As I approached the P3 period, my focus shifted towards the materialization of the building and the thoughtful consideration of materials and their significance in the overall design. This stage presented an opportunity to delve deeper into the physical manifestation of the museum, exploring how materials could contribute to its aesthetic, functional, and conceptual qualities.

As a group, we collectively began by researching various materials and studying their characteristics, such as texture, color, transparency, and durability. This exploration allowed me to understand how different materials could be applied to different areas of the museum, considering factors such as their performance, maintenance requirements, and their ability to age gracefully over time. Moreover, we considered the environmental impact of the chosen materials, aiming to prioritize sustainability and responsible design practices. This involved exploring options such as recycled or low-impact materials, as well as considering the lifecycle of the materials to minimize waste and promote a more sustainable approach. Additionally, I also contemplated the significance of materials in creating a sensory and climatically comfortable experience for visitors. How would the tactile qualities of the materials influence the perception and interaction with the building and with art? How would the play of light and shadow on different surfaces create dynamic and engaging spaces? These questions guided my exploration and informed the selection of materials that would evoke specific moods, enhance spatial experiences, and create a cohesive design narrative.

At this stage, a significant breakthrough occurred as I connected the idea of digging underground with the potential of utilizing excavated soil as a building material. This realization sparked a new narrative that spoke to the palimpsest of layers within the Zuiderdokken area. The concept of excavation and the use of excavated soil as a building material allowed me to delve deeper into the history and context of the site. I explored the layers of time and the accumulation of different narratives that had shaped the area over the years.

By incorporating the excavated soil into the design, I aimed to honor the history and memory of the site, as well as establish a connection between the past and the present. This approach reflected a sustainable mindset, as the repurposing of materials from the site minimized waste and embodied a circular design approach.

Furthermore, the use of excavated soil as a building material brought a unique texture and visual quality to the museum. It imbued the architecture with a sense of rootedness and authenticity, blurring the boundaries between the built environment and the natural landscape. This story of layers and the transformative potential of excavated soil became an integral part of the design narrative. It resonated with the concept of the museum as a place of exploration, both in terms of artistic expression and the physical layers of the site. It added depth and meaning to the architectural intervention, inviting visitors to engage with the history, context, and materiality of the place in a profound way.

An Architecture For Art

Graduation Project 2022-23

Materialisms © Roshan Adhihetty. Source: eflux

Materials Matters

Material culture and the material presence of things is a fundamental concern for what we might consider as contemporary art, with what things are made of and how they are made defining the conception, image or aura established by the resulting piece. These material conditions might be found, left raw or become highly refined and/or composed. At the start of the MSc4 course, this first brief asks each of you, alongside the ongoing development of the forms, spaces and orders of your project, to begin to address its material character, considering how it is made, what it might be made from or finished with and the resulting image it projects. This will not only encompass the visual character of a material but also influence the ways in which it meets other materials or is assembled, thus defining the resulting tectonic character of your building.

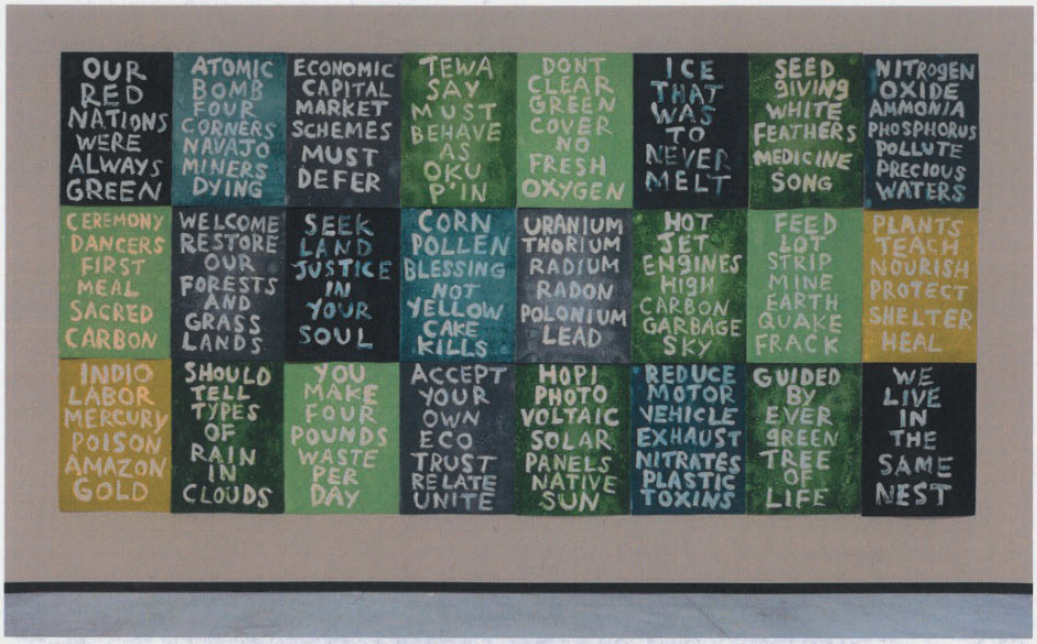
Such concerns are essential in conceiving authentic architecture, yet we are now fully aware that we must address other, even more fundamental, questions with urgency. These are embodied in the choices many of you have already made within this project, in your proposals to keep elements of the existing structure on the site, or even to work with the museum as found. 'What should we build?' and 'with what can we build today?' have become pressing questions for our profession. As a generation of young architects, starting your careers, you have been confronted with the overwhelming scientific consensus that our collective, societal failure to address resources in a sustainable way is driving our planet into a potentially irreversible process of destructive degradation. A process that will make it less inhabitable for us all. The realisation that processes of building construction and demolition, together, account for almost 40% of the World's carbon footprint means that architects must shoulder a significant share of the ethical responsibility to radically reduce waste and material consumption and seek to work in relation to the very finite resources available. Beyond the possibilities for architectural expression defined through the material and tectonic choices you make, this brief asks you to take the next step in considering these questions of how a building can be sustainable, encompassing questions of resource use, circularity and operational consumption, but also addressing the social consequences of a material choice or a construction process.

Working individually or in groups, as you choose, you will investigate the materials you are considering to employ within your proposals. These might be ones traditionally used in construction, for example timber or concrete (precast and insitu), looking at the typical ways in which they are employed in the making of buildings, and exploring how their manufacture, usage and potential for circularity can or might be optimised. Equally, your research might lead you to more experimental or less-tested materials or composites. In either case, you should look at both traditional and more innovative practices and methods, exploring their risks and opportunities. The specific concerns will vary

Interiors
Buildings
Cities

Palace

An Architecture For Art



Hock e Aye Vi, Edgar Heap of Birds, Our Red Nations Were Always Green, 2021, primary print.

depending on the material and processes being investigated and the scale and depth of investigation will depend on the scale of your group. No two groups should look at the same thing and as a studio, you will be required to present your work collectively in a way that allows for materials to be composited and easily compared. You will therefore need to consider a format that will include a comparative table, addressing materials and processes in relation to each other, alongside detailed chapters on each individually. The resulting document will form a component of your submission at the end of the year. We strongly encourage you to engage in hands-on research - in addition to the classic online version. In previous years, some students participated in building workshops to fully understand the complexities of the investigated materials or tested the making of a small building fragment on an appropriate scale.

Alongside this material research, you will need to show how your choices are translated into the architecture of your building. You will address these both strategically, through diagrams and drawings describing the orders and processes of construction and deconstruction, and in detail, through the production of a detailed three-dimensional fragment of the building, which will include part of the façade. You should explore the former through digital and/or physical modelling alongside detailed plans and sections through the building envelope at a large scale. Both will require input from both design tutors and your architectural engineering and technology tutor.

Interiors
Buildings
Cities

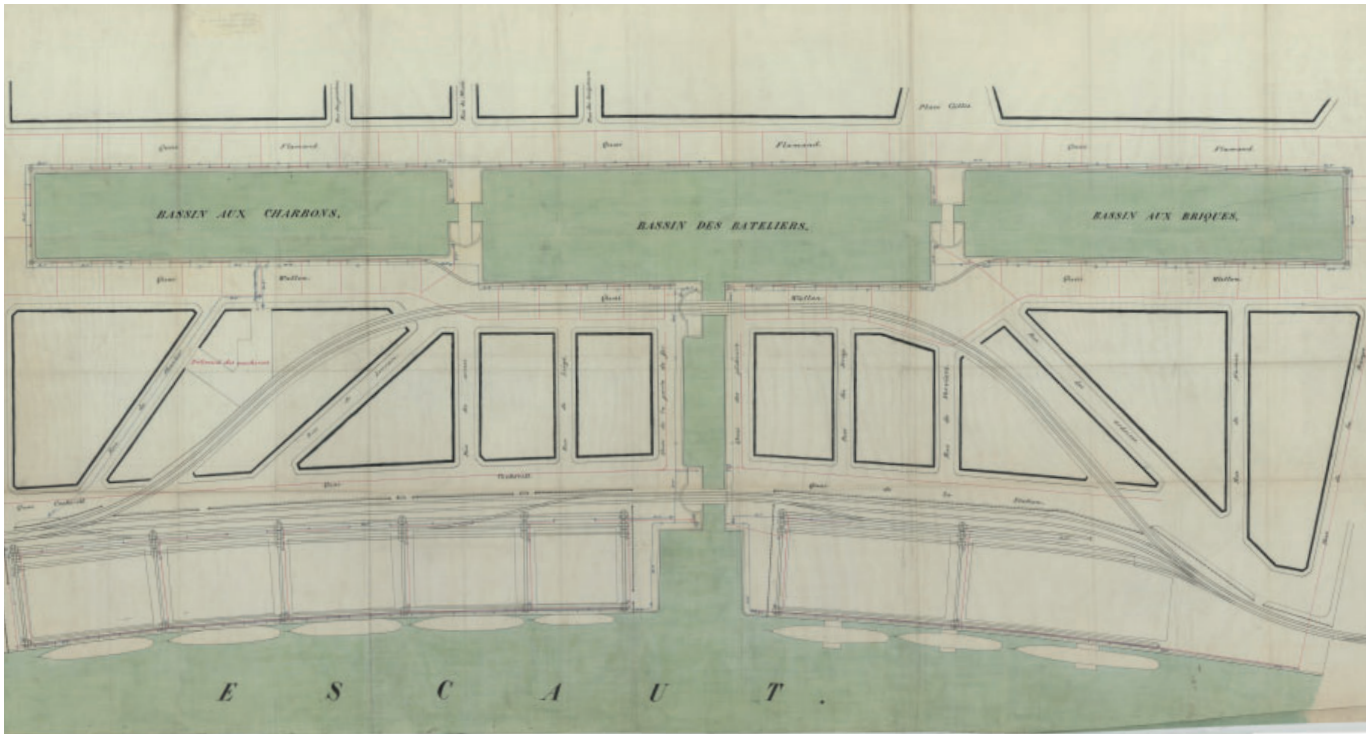
Palace

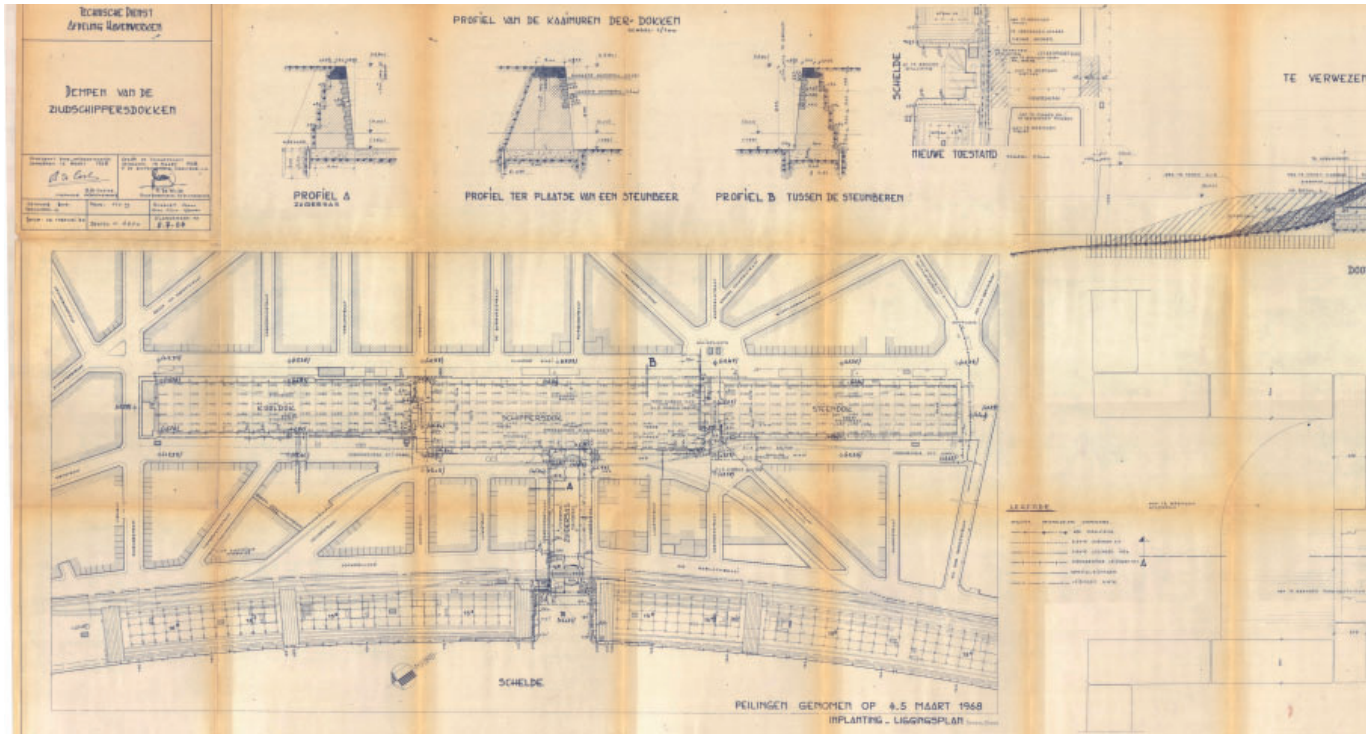
The Zuiderdokken area in Antwerp holds a rich history that spans several centuries. Originally, the site was part of the city's port, serving as a crucial hub for maritime trade and commerce. The docks in Zuiderdokken played a significant role in facilitating the exchange of goods and fostering economic growth for the city.

As the needs of Antwerp's port evolved and shifted to other areas, the Zuiderdokken docks gradually ceased their operations. The decline in maritime activities, changes in trade patterns, and the city's overall urban development contributed to the decommissioning of the docks. The docks lost their significance as a primary hub for port activities. This decline led to a period of neglect and abandonment, with the docks falling into disuse.

After the docks were filled with soil, the resulting land in the Zuiderdokken area remained relatively unused for a considerable period. It became a vacant and undeveloped space, often referred to as a wasteland, in the heart of the district. In the absence of active development or specific designated uses, the area eventually became utilized as a large parking space.

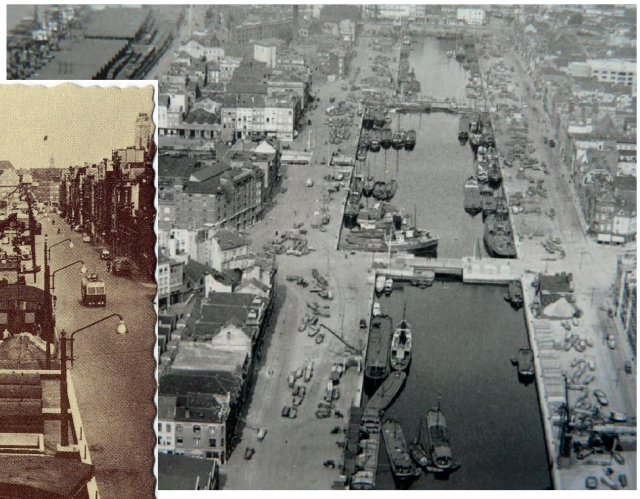
However, more recently, there has been a renewed focus on transforming the former parking area into a more meaningful and vibrant part of the district. Efforts have been made to reevaluate the potential uses of the land and integrate it into the overall redevelopment plans for the Zuiderdokken.





archival drawings of Zuiderdokken [the docks]

source: FelixArchief [felixarchief.antwerpen.be]

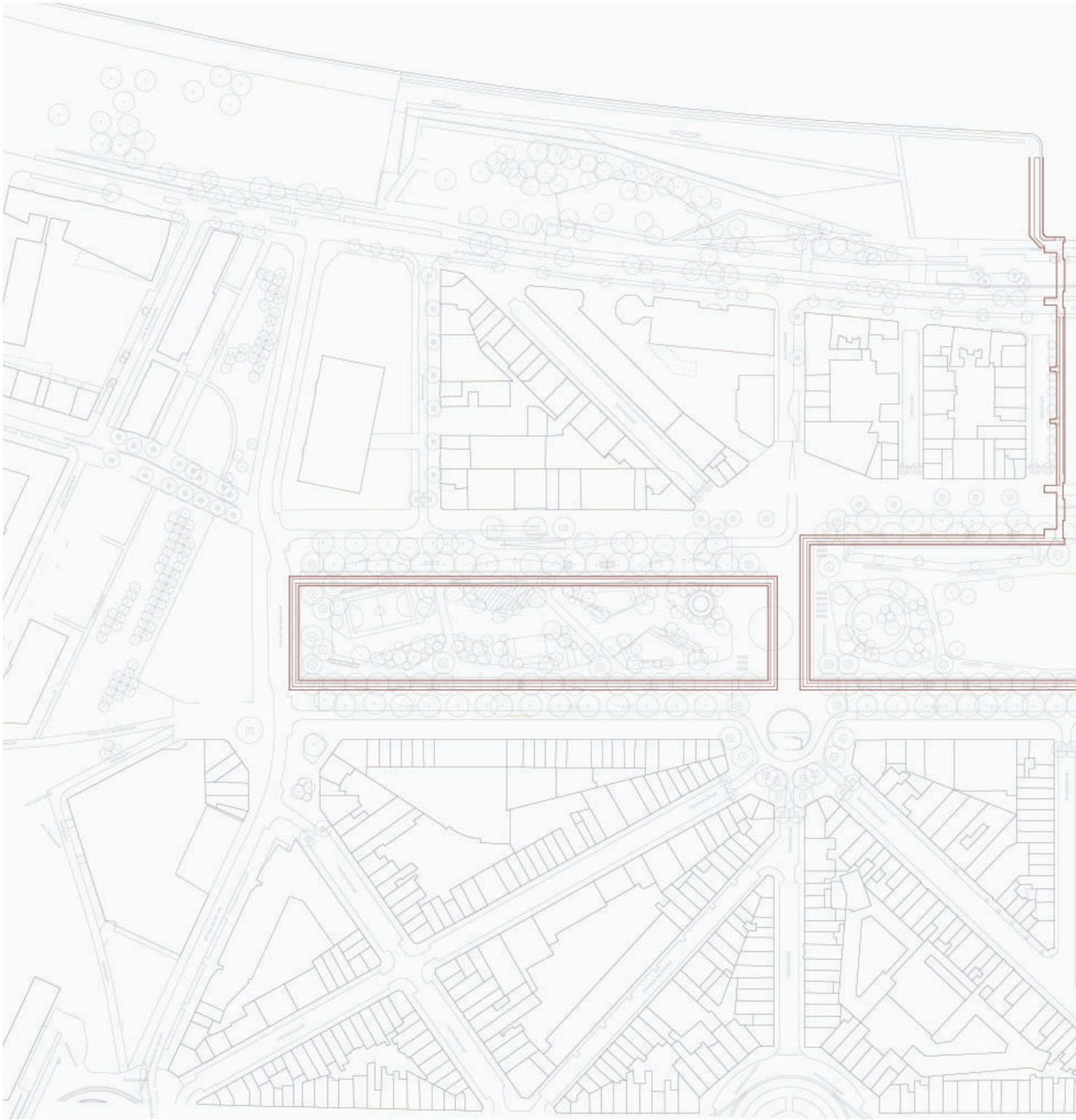


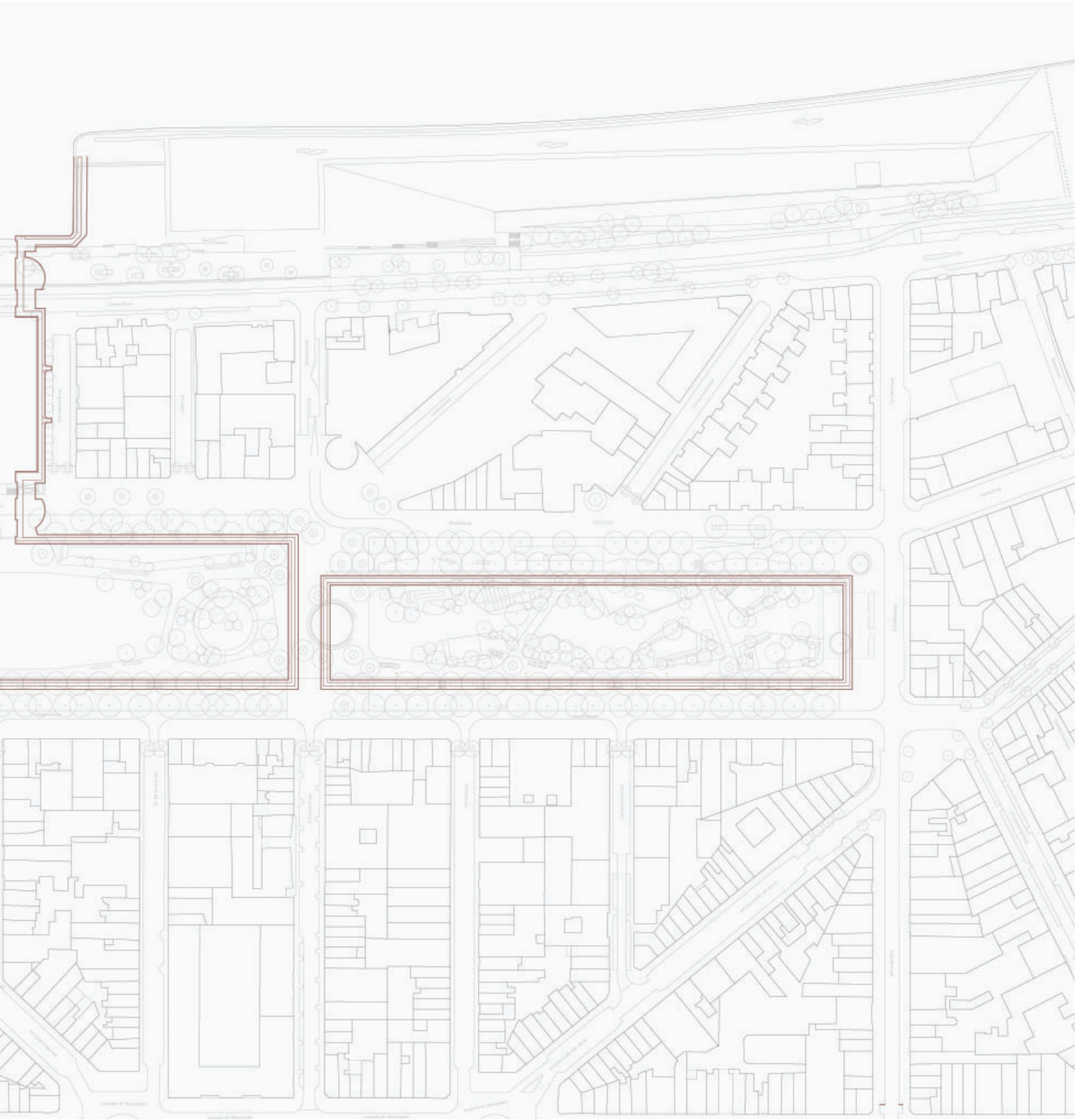
archival imagery of Zuiderdokken [the docks]

source: FelixArchief [felixarchief.antwerpen.be]

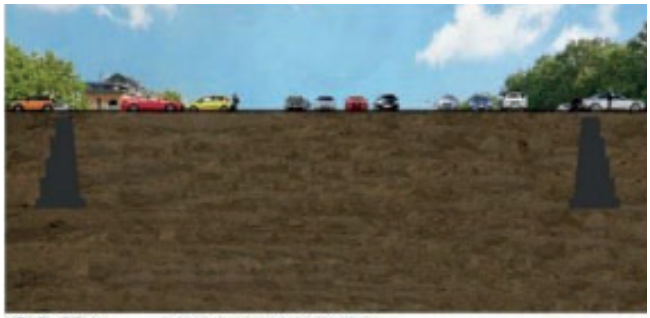
archival imagery of Zuiderdokken [the docks] - after backfilling with soil

source: FelixArchief [felixarchief.antwerpen.be]





1890 - 1969 ZUIDERDOKKEN



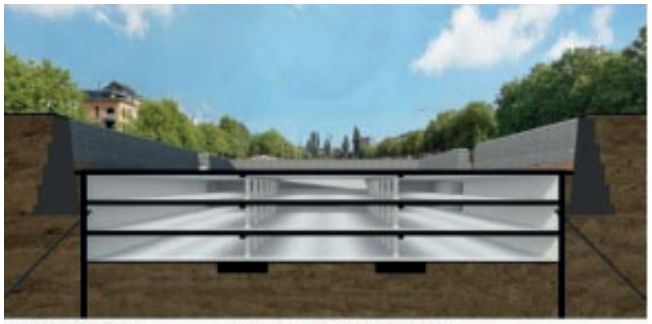
1969 - 2018 GEDEMPTE ZUIDERDOKKEN

SEPTEMBER 2018
- uitgraven tot vloerplaat niveau -1
- afbraak dokmuren ter hoogte van trappenhuizen
- plaatsen slibwanden
- diepbemaling bouwput

NOVEMBER 2018
- uitgraven tot onderkant ankers
- plaatsen ankers

DECEMBER 2018
- uitgraven tot funderingsplaat
- aanbrengen funderingszolen

JANUARI 2019
- aanbrengen kolommen niveau -4, -3, -2
- aanbrengen balken niveau -4, -3, -2
- aanbrengen vloerplaat niveau -4, -3, -2



FEBRUARI 2019
- uitgraven in stross grondbanketten
- storten betonwanden kapse kanten
- storten trappenhuizen niveau -1

EINDE WERKEN: AUGUSTUS 2019
- aanbrengen kolommen, balken, dakplaat niveau -1
- metselwerken, afwerking en technieken
- waterdichting dakplaat

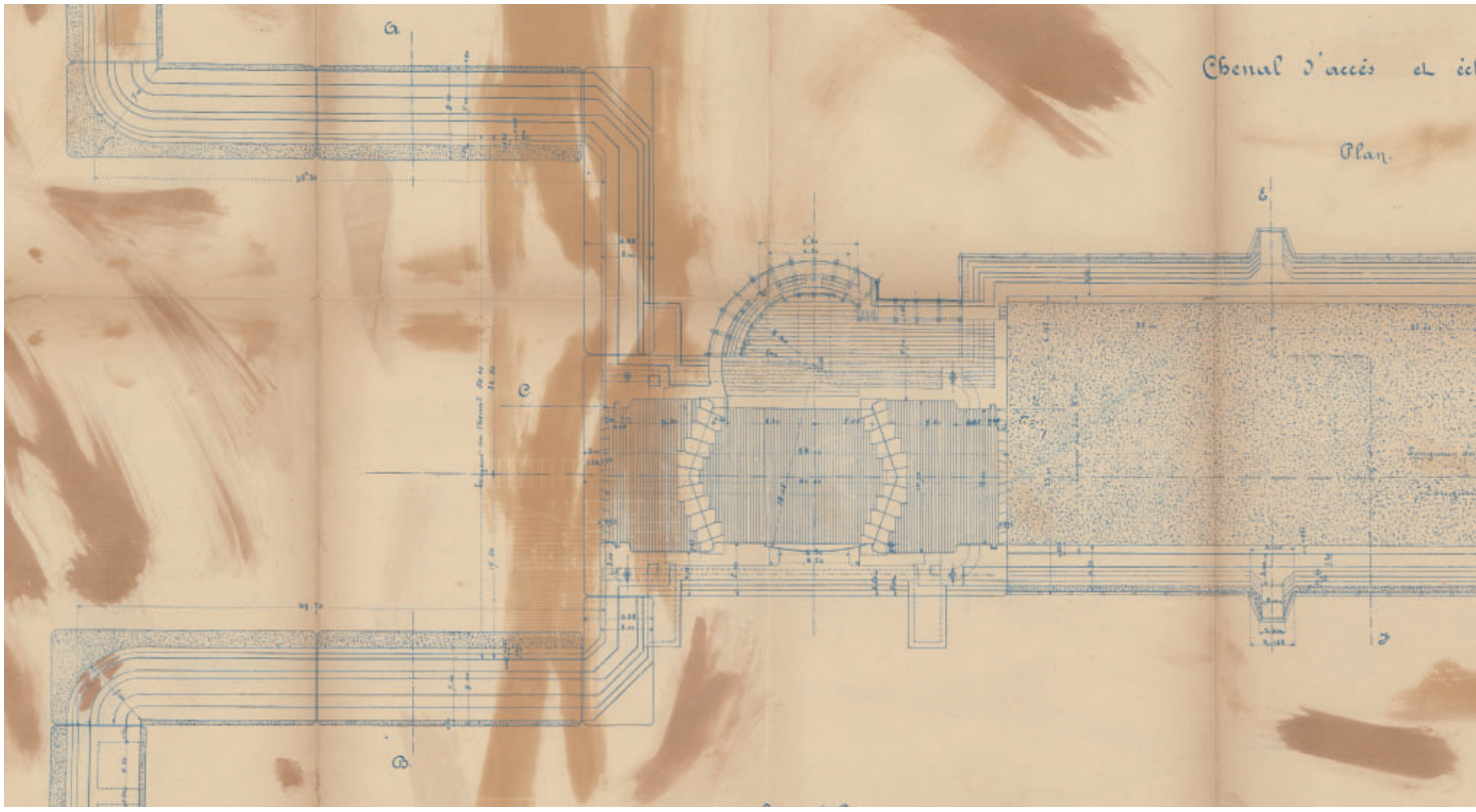
archival drawings of Zuiderdokken [the docks]

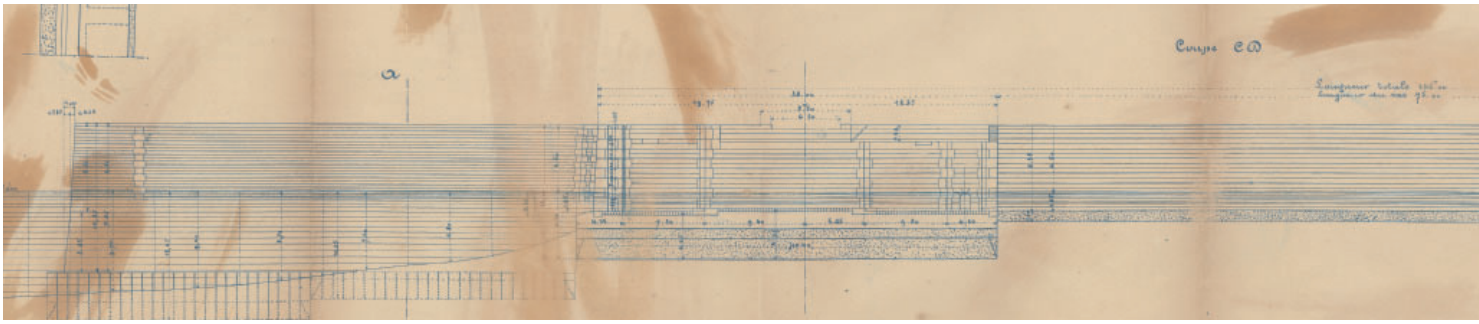
source: FelixArchief [felixarchief.antwerpen.be]

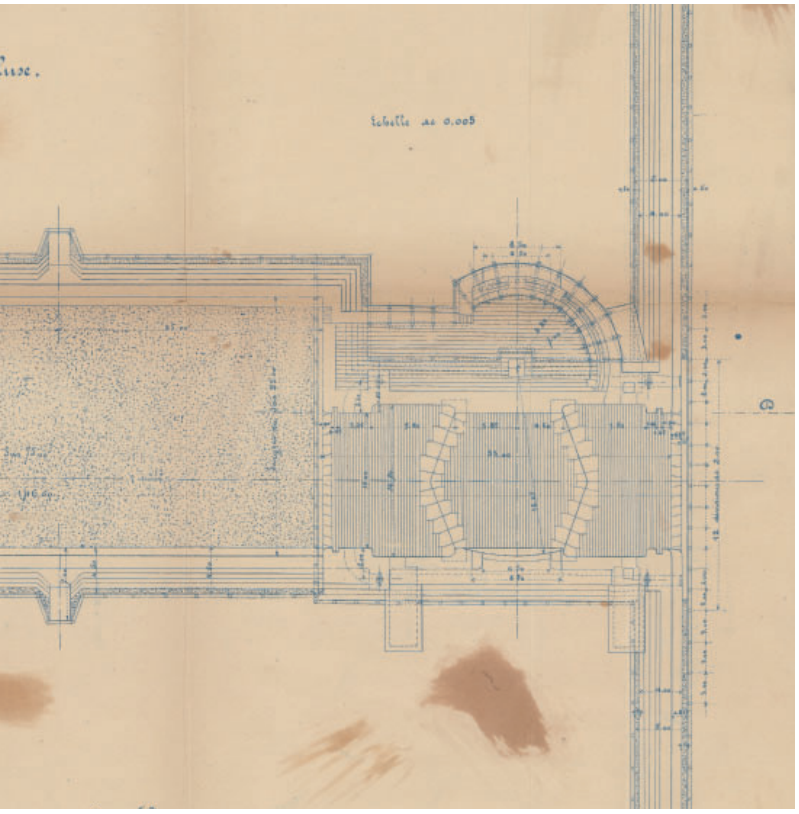
archival images of Zuidersluis [the lock]

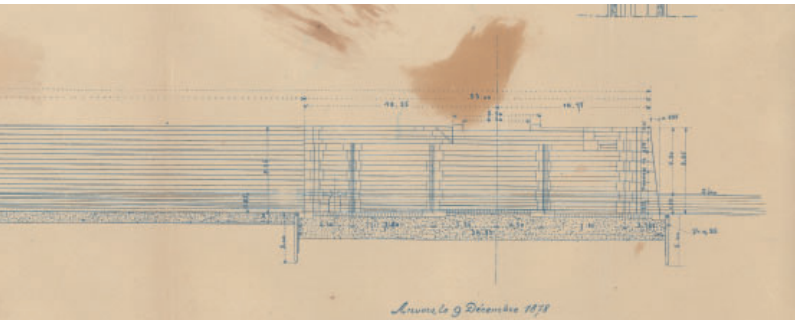
source: FelixArchief [felixarchief.antwerpen.be]

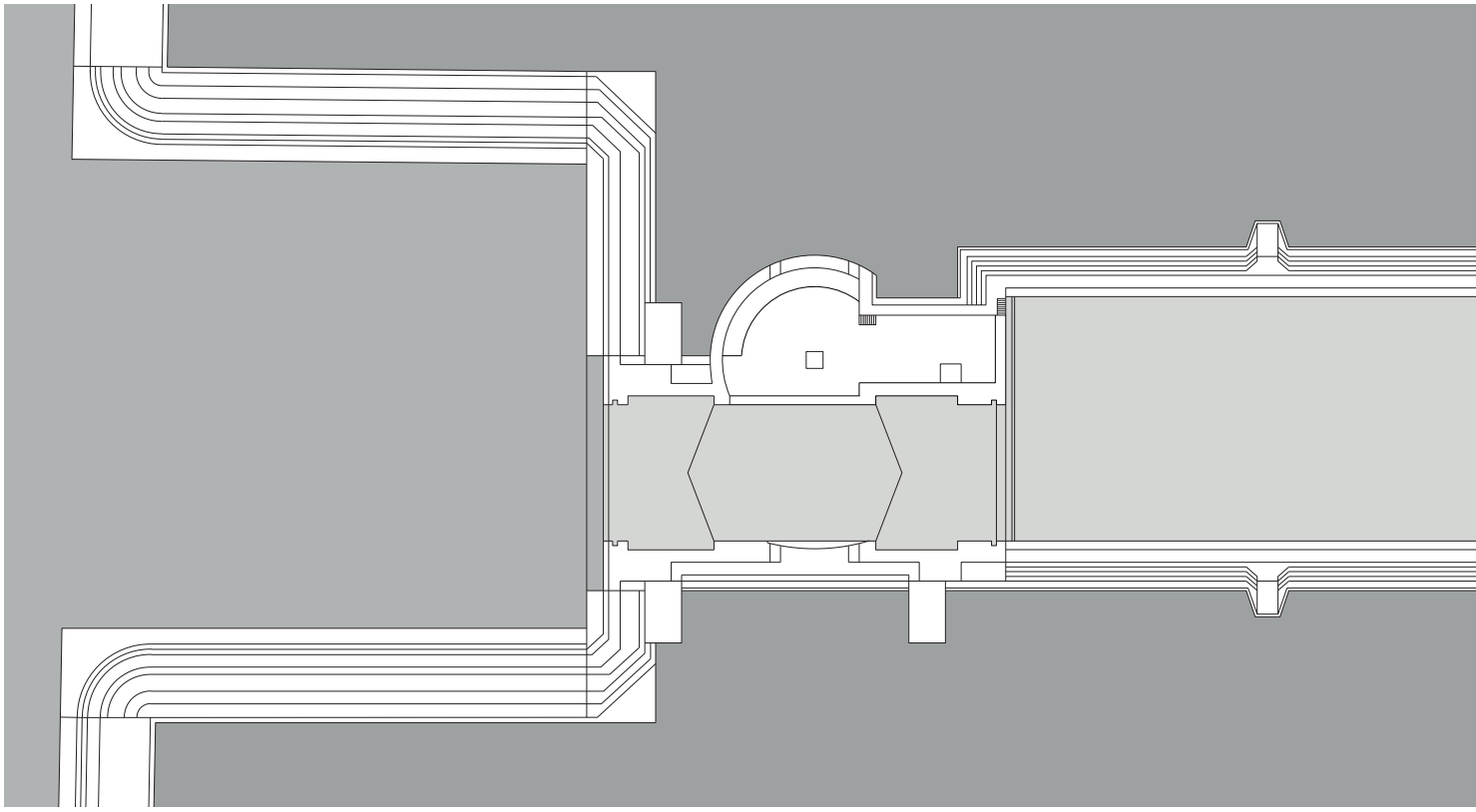
This study effectively highlights that significant portions of the Zuidersluis and Zuiderdokken, although now buried underground, remain remarkably preserved and hold immense historical value. This hidden heritage represents a rich tapestry of the past that eagerly awaits rediscovery and revitalization.

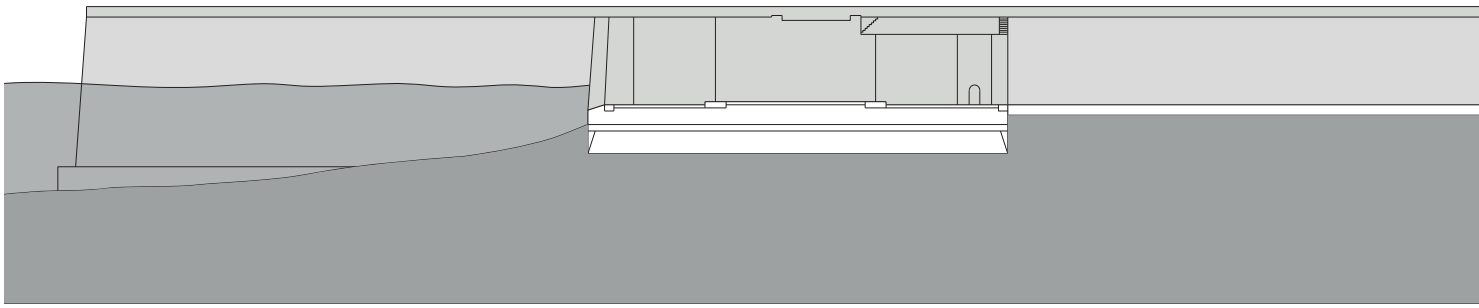

a
Chenal d'accès
Plan.
b
c
d
e

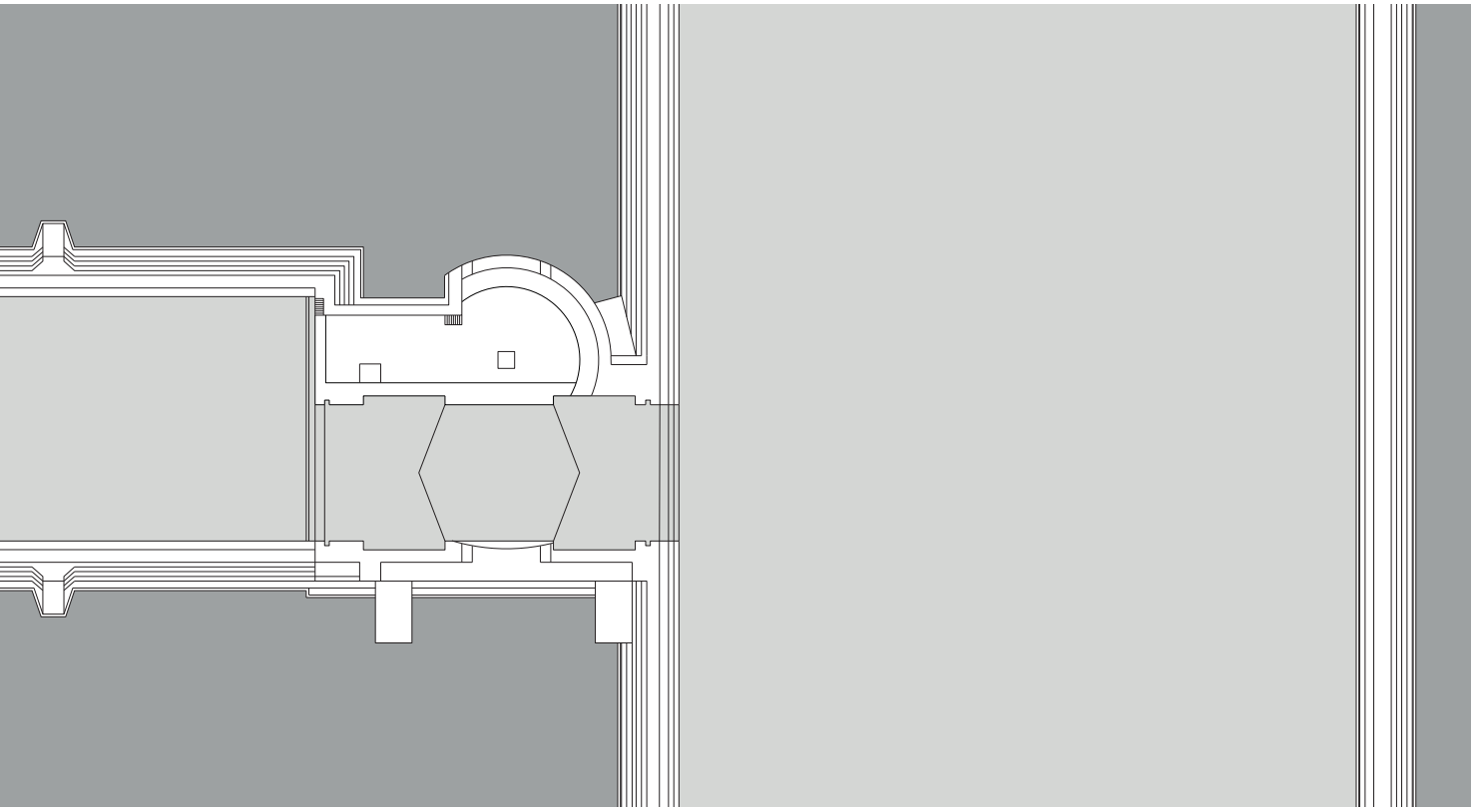

a

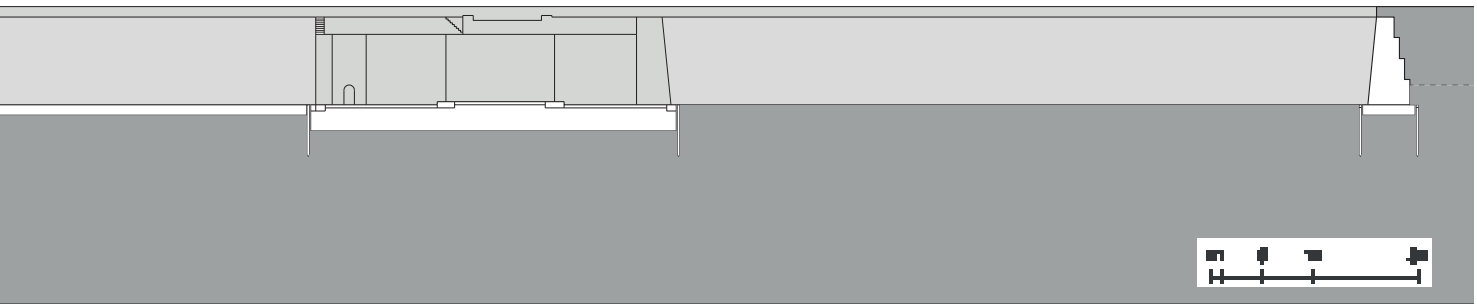

Echelle au 0.005

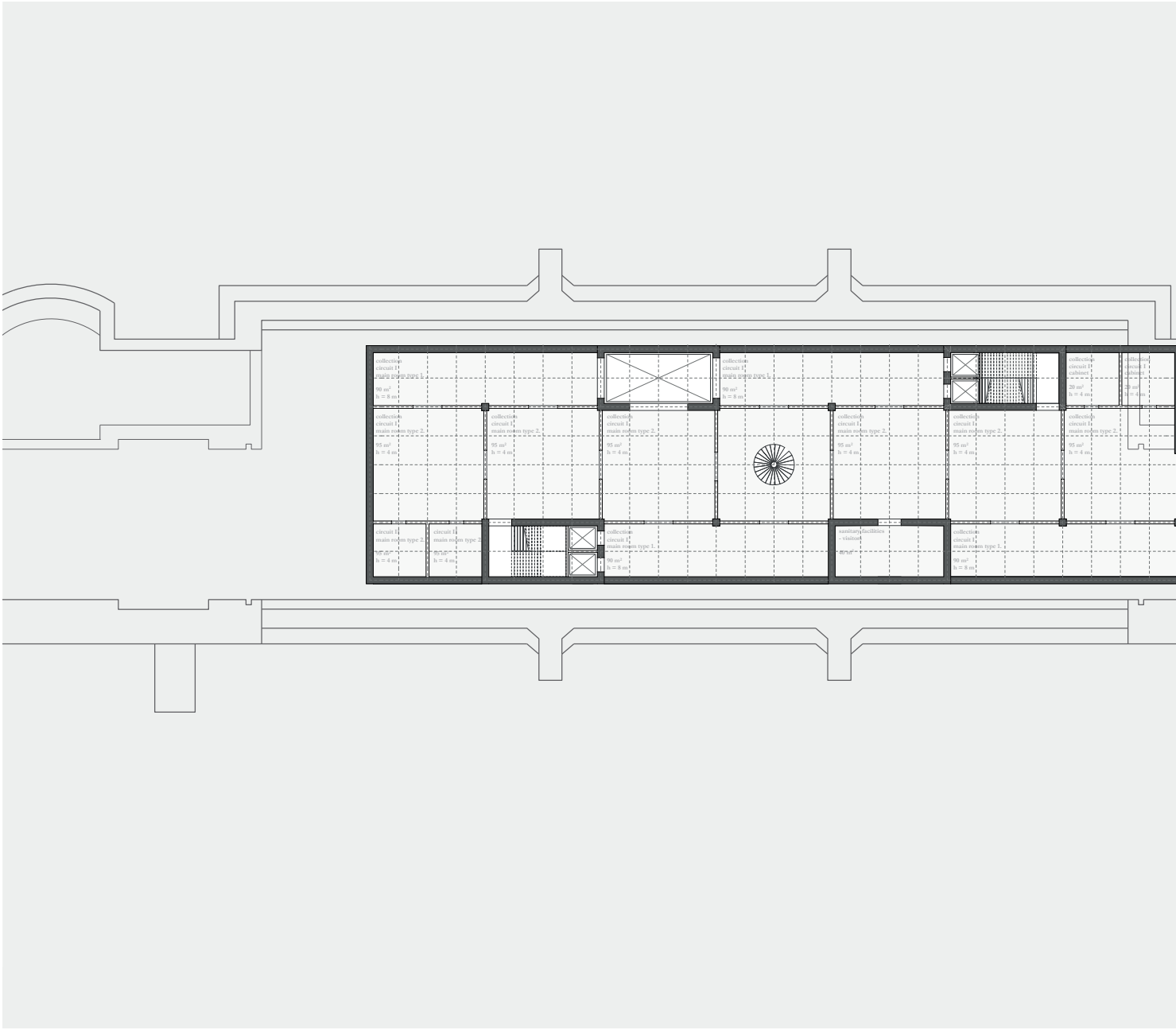

Anvers le 9 Décembre 1878

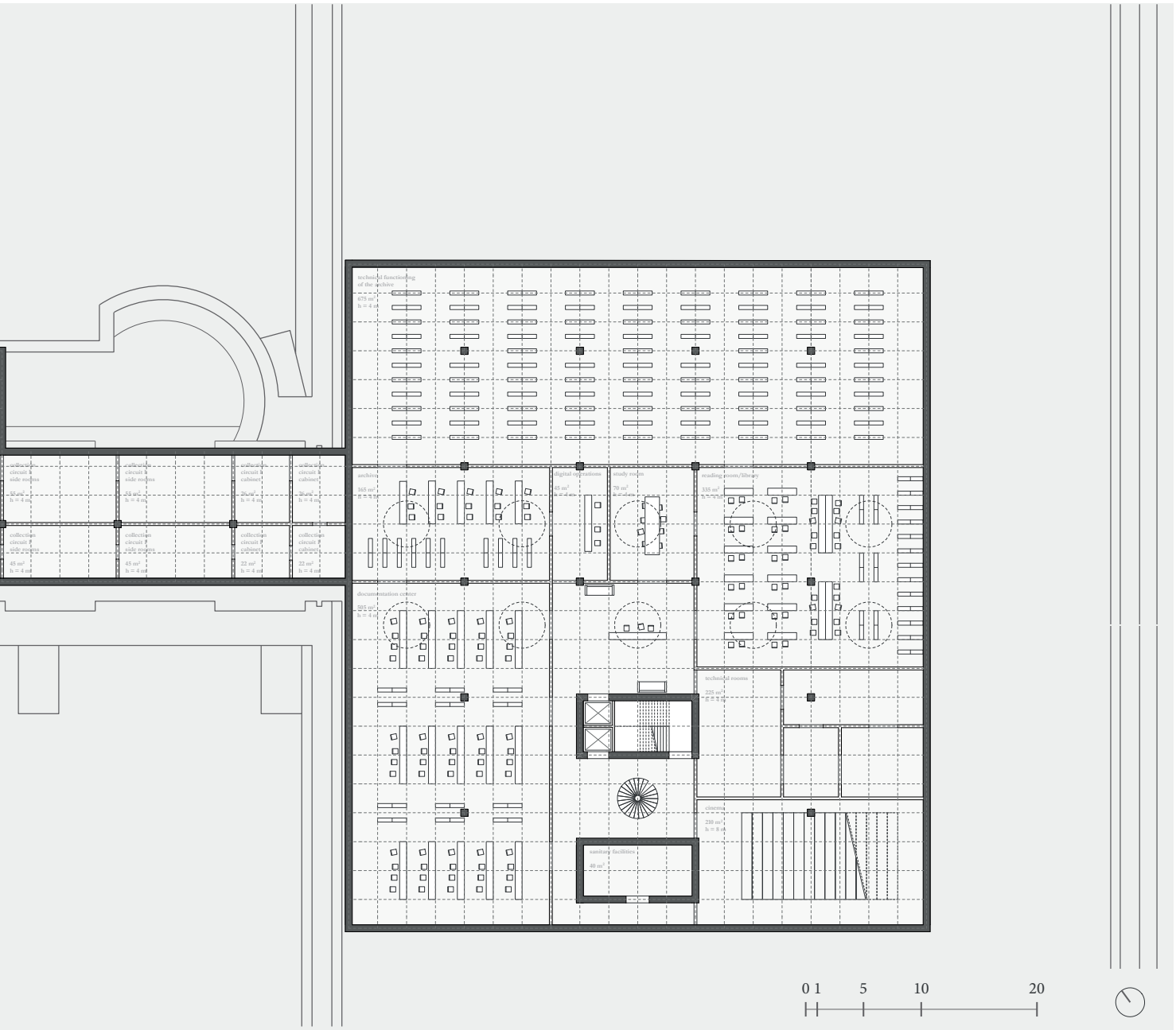


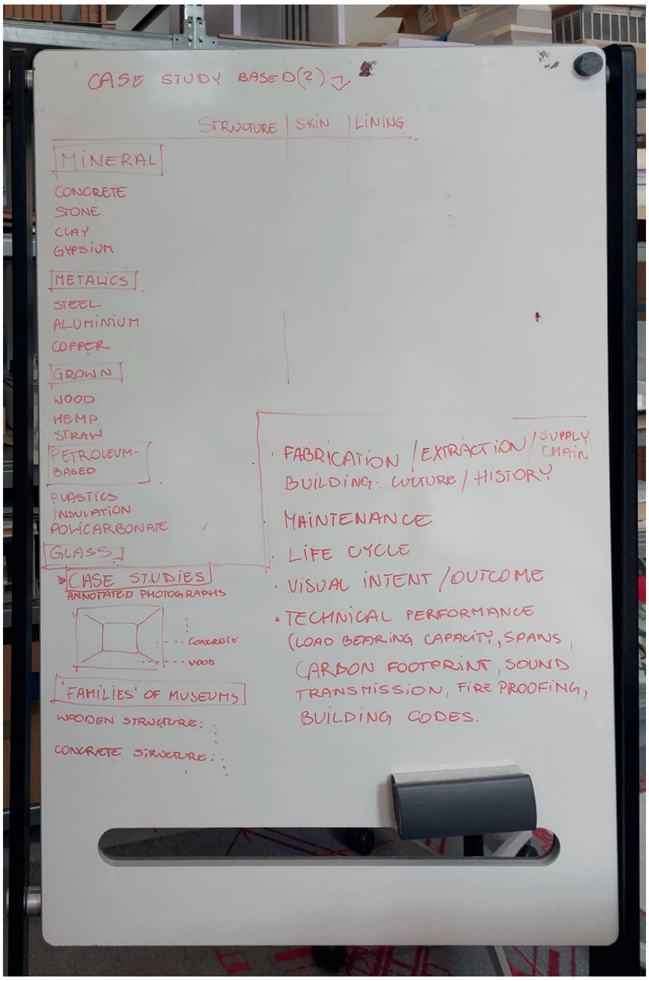






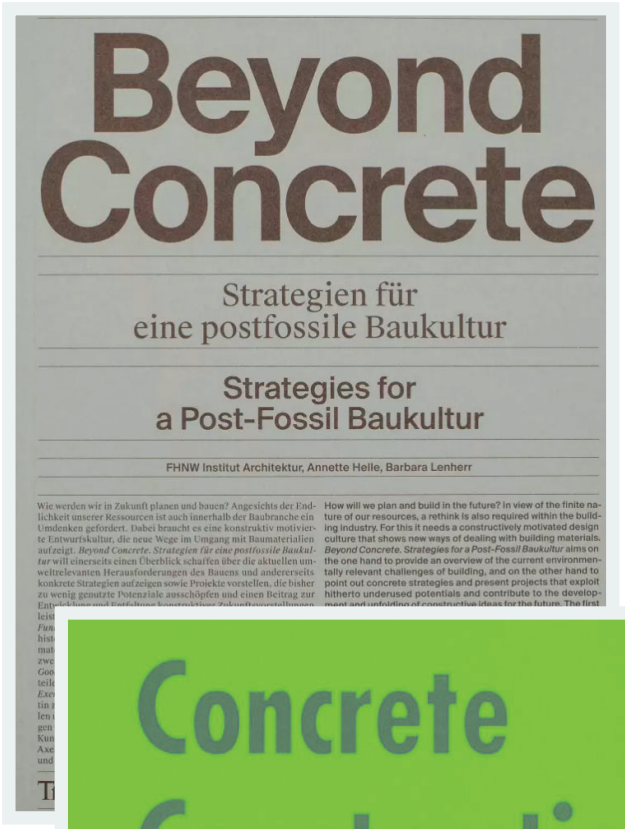

collection
circuit I
main room type 1
90 m²
h = 8 m
collection
circuit I
main room type 2
95 m²
h = 4 m
collection
circuit II
cabinet
20 m²
h = 4 m
collection
circuit II
cabinet
10 m²
h = 4 m
circuit II
main room type 2
95 m²
h = 4 m
sanitary facilities
- visitors
- staff

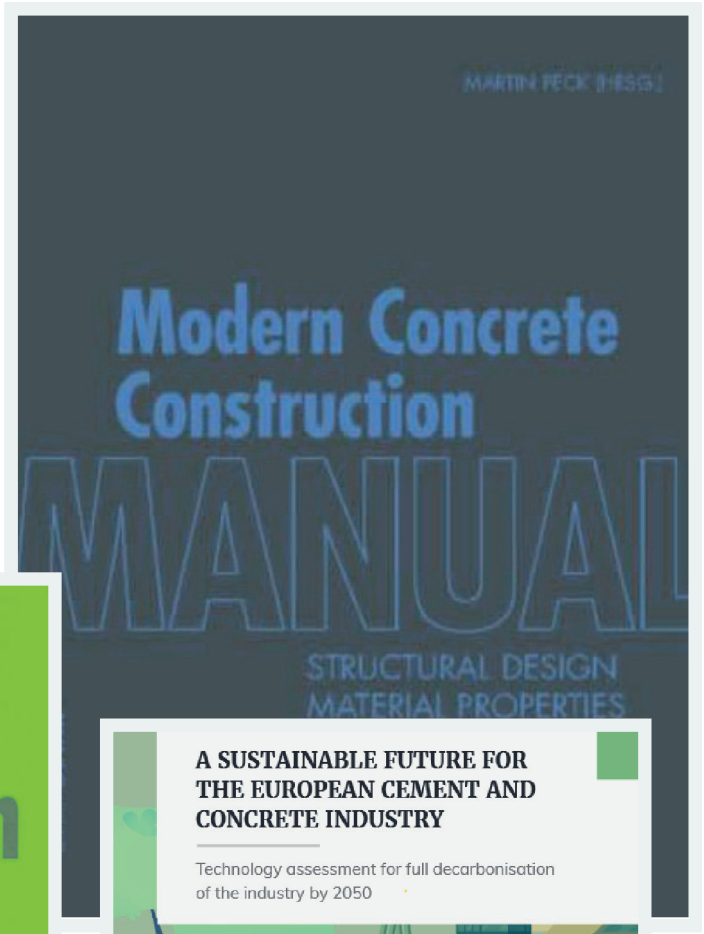

technical functioning of the archive
675 m²
h = 4 m
archive
165 m²
h = 4 m
digital operations
45 m²
h = 4 m
study room
70 m²
h = 4 m
reading room/library
335 m²
h = 4 m
documentation center
595 m²
h = 4 m
technical rooms
235 m²
h = 4 m
cinema
288 m²
h = 8 m
vanitory facilities
40 m²
0 1
5
10
20

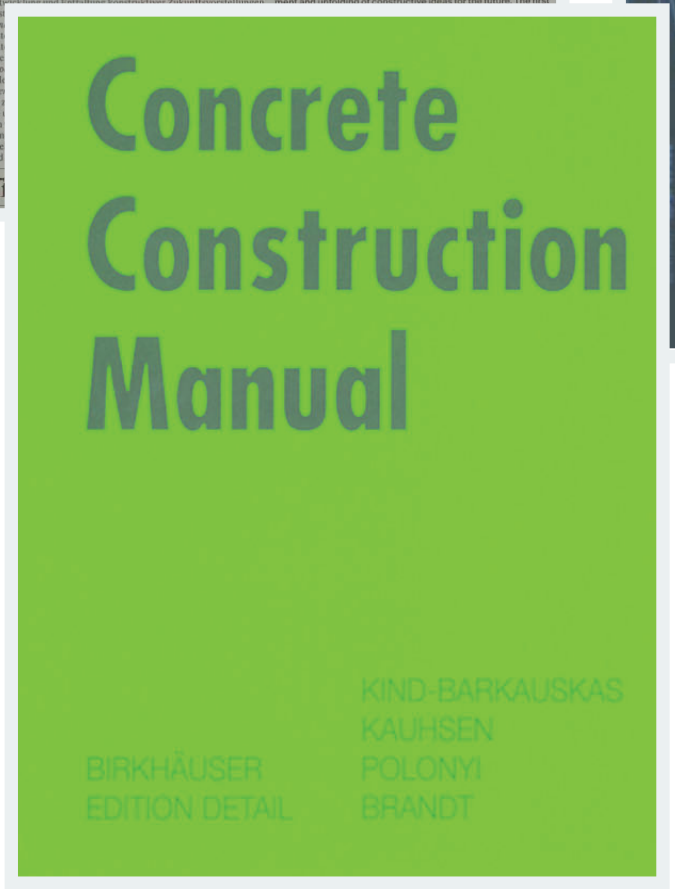


As part of the „Material Matters" brief, we undertook a meticulous investigation to determine which materials would be most suitable for our specific project. This involved carefully considering the functional requirements, aesthetic goals, and contextual considerations of the design.

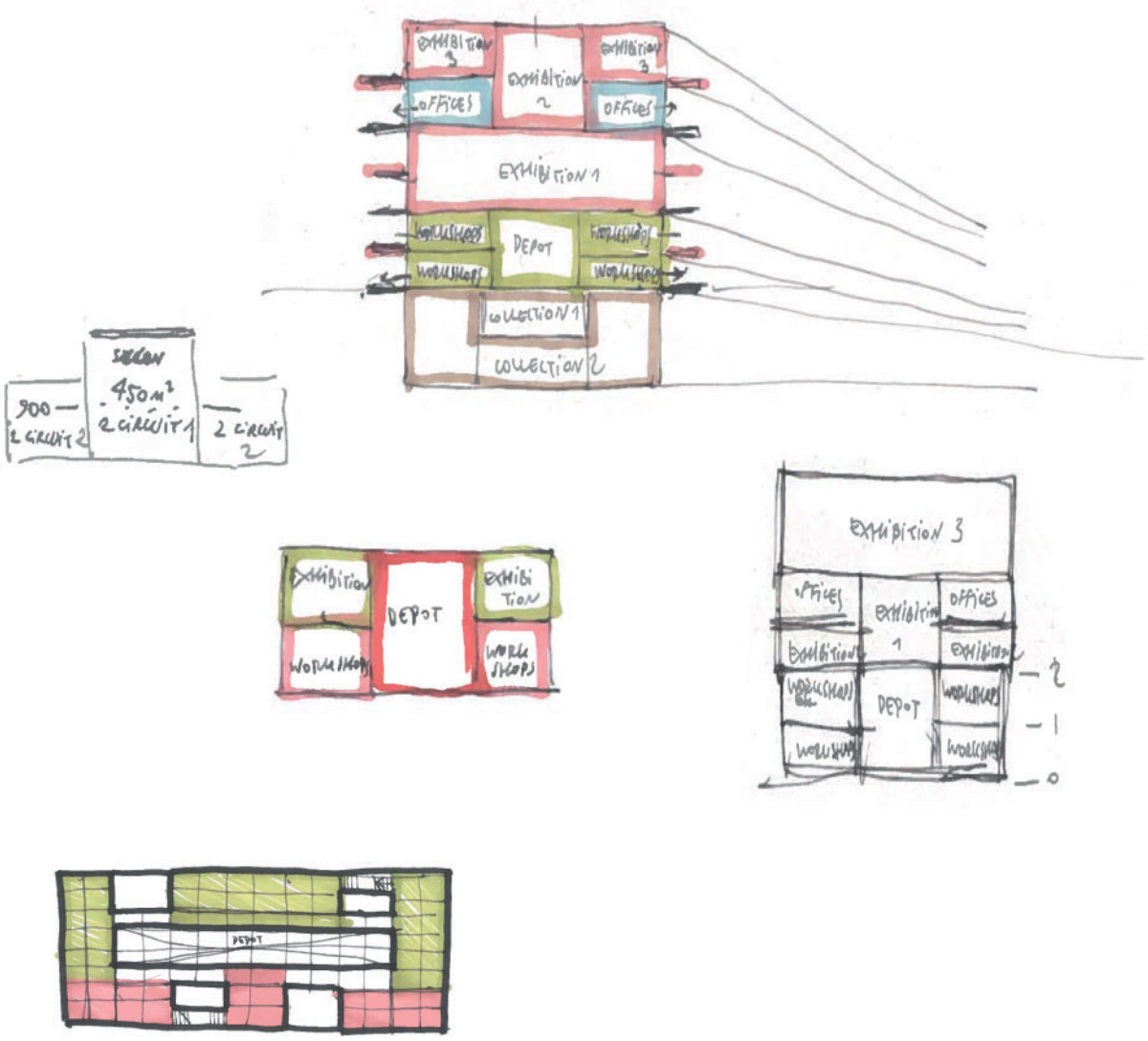
1			number of people	NAMES									
2	MINERAL	concrete	4	Bartosz	Marianna	Mikołaj	Michał	look at the use and potential of the materials in the 3 categories:					
3		stone	0		-	-	-	STRUCTURE		SKIN		LINING	
4		clay	3	Nico	Yiyin	Alberto	Rutu						
5		gypsum	1	Julie	-	-	-	categories of					
8	METALLIC	steel	3	Ania	Marta	Rafael (F.)	-	analysis:	fabrication/extraction/supply chain				
9		aluminum	4	René	Denzel	Frank	Emir		building culture & history				
10		copper, brass & co.	1	Dagna	-	-	-		maintenance				
11	GROWN	wood	4	Wessel	Mish	Zwaan	Rafaël		lifecycle				
12		Cork	1	Craig	-	-	-						
13		hemp & straw	0	René (only	-	-	-		visual intent vs outcome				
14	PETROLEUM-BASED	insulation	1	Julia	-	-	-						
15		polycarbonate	1	Matthew	-	-	-						
16		plastics	1	Jiaxin	-	-	-						
17	GLASS		2		Nathan	Misha	-			(͡• ͜ʖ •)			
18			28										

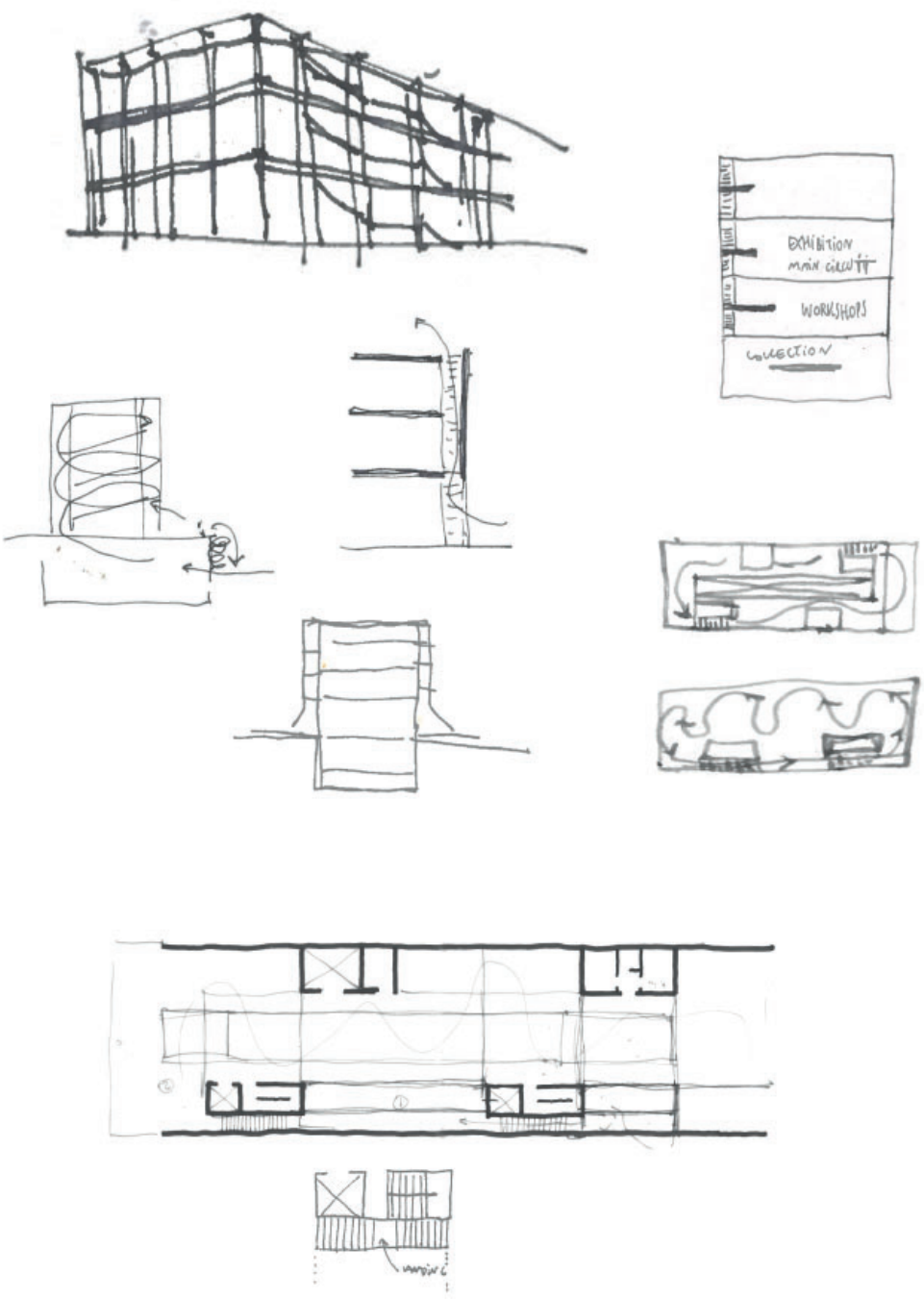

Beyond Concrete
Strategien für eine postfossile Baukultur
Strategies for a Post-Fossil Baukultur
FHNW Institut Architektur, Annette Helle, Barbara Lenherr

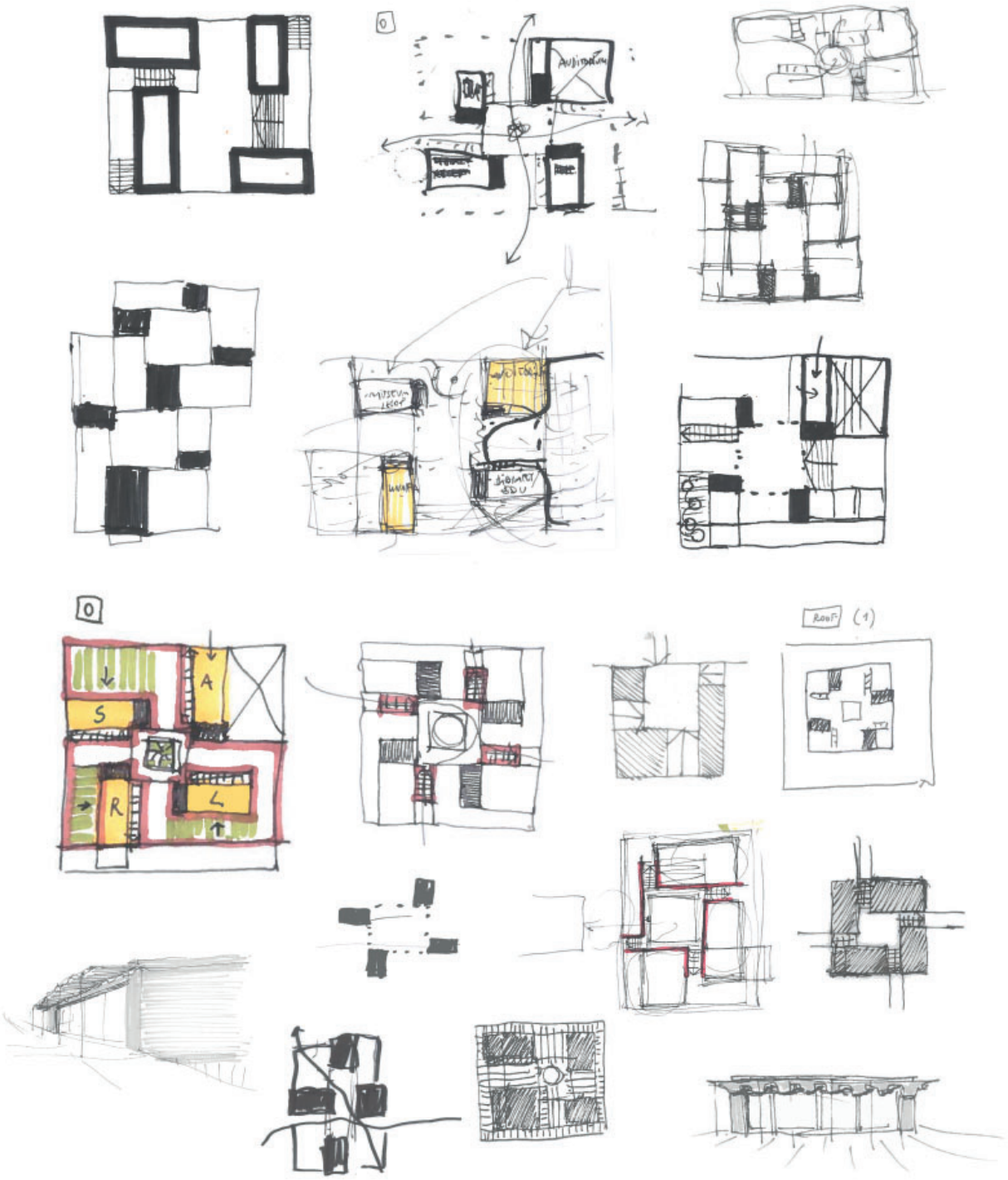

Modern Concrete Construction
MANUAL
STRUCTURAL DESIGN
MATERIAL PROPERTIES

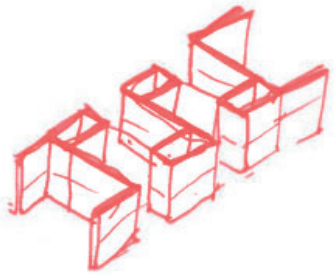

Concrete Construction Manual
KIND-BARKAUSKAS
KAUHSEN
POLONYI
BRANDT
BIRKHÄUSER
EDITION DETAIL

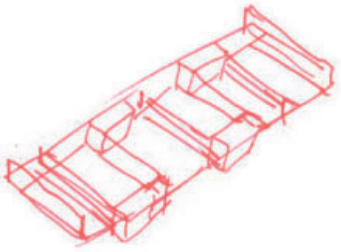

A SUSTAINABLE FUTURE FOR THE EUROPEAN CEMENT AND CONCRETE INDUSTRY
Technology assessment for full decarbonisation of the industry by 2050
ETH zürich
EPFL

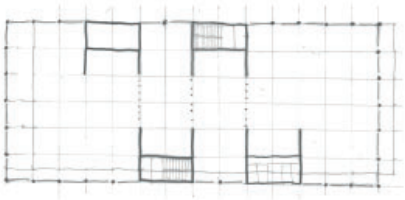

EXHIBITION 3
EXHIBITION 2
EXHIBITION 3
OFFICES
OFFICES
EXHIBITION 1
DEPOT
COLLECTION 1
COLLECTION 2
450m²
2 CIRCUIT 1
2 CIRCUIT 2
EXHIBITION
DEPOT
EXHIBITION
EXHIBITION 3
OFFICES
EXHIBITION 1
OFFICES
DEPOT
2
1
0
DEPOT

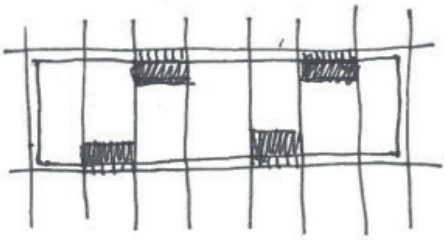

EXHIBITION
WORKSHOPS
COLLECTION

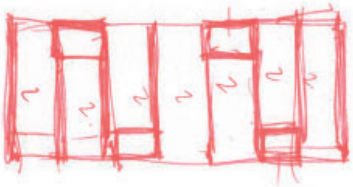

0
AUDITORIUM
S
A
R
L
ROOF (1)

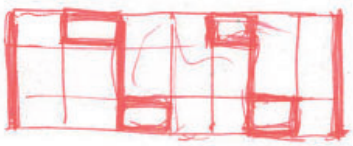


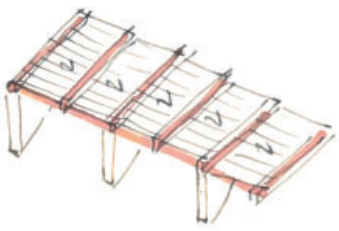












An Architecture For Art

Graduation Project 2022-23

Yale Centre for British Art, New Haven, 1977. Architect Louis Kahn. Photograph Cemal Emden

Form and Façades

'The Museum is the colossal mirror in which man contemplates himself finally in all his faces, finds himself literally admirable, and abandons himself to the ecstasies expressed in all the art journals.'
Georges Bataille

'Face was never a preoccupation for modern architecture.'
Colin Rowe

Both quotes in the essay 'Losing Face' by Anthony Vidler, in: *The Architectural Uncanny, Essays in Modern Unhomely*. Cambridge: the MIT Press, 1992, pp. 85-99

'The Elevation rhymes with the surrounding high rises, voids and objects to point out that they are not mistakes or by-products, but part of an unconscious project that has to be acknowledged... shining a light on a continual process which requires more than architecture to happen.'
Tony Fretton, writing on the Lisson Gallery in 1992

Quote in the essay 'Civil Architecture' by Mark Cousins, in: the book *Architecture, Experience and Thought: Projects by Tony Fretton Architects.* London: AA Publications, 1998

This brief follows a lecture of the same title by Tony Fretton, Emeritus Professor of the Chair. It focuses on the importance and the dilemmas in defining the image of a new museum for contemporary art, given the history of both the institution and the site, the scale of the proposed building and its representative role for the city. It situates and elaborates upon the themes and concerns established by the last brief, Material Matters.

The relationship between form and façade is not a simple one. As alluded to by Colin Rowe's observation, the idea of a clarified form, freed from the concerns of its context and expressing the functional characteristics of its internal arrangements, usurped the façade as the primary means by which the architecture of the last century represented its relationship with both city and society. This stripping away of representative concerns is immediately evidenced in the repetitive, systemised character of the law court's public building, which currently occupies the proposed site and which many of you are re-using. The existing museum takes an opposing position. Here the form of an existing silo inspired a series of abstract volumes, fictive industrial forms that do not correspond to the desires of the interior to be a single, open-plan space but nonetheless impact upon its identity and use as a gallery space.

The scale of the new proposed museum means that it will not only establish possibly contested relationships with its immediate

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neighbours but will also need to take its place on the skyline and river frontage of the city as a whole. It does so in a culture where we have a renewed sense of value for the inheritance of the past and in dialogue with Antwerp's new residential scale, the industrial artefacts of its recent past and the proud relics of its illustrious history.

How do you position your project in response? We have already discussed the project's genesis in the social, political discourse that contemporary art sought to represent in the latter half of the Twentieth Century and its immediate relation to the 'anarchitecture' of the American artist Gordon Matta-Clark. How might you reconcile the physicality of a large building - dedicated to the presentation of contemporary art and welcoming of a broad public - in response to these beginnings and the civic aspirations of the current brief that the new museum should be representative and a celebration of contemporary artistic culture in Flanders. As the critic and theorist Mark Cousins wrote in a discussion on Fretton's work, 'civic architecture usually entails the imposition of a social ideology upon the urban fabric', whereas what he describes as 'civil architecture is an architecture that bridges two worlds through a gesture of inclusion.' How does such an ambition address the relationship of the public to the museum? Such an aspiration might mean different things at different scales, from how your building takes its place as a figure within the urban scene to how it addresses the more immediate scale of the neighbourhood, to the human scale, as it touches the street or addresses the passer-by; to the scale of a piece of material or a junction. How you form or shape your building will affect its understanding at each scale. Is this process to be understood primarily from the inside out, as functionalist modernism proposed, do the demands of the context shape the form and structure of the museum, or is the process of developing your building's form one of negotiation between these two competing impulses?

A façade can be understood as a negotiating structure or a threshold between the concerns of the interior and those of the city beyond. It can also be considered one that might be inhabited in its own right. How the façades of the museum might address its situation is made all the more difficult by the programme, which in its demands for contemporary gallery space, might easily lead to a rather introverted architecture of predominantly blank faces. How do you respond to this? To what extent does your façade reflect the structures of the interior? Is it conceived as a kind of mask, or can the distribution of elements in the plan, the spaces for people rather than art, help you to scale, order and animate the façade? Might it lead to a questioning of the nature, or hierarchies of the galleries themselves, moving away from current concerns of contemporary art space and opening themselves up to the city?
For those working with part or all of the existing building, other questions emerge. To what extent is the result composition a didactic one, defined through the relation between new and old or, conversely, is the old entirely subsumed within re-reading the new.

Any such exploration into the duties and responsibilities of any contemporary public architecture and its translation into physical form and fabric must engage the question of its sustainability in material and temporal terms. How will the form and façade engage with the demands of the present and future in a robust and adaptable way, ultimately conceiving of a future where it might no longer exist or be substantially transformed? This again raises the question of whether and to what extent it registers the traces or forms of previous conditions in its articulation.

The process of refining form and façade happens across various scales, from the urban to the tectonic. It is inevitably an iterative one, with refinement achieved through an intense and open process of repetition, observation and adjustment, founded upon the making of things. It requires you to test it in different ways: through analysis of precedents; through the ordering, structuring and composing of elements; through the resulting experience of the eye and the body, considered at different moments; through the understanding of its materialisation. It will require your attention to oscillate between inside and outside, each pushing, pulling and reshaping the other. It might well be messy and will probably require many versions. This is normal, and you must find working techniques, probably across different media. Ultimately its resolution might be found somewhere between your intellect and your intuition. You need to look, as well as think about it.

Your work in defining the form and façade of your building up to P3 will translate the more abstract, material concerns of Material Matters in definite terms. It should result in a physical model of the building as a whole within the site model so that its effects can be understood in context and through their impact on neighbouring buildings and spaces. The elaboration of a significant element of your façade as a detailed digital model, appropriately rendered or translated into a physical fragment, should be considered as part of a material and constructional build-up of the envelope that considers vital relationships with the wider building fabric. This might result in its conception as an extension to the larger fragment of building fabric requested in Material Matters. Its representation should include the collated process of development: through sketches, sketch models and iterative versions, recorded in your project journal.

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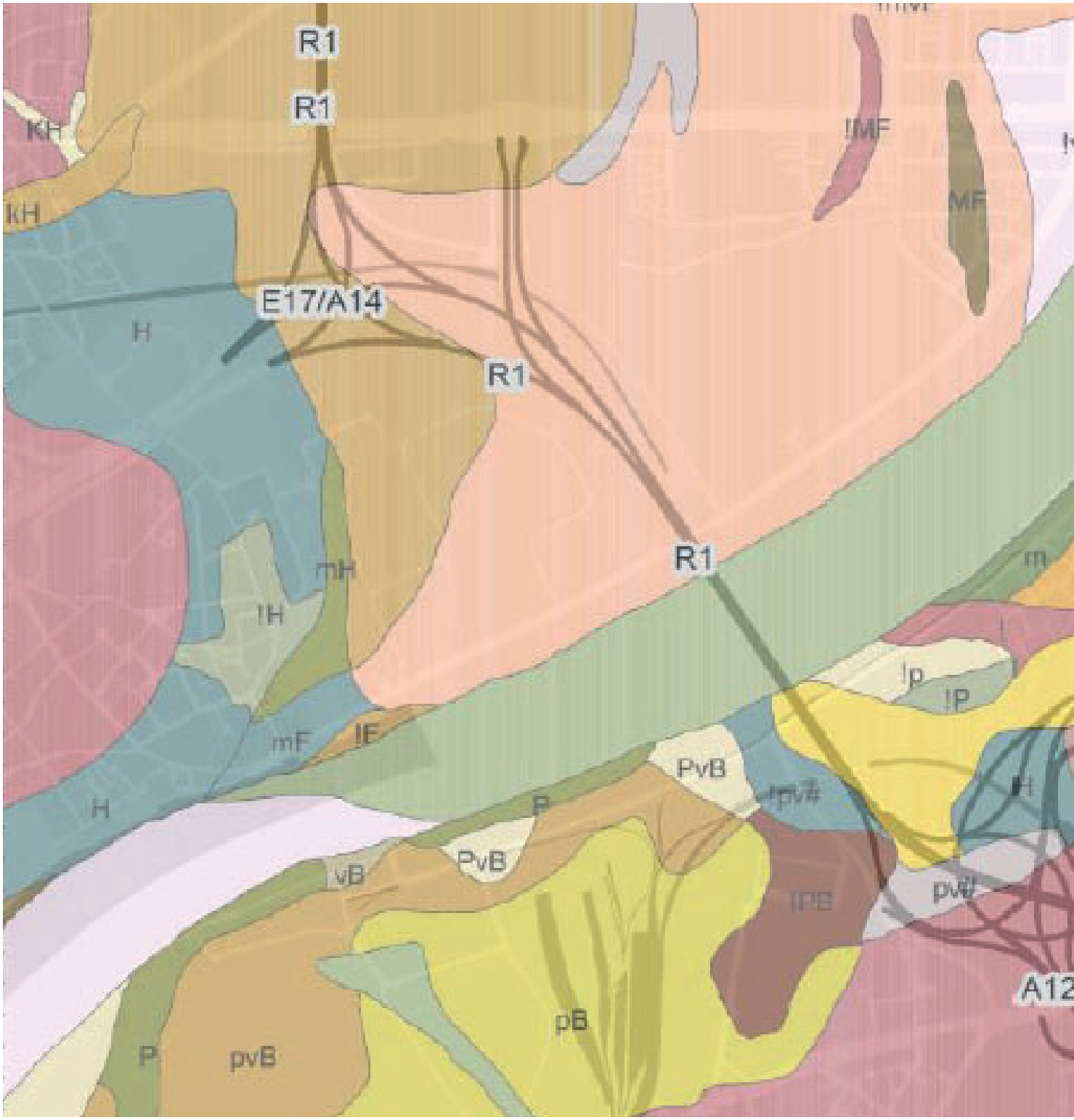
R1
R1
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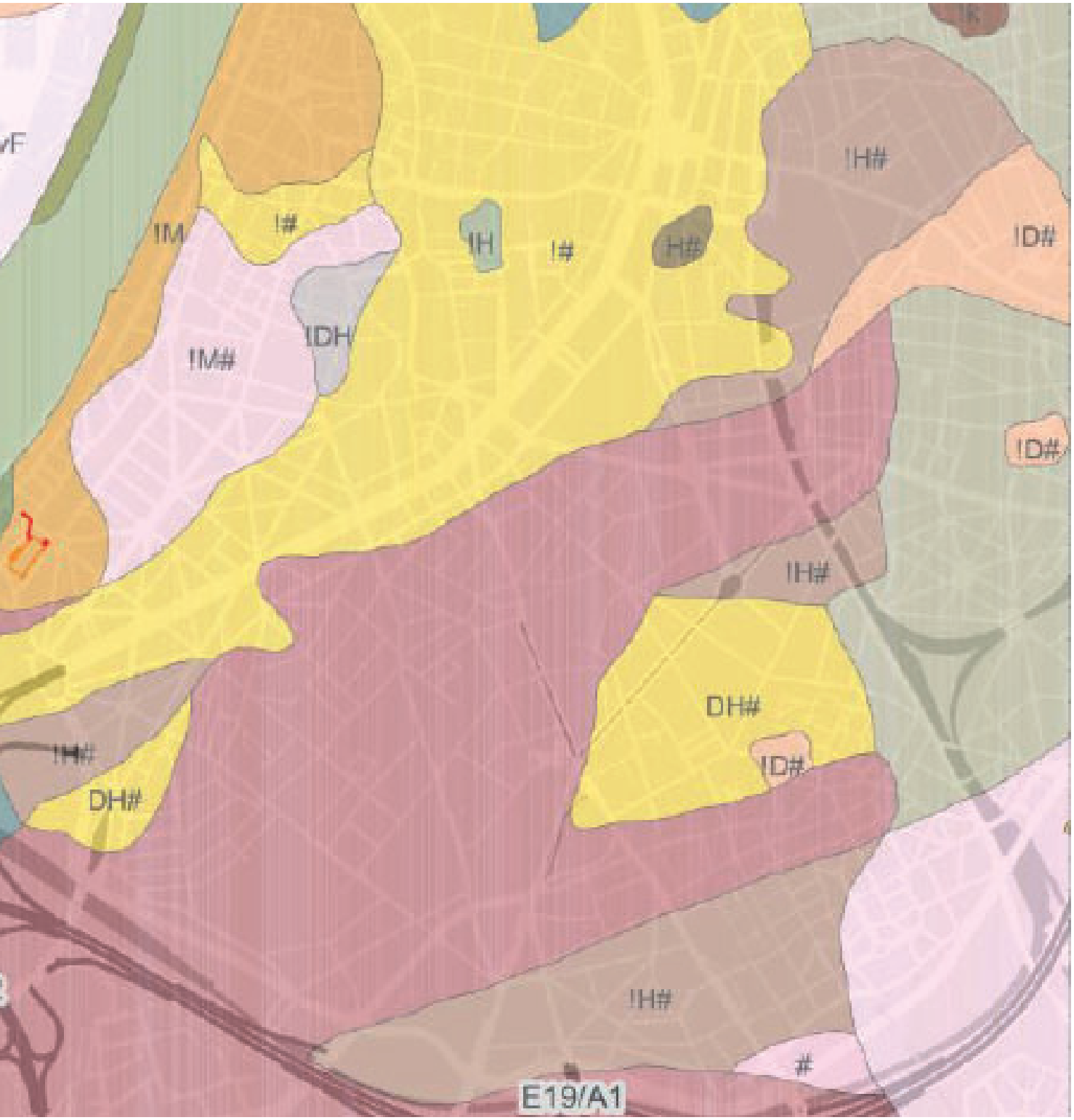
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E19/A1

34120 m^3 of extracted soil

↓

5800 m^2 × 8.8 m = 51040 m^3

↓

80 % × 51040 m^3 = 40832 m^3

~~83.800 m~~ of 80 cm earthen wall [6 m H]

10.633 m

EARTH METHOD

→ building 1

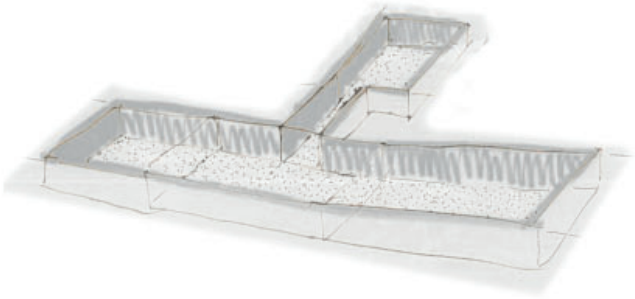
. walls [not counting the windows]: 6 × 6 × 0.8 × 70 + 4 × 6 × 0.4 × 10 + 8 × 6 × 0.4 × 5 = 2016 + [illegible] = [illegible] m^3

(structural + cores)

. infills : 19[illegible] m^3

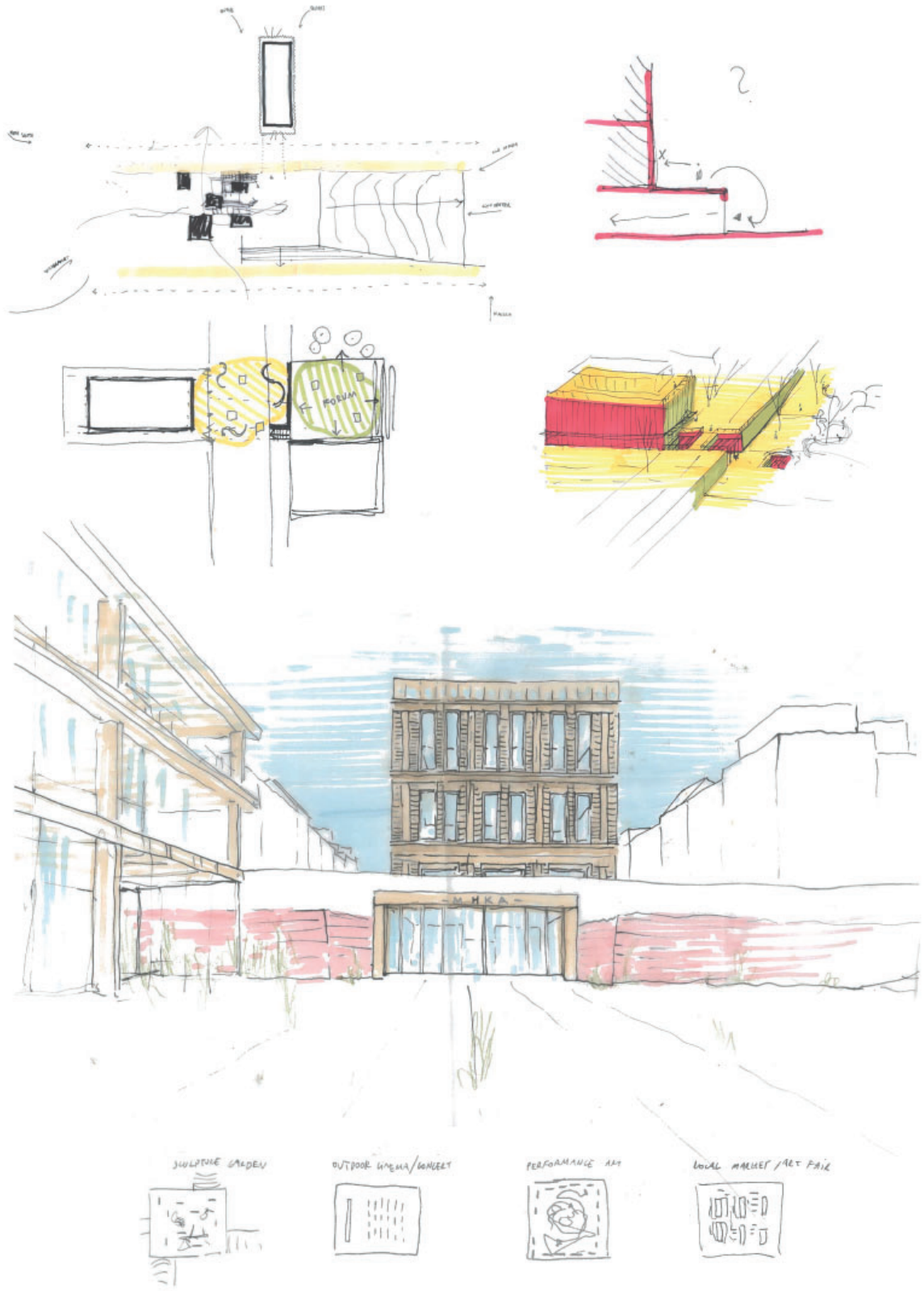
. slabs : 1440 × .35 × 4 = 2016 m^3

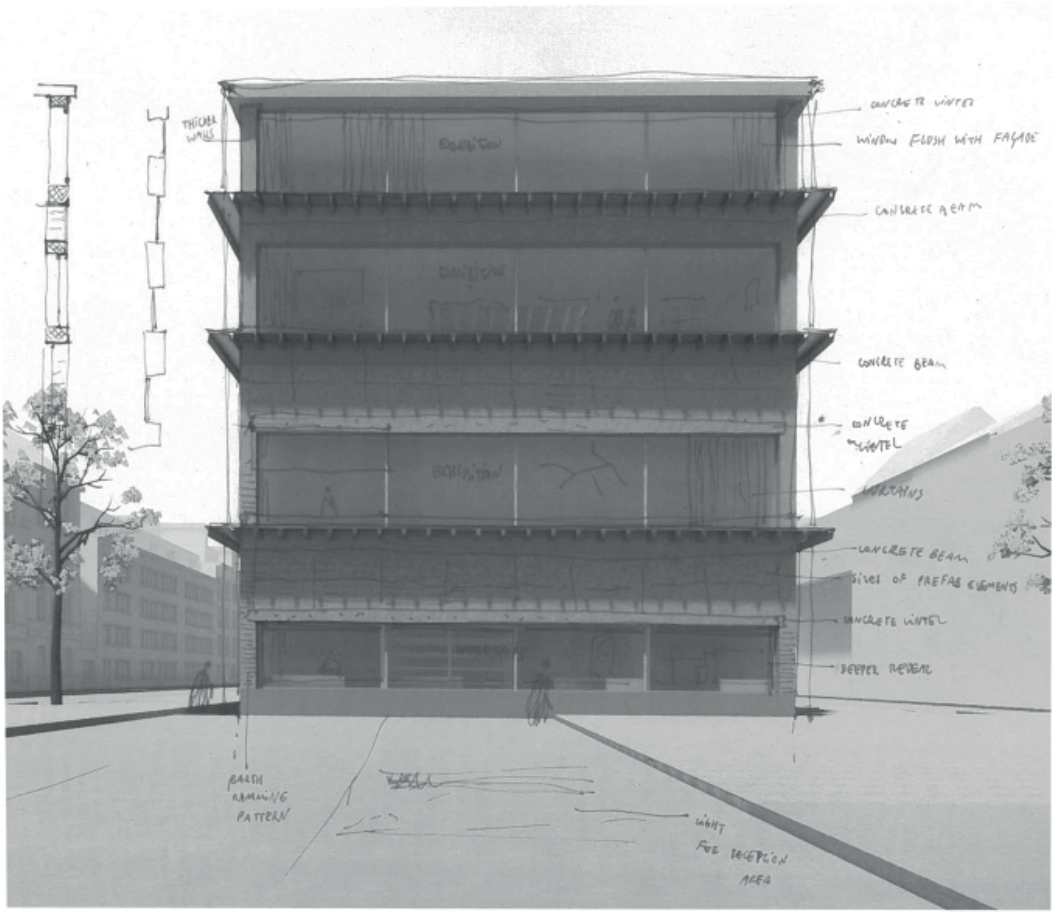
TOTAL : 4800 m^3

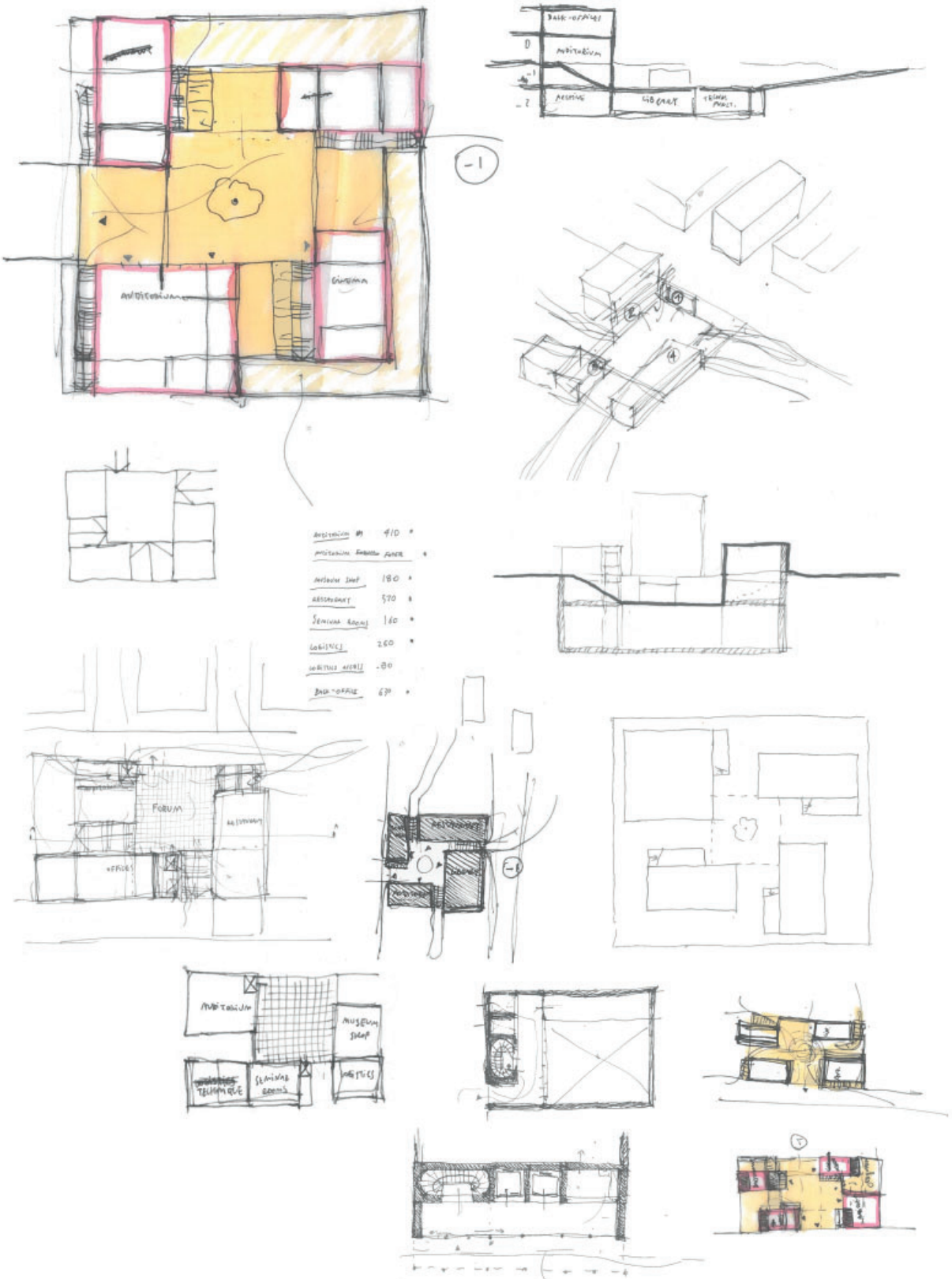


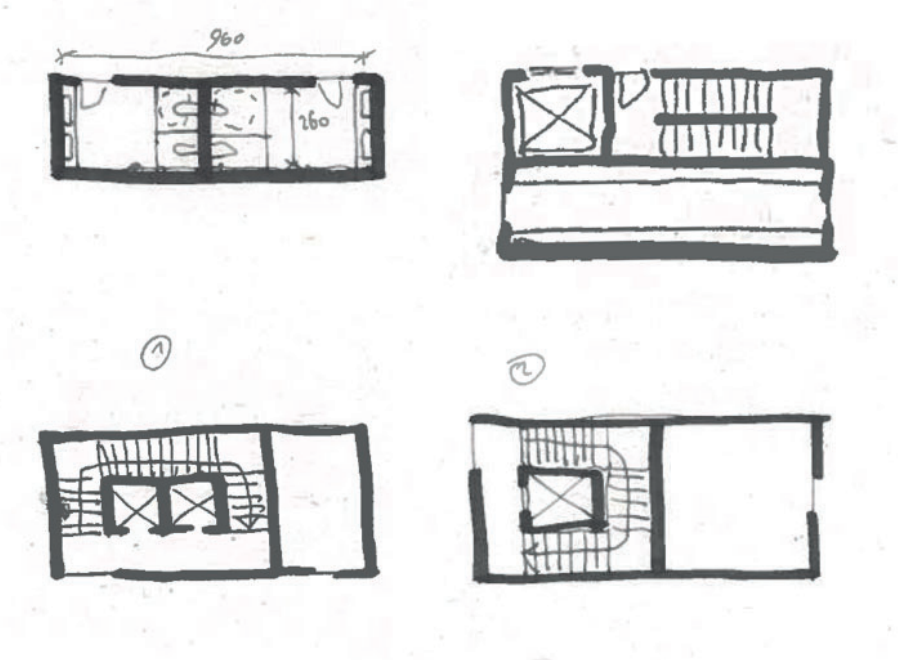
EARTH — SUSTAINABILITY ASPECTS :

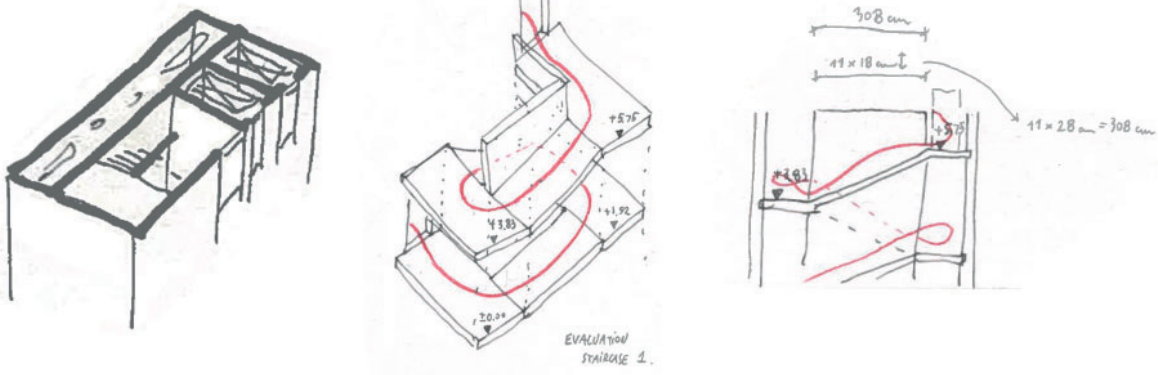
- conservation of natural resources
- reduction of waste generation
- low embodied energy
- decreased transportation costs (in situ construction)


FORUM
SCULPTURE GARDEN
OUTDOOR CINEMA/CONCERT
PERFORMANCE ART
LOCAL MARKET/ART FAIR


THICKER WALLS
WINDOW FLUSH WITH FACADE
CONCRETE BEAM
CONCRETE BEAM
CONCRETE BEAM
EARTH RAMMING PATTERN
LIGHT FOR RECEPTION AREA

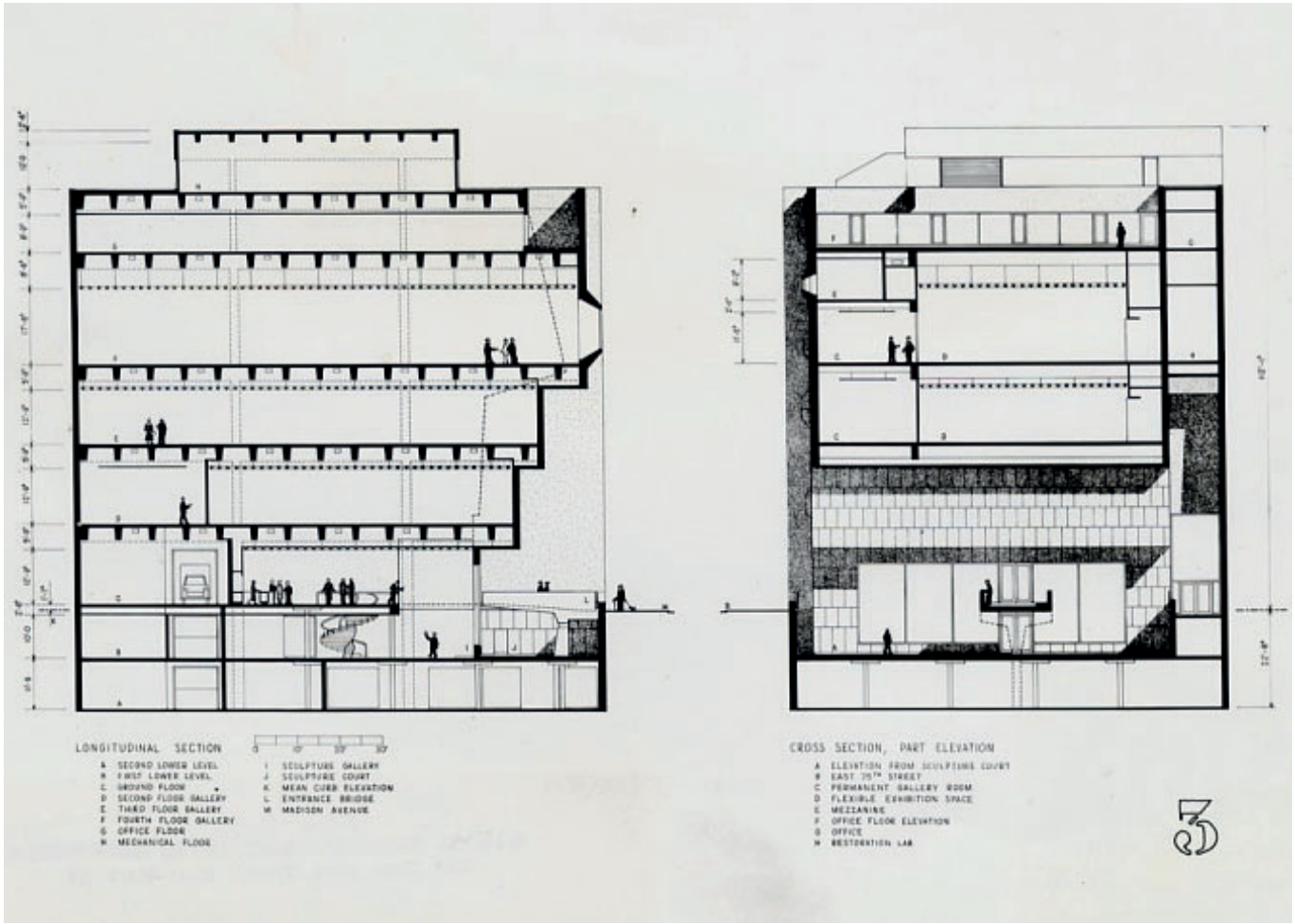

AUDITORIUM
CINEMA
FORUM
OFFICES
AUDITORIUM
MUSEUM SHOP
SEMINAR ROOMS
LOGISTICS


960
260
1
2


+5.75
+3.83
+1.92
±0.00
EVACUATION
STAIRCASE 1
308 cm
11 x 18 cm
11 x 28 cm = 308 cm
+5.75
+3.83

During my last tutorial with Susanne and Mark, we discussed the importance of the entrance - the clarity of its position, its representative role, its possible function as a connector between two different spaces, etc. With my idea of entering through the historical lock, not through the building itself, we all agreed that it is crucial that the underground entrance is not a remote figure, but clearly relates to both buildings - visually, spatially, functionally.

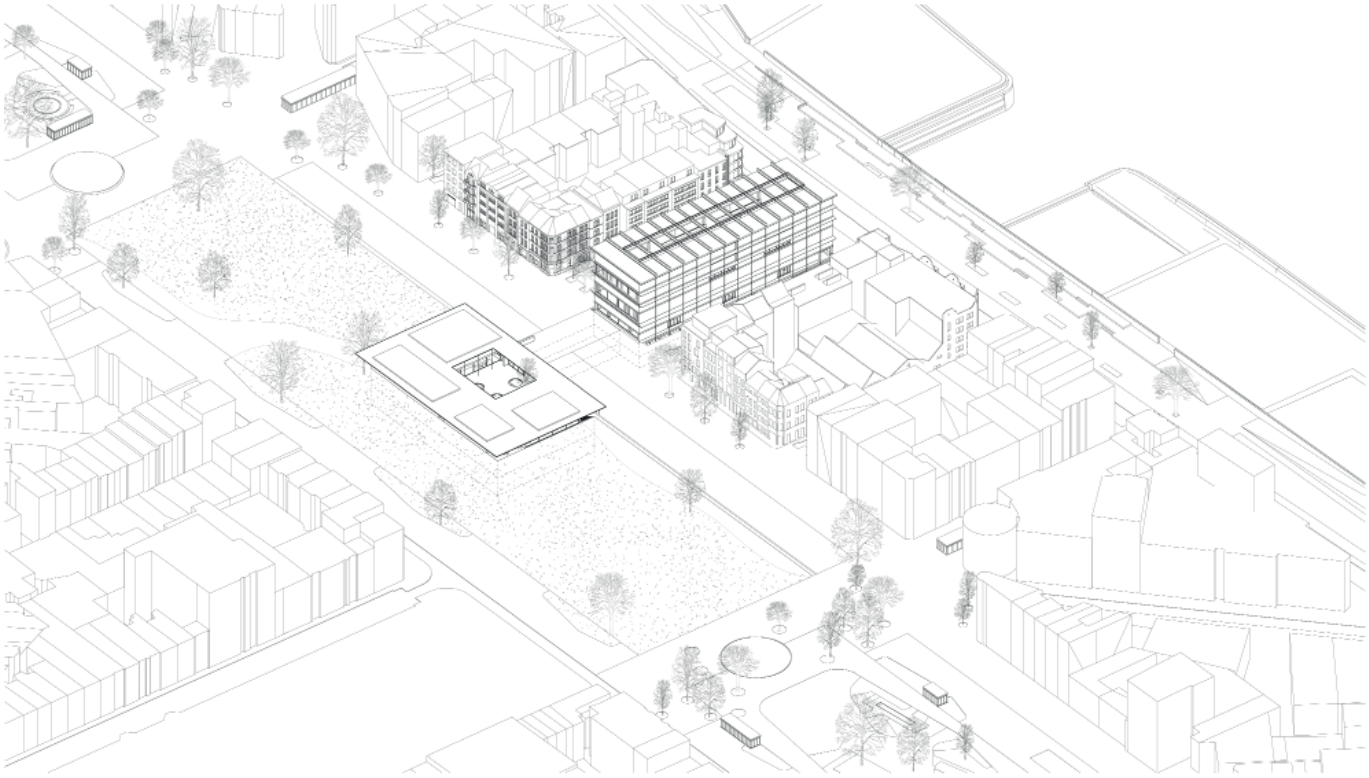
One example of finding relationships between the street level and the underground space within the entrance zone is in Marcel Breuer's Whitney Museum in New York. A suspended passage made of raw concrete bridges the sunken garden and sets the tone for the ceremonial entrance into the building's main lobby. Underneath, the sculpture garden (and later a little cafeteria) offers an intimate outside space with a sense of quietness, and a connection with both the interiors of the museum and the busy city life.

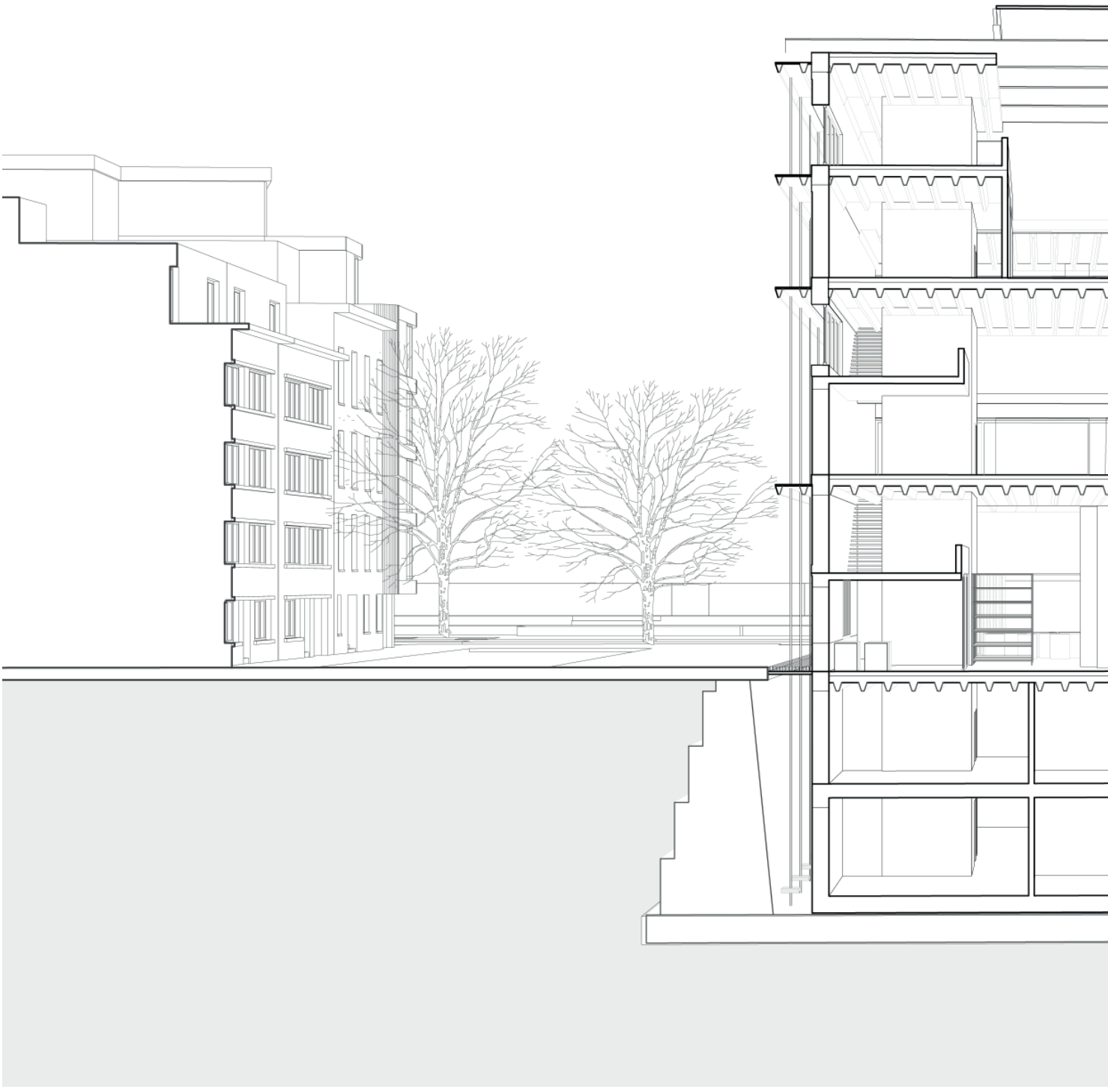



WHITNEY


JENNY HOLZER


ERDEN
Design Guide
for Rammed Earth
Building with 100% earth
Martin Rauch
refined earth
construction
& design
with rammed
earth
Pisé – Rammed Earth
Tradition and Potential
Roger
Boltshauser
el croquis
ROGER BOLTSHAUSER
209





The P3 period was particularly important for the development of my design proposal.

The idea of excavation emerged as a compelling concept during the project's development, offering intriguing possibilities for both architectural and landscape design. It revolvs around the notion of revealing and repurposing the hidden layers of the site, specifically referencing the buried heritage of the Zuidersluis and Zuiderdokken.

By embracing the idea of excavation, I sought to create a design that celebrates the historical significance of the site. The process involves carefully removing layers of soil to uncover the buried elements and architectural remnants, paying homage to the rich history of the area. This act of excavation not only serves as a metaphorical gesture of rediscovery but also provides an opportunity to integrate the past with the present.

In addition to its historical connotations, I also approached the excavation as a means of shaping the architectural character of the museum, as well as the topography of the park. The excavated soil can be repurposed to be used for ramming earth, and to shape the terrain.

Furthermore, the idea of excavation extended beyond the physical act of digging. It also encompasses the exploration of negative spaces, voids, and interstitial areas within the design. These empty spaces between structures were intentionally incorporated to create opportunities for contemplation, social interaction, and the different levels of publicness within the museum experience.