

# a boost for standardisation

an adaptive reuse of the kolonel palmkazerne into  
an ensemble for contemporary housing design

Graduation Studio:

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**Harma van der Meer**

This graduation report is written as result of the MSc Architecture, Urbanism and Building Sciences, track: Architecture, TU Delft and graduation **MSc studio Heritage & Architecture**, as part of the course AR4AH120 Adaptive Reuse of Heritage Graduation Studio.

**Cover photo** | Keukengebouw Kolonel Palmkazerne in Bussum, photograph by author

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*No AI has been used for the creation of this report*

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# “ La soupe fait le soldat.”

*[the soup makes the soldier] French saying, original by Napoleon Bonaparte. Written on first page of Intendance Museum guide, previous located at the Kolonel Palmkazerne.*

## **Abstract**

After the Cold War, the Netherlands abolished conscription, leaving many kazernes (military barrack complexes) vacant before being sold. One of these vacant kazernes is the Kolonel Palmkazerne located in Bussum. This Boostkazerne, named after its designer Boost, is not unique but part of a larger system of sixteen standardised barrack complexes built between 1938-1939. Boost created an efficient and aesthetic design; as a result, many kazernes have been repurposed or listed as heritage for their recognisable original architecture.

Given the current housing shortage, there exists a knowledge gap on how standardisation and spatial quality can reinforce each other. While many standardised systems are already applied, their architectural quality is often debated. Therefore, it is important to broaden our understanding of how standard models can contribute to contemporary housing design. This report studies the existing Boostkazernes through a comparative case study. The distilled lessons, combined with contemporary housing theory, inform a new adaptive reuse design for the Kolonel Palmkazerne, centering on the keukengebouw (kitchen building) of the kazerne.

The main conclusion from the value assessment is that while the original ensemble and the national system of Boostkazernes has very high heritage value, the kitchen building itself is an incoherent whole. The resulting design conserves the highest-valued parts of the existing keukengebouw, situated between two newly constructed translations of the nearby existing legeringsgebouwen (existing barrack buildings) and connected by an elevated platform. This is based in the palimpsest of the site, while preserving the original ideas and reusing the keukengebouw offers a sustainable method that ensures the continuity of cultural and historical value.

Two main axes define the design. A long private axis through the housing for elderly and starters, using a technical construction of prefabricated CLT-panels. In the other, public, axis of the existing keukengebouw, a box-in-box method is used to accommodate new functions. The basement will be activated by creating skylights, and the elevated platform provides weather shelter in the form of a pergola. This structural framework, based on standardisation principles, acts as a robust ‘drager’ (carrier) for open interpretation, allowing diverse individuals to form a coherent collective. In this way, the past is connected to the future through the present.

For this report following military Dutch words will be used because they embrace the meaning of the word better in this report its context.

‘kazerne’ = military barrack complex

‘keukengebouw’ = kitchen building where in early years soldiers gathered their food to eat at their own room and later in time dining halls were added

‘poortgebouw’ = gateway building often at the head of the assembly square, small-scale functions were gathered with canteens, sport facilities and offices

‘legeringsgebouw’ = military barrack building where soldiers sleep and spend most of their time

‘appelplaats’ = assembly square where soldiers were called upon ‘appel’

# table of contents

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<b>I</b>	<b>INTRODUCTION</b>	problem statement	09
		relevance	10
		objective & motivation	10
		research questions	11
		scope	11

---

<b>II</b>	<b>APPROACH</b>	methodology	13
		theoretical framework	14

---

<b>III</b>	<b>CASE STUDY COMPARISON</b>	boostkazernes literature review	17
		urban scale	18
		barrack complex	20
		building object	23
		façades	26
		boost's bouwdoos	31

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<b>IV</b>	<b>ANALYSIS</b>	urban analysis	33
		envision for bussum-zuid	35
		spatial characteristics	35
		value assessment	39

---

<b>V</b>	<b>CONCEPT</b>	heritage	41
		concept schemes	42
		from concept to architecture	46
		preliminary design	52

---

<b>VI</b>	<b>DESIGN</b>	elaboration	59
		experience	70

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<b>VII</b>	<b>CONCLUSION</b>	conclusion	79
		implications	80
		reflection	80

---

<b>VIII</b>	<b>BACK MATTER</b>	bibliography	83
		list of figures	85
		appendix a	87
		appendix b	88
		appendix c	89
		appendix d	94

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# PART I



# introduction

Figure 2 (left). Kazernes used during the Cold War

During the Cold War, the Netherlands Armed Forces housed many soldiers in kazernes spread over the Netherlands. When the threat subsided and the Cold War ended, the abolishment of conscription left many kazernes vacant before being sold. One of these vacant kazernes is the Kolonel Palmkazerne in Bussum, located in between heath areas near the former Hollandse Waterlinie.

The Kolonel Palmkazerne is not unique; it is part of a larger system of standardised barrack complexes built in the late 1930s. These 'Boostkazernes', named after their designer August G.M. Boost, were built due to an extension of the conscription period. Within a period of two years, Boost designed a sophisticated model for numerous kazernes, of which 16 were ultimately realised (Dorman et al., 2010). Since the construction of the sites, the buildings have been in use by different military units, especially during the Cold War many soldiers needed accommodation. The standardisation of building elements and innovations led to an efficient organisation, which can be expected of the military. Today, most Boostkazernes have been sold and repurposed. Although many buildings have been adapted, the original design is still recognisable.

## 1.1 Problem Statement

For years, the Netherlands has been struggling with a housing shortage. This shortage is a result of several influences, including population growth, shifts in living preferences, building procedures and limited space. As a resolution, the Dutch government aims to build 900.000 houses before 2030 (Rijksoverheid, n.d.). However, analysis from *Platform Woonopgave* (2025) – an alliance consisting of designers and experts with commitment for qualitative, inclusive, affordable and future resistant housing – deems this impossible given the current crises, including the limitation of the CO2-budget supported by figure 3.

Eichholtz & Kok (2025) argue that the aim can still be achieved through housing standardisation. According to them, prefab production of housing can double the current building productivity. They compare the housing market with the car-industry, where production is efficient and large scale. Nevertheless, this comparison is limited as housing is not mass-produced. Unlike cars, buildings are static and not easily replaceable every few years. Housing has a high societal value, because neighbourhoods, streets and landscapes form a complex living environment that goes beyond the individual building. With the rising trend towards mass-produced housing, more knowledge is needed about how industrialisation and spatial quality can reinforce each other (van Riet Paap et al., 2025).

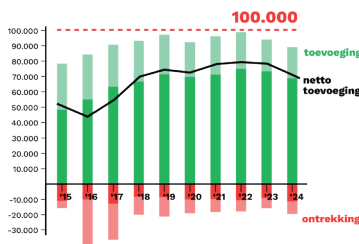


Figure 3. Diagram from Platform Woonopgave (2025) showing the limitation of the CO2-budget

Figure 4. Startblock housing displayed in a neat row similar to how cars are being sold (from: Schinkel, 2025).



### **1.2 Relevance**

Currently, standardised systems are already applied, as can be seen by the Dutch military ordering standardised barrack buildings. Here, speed is the central driver of the standardised construction (Rijksvastgoedbedrijf, 2025). It is also already possible to buy ready-made houses produced in factories and transported by truck for on-site installation. An example of a prefab housing factory initiative is shown in figure 4; *Startblock*, where the housing can be adjusted to local preferences in details, colours or materials (1op1architectuur, 2023). However, it must be mentioned that Startblock has since declared bankruptcy and other industrial housing factories struggle to maintain continuous production, producing only 30% of their capacity (Jansma, 2025). This could suggest structural shortcomings in the current system of mass-housing production (van Riet Paap et al., 2025) as housing considered a product will influence the architectural quality. Within the current political and economic landscape, the Netherlands has been prioritizing quantity over quality. Consequently, it is noticed that the architectural quality of the housing is under pressure (De Zwarte Hond, 2022). It is important to broaden knowledge about how standard models can be used in contemporary housing design. The Boostkazernes, designed as a standardised system to accommodate soldiers, are an existing example that can be studied.

### **1.3 Objective and motivation**

The report's first objective is to generate and share knowledge about the standardised elements of the Boostkazernes. The second ambition is to contribute to the development of standardisation by learning from others, specifically Boost's designs. By exploring the gap between standardised military heritage barrack buildings and everyday housing, in relation with standardisation, this research contributes to design a qualitative living environment while using heritage-valued standardised concepts based on efficiency and velocity.

It is necessary to assess the significance of the palimpsest, the idea that a building is based on layers through time, and values of the heritage building to inform and enable the design. Therefore, the architectural ambition is to

continue the existing by translating concepts into a new meaningful design. This is a core value of me as a designer: to create meaningful spaces, based on narratives of the existing site, theories and experiences.

#### 1.4 Research questions

The main question that will be answered in this report is:

**“How can lessons learned from the military Boostkazernes, in relation with contemporary housing design, along a focus on standardisation, be implemented in an adaptive reuse design for the keukengebouw of the Kolonel Palmkazerne in Bussum?”**

Secondary questions that support this main question, as shown in figure 5, are:

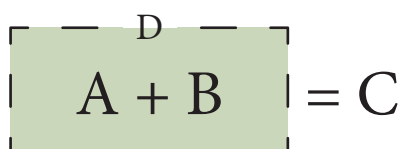
“What is the theoretical debate about standardisation in housing design?”

“What can we learn from the military Boostkazernes for standardisation?”

“What are the values of the existing keukengebouw of the Kolonel Palmkazerne?”

“How can lesson learned be implemented in a re-design for the keukengebouw of the Kolonel Palmkazerne?”

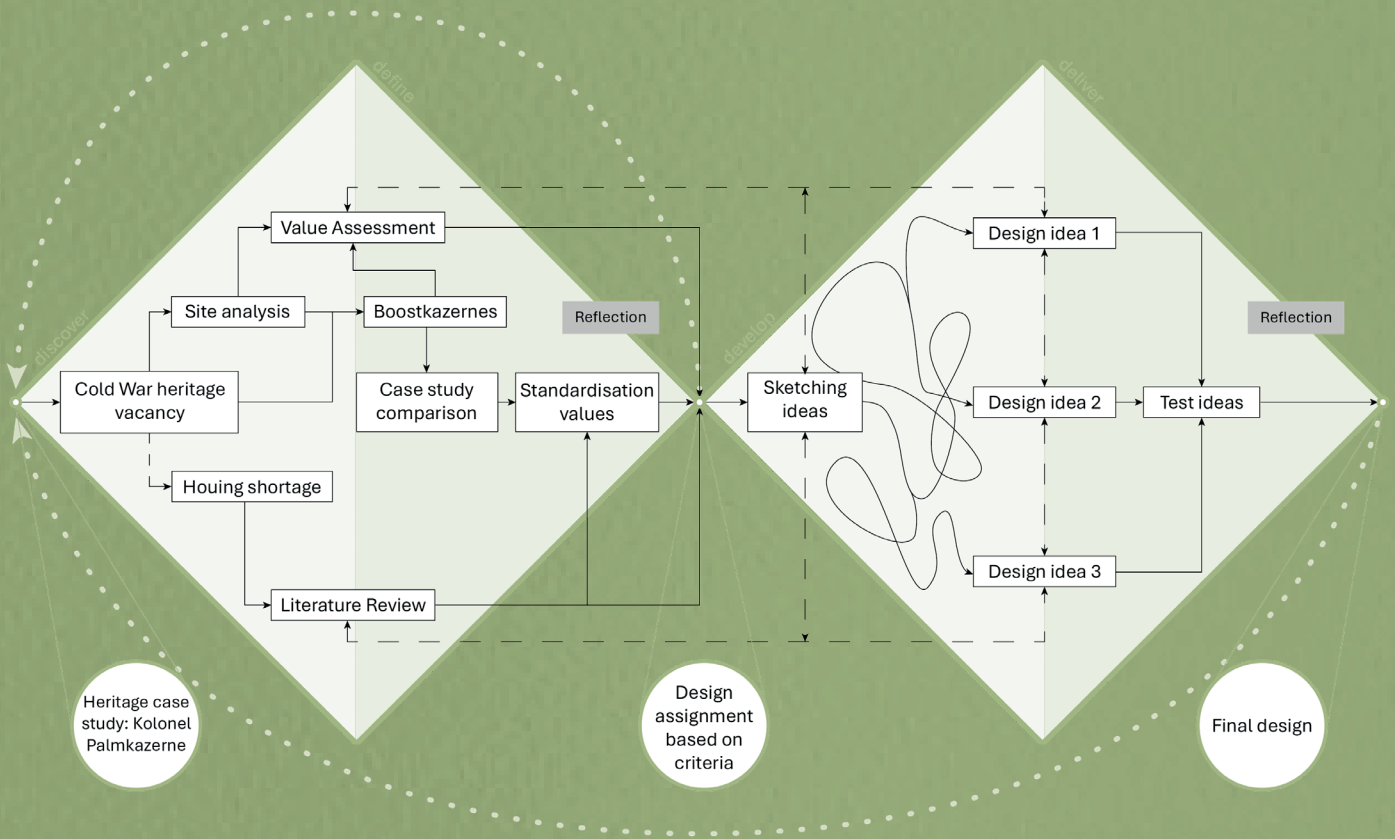
Figure 5. Diagram of the research question where A (lessons learned from Boostkazernes) + B (contemporary housing design) overarching by D (a focus on standardisation) equals C (an adaptive reuse design for the Kolonel Palmkazerne)



#### 1.5 Scope

The Kolonel Palmkazerne is already in redevelopment, coordinated by BPD, with a plan that utilises a ‘buurtschap’ approach with green space, few restricted borders, and a clear distinction between public, semi-public and private. There is no elaborated design for the keukengebouw yet. Therefore, the design will mainly focus on the adaptive reuse design of the keukengebouw, while analytical research will be conducted for the whole ensemble. The original H-shaped design of the keukengebouw was never realised, as only the basement and two chimneys were completed. Later additions have turned the building into a visual palimpsest. Within this standardised system, the keukengebouw has gradually changed in keeping with user needs and technological innovations. The main design challenge is to develop a future-resistant housing ensemble that balances standardisation with quality and adaptability for interpretation, while respecting military heritage and imbedding it into local context.

# PART II





The lessons learned from the case study comparison, in relation to theoretical research on housing design, will form the backbone of the adaptive re-design of the Kolonel Palmkazerne. The final output of this graduation project is an architectural design.

## 2.2 Theoretical Framework

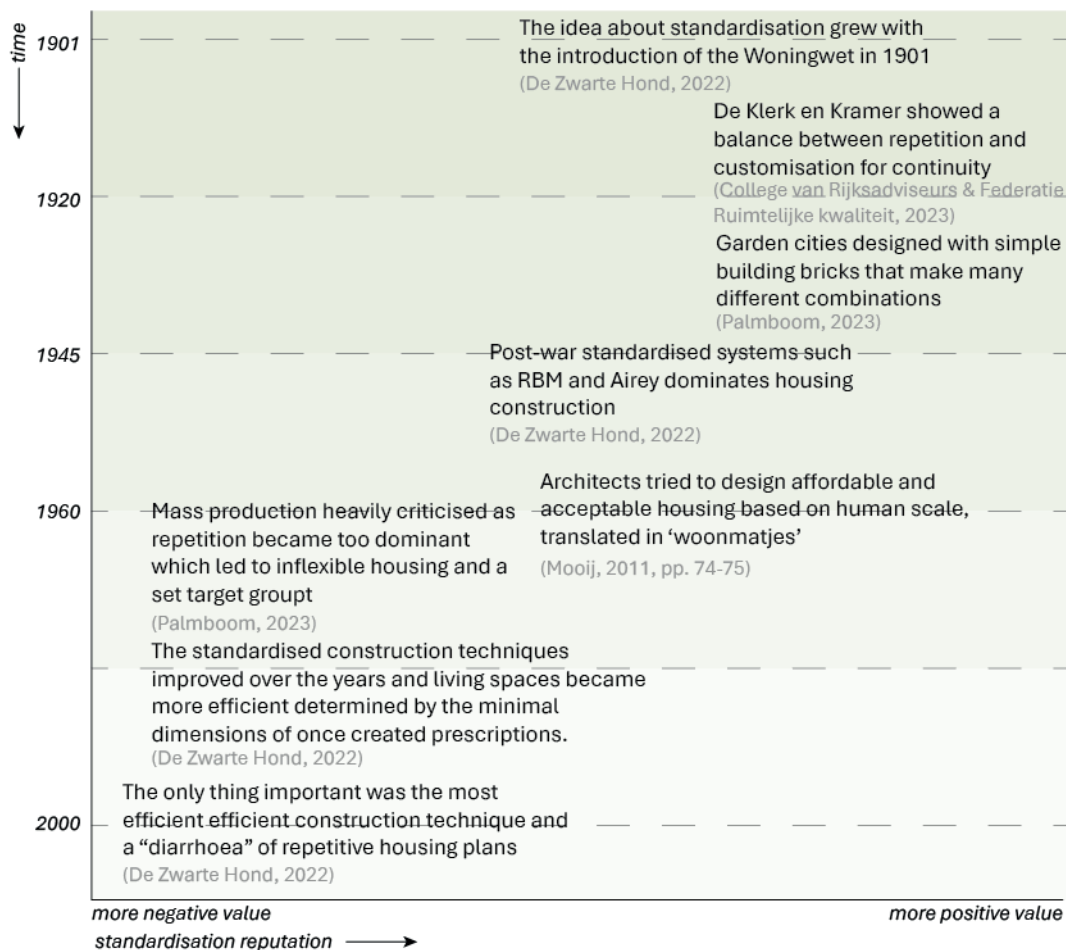
French writer Georges Perec (1936-1982) once remarked that as humans write about the extraordinary, they have become blind to the ordinary. Conversely, philosopher Walter Benjamin (1892-1940) believed everyday activities to be fundamental to human existence as it attaches meaning to domestic spaces such as home. Similarly, philosopher Martin Heidegger (1889-1976) argued that housing should never be regarded as an ‘object’ due to its complex relationship with feelings of belonging, understanding and sharing (Prins, 2021, pp. 13-16).

Whilst there is no single term for standardisation, it is often perceived as a fast, smart, and efficient building process resulting in affordable, repeatable housing designs. Standardisation has been used in the Dutch building context for decades with its traditional, uniform garden cities, ‘hofjes’ and Vinex neighbourhoods (van Riet Paap et al., 2025). A short historic summary of standardisation is shown in image X.

Despite Heidegger’s early warnings, houses are nowadays treated as ‘objects’ driven by profit margins, with little thought of its future residents (Haak, 2025). There are only two dominant housing typologies: the apartment and the row house, both often with an identical unvaried housing plan (Prins, 2021; De Zwarte Hond, 2022). According to architect Herman Hertzberger (1984, p. 63) this places the focus primarily on the relationship between designer and structure, while users are treated as subordinate, as an object rather than a subject. Who decides how residents should live? In the past the employer decided for the working class, (Prins, 2021, pp. 21-33) whereas nowadays housing design is still shaped by “archaic ideas about how people would like to live” anchored in regulations and resulting in “little variation” (De Zwarte Hond, 2022, pp. 5-6).

As housing plans are typically designed for the ‘standard family’. Most lack flexibility for adaptation. Spaces limited to a single use fail to be timeless. Architect Hans Scharoun expresses that the repetition of standardised houses emerges from uniform living desires while simultaneously reinforcing those same desires (Prins, 2021, p. 15). This generic housing supply is in great contrast with our increasingly diverse society (De Zwarte Hond, 2022, p. 5). Rejecting this standardisation, Renée Gailhoustet advocates for housing that celebrates difference, by designing unique and responsive spaces that encourage individuality (Renée Gailhoustet’s *Housing: Layers of Living*, 2025). This idea aligns with architect John Habraken’s (1961) theory, in which he argues that residents modify and appropriate their residence as a form of self-expression. In his book *De dragers en de mensen; het einde van de massawoningbouw* he subsequently criticises mass housing for its lack of adaptability and introduces a principle based on the development of a rigid support (‘drager’) in which individuals can easily adapt the infill (‘inbouw’) to their own needs. Additionally urban designer Nycolaas (2018, p. 4-13) highlights that self-expression in the built environment is scarcely used. She argues that there is a dominant taste, resulting in a uniformity of housing despite apparent diversity. “People adapt easily. [...] The dwelling

Figure 8. An overview of standardisation through time



must above all provide space to live.” As long as the construction allows it, people will interfere with and adapt the space over time, but the original structure will stay visible.

Hertzberger (2020) adds that buildings that are designed separately neglect social cohesion and factoring in belonging. Standardisation is thus not a bad word. Instead, it can create a framework that allows for alternative interpretations of collective space and individual appropriation over time (Hertzberger, 1984, pp 60-62). This interaction between the individual and the collective is often represented through idealised architectural renders of communal living. However, collective spaces are not always used as intended. The careful positioning of in-between space is therefore essential, as it allows for collective use without making the envisioned interactions a fixed requirement of the space (De Zwarte Hond, 2022).

When a critical lens is cast on our current housing, highly detailed features like profile doors and finished ensuite spaces seem to be absent. This loss can be attributed to increasing labour costs, but also to the diminished perception of housing as cultural expression. As a result, houses have become more efficient, generic and faceless. Housing should once again be approached as a design assignment, with equally economic and technical duties as a cultural project that values living quality, identity and heimat (De Zwarte Hond, 2022, pp. 21-24). In similar fashion, sustainability in housing goes beyond well-insulated walls or smart climate concepts. It also requires behavioural knowledge and can only exist if it offers the space needed for variation in lifestyles, households and cultural background (De Zwarte Hond, 2022). These indeterminate spaces do not have to take up more area, but instead generate opportunities for multiple uses and interactions within the same space. After all, it’s like Hertzberger said: “ruimte maken, ruimte laten” [making space, leaving space].

# PART III



## Boostkazernes built in 1938-1939

- Adolf van Nassaukazerne, Zuidlaren
- Johan van den Kornputkazerne, Steenwijk
- Willem de Zwijgerkazerne, Wezep
- Jan van Schaffelaarkazerne, Ermelo
- Westenbergkazerne, Schalkhaar
- Kolonel Palmkazerne, Bussum
- Detmerskazerne, Eefde
- Elias Beeckmankazerne, Ede
- Saksen-Weimarkazerne, Arnhem
- Generaal de Bonskazerne, Grave
- Cort Heijligerskazerne, Bergen op Zoom
- Engelbrecht van Nassaukazerne, Roosendaal
- Koning Willem II kazerne, Tilburg
- De Constant Rebecquekazerne, Eindhoven
- Van Hornekazerne, Weert
- Ernst Casimirkazerne, Roermond

# case study comparison

**The Boostkazernes as case studies will be compared to draw lessons learned.**

### ***3.1 Boostkazernes literature review***

Political developments in the 1930s required building new kazernes.. Within two years, Genie A.G.M. Boost designed sixteen kazernes, consisting of four regiment kazernes with six legeringsgebouwen and twelve battalion kazernes with three legeringsgebouwen(Cats, 1989). His design followed the pavilion system for military barracks, which organised separate functional buildings around a central square (Dolné, 1993).

Whilst the Boostkazernes followed a single design system, local engineers were free to make site-specific and aesthetic modifications during the construction (Dorman et al., 2010).

The design has proven remarkably adaptable, retroactively addressing the critical debate in the 1930s whether a Genie architect was able to design aesthetical quality (Oosterboer, 2023, pp. 18-20). Even though many Boostkazernes have been modified, their original compositions remain visible, and several are listed as national or municipal heritage. Appendix A gives a short overview of all Boostkazernes.



Figure 9 (left). An overview of all 16 Boostkazernes in the Netherlands. They are often located at strategic places near former defense lines.

Figure 10. Genie A.G.M. Boost ([Auguste Boost], 1965).

Figure 11-26. Urban analysis of all Boostkazernes (own image with data from PDOK, n.d.).



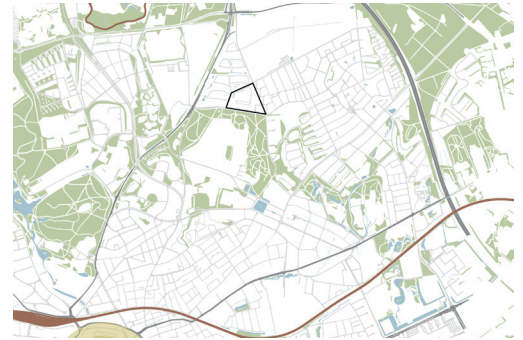
Bergen op Zoom



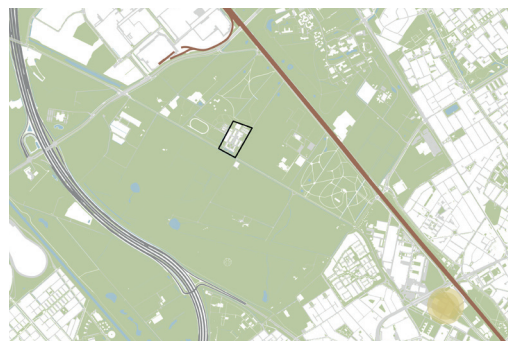
Eefde



Steenwijk



Arnhem



Eindhoven



Ermelo



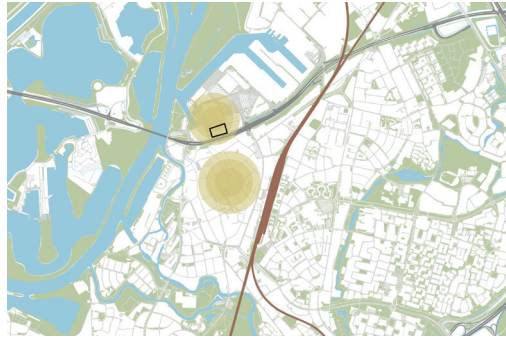
Tilburg



Wezep

### 3.2 Urban scale

Kazernes are often located near transport infrastructure and away from city centres. Over time, some have been integrated into the urban environment.



Roermond



Ede



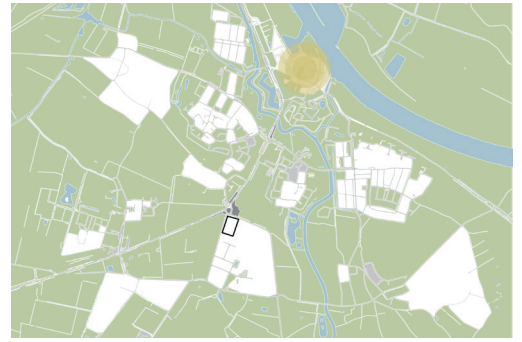
Roosendaal



Bussum



Schalkhaar



Grave

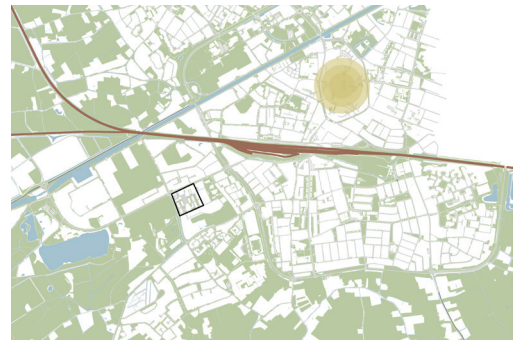
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**Legend**

-  kazerne
-  city centre
-  green space
-  water
-  roads
-  highway



Zuidlaren



Weert

### 3.3 Barrack complex

The Boostkazernes follow a standard spacial zoning design focused on the appelplaats. Two concept plans form the standard model, although allowing local variation. Arnhem, Bussum and Roermond all have a unique urban plan.

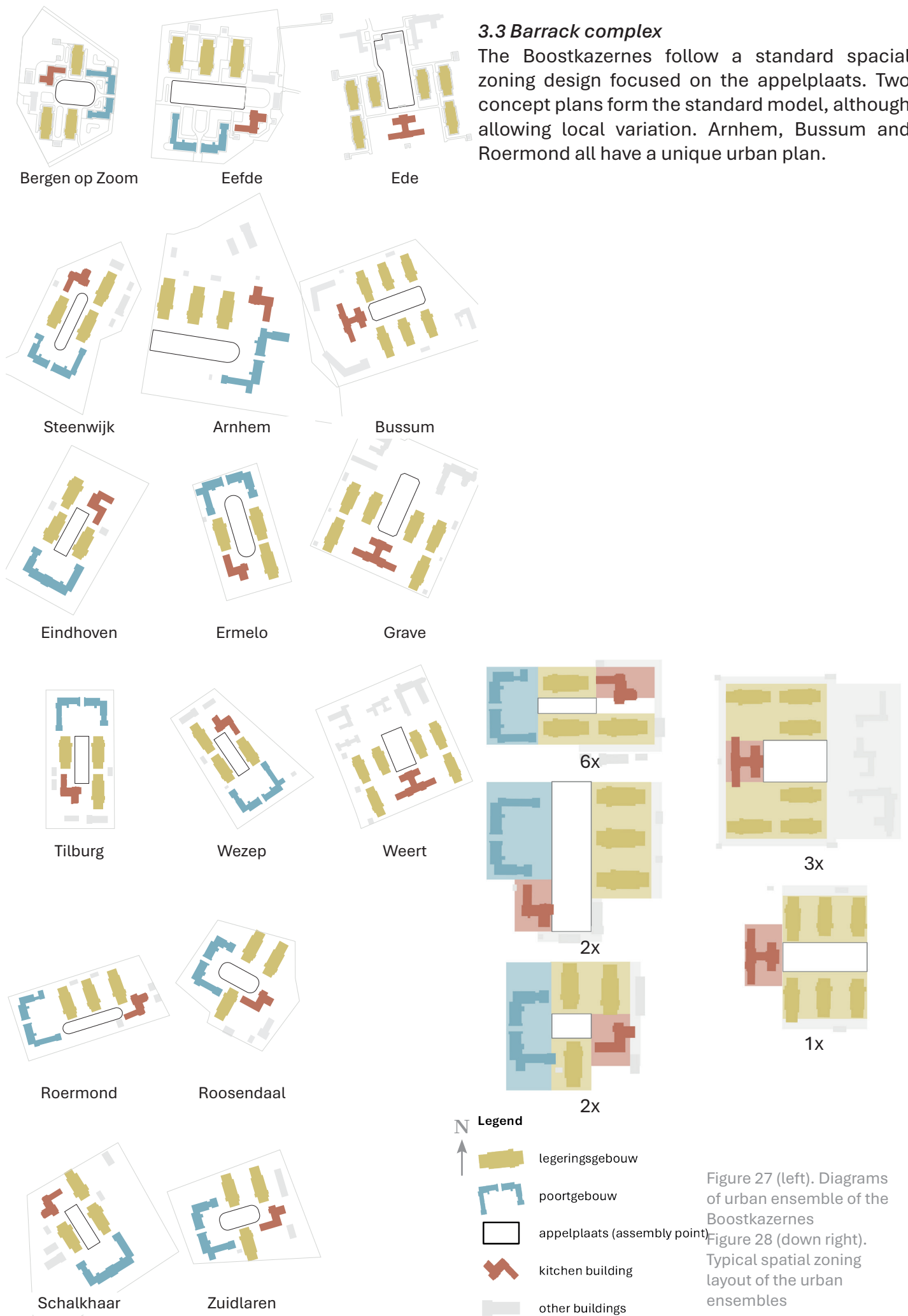
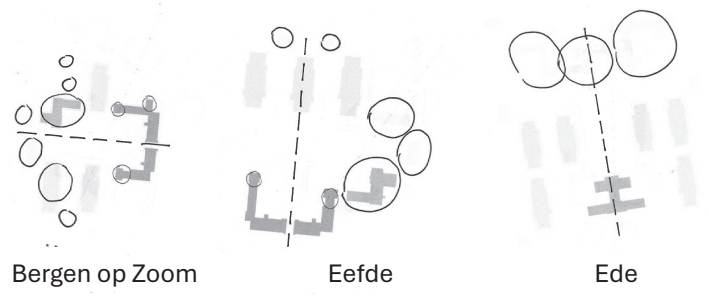


Figure 27 (left). Diagrams of urban ensemble of the Boostkazernes  
 Figure 28 (down right). Typical spatial zoning layout of the urban ensembles

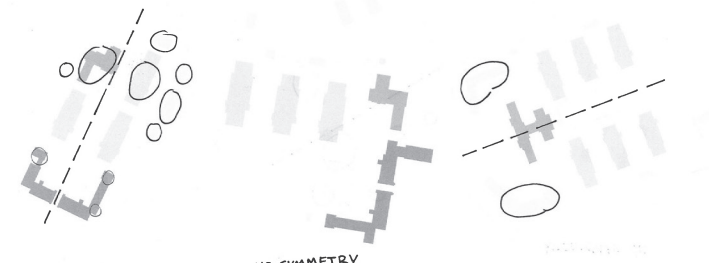


Bergen op Zoom

Eefde

Ede

The composition balances symmetry and asymmetry. Remarkable, there is a consistent east-west orientation of the legeringsgebouwen, following common residential logic. The other buildings have a less distinctive orientation and differ more in size, form and extensions.



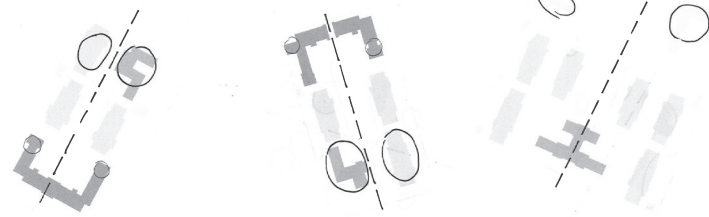
Steenwijk

NO SYMMETRY

Arnhem

NO SYMMETRY

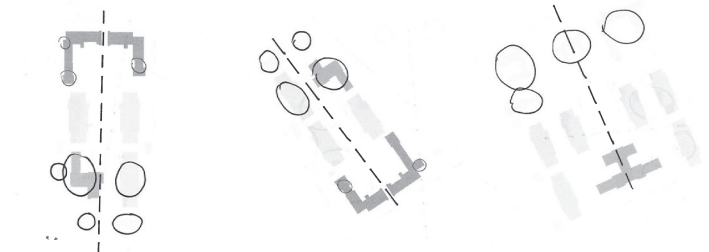
Bussum



Eindhoven

Ermelo

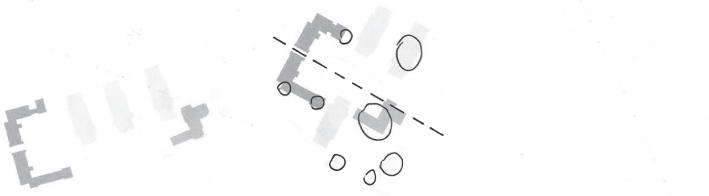
Grave



Tilburg

Wezep

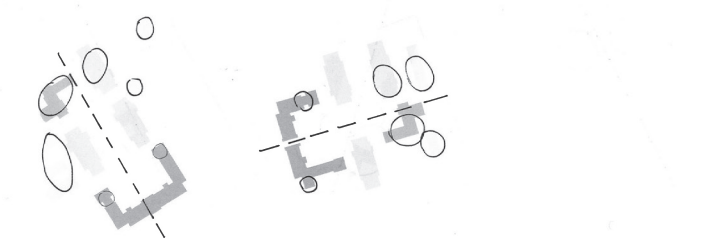
Weert



NO SYMMETRY

Roermond

Roosendaal



Schalkhaar

Zuidlaren

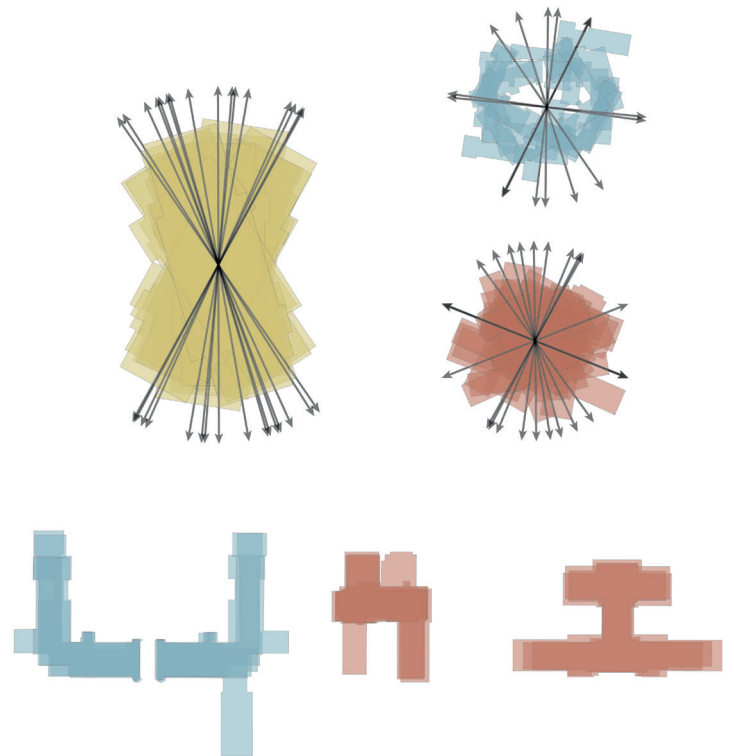
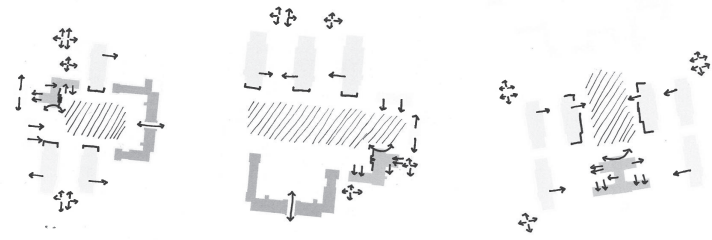


Figure 29 (left). Analysis of (a)symmetry of the urban ensembles where the dashed line is the middle line of the symmetrical composition and the circles show the asymmetrical elements

Figure 30 (right). Comparison conclusion of orientation of the legeringsgebouw, poortgebouw and keukengebouw and similarity in form

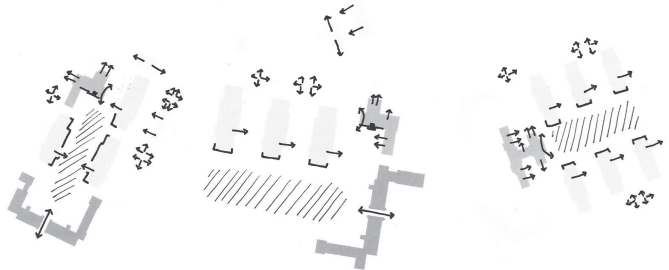
All buildings relate to the appelplaats with their entrances, signifying its importance. Only the poortgebouw connects to the 'outside world'.



Bergen op Zoom

Eefde

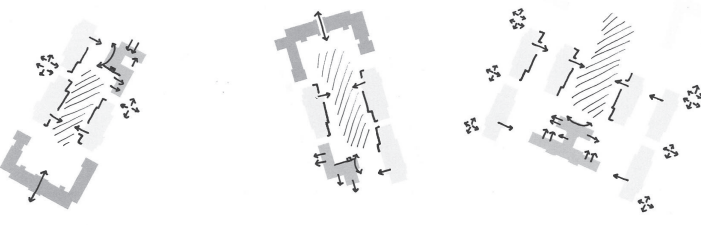
Ede



Steenwijk

Arnhem

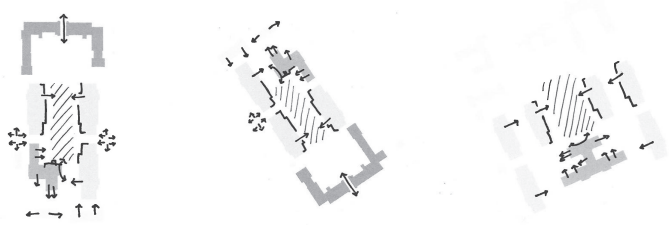
Bussum



Eindhoven

Ermelo

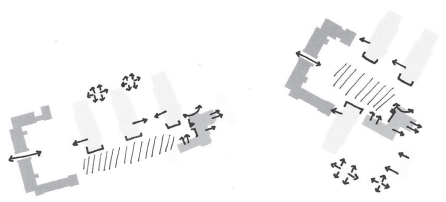
Grave



Tilburg

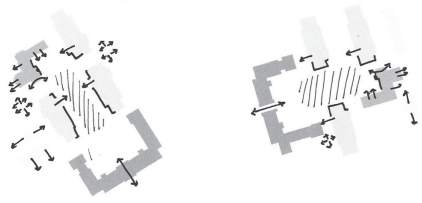
Wezep

Weert



Roermond

Roosendaal



Schalkhaar

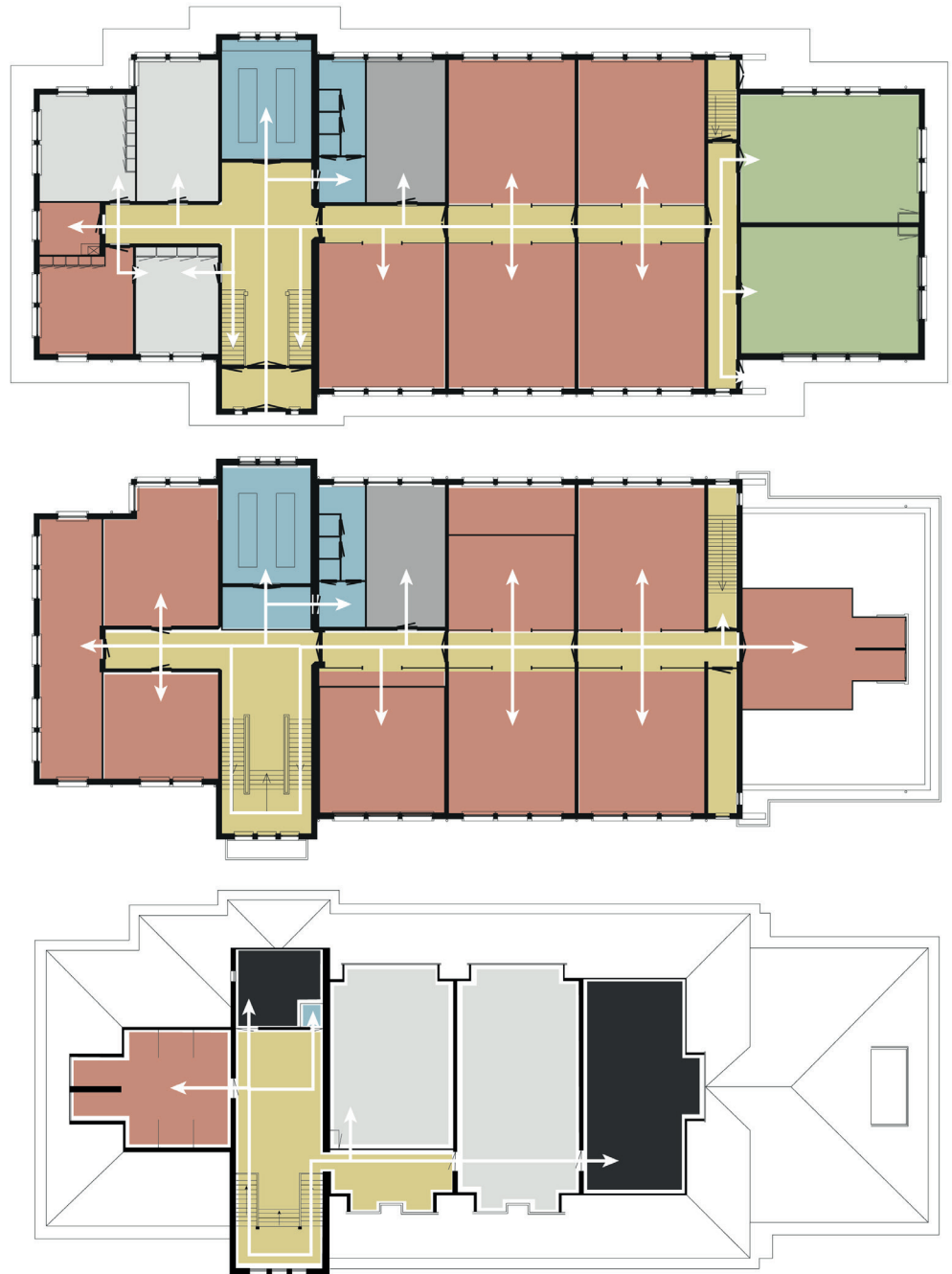
Zuidlaren

Figure 31 (left). Analysis of the orientation of the entrances of the different buildings .

Figure 32. The floor plans of the standard legeringsgebouw with different colours showing different functions.

- Red = sleeping
- Yellow = traffic
- Blue = sanitair
- Green = eating
- Grey = seating
- Dark grey = cleaning
- Black = other

Depicted floor plan applies to the legeringsgebouwen in Ede, Bergen op Zoom, Steenwijk, Eindhoven and Roermond. The floor plans of Grave and Bussum have slightly different dimensions for thickness of walls and spaces. In the floorplan for Schalkhaar, Arnhem and Eefde the sanitair and cleaning space are switched.



### 3.4 Building object

The architecture demonstrates considerable care and detail. The complex constructions, horizontal details, cantilevered roofs and steel windows create a coherent architecture. The floorplans follow a clear spatial logic, anchored in the traffic space with minimal variations between locations aside functional zoning or minor changes in dimensions. Boost's progressive ideals can be found in the design with for instance separated eating halls for soldiers, which was uncommon for that time (Oosterboer, 2023, p.21)

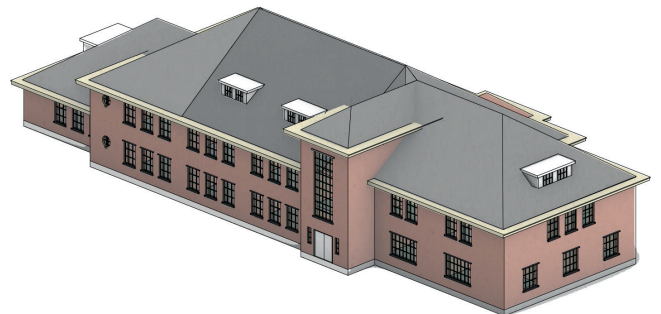
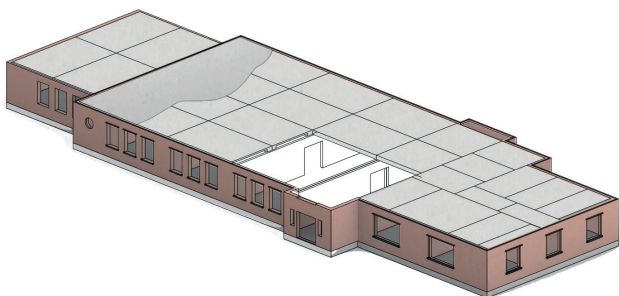
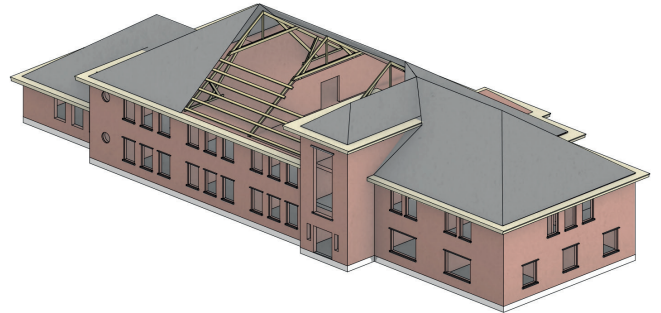
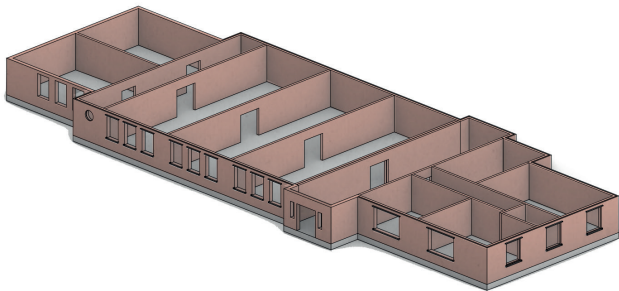
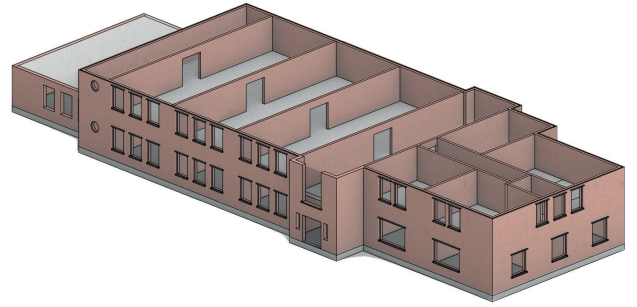
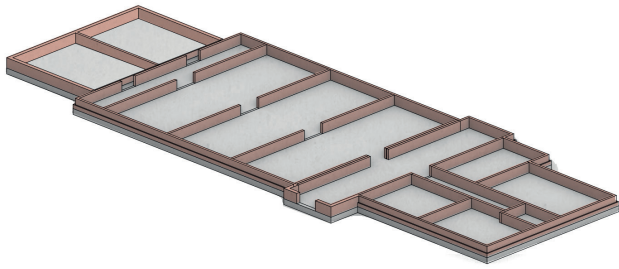
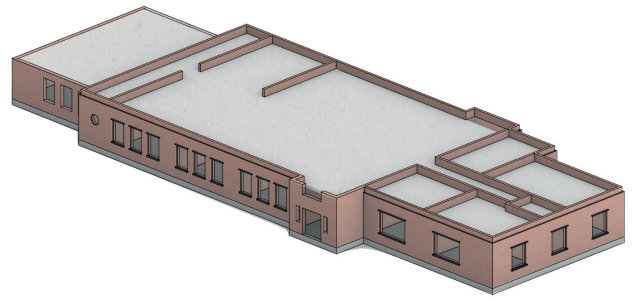
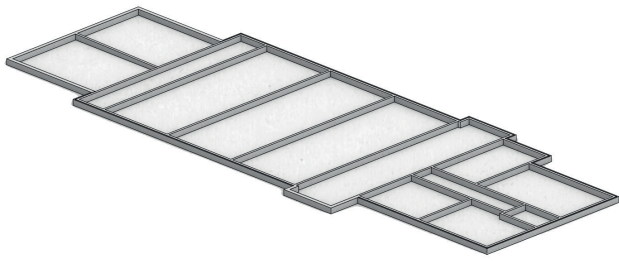
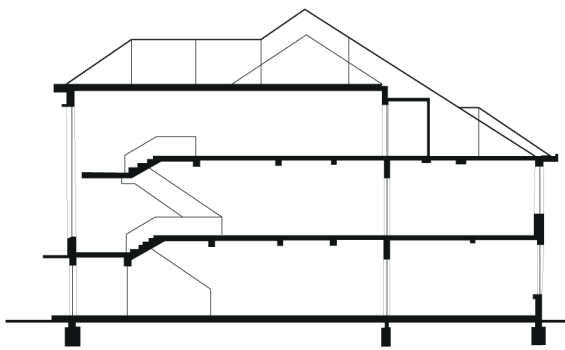
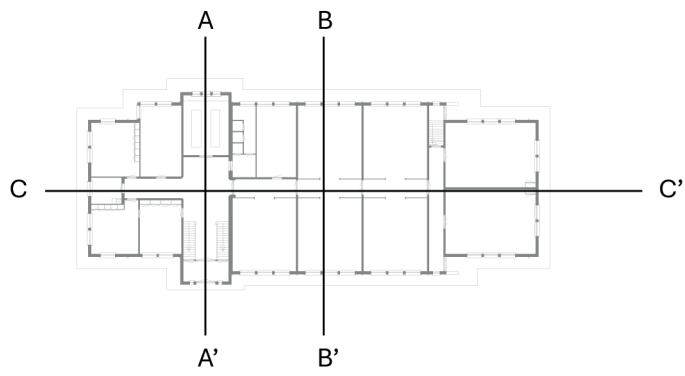
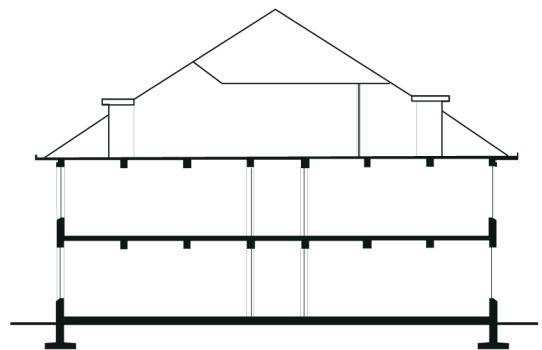


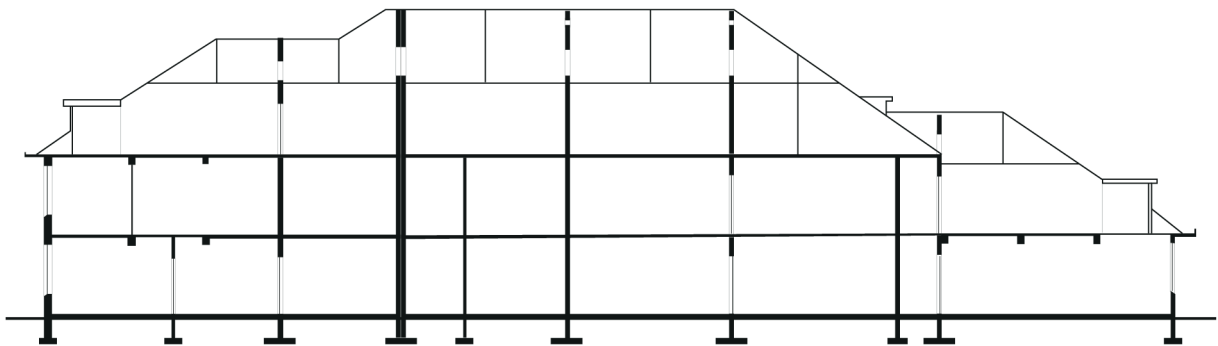
Figure 33. Typical 1930s construction method with brick construction walls and timber roof construction  
24



Section AA'



Section BB'



Section CC'

The buildings apply typical 1930s construction methods with an 'anderhalf steensmuur' brick work, cavity walls and timber roof construction.

Figure 34. Sections showing structure.

Figure 35-50. Several photos from the legeringsgebouwen of the exterior where differences in materiality becomes most clear. Some photos are recent taken which also displays transformation interventions.

(Bergen op Zoom from Het Adriano Huis (2020).  
 Eefde from [Postcard Eefde Detmerskazerne] (n.d.).  
 Steenwijk from Oosterboer (2015).  
 Arnhem from Oosterboer (2016).  
 Eindhoven from Eftting Eindhoven (n.d.).  
 Ermelo from van der Meer (1984).  
 Tilburg from [Tilburg Koning Willem II Kazerne] (n.d.).  
 Wezep from Oosterboer (2010-a).  
 Roermond from Tangel (1998).  
 Ede from Oosterboer (2019).  
 Roosendaal from Pot / Anefo (1955).  
 Bussum from Oosterboer (2018).  
 Schalkhaar from Oosterboer (2010-b).  
 Grave from Teeuwen (2025).  
 Zuidlaren from [Postcard Zuidlaren, Adolf van Nassaukazerne, gebouw D] (n.d.).  
 Weert from [Photo from Weert, Van Hornekazerne] (2022)).



Bergen op Zoom



Eefde



Steenwijk



Arnhem



Eindhoven



Ermelo



Tilburg



Wezep

### 3.5 Façades

The material expression varies significantly. Differences can be observed in window types and brick work.



Roermond



Ede



Roosendaal



Bussum



Schalkhaar



Grave



Zuidlaren



Weert

Three main window types can be identified with Bussum as a unique case. Further differences can be spotted in the composition of the windows and rain pipes.



Bergen op Zoom



Ede



Eefde



Arnhem



Bussum



Steenwijk



Grave



4x

2x

1x

Figure 51 & 53 (left-right). Façades of seven Boostkazernes based on available archive material Figure 52 (under text). Comparison of the different façades



Bergen op Zoom



Ede



Eefde



Arnhem



Bussum



Steenwijk



Grave





Bergen op Zoom



Ede



Eefde



Arnhem



Bussum



Steenwijk



Grave

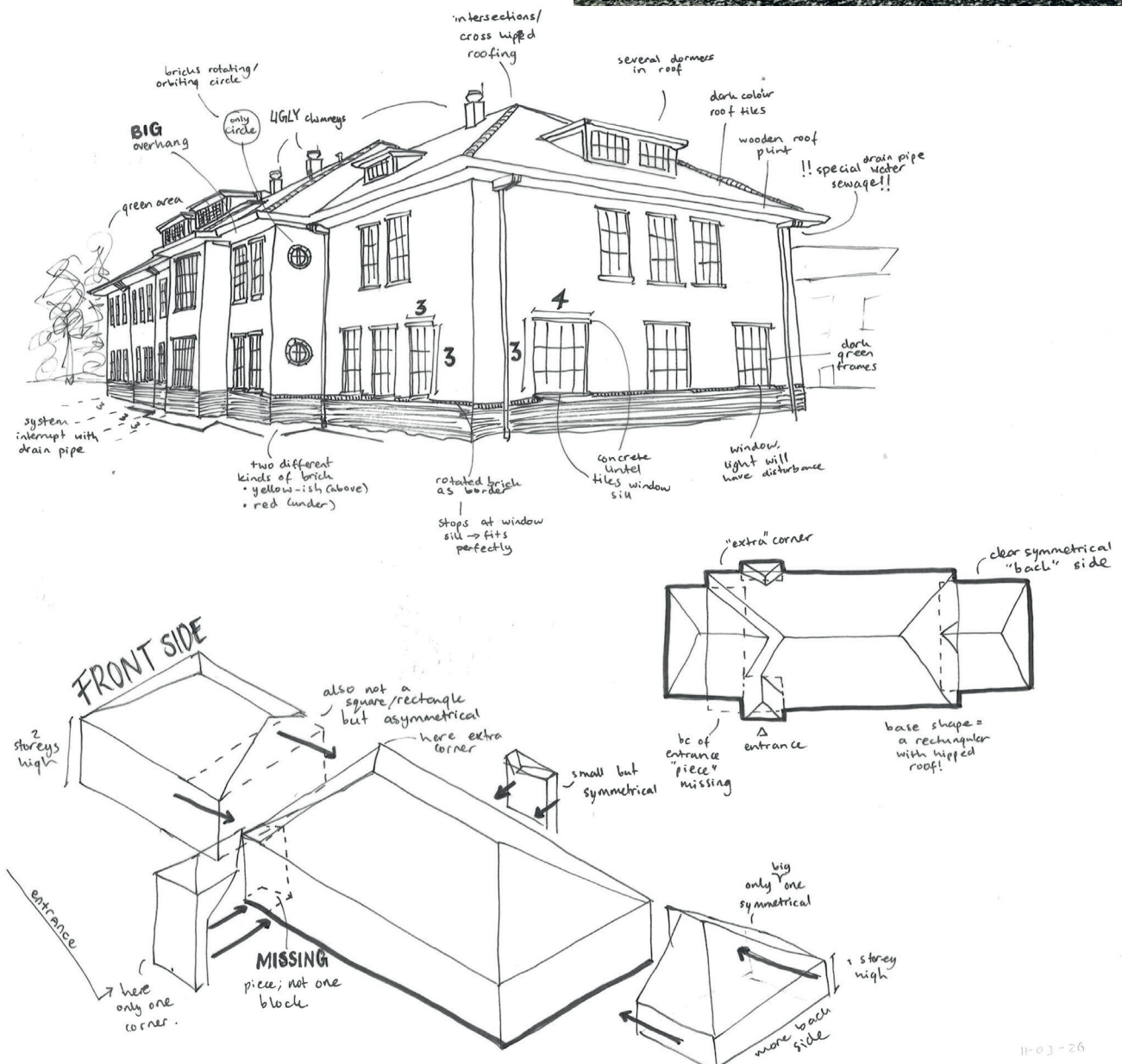
Figure 54. Façades of seven Boostkazernes based on available archive material

### 3.6 Boost's blokkendoos

The Boostkazerne is effectively a 'bouwdoos' with standardised building blocks. These blocks allow for endless architectural expression, supported by a few logical spatial patterns. The effectiveness of this method is further evidenced by the Johan Willem Frisokazerne in Assen which has three legeringsgebouwen while not being part of a complete Boostkazerne complex. The design shows that Boost has a strong feeling for shape and form.

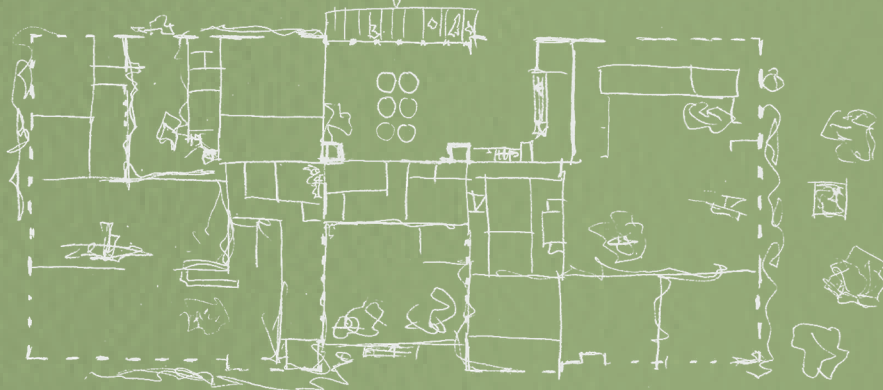
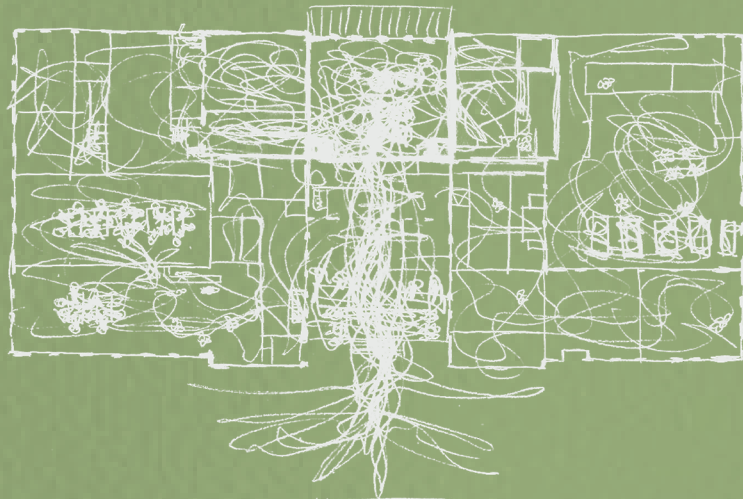
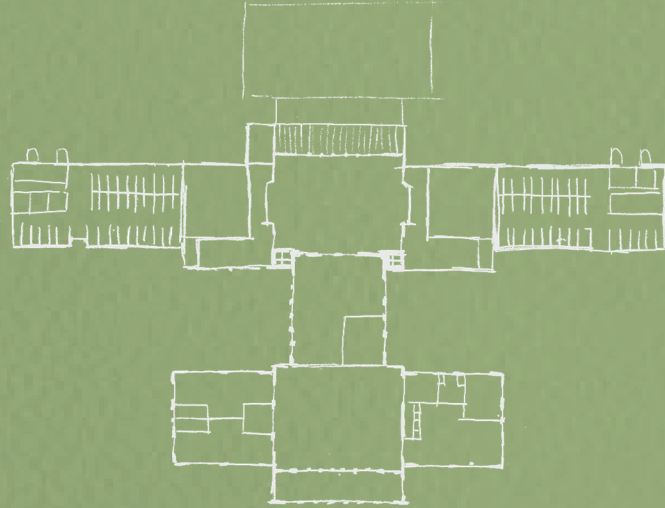
Figure 55. A legeringsgebouw located in Assen in the Johan Willem Frisokazerne which is not a Boostkazerne (from: N.V. Fotodrukkind. "Emdeeha", n.d.).

Figure 56. Conclusion from analysis of Boostkazernes where the logical composition from the legeringsgebouw is analysed and esthetical features are highlighted.



11-03-26

# PART IV



# analysis

Figure 57 (left). The keukengebouw throughout the years with first a floorplan of the original design of Boost, second the building in use during the Cold War and lastly the building left behind in a decayed state (own image based on Sarah Wigglesworth and Jeremy Till drawing titled Increasing Disorder In A Dining Table, 1997).

Figure 58 (down). Urban analysis of the Kolonel Palmkazerne

## Legend

-  kazerne
-  city centre
-  green space
-  water
-  roads
-  highway

**Preserving a building can be done for many reasons, such as those related to sustainability, or cultural-historical preservation of identity and character (Pronkhorst, 2024). However, to establish a meaningful connection between time layers it is important to step beyond conservation and into (adaptive) reuse. This requires a thorough analysis of the values, historical layers and memory of the host space (Plevoets & Cleempoel, 2019, p.93). This section provides an in-depth analysis of the local demands, spatial qualities, time layers and current state of the Kolonel Palmkazerne.**

## 4.1 Urban analysis

Urban analysis shows that the Kolonel Palmkazerne is separated from the surrounding neighbourhood. Bussum was generally pleased with the new kazerne and the trade and employment it brought. In turn, the military continually emphasised having good relations with locals, organizing various local events (Cats, 1989) with locals and police alike (Gooi en Eembode, 1988).



## 4.2 Envision for Bussum-Zuid

The omgevingsvisie Bussum-Zuid emphasises the need for more housing, with a focus on young people, starters and elderly. It prioritises small initiatives and new biking-paths. With plans for the Buurtschap Crailo many houses for families are added to the built fabric and the existing legeringsgebouwen will be converted in one-to-two person apartments. Neither the omgevingsvisie nor the new Buurtschap show much intention to strengthen the connection between the kazerne and the neighbourhood.

*“Het is een vreugdevolle gedachte dat ook in de toekomst het leggen of verstevigen van onderlinge contacten een doel zal zijn dat bij de bewoners van de Kolonel Palmkazerne voorop staat”*

(Cats, 1989, p. 44. [“it is a joyful thought that also in the future, the creation and strengthening of local contacts will be a purpose that has priority by the residents of the Kolonel Palmkazerne.”])

Figure 59. A map from the ‘Omgevingsvisie Bussum-Zuid’ showing the masterplan (from SVP, 2025).



Figure 60. A map from the plan for ‘Buurtschap Crailo’ by BPD (from SVP, n.d.).

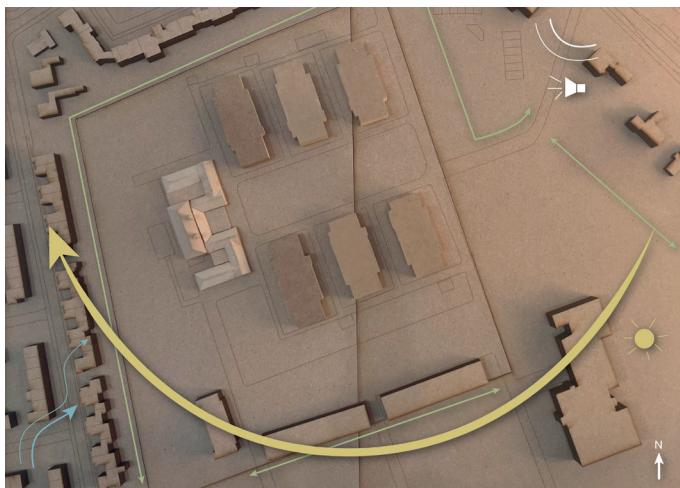


### 4.3 Spatial characteristics

The Kolonel Palmkazerne is characterized by the openness, orthogonal rhythm and presence of green area.

Another notable value is best observed in the historical stratification (figure 65). The central heating required a dedicated coal cellar and boiler room which were built in 1938 according to Boost's design (Cats, 1989). The keukengebouw would only follow in the 1950s, and the eating hall only in 1963. (Cats, 1989). Over time the Keukengebouw has been transferred, adjusted, changed, renovated and used in many different ways. But in the end, after years of service it is left vacant and in decay. Within the order and control of the building, everyday life has used it, figure 57.

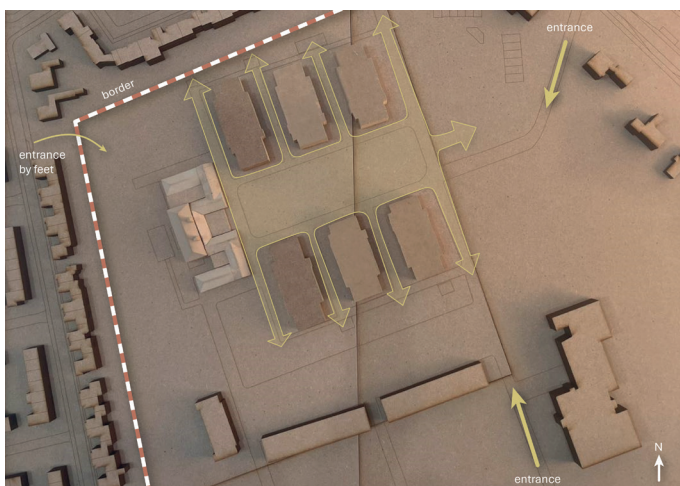
Figure 61-64. Analysis drawings



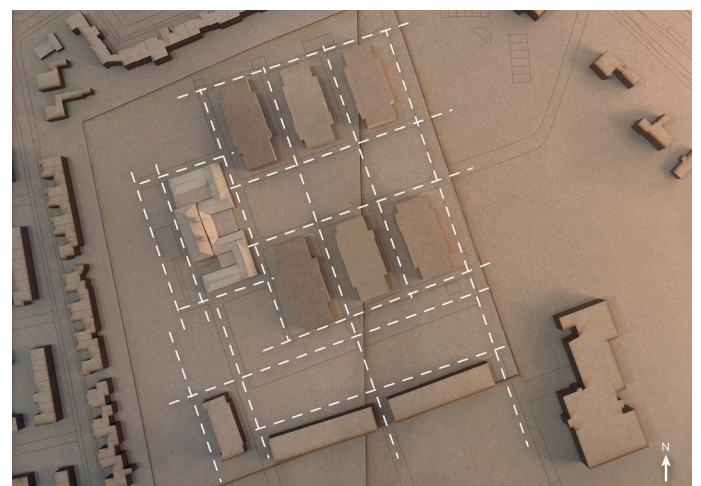
Environment



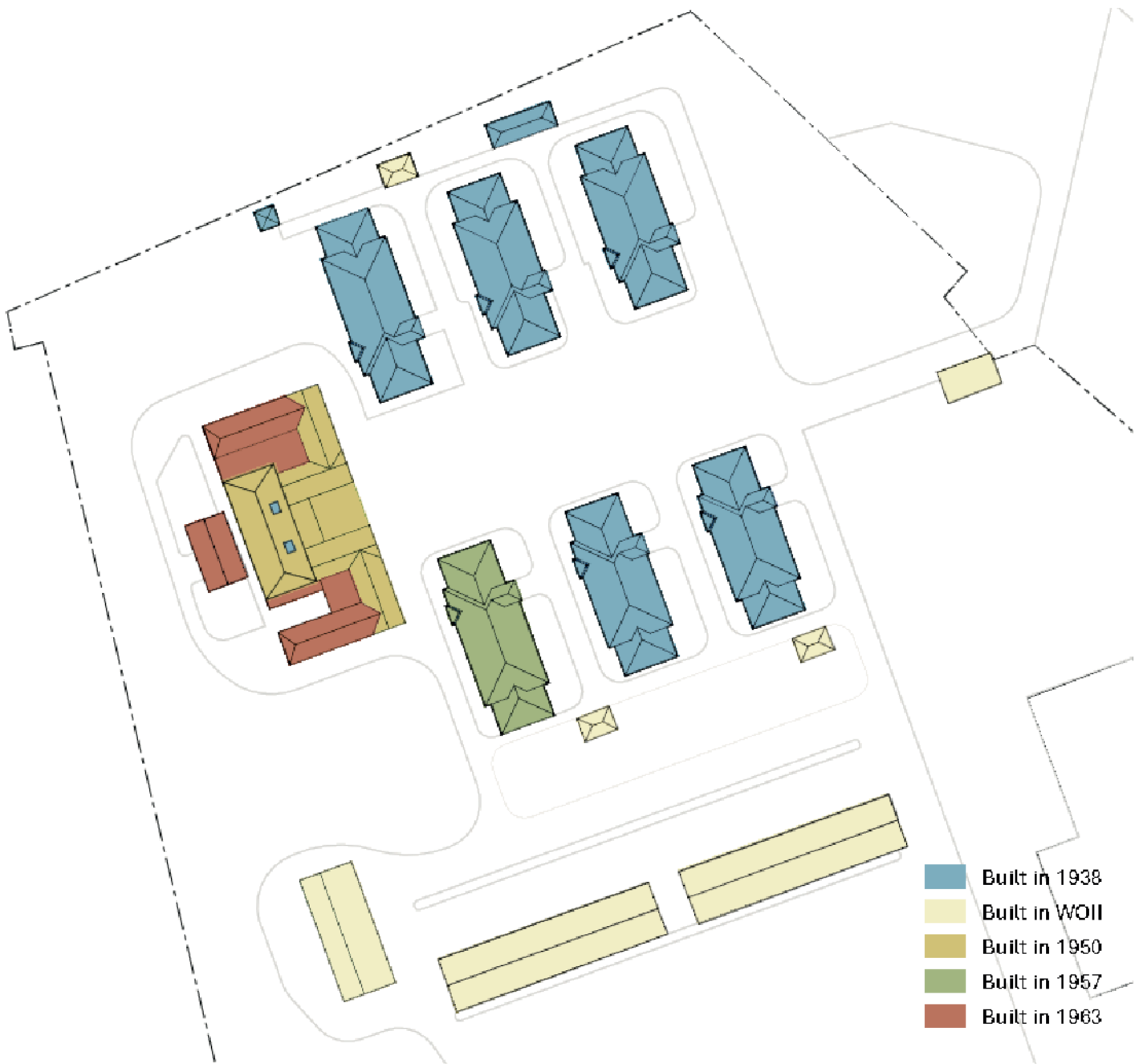
Green structure



Open and closed space



Orthogonality



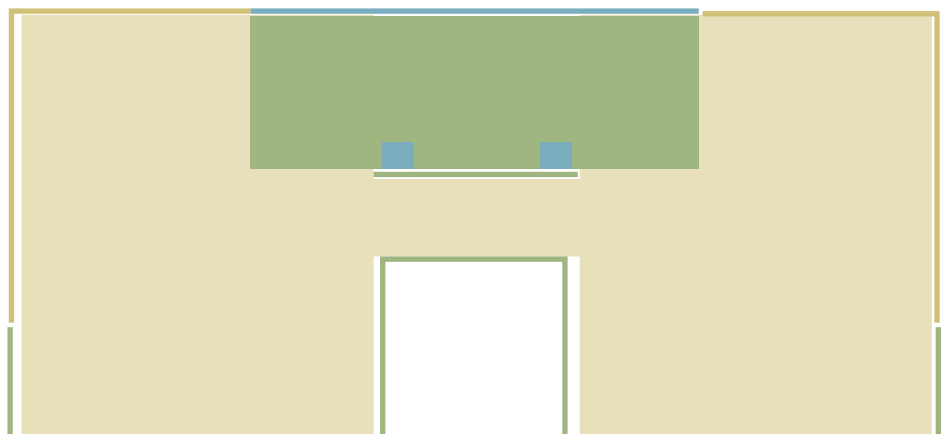
- Built in 1938
- Built in WWII
- Built in 1950
- Built in 1957
- Built in 1963


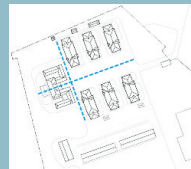
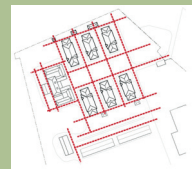



- <1938      Military barrack as tents in open field between Bussum & Laren
- 1938-1940      Construction barracks and first part Keukengebouw (official design was never finished)
- 1940-1945      Second World War, Kazerne in use by German Wehrmacht and Luftwaffe, heavily bombed in 1944 and 1945
- 1948-1957      After re-construction in use by Royal Dutch Army, kitchen building added
- 1957              Vliegkamp, Airplane demolished building 3 (again)
- 1957-2006      Multiple military uses (Intendance School, education), interiors renovated, expansions kitchen building added
- >2006            Military sold the Kazerne, temporary use or vacancy: new plan needed



Figure 65 (left). Timeline of historical stratification of the building site

Figure 66. Analysis of the keukengebouw spatial layout with photos from the site visit and value assessment based on Crimson, 2020



Value assessment matrix	SOCIAL	ECONOMIC	POLITICAL	HISTORIC	ASSEMBLY	SCIENTIFIC
SURROUNDINGS / SETTING [+]	Kazerne has been social separated from its direct environment for a period of time.			Good accessibility of a Kazerne was important. Palmkazerne close by "Hollandse Waterlinie" which was important in case of emergency 	The objects form an ensemble, in which repetition, uniformity, sight lines and the classical, hierarchical arrangement of buildings are important elements.	
SITE	Cultural historical value because military references are limited in this area, so the Kolonel Palmkazerne is unique as social hierarchy/status of the military time period. Kitchen building is highly valuable due to its visibility and function.	Negative value because extra costs are expected for remediation of asbestos and toxic materials in the basement.	Connection with WOII and Cold War Part of large political standardisation system to build as much as possible military housing for the amount of soldiers in conscription period.	Part of large standardised Boost-system. All buildings, paths, appelplaats and roads attribute to the bigger ensemble of the Palmkazerne which is essential for this site. Historical layers.  The other buildings (not part of Boost's initial design) tell the story of WWII.  Spiegelhorst is not representative or unique. It is separated from the ensemble.	Kitchen building as visual border of the appelplaats, central position 	Ensemble is ordered in strict, orthogonal structure. 
SKIN (exterior)		Re-use possible for timber frames and façade masonry because in good state. Concrete, steel frames and roof tiles need replacement/renovation, no re-use possible.		Steel window frames as historic characteristics building method for its period (20th century). Kitchen building west façade still owns original steel window frames.	Simple appearance and little attention to detail, decoration or ornamentation.  Detailing of kitchen building is uniform with the barrack buildings.  Representativeness for the nieuwe zakelijke stijl	Excellent brick work, different forms and details.
STRUCTURE		Function and utility of entire basement complex is possible because the basement is strong, water-resistance, affordable and fire-resistant. This is because of construction of reinforced concrete, monolith of beams, walls and floors.				
SPACE PLAN		Light separation walls have been removed. No structural problems		Historical layers: Building consists of 2 architectural plans. The basement and chimneys are from the original design from Boost. In the 1950s Herbers added the central and L-shaped wings in the kitchen building. Last additions were made later, as was the basement building.	Incoherent building composition because of many additions throughout the years.	
SURFACES (interior) [+]		Ceilings partially destroyed due to leakages. Kitchen is technically usable			Post-war additions in interiors. 	
SERVICES		Many services need replacement because of age (electrics, climate installations, fire safety and plumbing system)		The 2 chimneys and basement complex are the oldest part of the design. Its former function was to serve as central heating system for the Kazerne. 	Central elevated part of building has a lot of daylight access. 	
STUFF		Additions of "systeemplafonds", colour coding and finishing layers are not economic profitable because of bad maintenance.  Kitchen equipment is still functioning, but might be outdated.				
SPIRIT OF PLACE [+]	Education purposes (for military and cooking classes). Many (ex-)soldiers have served during conscription period with a connection to this site.		Connection with WOII and Cold War.	The kitchen building tells something about the history of Kazerne complexes from 1930-1990. Separation of functions was a central theme.  Site already in use before construction of buildings. In WOII used by the Germans.		

### Legend





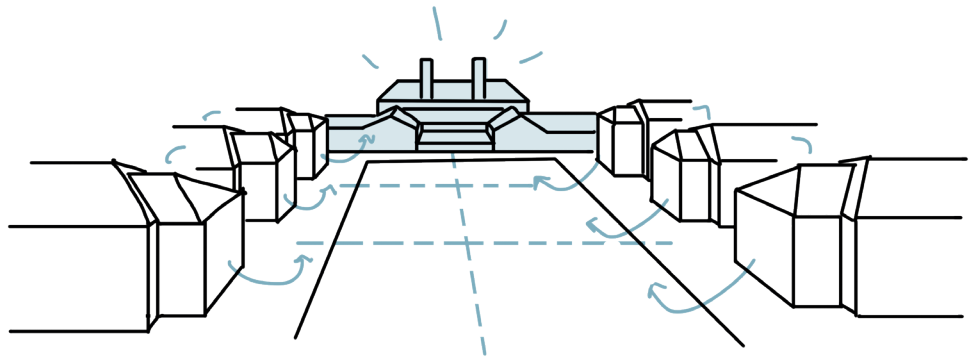
-  high value
-  positive value
-  intermediate value
-  negative value

Figure 67. Value assessment (own image based on groupwork).

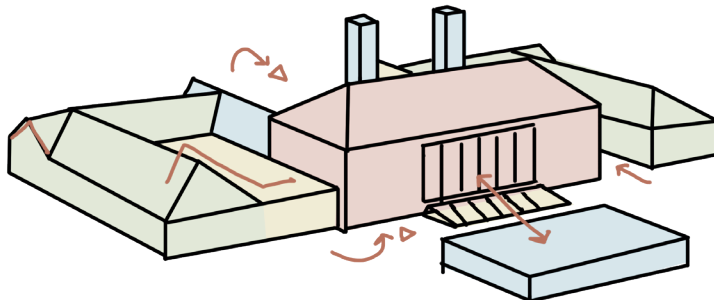
AGE	ECOLOGICAL
ough part of standardised Boost em has the kazerne through time eloped it's own identity and racter.	The site is in a green area near larger green structures
hical state of basement is well. s has high age value as it has ady been there for a long time.	The green structure is a characteristic of the Gooi moraine landscape. The "Gebed zonder End" forms a defining line in the plan area.
e of masonry and roof have high e with good treatment of crete. So it can stay visible nder of its age.	Environmental stress & health risk because of chemical substances and asbestos.  Moist infiltration and energy loss because of leaking gutters and bad connections.
co is in good condition and ger technical lifespan of existing ements is possible.	
hical state is mostly cosmetic, igh threats to rest-of-life.	
riors have been transformed and ent interior has little life-span. possibility of keeping age value.	
lacement is needed, age value not be hold.	Installations are very energy inefficient.
	Reuse of kitchen equipment is possible
	The hilly and sandy character of the Crailo plan area has remained unspoilt over the centuries.

#### 4.4 Value Assessment

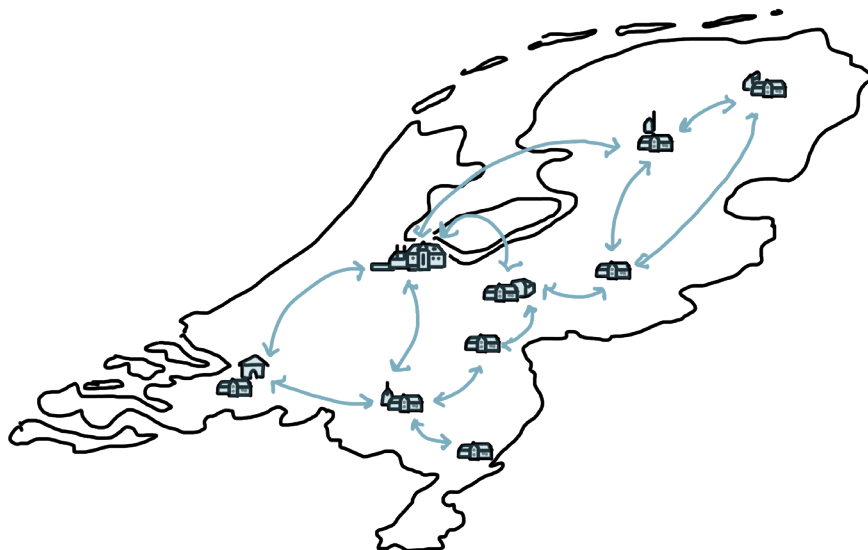
The analysis is summarised in the value assessment. The conclusions can be found in Figure 67.



Original ensemble has high value



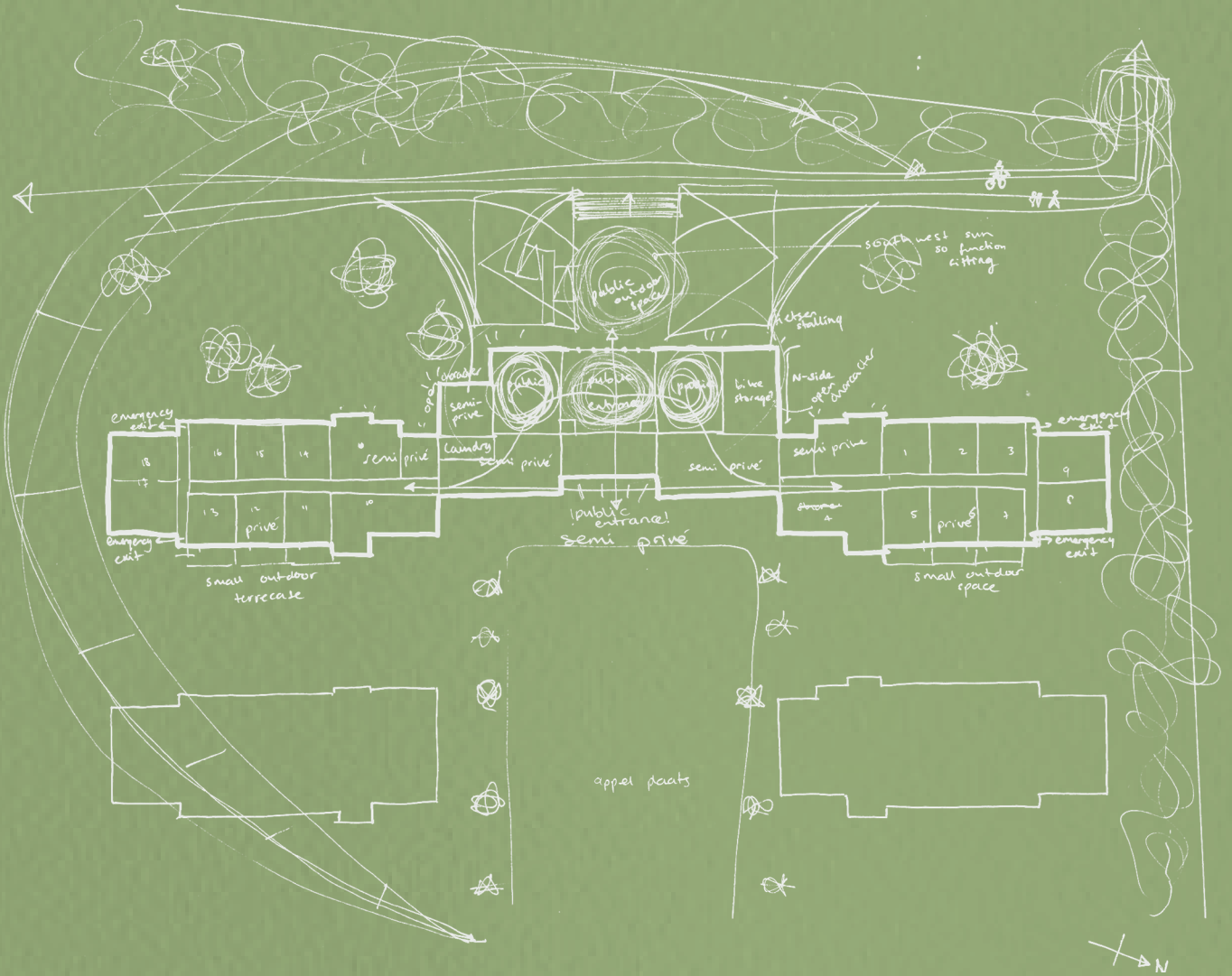
Historical layers kitchen building can make an incoherent building



Part of larger system as high national value

Figure 68. Conclusion diagrams from value assessment

# PART V



# concept

Figure 69 (left). First concept ideas for the keukengebouw with adding a new bike path towards centre of Bussum and connection with appelplaats.

Figure 70-74. Several references that serve as inspiration for this project: Schreber by Amunt (from Dujardin, 2011), Leiden's City Hall by Office Winhov (from Müller, 2022), Buurschap Blokskens by Happel Cornelisse Verhoeven (from Borghouts, 2017) and FRAC by Lacaton & Vassel (from Ruault, 2013).

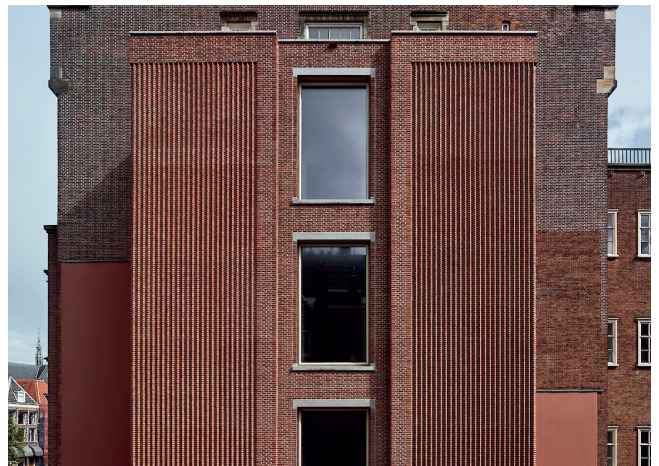
**The previous sections provide useful insights for initiating an adaptive reuse design. This section explores how these ideas translate into a feasible architectural concept?**

## 5.1 Heritage

The old and new should not be expressed as two separate worlds. Instead, inspired by Winhov, one should be “aware of its modest position as an architect in the long and layered history of a building that already has multiple authors” (Pronkhorst, 2024, p.11). Furthermore, Pronkhorst argues, the presence of historical stratification contributes to the spatial quality of the environment. Therefore, as in figure 70-74, the new will be complementary to the old, as if a palimpsest where concessive layers can be revealed or hidden using the strategies introduced by Plevoets & Cleempoel (2019)



Schreber (2011), AMUNT, Aachen (D)



Leiden's City Hall (2022), Office Winhov, Leiden (NL)



Buurschap de Blokskens (2017), Happel Cornelisse Verhoeven, Zandhoven (B)



FRAC (2013) Lacaton & Vassel, Dunkerque (FR)

## 5.2 Concept schemes

The following schemes are based on the built framework from previous sections.

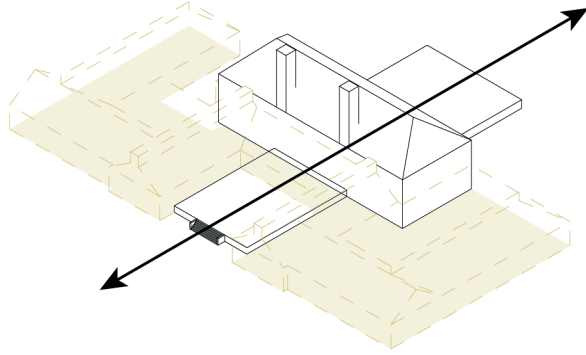


Figure 75.

1. Demolish existing wings in poor condition

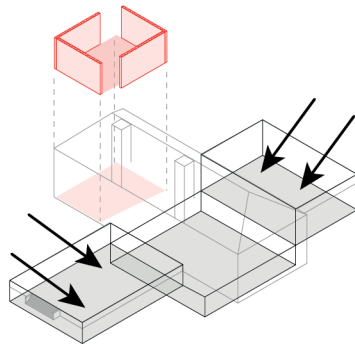


Figure 76.

2. Activate basement

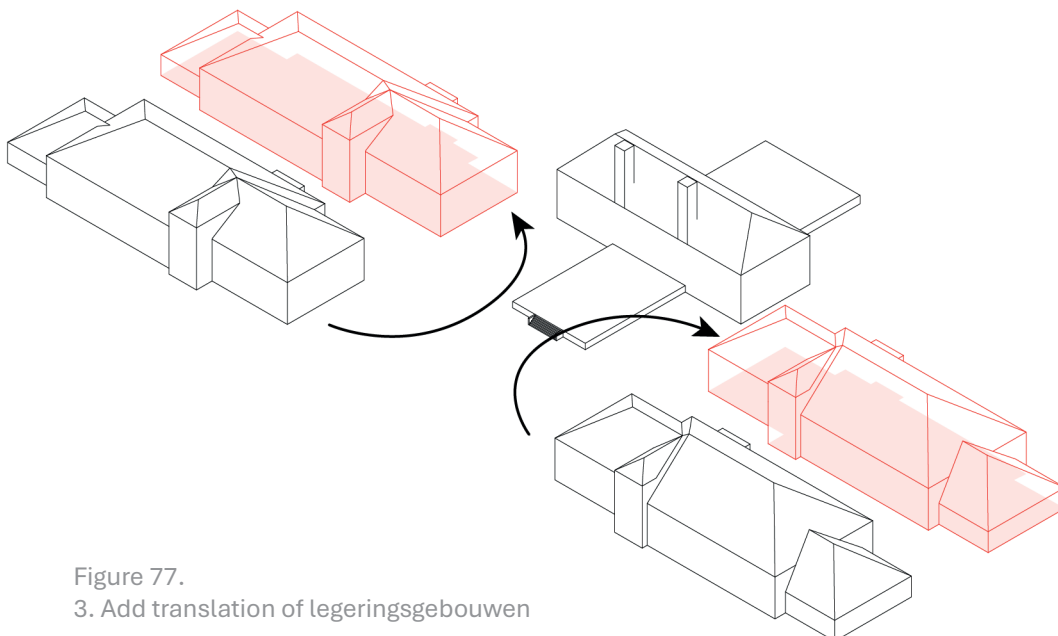


Figure 77.

3. Add translation of legeringsgebouwen

**1.** On the scale of Bussum, connection between the kazerne and its surroundings is the main driver. By the addition of small public functions, the keukengebouw will replace BPD's "buurthub", while a strong connection to the appelplaats remains through demolition of the deteriorated wings.

**2.** Preserving the original design of Boost is done by activating the basement, applying a box-in-box principle. Time remains visible in the remaining trusses, monumental glass facade and through reuse of the original materials.

**3.** In response to the housing shortage, additional housing is introduced. A modern translation of Boost's legeringsgebouw is the 'drager' (support) for the design.

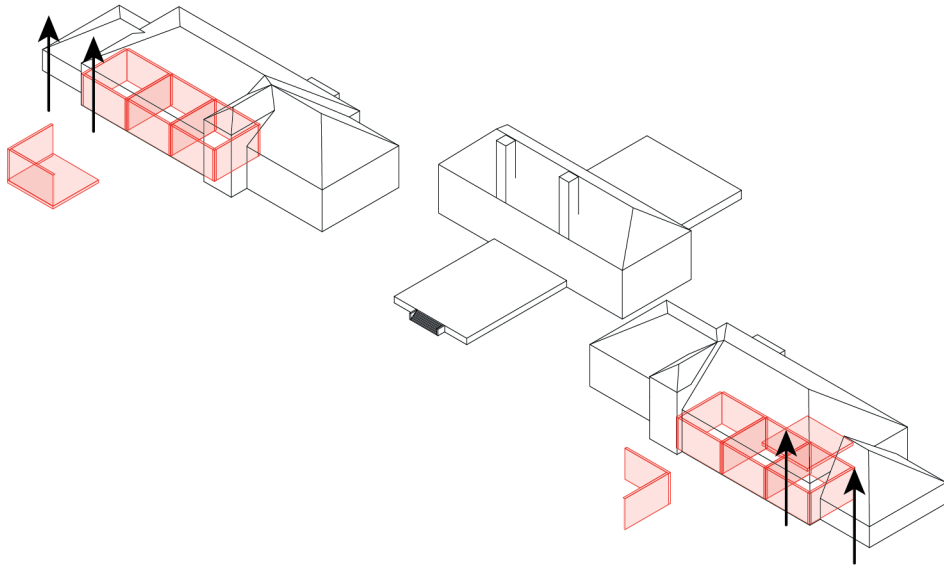


Figure 78.  
4. Use contemporary sustainable construction method

**4.** The new building will be made from natural materials, with prefabricated CLT as support for the infill as sustainable and efficient building method.

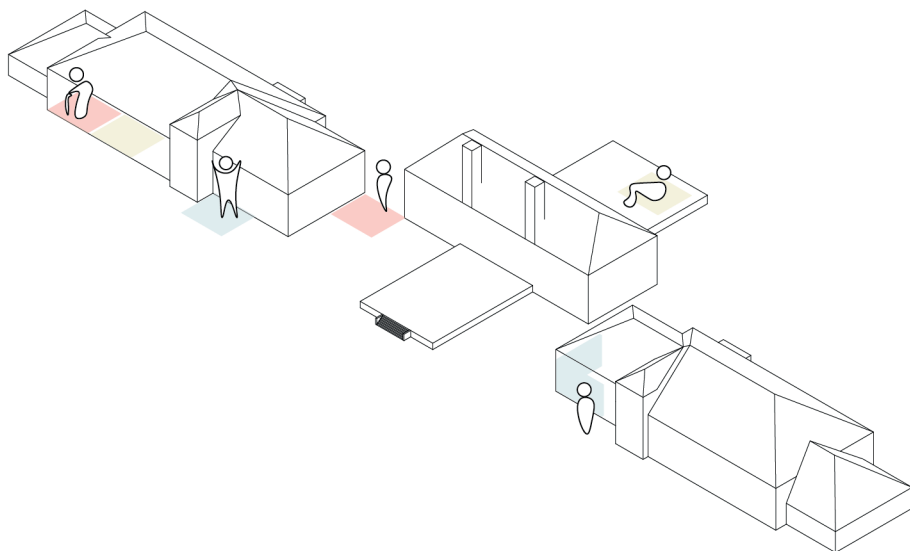


Figure 79.  
5. Leave space for interpretation user

**5.** The infill accommodates a range of user interpretations. Building on the omgevingsvisie, there is a special focus on elderly and starters, building 'levensloopbestendige' ['lifelong'] housing for one- or two-person households. Functional collective spaces will be added.

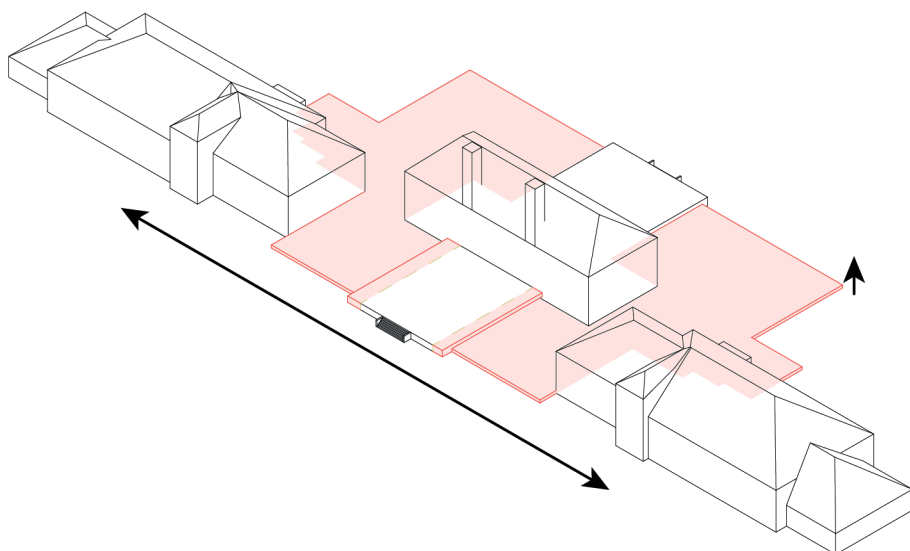
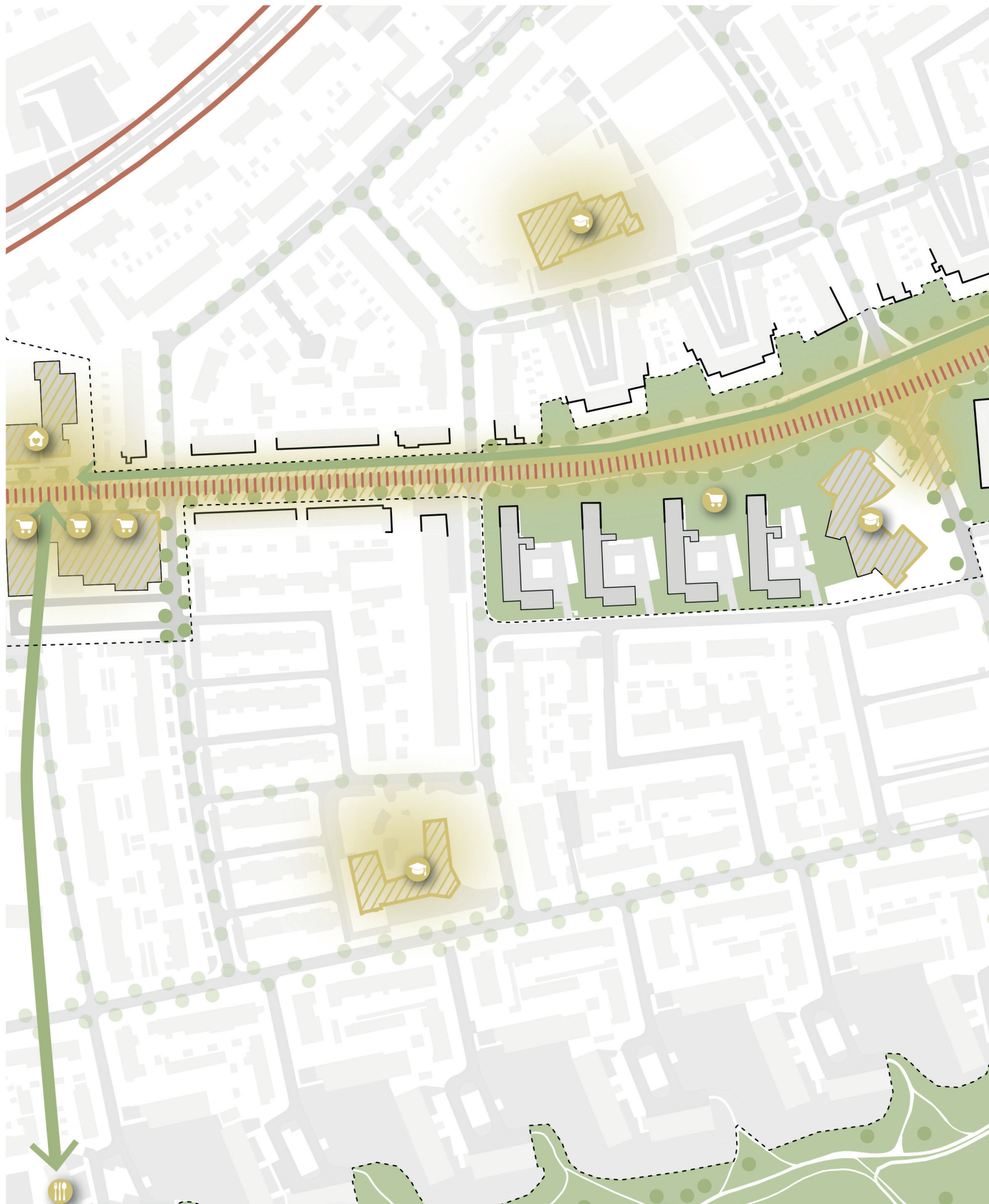






Figure 80.  
6. Connect by elevated platform



**6.** The soft transition of the elevated platform connecting the public, exterior, keukengebouw and private, interior, housing offers informal meeting space without infringing on privacy. From the appelplaats, the horizontal composition accentuates the former façade. façade.



**Legend**  
social

-  active space
-  restaurant
-  'trapveldje' (small football field)

-  cooking studio
-  (rentable) working spaces
-  communal garden
-  education

-  supermarket/shop
-  'wijk centrum' (community centrum)











*traffic*

-  'fietsstraat' (bike path with car as guest)



scale 1.2500



-  bike path
-  car park
-  rental car parking spaces
-  bike parking
- housing*
-  private space
-  one-/two households
-  family housing
-  housing for elderly and starters
- green*
-  green connection
-  tree

### 5.3 From concept to architecture

Figure 81. Masterplan  
1.2500

A shortcut to the town centre of Bussum, as shown in figure 81, activates the west façade of the keukengebouw while the east façade is preserved for domestic use. The new green corridor forms an ecological border between the back of the row houses and public bike lane.

Rather than housing in isolation, the design treats the ensemble holistically. From the moment of parking until the user reaches the front door or public function, an interplay between support/infill, public/private and old/new is established. The experimentation results of the research-by-design analysis will be elaborated coming pages.

Different heights, such as an elevated platform, create architectural hospitality. The threshold area forms a soft transition between the different functions and introduces space for encounters. A balance between the collective and the individual is achieved by allowing a choice for the resident between sheltered private or more public routes. In the end, all routes converge to the multifunctional entrance hall central in the ensemble. This influences reciprocal involvement between persons and groups (Herzberger, 1982), combating social isolation.

Figure 82. Testing different kind of compositions for what addition can be made in-between the existing keukengebouw and newly added legeringsgebouwen

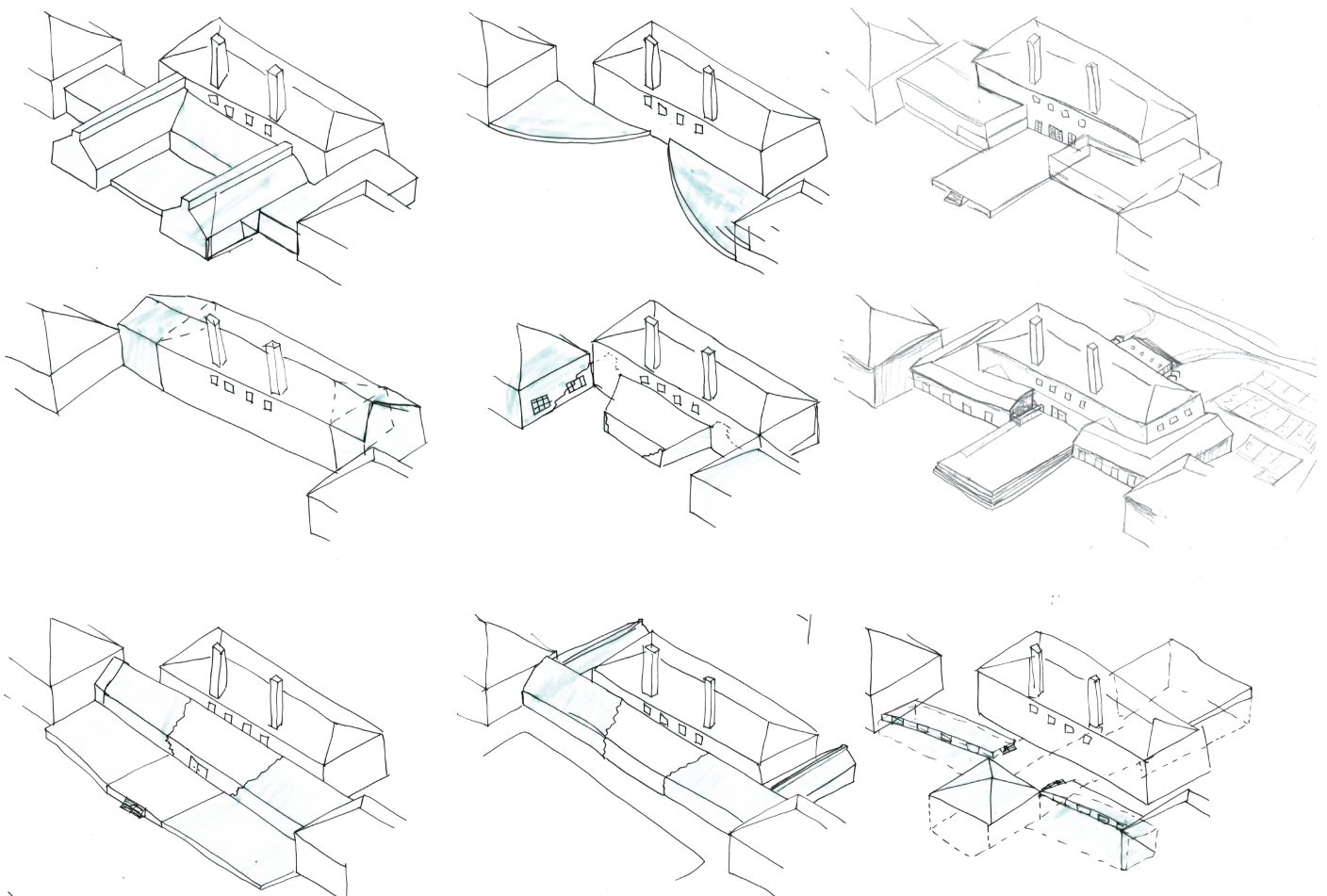


Figure 83. Sketching the main purpose for the entrance hall, the former expansion kitchen hall, to understand what kind of function should fit and how the exterior transitions into the interior

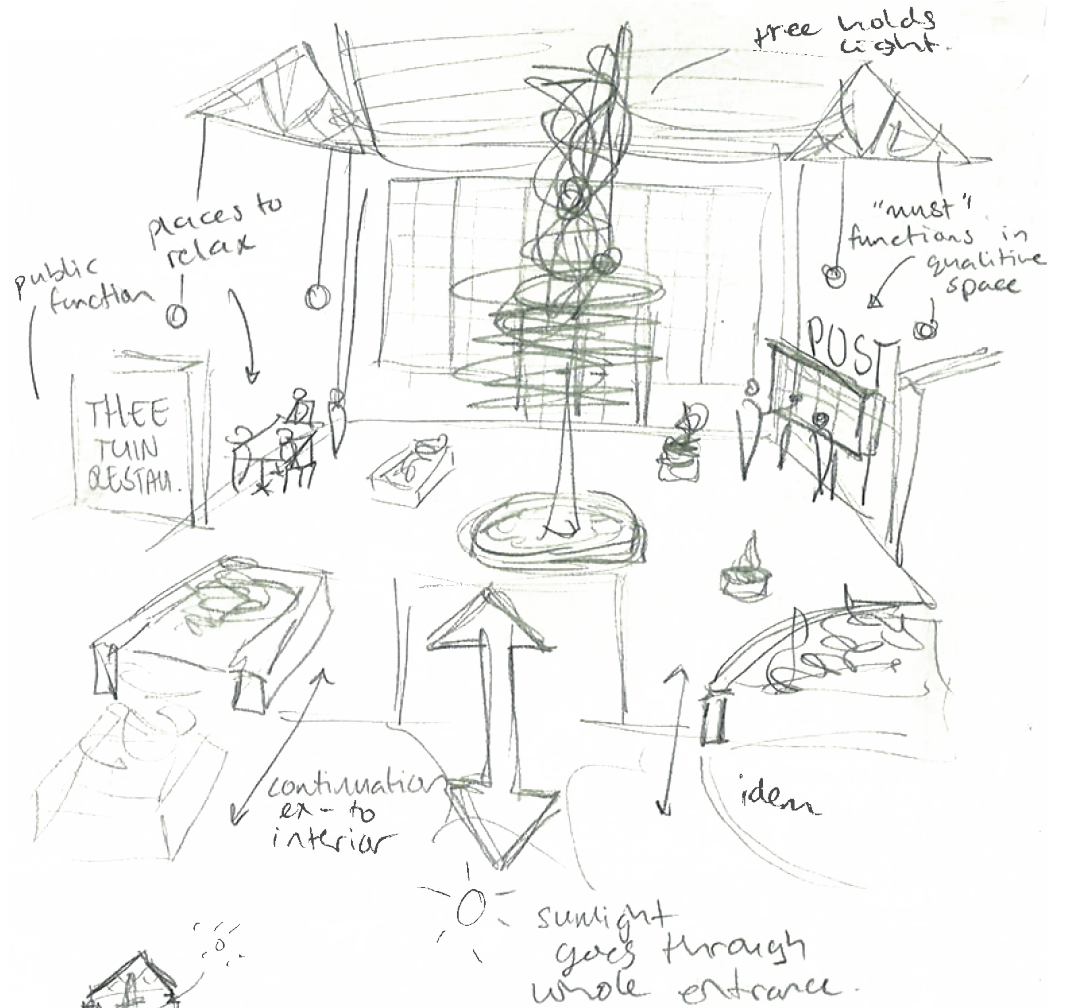


Figure 84. Analysing (existing) entrances and walking paths throughout the building and basement



Figure 85. Trying out an in-between space where a building structure with diagonal lines is added to test what the influence is on the spatial quality and walking routes. Conclusion is that the diagonal lines do not add quality but do the opposing, more testing should be done

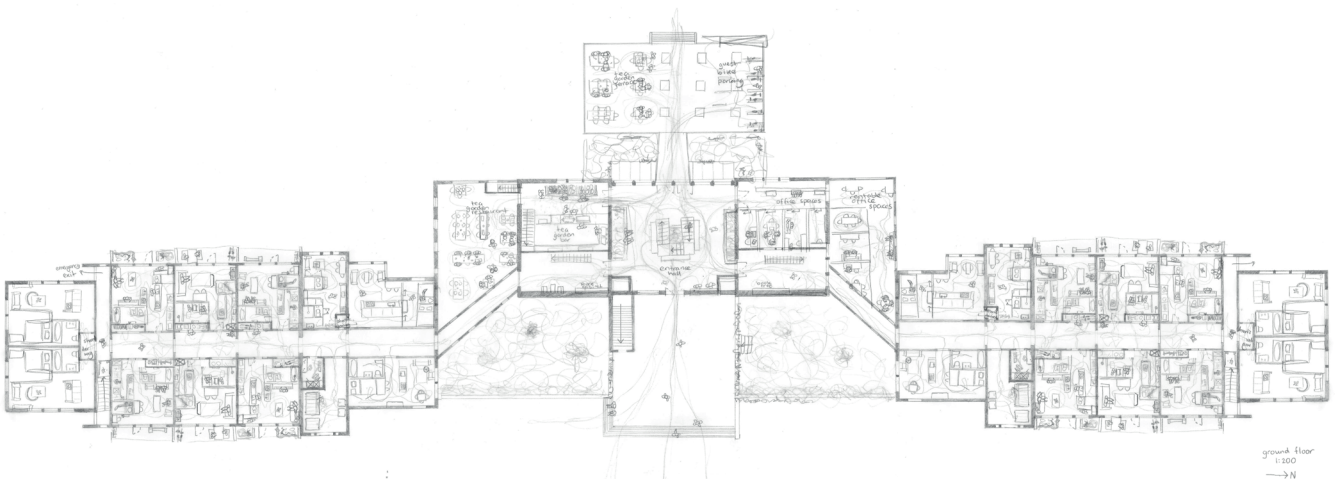
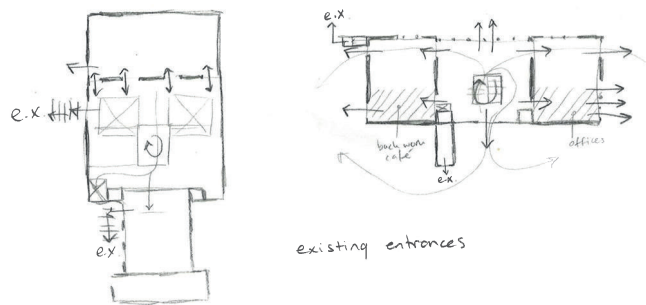
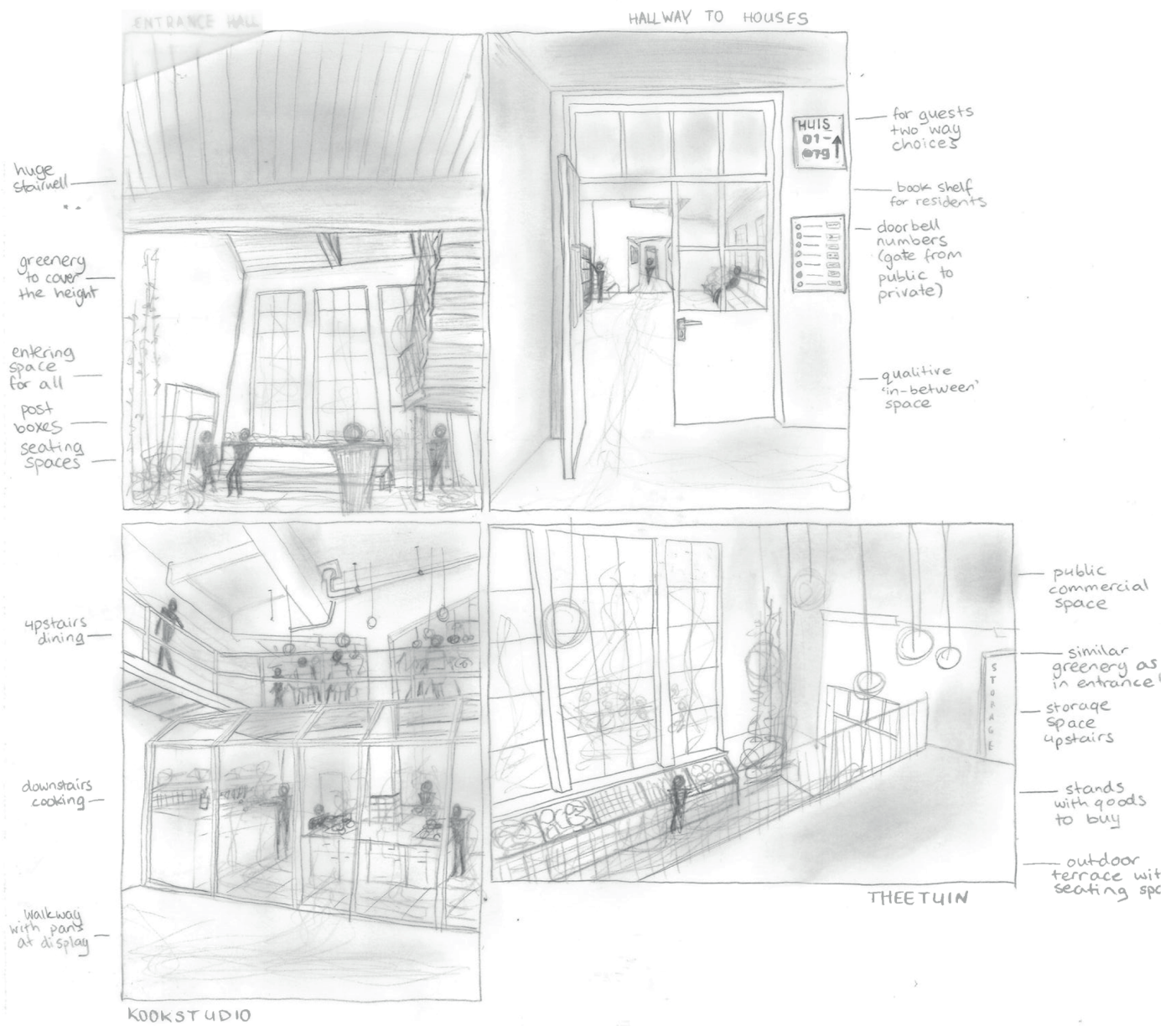




Figure 88. Vakwerkhuis by Vakwerk Architecten as reference for the box-in-box principle (from Krom, 2022)



Figure 89. Sketches for the experience of several spaces with different functions. Finding the purpose of a space within a sketch where all elements come together



To contain the new functions in the basement whilst sustaining its heritage, the basement is activated following two principles. First, circulation is created because of the presence of the bike storage. Secondly, skylights in the form of ponds provide natural light, improving the spatial quality, indoor and outdoor.



Figure 90. The basement originally had skylight in the roof. At a certain period a new construction was added on top of it that poured concrete in the former skylights. The dark basement can be activated by opening up the roof with skylights to make the space underneath more qualitative with natural daylight

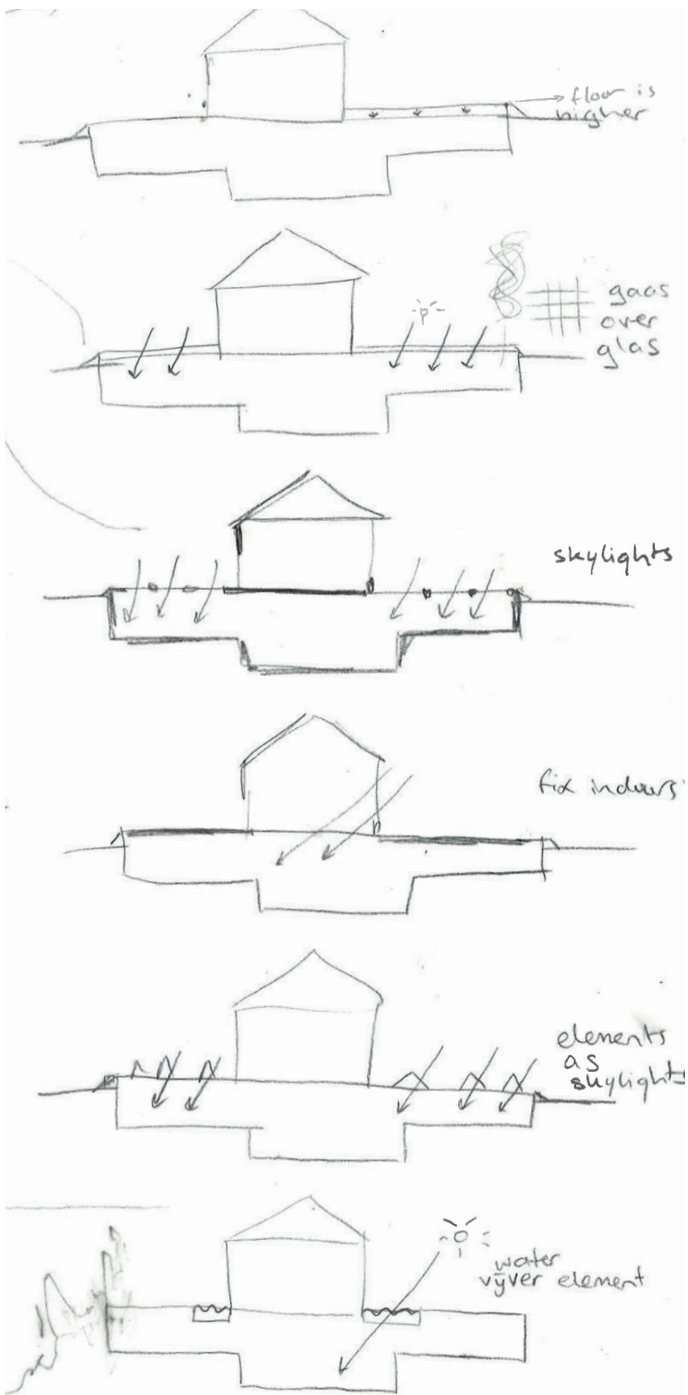


Figure 91. Testing different ways of opening the roof of the basement for skylights



Figure 92. Sketching the final idea for how the skylights, including pond water, should be positioned



Figure 93. Paleis 't Loo by KAAO Architecten has a pond in front of the building with skylights (from Menges, 2023).



Figure 94. Skylights with natural stone elevation displaying underneath archeological remains (from Papetti, 2026).

## 5.4 Preliminary design

More experiments showing the design process can be found in Appendix C

The experiments reveal several conflicting ideas (figure 95). For example, the 'front' and 'back' platform should have the same hierarchy while having different meanings. Figure 98 shows the preliminary design.

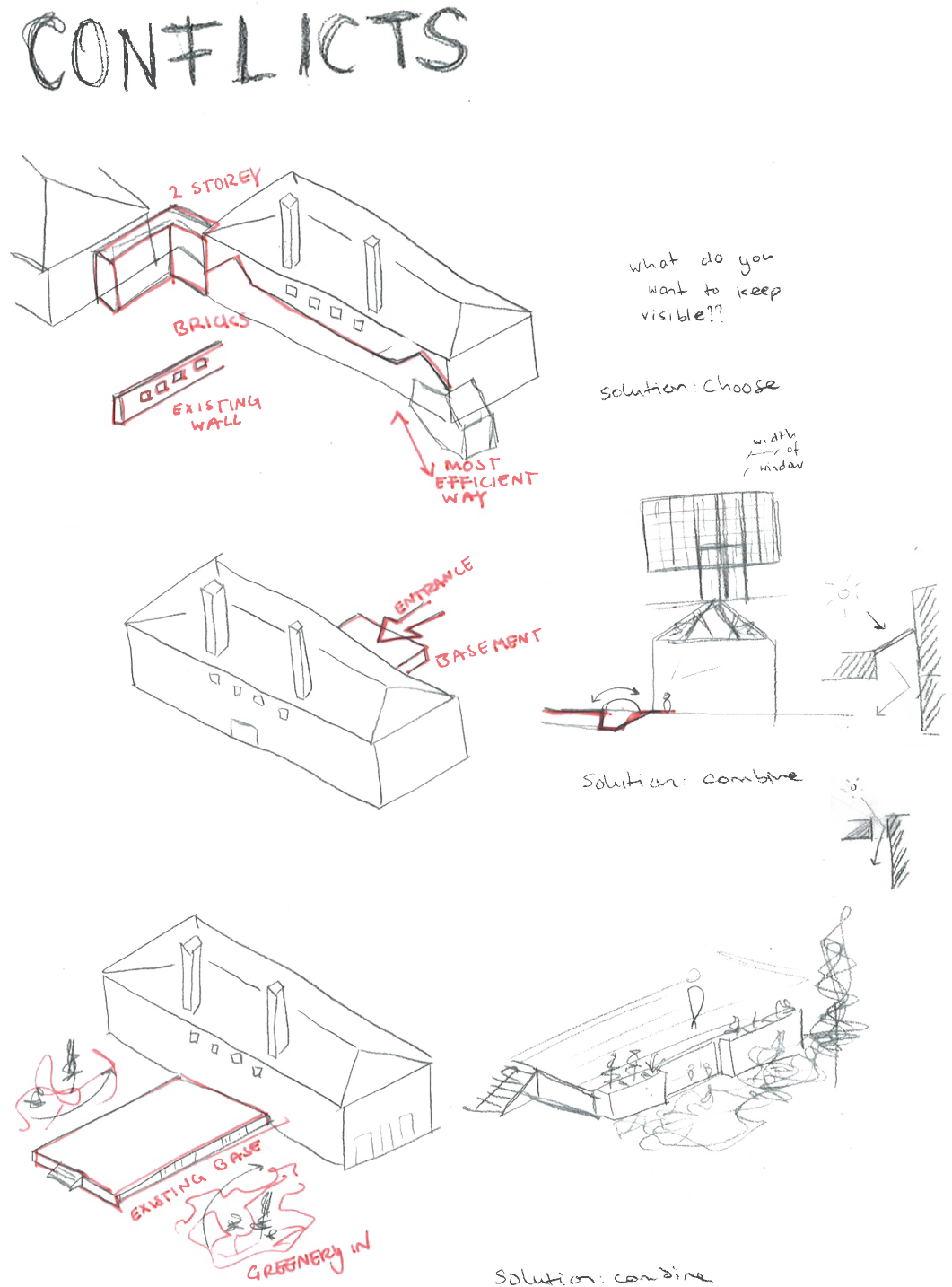
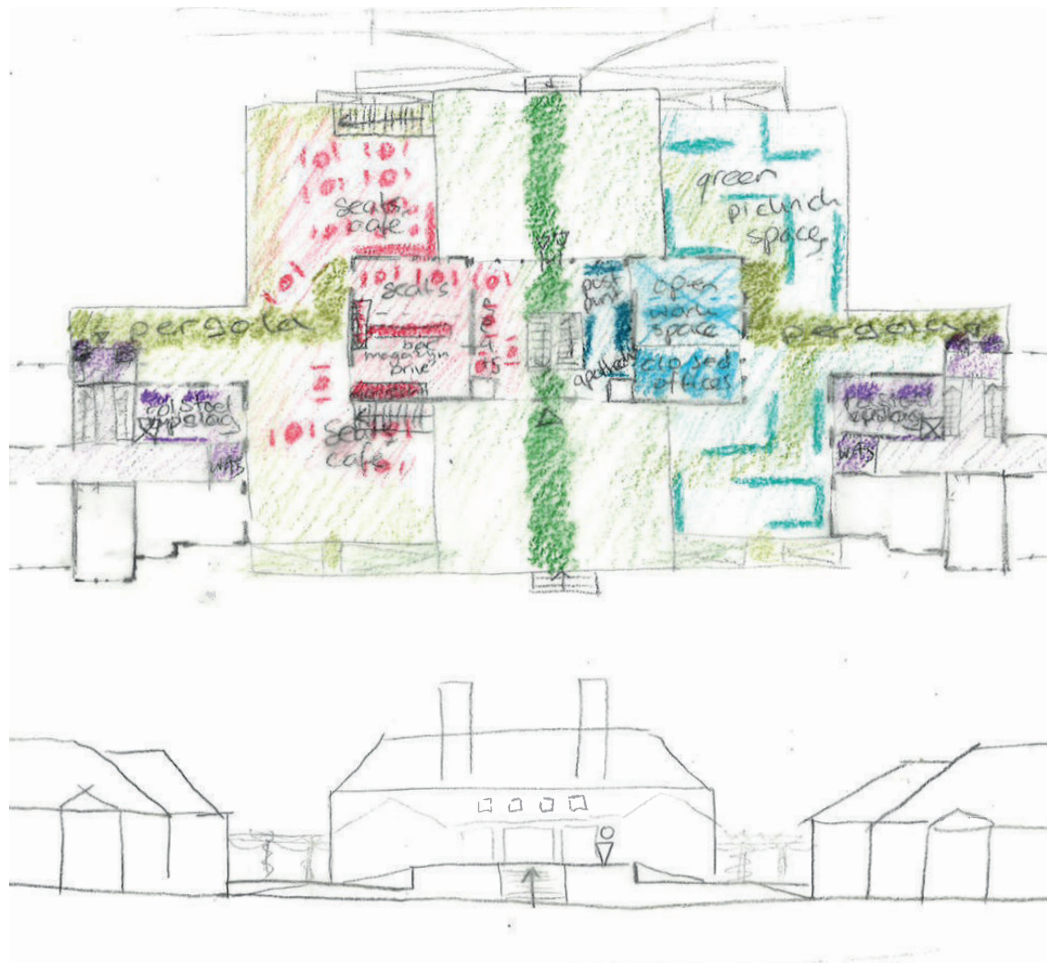


Figure 95. Several conflicts between all idea has been identified. For example a new connection between the existing keukengebouw and legeringsgebouw should be covered, efficient but also open and qualitative. The entrance on the west forms a new hotspot but at the same time the basement should be activated and greenery needs to be added while also leaving space for skylights

Figure 96. Conclusion from all experimenting and testing is that the added element in-between will be an open platform that is elevated to act as a soft transition from the exterior to the interior. The platform above the existing basement will be 1,4 metres high, it is important that there is no hierarchy between these two platforms. The form should be the same at both sides



Figure 97. The programm however differs.  
 Red = café  
 Blue = working spaces,  
 Purple = collective function  
 Dark green = 1,4m high platform  
 Light green = 0,5m high platform



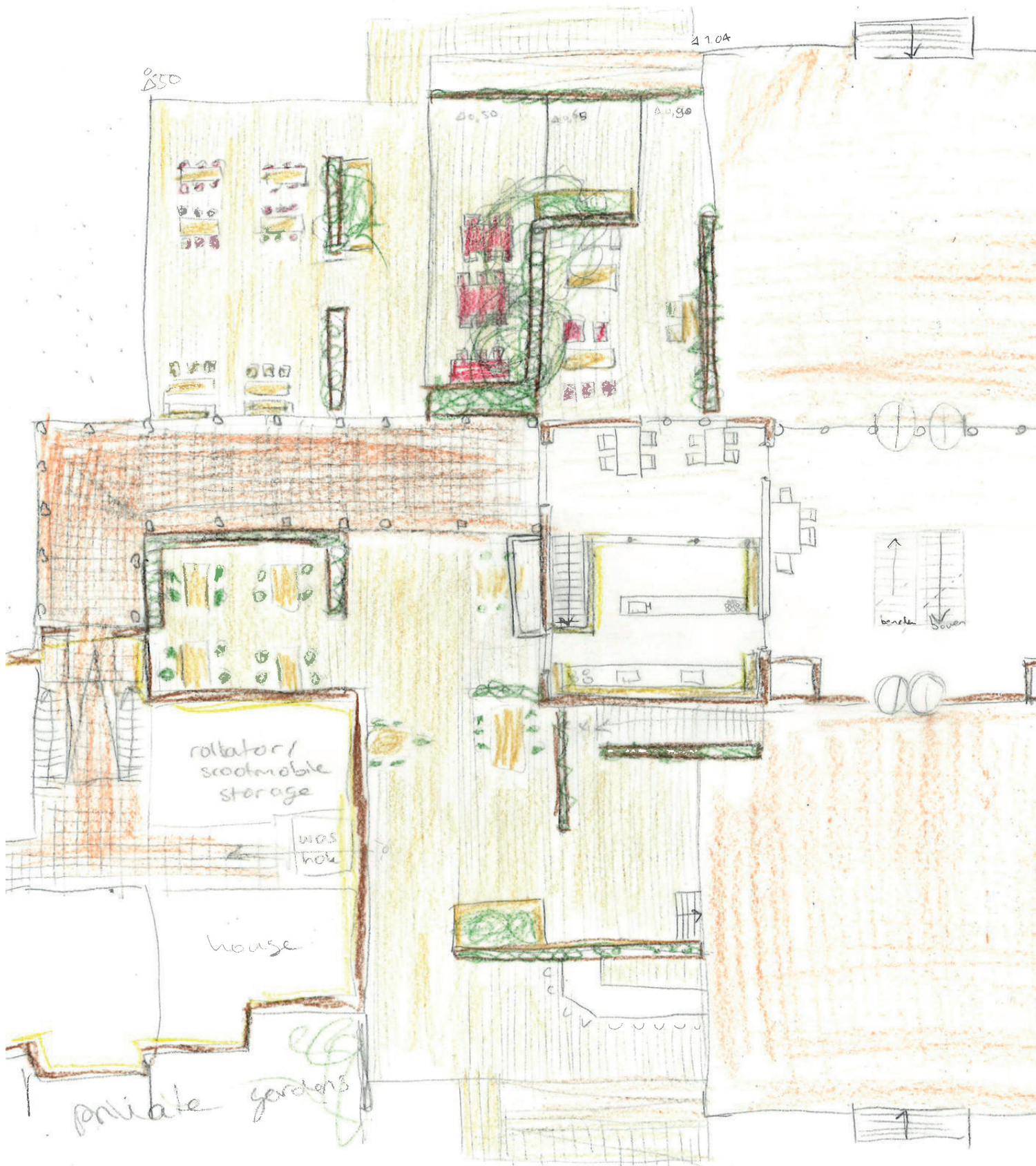




Figure 98. This plan shows the idea of how the platform should work in collaboration with the legeringsgebouwen and function. On one hand there is a café with terrace outside and on the other hand collective gardens fill the space while a covered structure gives opportunity to walk sheltered towards the legeringsgebouwen

The new architectural expression is dictated by the former lines, composition, circulation routes and logic structures. To further soften the transition from the expressive exterior to the intimate interior and to provide shelter, a pergola using the former trusses (figure 100) will be added.

Figure 99. To really define the architectural quality this sketch is made to test how the spaces work, where borders should be, what is more open and how walking paths follow along the areas

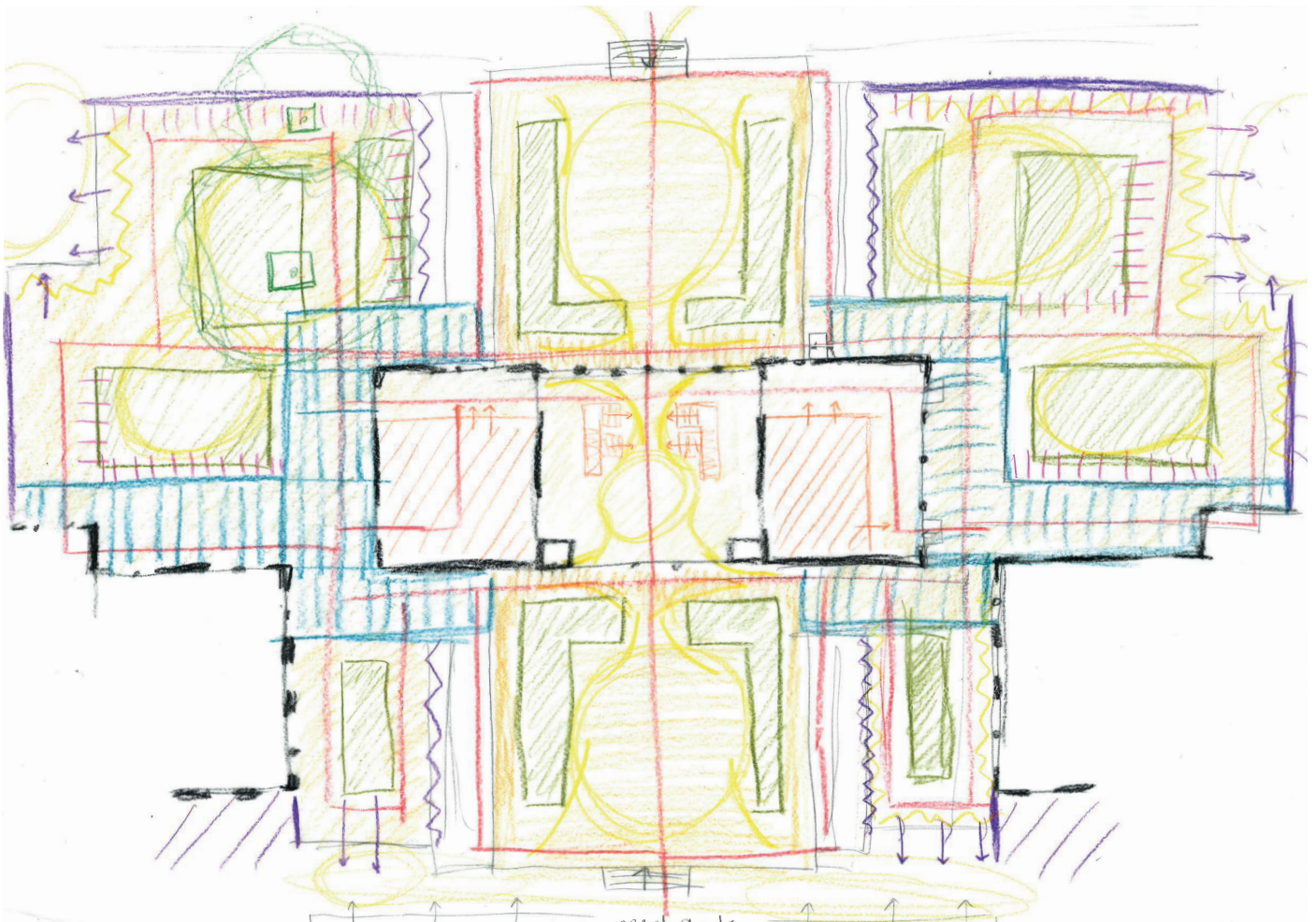


Figure 100. By re-using the former trusses from the demolished wings for aesthetic reasons a time layer will stay visible as memory of the past. The red steel gives a clear definition to the walking route

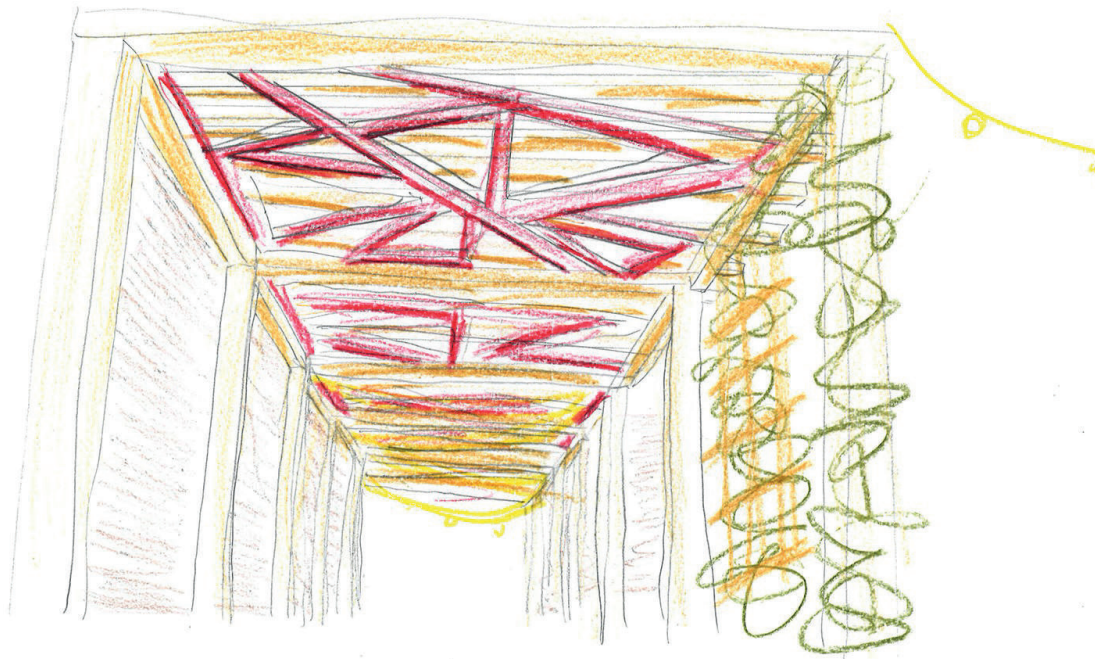
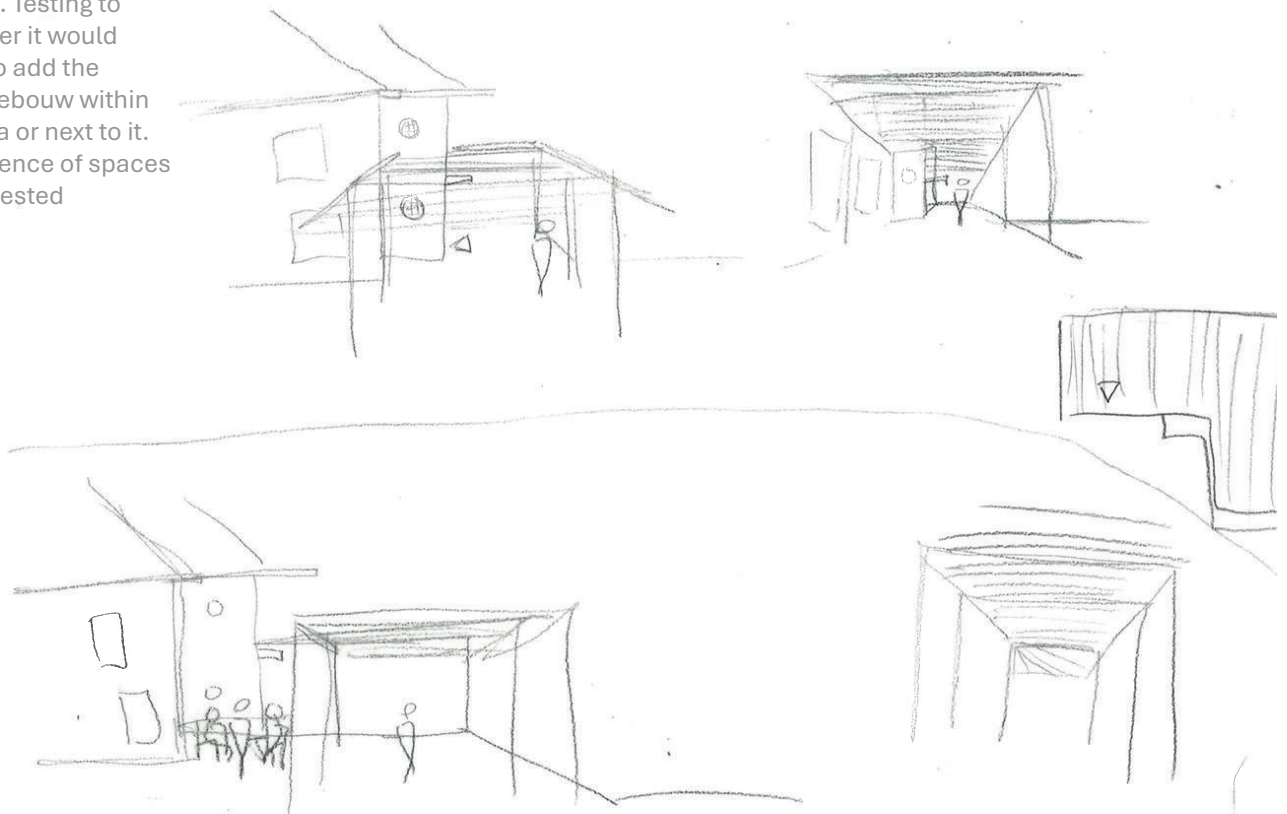


Figure 101. Testing to see whether it would fit better to add the legeringsgebouw within the pergola or next to it. The experience of spaces has been tested



# *PART VI*



# design

Figure 102. Urban plan 1.500, based on context model. Original concept with symmetry and the keukengebouw as main focus has been kept in new design.

**Everything in the report so far will act as backbone for the design of the keukengebouw for the Kolonel Palmkazerne.**

## 6.1 Elaboration

The domestic east and public west sides of the keukengebouw remain visible. Both sides hold significant value and thus reinforce the ensemble as a whole. On the west exists a shortcut to Bussum as well as the slope to the bike storage. The existing trees get a place in the elevated platform.

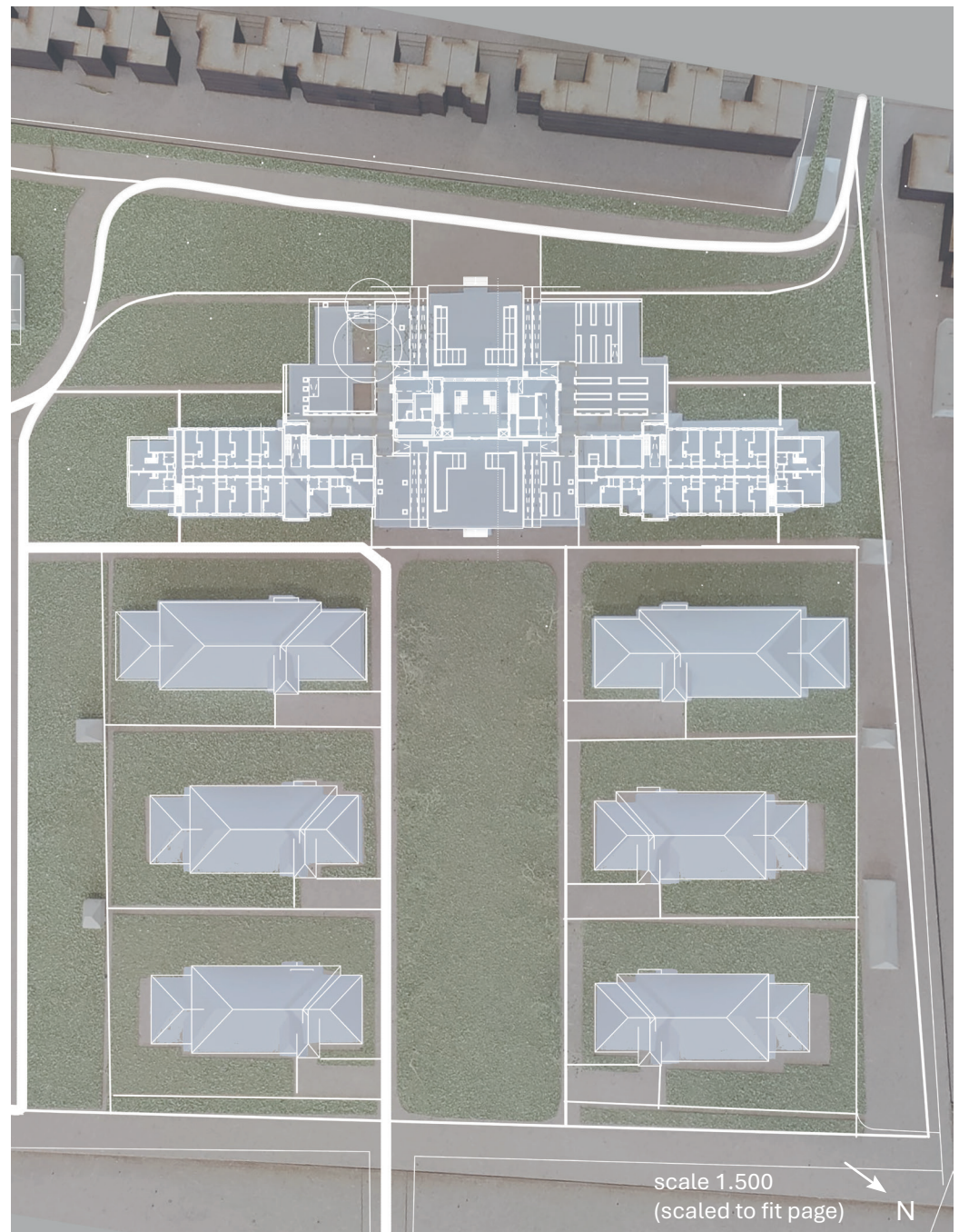
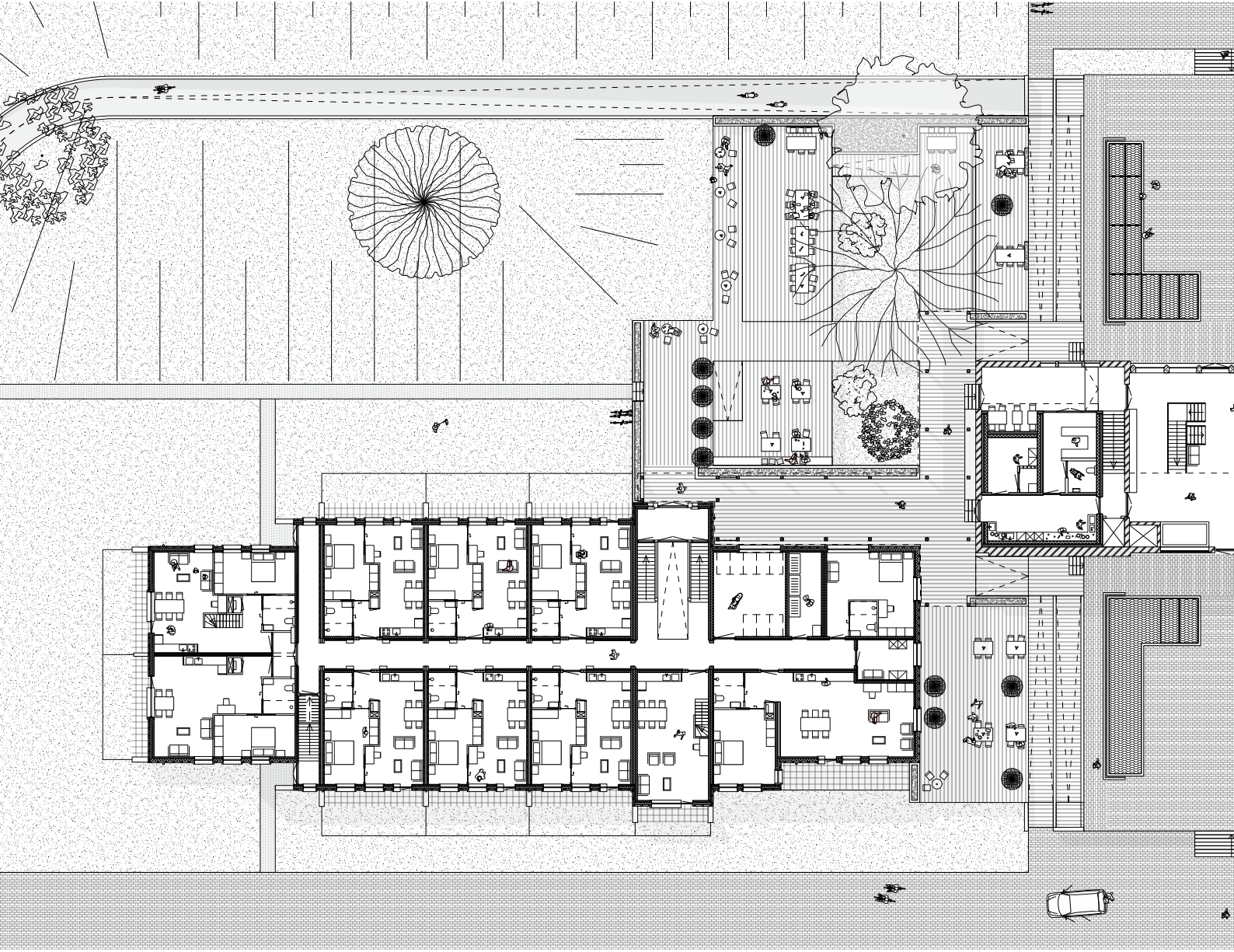


Figure 103. Ground floor plan scale 1.200 (scaled to fit page)



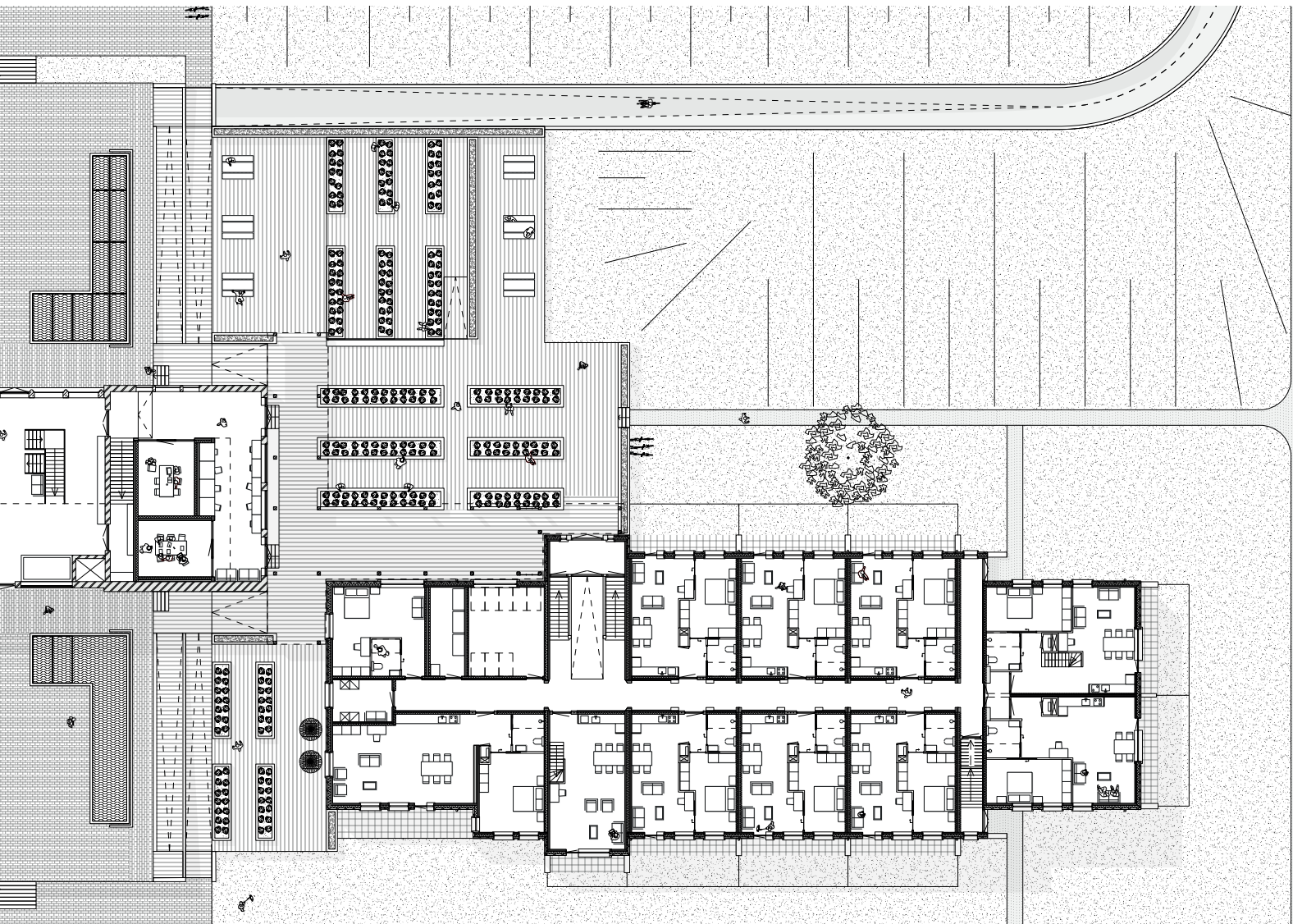
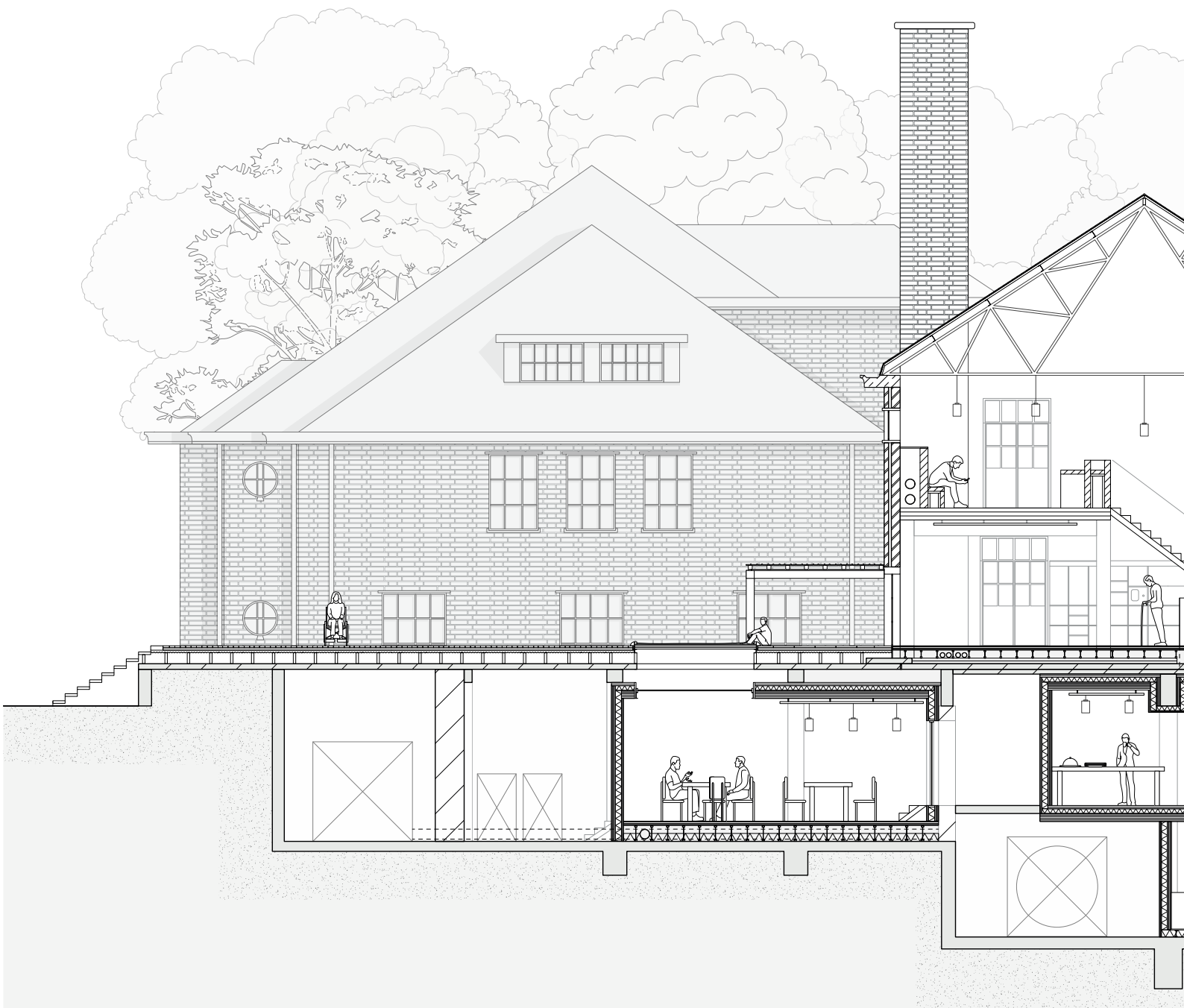


Figure 104. Public short section scale 1.50 (scaled to fit page)



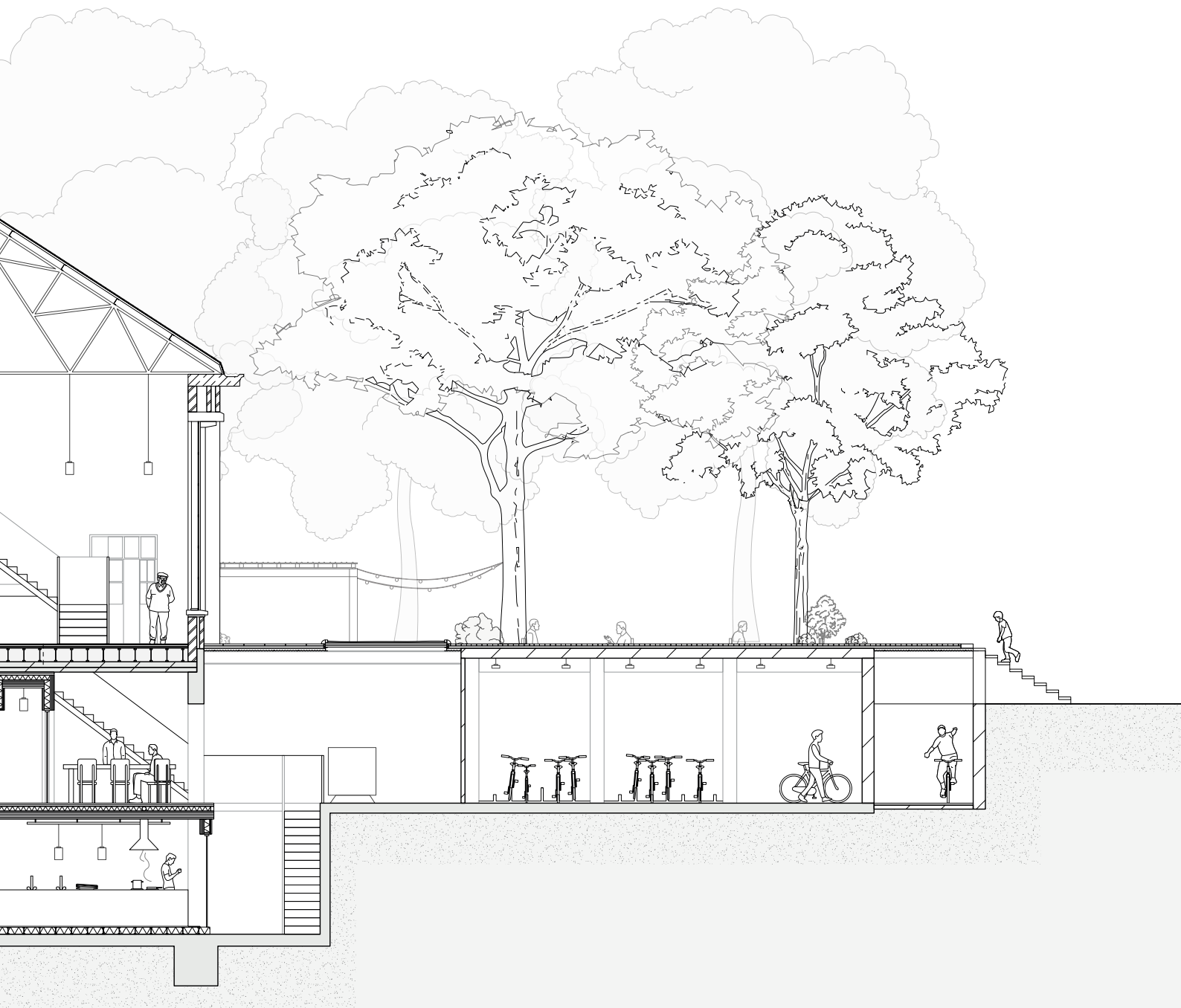
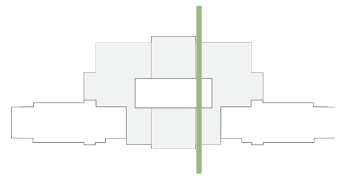
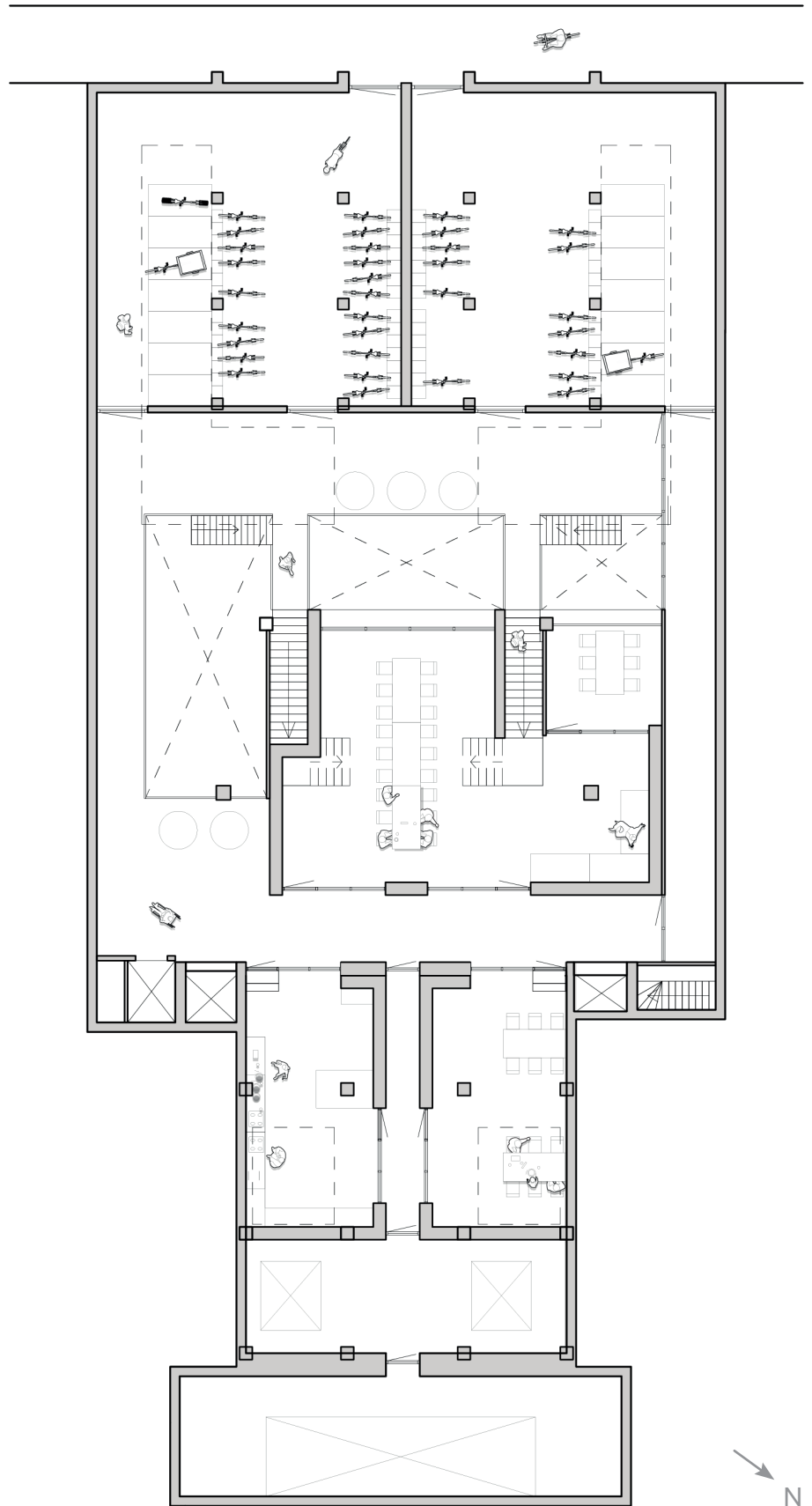


Figure 105. Basement 1.100 (scaled to fit page) as part of public axis, basement will be activated by adding new functions and implementing skylights.



The building naturally generates two axes, a private and a public axis. The long, private, axis is inspired by the existing legeringsgebouwen, differing there where modern housing standards depart from the old design, such for the outdoor space and construction (Figure X). Beside eighteen new houses, functional collective spaces improve the quality of living (figure 106-108).

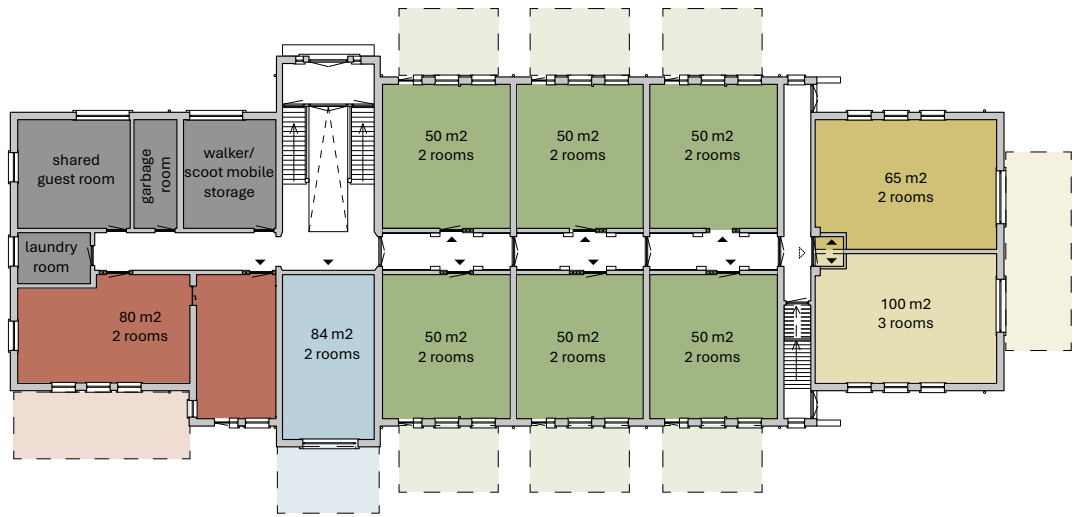


Figure 106. Ground floor plan 1.200

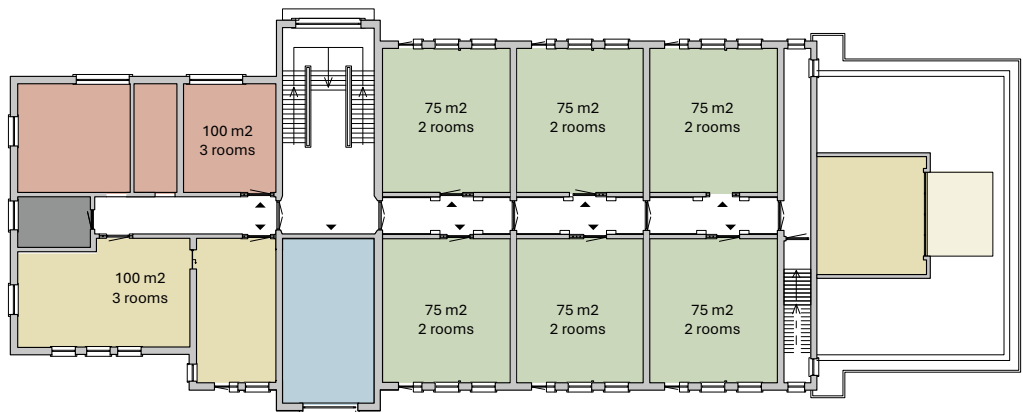


Figure 107. First floor plan 1.200

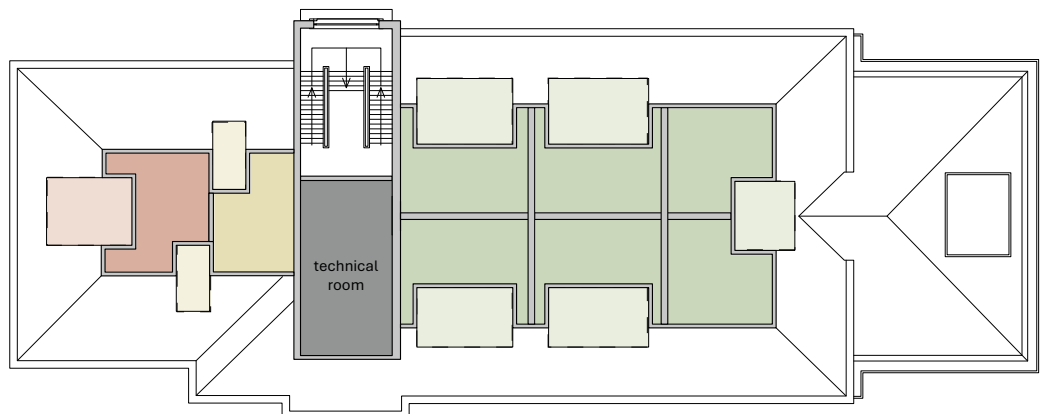


Figure 108. Second floor plan 1.200

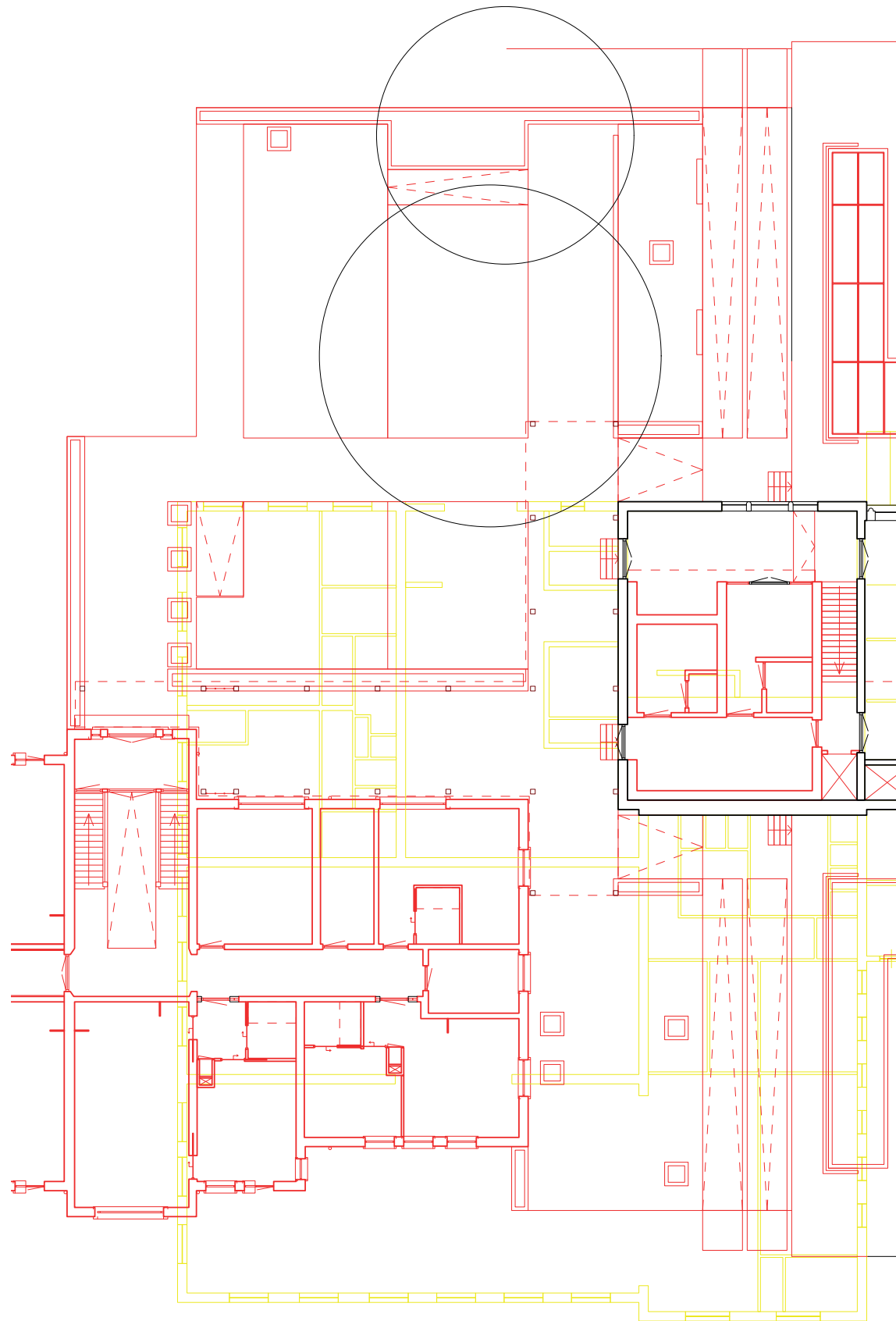


Figure 109. Ground floor plan 1:200 (scaled to fit page) with a focus on the existing keukengebouw and newly added platform. Notice the height differences

\*The yellow-red drawing method is introduced by Office Winhov in Architecture Repurposed where yellow displays everything that is demolished and red shows the new additions.

With the yellow-red drawing method\* the old and new structures can clearly be distinguished. Despite the plans mostly showing additions, the façades in figure 112 display visible traces of the original roof structure complemented by clean brickwork. For the high-valued glass west façade doors will be added stimulating active use over passive observation.



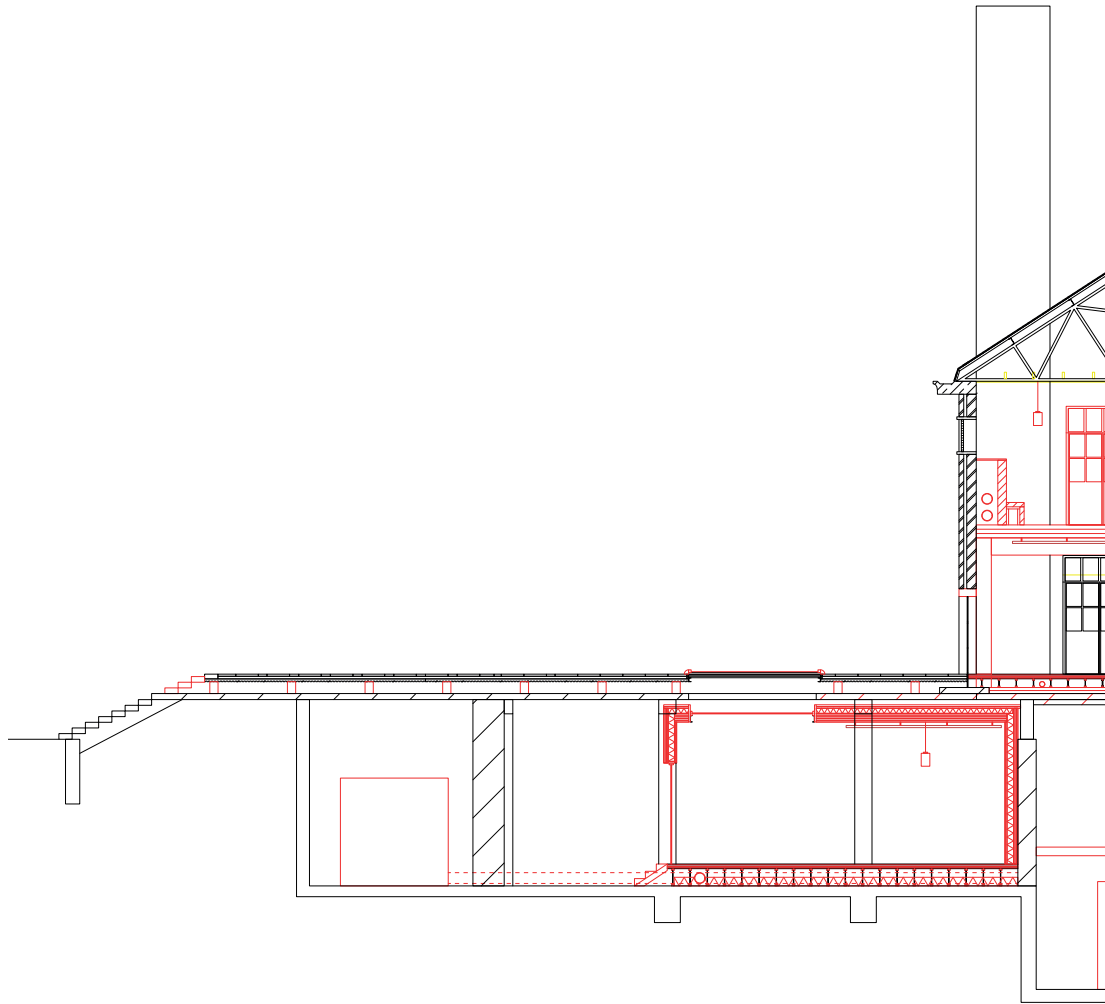


Figure 110. Section 1.200  
(scaled to fit page)

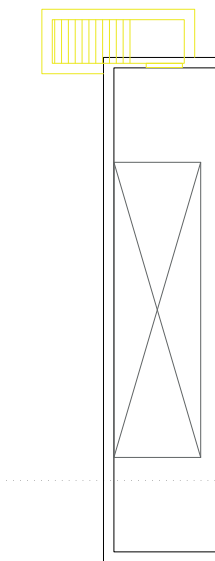


Figure 111. Basement plan  
1.200 (scaled to fit page)

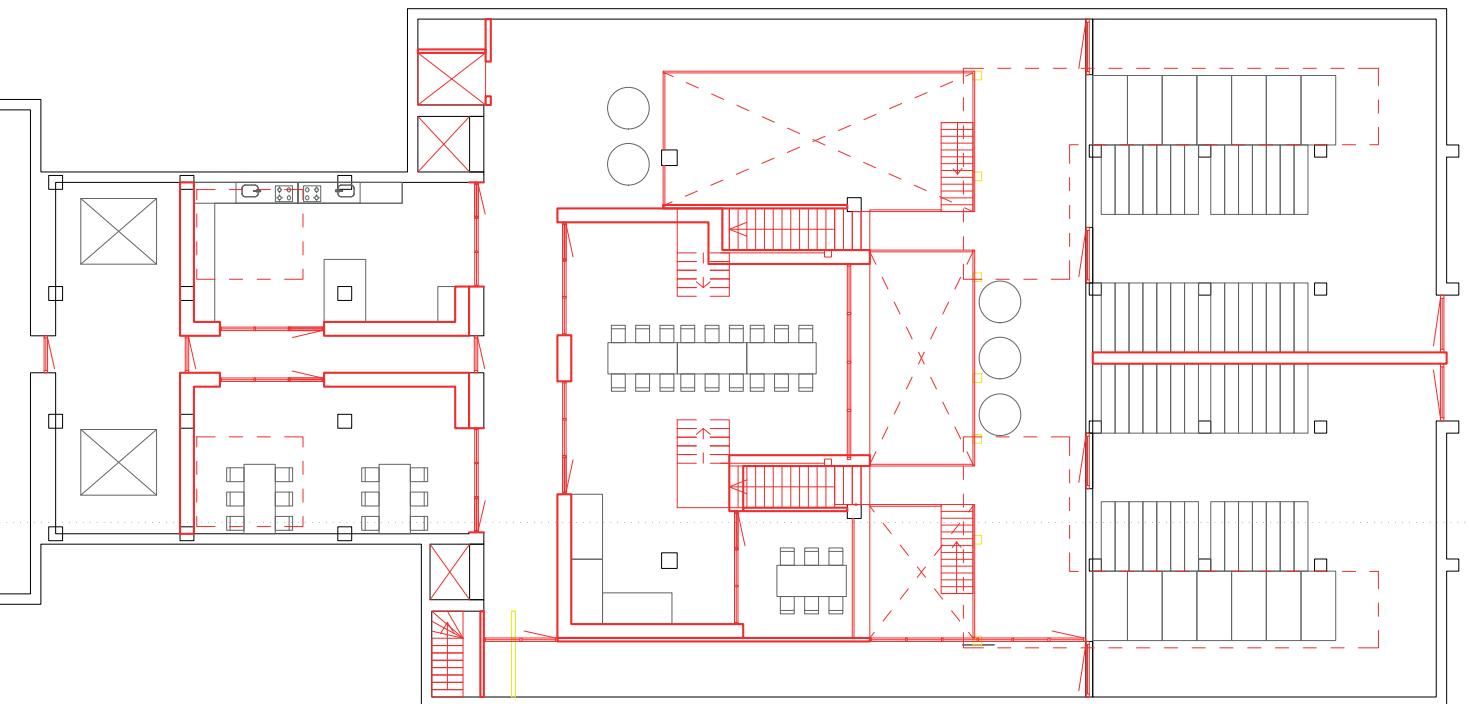
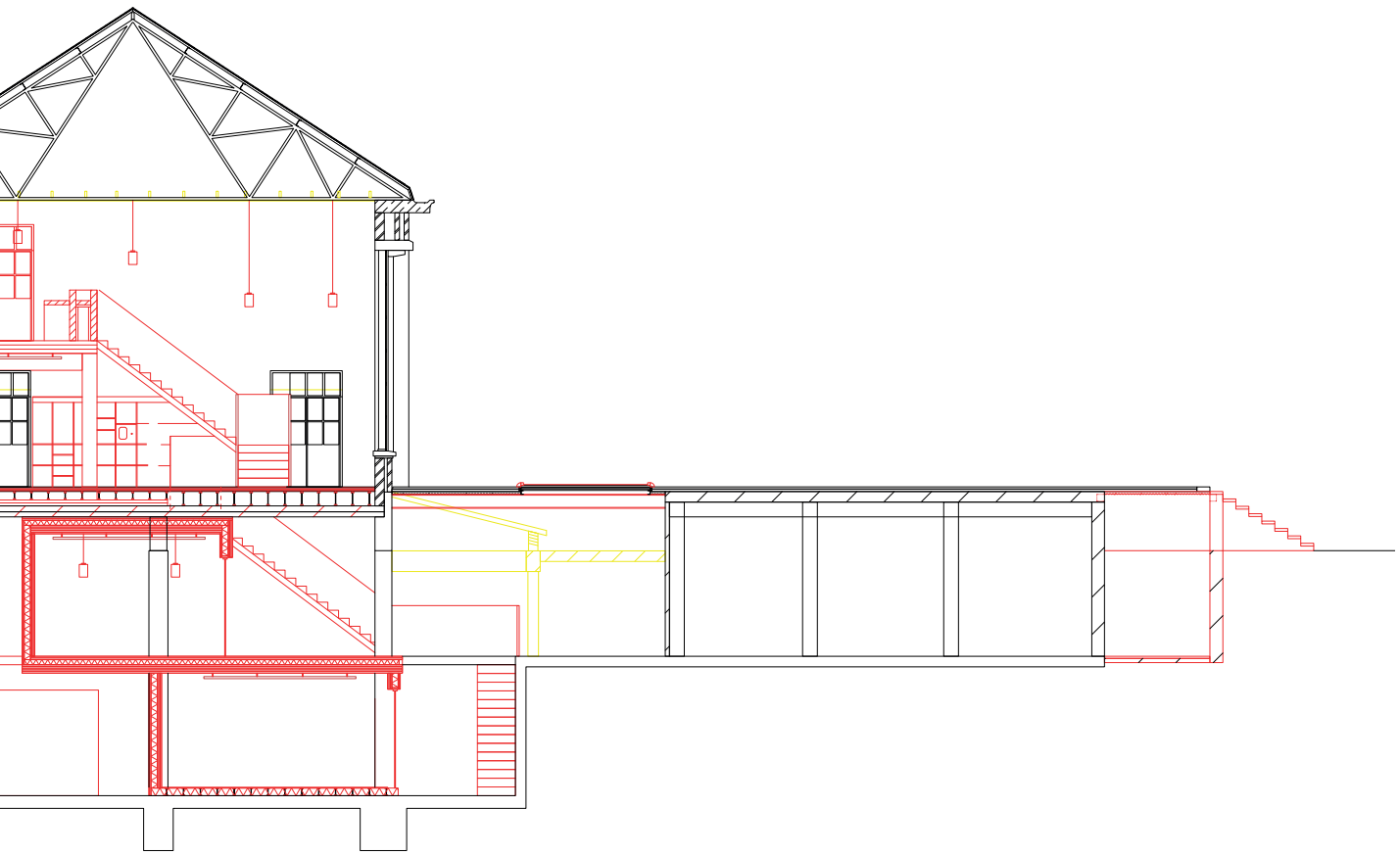


Figure 112. Façades 1.200 (scaled to fit page). Yellow/red method shows that the new additions follow the lines from the former wings. Doors are added to the monumental glass façade on the west side

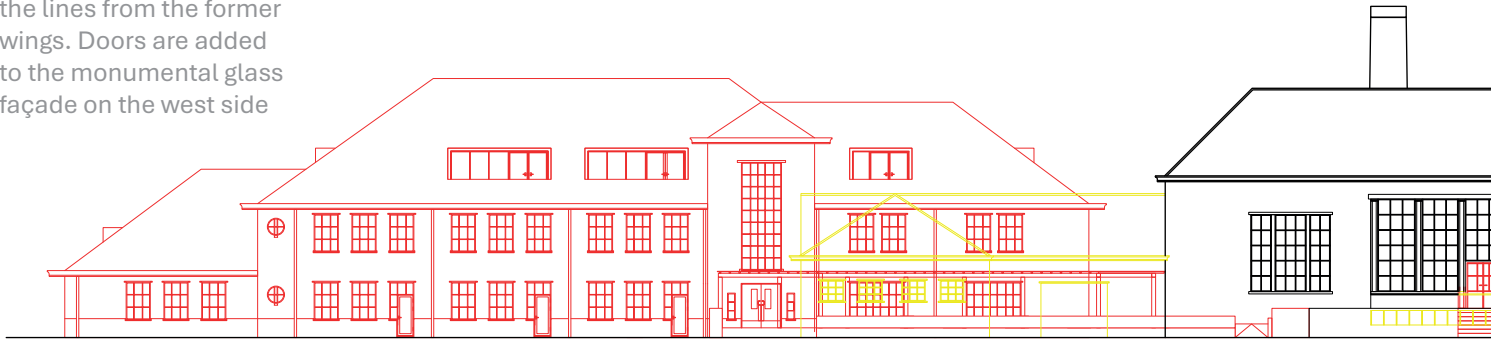
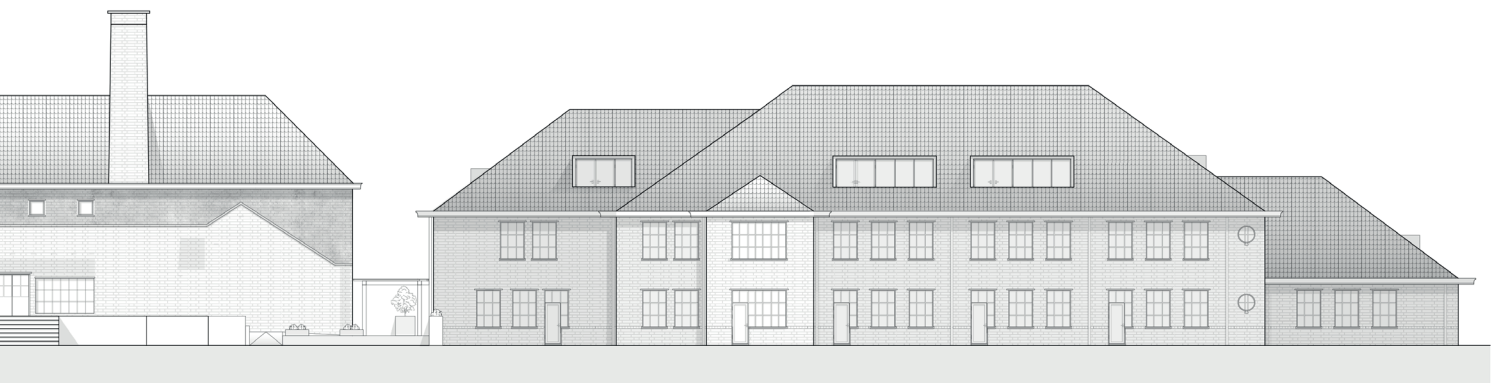
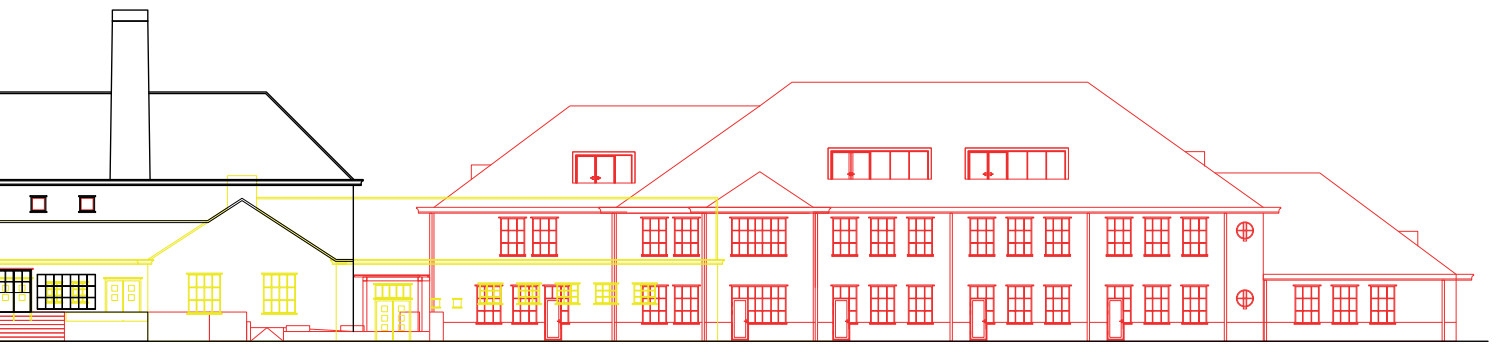
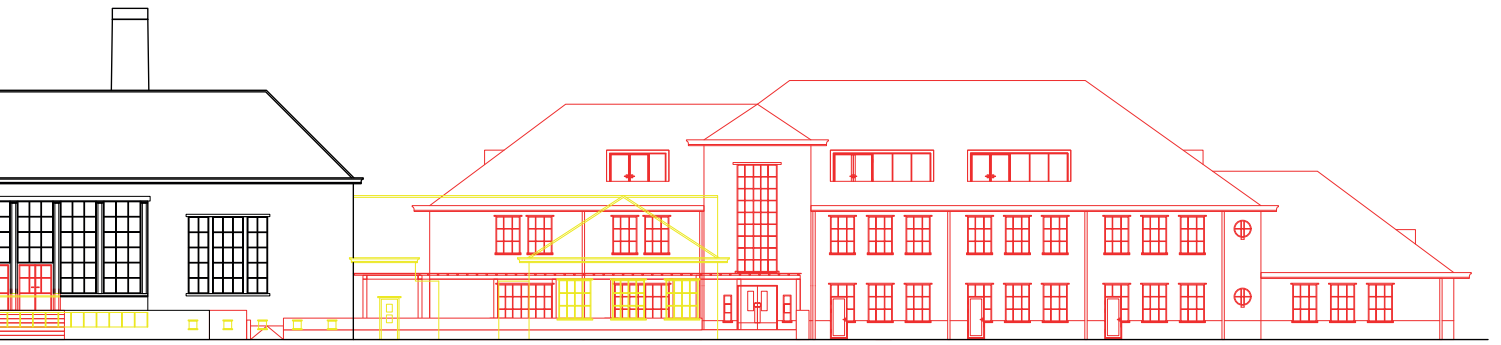
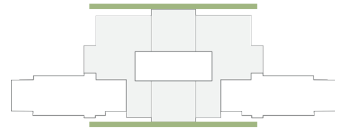
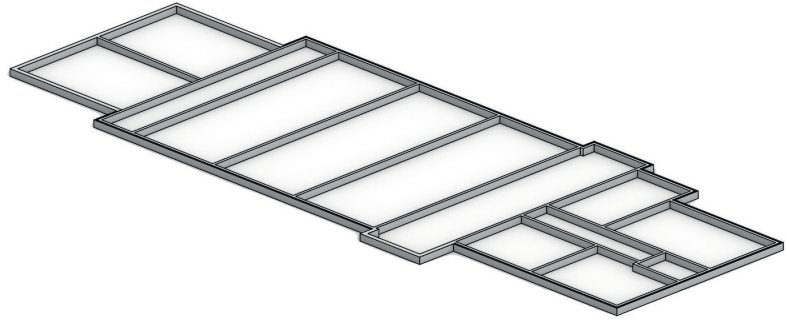
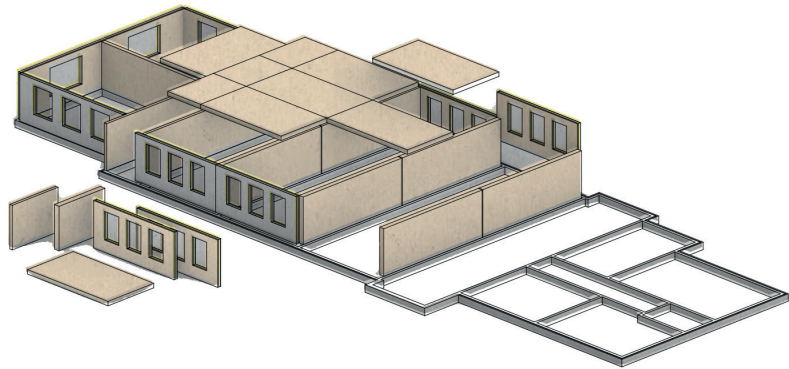


Figure 113. Façades 1.200 (scaled to fit page) with the public west façade (top) and domestic east side (down)

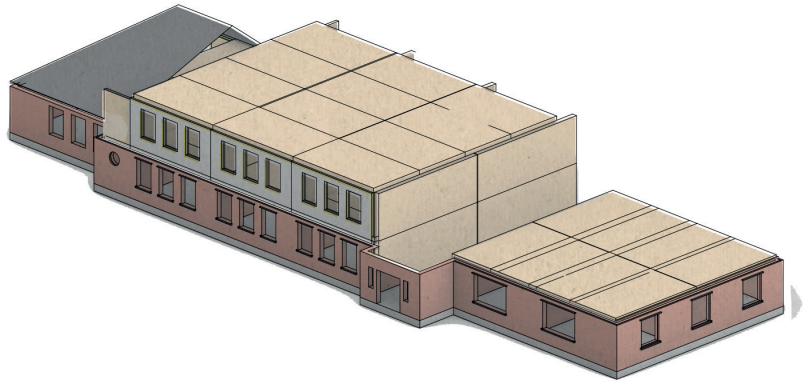




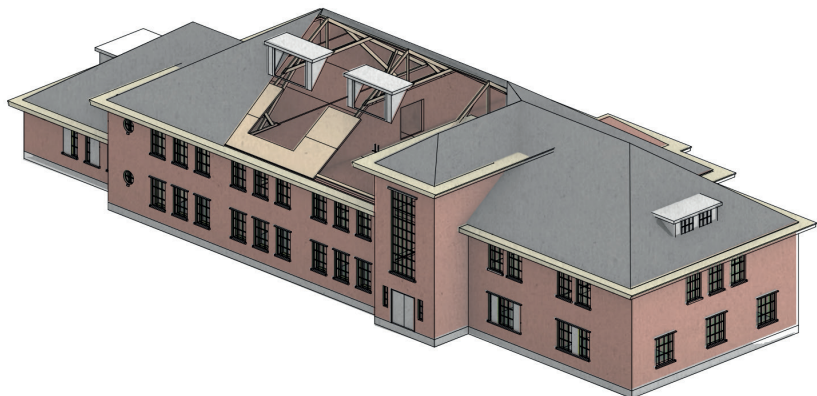
01 foundation



02 prefab CLT elements



03 brickwork



04 finishing roof prefab dormers

Figure 114. Axonometric of construction method. Interesting to compare with figure 33.

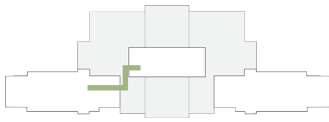
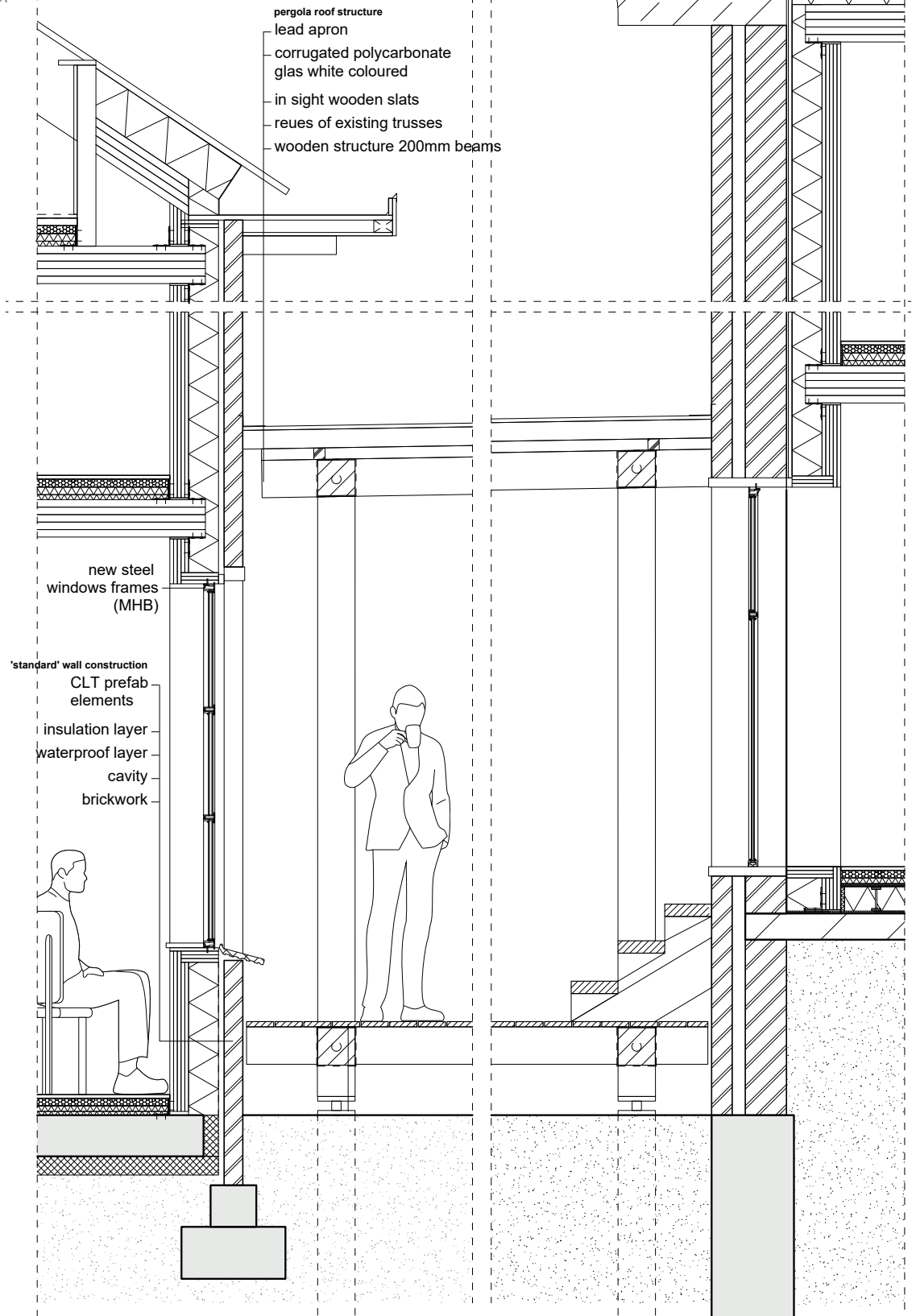


Figure 115. Detail A 1.20  
(scaled to fit page) of  
connection from new  
legeringsgebouw towards  
existing heritage building  
with pergola as cover for  
weather conditions



1 cm  
scale 1:20

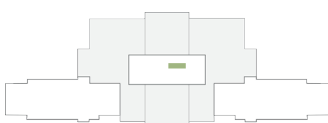
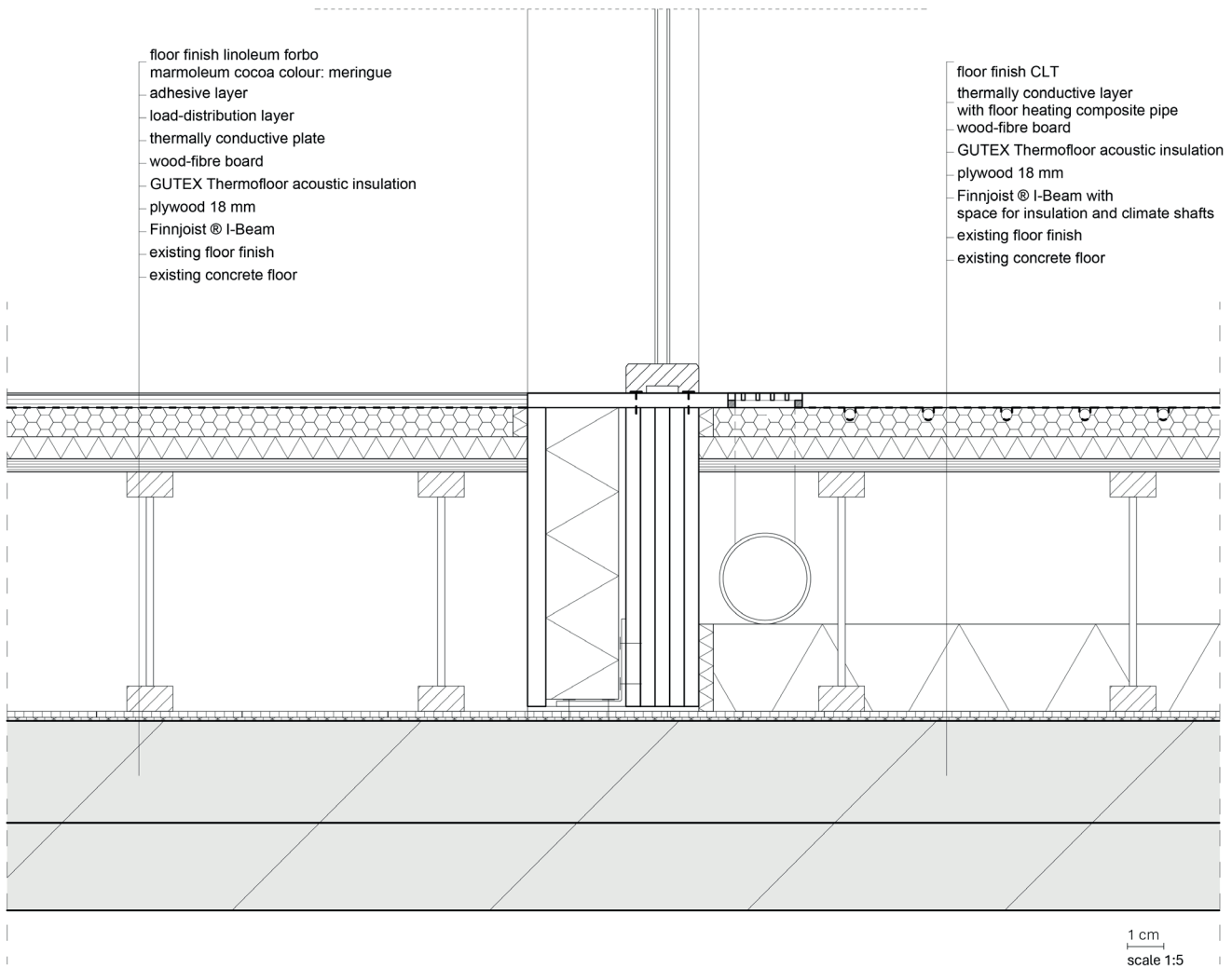


Figure 117. Detail C 1.10 of box-in-box detail of newly added structures in existing building

Technical elaborations have been developed for four key locations where new interventions intersect with the historic fabric. Firstly, the standard model, figure 114, constructed with prefab CLT, ensures efficient, affordable and sustainable construction. The second section shows the connection of the platform and pergola in-between both buildings, figure 115. Within the short, public, section a detail for the box-in-box principle is presented, figure 116. Lastly, figure 117 shows the pond and skylight with its drainage system.

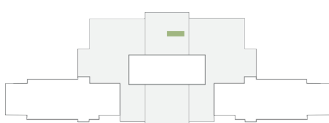
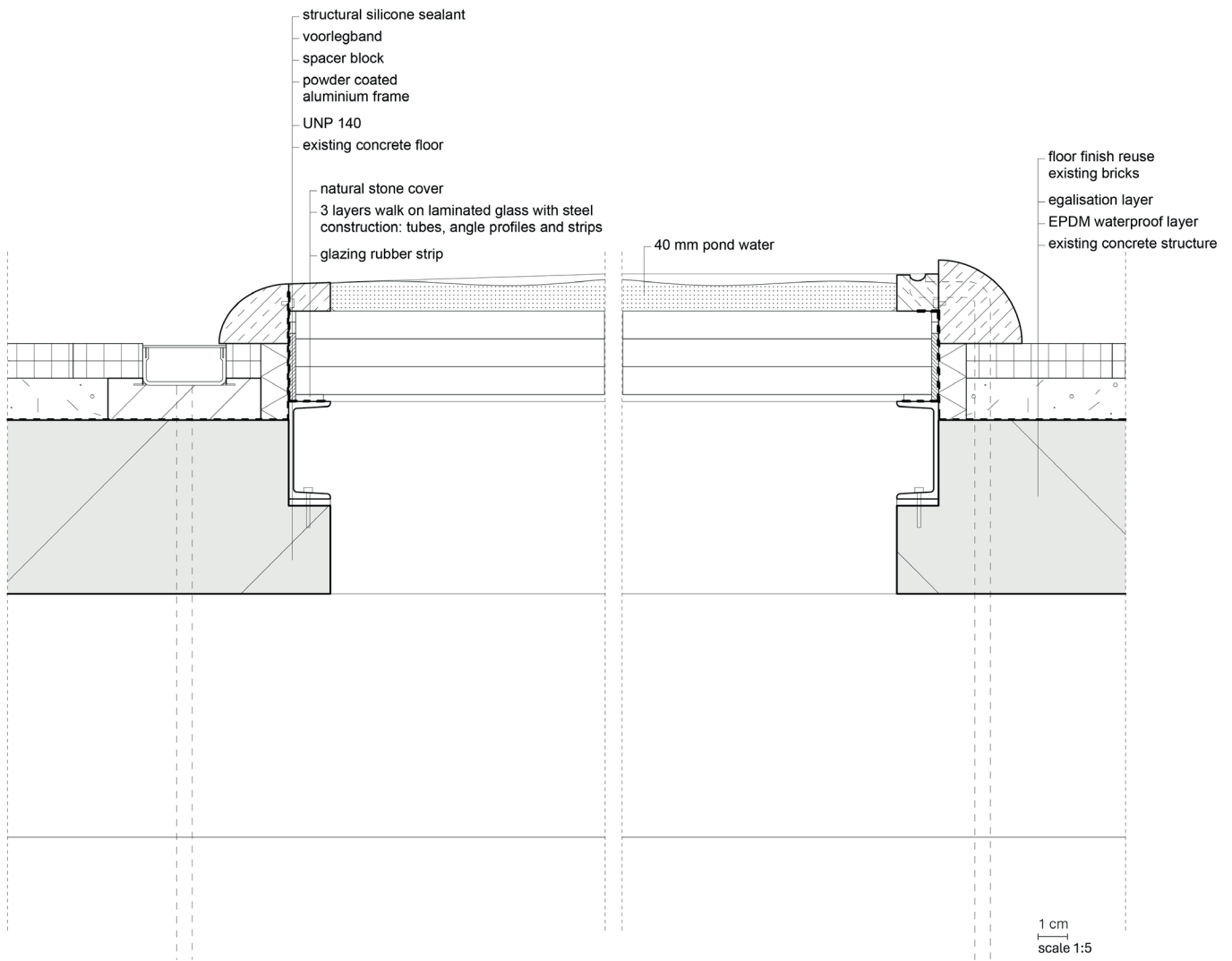


Figure 116.Detail B 1.10  
 of skylight and pond water  
 with connection to ground  
 level and water drainage

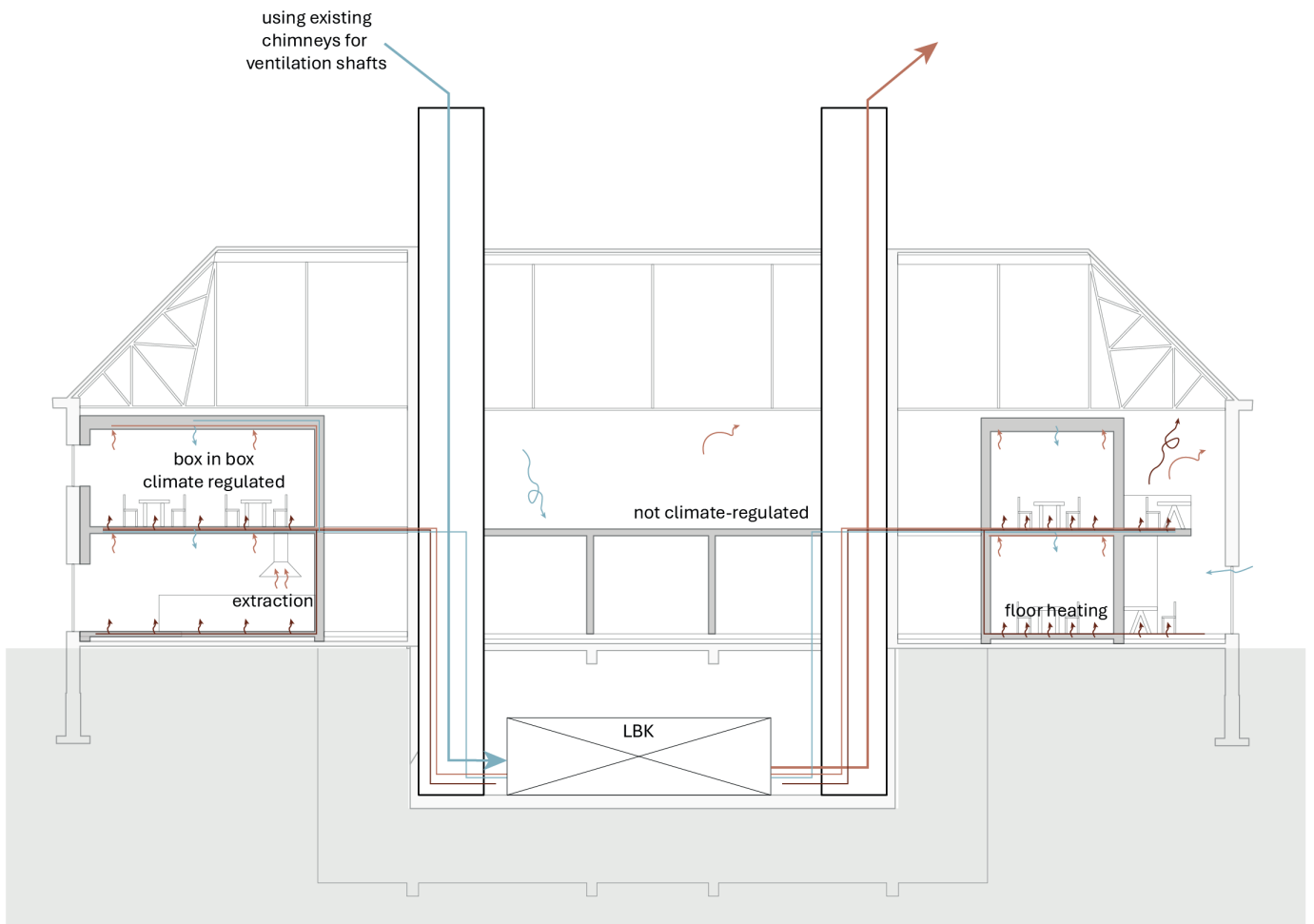
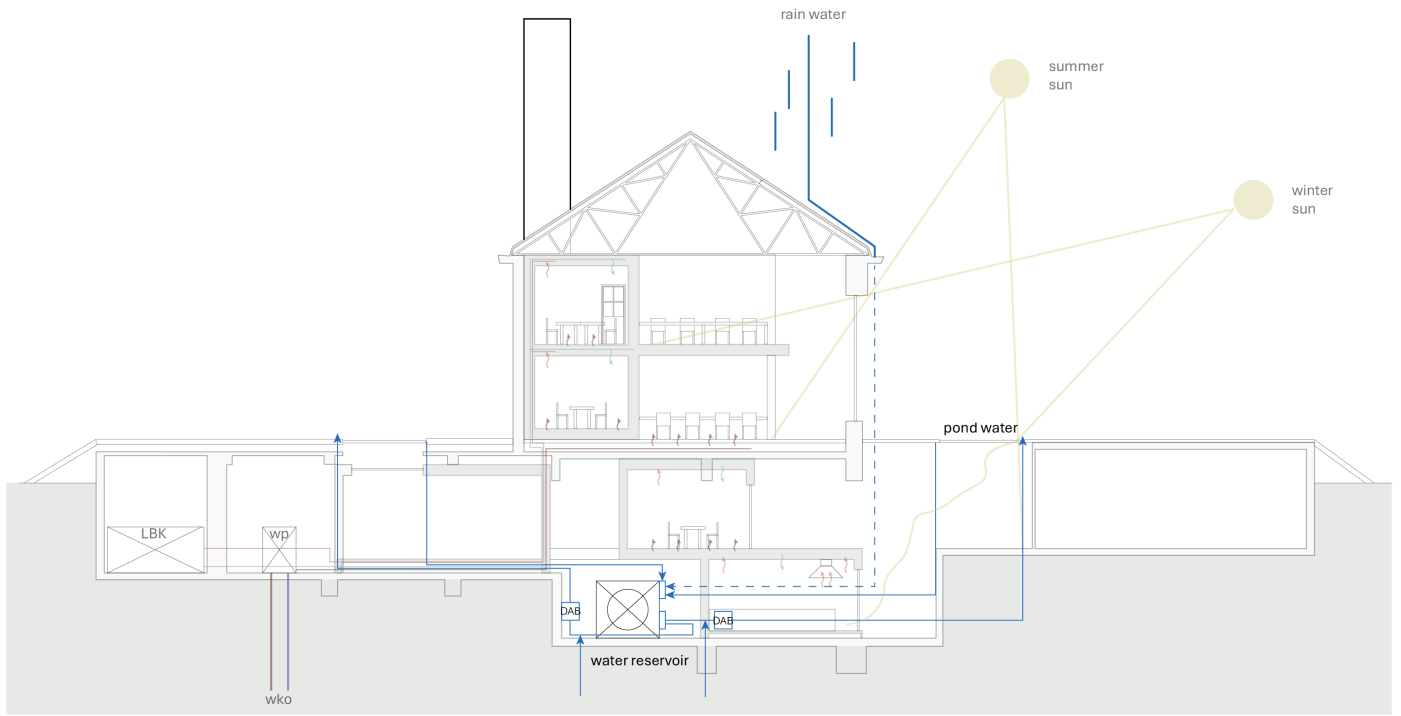




Figure 118 (left top). Climate section scaleless in short section of keukengebouw focusing on how the water flow in combination with the pond water works.



Figure 119 (left down). Climate section scaleless in long section of keukengebouw focusing on how the chimneys are used for shafts and differences in climate-regulated areas with the box-in-box elements.

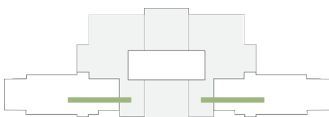
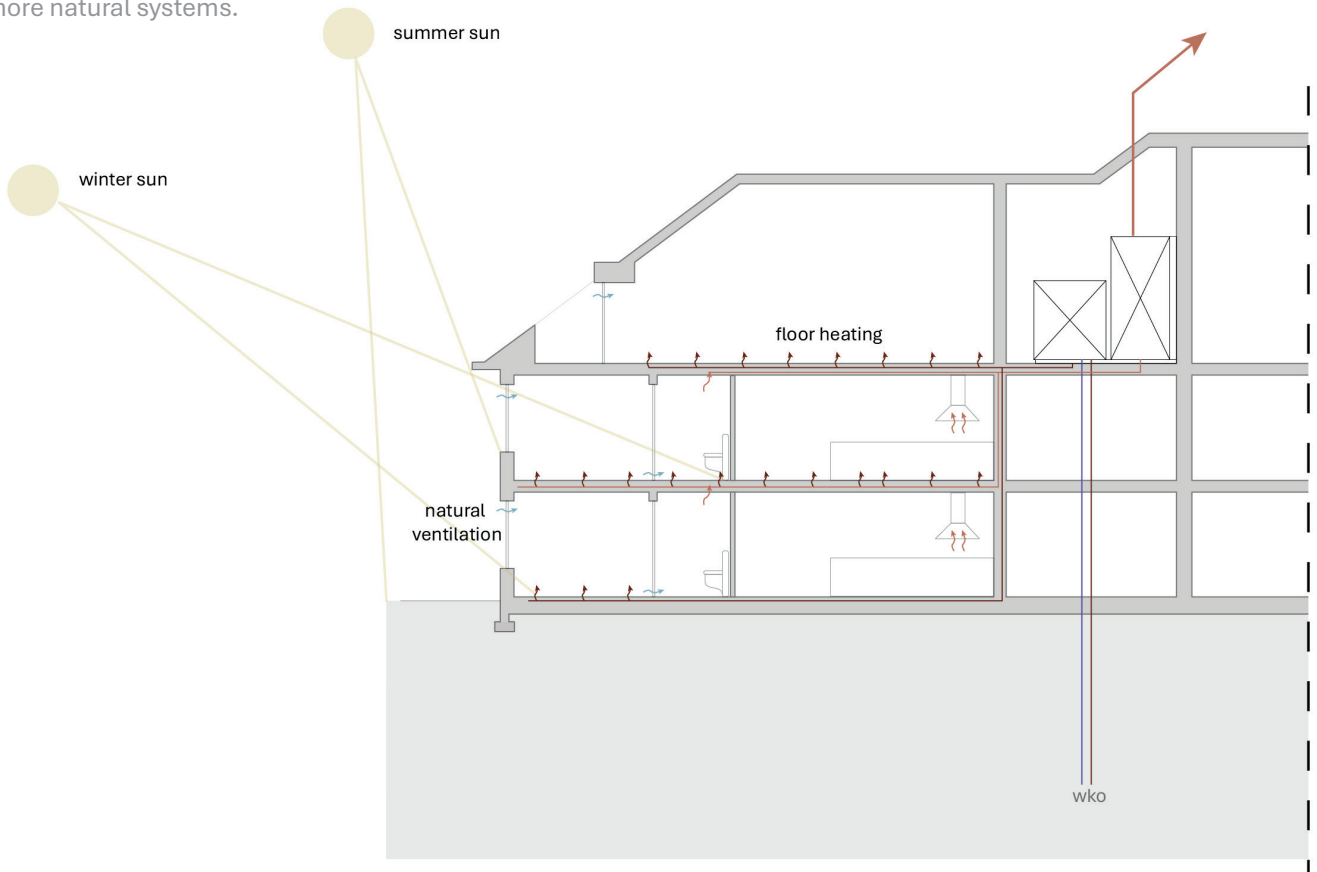


Figure 120. Climate section scaleless of legeringsgebouwen with more natural systems.

People do not want to live in an energy factory (De Zwarte Hond, 2022). Therefore, the design aims to have maximal thermal comfort with minimal environmental impact. The long sections, figures 119 & 120, shows the entire ensemble using natural systems, supported by mechanical solutions.



## 6.2 Experience

The design is, besides shaped by technical ambitions, equally determined by spatial experience. The combination of functions and routes creates different active clusters. The openness of the basement provides a clear, structured overview.



Figure 121 (top). Render of outdoor platform connecting existing with new at west façade.

Figure 122 (down). Render of east façade with visible palimpsest of clean brickwork with brickwork being exposed to outer air.

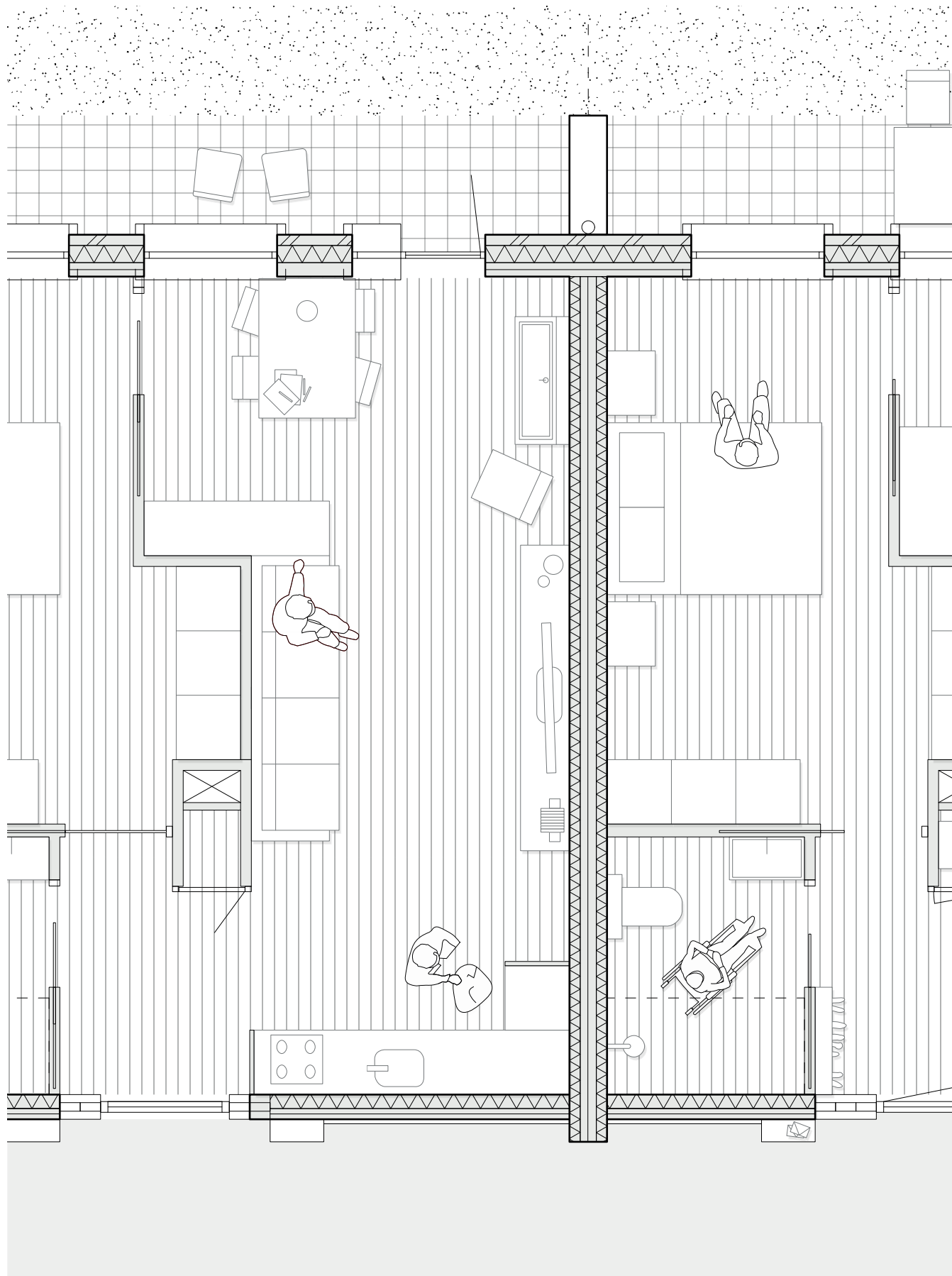
Figure 123 (right page). Render of interior working spaces, wooden box-in-box is placed in existing keukengebouw. Only existing trusses are made dark green as reference to the colour of the windows from the legeringsgebouwen





Figure 124. Within the dwelling scale 1.50 (on scale) there is a variation of lifestyles possible and open space for own interpretation

The materiality of the in-between spaces has been carefully chosen. Materials from the demolished wings have been reused, for example bricks for pavement of the platform and the indoor tiles as reference to the past. In the hallway extra support for elderly is introduced and glass blocks keep the privacy while also allowing more light into the hallway.



Principles for the dwelling plan are inspired by De Zwarte Hond (2022) where attention to sightlines and smart design with built-in closets create space while leaving space for personal interpretation.



# PART VII

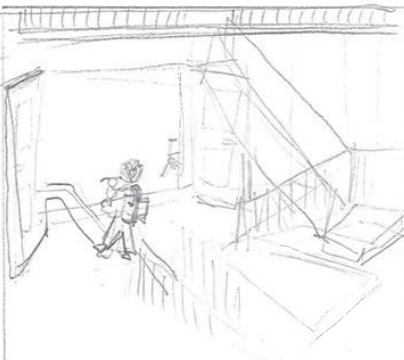
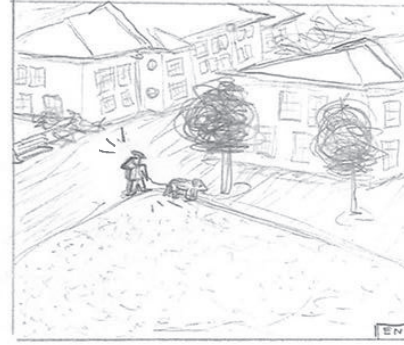
I LOVE SPENDING TIME WITH THE NEIGHBOURS...



... IT JUST FEELS AS THE OLD TIMES



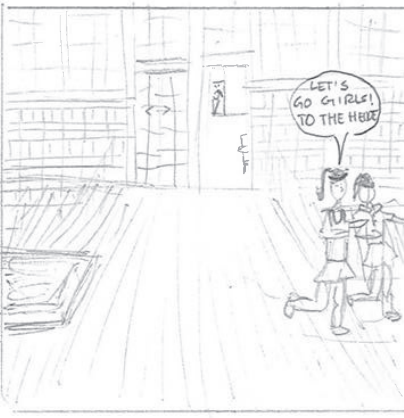
THIS BUILDINGS BRING BACK SO MANY MEMORIES, I COULD LIVE HERE FOREVER!



I AM LATE, SO MUCH TO DO, COOKING, WASHING, CLEANING...



THESE TOMATOES ARE PERFECT FOR TONIGHT'S SELF-MADE PASTA!



# conclusion and discussion

**This final chapter relates the main findings with the research question and discusses the significance of the final design for the architectural profession, particularly from the perspective of Heritage and Architecture. It also includes a personal reflection on the design process.**

## 7.1 Conclusion

In the 1930s, the Dutch military needed more kazernes because of a change in conscription period. Auguste G.M. Boost was the designated Genie to design sixteen efficient kazernes within two years. His designs encountered the test of time, disproving the apparent paradoxical understanding by showing a standard model can serve architectural quality.

Today, the Netherlands deals with a housing shortage. To combat the shortage, this report studies the heritage left by Boost. It distils core values from the design of a Boostkazerne, using these proposes a design for the adaptive reuse of the Kolonel Palmkazerne.

The standardised part of the Boostkazerne is the legeringsgebouw. The legeringsgebouwen are of high architectural quality because they (1) exhibit careful architectural detailing, (2) are strongly integrated with the urban environment, (3) offer balanced (a)symmetrical compositions (4) make efficient use of the spatial quality and (5) are easily adapted for other functions. As such, they offer a robust structure for an open infill.

These qualities are the driver for the redesign of the Kolonel Palmkazerne. The architectural detail in the revised keukengebouw presents itself in the juxtaposition of the historical façade with contemporary brickwork. It is further accentuated by a raised platform that allows for a soft transition between the public, collective and private spheres.

A design should extend beyond the boundary of the apartment block. The connection with the urban environment is given shape in the borders of the ensemble and in the urban planning, connecting the project to the omgevingsvisie of Bussum. The new legeringsgebouwen have a 'normal' everydayness, yet connect with a unique semi-public element: the keukengebouw. This way the cultural heritage becomes an active anchor rather than an isolated monument.

To maintain the distinct style of the site, the new legeringsgebouwen are placed such that the keukengebouw becomes the natural focus, accentuating the natural symmetry of the composition. Inside, efficient use of the spatial quality results in indeterminate spaces that are naturally adapted to the daily residential flow. Above all, the project embraces the adaptability of the legeringsgebouwen. Rather than dictating a specific lifestyle, the rigid

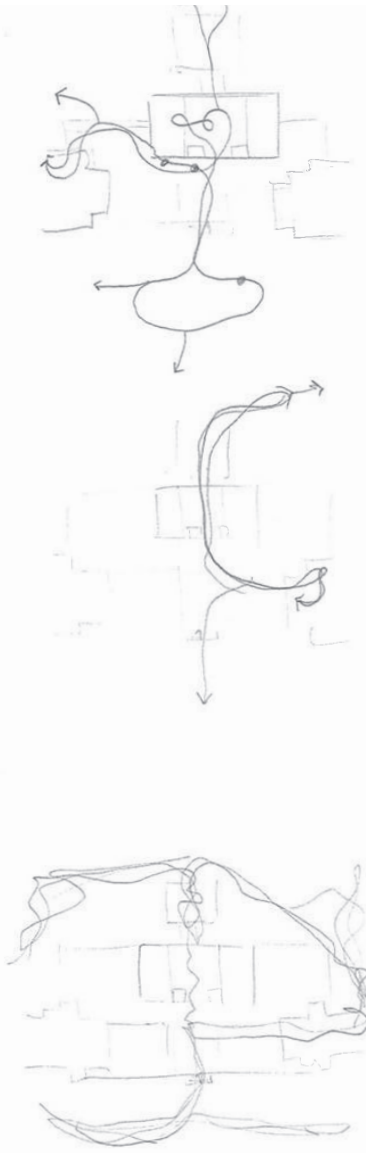


Figure 125. A variation of people can make use of the building as they can give their own interpretation to space

Figure 126 (left). This short graphic novel story shows a possibility of how different kind of users and life styles can be interpreted differently within the standard model of Boost his design

structure functions as a robust ‘drager’ (carrier) empowering its residents. This strong structural framework makes individual interpretations possible and maintains a coherent whole, proving that standardisation and high-quality architecture can reinforce each other to secure a sustainable future for the Kolonel Palmkazerne.

### ***7.2 Implications and/or recommendations***

The final design contributes to the field of Heritage & Architecture by exploring the historical palimpsest, choosing to preserve the original concepts rather than the strict form. High-valued heritage elements are often considered untouchable, but in this design the west-side windows – classically high-value – are activated for daily use. This philosophy of active preservation continues by replacing the wings with new legeringsgebouwen and connecting them using an elevated platform, creating a coherent interplay of spaces that connects residents with their environment.

On scale of society, the design contributes with the spatial interplay reinforcing the social dimension of the architecture. Acknowledging that other people are inherently unpredictable, the design balances collectivity and individuality by offering residents a choice. They can navigate through open, socially interactive walkways or take direct, sheltered routes to their front doors. In all cases, sightlines are maintained to prevent social isolation and promote a sense of belonging.

While everyday housing may lack the prestige of designing cultural centers, this project elevates practical and functional into a qualitative space. It responds to the ordinary with simple, harmonious interventions that blend private living with well-thought-out public spaces. The faculty Bouwkunde and associated TU Delft focus mainly on new innovative sustainability. Ultimately, true sustainability lies not just in efficient construction and reuse, but also in understanding user behaviour, and stimulating residents to appropriate and shape their own environment.

### ***7.3 Reflection***

In the first project of my master’s, I felt I had finally understood how to integrate research and design properly. During my bachelor’s, I learned the basic principles, but in my master’s I was able to identify a good guiding theme that structured all design decision. This felt like a turning point, and I initially tried to achieve something similar in my graduation project. This was not as easy as I hoped. Defining a guiding theme and settling on a good idea, takes time. Most of the past 20+ weeks, I spent trying to create the perfect guiding theme that would lead to perfect airtight design principles and a perfect design. The initial concept needed to be developed in full detail before allowing it to shape spatial decisions. However, that is not how you research by design. It is therefore not surprising that eventually I had to acknowledge that research-by-design does not follow a linear progression towards a fixed, perfect outcome. Instead, it is an iterative exploration between concept and development.

Although, I have been learning to do research-by-design over the past years, I initially felt like I needed to ‘reinvent the wheel’ (which was ironically contradicting the research I was conducting). The term ‘graduation project’ automatically created a sense of higher pressure. Advice from lectures on

boosting my (future) portfolio, where the graduation project is frequently cited as the most significant project, further reinforced that this project is the icing on the cake, the la crème de la crème! In practice, it is not. It is just another project with no pre-agreed framework, more time and a stronger emphasis on research-by-design. Still, it was difficult to let go of the pressure, and I continued wanting to predefine and perfect every decision beforehand. I learned that perfectionism often emerges during graduation projects because they offer more time and unprecedented freedom. It meant defining my own framework, design principles, and program. This also explains why I spent such extensive time searching for a guiding theme.

This is not to suggest that the time spend defining the concept is unnecessary. On the contrary, it is a process that takes time, and I struggled with exactly that: accepting this process as slow. Designing is not a linear process. There is a lot of trial-and-error. I learned that not every detail needs to be resolved before sketching. It is okay to make mistakes in that phase. It is important to make well-informed decisions, experiment with it and reflect (negative feedback is also feedback!). In this project, I should have started sketching and experimenting sooner, because the idea of a perfect design is an illusion. A design becomes good through effort, critical reassessments, and belief in the process. I find it, still, difficult to trust my skills, but I am learning, and that has been a very valuable outcome of this project.

# *PART VIII*



# bibliography

Cats, B.C. (1989). *Kolonel Palmkazerne 50 jaar*. [publisher not identified].

Crimson. (2020). Voormalige Kolonel Palmkazerne te Crailo. *Waardestellend onderzoek naar kazernesgebouwen 1-6, 7-9, 13 en 22*. <https://www.crimsonweb.org/voormalige-kolonel-palmkazerne/>

De Zwarte Hond. (2022). *Out There #4 Woningplattegronden*. [publisher not identified].

Dolné, E.M. (March, 1993). Kazernesgebouwen in Nederland – Bouw, ontwikkeling en kunsthistorische aspecten. *Parade, 14e jaargang nr. 1*. Koninklijke Militaire Academie.

Dorman, E., Provoost, M., & van Ginneken, S. (2010). *De Constant Rebecque Kazerne; Cultuurhistorische analyse van de kazerne als stedenbouwkundig ensemble*. Crimson Architectural Historians. <https://www.crimsonweb.org/de-constant-rebecque-kazerne/>

Eichholtz, P., & Kok, N. (2025). Bouw standaardwoningen, zo kunnen we uit de woningcrisis komen. *NRC*. <https://www.nrc.nl/nieuws/2025/11/21/bouw-standaardwoningen-zo-kunnen-we-uit-de-woningcrisis-komen-a4912828>

*Gooi en Eembode* (1988, June 16). Zeskamp Palmkazerne.

Habraken, N.J. (1961). *De dragers en de mensen: het einde van de massawoningbouw*. Scheltema & Holkema

Haak, M. (2025). Een vierkante meter onbestemde ruimte. *Archined*. <https://www.archined.nl/2025/12/een-vierkante-meter-onbestemde-ruimte/>

Hertzberger, H. (1982). *Het openbare rijk*. Delft: University Press [part of Theorie en praktijk van het ontwerpen: samenvatting colleges Architectuurbeschuwing 1973-1982].

Hertzberger, H. (1984). *Ruimte maken, ruimte laten*. [publisher not identified but part of Theorie en praktijk van het ontwerpen: samenvatting colleges Architectuurbeschuwing 1973-1982]

Hertzberger, H. (2020, September 17). Herman Hertzberger: letter to a young architect. *The Architectural Review*. <https://www.architectural-review.com/essays/letters-to-a-young-architect/herman-hertzberger-letter-to-a-young-architect>

Jansma, J. (2025). Fabrieken voor prefabhuizen draaien slecht: 'Doodzonde'. *NOS*. <https://nos.nl/nieuwsuur/artikel/2588999-fabrieken-voor-prefabhuizen-draaien-slecht-doodzonde>

Mooij, H., & Leupen, B. (2011). *Housing Design: A Manual*. Nai Publishers.

Nycolaas, F. (2018). Ongeplande verandering als ontwikkelingsstrategie. In D. van Gameren, F. van Andel, D. van den Huevel, O. Klijn, A. Kraaij, P. Kuitenbrouwer, H. Mooij, P. van der Putt, H. Teerds & J. Zeinstra (Eds.), *Van woning naar woning; radicale transformaties van woongebouwen*. (pp. 4-13). Nai010 uitgevers.

Oosterboer, F. (2023). *Kazernebouw tijdens het Interbellum*; (Kazernereeks nr. 3). Je Oude Kazerne Nu. <https://www.jeoudekazernenu.nl/Publicaties/kazernereeks/Kazernebouw%20tijdens%20het%20Interbellum,%20Kazernereeks%203.pdf>

Palmboom, F. (2023). *Ruimtelijke kwaliteit bij fabrieksmatige woningbouw; een stedenbouwkundig kader*. Federatie Ruimtelijke Kwaliteit i.s.m. College van Rijksadviseurs. <https://www.collegevanrijksadviseurs.nl/documenten/2023/03/21/stedenbouwkundig-kader---ruimtelijke-kwaliteit-bij-fabrieksmatige-woningbouw>

Platform Woonopgave (2025). *Is dit het antwoord op de wooncrisis?* <https://platformwoonopgave.nl/>

Plevoets, B., & Cleempoel, van, K. (2019). Adaptive reuse of the built heritage : concepts and cases of an emerging discipline. Routledge, Taylor & Francis Group. <https://doi.org/10.4324/9781315161440>

Plevoets, B., & Cleempoel, van, K. (2019). *Adaptive reuse of the built heritage : concepts and cases of an emerging discipline*. Routledge, Taylor & Francis Group. <https://doi.org/10.4324/9781315161440>

Prins, A. (2021). *Wonen: de fascinerende gelaagdheid van een alledaagse bezigheid*. Walburg Pers bv.

Pronkhorst, A. (2024). Architecture Repurposed. In U. Gilad, A. Pronkhorst, J.P. Wingender & Office Winhov (Eds.), *Architecture Repurposed*. (pp. 7-11). Nai010 publishers.

Renée Galihoutet's Housing: Layers of Living [Exhibition]. (2025). Dutch Design Week, Eindhoven, the Netherlands. <https://app-api.ddw.nl/programme/layers-of-living-renee-gailhoustets-housing>

van Riet Paap, W., Asselbergs, T., & Hoefsloot, M. (2025). *Standaardisatie is geen vies woord, simplificatie wel*. Federatie ruimtelijke kwaliteit. Retrieved December 19th, 2025, from <https://www.ruimtelijkekwaliteit.nl/2025/11/27/standaardisatie-is-geen-vies-woord-simplificatie-wel/>

Rijksoverheid (n.d.). *900.000 nieuwe woningen om aan groeiende vraag te voldoen*. Retrieved December 19th, 2025, from <https://www.rijksoverheid.nl/onderwerpen/volkshuisvesting/nieuwe-woningen>

Rijksvastgoedbedrijf (2025). *Bouw leveringsgebouwen gegund: 1000 bedden in vijf jaar*. Rijksvastgoedbedrijf. <https://www.rijksvastgoedbedrijf.nl/actueel/nieuws/2025/12/18/bouw-legeringsgebouwen-gegund-1000-bedden-in-vijf-jaar>

Zijlstra, H., & Technische Hogeschool Delft Afdeling Bouwkunde. (2021). *Spatial building typology : Vacant Heritage: Department stores, V&D's* (L. Fischer, Ed.). Heritage & Architecture TU Delft.

### Consulted archives

Archief Gooi en Vechtstreek <https://zoeken.archiefgooienvechtstreek.nl/detail.php?id=209348190>

Brabants Historisch Informatie Centrum (BHIC) <https://digitaaldepot.bhic.nl/search/results?QueryText=generaal+de+bonsweg&pageNumber=13&ViewId=f4abc5ca-4292-5f42-9623-0578e424afad&SearchEntries=W10%3d>

Erfgoed Centrum Zutphen <https://erfgoedcentrumzutphen.nl/>

Gelders Archief [https://www.geldersarchief.nl/bronnen/bouwdossiers?mivast=37&mizig=353&miadt=37&miview=tbl&milang=nl&mizk\\_alle=kazerne](https://www.geldersarchief.nl/bronnen/bouwdossiers?mivast=37&mizig=353&miadt=37&miview=tbl&milang=nl&mizk_alle=kazerne)

Gemeentearchief Ede <https://gemeentearchief.ede.nl/>

Gemeentearchief Steenwijkerland [https://www.archieven.nl/mi/1648/?mivast=1648&mizig=346&miadt=1648&miview=ldt&milang=nl&mizk\\_alle=Johan+van+den+Kornput](https://www.archieven.nl/mi/1648/?mivast=1648&mizig=346&miadt=1648&miview=ldt&milang=nl&mizk_alle=Johan+van+den+Kornput)

RHC-e <https://www.rhc-eindhoven.nl/>

West-Brabants Archief <https://bouwdossiers.westbrabantsarchief.nl/>

# list of figures

- Figure 1-2 Own image.
- Figure 3 Platform Woonopgave. (2025). *Is dit het antwoord op de wooncrisis?* [Image]. Platform Woonopgave. <https://platformwoonopgave.nl/>. CC BY-NC-ND 4.0.
- Figure 4 Schinkel, F. (2025). *Prefab woningen van Startblock, klaar om geplaatst te worden* [Image]. De Stentor. Prefab-bedrijf Startblock uit Emmeloord maakt ‘onzekere doorstart’ | Regio | De Stentor.nl. Copyright by Freddy Schinkel
- Figure 5-9 Own image.
- Figure 10 [Photograph of Auguste Boost]. (1965) *Auguste Boost as director Wegen en Verkeer bij de ANWB* [Image]. Achter de Wacht. [https://magazines.defensie.nl/defensiekrant/2019/02/06\\_kazernenamen\\_02](https://magazines.defensie.nl/defensiekrant/2019/02/06_kazernenamen_02). Copyright by Archive NIMH
- Figure 11-26 Own image with information from PDOK. (n.d.). *PDOK viewer BGT* [Data set]. <https://app.pdok.nl/lv/bgt/download-viewer/>. CC-BY-4.0.
- Figure 27-34 Own image.
- Figure 35 *Het Adriano Huis*. (2020). [Image of Bergen op Zoom Cort Heijligerskazerne]. Google Maps. <https://maps.app.goo.gl/KueRMxgRpffk4cKX8>. Copyright by Het Adriano Huis.
- Figure 36 [Postcard Eefde Detmerskazerne]. (n.d., late 1930s). Legerplaats. [https://www.legerplaats.nl/eefde/\\_eefde.htm](https://www.legerplaats.nl/eefde/_eefde.htm). Copyright by rightful owner.
- Figure 37 Oosterboer, F. (2015). [Image of Steenwijk Johan van den Kornputkazerne]. Je oude kazerne nu. <https://www.jeoudekazernenu.nl/kazernes-g-l/kornput/x-kornput.html>. Copyright by Frank Oosterboer.
- Figure 38 Oosterboer, F. (2016). [Image of Gebouw D Arnhem Saksen-Weimarkazerne]. Je oude kazerne nu. [https://www.jeoudekazernenu.nl/kazernes-s-z/saxenweimar/pagesn/sw10\\_jpg.htm](https://www.jeoudekazernenu.nl/kazernes-s-z/saxenweimar/pagesn/sw10_jpg.htm). Copyright by Frank Oosterboer.
- Figure 39 Effting Eindhoven (n.d. late 1930s). *Eindhoven. Constant Rebecque Kazerne* [Image]. <https://www.eindhoveninbeeld.com/photodetail.php?id=32838>. Copyright by rightful owner.
- Figure 40 van der Meer, J. [my father] (1984). [Image of Ermelo Jan van Schaffelaarkazerne]. Copyright by J. van der Meer.
- Figure 41 [Tilburg Koning Willem II Kazerne]. (n.d.). Karres Brands. <https://www.karresenbrands.com/nl/projecten/de-koning-willem-ii-kazerne>. Copyright by rightful owner.
- Figure 42 Oosterboer, F. (2010-a). [Image of legeringsgebouw Wezep Willem de Zwijgerkazerne]. Je oude kazerne nu. [https://www.jeoudekazernenu.nl/kazernes-s-z/willemdezwijger/pagesn/wdz08\\_jpg.htm](https://www.jeoudekazernenu.nl/kazernes-s-z/willemdezwijger/pagesn/wdz08_jpg.htm). by Frank Oosterboer.
- Figure 43 Tangel, L.M. (1998). *Overzicht kazernegebouw met parkeerterrein* [Image]. Rijksdienst voor het Cultureel Erfgoed. [https://beeldbank.cultureelerfgoed.nl/rce-mediabank/detail/08dd847c-4bbf-cbf2-5a96-a6847d378e2e/media/4a3f75b8-2482-27c9-93ed-406a5a116969?mode=detail&view=horizontal&q=20001478&rows=1&page=1&sort=order\\_s\\_objectnummer%20asc](https://beeldbank.cultureelerfgoed.nl/rce-mediabank/detail/08dd847c-4bbf-cbf2-5a96-a6847d378e2e/media/4a3f75b8-2482-27c9-93ed-406a5a116969?mode=detail&view=horizontal&q=20001478&rows=1&page=1&sort=order_s_objectnummer%20asc). CC BY-SA 4.0 by Rijksdienst voor het Cultureel Erfgoed.
- Figure 44 Oosterboer, F. (2019). [Image of gebouw 15 Ede Elias Beeckmakazerne]. Je oude kazerne nu. [https://www.jeoudekazernenu.nl/kazernes-a-f/elias%20beeckman/pages/eb109\\_jpg.htm](https://www.jeoudekazernenu.nl/kazernes-a-f/elias%20beeckman/pages/eb109_jpg.htm). Copyright by Frank Oosterboer.
- Figure 45 Pot, H. / Anefo (1955). [Image from commando-overdacht in Engelbrecht van Nassaukazerne te Roosendaal]. Nationaal Archief. <http://hdl.handle.net/10648/a9383dd8-d0b4-102d-bcf8-003048976d84>. CC0 1.0 Universal Public Domain Dedication.

- Figure 46 Oosterboer, F. (2018). [Image of gebouw 1 Bussum Kolonel Palmkazerne]. Je oude kazerne nu. [https://www.jeoudekazernenu.nl/kazernes-m-r/kolonel%20palm/pages/kp103\\_jpg.htm](https://www.jeoudekazernenu.nl/kazernes-m-r/kolonel%20palm/pages/kp103_jpg.htm). Copyright by Frank Oosterboer.
- Figure 47 Oosterboer, F. (2010-b). [Image of gebouw 15 Schalkhaar Westenbergkazerne]. Je oude kazerne nu. [https://www.jeoudekazernenu.nl/kazernes-s-z/westenberg/pagesn/wb08\\_jpg.htm](https://www.jeoudekazernenu.nl/kazernes-s-z/westenberg/pagesn/wb08_jpg.htm). Copyright by Frank Oosterboer.
- Figure 48 Teeuwen, B. (2025). [Render of new project for Grave, Generaal de Bonkazerne]. Steenvlinder. <https://steenvlinder.nl/projecten/bonskazerned2/>. Copyright by Steenvlinder.
- Figure 49 [Postcard Zuidlaren, Adolf van Nasaukazerne, gebouw D]. (n.d., late 1930s). [https://www.legerplaats.nl/zuidlaren/\\_zuidlaren.htm](https://www.legerplaats.nl/zuidlaren/_zuidlaren.htm). Copyright by rightful owner.
- Figure 50 [Photo from Weert, Van Hornekazerne]. (2022). Weert de gekste. <https://www.weertdegekste.nl/2022/03/pvda-weert-opvang-oekraïense-vluchtelingen-in-van-hornekazerne/>. Copyright by Weertdegekste.
- Figure 51-54 Own image.
- Figure 55 N.V. Fotodrukind. “Emdeeha” (n.d.). *Johan Willem Frisokazerne – Assen, Johan Willem Frisokapel* [postcard]. Nationaal Militair Museum. <https://collectie.nmm.nl/nl/collectie/detail/1974695/>. Copyright by NMC.
- Figure 56-58 Own image.
- Figure 59 SVP (2025). Visiekaart (p. 83) [Masterplan]. Archiefbestuur Gooise meren. [https://archiefbestuur.gooisemeren.nl/fileadmin/plannen\\_en\\_projecten/toekomst\\_Bussum-Zuid/Gebiedvisie\\_Bussum-Zuid.pdf](https://archiefbestuur.gooisemeren.nl/fileadmin/plannen_en_projecten/toekomst_Bussum-Zuid/Gebiedvisie_Bussum-Zuid.pdf). Copyright by SVP.
- Figure 60 SVP (n.d.). Buurtschap Crailo [map]. <https://www.archined.nl/leden/svparch/project/43725-buurtschap-crailo/>. Copyright by SVP.
- Figure 61-66 Own image.
- Figure 67 Own image based on groupwork.
- Figure 68-69 Own image
- Figure 70 Ruault, P. (2013). *FRAC GRAND LARGE* [Image]. Lacaton & Vassal. <https://www.lacatonvassal.com/index.php?idp=61#>. Copyright by Philippe Ruault.
- Figure 71 Borghouts, K. (2017). *Buurschap de Blokskens* [Image]. Happel Cornelisse Verhoeven. <https://hcva.nl/werk/buurschap-de-blokskens-zandhoven>. Copyright by Karin Borghouts.
- Figure 72 Dujardin, F. (2011). *Schreber* [Image]. AMUNT. <https://amunt.info/#schreber>. Copyright by Filip Dujardin.
- Figure 73 Müller, S. (2022). *Leiden's City Hall* [Image]. Office Winhov. <https://www.winhov.nl/en/projects/leiden-city-hall/>. Copyright by Stefan Müller.
- Figure 74-87 Own image.
- Figure 88 Krom, de, P. (2022). *Vakwerkhuis Offices* [Image]. Architectenweb. <https://architectenweb.nl/projecten/project.aspx?id=39910#photoid=359554>. Copyright by Vakwerk Architecten.
- Figure 89-92 Own image.
- Figure 93 Menges, S. (2023). *Museum Paleis Het Loo* [Image]. Archdaily. [https://www.archdaily.com/999537/museum-paleis-het-loo-kaan-architecten/6439a7f44d5c4615e3acc6b6-museum-paleis-het-loo-kaan-architecten-photo?next\\_project=no](https://www.archdaily.com/999537/museum-paleis-het-loo-kaan-architecten/6439a7f44d5c4615e3acc6b6-museum-paleis-het-loo-kaan-architecten-photo?next_project=no). Copyright by Simon Menges.
- Figure 94 Papetti (2026). *Scavi Scaligeri, Verona* [Image]. VERONASERA. <https://www.veronasera.it/attualita/riapertura-mostre-centro-fotografia-scavi-scaligeri-archeologia-29-gennaio-2026.html>. Copyright by VERONASERA.
- Figure 95-126 Own image.

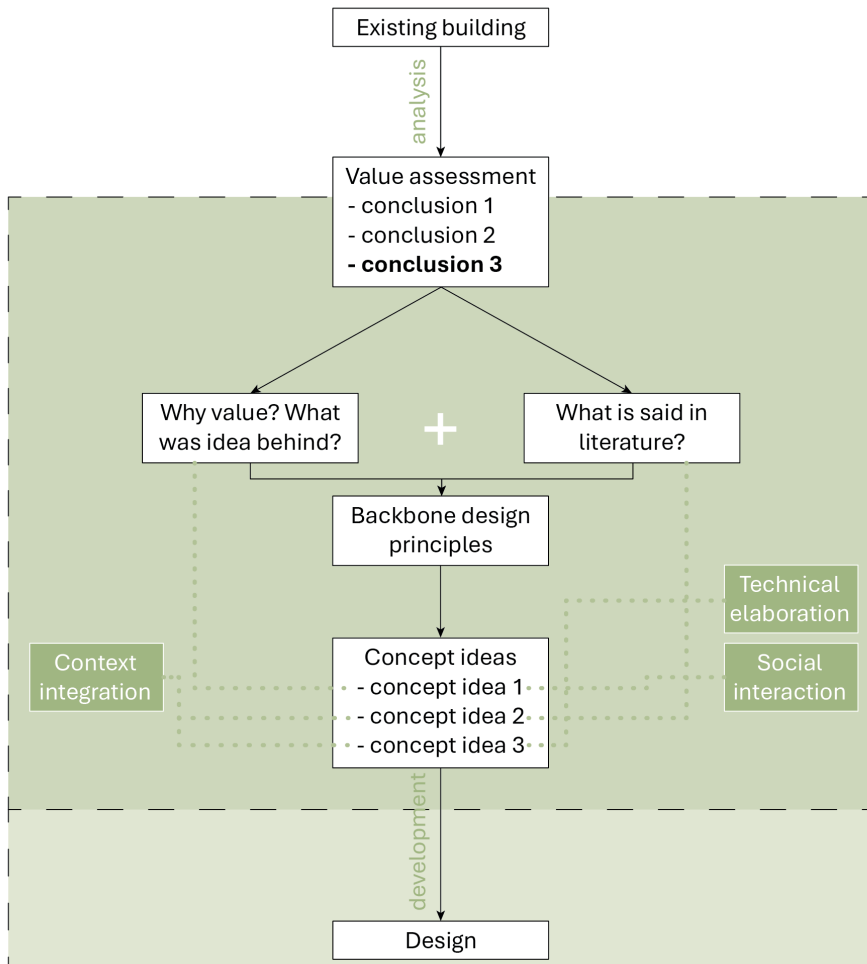
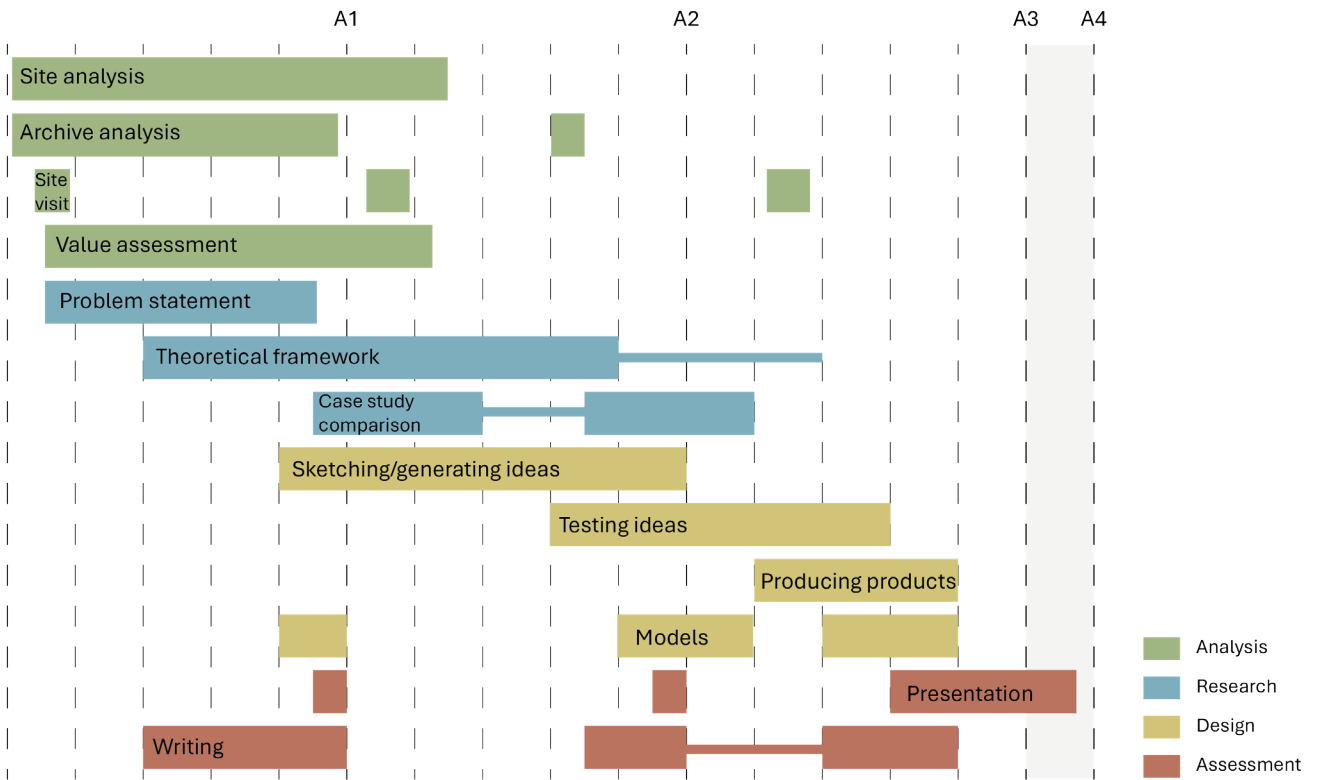
# Appendix A

Excel list with gathered information about several Boostkazernes with information retrieved from Oosterboer, F. (2024). *28 Kazernes, naslagwerk bij Kazernebouw tijdens het Interbellum*. (Kazernereeks nr. 4). Je Oude Kazerne Nu. [https://www.jeoudekazernenu.nl/Publicaties/kazernereeks/Naslagwerk\\_deel%204.pdf](https://www.jeoudekazernenu.nl/Publicaties/kazernereeks/Naslagwerk_deel%204.pdf) & photos retrieved from Google Maps (retrieved in 2026).

Naam	Plaats	Provincie	Uitwerking	Startbou Gereed	Gebruik door	Extra gebouwen	Huidige toestand	Schade	Gestoopt	Bijzonderheden	Google Maps 2026
Saksen-Weimarkazerne	Amstern	Midden-Nederland	ea. Te Amstern majoor F.E. van der Staay	1939 februari	1943-1944 SS-Unterführerschule Amstern 1945-1950 14e Infanteriebatalljon 1950-1991 11e Infanteriebatalljon Garderiemagazijn Grenadiers 1991-1996 11e Afdeling 'Rijdschool' Artillerie - asielzoekerscentrum, daarna anti-krakwakkentent 2012 - verbouwing en nieuwbouw	extra legeringsgebouw communicatiebunker 1974 ASCON-mast grote garage bij helling Weg achter Bos	Legeringsgebouwen herbestemd tot appartementenblokken. Ook twee vroeger magazijnen en keuken-keukengebouwen zijn hergebruikt. Rest van terrein: Hoofdgebouw werd geconverteerd tot drie legeringsgebouwen herbestemd voor wonen	luchtmachiel 17 september 1944 operatie Market Garden: schade aan kappen van hoofdgebouw en eldgangenbouw	naoorlogse nieuwbouw afgebroken + naoorlogse verbouwing linkerkant hoofdgebouw afgebroken	Gesloopt hoofdgebouw waarvan rechtervleugel met sportterrein voorzijde staat	Google Maps 2026
Cort Heiligerkazerne	Bergen op Zoom	Noord-Brabant	ea. Te Bergen op Zoom kapitein J.J. Merlet	1938 augustus	1939 mei 1939-1945 14 Regiment Infanterie corpsrijks Krijgsmagazijn Reichs-Stamm-Abteilung vanaf 1944 Canadese kort gelegerd, opgevolgd Prinses Irene Brigade 1945-1946 overname de pantserschool 1946-1950 3e Depot Infanterie opleiding van soldaten Nederlands-Indië 1950-1953 Luchtdoelartillerie 1953-1961 Regiment Veldartillerie Prins Frederik; opleiding huwsterschouffeur 1961-1971-1986 opleiding chauffeurs + 'Rijdschool' Bergen op Zoom 1997-2002 Korps Commando Troepen vanwege afbraak eigen kazerno	extra werkplaatsen, garages, magazijnen en onderhuisconstructieelods	Hoofdgebouw werd geconverteerd tot drie legeringsgebouwen herbestemd voor wonen	vanaf 2019 plangebied Crallo ontwikkeld, nu in transformatie voor woningbouw.	naoorlogse bebouwing en voornamelijk stalen en magnesium uit 1938-1939 gestopt tbv woningbouw en park. Na oorlogsbouw later afgebroken voor gewen commercieel haalbare bestemming bleek	Stroomaam 1938: Huisgegesch bleek	Google Maps 2026
Kolonel Palmkazerne	Bussum	Noord-Holland	ea. Te Amersfoort traanweg, kapitein J.C. Sturmpilus	1938 juli	1939 oktober 1939-1940 9e Depotbatalljon 1940-1944 Duitse leger en Lufwaffe (1940-1941 met gebombardement door compagnie Gezagstroepen) 1941-1951 Commando Luchtwafdeling - kort tijd te Kadernschool (Infanterie) 1952-1990 Luchtdoelartillerie; Opleidingsregiment Zware Luchtdoelartillerie 1990-1995 Depot Intendanteschool (hoofdgebruiker; opleiding) 1995-2005 Intendanteschool (hoofdgebruiker; opleiding)	er was een noodkeukengebouw, later nieuw aangebouwd	vanaf 2019 plangebied Crallo ontwikkeld, nu in transformatie voor woningbouw.	1944 en 1945 gebombardement 1957 door Amerikaanse F100 Super Sabre neergestort op gebouw 3	-	Palmkazerne te klein voor nog meer opleiding	Google Maps 2026
Elias Boeckmankazerne	Ede	Gelderland	Nieuwe kazerne, kapitein J.C. F.E. van der Staay	1938 eind	1939 mei 1939-1939 22 Regiment Infanterie 1940-1944 Duitse troepen Waffen SS - 1943 Canadese troepen tot repatriëring - 1953 Regiment van Heutsz en artillerie-opleiding 1950-1952 Vrijwilligers Opleidingscentrum tot beroeps onderofficier 1952-1962 verbindingsdienst; opleidingscentrum huwelosten - 2010	naoorlogse kantine, bureelgebouwen en wachtgebouw	drie legeringsgebouwen, legeringsgebouwen en keukengebouwen rijksmonumentstatus; herbestemd voor wonen. Terrein gewild met vrijstelling voor wonen	-	overige bebouwing (op huidige toestand na de gemeentecantroulokommer na) gesloopt	-	Google Maps 2026
Detmerskazerne	Erfde	Gelderland	Kazernplein, kapitein J.C. F.E. van der Staay	1938 november	1939 1940-1945 NL chauffeursopleiding; National Socialistische Krijgswagen Korps na herrijding Canadese gelegerd + NL opgesloten verdacht heulen Duitsers - 1953 opleiding troepen Nederlands-Indië + andere opleidingen (bv koks) en Regiment Oranje Gelderland en opleiding Luchtdoelartillerie - begin '90-1996 428 Compagnie van Heutsz 1996-1998 428 Compagnie van Heutsz 105 Intendantes- en Depotcompagnie met schoen-, zakk-, kleemaken, schrijfhersel werkplaats en godewarenmagazijnen 1973 gemeentekantoorplaats	naoorlogse twee verdiepingen hoog werkgebouw	hoofdgebouw anno 2024 voor kleine bedrijfshoofdgebouw. Vrijgekomen terrein gewild met keukengebouwen en wintingen, sommige dicht op hoofdgebouw	-	alles op hoofdgebouw na gestopt	Hoofdgebouw is gesloopt; gymzaal zit in rechtspoot, wacht met cellen links van poort.	Google Maps 2026
De Constant Rebecqzekazerne	Eindhoven	Noord-Brabant	Oirschotsteeg, kapitein J.C. Zwart	1938 juni	1939 juni 1939-1940 17 Regiment Infanterie corpsrijks Lufwaffe voor personeel vliegbase Walsch - 1947 eenheden Aan- en Avvoertroepen 1947-1950 96 Rj- en Tractieschool (RTS) 1950- asielzoekerscentrum 2000- kraakpand en in 2003 een rockconcert?	tijdens oorlog uitgeroofd met oostzaal aan keuken gebouwen en buiten ensemble vijf gebouwen Heimatstil RTS werkplaatsen, garages en legebouwen	oostzaal verbouwd tot school voor kinderen van expats: International School Eindhoven Duiters bijgebouwd complex overgenomen door BioArt	-	Garage en werkhelosten afgebroken; teruggegewen aan natuur	-	Google Maps 2026
Jan van Schaffelaerskazerne	Ermelo	Gelderland	Louvenseweg, kapitein J.C. Sturmpilus/ltutenant s.H. Hogendoorn, met hulp van burgemeester W.J. Mantel	1938 augustus	1939 1940 lokale bewoners Bennevelde/Voorthuizen die moesten evacueren 1940-1945 53e Pioneer Battalion - repatriëring 1945 gevangenen verzameld tijdens in afwachting transport 1945 eiland voo Duitse krijgsgevangenen en collaborateurs + Binnenlandse Strijdkrachten om opleiding volgen voor in Duitsland omgezad Nederlands-Indië - 1946 17 Regiment Infanterie 1946-1948 5e Kadernschool op landig onderofficier en reserve-officier 1948- School Reserve Officiëren Infanterie (SRO) 1956- Kadernschool Infanterie (opleiding dienstplichtige onderofficiëren) 1956-1998 leegstand (einde dienstplicht) 1998-2007 Start van de Opleidings Centrum Intellie Opleidingen KL 2015- Koninklijke Militaire School (KMS)	oem compleet nieuwe kazerno aamast	KMS, horecagebouw klein voor huidige grote opleidingsbehoefte, het vroege keukengebouw huwelsten de faciliteiten dienst van Schaffelaers en Generaal Sportkazerne	-	-	1951 naast kazerno nieuwe Generaal Sportkazerne gebouwd Rechtervleugel hoofdgebouw twee bouwlagen. Kazerno is enige in gele baksteen oftli nog twee magazinggebouwen bedacht	Google Maps 2026
Generaal de Bonselkazerne	Crave	Noord-Brabant	Generaal de Bonselweg, kapitein H.L.J. Homix	1938 juli	1939 1939 voor geresad aldaar batalljon door 15 Regiment Infanterie in oorlog Krijgsmarine 1944 eenheden van Wehrmacht 1944 hoofdquarter Canadese generaal Crowe, repatriëring - Handrecht uitzending Nederlands-Indië 10 Rj, te instructie Batalljon aan/af 1950-1953 Regiment Zware Infanterie Chassé, 123-124 Zware Transportie, batalljon Soorttroepen - 1950 11e Technische Dienstbatalljon en 11 Intendantescompagnie 1961- Depot Technische Troepen 1967-1976 44 Herstelie (tot 1984) en 12e Afdeling Veldartillerie 1978- Rijdschool Venlo tot 1994	-	na afsloting in twee delen gesplitst: zuidelijke naoorlogse deel garages/magazijnen: bedruipen omreis ouders dood was asielzoekerscentrum tot 2016, op één legeringsgebouw nam 8025, onderomring herbestemming 1961, kazerno over. Oebouwen zullen worden verhuurd aan ondernemers.	-	-	-	Google Maps 2026
Emat Casimirkazerne	Roermond	Limburg	Wilhelminstein, kapitein H.L.J. Homix met hulp van Ir. J. Klarenbeek	1938 april	1939 augustus 1939 10-17 Regiment Infanterie 1945 Amerikaanse voor bewijding 1945-1946 repositiecentrum 1946 10-17 Rj keerde terug, opgeleid Nederlands-Indië 1948-1965 Depot Infanterie, opleidingscentrum 2a, 6e en 11e Rj 1965-1992 Depot Technische Spoorlijsten en opleidingen TSOCC Zuid + Noord 1944 klein bruikbaar deel Aan- en Avvoertroepen en marchausse 1948-nu Stormschool (Blacemdaal, vanaf 1960 Korps Commandotroepen (KCT))	-	Design Outlet als horecagelegenheid en winkels, rest is gewild met winkels en parkeerplaatsen.	-	In 2027 plannen om alles te slopen maar protesten wisten te voorkomen dat hoofdgebouw en gebouw is gespaard blijven	Burgervoorlicht bij bouw betrokken, te zien aan witte omlijning van poort. Magazinggebouwen staan voor hoofdgebouw.	Google Maps 2026
Engelbroeck van Nassaukazerne	Roosendaal	Noord-Brabant	Commando, kapitein J.J. Merlet	1938 maart	1939 maart 1939-1940 17 Regiment Infanterie, opgevolgd de Depot Batalljon 1944 klein bruikbaar deel Aan- en Avvoertroepen en marchausse 1948-nu Stormschool (Blacemdaal, vanaf 1960 Korps Commandotroepen (KCT))	na oorlog herbouwd met platte dakken	Nieuwbouw 2002 voor KCT	1944 door terugkeer van Duiters eenheden grondig verbouwd	In 1937 kazerno gesloopt	Stroomaam 1938: Rondweg	Google Maps 2026
Westenbergkazerne	Schalshar	Overijssel	Frisewijk, kapitein J.C. F.E. van der Staay	1939 begin	niet gereed uitbreken oorlog 1939 1939-1940 17 Regiment Infanterie 1945 Canadese repatriëring 1948-1953 Depot Lichte Luchtdoelartillerie 1953-1956 41 Batalljon Gede Fuzeliers Prinses Irene 1956-1990 13 Infanteriebatalljon 1990-1992 13 Pantserinfanteriebatalljon	na organisatieverblijfsinfanterie extra legeringsgebouw	Asielzoekerscentrum (AZC)	Een brand in 1920 verwoeste werkplaatsen, schaffelokaal en tekenomars	-	staatsaam 1938: Spanjaardwijk. Hoofdgebouw kreeg bordes boven de toegang binnenplaats. Keukens kwart gerad.	Google Maps 2026
Johan van den Kompuzkazerne	Steenwijk	Overijssel	Mepplarweg, kapitein kolonel A.L. Thiersens	1938 mei	1939 1940 18 Regiment Infanterie als opleidingscentrum; militair hospitaal 1945 Canadese militairen repatriëring 1945 10-10 Rj Nederlands-Indië 1950-1952 2e Instructiebatalljon van Regiment Infanterie Johan Willem Friso 1953 18 Oranje Gelderland behorende 423 Batalljon Infanterie Oranje Gelderland 1994-1996 41 Schoolbatalljon Beroeps Bepaalde Tijd - asielzoekerscentrum	naoorlogse wijziging: extra legeringsgebouw	Legeringsgebouwen B en C verbouwd tot appartementengebouwen. Hoofdgebouw tehuis voor auto's die jongeren en gymzaal is bijlaanvoering	-	-	kazerno grotendeels afgebroken voor nieuwbouw woonwijk van den Kompuzwarter	Google Maps 2026
Koning Willem II kazerne	Tilburg	Noord-Brabant	Ringbaan-Zuid, kapitein J.J. Merlet	1939 juni	1939 juni 1940 kazerno gebruikt om NSB'ers, mannen/vrouwen op te sluiten 1943 aanmeldcentrum voor studenten onvooitoe studie, --> Duitland afgevoerd 1944 Ginea-Politië ontmaken fusillieren (bestaatde Bremen gawonden) 1944-1947 marine verzaamplaats rekruten in VS tot marine opgeleid - batalljon 7 Rj 1947 Aan- en Avvoertroepen, na reorganisatie regiment t'af 1953 Aan- en Avvoertroepen, opleiding dienstplichtige onderofficiëren 1967 Opleidingscentrum Aan en Avvoert	verbouwd tot gezinshuis (Pj Tilburg). Sinds 2015 leeg. Herbestemming is wonen en kantoorcentrum (blijven voor voorgeschiedgebouwen worden gesloopt)	verniekde poortgebouw eind 1946	-	-	-	Google Maps 2026
Van Homekazerne	Weert	Limburg	Kazernplein, kapitein H.L.J. Homix	1938 juni	1939 1939 nimmer officieel in gebruik, korte tijd voor bestende eenheden (I-4 Rj en I-37e) 1939-1940 17 Regiment Infanterie 1945 Canadese militairen repatriëring 1945 10-10 Rj Nederlands-Indië 1950-1952 2e Instructiebatalljon van Regiment Infanterie Johan Willem Friso 1953 18 Oranje Gelderland behorende 423 Batalljon Infanterie Oranje Gelderland 1994-1996 41 Schoolbatalljon Beroeps Bepaalde Tijd - asielzoekerscentrum	veel legerings-, legebouwen en een sportaccommodatie met avombad bijgebouwd	begin 2022 kazerno leeg, geen nieuw bestemming, geen AZC vanwege problemen criminele asielzoekers	-	-	-	Google Maps 2026
Willem de Zwijgerkazerne	Wuzap	Gelderland	Zuidersaastraa, kapitein kolonel A.L. Thiersens	1938 mei	1939 1939 coronaroom betrokken door 10-20 Rj Tijds op oorlog door Duitsers; meer info in omkand na oorlog als opvangplaats Nieuw-Engelanders die terugkeerden uit DE tot 1946 landmacht Artillerieschool 1949 Vrijwilligers Opleidingscentrum voor opleiding van promotie/vrijwilligers 1951 Onder Officiëren School, kadernschool aspirant beroeps onderofficiëren tot 1982 11 Geniebatalljon - 1992 opvangcentrum voor Nederlandse evacués uit Nieuw-Guinee eind 19e eeuw 9025e Afdeling Lichte Luchtdoelartillerie 1983-1996 101 Batalljon Koninklijke Marchausse	1951 legebouw	woonwijk, Glen Mills School en De Spint tot 2010: toen leegstand. Tot 2015 herbestemd tot appartementencomplex. Hoofdgebouw diverse ondernemingen horeca	-	-	naoorlogse linkerkant met parkeerplaatsen en toorden	Google Maps 2026
Adolf van Nassaukazerne	Zuidlaren	Drenthe	Annerweg, kapitein kolonel A.L. Thiersens	1938, 1939 april	1939 1939 10-12 Rj, kort tijd niet als overal vanwege mobilisatie 28 augustus tijdens oorlog Duitse Wehrmacht, Nederlandse militairen geresmeerd onderofficier daarna 1945 te Kadernschool opleiding reserve-officiëren aan dienstplichtig 1950 422 Batalljon Infanterie 1990 44 Pantserinfanteriebatalljon Johan Willem Friso 1993-1995 42 Conewekendige compagnie tot 1991 42 Afdeling Veldartillerie 1992 sluit kazerno, opvang van asielzoekers tot 1996	naoorlogse wijziging: vierde legeringsgebouw	Woningbouw, hoofdgebouw nieuwe rechtervleugel en gebouwt de bodifoverzamigebouw	-	alles behalve hoofdgebouw gesloopt	-	Google Maps 2026

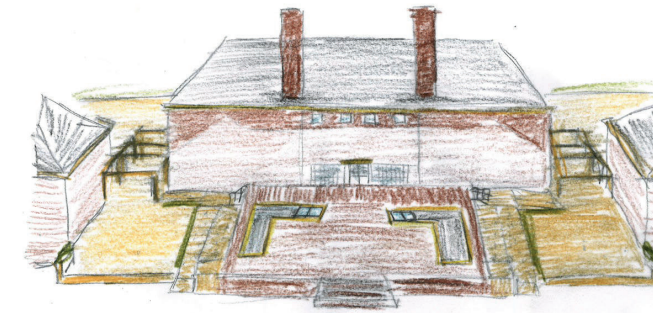
# Appendix B

## Planning presented as at A1

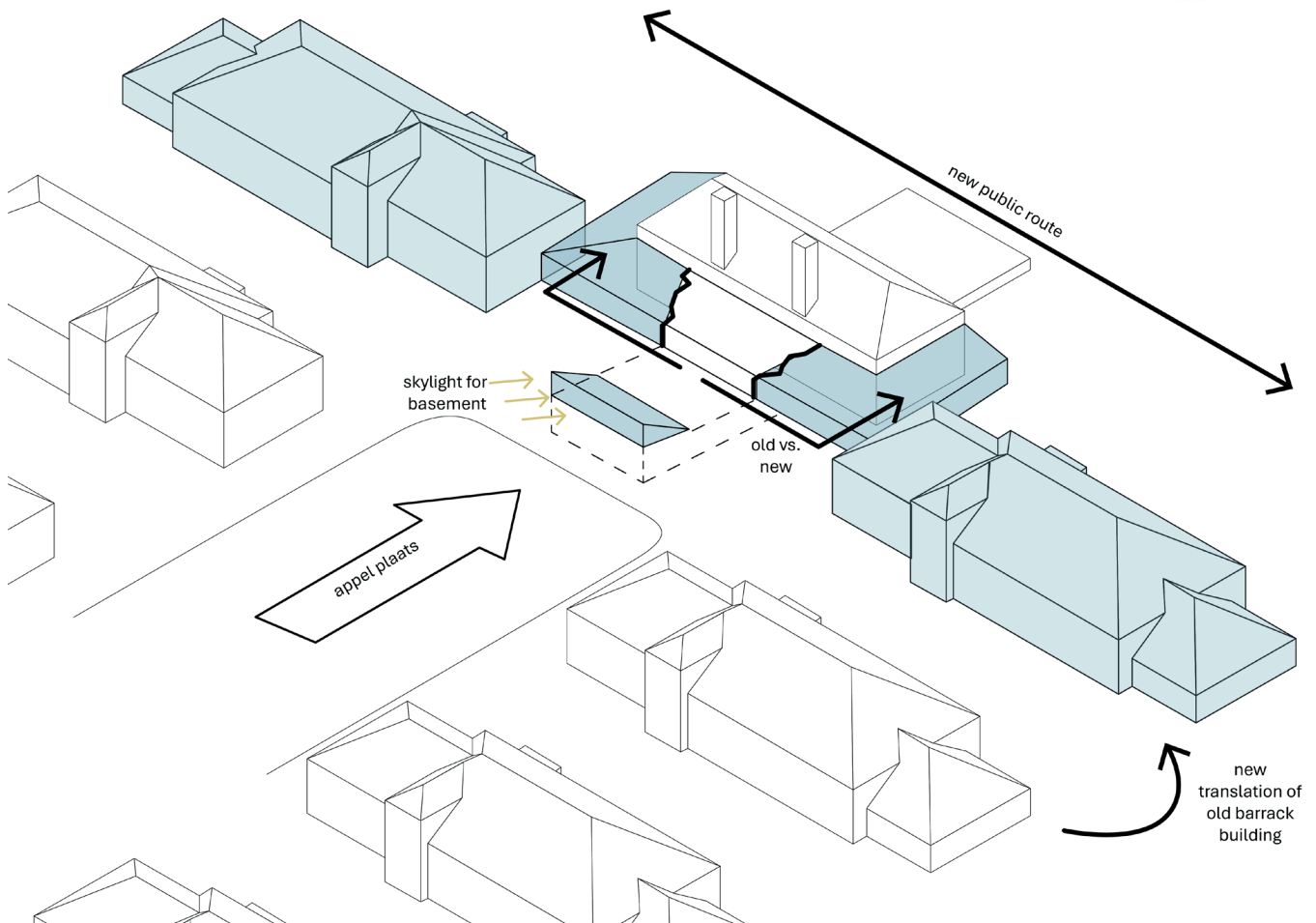
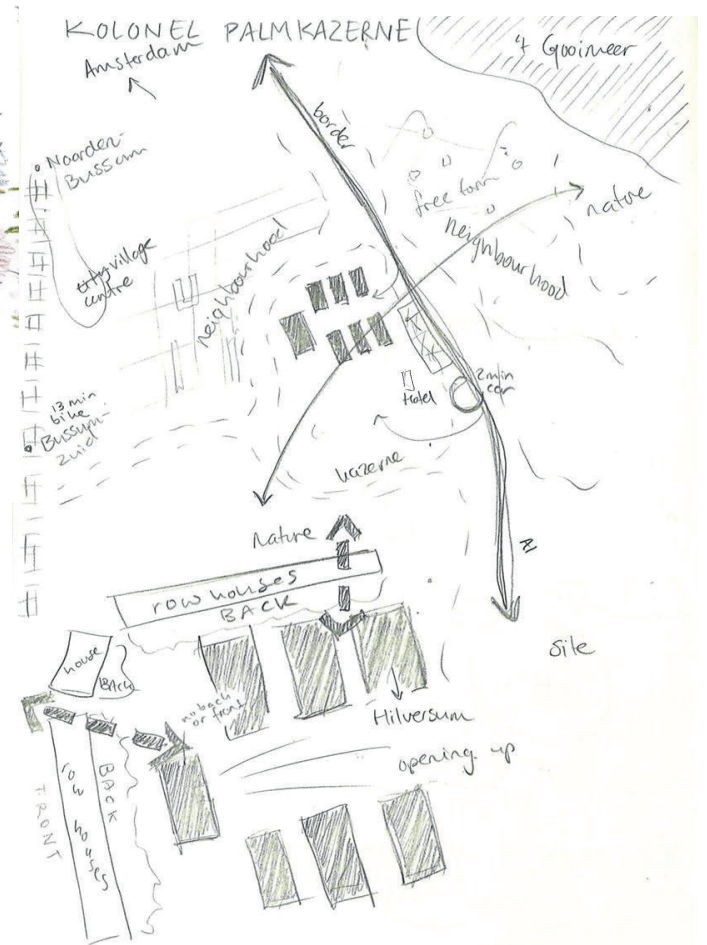


# Appendix C

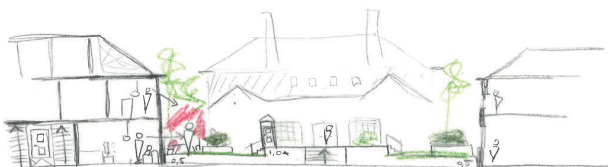
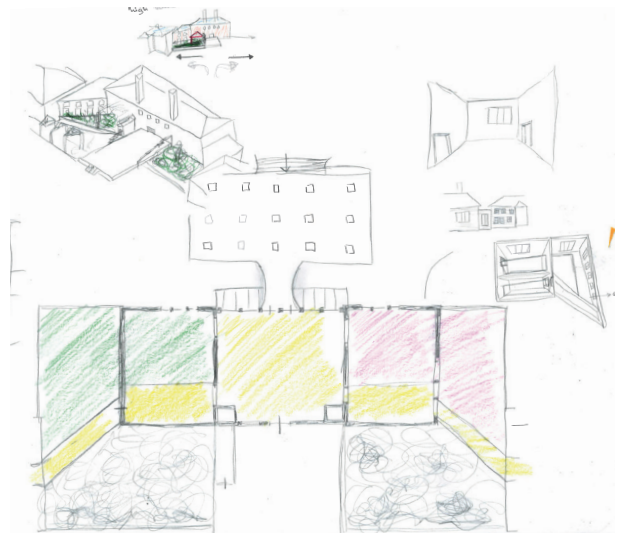
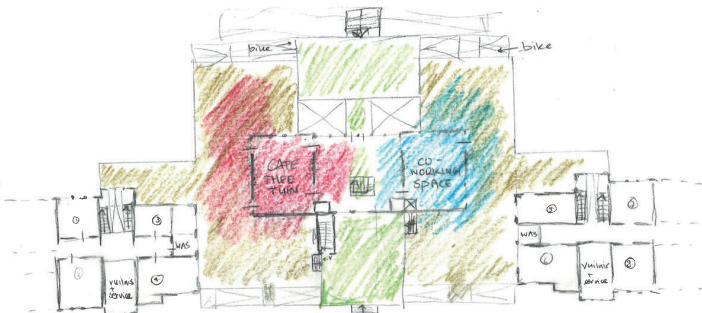
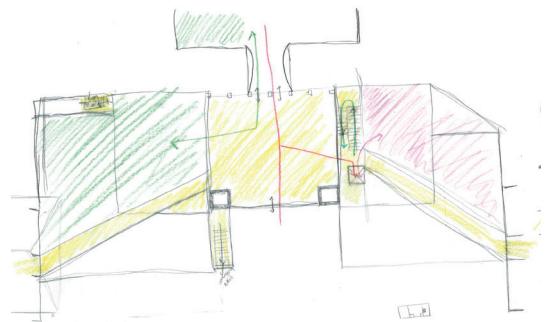
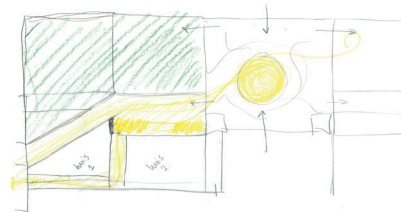
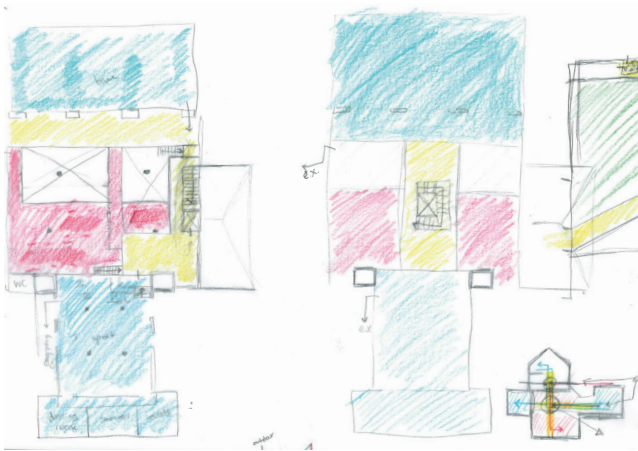
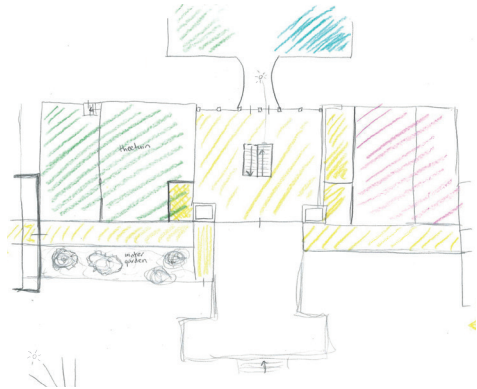
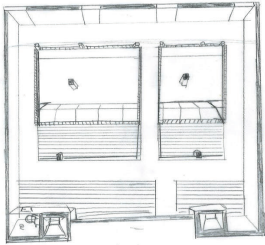
Elaboration for design process starting with initiative ideas for how the Kolonel Palmkazerne can be embedded in its environment and what influence a new connection will have.

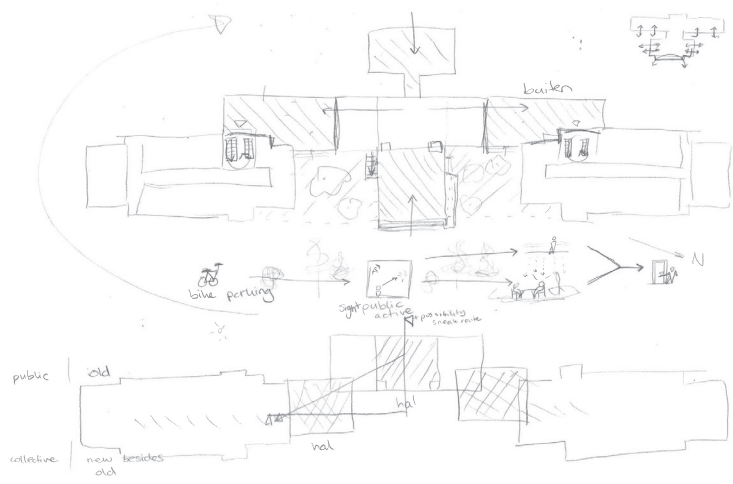


west zijde

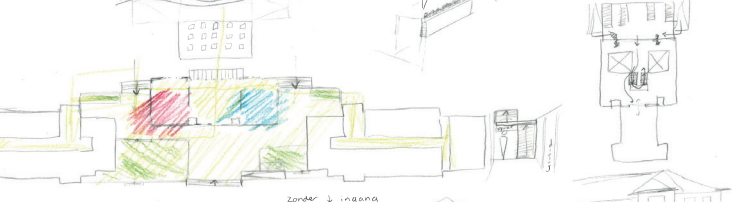
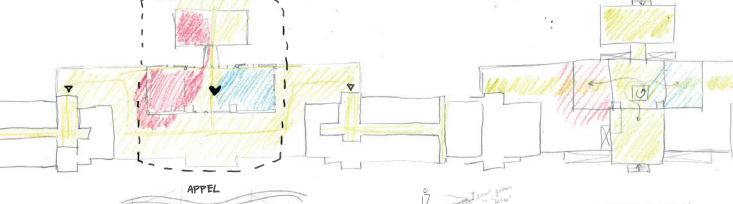
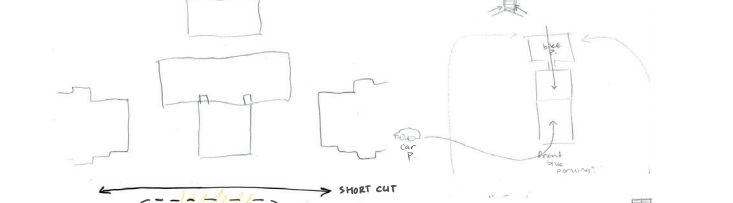
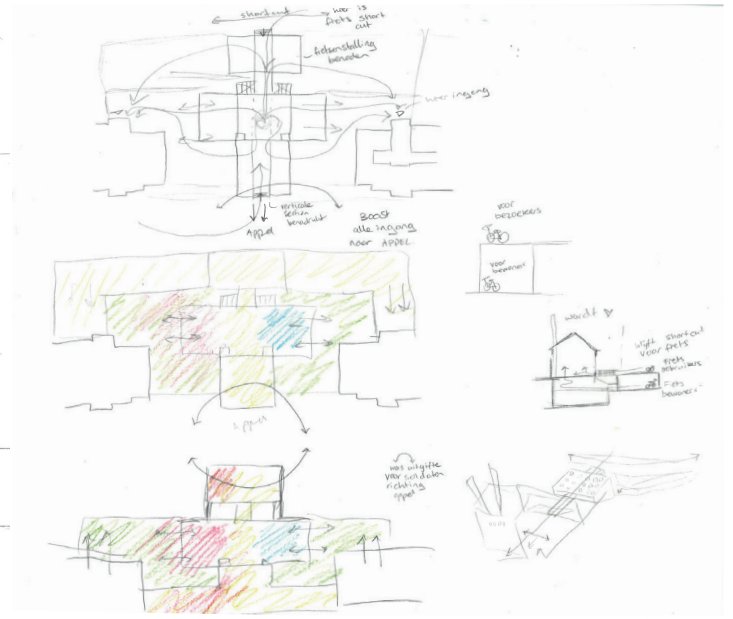
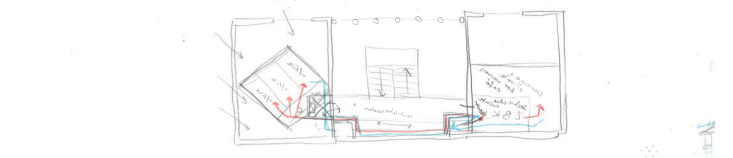
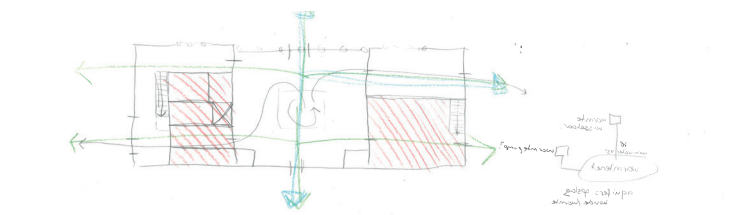
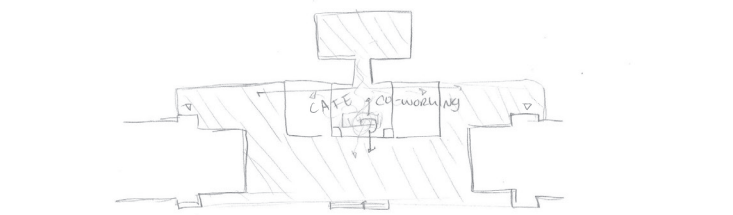
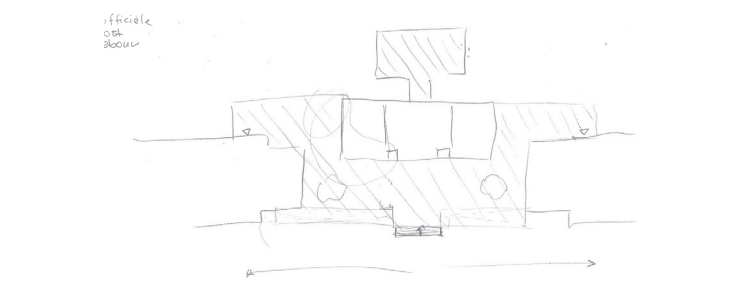


Design process in sketches for elevated platform in-between. Mostly testing what form would suit best.





→ officiële Boosht Gebouwt







Appendix D

Data management checklist

<b>Section A. General considerations</b>	yes	no
<p>1. Is the graduation project conducted as part of an internship (at a company), or as part of a research project at TU Delft?</p> <p>If a student's graduation project is conducted at a company or as part of a research project at the university, questions of data ownership and intellectual property rights need to be addressed in a written <a href="#">graduation or internship agreement</a> before the project begins. Student and supervisor should consult the <a href="#">Intellectual Property Rights of Students webpage</a>. Additional information can also be found in the <a href="#">Extended Personal Research Data Workflow</a>. If applicable, complete the <a href="#">Confidentiality Agreement</a>.</p>		✗
<p>2. Does the project involve conducting (part of) the research outside the Netherlands?</p> <p>Students who intend to travel abroad (even to other EU countries) for study, exchange, research, internship, or graduation project purposes need to follow the <a href="#">Travel Safety Protocol</a>. This includes attending a mandatory Travel Safety Training Session: see the <a href="#">Disclaimer</a>.</p>		✗
<p>3. Will the research involve processing data from humans, such as running a survey, conducting interviews or workshops, collecting data through social media or internet forums, or re-using existing datasets about humans provided by a third party? (If 'yes', see follow-up questions 4 to 13 in Checklist B.)</p> <p>Students who work with data from human participants must complete the next section and apply for and receive ethical approval from the <a href="#">Human Research Ethics Committee (HREC)</a> before conducting the research.</p>		✗

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## summary

After the Cold War, the Netherlands abolished conscription, leaving many kazernes (military barrack complexes) vacant before being sold. One of these vacant kazernes is the Kolonel Palmkazerne located in Bussum. This Boostkazerne, named after its designer Boost, is not unique but part of a larger system of sixteen standardised barrack complexes built between 1938-1939. Boost created an efficient and aesthetic design; as an result, many kazernes have been repurposed or listed as heritage for their recognisable original architecture.

Given the current housing shortage, there exists a knowledge gap on how standardisation and spatial quality can reinforce each other. While many standardised systems are already applied, their architectural quality is often debated. Therefore, it is important to broaden our understanding of how standard models can contribute to contemporary housing design. This report studies the existing Boostkazernes through a comparative case study. The distilled lessons, combined with contemporary housing theory, inform a new adaptive reuse design for the Kolonel Palmkazerne, centering on the keukengebouw (kitchen building) of the kazerne.

The main conclusion from the value assessment is that while the original ensemble and the national system of Boostkazernes has very high heritage value, the kitchen building itself is an incoherent whole. The resulting design conserves the highest-valued parts of the existing keukengebouw, situated between two newly constructed translations of the nearby existing legeringsgebouwen (existing barrack buildings) and connected by an elevated platform. This is based in the palimpsest of the site, while preserving the original ideas and reusing the keukengebouw offers a sustainable method that ensures the continuity of cultural and historical value.

Two main axes define the design. A long private axis through the housing for elderly and starters, using a technical construction of prefabricated CLT-panels. In the other, public, axis of the existing keukengebouw, a box-in-box method is used to accomodate new functions. The basement will be activated by creating skylights, and the elevated platform provides wheather shelter in the form of a pergola. This structural framework, based on standardisation principles, acts as a robust 'drager' (carrier) for open interpretation, allowing diverse individuals to form a coherent collective. In this way, the past is connected to the future through the present.

“  
**La soupe fait le soldat.**