

ANALYSIS CAMPUS SOUTH

hembrug peninsula

MSc3 P1 Heritage and Architecture

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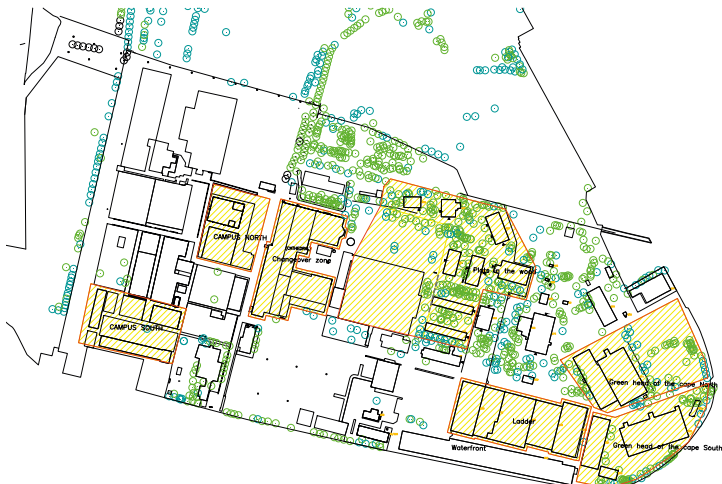
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ABSTRACT

Here before you lies our report on the analysis of Campus South within the Hembrug terrain. This is accomplished by working as a team and everybody's involvement through all the topics.

Hembrug, a site full of history. A site which held many secrets when it was still in use. A part of Zaandam which did not blend in with the inner city center. Hembrug was a place on its own; closed off from the people who did not have a purpose on that site. The former military industrial area housed a few functions and three factories. The weapon, patterns and ammunition factories. Each factory with their own entrances, own guards and own terrain. The weapon factory was on the far west of the terrain. It had an extension to the west of the first weapon factory which was realized in 1901. The former weapon factory terrain is now called 'the campus'. The southern part, facing the water, has now a different entrance than it had before. In the past, the entrance used to be by the waterfront. The expedition building, when seeing from the new entrance, is standing all alone next to a former railroad which is now a road made of concrete slabs. Right next to it a railroad car is placed on a part of rails. A building which used to house goods in order to put them on the train or the train would deliver materials which could be used at Hembrug. Next to the water, a long wall is situated which used to be a part of an enormous bicycle shed which was also an entrance to the weapon factory. On the opposite side the heat treatment building is located. A big building which was built in three phases. Next to it stands the washing hall which is the place where the employees could wash and change themselves after they have worked a long day. These three buildings and one 'ruin' are surrounded by much greenery. Each grass field has their own history. Each building is mysterious and has their own history, secrets which they still hold and need to be discovered. Therefore the research question is: 'What was the contribution of Campus South to the weapon factory over time?' To answer this question it was of importance to investigate the history of the terrain, the architecture of the buildings, the applied building technology and cultural value of these. In the end all these components are linked to each other which tell the functioning of Campus South in a broader context. It was a connection from the inside of Hembrug to the outside when it comes to the employees who entered and left the weapon factory and the goods which entered and left via the expedition building.

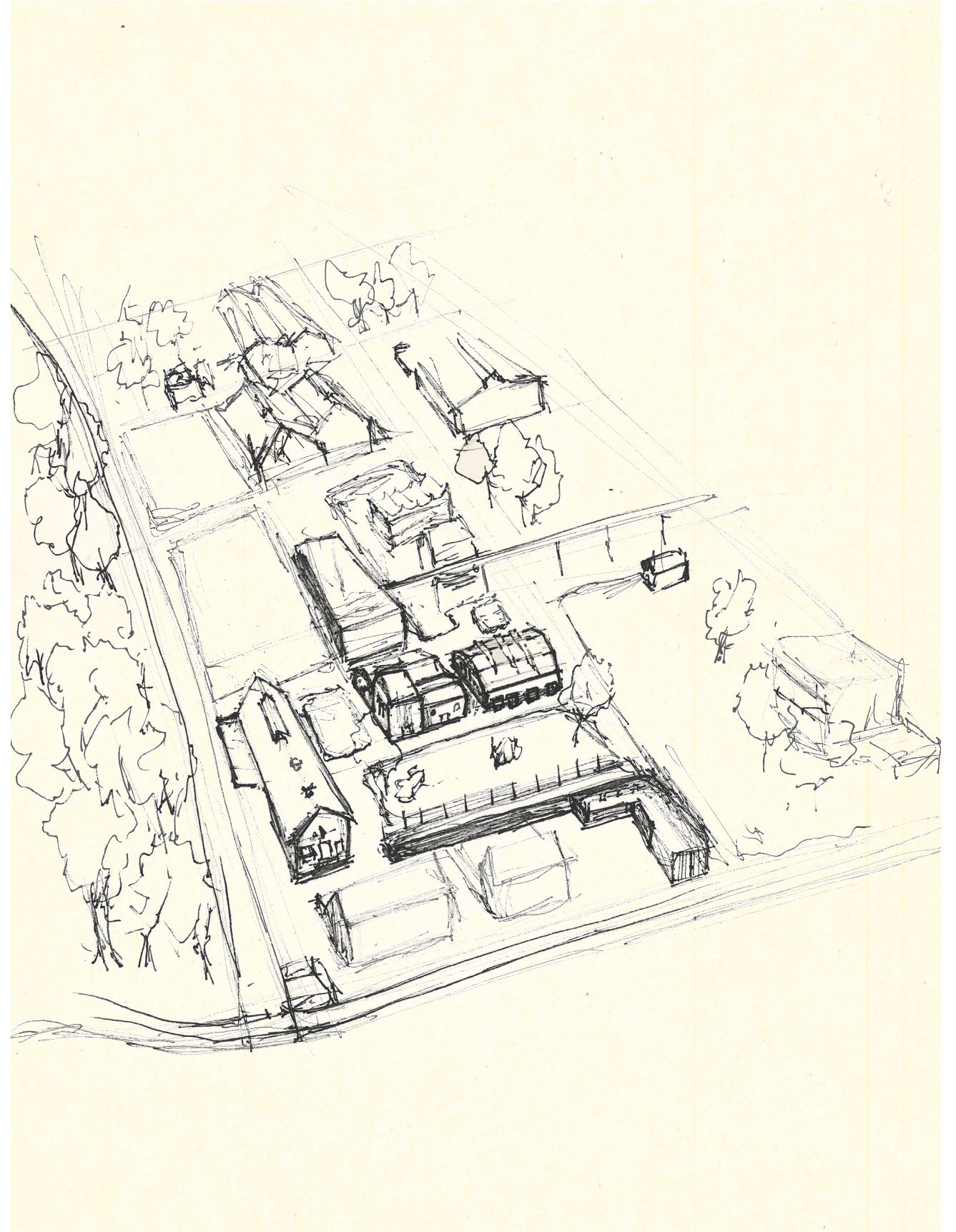
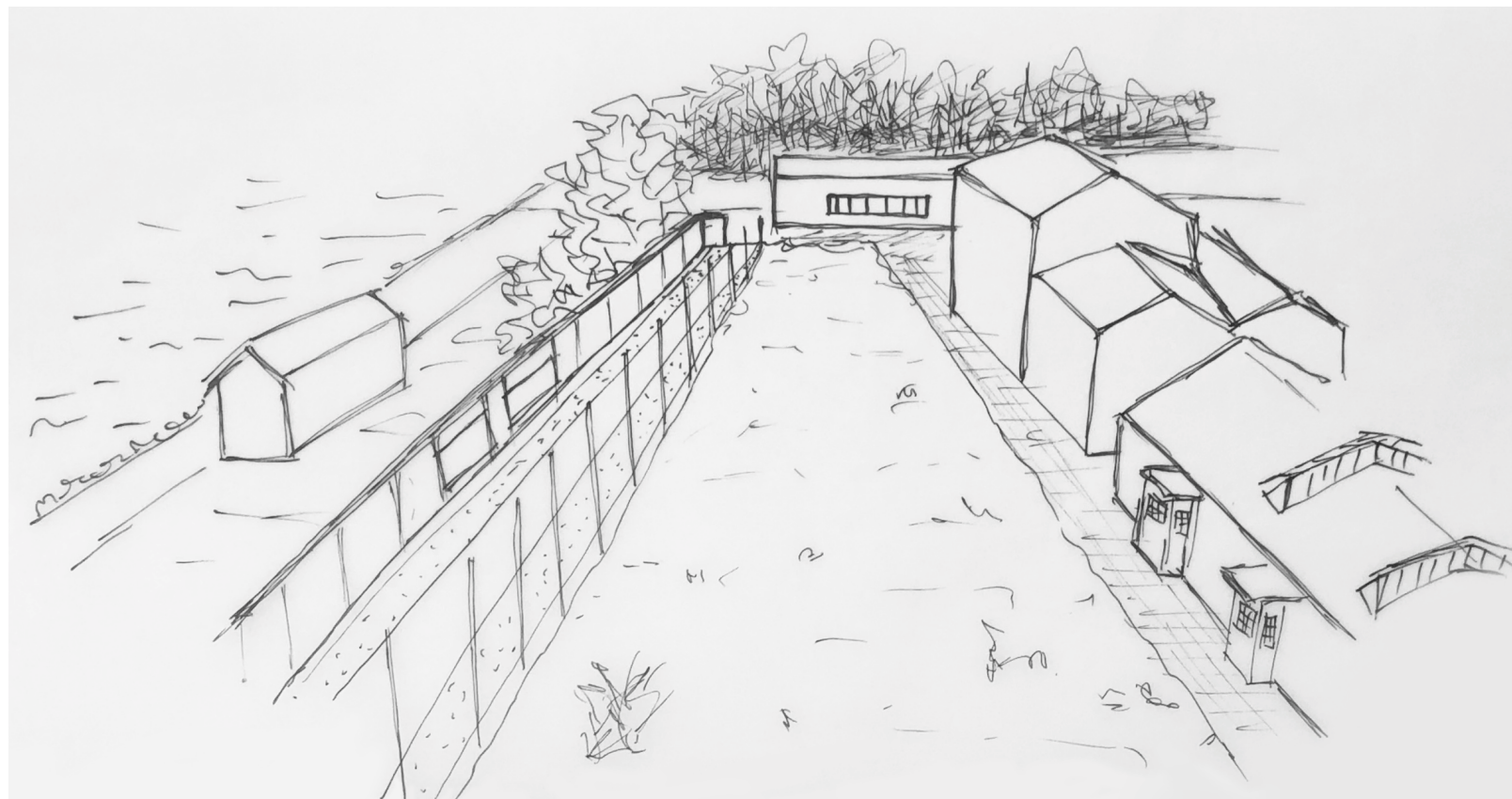
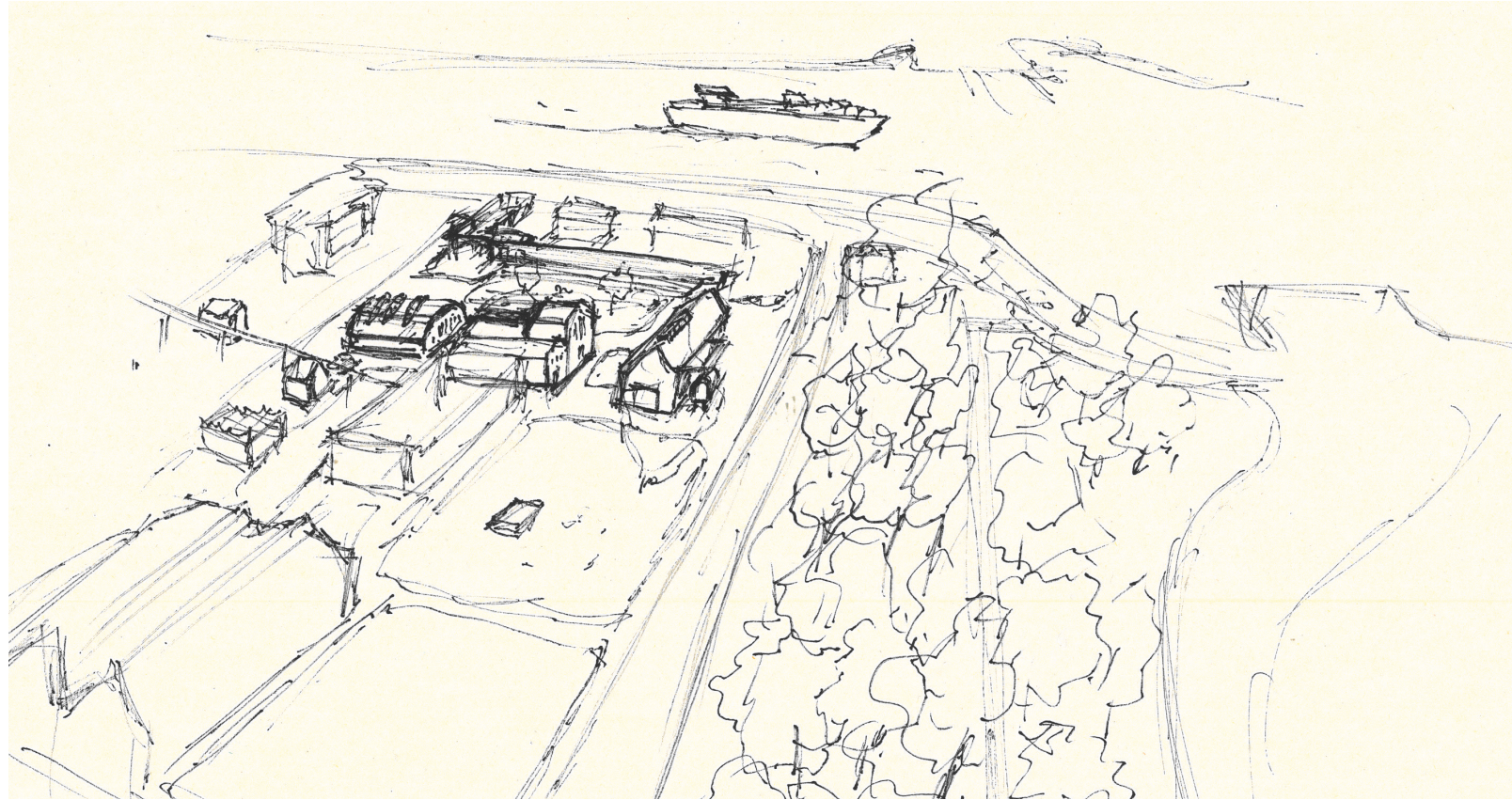
01 - GENERAL

campus south

01 - THE SITE

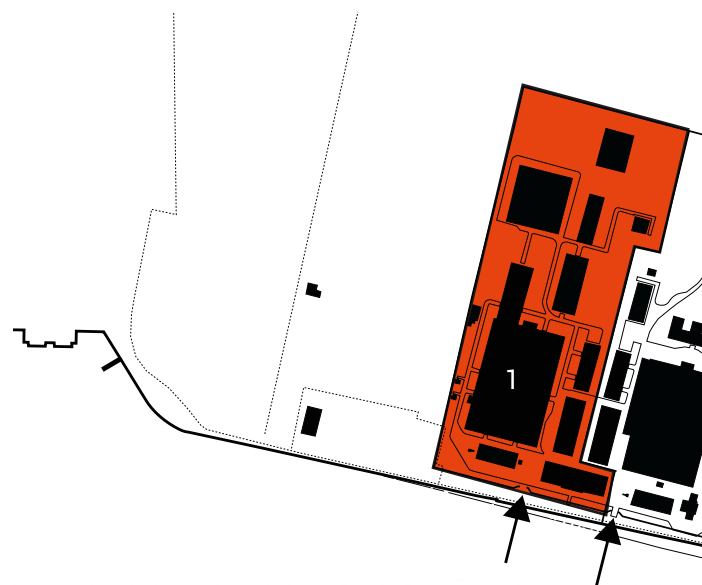
campus south

Source: Luyckx, S.L. & Boujamaa, S.



01 - WHAT WAS THE CONTRIBUTION OF CAMPUS SOUTH TO THE WEAPON FACTORY OVER TIME ?

1901



1924



1941



- 1. Weapon factory
- 2. Washing hall
- 3. Storage
- 4. Forgery

- 5. Treatment building
- 6. Expedition building
- 7. Wooden shed
- 8. Boiler building

- 9. Officer's residence
- 10. Toilets
- 11. Bicycle shed
- 12. Houses

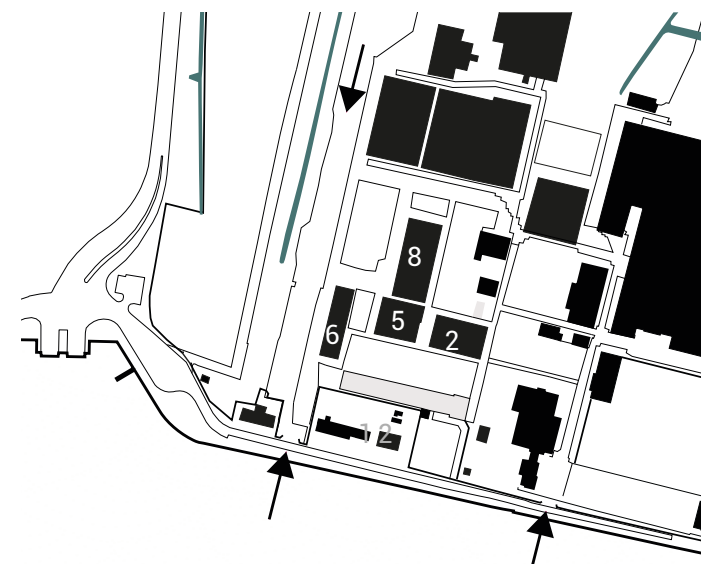
1963



1996



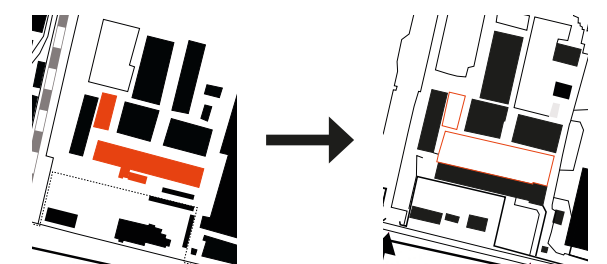
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Campus South is built because of the expansion of the weapon factory, increased by the First World War. There was enough space to expand to the West side of the factory. Despite the fact that the early 30's were crisis years for the Artillery, they had to anticipate on the appointed Chancellor of Germany, Hitler. This resulted in new and renewed buildings in the area. During those crisis years the factories were used for civil productions. The buildings that are still left on our chosen ensemble are built during this period (SteenhuisMeurs, 2010).

The military production rose during the prelude of the second World War. To prevent the Artillery production from being taken over by the Germans during the war, they switched to agricultural production only. Unfortunately, this did not prevent the area from falling into the hands of the Germans in 1941. The civil production continued after the World War and in 1969 the factories specialized in precision lathes (SteenhuisMeurs, 2010).

The buildings of Campus South were used by the employees of the weapon factory. The ensemble had a washing hall, a warehouse, small bicycle sheds, a forgery and a heat treatment building. Later on a expedition building, a wooden shed, the boiler building and a toilet building were added to the site. In the 1950's a large bicycle shed was built on the site and shortly after that, the wooden shed and the forgery were demolished. Their dimensions are still visual by the green plots in the ensemble. The officer's residence has been replaced by houses. After the end of the work activities of Eurometaal nature took over. With all this history still tangible, it is now time to give the site a new purpose.



01 - DID THE PRODUCTION PROCESS INFLUENCED THE DEVELOPMENT OF CAMPUS SOUTH?

The Netherlands was neutral during World War I, but this didn't mean that the production went on in the same pace. On the contrary, the production of weapons was never as high as before. The number of factory workers increased tremendously to almost 7000 workers to make sure that we could defend ourselves when things would get out of hand. The performed work increased twelve times to a number of 5 million guilder and the stocks increased by thirty six times to a number of 18 million guilder. Directly after World War I the stocks and the performed work declined to a small 140 thousand guilder produced by 3000 workers (Nationaal Archief, 2.13.86). The disarmament after the war hit Hembrug hard, so it was decided to make civil products like agricultural machines and machine tools as well as casting, forging and milling for private parties. This generated a recovery in the performed work and stocks around 1930. In the prelude to World War II, the production of weapons and ammunition increased again to a number of 3 million guilder (Nationaal Archief, 2.13.86). This was the period in which the buildings on Campus South were built in order to facilitate the increased production. The washing hall and the toilet building were built to cope with the increased amount of workers; the expedition building was built to store more goods, waiting to be transported and the heat treatment building and the boiler house were extended to deal with the higher production needs. After World War II the production decreased again and with that the number of workers as well (Nationaal Archief, 2.13.86). The buildings on Campus South were less and less used and slowly started to decay.

FIGURE 1: The flow of factory workers and production through time.

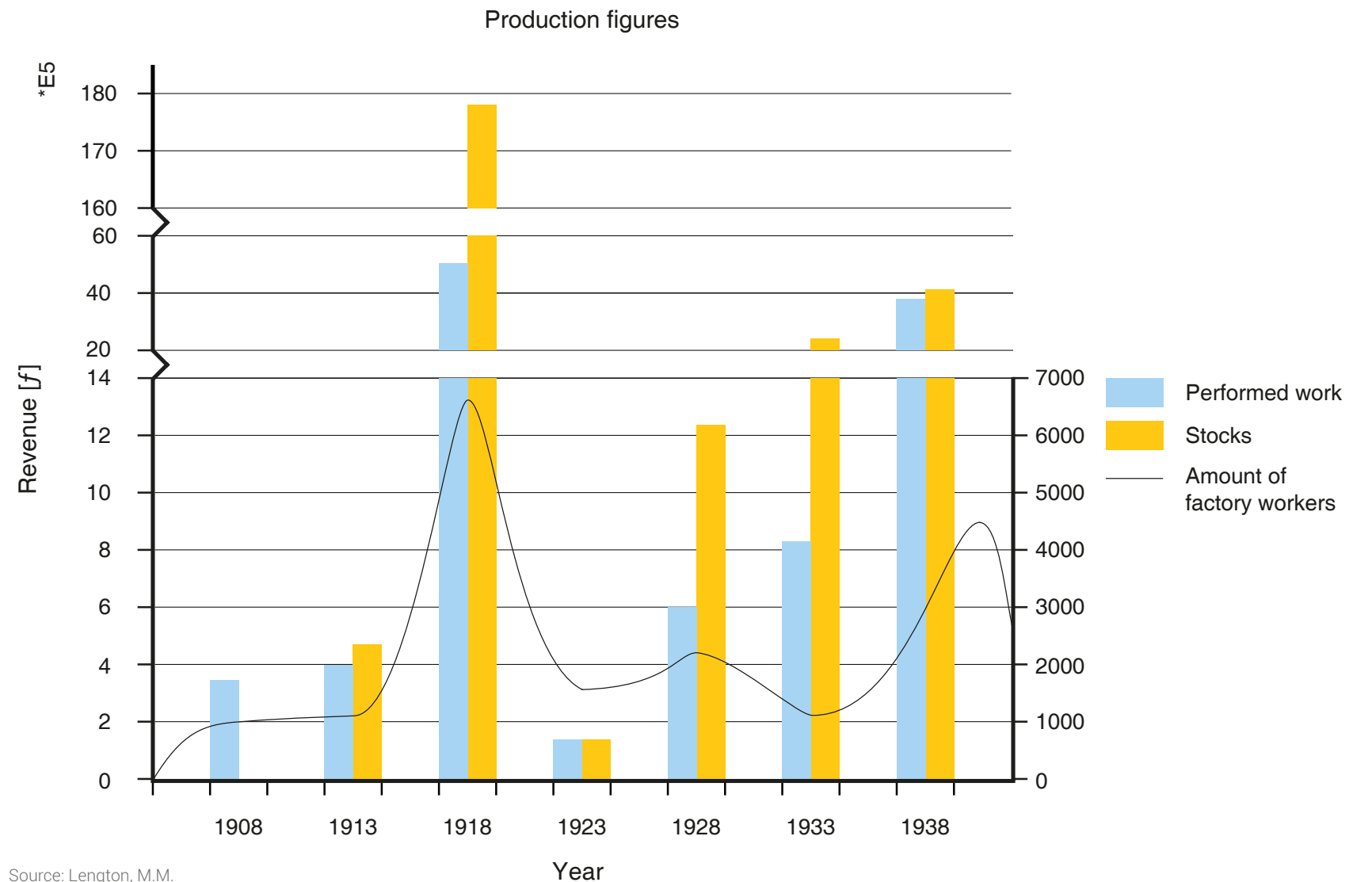
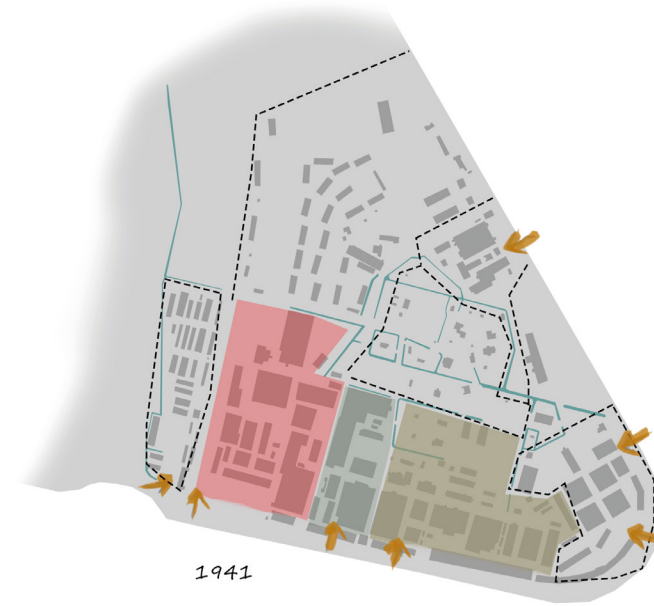
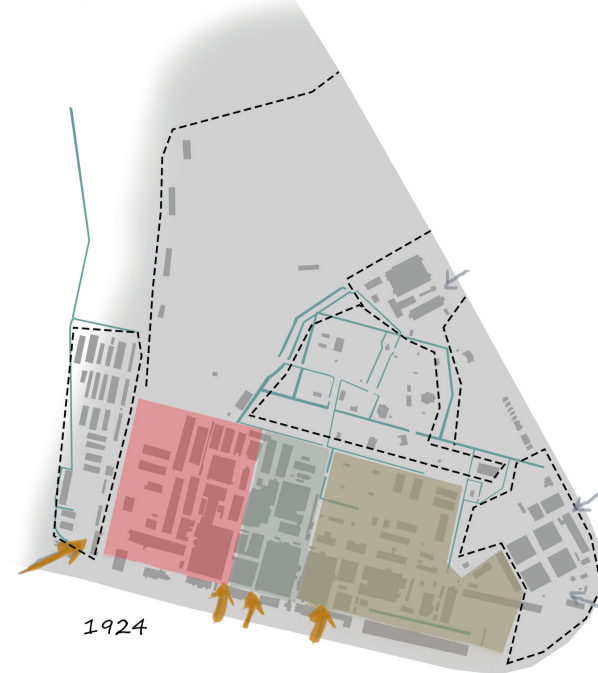
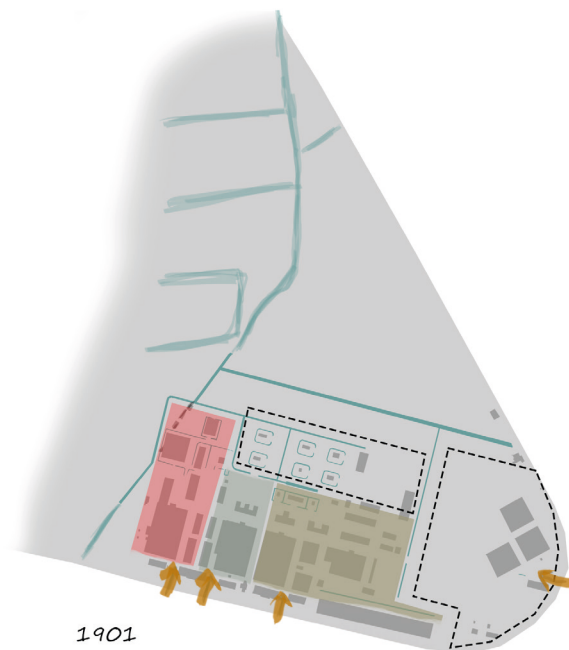


Image 1 (l): Employee working at the weapon factory.
Source: Nationaal Archief, 1939
Image 2 (r): Employees at the canteen.
Source: Nationaal Archief, 1912.



01 - HOW DID THE EMPLOYEES ENTER THE SITE?



- Weapon factory
- Cartridge factory
- Munition factory
- Borders of areas
- Entrances

The entrances changed over time. Most of the workers entered the terrain at the side of the representative waterfront, the North Sea Canal. However, not all workers could enter the terrain just like that. It was divided in three factories and other functions. The three factories from left to right were weaponry, patterns and ammunition factories. The north was mainly used to test the products, in the east the 'Mobile artillery' was located, a big part was also reserved for the military and the rest of the terrain had general functions. Each factory had their own entrance with their own gate, secured with a guard who checked everyone who came in and out. If you did not work in another factory, you simply were not allowed to go there. The three factories were not the only places with their own entrances. The other parts of the terrain also had their own secured gates. In 1901, the only entrances were on the waterfront. Later on when more functions started to develop on the terrain, more entrances were introduced because each part should have their own secured entrance. Then it is clear who enters or leaves a specific area.

The more Hembrug expanded, the more entrances were made (shown in images). With the expansions, other areas were created which had to have their own entrances. The weapon factory could expand towards the west, the munition factory to the east but the pattern factory had no space left and expanded to the north. Over time, the entrances to the weapon factory had changed after the bicycle shed was built which had its own entrance and from the gate, lead the employees between walls toward the entrances of the bicycle shed. The most outstanding change is the one of the main entrances being on the side of the North Sea Canal in the past but has changed into the main entrance at the roundabout.

Image 3 (l.): Employees leaving the Hembrugterrain, walking up the hill toward the trainplatform.

source: Nationaal Archief, n.d.

Image 4 (r.t.): Employees leaving Hembrug by boat, 1958.

source: Artillerie Inrichtingen Hembrug, 2016.

Image 5 (r.b.): Aerial view on the second Hembrug, 1976.

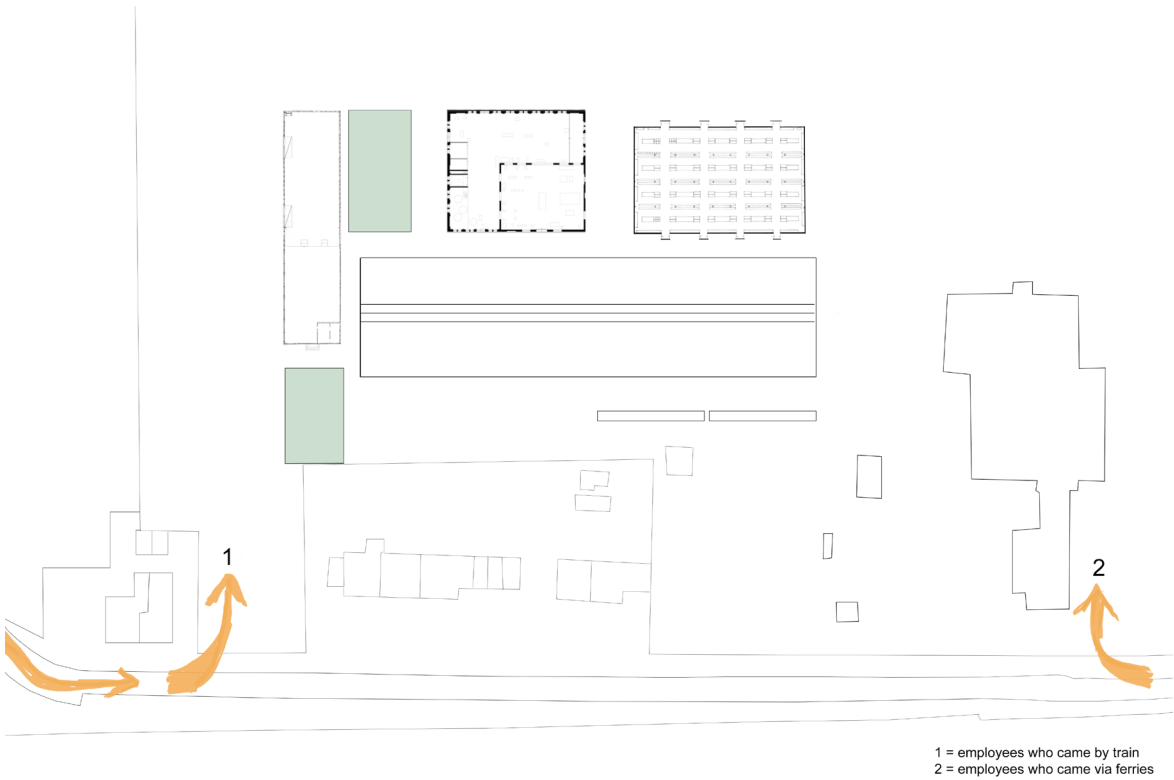
Source: Nationaal Archief, 1976.



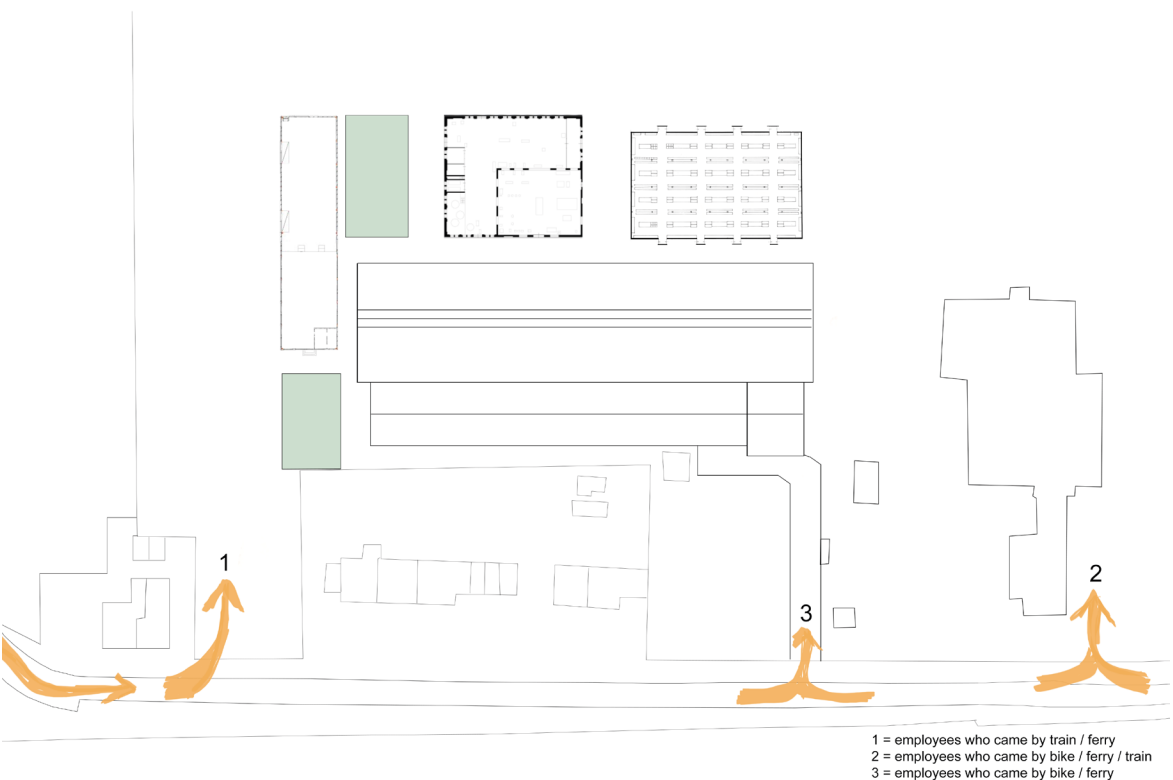
At first, the ferry at the North Sea Canal brought many workers to Hembrug from Amsterdam. At that time it was the only connection between Amsterdam and Zaandam. When the second Hembrug was built, many workers could also come by train. The former stop at Hembrug was close to the North Sea Canal. The platform was very high compared to the level of the site so they had to take many stairs all the way down, walk next to the water and enter their specific factory. When it was time to go back, they had to walk under the Hembrug, take a right and take many stairs to get at the platform to take the train back home.

Some of the workers who lived nearby could come by bike. They then took a different route. They came with the ferry and from there they could bike to the bike shed which was located at campus south. Even before the big bike shed, at the exact same spot, bikes were stored. Some of these workers could also be living in Zaandam and did not have to take the ferry of course.

Flow of employees entering the ensamble 1940's.



Flow of employees entering the ensamble 1950's.



Flow of employees entering the ensamble 1960's.

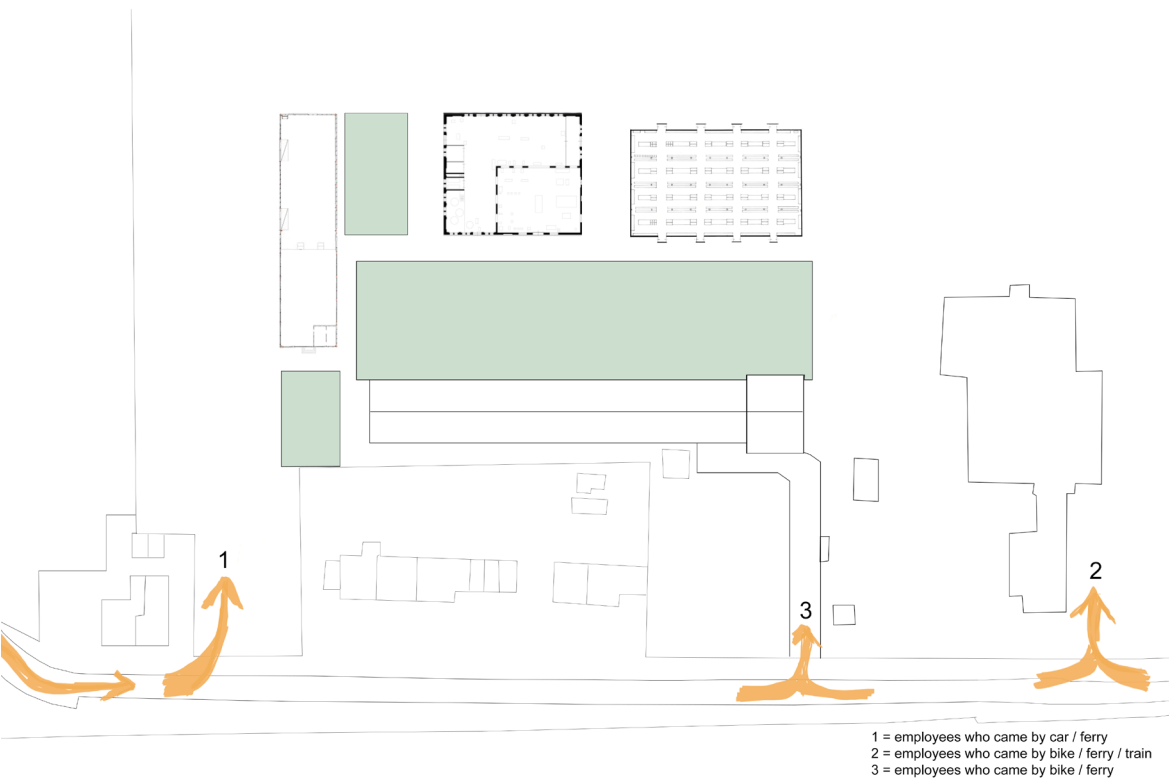




Image 6: The state of the expedition building in 2003. Source: Rijksdienst voor Cultureel Erfgoed, 2003.

In 2003, people encountered the expedition building in a state in which nature took over the whole site. We assume the original entrance to the site was still present. The sign on the facade says 'report here'. There was a fence between the former rail road and the expedition building. In 2010 renovation of the site started. On the road where the track once ran, an entrance was made for cars. And an old building has been demolished to create an open view (see Images 7,8,9,10).



Image 7



Image 8



Image 9

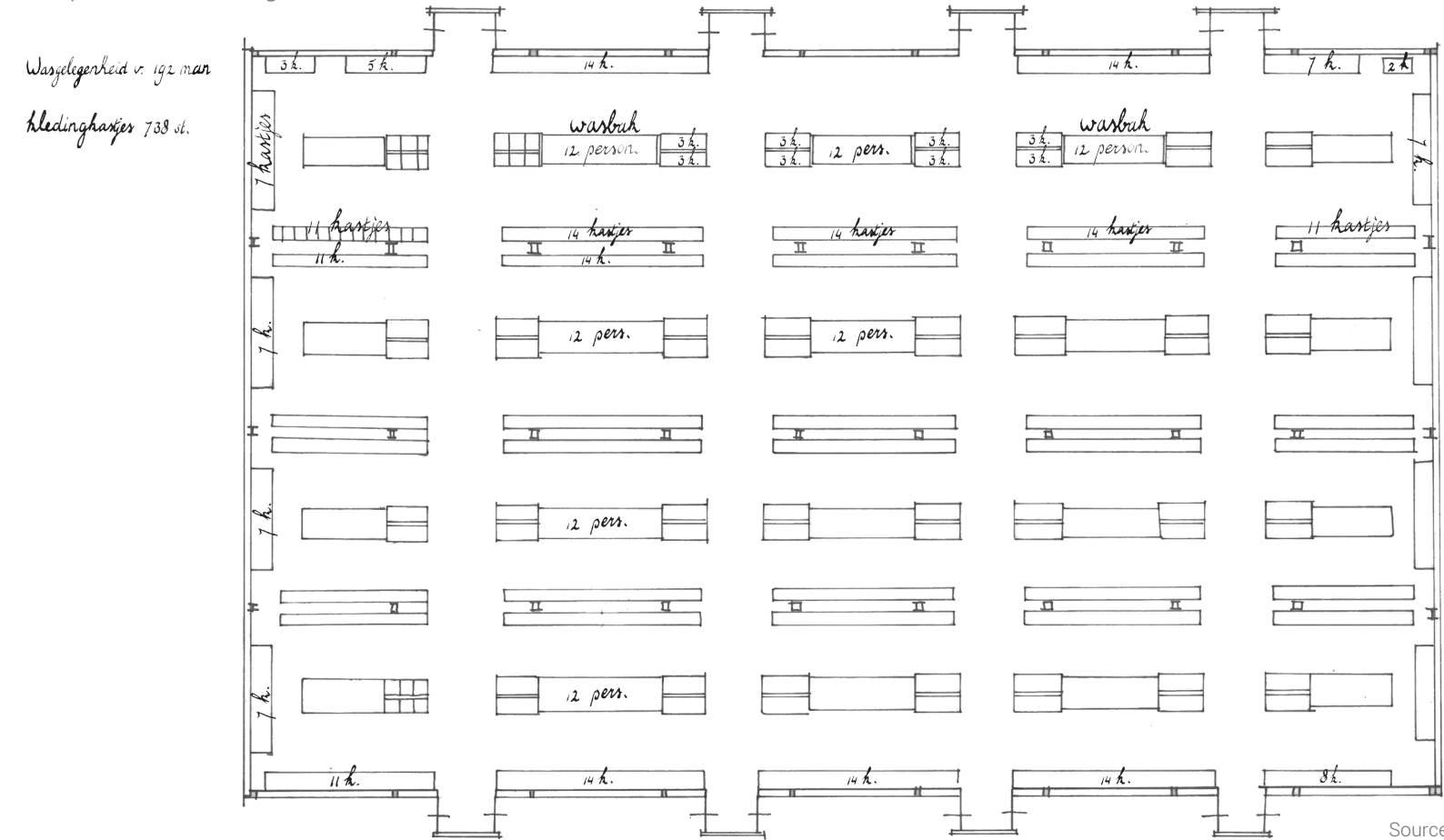


Image 10

Images 7,8,9,10: Before and after the renovation that started in 2010. Source: Palmboom, F., 2019.

01 - HOW WAS THE WASHING HALL USED?

The original floorplan of the washing hall



Source: Luyckx, S.L. Based on floorplan found in NIMH.

The washing hall was used by 192 men at the same time and had 738 locker cabinets. The employees entered the building through eight entrances, which had two doors per entrance. The building exists of a grid of washing basins and cabinets. The lockers enclosed the wooden structure and were positioned alongside the walls, to serve as many people. The employees were not allowed to take their working clothes home, so they started and ended the day at the washing hall.

In 2009, the building was found with a broken and collapsed roof, taken over by nature. The roof is renovated as well as some elements of the structure.

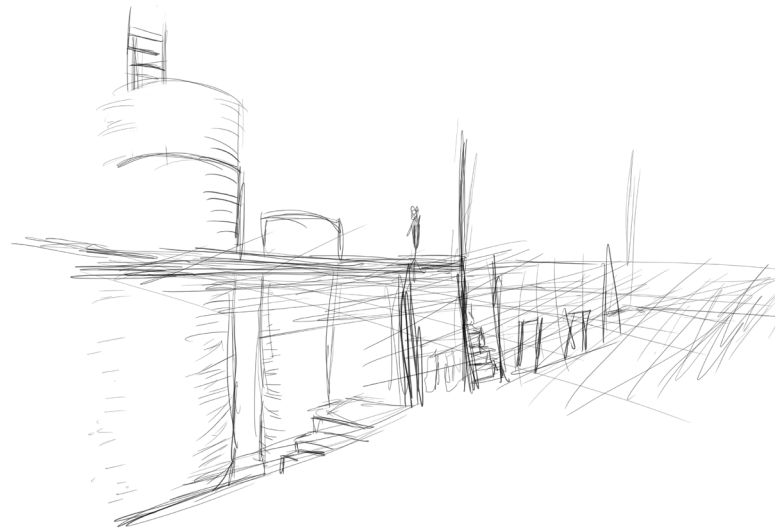
Image 11 (l.): The use of the washing hall. Source: Boujamaa, S., 2019. Image 12 (m.): The state of the washing hall in 2003. Source: Archief Zaanstad, 2003. Image 13 (r.): The state of the washing hall in 2003. Source: Rijksdienst van Cultureel Erfgoed, 2003.



01 - HOW WAS THE HEAT TREATMENT BUILDING USED?

In the heat treatment building, metals were treated for civil production and hardened for combat. They produced steel for bridges, helmets, bicycles and tools, among other things. The building had some curing- and salt baths, ovens, dust collectors, selas gas mixers, oil coolers, lead pots and cooling bins. In the left corner of the heat treatment building, the highest part of the building, there were some big curing ovens (see illustration). We assume that these were quite high, so that would be the reason for the high ceiling.

Illustration of the big, high curing ovens.

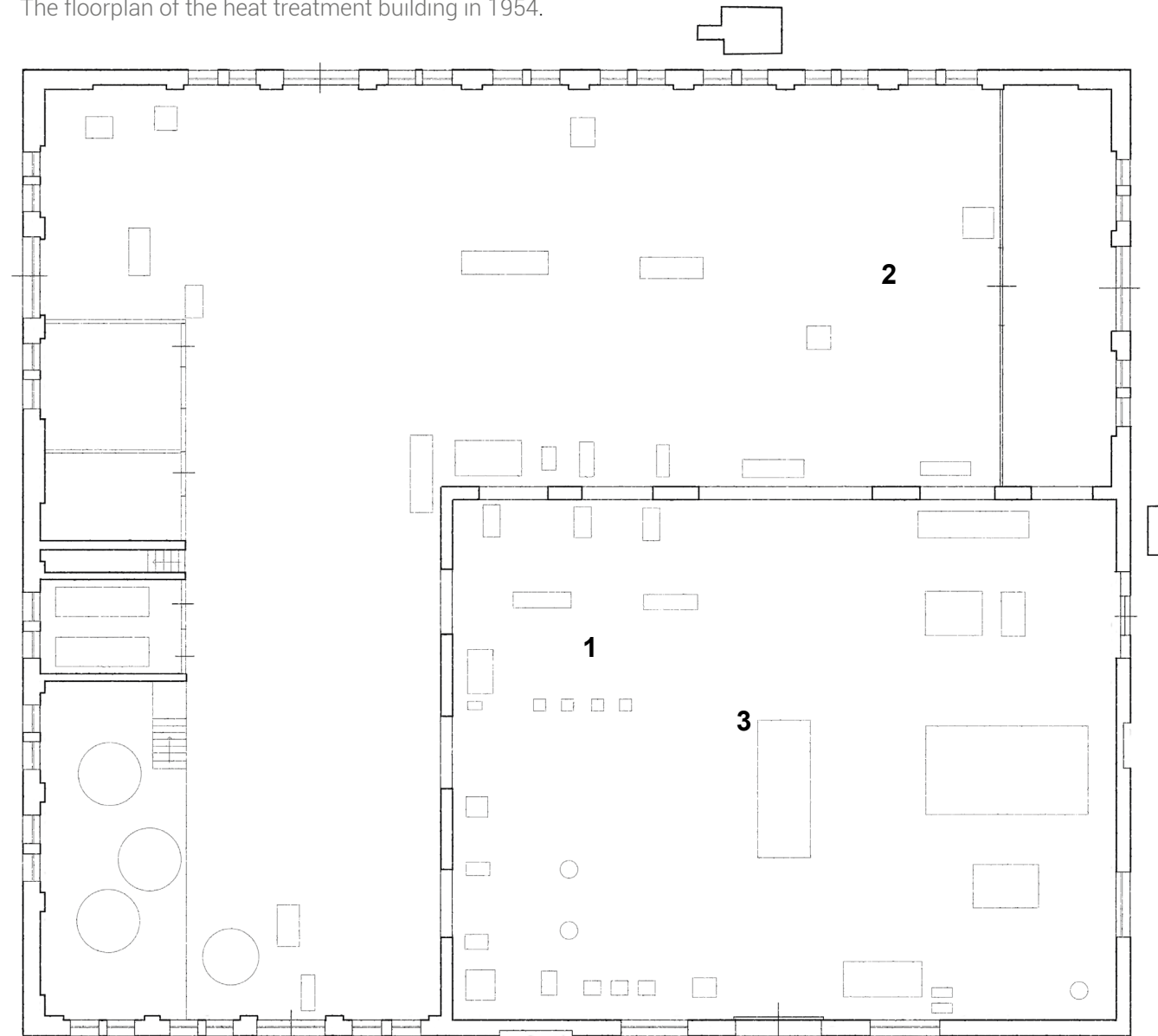


Source: Boujamaa, S.

Image 14: Traces of the ovens; a curved hole in the steel construction of the entresol. Source: Luyckx, S.L., 2019.



The floorplan of the heat treatment building in 1954.



Source: Boujamaa, S. Based on floorplan found in NIMH.

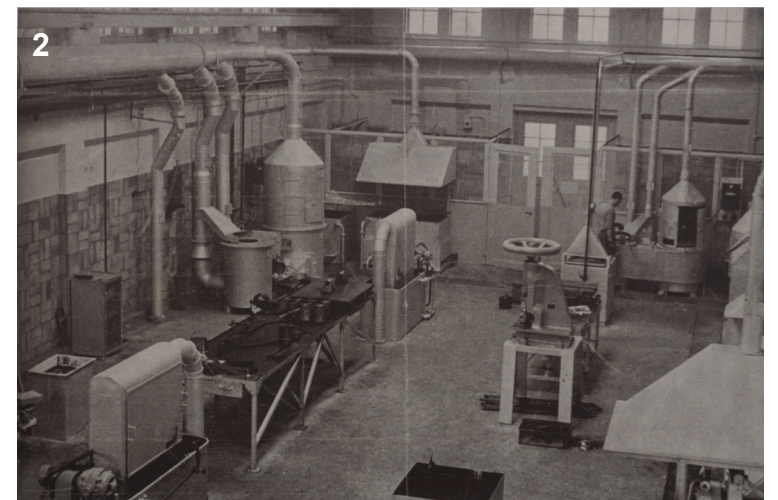
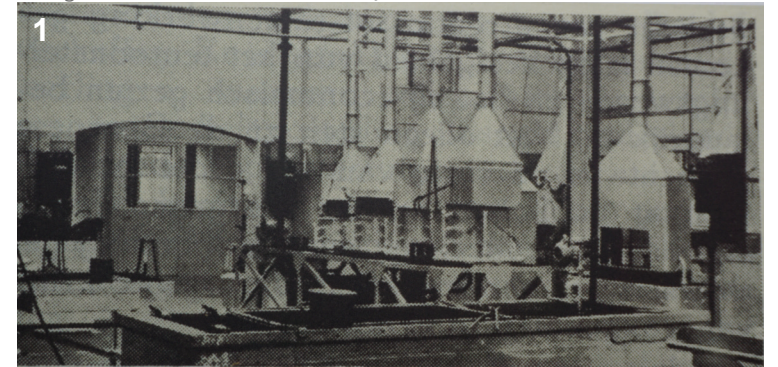
Image 15: Heat treatment building of 197, remaining interior. Source: Zaans industrieel erfgoed, n.d.



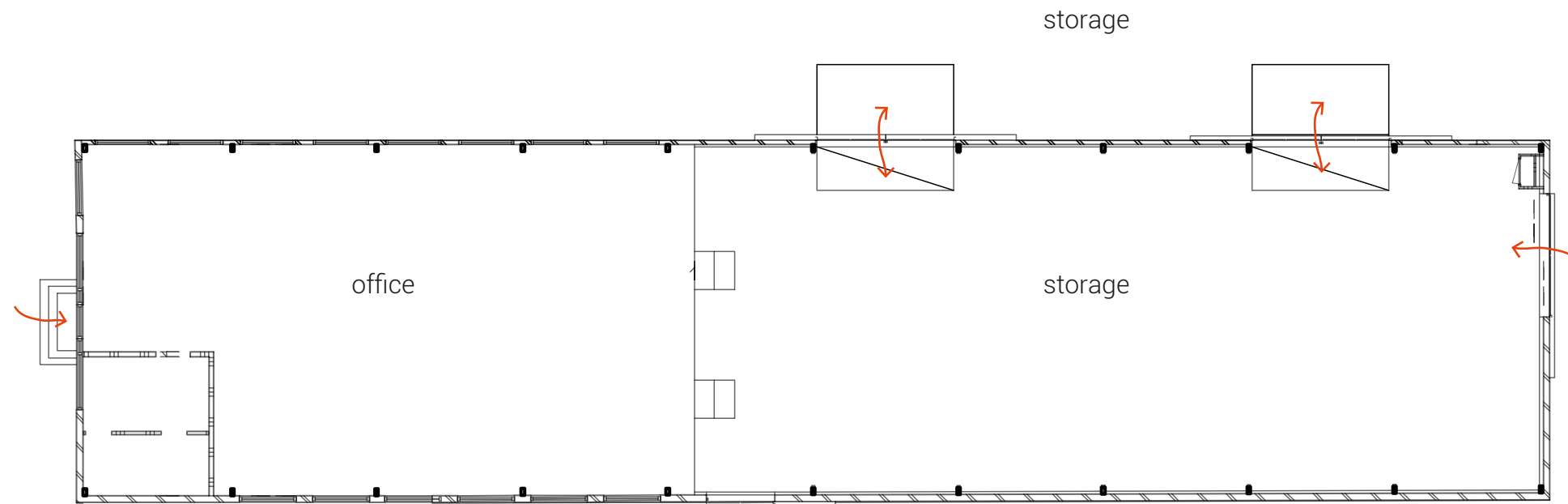
Image 16, 17, 18, 19: Heat treatment building, 2003. Source: Rijksdienst voor Cultureel Erfgoed, 2003.



Image 20, 21: Interior. Source: Luyckx, S.L., 2019.



01 - HOW WAS THE EXPEDITION BUILDING USED?



The former railroad was located next to the expedition building. This building stored goods waiting to be transported by the train. The train could also bring in materials, such as coal, which were needed on the site. The floor plan of the expedition building was divided into two parts; a raised part and a lower part. The raised part was the office and provided a view over the inventory which stood on the lower part. The expedition building is, among other things, recognisable by its canopy which prevented the goods from getting wet.

Source: Luyckx, S.L.

Source: Boujamaa, S.

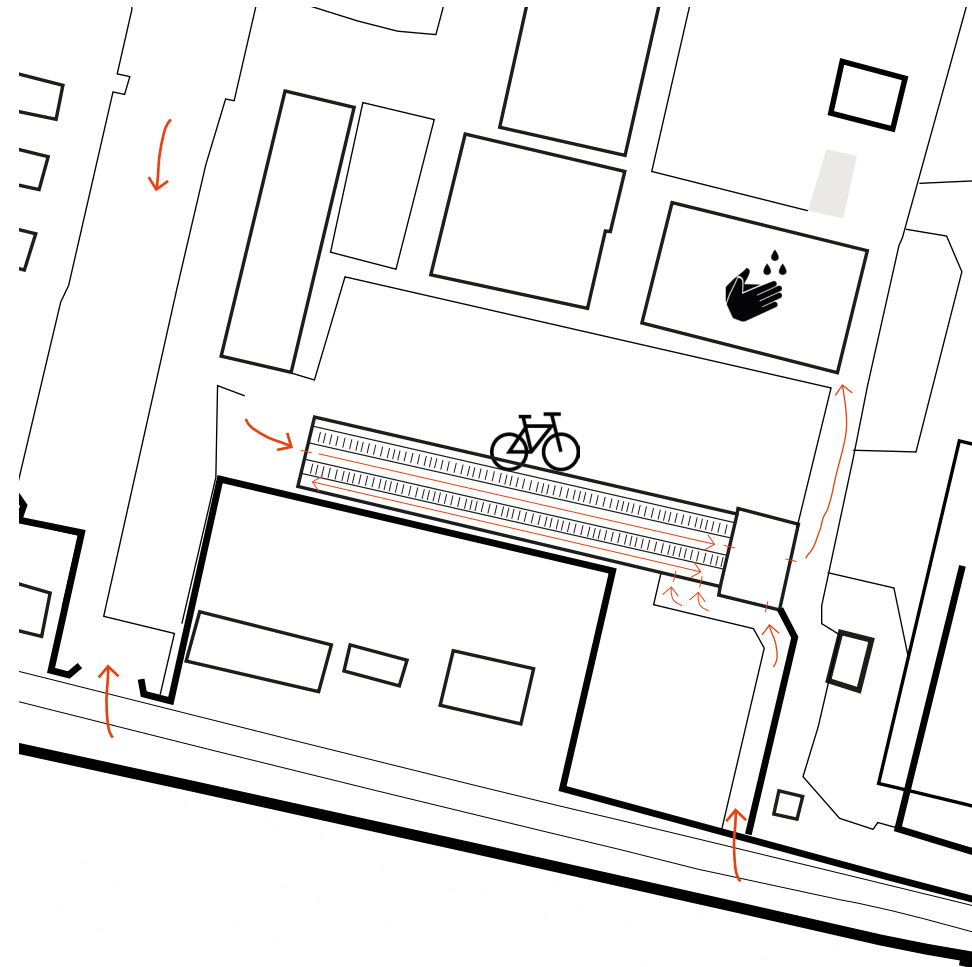


Source: Boujamaa, S.

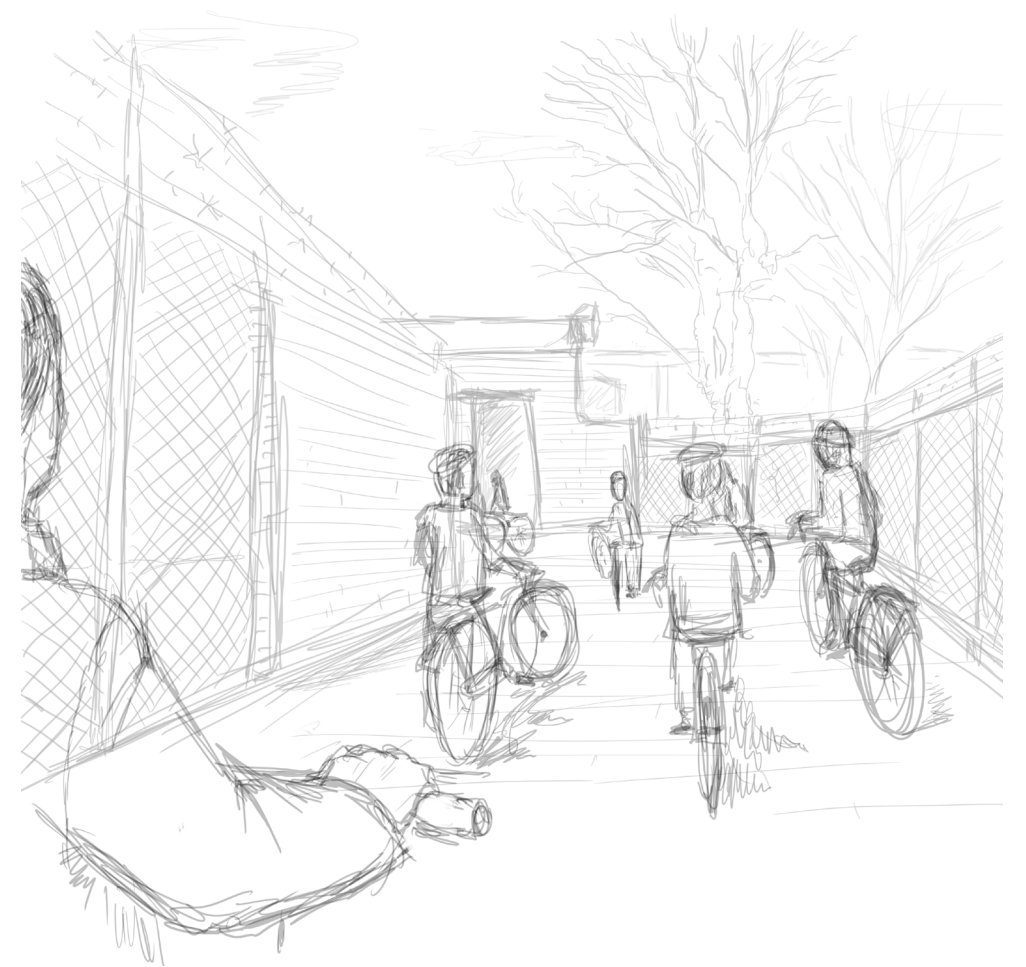


01 - HOW WAS THE BICYCLE SHED USED?

There is not much left of the bicycle shed, so we made an assumption of how it would have looked like and how it was used. We think that the bicycles were parked on the current gravel paths and that the concrete pathways were used as walkways. Employees could enter from the side of the expedition building or from the waterfront. Here they would enter the site through a fenced corridor, park his/her bicycle in the shed and walked to the washing hall to put on their working clothes.



Source: Luyckx, S.L.

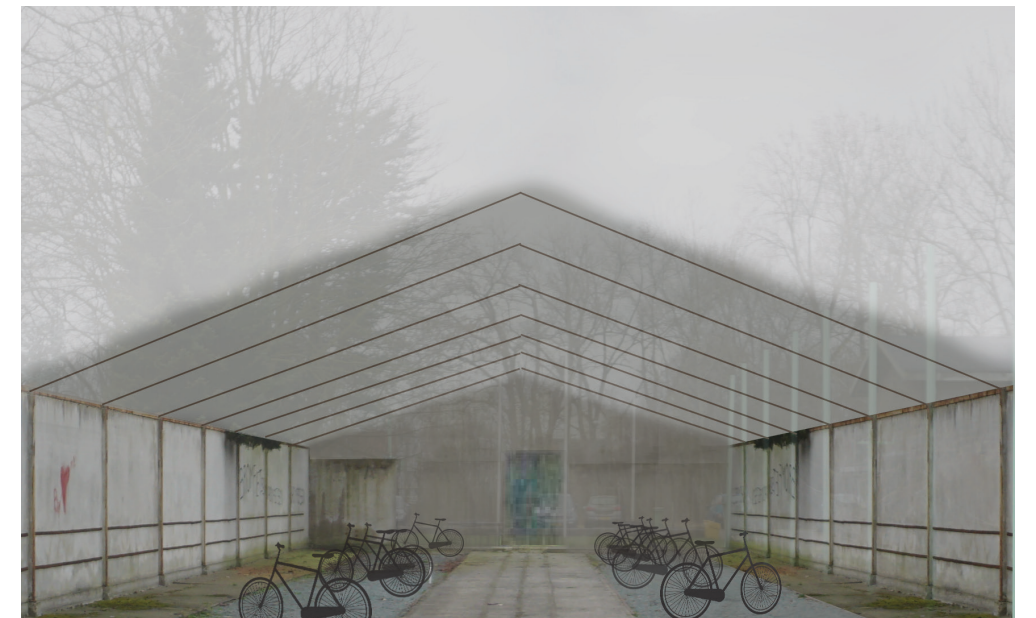


Source: Boujamaa, S.

Image 22: Aerial view on the bicycle shed, estimated around 1984. Source: Artillerie Inrichtingen Hembrug, n.d.



Estimation of how the building looked like. Source: Luyckx, S.L.



01 - WHY IS THE ENSEMBLE CALLED CAMPUS SOUTH?

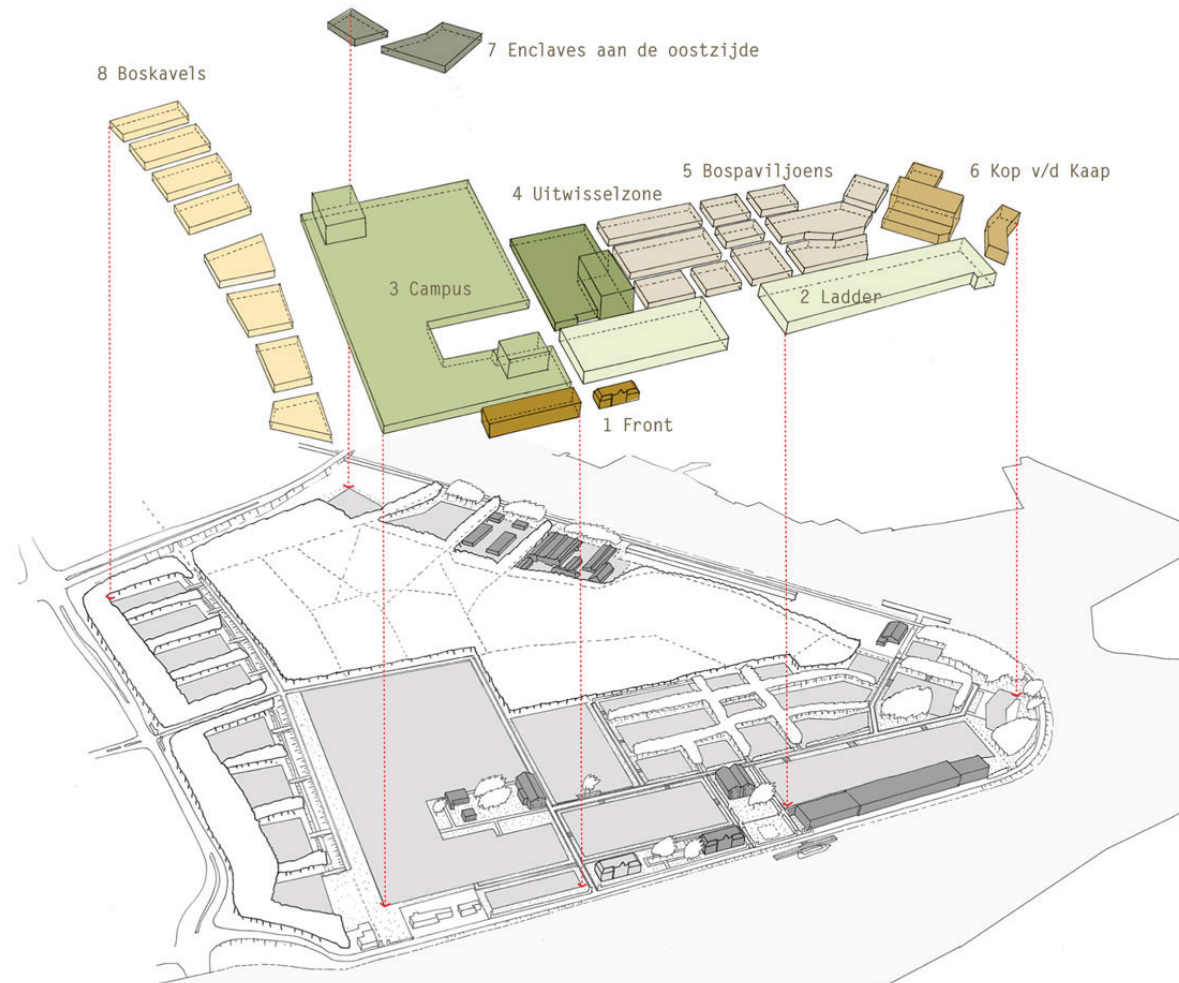
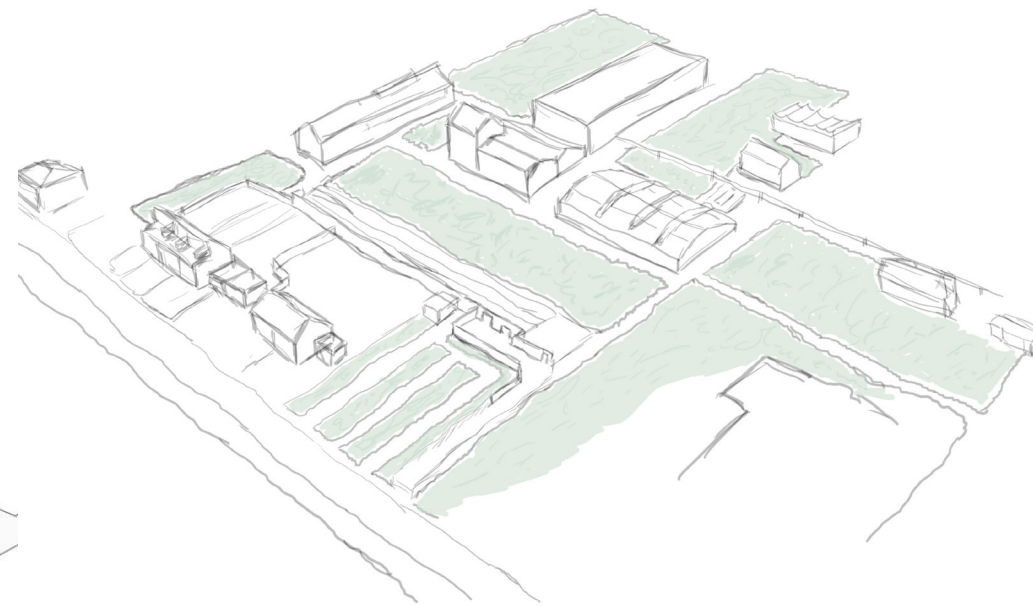


Image 23: Future strategy for Hembrug, with its ensembles. Source: Palmhout Urban Landscapes, 2011.

Campus South



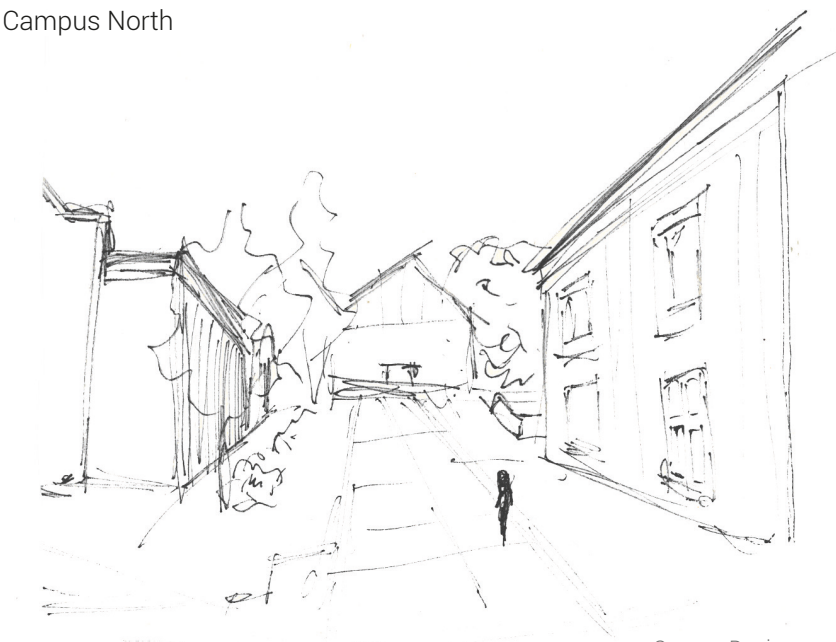
Campus South



Campus North



Campus North



Source: Boujamaa, S.

First we want to know why is the site called HEM-brug?

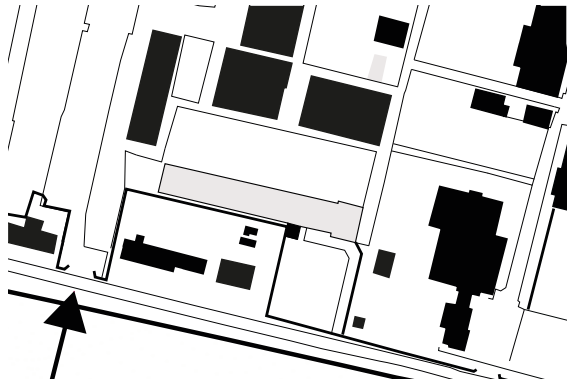
A peninsula was called "him", in Dutch "hem". The name is very common in the wetlands of Holland, West- Friesland and Friesland. Him/hem is closely related to "ham", which indicates a silted-up peninsula outside the dike (Hem, n.d.).

Palmhout landscape architects made a strategy for the Hembrug site. They divided the terrain in ensembles. Campus South is part of the "Campus" ensemble and they describe the choice for this name as followed: "On the West side, the former large halls of arms production are loosely spread over the predominantly green terrain. They form a collection with the spatial character of a 'campus'" (Palmhout Urban Landscapes, 2011). We assume campus is referred to the literal translation of the Latin word 'campus' which means field or area (Campus, n.d.).

However, our area is called Campus South, so it is divided into two parts. The Northern part has large buildings surrounded by green and the Southern part has smaller buildings surrounded by green and water. The Southern part also shows the former buildings which are now replaced by green lawns. The whole campus has a strong North-South orientation which makes it logical to call the Southern part Campus South.

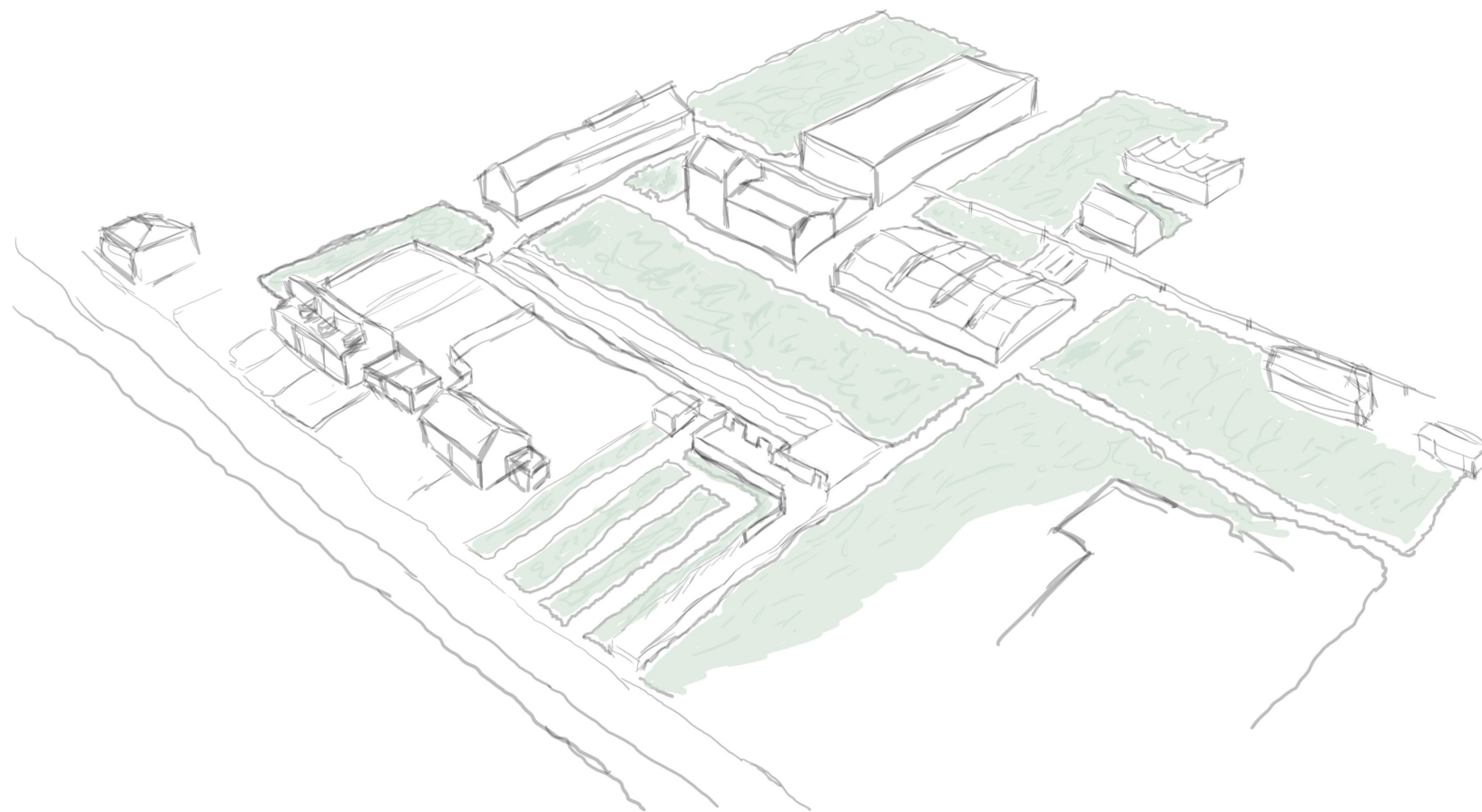
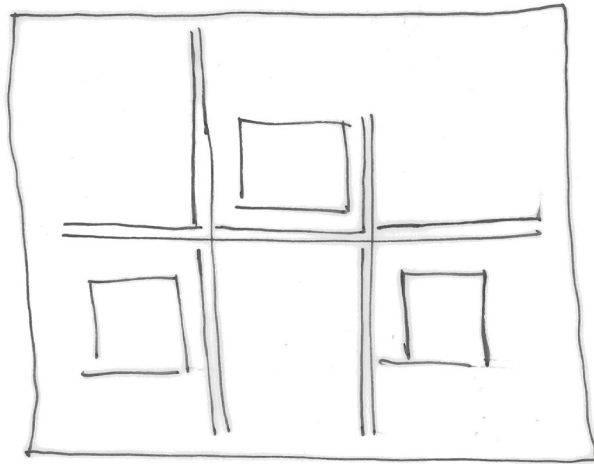
01 - CAMPUS SOUTH

Source: Luyckx, S.L.



01 - CONCLUSION

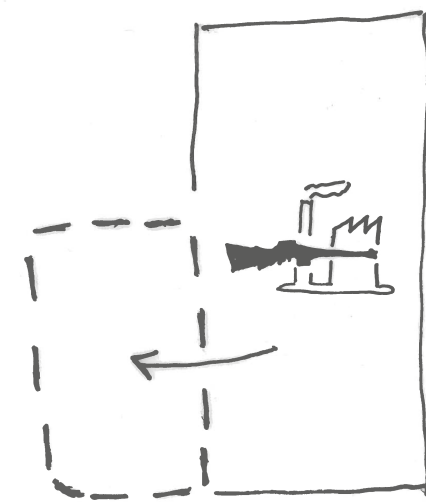
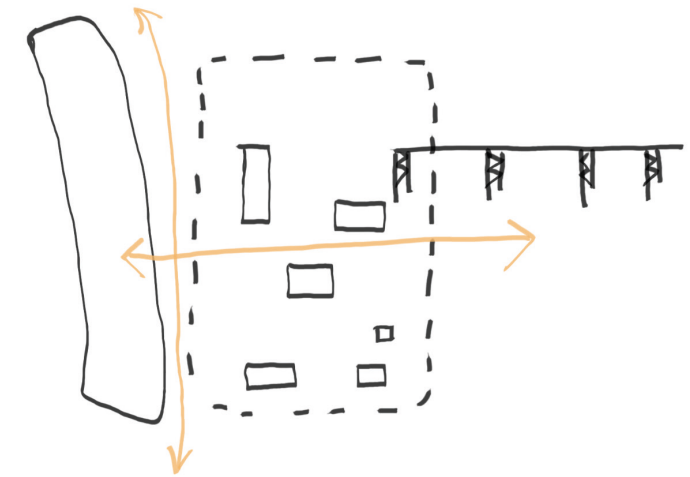
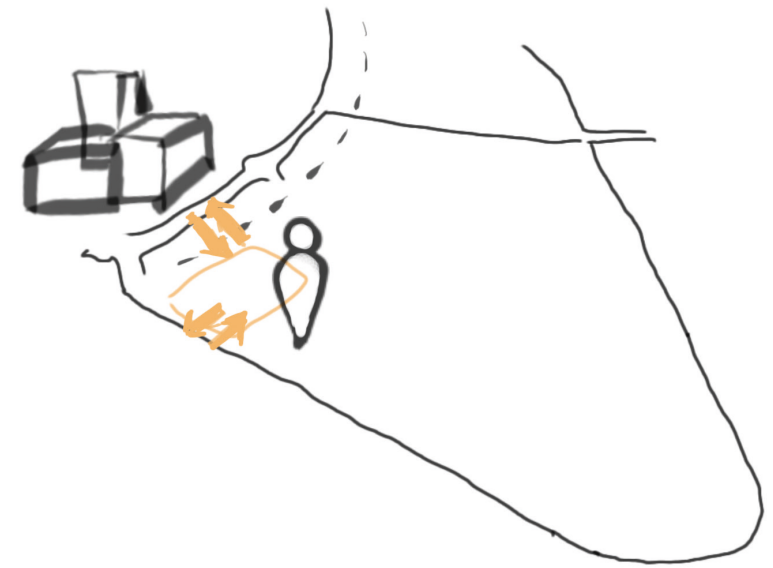
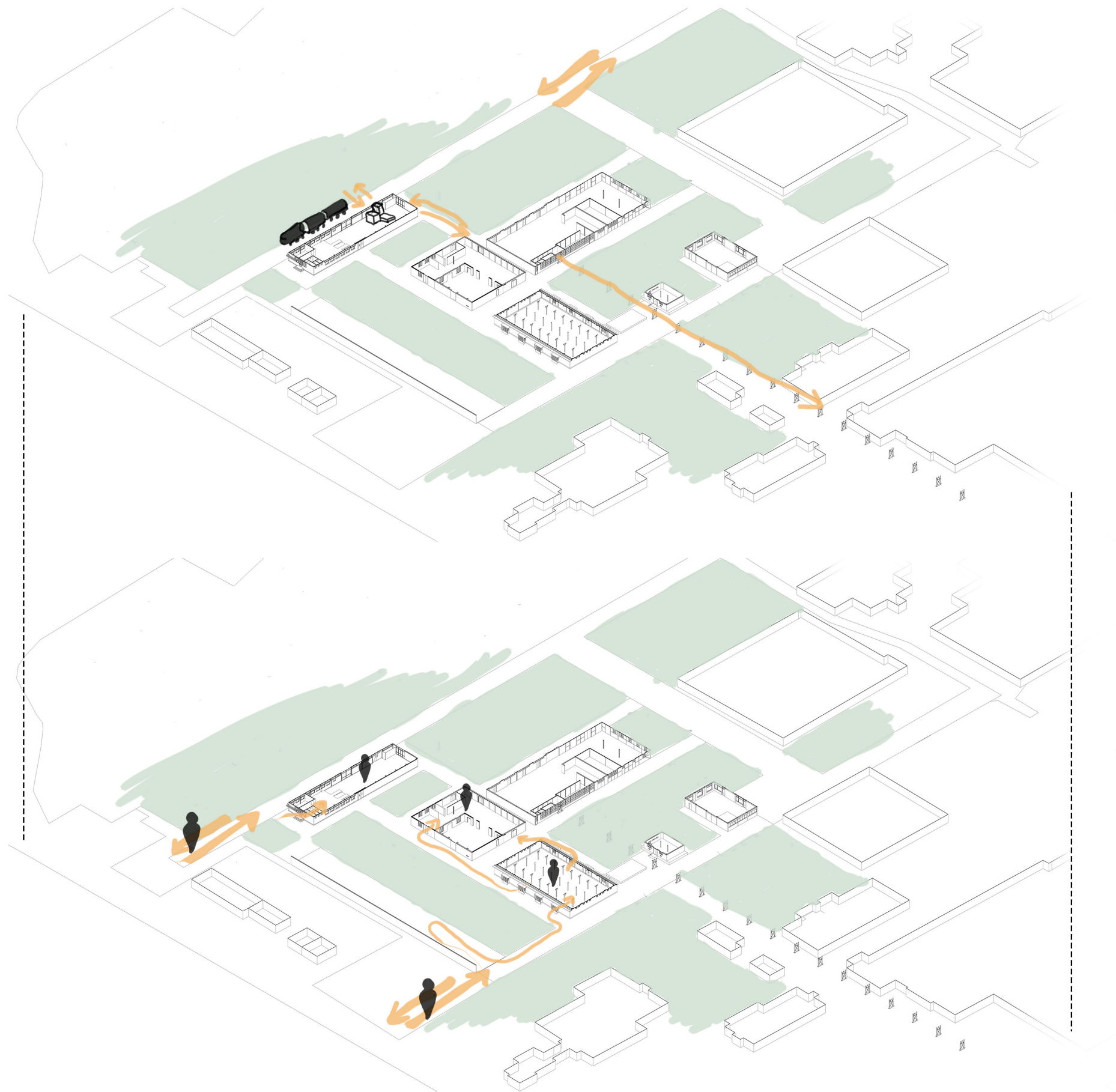
how did Campus South contribute to the functioning of the weapon factory ?



The literal translation of 'campus' is field or area (Hem, n.d.). Campus South has this name because it consists out of a few freestanding buildings compared to the open green area around it. The campus was an extension of the weapon factory and was realised in the 1920's. The heart of the campus consists of a boiler house from which pipes with steam run into the Hembrug terrain.

The weapon factory was a terrain which functioned as a border between the Hembrug industrial military production area and the military terrain which was located on the opposite side of the former railroad, next to the expedition building. Through the campus, employees would move via the horizontal axis to bring the finished products to the expedition building. Campus South was a connection between the inside and outside of Hembrug for the employees who entered and left the weapon factory and for the goods which entered and left via the site via the expedition building.

This conclusion shows the functioning of Campus South on a bigger scale. However, to get a grip on the functioning of Campus South it is also important to investigate the terrain on a smaller scale. This to understand the buildings and in what way they contributed to the functioning of the weapon factory. In the next part the architectural scale, building technology and the cultural values of the ensemble will be researched.



02 - ARCHITECTURE

campus south

02 - TYPOLOGIES

was- en kleedlokaal

The washing hall of Campus South (building nr. 316) is not the only washing hall on the Hembrug terrain. Building 148 was another washing hall of the ammunition factory, located on the corner of the coal shed of the navy. This washing hall has a different typology then the washing hall of Campus South. There are no columns used and the entrances are on the front walls of the building in comparison to the side walls of washing hall 316. Furthermore, the washing basins do differ as well; in building 148 they are round and positioned over the entire length of the building. We assume these looked like the washing basins in image 24. The other images show different types of washing basins used in washing halls.

Building 314 is the toilet block that is situated on the North side of washing hall 316. Here, just like with washing hall 148, the entrances are situated on the front walls of the facade.

Building 148. Source: Boujamaa, S. Based on floorplan found in NIMH.

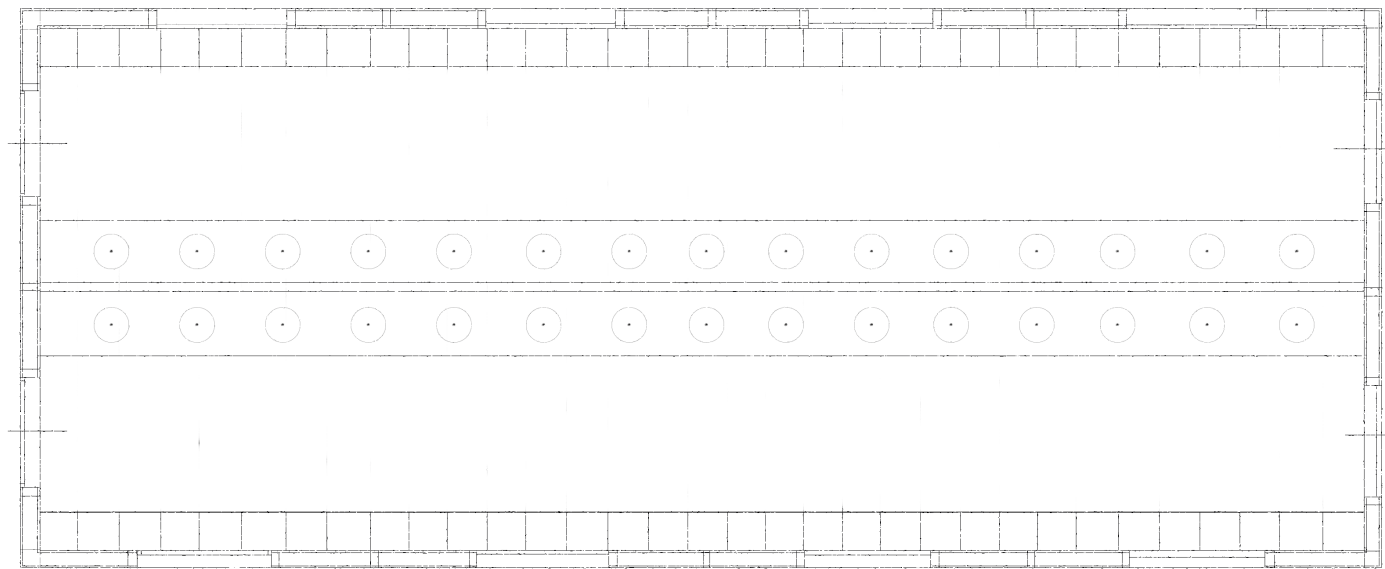


Image 25: Men of the Grenadiers and Hunters in the washing hall in the Orange barracks, 1900-1915. Source: NIMH, n.d.



Image 26: Washing hall of the Marinekazerne Amsterdam (MKAD) at the Kattenburg in 1927/28. Source: NIMH, n.d.



Image 27: 9x12 bath-rooms and lavatory american brake-shoe and foundry co. Source: Nationaal Archief, n.d.

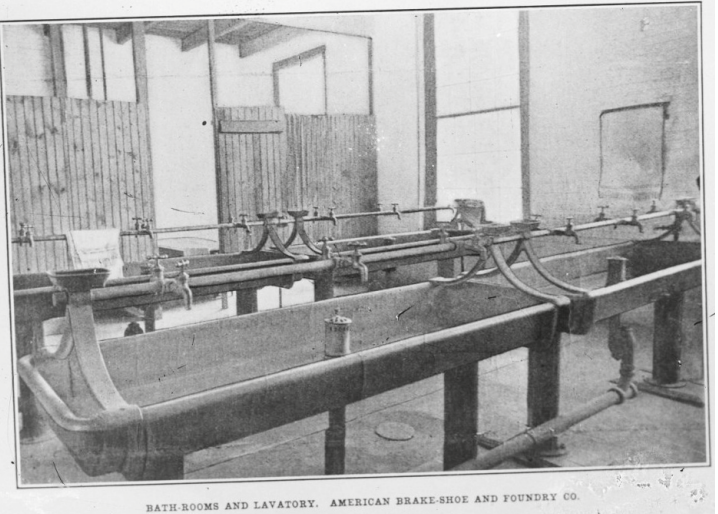
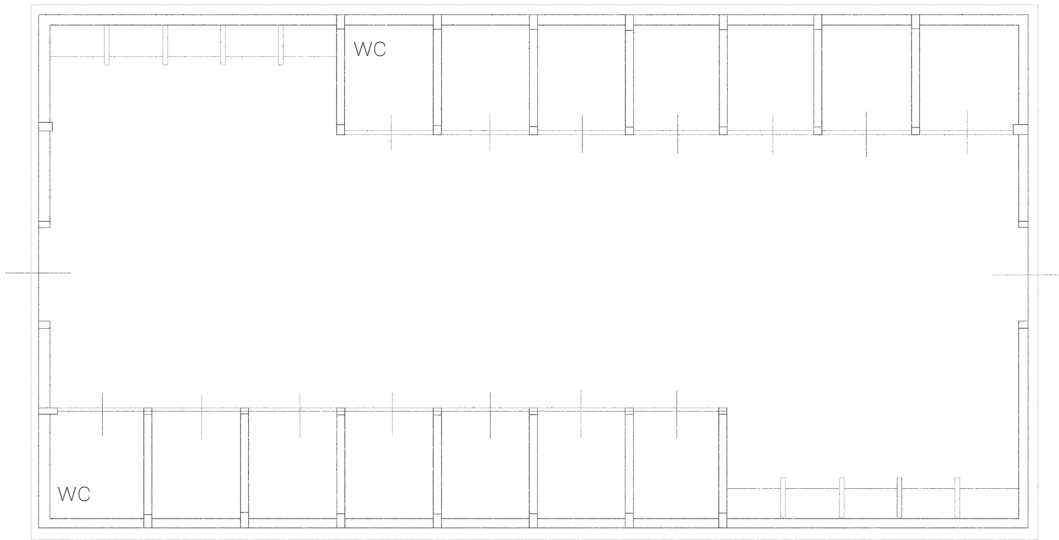


Image 24: Dutch volunteers with the Waffen-SS. In the washing hall. Source: Nationaal Archief, n.d.

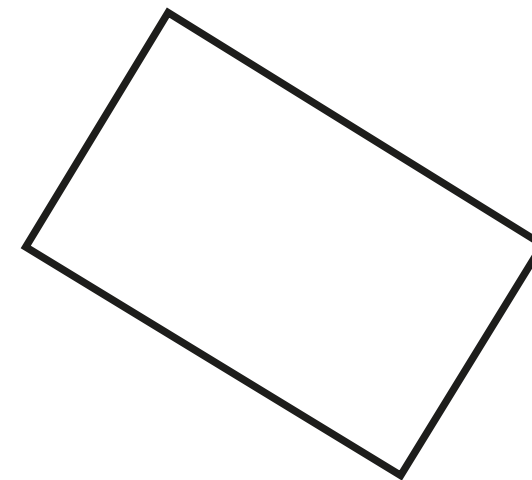
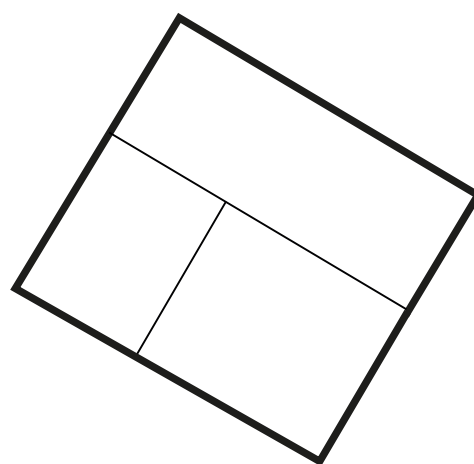
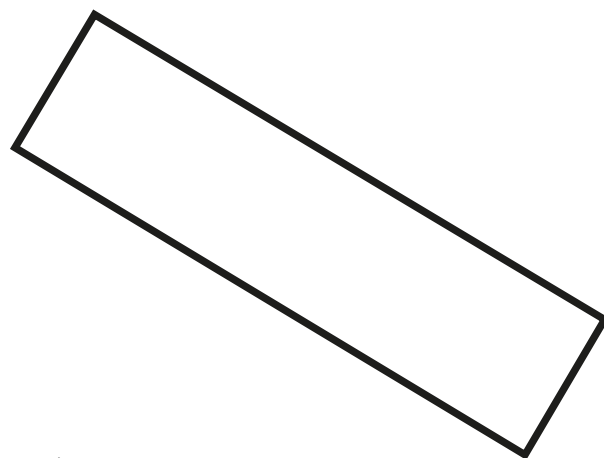
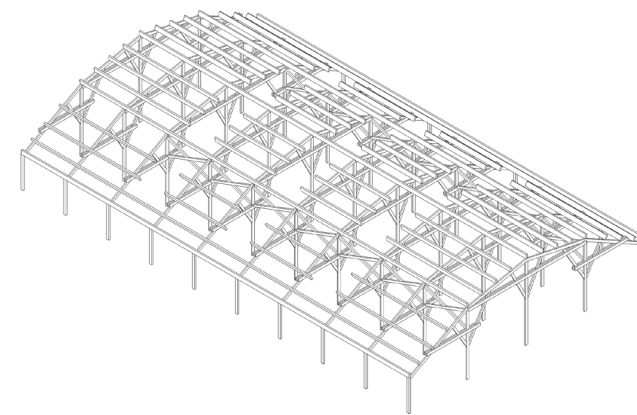
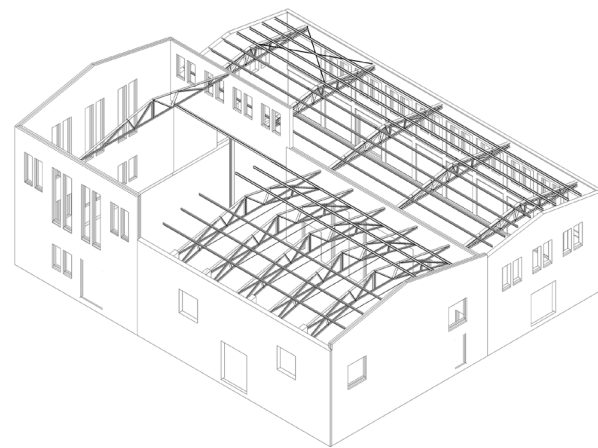
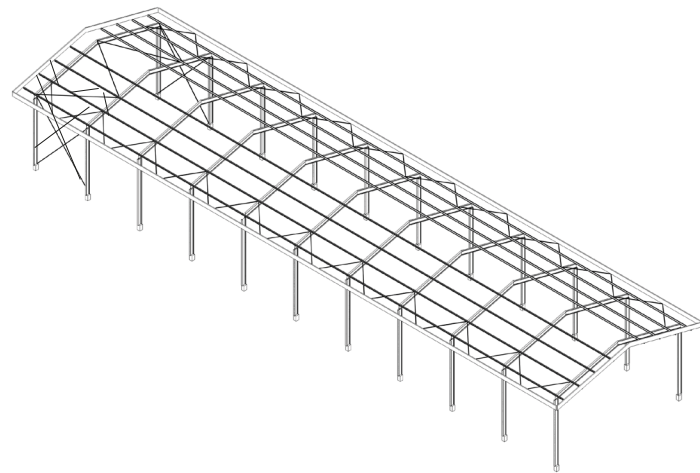
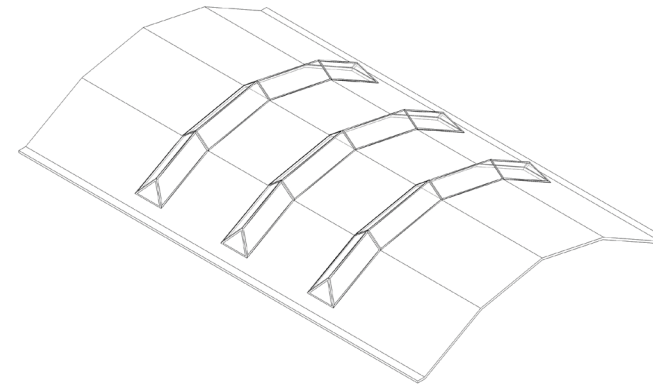
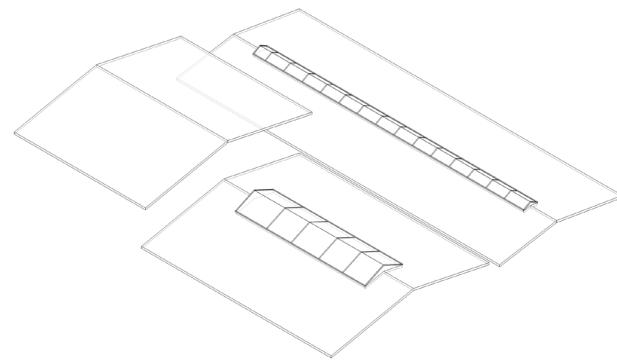
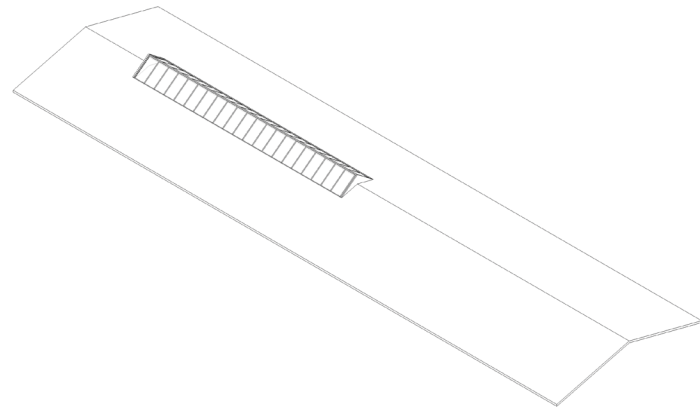


Building 314. Source: Luyckx, S.L. Based on floorplan found in NIMH.



02 - TYPOLOGIES ENSEMBLE

campus south

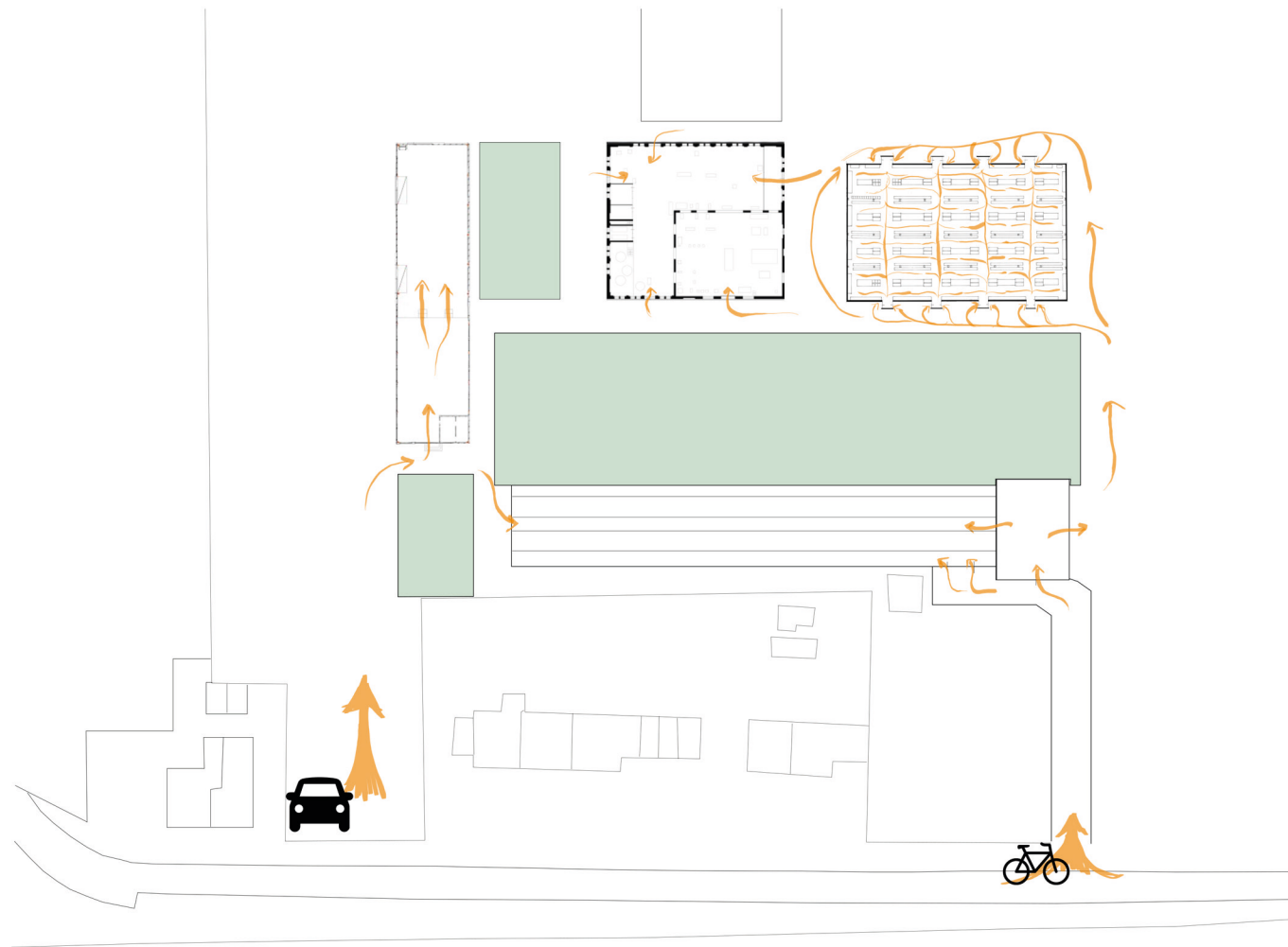


Campus South consists of three whole buildings and the remains of one building. The heat treatment building, expedition building and the former bicycle shed used to have a pointed roof. The heat treatment building, however, has brickwork walls supporting the roof structure. The washing hall has a gambrel roof which makes the building look like a farm building. The wooden structure enhances this even more. The expedition building and the bicycle shed have a steel structure. The bicycle shed and expedition building both have a small but long volume whereas the heat treatment building is clearly divided into three blocks of which one has the volume of a cube and the other two have a rectangular volume. The washing hall has a different volume which derives from the low walls and the gambrel shaped roof.

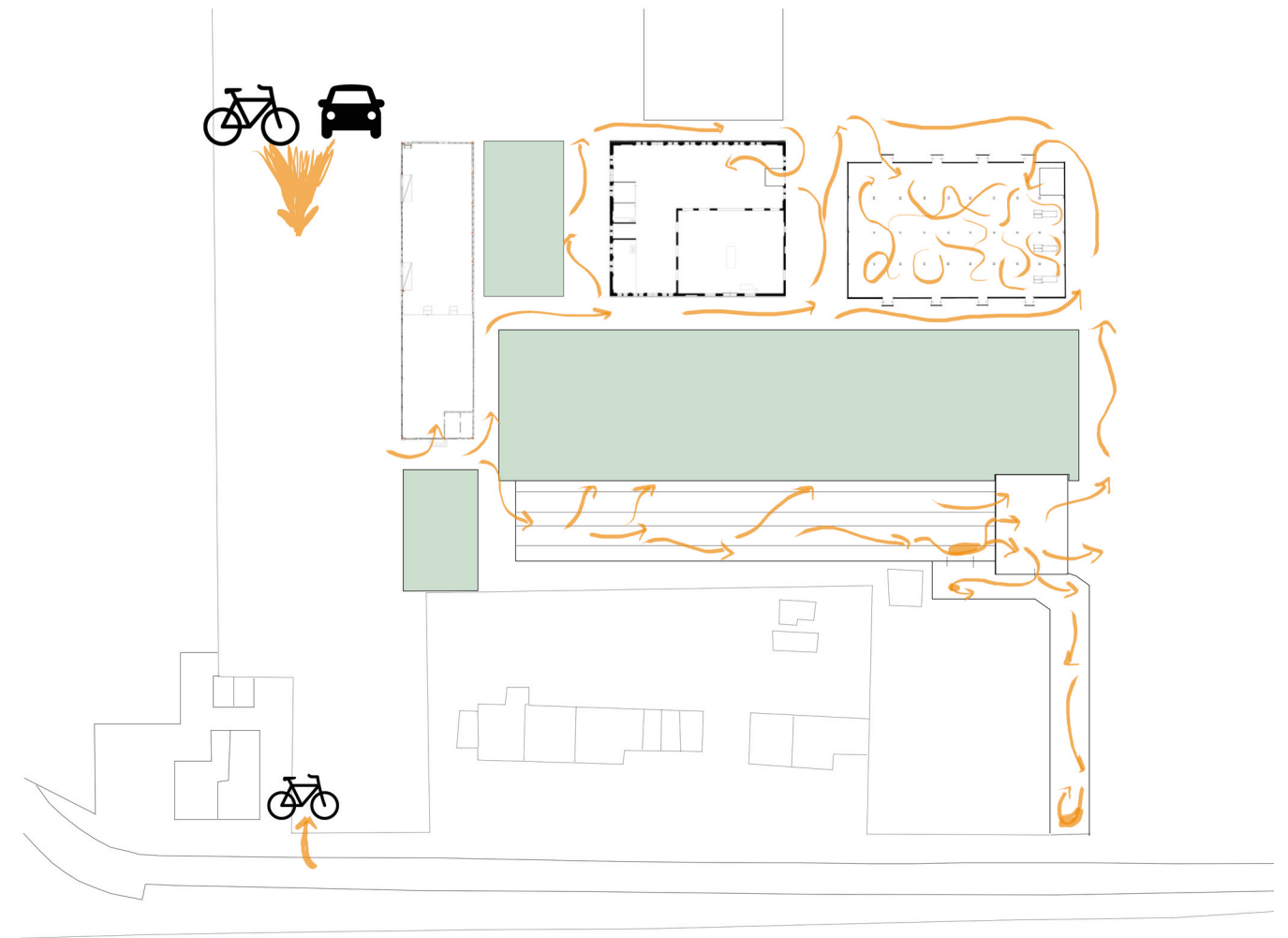
02 - ROUTING

ensemble and buildings

The routing of the ensemble and entrances of the buildings in the past.

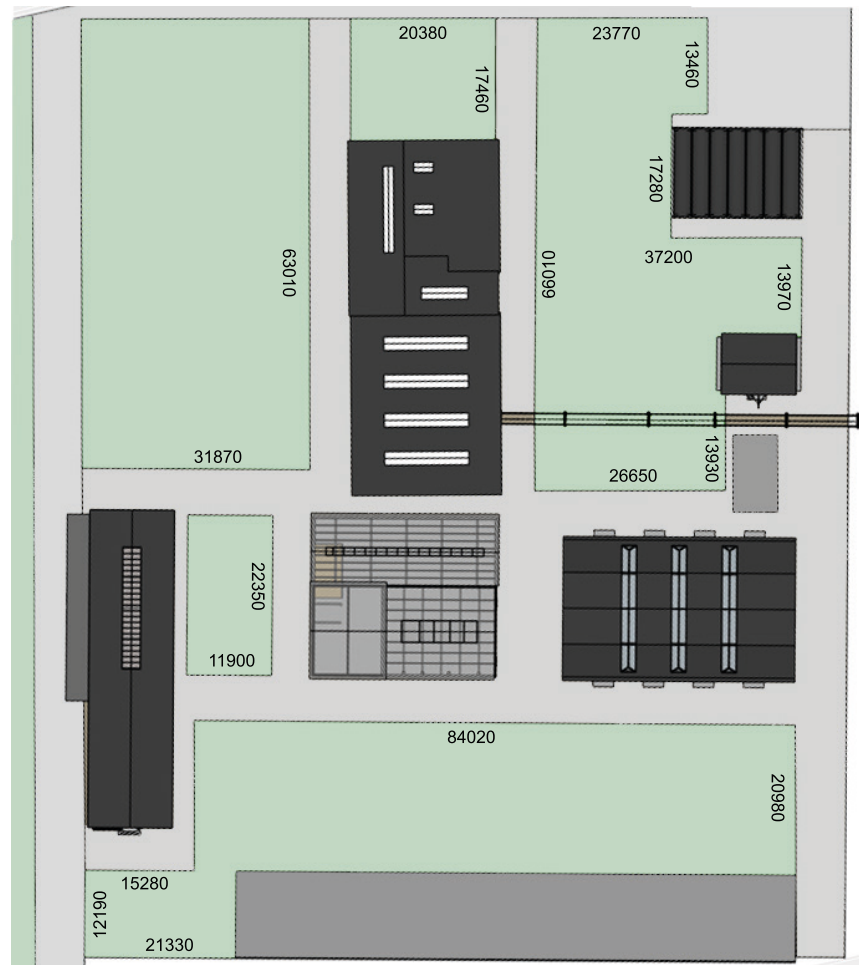


The present routing of the ensemble and entrances of the buildings.



02 - DIMENSIONS

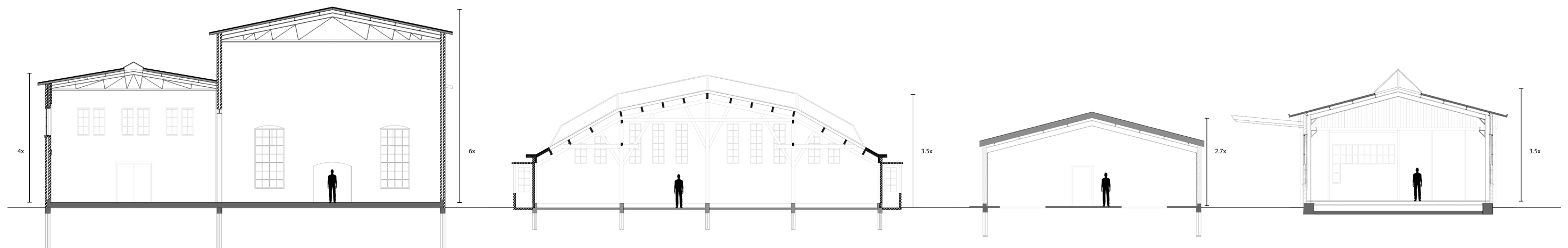
human scale



Source: Boujamaa, S.

The Campus (weapon factory area) of Hembrug is divided into Campus North and Campus South. When comparing these two parts of the Campus; Campus North has larger buildings than Campus South. Campus South is, when looking at the human scale, more in proportion. The large buildings at Campus North are placed on large plots and some of the grass / open fields are as large as these plots. The open areas at Campus South are smaller but are in proportion with the buildings as well.

The exception, in terms of proportion with human scale, is the heat treatment building which is quite high. This was needed for the large ovens and machines which stood in this building.



Source: Lengton, M.M.

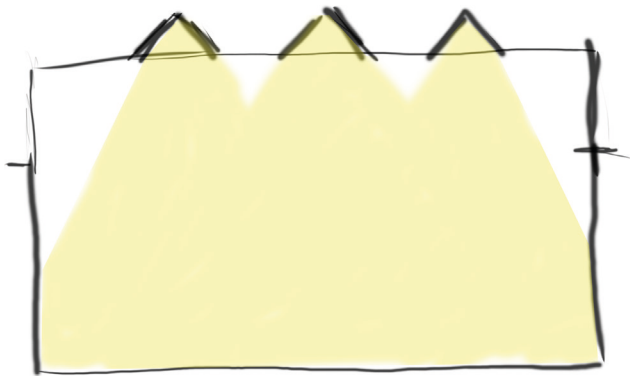
02 - WASHING HALL

architectural language

Every building evokes a certain feeling and this can be very personal. The question is which architectural elements express this? Which elements contribute to the spatial idea/ atmosphere of the washing hall?

Source light, colour, rhythm and shadow: Boujamaa, S.
Source rhythm, materiality and character: Luyckx, S.L.

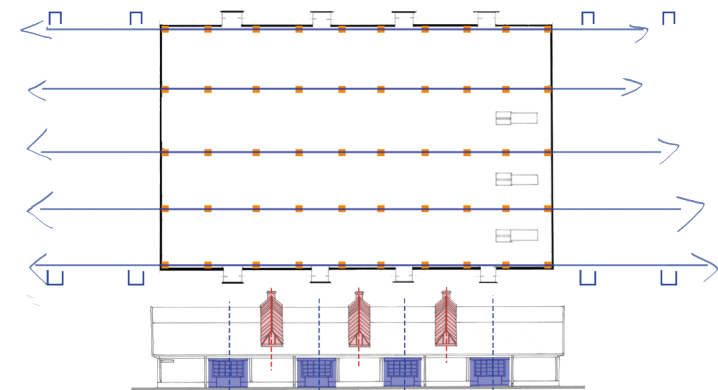
LIGHT



COLOUR



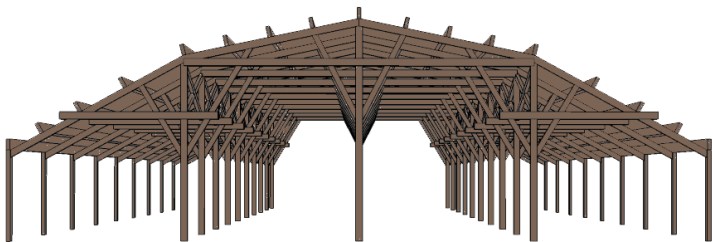
RHYTHM



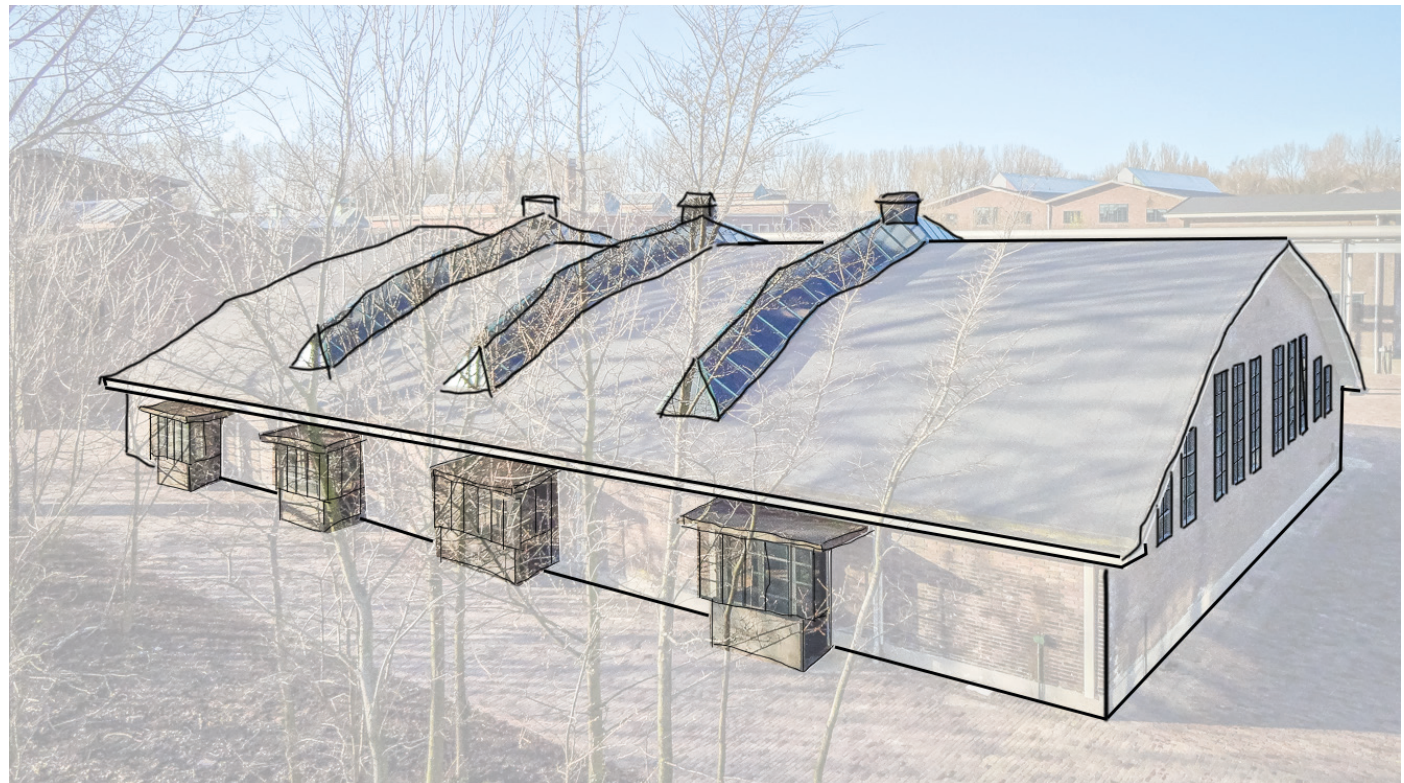
SHADOW



MATERIALITY



CHARACTER



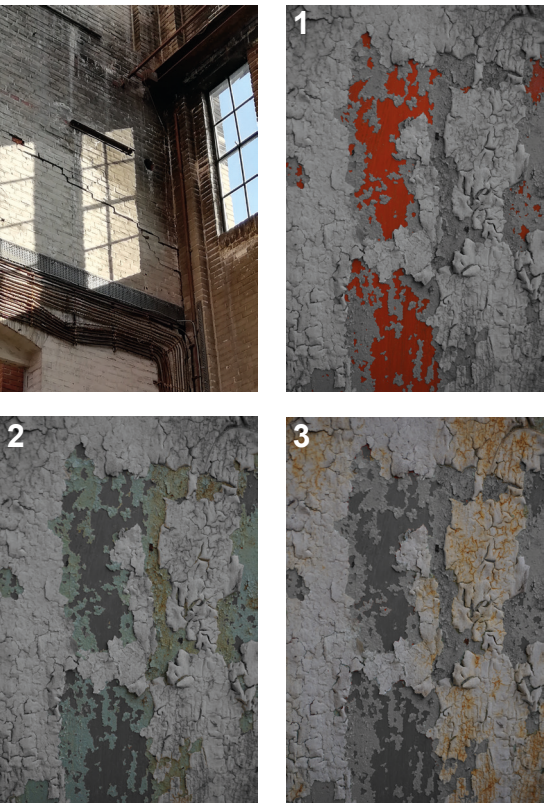
02 - HEAT TREATMENT BUILDING

architectural language



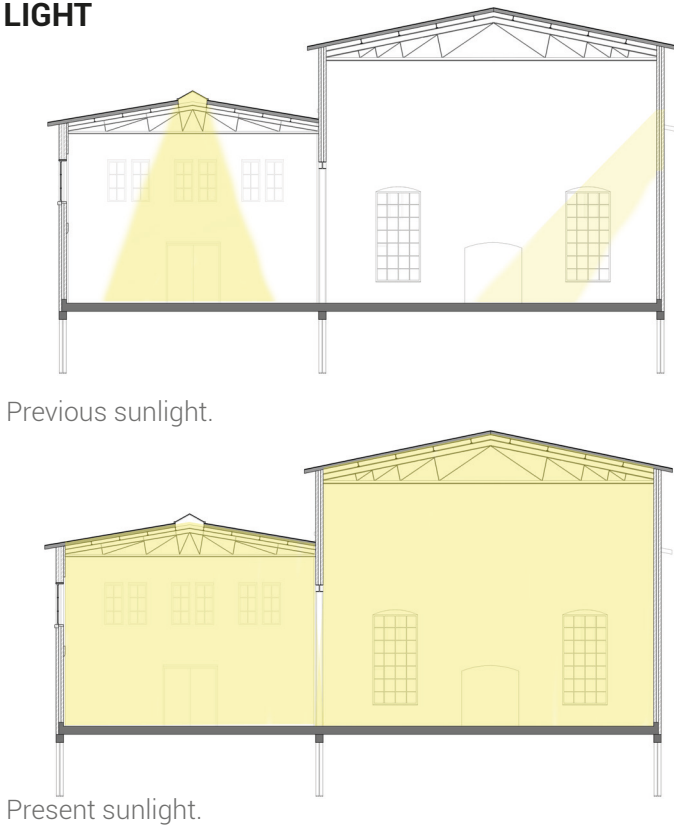
CHARACTER

MATERIALITY



Which elements contribute to the spatial idea/ atmosphere of the heat treatment building?
Source light, shadow, tripletion and colour: Boujamaa, S.
Source character and materiality: Luyckx, S.L.

LIGHT



SHADOW



TRIPLETON



COLOUR



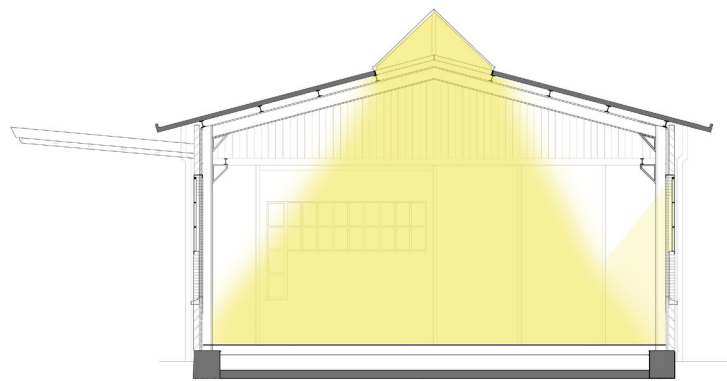
02 - EXPEDITION BUILDING

architectural language

Which elements contribute to the spatial idea/ atmosphere of the expedition building?

Source light, rhythm, materiality and colour: Boujamaa, S.
Source character: Luyckx, S.L.

LIGHT



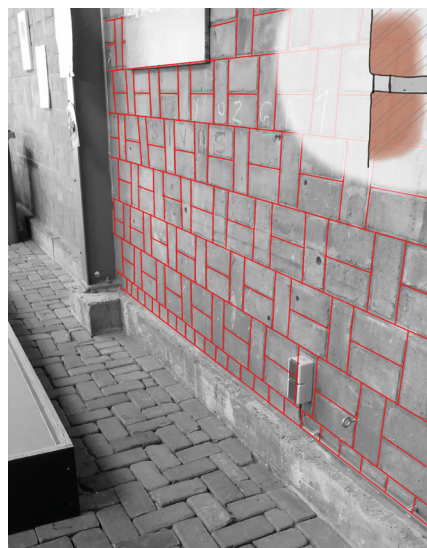
COLOUR



CHARACTER

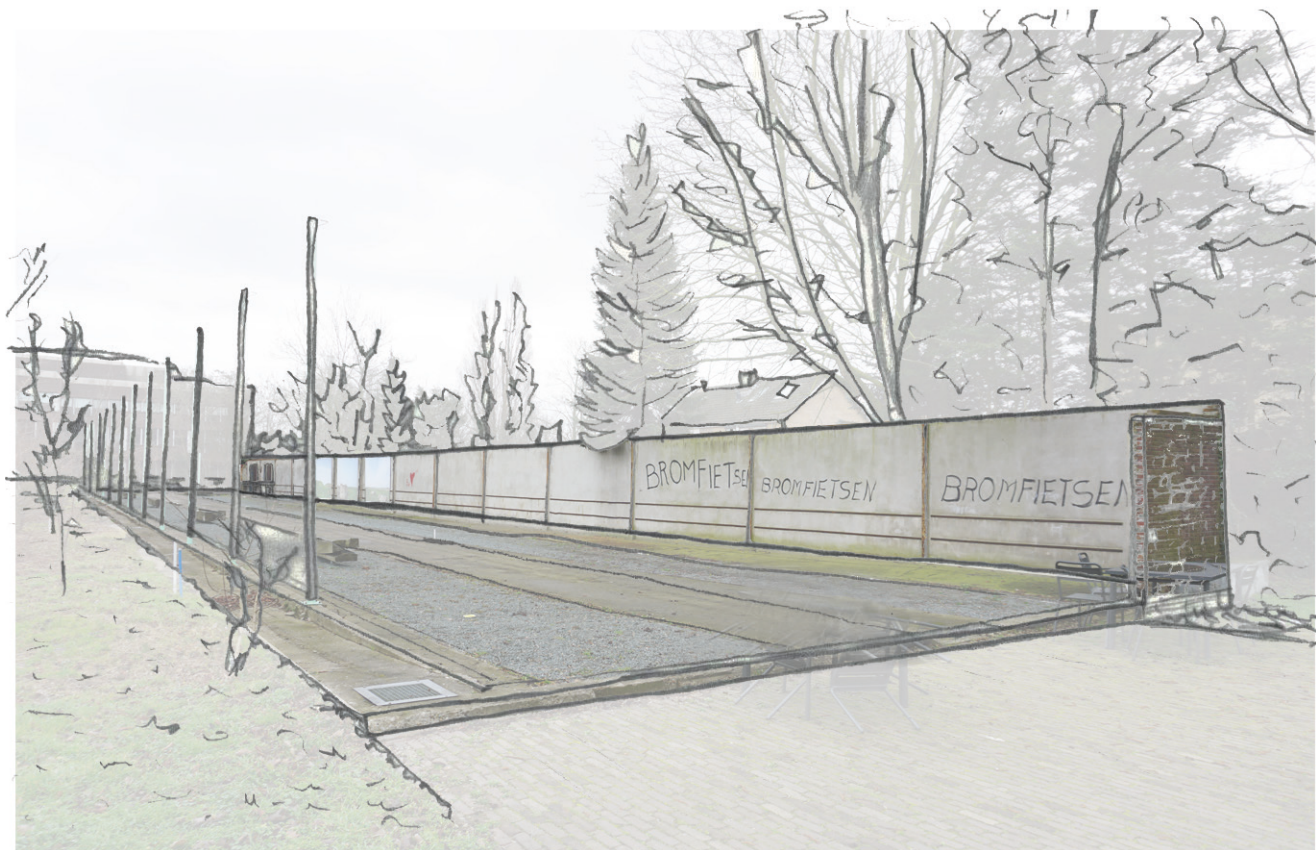


RHYTHM & MATERIALITY



02 - BICYCLE SHED

architectural language



CHARACTER

Which elements contribute to the spatial idea/ atmosphere of the bicycle shed?
Source materiality, colour and rhythm: Boujamaa, S.
Source character: Luyckx, S.L.

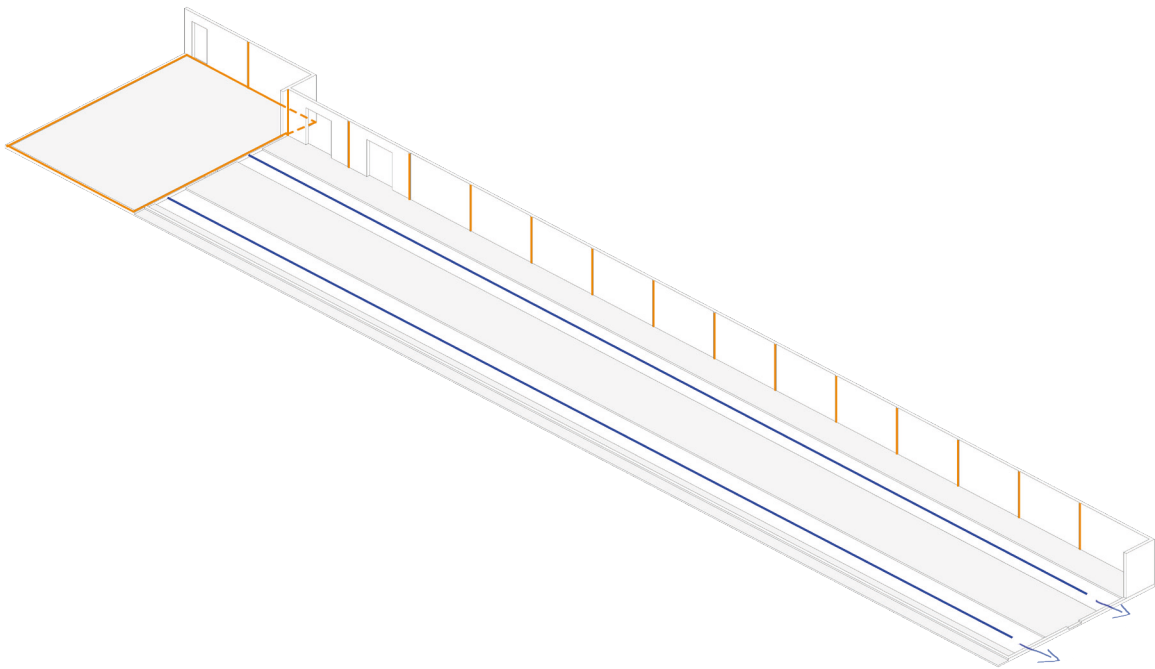
MATERIALITY



COLOUR



RHYTHM

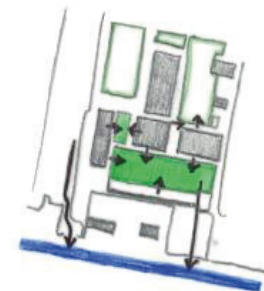
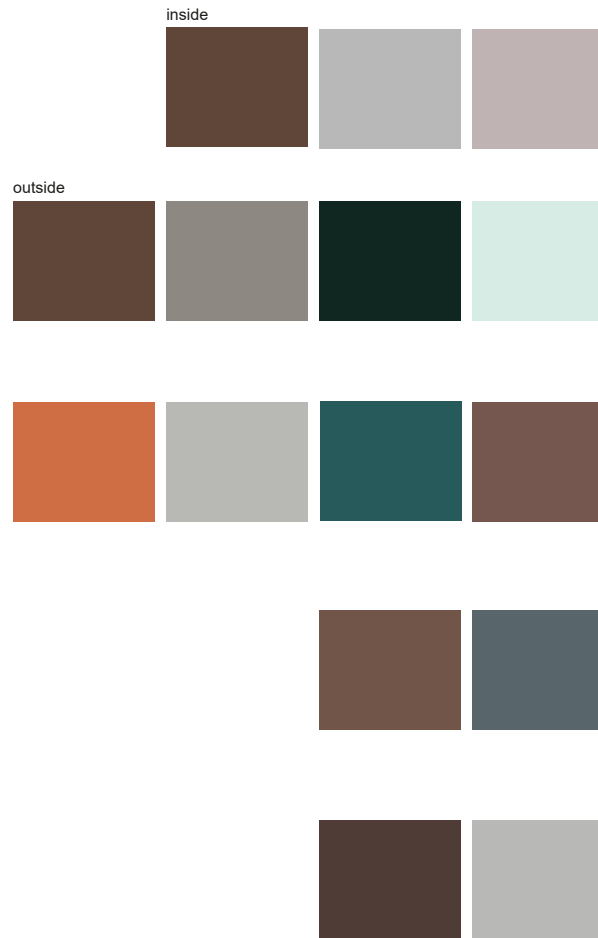
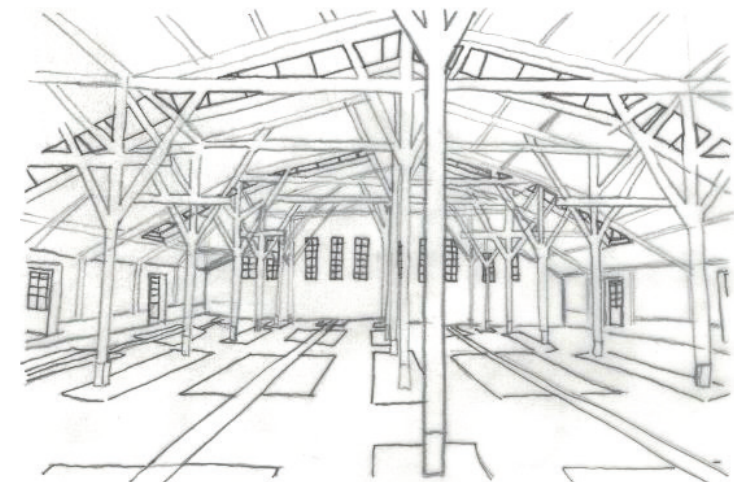
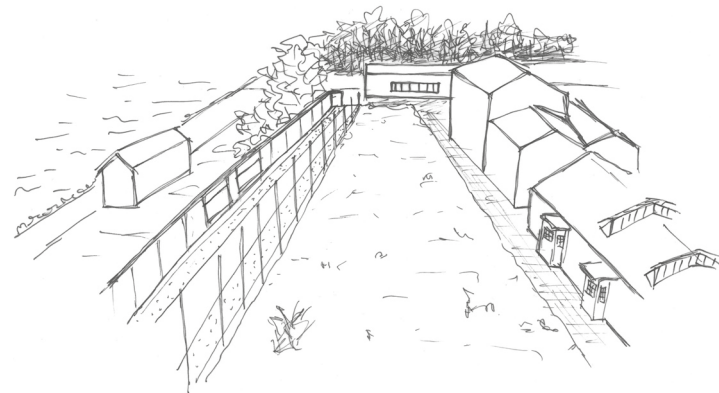
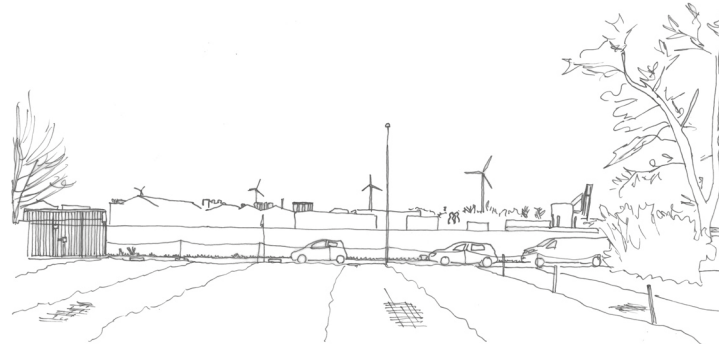


02 - ATMOSPHERE

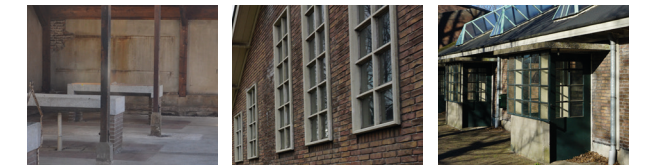
sophie luyckx

When you visit the Hembrug terrain for the first time, the monumental buildings are the first to attract your attention. The appealing buildings of Campus South all have their own character. The greenery, the sound of boats passing by, the waves hitting the quay, the chirping of the birds and the human scale of the buildings create a quiet, calming atmosphere. Despite the different typologies, there is a strong cohesion due to the position of the buildings. The freestanding buildings are positioned in a row and form a relation together with the ruin of an old bicycle shed, with a green plot in the center. The buildings are facing the waterfront with a number of houses in between. The ensemble has a good position, close to the new and old entrances of the area.

The washing hall appears large, light and pleasant, and reminds you of an old stable due to the thin wooden structure and the caterpillar lanterns. Inside the building it feels a bit cold, especially at your feet. The former bicycle shed appears as a ruin. The remaining wall with corroded steel columns and enormous concrete foundation makes you imagine what was once there. The heat treatment building has a rough interior atmosphere. The exterior is more modest. The rusted doors reveal the past. The building is very light inside, due to the transparent corrugated roof. It must have been darker in the past. This can be the reason why the walls are painted white. The expedition building has been renovated and looks neat. It is a comfortable building due to the skylight, bonding of brick, steel columns and open façade.



Was-en kleedlokaal



Harderij



Expeditiegebouw

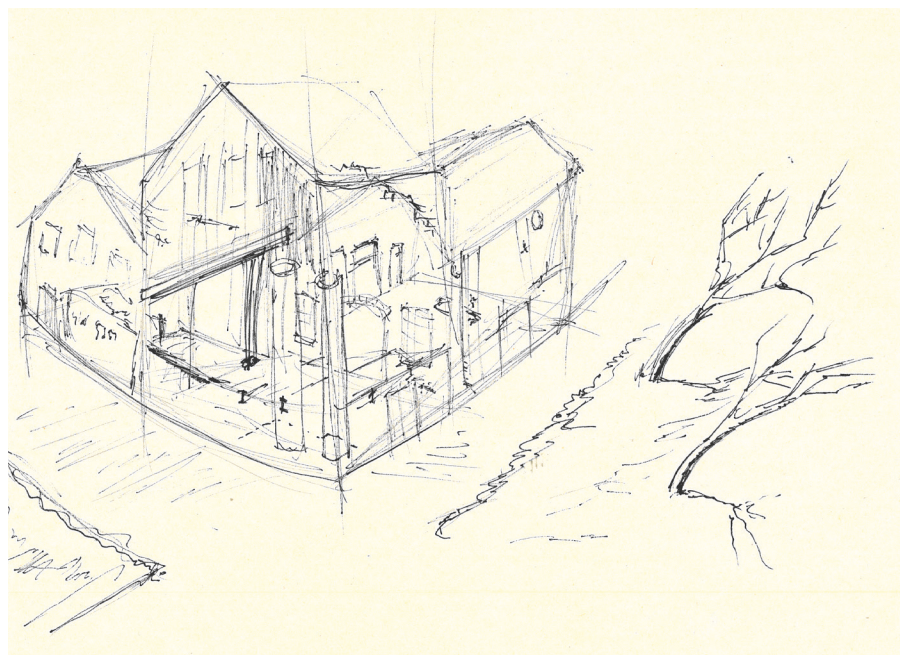
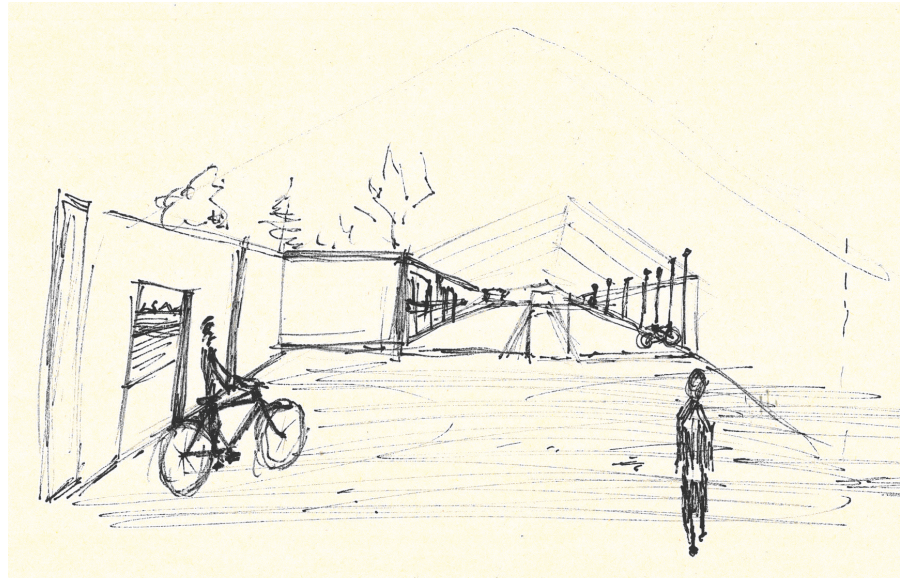


Fietsenstalling



02 - ATMOSPHERE

soumaya boujamaa



Expedition building

It is already renovated now and in use which makes it hard to have an opinion on the building itself. The astonishing element when walking towards it from the roundabout should be the railroad car which is placed on a small part of rail tracks which is trying to show how this building was used. It is true that the railroad was nearby this area but not directly next to the building. Underneath the cantilever is where the goods stayed which entered Hembrug or which had to leave Hembrug. In this way the building represents an entrance and exit of the ensemble.

Former bicycle shed

What is left of the bicycle shed is a foundation and one wall which is supported by the rusted steel columns. It is empty, yet it catches the eye because one gets curious as to what happened here. This curiosity increases when looking at a closed gate and walls which lead to this wall with openings in it which now seem like entrances. Knowing it was a bicycle shed, one tries to imagine where the employees would enter Campus South when they came by bike. The fact that this building only has a foundation and one wall left, makes the visitor only wonder and imagine how it looked like as a whole building and how it was used.

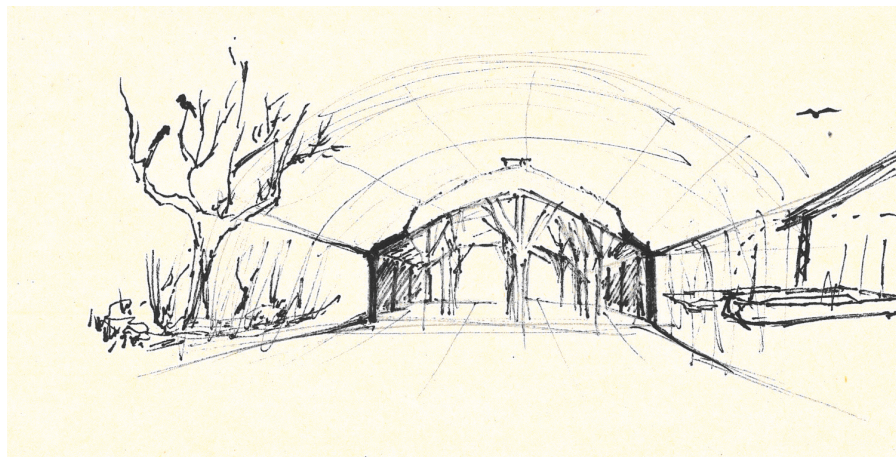
Washing hall

The thin wooden structure gives the building a warm and pleasant feeling and together with the

caterpillar lanterns make the building feel spacious. It is well organized which is shown in structure and the entrances which were consciously placed to let a large group of employees into the building all at once. The structure is placed in a certain grid which makes it get a rhythm which led to me feeling as if the building goes on and on. When looking at the surrounded area, the washing hall has on the one side greenery around it and on the other side buildings. The washing hall looks like a barn or farm like building which has a connection with nature. In this way when looking on the outside of the washing hall it has a stronger connection to the grass field than the buildings on the other side.

Heat treatment building

Compared to the other buildings on the ensemble, the heat treatment building takes a lot of space, ground wise but also in height which makes it a quite dominant building in the area which catches the eye quickly. On the inside, many traces of what used to happen there is still visible. Marks on the ground which show where machines stood. Steel beams which were cut off show another floor which is not there anymore. Steel beams which had a circular shape which represents the former large barrels which stood in it. The rusted wires and cables which still know their way in the building just like snakes and some hanging from the walls. The big crack in the brickwork where a new (second building) layer was added show the experience through time of the materials themselves. In many walls, big holes were made for pipes which are now gone. The holes are only filled up with bricks on the outside of the cavity wall. On the inside, the holes are still visible. The holes, together with cracks, the rough bricks and all the other elements show how this building, as only production building in the ensemble, was used and how hard the man must have worked. They hardened steel for helmets, tools, etc. and this was done in salt baths which had a very high temperature. The many windows at about 4 meters height could be opened in order to make it less hot in the building. It must not have been an easy task for the employees to work a whole day in such circumstances and this represents the building today.



02 - ATMOSPHERE

maaike lengton

When I first visited the site I was confused by the many streets and sightlines. It was clear that these buildings were connected with each another due to their position. Between the buildings were open spaces which were once built. This interrelationship gives a certain atmosphere to this area. An atmosphere of a campus in which buildings are interrelated with open spaces in between them.

At the level of the buildings I noticed how the sun and the trees had an affect on the facades. The shadow play gives the buildings a warm character in which they respond to nature and time. This is enhanced by the building height that is below the treetops. With this, the buildings are surrounded by trees.

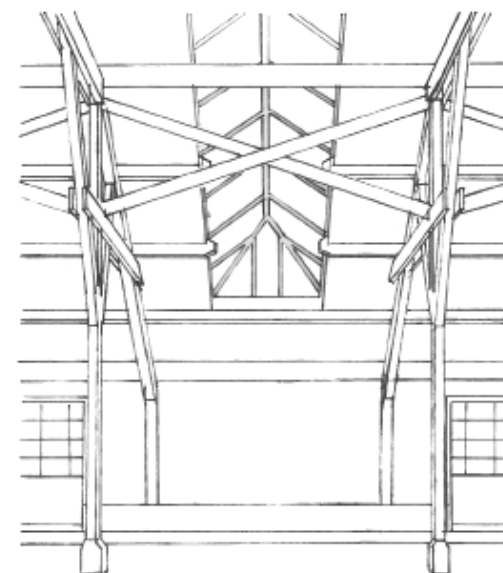
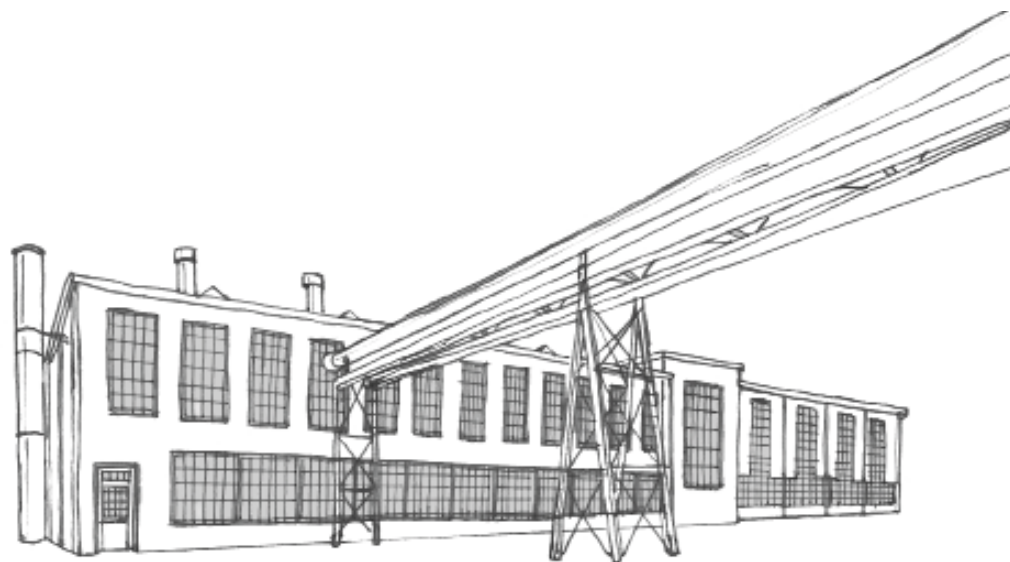
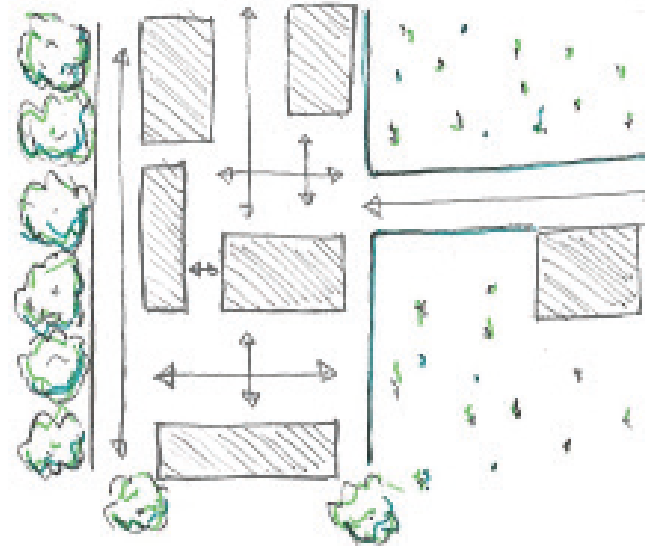
Inside the buildings, it is surprisingly light. This is because of the skylights which bring an enormous amount of light inside.

With every hour and even with an overcast sky the space is experienced differently. The space is warm and pleasant to be in and this gives the building a positive character.

I used the words light, shadow, lines, structure and symmetry to describe the ensemble, as I think they are important factors that determine the character of Campus South

Light
Shadow

Lines
Structure
Symmetry



03 - BUILDING TECHNOLOGY

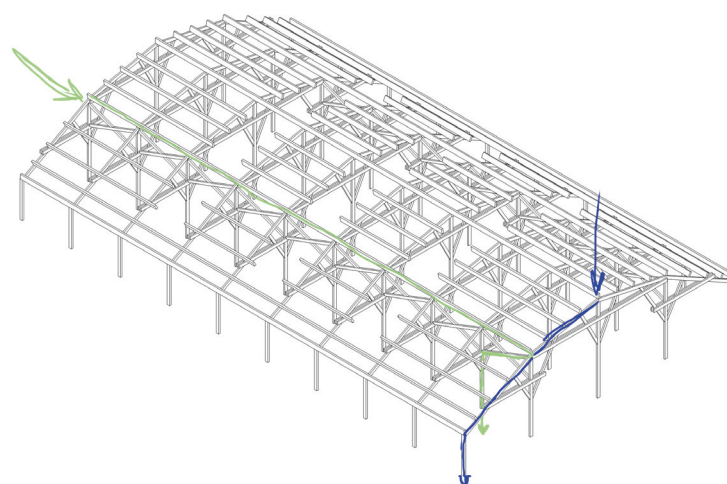
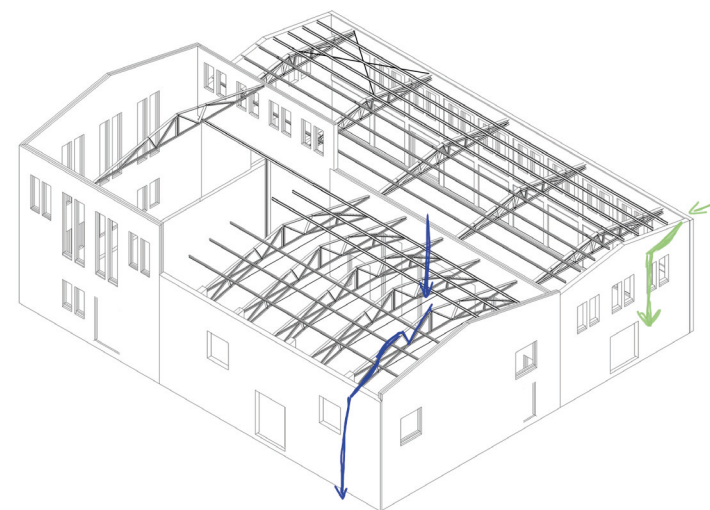
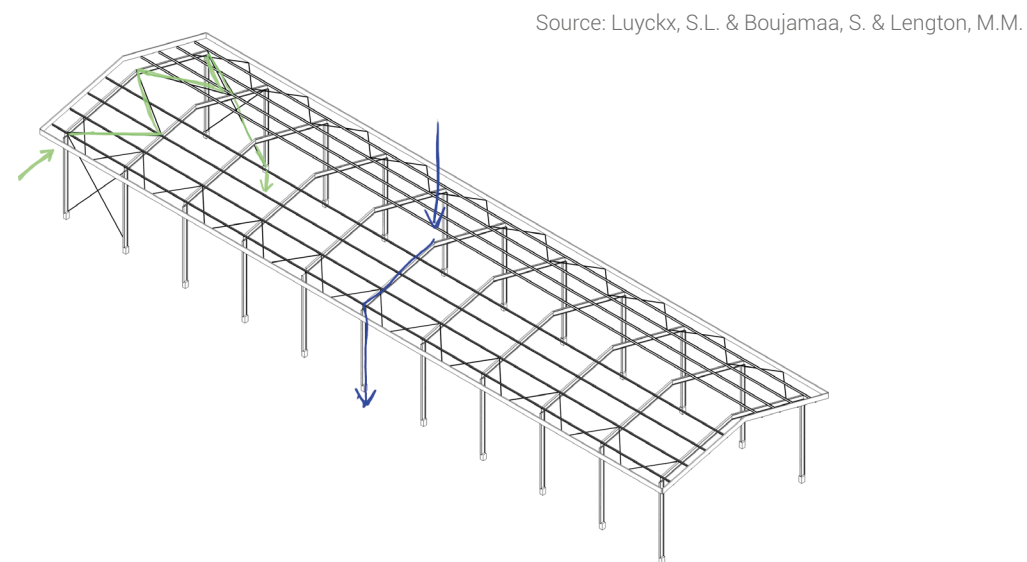
campus south

03 - STRUCTURES

campus south

There are different types of structures on the ensemble. The expedition building, washing hall and bicycle shed exist out of a column and beam system. The heat treatment building exists out of a box system in which the walls are load bearing.

We assume that the bicycle shed had a similar steel construction as the expedition building, based on the remaining corroded steel columns in the wall. The heat treatment building has a load bearing brick structure and the washing hall has a wooden structure.

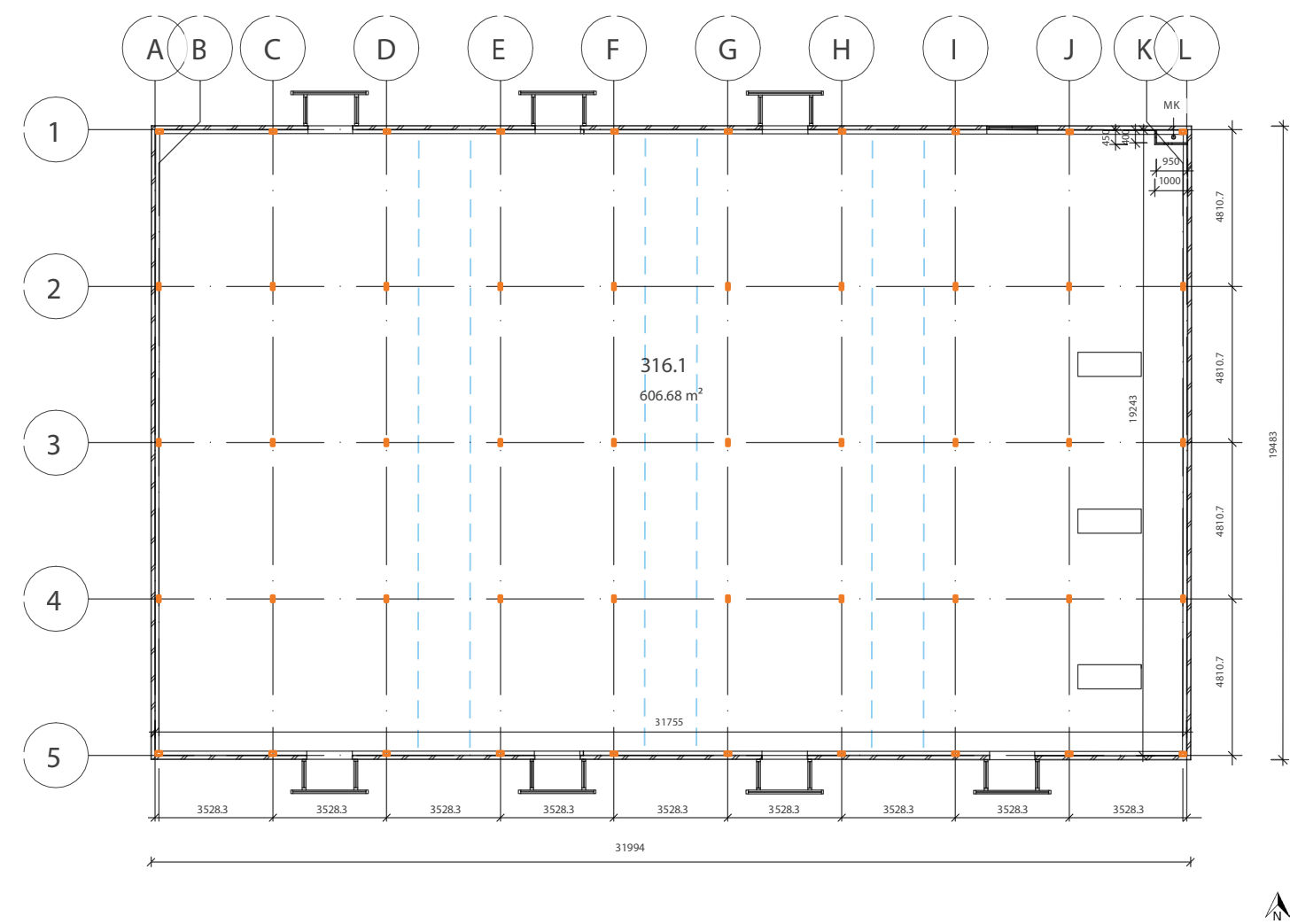


Source: Luyckx, S.L. & Boujamaa, S.

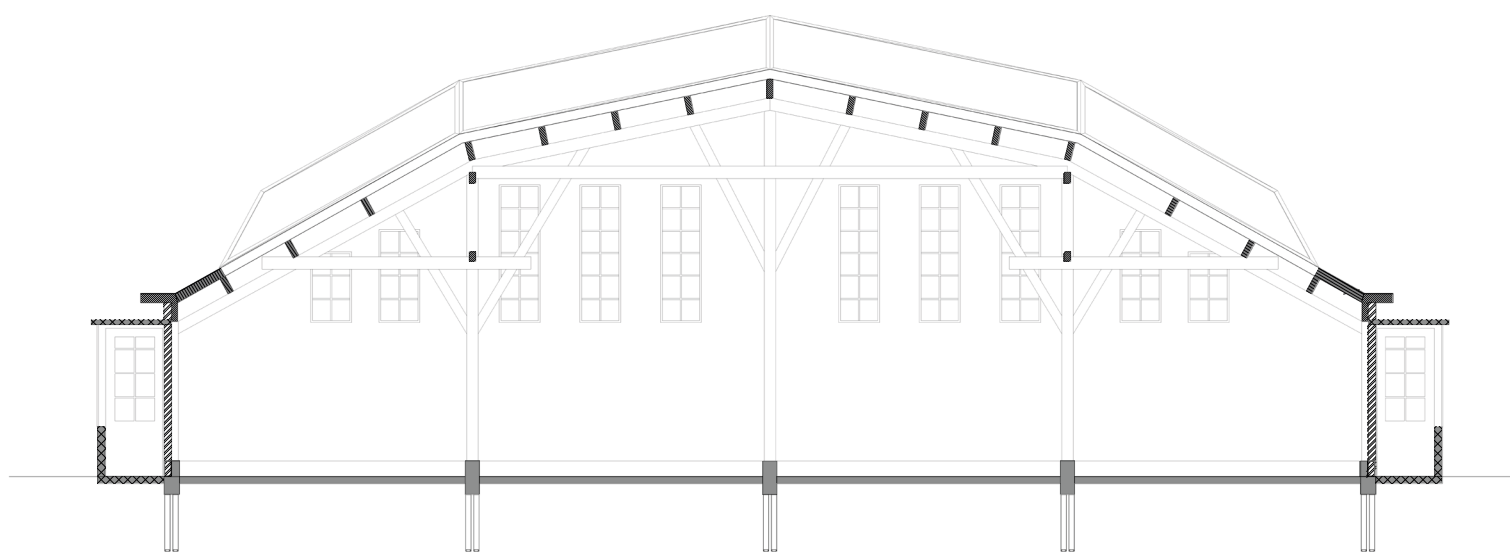


03 - STRUCTURES

washing hall 316



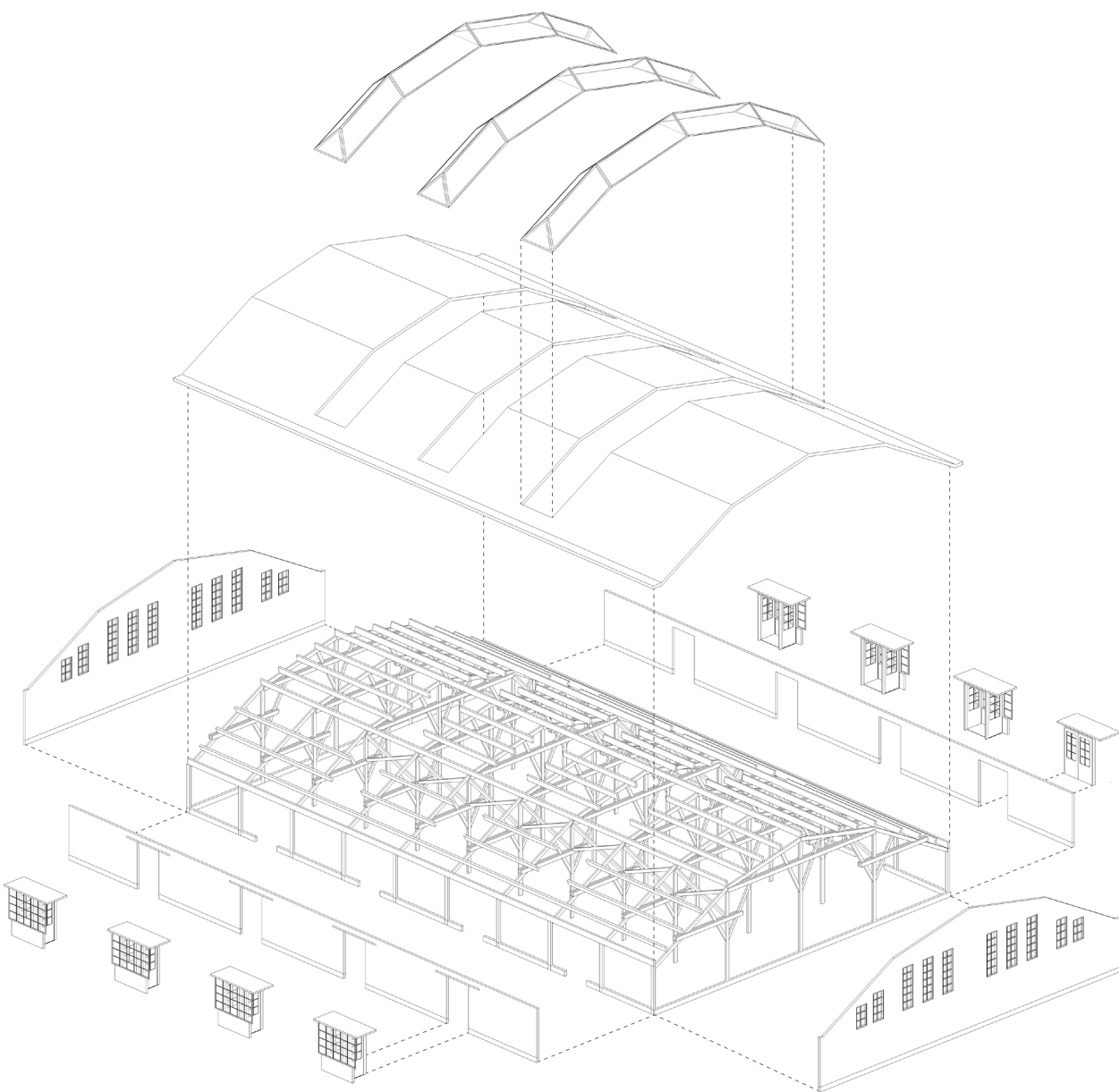
Source: Luyckx, S.L.



Source: Lengton, M.M.

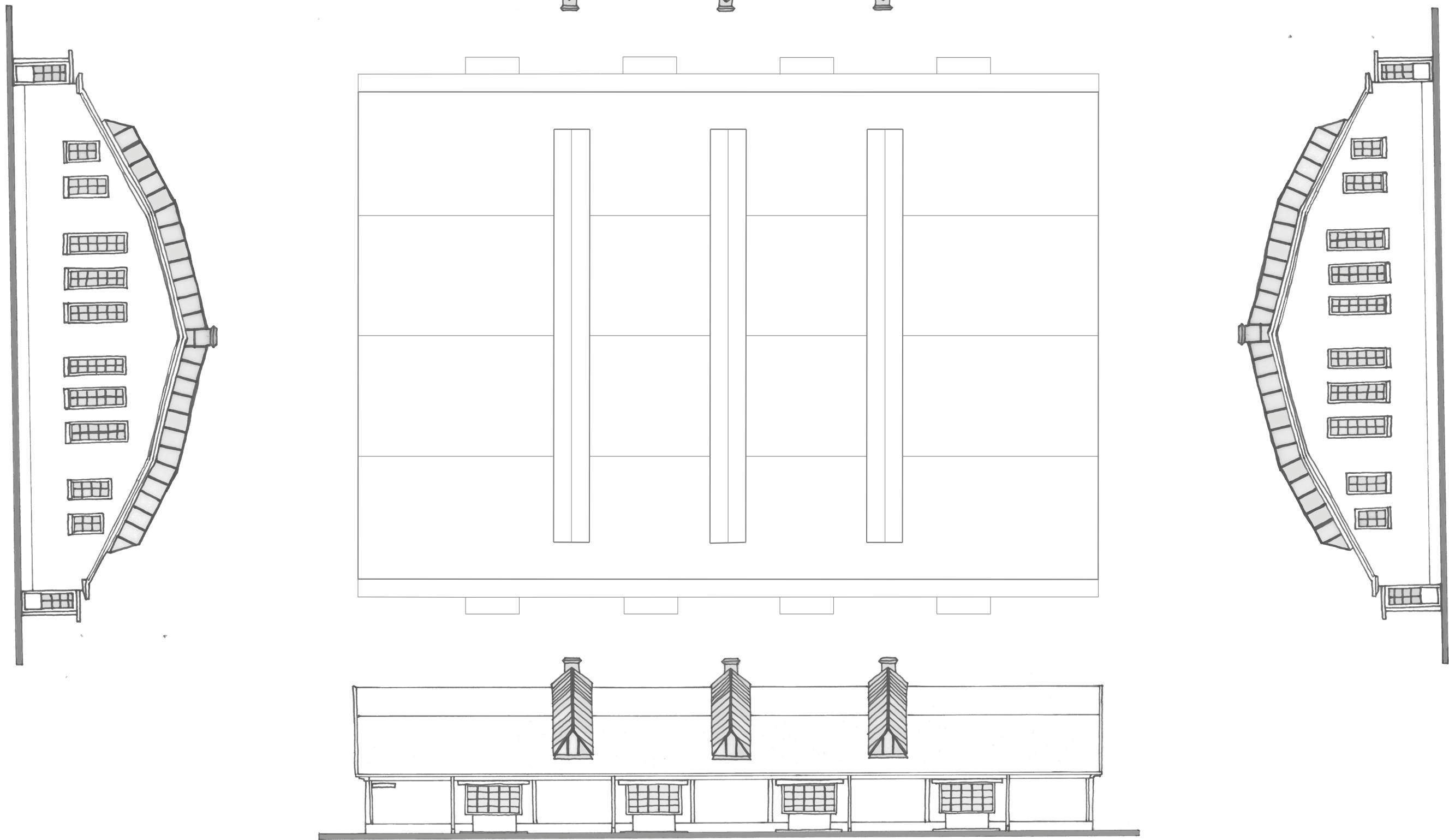
It has a four-aisled wooden structure over 9 bays, consisting of a roof with intermediate pillars on foundation blocks. The wooden columns are provided with braces and double lintels which connect the braces. The columns and braces support the roof beams. Between the shingles at the side aisles a wind bracing is applied.

The four entrances on both sides of the building are situated along the 2nd, 4th, 6th and 8th bay. In the 3rd, 5th and 7th bay, three iron caterpillar lanterns are applied which have a ventilation outlet on the ridge.



Source: Lengton, M.M.

Facades



Source: Luyckx, S.L. & Lengton, M.M.

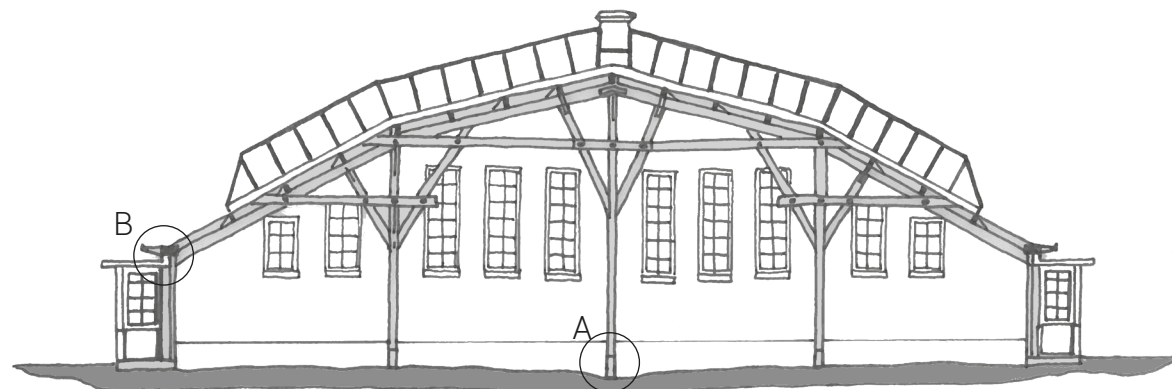
03 - DETAILS

The wetland on which Hembrug was built has a peat soil. To build Hembrug, sand was poured on this layer. The buildings were built right on it, although the soil didn't set yet. Over time the peat settled, causing a lower ground level. As the foundation piles rested on a dense sand layer they remained on their place, while the floor, resting on a looser sand layer, subsided along with the settling of the soil. This is visible around the columns and we came up with two options for the unknown foundation.

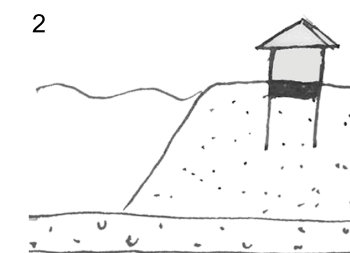
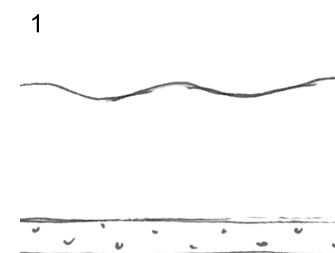
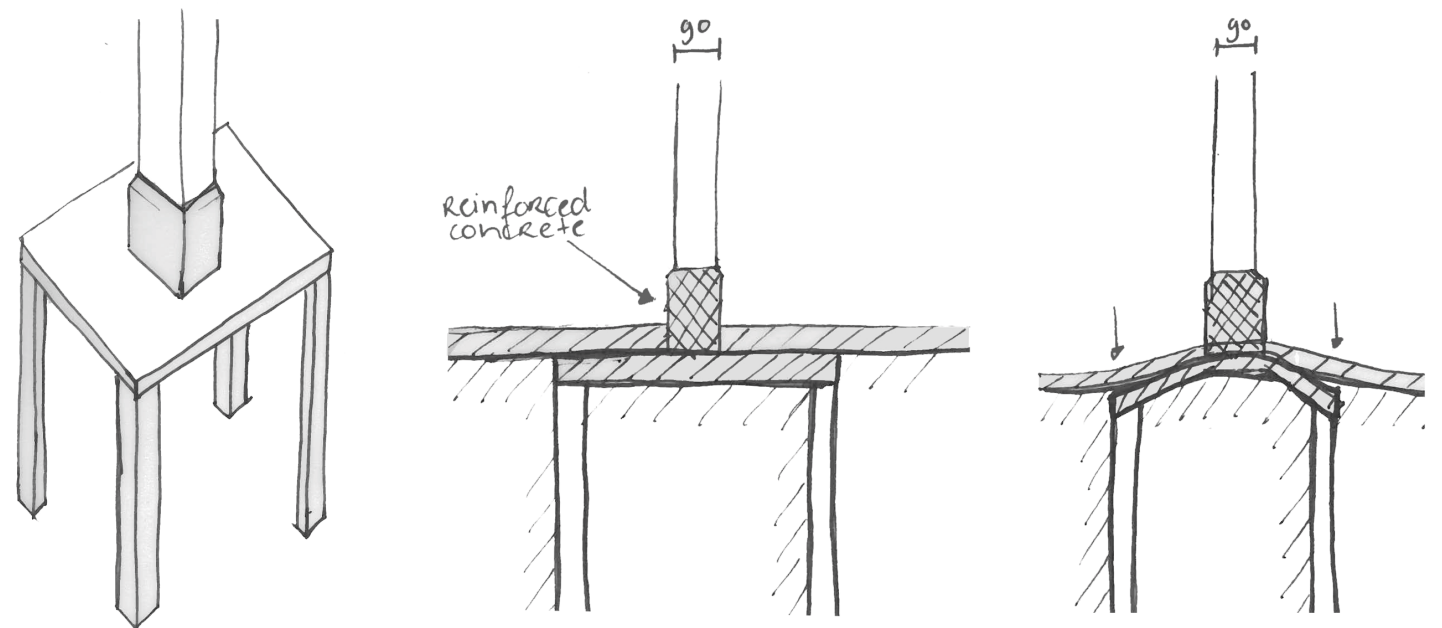
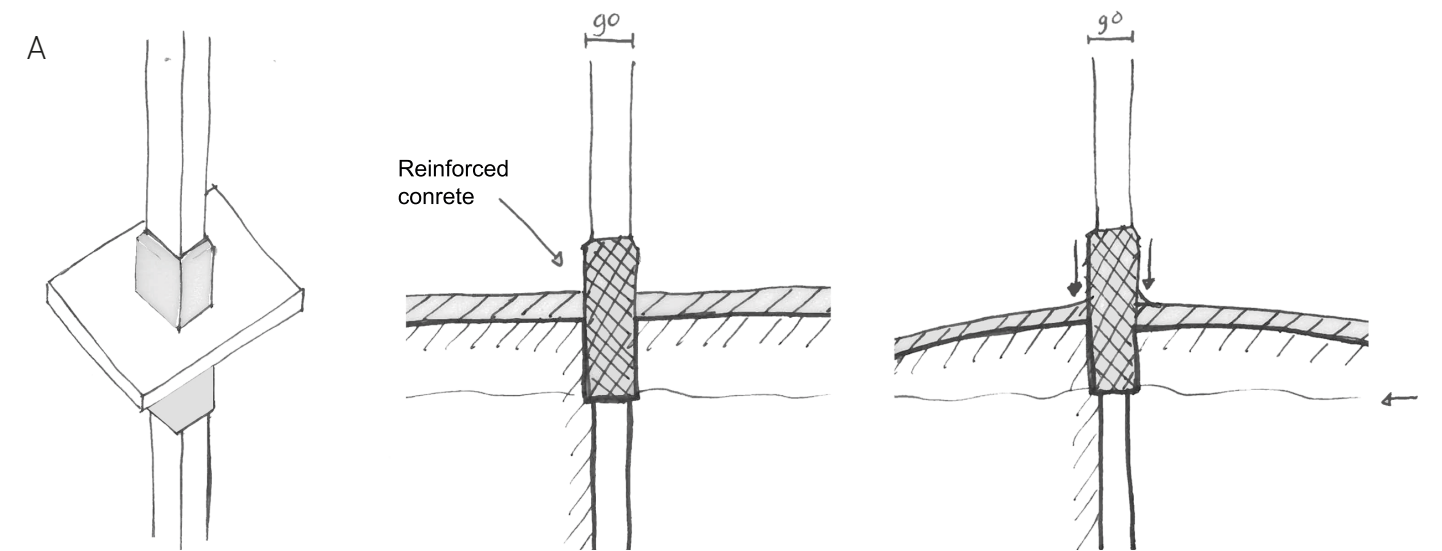
Option 1: The wooden columns have a reinforced concrete base which runs through the ground floor and ends below the groundwater level. This base rests on wooden foundation piles following the Amsterdam pile foundation principle. In this situation, the floor slides down along the column.

Option 2: The wooden columns have a reinforced concrete base which rests on a concrete slab. This slab carries the ends of the floor which causes it to break near the column. The concrete slab rests on the wooden foundation piles following the Amsterdam pile foundation principle.

We found that option 2 would work differently than we had imagined. The concrete slab would not deform as it is stiff enough, causing the floor to break in the middle. Therefore option 1 is more likely



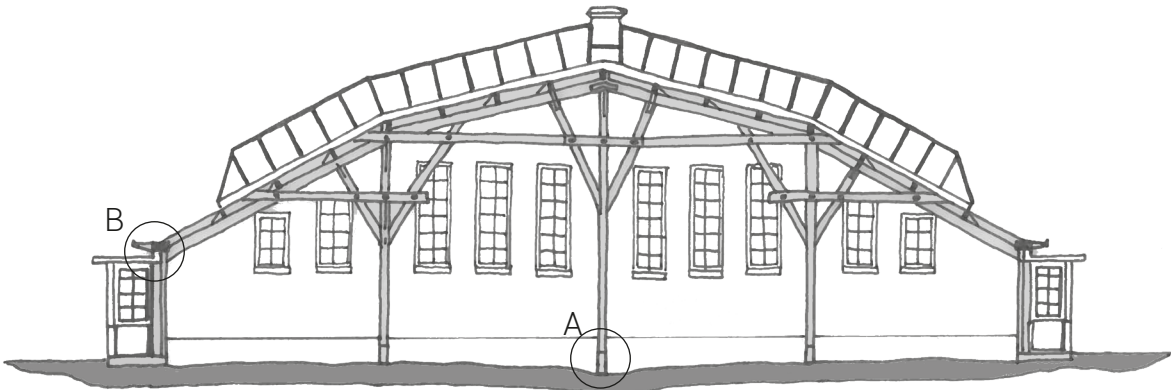
Source: Luyckx, S.L.



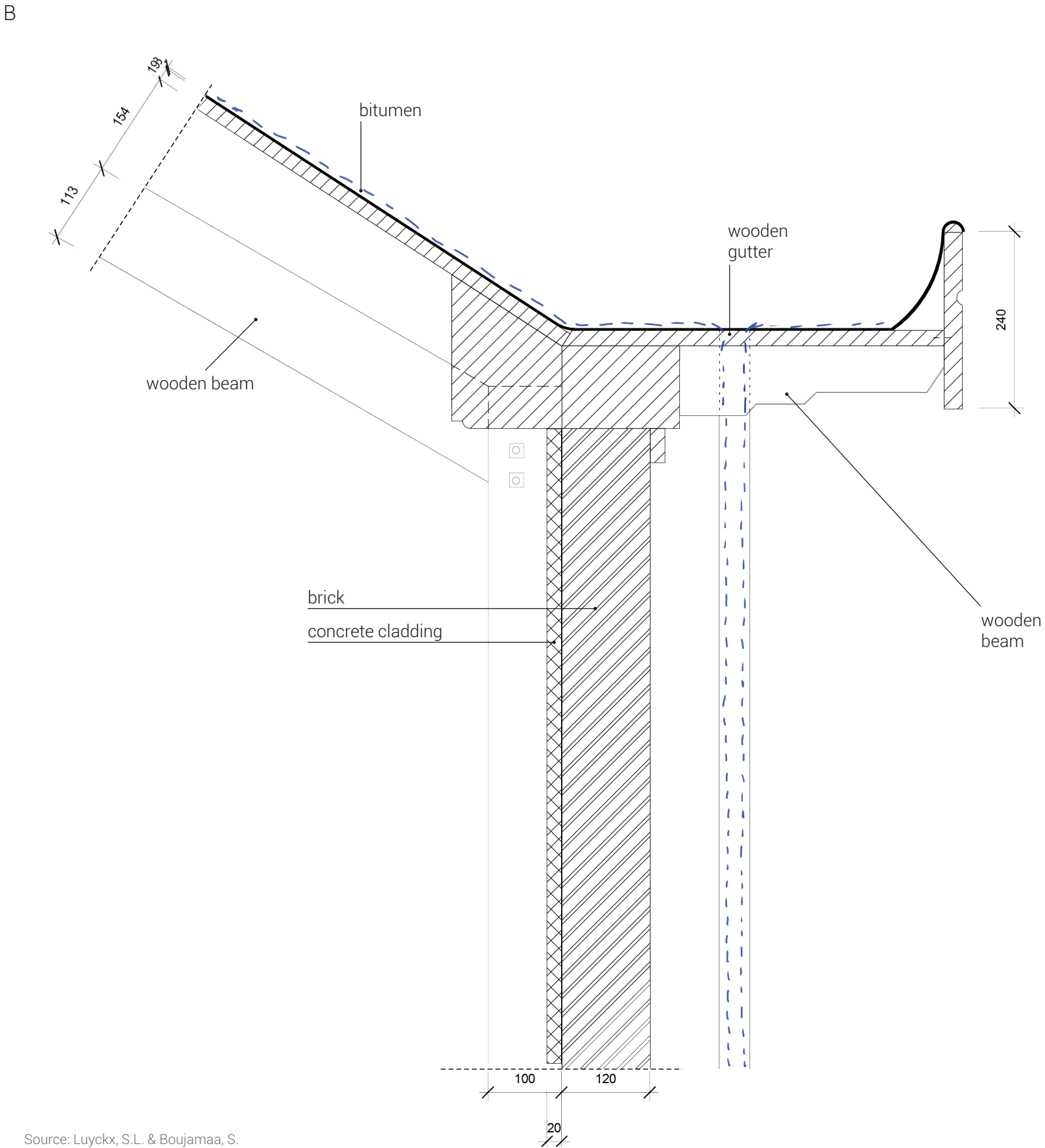
Source: Lengton, M.M.

The detail of the roof connection (B) shows the bitumen layer placed on top of the wooden roof structure. The gutter is supported by a wooden element that is connected to the facade. The wall has the following dimensions from inside to outside:

- 100 mm wooden column
- 20 mm concrete cladding/plasterwork
- 100 mm brickwork
- Wooden gutter with bitumen on it



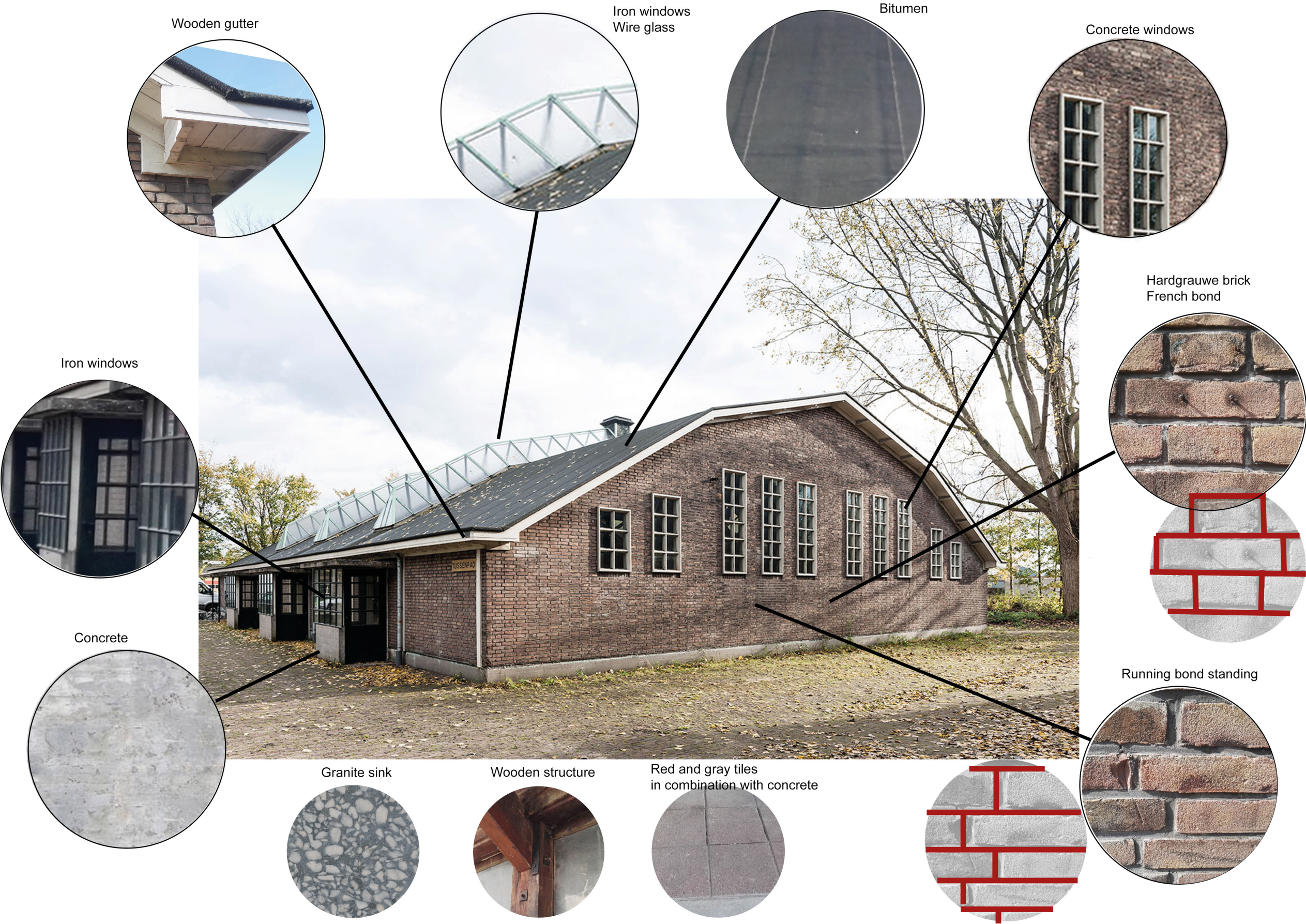
Source: Luyckx, S.L.



Source: Luyckx, S.L. & Boujamaa, S.

03 - MATERIALS

Source: Boujamaa, S.



03 - DAMAGES

Source: Luyckx, S.L. & Boujamaa, S.

The washing hall has a significant amount of damages. On the outside (next to the windows) a lot of cracks can be seen. One particular crack in the wall is also visible on the inside. On the inside it looks like the crack is only in the concrete but the two parts of the wall next to the crack differ from depth. When the crack goes further down, the difference in depth becomes bigger. This probably is not only in the concrete which is cladded on the brickwork on the inside. It is also logical that there is a crack through the brickwork which makes the concrete crack as well. This crack could be caused by a bad condition of the foundation. However, on the inside it looks like the pillars are still intact and are on the same height. The cracking might be because of frost damage and different kinds of loads (wind).

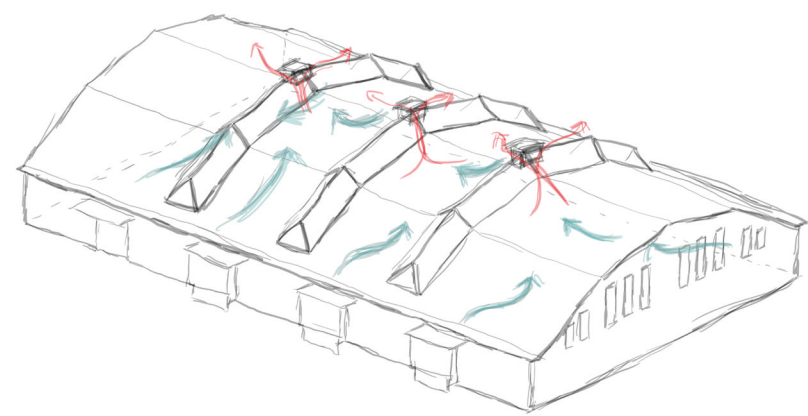
In the brickwork on the outside a few broken bricks were visible. Most of them situate under the windows. Parts of the brick did not stay in place. This could be caused by rain which stays right under the windows. Parts of brick could fall off due to frost damage in this case since the most broken bricks are right under the windows. Furthermore, on the inside the corroding of steel is visible. It leaves an orange-brown colour on the concrete cladded brickwork. This steel belongs probably to the structure of the former lockers. Some of the corroding steel maybe belonged to pipes which went through the wall.

Another damage which is visible on the inside is the map cracking of concrete. Random cracks in the concrete appear which is caused by the shrinkage of the surface of concrete. On the brickwork on the outside efflorescence started. A layer of white is on the bricks. One might think it could only be paint which was put on the wall (by accident) but when water is poured on it, the colour of the brick appears. There is a layer of salt on the bricks, caused by the salt in mortar but also in the bricks. This salt could also be from the soap which was used inside and somehow salts came in the ground. There was a 'soap cart' in the washing wall which was located closely to the efflorescence spots. These spots were also higher on the walls. At these places the gutters might not have been intact.

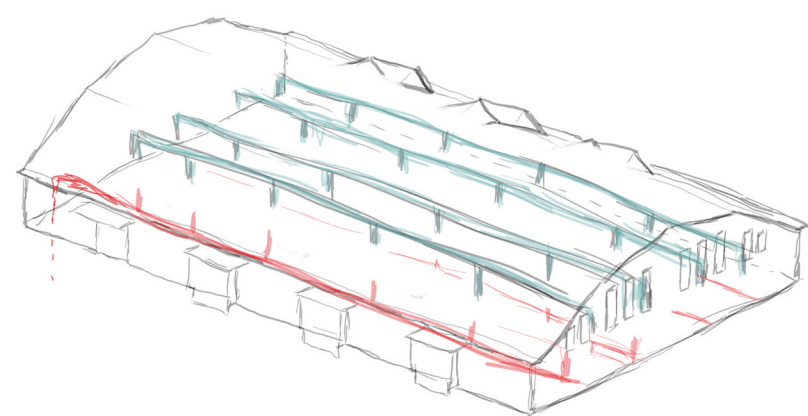


03 - SERVICES

ventilation - vent channels



water supply for sinks and water outlet
blue: pipes with water supply. red: outlet.

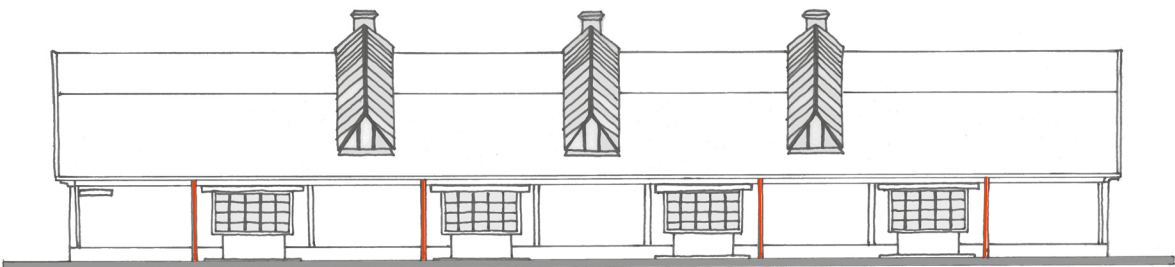


Source: Boujamaa, S.

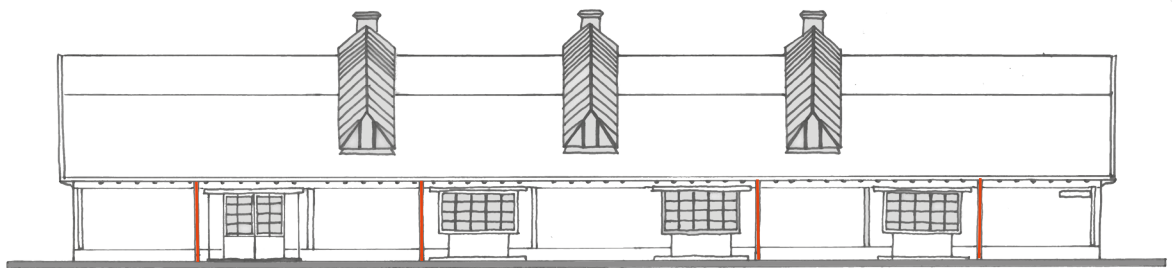
Source: Luyckx, S.L. & Boujamaa, S. & Lengton, M.M.



rainwater drainage



south facade



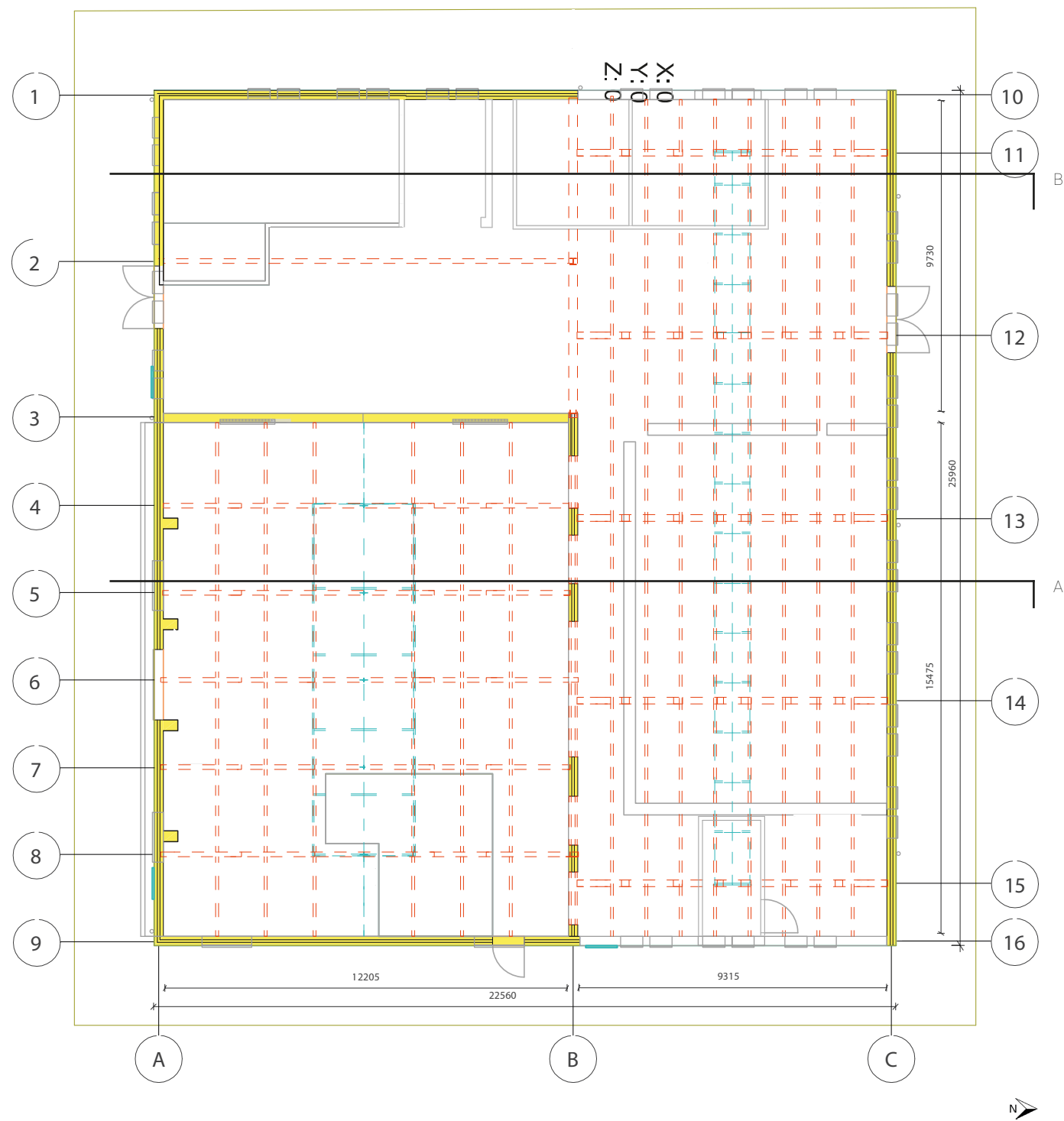
north facade

Source: Luyckx, S.L.

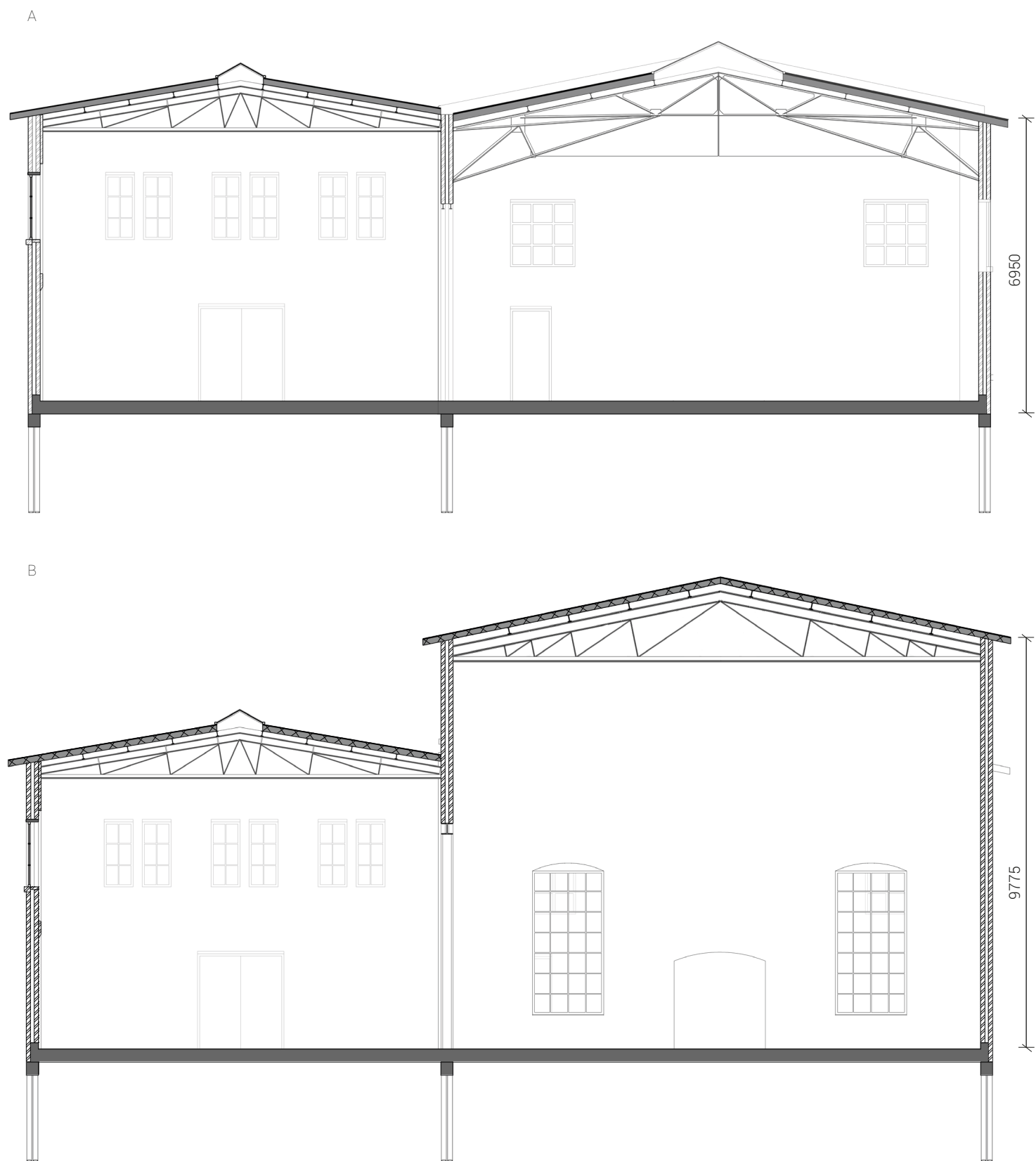


03 - STRUCTURES

heat treatment building 155



Source: Luyckx, S.L.

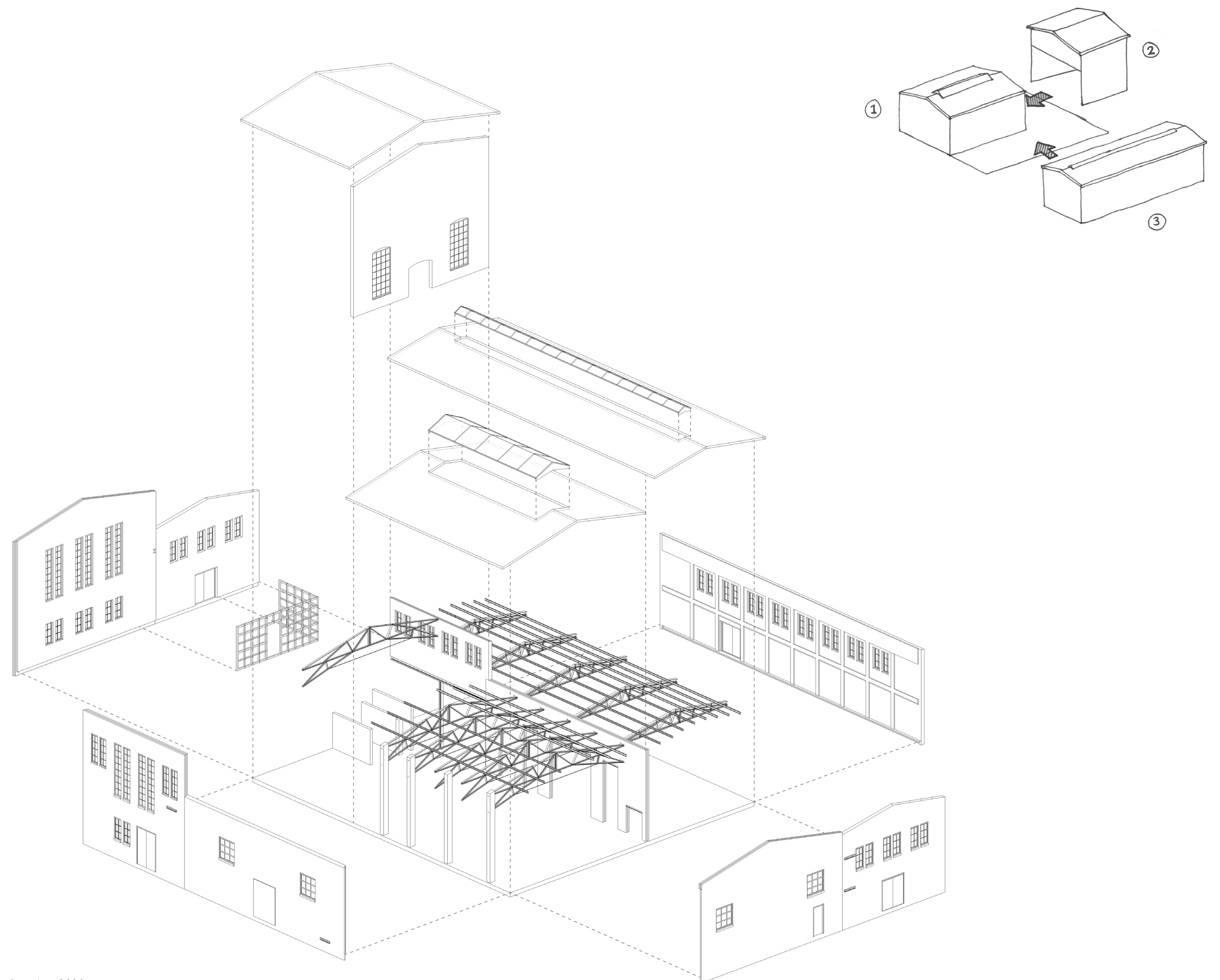


Source: Lengton, M.M.

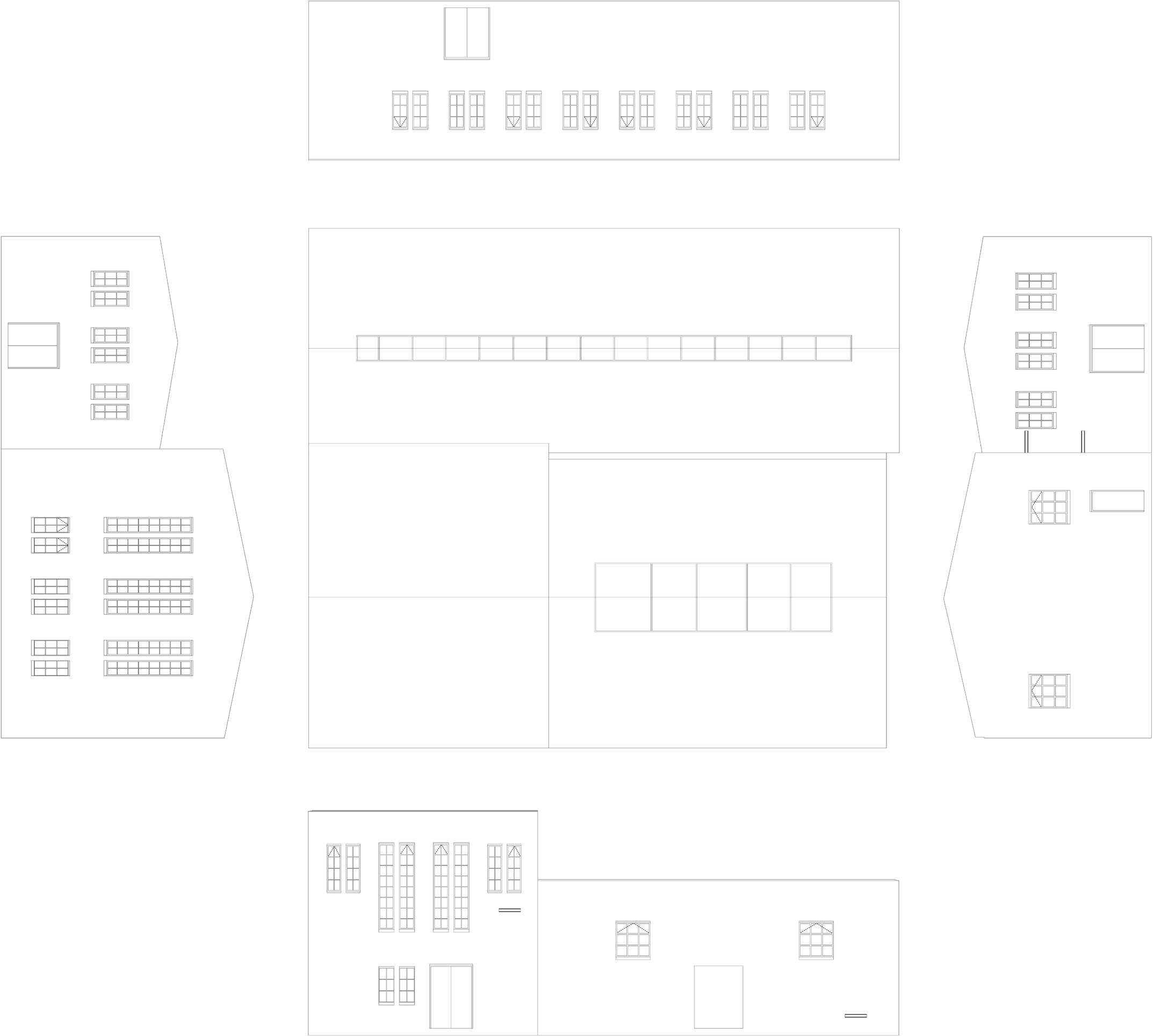
The heat treatment building is divided into three compartments. Each compartment has a steel roof structure beared by brick walls. The first part of the heat treatment building has a different kind of roof structure. It transfers the vertical forces of the roof onto the brick walls as well as horizontal forces generated by tractive forces. The other two roof structures transfer only the vertical forces of the roof onto the walls.

The walls are supported by buttresses which are placed on the inside. These buttresses help to bear the load of the wind of the facades. In the oldest part of the building it seems as if they were added later on as the buttresses are not visible in the floorplan of 1954. This might be done to strengthen the wall as it was affected by the wind. Due to the buttresses and the brick walls there is only one wind brace, located in the newest part of the building.

Two interesting structural aspects are the walls between the higher part and the other compartments. The wall between the oldest part and the higher part is used to raise the facade. When you look at the structure, you can still distinguish the old wall from the raised part. The other interesting wall, which connects the higher part to the newest part, is cut off on the bottom and supported by a steel beam and column. It is likely that there was an opening in the wall, but never this size, so the wall is intentionally modified. We assume this is created with the expansion of the third part of the building.

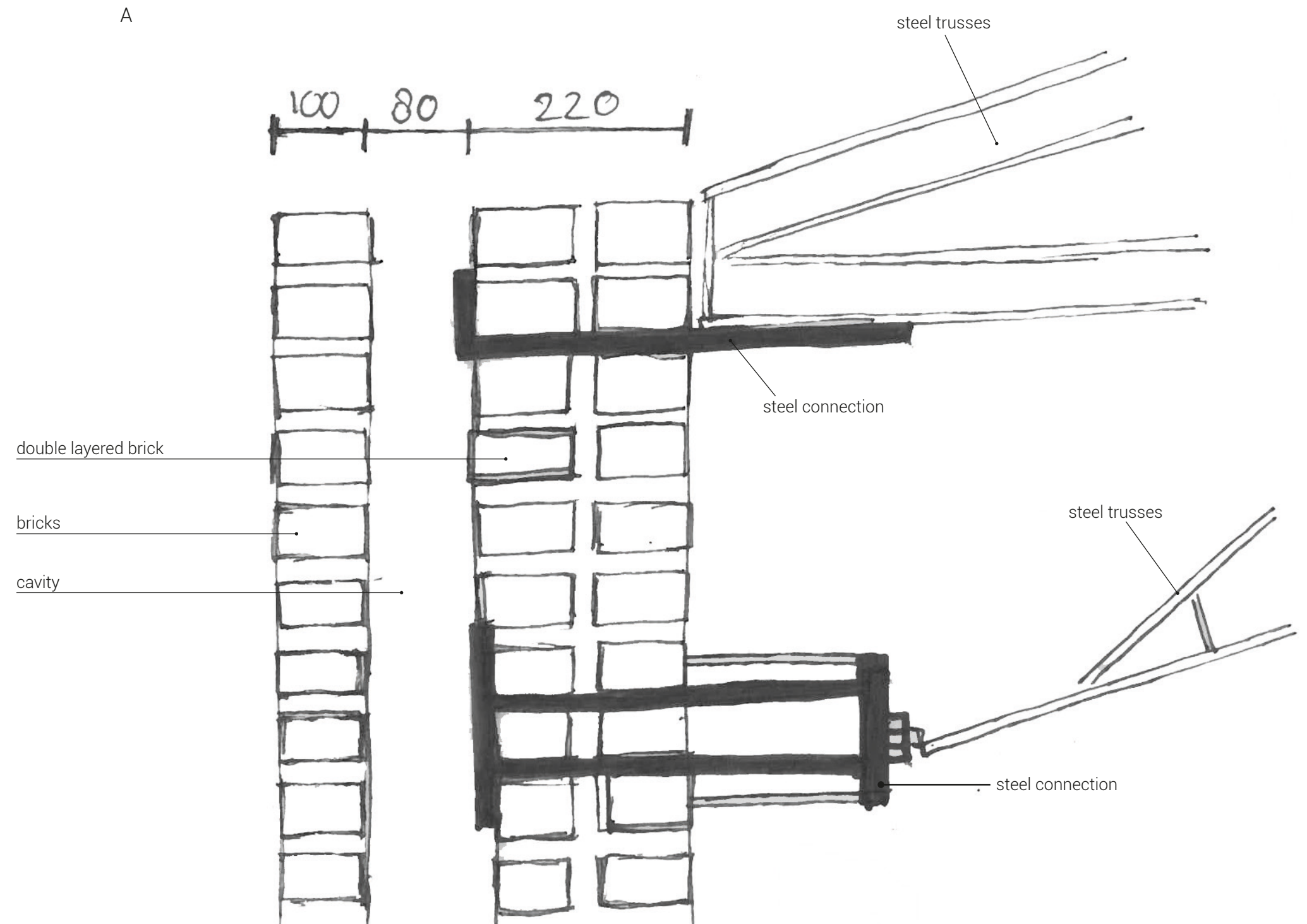


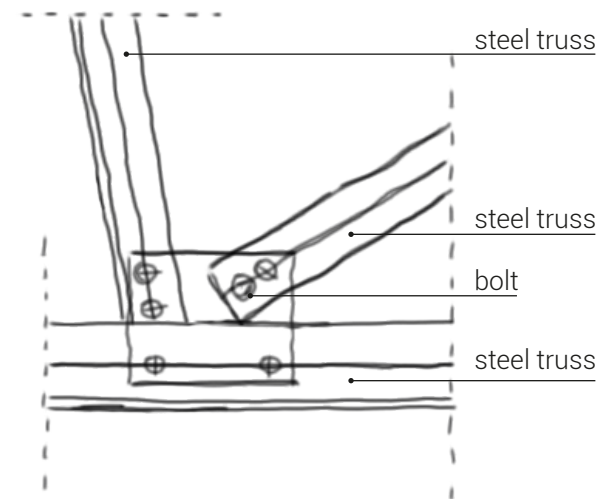
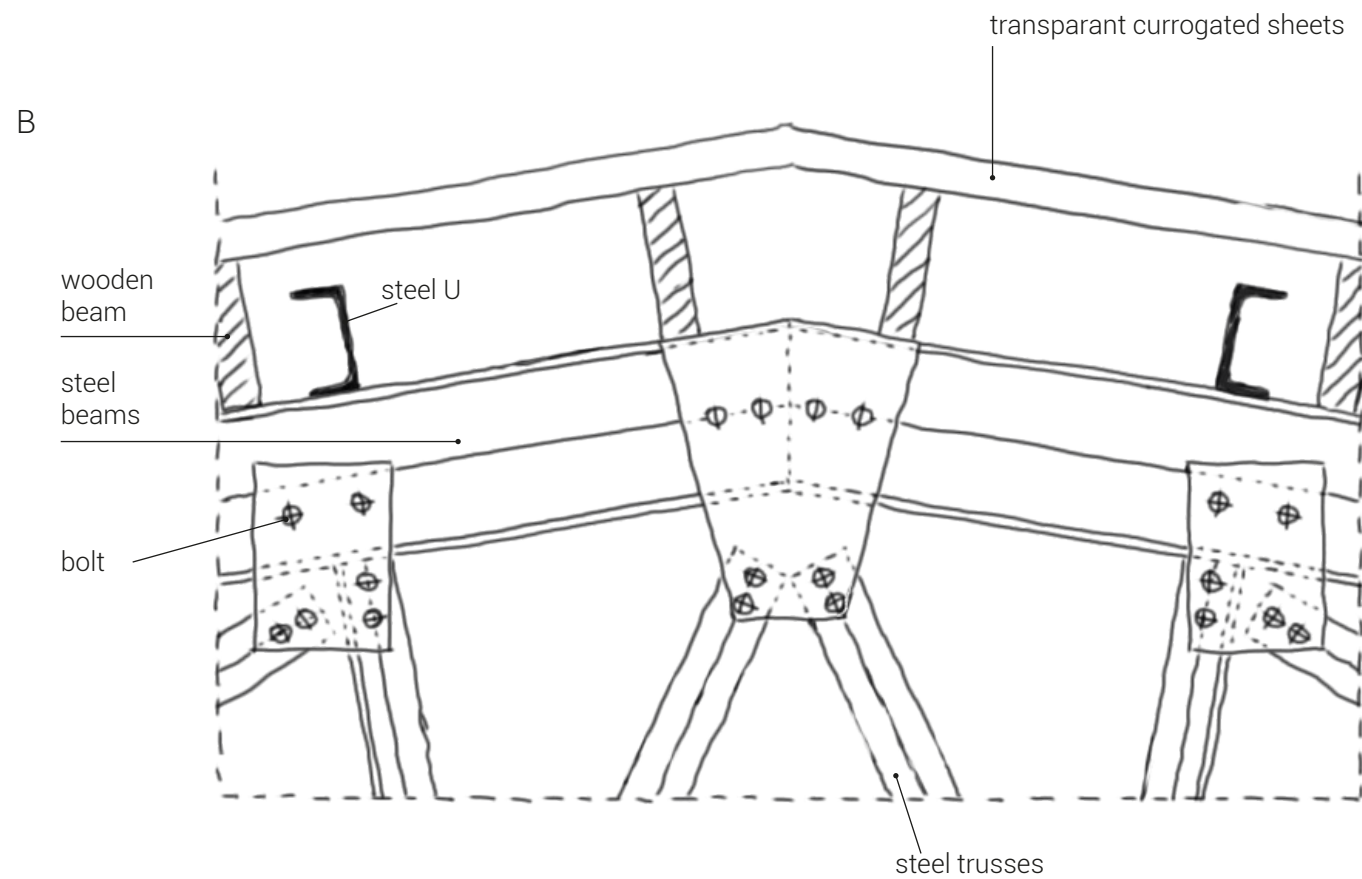
Source: Lengton, M.M.



03 - DETAILS

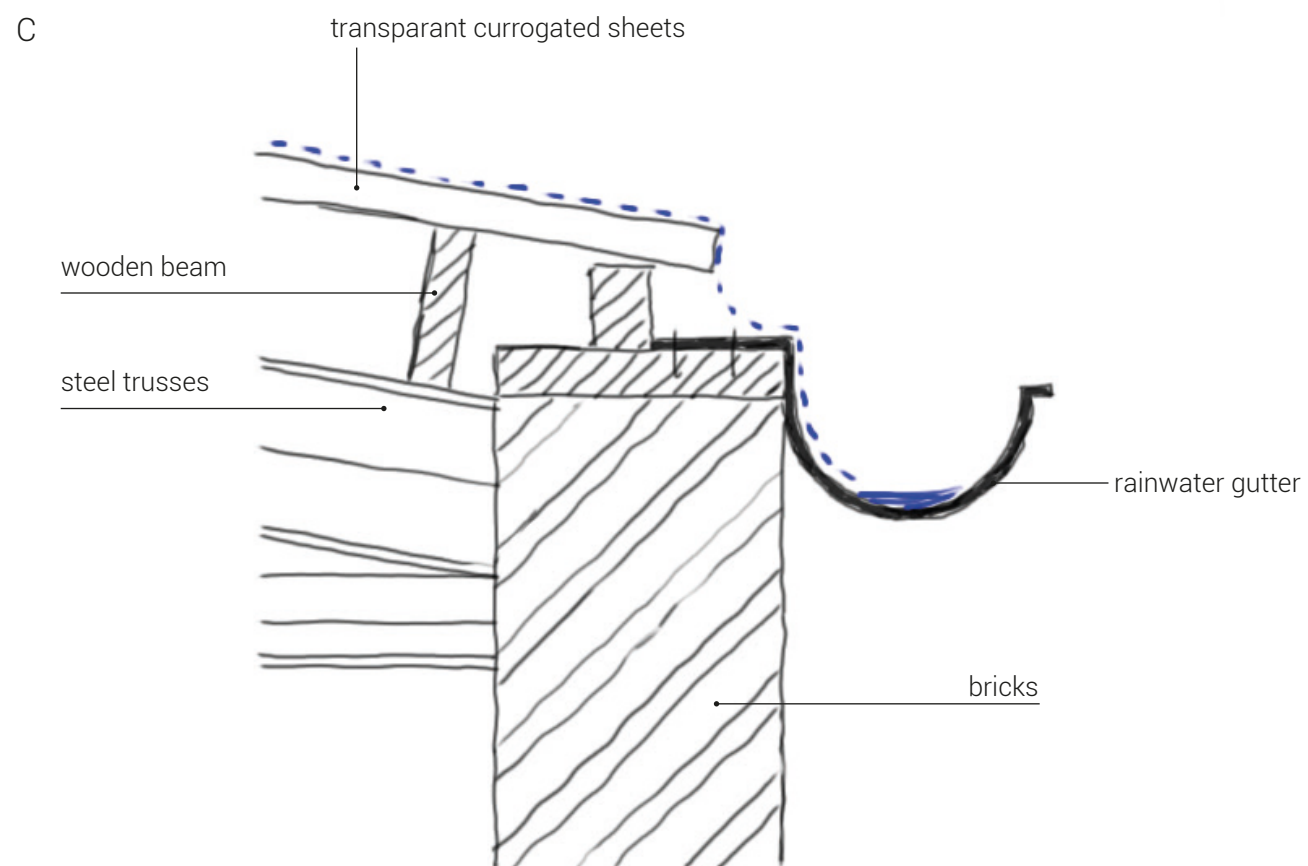
Detail A: The heat treatment building consists of a brickwork structure for the walls combined with a steel roof structure which is placed in the cavity wall. The load bearing part of the wall which is a 2 layer masonry wall, holds the steel roof structure. The lower connection is a pulling connection and is placed over two bricks with an angle profile. The upper connection is a steel plate which transfers the vertical load onto the wall.





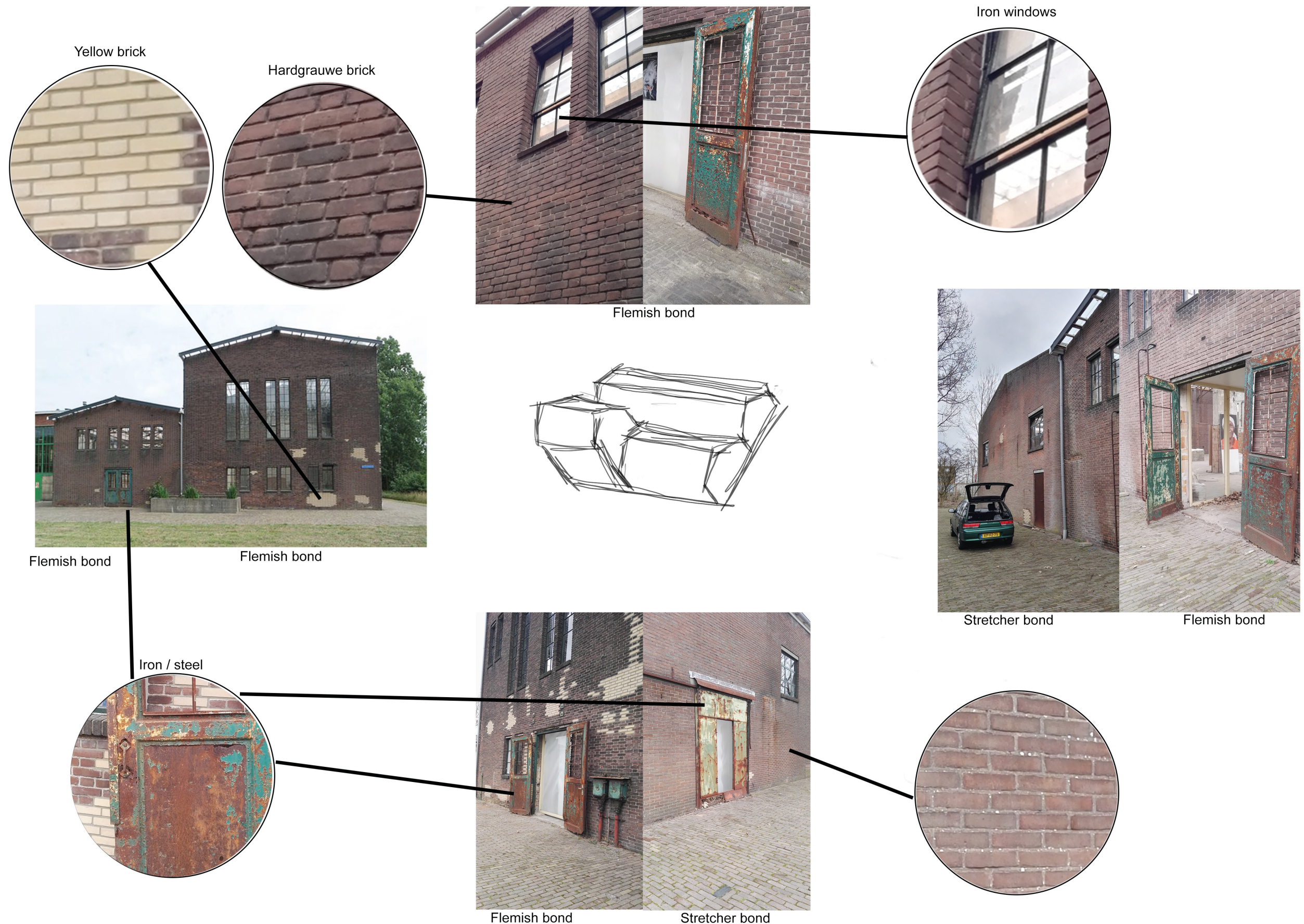
Detail B: The steel framework structure is made out of L profiles which are welded to each other with square plates. On top of the framework structure, steel I profiles are placed to transfer the load of the roof onto the structure.

Detail C: The steel gutter is secured on the outside walls and one outside gutter became an inside gutter as the building was expanded.



03 - MATERIALS

harderij en verbrandingsoven 155



Source: Boujamaa, S.

[illegible]

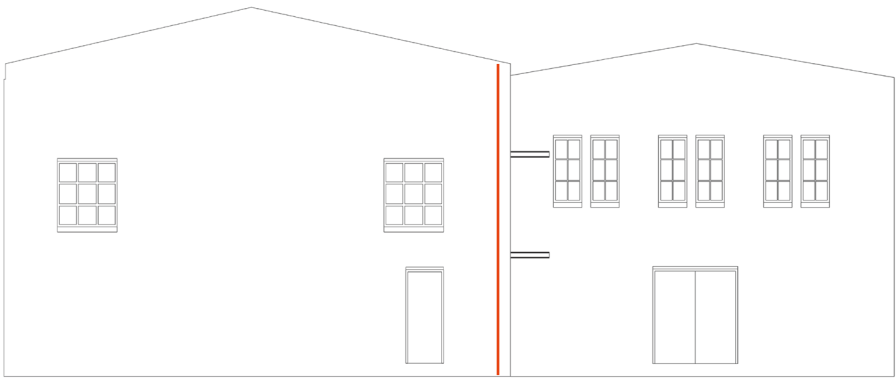
The heat treatment building has no longer its original roof and on the new wooden beams lie transparent corrugated sheets.

03 - SERVICES

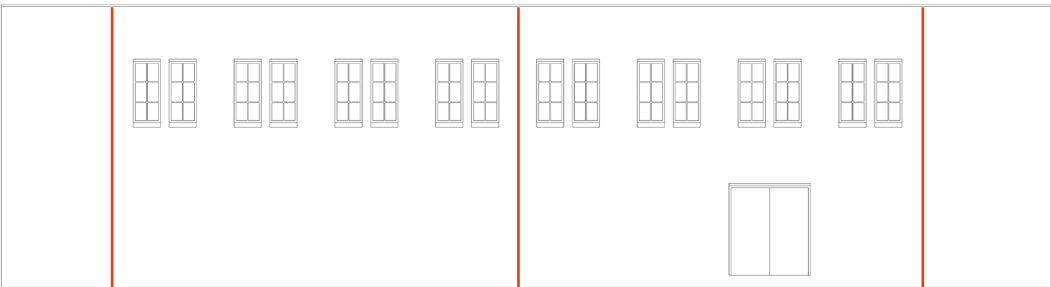
rainwater drainage



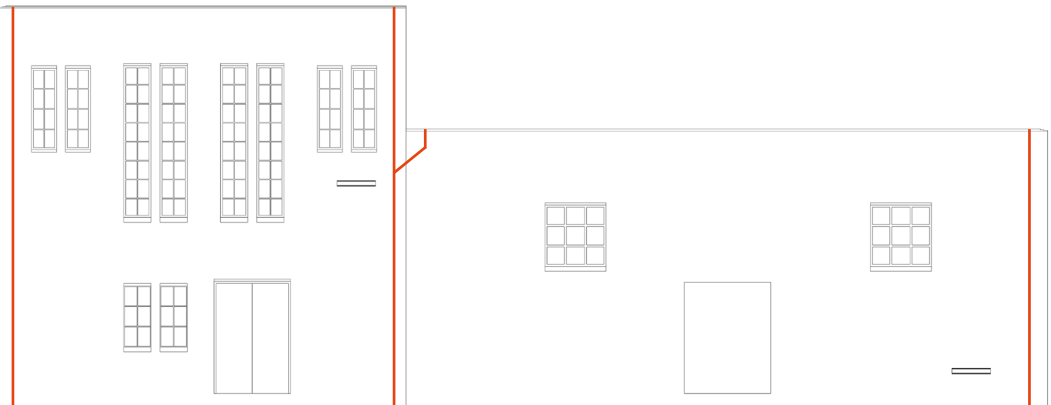
west facade



east facade



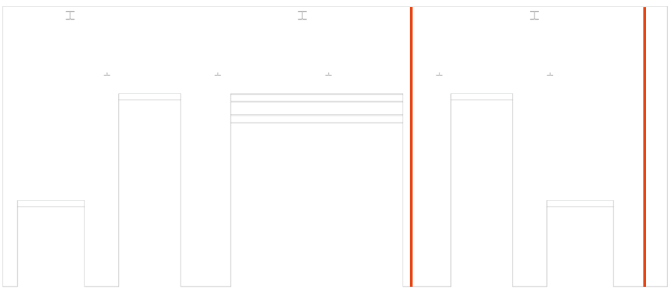
north facade



south facade

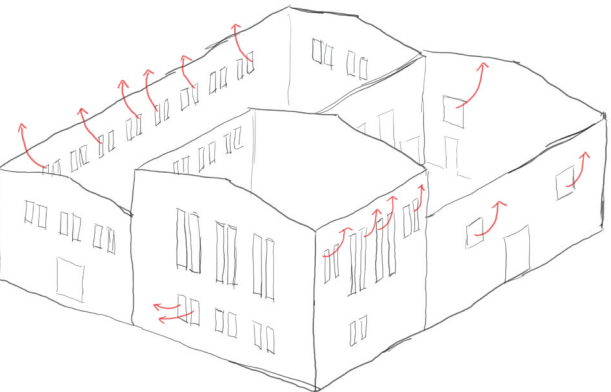
Source: Luyckx, S.L.

inner facade



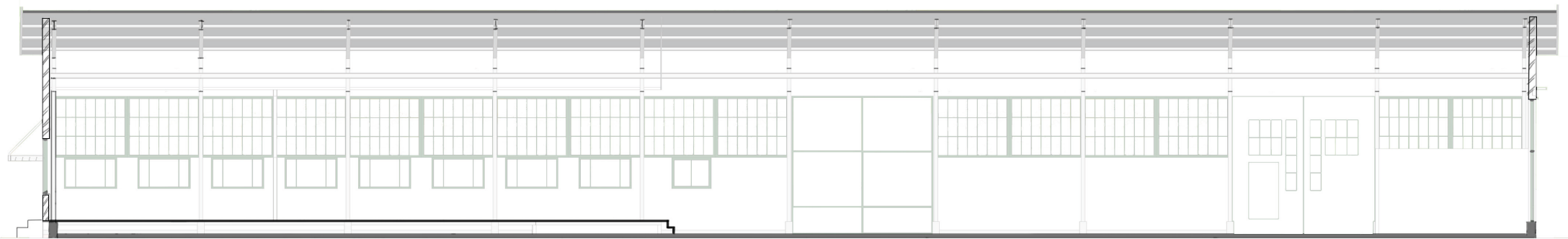
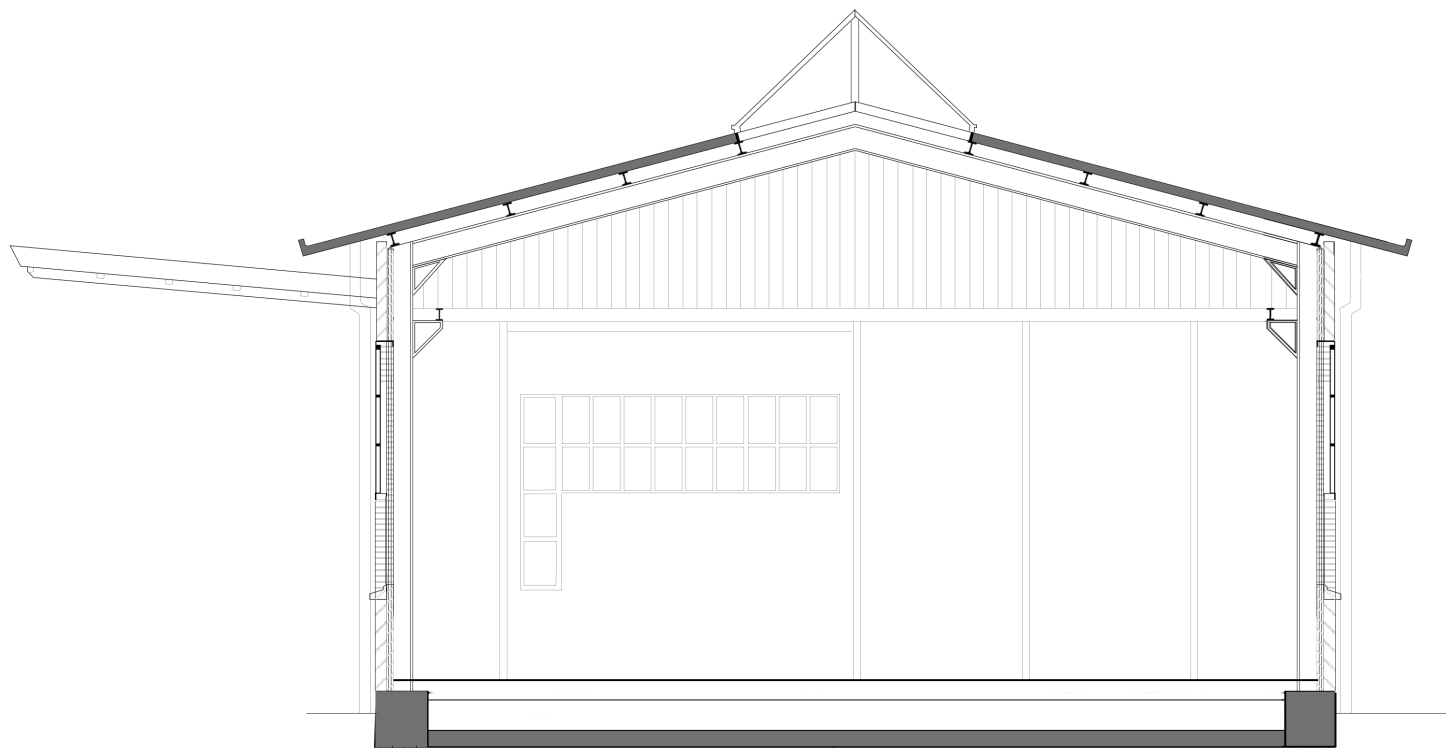
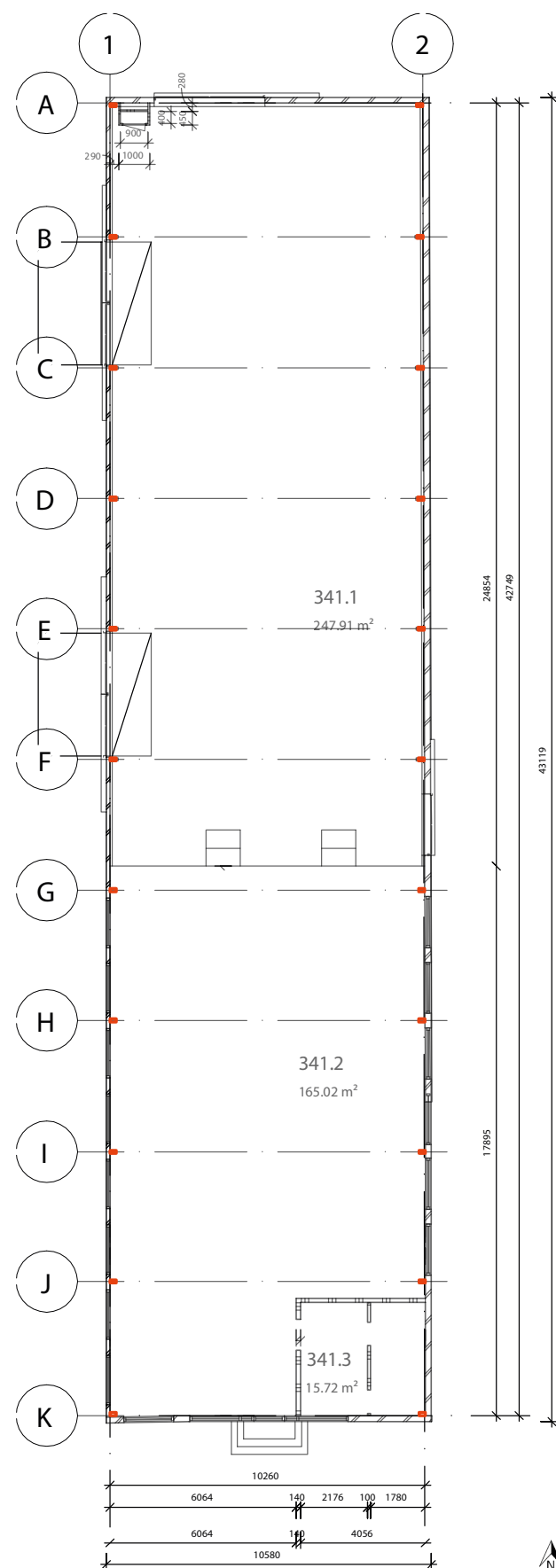
Source: Luyckx, S.L. & Boujamaa, S.

ventilation - windows that can be opened. Source: Boujamaa, S.



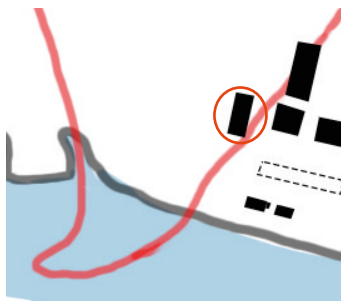
03 - STRUCTURES

expedition building /office 341



The expedition building is supported by steel beams and columns which are at their turn supported by a reinforced concrete foundation. This foundation doesn't use the traditional foundation piles, which are very common in the Netherlands, as the building stands on the part which was the peninsula, called: 'de Hem'. This thick layer of sand provides enough support for the building's structure.

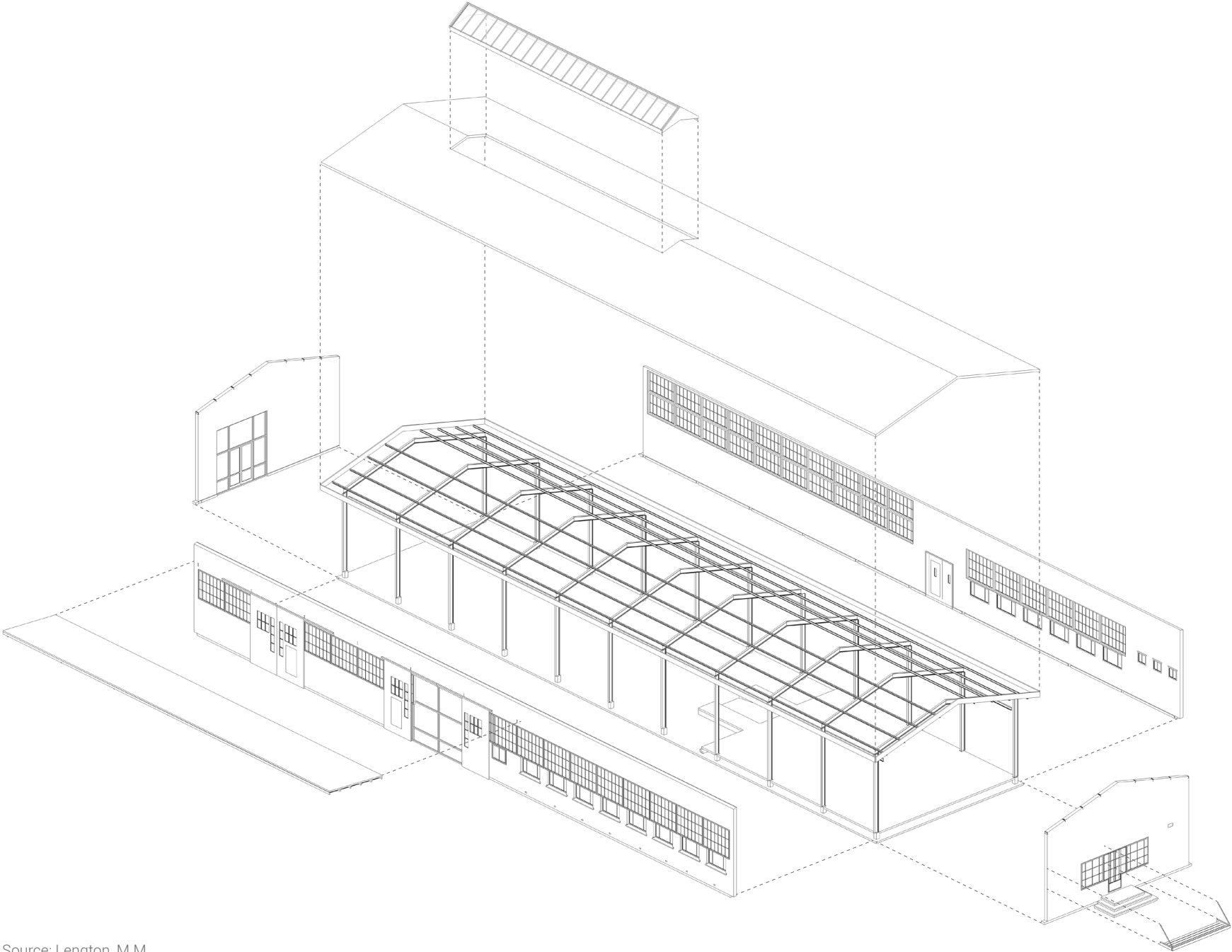
The wind bracings are applied in the roof structure which consists out of steel beams with on top a cassette roof.



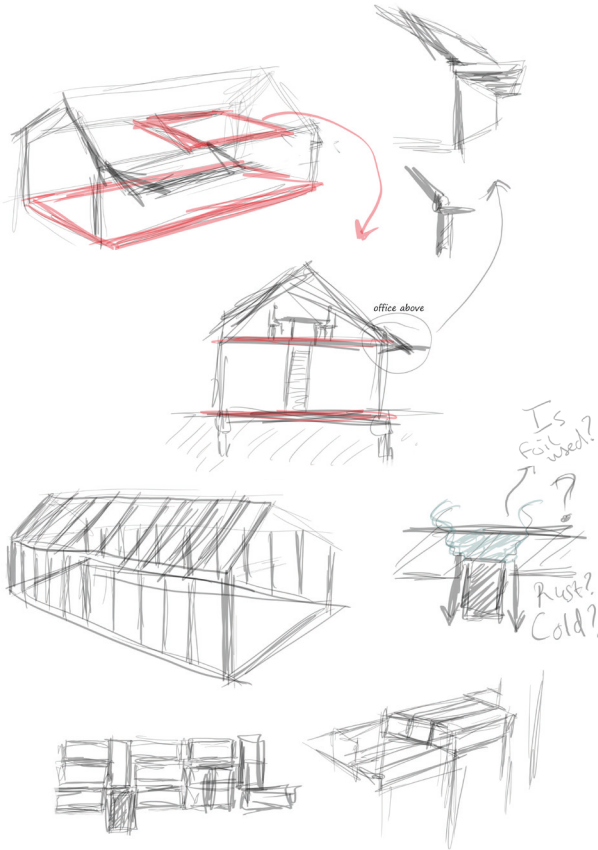
The expedition building has an elevated floor which divides the space into two parts.

The canopy which is connected to the steel columns has been renovated after it was encountered in such a bad condition.

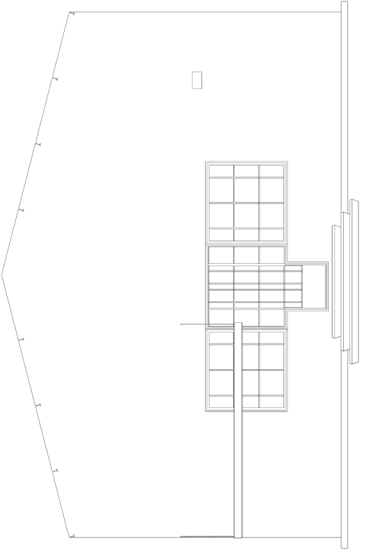
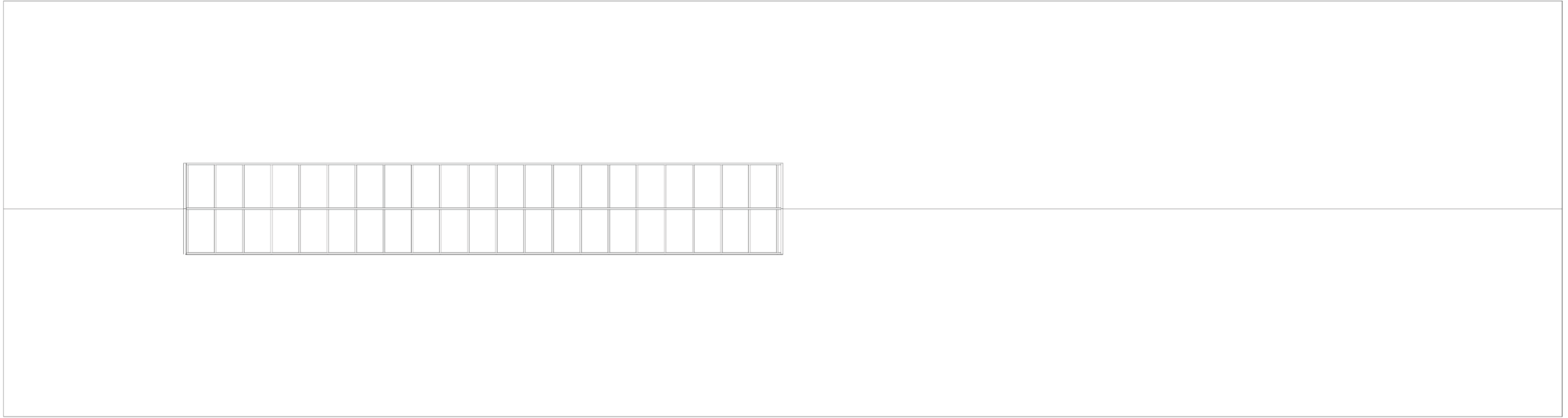
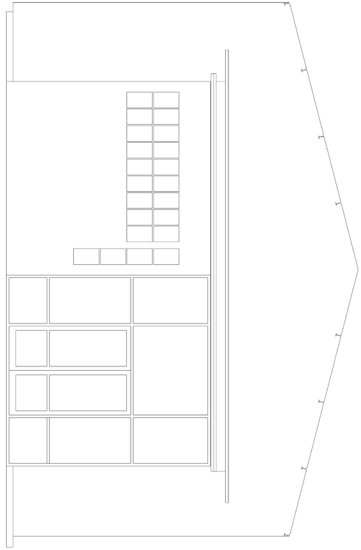
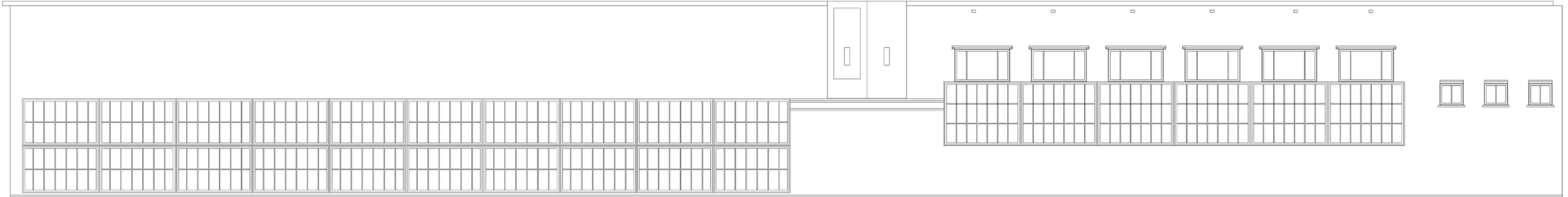
Due to the steel structure and the grid which follows the walls, the space in the expedition building remains open without any obstructions of columns.



Source: Lengton, M.M.

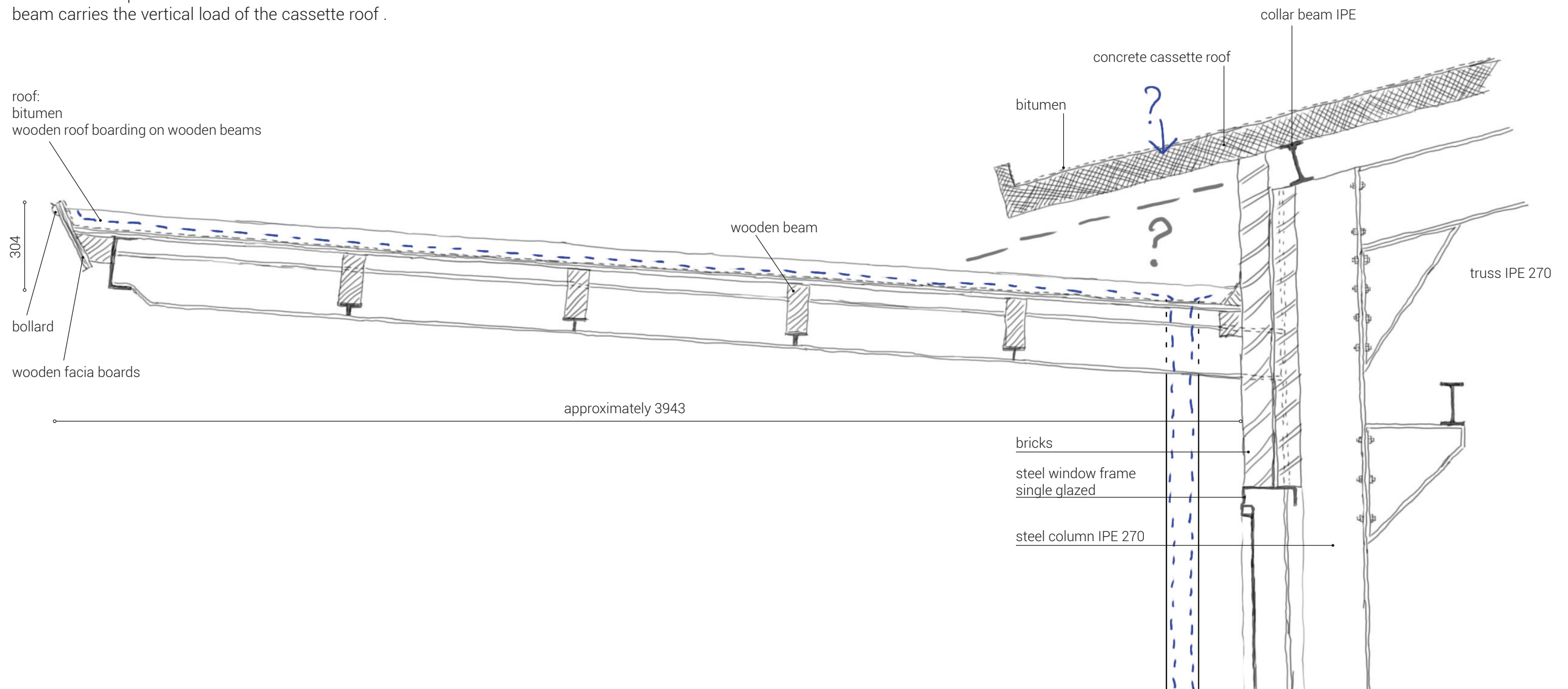


Source: Boujamaa, S.



03 - DETAILS

The detail shows the roof and canopy connection to the wall. The steel structure has a steel element in the corner to create a rigid connection. This is needed to deal with the wind load as well as with the load of the canopy. It is not known if there is a pull rod between the canopy and the structure, but this would seem necessary. There are two wind braces present in the canopy to deal with the wind load. The window frame is made out of steel and is placed between the bricks. A steel beam carries the vertical load of the cassette roof.



03 - MATERIALS

Source: Boujamaa, S.



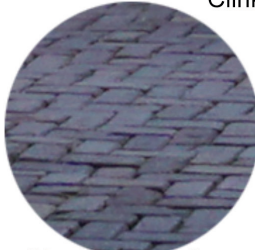
Wooden slabs



Concrete rib floor



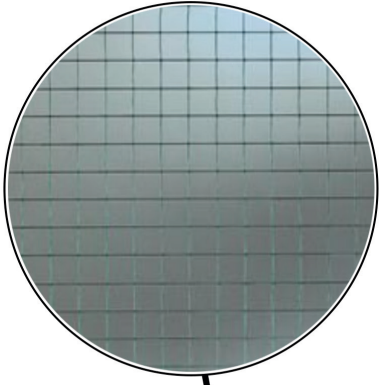
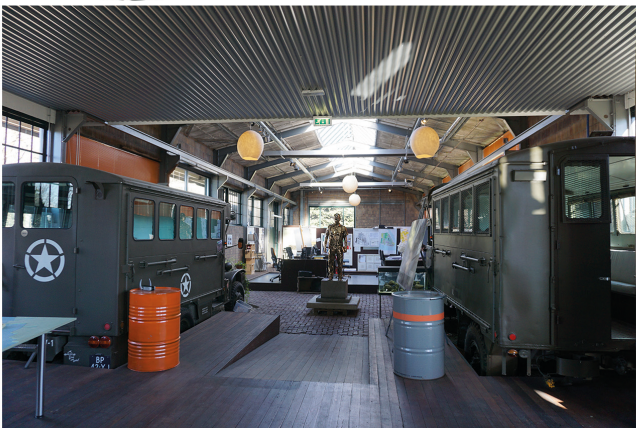
Hardgray brick
Header bond



Clinker / brick



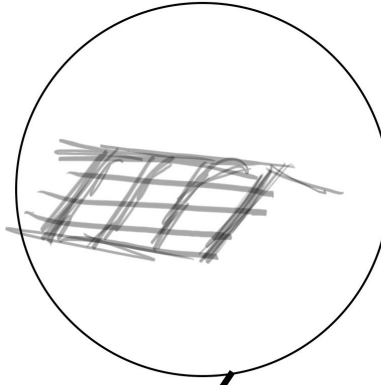
Steel construction



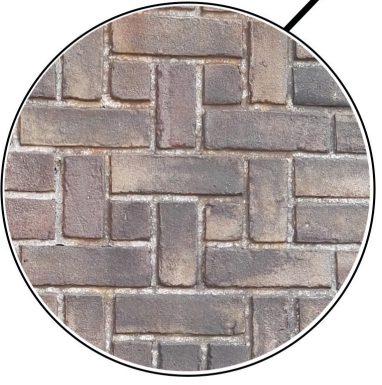
Wire glass



Bitumen



Steel roof construction



Siervlechting



Grauwe brick
Flemish bond



Iron window frames

03 - DAMAGES

The expedition building was already renovated. They repaired or replaced many parts of the building. Therefore, very visible or crucial damages cannot be seen. The steel/iron window frames are partially corroded. When closely looking at the brickwork, the pointers most likely have fallen off.

Source: Boujamaa, S.



03 - SERVICES

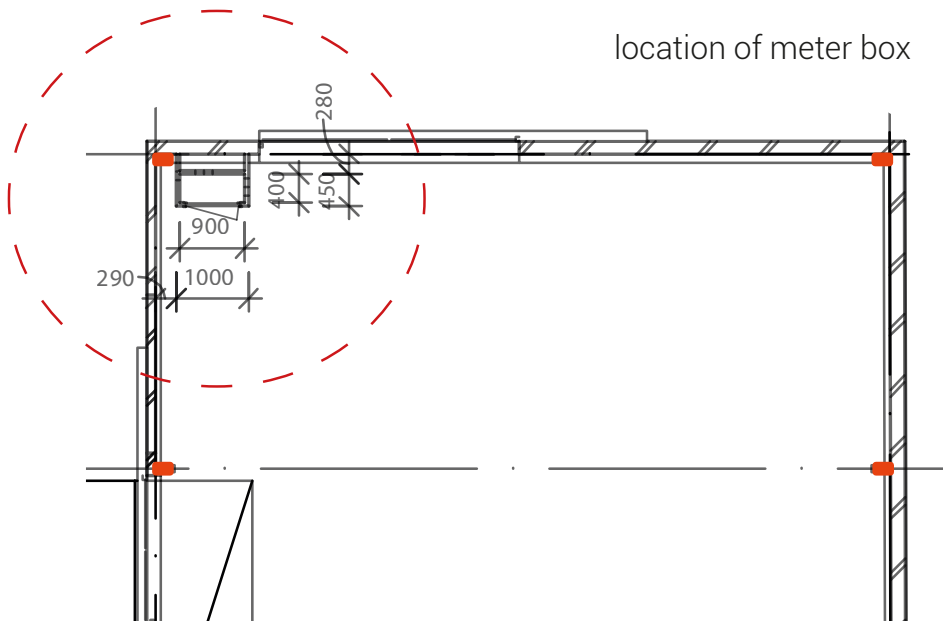
rainwater drainage



east facade



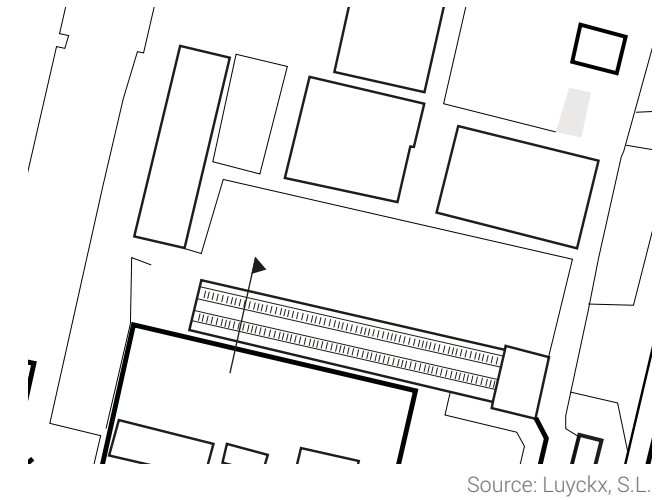
west facade



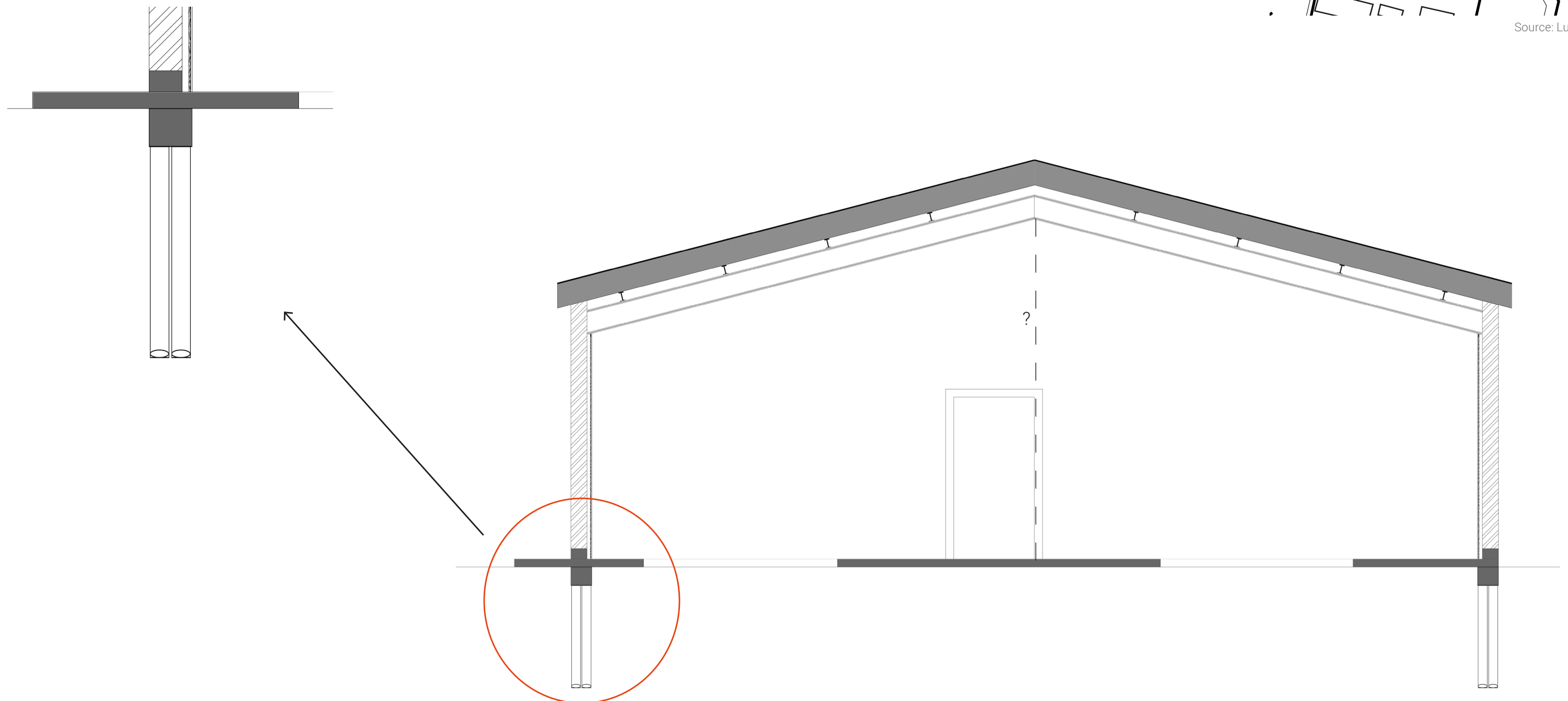
03 - STRUCTURES

bicycle shed 422

The former bicycle shed used to have a concrete foundation with a steel structure on top of it. It is still unclear how the roof structure once was; it could be two beams supported in the middle by a column or it was a roof structure which was already rigid on its own, just like the roof structure in the expedition building.

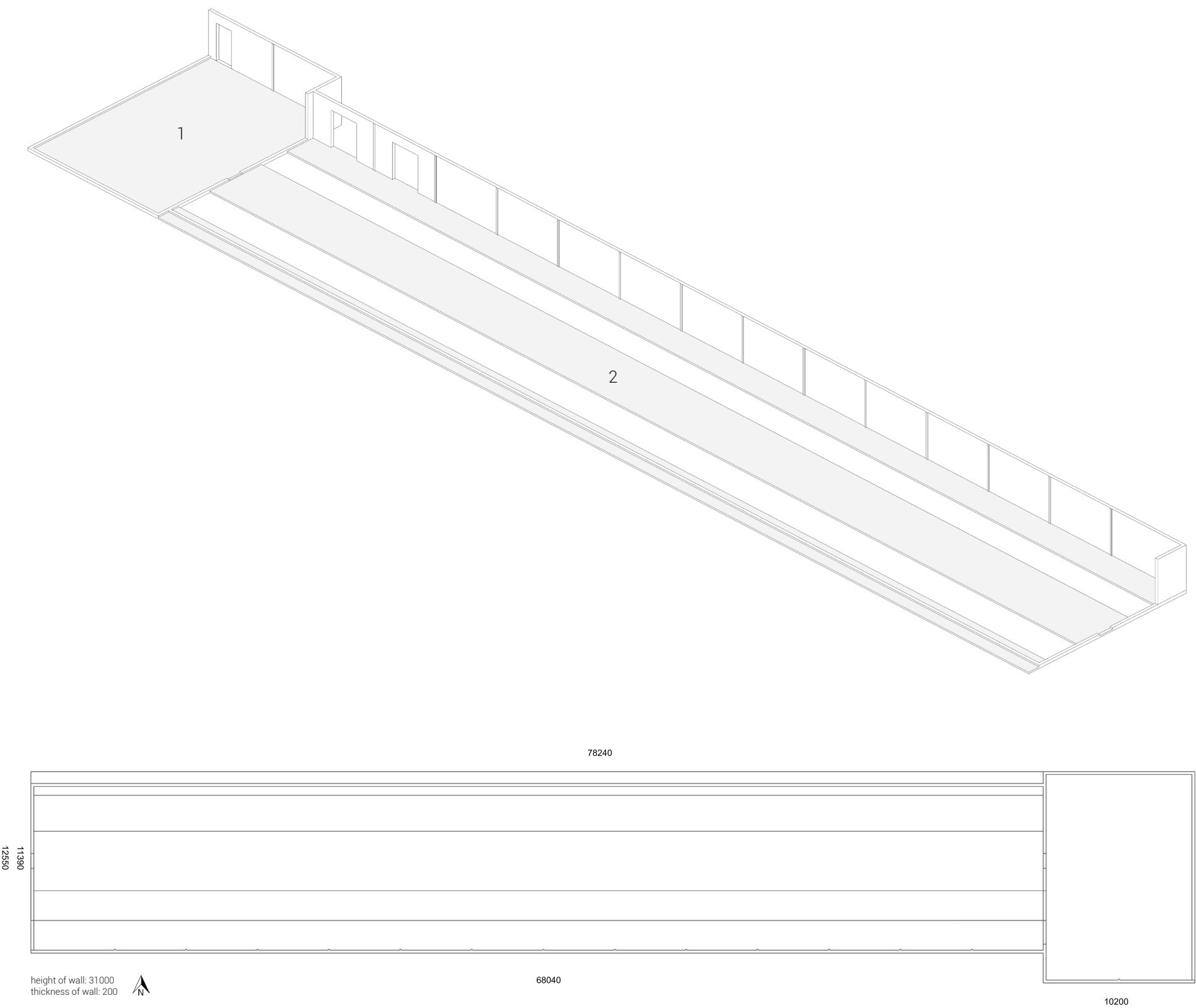


Source: Luyckx, S.L.



Source: Lengton, M.M.

The remaining brick wall and concrete foundation of the bicycle shed, existing out of two parts.



Source: Lengton, M.M.

The remaining concrete foundation and brick wall of the bicycle shed are deteriorated by nature. Openings in the wall are located at the entrance at the water-front, where employees would enter with their bike. The foundation exists out of two parts and because of this and together with an old photograph where you can see that this part has a higher roof, we assume the building was divided into two functions. Probably an indoor entrance and the bicycle shed itself.



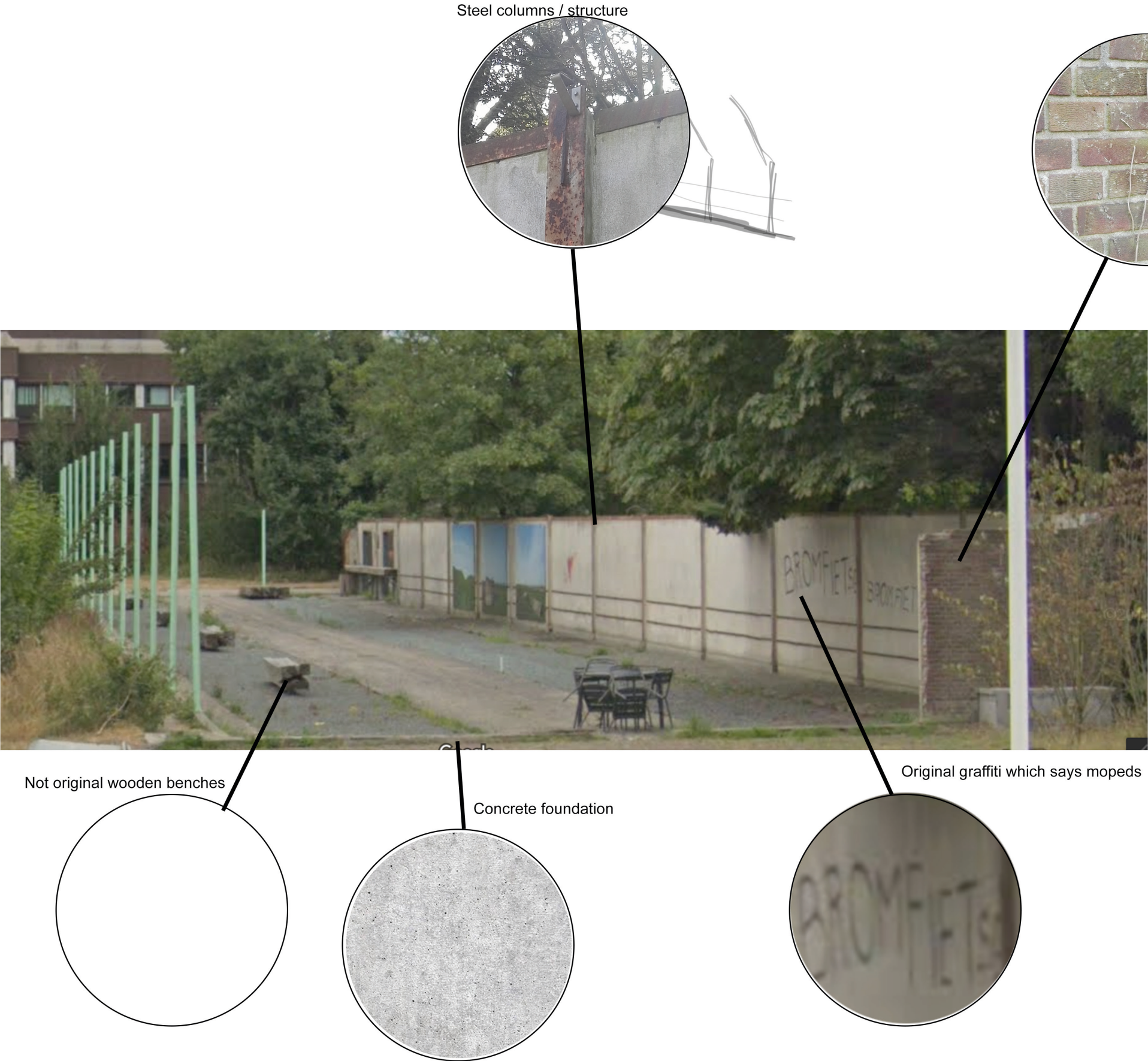
Image 28: Aerial view on the bicycle shed. Source: Artillerie Inrichtingen Hembrug, n.d.



Source: Luyckx, S.L.

03 - MATERIALS

Source: Boujamaa, S.



03 - DAMAGES

There is only a foundation and one wall left from the bicycle shed. The steel structure which is partly visible, is corroded which is very normal since it is now in the open air.

The brickwork is damaged but this could have been done by hand as well, when the rest of the building was being demolished. The wall suffers from graffiti.

A lot of cracks are visible in walls, next to the steel columns or on the 'floor'. Parts of the foundation might not be in a good condition anymore. Some parts of the concrete floor are being pushed upwards. One part was 4 cm higher than it should be. Also, the foundation became disconnected from the floor. There was a 2 cm void between the part of the wall's foundation and the floor. The part where the steel column stood had a crack around it on the floor. This all could be an indication of a foundation which is in a bad condition.



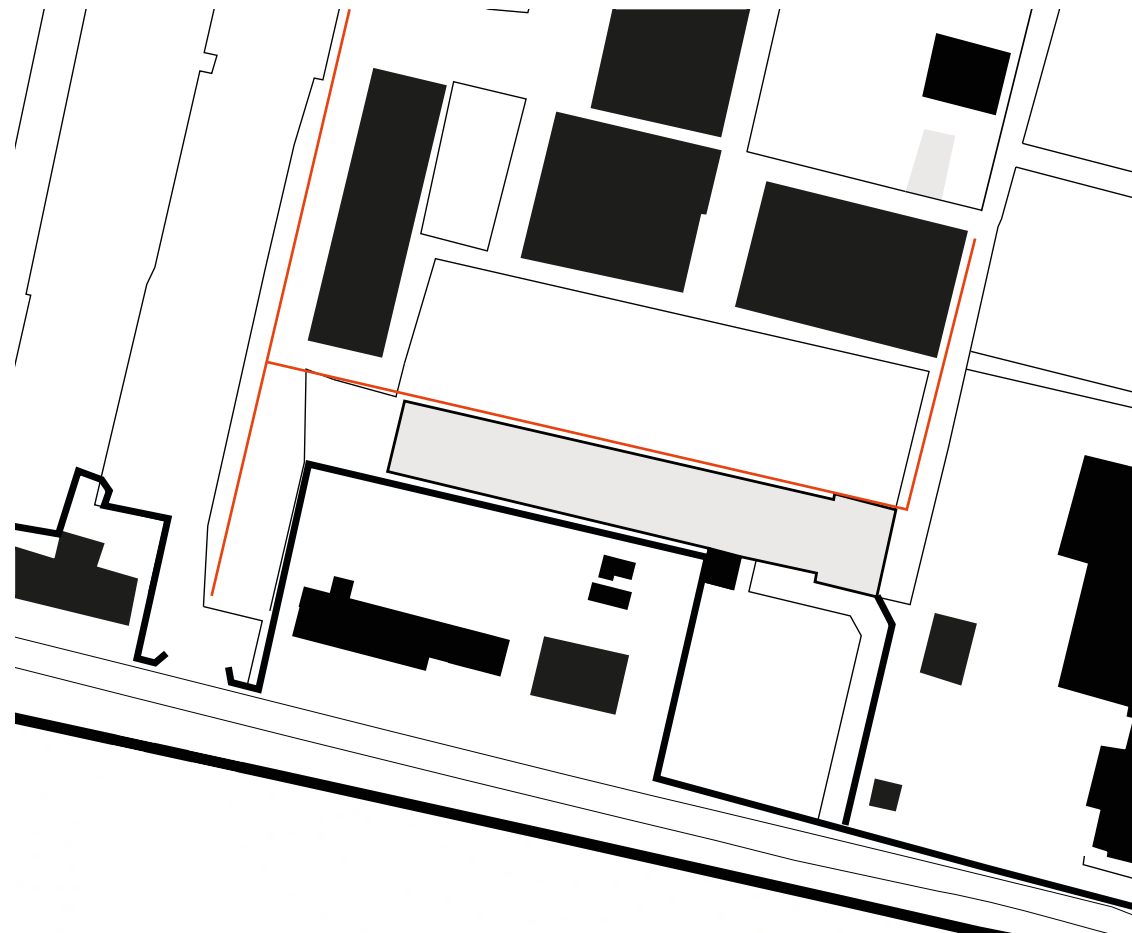
Source: Boujamaa, S.

03 - SERVICES

fietsenstalling 422

Source: Luyckx, S.L.

The sewer system runs from the washing hall to the bicycle shed and ends just before the expedition building where it is connected to the main sewer system.

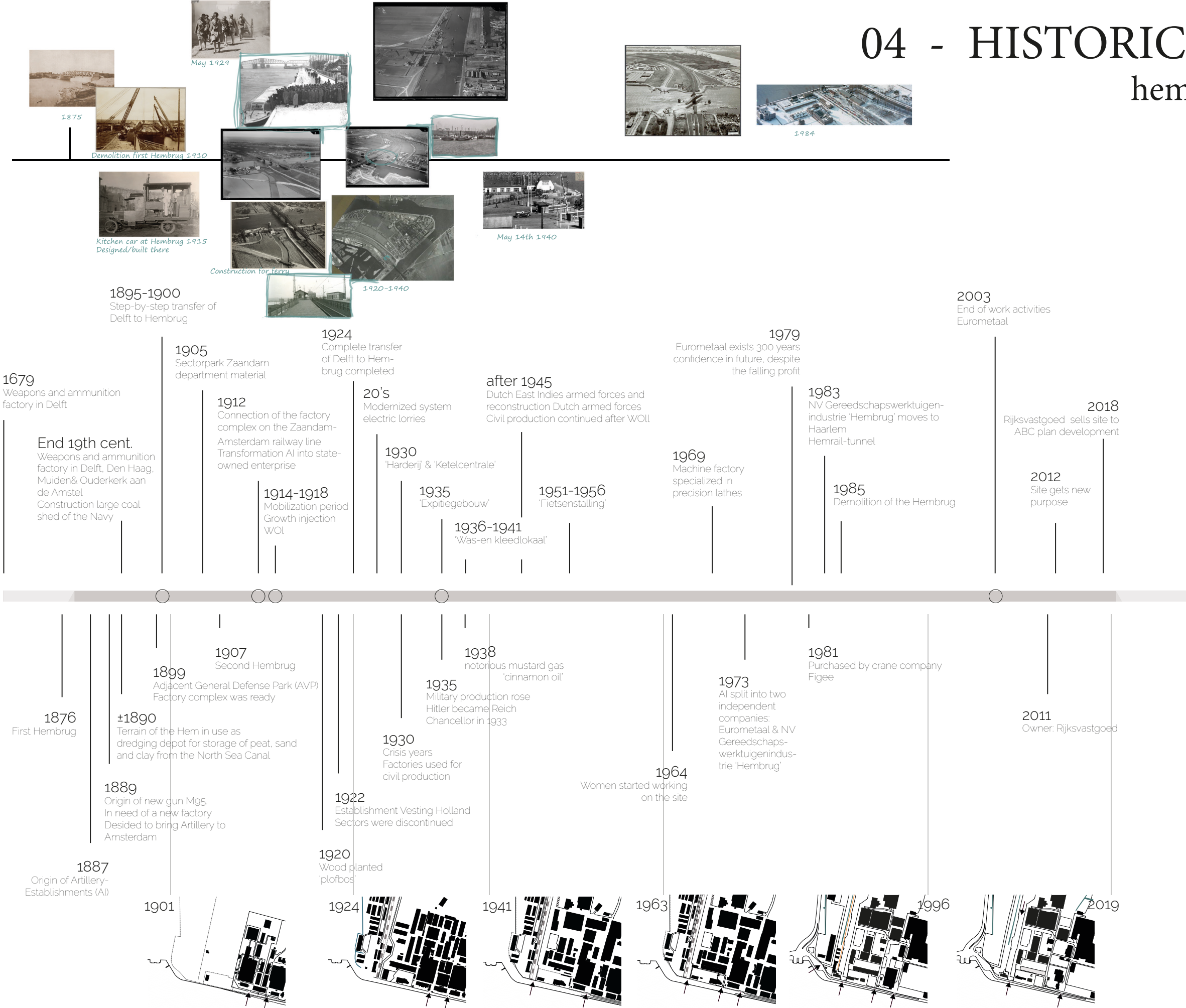


04 - CULTURAL VALUES

campus south

04 - HISTORICAL TIMELINE

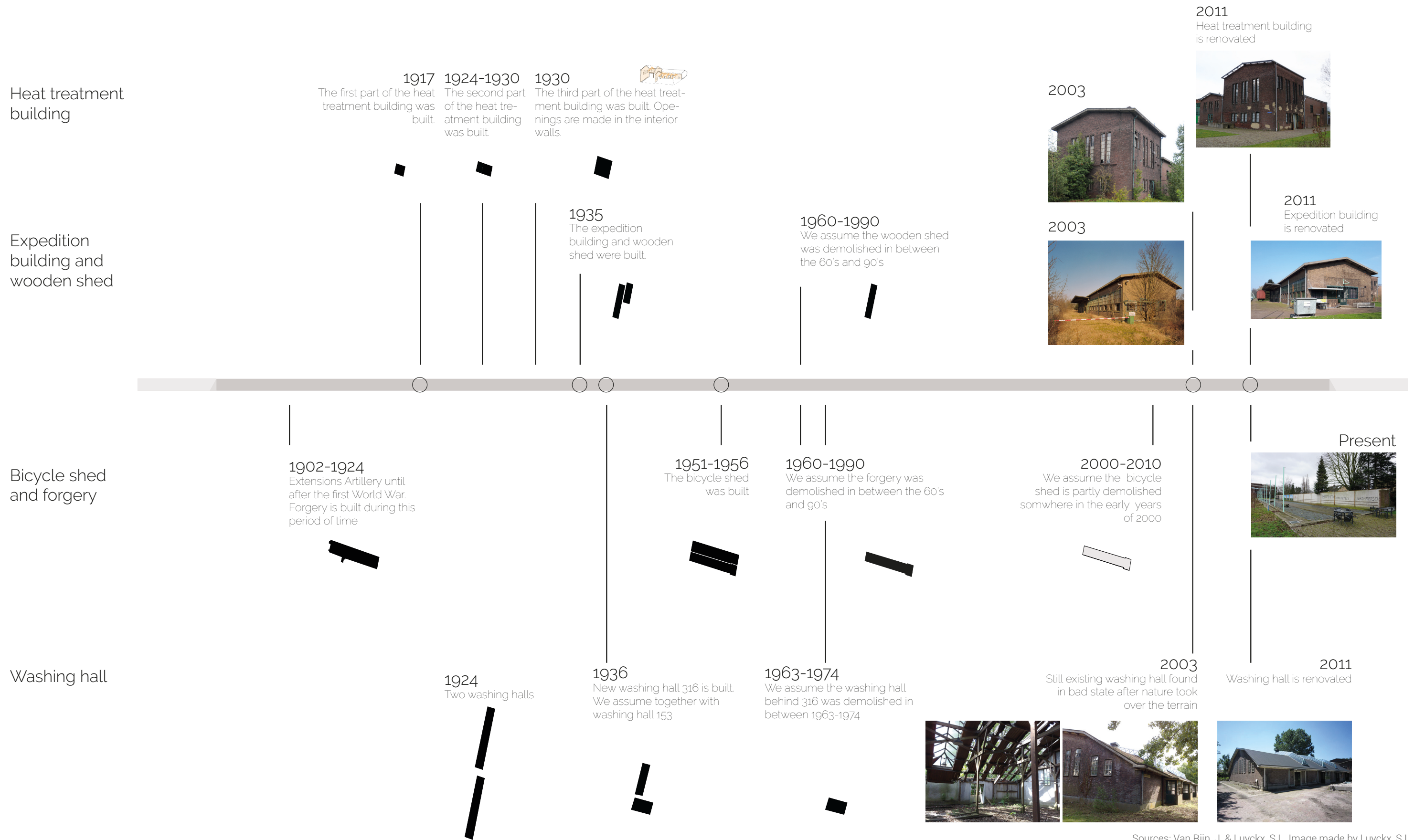
hembrug - campus south



Sources: SteenhuisMeurs, 2010; Nationaal Archief, n.d.; Artillerie Inrichtingen Hembrug, n.d. & Archief Zaanstad, n.d. Image made by: Luyckx, S.L.

04 - BUILDING TIMELINE

campus south



Sources: Van Rijn, J. & Luyckx, S.L. Image made by Luyckx, S.L.

04 - SITE MODEL

campus south

The first Hembrug was situated right outside the model on the left side.

In 1907: The formerly 2nd Hembrug was situated just outside this model, where people walked up and down the hill to enter or leave the Hembrug area. The railroad of the Hembrug area towards Zaandam and Den Helder was situated where now the concrete slabs with parking lots are. This railroad functioned as freight train - where goods entered and left the area. Next to the railroad was the 2nd entrance to the weapon factory located.

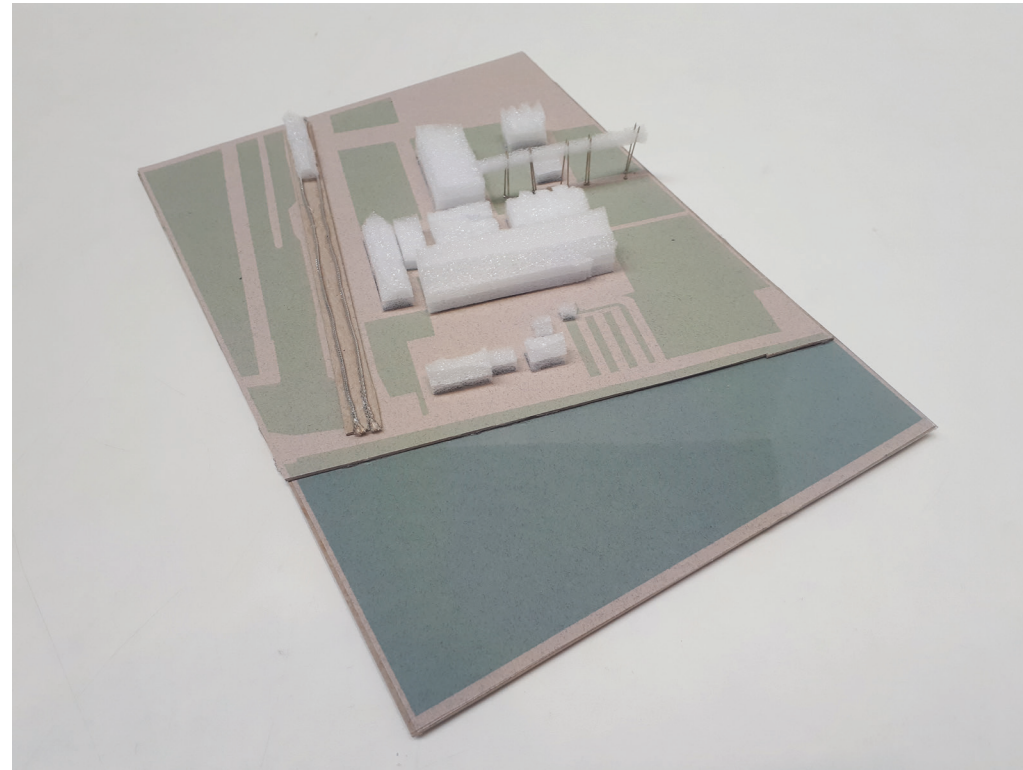
The first part of the heat treatment building was built around 1917. The washing hall, 2nd and 3rd part of the heat treatment building, boiler house and expedition building with wooden shed were built around the 1930's. At this period of time the forgery was already located on the area.

In the 50's the bicycle shed was built right next to the forgery. It had entrances on the front sides of the building, and on the side of the water, where a fenced entrance next to the officers' buildings was made. In between the 60's and 90's the forgery and wooden shed disappeared from the terrain as well as the railroad of the terrain.

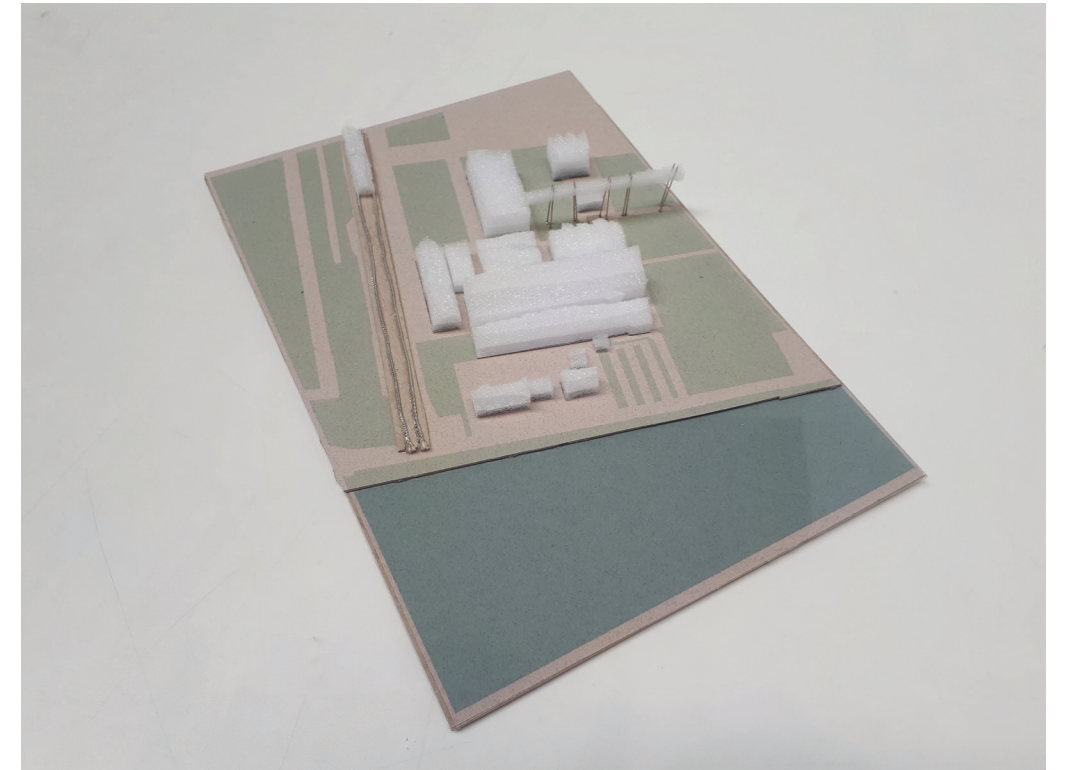
The railroad changed into an entrance for vehicles, which could park on the long lane where the railroad used to be.

Until 1996 the bicycle shed is still traceable in the maps of the Hembrug terrain. According to Palm-bout, when they encountered the area in 2010, the shed was already a ruin. We assume the shed was demolished somewhere in the early years of 2000. This is how it looks like now, compared to what it was, it is really open and the green plots still resemble the former buildings.

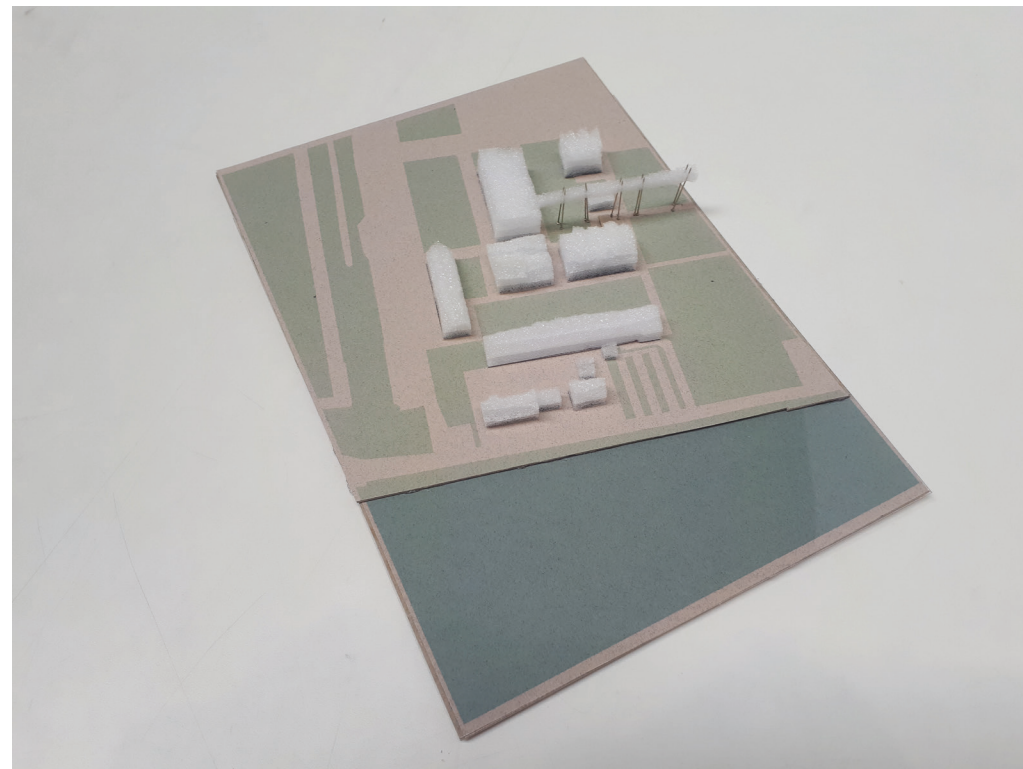
1941



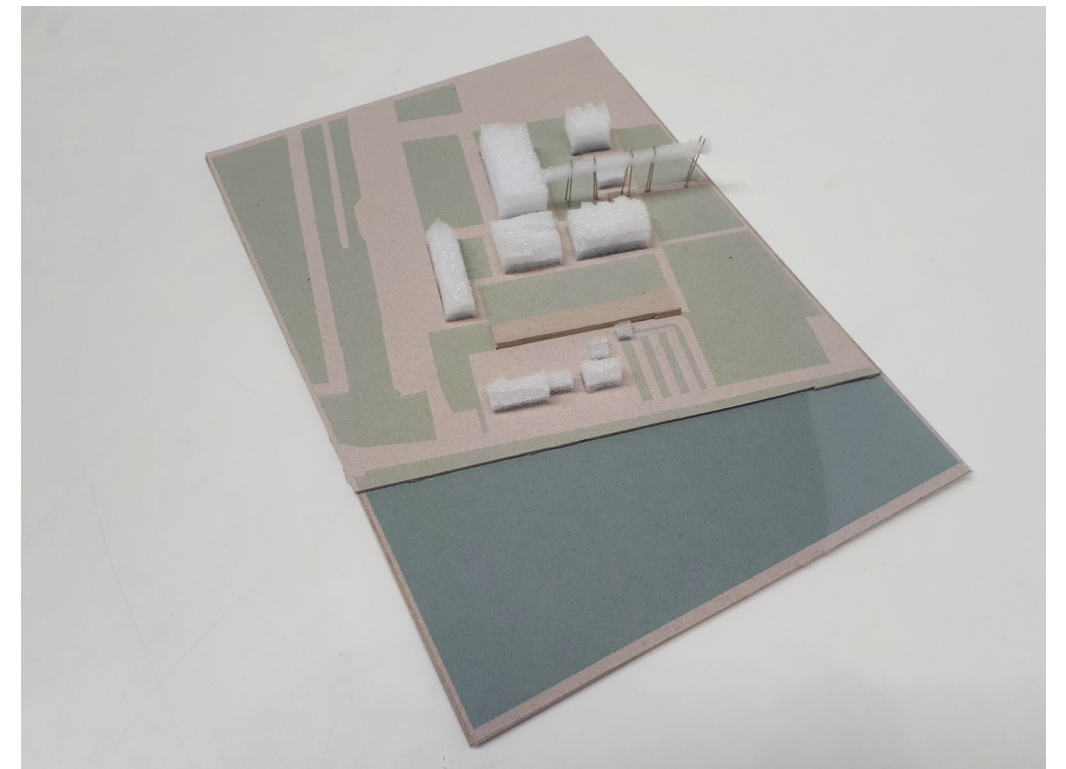
1951

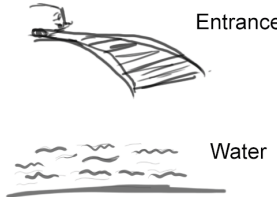
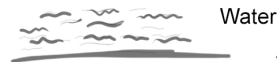
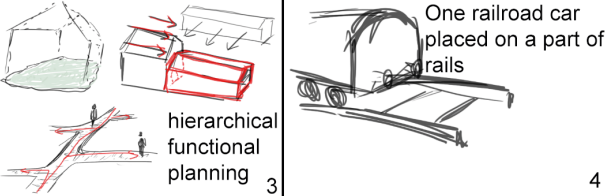
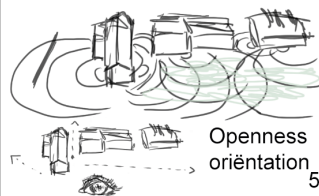
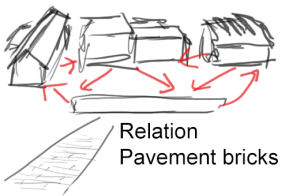

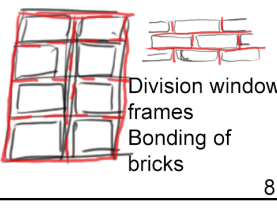
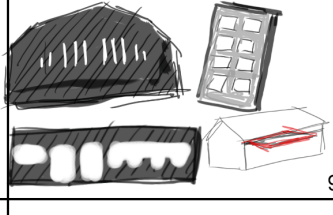
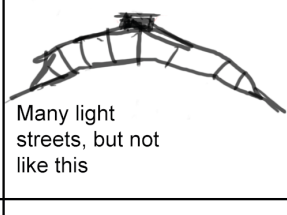
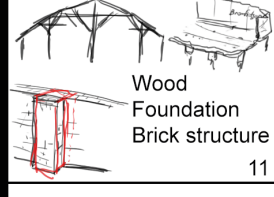
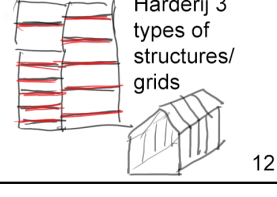
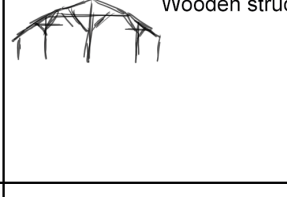
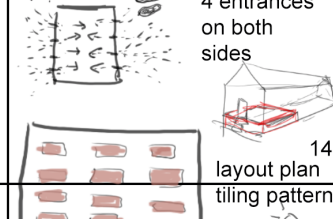
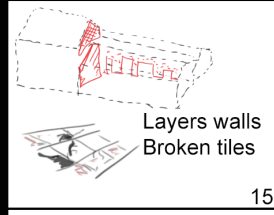
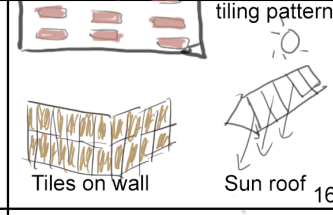
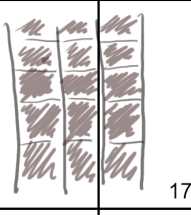
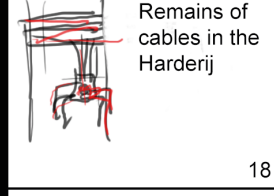
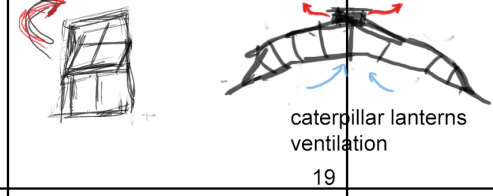


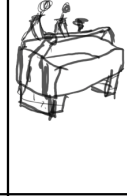
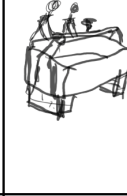


1996



Present



	Age value	Historical Value	Intentional commemorative Value	Non intended commemorative Value	Use Value	New-Ness Value	Rarity Value	Atmosphere Value
Surroundings/ Settings (Zaandam-Hembrug)		<div><p>Entrance</p><p>Water</p><p>1</p></div>						<div><p>Water</p><p>2</p></div>
Site (Hembrug)		<div><p>hierarchical functional planning</p><p>3</p><p>One railroad car placed on a part of rails</p><p>4</p></div>				<div><p>Openness orientation</p><p>5</p></div>	<div><p>Relation Pavement bricks</p><p>6</p></div>	
Skin (exterior)	<div><p>Rest of wall</p><p>7</p></div>	<div><p>Division window frames</p><p>Bonding of bricks</p><p>8</p></div>			<div><p>9</p></div>		<div><p>Many light streets, but not like this</p><p>10</p></div>	
Structure	<div><p>Wood Foundation</p><p>Brick structure</p><p>11</p></div>	<div><p>Harderij 3 types of structures/ grids</p><p>12</p></div>					<div><p>Wooden structure</p><p>13</p></div>	
Space plan					<div><p>4 entrances on both sides</p><p>14</p><p>layout plan</p></div>			
Surfaces (interior)	<div><p>Layers walls</p><p>Broken tiles</p><p>15</p></div>				<div><p>Tiles on wall</p><p>Sun roof</p><p>16</p></div>	<div><p>17</p></div>		
Services	<div><p>Remains of cables in the Harderij</p><p>18</p></div>				<div><p>caterpillar lanterns ventilation</p><p>19</p></div>			
Stuff	<div><p>Washing basins 3x</p><p>Rusted doors</p><p>20</p></div>			<div><p>Rusted doors</p><p>21</p></div>	<div><p>Washing basins 3x</p><p>22</p></div>		<div><p>23</p></div>	
Spirit of Place								Waslokaal: open, light, pleasant, welcoming Bike shed: ruin Harderij: roughness, connection to former use Expeditiegebouw: neat, sleek, brick bonding, renovation, new

Source: Luyckx, S.L. & 2014

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04 - VALUE MATRIX

hembrug - campus south

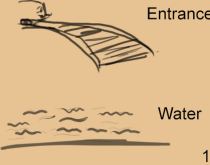


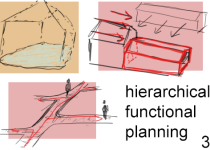

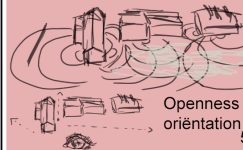
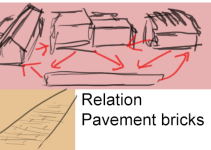

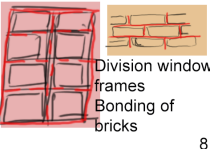

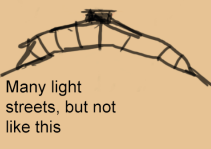
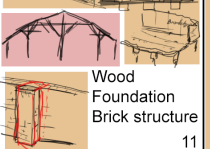
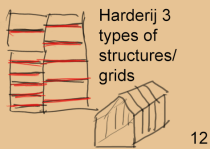

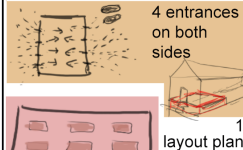
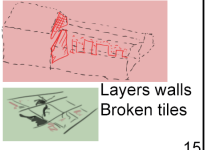
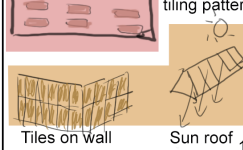
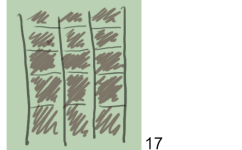
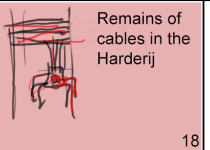





Current intervention practice focuses on more aspects than authenticity alone. Therefore a design-oriented valuation tool is needed. One in which visual information is included as well. H&A has developed such a tool to “identify the typical features of a built heritage site in its present state in direct relation to their ascribed heritage values” (Kuipers & de Jonge, 2017, p.86). This tool is presented by means of a matrix; the Value Matrix. The Value Matrix, based on the ideas of Brand and Riegl, gives the opportunity to include the range from the whole building and its setting to typical elements and interior space (Kuipers & de Jonge, 2017). We practiced to work with this tool during a workshop of value mapping. In this workshop we learned how to discuss the important features in a constructive way in order to address a value to them. With this knowledge and the help of the Value Matrix, we could arrange all the values/qualities of the site and the buildings of Campus South.

Subsequently, we critically reviewed the identified features and related heritage values on quality. This results in questions such as: Which values can be regarded as key in supporting the essences of different scales of the site? Which values represent the essence of the site/ ensemble/ building the most and which less? Which values contribute to the 'spirit of place' and why? These questions lead to a differentiation in the levels of significance of the addressed values. The levels of significance are coloured in the Value Matrix, using the 'traffic light' key - red, orange and green.

Red: Most valuable - High representation of the essence of the site/ ensemble/ building
Orange: Moderately valuable - Medium representation of the essence of the site/ ensemble/ building
Green: Least valuable - Indifferent representation of the essence of the site/ ensemble/ building

Such a site-specific indication of high, medium or indifferent values helps to steer the decision making for future interventions. On the following two pages the values are further explained as well as their level of significance.

Source: Luyckx, S.L. & Boujamaa, S. & Lengton, M.M.

	Age value	Historical Value	Intentional commemorative Value	Non intended commemorative Value	Use Value	New-Ness Value	Rarity Value	Atmosphere Value
Surroundings/ Settings (Zaandam-Hembrug)		 Entrance  Water 1						 Water 2
Site (Hembrug)		 hierarchical functional planning 3	 One railroad car placed on a part of rails 4			 Openness orientation 5		 Relation Pavement bricks 6
Skin (exterior)	 Rest of wall 7	 Division window frames Bonding of bricks 8			 9		 Many light streets, but not like this 10	
Structure	 Wood Foundation Brick structure 11	 Harderij 3 types of structures/ grids 12					 Wooden structure 13	
Space plan					 4 entrances on both sides 14			
Surfaces (interior)	 Layers walls Broken tiles 15				 tiling pattern 16	 Sun roof 17		
Services	 Remains of cables in the Harderij 18				 caterpillar lanterns ventilation 19			
Stuff	 Washing basins 3x Rusted doors 20			 Rusted doors 21	 Washing basins 3x 22		 Washing basins 3x 23	
Spirit of Place								Waslokaal: open, light, pleasant, welcoming Bike shed: ruin Harderij: roughness, connection to former use Expeditegebouw: neat, sleek, brick bonding, renovation, new 24

04 - VALUE MATRIX

1 The long straight road (Verloren spoor) is now an entrance to the site Hembrug. However, in the past this used to be a railroad. The first Hembrug bridge over the Noordzeekanaal used to be a connection between Zaandam and Amsterdam. At first only sand was transported with trains but after a while the train also took people. When the second Hembrug bridge was built, this railroad stopped right before the water. The train which would enter the site was only used for goods. This road is a part of the history, of the logistical development of Hembrug and is therefore given a historical value.

The water is also of historical value because it was also an important part of the history of Hembrug. The North Sea Canal was an obstruction but at the same time a connection between Amsterdam and Zaandam for the employees who worked here. They could come via a ferry but also via a train which used the second hembrug.

2 The water is given an atmospherical value because it adds an extra layer to the senses when it comes to sight and also hearing of the small waves colliding with the shore. This is important to the experience of the site.

3 Hembrug consists of a hierarchical functional planning. Representative buildings were placed on the water-front. Behind it, the production halls. The warehouses were placed behind the production halls. There was a functional tripletion of the Hembrug terrain. These were the weapon, pattern and ammunition factory. Buildings were placed in N-S direction and the steam pipes were W-E oriented. Still a big part of the road network exists, which had a great amount of logic behind it since they used to have a narrow railroad system.

The heat treatment building also knew a tripletion through time because the building was built in three phases.

Therefore, logic of the site with the division of functions/buildings and the roads and the tripletion of the heat treatment building are of a historical value.

Some green fields on campus south were actually the exact places where buildings stood. It shows the development through time of this particular place. Especially the built environment. Therefore these grass fields are of a historical value.

4 A railroad car was placed right next to the expedition building. The railroad was not at this exact spot so it must be placed there on purpose. It shows how the railroad used to be here and how it had a relation with the expedition building (supplying and taking goods). This all is the reason why it is given an intentional commemorative value.

5 The campus south is not called a campus for nothing. It knows an openness. The buildings are placed on their own without directly connecting to one another. Between most of the buildings are green fields. Furthermore, Campus, which is a latin word, can be literally translated to area or open field.

This particular location has view on the Noordzeekanaal and has a road which used to be a railroad. Also, the buildings (expedition building, heat treatment building, washing hall, ruin of the bicycle shed) are clearly visible from most angles which makes the orientation easier.

Both are given a New-ness value because these aspects are still useful and of importance nowadays. Without clear orientation points or gathering points, such as a campus, it is very hard to understand a site and know which way to go to get to a certain place. Therefore they are also valued highly.

6 The buildings on campus south have a certain relation with each other. This could be in function, but also

form and atmosphere. It cannot be clearly expressed in words but this campus feels like a whole.

The materialisation of the walkways of the site are of value because the bricks show that the path is for the use of pedestrians. It was a common material for this type of use. They show how the employees used to walk through the terrain when it was still in use, that is why we put the value at atmospheres. It is also of value for the present day, because nowadays they only use brick for pedestrian walkways in this type of layout; straight.

Both are given an atmospherical value because of the non physical thoughts or feelings they provoke.

7 The wall of the bicycle shed which still stands used to be part of a whole building. It now shows that some time ago this place was used for the employees to put their bikes safe in a shed and went to work. Now this wall makes it look like a ruin, a very old, half demolished part of campus south.

The big sliding doors of the expedition building are probably very old. They might be the original ones which were there since +/- 1930. It represents the function of the building. Furthermore, the big steel/iron window frames are very notable in the facade. It makes it look very open on the side of the railroad.

These three components have an age value when it comes to the exterior because they look old from the outside and they are old also.

8 Most window frames have a certain division which is not seen nowadays. In the past windows could not be a large piece of glass. One window consisted of multiple pieces of glass in multiple small window frames. These windows represent our past; where we came from architecturally/technically.

All the walls of the buildings were made of brickwork. These masonry walls have a certain bonding. Through time different types of bondings have been used and this is visible in all the buildings. It is then, that you can know which wall was maybe restored, completely rebuild later on or was the original one.

Both are placed as the exterior in the historical value because they show the development of architectural/technological through time and make the real age of the building appear.

9 The small and high concrete window frames represent the function of the washing hall. They were placed very high which made it possible for the ones who washed and changed there to have some privacy. This makes the facade look very closed.

However, the expedition building, on the side of the railroad, has a more open character. The employees needed to look out of the window to see which train or what goods are coming so they are aware of when or what they might have to do.

The cantilever of the expedition building also shows its function. Goods were placed, especially on rainy days, under it. In this way the goods stayed dry before they went on the train or inside the building.

These four components when looking at the exterior belong to the use value because they show how the buildings have been used.

10 The caterpillar lanterns on the waslokaal seem very rare looking at the whole Hembrug site. Many building have sky lights but not in the shape of a caterpillar. Therefore it is placed as the exterior in the rarity value box.

11 The washing hall has a wooden construction which is the original one of the building. It stands there since the 1930's.

The remains of the bicycle shed shows a part of the concrete foundation. Together with the wall, in which corroded steel columns are visible, it shows the whole construction of the building. Because the steel columns are in the open-air which is a perfect condition for corroding in the Netherlands, and only one brick wall remains, it looks even older than it actually is.

The structure of the heat treatment building consists mostly of load bearing brick walls. This type of structure is old because it was mainly used before the industrial revolution when steel was introduced. This makes it so special.

The structure of the washing hall, remains of the foundation and structure of the bicycle shed and the structure of the heat treatment building are all old or look old which placed them in the box of age value.

12 The heat treatment building was built in three phases. The three buildings which make one whole building are still very visible nowadays. Each building has its own steel roof structure and its own grid. These structures represent the innovations of the period it was built in, therefore it has a historical value.

13 The wooden structure of the washing hall is unique on the Hembrug site. It is the only building which has a completely wooden structure. Therefore we gave it a rarity value.

14 Looking at the spatial plan of the washing hall, it clearly shows the function it had. It had over 700 lockers and there was room for 192 men to wash themselves at the same time. The washing basins were placed on the red tiles and provided space for 6 or 12 men. This tiling pattern displays the spatial plan of the waslokaal when it was still in use so therefore we assigned it to have a use value. The washing hall has 4 entrances on both sides which each have two 2 doors. With these entrances big groups of employees could enter the building at once. This is also a use value of the building.

The spatial plan of the expedition building shows the two functions of the building. It was on the one hand an office and on the other hand a storage location. The part in which the office is located is raised what gave the supervisors a good overview on the goods and the railway. This feature shows the use of the building, so therefore we gave this feature a use value.

15 The interior walls of the heat treatment building show the age more clearly than the outer walls. One of the interior walls is extended in height and this is visible in the masonry. This shows the layers of the building throughout time so therefore we considered it to have an age value.

Many floor tiles of the washing hall are broken what shows the age and the traces of usage. It was heavily used so this has left his mark. Therefore we assigned it to have an age value.

16 The interior of the heat treatment building had several colours. The first one was red, then green and finally white/off-white. The first two colours were applied on the steel doors, the columns and the beams. The walls with brown-orange tiles were once painted white, but now the original colour becomes visible again. These tiles are placed on the walls until 1,8 meters high and might have functioned to make cleaning easier as the surface was smooth. Therefore we considered them to have a use value.

The skylights are considered to have a use value because it is a typical element that is used on the whole site for getting more daylight inside the buildings. We chose for surfaces because it's not about the exterior, but rather about the effect it has on the interior.

17 The brickwork of the interior walls of the expedition building has a rigid and sleek surface. They appear to be newer than the exterior walls as the bricks are smoother. Furthermore it has a different ornamental brick-work bonding than the rest of the ensemble, so therefore we valued it to have a new-ness and rarity value.

18 Inside the heat treatment building, many cables and pipes are still visible. It was part of the former services system of the building and most of them are corroded, snapped off the walls or are half gone. This shows the age of the services so therefore we placed them in the age value box.

19 Most of windows of the heat treatment building could be opened. These windows were placed high in the walls and could be part of the ventilation system. In the heat treatment building it could get extremely hot, so in this way the warm air would rise and go out of the open windows. This shows the function of the building so therefore we gave it a use value.

The caterpillar lanterns of the washing hall look very new because of their complex shape and the used materials. It is extraordinary how they used the skylight for light as well as for ventilation. This is the only skylight on site that has this extra feature, so therefore we valued it to have a new-ness value as well as a rarity value.

20 There are three washing basins left in the washing hall. They date from the beginning of the building and give a glimpse of the past. Therefore we gave it an age value.

The doors of the heat treatment building are not in use anymore but are still present. They haven't been maintained so they are rusted and the paint is peeled of. This shows the age of the door so therefore we assigned it an age value.

21 The doors of the heat treatment building were probably not important enough to be replaced or repaired throughout time. They represent the function; opening and closing the building and remind us of how long the building stood there so therefore we gave it a non-intended commemorative value as well.

22 The three remaining washing basins of the washing hall show where all the other washing basins would have stood and how they looked like. They show how they were used and represent the function of the building, so therefore we gave it a use value.

23 The washing basins of the washing hall are rare compared to other washing halls on the site. First and foremost, all other washing halls used round washing basins and they were differently arranged in the spatial plan. The washing basins of our washing hall are rectangular and therefore have a rarity value.

24 The atmosphere of the buildings is determined by the following features: The thin wooden structure and the caterpillar lanterns, ensure an open, warm, welcoming, pleasant and light space for the washing hall.

For the bike shed, the remaining wall and foundation show the history of the building that once stood here. An absence of something which was part of Campus South is now a ruin.

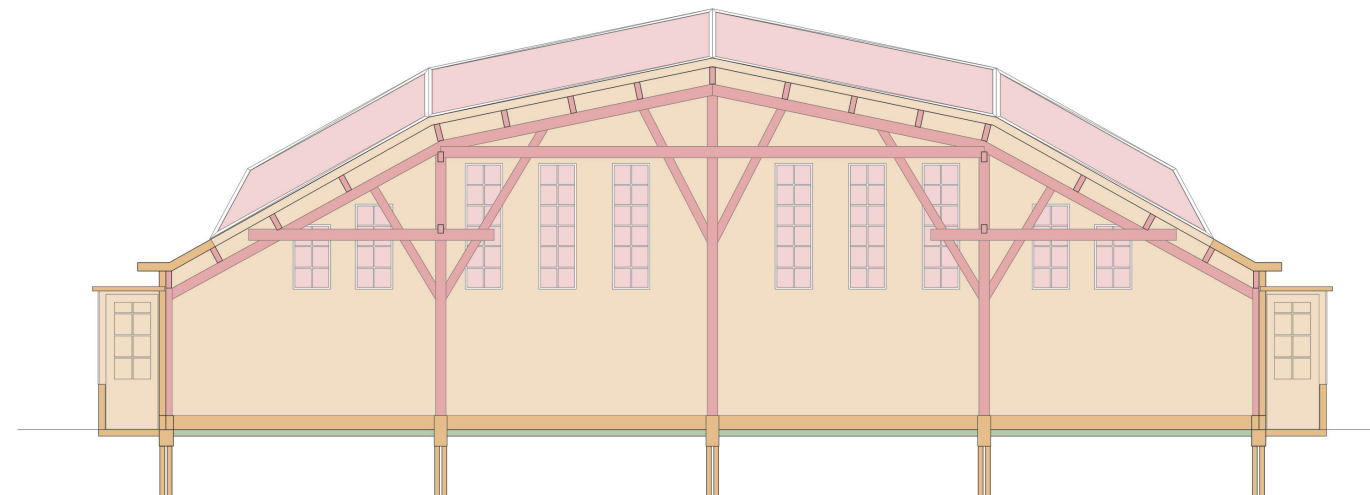
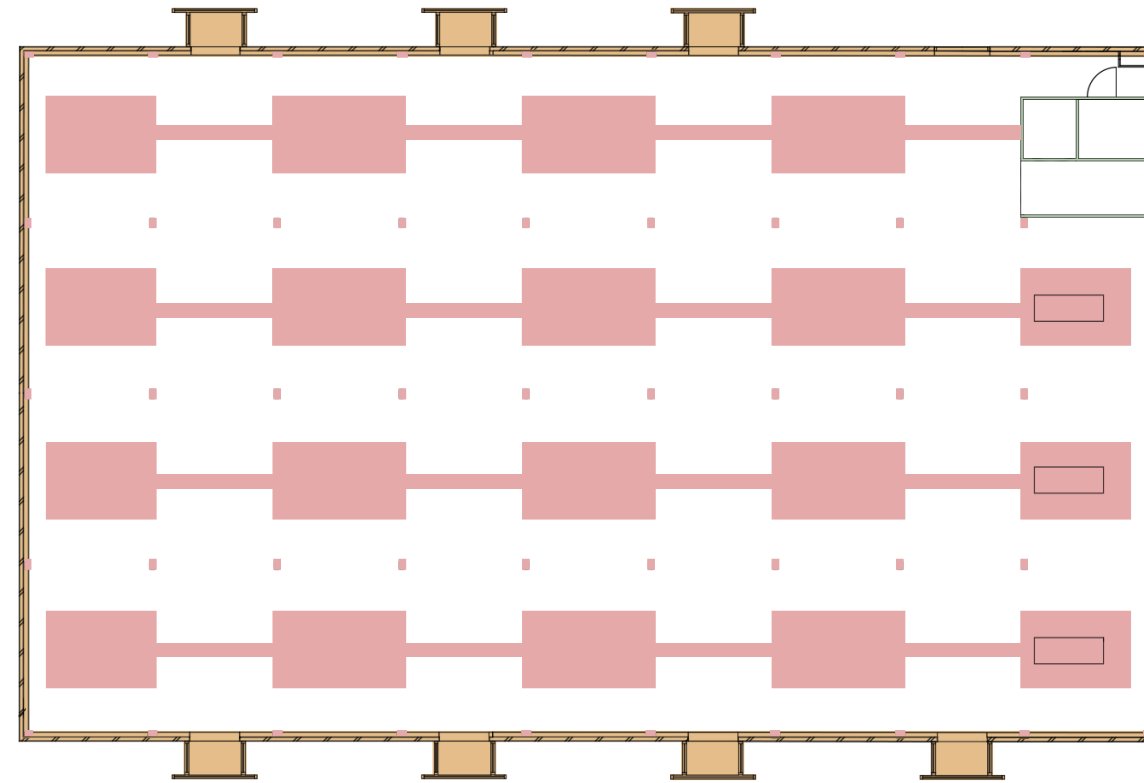
The interior of the heat treatment building shows a roughness. Not only physically but also atmospherically. The rough bricks, broken tiles, black deposit on walls, steel beams cut through, holes in the walls where pipes went through. This all resembles the work which happened here years ago; the function of the heat treatment building.

04 - LEVELS OF SIGNIFICANCE

group

Ensemble

The former railroad is a part of the history; the development of Hembrug which was important for the Hembrug site [1]. Therefore it is given a high level of significance. The water [2] is of importance to the experience of the site, but does not show the true essence of Hembrug and that is why it is given a moderate level of significance. The logic of the site with the division of functions/buildings and the roads [3] are an important value because they show the true essence of the site and its development through time. That is why it is given a high level of significance. The grass fields do not show the essence of the site that much, so that's why it is given a moderate level of significance. Without clear orientation points [5] like water or gathering points (campus) it is very hard to understand a site and know which way to go. Therefore these features are valued to have a high level of significance. The relations between buildings [6] are valued high because they show the essence of this ensemble. The pavement, however, is of moderate value because this shows the essence of the ensemble less as it focuses merely on the employees who would have walked here. The division of the window frames [8] have a high level of significance because it is a great development through time in which the technology made it possible for large pieces of glass to get developed for windows. The bonding of bricks [8] can be typical in certain centuries, decades, and so on, but there was not a great innovative technology linked to brickwork. Some bondings are different for aesthetical reasons like trends and some are different for structural reasons. Therefore it has a moderate level of significance. The skylights [16] are an element that is used for getting more daylight inside the buildings. They increased the usability of the buildings as well as the production inside the buildings. Therefore they have a moderate level of significance as they represent the functioning of the buildings and have an impact on the interior atmosphere. The atmosphere of the buildings [24] display the essence of the buildings as well. For example, the roughness of the heat treatment building display the function it once had, so therefore we valued it to have a high level of significance.

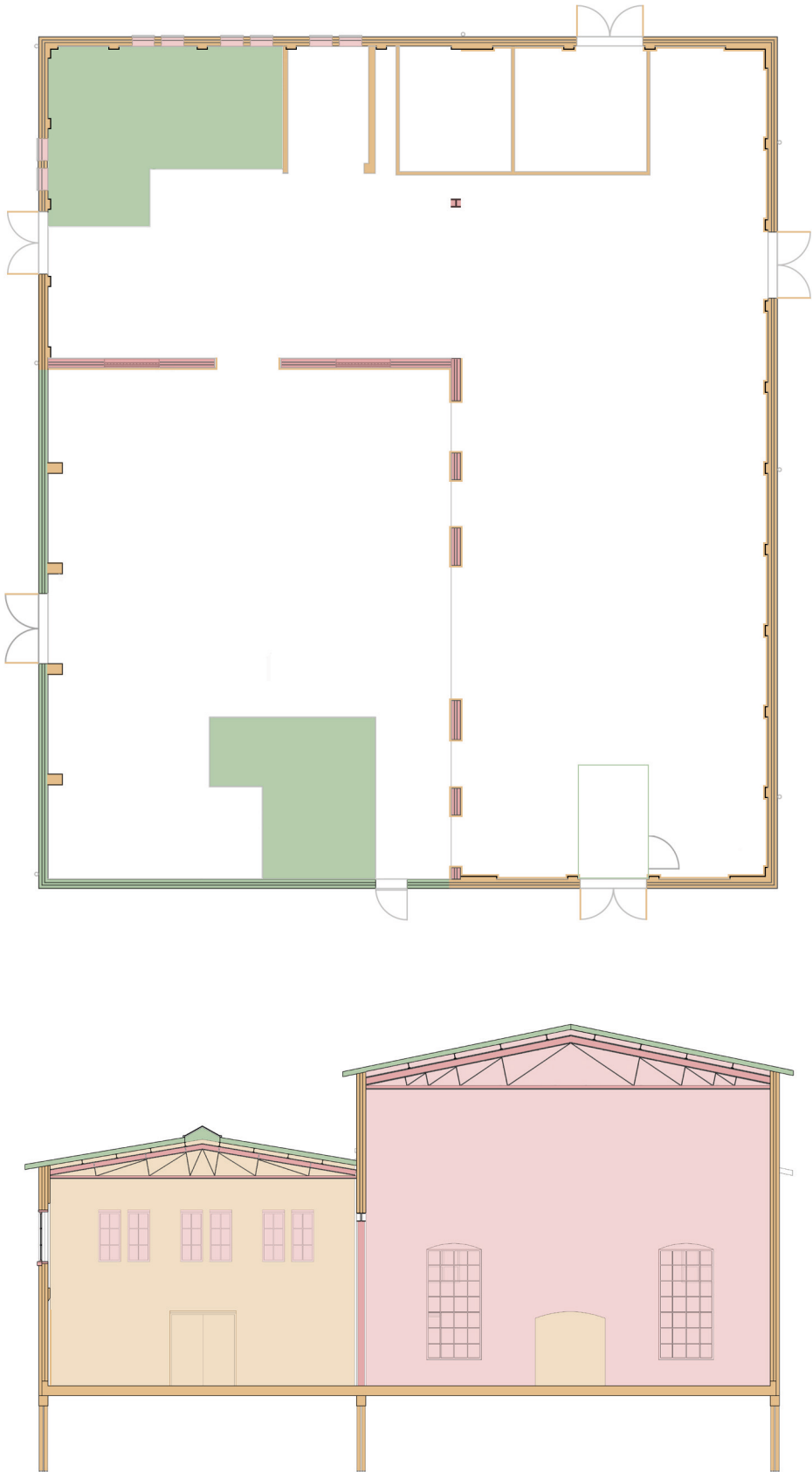


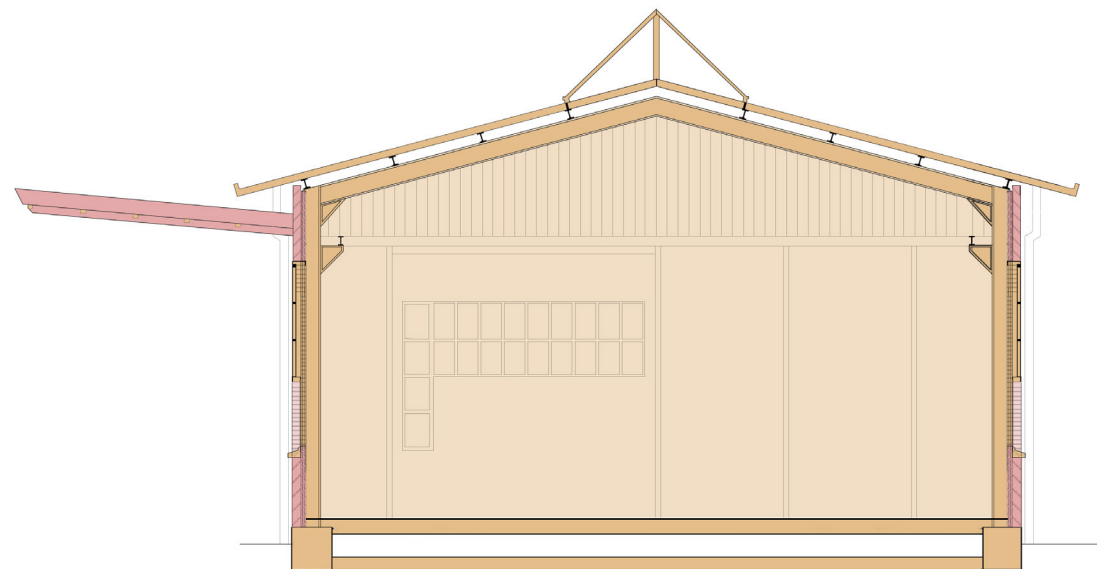
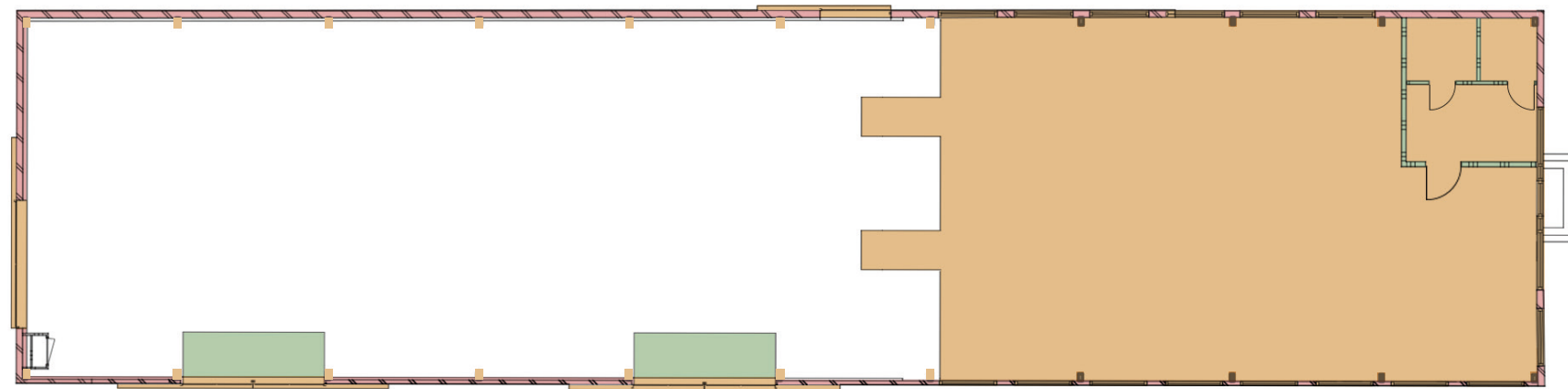
Washing hall

The closedness of the facade [9] is of importance because it clearly shows the functions of the building; the essence. Therefore it has a high level of significance. The concrete window frames [9] represent the function of the building as the employees need their privacy when washing or changing. The windows at this height strengthen the closedness of the building, but is not the main element which contributes to its closedness and therefore it is given a moderate level of significance. The caterpillar lanterns [10] are rare but they do not show the true essence of the building which leads to giving it a moderate level of significance. The caterpillar lanterns [19] are used for letting in daylight as well as for letting out air. We valued it as highly important as this element contributes to the use of the building and therefore shows the essence of the building. The structure [13] is unique as it is the only building which has a completely wooden structure. Therefore it has a high level of significance as it represents the essence and the use of the building. The spatial plan [14] shows the function it had. The red tiles indicate the position of the washing basins and display the former use. We value it as highly important as it represents the use of the building the most. The entrances show the heavy use so therefore we give them a moderate level of significance as they represent the use of the building. The broken floor tiles [15] show the age and the traces of usage. We considered this feature to be of indifferent importance as it represents the use of the building less than the tiling pattern or the structure. The washing basins [20] date from the beginning of the building and give a glimpse of the past. They show the layout and the use of the building and are rare when compared to other washing basins on the site. Therefore we valued it as highly important in representing the essence of the building.

Heat treatment building

The triplexion of the heat treatment building [3] is an important value because it shows the true essence of the building and its development through time. That is why it is given a high level of significance. The brickwork buttresses [11] has a moderate level of significance, because it is not a stand alone structure; other structural elements are also involved. The roof structures [12] represent the innovations of the period it was built in, therefore we valued them to be moderate important and not of the high importance, as the essence of the building is represented by the inner walls. The interior walls [15] show the age and the layers of time in the building. We valued it to have the highest importance as this represents the essence of the transitions of the building the most. The brown-orange tiles [16] might have functioned to make cleaning easier as the surface was smooth. Therefore we valued them to be moderately important as they show the use and practicality of the building. The many cables and pipes [18] that are still visible show the former services system of the building. They contributed to the functioning of the building, so therefore they have a high level of significance as they represent the essence of the building. Most of the windows [19] could be opened and they are part of the ventilation system. This contributes to the function of the building, so therefore we considered it to be important as it represent the use. The doors [20] are not used anymore so they are rusted and the paint is peeled of. They represent the function; opening and closing the building and remind us of the age of the building so therefore we valued them to be moderately important in representing the essence.



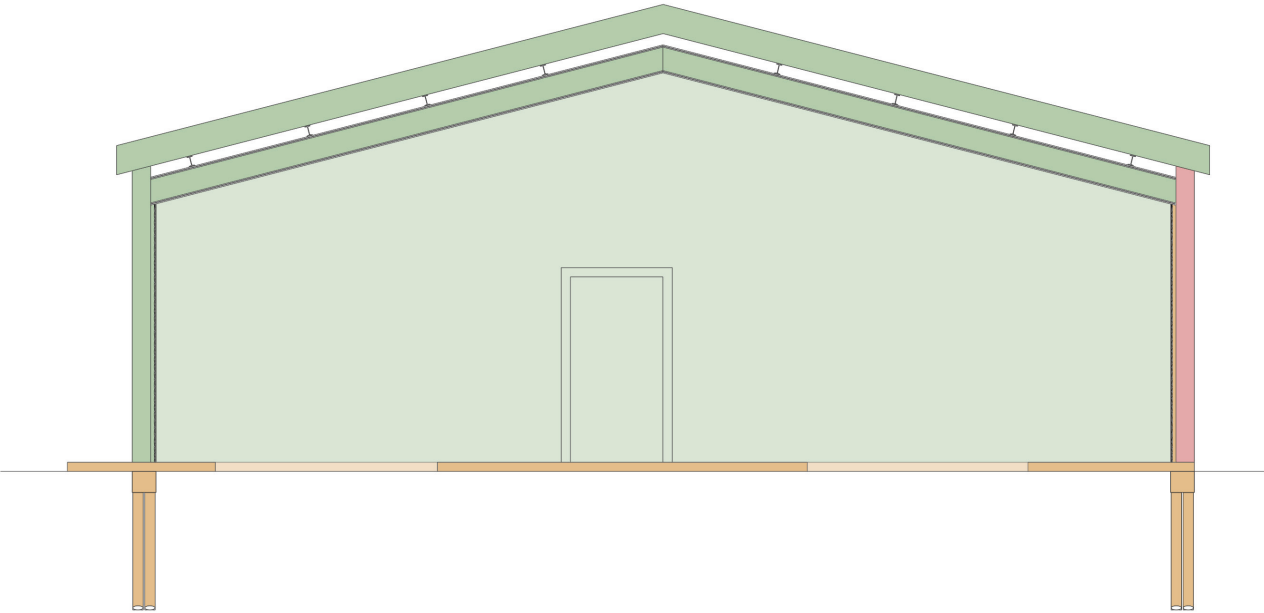
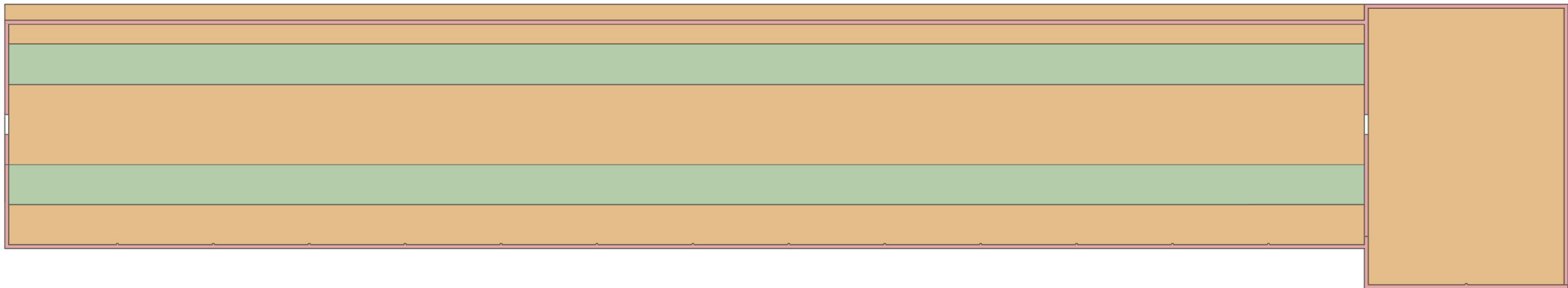


Expedition building

The railroad car [4] next to the building was not exactly at this spot and therefore does not represent the true essence of the functioning of the expedition building which gives it a moderate level of significance. The big sliding doors and the openings/window frames [7] of the expedition building are less important because they do not show their true age which is caused by the renovation/restoration of the building. However, it is not insignificant because it contributes to the former functioning of the building. The openness in the facade [9] and the canopy are of importance because they clearly show the function of the building; the essence. Therefore they have a high level of significance. The structure [12] is typical for the architectural military building style of that period and represents the time in which cassette roofs were used. We valued it to be important, but not of the highest importance, as the essence of the building is best represented by the facade. The spatial plan [14] shows the two functions the building had. The office part is raised giving the supervisors a good overview on the goods and the railroad. This feature represent the use of the building so therefore we valued it as moderate important. The brickwork of the interior walls [17] appear to be newer than the exterior walls as the bricks are smoother. Because of the different bonding we valued it to be of indifferent importance as it doesn't represent the essence of the building as much as the structure or spatial plan does.

Bicycle shed

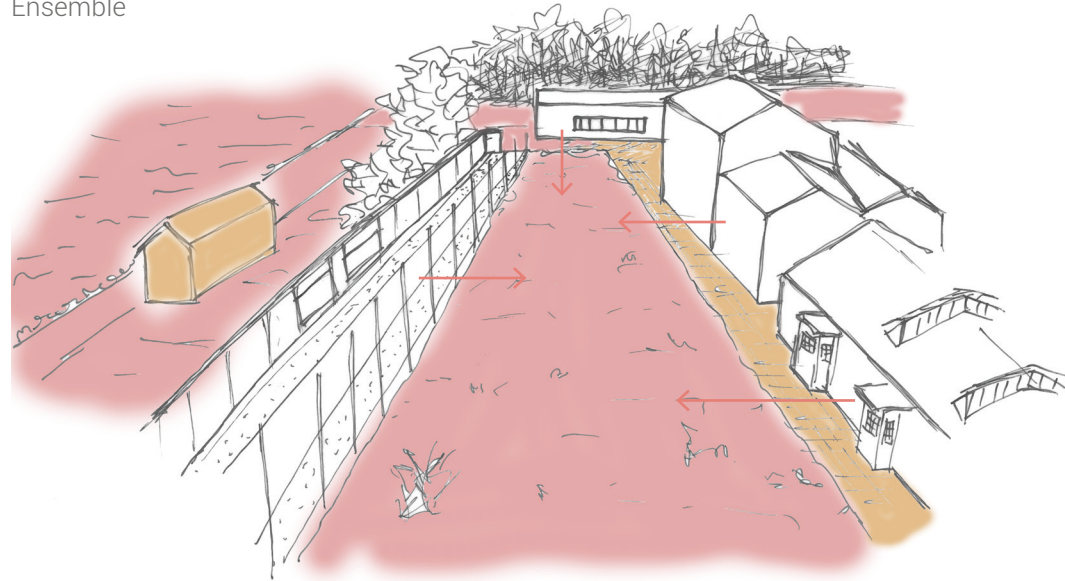
The remaining wall of the bicycle shed [7] has an insignificant value because it does not show the whole building which might have changed over time. The wall itself is not a good indicator for the age as the foundation and the steel structure is in the open air. This changes the appearance of the material faster. The foundation and wall of the former bicycle shed [11] have a moderate level of significance. This because it shows the decay of a former building but it not actually that old.



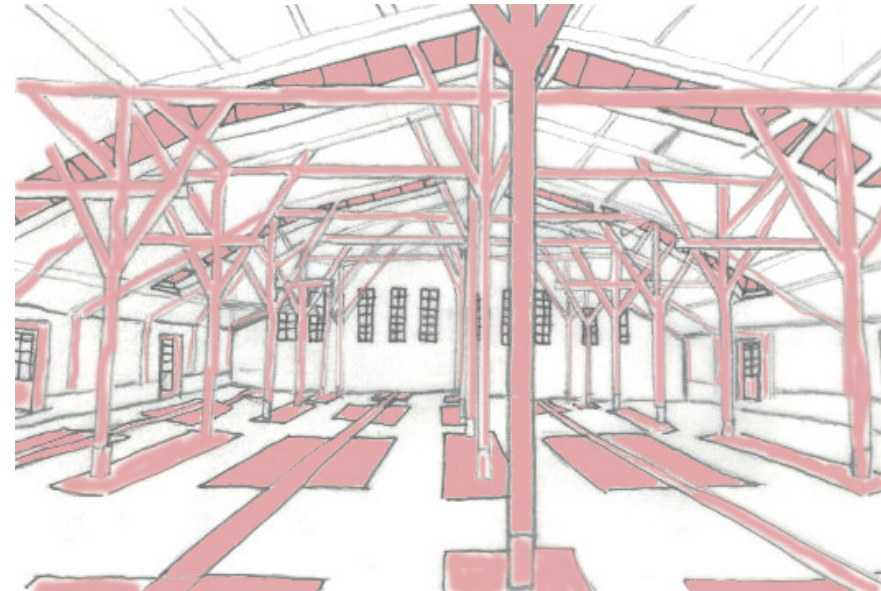
04 - LEVELS OF SIGNIFICANCE

sophie luyckx

Ensemble



Washing hall



The most important values of the ensemble that contribute to the essence the most are the openness and relation of the buildings as well as the existing entrances, sightlines and water.

The most important values of the washing hall are the wooden structure and the caterpillar lanterns, because they contribute to the atmosphere of the building. Other important values are the three washing basins, the eight entrances and the layout of the floor, because they visualise the old function and use of the building.

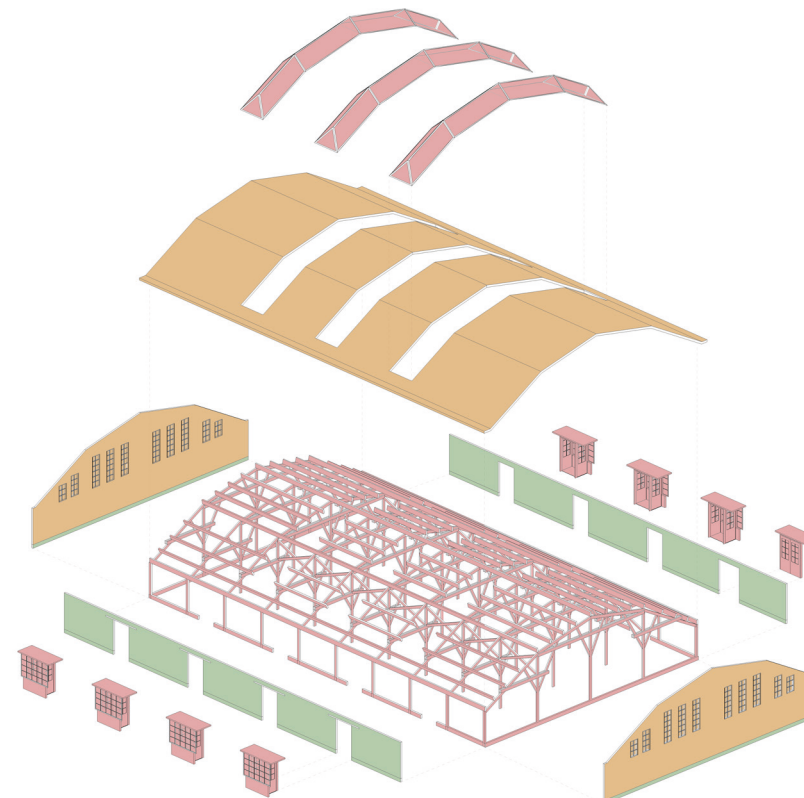
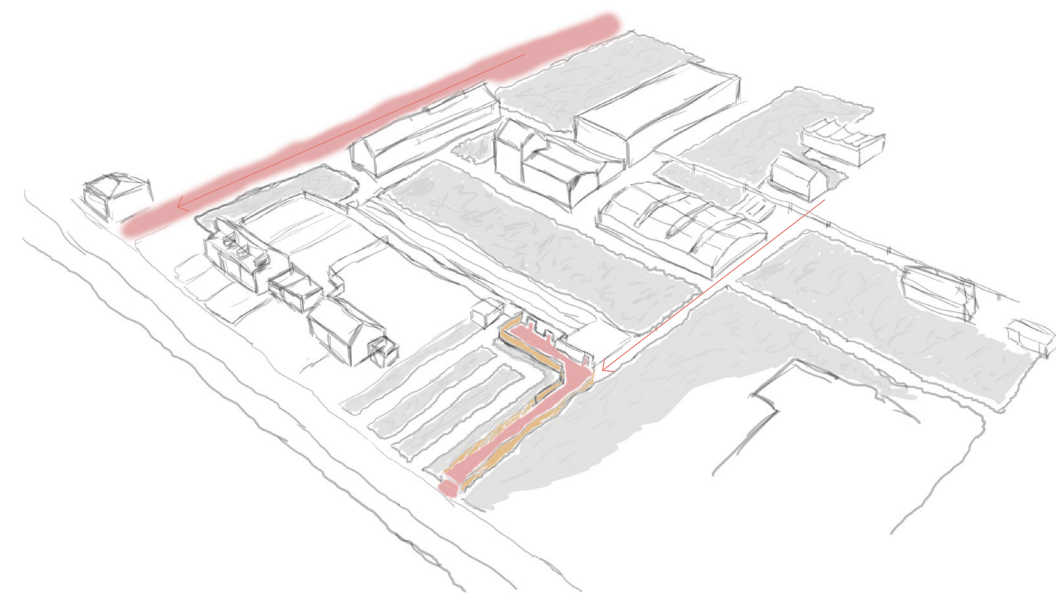
The most representatives values of the heat treatment building are the roughness shown on the inside of the building, the tripletion which visualises the phases in which the building is built shown by interior walls and the steel roof construction, the brick and steel construction, the small and high windows and the old tiles on the walls which all contribute to the atmosphere and visualise the former function of the building.

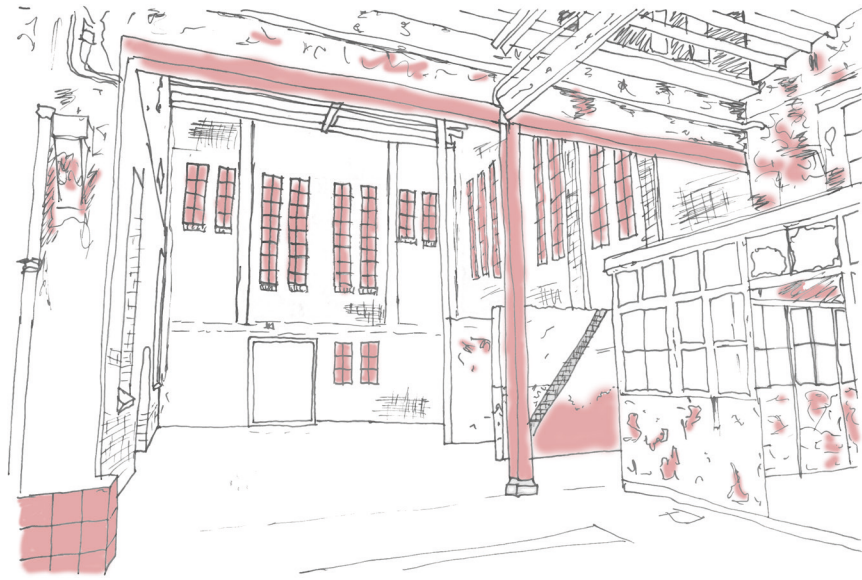
The most important values of the expedition building are the big sliding doors, canopy and openings of the façade. They are of use value, as they indicate the use of the building and its relation to its surroundings. Other important values are the skylight and the spaceplan of the building.

The essence of the bicycle shed is expressed by the remaining wall with corroded steel columns and the concrete foundation. These are of historical value, as they show a part of the building that was once there.

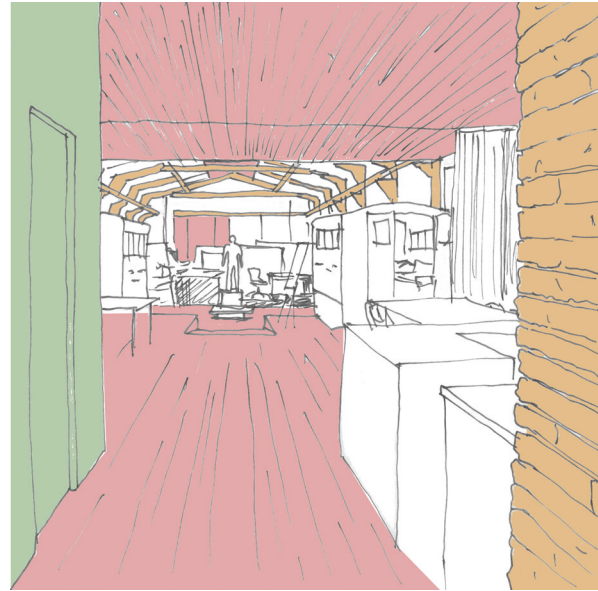
An explanation of the given levels of significance can be found in the appendix.

- Red: Most valuable - High representation of the essence of the site/ ensemble/ building
- Orange: Moderately valuable - Medium representation of the essence of the site/ ensemble/ building
- Green: Least valuable - Indifferent representation of the essence of the site/ ensemble/ building

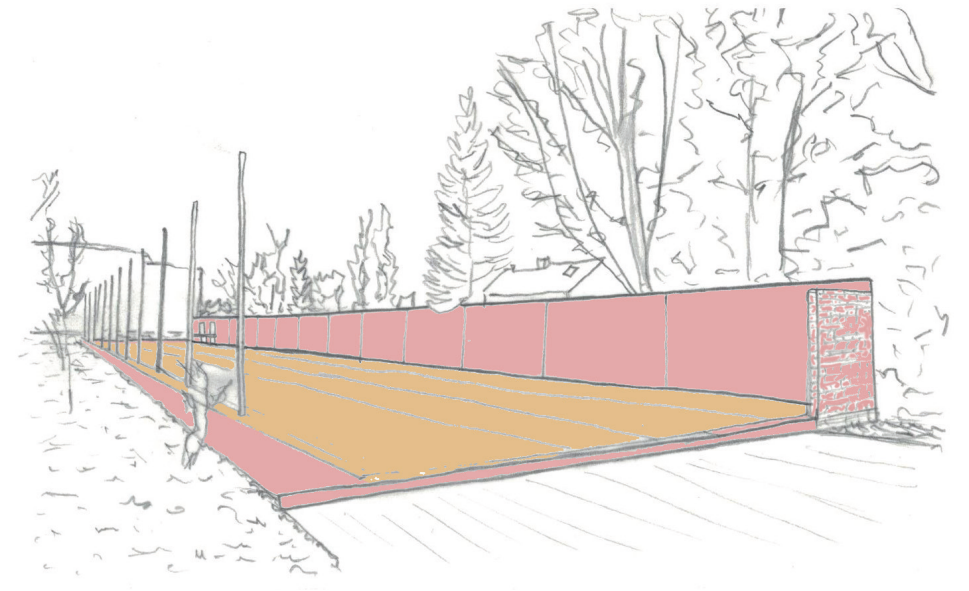




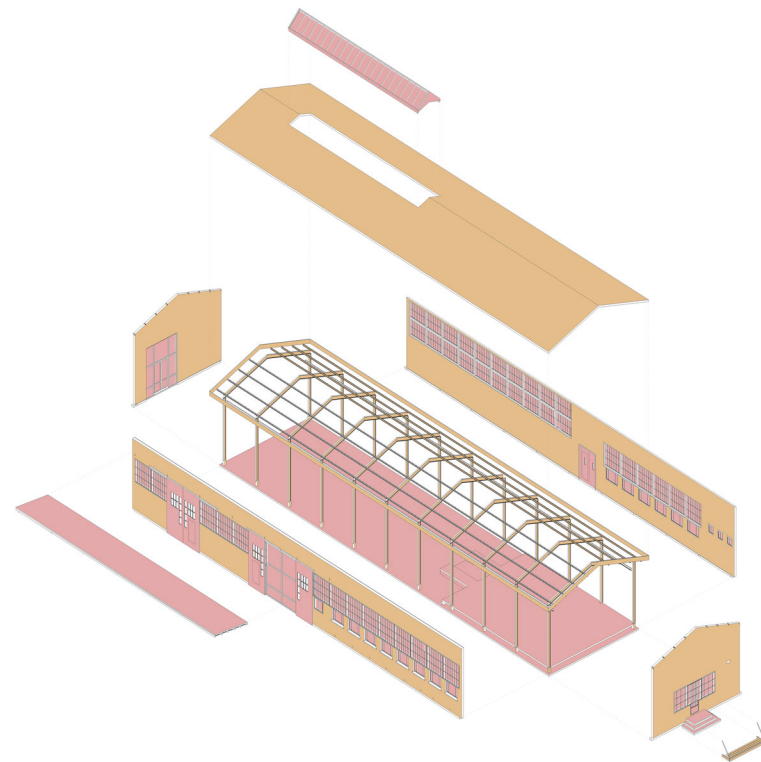
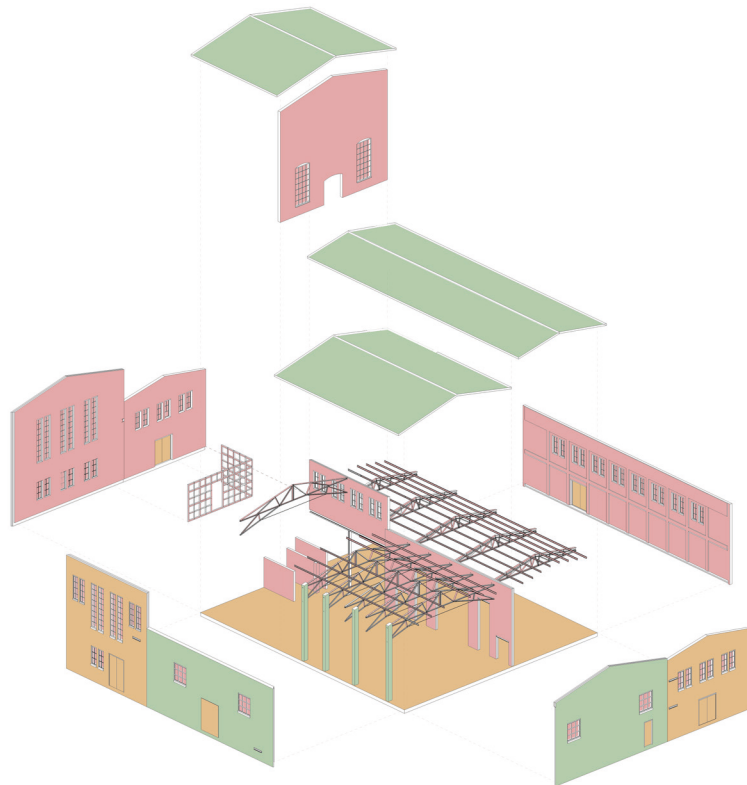
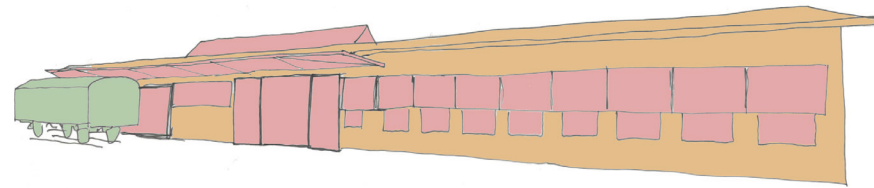
Heat treatment building



Expedition building

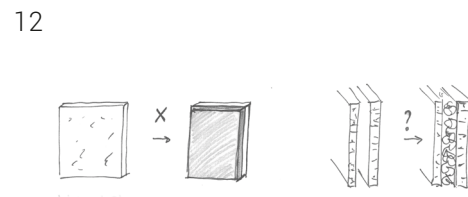
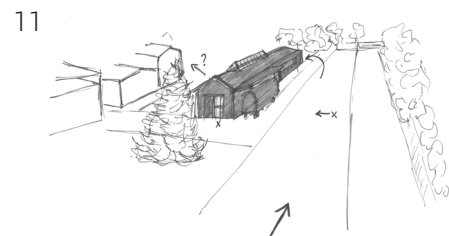
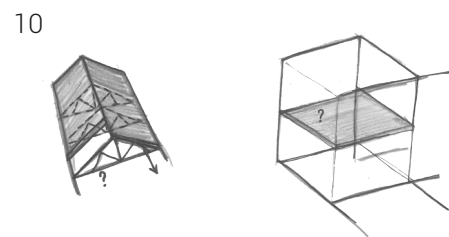
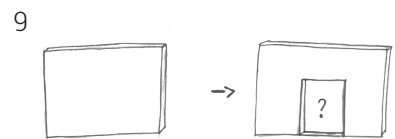
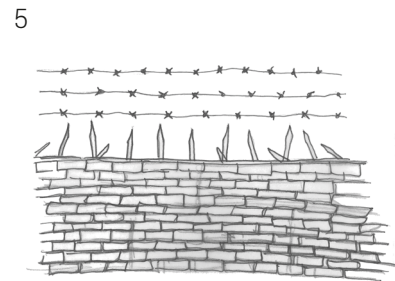
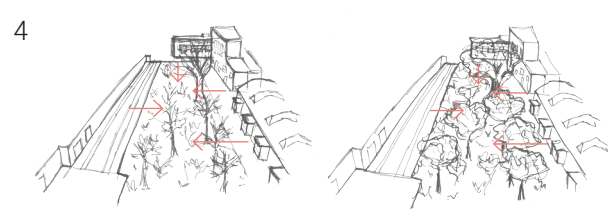
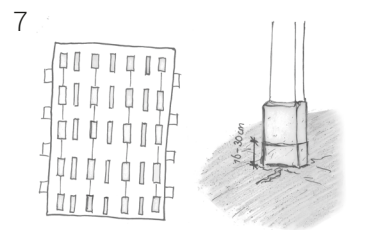
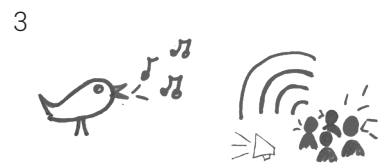
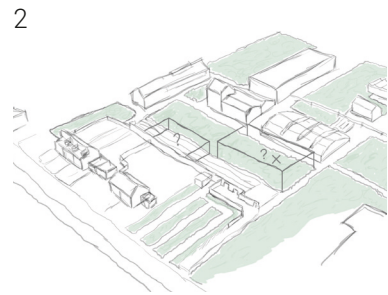
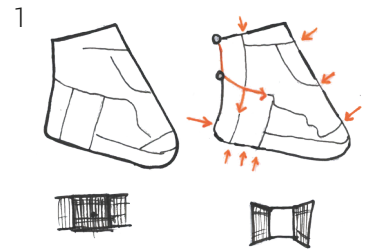


Bicycle shed



04 - PERSONAL STATEMENT

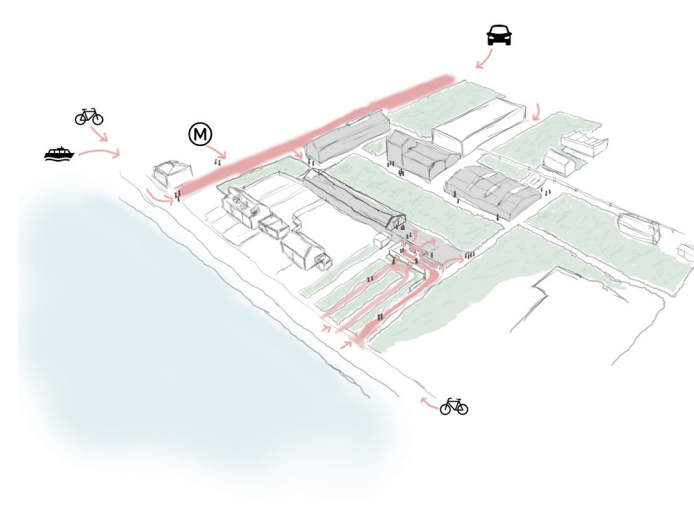
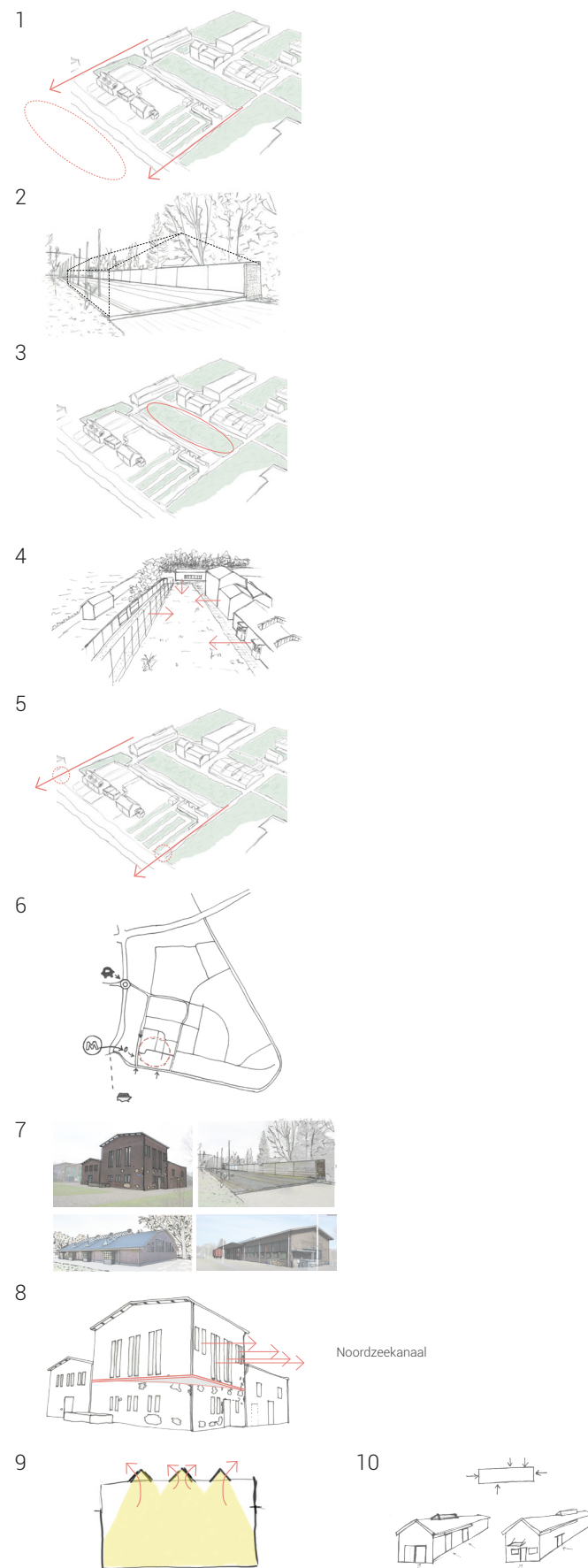
dilemma's



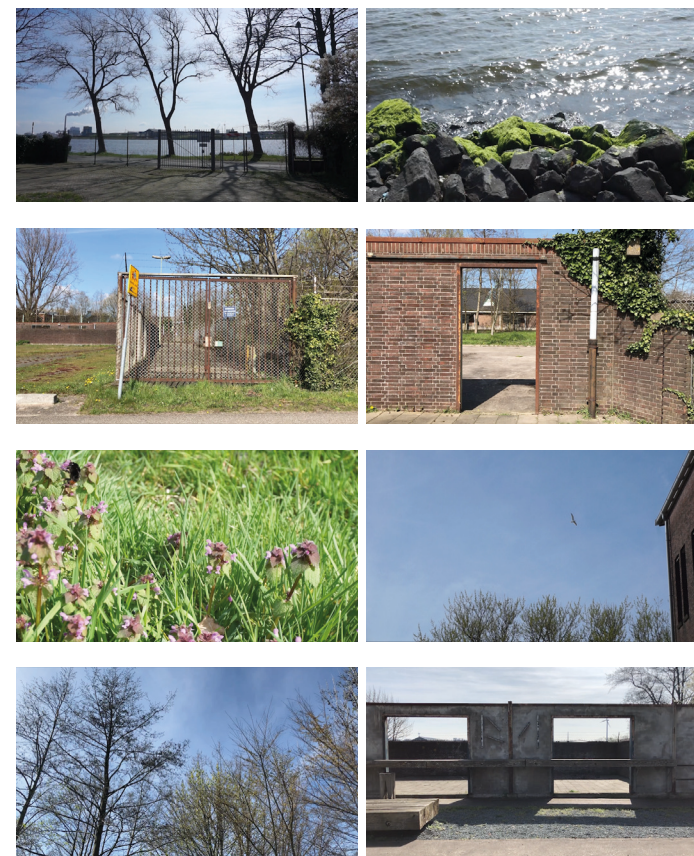
- A potential conflict between the closed character of Hembrug and the future public function. A balance has to be found between the closed character, that is of value for the site and the interventions to make the area accessible. (1)
- The Campus character is of important new-ness value of the ensemble. So, a potential conflict can occur between future developments and this Campus value. Future developments should not detract from this Campus character. (2)
- A potential conflict between the peaceful character of the ensemble and the future public function. How can the green peaceful character that is of atmospheric value be remained while the calmness will be interrupted by the use of people in the future? (3)
- Seasons. Is the coherence of the buildings the same when the trees and plants are in full bloom?(4)
- A potential conflict between the use of the existing entrance near the ruin of the bicycle shed and the accessibility of the ensemble. The existing entrance appears very closed, because of the fence and the thick wall with security pins on top. A balance between this closed appearance and the new accessibility of the ensemble needs to be created, to remain the character of the site that is of historical value and create an attractive entrance for future use. (5)
- A potential conflict between the thin wooden columns and possible use of interior walls in the washing hall. The thin columns of the washing hall are of characteristic value of the building. They contribute to the spirit of place. If this spatial area will be divided with walls, this value will decrease. (6)
- A potential conflict of the washing hall between the layout of the floor and the floor itself. The layout is of historical value, because it shows the former function of the building and where the basins and lockers were situated. The floor of the building is in bad shape and is sunken in between 16-30cm. Therefore, there must be found a way to preserve the layout and improve the condition of the floor. (7)
- A potential conflict between the rough atmosphere of the heat treatment building and its future use. The rough character is of atmospheric value for the heat treatment building, however to what extent do you maintain this so that the building can be used for a new function? Alterations need to be made to guarantee safety. (8)
- A conflict between the façades of buildings and the intervention of making openings in side the façade. Most of the façades are of value for the character of the building, so a balance is needed between new interventions and the old that contributes to the character of the building. (9)
- The condition of the construction of the heat treatment building. Is the existing steel construction strong enough to carry a new roof? And is the construction strong enough to add a new floor level? What kind of alterations need to be made to guarantee safety? And how to remain the characteristic atmosphere and the existing construction that is of age value of the building with these interventions? (10)
- A potential conflict between the expedition building and the accessibility to the ensemble. The entrance of the building is located at the north, facing the waterfront, but nowadays most people enter the site from the roundabout in the south. The building is closed off towards this direction of approach and therefore closes off the ensemble a bit. So, how can the expedition building that is of value for the total ensemble and relation of the buildings remain and can the accessibility be strengthened at the same time? (11)
- Potential conflict between walls of historical value and future interventions for current technical requirements of the buildings. How can technical interventions for sustainability, like insulating the building, be applied without decreasing the historical values of the building?

opportunities & future of ensemble

- 1 The connection of the ensemble with the Noordzeekanaal.
- 2 The ruin of the bicycle shed provides an excellent opportunity for future development.
- 3 The green, quite, campus character of the ensemble. The openness and human scale of the buildings create a pleasant feeling. The character of Campus South is special and distinguish the ensemble from the entire Hembrug terrain. The green plot can function as a center where people can gather.
- 4 The coherence between the buildings of the ensemble. The aspect of unity can be included in the future functions of the buildings.
- 5 The existing entrances of the ensemble. They can be used to create a good accessibility and can strengthen the connection with the Noordzeekanaal. Because they function as sightlines on the water, but also because they clear the way to and from it.
- 6 The ensemble has a good position. The ensemble is located near the new Hembrug entrance from the roundabout and future metro station and already contains existing entrances from the waterfront. Therefore, the ensemble has a good position for the accessibility for future use.
- 7 The ensemble contains different monumental buildings, with different characters. Which are specific and distinctive for the ensemble.
- 8 The height of the second part of the heat treatment building, which provides a possible construction of a floor level with view on the Noordzeekanaal.
- 9 Reuse of caterpillar lanterns of the washing hall, for the light that contributes to the atmosphere of the building and for ventilation of the building.
- 10 Different openings in the façade of the expedition building, which provide a possible accessibility from all sides of the building.



Still images of ATUDE assignment



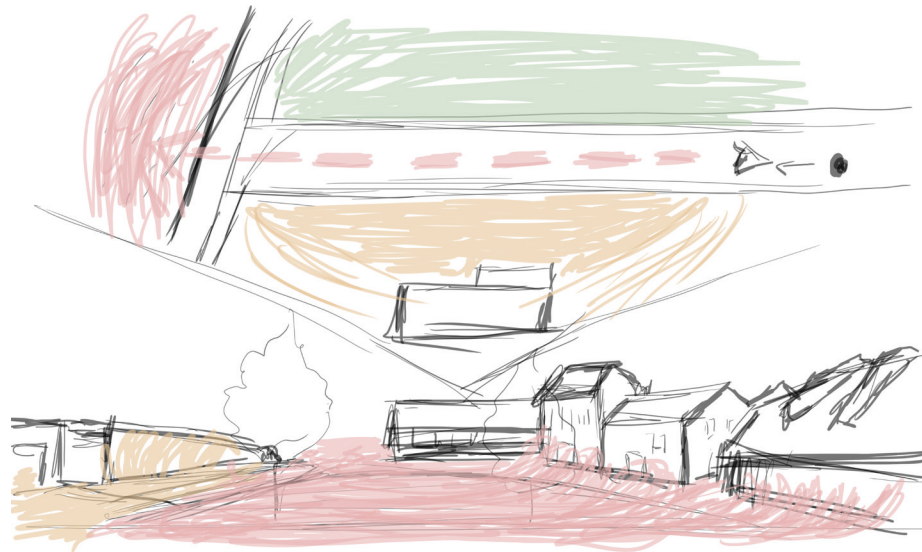
"The sound of the chirping of the birds will be completed by the sound of people."

Campus South, like the name reveals, an ensemble with a campus character of important new-ness value. The openness, Campus is Latin for 'open field', and human scale of the buildings create a pleasant feeling. The green, quite, campus character distinguish the ensemble from the entire Hembrug terrain, and should be preserved in the future. The ensemble exists out of different buildings with different typologies. These monumental buildings with their own character of atmospheric value must be preserved as well. The washing hall with its light, stable looking, pleasant atmosphere contributed by the wooden construction, layout of the floor, different entrances, basins and caterpillar lanterns. The heat treatment building with its rough atmosphere created by the old materials, remaining cables, interior walls and corroded steel construction. The expedition building with its pleasant and neat atmosphere by the brick bonding, open façade, sliding doors, height difference and skylight. The bicycle ruin, with its remaining parts of brick wall with corroded steel columns and concrete foundation. That provides an excellent opportunity for future development. These buildings are connected by the green plot in the centre, that visualises the history of the development of the ensemble, and form a relation with each other. This sense of unity of atmospheric value needs to be remained and included in the future functions of the buildings. Future interventions should fit the buildings and must be added with respect for the character and atmosphere of the building. Hereby a contrast can be suitable between old and new. In this way the development through time is visible.

Making use of existing entrances of historical value, to open the site to the public and create a better connection with the water, Campus South will be an attractive place to be, in an area of great military history.

04 - LEVELS OF SIGNIFICANCE

soumaya boujamaa



Site

Red = the intimate yet at the same time open character of the campus and the former railroad which has a sightline towards the water which helps orientate one self.

Orange = Area of the bicycle itself and the area around the expedition building on the side of the former railroad.

Green = The greenery and forest like area on the other side of the railroad.

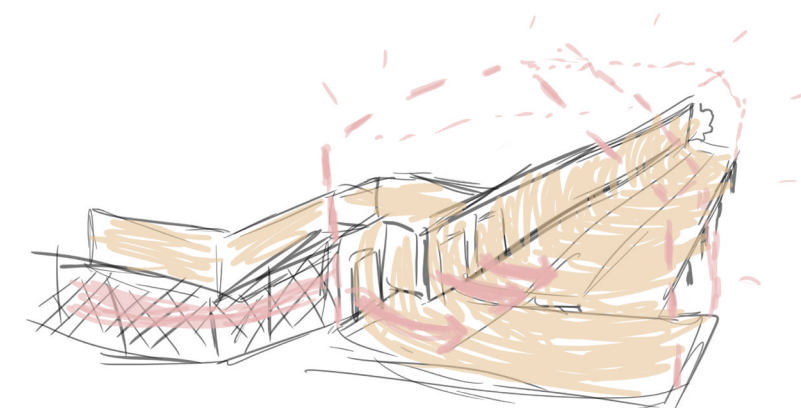


Expedition building

Red = The effect of the sky light, the former railroad car with the canopy above it and the big windows/openings in the wall which faces the former railroad.

Orange = The steel structure and the brickwork facade with multiple kinds of brickwork bonding

Green = The floor which is there now, however this floor is seen apart from the foundation. The foundation is special because it does not have the usual piles in the ground. Therefore it should be coloured red but since this is not visible, the colour is not shown.



Bicycle shed

Red = A former entrance and the thought of a building being there back in the day.

Orange = The physical traces of the bicycle which consists of the wall and foundation. Only the wall could not have shown the dimensions of the building or even if a building ever stood there. It could've also been only a wall as a border.

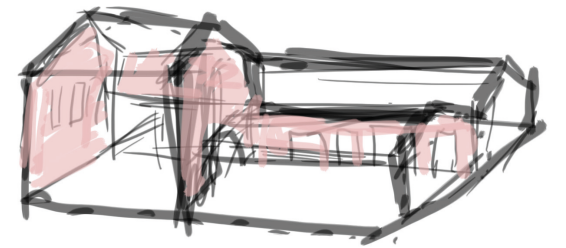
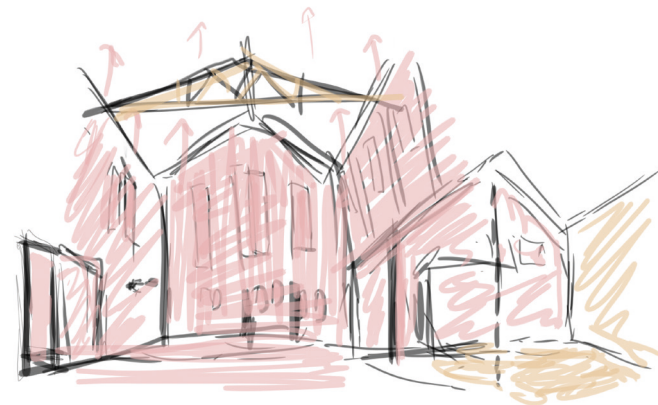
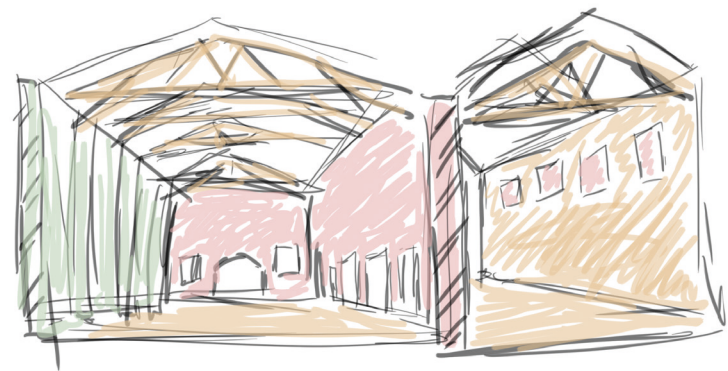
*An exact explanation of these values can be found in the Appendix .

Heat treatment building

Red = The tripletion clearly seen in the inner walls, roughness and many traces, old brickwork, large windows of which some can be opened and functioned as a ventilation system

Orange = load bearing brick walls and the steel roof construction.

Green = The once replaced masonry wall.

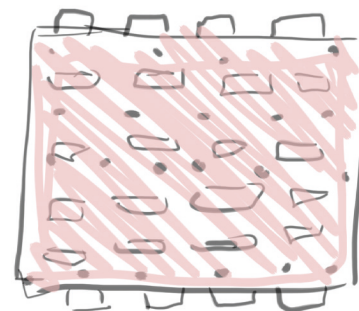
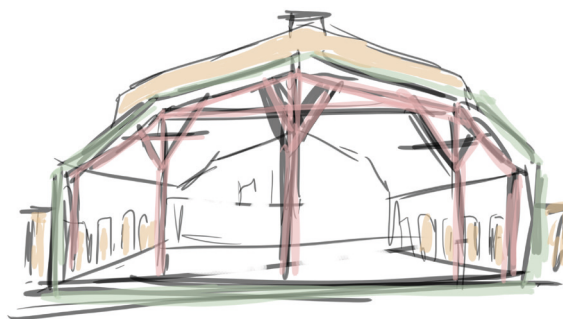


Washing hall

Red = Wooden structure, space plan and washing basins.

Orange = The 8 entrances and the caterpillar lanterns.

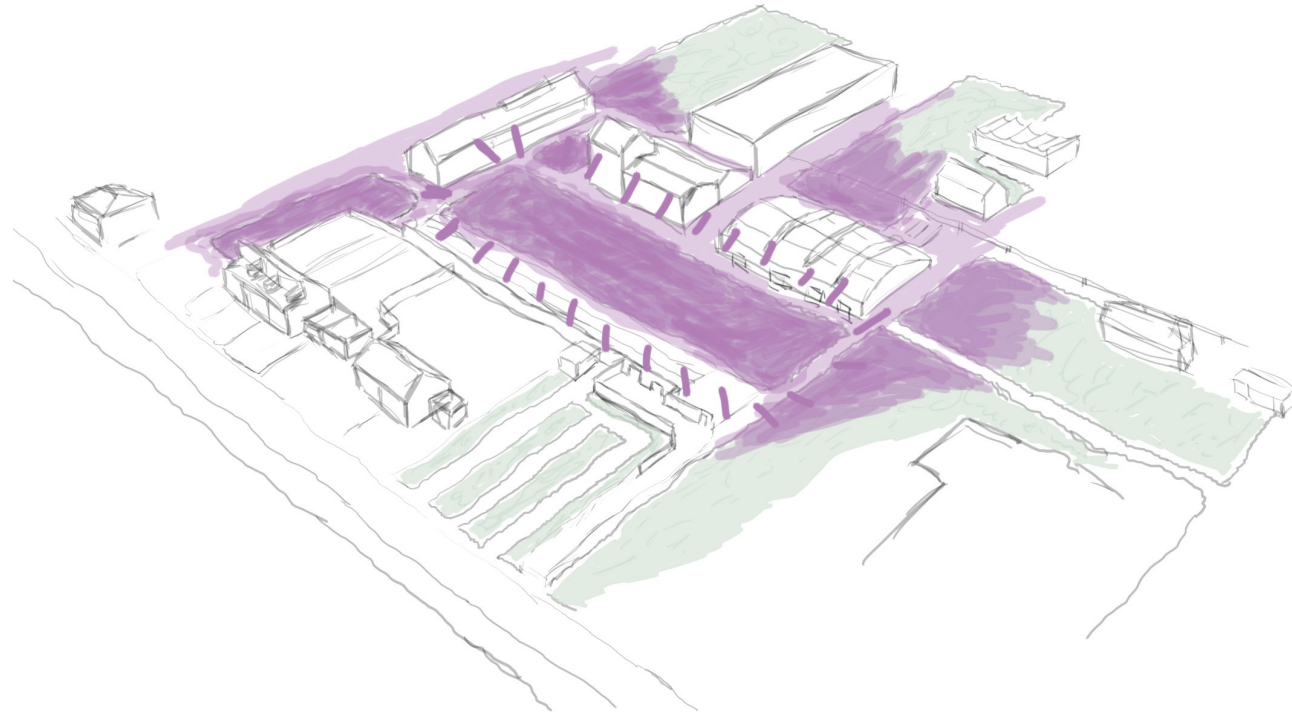
Green = The facade, roof and floor



*An exact explanation of these values can be found in the Appendix .

04 - PERSONAL STATEMENT

dilemma's & opportunities



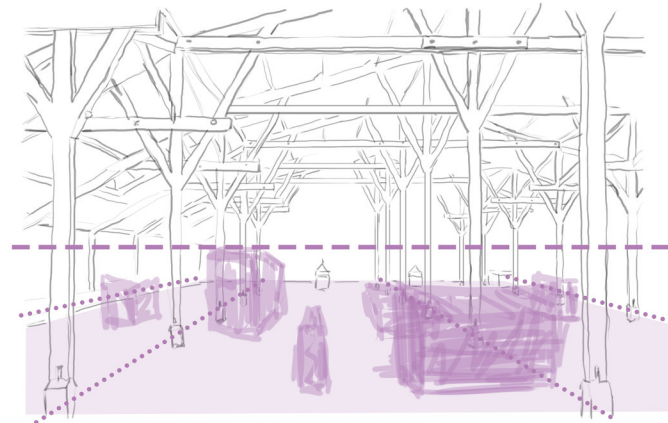
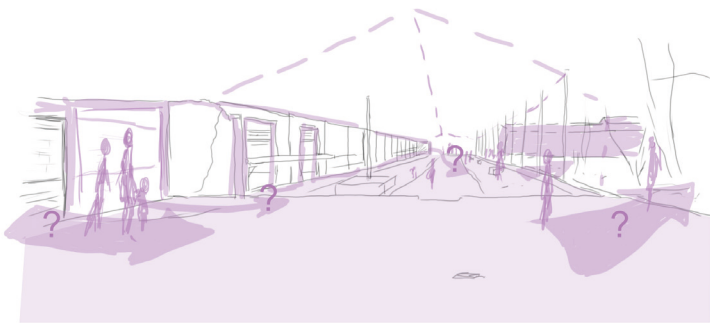
- It is of importance to preserve the campus character. An opportunity is making an intimate environment. However, the dilemma is that we cannot build any extra buildings, otherwise it does not stay a campus anymore since there won't be much green or open fields surrounding the buildings.

- When it comes to the washing hall, the structure is the most important part of the building. It has a rarity value because it is the only completely wooden structure on the Hembrug terrain. Many wooden sheds were demolished and transported to Germany. Furthermore, this specific wooden structure makes the building look like a barn. The thin wooden structure makes the building look very spacious. Therefore the building is very flexible as in what can be placed in it, so it has a lot of opportunities. Unfortunately, walls cannot be placed inside. It is of course possible but it makes the structure disappear while the structure is the main character in this building.

- The heat treatment is a large building with only two walls on the inside which make it seem very open, together with the now temporary "plastic" roof. The roughness inside the building is the main characteristic of this building. It is interesting to show people the history of this building and how it has been used. It is a big opportunity to add a new layer to the timeline of the heat treatment building, keeping the traces of how it has been used. However, many rusted cables are hanging from walls. Some beams which have been cut through are sticking out of walls. These elements could be dangerous when the building gets its new function.

the direction of Hembrug is planned and the station would be next to the expedition building. There it can function as an entrance to the site.

- The ruin of the bicycle shed together with the entrance has big potential. Together with the expedition building they can attract people to enter the site from the waterfront. The former bicycle shed is closed off from the outside but it can be a part of an open and public entrance. The entrance which is now next to the roundabout has nothing to do with the history of Hembrug. It has only been there for a couple of years. However, at the waterfront is where the main entrances used to be. This is the place which has history; where the hard working employees entered the site to earn their costs and support their families with it. Families from generation to generation worked on that terrain and now it is time to open these entrances up for a different generation to explore the history of the Hembrug terrain. However, the same issue exists as with the expedition building. The main entrance is now via the roundabout which is a very different entrance from the waterfront. It might be possible that many people only enter the site from the roundabout.



- The expedition building is already in use. Since its known throughout history to be a central point of the whole Hembrug terrain, the future use of this building could be the same. It could be a building which functions as an entry or introduction to the site. The structure of the building makes it easy to place different elements in it. However, the main entrance now is via the roundabout. The expedition building does not located there which does not make it an entry. In some future plans a subway in

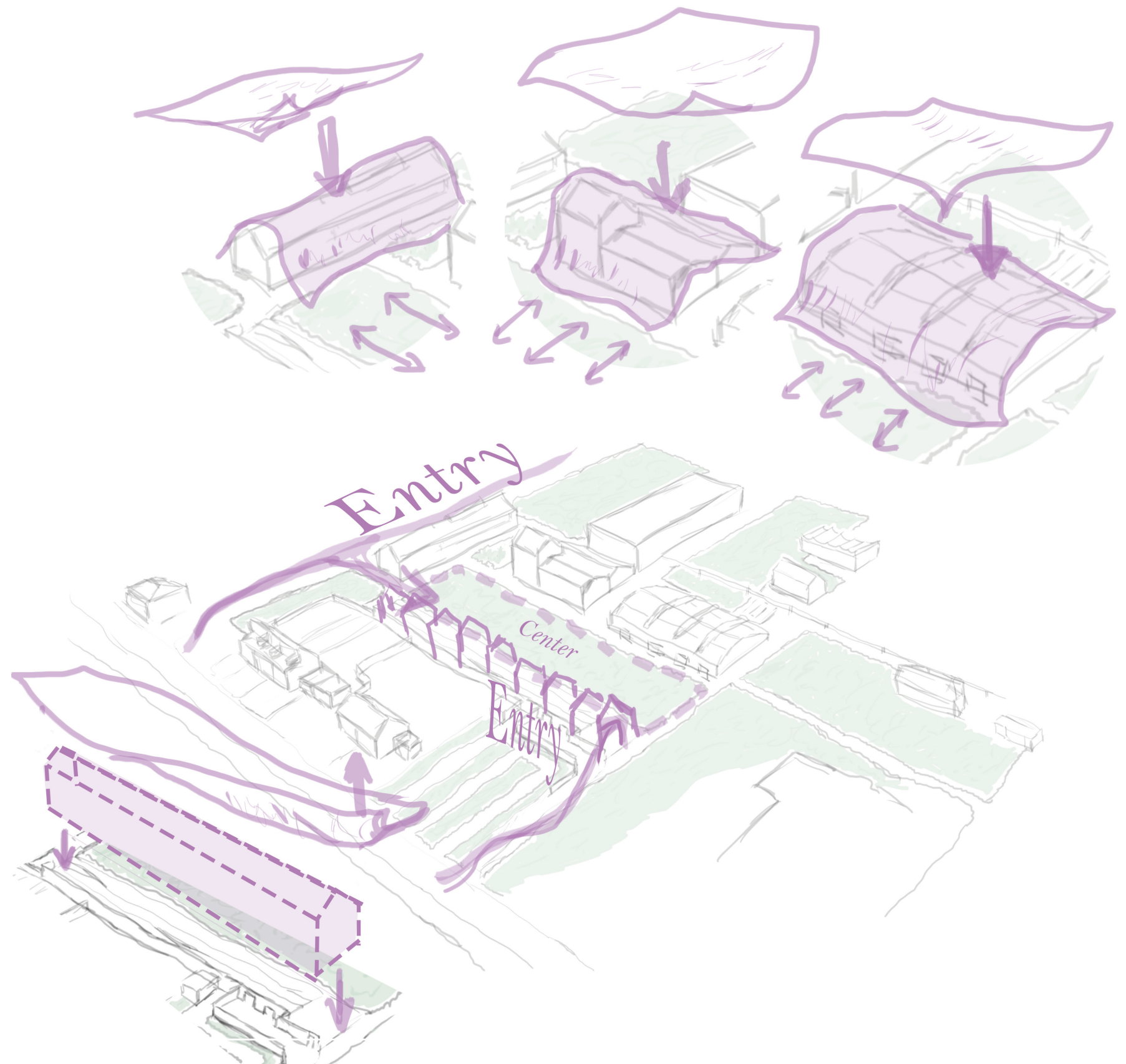
future of ensemble

Personal statement

What is of importance to me is the buildings' history and their development through time. This ensemble has a lot of potential. It is close to the water which could be an attractive entrance to Campus South. The green area in the middle could function as the center of the ensemble because it is surrounded by all the buildings. With the new, yet unknown, functions for the buildings this green area can be the point where people gather.

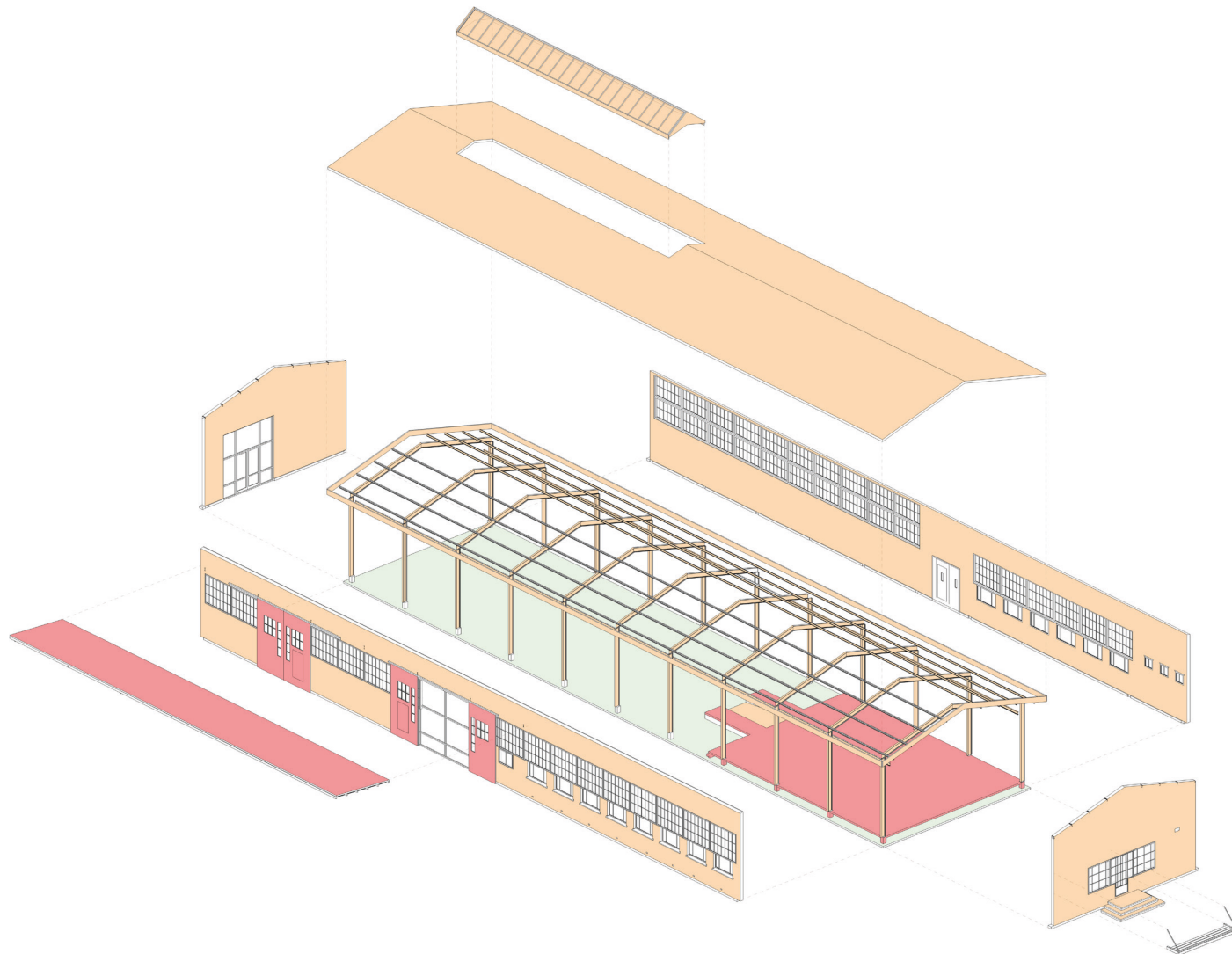
To the buildings a new layer will be added with respect for the building itself and their main characteristics. However, this layer should be visible (and safe for future use) but not in contrast with the building. In this way it stays an honest development of the buildings through time which is not overly exaggerated.

The former bicycle shed is an exception to this rule. It has only a foundation and one standing wall. This foundation can be reused, if in good condition, to build a new building to represent the former entrance which is now new and open to the public.



04 - LEVELS OF SIGNIFICANCE

maaike lengton

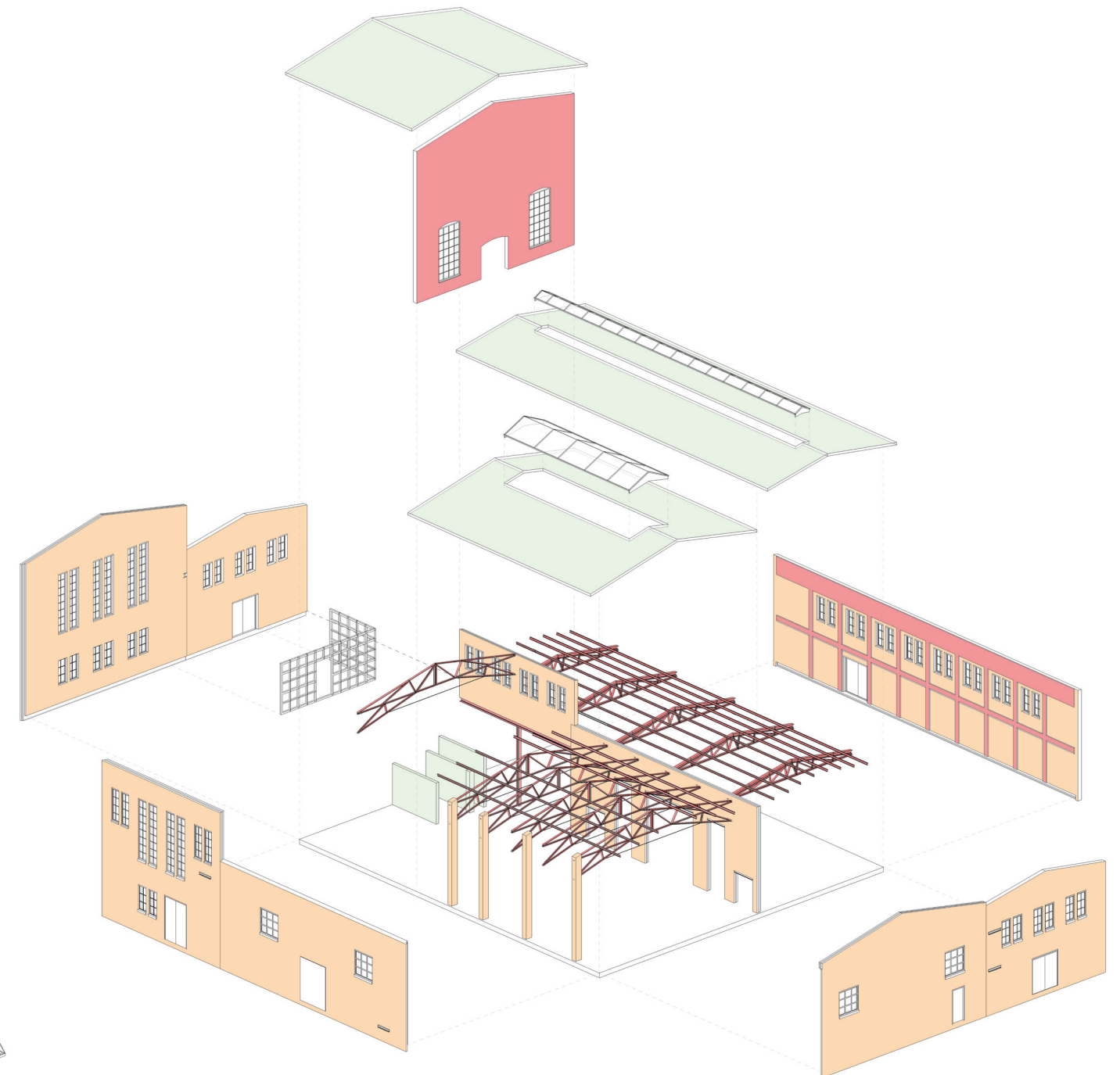


Expedition building:

A feature that I value more than we did as a group is the raised floor. We valued it as of medium importance of its use value. It shows the former division between the warehouse and the office part. I valued it as highly important as it should be preserved to still see the former function of the building. The same applies to the large sliding doors. Without these elements the building will lose irreplaceable heritage values.

The walls of the expedition building are a feature I valued less than we did as a group. We valued it as highly important because of the openings in the wall. The contrast between open and closed has a use value as it shows the function of the building. I however consider not the walls, but the sliding doors to display this function the best. Therefore I gave the walls the value of medium important.

I valued the other important features of the same level of significance as we did as a group.

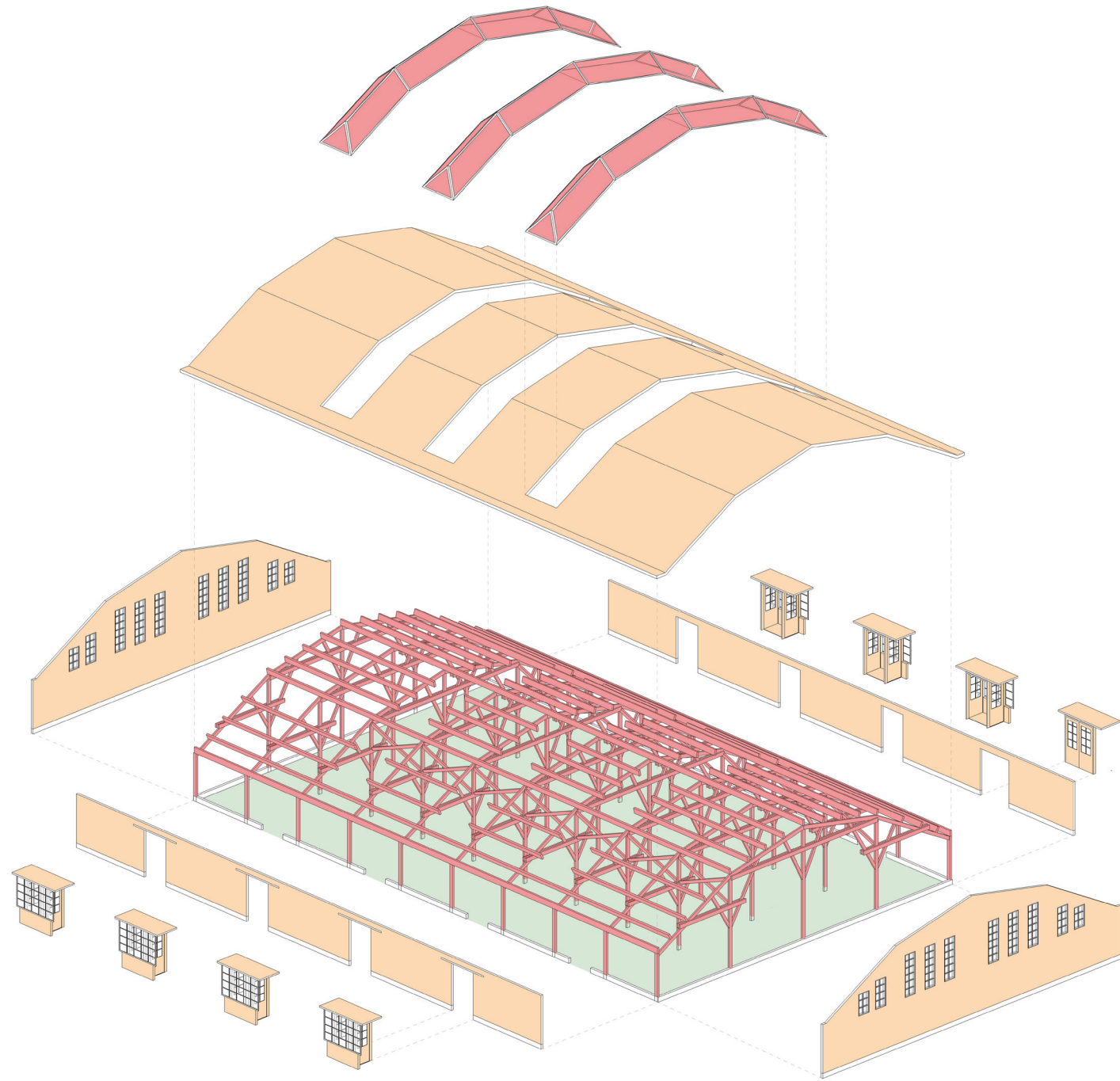


Heat treatment building:

In comparison to the level of significance drawings as a group, I valued some features more or less important. For example, the walls of the first built compartment. As a group we decided to value them as indifferent, because these walls aren't the original ones. I however think that even though they are not the original ones, they still share the overall connection with all the other masonry walls. The openings are on the same spots as they used to be and the bricks have the same dimensions as those from the other walls. Therefore I consider them as equally valuable.

A feature I valued less than the group is the inner wall between the oldest and the newest part. As a group we valued it as very important because it shows the evolution of the building over time. Although I agree with that I value it less important because of the openings in the walls. We assumed that these openings were there before the building was extended, so this wall doesn't show the evolution of the building as much as the wall between the oldest and the middle part does. Therefore I valued it as medium important.

I considered all the other important features of the same level of significance as we did as a group.

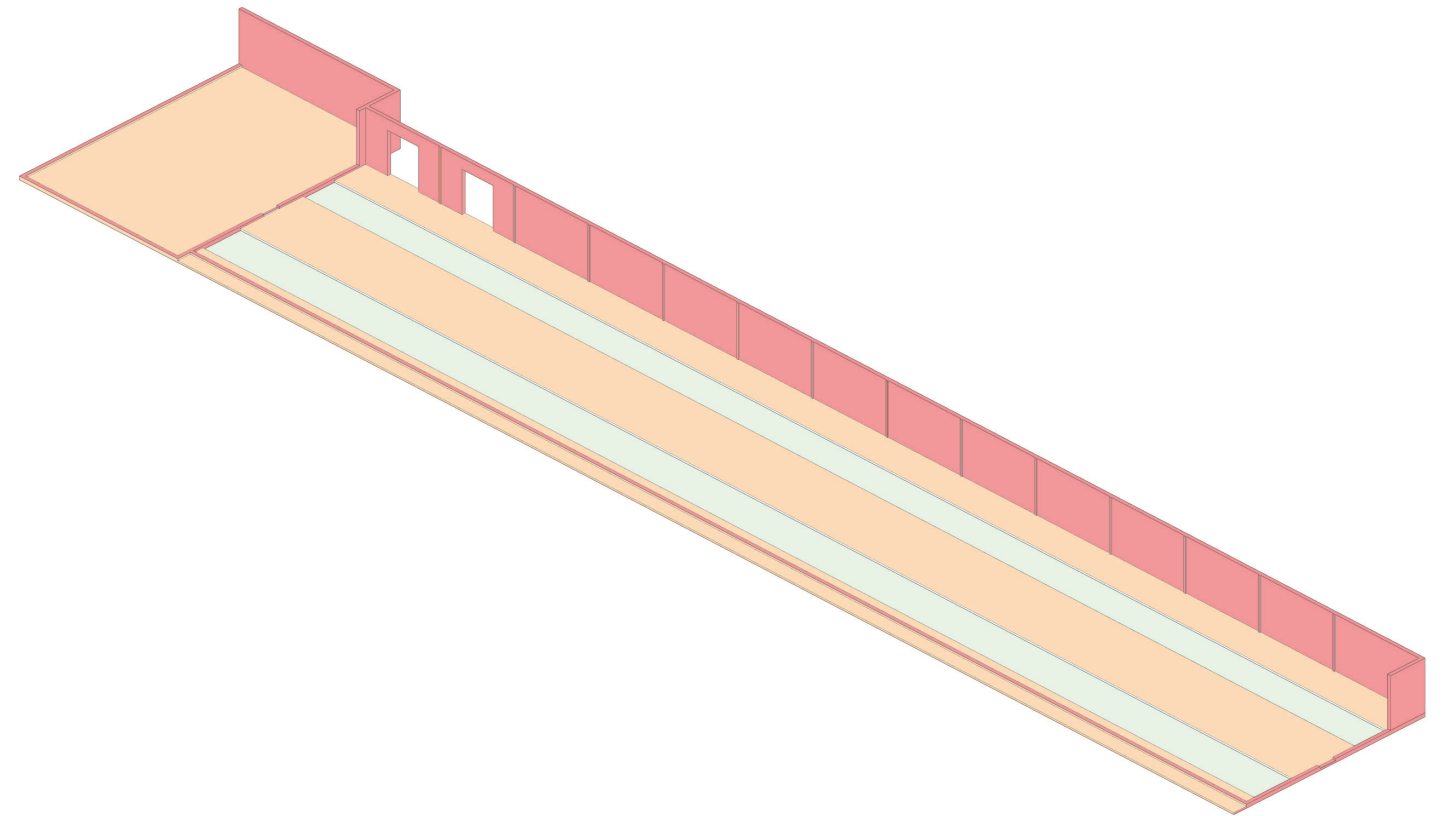


Washing hall:

For the washing hall, I gave all features the same level of significance as we did as a group. We all valued the wooden structure and the skylights as highly important. This because they have a rarity value and show the former use and age of the building.

The walls, the roof and the entrances are valued as medium important. I was in doubt whether I should have valued the entrances of highly importance because of their use value. The entrances show the heavy use of the building and therefore should be preserved. I chose to keep the medium importance level because I think that not the entrances, but the openings display the heavy use of the building. Therefore the openings should definitely be preserved and not necessarily the entrances.

We all valued the floor to be of indifferent importance as it not part of the structure of the building. However, the tiling pattern on the floor has the highest value as it displays the use of the building and therefore should be preserved.



Bicycle shed:

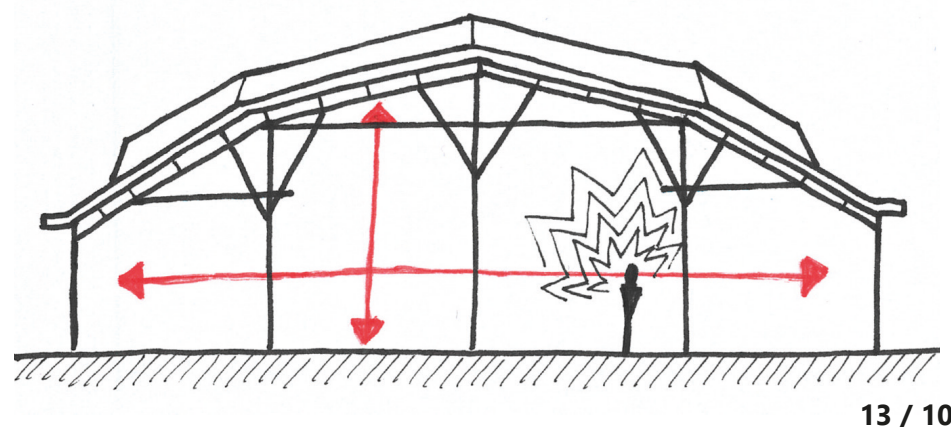
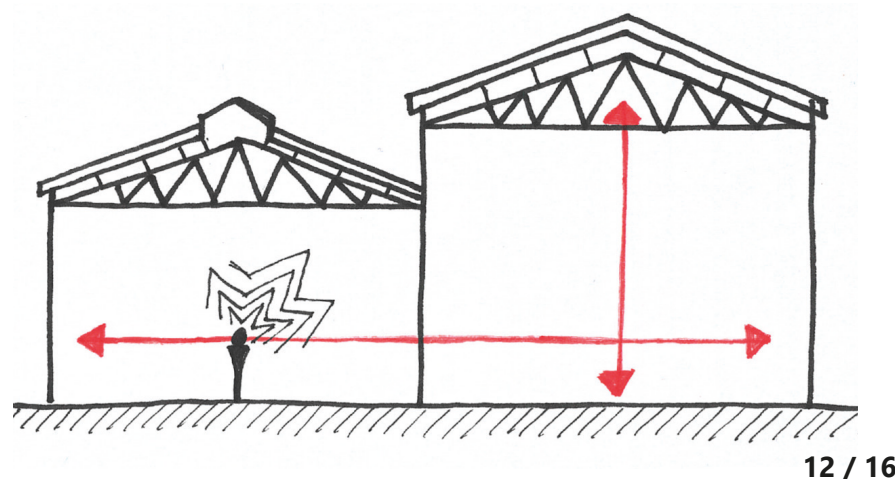
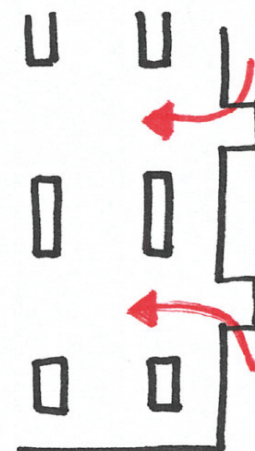
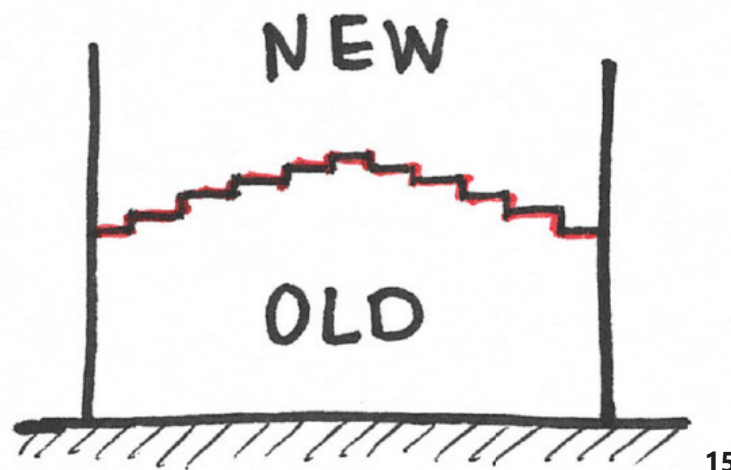
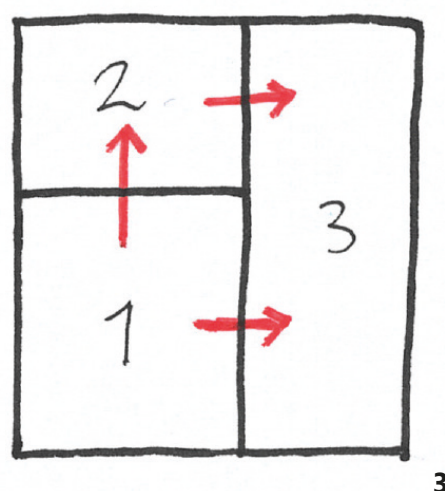
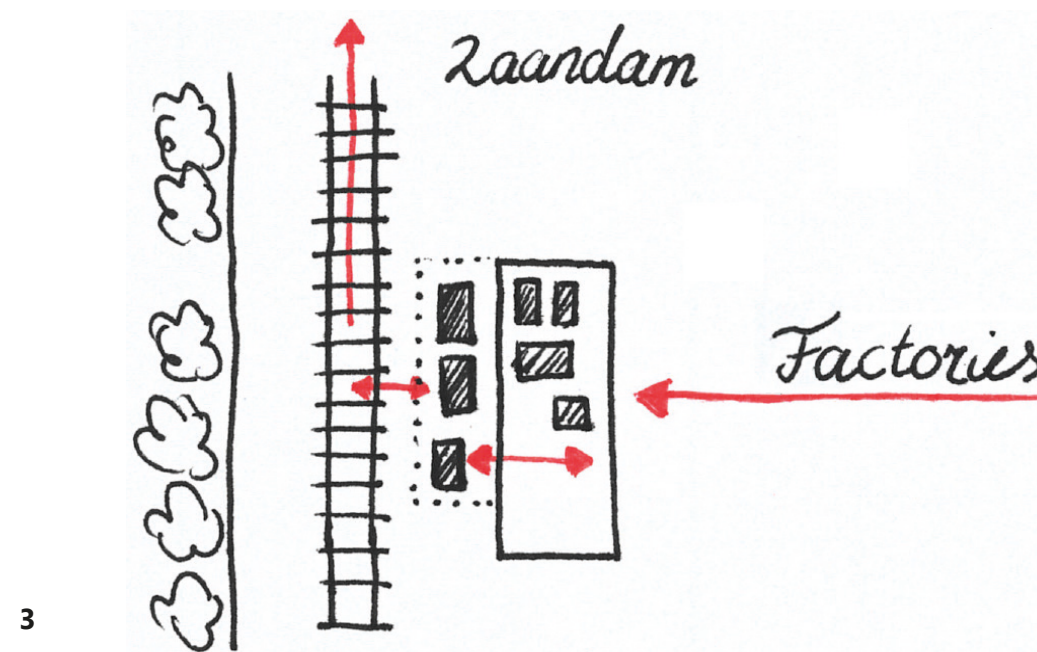
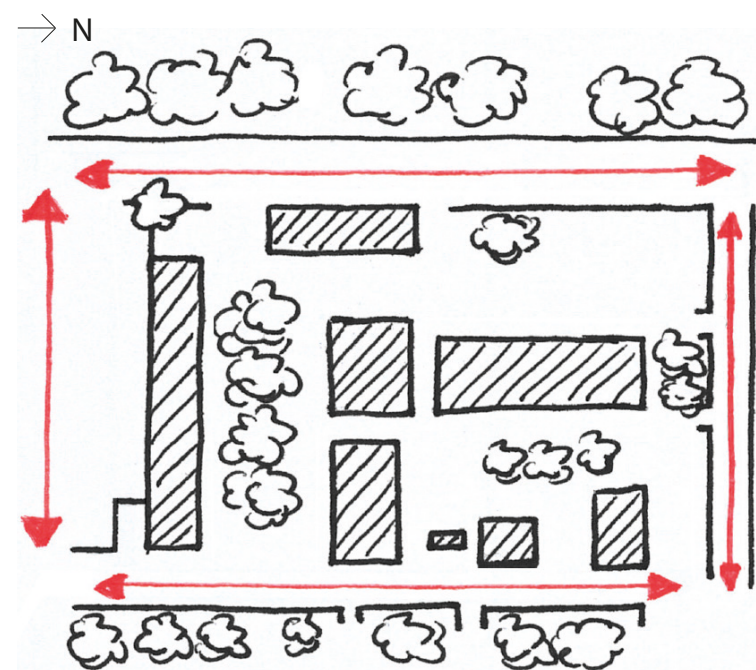
For the bicycle shed I assigned the same levels of significance to the heritage features. The valuation of this building is slightly different from the other buildings as it is not a complete building anymore but a building in decay. Therefore the remained features of the building become more important as these are the only references to its former function.

We valued the remaining wall of highly important as this wall is the only feature that shows the structure and the bonding of the building. The openings in the walls show the former use of the building and should therefore be preserved.

The concrete floors are valued as medium important as they show the use of the building. The employees walked with their bicycles and motorcycles on top of the concrete floors and parked them between the slabs. The space between the concrete slabs is valued to be of indifferent importance as this is the surface of the ground.

04 - PERSONAL STATEMENT

future of ensemble



Below I've listed the features and elements in which I have a personal interest in and why. I would like to incorporate and preserve these interests in the new design proposal. The features and elements cover all the scale levels of the site

The ensemble within the Hembrug site:

The hierarchical planning [3] of the ensemble shows the North-South and East-West orientation of the buildings and the infrastructure. These conditions are visible throughout the whole site of Hembrug and help to orientate. The ensemble is enclosed by roads, of which one was the former railway line to Zaandam, therefore the area becomes more isolated from the rest of the site.

Heat treatment building:

The heat treatment building is built in three phases [3]. This is still visible in the interior and exterior of the building. The interior walls of the heat treatment building show the age and the evolution of the building, as a new wall was built on top of the existing wall [15]. It displays the layers of time and has a historical and age value. The three different structures [12] of the building show the development of steel structures and bring character with it. They ensure the openness of the floor plan and together with the skylights [16], they ensure a light and pleasant space, giving it a use value.

Washing hall:

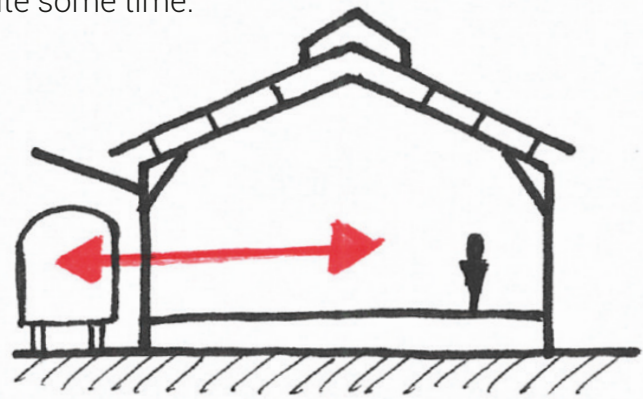
The washing hall is the only building with a wooden structure [13] that is left on the site. The choice for wood derives from the function of the building. It was a utility building, therefore it didn't need a more expensive steel structure. This feature gives the structure a rarity value. The skylights [10] of the washing hall are valued as rare as well. This is because of their distinctive shape. The structure, together with the skylights ensure an open and light space giving it a use value. The eight entrances [14] were built to let in many people at the same time and show the heavy use of the washing hall. This aspect, together with the tiling pattern, show the former layout of the hall and determine the use of it. The remained washing basins [22] show a glimpse of the past, therefore having an age and use value.

Expedition building:

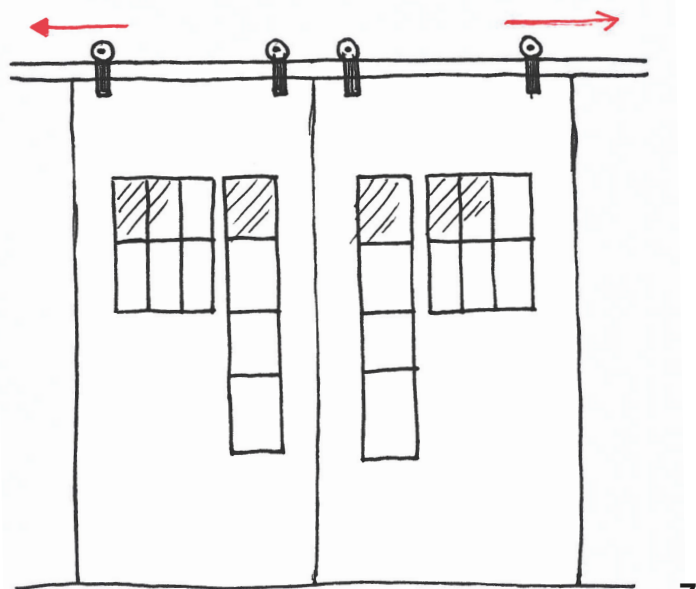
The large sliding doors [7] of the expedition building show the former function and use of the building. The building was important for the functioning of the site, as it transported the ammunition to Zaan-dam. This good were placed underneath the canopy [9] waiting to be shipped by railroad cars [4]. These features have an age value as well as an intentional commemorative value.

Bicycle shed:

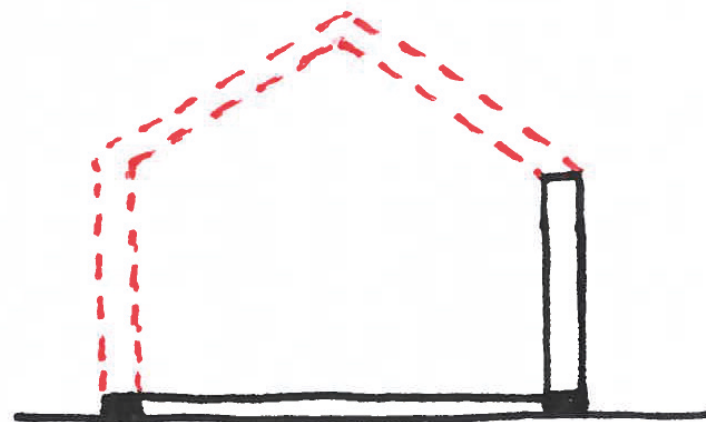
The bicycle shed is more a ruin than it is a building. only one wall and the foundation is left. This wall with steel columns [7] represents the former struc-ture of the building and is the only trace of what the building once looked like. The foundation of the shed [11] shows the resilience of the structure as it has been exposed to the weather conditions for quite some time.



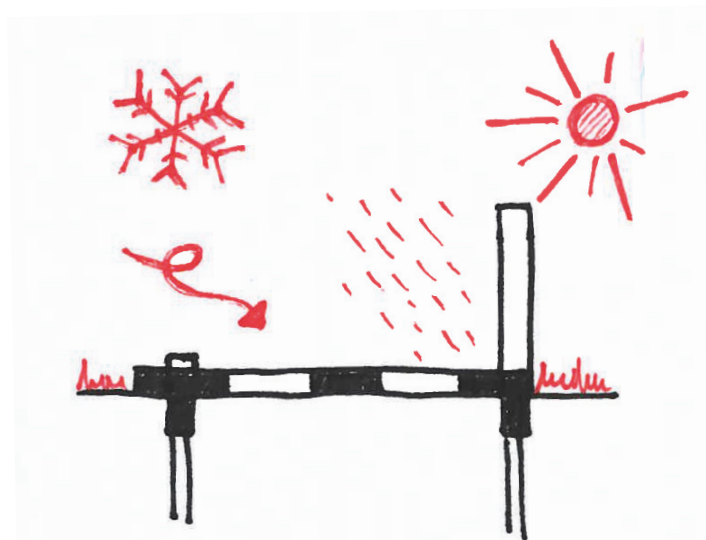
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11

Opportunities: The ensemble has potential to be re-developed as the buildings are in quite a good state. The location of the ensemble, adjacent to the water and the new entrance, gives the opportunity to play an important role in the routing towards the rest of the site; it can function as a point of departure. On the building level, opportunities come from the spatial plan created by the open structures. This gives various functions the opportunity to estab-lish themselves in the buildings. Finally, looking at the history of the ensemble, it always had a utility function, serving the employees. This social feature should be present in the redevelopment of the en-semble and by doing so, cultural-historical continu-ity will be ensured.

dilemma's & opportunities

Obligations: On the scale of the ensemble, the hier-archical structure should be kept in order to fit with the rest of the site. This means in terms of obliga-tions that all changes or additions should be in line with the North-South and East-West orientation. Furthermore, to keep the 'campus' feeling, the green zones between the buildings should be kept. On the scale of the buildings, a lot of features and ele-ments should be preserved. For example the struc-ture of the heat treatment building, the entrances of the washing hall and the canopy of the expedition building. The challenge of these obligations is to make an integrated design that respects the heri-tage features and in which new features are in line with them.

Dilemmas: Inevitable dilemmas are those concern-ing safety and the thermal comfort of the buildings. Legislations are stricter nowadays than when these buildings were built. Ensuring thermal comfort will create dilemmas especially when the interior and exterior walls are of a high value as is the case for the heat treatment building. Also the height of the windows of the washing hall will cause a dilemma as they are placed above eye level. This was neces-sary for the privacy in the past, but will create a dis-connection with outside nowadays.

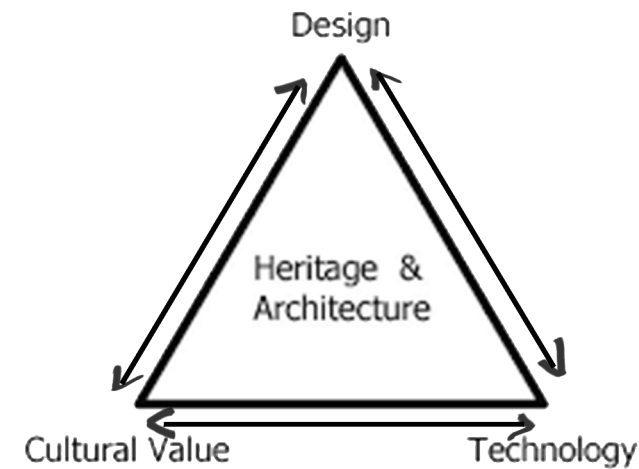
Position statement:

Campus South has a lot of heritage values which should be preserved. This brings several obliga-tions and dilemmas. The strategy is to preserve ir-replaceable heritage values, such as the spatial layout of the ensemble or the structures of the buildings, and add carefully designed interventions like new floors. The most important feature that should be preserved is the narrative of the ensemble and how it was used. The challenge lies in finding the right balance between conservation, restoration and adding something new.

CONCLUSION

where do architecture, building technology and cultural value meet?

By addressing the general information of the site, one gathers enough information about the location. Further into the analysis, the research delves deeper into detail. It first started of with a bigger scale of architectural design and through building technology the scale becomes smaller. Some elements pop up in all the components (architectural design, building technology and cultural value).



When designing with heritage, there are three components which have to be taken into account in order to make revitalisation possible. These are (architectural) design, building technology and cultural value (Meurs, 2016). Meurs (2016) addresses in Heritage-based design the triangle in a way in which the cultural value and building technology are the basis for a design process. However, before the design process, this triangle can also be used for analysing the existing building.

The three components influence each other which is shown in the illustration. For example, a certain type of structure could be rare which adds to the cultural value and at the same time it could have an effect on the architectural design.

On the right an example is given in which the three components come together. The washing hall is taken as an example.

The wooden structure of the washing hall is a smart design which makes it possible for the columns to be thin. There are no further columns needed, because the forces are better distributed, creating a large space that contributes to the architectural design.

Conclusion:

-When it comes to architectural design, Campus South has different typologies of buildings and each represent their functions. Campus North has large production halls and warehouses, whereas Campus South is more in proportion to the human scale because of the utility functions.

- Looking at building technology; structures derive

from the functions of the buildings. For example, this can be seen in the heat treatment building, in which a large span was created for the big ovens.

- Looking at cultural value: Campus South has gone through a lot of changes over time, such as the development of the former railroad and the rising and disappearing of buildings through time. The cultural values occur through all scale levels and determine the irreplaceable heritage values which should be taken into account when diving into the design process.

To come back to the research question; Campus South is part of the Campus but distinguishes itself from Campus North with different typologies and an open layout. Campus South contributed to the functioning of the weapon factory by distributing goods and people in and out of the terrain.



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conversation with a mister



Fitr Hans, Rick, Bob, Willem, Cor, Jan, Piet and Martin.

"We have been renovating/restoring this fire truck for 12 years with a team of 8 old firemen. Unfortunately Jos told us we have to go out of Hembrug, which is a pity.... Oh well... But yes, Hembrug is a beautiful site. So much history. They made weapons and ammunition here. Back in the day you could not enter the site via the roundabout. It was only made three years ago. They used to come here by train which went over the water via the bridge, Hembrug -you can still see a part of it on the terrain next to Flinders! Then you had to walk down the stairs and from the waterfront you could enter the terrain where you worked. Some workers who lived in the area came by bike. When you wanted to enter the terrain, there was a big gate. A doorkeeper with a big weapon in his hand checked everyone who came in. When you wanted to leave the terrain, the doorkeeper would inspect you thoroughly. Especially if you made ammunition, they made sure you did not take any with you outside.... It is a pity, however,... they are demolishing buildings now. They say they clean up the Plofbos but why would you demolish so many buildings? They're probably just making room for a residential area".

Hans.

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story about Hembrug

"I was a 15 year old boy when I just started working at the department of agriculture for only 8 cents an hour. I was just done with school and just after the war all craft schools were full and I could not get placed anywhere. Until my neighbour Van der Bernd, who was a supervisor at Hembrug told me I could join their department. And so it happens that I was milling the slots in the crown nuts of the agricultural trailers in a large hall. In the beginning it did not go all well. I was used to the free life in Oostzaan and now I had to wake up at seven o'clock in the morning and had to bike to Zaandam to begin at eight o'clock. After a while I would earn 12 cents an hour. The hall was made very solid but there was a lot of noise of all the machines and I handled these. If the big drive belt would break once in a while, an immense silence filled the large hall. The 'moffen' (Germans) transported everything which was still okay to Germany; even the central heating. That is why we were standing with braziers in the factory; this was not too long because they quickly fixed the heating. Ice in the coolant was not desirable. At that time you would get extra food stamps because of the hard industry and also an overall and / or a watch. Through time because of the Marshall help we got equipped with new machines (lathes and turret lathes). They were mostly British machines of the brands Ward, Herbert, etcetera. With these the production could get higher because there were also better chip tools."

"In the beginning I mostly had to be at the forgery. There was one Mister Jonker and he molded the most beautiful chisels which he after hardened in oil. Yes, we worked 48 hours at that time so also on Saturday until 12:30 hours. We would get 6 vacation days and 6 days off. Yes, because the Netherlands re-arose and everybody had to work hard for that. Behind a small lathe was Mister Lassie, he walked in a leather corset. That man worked everyday although he got hit into destruction pretty badly by the occupier. I have never heard him complain, it could not be any different and above all he was not even the only one, there were more people in the then agriculture. That was the name of the department at that time. All sorts of things were made; hoeing

machines, sowing-machines, hay rakes, farm trailers, ploughs, etcetera. If I was at home at 6 o'clock then it was 4 days in the week having quickly some dinner and then washing and changing clothes. Then again on the bike to the craft school from 7 until 10, for 5 years and about 8 months a year. This to have the necessary knowledge of theory. That is how I started my career in the then very dynamic company. About 3200 men were working there at the artillery revision, gun revision, the bench vice factory, the foundry, the AGW 1 and 2 where metal-working machines were made, the forgery, the heat treatment building, the lab and other departments and warehouses. There was also the health service which was underground in an old underground shelter with steel doors. If you would come there for the dentist you could hear the teeth fall into buckets outside of the door; that is how noisy it was. During the day two nurses were walking around. The w.c. was outside in a small building with 12 wooden doors. These were placed at several buildings. The doors were only half doors through which you could see if someone would smoke, that was strictly forbidden. There were many underground shelters at the terrain. I could remember that we as boys once during break were walking on the terrain and saw one Luuk getting in there with one of the office ladies and how they closed the doors behind them. Some would use these differently and brought hay with them, set it on fire and threw it through ventilation holes. The consequence of this was that they would check thoroughly during the afternoons. During the summer we would sit along the canal or walked up to the ferry."

"After three years in agriculture I have worked a half year in the revision with Buter. There we started to revise and modernise old stans presses from England. Those presses were meant to start a small munition factory. Later on, presses would come in from Germany, those were more modern but also half worn out because when there was a shortage of copper, steel cartridges would be pressed. When we were done with the presses I had to go back to agriculture. There a department for stamps and molds for small munition were realized.

Thanks to Sir Soetterhuis I became a turning machinist again together with a lot of colleagues who just returned from 'Indië', Bos, Baak, Wiersma, Van Tuune, and so on. But at one time, you want to earn more money. Then I made a test at the school and that is how I got in a higher department. At the artillery revision was a turning machinist ill and people asked me if I could fill in for about 8 weeks. When the man returned I could go back to my own department. This was not for long because they needed a turning machinist for the tools manufacture. That meant you had to make tools but also tests at school, often one piece. There I worked across from an office window where the mechanical engineer the Sir Brand was sitting together with another man named Vezon. Those two are in a fight for centuries. It would take a long while before they could retire. The supervisor was Gerd Held. You worked there with all kinds of professionals, such a man, Mister Hoekstra, Gert Keet and Joop Haak. The latter two became teacher at the company school. But I was 25 years old and wanted to earn more money. That was impossible because I was too young. You had to be at least 26 years old to become a part of department 1. I however, became bench author in the AGW 1. You would get 15% more salary. There was no other option so I became the bench author and Jan van Leeuwen was the supervisor and other high staff. A lot changed suddenly. I could not eat my bread in the personnel canteen. No, I would have to go to the officers canteen with a nicely set table with complete knife and fork. I also had to go once in a while to the office of labour psychology."

"But now, something else because there is happened a lot in all those years. To name something: the new foundry, the most modern one in the Netherlands, has run a moment on full mode but was out of use later on as a result of the protests of the business world. Our new .50 and small munition factory. The most modern one of Europe is closed and sold to 'Dynamiet Novel'. The new machine gun AR10. There were made 3000 of it for Greece and 3000 for Portugal. Then at one point it was not allowed anymore because the Netherlands chose for the FN machine gun."

"We had in the 'GA' an enlarger device of Carl Seis, a real good thing. But there were people who promised themselves a vacation to buy a new one in England. Now yes, you could work with it after a couple adjustments but after that everything was said and done. It was a piece of antique! Then you had in the past beyond the Zaan - North Sea Canal a navy silo. Anyhow, that is what they named it. It was full of old unused machines. At a certain day one of these old machines was sold for a low price to the machine shop Voet (Foeth). When they found out that they needed some of the machines they had to pay tripe to get them back. And then I even did not talk about the members of the lower Houses. Now and then a delegation came. And they would announce that all the stuff we would make kills people and that that should not be the case. But in the meantime people forgot that you could not equippe the soldiers with wooden sticks!!!! Then the ingeneers, the one after the other would get their friend into the company, but of they were competent? Otherwise they would have modernised the lathes and milling machines. They were well on their way with the DR200 stepless, but too late for the Numerical Control happenings."

"On the other hand, the old core employees of Hembrug possessed an amazing craftsmanship. If you walked through the projectiles turning shop, you sometimes would see 5 chisels processing the future projectile simultaneously. Furthermore, high-frequency heating was used to point the casting. Grenades were made out of a square piece of steel and the big casting for ship artillery were pressed out of a round copper sheets. Imagine how that would have sound like! It is such a shame that our government destroyed the AI. They robbed the AGW2; everything that was valuable such as taps and radiators were taken. This all because we so desperately needed to nationalise. Later on the machine production was taken over by Figuee in Haarlem. The agriculture machine hall, later the weapon factory, was a great building with thick walls and a saw tooth shaped roof. In the summer it was perfectly cool and in the winter it was nicely warm. It is now fully demolished what is shame as I had many valuable memories of the building. The tensile

strength tester on which 100.000 sten guns were produced made use of oil and later on trichloride to smoothen the trigger. The trichloride damps made the employees high so an enormous suction vent was placed. There was also a part separated by a glass wall. Behind the glass, 5 employees or such were polishing parts with polishing discs. They were not allowed to smoke so they used chewing tobacco. Once in a while they spit the tobacco precisely in the sawdust basket what sometimes was 2 meters away. It is true, I saw it myself."

"Something else I have seen at that time which is less likable, was that people who were members of the EVC were taken away from the machines and got fired on the spot. The EVC (Eenheids Vak Central) was a Dutch labour union federation affiliated to the Communistic Party Netherland (CPN), which existed from 1944 until 1964. As central contact body the EVC published the magazine "Werkend Nederland" (working Netherlands). The possession and / or distribution of parts of this, member or no member, was reason enough to get fired. So have I seen many good and hard working colleagues who left."

"I can still see those people in coarse white suits, their faces sometimes yellow-orange as a result of the filling of the granates with trotyl. Sometimes I was in the woods, buildings stood there with loose laying roofs and they were surrounded by earth walls. On top of the buildings was a network of copper wires for protection against lightningstrike. There the explosive experts stayed in a beautiful environment with all sorts of birds. You actually were not allowed to go there but I had to make parts for an Indonesian engineer, Mister Mantel. That man worked there on a shock tube for 3 cm granates. I would also come sometimes in the heat treatment building, where they hardened materials in big pots with melted salts. The temperature of the pots were held at around 500 to 800 degrees celsius. So much could be seen over there. But after 15 years at the AI, a job as bench author was was offered to me at the DIF. A machine factory which made clamping tools for various companies. I could earn fl.

10,- more in a week. With a family I could not let this offer go, despite the good future prospects that I could have according to an engineer at the AI. I have worked 3 years at the DIF but I had to confess that it was not all that easy sometimes. Because you would get people there who were gardeners and it was my task to teach them the profession of the milling machinist or metal turner. Those people did the stupidest things and I, together with 2 other colleagues, had to clean their mess up. The last 25 years, I was a chief at the firm Meijn, a company of slaughter equipment for poultry."

"But I must relieve my heart by saying it would be a terrible pity if they would fill the Hembrug terrains with houses. Such a beautiful terrain is appropriate for heavy industry."

- Goos Vonk (09-06-1932), a former employee

Source: PDKAIH. (2017). De artillerie inrichtingen Hembrug Zaandam 1947. Retrieved March 4, 2019 from: <https://artillerieinrichtingenhembrug.wordpress.com/tag/harderij/>

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state of building 2009- washing hall

Source: Van Rijn, J.



Source: Van Rijn, J.

state of building 2008, 2009, 2012 - heat treatment building



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explanation levels of significance - sophie luyckx

Ensemble:

Red:

- *Openness & relation of the buildings- sense of unity.*
The freestanding buildings are surrounded by green, like a campus. This is of new-ness value of the ensemble, because the open fields appear very straight and well maintained.
The sense of unity: When you visit the site a pleasant, quiet feeling is created by the greenery, the sound of the boats passing by, the waves hitting the quay, the chirping of the birds and the human scale of the buildings. In some way the buildings seem to form a relation with each other, with the green plot in the centre. This relation is of atmospheric value to the ensemble.
This openness and sense of unity need to be preserved.

The buildings are placed on their own without directly connecting to one another. Between most of the buildings are green fields. This all together gives it a campus like feeling. Some green fields on Campus South were actually the exact places where buildings stood. They show the development through history of this particular place.

- *Entrances*
The existing entrances are of historical value. The entrances of the old weapon factory, that can still be find on our ensemble show a part of the history of the place. The employees of the Artillery had to pass by heavy security at the gates and parked their bikes after which they started their day at the washing hall.

The long straight road (Verloren spoor) is now an entrance to the site Hembrug. However, in the past this used to be a railroad. This road is a part of the history, of the logistical development of Hembrug.
- *Sightlines.*
This particular location has view on the Noordzeekanaal and has a road which used to be a railroad. These pathways in N-Z direction work as sightlines. Also, the buildings (expedition building, heat treatment building, washing hall, ruin of bicycle shed) are clearly visible from most angles which makes the orientation easier. You know where you are in the area. The lines of sight provide for orientation. This is of new-ness value to the ensemble, because the pathways that work as sightlines are well maintained and appear new to the site.
- *The water.*
The water is part of the historical context, and therefore of historical value. A part of the employees came by boat or by train to the Hembrug site and entered the ensemble by the waterfront. In addition, the water is part of the atmosphere of the ensemble, and therefore of atmospheric value . When you are close to the water you feel calm, you hear the boats pass by and the waves hitting the quay. However, the relation to the water can be strengthened. Now it is blocked by the residences. The entrances / sightlines and sound form the connection.

Slightly less valuable: **orange:** contribute less to the essence of the ensemble

- Are the *walls* of the old entrance itself, because they block the view and connection to the water. They are part of the history of the entrance, that’s why they are of value.
- *Hembrug consists of a hierarchical functional planning. / residences*
Representative buildings were placed on the waterfront. Behind it, the production halls. The warehouses were placed behind the production halls. There was a functional tripletion of the Hembrug terrain as well. These were the weapon, pattern and ammunition factory. The *residences* on the waterfront are still part of this hierarchical functional planning, and therefore of historical value.
- *Road network*
Is of historical value, buildings were placed in N-S direction and the steam pipes were W-E oriented. Still a big part of the road network exists, which had a great amount of logic behind it since they used to have a narrow railroad system.

Washing hall:

Red:

- The most important element of this building is the *wooden structure*.
The wooden structure is of atmospheric value: It gives the room a certain atmosphere and reminds you of an old stable. The structure is very thin, which provides a very open spatial area. It is as well the only wooden structure left on the whole site of Hembrug, and therefore of rarity value.

The three washing basins , the entrances and the layout of the floor are of great value as well, because they visualise the old function and use of the building.

- *The three washing basins*
Why: they visualise the old function and use of the building, therefore they are of use value.
The washing basins were clearly placed on the red tiles which had space for 6 or 12 men to wash themselves. They date from the beginning of the building and are therefore of age value.
The remaining basins show how they looked like. These three remaining washing basins are rare in the area. First and foremost, other washing halls on the site used round washing basins and were differently divided into the space plan. These washing basins are rectangular and therefore have a rarity value.
- *The eight entrances*
Why: They visualise the old function and use of the building, therefore they are of use value.
On both sides of the building were four entrances which were each divided by two doors. In this way a big group of employees could enter the building all at once.
- *The layout of the floor.*
They are of use value because they visualise the old function and use of the building. Looking at the space plan of the washing hall, it is clearly adapted to the function it had. It had over 700 lockers and there was room for 192 men to wash themselves. In the layout can be seen where the washing basins and lockers would be situated. This gives you an idea of how the building was used.
- *The caterpillar lanterns.*
The caterpillar lanterns on the washing hall seem very rare looking at the whole Hembrug site. Many building have skylights, but not in the shape of a caterpillar. This is why they are of rarity value. They contribute to the atmosphere of the building, which is very. This is due to the caterpillar lanterns, which provide a lot of daylight entering the building. So, therefore they are in addition of atmospheric value. They are also of use and new-ness value, because they are part of the ventilation system of the building. It is extraordinary how it was possible at the time to combine light with a ventilation system.

Atmosphere: Because of such a thin wooden structure and the caterpillar lanterns, it feels so open, warm, welcoming, pleasant and light. An harmonious place.

Orange: contribute less to the essence of the washing hall

- *The tiles* are of age value, most of them are broken which make it look old and used. They show the age of the building, they raise the impression that the building was heavily used. The floor is sunken and in bad shape, the layout is the most important and needs to be remained. The washing basins were clearly placed on the red tiles.
- *The small concrete window frames.*
The small and high concrete window frames represent the function of the washing hall, and are therefore of use value. They were placed very high which made it possible for the ones who washed and changed there to have some privacy. This makes the facade look very closed from the outside. It is less valuable, because the material is not original anymore. – it has been restored.

Green (indifferent):

- *The walls of the building.*
The walls are not loadbearing and to prevent problems to make openings inside the façade.
- *The floor* – it is in bad shape, it is sunken in between 17-26 cm. This needs to be renewed.

Heat treatment building:

Red:

- *The roughness*
The roughness shown on the inside represents the essence of the building and is of atmospheric value. The rough bricks, old traces and deposit on the walls, rusted elements and holes where pipes went through, show the function of the building and the labour by the workers. The inside of the heat treatment building knows many colours. The first one was red, after that green and then white/off-white. The first two colours were mainly on the steel doors and columns/beams.

Other important values are the **tripleton**, which visualises the phases in which the building is built shown by interior walls and steel roof construction, the brick and steel construction, the **small and high windows** and the **old tiles** on the walls which contribute to the atmosphere and function of the building.

- *The tripleton.*
Is of historical value, it visualises the phases in which the building is built. This can be seen by the *three interior walls* and the steel roof construction. The interior walls of the heat treatment building show its age more clearly than the outer walls. Some interior walls were former exterior walls. This shows the layers of the building throughout time.
- *The brick and steel construction.*
Why: atmosphere and age value. The brick is load bearing.
The structure of the heat treatment building consists mostly of load bearing brick walls. This type of structure is old because it was mainly used before the industrial revolution. This makes it so special. The steel roof construction shows the tripleton of the building. Each building has its own steel roof structure and own grid.
- *Small and high windows*
Why: contribute to the atmosphere, and are of historical and use value.
Most window frames have a certain division which is not seen nowadays. In the past windows could not be a big piece of glass. One window consisted of multiple pieces of glass. These windows represent our past; where we came from architecturally/technically. And a part of the windows are part of the ventilation system of the building. Warm air goes up and went out of the open windows.
- *Old tiles on the wall*
Why; they contribute to the atmosphere and function of the building, they are of atmosphere and use value. The walls which had brown-orange tiles on it were once painted white. Now they are visible again. These tiles were very old and might only be on the walls until 1,5 meters high because of the function it might have had. It was easier the clean because the tiles were smooth. The orange colour gives an association with the building.

Atmosphere: On the inside the heat treatment building shows a roughness. Not only physically but also atmospherically. The rough bricks, not all neat anymore, black deposit on walls, steel beams cut through, holes in the walls where pipes went through. This all resembles the labour which happened here years ago, the real function of the heat treatment building.

Orange: contribute less to the essence of the heat treatment building

- *The bonding*
The skin of the building tells a historical story and is of historical value. All the walls of the buildings were made of brickwork. These masonry walls have a certain bonding. These bondings tells a story about the restoration of the building, because certain bondings were used through certain periods of time. It is then, that you can know which wall was maybe restored, completely rebuild later on or was just the original one. However, this is slightly less valuable, because other values contribute better/stronger to the essence of the building. Among other things, because the outer façade has been restored, and is not original.
- Many *cables and pipes* are still visible in the heat treatment building and are of age and atmospheric value. It is a part of the services system of the building when it was still in use. Most of them are corroded, snapped off the walls or half intact. They contribute to the rough atmosphere. However, not all of them need to be reserved.
- The *rusted doors* of the heat treatment building show the circumstances, in which they went through and are of age an non intended commemorative value. Maybe the doors exist from the beginning of time, of the existence of the building. Looking at the condition of the doors, they might be very old. They are not in use anymore. Now they represents the function they had. The doors have been neglected and keep reminding us of how long the building stood there and how people would enter or exit the heat treatment building.

- *Floor.*
Of historical value, because you can see some traces of the interior layout. Where some machines have been standing.

Green:

- The *renovated walls* are indifferent. They have a different appearance than the rest of the walls. (no traces of white paint) and do not contribute to the rough atmosphere.
- *Roofs*
The roofs are indifferent, because they are made of transparent corrugated sheets. Just for waterproofing the building. They do not contribute to the essence of the building.

Expedition building:

Red:

- The big sliding **doors, cantilever** and **openings** of the facade indicate the use of the building and its relation to its surroundings, they are of use value, the doors of age value as well. The lower windows are placed by the office and the double doors, high windows and cantilever are situated where the goods arrived and were stored. The cantilever was part of the process. When the goods came out of the train they were temporarily stored under the cantilever protected from the rain. Furthermore, the big steel/iron window frames are very notable in the facade. It makes it look very open. The employees needed to look out of the window to see which train or what goods are coming so they are aware of when or what they might have to do. The doors are not only showing the use of the building, but also the age of the building. Nowadays you don’t see this type of doors so often. These big sliding doors are renovated, however still show some corroded parts.
- *The Skylight.*
Why: the skylight is of exterior use value because of its use for getting more daylight into the building, and the effect it has on the interior. The sun-roof is a commonly used element on the site of Hembrug. The light that enters the expedition building contributes to the pleasant atmosphere and comfort for future uses of the building, and therefore of atmospheric value.
- The *space plan* of the expedition building is of use value, it shows the two functions of the building. It was on the one hand an office and on the other hand a storage location. The office is put higher which gave the employees a good overview on the goods and also on what is coming in via the railroad.

Orange: contribute less to the essence of the expedition building

- *The steel construction.*
Steel construction is of historical value, because it was a typical architectural military building style of that period of time. It is also part of the atmosphere of the building and slightly of atmospheric value. – the construction is more modern looking compared to the other buildings on the ensemble. However, it looks really new and is not original, so that’s why it is less valuable.

- The brickwork in the expedition building appears rigid and sleek of surface. It also has a different ornamental brickwork *bonding*. It contributes to the neat atmosphere of the building and therefore of atmospheric value.

Green:

- A *railroad wagon* was placed right next to the expedition building. It shows how the railroad used to be there and how it had a relation with the expedition building. It is not of great value, because the railroad was not located at this exact spot, so it must be placed there on purpose. And it is probably not original. The wagon is therefore of intentional commemorative value. The wagon is blocking the big sliding doors, and can be a problem when these doors will be put back into use. The train wagon could possible be moved.

Bicycle shed:

You experience the site as a ruin, you see a massive trace of a building and imagine what this building has looked like. The now ruin, was part of one of the entrances of the Hembrug site. Where the people coming by bike would enter. At the east side of the wall, where the employees could enter from the waterfront there are still some openings in the wall that could have been the entry to the building. Even though it looks like a ruin with corroded steel columns, it is an enjoyable location. If you pass the expedition building and look to the left, the remaining structure will attract your attention. The wall, with corroded steel columns must remain.

- The *old wall* with corroded steel columns, is more valuable than the green colour we gave this value with the group, because the old wall resembles the past. It is old and shows a part of the building that was once there and can be part of something new. The wall is of historical value. The *foundation* is as well important, because of historical value, it resembles and visualizes the old building. Because of the foundation you imagine what was once there, however the foundation is not in good shape and can be a problem when designing something new. So, it does not need to be fully remained, only the outlines.

05 - APPENDIX

explanation levels of significance - soumaya boujamaa

Personal values for appendix

Site

Campus south is given this name because it has buildings which are free standing from each other surrounded by green fields. This is the main characteristic of this ensemble which is valued higher than the other open space. Also the former railroad which has a sightline on the water helps one to orientate which is of importance on such a big terrain. The area around the expedition building used to be an important part of the Hembrug terrain together with the former bicycle shed which also was an entrance to the weapon factory. However these are positive valued compared to open space and sightline on water. The forest like part on the other side of the former railroad is insignificant. It now looks as a world on itself and as a border between Hembrug and the outside world.

Bicycle shed

The former bicycle shed used to function also as an entrance to the weapon factory. The entrance to this ensemble is valued higher than the walls themselves because it is the thought about being it an entrance than the physical elements of it. However, the physical remains are not insignificant because without these remains we would not have known that a building stood here and integrated entrances to the weapon factory.

Expedition building

The openings in the facade on the side of the former railroad show the former function of this particular building. Nowadays this building is one of the first ones one would see when entering the ensemble. The openings make the building look accessible and welcoming to the ensemble.

The cantilever is also valued high together with the railroad car which both show the connection between the former railroad and the storage unit in the expedition building. Goods would arrive or leave here. The train would stop here and if goods are coming in, the goods would be unloaded from the railroad cars and put under the cantilever temporarily. They most likely unloaded everything and put it under the cantilever before the goods were stored temporarily in the building and spread over the whole Hembrug terrain.

The skylight makes the building look lighter and feel pleasant from the inside. Also, many buildings on the Hembrug terrain had or have these skylights which makes it typical for the site and makes the building belong here.

The structure and the brickwork is valued positively but less than the above mentioned ones. The brickwork on the in- and outside have various kinds of brickwork bonding including ornamental ones which makes the building vivid and look interesting. The structure is not very rare but it resembles the industrial and military era of the Hembrug terrain which does not make it insignificant.

The floor however, which is there now, is valued as insignificant. It does not add something to the former use or main character of the building. However, the concrete foundation which is not visible, is of a high value because it does not have piles because this building is situated on the former peninsula.

Heat treatment building

The buildings' main character is the roughness which show the hard and dangerous labour the employees did back in the day. Not only here but the building represents the tough circumstances in which the employees worked over the whole terrain. This is why the rough walls, floors and cables, etc. are of a high value. It gives the true essence of the work at the Hembrug terrain.

The heat treatment building was built in three phases which is not clearly visible on the outside but it is on the inside. The inner walls in the middle were once the facades. Some have been cut through and of some doors are demolished which make it just openings in the walls. The buildings' history - the timeline - of how it developed itself is still visible in these walls. This timeline together with these load bearing brickwork walls which are not usual nowadays (historical value when it comes to structure) make it of a high value.

The second, square part of the whole heat treatment building is also valued high when it comes to being a high and large open space. It looks very different from the rest but this was because of the very large barrels which stood there and probably had a height over at least four meters. This height represents the former use with an extra floor which was once there where employees could reach the barrels on a high level.

The floor in the second part is of a high value because of the lower part in it where the large barrels stood. Other floors and walls are positively valued because of the brickwork structure which was a common structure in the past but which is not applied nowadays. The steel roof structure is also valued positively because of the industrial and military function of the area. The outer walls of the first part of the heat treatment building are considered insignificant. It is not merely focussed on being not the original walls. The walls have been replaced once which makes it look like the second part is the oldest one because that brickwork has gotten dark over time due to i.a. the weather. This now does not show what the true development was of this building.

Washing wall

The character of the washing hall is that of a barn. The wooden structure and the specific shape of it make that character. The wooden structure is specifically of high value because it is the only building left on the terrain which has a completely wooden structure.

The space plan and the remaining washing basins are also of a high value because they both show the former function; the history of the building. The space plan is very different compared to former washing halls which makes it rare thus of high value. Also, most washing basins had a different shape than the rectangular ones which make these rare.

The entrances show how many employees all at once entered the building and how functional these were to get a large group of employees all at once inside the building.

However, the focus is then more on how the space is divided inside – where the employees exactly had their lockers and where they changed and washed themselves - and not on the entrances or exits. Therefore the entrances do not get the same value as the space plan.

The caterpillar lanterns strengthen the effect which the wooden structure already gives to the space. It looks spacious and this is due to first the thin wooden structure and then together with the sunlight which enters the building through the caterpillar lanterns.

The walls and floor of the building are insignificant. The walls and floor are already full with cracks and should be replaced soon. The wall exists of brickwork which is built in one layer. It is not loadbearing but only functions as a cover for the building. The floor itself is in such a bad condition that it needs to be replaced because it is not safe anymore.

