits ensued until the intervention of Emperor Rudolf II who awarded a wife of one of the sons compensation in the amount of one-tenth of the original price.

Brnky was looted in 1620 and once again sold in 1641. In 1661, all rights to Brnky and its accessories were transferred to the Rector of the Jesuit dormitory. It was in 1662 that the castle that presently stands was first constructed upon the foundations of the fortress.

The castle is a two-storey building. The southern part of the ground and first floor is comprised of the chapel. The middle consists of a hall with a staircase. The northern part is a pantry with a kitchen. The first floor consists of a large room and on the second floor there are two rooms. Above the chapel on the second floor was a representative banquet hall.

In the years 1721-23 the second edition of baroque construction was executed. This also included the addition of the cellars, though unfinished.

Brnky was then purchased by a field marshal armourer who began to complete the construction of the addition above the cellar. This construction was then finalised by the Reich Count Caretto-Millesim.

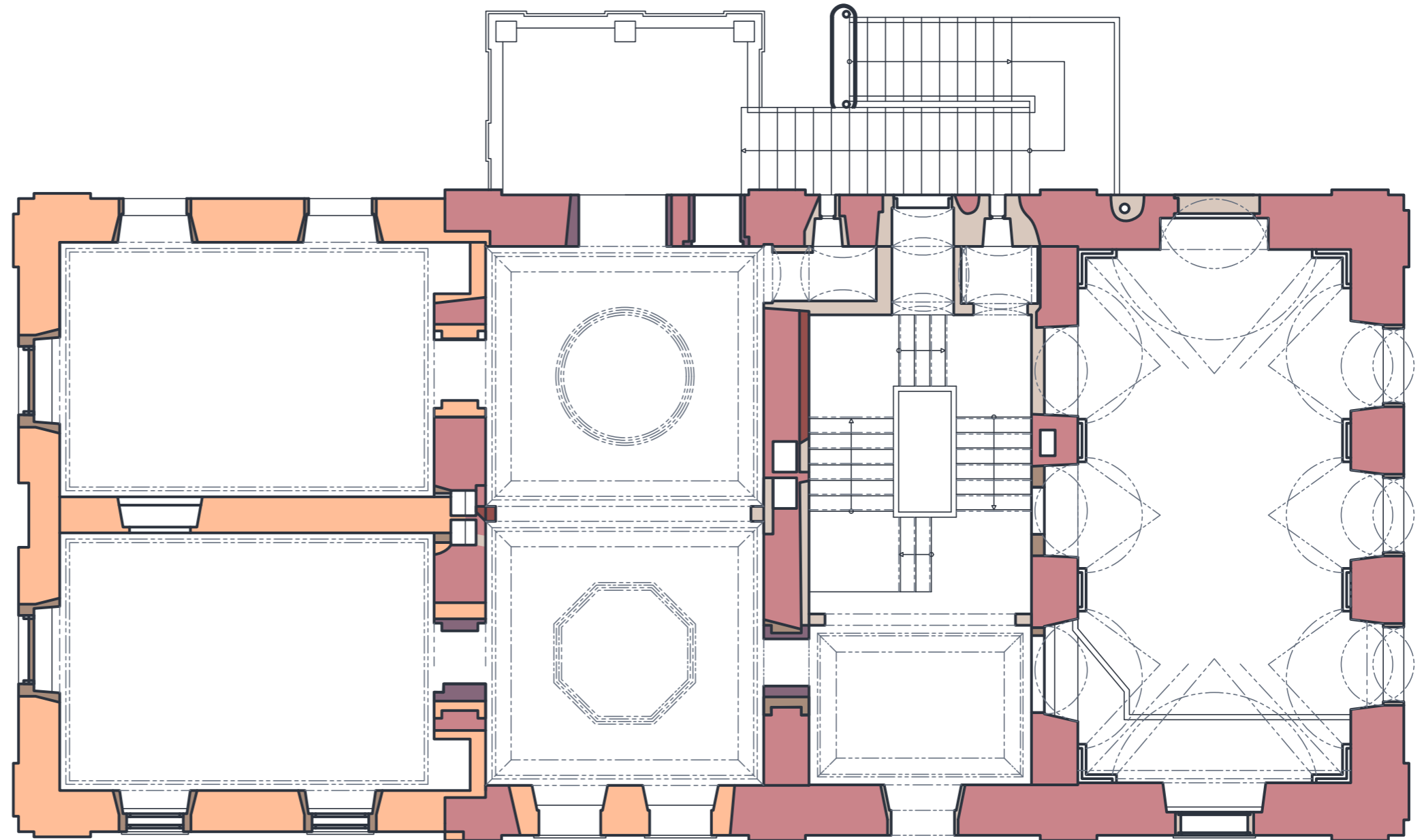
Predominately inhabited by the property manager the castle and its ground was focused on the functionality and productivity of the farm yard.

The neorenaissance reconstruction elements were completed in the late 19th century. The last modifications to the castle were implemented in the 1930's before WW2.

# Historical Analysis

Shown is the historical analysis of the first floor. The castle is a two-storey building. The original Baroque I phase suggests the layout of a Jesuit suburban mansion. The southern facing side of the ground and first floor is comprised of the chapel. The middle contains the main entry hall with staircase. The northern facing side is suggested to have been a pantry and kitchen. The first floor consisted of a large room and on the second floor there were two rooms. Above the chapel on the second floor was a representative banquet hall. Baroque II phase includes the creation of a cellar below the pantry. Baroque III phase begins with the construction of the cellars on the north side and ends with the extension of the castle. Subsequent modifications and reconstructions are mainly for aesthetic and modernisation purposes.

- Baroque I
- Baroque II
- Baroque III
- Classicism
- Neorenaissance
- 20th Century



Scale 1:100



## 20th and 21st Century

During part of WW2 chateau is said to have been occupied by the German army, during which no damage was done to the property. Only the reputation of the castle and the owner at the time, who was criticised for having allowed the Germans to take over (allegedly) without resistance, was tarnished. At the war's end, German soldiers are said to have been subsequently executed in the garden after digging their own grave.

Eventually the property became an asset of the state as the Czechoslovak Republic was assigned to the Eastern block and was overtaken by Communist rule.

The castle, its farmyard, and agricultural fields continued to function for a time, gradually falling to disrepair, neglect, and eventual abandonment. Everything in reach within and around the castle has been looted.

In the 1980's the life of the castle was threatened by the construction of a gas pipeline that runs beneath the site. State Monument Care refused to allow its demolition as it was determined to be in good condition at the time. It is also during this period that the structures of the farmyard are demolished and taken the landfill.

In the 1990's, part of the property was sold to the National Gallery in Prague to construct a prefabricated storage hall, which did not exist for long, quickly turning into scrap. Only the foundation of this structure remains. In 2008 the castle roof collapsed.

The castle's existence has faced uncertainty for decades, protected, but too expensive to reconstruct, despite the value of the property and the inherent value to the history of the surrounding village. The Association for the Reconstruction and Operation of Brnky Castle, to which the property was essentially donated to, has proven to be ineffective. The property is currently in the hands of the Russian Orthodox church.

The future for the castle is uncertain as it continues to deteriorate and is in critical danger of static collapse.





Site Analysis

## Progression of Site Condition



The aerial view from 1950 shows a clear organisation of farmyard structures to the north and west of the castle and the site is well-maintained. In 1975, rows of trees in the orchard can be found and the farmyard structures remain. By 1997 the farmyard structures are long gone and the storage hall for the National gallery has been constructed.

Current Situation: The site is overgrown with trees and vegetation. Most traces of the former site organisation and program is lost. The foundation of the deconstructed storage hall is clear at the bottom end of the site. Some parts of the site have been used as a local dumping ground.

# Site Photos



Front of the Castle



View from Castle Door



Back of the Castle



View from Back of Castle



Foundation Stones



Cellars and NE Facing Elevation



Cellar Entryways



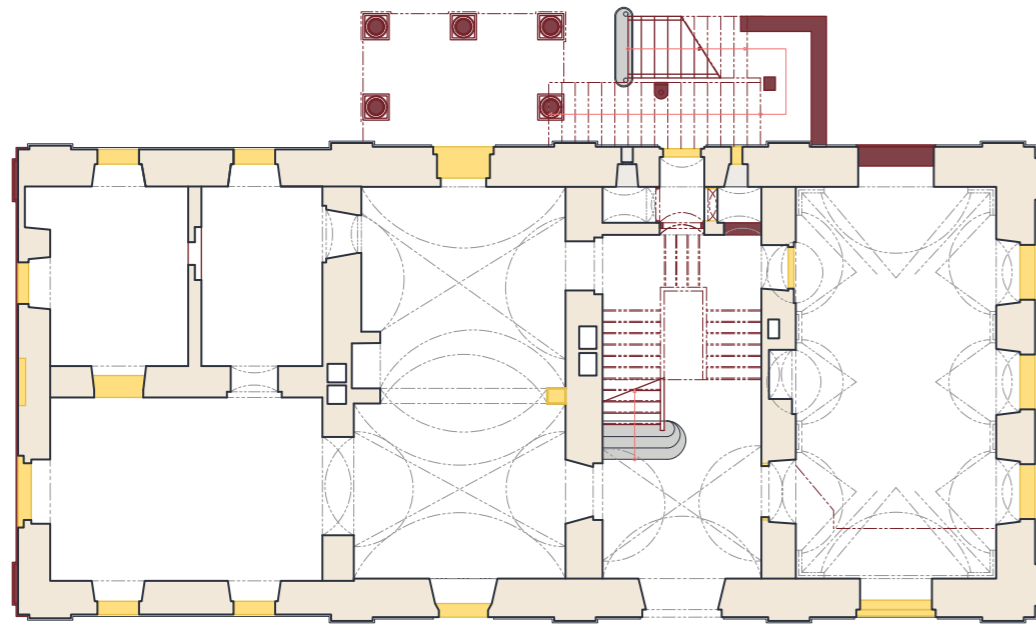
Fortification Wall



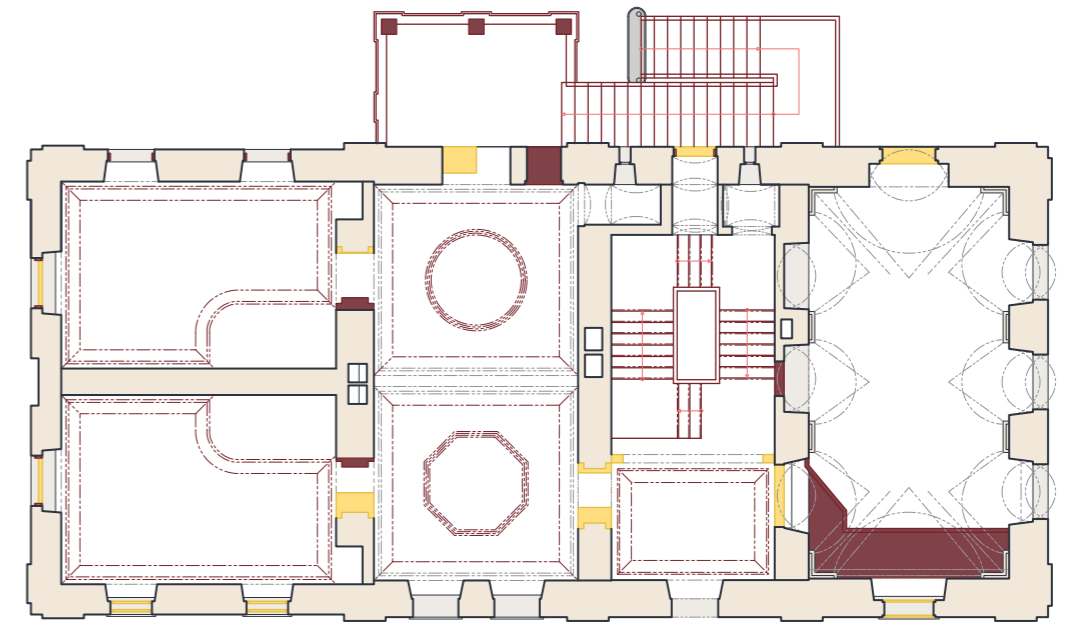
# Castle Photos



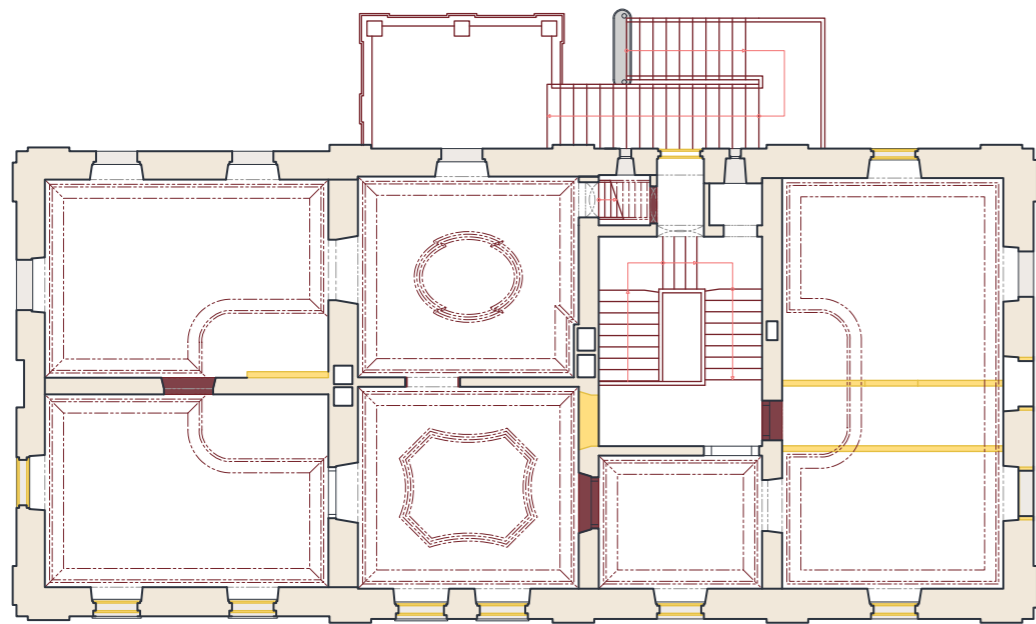
# Interventions



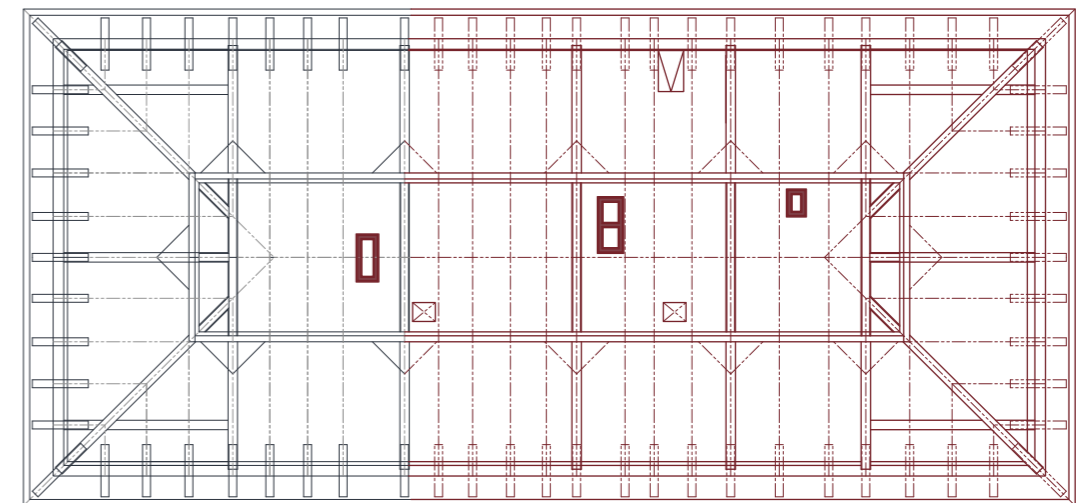
**Groundfloor:** Requires the removal of blockages of window openings, floor reconstruction and the recreation of staircases and other historical elements.



**First Floor:** The chapel balcony is to be reconstructed during the preservation of the chapel. Floor and ceiling reconstruction with decorative elements.



**Second Floor:** To accommodate program changes for the castle, some doorways are to be filled in with one new doorway created.



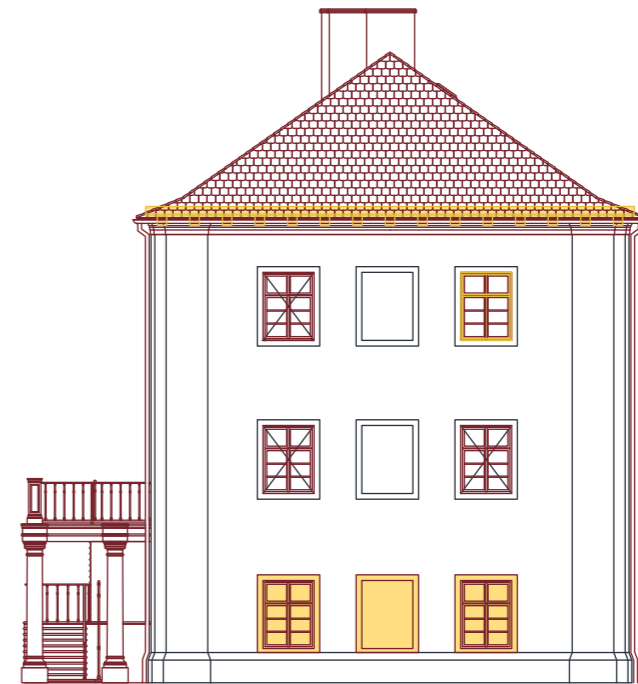
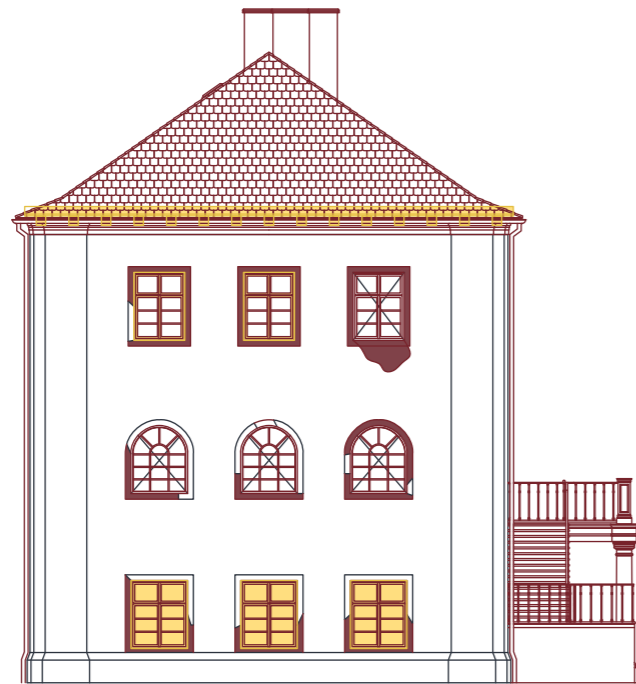
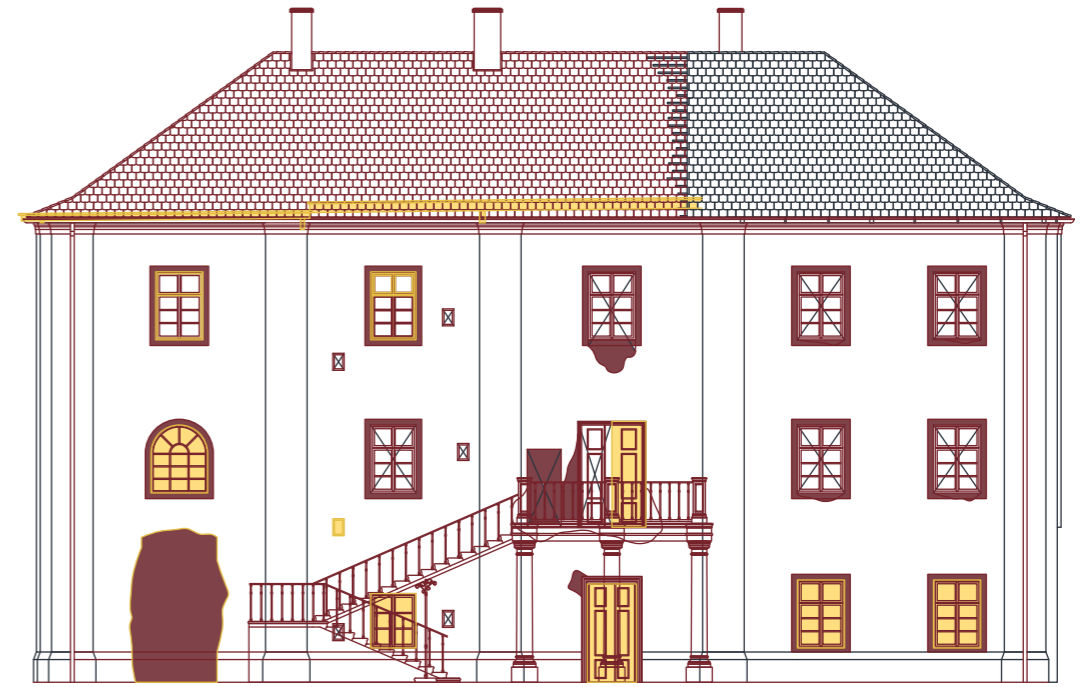
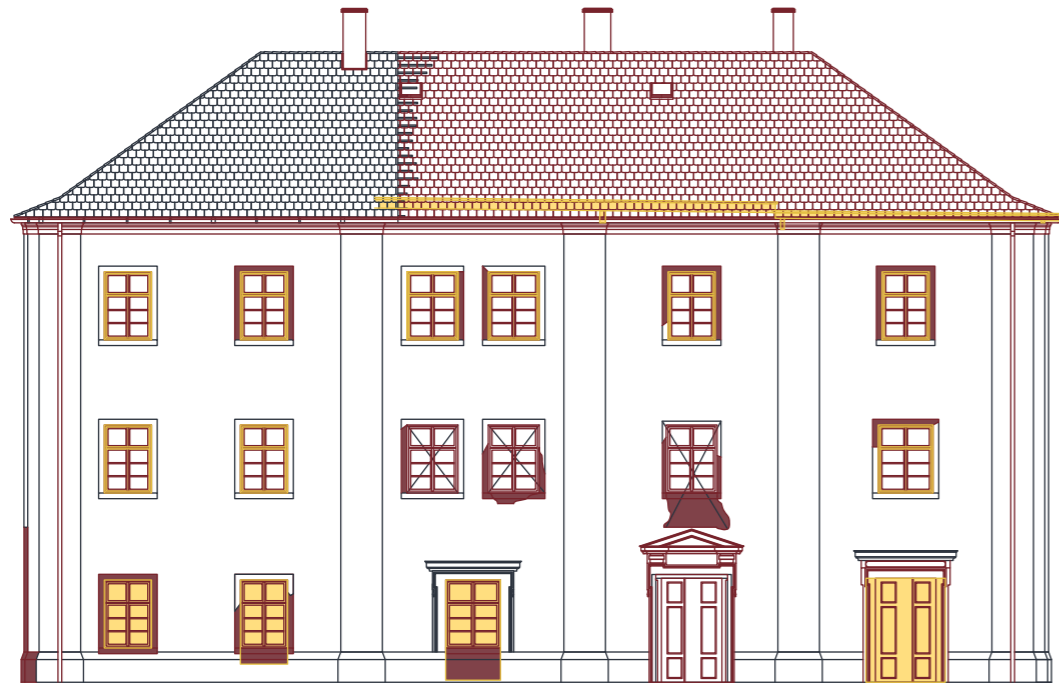
**Attic/ Roof:** Partial construction of a new roof has been implemented, removal of protective measures and completion of the new roof and modified chimneys to be rebuilt according to historic documentation.

- Existing/ Refurbish
- Demo/ Replace
- New Construction



Scale 1:200

# Interventions



- Existing/ Refurbish
- Demo/ Replace
- New Construction

0 1 5 10m

Scale 1:200



Inspiration + Program + Mood

# Inspiration: Naturbyen (Nature Village)

Studio: EFFEKT

Typology: Masterplan, Residential

Location: Middelfart, Denmark

Year: 2020

Status: On-going

Size: 100.500 m2

Client: Middelfart Municipality

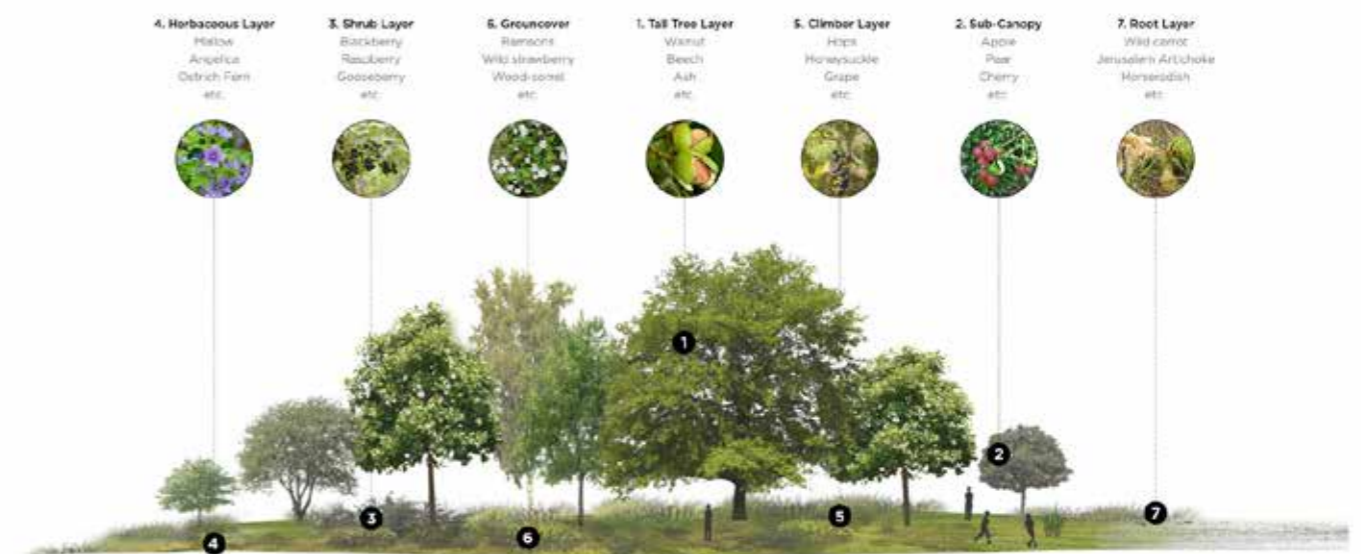
Design team: Sinus Lyng, Daniel Veenboer, Yulia Kozlova, Evgeny Markachev, Gorka Medina Calzada, Marco Antonio Ravini, Joel Brynielsson, Filippa Gurt, Laura Carnevali

Collaborators: Anders Busse Nielsen, Haver til Maver, Artelia, Ulrik Jørgensen

'Naturbyen' (translated Nature Village), is in the Municipality of Middelfar which has collaborated with EFFEKT to plan a new residential area, and will be an international demonstration project for how sustainable housing development can be combined with ambitious afforestation, increased biodiversity, and circular resource thinking in the suburban and peri-urban areas. And as a bi-product create healthy and socially connected neighborhoods.

A bare agricultural field in the eastern part of Middelfart will soon be transformed into a completely new forest-neighborhood district. A cluster of small communities that put environment, biodiversity, and sharing of resources at the forefront. A total of 220 new homes located in a newly planted forest will offer an alternative to the traditional parcel- and row housing options which is still the predominant form of housing in Denmark, outside the major cities.

The new municipality-led residential expansion led aims to become a laboratory for residential development in suburban and peri-urban areas and help Denmark reach its ambitious goal of covering 20% of its landmass with forest by 2100. - [www.efeekt.dk/naturbyen](http://www.efeekt.dk/naturbyen)



## Example of Sustainability: Chateau Mcely

Location: Mcely, CZ

First constructed: 1653- Baroque

Last renovation: 2004

Current program: Hotel

Owners: Inéz and James Cusumano

A good example of sustainable practices.

The implemented sustainability practices led Chateau Mcely to become the second hotel in Europe to be considered a five-star green hotel in 2007.

During renovation, furnishings were sourced from Czech manufacturers of natural materials.

Created an all-natural organic cosmetics line for the hotel spa in the chateau's own cosmetics laboratory.

The restaurant sources what can not be grown or made on site from local and organic farmers and bakers.

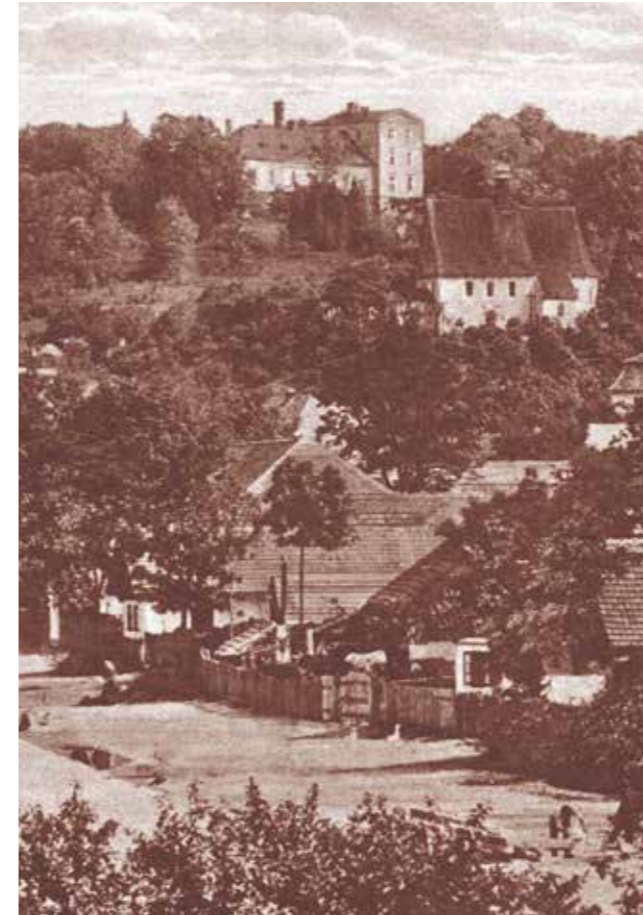
Heating is sourced from an eco-friendly wood chip boiler which uses waste wood; a renewable resource.

The site has photo-voltaic cells which does not cover all electrical needs, but helps offset need from the grid.

Biomass, landscaping waste is composted and returned to the site grounds. Interventions are made to promote biodiversity in the insect population, especially bees and butterflies.

The swimming pool is a biotopic pond that does not use chemicals and is welcome to be used by frogs, insects and other animals.

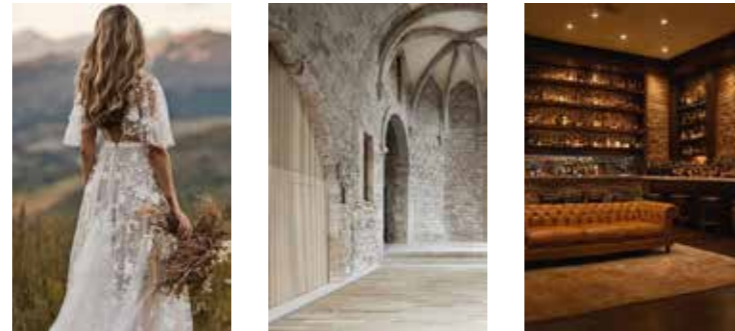
Waste sorting and minimising the use of disposable packaging is encouraged.



# Visitors Program

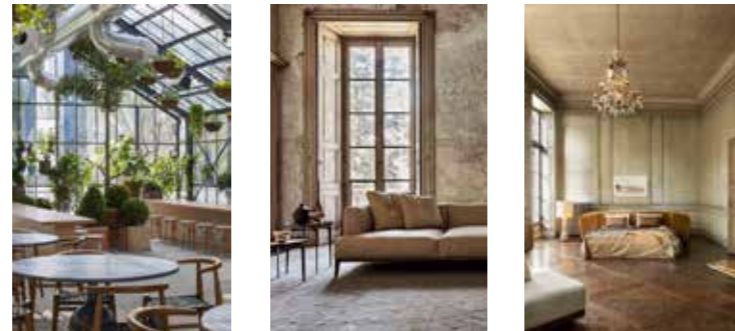
## Castle Structure

- Chapel
  - weddings
  - events
  - gallery space
- Accommodation
- Lounges
- Cellars
  - wine bar
  - whiskey lounge
  - cigar room



## Restaurant Structure

- Farm to table style
- Chefs table in kitchen greenhouse
- Event dining hall



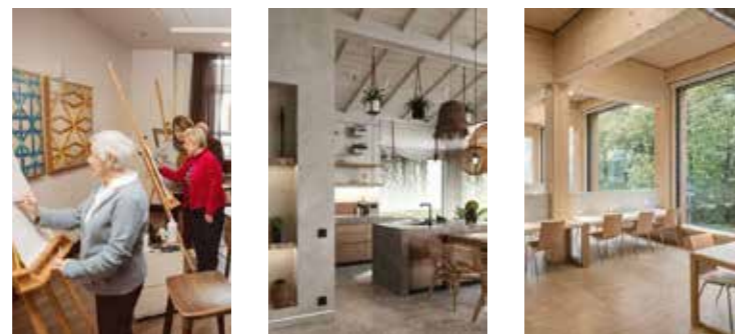
## Multipurpose Structure

- Cafe
  - study/ hangout space
  - small library
  - hangout space
- Bakery
- Market
  - sourced on site and local
- Pub



## Community center

- Educational/ shared kitchen
- Aquaponics education space
- Gallery/ display/ information area
- Lecture space/ study space
- Events
- Daily activities hangout for the elderly



## Education

Educational themes will focus on addressing the very real issue of soil degradation and loss due to conventional farming methods, increased water scarcity/ insecurity, and CO2 emissions that stem from a broken, unsustainable, and insecure food production system.

Positive examples on site include:

### Vertical farming

- aqua/ hydroponic systems
- soil and soil-less
- Dutch style

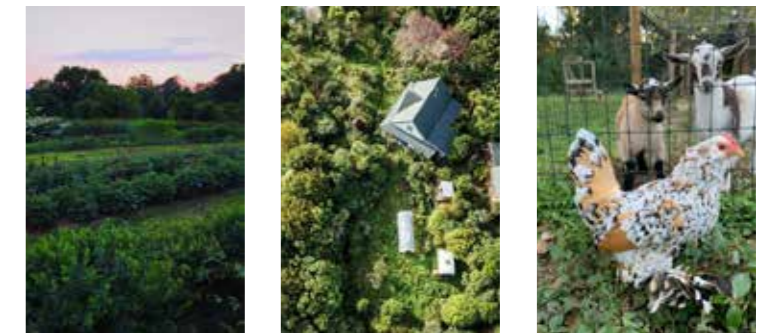


### Traditional greenhouse

- other climate zones

### Regenerative Agriculture

- no-till bio-dynamic
- the food forest concept
- the family garden
- symbiosis with animal friends
  - chickens
  - goats



## Further Topics

- foraging
- mushrooms
- traditional medicinals
- native edibles
- composting
- food preservation



## Why Regenerative?

Brnky was an agricultural estate. Fortunately, time has denied these fields, gardens, and orchards built-up structures. The land is a canvas etched with the remains of past spatial compositions. It waits for a new beginning.

### Regenerative Agriculture + Aqua/ hydroponics + Landscaping with Native Species

Growing in popularity, regenerative organic agriculture farms provide precedent and proof that high yields can be obtained without the use of tilling, pesticides, and the destruction caused by conventional methods.

- Improves soil health creating a more nutritious crop
- Promotes and protects biodiversity
- No till = root systems that hold soil in place
- Generates new soil through composting and the help of farm animals
- Sequesters carbon from the atmosphere rather than releasing carbon
- No contamination of soil and waterways
- Symbiotic with bio-corridors
- Landscaping with perennial native species keeps maintenance at a minimum
- Local and sustainably sourced sustenance

### How does this relate to Architecture?

Some form of food production should be implemented in any sustainable design. This can be done through the use of agroforestry (edible grove) concept in the landscape design of an urban plan or small-scale aquaponics (think salad) in a home.

In the case of Brnky, the former orchard, gardens, and landscaped areas of the former farmyard are ideal for these methods. Perennial fruit bearing shrubs, trees, and wild herbs throughout the landscaping in the former farmyard will encourage local foraging.

The construction of food-producing aquaponic greenhouses are meant to double as a solar farm and educational space.

The regenerative orchard and farm will provide seasonal crops for the restaurant, cafe, market and the weekend farmers and crafter market.

And finally, create a network with other local ecologically friendly farms to provide any missing essentials (dairy, meats, grains).





## Other Sustainable Practices

Production greenhouse and all farm-related south-facing roofs to double as a solar farm.  
Approximate surface area available: 500m<sup>2</sup>

All non permeable surfaces including roofs will be subject to a rainwater collection/  
harvesting system, including the castle, whose copper downspouts lead to a filtration  
system and cistern underground.

Water collection then is used for landscaping and reuse in the orchard.

Natural drainage entering the site from surrounding agriculture fields will first pass through  
a natural filtration mitigation through use of planting.

Rain-gardens to help keep water in the ground on site.

Composting

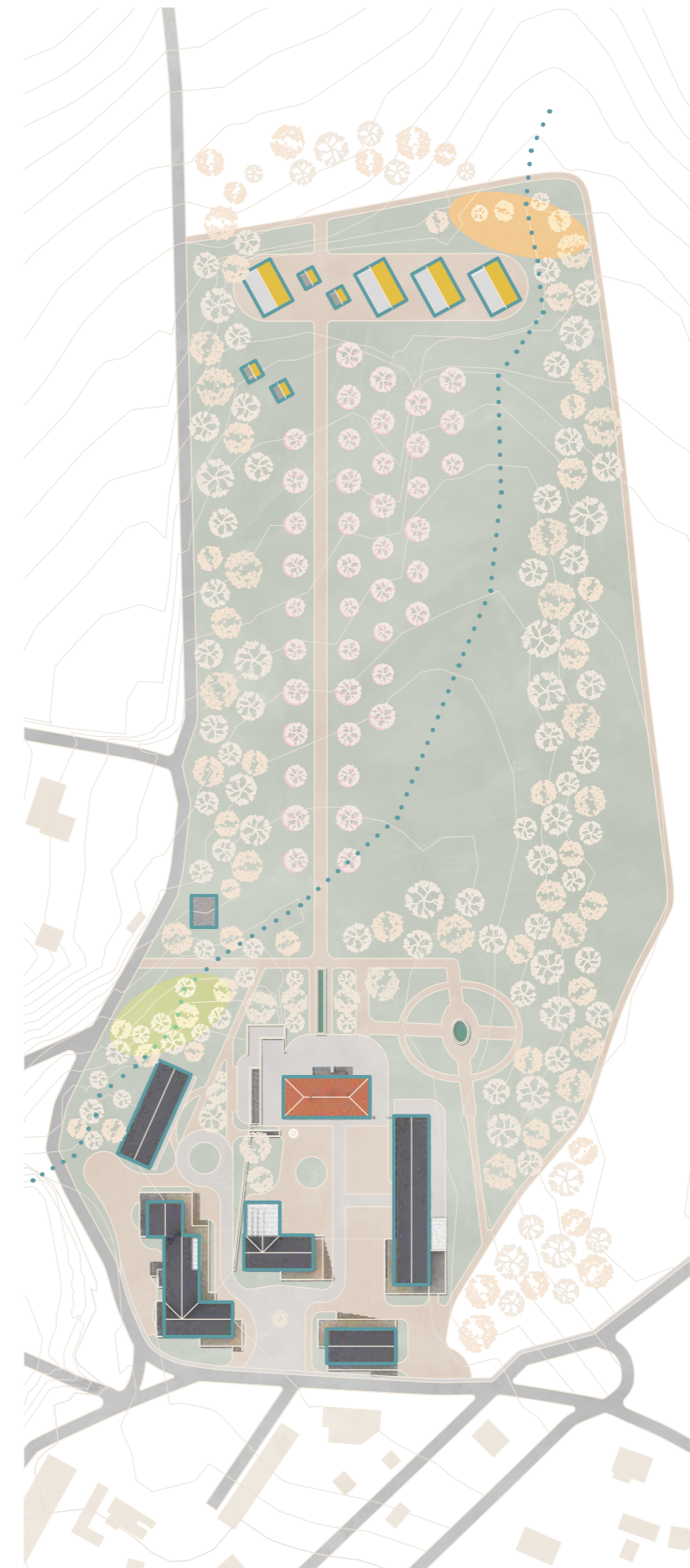
Plastics free packaging as hygienic practices allow.

Chickens and goats help maintain the land and eat any food waste that is good for them.

Non-toxic natural cleaning supplies

Bee-keeping

- Photovoltaic surfaces
- Roof rainwater harvesting
- Raingarden
- Natural drainage filtration area
- Natural drainage through site



# Mood

New Structures



# Mood

New Structures



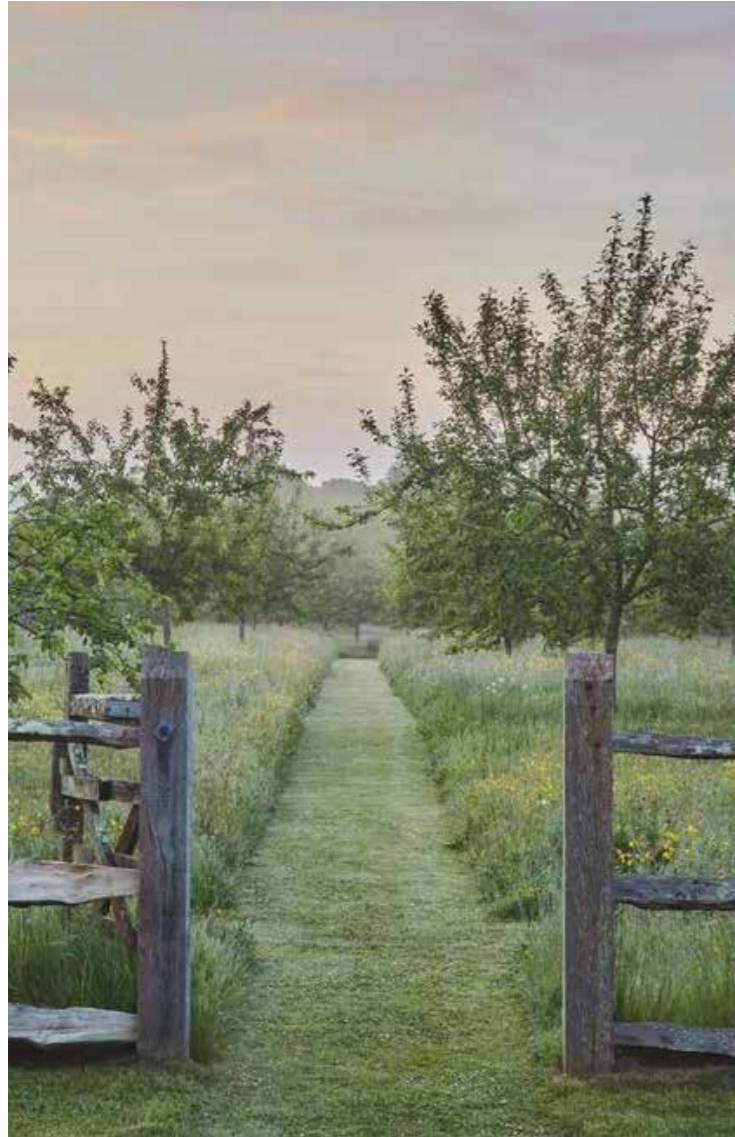
# Mood

Castle



# Mood

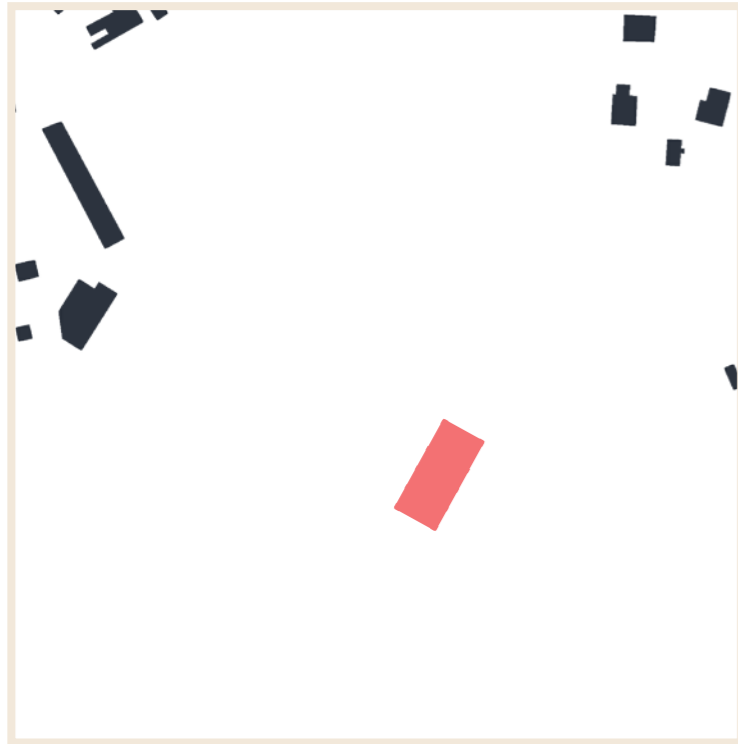
## Landscaping



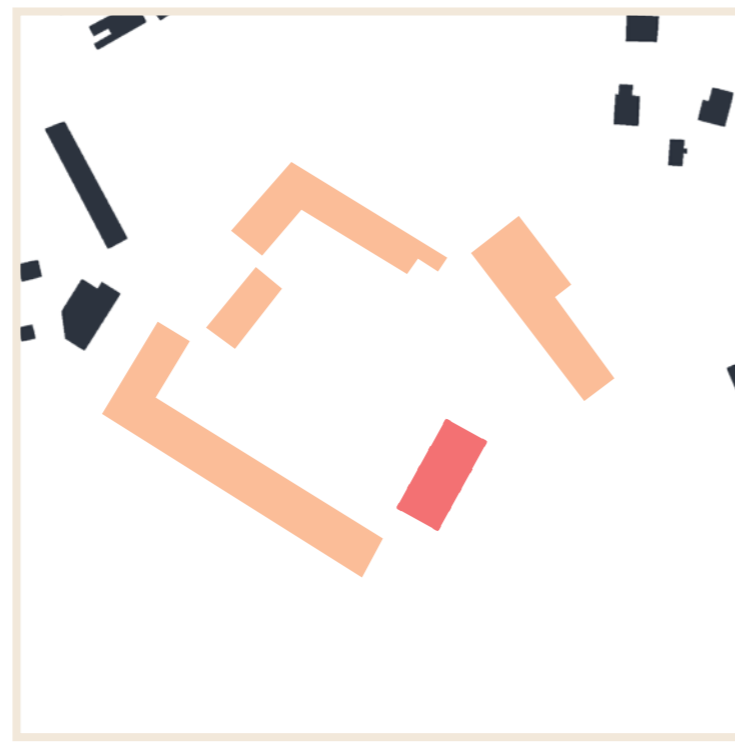


Design Proposal

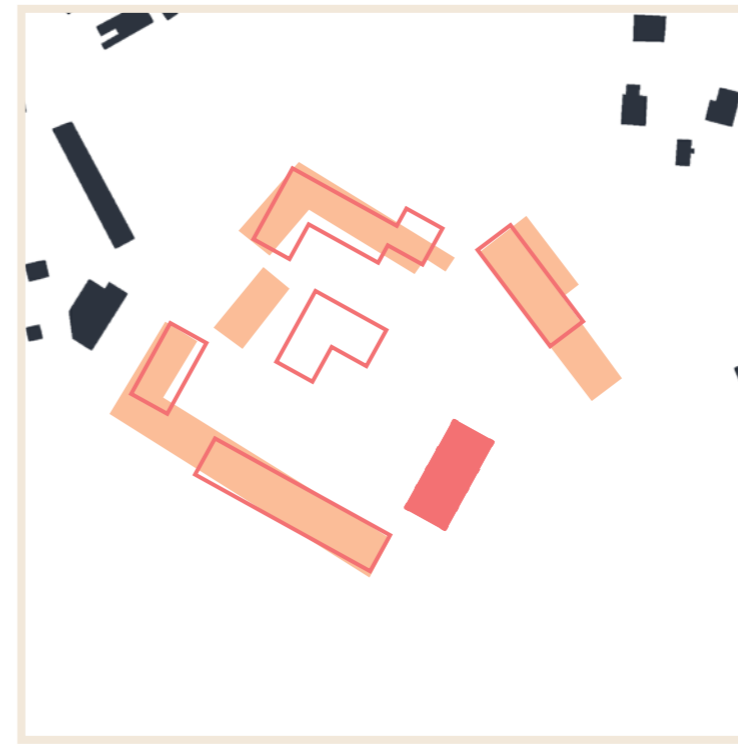
# Spatial Concept



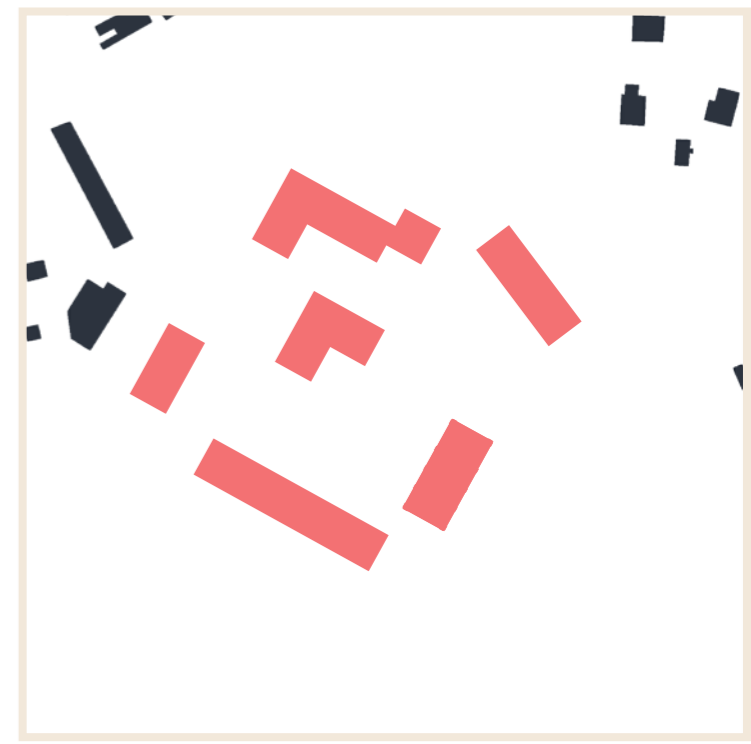
Current schwarzplan of site structures.



Referenced former farmyard structures. Placement of these structures reflect the plot boundaries, creating an enclosed space.



Placement of new structures at right angles to the castle referencing the footprints of the former farmyard structures.

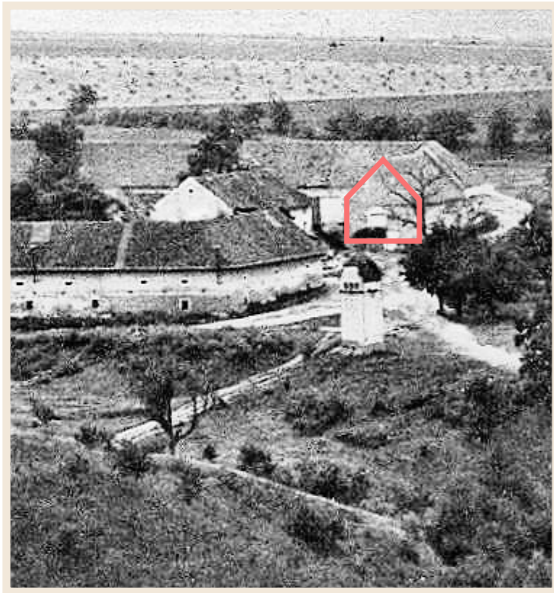


The structures are further offset from each other compared to the former structures, creating an open boundary; welcoming circulation and exploration.

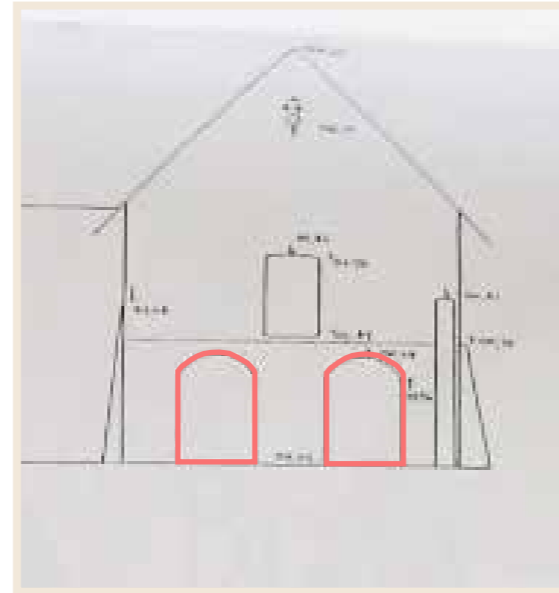
0 25 50 100m

1:2000

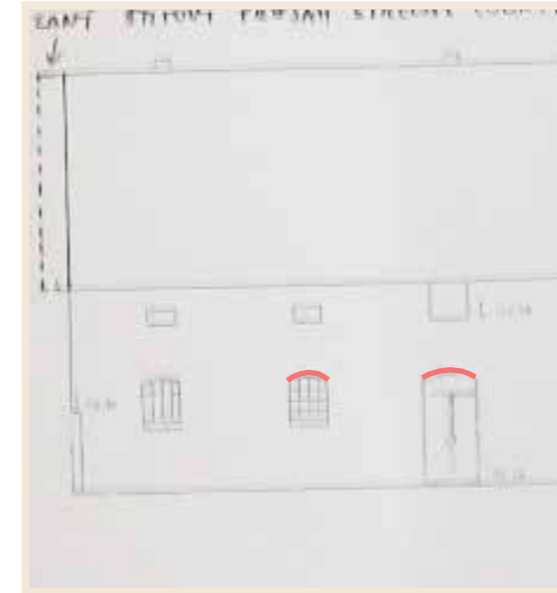
## Traces of the Past



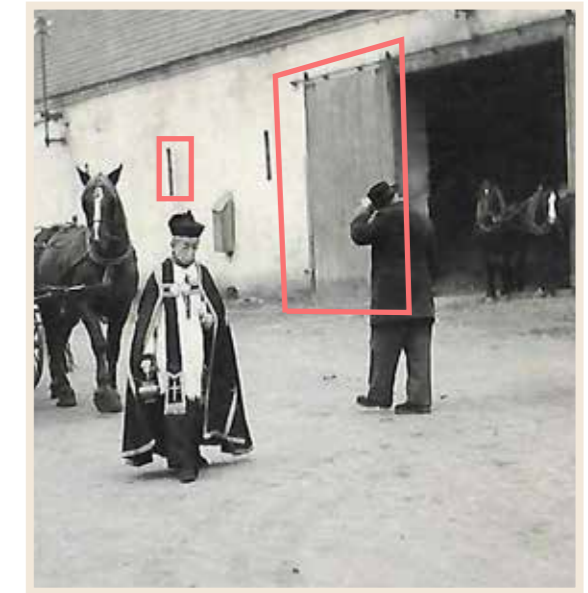
The traditional shape and roof slope of approximately 45°.



Double placement of large door openings at ground level.



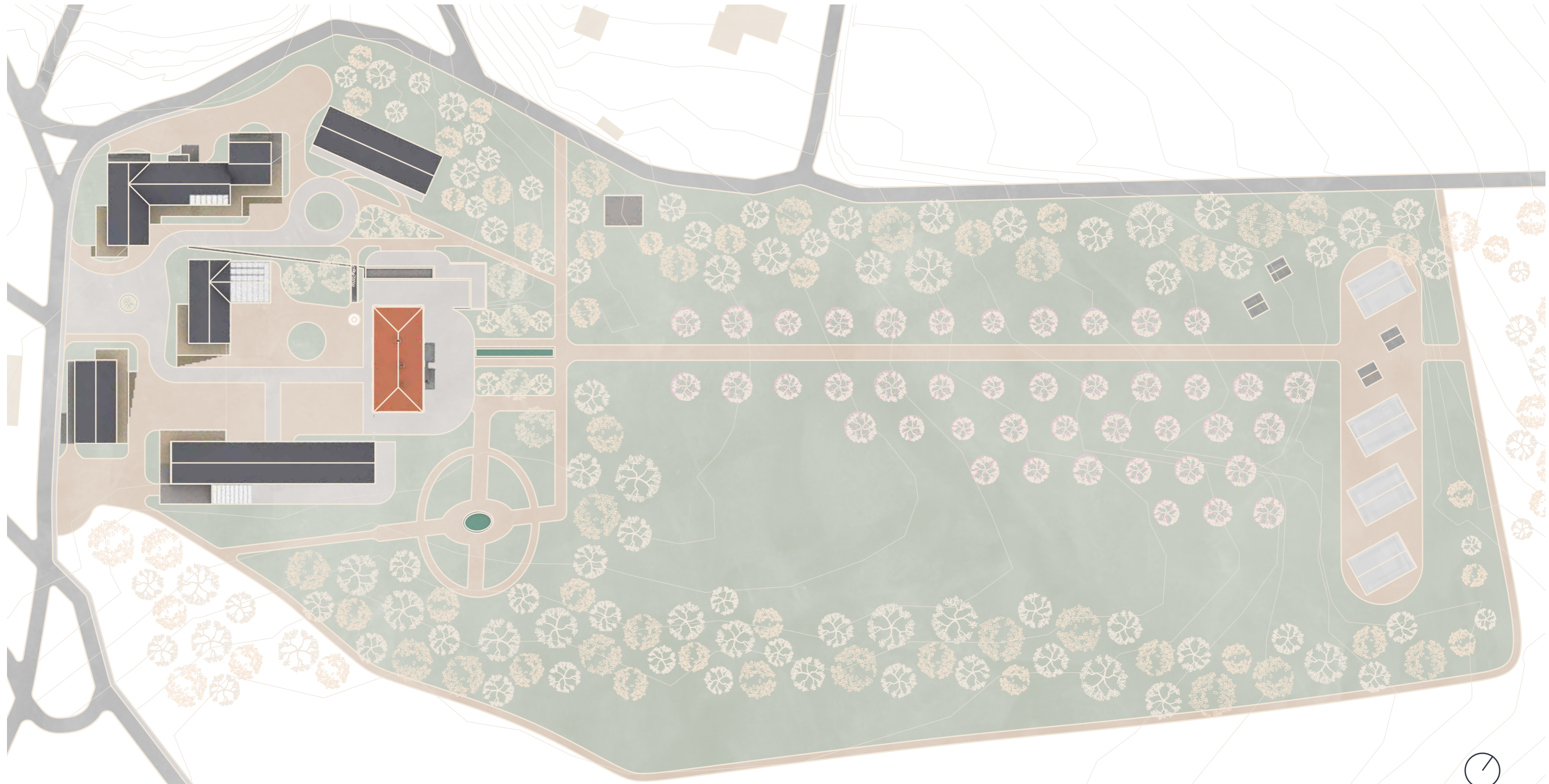
Curved upper window and door frames.



Sliding barn doors. Arrow-slit windows for ventilation and light.



# Site Plan

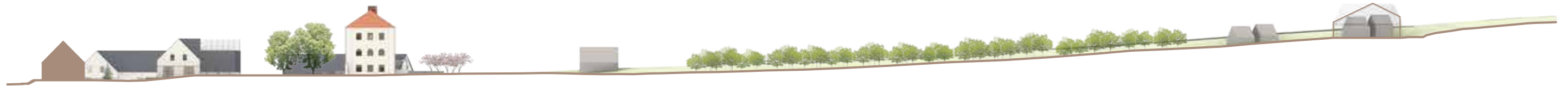


0 10 20 50m



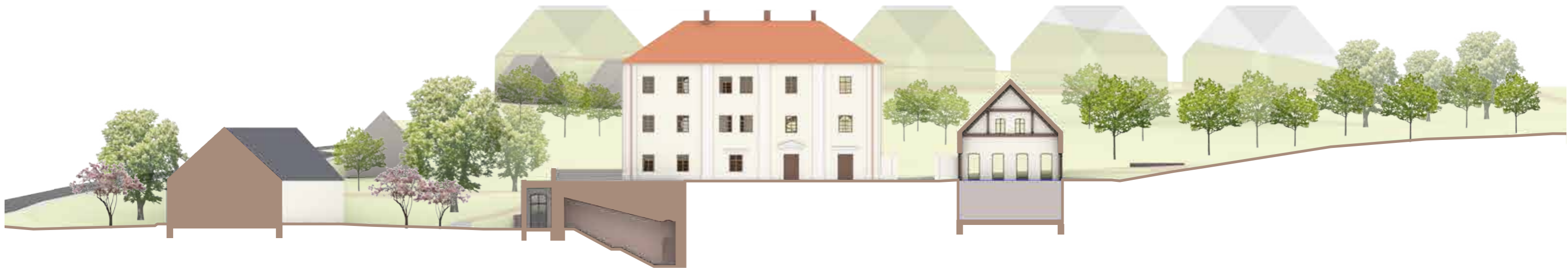
Scale 1:1000

# Site Sections



NE Long Section

No Scale

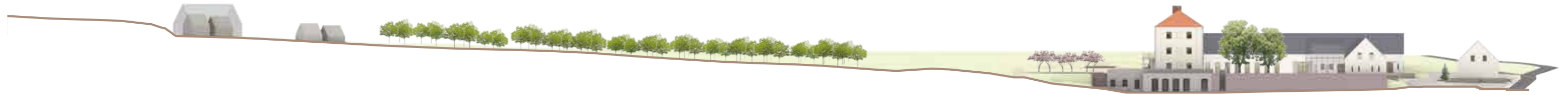


SE Short Section

0 5 10 20 30m

Scale 1:500

# Site Sections



SW Long Section

No Scale

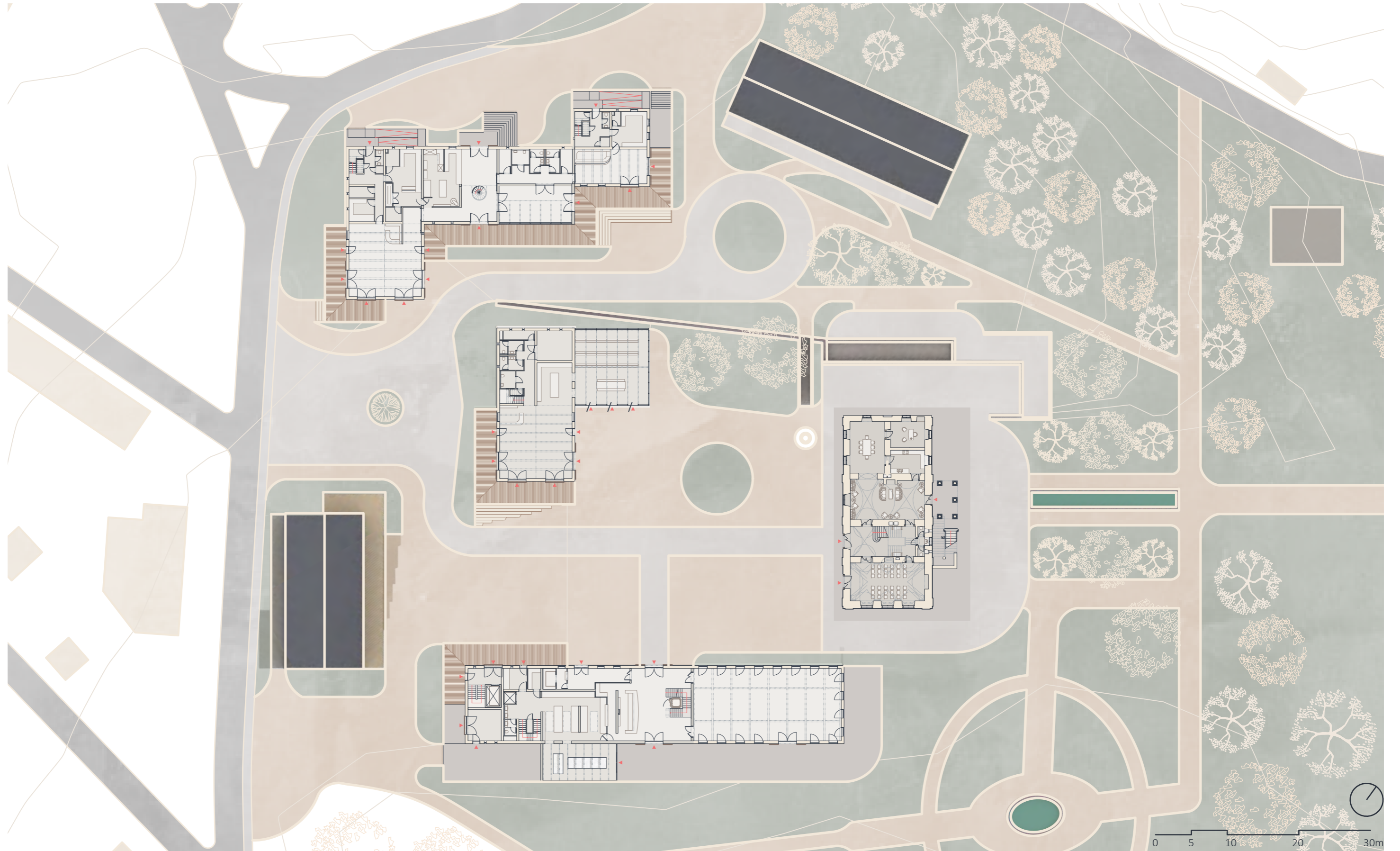


NW Short Section



Scale 1:500

# Site Groundplan



Scale 1:500



Castle

# Elevations



Front (NW)



Right (SW)

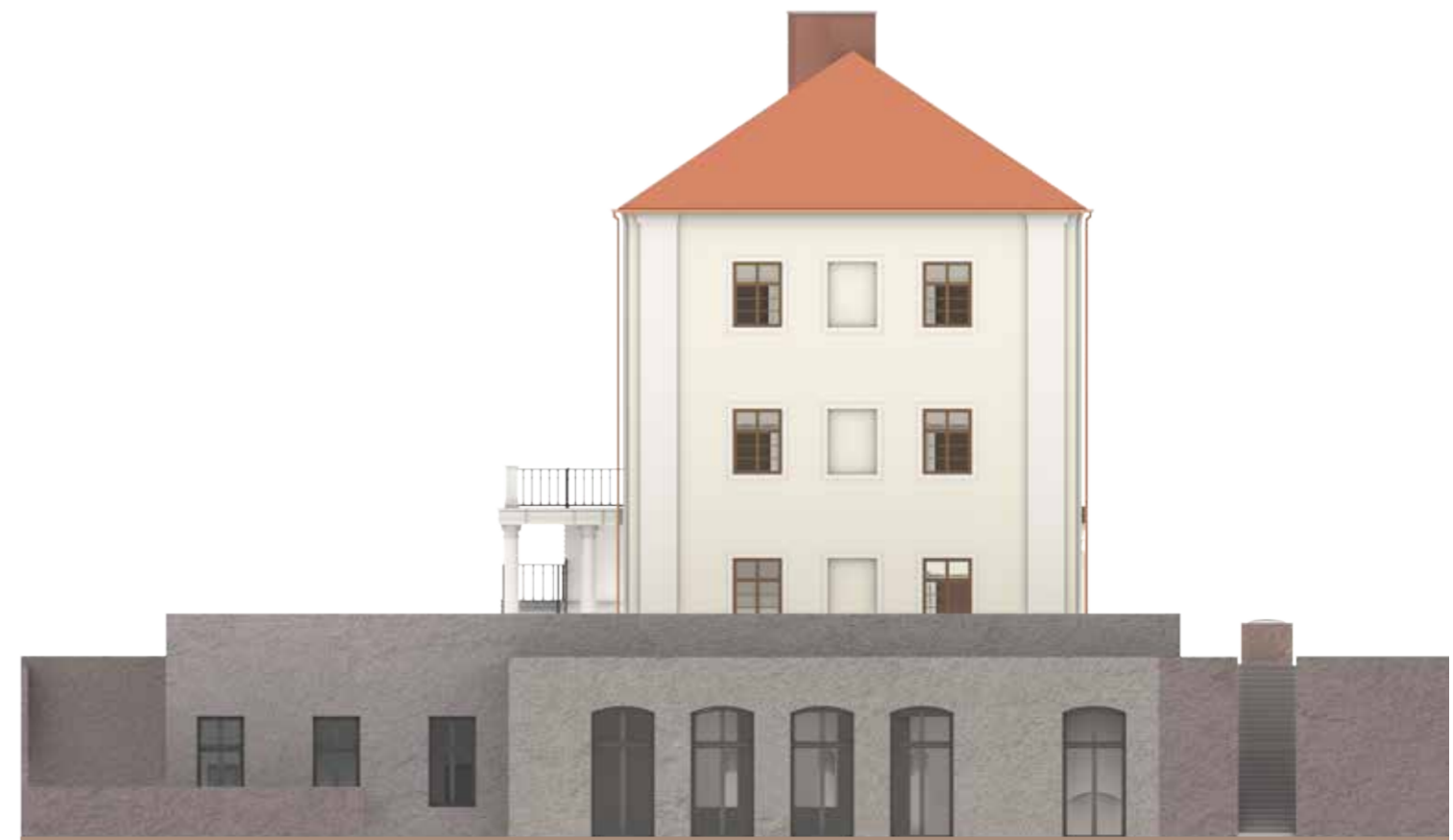
0 1 5 10m

Scale 1:200

# Elevations



Back (SE)

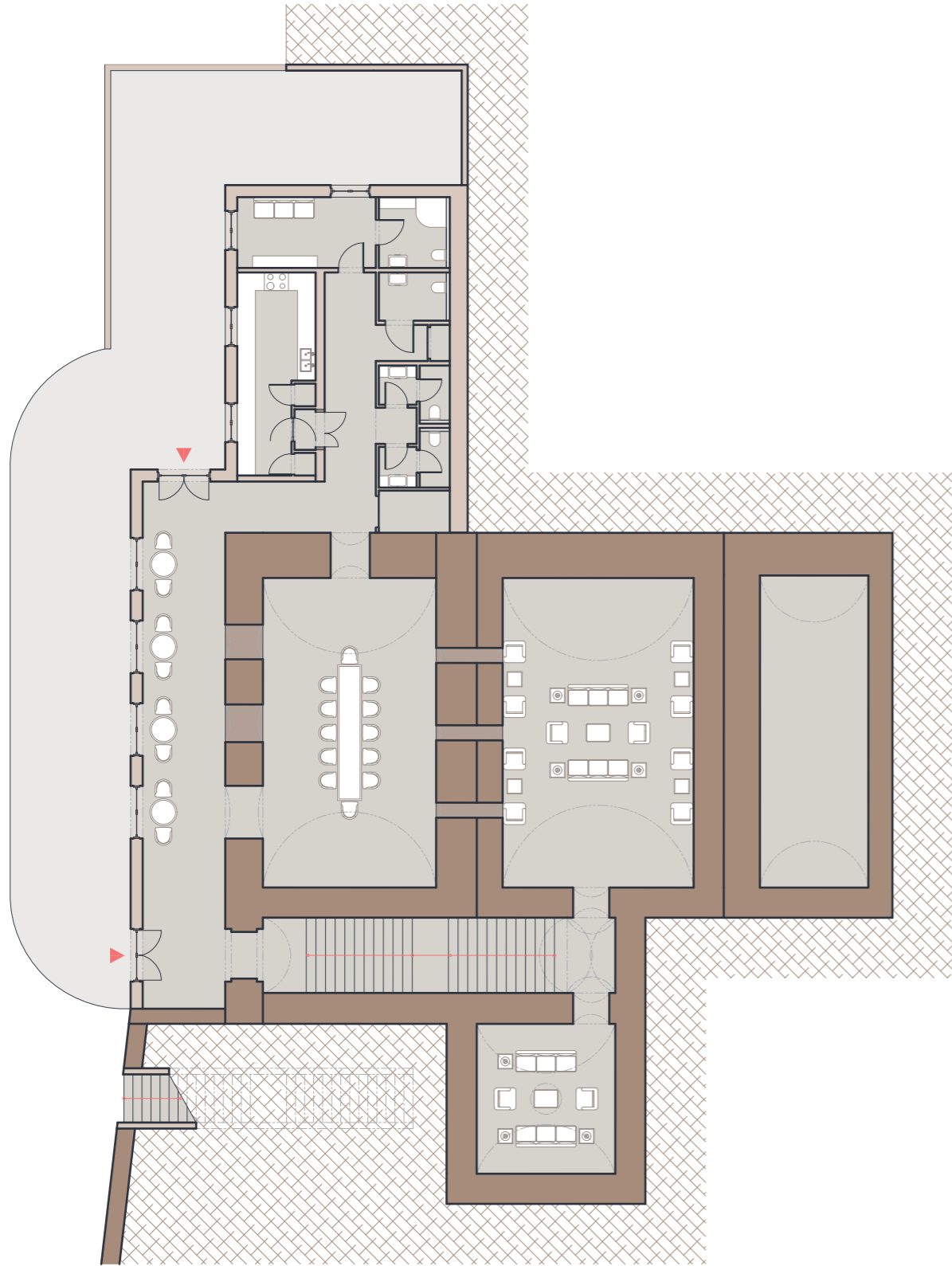


Left (NE)

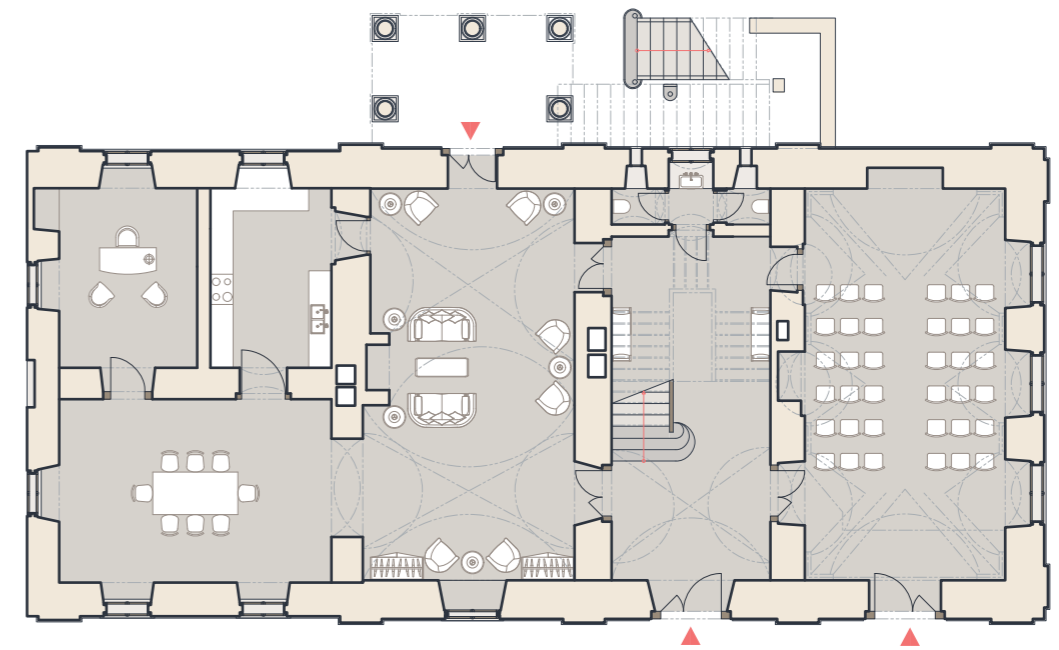
0 1 5 10m

Scale 1:200

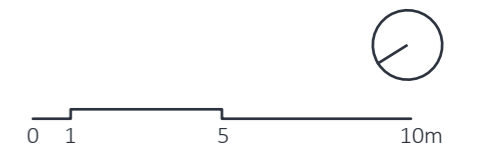
# Plans



Cellar Levels



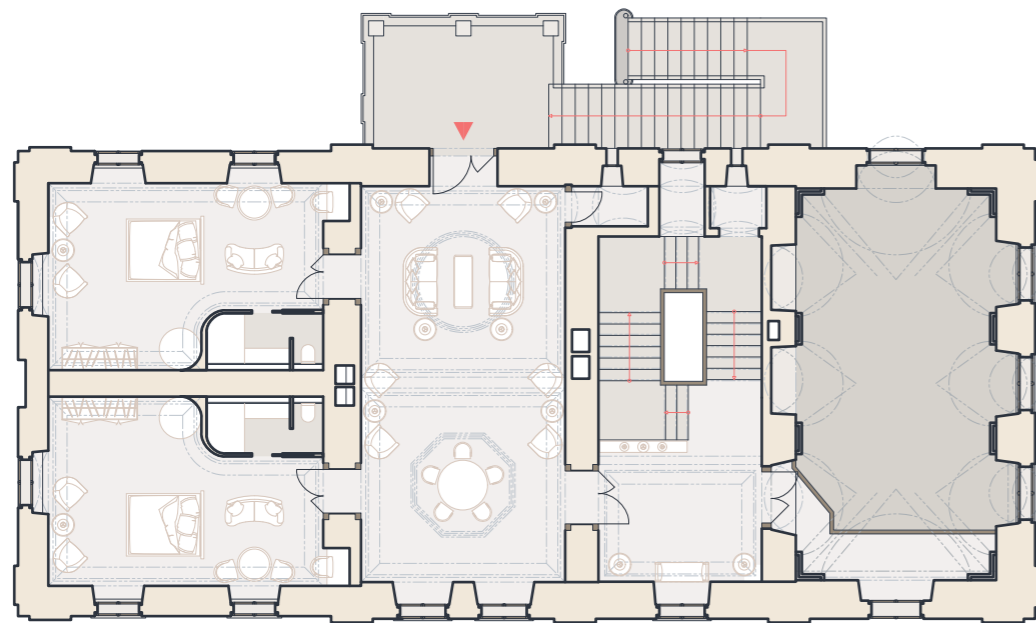
Groundfloor



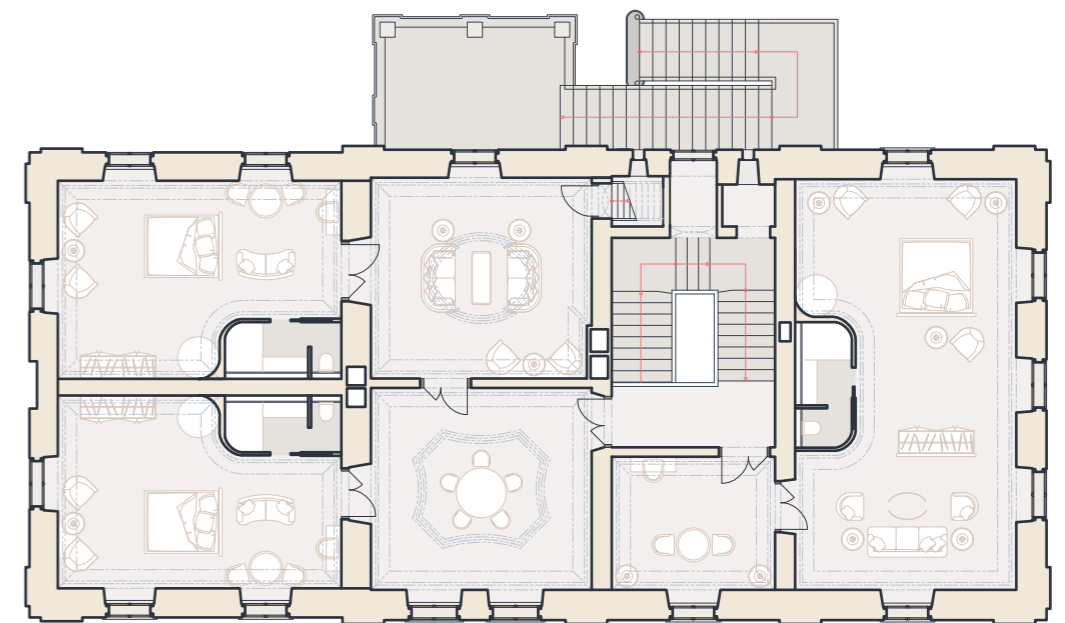
Scale 1:200



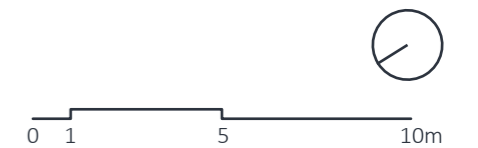
# Plans



First Floor



Second Floor



Scale 1:200

# Sections



Section A



Section D

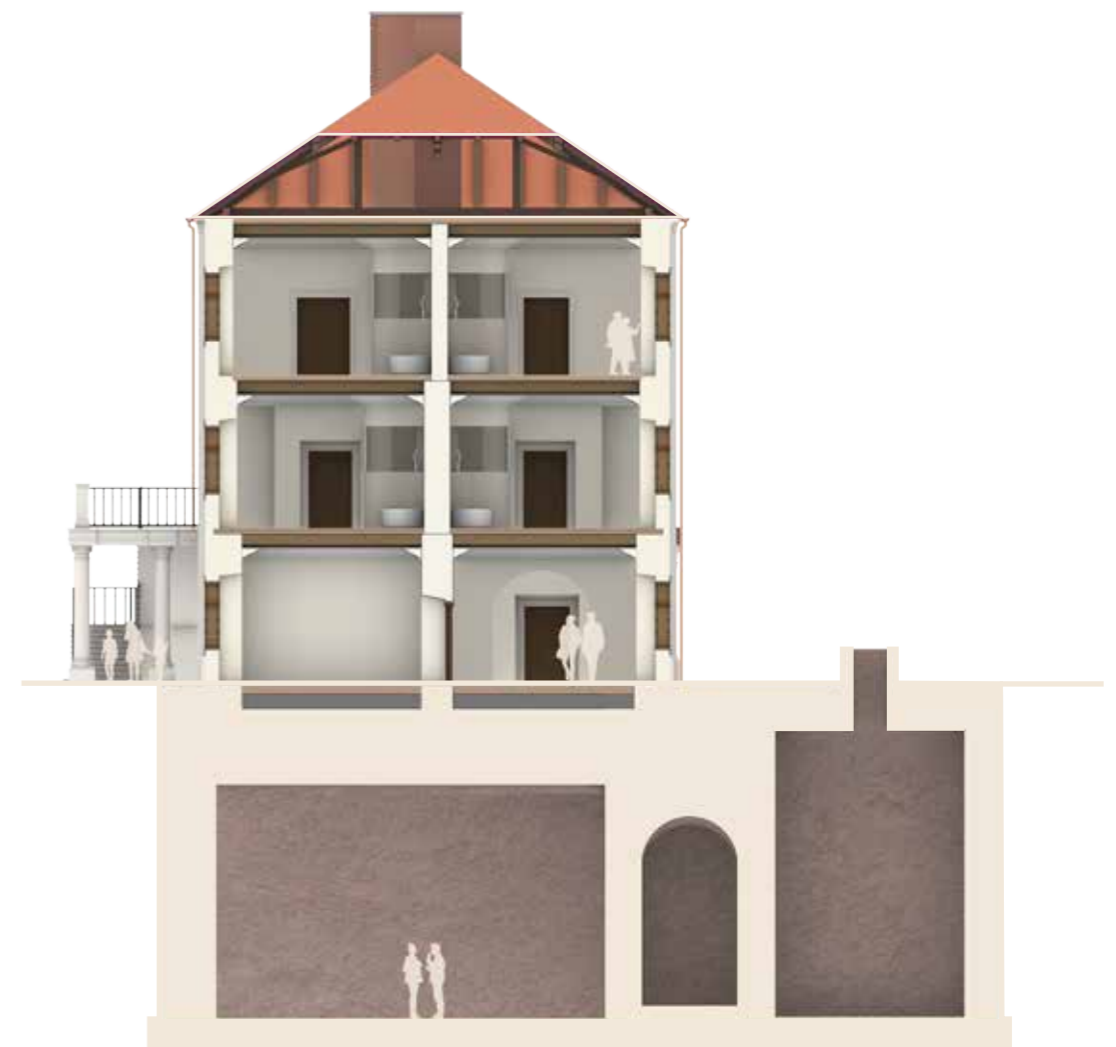
0 1 5 10m

Scale 1:200

# Sections



Section B



Section C

0 1 5 10m

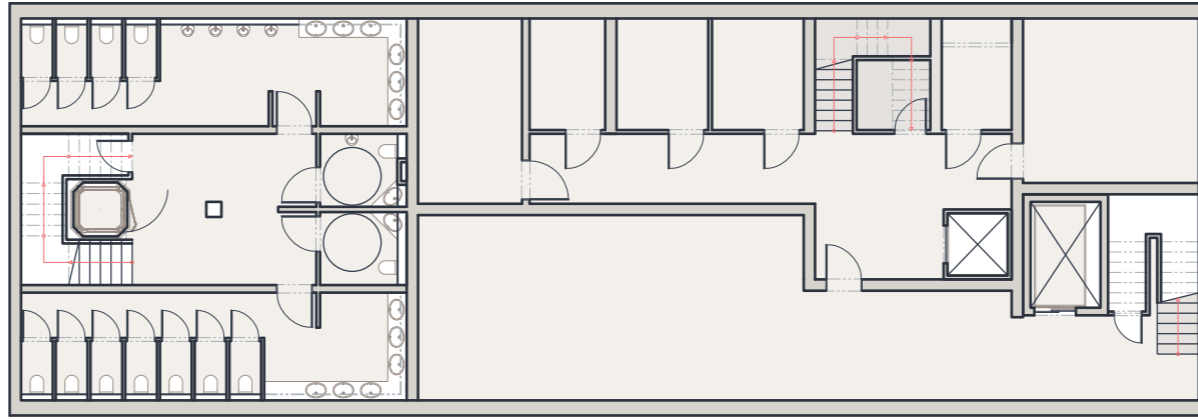
Scale 1:200



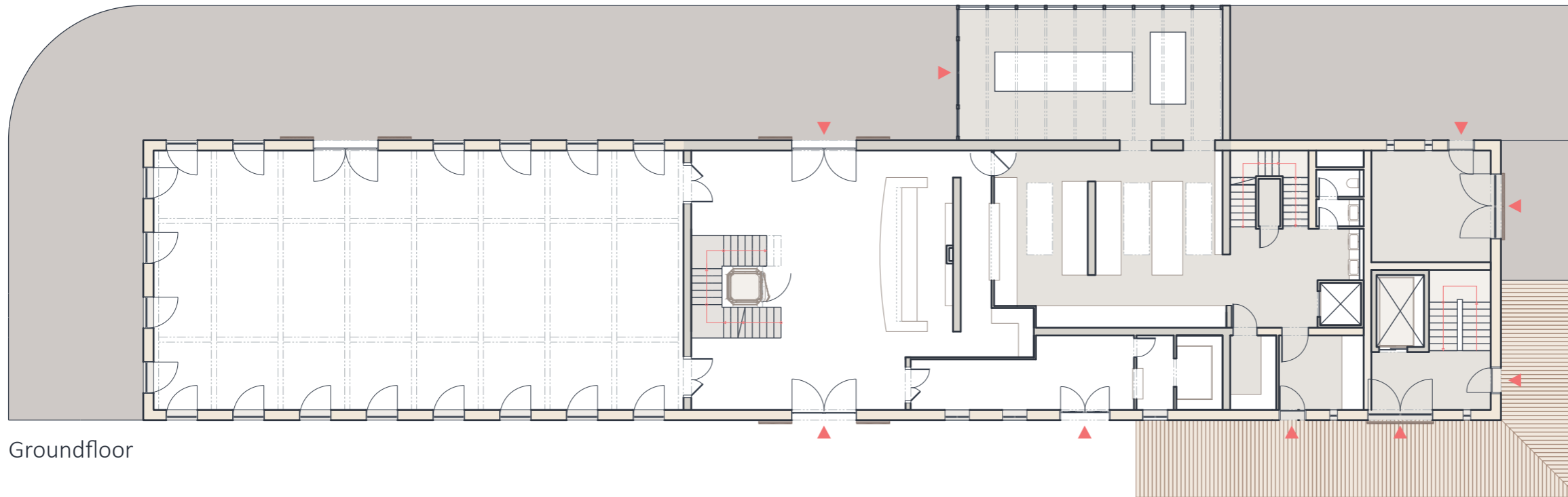
New Structures

# Restaurant Plans

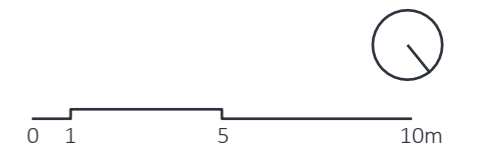
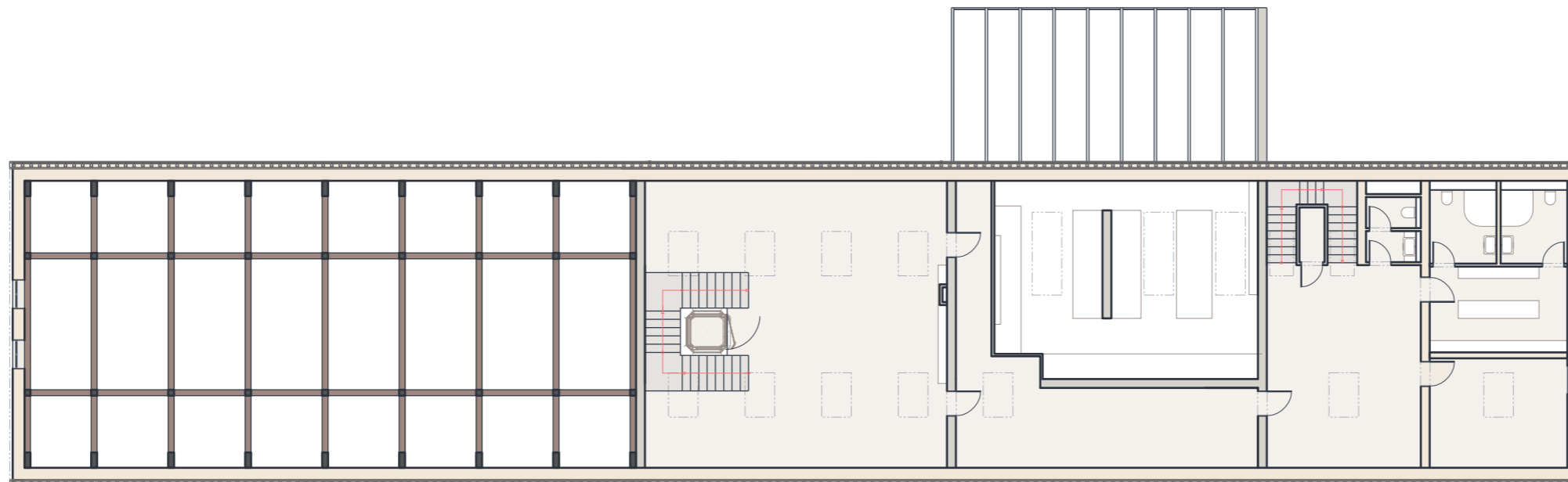
Basement



Groundfloor

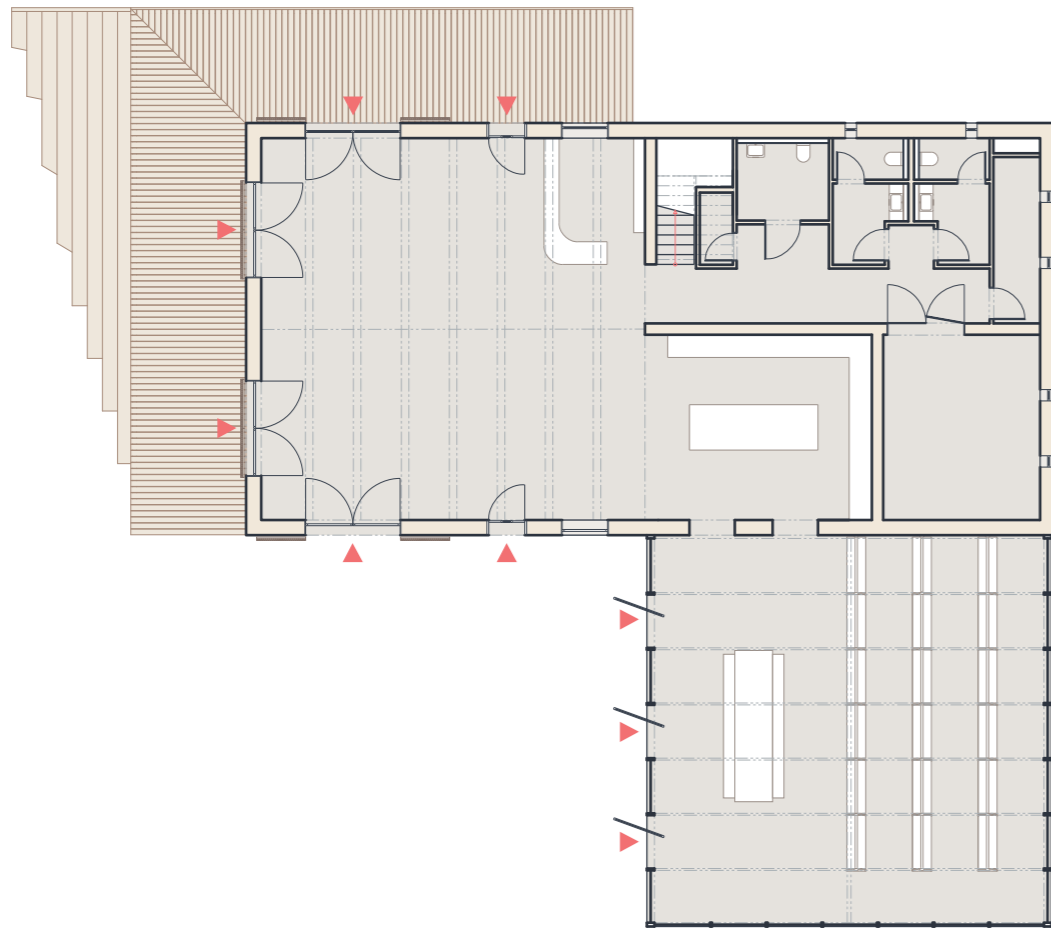


First Floor

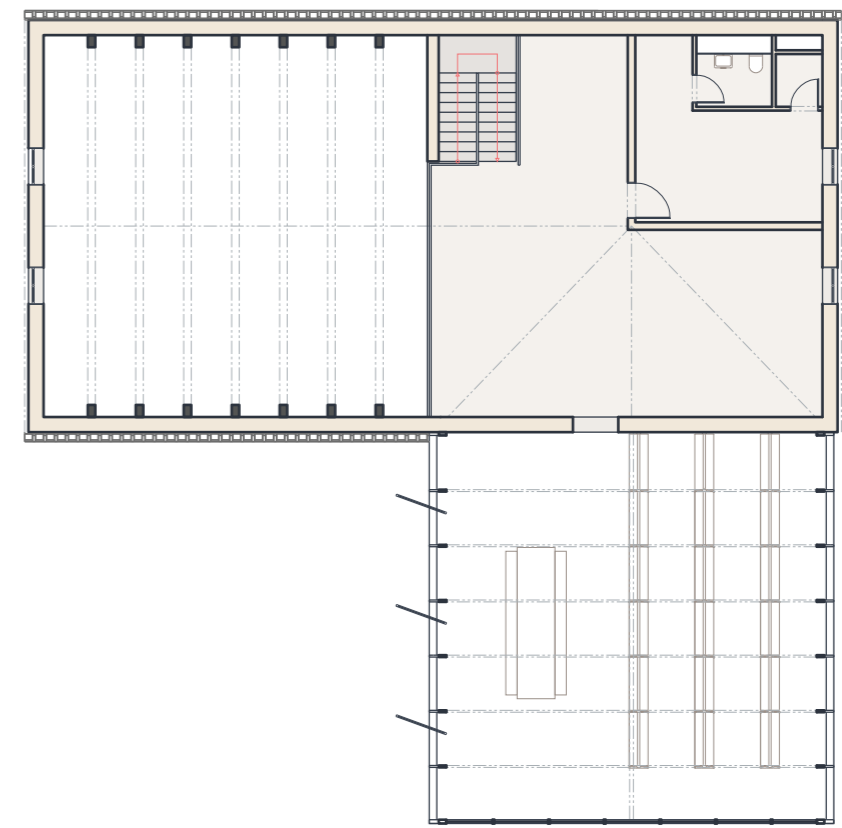


Scale 1:200

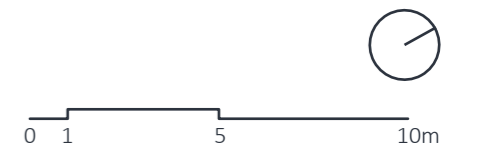
# Community Center Plans



Groundfloor

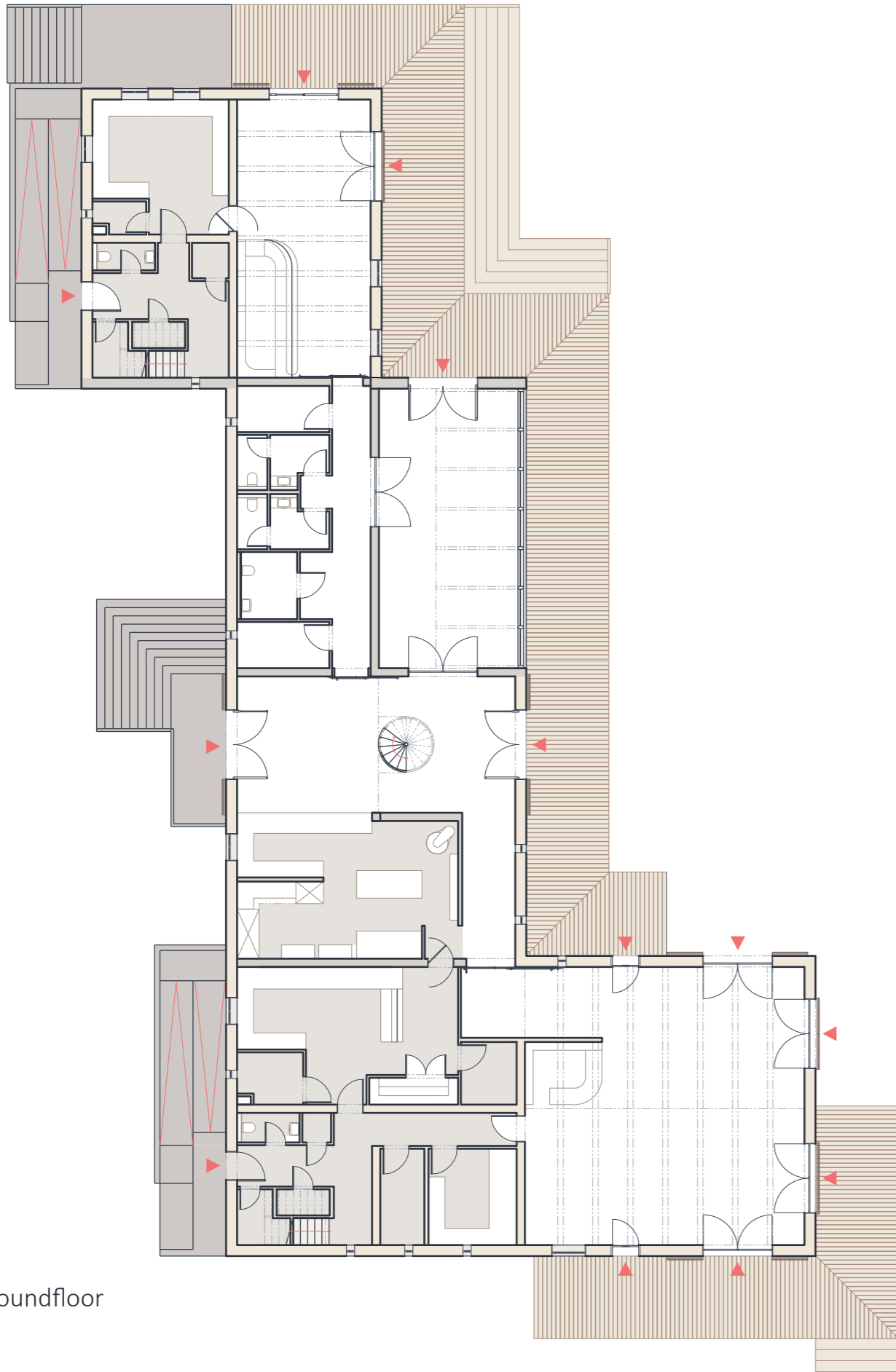


First Floor

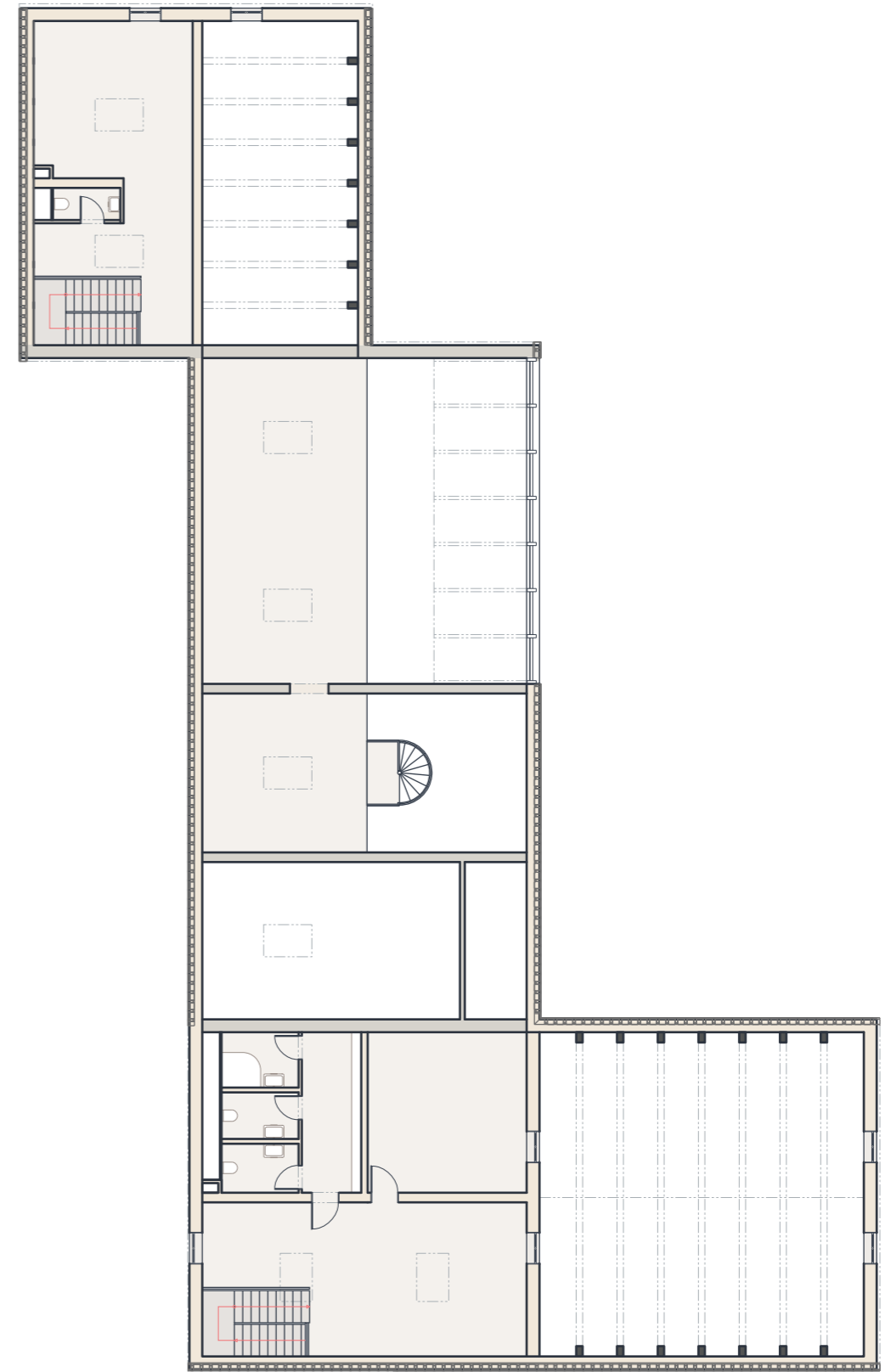


Scale 1:200

# Multi-Purpose Structure Plans



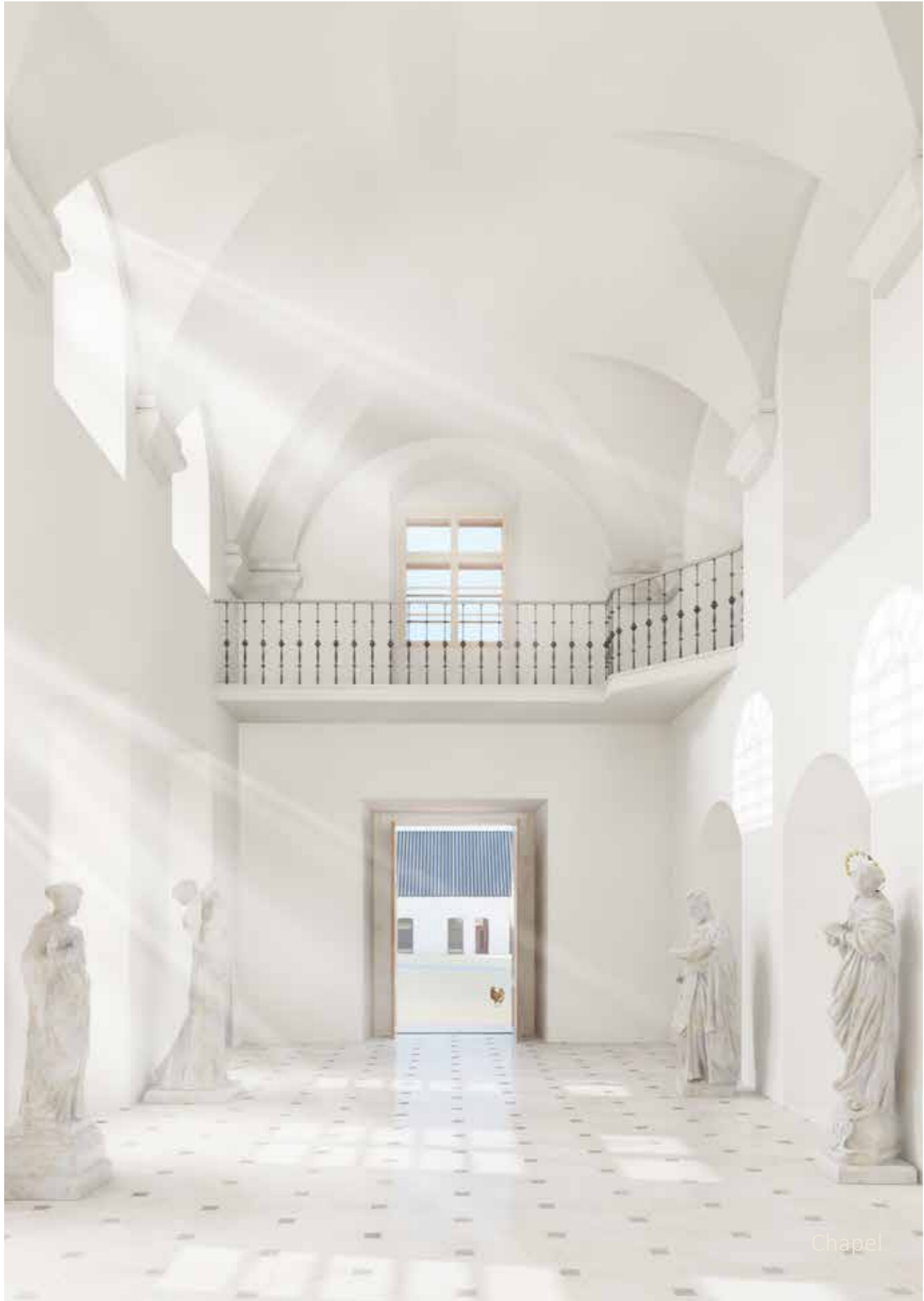
Groundfloor



First Floor

0 1 5 10m

Scale 1:200



Chapel

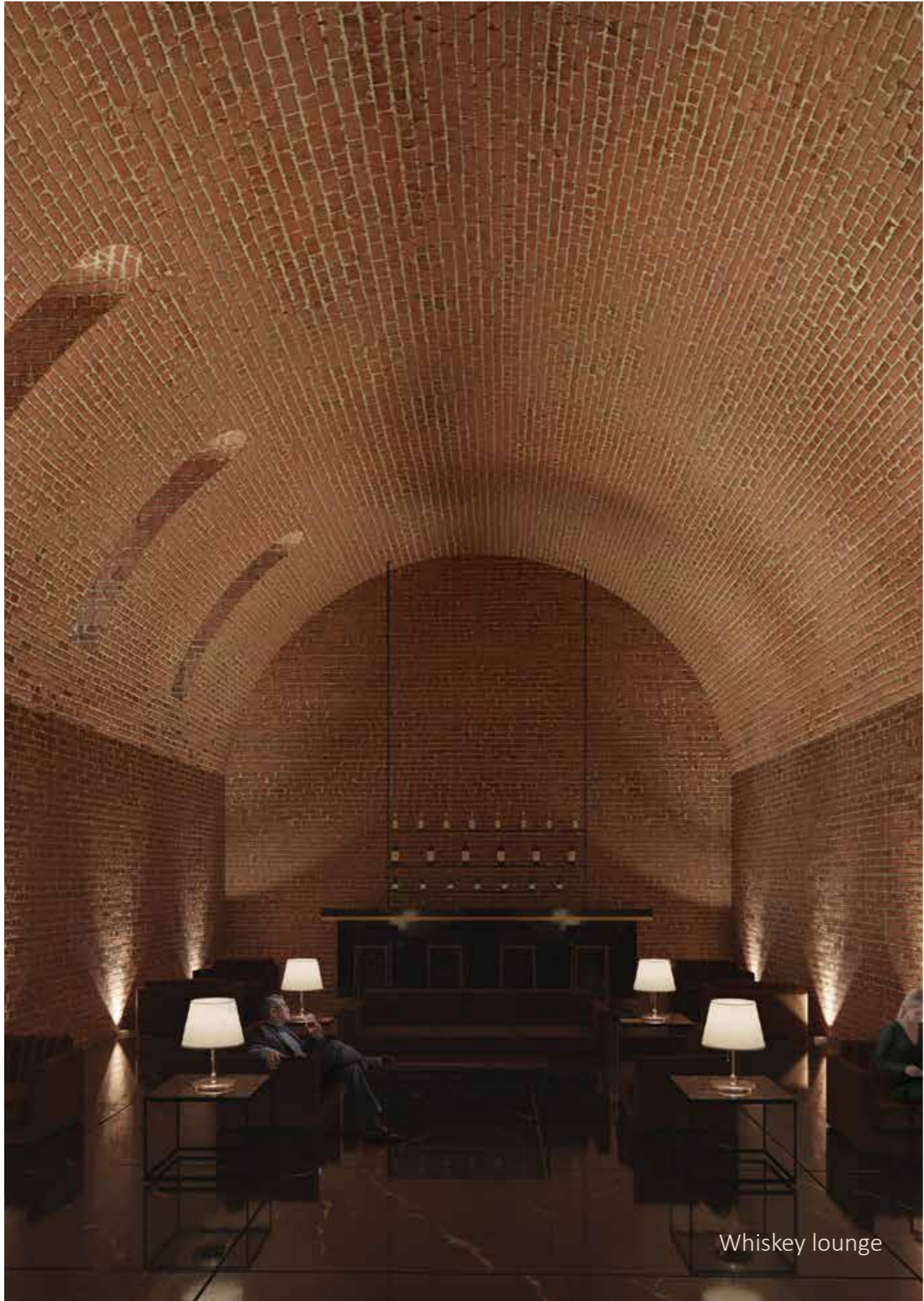


Main Hall





Back of Castle



Whiskey lounge



Events Hall

## Sources

New Urban Plan and Legend: [https://www.obeczdiaby.cz/assets/File.ashx?id\\_org=19241&id\\_dokumenty=1718](https://www.obeczdiaby.cz/assets/File.ashx?id_org=19241&id_dokumenty=1718)

Historic Photos: <https://www.rajce.idnes.cz/karelsebek/album/zamek-brnky-fotodokumentace-historie>

Military survey maps: <http://oldmaps.geolab.cz/>

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Urban plans: <https://www.obeczdiaby.cz/>

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Historical analysis reference: M. Rykl- *Hlubkový stavebně historický průzkum pro potřeby památkové péče*

Influences: <https://www.ekonom.dk/urbanvillage>  
<https://www.ekonom.dk/regenvillages>  
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<https://www.ekonom.dk/naturbyen>

