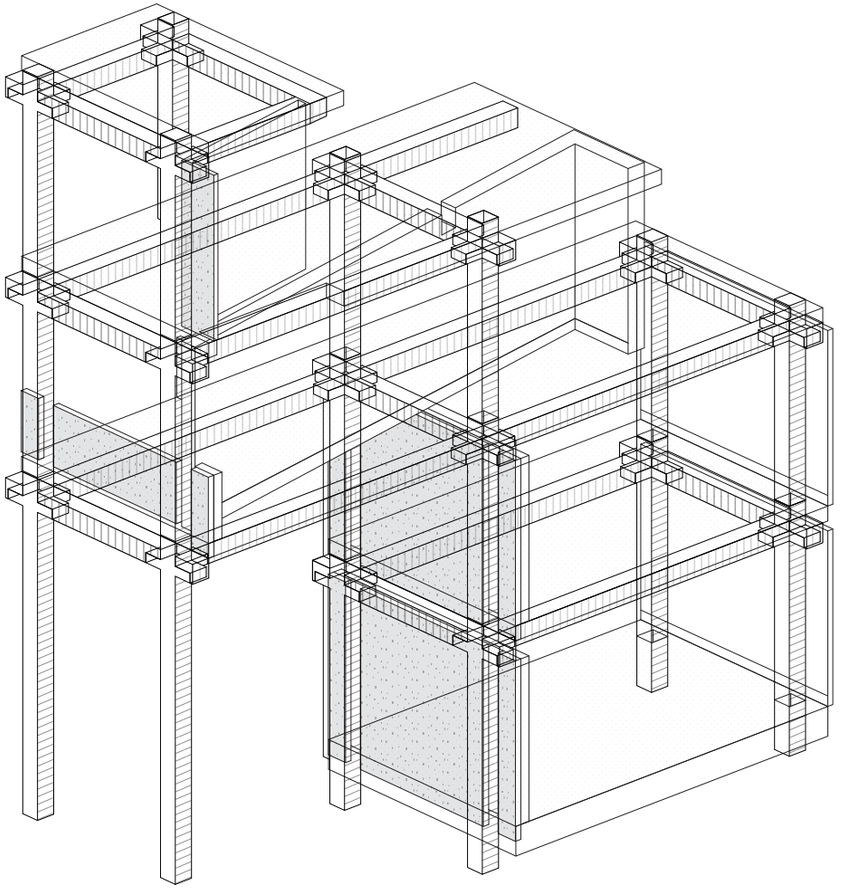
Project Journal



Veronica Danesin

weeks 3.1 - 3.8

A new edge for DeSingel

Outdoor spaces in relation to the highway

Project Journal Msc 3/4
Interiors, Buildings, Cities

Introduction - BRIEF
Archiving Architecture

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Archiving Architecture

2024-25 MSc3 AR3AI100
Brief 04

Stynen Scaled, Flanders Architecture Institute, 2019.
Photographer: Jasper Leonard

A Difficult Whole

"An architecture…able to admit the paradox of the whole fragment: the building which is a whole at one level and a fragment of a greater whole at another level…It is the difficult unity through inclusion rather than the easy unity through exclusion."

Robert Venturi, The Obligation Toward the Difficult Whole, in: Complexity and Contradiction in Architecture

Confronted with the messy realities of the contemporary city, engaged in fragments of the past and addressing the uncertainties and challenges of the future, the thoughts of the American architect Robert Venturi on the possibilities of the difficult whole, written half a century ago, continue to have resonance. Beyond the, sometimes failing, formalities manifested in the work of Venturi and Denise Scott-Brown, it might represent the possibility of a negotiative architecture: one that looks outwards with a welcoming gesture, which enjoys what it finds; which searches for wholeness, rather than unity; which is open and political and has agency.

De Singel Antwerp might, on first glance, be considered a kind of unity – the different phases built under Léon Stynen and Paul Demeyer – but in reality it might be considered the embodiment of the difficult whole of which Venturi speaks, expressed in its urban situation, away from the City of Antwerp, adjacent and set between the most important traffic arteries of Flanders; in the radically different architectural expression of Stéphane Beel's additions; in the current interior transformations that are taking place without an architectural vision; in the vacant rooms spread throughout the building complex. Stepping beyond it, the relation to two other Stynen realisations in the immediate area, constructed with the same or different techniques, or an echo to the now lost picturesque landscape – in the courtyards, the realisation of a triangular pond and a solitary tree planted at the entrance - can all be understood as fragments, whose disjunctions and tensions elaborate on this complex whole, as well as offering both qualities and challenges to the ways in which it is experienced.

Your project will add yet another new fragment or fragments to the ensemble. Through this brief we would like you to begin to explore the creative tensions in the moments where things meet through volume, ground, façade, colour, material or composition for example.

"The building is in the stone." Martin Heidegger

This brief asks you to think at the scale of the fragment in a more traditional sense, elaborating in detail upon a moment where your project must negotiate its relationships with other

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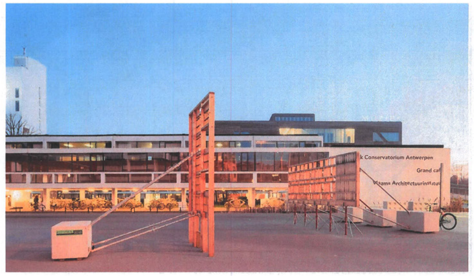
Brief 04



'Stynen 2018', Flanders Architecture Institute, 2019.
Photographer: unknown

things – whether existing buildings or landscape or both, while also exploring its own scale, proportion, structure, order and materialisation in more detail. The outcome will take the form of a physical model of a fragment of your building and the existing element or elements that it engages, made with an equivalent level of detail and care. The model might include spatial or structural components and more than one surface – for example roof and wall.

The model may be made in any material or technique you wish but should be precise in its form and relationships. It should be supported by drawings of varying scales and projections which establish in the context of your wider project, through a description of the whole, while also exploring the constructional relationships you seek to resolve, through detailed elaboration of the external face in plan and section. The elaboration of the building section will be particularly important in developing the way in which the interiors of new and existing relate to one another. The moment you are looking at should be agreed upon by next week's tutorial with a sketch version of the model completed the week after. The final, photographed version, and its accompanying drawings, should form part of your P3 presentation.

Energy use - problems. how can it improve in the next 50 years

- how can the element bring the different aspects the [illegible]

1:25

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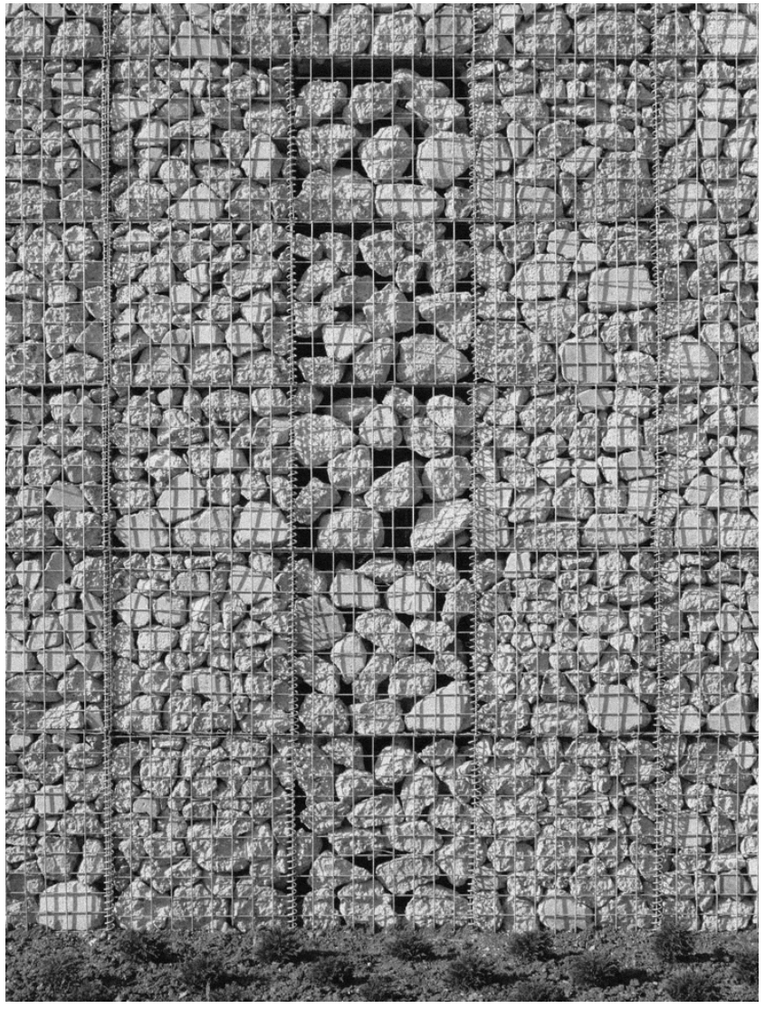
But fist a step back

P2 Feedback

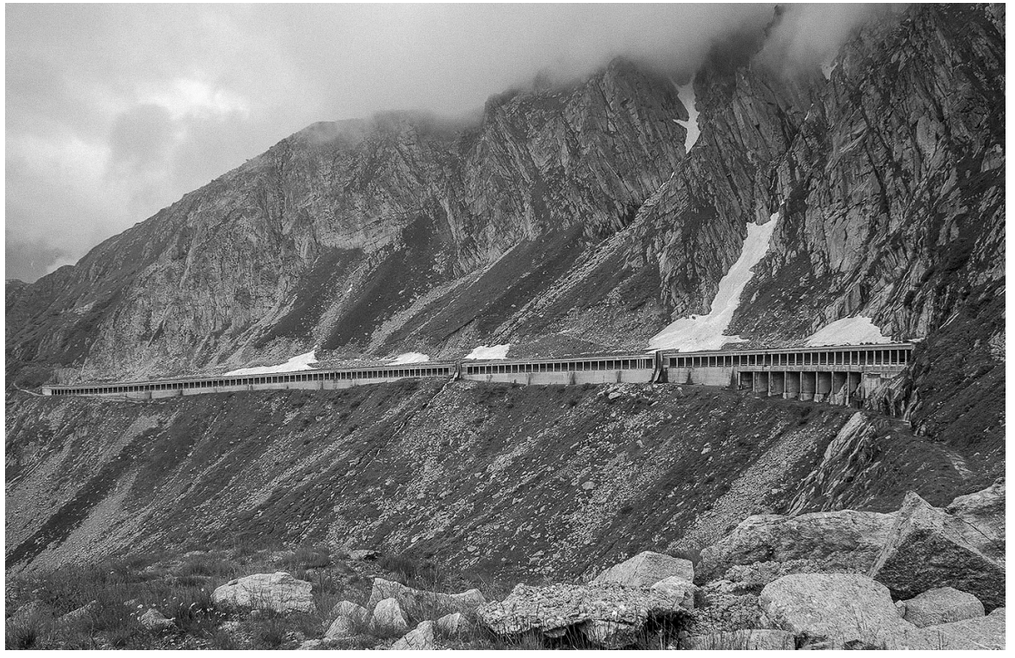
Your proposal basically builds a thick protecting wall to both shield off DeSingel from the dominant infrastructure (highway and railway) and also to offer the visitors and users of this side of the complex a carefully staged view, hiding this infrastructure. With this in mind, you might think of the character of the depot: maybe it doesn't need to be an 'open' depot: perhaps a straightforwardly organized efficient 'closed' depot is more suitable in the literally narrow restrictions you are facing here. Further, your use of the full DeSingel, perhaps with your P1 moving exhibition trolleys could allow for other forms of engaging the public. Think about the representation of the VAi for the outsiders: is the entrance clear? The building structure (columns, cantilevers) is important here, so develop the section with this in mind as soon as possible. Think about a clever reuse of materials, also when you plan to demolish existing parts of DeSingel. And keep in mind that the façade of this new wall might sustain biodiversity in various ways.

Presentation: Your drawings and images of this building proposal are sometimes a bit small, making it difficult to understand the more detailed organization of your addition to DeSingel. There is also a difference between the drawings such as the section, in which the project looks more like a half-open Swiss mountain tunnel with expressive columns on the one side and the model, in which the building fully merges with the landscape. Perhaps your project could do both? But try to align the various representations as much as possible.

3. David Grandorge, Hackney Marshes Centre by Stanton Williams, 2009



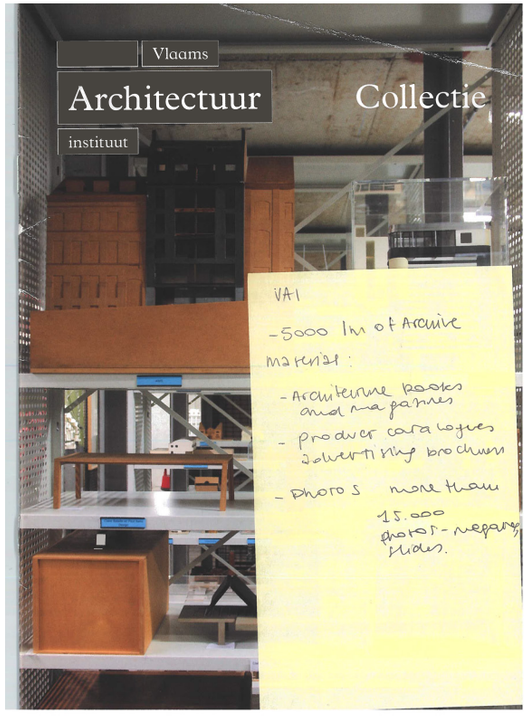
5. Krastev, Vasil. 2016. ‘St Gotthard Pass’. Vaskion.com. Vasil Krastev. 14 September 2016. https://vaskion.com/st-gotthard-smashing-gas/.



6.Krastev, Vasil. 2016. ‘St Gotthard Pass’. Vaskion.com. Vasil Krastev. 14 September 2016. https://vaskion.com/st-gotthard-smashing-gas/.

7. Made by author, Barbican Centre, London, 2025

8. Made by author, Barbican Centre, London, 2025

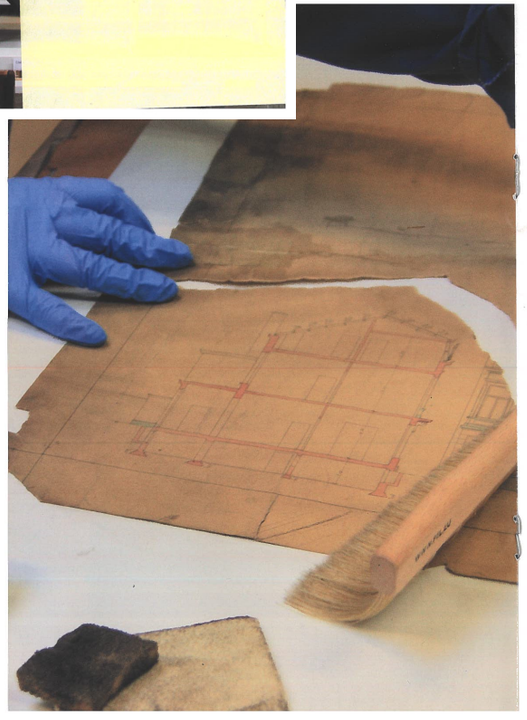


VAI

-5000 lm of Archive

Material:

- Architecture books and magazines
- Producer catalogues Advertising brochures
- Photos more than 15.000 photos - negatives, slides.



Collectiezorg

Het professioneel beheer van deze grote en diverse collectie is een prioriteit voor het VAi. Daarbij gaan inhoudelijke en materiële expertise samen. Archief- en collectiebeheer is een vak op zich en de toepassing van internationale standaarden garandeert een duurzame bewaring van de collectie. Dit geldt niet alleen voor de klassieke aanvoer van archieven, maar sinds enkele decennia ook meer en meer voor het digital born materiaal, dat een aparte uitdaging vormt voor zowel het beheer als voor de presentatie aan geïnteresseerden.

De organisatie en uitvoering van deze opdracht vergen zware

p een structurele
p en is erkend als cultureel
la samenwerking,
ilen slaagt het VAi specifieke
ciële inspanningen vergen.

Archive and collection management → follows international standards of sustainable preservation of the collection.

Here is the aim of digitizing more and more, by acquiring new digital archives and scanning the original.

VAi exists on - Flemish community
- cultural Heritage Degree

De collectie

De provincie Antwerpen begon in 1988 met het verzamelen van architectuurarchieven. Het toenmalige Architectuurarchief van de Provincie Antwerpen (APA) bouwde een archiefwerking uit rond architecten en andere actoren in de provincie Antwerpen gedurende de 19de en de 20ste eeuw. Gaandeweg verbreedde APA het verwervingsbeleid tot heel Vlaanderen en Brussel. In 2018 werd de collectie toegevoegd aan de Collectie van de Vlaamse Gemeenschap en nam het VAi de zorg ervoor over. Na 2018 ging de uitbouw verder, en de voortdurend aangroeiende collectie omvat momenteel (2021) 190 archieven, met tal van grote namen uit de Belgische architectuur, zoals

S Architecten en Christian
rchitectenverenigingen,
rtegenwoordigd. Het
ef en ontvangt daartoe
ecreet.
a van de architectuurcultuur
divers. Het omvat schetsen,
spondentie en bestekken,
al en prototypes, boeken en
n belangrijke component in

meer dan tienduizend boeken
che architectuurboeken en
n worden actief verzameld.
dt een selectiever

- PROVINCE OF ANTWERP
  - started collecting architectural archives in 1988.
- (APA) Architectuurarchief van de Provincie Antwerpen
  - developed the collection to Flanders and Brussels
    - collection of the Flemish community since VAi after
- 2018 - Expanded
- 2021 - 190 Archives

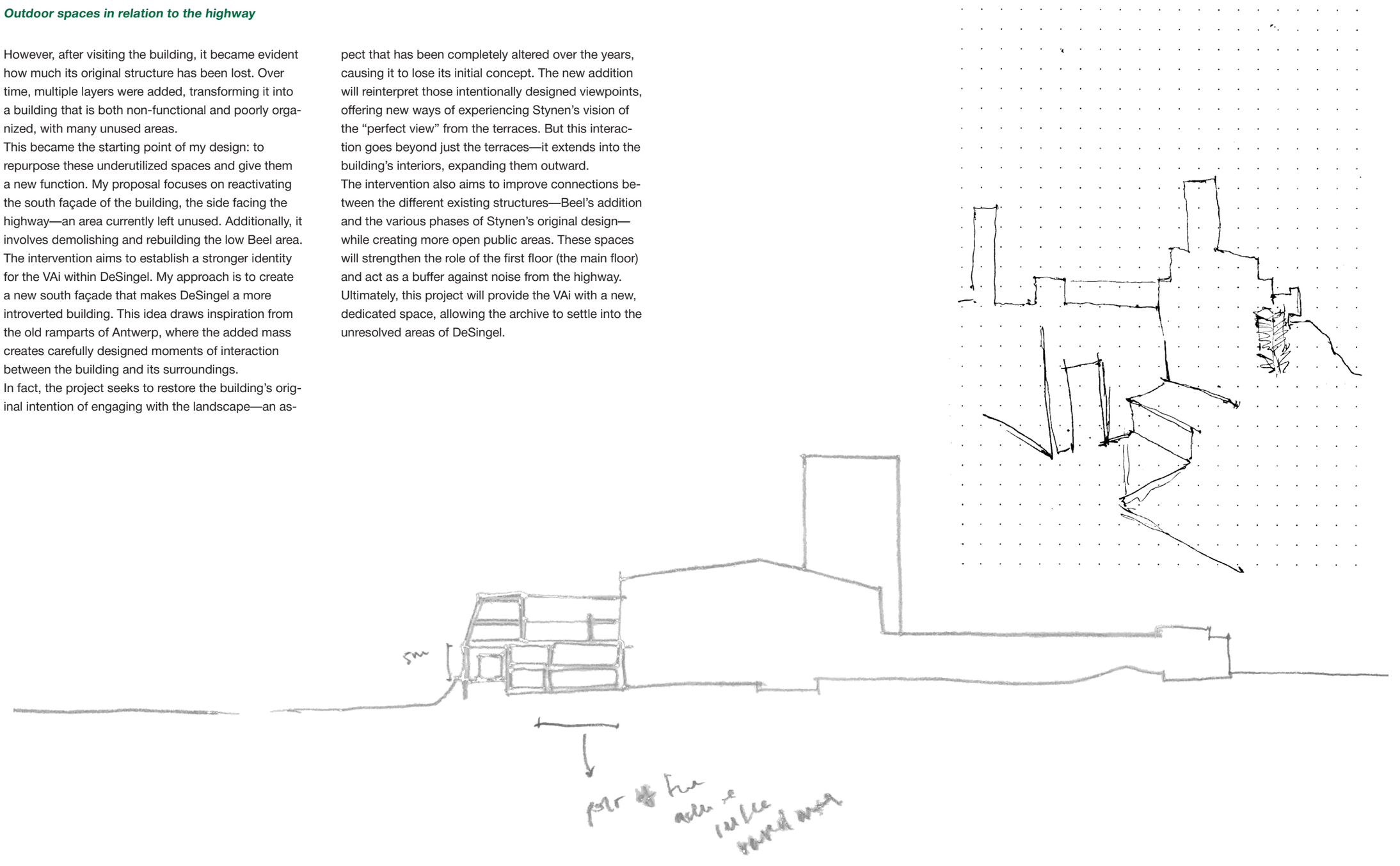
VAi - manages the collection and delivers support within the cultural Heritage Degree

12. Made by author, section of the building throught the highway, 2025
13. Made by author, drawing that shows the relation between the terraces and the landscape, 2025

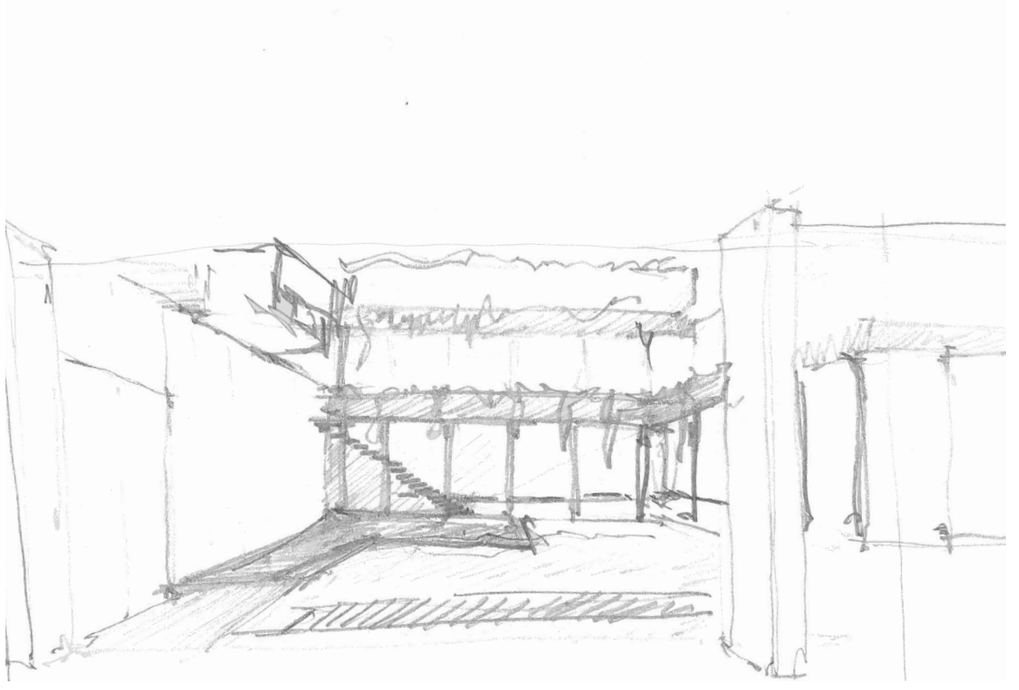
A new edge for DeSingel

Outdoor spaces in relation to the highway

However, after visiting the building, it became evident how much its original structure has been lost. Over time, multiple layers were added, transforming it into a building that is both non-functional and poorly organized, with many unused areas.
This became the starting point of my design: to repurpose these underutilized spaces and give them a new function. My proposal focuses on reactivating the south façade of the building, the side facing the highway—an area currently left unused. Additionally, it involves demolishing and rebuilding the low Beel area.
The intervention aims to establish a stronger identity for the VAi within DeSingel. My approach is to create a new south façade that makes DeSingel a more introverted building. This idea draws inspiration from the old ramparts of Antwerp, where the added mass creates carefully designed moments of interaction between the building and its surroundings.
In fact, the project seeks to restore the building's original intention of engaging with the landscape—an aspect that has been completely altered over the years, causing it to lose its initial concept. The new addition will reinterpret those intentionally designed viewpoints, offering new ways of experiencing Stynen's vision of the "perfect view" from the terraces. But this interaction goes beyond just the terraces—it extends into the building's interiors, expanding them outward.
The intervention also aims to improve connections between the different existing structures—Beel's addition and the various phases of Stynen's original design—while creating more open public areas. These spaces will strengthen the role of the first floor (the main floor) and act as a buffer against noise from the highway.
Ultimately, this project will provide the VAi with a new, dedicated space, allowing the archive to settle into the unresolved areas of DeSingel.



14. Made by author, Drawing of the new entrance of the VAi, 2025



15. The Director General of the National Archival Services of Norway. 2007. Requirements for Archive Premise, Cover.
16. The Director General of the National Archival Services of Norway. 2007. Requirements for Archive Premises, pp.4-5.

Requirements for archive premises

Guidelines for public bodies

The Director General of the National Archival Services of Norway

2007

The Archives Regulations set out the general requirements that all archive premises have to satisfy. There are stricter requirements for *special rooms designed for archival purposes*. Such rooms house archive material that is used only infrequently. As infrequently-used archive material can easily suffer damage, stricter requirements are imposed as to the physical location in which it is stored (see Chapter 5).

It is easier to discover defects in and damage to archive material that is stored in a remote storage archive if it is in regular and frequent use. In such cases, therefore, it will be sufficient for the premises in which the remote storage archive is housed to satisfy the general requirements for archive premises.

The Archives Regulations do not specify how often remote storage archive premises must be used to qualify for an exemption from the special room requirement. However, a reasonable interpretation of the regulations is that *the frequency of use of the room in which the remote storage archive is located must not be significantly less than the frequency of use of the room in which active records are stored.*

Archive materials that are no longer in use for administrative purposes (old archives), and in respect of which no disposal decision has been made, must be transferred to the *archival repository* (see section 5-1 of the Archives Regulations). The National Archives and the regional state archives are the archival repositories for state archive material. Municipal archives must be transferred to municipal or inter-municipal archival repositories. Archive materials are normally transferred when they are 25 to 30 years old. There are particularly strict requirements for premises that are to be used as archival repositories (see Chapter 6).

4. REQUIREMENTS FOR ALL ARCHIVE PREMISES

The general requirement is that archive premises must protect the archive materials against:

- water and damp
- fire and damaging heat
- damaging climatic and environmental factors
- vandalism, burglary and unlawful access.

In the following paragraphs, where the words *shall* or *must* are used, this indicates a requirement imposed by the Archives Regulations. The word *should* is used to indicate good advice, i.e. matters which are not direct requirements under the regulations.

4.1 Placement

Archive premises *shall* be placed in the building in such a way that the archive material is well protected. Damage can be caused to archive materials by installations and activities in nearby premises and buildings. This applies to, for example, activities that involve a risk of flooding, fire or explosions.

If there is a danger of water leakages from premises located above the archive premises, a waterproof membrane should be installed above the ceiling of the archive premises.

4.7 Use of water in the premises

If water needs to be used in the archive premises, it *must not* damage the archive material. Cleaning must not be carried out in a way that directly exposes the archive documents to water or damp.

4.8 Protection against fire

There *shall* be no electrical equipment in the archive room other than electrical equipment that is necessary in archive premises. Photocopiers, scanners, etc. can in certain circumstances be fire hazards, and should therefore be placed outside the archive premises. Coffee machines, electric kettles, etc. have no place in archive premises.

The electrical system *shall* satisfy the requirements set out in the regulations for such systems in fireproof premises.

Electricity control panels with current meters, fuse boxes, etc. *shall not* be located in the archive premises. This is because fires and explosions can occasionally occur in such devices.

Smoking and other fire-hazardous activities are prohibited in archive premises.

4.9 Protection against the spread of fire from other rooms

This shall be ensured through structural measures. All archive premises *shall* be classified in accordance with the technical regulations issued pursuant to the Planning and Building Act.

Archive premises *shall* be *fire cells* that incorporate building components that ensure that external fires will take a certain amount of time to penetrate.

In a normal archive room, the building components (walls, floor, roof) *must* be able to withstand open fire for *at least 30 minutes* (fire resistance REI 30). The materials used in the building components *shall* be of *limited flammability*. Doors, hatches, etc. into the archive premises must be able to withstand open fire for at least 15 minutes (fire resistance EI 15).

- The letter **R** indicates that building components that carry loads must maintain their load-bearing capacity.
- The letter **E** indicates that the building components must be able to withstand direct flames on one side without the fire penetrating in the form of flames or hot gases.
- The letter **I** indicates that the building components must be able to withstand direct flames on one side without the fire penetrating to the other side by means of heat transfer.
- The number indicates for how many minutes the building component in question must satisfy requirements R, E and I.

All openings in walls for electrical wiring, ventilation, etc. *must* be fireproofed in accordance with the applicable regulations.

The fire safety system of a building will be evident from the fire safety documentation and fire safety diagrams. Fire safety documentation often uses the term *fire cell* only for rooms that the national building regulations require to be fire cells (e.g. stairwells, ventilation rooms, etc.). It is therefore more important that the diagram for an archive room shows that the walls and doors meet the required fire safety standards than that the room is described as a fire cell. In cases of doubt, a building engineer can assess whether the building components satisfy the fire safety requirements of the Archives Regulations.

4.10 Protection against the spread of fire in the archive room

If a fire cell contains several archive rooms, the dividing walls between the archive rooms *must* have a fire resistance of at least EI 30, and be erected in materials of limited flammability.

Paint, floor coverings, etc. used in archive premises *shall* be as little conducive as possible to the spread of fire. Paint and floor coverings should preferably be fire retardant.

Normal archive rooms have to satisfy the same requirement regarding a fire warning system as the remainder of the building.

All archive premises *shall* have fire extinguishers (handheld), preferably containing CO_2 or powder. Fire extinguishers that utilise water should not be used. Extinguishers must be serviced annually, and the servicing must be documented.

If the archive premises have an approved fire suppression system, for example one containing Inergen gas, there is no need for portable fire extinguishers.

4.11 Protection against a damaging storage environment

Archive materials can be damaged by large fluctuations in temperature and humidity. The Archives Regulations therefore state that the climate in archive premises *must* be stable. Moreover, it *must* be possible to heat the archive premises to normal room temperature throughout the year, so that people can work there.

All types of paper are subject to gradual chemical decomposition. This occurs more quickly if the archive premises have high temperatures and/or high relative humidity. If the relative humidity is above 65%, there is a great danger that the paper will be attacked by mould and fungus.

- *Paper* should have a temperature of between 18 and 21 °C and a relative humidity of 45% to 55%.
- *Photographic materials* should be stored in the dark, at temperatures below 21 °C and with less than 55% relative humidity. The ideal conditions for original photographs are 5 to 8 °C and a relative humidity of less than 30%.
- *Magnetic materials* (audio tapes, diskettes, etc.) and *optical discs* (CD/R) must be stored under the same conditions as paper.

17. The Director General of the National Archival Services of Norway. 2007. Requirements for Archive Premise, pp.6-7.
18. The Director General of the National Archival Services of Norway. 2007. Requirements for Archive Premises, pp.8-9.

4.2 Capacity

Future needs with regard to archive premises *shall* be taken into consideration in connection with removals, reorganisation, new buildings, etc. The Archives Regulations do not specify how many years the plans should cover. However, *active archives containing paper records* should have enough space for two archive periods' (i.e. eight to ten years') worth of archive materials. The remote storage archive must be large enough to hold materials until they are transferred to the archival repository. The *remote storage archive* should therefore have space for an additional 30 years' worth of materials.

4.3 Load-bearing capacity

Floors and shelving *shall* have adequate load-bearing capacity for the weight of the archive material. Paper is heavy. Shelving that is to carry A4-size documents should have a load-bearing capacity of at least 60 kg per shelf metre. Shelving for documents in larger formats should have a load-bearing capacity of 120 kg per shelf metre.

The floor under mobile shelving for ordinary paper archives will need to have a load-bearing capacity of around 12 000 N/m^2. A load-bearing capacity of 6 000 N/m^2 is sufficient for the floor under normal, fixed shelving.

4.4 The working environment of archive staff

Both active archives and remote storage archives should be organised so as to allow staff to perform their duties easily and efficiently. There *shall* be sufficient floor space for transport and retrieval of archive material. Moreover, the premises should have good lighting and work tables of appropriate heights.

4.5 Inspection and cleaning

All archive premises *shall* be regularly inspected and cleaned. Ideally, they should be inspected at least once a week and cleaned at least once a month. However, both inspection and cleaning must be adapted to the specific features of the archive premises, including to how well secured the archive materials are and how vulnerable the premises are to dust and pollution. If there are water pipes running though the archive premises, inspections should take place more than once a week.

The purpose of the inspections is to discover any damage to the archive material early on. If damage is discovered that is due to conditions in the archive premises, countermeasures *shall* be implemented as quickly as possible.

4.6 Protection against water and damp

The archive premises *shall* be well-secured to prevent penetration by water and damp. Archive premises *shall* not be used if it is known that they may be threatened by flooding.

If archive premises lie below ground level, it should be ensured that water and damp cannot penetrate the outer walls, and that the maintenance of the premises includes draining the ground around the walls and waterproofing them from the outside.

If the humidity in the archive room is too high, this must ideally be corrected through structural measures. An emergency solution can be to use an electric dehumidifier to reduce the humidity once it exceeds a certain percentage. However, mobile dehumidifiers can pose a fire hazard. In addition, they are poorly suited for use as a permanent solution. If the humidity in an archive room is too high, the archive materials should be moved to better premises.

Paper suffers greater damage from air that is too damp than from air that is too dry. The humidity levels in archive rooms should not be increased using mobile humidifiers.

Building components and fittings *shall* not contain materials that can damage the archive materials through emission of gases, radiation or in other ways. As a general rule, things that are harmful to people are also harmful to archive materials. Archive rooms should be fitted out using environmentally friendly materials.

4.12 Protection against vandalism

All building components in the archive premises *shall* be designed in such a way that the archive material is satisfactorily secured against burglary and against access by unauthorised persons. The building's ordinary security arrangements *must* also cover the archive premises. The Security Act or special statutes may impose physical protection provisions that are stricter than the Archives Regulations in cases where the archive includes special types of archive material. These must of course be fully adhered to.

Rules *shall* be prepared governing who has access to the archive premises. It should be ensured that such rules are fit for purpose. It is recommended that access be limited to those who need it to carry out their work duties. It is therefore not permitted to have a general escape route pass through archive premises. In addition, access to the archive premises must not be granted in breach of the confidentiality provisions in the Public Administration Act, any special statutes or the rules in the Security Act and the Protection Instructions on the treatment of classified material.

5. REQUIREMENTS FOR SPECIAL ROOMS FOR REMOTE STORAGE ARCHIVES

Archive material that is stored remotely and *is not in frequent and regular use shall* be kept in a *special room* (see Chapter 3). There are *stricter requirements for special rooms designed for archival purposes* than for other archive premises. The requirements listed below therefore apply in addition to the general requirements for all archive premises.

5.1 Fixtures and fittings

Special rooms designed for archival purposes *shall* not be used to store things that can be dangerous to the archive material. This applies to, for example, materials that pose a fire hazard, that may cause water damage or an increase in humidity, that may lead to decay, or that may in some other way affect the environment in the room.

Archive materials *shall* not be in contact with the walls or ceiling, or be placed directly on the floor. This is due to the need for air to circulate, and the danger of moisture damage in the event of flooding, etc. The minimum recommended distance between a shelf and an outer wall is 15cm. This means that there should be no wall shelving on outer walls. The distance between the floor and the lowest shelf should not be less than 10cm.

In special rooms designed for archival purposes, shelving *shall* be made of non-flammable materials. Wood shelving is obviously prohibited in such rooms.

5.2 Protection against leaks

Special rooms designed for archival purposes *shall* not contain water pipes. *This is a mandatory requirement for new buildings.* This means that the heating system *must not* incorporate direct water-based central heating, e.g. hot water radiators. Experience shows that water pipes will leak sooner or later. This is the case for all pipes that carry water, whether they are permanently pressurised or simply carry waste.

If there are water pipes in *existing buildings*, and it is unreasonably expensive to replace them, technical solutions can be implemented instead to prevent the archive materials being damaged by water from the pipes. For example, moisture sensors can be mounted on the floor and linked to an off-valve or an alarm. A system *must* be in place to enable the alarm signal to be detected immediately, so that the necessary measures can be implemented without delay. It is recommended that this solution is combined with a roof (or guttering) under the water pipes to direct the water towards the walls. Such solutions should be combined with frequent inspections of the premises.

5.3 Protection against fire in the archive premises

Special rooms designed for archival purposes *shall* be heated by means of heating cables mounted under the floor or in special heating structures or by means of a hot air system or other sources of heat that do not pose a fire hazard or other risk of damage to the archive materials. Heating cables and hot air systems are preferred, as they do not expose the archive materials to direct, radiated heat. Electric heaters will only satisfy the requirements if they are wall-mounted, have low surface temperatures and are placed so that the archive materials cannot ignite or be damaged if the heaters overheat.

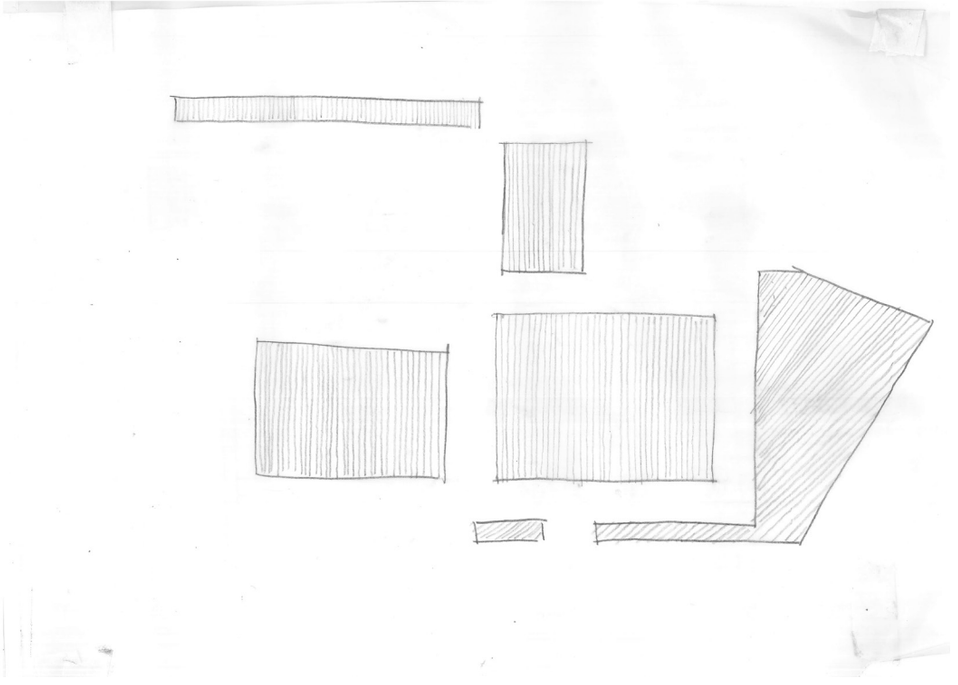
Stricter requirements are imposed for special rooms than for normal archive rooms in relation to electrical equipment. The room *shall* only be equipped with electrical equipment that is needed for the work of the archive. The power to such equipment must be switched off when no work is being done on the premises.

5.4 Protection against the spread of fire from other rooms

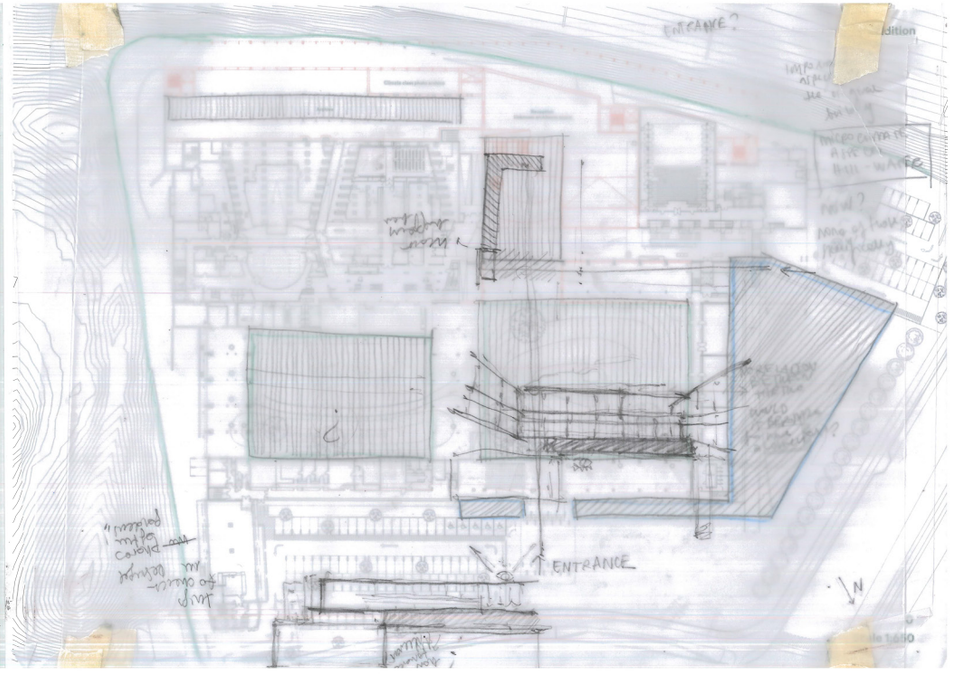
The building components in special rooms must be able to withstand open fire for at least 60 minutes (fire resistance REI 60). Doors, hatches, etc. into the archive premises must be able to withstand open fire for at least 30 minutes (fire resistance EI 30).

Special rooms designed for archival purposes *shall* have self-closing doors. This is because fires can spread through doors that are not shut after use.

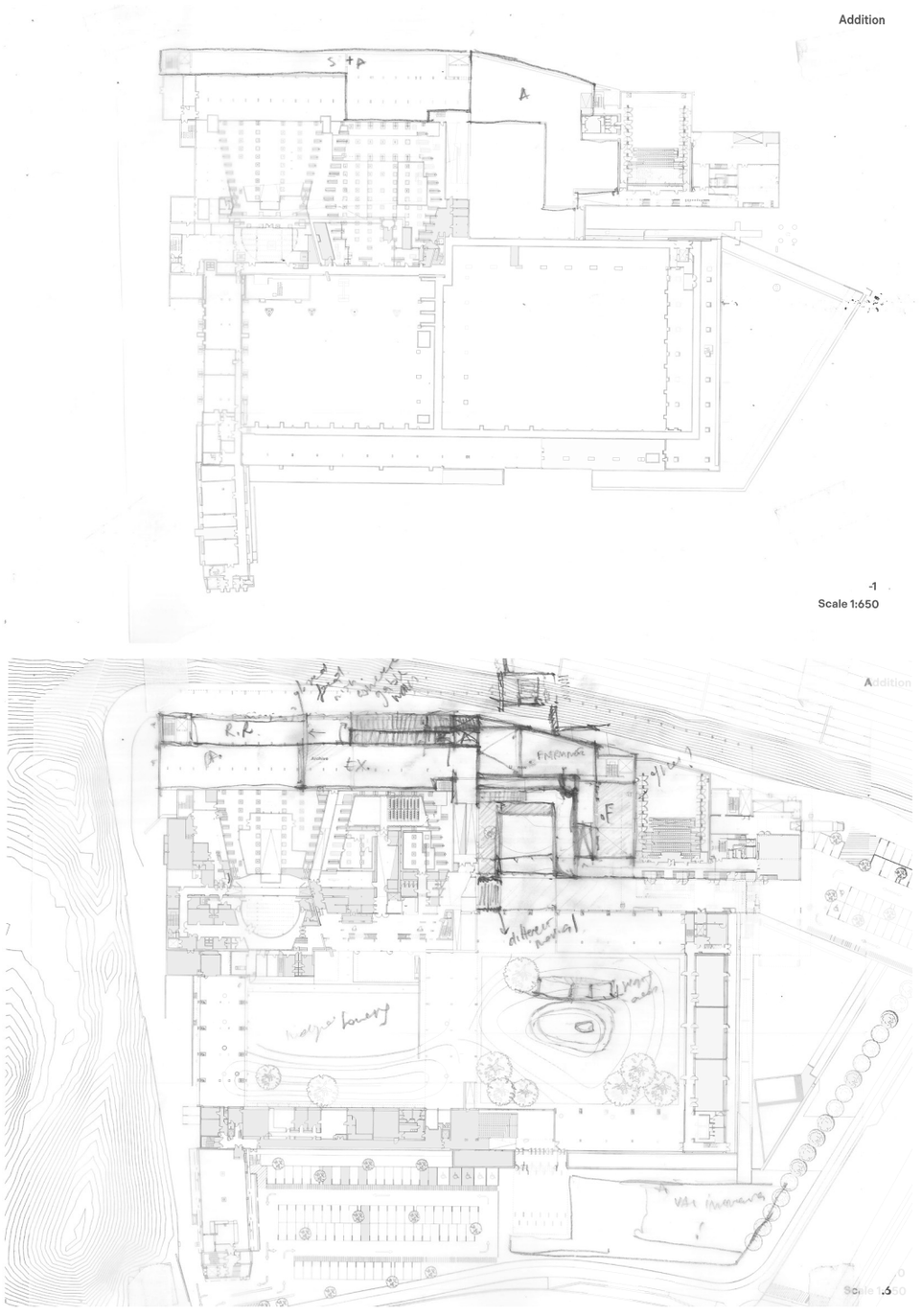
19. Made by author, scheme of the open spaces, 2025



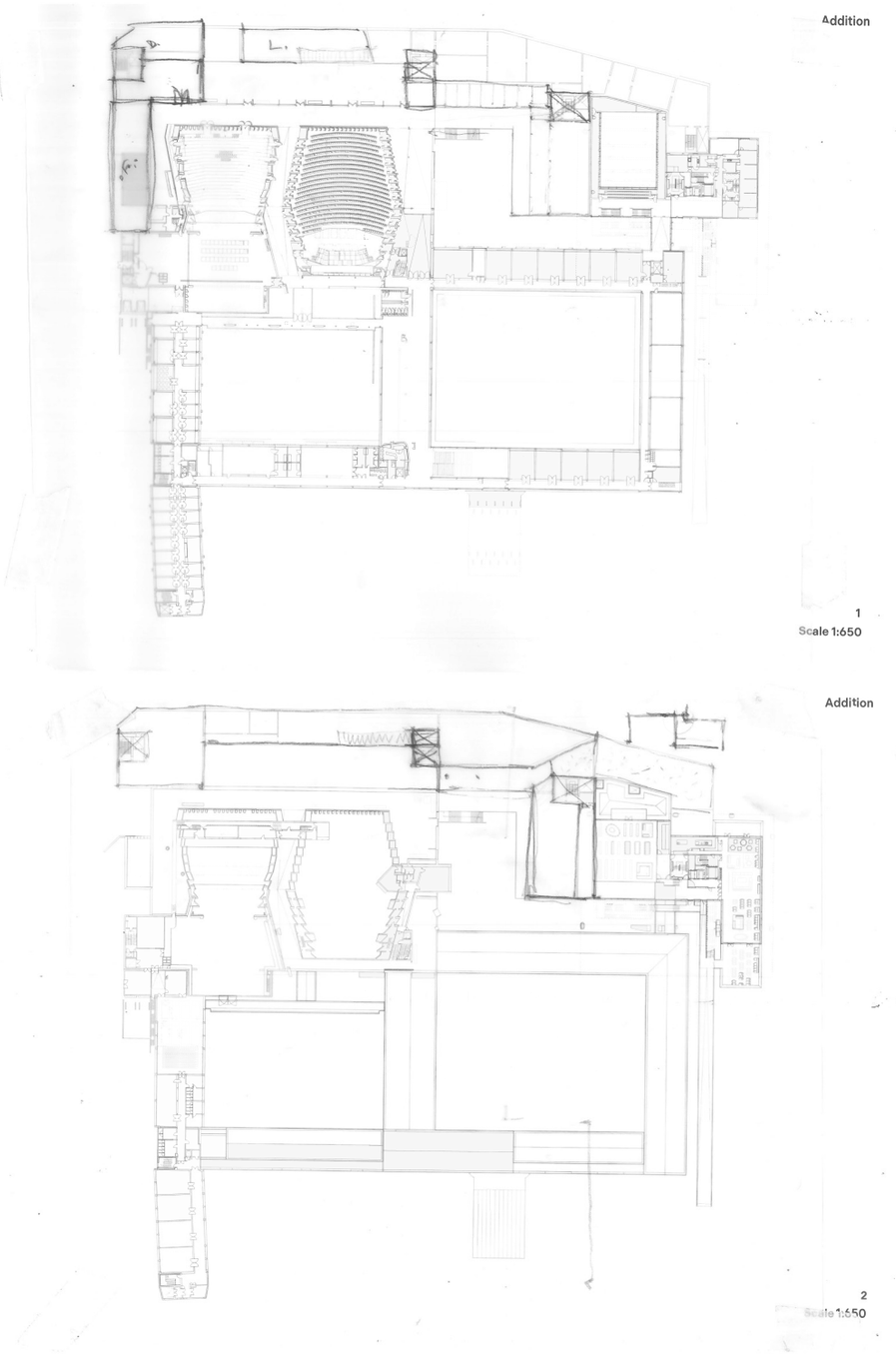
20. Made by author, skecth on the view on different places, 2025



21,22. Made by author, sketches of how to modify the building, floors -1 and 0, 2025



23,24. Made by author, sketches of how to modify the building, floors 1 and 2, 2025



25. Herzog & deMeuron, 1:10 drawing of the gabion wall facade, Dominus Winery Yountville, Napa Valley, California, USA, 1995-98.

Gabion Walls

Herzog & deMeuron,
137 Dominus Winery
Yountville, Napa Valley, California, USA
Project 1995
Realization 1996-1998

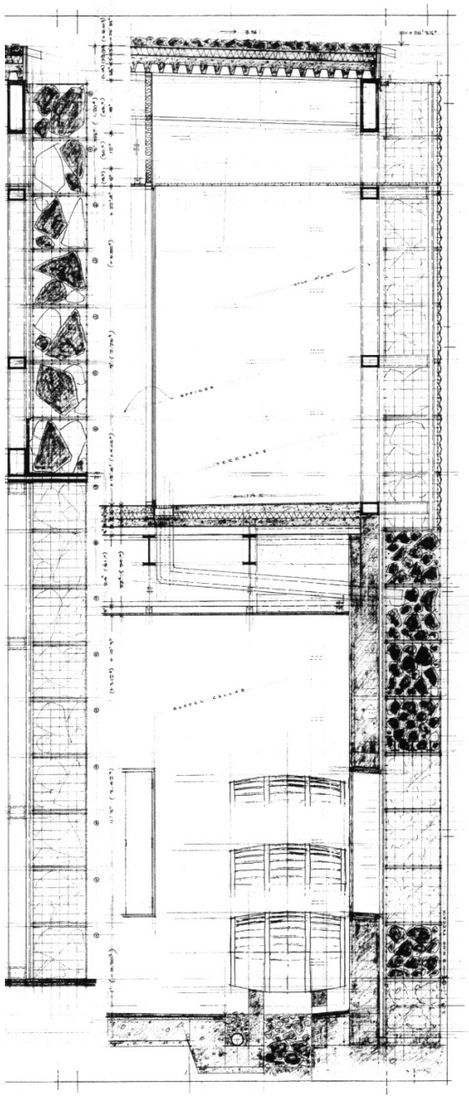
Gabion walls as façade? What does it mean for the building? Will it create a different relation between highways and the building?

By using the Gabion walls the building will become a sort of retaining wall going back to the 19th century ramparts of Antwerp.

This will create a new wall for the building to somehow hide if and protect it from the highway. However, is it the best approach or is it a way of not really solving the façade?

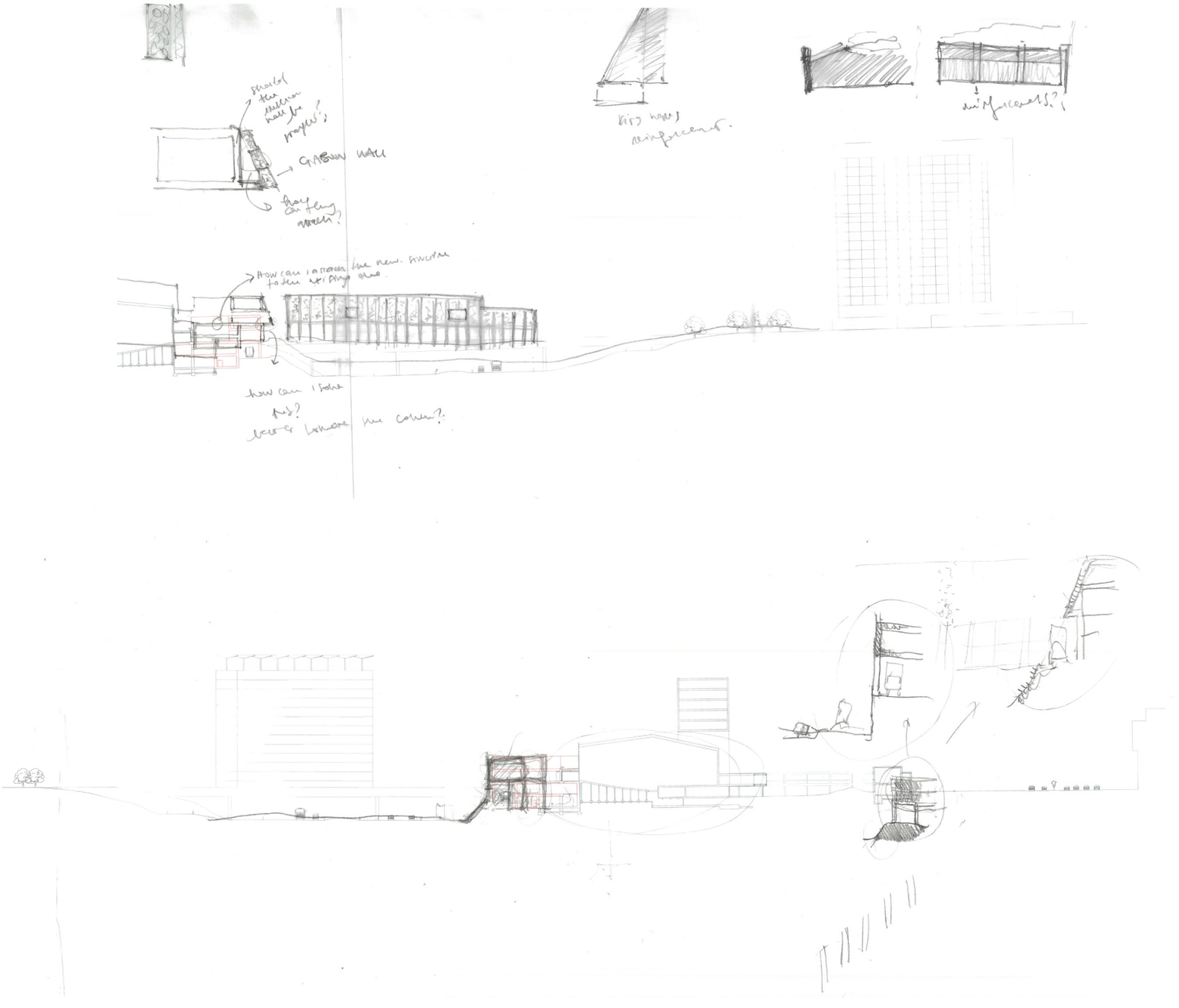
How to deal with light getting inside the building if there is a stone façade that protects the building? How can this element be introduced on the north façade, in relation to Stynen building?

I think the best approach will be to test out how this could, be, what on the entire length of the building this façade will express itself.

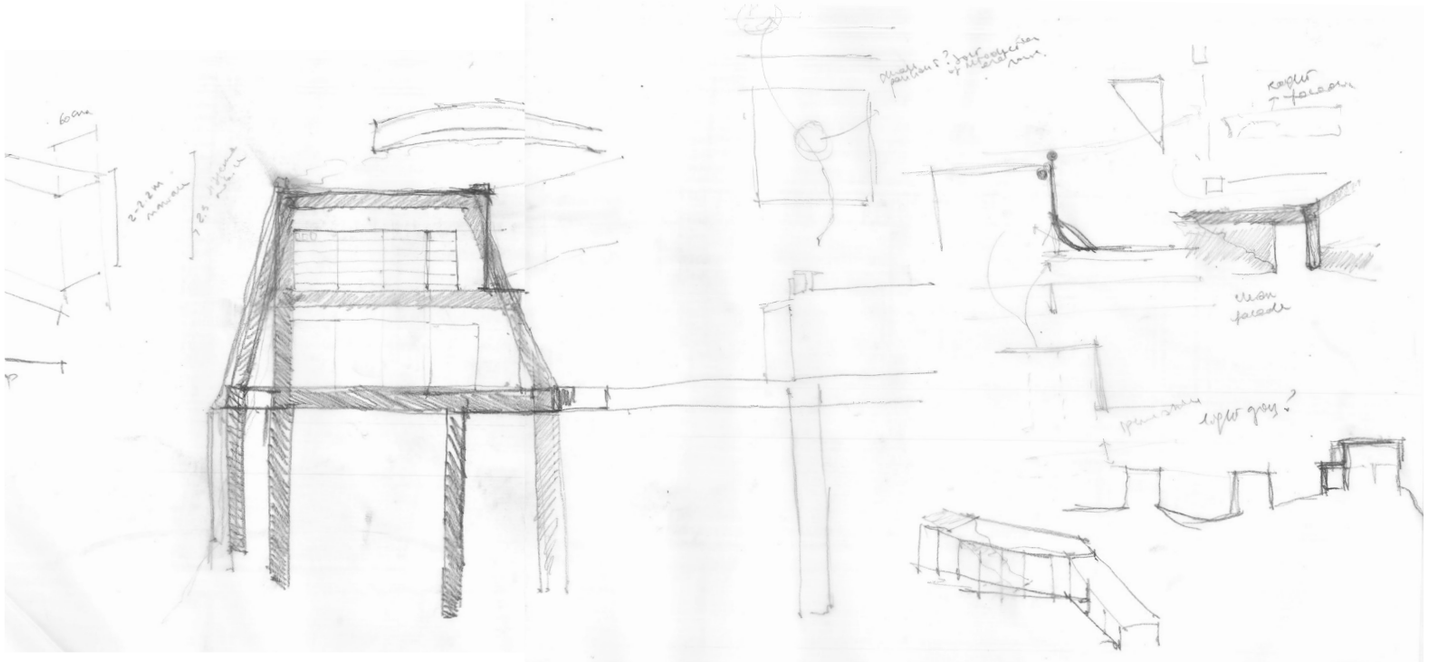


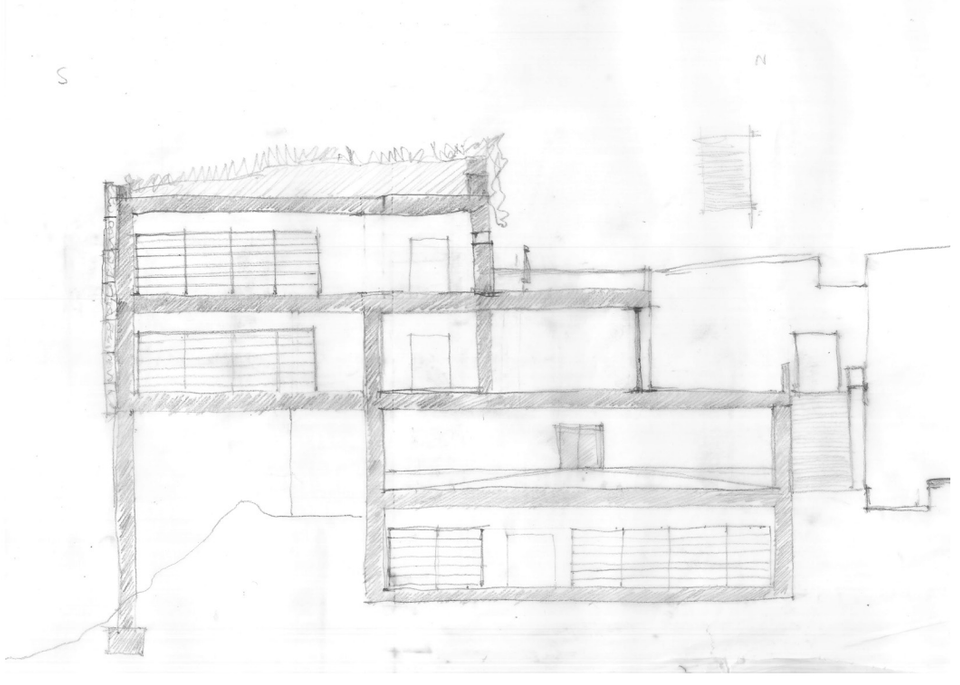
26. Shinkenchiku Sha, Project by Herzog & de Meuron, 137_CP_9905_747_MY, 1998
27. Shinkenchiku Sha, Project by Herzog & de Meuron, 137_CP_9905_747_MY, 1998

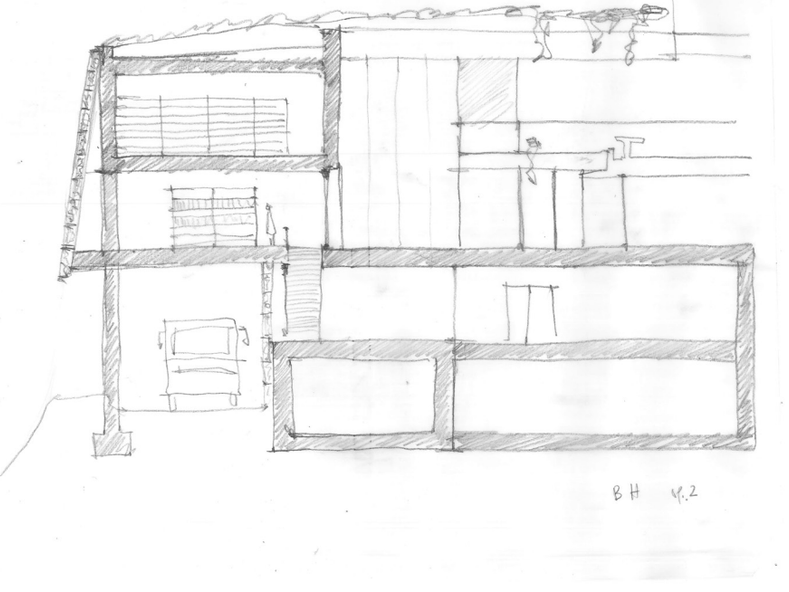
28,29. Made by author, section of the building throught the highway and possible composition of the facade, 2025



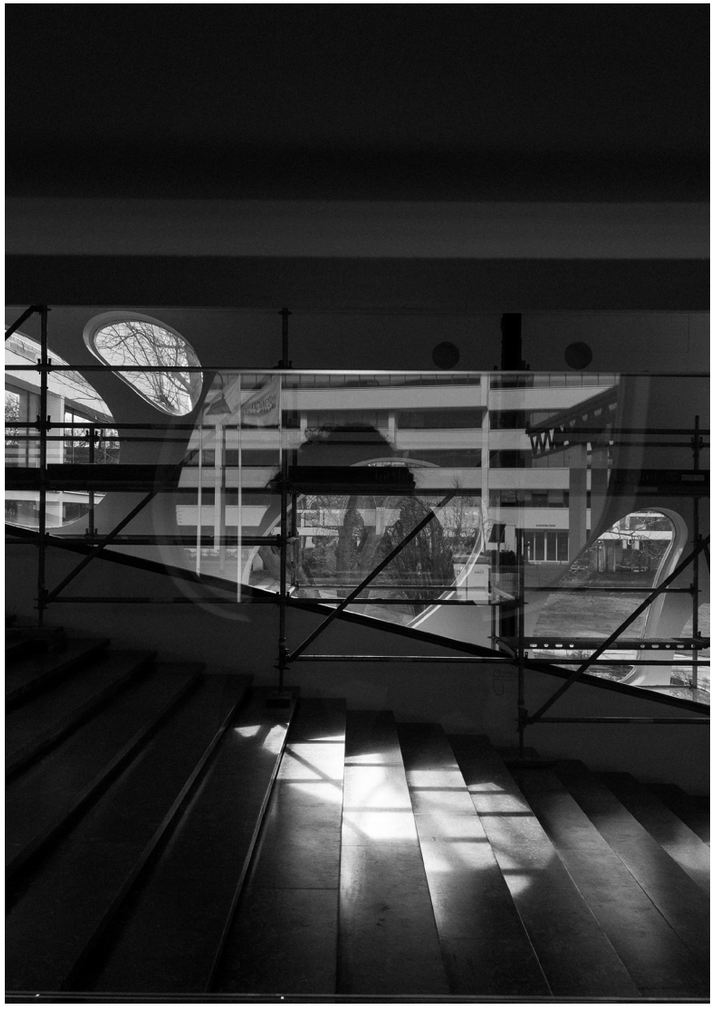
30,31,32. Made by author, possible sectons of the building facing the highway, 1:100, 2025







33. Made by author, view from the entrance to the courtyard, DeSingel, Antwerp, 2025
34. Made by author, photos of the first floor entrance of DeSingel, Antwerp, 2025



14. Google earth view and added by author location of Markgravelei 21-35, Antwerp, 2024

35. Made by author, photos of ramp next to the blue hall facing the outside view, DeSingel, Antwerp, 2025
36. Made by author, photos of the first floor corridor behind the auditoriums of DeSingel, Antwerp, 2025

37.Felixarchief, photos of the terraces DeSingel, folder 2393#3240, access 2024

38. Made by author, photos of the first floor terraces of DeSingel, Antwerp, 2025

39. Made by author, photos of the first floor view from terraces of DeSingel, Antwerp, 2025

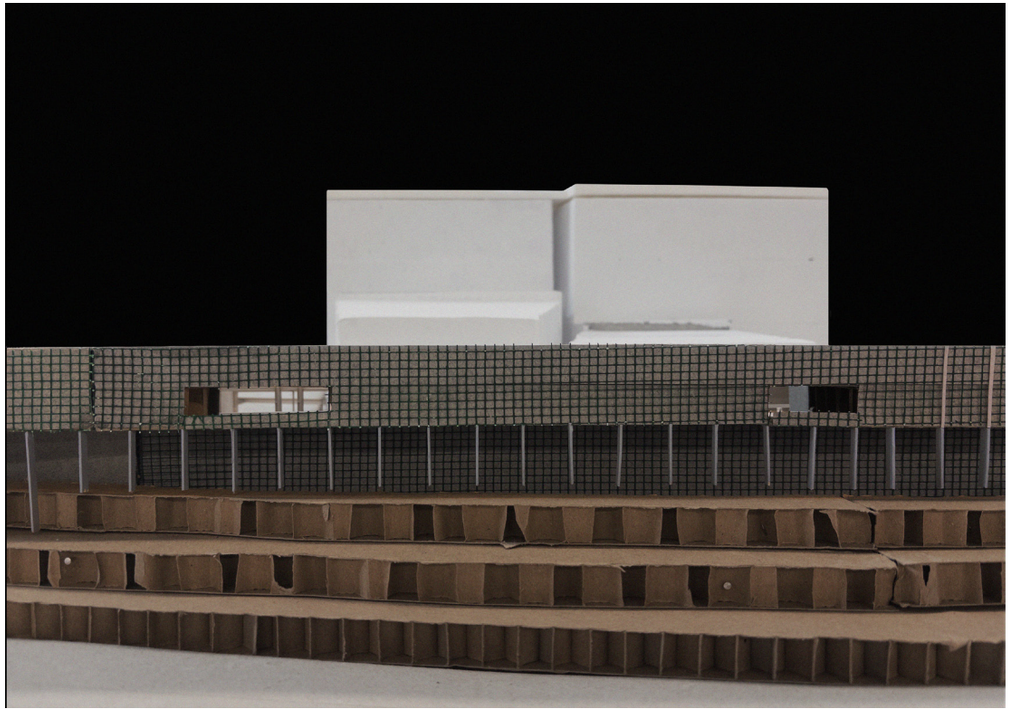
40. Made by author, photos of the first floor view from terraces of DeSingel, Antwerp, 2025

41. Made by author, photos of the facade on the highways of DeSingel, Antwerp, 2025


DANS

42. Made by author, photos of the facade on the highways of DeSingel, Antwerp, 2025
43. Made by author, photos of the relation between the back street and the trainline, Antwerp, 2025

44. Made by author, model 1.200 new addition with gabion wall facade, 2025



45. Made by author, model 1.200 new addition with gabion wall facade, 2025

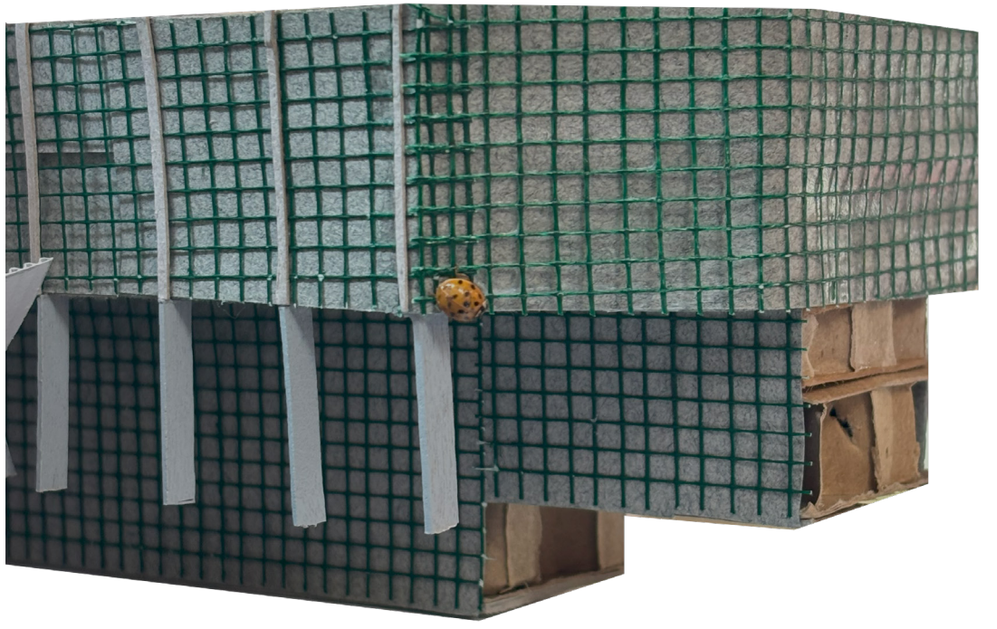
Other possibilities of including biodiversity as part of the facade?

After making the 1:200 model, I realised that I wasn't entirely sure about the role of the gabion walls on the facade of the building. In a way, the facade is not fully designed, and it somehow remains an unresolved space in the building— which is the opposite of what I am trying to archive with this builsing. It would become a retaining wall, like those we see in the mountains, but still, what can this element really add to the building?

Since then, I tried to understand even more how biodiversity could be included. And after a ladybug started walking around my building model, I realised that the facade doesn't necessarily have to be a gabion wall to contribute to a more sustainable design. I think somehow I could work with other materials while keeping the concept of a mountain tunnel. Other textures and finishes could help with this and somehow integrate biodiversity into the design.

Greeneries, birdhouses—all these elements can be considered as part of the facade and still give the same information and meaning that I am trying to archive. I think a nice reference for this is Villa Ottolenghi by Carlo Scarpa, where the building seems to rise from the ground, with greenery growing around it and on top of it. The finishes give it a real, organic aspect too.

46. Made by author, model 1.200 new addition with gabion wall facade with ladybug, 2025



47. Juan Benavides, frames from “At the Garden’s Pace” documentary about Enzo Valerio project Pinetum Pavilion, 2024

48. Riccardo De Vecchi, photos of Enzo Valerio project Pinetum Pavilion, 2024

On Materiality

After loosing the concept of the Gabion wall, I had to find other ways of expressing my interest on the possible materials that I could use.

I think the idea of reusing material is still something that interests me, I would like to develop that a bit more. How can I reuse material, especially concrete?

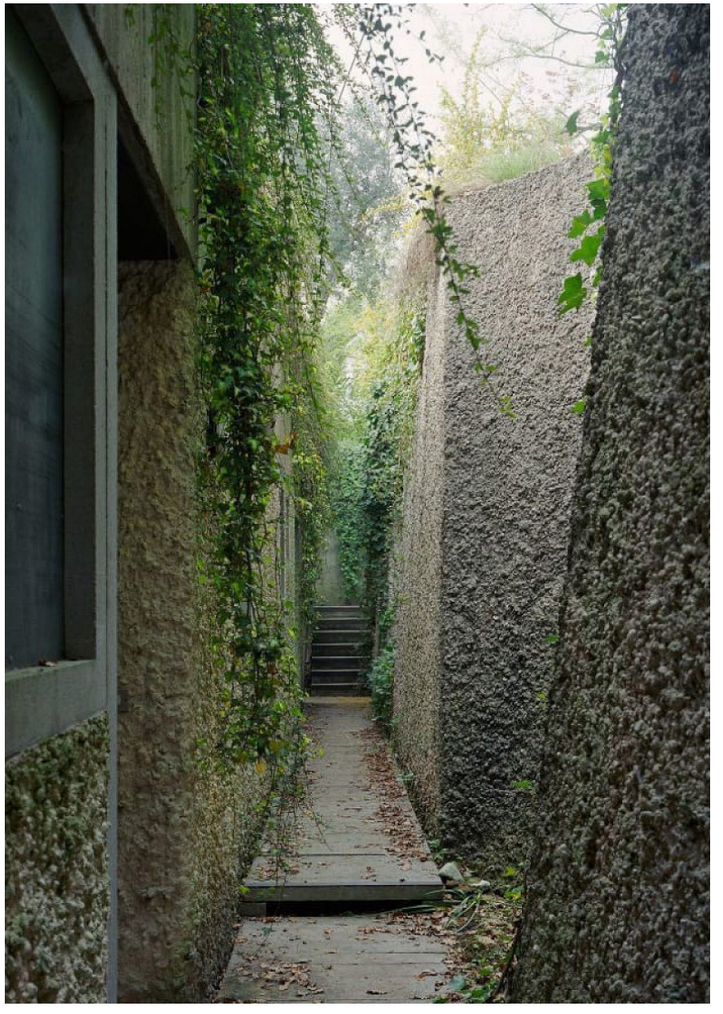
After watching the “At the Garden Pace” movie I realised how many opportunities there are by reusing the material. For example, there the garden rocks are carefully placed to be integrated in the concrete structure. Would something like this be possible?

What doesn’t really convince me about that is the fact that those rocks could possibly fall, and in a building as long as mine, close to the highway and trainline could possibly become dangerous, as a sort of small landslip. Therefore, how could I use other ways of integrating materials in the façade? Making it more organic and going against the concrete structure that is needed, both for the archive to stand and for the tunnel to be defined.

What I remembered is Villa Ottolenghi by Carlo Scarpa, the building has this outside rough render that resemble rocks, I think it might be interesting to work with something like this to make it be in high contrast with the clean concrete structure.

The rocky surface helps create a connection with the surrounding greenery, almost acting like a natural façade. It brings a bit of nature back to the building, letting the old landscape that was once stripped away become part of the building’s face once again

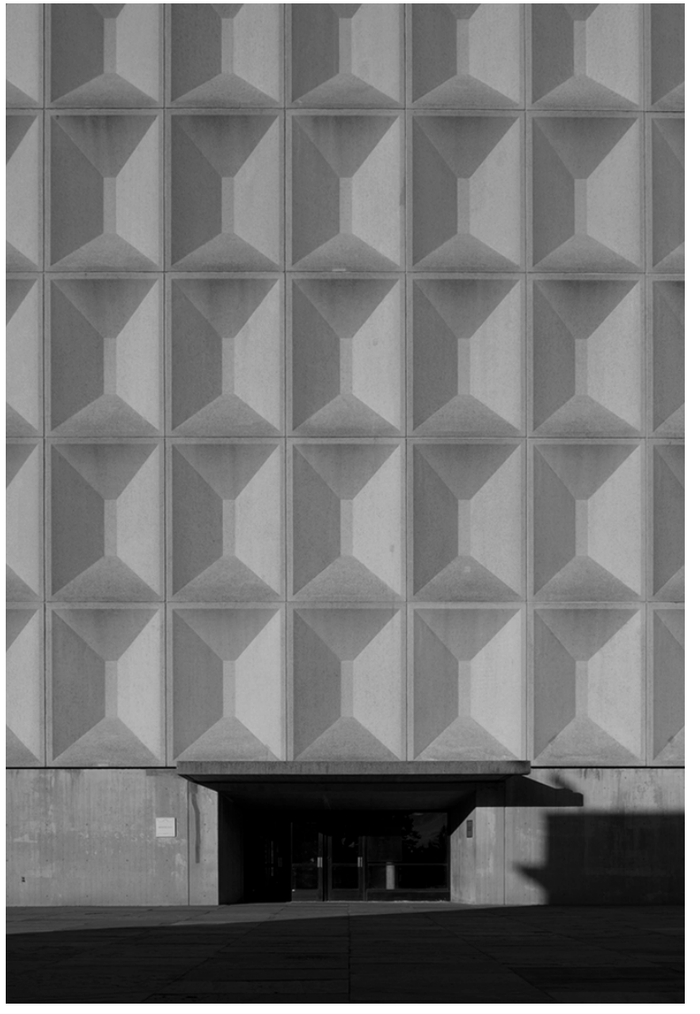
49. Ake Eson Lindman, photo of “la calle” of Villa Ottolenghi, Carlo Scarpa, 1978



50. Ake Eson Lindman, photo of the entrance of Villa Ottolenghi, Carlo Scarpa, 1978

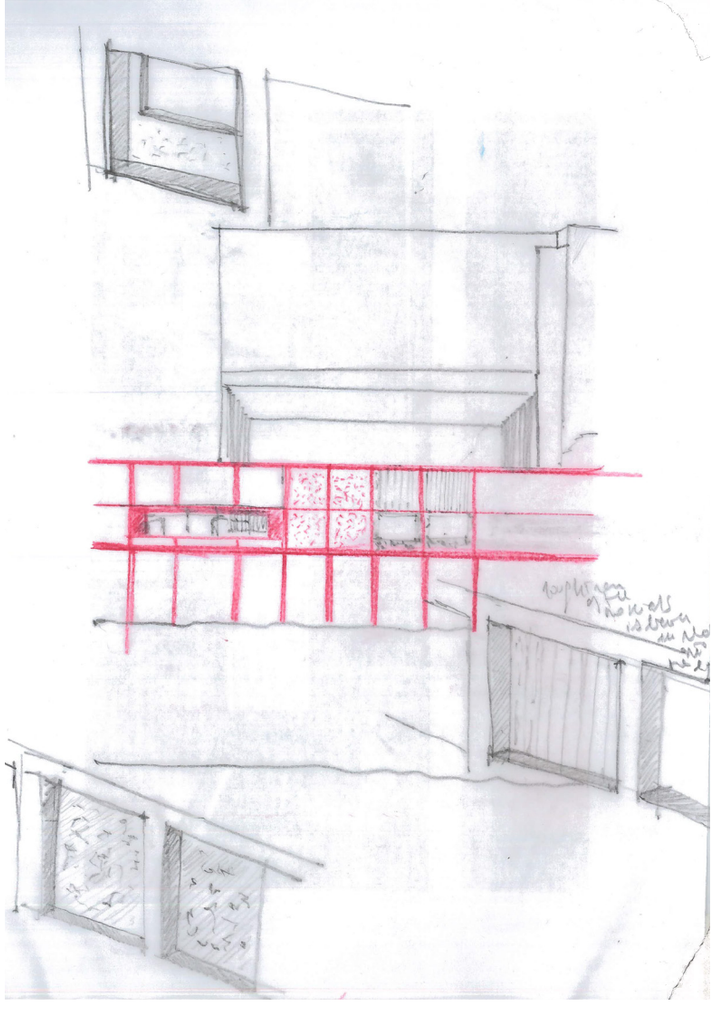
51. Ake Eson Lindman, photo of the terrace of Villa Ottolenghi, Carlo Scarpa, 1978

52. Matthew Carbone, photo of Bronx Community College by Marcel Breuer, 1961



53. Made by author, Sketch of the possible facade, 2025

54. Made by author, Sketch of the possible facade compositions, 2025



55. Thibaud Poirier ©, photo of Couvent de la Tourette by Le Courbusier 1960, Lyon, 2024

56. Thibaud Poirier ©, photo of Couvent de la Tourette by Le Courbusier 1960, Lyon, 2024


deSingel

57. Made by author, photoshop of the possible facade in the context, 2025
58. Made by author, photoshop of the possible facade with greeneries added in the context, 2025

On composition

To solve the problem of the back road somehow the building will be similar to a tunnel, the street with the sequence of columns is even somehow a connection with the existing building façade on the highway, where the 60x20 cm columns define the façade.

This will mean that the façade of the building will be mainly defined by a structure brutalist raw elements, sequence of columns and beams and more organic fillings.

How could this relate with the existing? What would that look like? This somehow could be an initial definition of how I imagine this could be perceived.

59. Made by author, photoshop of the possible facade with green structure in the context, 2025

International Council on Archives

FAQ 1. Shelving for Archival Storage – Key Issues

Prepared by the ICA Committee on Archival Buildings in Temperate Climates

1. Introduction

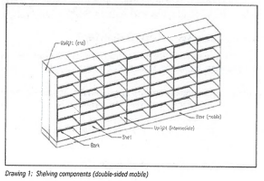
Shelving for archival storage comes in many shapes, sizes, and methods of operation. The notes that follow are intended to provide a brief overview of key issues to consider if you are making decisions about shelving.

2. Shelving terminology

To understand shelving, and how it works, it is necessary to begin with some basic terminology.

- **Backs** are the enclosing panel on the rear of a bay of shelving. They provide the bay with its strength and rigidity.
- **Uprights** (or sides) are the enclosing panel on each side of a bay. They are supplied with a series of pre-punched holes along their full length which allow the user choice in the placement of individual shelves. Uprights are sometimes referred to as 'end' or 'intermediate'. End uprights are at each end of a row; intermediate uprights are the uprights in between.
- **Shelves** are individual horizontal members attached to uprights at either end, and upon which records can be placed. Usually shelves are held in place by four clips – one in each corner – attached to the uprights.
- **Bays** are the basic unit of shelving. They consist of a single back panel connecting two uprights on either side. Bays can be either single-sided or double-sided. A double-sided bay consists of two single-sided bays joined back-to-back and sharing a common back panel as the means of providing rigidity.
- **Rows** consist of a number of bays, either single-sided or double-sided, connected to each other. The standard length of a row is five to six bays, but it is not uncommon to find rows seven bays wide or even wider. In some countries a row is referred to as a 'stack' or a 'range'.

Drawing 1 illustrates a number of these components.



Drawing 1: Shelving components (double-sided mobile)

3. How do you choose between mobile and static shelving?

Shelving can be installed in either static or mobile configurations.

Static shelving is ideal for small buildings. It is cheaper than mobile shelving, and there are no moving components, so nothing can break down or wear out.

Mobile shelving consists of units mounted onto bases fitted with wheels (sometimes called mobiles or carriages). The bases run on tracks (rails) secured to the floor. Static shelving units, usually fitted at one or both ends of a group of mobile units, are mounted on plinths (bases) secured directly to the floor.

Mobile shelving enables storage of far more material than static shelving – often more than double the quantity – over a given floor area than static shelving. Because the shelving moves, only one access aisle is needed. When a document is required, the particular row of shelving is located and an adjacent aisle is created by moving the shelving units apart.

Another advantage of mobile shelving is its potential to enhance security – mobile units can be locked to prevent unauthorised access.

Yet there are a number of issues that must be considered before installing mobile shelving.

It requires stronger floor loadings than static shelving, so a structural engineer will need to ensure that the floor loadings are sufficient to take the weight.

Because the shelving moves on tracks, an uneven floor can interfere with laying the tracks and the subsequent operation of the shelving.

Tracks can be placed below ground (sunken), or above ground (raised). Below ground tracks are usually built into the floor as part of the building's construction. Above ground tracks are particularly useful if the floor is uneven, or if the property is leased and the shelving has to be removed when the lease expires. If above ground tracks are used, false floors can be installed to cover them, making it easier for staff and trolleys to pass over the tracks, and reducing the risk of accidents.

4. Types of mobile shelving

Mobile shelving can be supplied in hand operated or electrically operated form.

- **Hand operated** – the operator moves a row of shelving by turning a handle, steering wheel or similar device located on the end of the row. The handle is connected, through a series of cogs and chains, to an axle located underneath the shelving. In turn, the axle is connected to wheels that run on the tracks.
- **Electrically operated** – the operator moves the shelving by pushing a button located at the entrance to the row. The button is connected to a motor that drives the shelving.

5. What should you consider when choosing between hand operated and electric shelving?

Hand operated shelving is much cheaper than electrically operated shelving. As there are few mechanised components, there is little that can break down, or need replacing. Electrically operated shelving is very easy to operate, however, there is always the possibility that, over time, components could malfunction or become obsolete.

6. Wooden and steel shelving

The choice of shelving materials is usually between wood or steel.

- **Wooden shelving** can be visually attractive, but if you decide to use it you should ensure that it has been treated to prevent attacks by insects, and that it is fire resistant.
- **Steel shelving** is usually made from bright mild steel and then treated, either with paint or a powder coating, to protect the surface from scratching and reduce the possibility of rusting.

7. What should you look for when choosing second-hand shelving?

If you are planning to use second-hand shelving there are a number of precautions you should take. First, you should ensure that there is no rust present. Rust can contaminate the records. If particularly severe, it can also weaken the strength of the shelving.

If the shelving has minor rust or some other contaminants (eg grease), it should be cleaned and, if necessary, repainted. At the very least, place a layer of cardboard over the shelves as a buffer between them and the records.

You should also ensure that there are no rough edges or burrs on the shelving that could injure staff or damage the records.

8. What accessories can be provided as part of your shelving?

Shelving comes with an array of accessories designed for specific record formats. For example:

- **Slide out reference shelves** can be attached directly underneath a shelf. They can be extended, by means of runners, allowing the operator to place items on them, at waist height, and not on the floor. When not in use they retract underneath the shelf above.
- **Wire racks** (known in Australia as 'toast racks' because of their similarity to toast holders) can allow items such as computer tapes and films to be stored upright.
- **Brackets** allow individual film canisters to be stored horizontally. The brackets are attached to the uprights and are sometimes known as 'pizza' shelving, because they resemble the way pizza boxes are stored.

In addition, there are cardholders, jackets and dividers that can store files or other objects within the shelving.

9. How do you ensure your shelving remains stable?

Whatever height the shelving is, it must be stable. Measures must be taken to ensure it cannot topple over. This is particularly the case when units higher than seven or eight shelves are used. Advice should be sought from the manufacturer.

If you are in an area prone to earthquakes, additional measures may need to be taken to ensure shelving stability. Manufacturers have different ways of doing this. One way is to install a steel pipe above the shelving and attach the pipe to the walls of the storage area. The shelving units are then attached to the pipe by means of rollers.

10. How much shelving can be accommodated in a given floor area?

One of the most difficult factors in planning a shelving layout is establishing how much shelving will actually fit into an available floor area. Put another way, how do you convert square floor metres into linear shelf metres? Some general calculations are as follows.

Mobile shelving

- 1 square metre of open storage area will accommodate 12–15 linear metres of storage if 8 high (2,475 mm) mobile shelving is installed.
- 1 square metre of open storage area will accommodate 10 linear metres of storage if 6 high (1,875 mm) mobile shelving is installed.

You should allow at least 1 metre (about 3 ft) for the aisleway where standard depth shelving – about 400 mm (1 ft 4 in) – is being used. If the shelving will house very large volumes or maps, then the aisleway should be larger, up to 1.5 metres (5 ft) or more.

Static shelving

- 1 square metre of open storage area will accommodate 7 linear metres of storage if 8 high (2,475 mm) static shelving is installed.

These ratios are averages and are intended to give you a rough estimate. Pillars, air conditioning riser ducts, and other obstructions will reduce the space available for shelving.

11. How do you number the shelving?

With a large shelving installation covering hundreds of metres, it is important to number all shelving for ease of location and retrieval. However, if finances are a problem, a simpler method is to number the end uprights only (ie the ones facing the main aisles). This way you don't need to individually number each bay or shelf. Anyone using the shelving can simply count off – the bays from left to right, and the shelves from top to bottom.

12. Why should you allow for ventilation in and around the shelving?

Large installations of high shelving can restrict the airflow within a storage area. When designing a shelving installation it's important to allow for sufficient ventilation in and around the shelving, to help preserve the records you are storing.

In order to promote better ventilation it is suggested that the shelving installation should not be in direct contact with the walls; a distance of 200 mm is recommended.

Some organisations don't use backs on their shelving rows, preferring to have cross bracing instead. This will certainly allow for greater airflow, but you do need to ensure that the shelving is structurally stable.

Some manufacturers use components – uprights and shelves – that have pre-drilled holes to provide greater airflow.

13. Are there any occupational health and safety issues to be considered when designing a shelving layout?

There are a number of occupational health and safety issues that should be considered when designing a shelving installation.

If you are intending to use very high shelving, greater than 2.5 metres (8 ft) you need to consider how staff will be able to access the shelving. What type of ladders, steps etc will be needed? What methods will be in place to allow staff to retrieve heavy, or bulky, items from the high shelves? In this context, it's a good idea to place low usage records on the higher shelves.

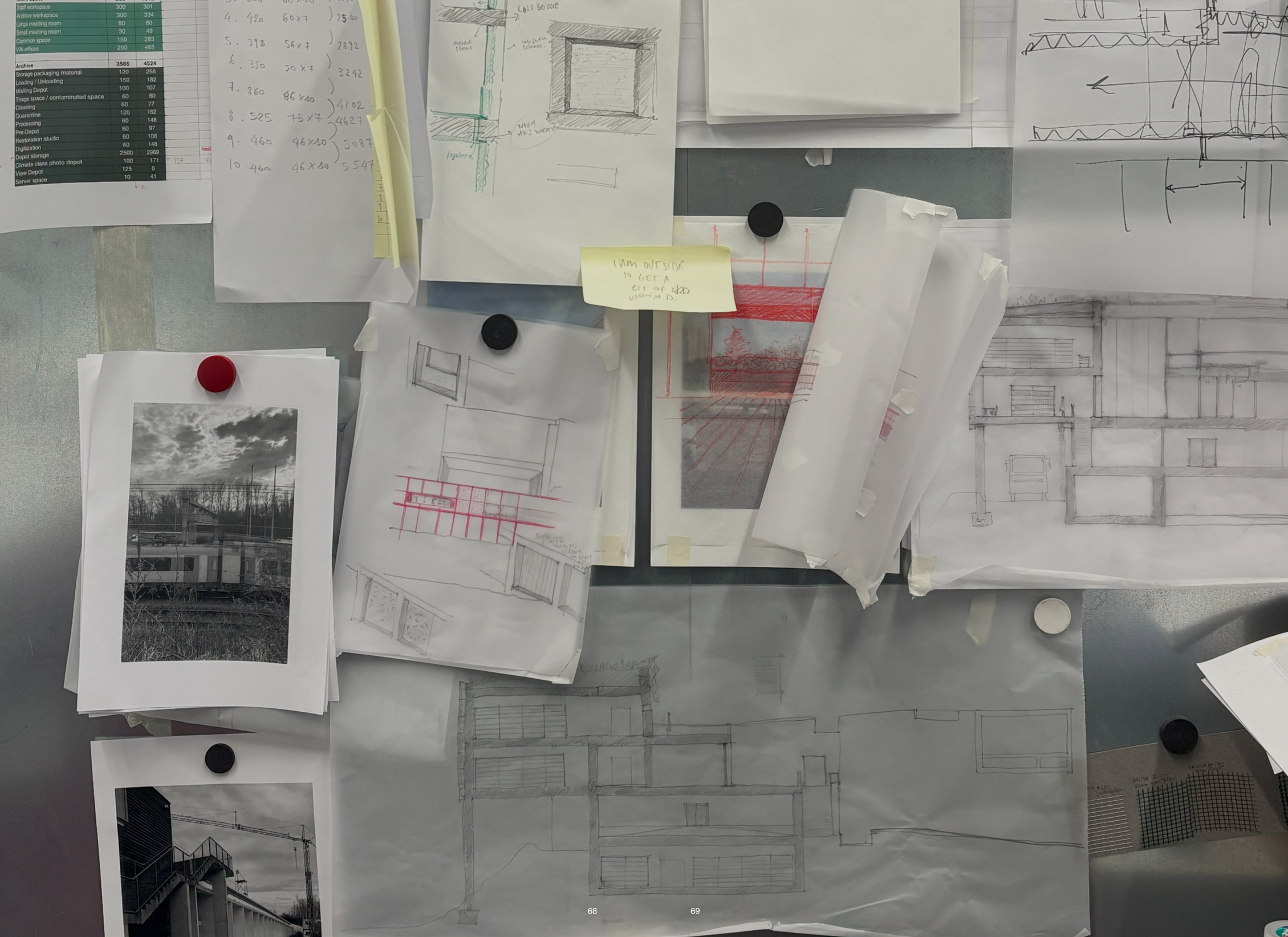
You should ensure there are no sharp edges or burrs anywhere on the shelving. Otherwise, staff can cut themselves, or records can be damaged.

If you are using above ground tracks, a false floor should be installed. It should be built after the tracks have been laid and before the shelving is installed. If the floor is installed later (eg following staff complaints or accidents) it will be considerably more expensive.

14. How do you design a shelving layout?

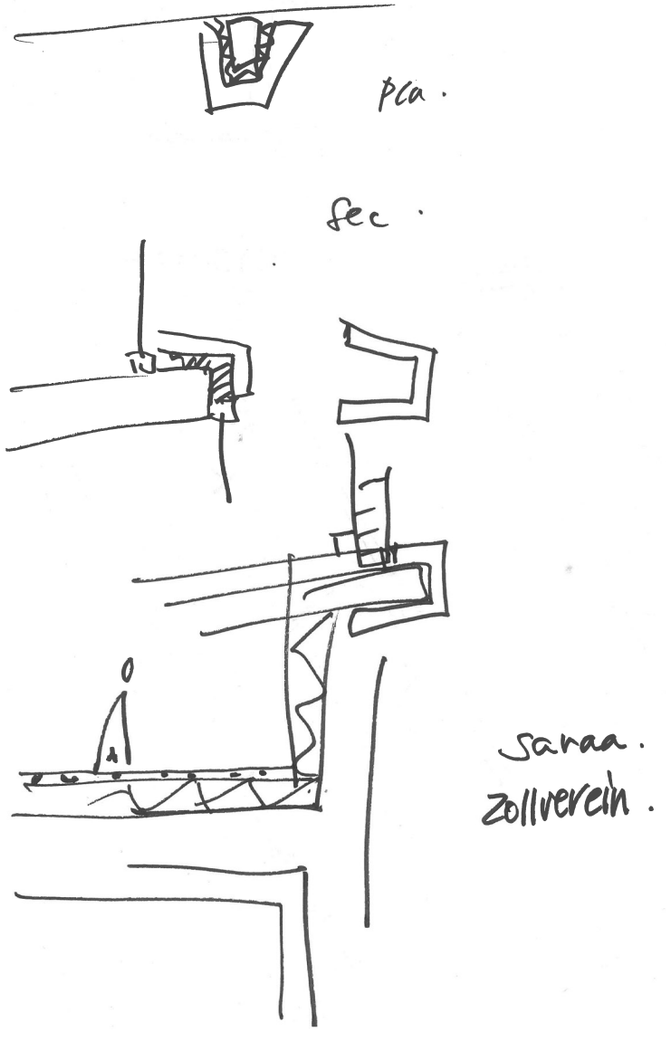
With the knowledge of shelving and tracking systems outlined above, it is now appropriate to consider some of the key design issues affecting shelving layout.

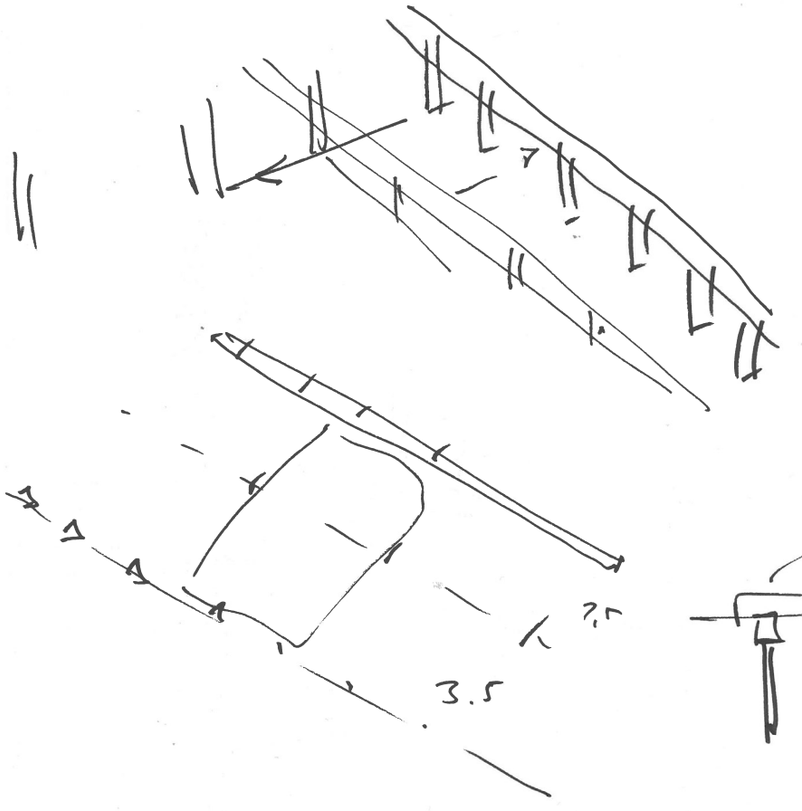
Type of shelving

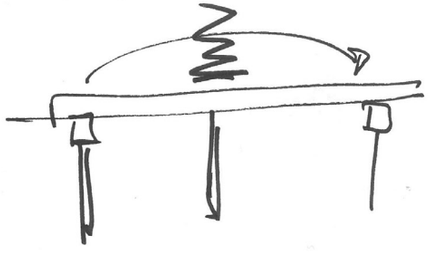

Staff workspace 300 301
Archive workspace 300 334
Large meeting room 80 80
Small meeting room 30 49
Common space 150 283
VAI offices 260 465
Archive 3585 4524
Storage packaging material 120 258
Loading / Unloading 150 182
Waiting Depot 100 107
Triage space / contaminated space 60 60
Cleaning 60 77
Quarantine 120 162
Processing 60 148
Pre-Depot 60 97
Restoration studio 60 106
Digitization 60 146
Depot storage 2500 2969
Climate class photo depot 100 171
View Depot 125 0
Server space 10 41
4. 420 60x7 2500
5. 392 56x7 2892
6. 350 50x7 3242
7. 360 86x40 4102
8. 525 75x7 4627
9. 460 46x10 5087
10 460 46x10 5547
COLD BRIDGE
I AM OUTSIDE
TO GET A
BIT OF

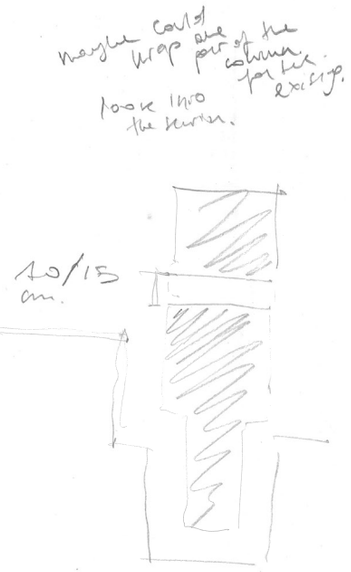
63. Made by Author, the work wall, 2025
64. Matthijs Klooster, technical sketches of how to solve the insulation of the building and concrete slabs orientation, 2025

Cold structure? How can that be solved?







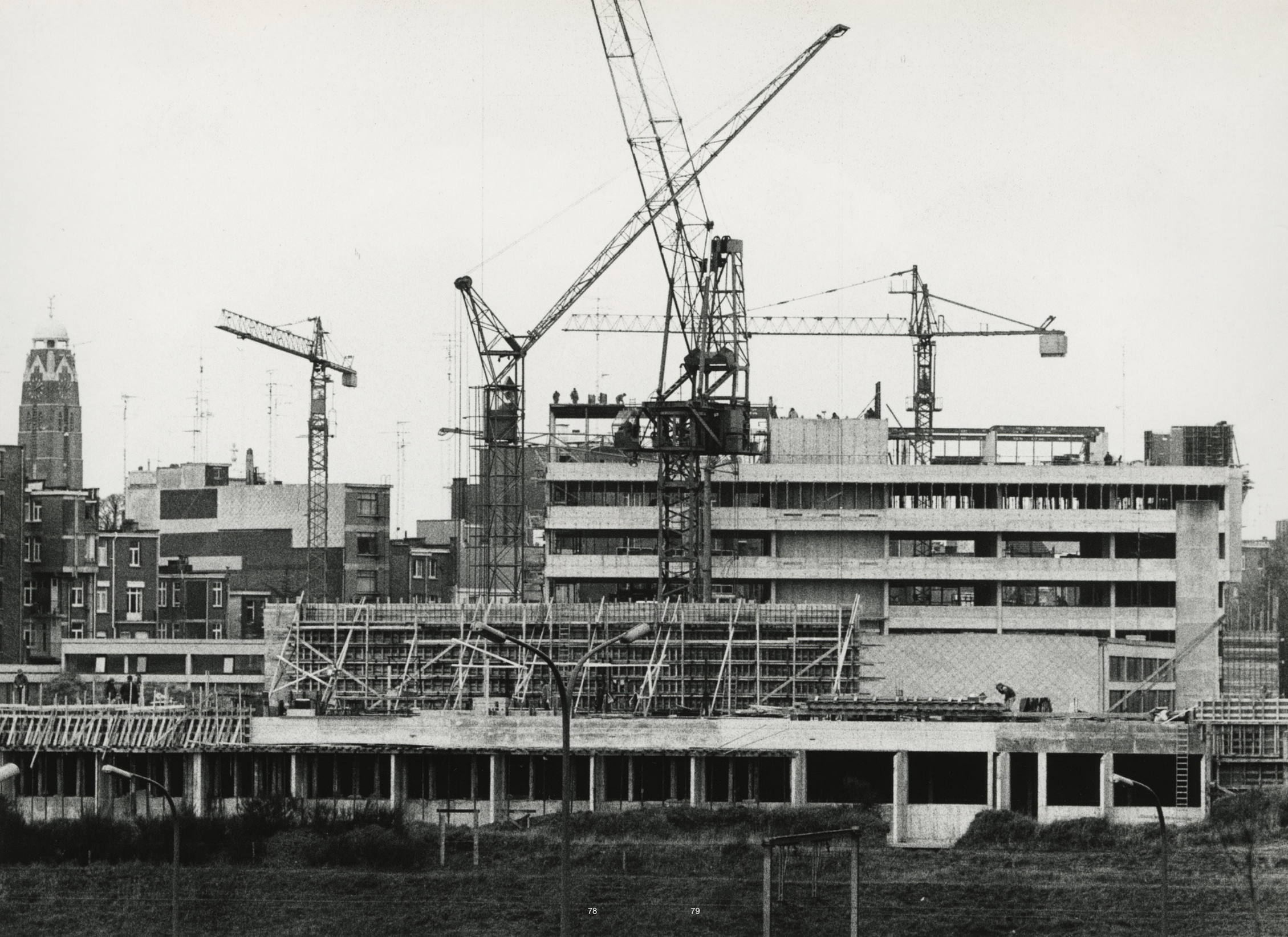


65 .Felixarchief, photos of the construction site of the 2nd phase of DeSingel, folder 2393#3240, access 2024

66 .Felixarchief, photos of the construction site of the 2nd phase of DeSingel, folder 2393#3240, access 2024

67 .Felixarchief, photos of the construction site of the 2nd phase of DeSingel, folder 2393#3240, access 2024

68 .Felixarchief, photos of the construction site of the 2nd phase of DeSingel, folder 2393#3240, access 2024



69. SANAA, 1:20 detail drawing, Escuela de Gestión y Diseño Zollverein, Essen, 2006
70. SANAA, pipe system on active insulation of the building drawing, Escuela de Gestión y Diseño Zollverein, Essen, 2006

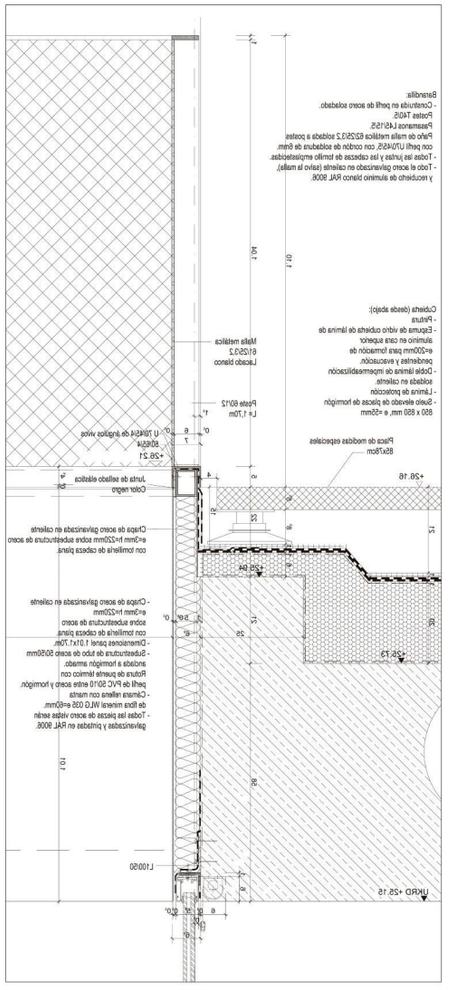
Geothermal heating system

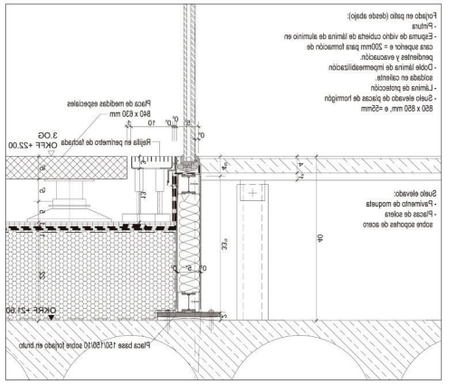
SANAA
Zollverein School of Management and Design
Essen, Germany
Realization 2003-2006

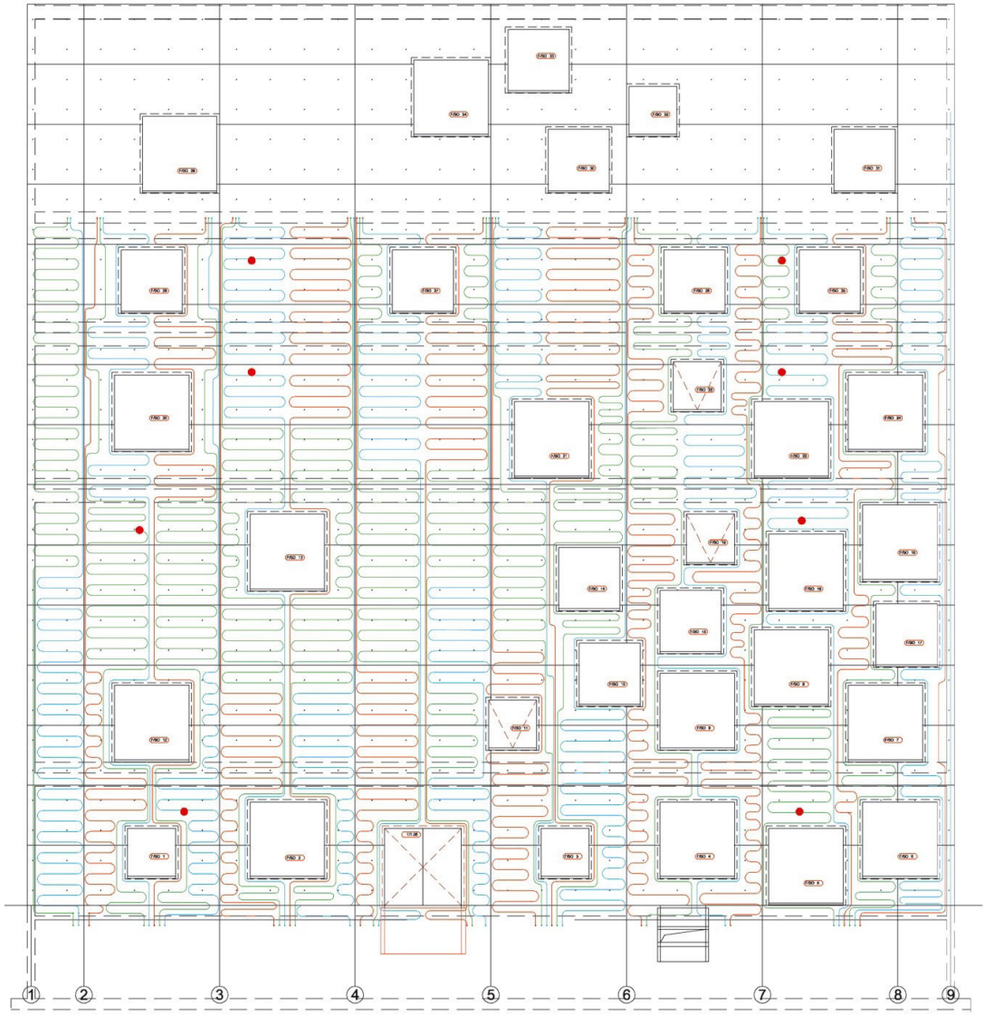
The building is mainly concrete with a system of active insulation consisting of a network of pipes hidden in the walls that permit the circulation of water – the thermal pit water that is still pumped from the ground – over the entire facade at a temperature of 27ºC, helping to regulate indoor temperatures and reduce energy use.

This concept could somehow be incorporated in my building by adding a geothermal heating system. By using hempcrete fillings on the “wall” facade, on the south side of the building, the pipes could get the heat and store it in the ground under the building. Therefore, releasing it during the winter to keep the warmth and helping to keep the cold during summer.

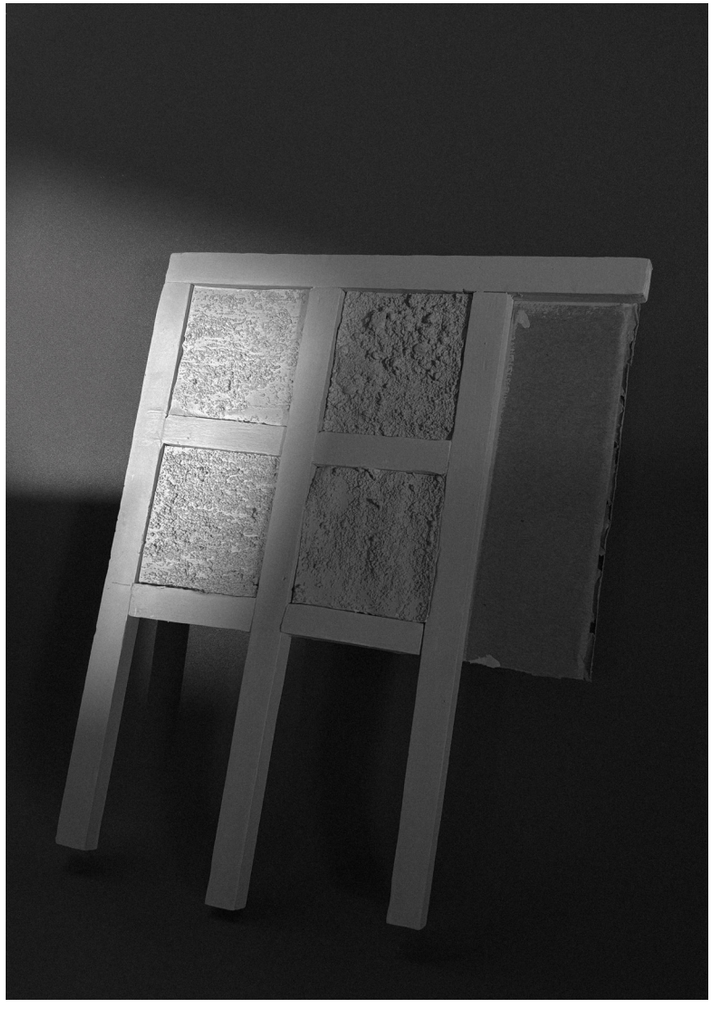
Geothermal insulation is a technique that takes advantage of the Earth’s stable underground temperature to minimize heat loss in winter and overheating in summer. Studies have shown that such systems can significantly reduce the need for conventional heating and cooling, improving energy efficiency and lowering carbon footprints (Smith et al., 2019; International Energy Agency, 2021). Hempcrete, as a bio-based material, further enhances insulation by providing high thermal mass and breathability (Evrard, 2008).



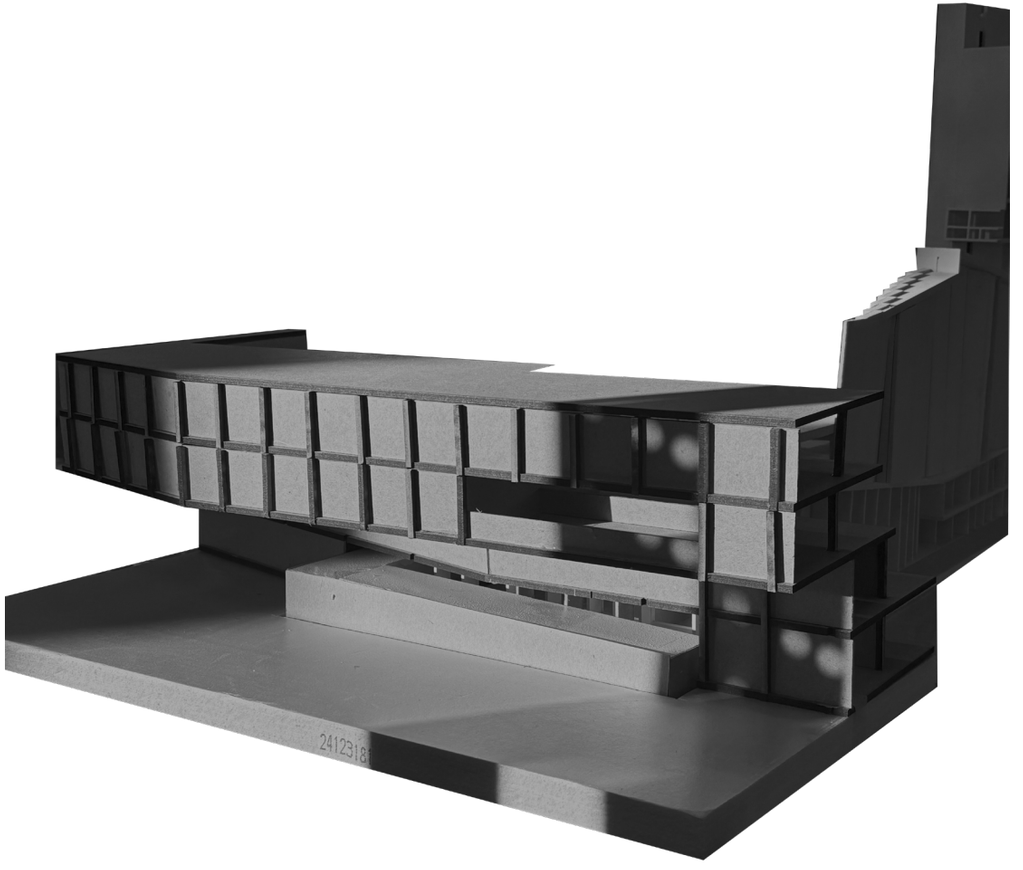




72. Made by author, test model of the facade, 2025

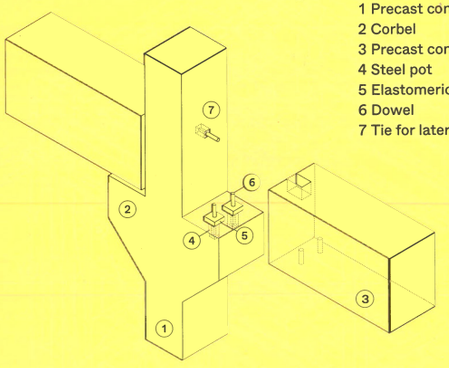


73. Made by author, 1:100 fragment model of the building, 2025

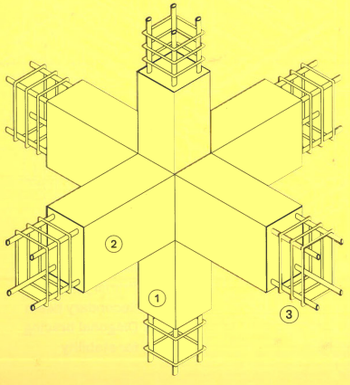


Wall
Braced frame construction
Concrete connections

Structure 38



1 Precast concrete column, continuous
2 Corbel
3 Precast concrete beam
4 Steel pot
5 Elastomeric bearing
6 Dowel
7 Tie for lateral stability

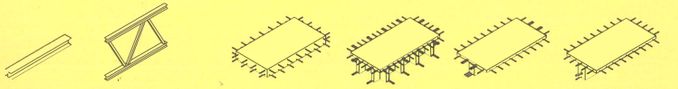


1 In situ concrete column
2 In situ concrete beam
3 Bar reinforcement

Floor Spans

Structure 57

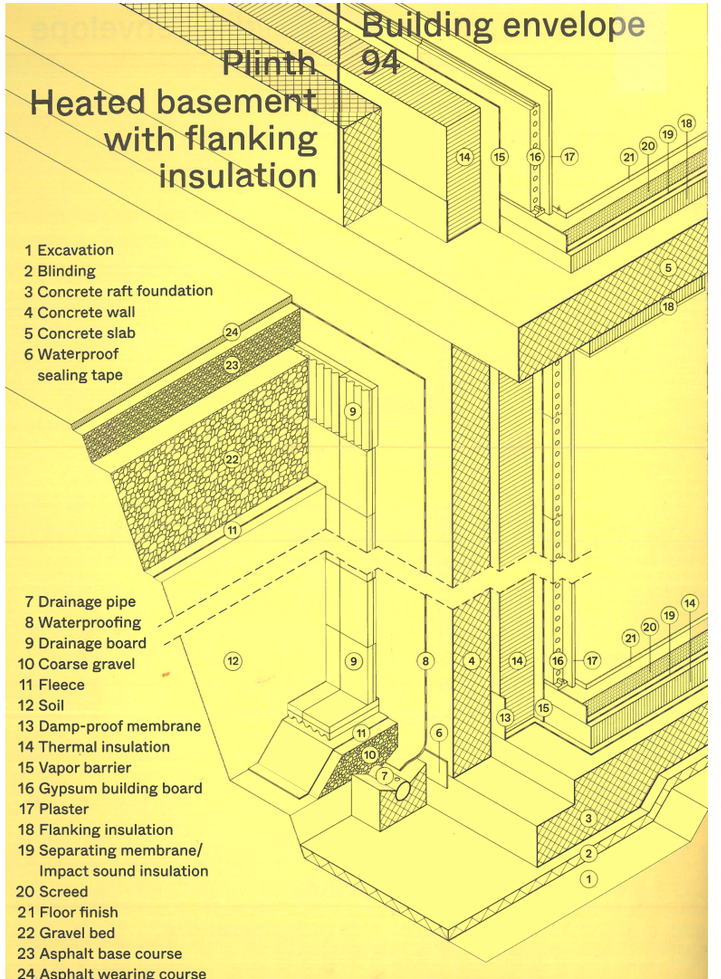
Reinforced concrete



Rolled section	Steel lattice girder	Slab floor	Ribbed/ waffle floor	Downstand beam (conventional reinforcement)	Downstand beam (prestressed)
h = l / 15 – l / 20	h = l / 10 – l / 15	h = l / 20 – l / 30	h = l / 14 – l / 20	h = l / 12 – l / 16	h = l / 15 – l / 20

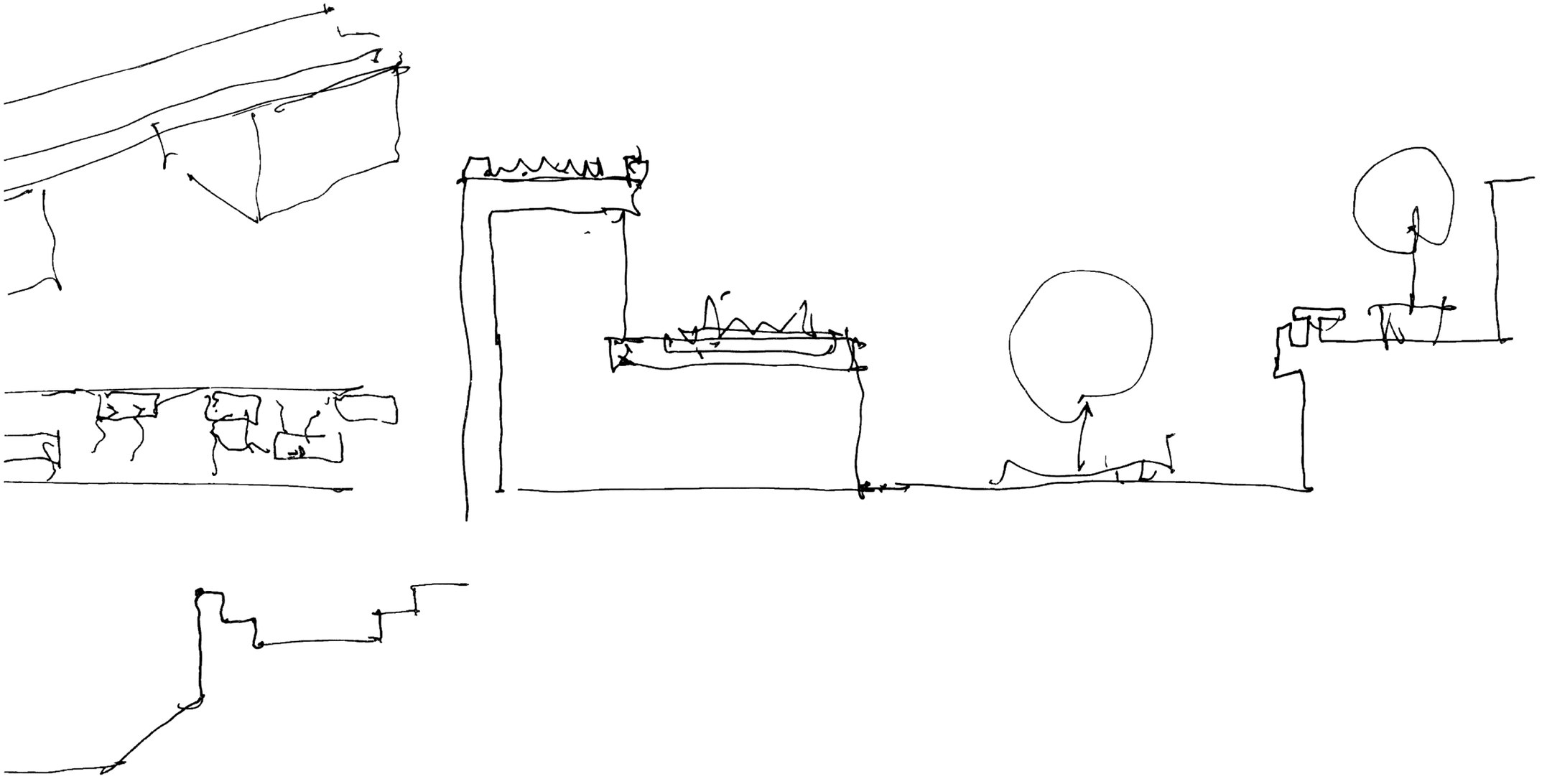
Plinth
Heated basement with flanking insulation

Building envelope 94

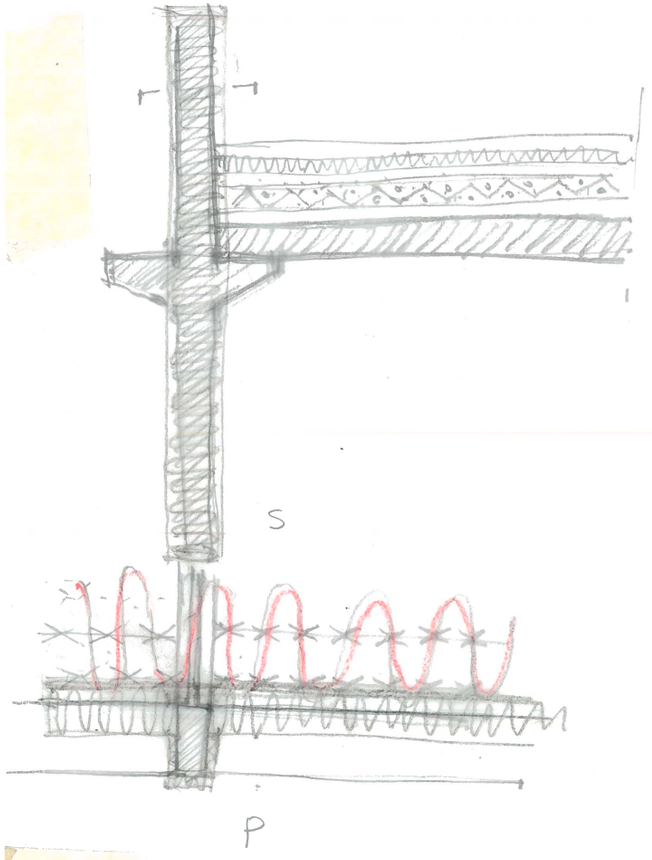


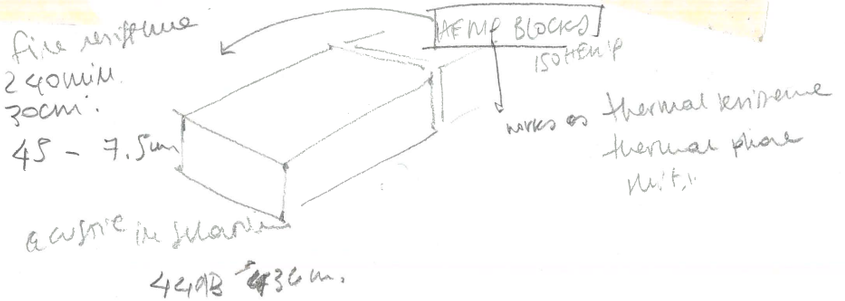
1 Excavation
2 Blinding
3 Concrete raft foundation
4 Concrete wall
5 Concrete slab
6 Waterproof sealing tape
7 Drainage pipe
8 Waterproofing
9 Drainage board
10 Coarse gravel
11 Fleece
12 Soil
13 Damp-proof membrane
14 Thermal insulation
15 Vapor barrier
16 Gypsum building board
17 Plaster
18 Flanking insulation
19 Separating membrane/ Impact sound insulation
20 Screed
21 Floor finish
22 Gravel bed
23 Asphalt base course
24 Asphalt wearing course

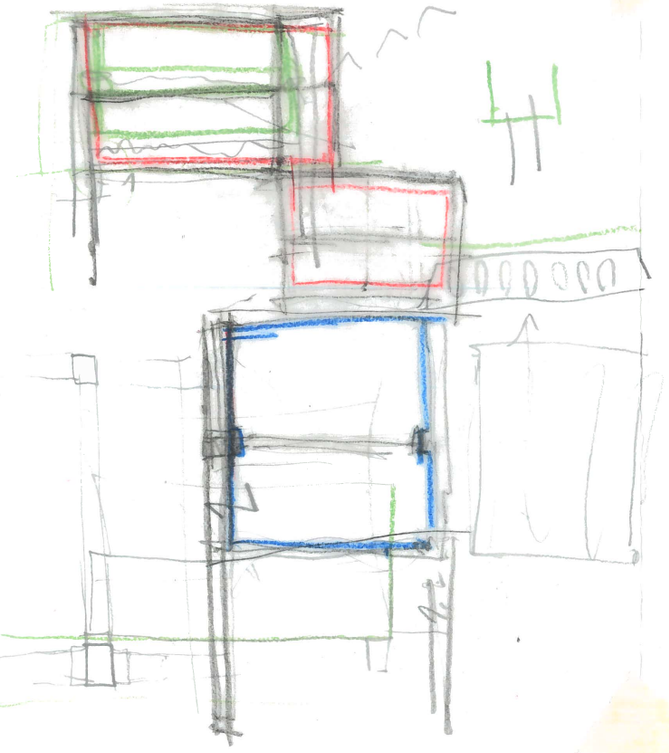
77. Daniel Rosbottom, sketch drawing of how to improve the building based on its initial concept, 2025

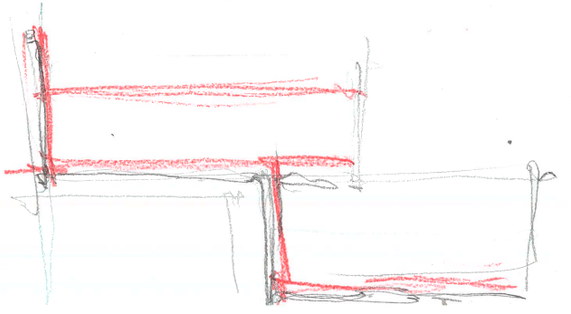


78. Made by author, Sketch of the possible structure of the building, 2025







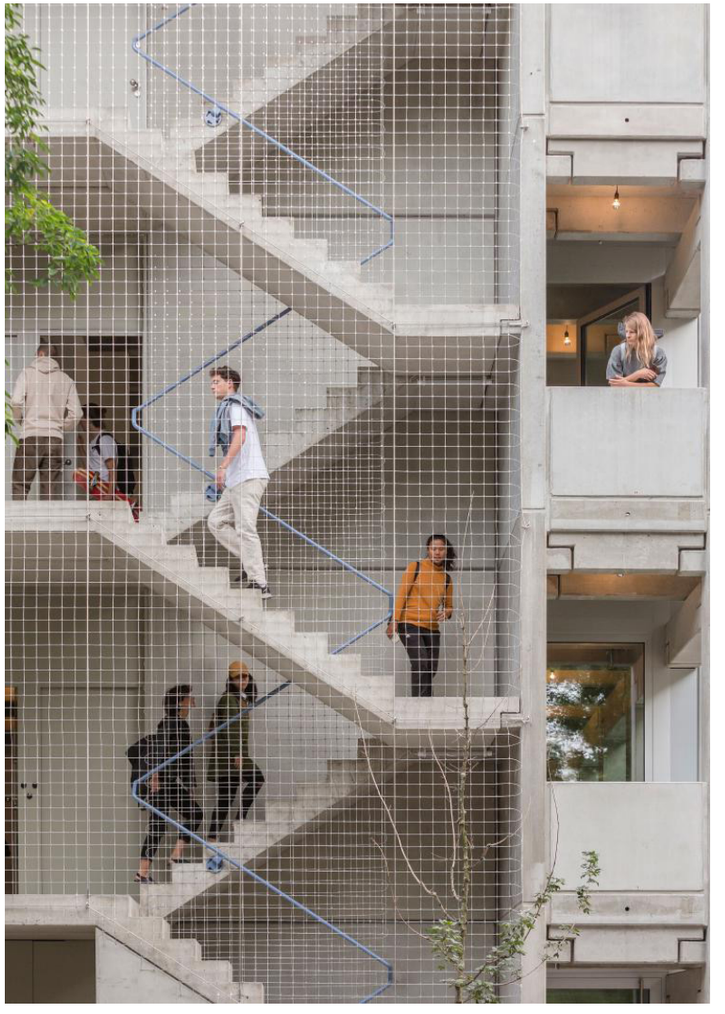


79. Far Frohn & Rojas, Wohnregal, Berlin, 2019

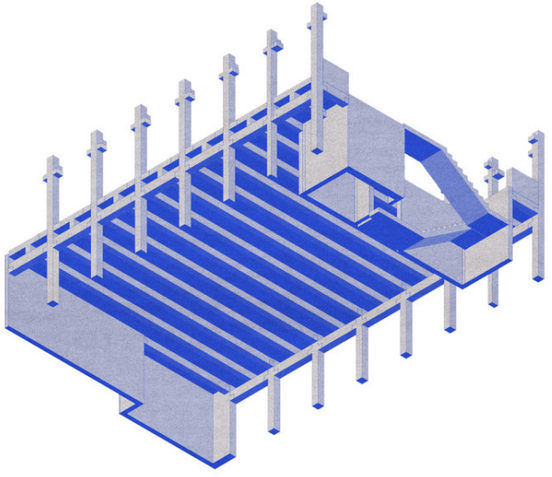
80,81. Far Frohn & Rojas, Wohnregal, Berlin, 2019

82. David von Becker, project by Far Frohn & Rojas, Wohnregal, Berlin, 2019

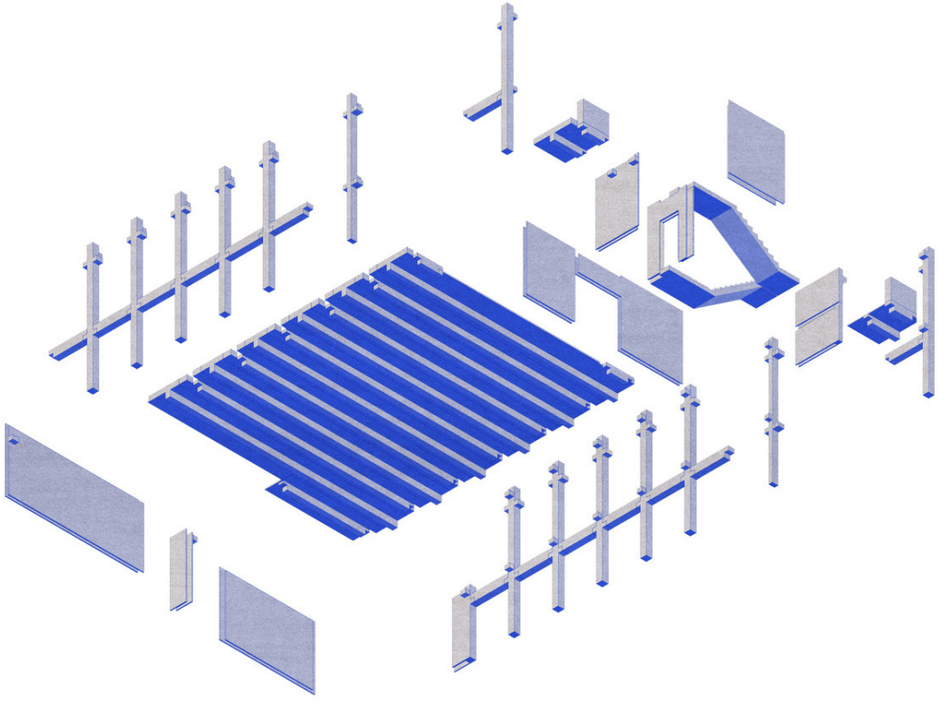
83. David von Becker, project by Far Frohn & Rojas, Wohnregal, Berlin, 2019



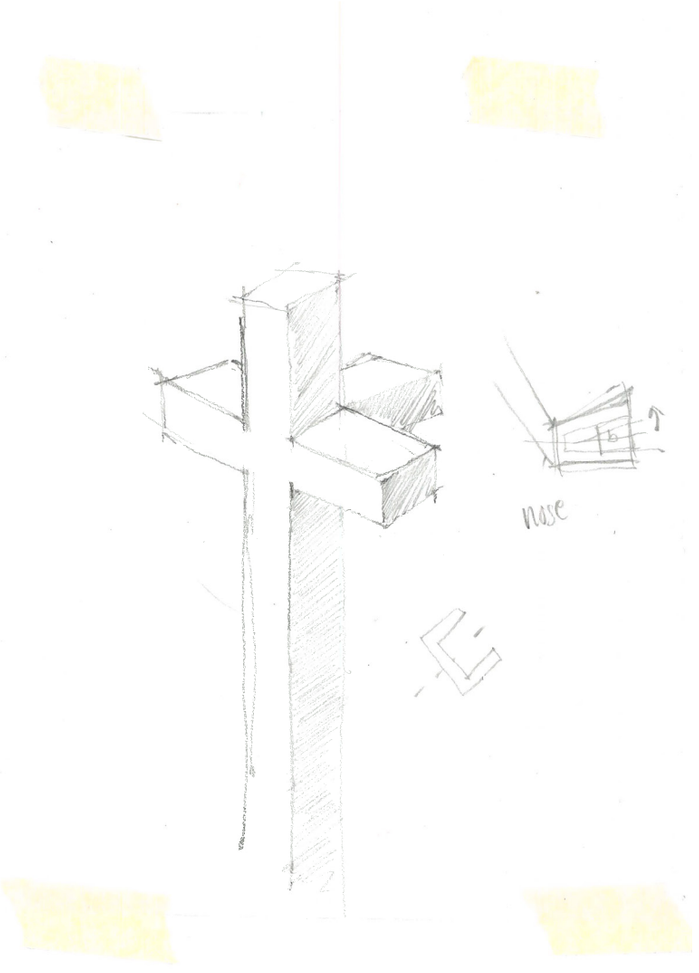
84. Far Frohn & Rojas, Wohnregal axonometry, Berlin, 2019



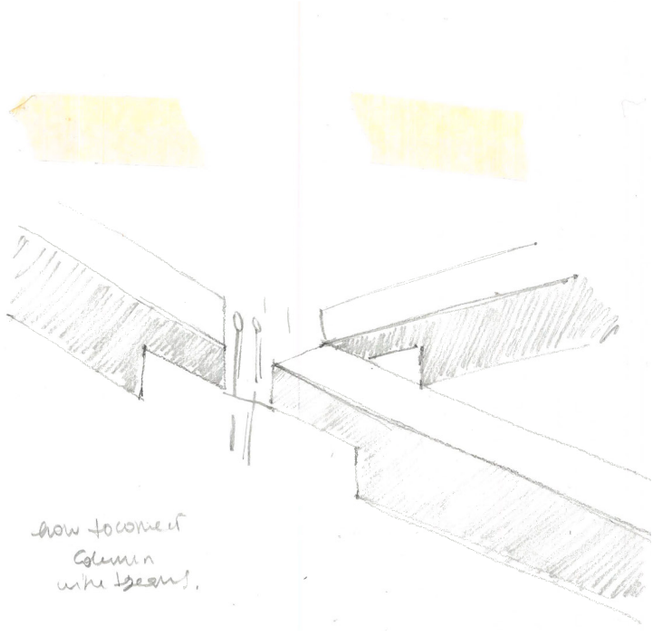
85. Far Frohn & Rojas, Wohnregal exploded axonometry, Berlin, 2019



86. Made by author, Sketch of the possible structure of the building, how precast concrete columns works, 2025



87. Made by author, Sketch of the possible structure of the building, how precast concrete columns with beams works, 2025



Das Auditorium – Sichtbeton
Bis auf den Boden aus Muschelkalk und die Holzdecke des Auditoriums sind sämtliche Oberflächen auch im Innenraum in Beton ausgeführt. Für eine bessere Raumakustik bestehen die Seitenwände des Auditoriums anstelle der sonst üblichen Verkleidungen aus einer geschuppten Sichtbetonwand mit der Oberflächenqualität SB4 mit 1 m breiten Tafeln und einem Versatz von 15 cm. Die Herausforderung lag darin, die Wandhöhe von bis zu 9,74 m ohne Arbeitsfuge durchzubetonieren. Bei hohen Schütthöhen bindet der Beton unten in der Schalung schon ab, während oben noch gerüttelt wird. Durch Druckunterschiede in der Schalung kann es durch chemische Prozesse beim Abziehen der Schalhaut zu Farbunterschieden innerhalb einer Wand kommen. Musterwände sollten daher immer in der maximalen am Bau auftretenden Wandhöhe erstellt werden. Die Wände des Auditoriums gelangen jedoch makellos.
Ende 2018 wurde die 134 Mio. Euro teure James-Simon-Galerie fertiggestellt und soll im Jahr 2019 – 10 Jahre seit dem Projektstart – eröffnet werden. Als Berliner Akropolis der Künste wird sie eine neue Landmarke sein. Durch die Staffelung des Volumens bleibt der Blick von der Schlossbrücke in die Tiefe der Museumsinsel dennoch erhalten. Wenn die Besucher in Zukunft von der Kolonnade aus über die Spree bis zum Schloss blicken, werden sie sich kaum noch daran erinnern, dass sich hier jahrelang eine mit Wasser gefüllte Baugrube befand.

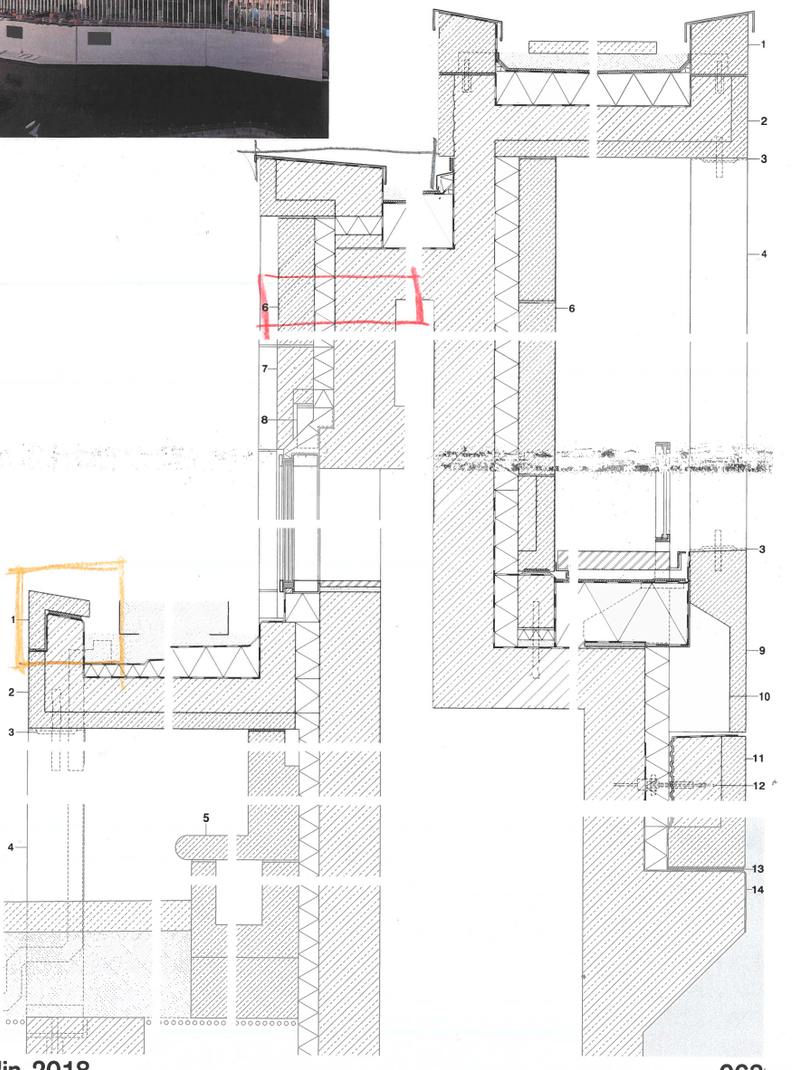
concrete mix specified for the precast elements was also used for the in-situ concrete lintels above the large-area glazing to the east facade. Smooth ground surfaces that are friendly to the touch are to be found only in the linear benches in the colonnade along the eastern facade.

The auditorium – exposed concrete
Apart from flooring in shell limestone and the wood soffit to the auditorium, all surfaces, including the internal ones, are in concrete. To achieve better spatial acoustics, the side walls to the auditorium consist not of the usual linings but of exposed concrete with a high surface quality, achieved with one-metre-wide panels offset by 15 cm. Here, the challenge lay in concreting the full height of the wall – up to 9.74 m – in a single process without construction joints. When walls of great height are poured, the concrete at the base is usually beginning to set in the shuttering while the material at the top is still being vibrated. Pressure differences in the formwork can lead to variations in the colour of a wall as a result of chemical processes that occur when the shuttering is withdrawn. The walls of the auditorium, however, are immaculate. The structure has been completed in the end of 2018 and will be opened in 2019. It is now ten years since the beginning of the project for this €134 million Berlin acropolis of the arts, which will house more than 1,000 drawings. In the future, when visitors to the Museum Island look out from the colonnade to the city, they will scarcely remember that an excavation pit filled with water gaped here for many years.

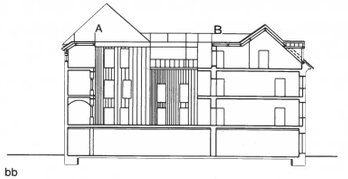
1	Betonfertigteil Sichtseiten sandgestrahlt	sandblasted prec. conc. element
2	Betonhalbfertigteil 80 mm, Aufbeton 170 mm	80 mm semi-finished concrete element; 170 mm conc. topping
3	Pendelauflager Edelstahldollen Ø 28 mm, Elastomerlager 15 × 150 × 150 mm im Mörtelbett	hinged bearing: Ø 28 mm stainless-steel dowels 150/150/15 mm elastomer bearing layer in mortar
4	Pfeiler Betonfertigteil tragend 280 × 280 mm	280/280 mm sandblasted precast concrete column
5	Sitzbank Betonfertigteil Sitzfläche geschliffen	prec. conc. bench ground smooth
6	Betonfertigteil 180 mm, Dämmung 120 mm, Stahlbeton 300 mm	180 mm prec. conc. element; 120 mm insulation; 300 mm reinf. conc.
7	Fenstersturz Ortbeton Sichtseite mit Fertigteiloptik sandgestrahlt	in-situ conc. lintel over window, exposed face sandblasted
8	Konsole Ortbeton	in-situ conc. bracket
9	Abfangbalken Betonfertigteil	prec. conc. supporting girder
10	Ortbetonkonsole 400 × 300 mm unter jeder Stütze	400/300 mm in-situ conc. bracket under every column
11	Rammschutz Verbundelement Betonfertigteil 120 mm mit Hinterfüllbeton 260 mm, Drainage Noppenfolie, XPS 120 mm, Frischbeton-Verbundfolie WU-Stahlbeton	120 mm prec. conc. composite anti-ramming element with 260 mm conc. rear filling; bossed drainage foil; 120 mm XPS; green concrete composite film waterproof reinf. concrete
12	Rückverankerung Edelstahlschlaufe	stainless-steel loop anchor
13	Gleitlager	sliding bearing
14	Frischbeton-Verbundfolie, Konsole für Verbundelement 500 mm	green concrete composite film; 500 mm bracket for composite element

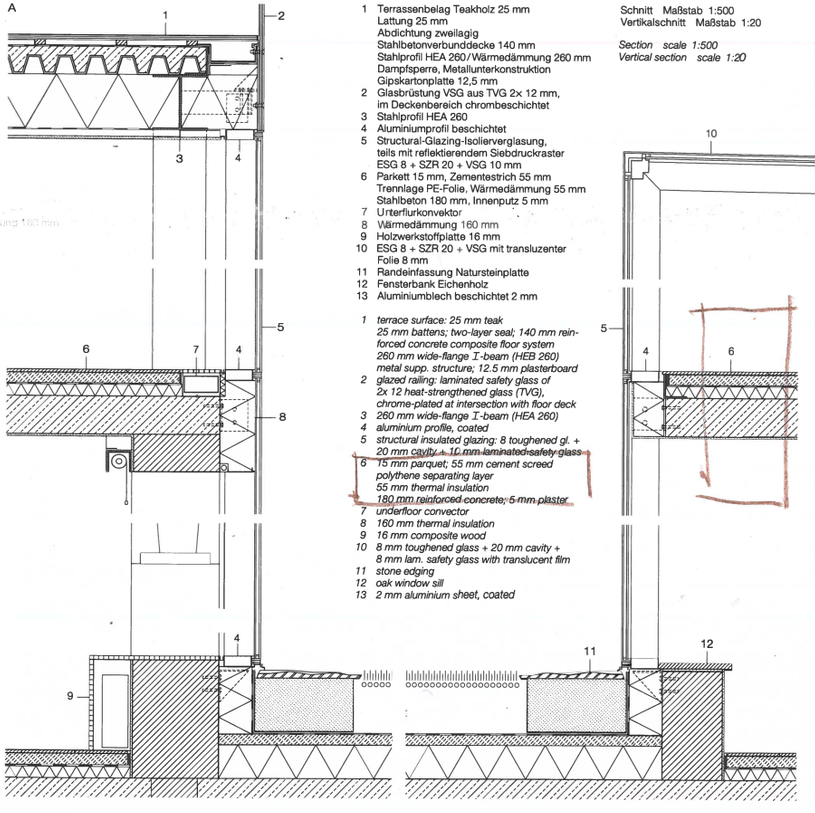
James-Simon-Galerie

Schnitt,
Maßstab 1:20 /
Section,
scale 1:20



Berlin, 2018



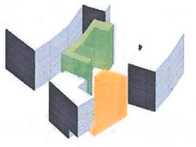


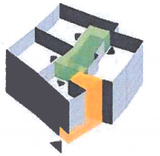
1 Terrassenbelag Teakholz 25 mm
Lattung 25 mm
Abdichtung zweilagig
Stahlbetonverbunddecke 140 mm
Stahlprofil HEA 260/Wärmedämmung 260 mm
Dampfsperre, Metallunterkonstruktion
Gipskartonplatte 12,5 mm
2 Glasbrüstung VSG aus TVG 2× 12 mm, im Deckenbereich chrombeschichtet
3 Stahlprofil HEA 260
4 Aluminiumprofil beschichtet
5 Structural-Glazing-Isolierverglasung, teils mit reflektierendem Siebdruckraster
ESG 8 + SZR 20 + VSG 10 mm
6 Parkett 15 mm, Zementestrich 55 mm
Trennlage PE-Folie, Wärmedämmung 55 mm
Stahlbeton 180 mm, Innenputz 5 mm
7 Unterflurkonvektor
8 Wärmedämmung 160 mm
9 Holzwerkstoffplatte 16 mm
10 ESG 8 + SZR 20 + VSG mit transluzenter Folie 8 mm
11 Randeinfassung Natursteinplatte
12 Fensterbank Eichenholz
13 Aluminiumblech beschichtet 2 mm

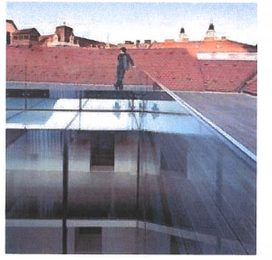
Schnitt Maßstab 1:500
Vertikalschnitt Maßstab 1:20

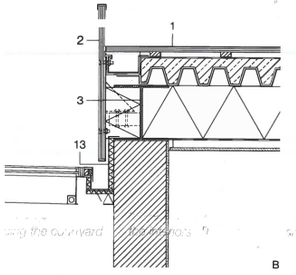
Section scale 1:500
Vertical section scale 1:20

1 terrace surface: 25 mm teak
25 mm battens; two-layer seal; 140 mm reinforced concrete composite floor system
260 mm wide-flange I-beam (HEB 260)
metal supp. structure; 12.5 mm plasterboard
2 glazed railing: laminated safety glass of 2x 12 heat-strengthened glass (TVG), chrome-plated at intersection with floor deck
3 260 mm wide-flange I-beam (HEA 260)
4 aluminium profile, coated
5 structural insulated glazing: 8 toughened gl. + 20 mm cavity + 10 mm laminated safety glass
6 15 mm parquet; 55 mm cement screed
polythene separating layer
55 mm thermal insulation
180 mm reinforced concrete; 5 mm plaster
7 underfloor convector
8 160 mm thermal insulation
9 16 mm composite wood
10 8 mm toughened glass + 20 mm cavity + 8 mm lam. safety glass with translucent film
11 stone edging
12 oak window sill
13 2 mm aluminium sheet, coated

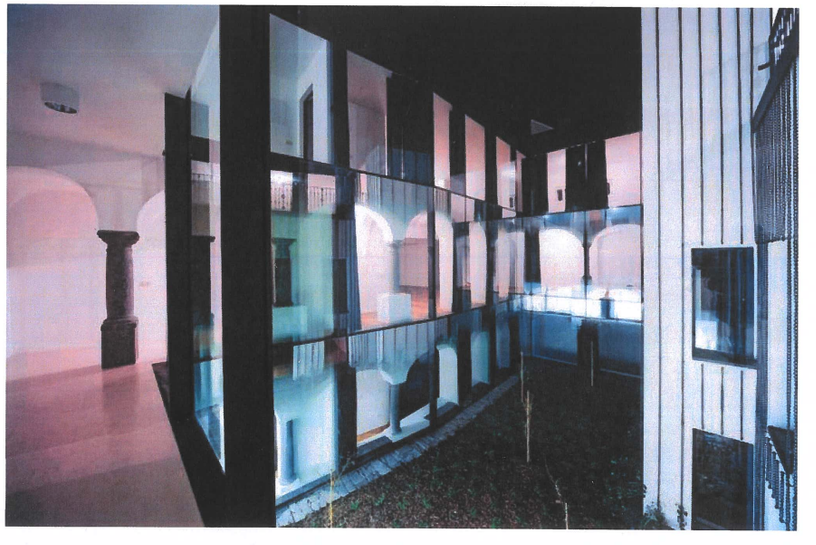






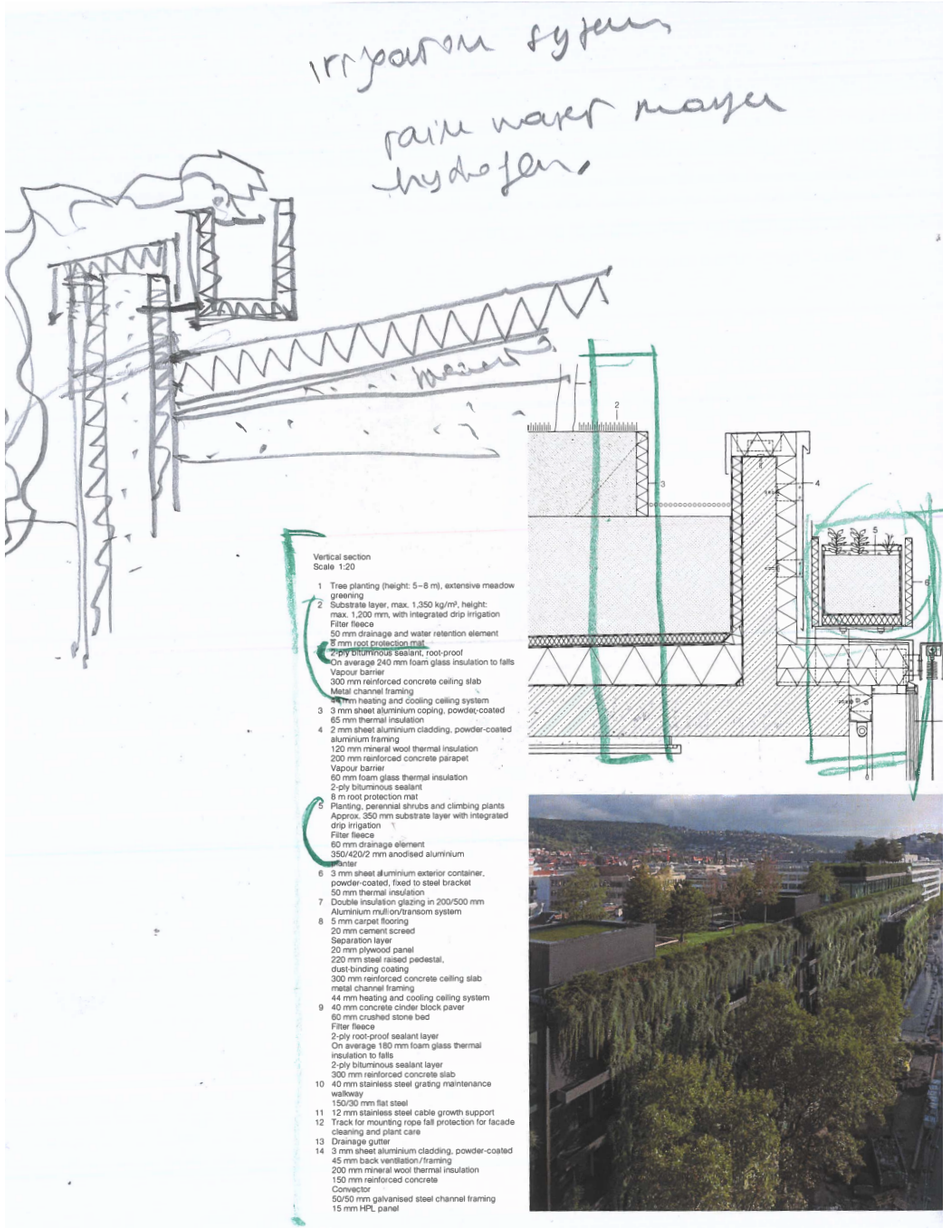


The brief called for the refurbishment of three buildings making up a baroque ensemble at the foot of Ljubljana's Castle Hill. The architects inserted a new all-glass facade that sheathes three sides of the courtyard and ties the ensemble together. All three buildings belong to a publishing house that had used some of the spaces above a ground-floor bookshop as its offices. Following a 1980s renovation the courtyard housed, among other things, building-services installations. This most recent intervention connects the three buildings: the upper levels contain twelve apartments surrounding the courtyard. The baroque facades along the street – which are on the historic registry – were restored to their original state; one of the old entrances and an existing stair were incorporated in the circulation concept. The existing roof structure has been replaced by one that employs steel beams. The project enhances the role of the central courtyard as new communication space; this internal garden ensures that the apartments receive ample fresh air and light. The glazed post-and-rail facade – its profiles are positioned on the side facing the interiors – reveals the period elements within. Stone arches and columns that came to light during the refurbishment became key components of the interiors. The varying density of the silver-toned fritting on the glass calibrates the relationship between transparency and reflection.



92. Tennigkeit + Fehrle Architekten Partnerschaft, 1:20 detail of Office and Commercial Building, Stuttgart, Germany, 2019

irrigation system
rain water meyer
hydrofen.



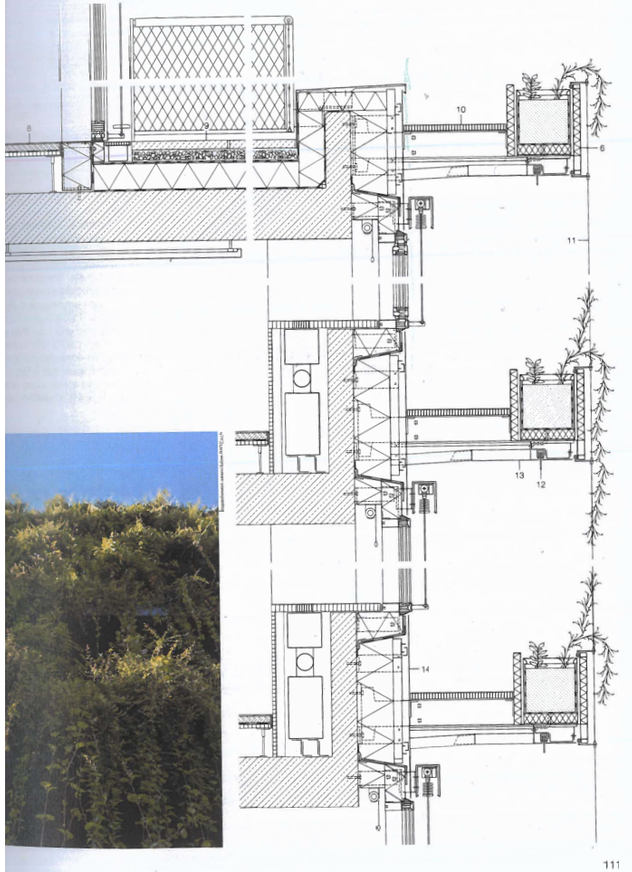
Vertical section
Scale 1:20

1 Tree planting (height: 5–8 m), extensive meadow greening
2 Substrate layer, max. 1,350 kg/m³, height: max. 1,200 mm, with integrated drip irrigation
Filter fleece
50 mm drainage and water retention element
8 mm root protection mat
2-ply bituminous sealant, root-proof
On average 240 mm foam glass insulation to falls
Vapour barrier
300 mm reinforced concrete ceiling slab
Metal channel framing
44 mm heating and cooling ceiling system
3 3 mm sheet aluminium coping, powder-coated
65 mm thermal insulation
4 2 mm sheet aluminium cladding, powder-coated aluminium framing
120 mm mineral wool thermal insulation
200 mm reinforced concrete parapet
Vapour barrier
60 mm foam glass thermal insulation
2-ply bituminous sealant
8 m root protection mat
5 Planting, perennial shrubs and climbing plants
Approx. 350 mm substrate layer with integrated drip irrigation
Filter fleece
60 mm drainage element
350/420/2 mm anodised aluminium planter
6 3 mm sheet aluminium exterior container, powder-coated, fixed to steel bracket
50 mm thermal insulation
7 Double insulation glazing in 200/500 mm Aluminium mullion/transom system
8 5 mm carpet flooring
20 mm cement screed
Separation layer
20 mm plywood panel
220 mm steel raised pedestal, dust-binding coating
300 mm reinforced concrete ceiling slab
metal channel framing
44 mm heating and cooling ceiling system
9 40 mm concrete cinder block paver
60 mm crushed stone bed
Filter fleece
2-ply roof-proof sealant layer
On average 180 mm foam glass thermal insulation to falls
2-ply bituminous sealant layer
300 mm reinforced concrete slab
10 40 mm stainless steel grating maintenance walkway
150/30 mm flat steel
11 12 mm stainless steel cable growth support
12 Track for mounting rope fall protection for facade cleaning and plant care
13 Drainage gutter
14 3 mm sheet aluminium cladding, powder-coated
45 mm back ventilation / framing
200 mm mineral wool thermal insulation
150 mm reinforced concrete
Convector
50/50 mm galvanised steel channel framing
15 mm HPL panel

110

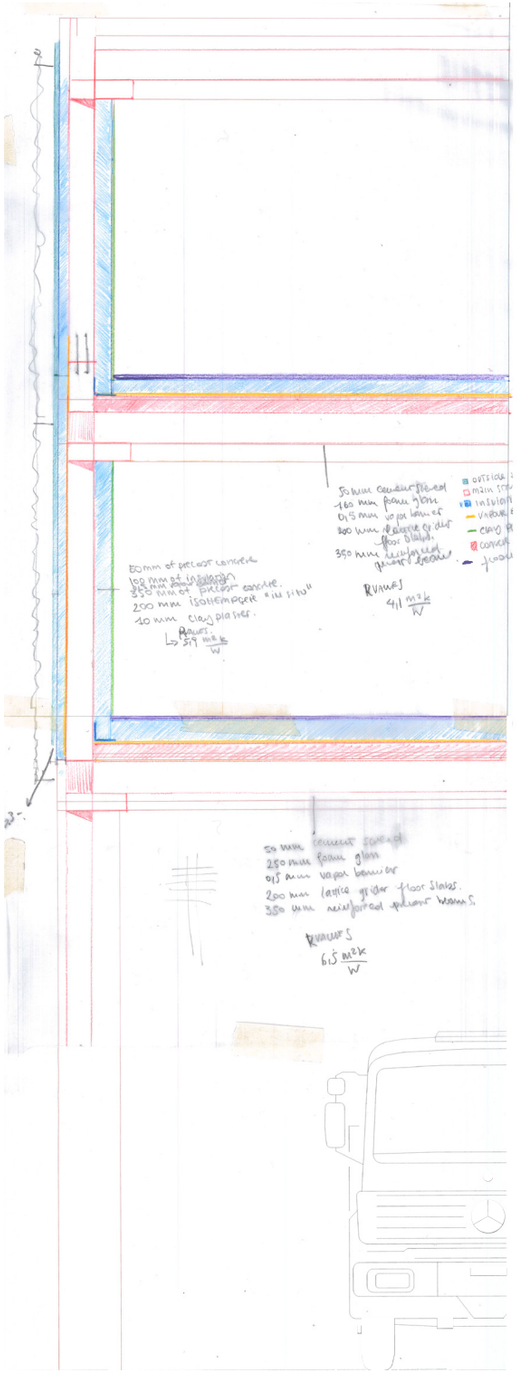
93. Tennigkeit + Fehrle Architekten Partnerschaft, 1:20 detail of Office and Commercial Building, Stuttgart, Germany, 2019

Office and Commercial Building in Stuttgart

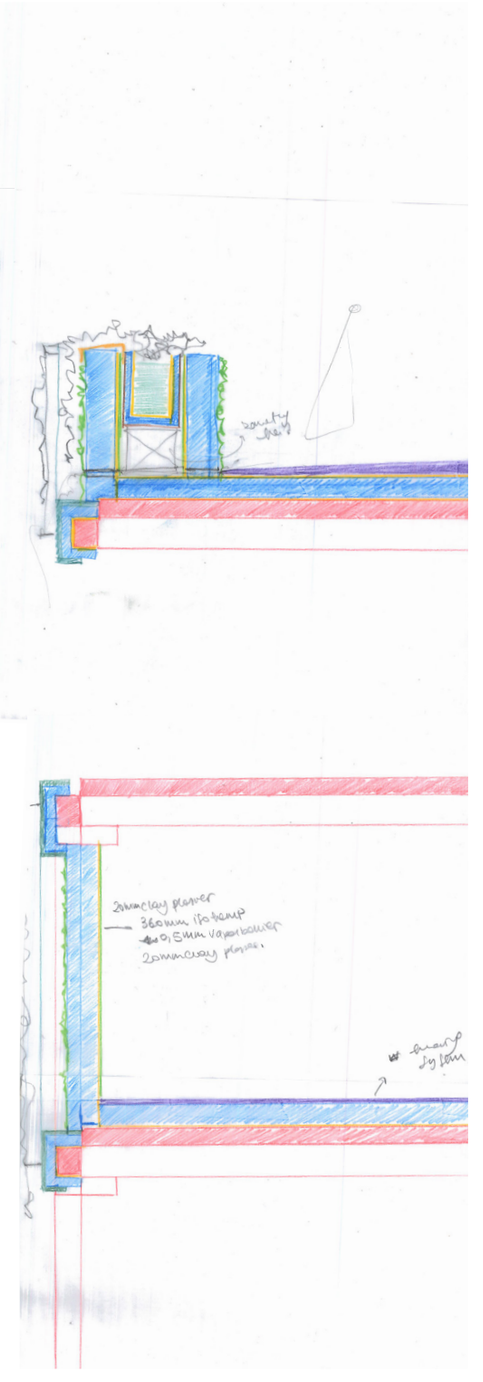


111

94. Made by author, 1:20 drawing of the section of the building through structure, 2025



95. Made by author, 1:20 drawing of the section of the building through terrace, 2025
96. Made by author, 1:20 drawing of the section of the building through wall, 2025



The Picturesque Garden

In the 18th century in Great Britain there a new art was developed, the picturesque garden. Its aim was to merge different typologies of art into one that could have a direct relation with manmade elements and nature. As stated by Christopher Hussey, the picturesque garden can be defined as:
“the relation of all the arts to one another, through the pictorial appreciation of nature, was so close that poetry, painting, gardening, architecture, and the art of travel may be said to have been fused into the single ‘art of landscape’.” (Hussey, 1927)
Where the aim was to enhance the of pictorial values and balancing them between the real and the artificial. Therefore, trying to create an illusion of natural perfection, behind extremely studied framed visions. This approach was well studied by multiple typologies of experts to create the best piece of landscape art, making the picturesque garden as primacy of pictorial values and the universal mode of vision of the 18th century.

97. Andrew Butler, National Trust Images, The view towards the ruins of Rievaulx Abbey from Rievaulx Terrace
98. Andrew Butler, National Trust Images, The Ionic Temple at Rievaulx Terrace

99. Made by author, sketch to calculate the perspective illusion, 2025

WALL THICKNESS CALCULATION (for windows like library.)

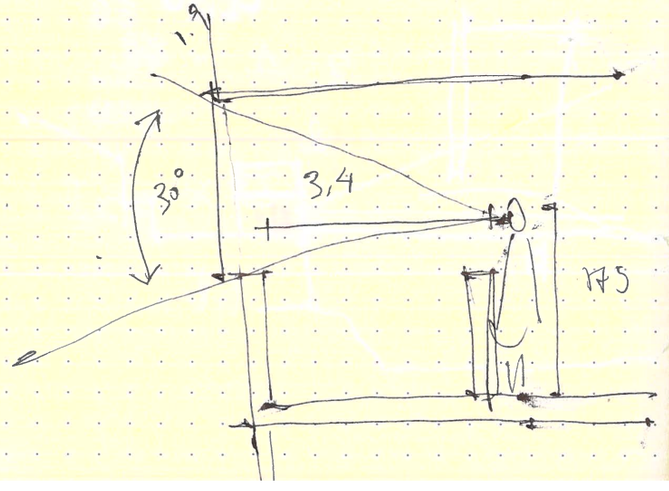
$$T = \frac{W_{inside} - W_{outside}}{2} \times \tan\theta$$

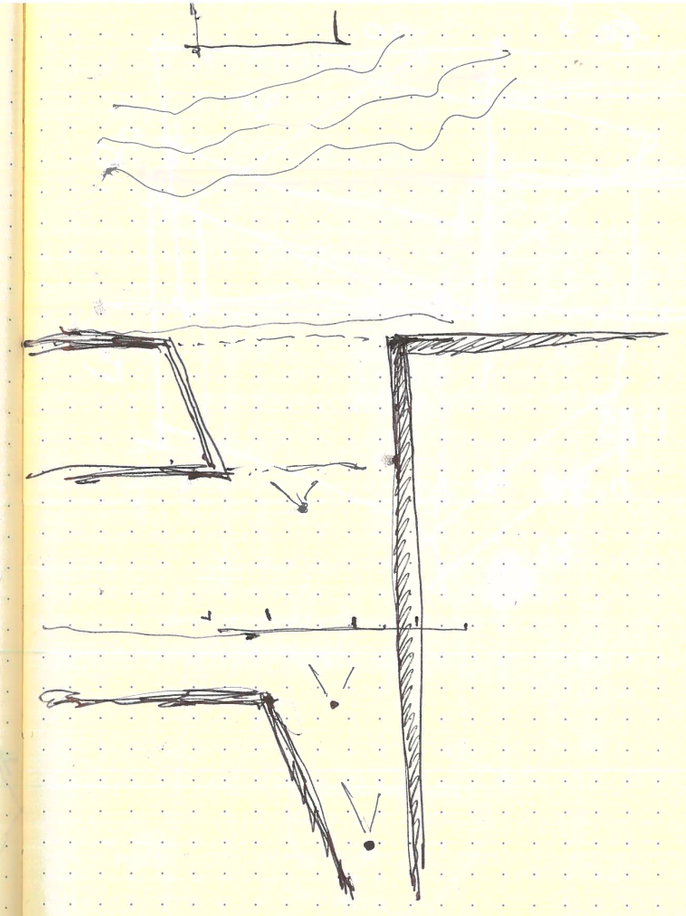
T = thickness of the wall

W inside = wider interior opening

W outside = narrower exterior opening

θ = angle of perspective convergence





100. Made by author, sketch to calculate the perspective illusion thikness of the walls, 2025

$$D\ illusion = \frac{h \times d}{H}$$

D illusion = perceived distance

h = height of the observer's eye level

d = actual distance to the landscape

H = height of the framed opening

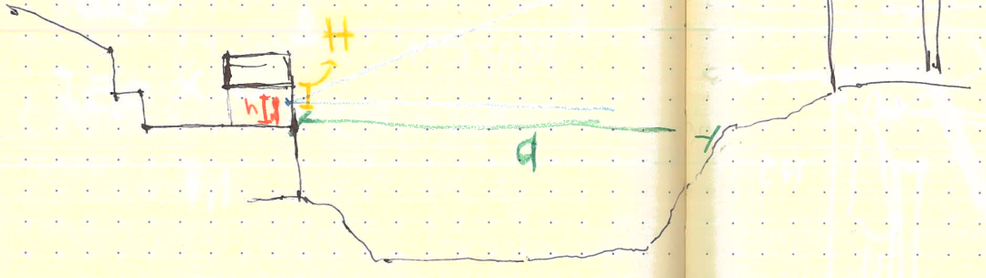
h = 1.75 m

d = 120 m

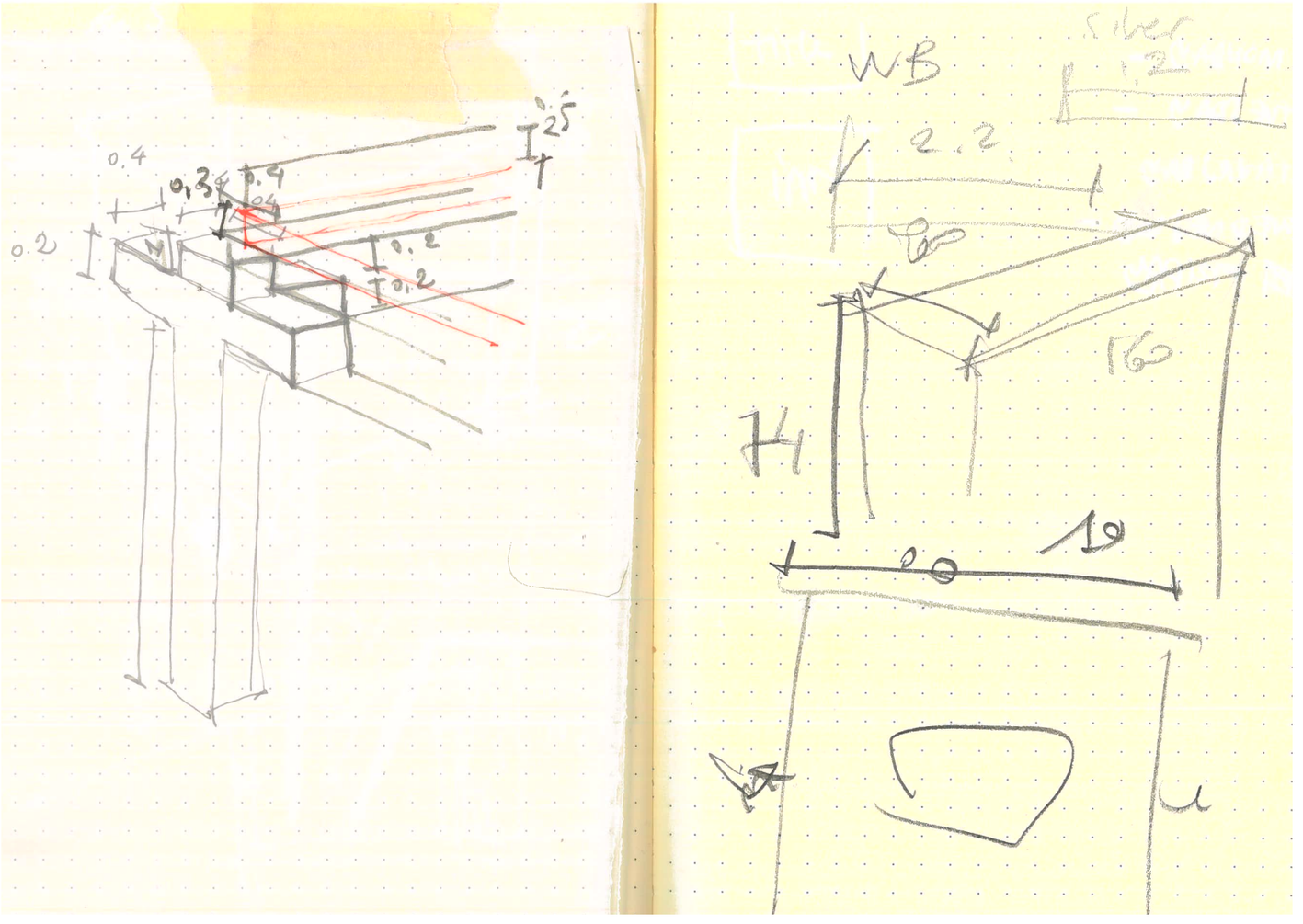
H = 1.50 m

$\frac{1.75 \cdot 120}{150} = 116$

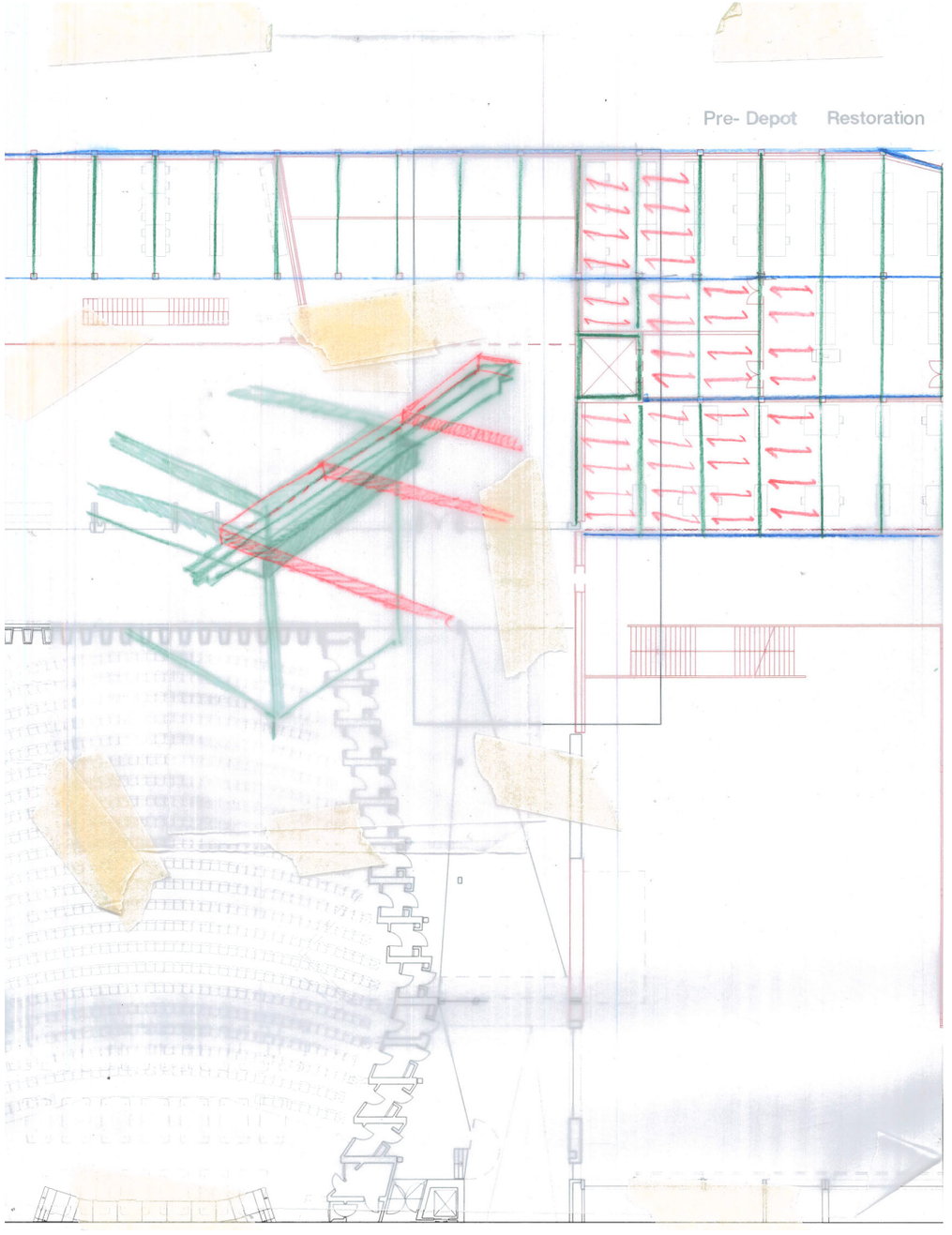
$\frac{1.75 \cdot 120}{150} = 140$



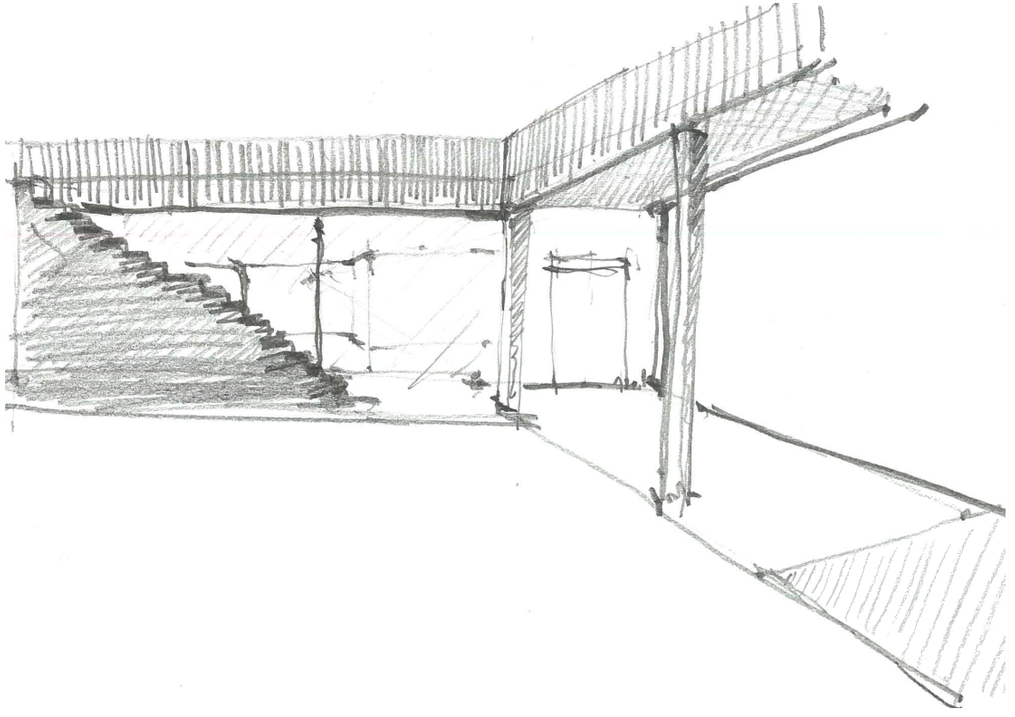
101. Made by author, sketch to understand how the building could be put together, 2025



102. Made by author, sketch to understand a junction between the circulation core and the rest of the building, 2025



103. Made by author, sketch of the new VAi entrance, 2025



104. Made by author, sketch of moment in the terraces, 2025

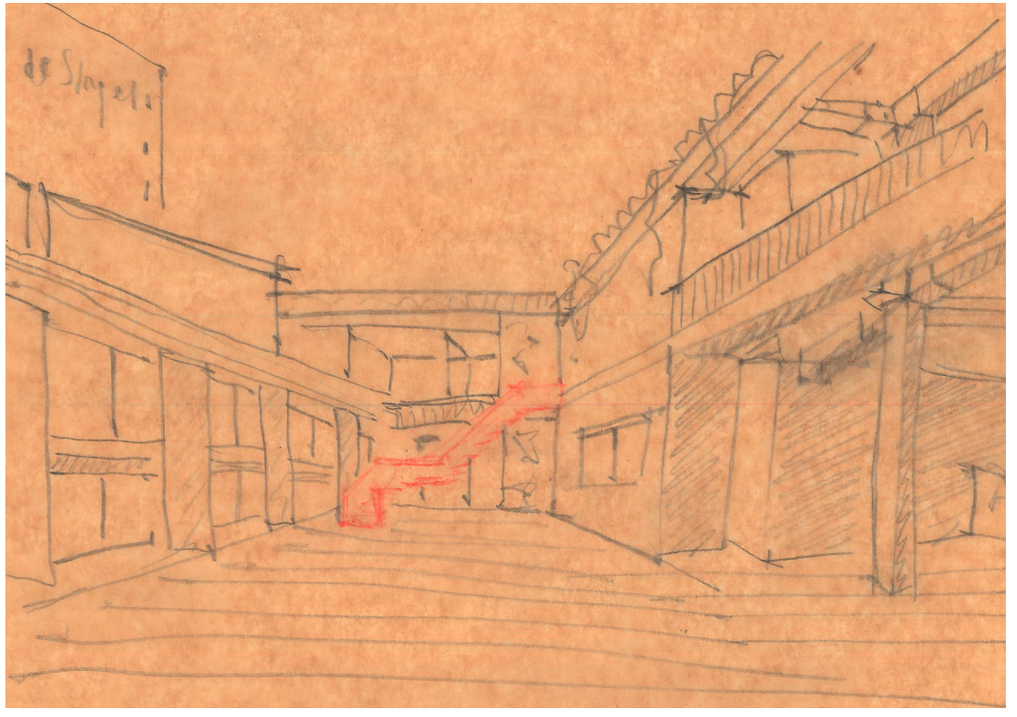
On terraces

How can the terraces be perceived? Yes there will be the framed moments, well thought and organised, but what happens in the rest of the terraces? Should there be another staircase connecting the terraces pf the first floor to the ones in the second? Continuing the landscape experience of the space?

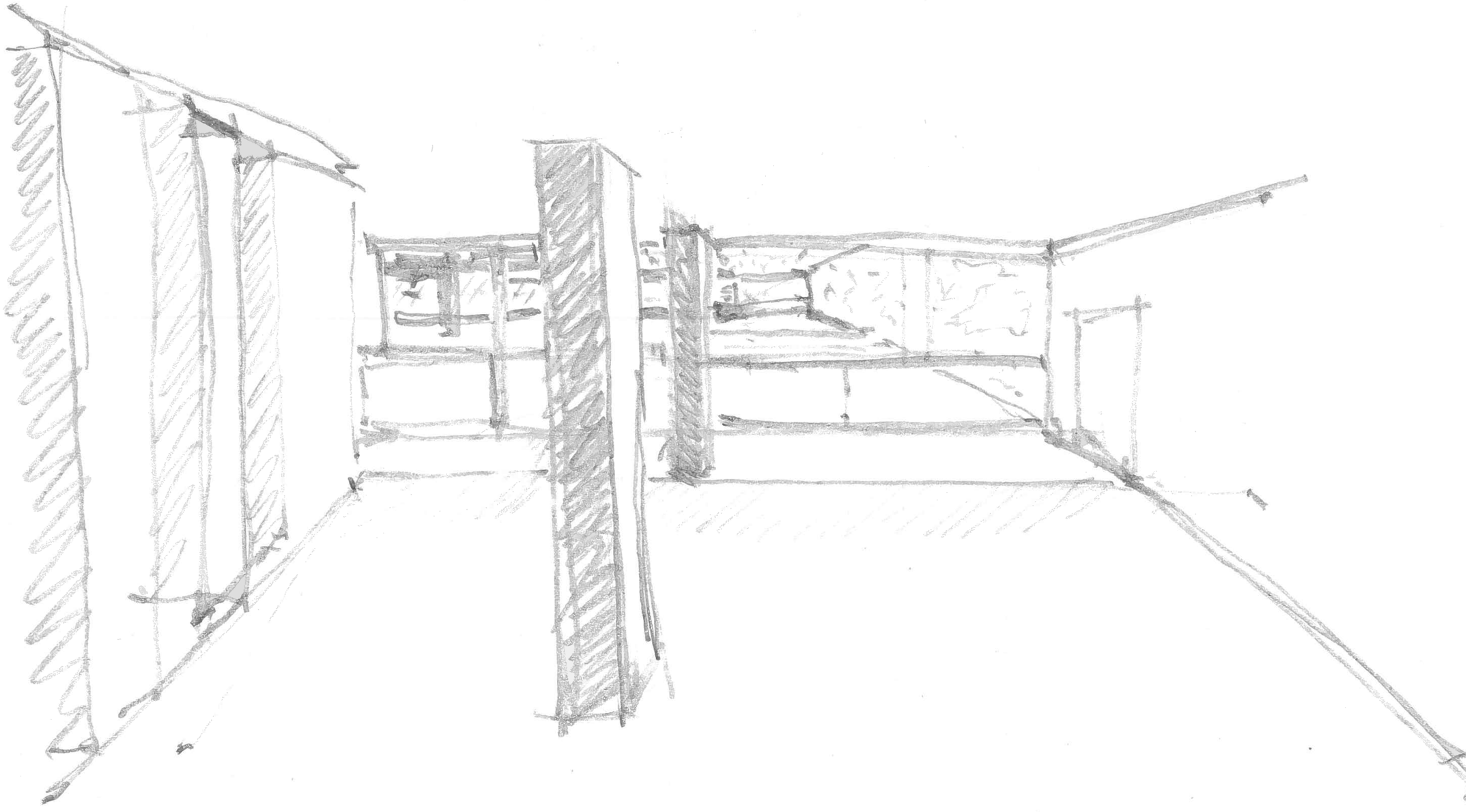
Should nature be included in the terraces? I think nature is already part of this building; by adding other elements to it this could become a more defined space another new courtyard, enclosed but closed at the same time.

This would help with lowering the temperature in summer and not have a direct connection to the south sun. Plus adding the natural aspect that has been lost of the terraces, even if to do so the whole building had to change.

104. Made by author, sketch of moment in the terraces with possible added staircase, 2025

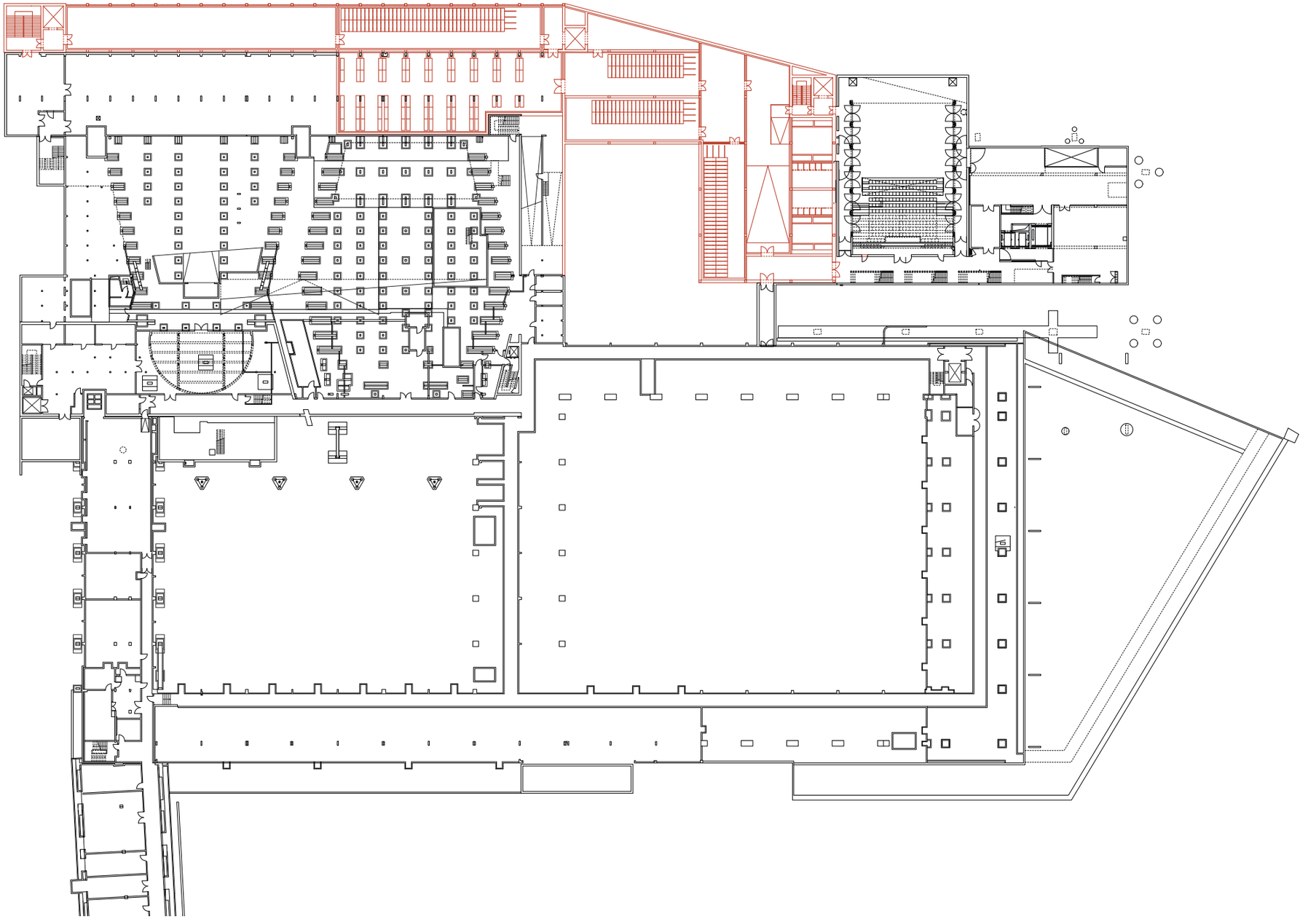


105. Made by author, sketch of the view of the added building from the main 1st floor corridor, 2025

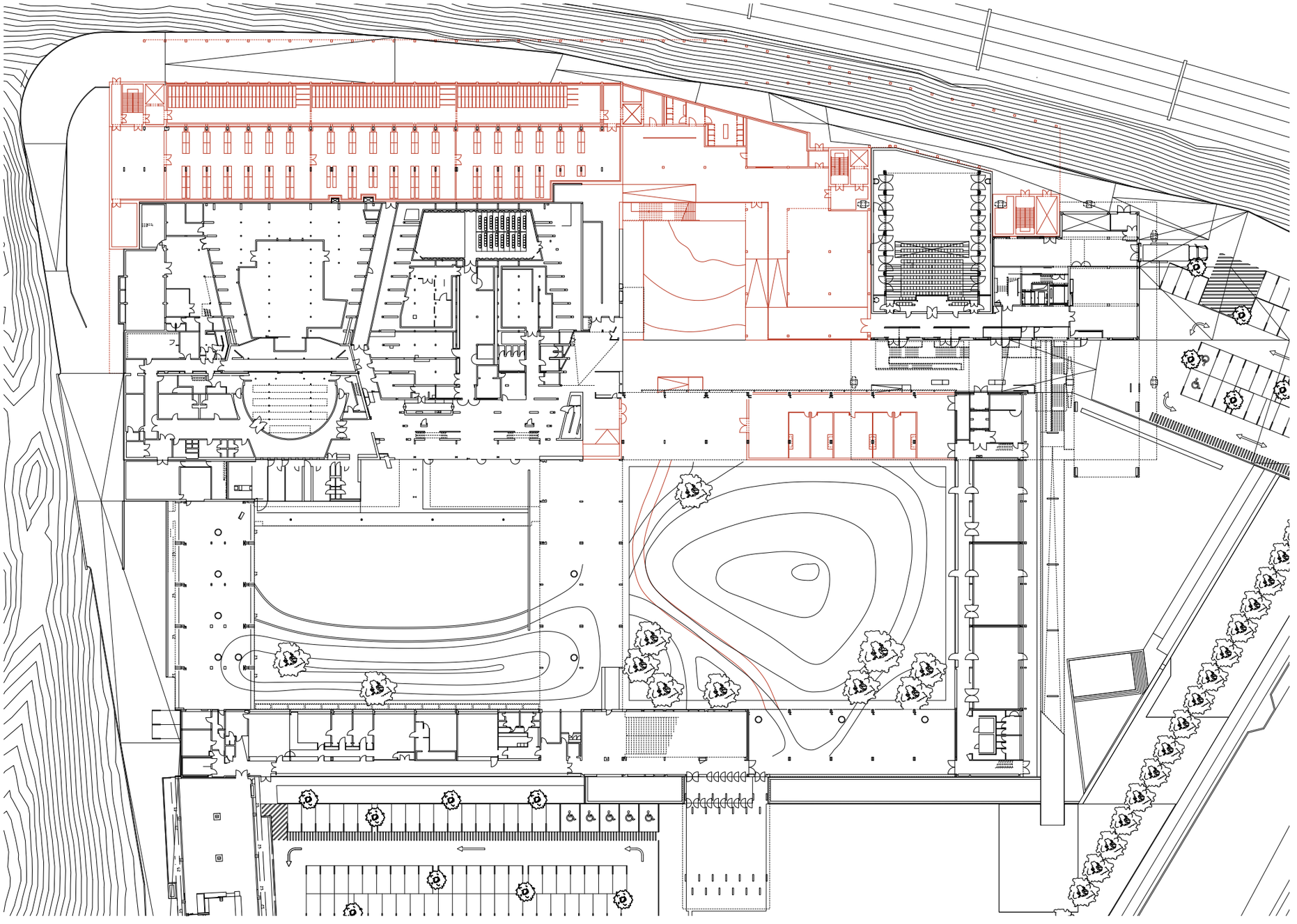


106. Made by Margaux Lomax, sphooto of the model columns, 2025

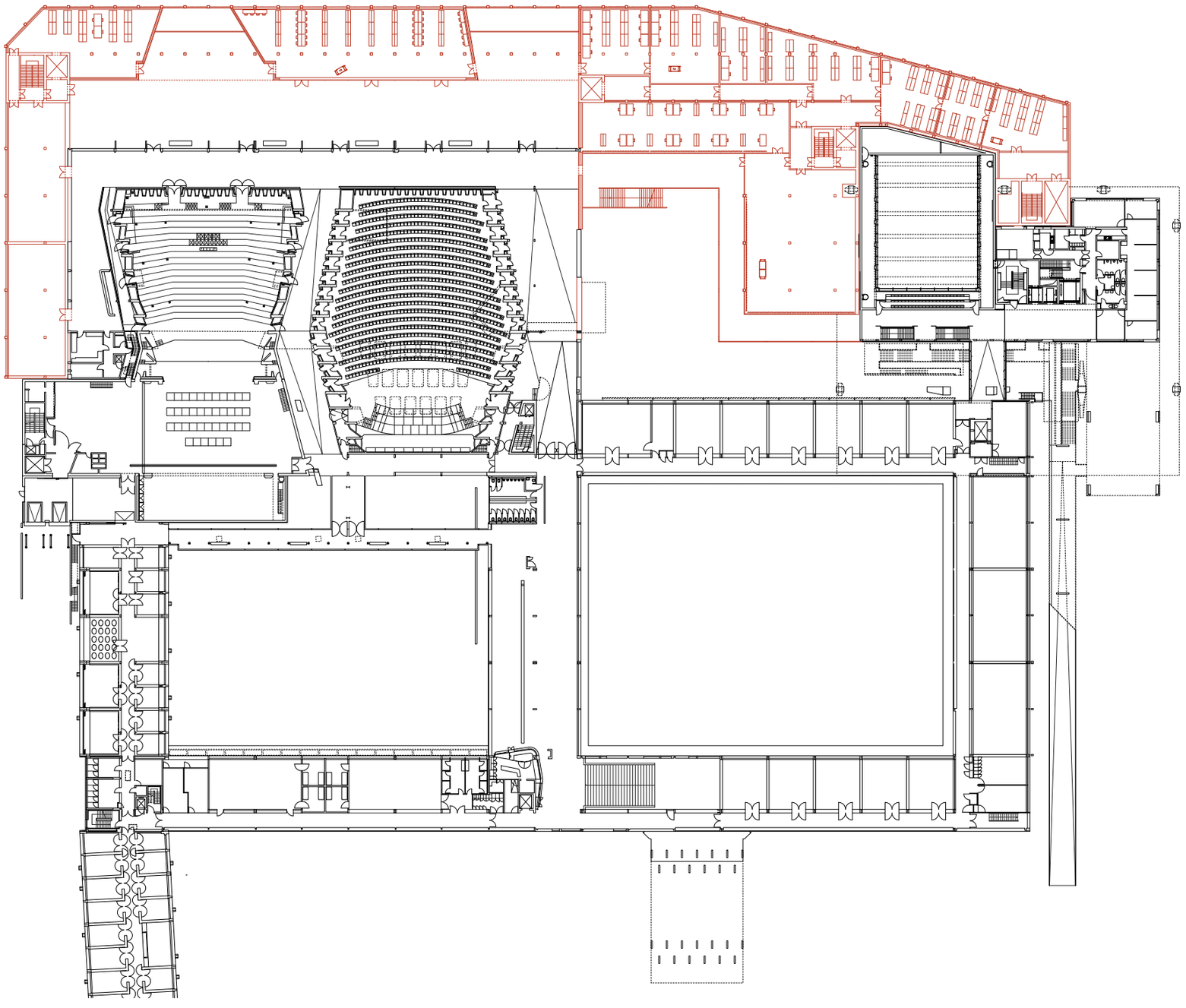
106. Made by author, addition plans -1 floor, 2025



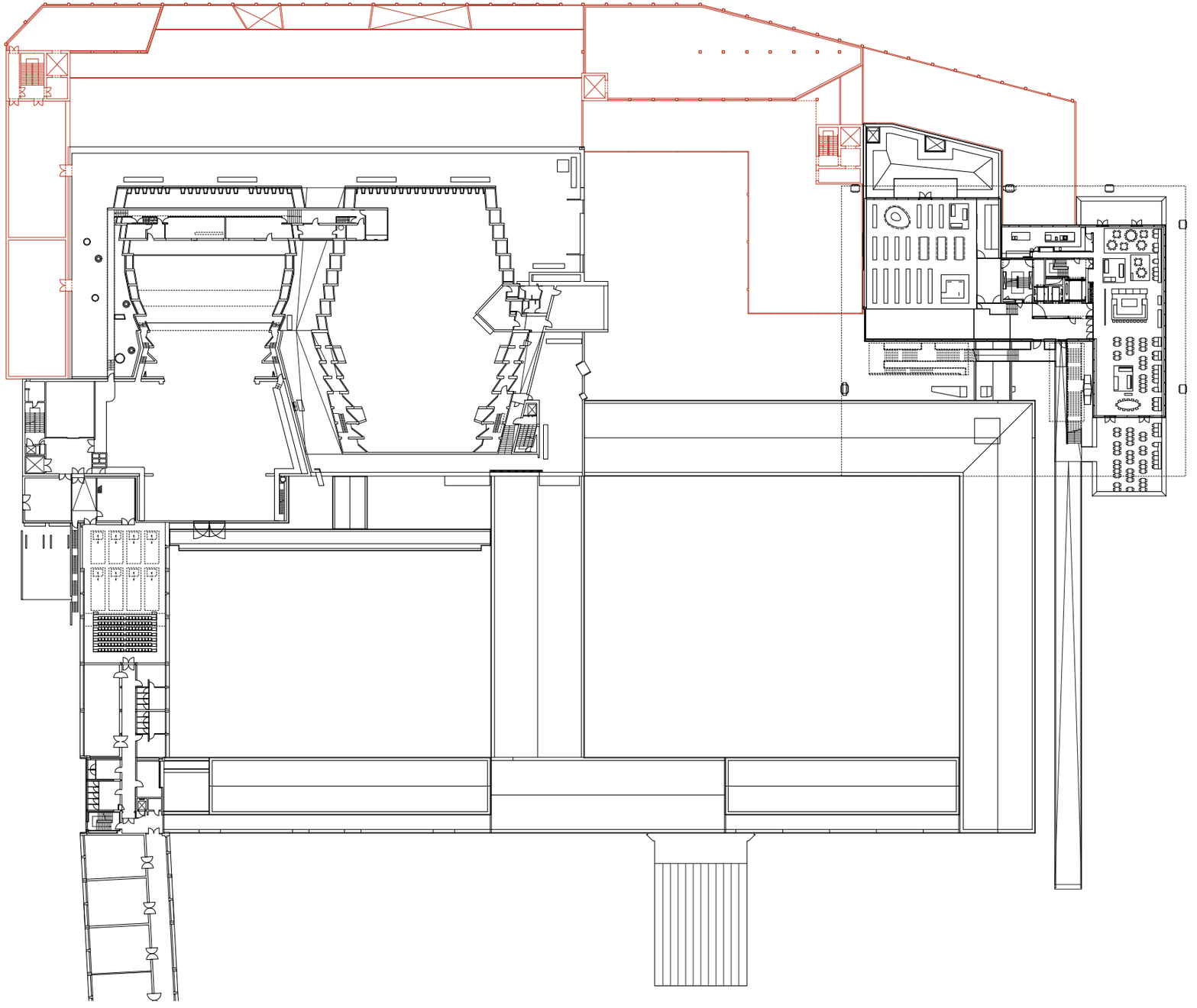
107. Made by author, addition plans 0 floor, 2025



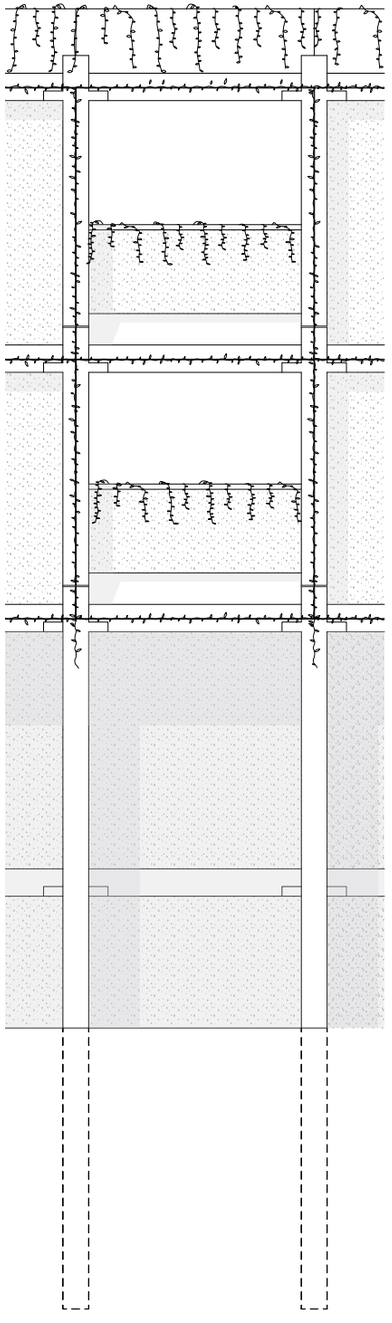
108. Made by author, addition plans 1 floor, 2025

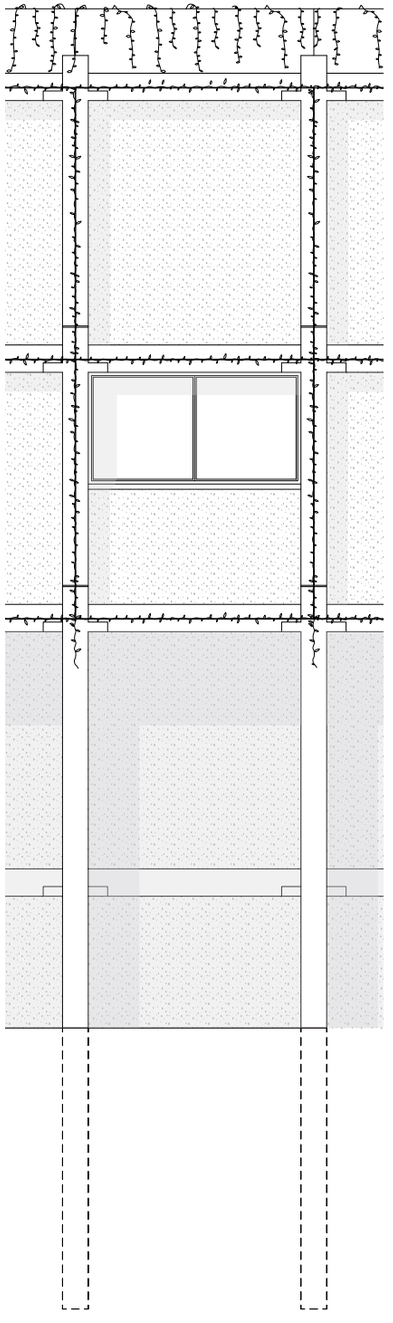


109. Made by author, addition plans 2 floor, 2025

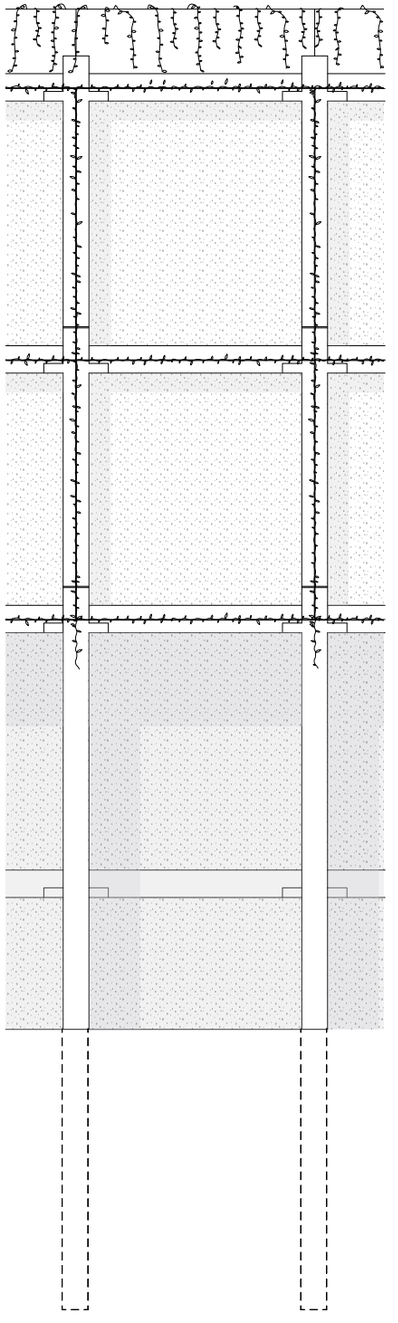


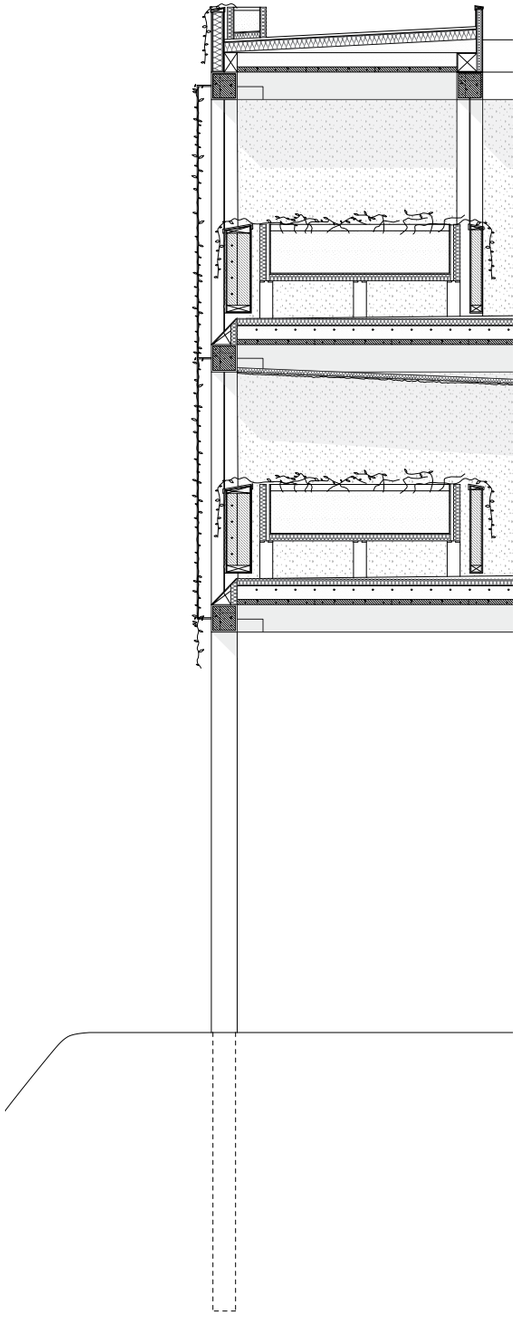
110. Made by author, different moments in the facade, 2025



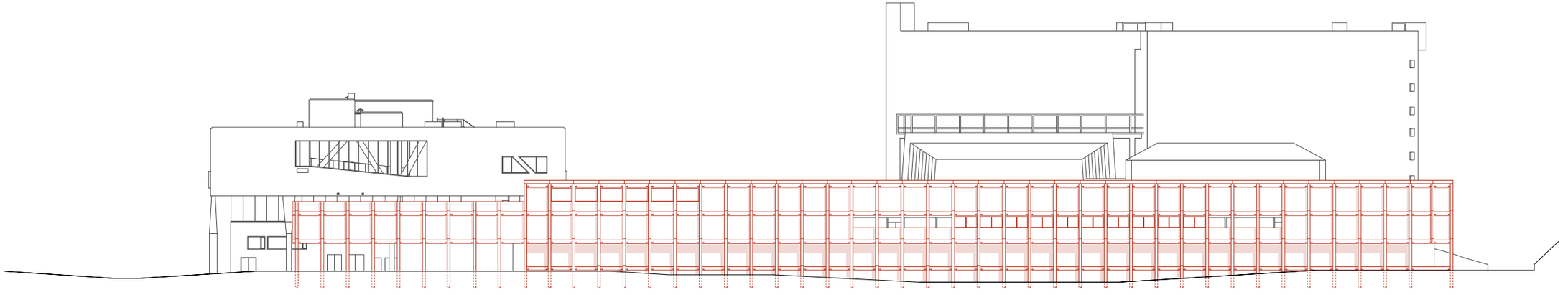


111. Made by author,1:33 detail section of the facade, 2025

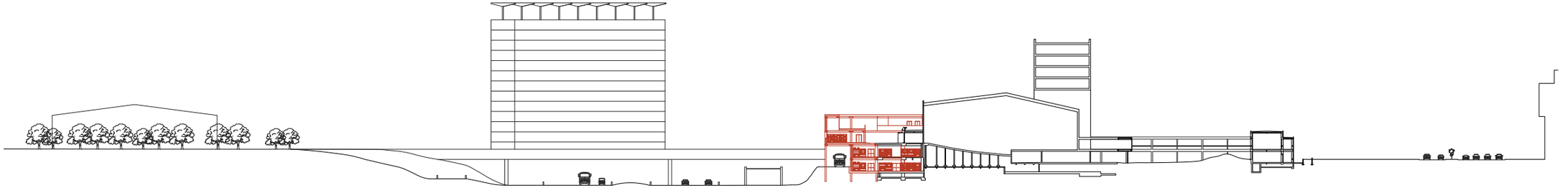




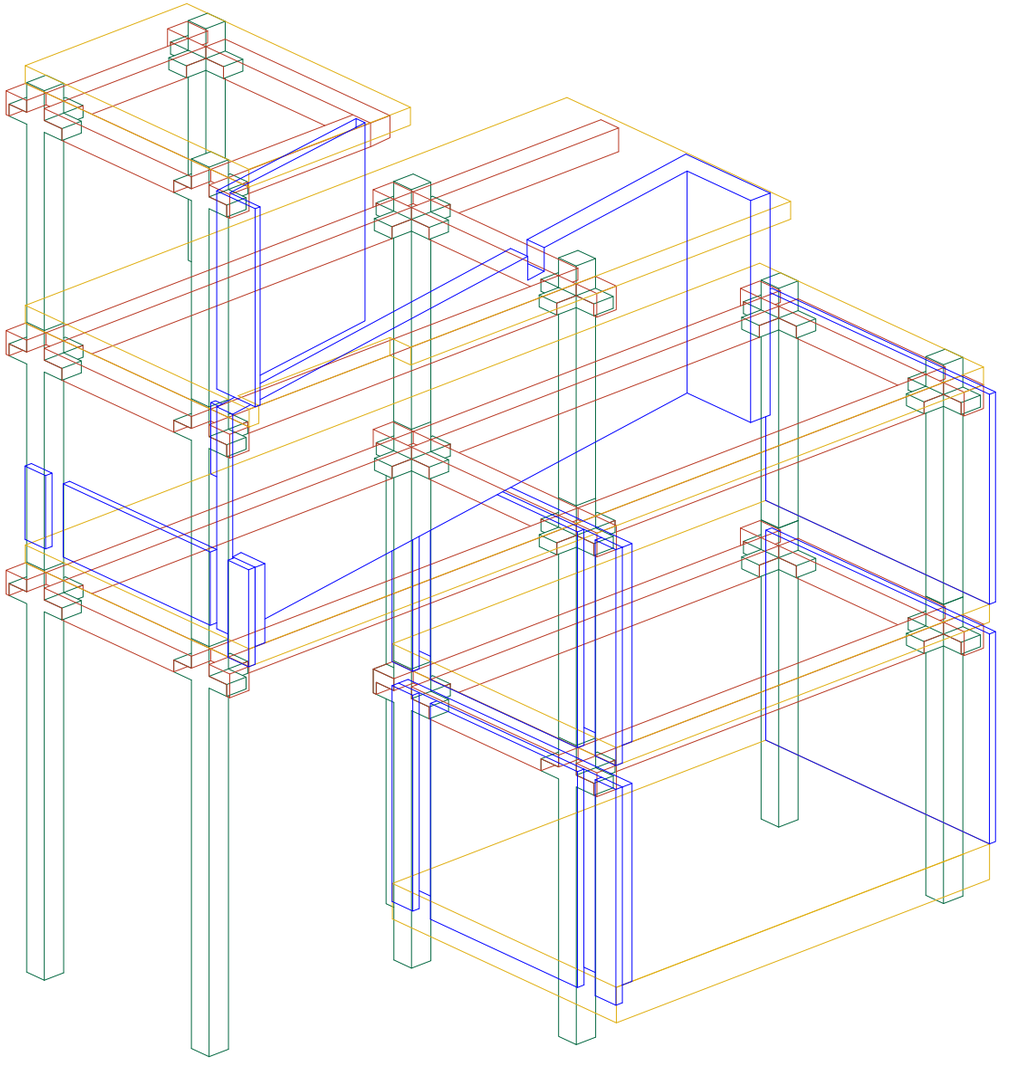
112. Made by author, facade on the highway, 2025



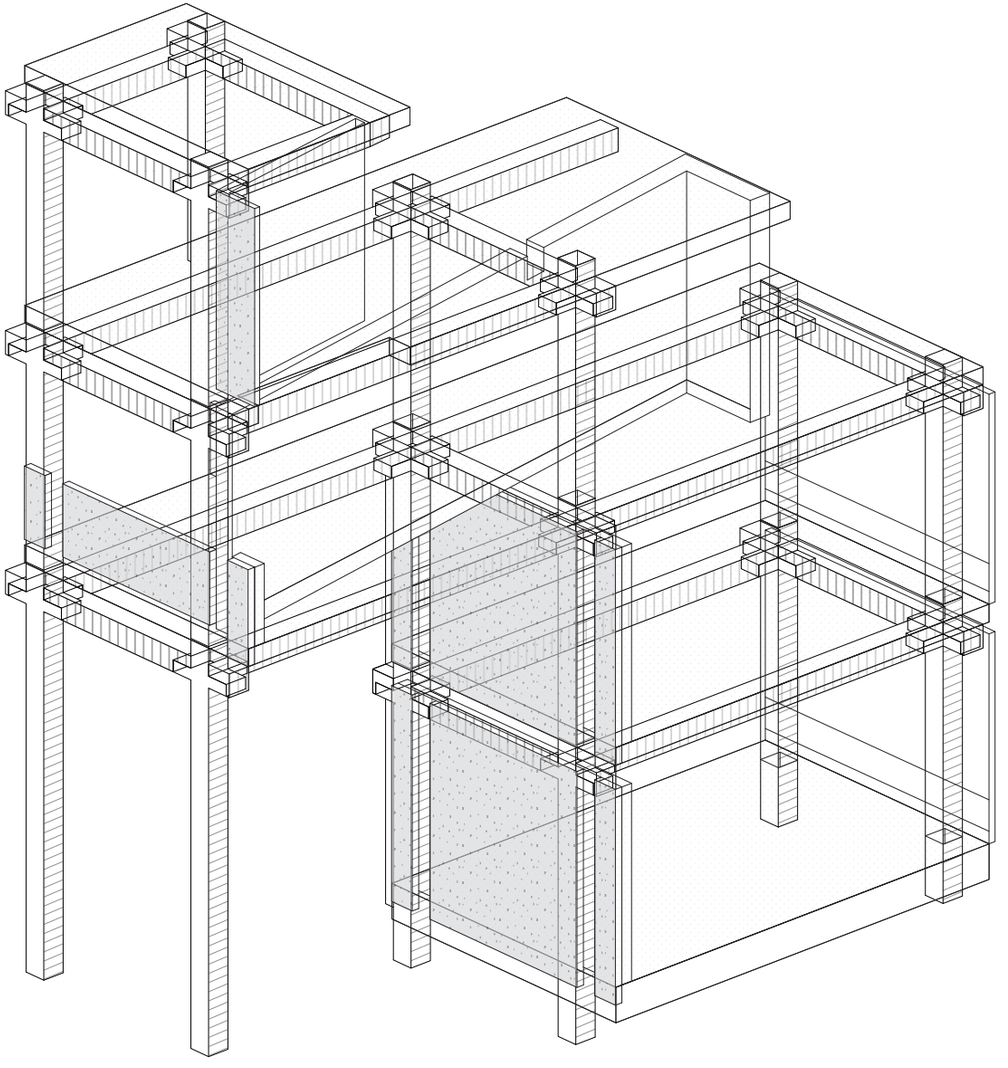
113. Made by author, facade on the blue hall across the highway, 2025



114. Made by author, axonometry of the structure of the building, 2025



115. Made by author, axonometry of the structure of the building with textures, 2025



Brief	Required	Proposed	03/03/2025
Name	**Size m²**	**Size m²**	
Total	**5145**	**7748**	
Public space	700	1712	
Reception and counter (+ exhibition space for the unknown architects)	100	730	
Exhibition space/ multifunctional	200	447	
Reading room	200	211	
Library	200	324	
Work Space	**860**	**1512**	
Staff workspace	300	301	
Archive workspace	300	334	
Large meeting room	80	80	
Small meeting room	30	49	
Common space	150	283	
~~VAi offices~~	250	465	
Archive	**3585**	**4524**	
Storage packaging material	120	258	
Loading / Unloading	150	182	
Waiting Depot	100	107	
Triage space / contaminated space	60	60	
Cleaning	60	77	
Quarantine	120	162	
Processing	60	148	
Pre-Depot	60	97	
Restoration studio	60	106	
Digitization	60	146	
Depot storage	2500	2969	
Climate class photo depot	100	171	
View Depot	125	0	
Server space	10	41	

1. 740 74 x 10) 1480
2. 740 74 x 10)
3. 600 60 x 10) 2080
4. 420 60 x 7) 2520
5. 392 56 x 7) 2392
6. 350 50 x 7) 3242
7. 860 86 x 10) 4102
8. 525 75 x 7) 4627
9. 460 46 x 10) 5087
10 460 46 x 10) 5547
11 PH.) 6287
12 740 74 x 10) 7027
13 740 74 x 10)
14 740 74 x 10) 7767
15 520 52 x 10) 7819
16 364 52 x 7 8183

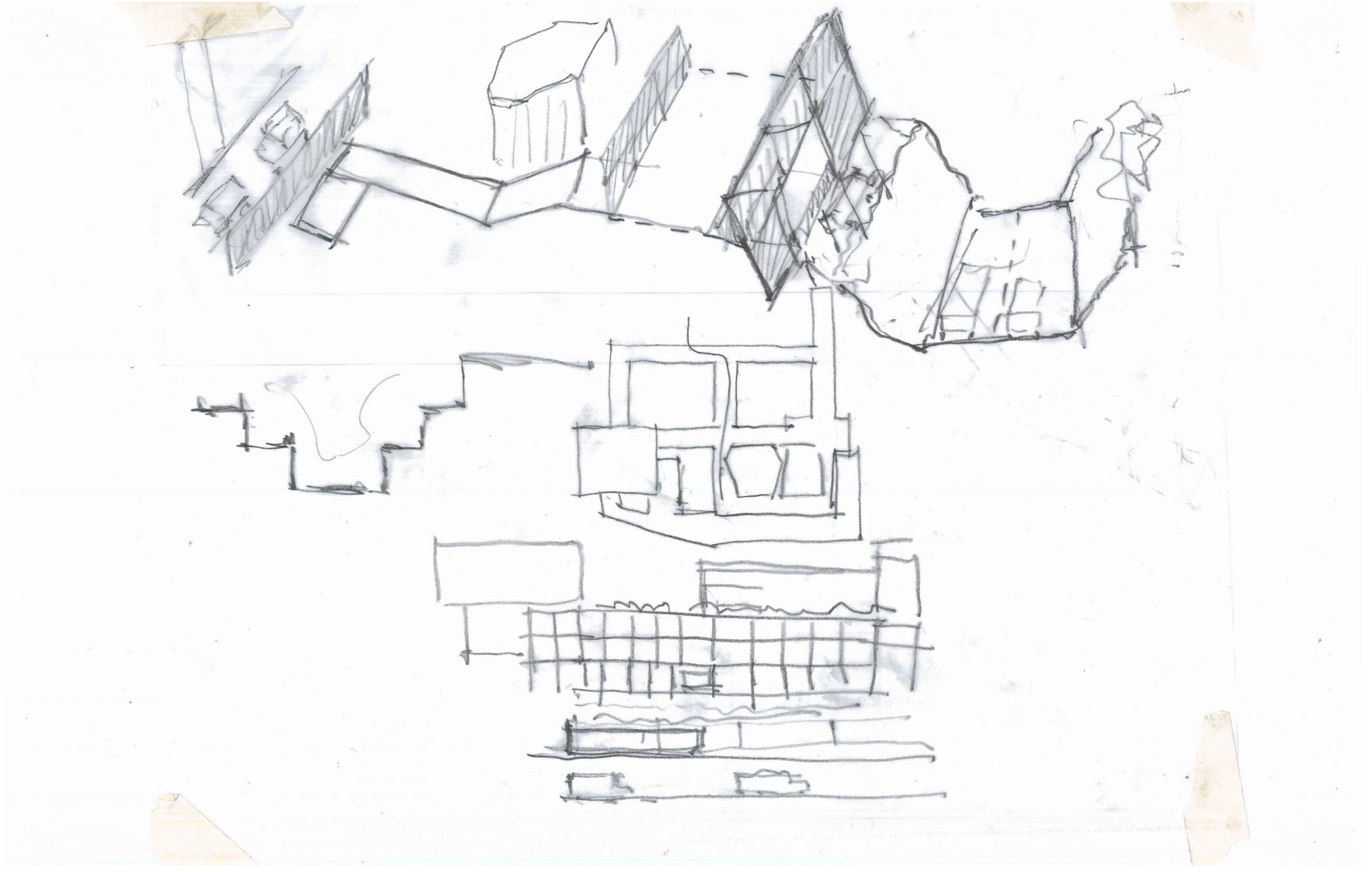
Archive Depot

	m1	m2
1	740	169
2	740	171
3	600	144
4	420	308
5	392	305
6	350	306
7	860	404
8	460	248
9	460	148
PH 10 *	740 *	137 *

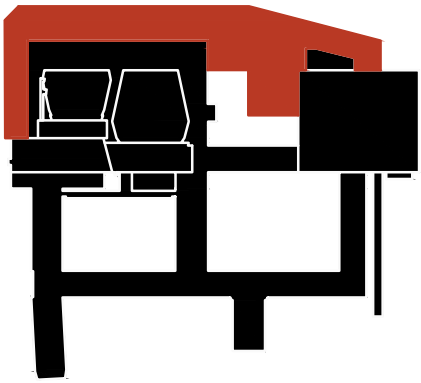
ARCHIVE DEPOT

	lm	m²
1	740	169
2	740	171
3	600	144
4	420	308
5	392	305
6	350	306
7	860	191
8	525	404
9	460	248
10	460	148

117. Made by author, sketch drawing explaining the project, 2025




Interior
Buildings
SPORTLIFE
SPORTLIFE



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