



ADAPTIVE DECAY: Investigating
ruins through architectural filming

Gustav Erlandsson

2025

Architecture and Urban design
Chalmers School of Architecture
Department of Architecture &
Civil Engineering
Examine: Daniel Norell
Supervisor: Sara Olsson



MASTER THESIS

TITLE	ADAPTIVE DECAY: Investigating ruins through architectural filming
NAME	Gustav Erlandsson
YEAR	2025
PROGRAM	Architecture and Urban Design
DIRECTION	Architecture Experimentation: Before and after building
SCHOOL	Chalmers
EXAMINER	Daniel Norell
SUPERVISOR	Sara Olsson

Thanks you to,

Sara for all the support,
Daniel for his comments and help during
the project plan phase,
Mattias and Oskar for all the discussions
and Otto for being a good dog.

Abstract

In the mid-19th century, the sawmill industry in Ådalen experienced a significant boom, with numerous sawmills operating in the area. One of these was the Köja sawmill, notable for being the first in the region to feature a steam-powered saw. However, as time passed, economic conditions worsened, leading to the sawmill's closure in 1940. Over the decades, the building has deteriorated, with its facade developing holes, and its windows losing all their glass. The only remaining building is the engine house, along with part of the foundation of the sawmill where the timber was cut.

The documentation highlights and visualizes the aesthetic elements of a ruin and its essential characteristics through Tim Edensor's *Industrial Ruins* and Christopher Bretecher's *Abandoned Potential* conceptual framework. The design approach incorporates Jonathan Hill's concept which suggests that the design process should integrate new fragments with the old, creating a palimpsest of layers. These layers should not only coexist but actively interact, evolving as a living entity. The design strategy focuses on preserving the ruin's aesthetics while simultaneously introducing new materials and functions.

Proposal for Köja ruin is a space where the ruin is both preserved for the future and allowed to continue its natural decay. This dual approach is achieved by designating a portion of the ruin where no interventions are made, allowing the decay to unfold naturally. This process serves as a way to interpret and contextualize the site's history and future. Preservation, on the other hand, is realized by repurposing the ruin into a ruin experience centre. The proposal is presented through conventional architectural drawings as well as a film. The film helps the viewer understand the different spatial, conceptual layers and nuances that Köja ruins has with a structural sequence of, showing the existing ruin, its construction, the proposed transformation and a speculative future scenario. This project contributes to a deeper understanding of how we can repurpose the ruins but still keep its characteristics.

“How can a ruin be investigated through filming?”

“How can a ruin's aesthetics and process of decay be preserved when re-adapted?”

Keywords: Decay, ruins, film



Figure 1: Köja sawmill 1873

Table of contents

Introduction	9
Drawings	12
Images	21
Discussion	
Problem description	27
Sustainable development	28
Delimitations	28
Research questions and aim	29
Theory	30
Reference: Pc Caritas	34
Reference: Antivilla	36
Methods	38
The film	40
Proposal	42
Boiler room	
Blacksmith	
Beam room	
Conclusion	66
References	68
Student background	70



Link to film

<https://vimeo.com/user241368194>



Figure 2: Inside smithy

Introduction

Ruins

Ruins are the remnants of past civilizations and offer glimpses into how people once lived and used space. The abstractions they present provide an opportunity for personal interpretation and imagination. At the same time, ruins serve as a reminder that even the greatest societies can fall, leaving behind only fragments and fading traces of what once was.

Ådalen

Ådalen is best known for the shooting in Ådalen in 1931 where strikers were shot by the Swedish military. Which resulted in a political change in trade union rights. But before that, the Ådalen was a thriving place with a high concentration of sawmills, one of them Köja sawmill. The sawmill was built in 1866 and was also one of the first to be steam-powered. In 1940, most of the smaller sawmills in the Ådalen close down, including Köja. Today there is only one left (Länsmuseet Västernorrland 2004). Between 1982 and 2022 has Ådalen (Kramfors municipality) Swedens biggest population decline with 30 percent of its inhabitants, equivalent to 8,200 leaving (SCB 2023).

Steam engine house

The building then stood empty until 2004 when an association received a grant to repair the roof. Smaller events like art and music performance were held in the engine house (Persson 2005). Last 20 years nothing seems to have happened.

A decision this summer has been made to clean toxic land around the building. This creates some uncertainty for the buildings future (SGU 2024).

Historical events that happened at Köja sawmill are that one of the co-owners shoots another co-owner because he thought was being deceived (Länsmuseet Västernorrland 2004).

There was also a rumor about a ghost woman who sat on the rock and combed her hair to lure sailors, causing them to run aground with their ships (Persson, 2005).

Two owls have settled in the building and made it their home. They have been spotted in the building on two occasions.



*Figure 3: Ådalen sawmills between 1850 and mid 20th century.
Data from Skogshistoriska sällskapet 2019*

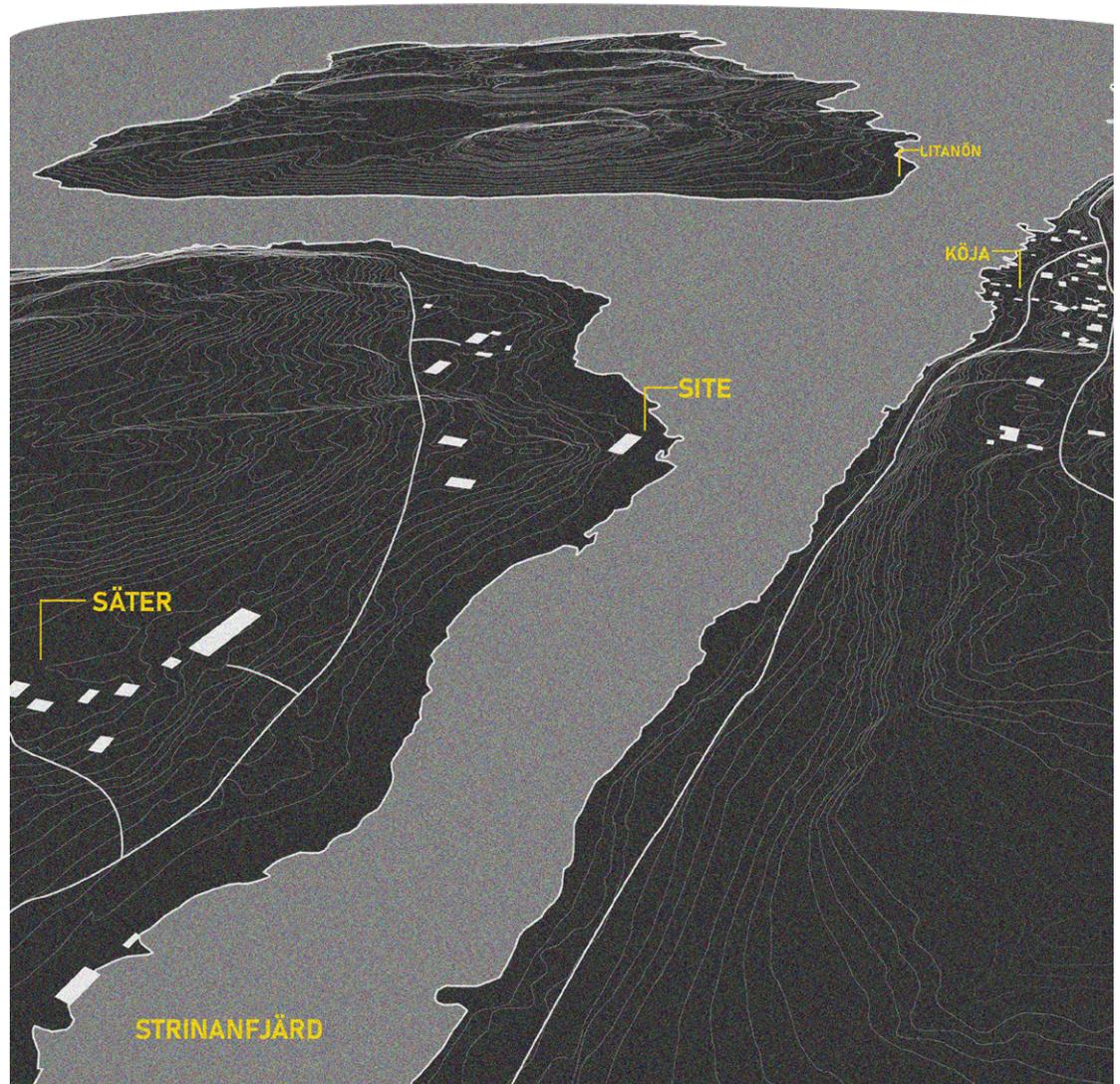
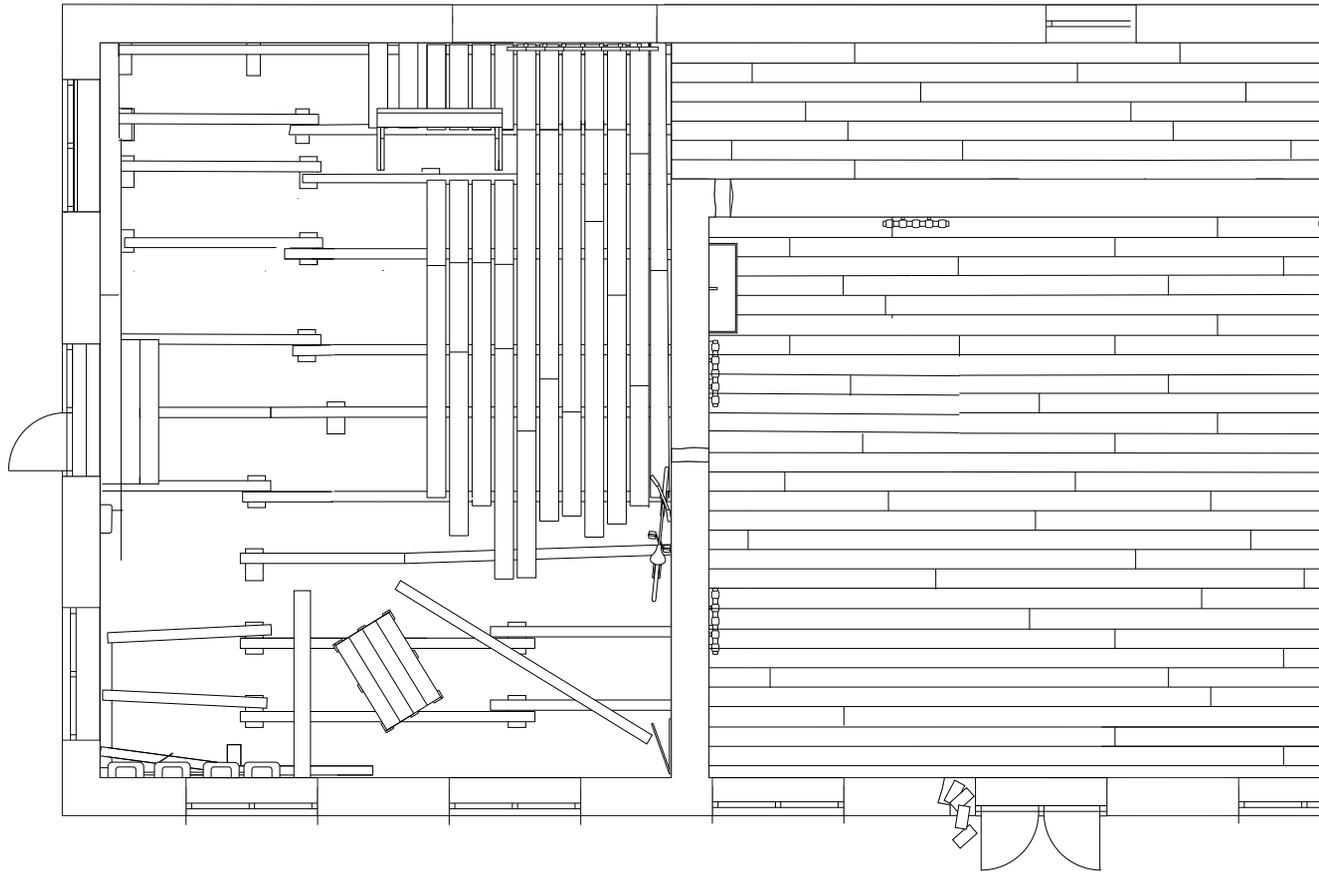
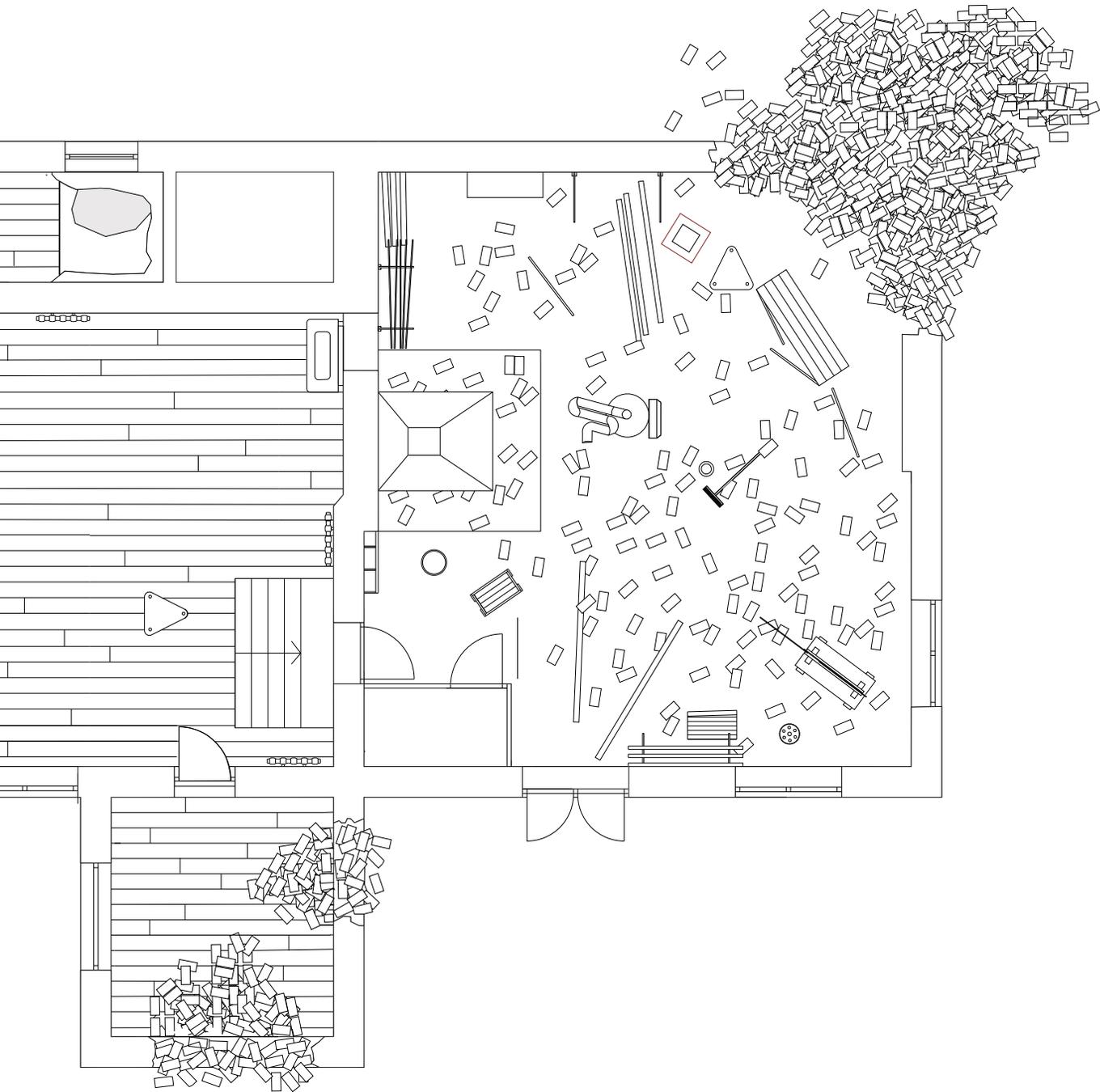


Figure 4: Site map

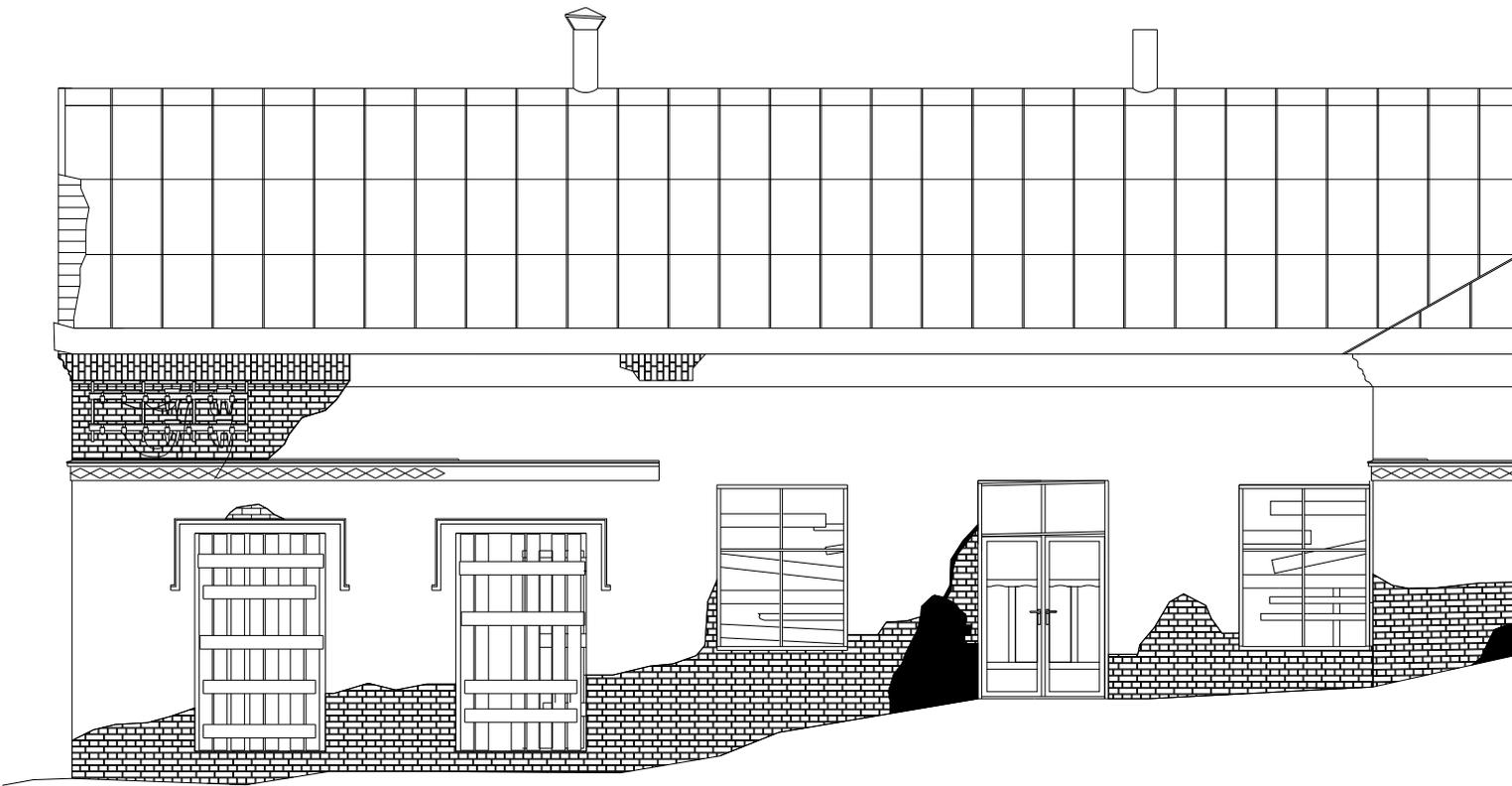
The ruin measures approximately 31x10 meters and consists of three larger rooms, a smaller room, and a long corridor that leads nowhere. The first large section was formerly a blacksmith's workshop, the middle room used to be a boiler room but is now completely empty, and the final room is of unknown function and missing its floor.

The smaller room have been used to connect one of the destroyed chimneys. The façade is made of brick with exterior plaster. The roof is made of sheet metal with a wooden frame and the floors are of wood except in the blacksmith where it is concrete. All windows have no glass panes and there are multiple holes in the outer walls ranging from small ones to really big ones.

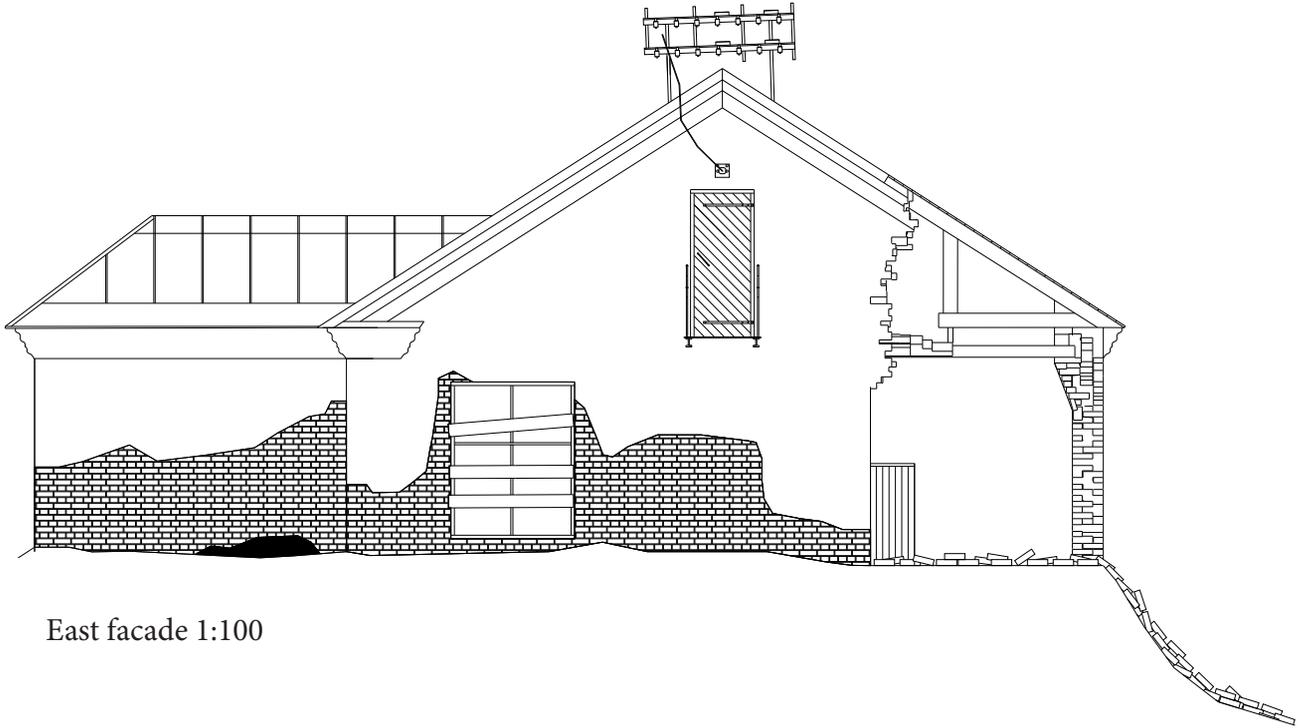




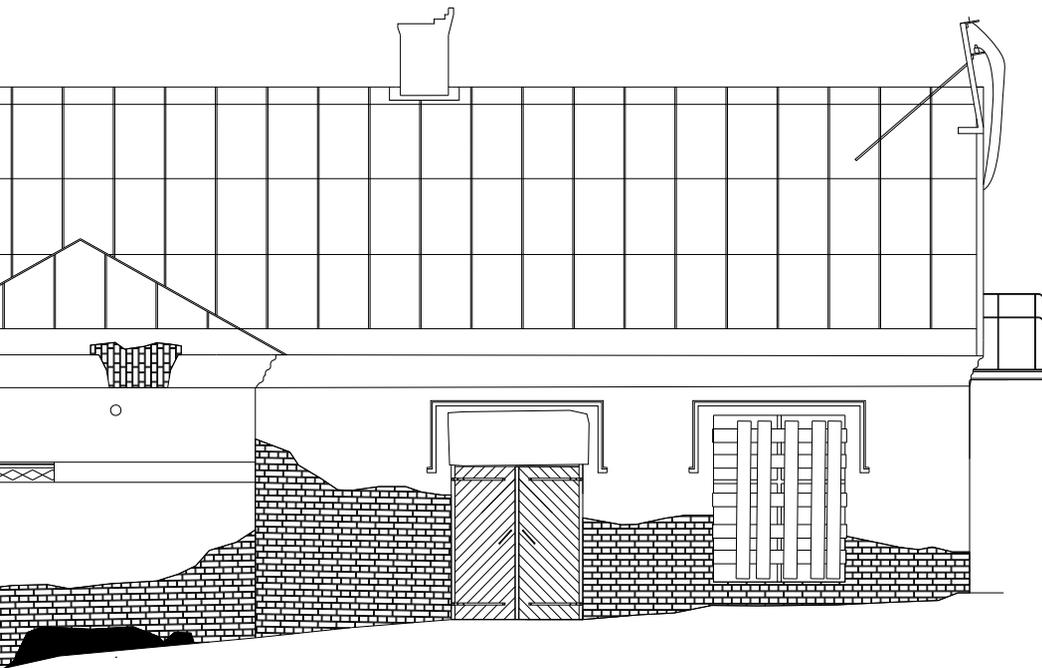
↑
Norr 1:100

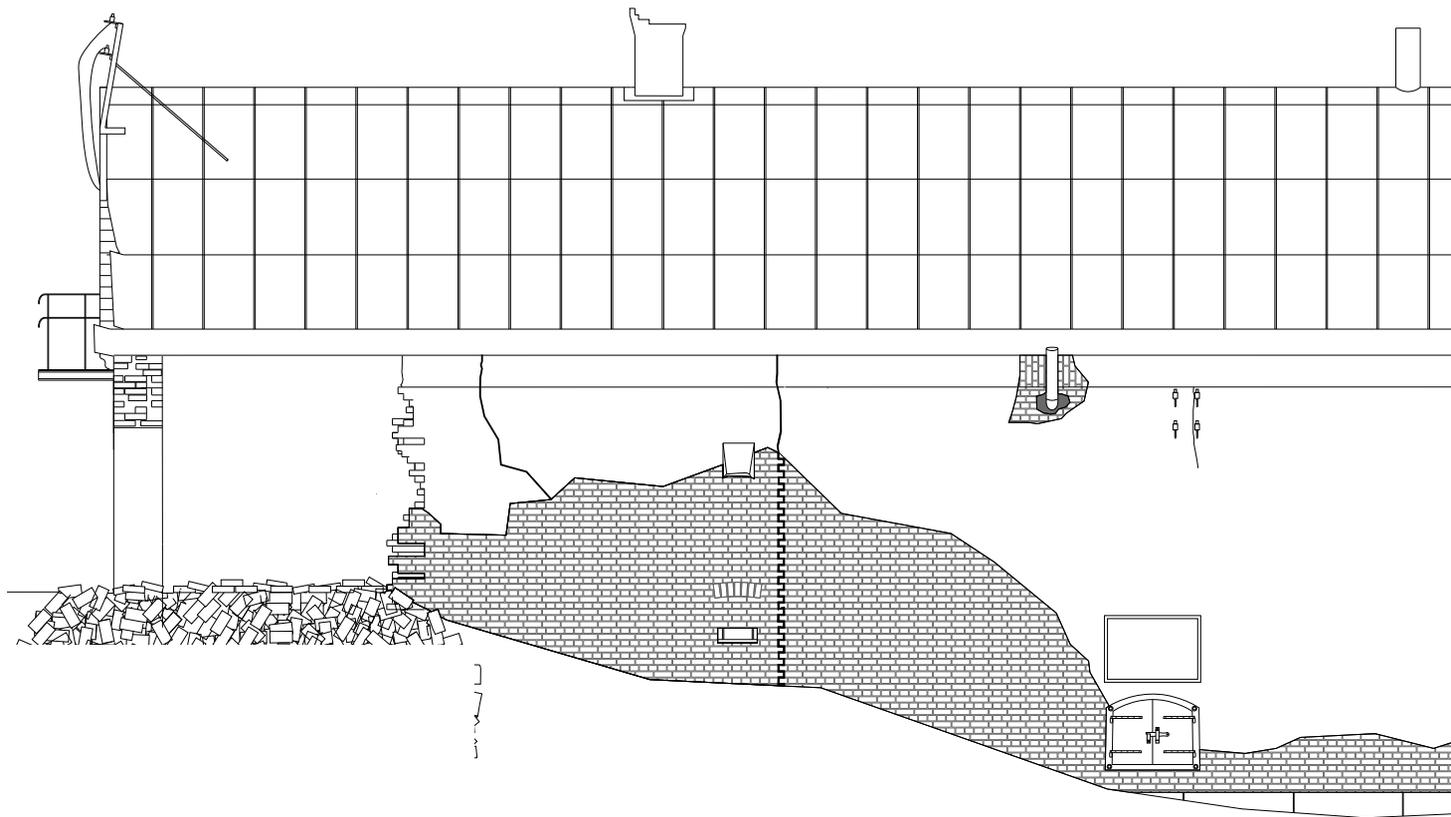


South facade 1:100



East facade 1:100

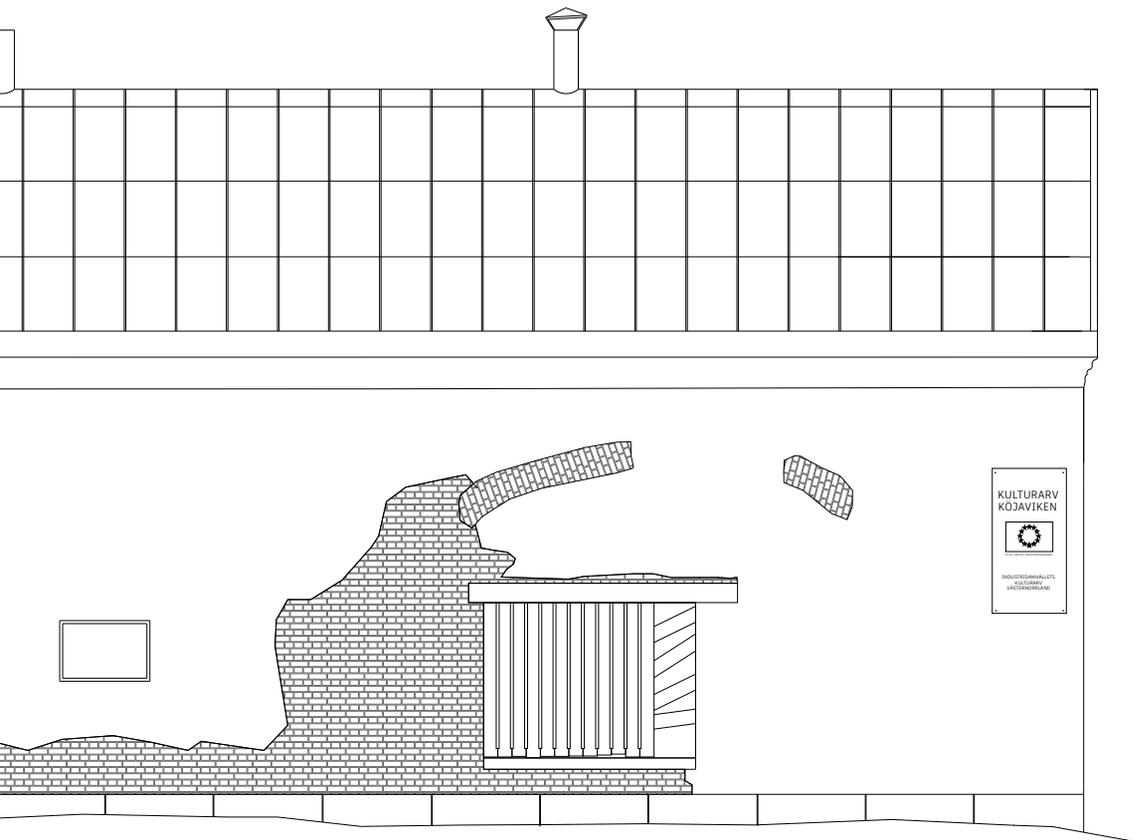




North facade 1:100



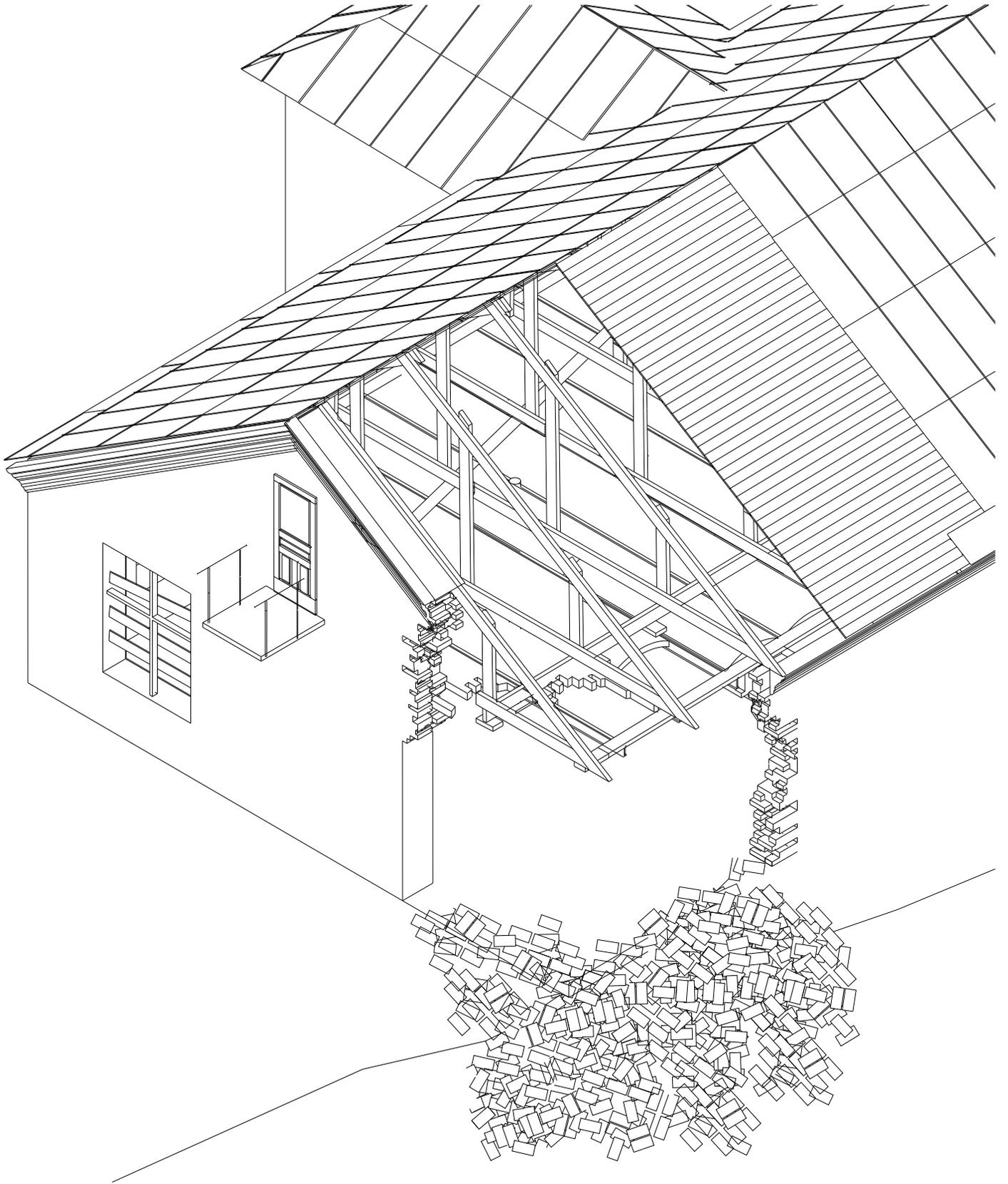
West facade 1:100



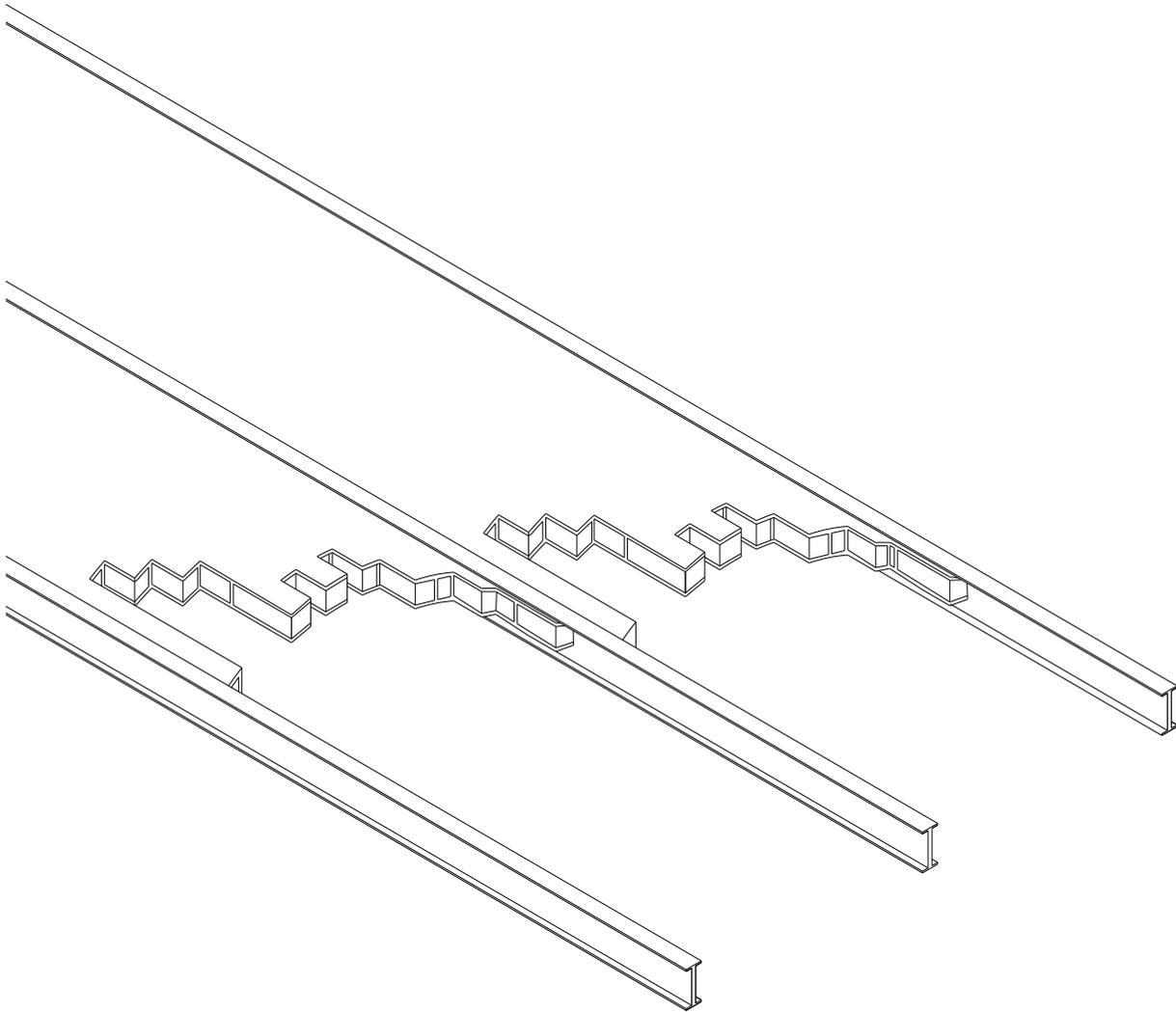
KULTURARV
KÖJAVIKEN



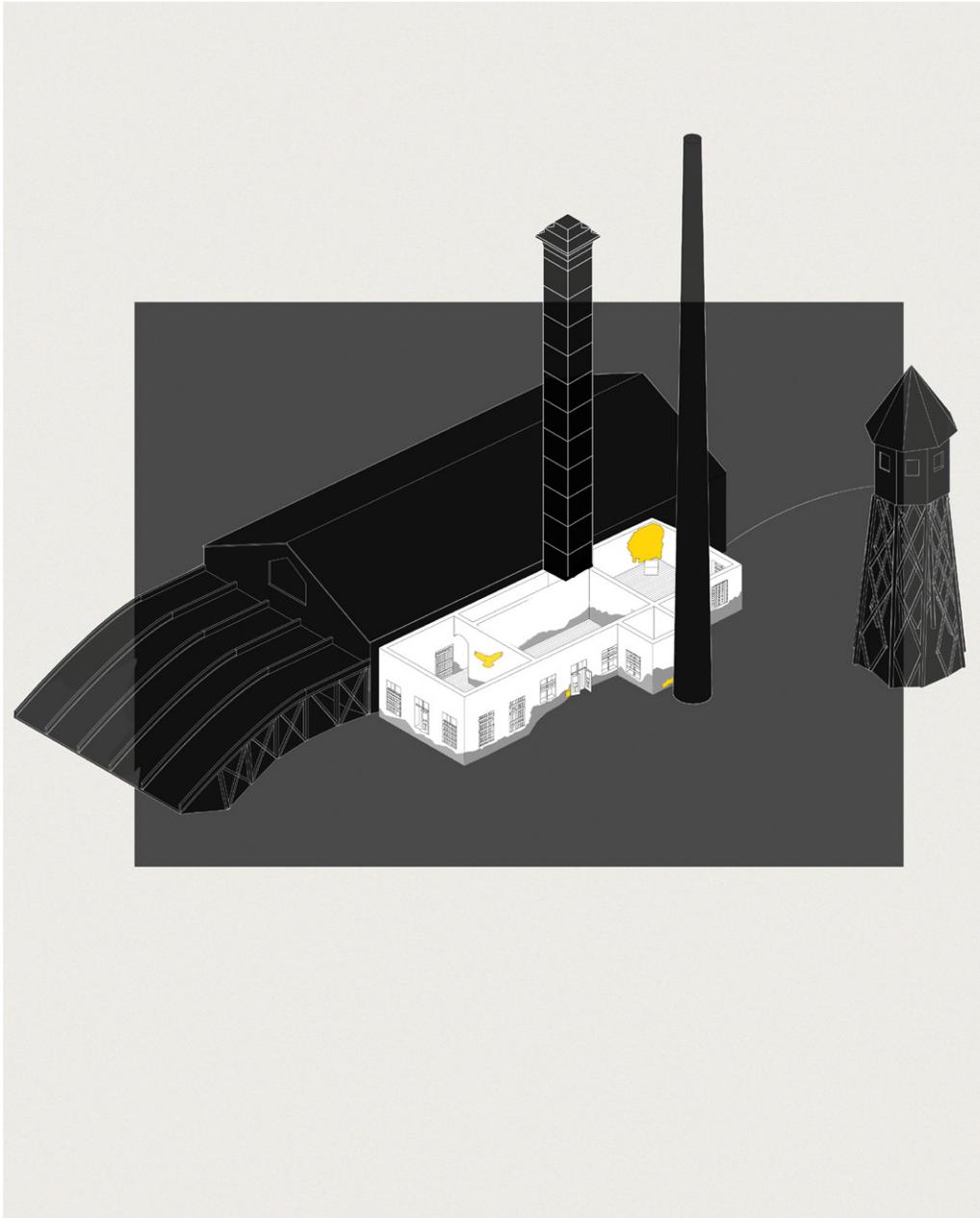
INDUSTRIAMILLETTS
KULTURARV
VÅRDNINGSBUREÅU



Roof and wall construction



Inner roof construction



Black representing demolished structures

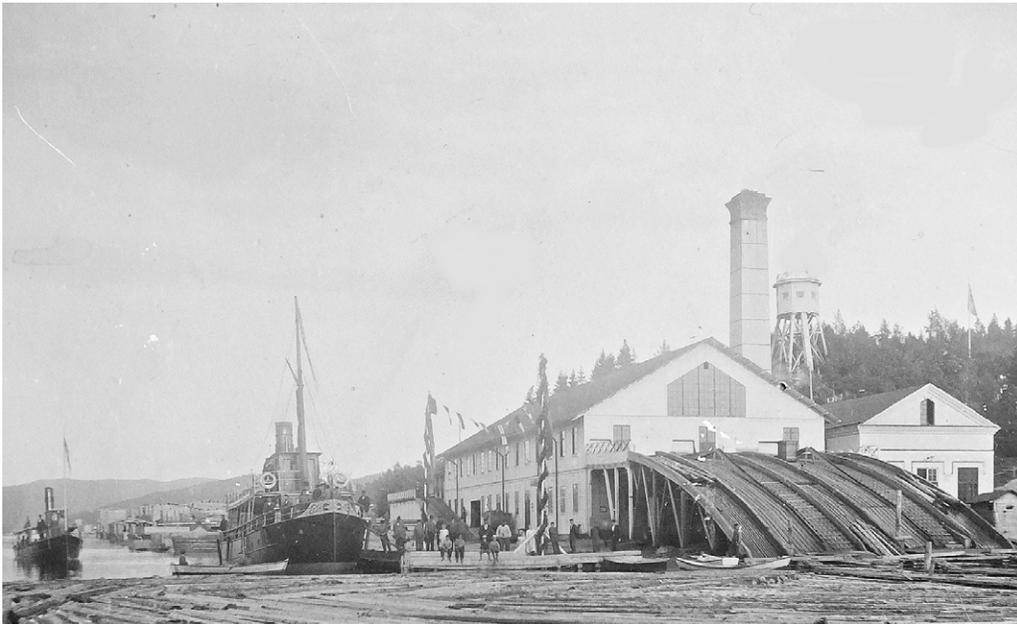


Figure 5-6: The first chimney and a postcard stamped 1905 show the unedited water tower.

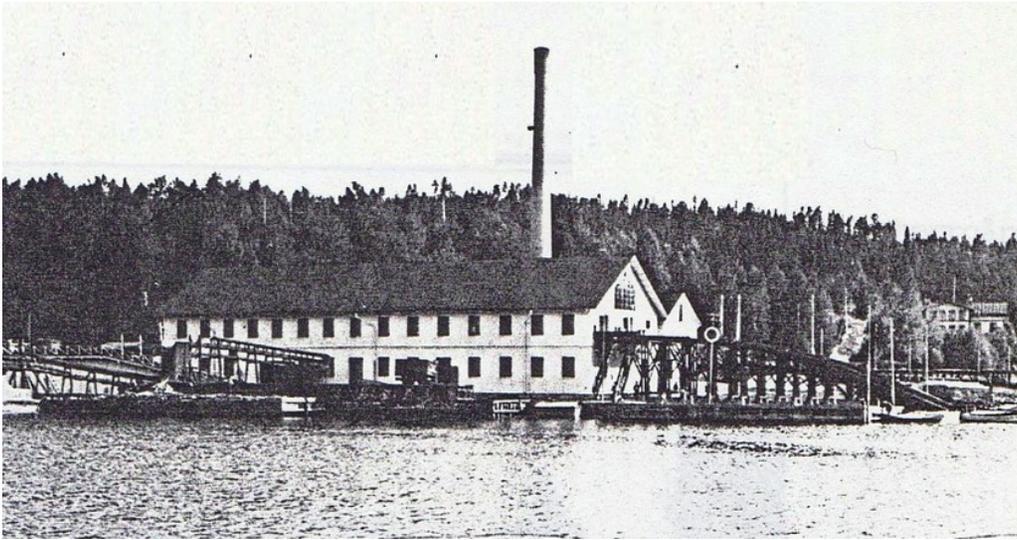


Figure 7-8: Top image estimated between 1923 and unknown



Figure 9: Stamped wood boards from Köja



Images

Gallery of images highlights small and unique textures and artifacts that can be found in the ruin

Row 1: Roof, wall and floor Boiler room

Row 2: Nature, human and animal debris

Row 3: Paint chippings

Row 4: Roof, wall and floor Beam room

Row 5: Different industrial artifacts

Row 6: Hole, brick up door and no floor

Row 7: Roof corners





Figure 10: Boiler room

Discussion

Master thesis will explore how to reuse an abandoned ruin while preserving its character, using the method of film to map, analyze, and capture the existing character. This, in turn, aims to convince the viewer of the beauty of ruins.

Problem description

Sweden's rural classified municipalities have a reducing population (SCB 2021). People move to the big cities because there are more jobs, the largest range of culture and services. This is also due to the fact that society has transitioned from being industrially produced to an information society. Meaning that there are a number of abandoned buildings that are there that stand empty and are slowly being eaten away by the elements of time.

Saving all these buildings is impossible and not realistic. They are considered by society to have no function and are mostly gone. At the same time, they create unique places that have stood in time and make room for activities that are otherwise not allowed to take place in society.

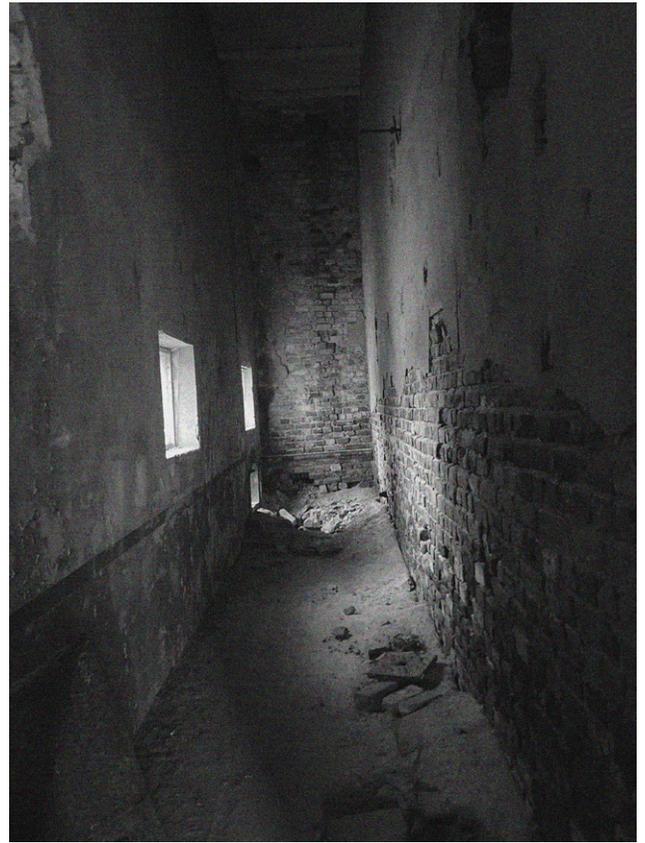


Figure 11: Chimney corridor

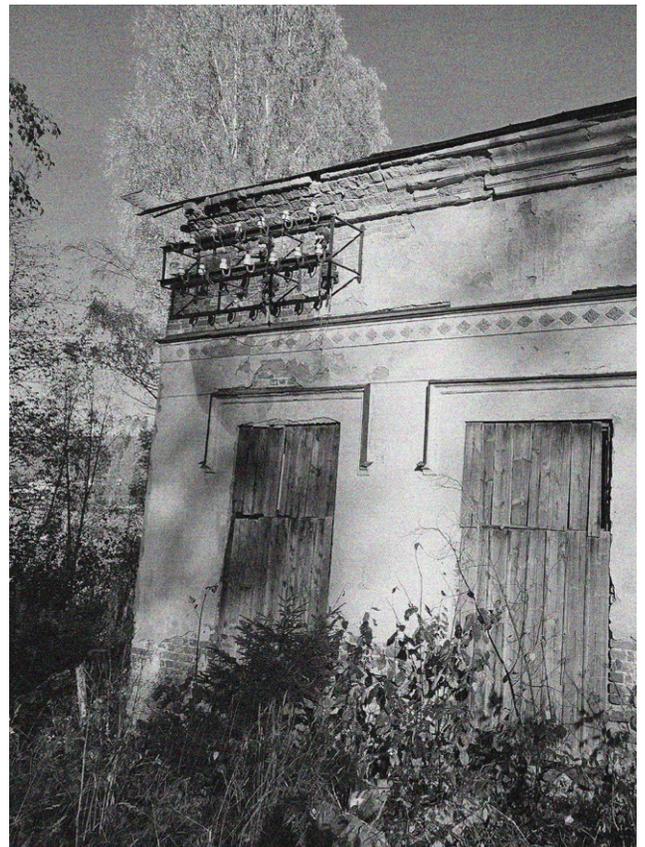


Figure 12: Electrical intake

Sustainable development

This thesis will try to answer questions about our cultural heritage and how we take care of it. It will examine how society can benefit from the built environment, highlighting the potential of reusing buildings as an effective strategy to reduce carbon dioxide emissions in construction.

Delimitations

A research project cannot address every issue, as doing so would stretch its scope and undermine its credibility. Clearly defining what falls outside the scope of the study is crucial for guiding the reader's expectations. It's also important to note that the conclusion may reveal that certain research questions cannot be fully answered. For instance, this project will not focus on the housing shortage. Instead, it will concentrate specifically on abandoned industrial ruins from the mid-1800s to the early 1900s, excluding more modern industries and residential buildings from its scope.



Figure 13: Beam room

Research questions

“How can a ruin be investigated through filming?”

“How can a ruin’s aesthetics and process of decay be preserved when re-adapted?”

Aim

The aim of this master’s thesis is to deepen the understanding of the significance of ruins and explore how they can be re-purposed. From a design perspective, the thesis investigates how film can be utilized at various stages of the architectural process. This includes mapping existing buildings, presenting design proposals, formulating the design etc.

Theory

Definition of ruin

“Ruin: the physical destruction or disintegration of something or the state of disintegrating or being destroyed” (Oxford Languages 2025). A ruin can therefore be both a process that has happened but also one that is ongoing. This master’s thesis will explore ruins as ongoing and evolving.

Value of Ruins

Society’s view of industrial ruins is that they are a waste of space and have nothing of value. The ruins are classified as ugly, dangerous and are only space for delinquency. Society assumes a capitalist position as ruins do not produce anything or provide any form of important social service. One of their values lies in the opportunity to reflect on society and its capitalist success. That all great empires fall at some point (Edensor 2005, p. 50-51).

Ruins are also a form of polar opposites of what cities are. Cities are order with rules and norms, movement with constant change. Ruins are disorder, things are placed without meaning, time eats up construction slowly. Disorder creates a new approach to space and gives us an insight into new forms of aesthetics. Ruins create a strong counterpoint to today’s museum. Where museum after is more similar to shopping display windows with clean objects neatly laid out compared to ruins, you have to decipher the history yourself (Edensor 2005 p. 169).

To understand industrial ruins uses Edensor the metaphor of ghosts that are the inhabiters and create the traces of the past. Examples he gives are ghost of past labor and life where material remnants speak the life and thriving industrious that ones was (Edensor 2005, p. 148).

Ghost of capitalism: tells about communities that has disappeared and the constant progress for the factories (Edensor 2005, p. 163).

The forgotten ghosts: are the histories that are forgotten examples are working-class life, immigration worker. (Edensor 2005, p. 156).

Encountering ghosts: describes through exploring the abandoned spaces and bring attention to the to there history that is often overlooked. This can be done by visualizes the aesthetics of the decaying spaces (Edensor 2005, p. 151).

Spectrality spaces: is one form Edensor describes industrial ruins, where it shows inevitable decline always for humans. Also a feeling of nostalgia and loss (Edensor 2005, p. 156).

What makes the ruin aesthetic?

To understand what the essential characteristics are in a ruin Christopher Bretecher implements various forms of interpretation in an abandoned building. The interpretations range from making simpler interventions such as holding a picnic in the building, moving objects around to larger interventions such as building a bridge that spans an atrium, to proposing small pods for living. During his process, Bretecher also made a film to make help him easier to understand the building. His interpretations draws in 8 points what the essential characteristics are in abandoned buildings (Bretcher 2011, p. 77).

- “Unfamiliarity of the space.
- Traces of the former use and occupancy.
- Traces of unauthorized human occupancy.
- Dirt, Debris, and Decay.
- An impending sense of danger.
- Temporal and changing environment.
- Uninhibited access in spite of trespassing.
- An unmonitored environment and disregard by the owner/general public.” (Bretcher 2011, p. 78).

The use of these characteristic features in the adaptive reuse of an ruin can help to maintain the aesthetics of the ruin. At the same time, it must be recognized that in a conventional building, certain requirements need to be met in order for it to be considered functional.

Adaptiv reuse and preservation

Seeing the ruin as a living fragment and helping it to develop through new functions is an approach that Jonathan Hill uses in adaptive reuse of ruins. Adaptive reuse is the process of reusing an existing building for a purpose other than which it was originally built or designed for. In order to preserve the history of the ruin, it should not be seen as a static monument stuck in time but instead an opportunity to add new layers to the ruin, respect and enhance their past. The ability to see the different layers gives an opportunity to read the history of the ruin but also the ability to add new functions. Preservation, in this sense, is not just about safeguarding history but about keeping the space alive (Hill 2019).



Figure 14: Waltz in boiler room from 2004

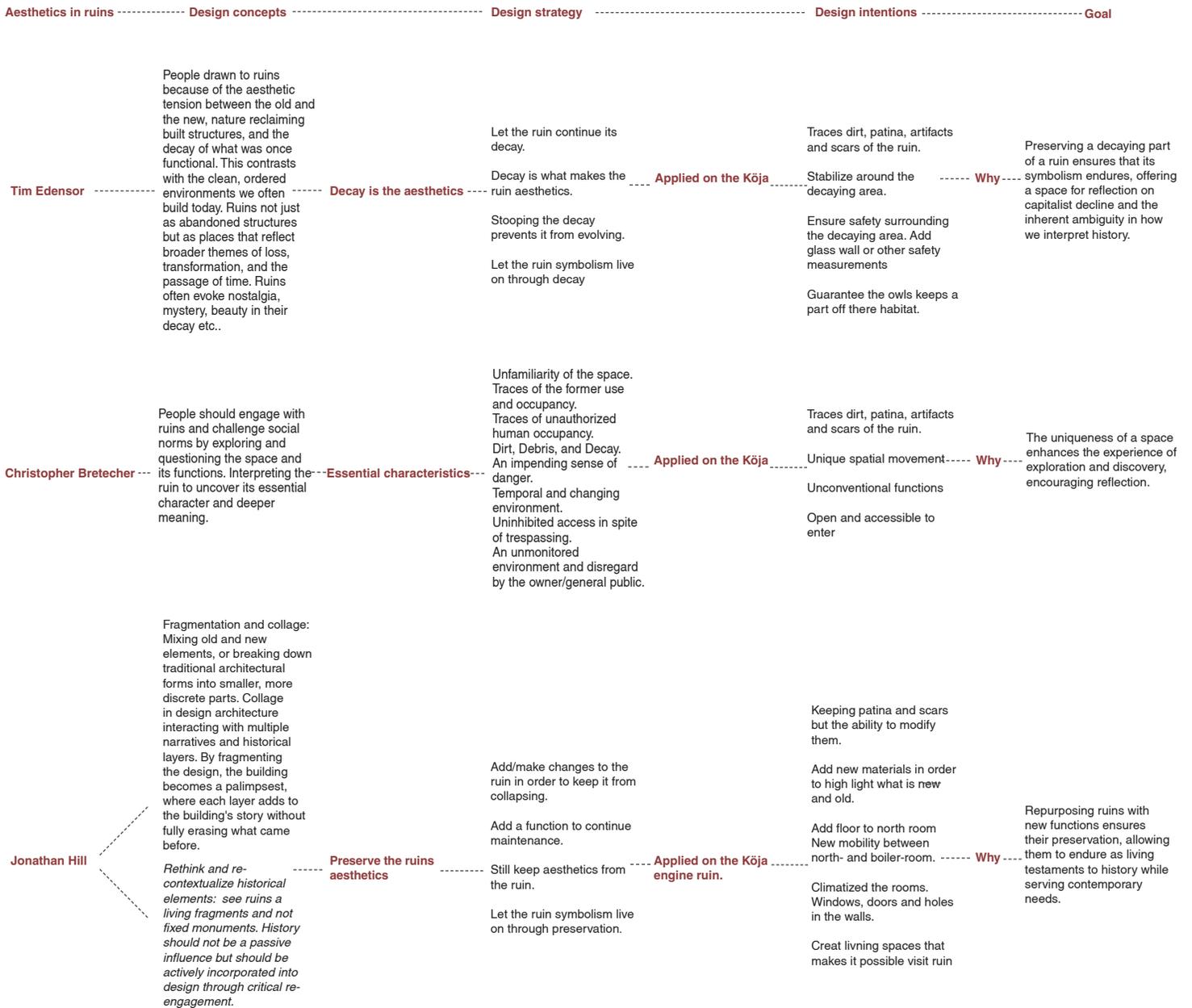




Figure 15-16: Last supper and the ghost that that lure sailors from 2004



Reference: Pc Caritas

Figure 17: Pc Caritas

De Vylder Vinck Taillieu's experimental building seeks to evoke the experience of walking through a ruin while maintaining a functional, usable space. Originally, the building was slated for demolition due to its deteriorated condition, but through innovative design, it was preserved and repurposed, blending decay with new architectural interventions.

However, when it became clear that the building's cultural value could not be fully recreated and that there was no need for larger indoor spaces, it was transformed into a park-like setting with smaller greenhouses for seating. From the perspective of an abandoned house, this design retains the duality of being both inside and outside (Plevoets & Cleempoel, 2019, pp. 46–47).

The choice of materials for the building was guided by the intention to keep them visible, ensuring a clear distinction between new additions and the existing ruin (Plevoets & Cleempoel, 2019, pp. 46–47).

This approach reinforces the idea that the building's program does not need to dominate the entire space. Instead, leaving areas unused or “dead” can create unique spatial qualities that evoke the atmosphere of an abandoned structure.

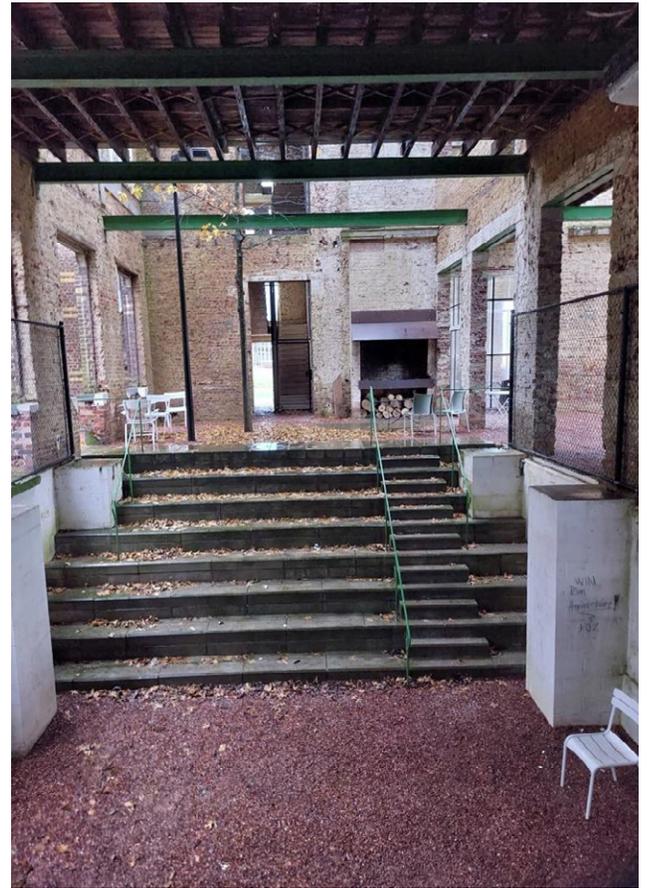


Figure 18: Pc Caritas



Figure19: Antivilla outside

Reference:

Antivilla / Brandlhuber+Emde, Burlon

Antivilla is an adaptive reuse project of an lingerie factory. Large irregularly shaped window openings were cut into the thick concrete walls, with new windows installed inside rather than replacing the original façade. This preserves the contrast between the old and new (Castro 2019). This form of layering effectively preserves the history while simultaneously adding to it.

Fabric has been used to divide the rooms, reducing the need to heat the entire building. At the same time, it creates a contrast to the hard, raw concrete surfaces by introducing softness. The fabric also lets some light through, allowing ghostly glimpses of what might be hiding behind.”



Figure 20: Antivilla inside

Method

Film

A short film has been made to present the ruin in different stages. The filming provides an opportunity to see the development of the ruin from the inventory phase to a proposal. This is done through both filmed footage from the site, raw animation and a combination of animation and the filmed footage. As a method, the film serves as a visual narrative tool that documents and communicates the design process, blending reality and imagination to convey the spatial and temporal evolution of the ruin.

Drawing

Several drawings of the facade and floor plan have been created to illustrate the building's intricate features. The proposed interventions are highlighted in red, providing a distinction between the existing structure and the new additions. This visual approach allows for a clear understanding of the design intentions, emphasizing the relationship between existing and contrasting new additions.



Figure 21: Beam room floor



The Film

<https://vimeo.com/user241368194>

Film

The main function of the film is to explore and investigate ruins.

The film consists of three phases.

The first phase explores and presents the ruin in its existing state. The camera moves through the building with a walking sequence. The goal is to create an exploratory feeling that the viewer can follow, while also showcasing how one can move through the ruin.

The second sequence presents the proposal. The feeling still maintains a sense of mystery about the ruin, but now it contrasts with the surrounding structures. The camera moves similarly to the first phase to mirror the change, but the exploratory aspect remains.

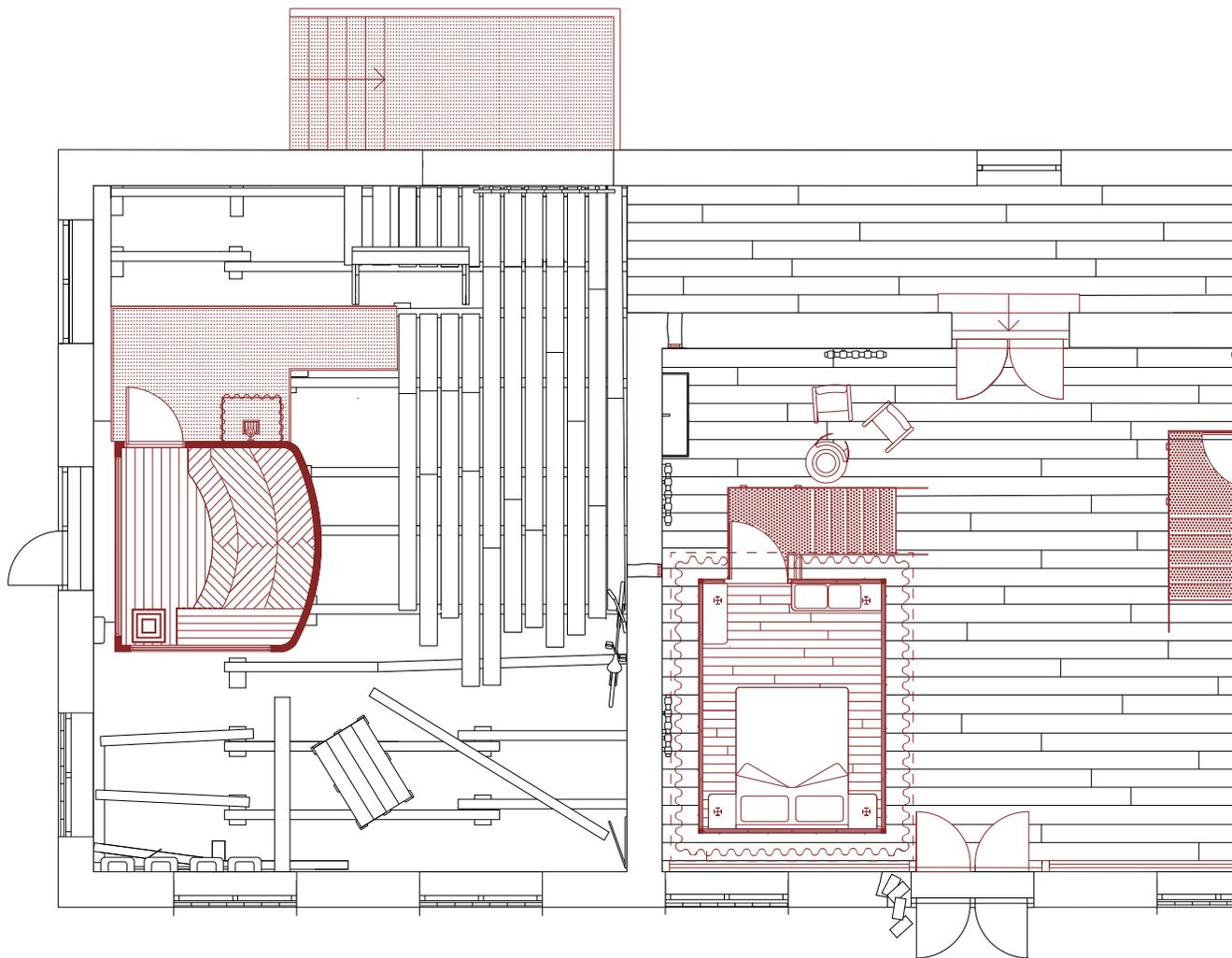
The final phase is a reflection on the work and how the future vision of the proposal will age into the layers of the ruin.



Figure 22: Hole north facade

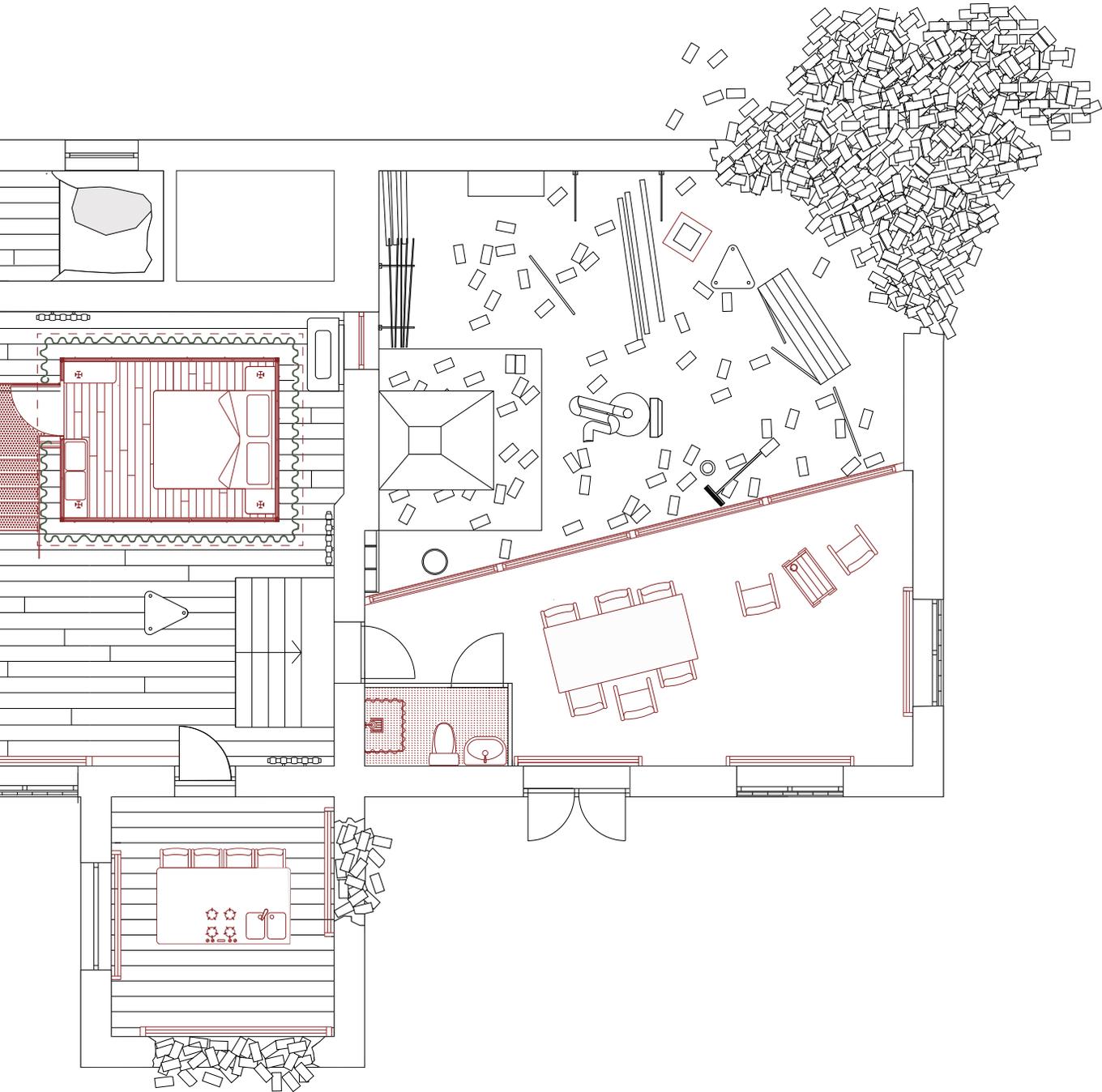
Proposal

Similar to the perspectives of Edensor and Brendson on ruins, much of the structure has been left untouched to keep its characteristics, with only some alterations. New functions have been created in the form of a sauna in the beam room, overnight accommodation in the boiler room and observation viewing point in the smithy. For the sleeping accommodations have followed Hill's view that the designer should only add new layers and leave the old ones in place. To achieve this, large boxes on pillars have been placed to minimize contact between the existing and the new. Large parts of the building now have a temperate indoor climate.



Norr 1:100





Floor plan proposal in red



Figure 27: Sleeping accommodation inside

Boiler room

Boiler room follows the Hills strategy of how can you adapt but still preserve.

The entrance to the ruin is in the center of the building, where the first room is the boiler room, which contains the sleeping accommodations. The bedrooms are boxes that are raised on pillars that are anchored through the floor with at concrete footing. Similar to the existing interior ceiling I-beams, the pillars are designed like two interconnected I-beams.

The walls are made of folded sheet metal, designed to connect to the existing roof. The decision was made that, since a roof serves as protection in a building, these boxes would act as protective spaces within the ruin. To create contrast, a green color similar to that used in PC Caritas was chosen for the metal, though in a more neutral shade, as the box shape already create a strong contrast on their own.

A fabric curtain around each box was chosen to contrast the cleanliness of the interior with the dirty floor and walls. Much like in Antivilla, the boxes take on a ghostly presence once one enters the building, with the fabric fluttering in the wind. Over time, the fabric will also become dirty and blend into the layered character of the ruin. The inner roof is also lined with fabric to soften the appearance of the box.

A fireplace inspired by one of the original chimneys, has been installed and integrated into an existing chimney structure.

The windows and door have been replaced on the inside, hiding them from the outside viewer. They follow a similar design language to that of Antivilla but no new cuts has been made in the walls.

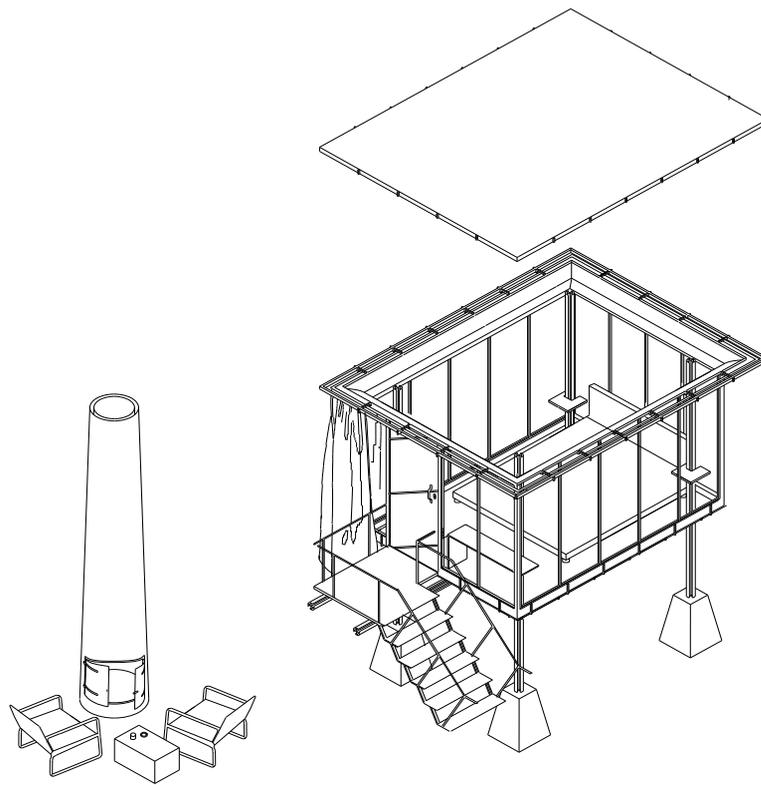
In the small chimney room, a kitchen island has been placed in the center, creating a space for simple cooking.

An opening has been created in the corridor, connecting the Boiler Room and the Beam Room. Additionally, a larger window has been installed to allow more natural light to enter the space.

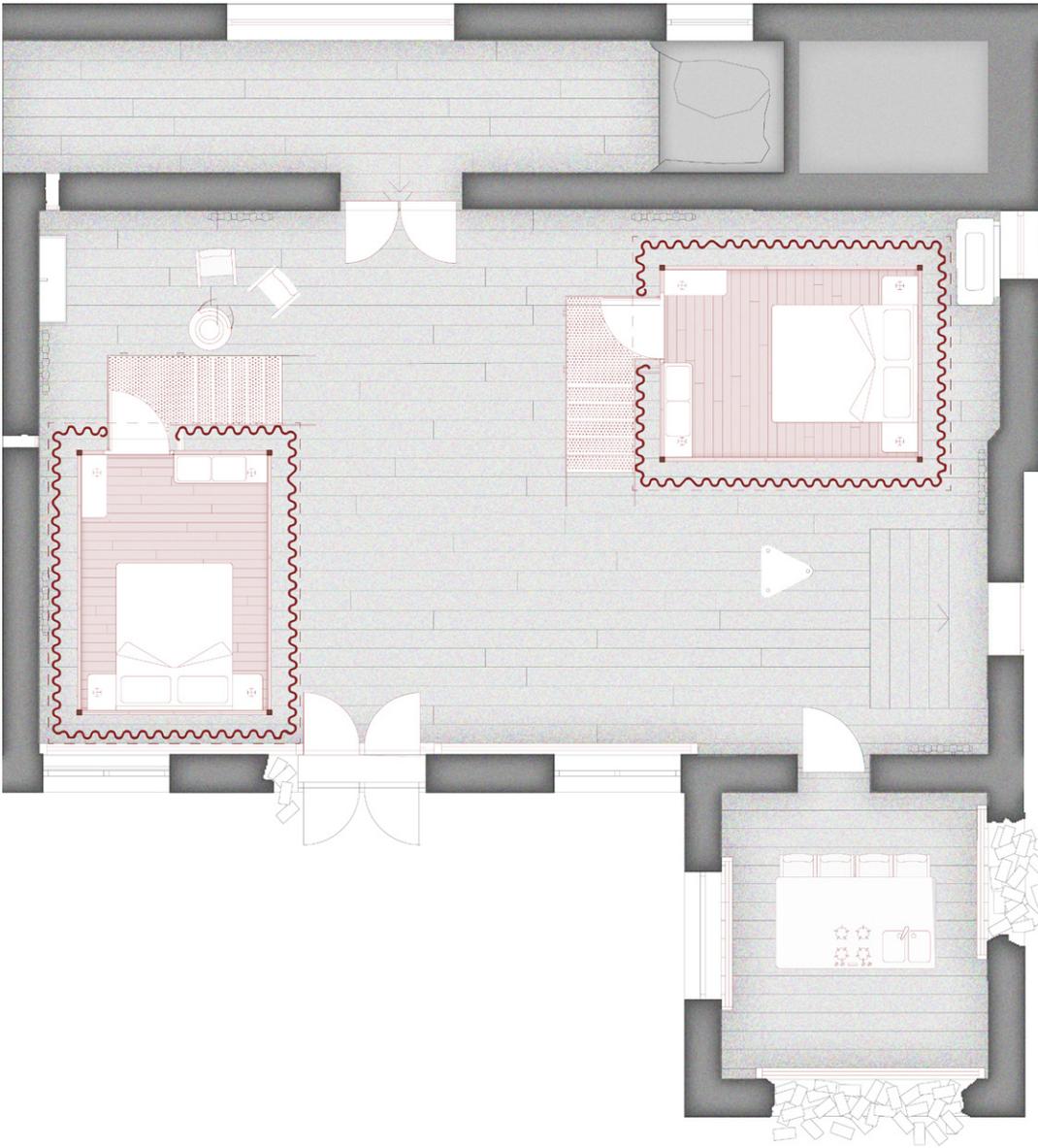
The boiler room has strongly followed Hills view that the design should add layers to the existing and not remove its history.







Sleeping accommodation and fireplace



Plan 1:100 Boiler room

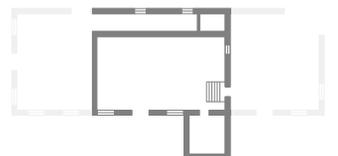




Figure 27: Sleeping accommodation

The Decaying room

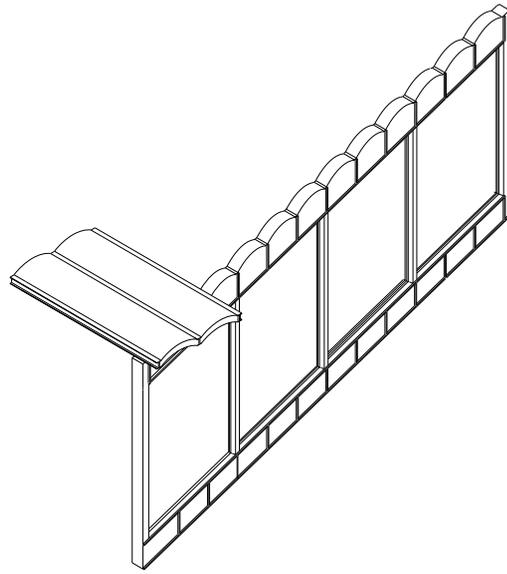
“Edensor sees value in reflecting on the past, where every object offers a ghostly glimpse into what once was. In the blacksmith room, the purpose is to create a space for contemplation where the slow erosion of our physical environment can be observed and reflected upon.

Since preservation is not simply about maintaining a space in a fixed state, the old blacksmith’s workshop has been divided into two parts. One part remains open to nature, allowing the process of gradual decay to continue. The other has been adapted into a lounge area with seating and a dining table, providing a place to observe the decay and reflect on the passage of time.

The wall is made from the same material as the boxes in the boiler room, and the windows follow the same style, maintaining a consistent language throughout the ruin. Additionally, a bathroom has been installed in the former shed. In the decaying part of the room, there is the possibility that the owl can still nest in the ruin.



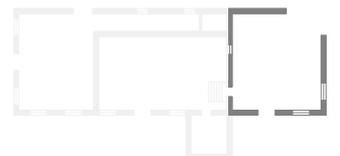




Decaying room wall



Plan 1:100 Decaying room





Beam room

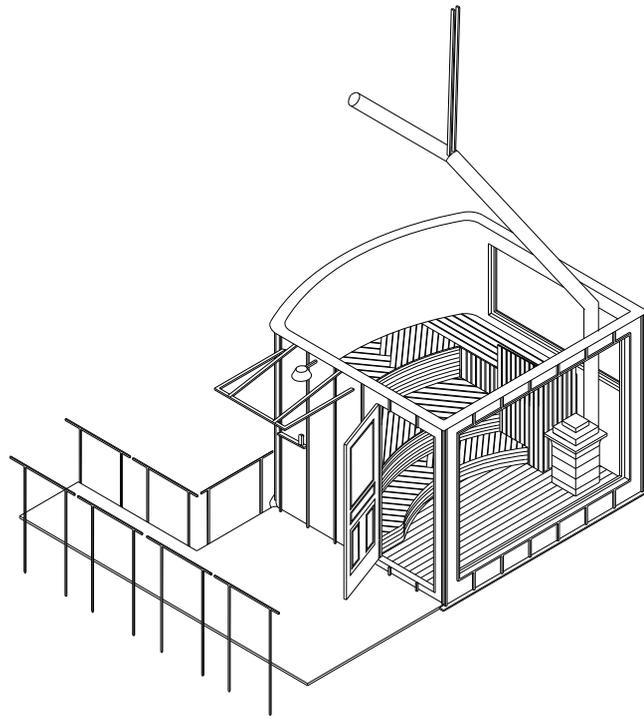
The beam room follows Bretcherns themes of interacting with an abandoned space. It is not clear where you are allowed to be or not to be, a sense of danger and a lot of dirt. The removed floor creates an unfamiliarity that we don't find in traditional buildings which forces us to interact in a non-traditional way.

Because Kōja ruin is so dirty, a sauna has been created. This contrast the building's identity with dirt. The surrounding polluted land around the ruin has also been cleaned of chemicals. This provides the opportunity for bathing in the ocean.

The sauna rests on the existing floor beams and creates a ghostly floating character. The shape is curved similar to the existing inner roof, which creates on the inside a bench that encourages interaction. The sauna stove is designed to resemble the other old chimneys and utilizes an existing chimney canal. A staircase has been added to provide access to the water.







Sauna and shower



Discussion

Throughout the thesis, the main idea has been to explore the character and aesthetics of a ruin while simultaneously developing its function. The chosen approach was to create a kind of ruin experience where one can stay overnight, eat, and enjoy a sauna within the ruin allowing visitors to engage with the space in multiple ways. The hope is to offer a new form of experience that invites reflection on our history and how our society is constructed. In order to preserve the character as much as possible, the ruin was approached as a living entity, something that can evolve and continue to live. The new parts contrast with the existing. Large parts of the ruin were intentionally left untouched or completely disconnected.

The building had an interesting history, and the damaged sections provided insight into how its structure was originally constructed. This also served as a source of design inspiration, but I wanted to avoid going too far with literal translations of the ruin, as it could result in a sense of cliché and kitsch.

Throughout the process the aim was to incorporate film as a method of both documentation and presentation for the project. The documentation mainly involved walking through the building and filming it. This approach provided perspectives and angles that were more spontaneous and less staged, something that photography might miss. A major drawback, however, was that the video quality was too poor to extract still images from it. For the presentation the film played a role in conveying the message of the thesis and in presenting an engaging narrative.

The hope was to shift people's perspectives on the beauty of ruins and how their use can be reimagined. Translating the film into a booklet format came with challenges, and in the end I chose to simply explain the thought process using a few selected stills images.

The theory was based on trying to understand the different values, aesthetics, and how you can adapt a ruin. The theorists used as references were Edensor, Brendson, and Hill, who all share a certain interest for ruins, but their approaches to how they should be used differ. The three larger rooms incorporate elements from all of them, with one of them having a more significant influence. The Boiler Room is most influenced by Brendson, emphasizing the addition of more layers to the ruin, which has been done by, among other things, adding two bedrooms. For the smithy, Edensor's concept of "ghosts" took place, as this room contained the most artifacts and conveyed a sense of a working environment that has been left. The function became a form of "ruin gazing," where one can reflect on the past. In the Beam room, Brendson's eight defining character traits guided the design, allowing the space to remain open for movement, despite large parts of the floor being missing. The design aimed to create an opportunity for cleansing, both from dirt and from the past, with access to a sauna, shower, and sea.

The result answers the research questions regarding how one might approach a ruin but since the project's function is relatively speculative, there is an opportunity to further explore a more realistic approach. From a film perspective, it provides a new insight by combining the existing building with animated film. Further research and development could involve creating a test focus group to gather more data on how people perceive the film and if they change their perception of beauty in decay. It would be interesting to include both people from the architecture field as well as "ordinary" citizens.

To conclude, there is something beautiful about ruins and their ambiguity. Transforming them allows for reaching a broader audience, but there is also something to be said for leaving them untouched entirely. The idea of contrasting with the existing structure provides a good concept for adding layers to the feeling of the ruin, but it can also take away from the experience of exploring an old world. On a larger scale, there are many abandoned industrial buildings in Sweden, and preserving them could help reflect on our overconsumption. Since not everyone can visit these sites, film can serve as a powerful convincing tool, as it is one of the best mediums to persuade people.

References

Bretecher C. (2011). *Abandoned Potential* (1st).

W

Castro F. (2019). *Antivilla / Brandlhuber+Emde, Burlon*. <https://www.archdaily.com/627801/antivilla-brandlhuber-emde-schneider> (2025-03-10)

Edensor T. (2005). *Industrial Ruins* (1st). Bloomsbury Publishing

Hill J. (2019). *The architecture of ruins: designs on the past, present and future* (1st). Routledge

Oxford Languages. (2025). *Ruins*. <https://languages.oup.com/google-dictionary-en/> (2025-03-10)

Persson J. (2005). *Smakprov – Köja f.d. sågverk i Lockne 31/7*. <http://arkiv.volym.info/Arkiv/Reportage/TraGard/tragard.htm> (2024-11-01)

Skogshistoriska sällskapet. (2019). *Ådalen, industrierna och bogserbåtarna*. <https://skogshistoria.se/wp-content/uploads/2020/06/Årsskrift-2019-s-34-45-Bengt-Westin-Ådalen-industrierna-bogserbåtarna.pdf> (2024-11-01)

Statistiska centralbyrån. (2021). *Prognos: Stora lokala skillnader när Sveriges befolkning växer*. https://www.scb.se/pressmeddelande/prognos-stora-lokala-skillnader-nar-sveriges-befolkning-vaxer/?utm_source=chatgpt.com (2025-05-13)

Statistiska centralbyrån. (2023). *Nybyggda kommuner har klättrat mest på 40 år växer*. https://www.scb.se/hitta-statistik/artiklar/2023/nybyggda-kommuner-har-klattat-mest-pa-40-ar/?utm_source=chatgpt.com (2025-05-13)

Sverige geologiska undersökning SGU (2024), *Infomöte Köja fd sågverk 2024-06-19*, <https://www.sgu.se/globalassets/samhallsplanering/fororenade-omraden/koja/infomote-sgu-koja-2024-06-19.pdf> (2024-11-01)

Västernorrlands Länsmuseum (2004) <http://old.murberget.se/upptack/fotopost.asp?foto=Fo-19981226&rst=y> (2024-11-01)

References

Images

Figure 1: Photographer unknown. (1873)
Fo-U9124 1873 Köja. [Photograph].
Västernorrlands museum

Figure 5: Photographer unknown. Fo-BFE1312
Köja. [Photograph]. Västernorrlands museum

Figure 6: Photographer unknown.
Västernorrlands museum, [Photograph].

Figure 7: Viktor Lundgren. (odaterat). Fo-
A7607. [Photograph]. Västernorrlands museum,

Figure 8: Eriksén D. (1899). Justeringsmärkning
av plankor vid Köja Sågverk, Ångermanland
[Photograph]. <https://digitaltmuseum.se/021016315382/justeringsmarkning-av-plankor-vid-koja-sagverk-angermanland> (2025-05-13)

Figure 14-16: Vahl M. (2004). [Photograph].

Figure 17:-18 Bruyn I. (2023) [Photograph].

Figure 19-20: Overmeer, E. (2014) [Photograph].
<https://www.archdaily.com/627801/antivilla-brandlhuber-emde-schneider> (2025-05-13)

Student background

2023-2025: MSc. Architecture and Urban Design, Chalmers

2022-2023: Detail planner, Kramfors kommun

2018-2022: Spatial Planning, Blekinge Tekniska Högskola

