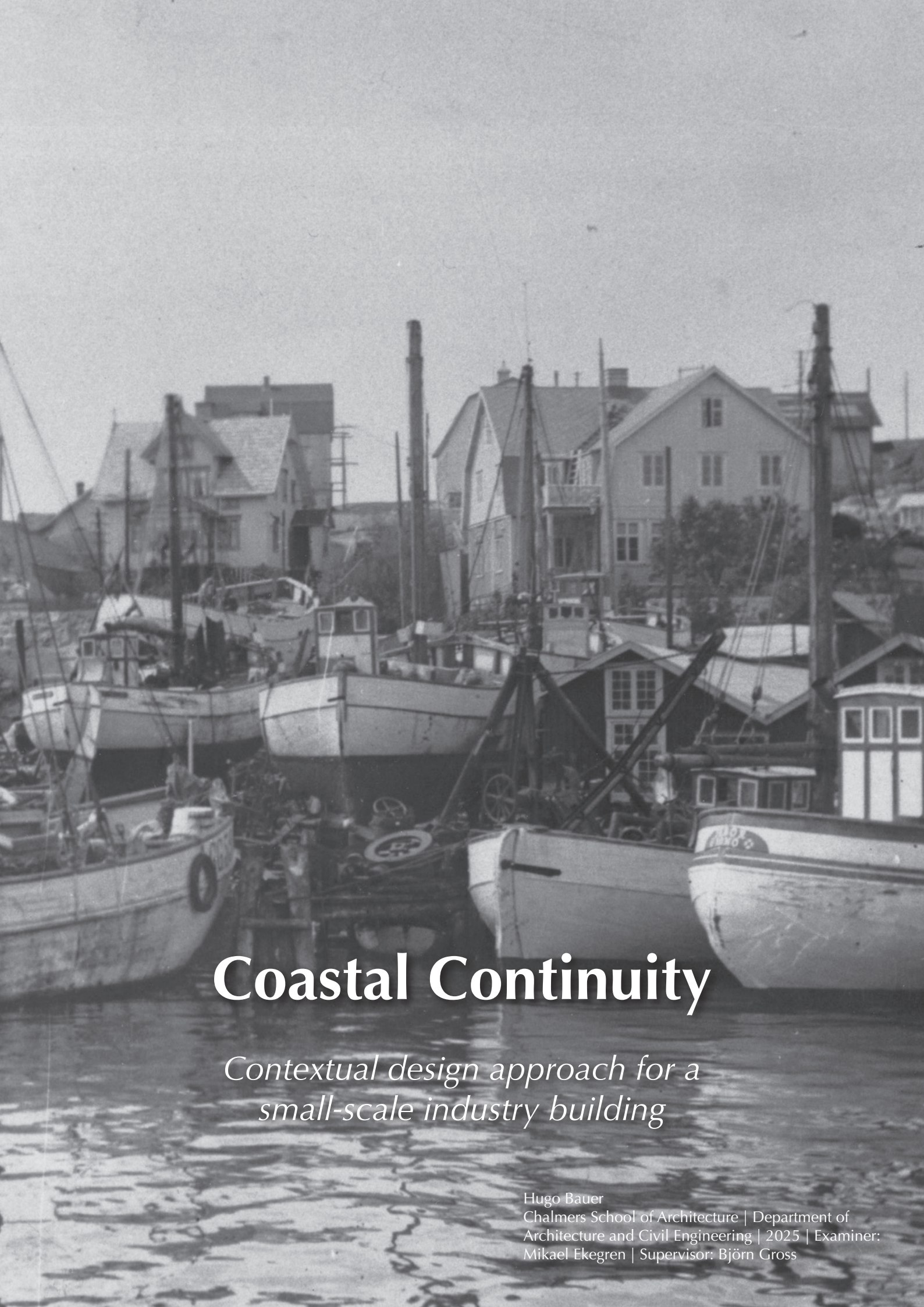


Coastal Continuity

Contextual design approach for a small-scale industry building

Hugo Bauer
Chalmers School of Architecture | Department of Architecture and Civil Engineering | 2025 | Examiner: Mikael Ekegren | Supervisor: Björn Gross

Hugo Ludvig Bauer

MSc, Architecture & Urban design (MPARC)
Chalmers University of Technology, 2023-2025

Krook & Tjäder, 2022

BA, Architecture (TKARK)
Chalmers University of Technology, 2019-2022

Contact: hl.bauer@icloud.com +46 (0)7 68 515 717

Published in 2025

COASTAL CONTINUITY | CONTEXTUAL DESIGN APPROACH FOR A SMALL-SCALE INDUSTRY BUILDING
Hugo Bauer
Chalmers School of Architecture | Department of Architecture and Civil Engineering | Examiner: Mikael Ekegren | Supervisor: Björn Gross | Master's Program of Architecture and Urban Design within the Direction of Building Design and Tranformation .

Abstract

For centuries, the social interplay and the culture of Bohuslän were shaped by the seafaring and fishing which in return has formed the building traditions in the region. The villages along the coast are the results of another time's needs and values but nevertheless, they have remained attractive for residents and they have eventually grown in status, leaving less room for all year-round businesses, hence local job opportunities. In an attempt to establish all year-round activities in a place like this, winning the local opinion is key. Businesses and industries nowadays often require buildings and installations which are less pleasant to look at, but job opportunities also play a central role in municipalities. Maintaining continuity between the old and the new has proven to be complex considering many new buildings lacking local character and connection to building traditions.

This thesis has focused on Hälsö, an island in southern Bohuslän. The old part of the village, Kwia, is a historically sensitive environment with a history of seafaring and boatbuilding. The new additions in this environment aimed to exploit local history and site-specific opportunities to attain contextual belonging and create all year-round activities that both inhabitants, visitors and society can gain from. The thesis design approach has been showcased through the proposal of a Competence Centre for Maritime Crafts & Boat Preservation on the old shipyard plot in Kwia. A centre as such is suggested to be run as a commercial yard where also external groups can run projects, visit and learn about the boatbuilding tradition, adding value to the local community, visitors and cultural heritage. The proposal was conducted in one detailed proposal for a main yard building in the northern part of the plot, elaborating on the architectural translation of the context. Along with the practical design methods, contextual methods and studies of built references have been applied to conduct this study. The findings suggests that today´s rational way of constructing can be balanced with care for local backtracking and traditional building composition to maintain continuity between old and new. This in combination with the building function, the building earn belonging and strengthens local identity.

Keywords: Contextual design, Continuity, Building traditions, Industry building, Boatyard

Fig. 1. Kwia, Hälsö 2025

Content

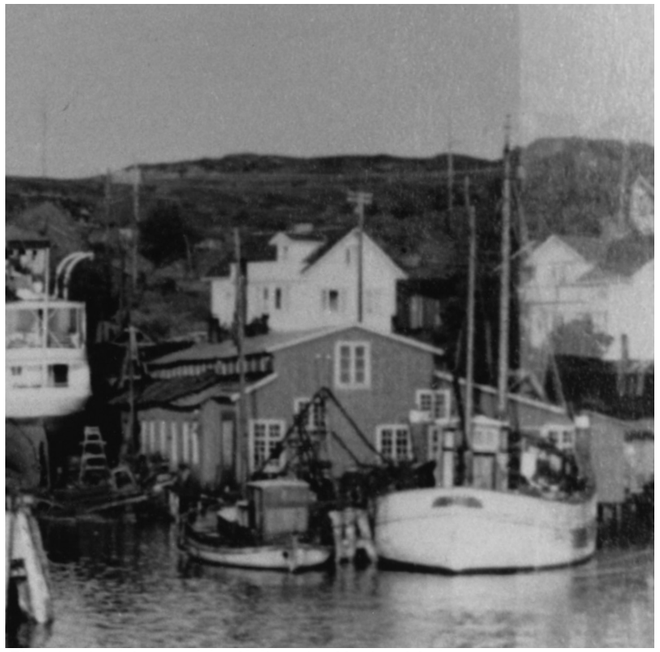


Fig. 2. A shipyard building in Kwia, Hälsö

1 | Introduction

- Choice of subject
- Aim of thesis
- Research questions
- Objective
- Method
- Definitions
- Sustainable development
- Delimitations
- Reading instructions

Fig. 3. Remains of the old shipyard, Hälsö

Choice of subject

In many ways, this work is a reflection of me, my intrests and questions I find important. I have exercised the crafts of wooden boatbuilding ever since I was 13 years old and sailed the coast for even longer. I know the lively villages on the coast in the summertime. A lot of people celebrating their holidays. All year round businesses, espacially industries, doesn´t fit into this picture. Likewise, I have seen how empty they are in the winter. In some municipalities, this is a great problem, few people are living in these villages and therefor paying local tax to contribute cover the municipal services. But there is an obvious conflict in establishing an industrial activity in a place like this. High land prices, neighbours, fear of getting disturbed and buildings that doesn´t fit into the atmosphere.

As an architect, I don´t despise traditional architecture, I find it rather inspiring to keep building on to and develop traditions and I like to see the opportunities and challenge the conventional ways. Choosing this subject have given me the opportunity to visualise a dream of mine. An appealing small scale boat yard that can both support the continued existance of wooden boats and add value as an attraction point for both the locals and visitors.

The initial idea came from previous work experience in a Maritime Competence Center in Norway. I figured, why shouldn't Sweden as a seafaring nation with a lot of traditional vessels have a similar concept supporting our cultural history. In the search for a proper site for an establishment like this, Hälsö came to mind. A coastal village, once famous for its greatness in boatbuilding with only an empty slipway remaining from that era.

Aim of thesis

In the picturesque atmosphere of coastal villages on the Swedish west coast, with old boathouses and resident buildings, less space has been spared for local industries and job opportunities. As much as this project aims to investigate an interplay between new and old buildings emphasising building continuity, it likewise aims to explore in what way a new industrial building can be appreciated and add value to a coastal village on the west coast of Sweden.

The aim of the thesis is not to find general answers to the research questions but rather to contribute to the discussion about how new buildings can relate to a site´s history on the one hand and its future development and local livelihood on the other.

Research questions

- *In what way can a new industrial building be added in a historically sensitive environment to add value, rather than disturb?*

- *How can traditional aesthetics and construction found in the context be combined with the benefits of contemporary architecture in the seeking for continuity?*

Objective

This thesis will be carried out as an architectural design project for a suggested plot on Hälsö in the southern archipelago of Bohuslän. Hence, the project will be expressed in drawings, 3d-visualisations, physical models as well as this booklet to help support the project.

Method

Overall, the method for this thesis has its starting point in the two approaches: “Research for design” and “Research by design”. These approaches contain separate parts, each one being essential for the project as a whole. However, the process is not linear, and multiple parts are sometimes carried out simultaneously. Thus, a new insight in a later part might enquire for more information from an earlier one. The figure below explains the steps within the two approaches.

“Research for design” focuses on understanding aspects of the project through literature studies, analyses, study visits and by conducting a site inventory. The ambition is to cover all aspects of a design project connected to the site that is of importance for a successful outcome in relation to the research questions. The *Research for design* approach will therefore address the following subjects: rooted and placeless buildings, coastal communities on the West Coast, building traditions and methods, history of the island and the plot, the activities of the specific industry type, followed by theories and design approaches to counteract placelessness, reference building analyses and studying of relevant boatyard buildings. Research for design results in a building program/function program as well as a set of guiding factors, acting as the basis for the following steps.

“Research by design” is the elaborative process where theory, insights, needs and ideas are translated into an architectural design proposal. The process is iterative, new ideas are constantly tested towards the test factors. The architectural proposal is worked on at different levels with all levels being intertwined. The building volume and placement are studied through digital and physical models in different scales along with hand sketches and drawings. Simultaneously, the building program is tested, sometimes resulting in conflicts which push the iterative process. This research by design results in a concrete proposal expressed in drawings, physical models and visualisation. The final design proposal is then evaluated towards the research questions under “Discussion”.

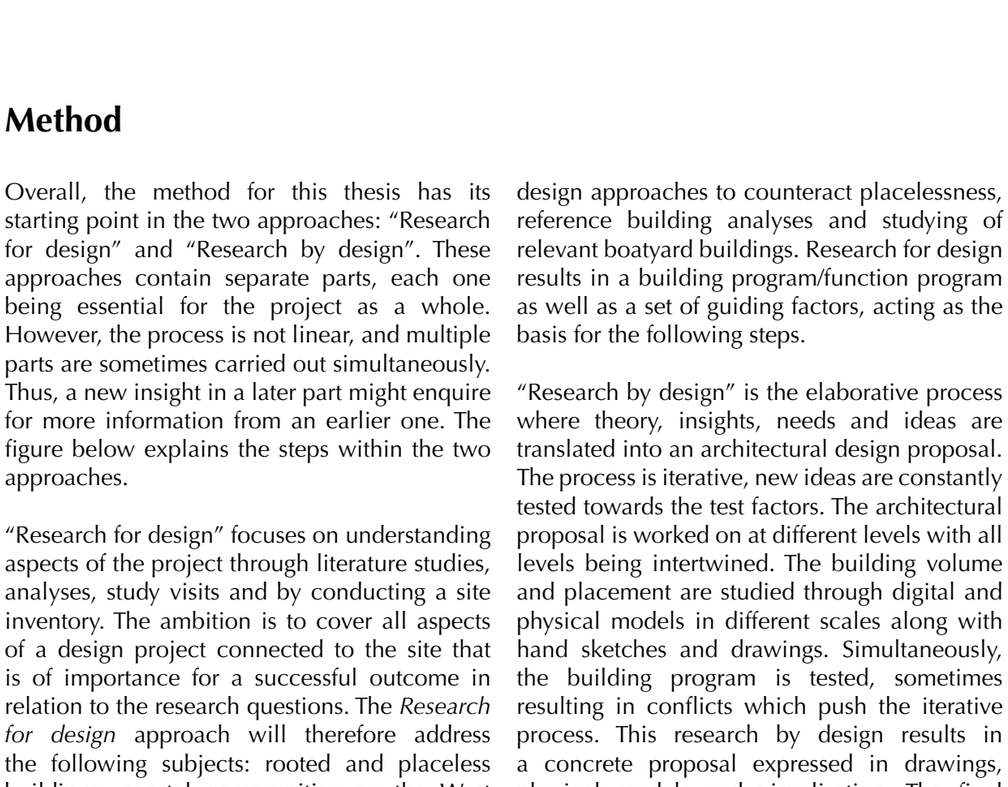


Fig. 4. Method diagram

Definitions for the project

Continuity — Belonging between what is existing and new in the built environment.

Context — A building's or a site's relation to a greater situation of importance to its identity. This often reaches beyond the geographical site and includes aspects like culture, history, characterising ideas and traditions.

Yard — A facility with the capacity to haul boats and ships out of the water to execute restoration and/or annual maintanance work but also build new boats. This implies workshop areas with appropriate space for machines and workspaces in between.

Competence center — A place for practical and theoretical knowledge exchange between professionals and interested amateurs.

Sustainable development

As in any other project, sustainability will be addressed also in this project focusing on environmental and social sustainability with the main philosophy being that what we add today should last for as long time as possible and have a social relevance during its lifetime.

Accordingly, ecological sustainability will be advised by looking into theories for appreciation of design over time since lack of that is often a reason for demolition along with short life expectancy in building components. In the project, material and building components will further be evaluated towards aspects such as environmental impact, flexibility, maintenance, and how it ages. In addition, crafts and building methods that support future renovations and disassembly will be considered.

Furthermore, the project strives to attain social sustainability within the program of the building which as such is a place with the ambition of knowledge exchange between generations and the strengthening of local identity. A competence centre for traditional boats is in a way a place to learn to appreciate nature. The crafts itself is deeply rooted in nature and sailing the boats is a way of utilising the force of nature. A feeling that, when experienced, makes one appreciate nature even more. And it is widely known that it's easier to care for something you have a relationship to.

Finally, decisions regarding costs will be made beyond economic impact. More expensive solutions will be chosen if they imply better long-term effects on domestic employment and the environment.

Delimitations

Thesis — This thesis project time is limited to the spring term of 2025 (30 credits/20 weeks) and a preparation course in the autumn of 2024 (15 Credits/10 weeks).

Implementation — The design proposal in this thesis is fictive. The owner of the plot is informed about the project but there are no current intentions to realize the proposal.

Proposal — The proposal will only focus on one main building for the *Competence Centre* even though complementary buildings and structures as well as a design strategy for the overall plot are all needed. To fully complete the Competence Centre, complementing buildings with important functions calls for new designs or transformation of the existing ones as well as a redesign of the harbour area for a fleet of traditional vessels.

Outcome — The main result of the project is expressed in diagrams, drawings and visualisations. This should be seen as a possible answer to the research questions which further is being discussed in the final chapter.

Reading instructions

The thesis is divided into five chapters including this first introduction chapter. The second and third one focuses on creating a knowledge basis about the the subjects on which the design proposal will be based upon. In the fourth chapter, the design proposal is presented in diagrams, drawings, images and supporting text. The fifth and final chapter draws attention to the discussion and reflections about the findings from the project.

2|Background

- Choise of subject
- Bohuslän´s building tradition
- Building characteristics in depth
- Hälsö
- Traditional boatbuilding

Fig. 5. Morning view from Kwia to Björkö

All places are part of a larger context and the contextual design approach aims to learn more about the project site to be able to make more conscious design decisions and end up with a design that is rooted in the site. Specifically in such cases as this, where the aim is to create a new building in a historical context, and where the building in itself is to house craftsmanship with historical ancestry.

Therefore, this chapter is initiated by spending some time in the background of coastal villages like the one the site is surrounded by, both introducing some of their history and how they have come to develop alongside a more globalised world. Furthermore, the background of Bohuslän's building traditions then and now has been researched, as have the building characteristics of Bohusläns coastal villages. Both of these are explained more in-depth in this chapter.

Finally, the history of Hälsö, and specifically Kwia where the site is placed on the island, is described, as is the craft of traditional boatbuilding since that is what the building will be programmed for.

Bohuslän's building tradition

Developement of coastal villages
The phenomenon of people visiting coastal villages as tourists on vacation is not new, in fact, it goes back to the 19th century (Werne & Östnäs, 1983). In general terms, fewer people live in these villages on an all-year-round basis nowadays and local job opportunities are generally also fewer. Out of Swedish municipalities´ total incomes, approximately 67% came from taxes in 2023 and the greatest share is from local taxpayers (SKR, 2025). For some Swedish municipalities, this has grown to become a major economic problem. Åre, Gotland and Sotenäs are three municipalities lacking enough permanent inhabitants to cover municipal service costs (Loberg, 2024). Moreover, the rising demand for vacation houses in these places also increases the house prices, making it sometimes impossible for locals to afford to stay. This is why local politicians have asked for law changes (Loberg). Expanding the range of job opportunities and opening up to new activities and businesses are arguably other possible ways of enabling more people who are willing to stay to do so, and to attract others to move in. For that to happen, one must extend the perception of what the place can be in the future and envisage a goal where the existing character of a site and a new activity is carefully taken care of to maintain continuity.

The globalised world
In a debate article, Lampugnani (1995) states that changes within architecture up until the 18th century were mostly limited to tiny unremarkable changes and improvements to what was otherwise considered compositional laws. Further, he argues that the later observed radical change in architectural design in the name of innovation is rather an attitude and a will to do something unusual than it is the implementation of improvements and new findings. However, the world today, and arguably the architecture, is much more universal. This is both because of advanced regulations, and the globalised world offering identical building components worldwide (Frampton, 1983). When talking about universal architecture, rootlessness is soon found among the depictions. In the old days in Bohuslän, materials for different building components were sourced locally (Bohusläns Museum 2024). Further, the craftsmen who built the buildings were often locals or within the closest region. As such, the buildings were largely rooted in the region. Nowadays, large building modules can be built in a factory and transported to the site. Construction companies can reduce their costs by sourcing components from abroad which is why e.g. doors and windows are often imported (Köhlner, 2011). These products along with other visual components that are repeated in other parts of the world are arguably not the ones that we perceive as rooted but rather parts of what Frampton refers to as the universal style.

Bohusläns building tradition
Bohuslän's traditional buildings are more than a certain aesthetics. They result from a long building tradition development, often of the most rational and available materials combined with unspoken building norms (Werne & Östnäs, 1983). One could argue that this development came to an abrupt ending when modernism rationalised the building industry by introducing more time-efficient methods. In those sensitive environments where the building stock is still dominated by traditional buildings, new buildings should only be added with great consciousness. In Bohuslän there is a multitude of these environments, even if most of them have faced changes over the years. When adding a building, one must balance between traditions in the context and a modern mindset. On the spectrum of options, two extremes can be identified. On one hand, imitating the old buildings to create a pastiche, defies the logic of cost efficiency in labour and material which once shaped these environments. On the other hand, the interaction between a rational contemporary building and this context would arguably appear rootless in such a place. In seeking to preserve the authenticity at these places, the solutions are probably somewhere in between but there is also a risk of distortion of the historical narrative.

Fig. 6. Hälsö in the turn of the century

Building characteristics in depth

The significant appearance of Bohuslän's villages can be found in their typical house types and colours, and their composition in the landscape of the sky, the rocks, and the sea. This composition is not by accident but for a very rational reason, many of which Bohusläns Museum (2024) presents in their collection of historical articles on the area. For starters, the oldest traditional Bohuslän villages still existing today are generally built in the early 19th century. During this time, the order of boat, jetty, boathouse, and resident house was crucial, as arable land was rare and expensive. Fishing, however, was free for all to catch on the west coast. Consequently, Bohusläns Museum explains how people rented small land plots on which to build their houses.

Placement

The houses were built close together in locations well suited for the demands of seafaring (Wern & Östnäs, 1983). Also, the buildings were initially built on land that was not owned by the house owners. The tricky question of the property division in the fishing villages remained unsolved till modern times in some cases (Wern & Östnäs). Buildings from the 15th and early 16th centuries, most of which are demolished today, were constructed of the material in the immediate vicinity. Stone, seaweed, soil and timber from wrecks were used. Eventually, the people started to trade with people from the inland where good quality timber could be found (Wern & Östnäs). This development gained momentum during the 16th and 17th century. The raising of a house often started with the coming owner putting wooden battens on the ground where he intended to build. This was a social process where consensus between the neighbours had to be reached, rather than a legal process. If the battens were left alone after a certain time, it was considered approved. (Wern & Östnäs). It was important to avoid blocking the neighbour's view of the sea but it was also necessary to build tight. This was because one wanted to avoid building on arable land (Bohusläns Museum, 2024). Wern & Östman also suggest that the cramp villages could be due to how land later was inherited. In some parts of Bohuslän, the firstborn child inherited everything but in other parts, all heirs received a share of the property which resulted in cramp village typologies.

Fig. 7. Gullholmen, Bohuslän

After the neighbours had approved the placement of the house. The structure could be ordered. As mentioned, this was often ordered from farmers who owned forests in the inland. The farmer built the structure, stacked timber structures, on his land and marked all logs whereafter it was disassembled and transported to the nearby water (Wern & Östnäs, 1983). From there, the timber was rafted to the site where it was raised again. Sawn products came from the nearby sawmills, and the local carpenters helped with the construction as well as decorative carpentry (Bohusläns Museum, 2024). These carpenters often made profiled wooden mouldings up until the early 19th century but after that, the houses were often influenced by the Schweizer style with characteristic decorations of i.e. porches, gable ridges, and facades. Wern & Östnäs state that the importance of being accepted in these small villages was crucial for survival. All work was done in teams during these hard times and if one did not fit in, he could be excluded. Similarly, it was not popular if someone tried to mark material status. Houses were therefore very similar in style within the villages. Wern & Östnäs call this phenomenon Building Condition. They suggest that the buildings follow certain compositional and aesthetic laws which go beyond the framework put up by outer aspects such as material availability, climate, topography and livelihood. The space for variations within this framework proves that social and cultural solidarity was of even greater importance. Hence, inspiration for a new house was often found in a neighbour's and local designs appeared.

Houses

In general, two types of houses dominated the building stock from the mid-19th century, and they are separated by their plan size and sequence. As Bohusläns Museum (2024) describe, the smaller houses consist of one, and the larger of two sequences of rooms

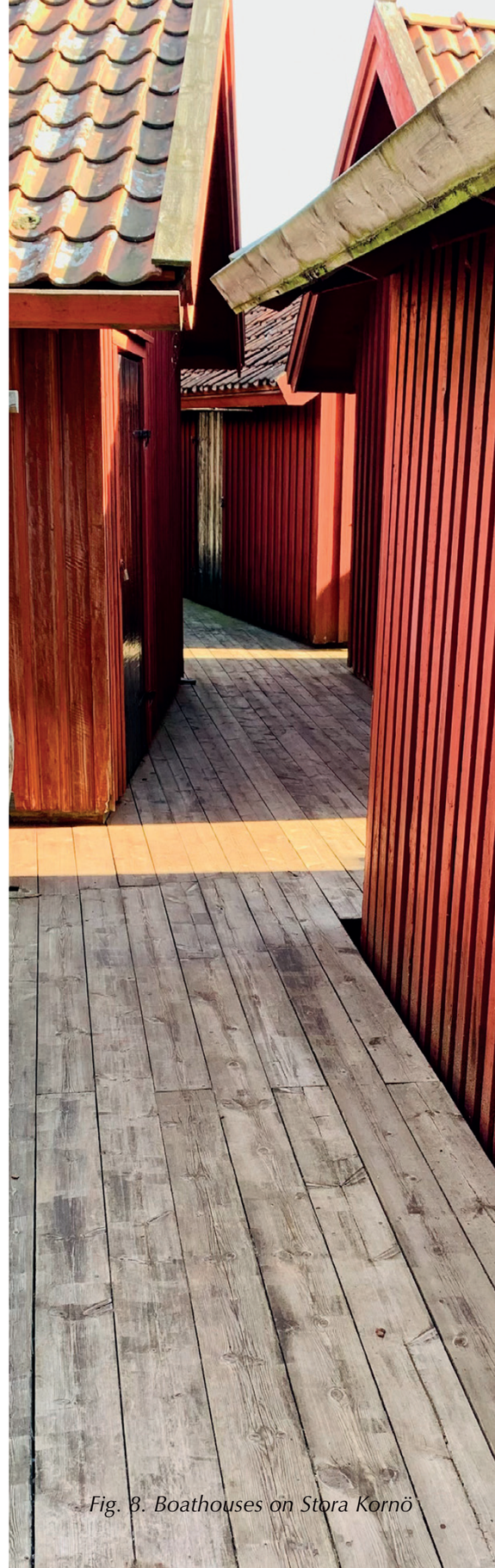


Fig. 8. Boathouses on Stora Kornö

in the house's width. Moreover, the larger houses had a plan divided into four rooms sometimes with full height on the upper floor while the small houses had a kitchen plus one or two rooms in a row and none or a significantly smaller attic. The foundations were often a stonework of natural stone but the quarry industry in Bohuslän made squared stones available, especially in the villages near the quarries (Wern & Östnäs, 1983). The older houses generally had a stacked timber construction covered in a vertical board and batten panel and single pantile roofs but eventually, the pole frame structure also became common (Bohusläns Museum). Commonly in the 40s and 50s, the battens of the facades were removed, and the entire facades were covered in asbestos sheets (Lefvert, 2012). In some villages, this change happened over a few years which further proves the strong norms within these communities even up until modern times (Wern & Östnäs). Economic or time-saving reasons are also excluded. The economic situation for the inhabitants during this time was described as so good that they probably could pay someone to maintain the old facades.

Boathouses and magasines

As the Bohuslän houses transformed during the 19th- and 20th centuries, the boathouses have also been developed over time. These were small, stack-timbered sheds up until the early 19th century, where the fishermen had a place to store their fishing gear. Over time, the gear increased in size and larger sheds were needed. According to Bohusläns Museum (2024), the pole timber frame technique became more common in the latter half of the 19th century. These were non-insulated structures only covered with a facade of wooden boards. Historically, the technique is almost non-existent in residential houses but is very common in utility buildings (Lassen, 2021). Some of the boathouses were eventually built with an upper floor where the enormous purse seine could be stored (Bohusläns Museum). The location of the boathouses was either right by the water in connection to the houses or out on the smaller islets where the winter fishing gear could be stored over the summer without rodents destroying them (Bohusläns Museum).

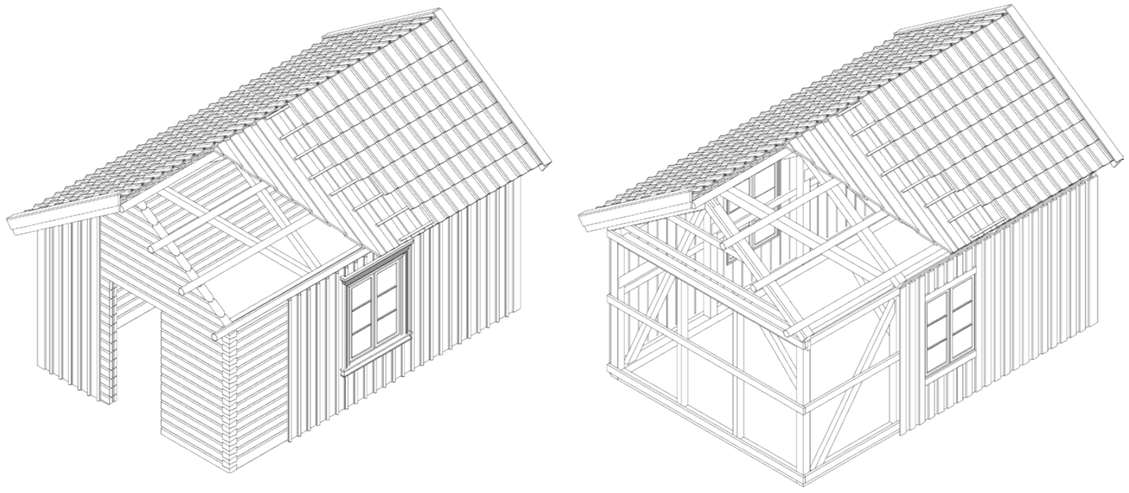


Fig. 9. Basic principle of stacked timber construction and timber frame construction

Fig. 10. Rooftops on Gullholmen

Hälsö

Hälsö is a small island in Öckerö municipality with a little less than 600 inhabitants (Öckerö kommun, 2025). The island can be reached by car via ferries and bridges connecting the islands in the municipality. Ancient remains testify that the island has probably been inhabited at least since the Middle Ages but findings that date back to the 9th-10th century have also been found (Öckerö Kommun, 1985). The oldest settlement that has been confirmed dates to around the 13th-15th century and these were temporary settlements located in a whole other place on the island than where the current village is today (Hansson, 2023). The settlements were used during the early herring periods after which they were left abandoned. During the 17th century, the inhabitants earned their living on fishing and agriculture. The limited area that was suitable for agriculture was valuable and stone fences were built to protect them from the cows on the island. Up until the Treaty of Roskilde in 1658, Bohuslän was part of Norway, which in turn was a Danish province (Hanson; Öckerö Kommun). Consequently, for those inhabitants of Hälsö who had suitable boats, shipping of timber and firewood from Orust to Copenhagen was common since trade was only allowed with Denmark. In 1866, Hälsö and its nearby islets were divided into six properties which accrued to six owners (Hansson; Öckerö Kommun). One area was exempt in the division: Kwia, which remained jointly owned.

The shipyards: Janne/Petters yard

Kwia, or the early spelling Qwia, is located on the eastern side of the island right across Björkö. In the early 19th century, this is still the harbour for the island's fishing teams (Öckerö Kommun, 1985). Learned from old photographs, the boats are moored to wooden poles in the harbour basin and the shoreline was covered with drying racks for the fishing gear. In 1805, a small industry for herring saltery and fish liver oil production was founded, Röskärs trankokeri (Svensson, 2014). Before this, the area had a lot of fruit trees and was often referred to as "the garden" (Hansson, 2023). In 1876, a blacksmith named Janne came to Hälsö from Ringen's shipyard on Marstrand (Hansson). Two years after, he established Hälsö's, and the municipality's, first boatyard in the same area. The business came to be successful, and Janne is said to have produced over a thousand wooden hulls in his lifetime. His outstanding skills allowed him to build clinker hulls without using templates. He built on intuition and understood how the planks should be profiled to create the right shape of the hull. The yard was taken over by the son Petter in 1926 and larger boats are being built, now with the carvel method that was more rational for the size (Bornmalm et al.)

Fig. 11. Hälsö in its broader geographical context

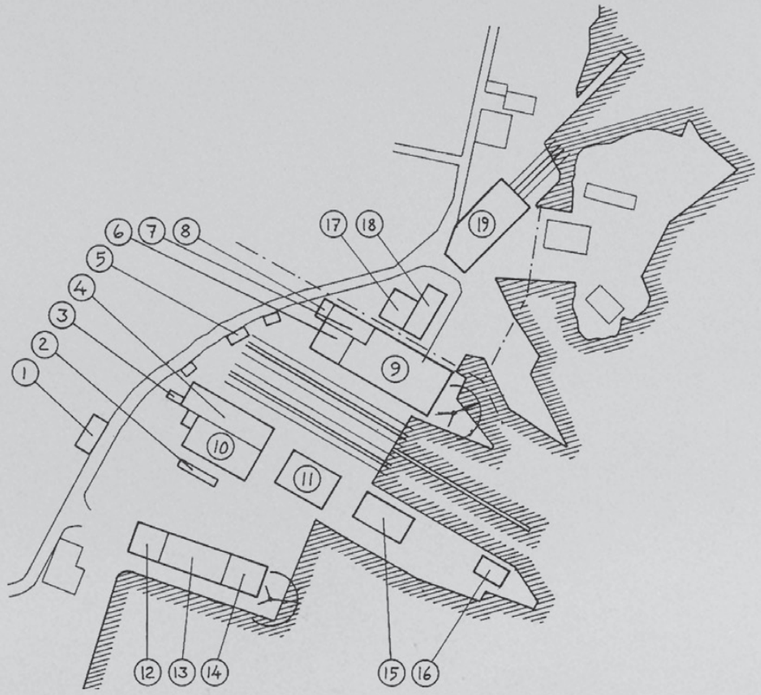
The shipyards: J.W. Bergs Yard

A few years earlier, another man reached Hälsö: Johan Wiktor Berg. He had already worked on a few other yards on the coast as a blacksmith and an installer of engines and other mechanical features in boats (Bornmalm et al., 2008). In 1912, he moved to Hälsö and worked as an independent blacksmith in Janne Petersson's yard but the following year he bought an old herring magazine where he established his own mechanical workshop. The business expanded and two slipways were installed so the company could haul boats and offer repair and maintenance work. A bronze foundry was soon built where propellers and other fittings were cast. Eventually, this successful move resulted in an agreement with the engine manufacturer Bolinder stating that all marine engines sold should be equipped with a Berg propeller. Likewise, only Bolinder engines were to be sold together with the installation of new propellers at Berg's yard. The production of fishing boats started in 1928. A bronze foundry was built where propellers and other fittings were cast. The area was cramped and to gain more space, an old cutter was dragged to the shoreline, filled with stones and finally provided with a deck. This is still today part of the pier on the site. A concrete barge was used to extend the pier even further but instead of filling it with stone, it was used as a place to saw and store all timber for the boatbuilding. A sawmill was mounted on top of its deck and the old mast was used as a crane for the timber.

At that time, the two yards were building boats right next to each other. The following years were good, and the mid-thirties marked the record for Petters yard. 13 boats in a year, more than one delivery a month (Hansson, 2023). During these years, the yards built boats to Sweden, Norway, England and Scotland Ståhl, 1982). The capacity at Berg's yard could not meet the demands so a few hulls are ordered from Norwegian boatbuilders and other yards in Bohuslän. Only the final installations took place at Hälsö (Bornmalm et al., 2008). Also, 1944-1945, both yards built new hull-halls or boathouses. In 1944, a gigantic order from Iceland of 50 boats had been distributed to a few yards in Bohuslän and one of the requirements was that the boats should be protected from the weather during construction.

To expand the capacity, another boatyard was bought on Björkö by Berg's yard. The business continued and a propeller factory was established on northern Öckerö (Bornmalm et al., 2008). However, a fire destroyed many of Berg's buildings in Kwia in 1961. They were never rebuilt. Instead, Petters yard was bought the year after. Those buildings had survived the fire and the business could continue but the demand for wooden boats faced a decline. The yard decided to focus on the propeller manufacturing. The yard which had stayed within the family till then, was sold in 1973 but the propeller factory on Öckerö remained within the family Bornmalm et al.). The new owners continued the construction of fishing boats in steel and only a year later, a workforce of 150 persons was employed at the yard with the new name "Hälsö Varv". Unfortunately, this didn't last for long. The company could not deliver on contracts that had been signed for new boats in 1973. When the construction of these boats was about to start two years later, the oil crisis had hit and all prices had increased. In April 1975, the bankruptcy was a fact, and the yard was once again sold. This time to Gustaf Mattson in Uddevalla who runs the yard for another two years, although on a smaller scale than before. For a short period, Öckerö municipality owned the property before it was sold to the current owners. Their company specialised in the construction of piers and harbour-installations as well as underwater-blasting. Nowadays, they rent the parts of the site to a company which deals with boat end engine maintenance.

Fig. 12. The old logotype of J.W.Bergs



J.W. BERG'S YARD
1. Office
2. Steam box
3. Air compressor
4. Slipway winch
5. Boat hall
6. Blacksmith shop
7. Storage
8. Workshop office
9. Mechanical workshop
10. Wood workshop
11. Frame workshop
12. Sheet metal workshop
13. Welding workshop
14. Metal foundry
15. Sawmill
16 Engine workshop

JANNE/PETTER'S YARD
17.Blacksmith/mechanical workshop
18. Wood workshop
19. Boat hall

Fig. 13. Map of the two yards in the 1950s

Fig. 14. The slipways full of boats








Fig. 15-30. The development of the shipyard site from the 1920s to 2005








Traditional boatbuilding

A boat takes shape

The procedure of traditional boatbuilding looks different depending on size and building method. However, common for all boat types is the start of a keel, bow and sternpost (Quirin, 1984). From here and on, the procedure takes different roads depending on whether the boat is to be clinker-built or carvel-built. Further, the clinker building method is the oldest method and it is characterised by overlapping planks in the hull. In this case, the shape of the hull is defined by templates which are mounted onto the keel in an upright position and perpendicular to the length of the keel. Planking is added outside the templates. The planks are steam-bent into position and each overlapping plank is attached to the previous with copper rivets or with wooden dowels which makes the hull self-standing when removing the templets after the top plank is fastened. After this, the frames are fitted to the inside of the hull to stabilise it and add strength. The frames can either be steam-bent ribs or massive wood sawn into the right shape (Quirin). In the case of the carvel method, the frames are usually pre-produced in sections with the help of section drawings (Bornmalm et al, 2008). These sections can be produced on the workshop floor and then mounted onto the keel. The framework of the hull is, so to speak, pre-assembled before the planking is fastened. Only smaller adjustments are needed on the outside of the frames as the planking is adjusted into position. These are either attached with dowels, nails, screws or a combination of them. The following steps include decking, interior, rigging, etc all of which look similar regardless of boat type. Also, the buildings in which the boats were built were often a result of the need and the available material. However, after WW2, an increase in architect-drawn yard buildings was observed (Bornmalm et al). Glue-laminated timber beams allowed for larger and stronger buildings. The largest boats which had previously been built outside could now be built indoors.

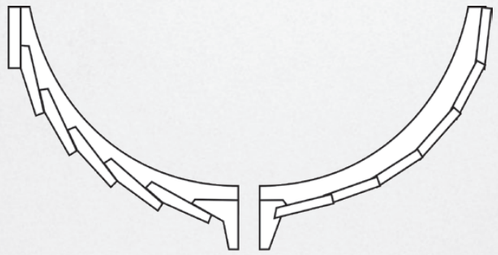


Fig. 31. Section of clinker built hull (left) and carvel built hull(right)

Fig. 32. The construction of a new fishing boat

The case of the Swedish West Coast

Boatbuilding is a far-reaching industry of tradition in Bohuslän (Borge & Bremertz, 2017). During the 16th and 17th centuries, fishing and shipping had reached a significant status in the society of Bohuslän. Boatbuilding was at this time often an additional occupation for common people otherwise working as farmers or with fishing. Over time, the occupation evolved into a profession and in the mid-16th century, large ships were built such as warships to the Danish crown, which Bohuslän was a part of at the time (Hansson 2023). The boatbuilding industry is eventually concentrated on Orust, the largest island on the west coast. Long shallow bays protected from the open sea and natural oak forests made the island suitable for boatbuilding. No other place in the country has produced such a variety of boats in terms of types and sizes, than Bohuslän (Skanse & Claesson, 1987).

Bohuslän's yards could generally be categorised either into small boat yards or fishing boat yards. Some of the yards explicitly specialised in pleasure boats and or small fishing boats. These yards came to be successful, especially in the 1930s when people's economic situation gradually became better. Their biggest challenge would not be met until the new boatbuilding material was introduced, glass-reinforced plastic.

During the same time, the fishing boat yards built larger boats, most of which were equipped with an engine. These yards were fewer in number. From an inventory of fishing boat yards between 1940-1949, there were only 10 of these yards. Four in Gothenburg's northern archipelago, two on Tjörn, one each on Orust, Marstrand, Bovallstrand and Studseröd. The average workforce amounted to 15 men but one stands out with 85 men for the same period: J.W. Bergs, on Hälsö.

Fig. 33. Assembly of frames for a new boat at J.W. Bergs yard

3 | Theory

- Theory & design approach
- Architectural eference projects
- Programmatic reference projects
- Site analysis
- Guiding factors
- Overall program

Fig. 33. Workshop at Hällevikstrands varv

Theory & design approach

Contextualism
The overall approach of contextualism refers to the theory of addressing the identity of a place to attain continuity and congruence when adding a new building to an existing surrounding (Lambe & Dongre, 2019). Thus, the importance of looking into the traditional architectural style for the area, history, culture and nature is emphasised. The context in this regard can refer to a site's immediate vicinity or a wider area, focusing on the concrete or abstract character (AlFadalat & Al-Azhari, 2022). Key in contextualism is Genius loci. The Roman concept of Genius implies that every independent being has its own spirit that gives life and determines their character. Further, places also possess their own spirit, their so-called Genius loci (Frampton, 1983). The more applicable concept of Contextualism for this thesis can be found within the sub-theories following.

Regionalism
Regionalism strives to take count of the region's local climate, context, and topography as well as what the region has to offer in terms of material, local skill, lifestyle and cultural aspects (RTF, 2022). In contrast to contextualism, where the context border is diffuse, regionalism focuses on the context within a specific region.

Critical regionalism
Complementary, critical regionalism is a position that sought to counteract placelessness and lack of identity in what is referred to as universal architecture, by designing situated architecture (Frampton, 1983). However, the modern, standardised and global style with a lack of identity and connection to its context, is not fully rejected within this concept. Critical regionalism rather bridges the gap between local and global development but does so with a certain resistance towards modernism without being regressive (Avermaete et.al., 2019). Besides the position in modernism, critical regionalism otherwise shares the same core values as regionalism. While beeing closely connected to the theme in the background, these theories further helps to make well-founded design decisions that can help attain belonging.

Building culture continuity
As described by Wern & Östnäs (1983), the building culture in the specific context of Bohuslän was up until the later industrial era carried and developed by local inhabitants and craftsmen. Even though the region has adapted in multiple ways due to changing conditions over time, the changes were always within the local culture. The construction of a house was more of a social than a legal process. Social constructions depended on consensus and respect and building traditions was based on the collective knowledge of generations.

The building culture today is not living anymore (Wern & Östnäs). Further, it has reached more of a cosmopolitan character where building methods are practised in more or less the same way with similar building materials and components. Also, the building tradition is no longer carried by the inhabitants but by architects, engineers and specialists. Wern & Östnäs suggests that what was possible then must be possible today, to develop and adapt environments to our time's demands with maintained continuity, which today's environment lacks. If this is to succeed, they demand responsibility from architects and other specialists today in handling changes, upholding collective consciousness and adapting a cultural approach. It is, however, necessary to understand that there is another time and the reality looks different. One needs to address another type of use for the buildings today and adapt them to new values and needs.

Reference projects
The reference projects following are buildings chosen by their relevance to this project focusing on the contemporary and traditional relation but also the building type and program. Some references touch upon all of these factors while others don't. The references range from old yard buildings to contemporary buildings.

The program is also a part of the research, observing old/existing yard buildings is essential to get a deeper understanding of how the activities are run and what is required from the building.

Architectural reference: Sågen

Aspects of relevance/reference focus

Building program/ function program	Contextual relevance/ belonging	Local value creation/ interference	Construction rationality	Appreciation forecast	Architectural apperance & proportions
	X	X		X	X

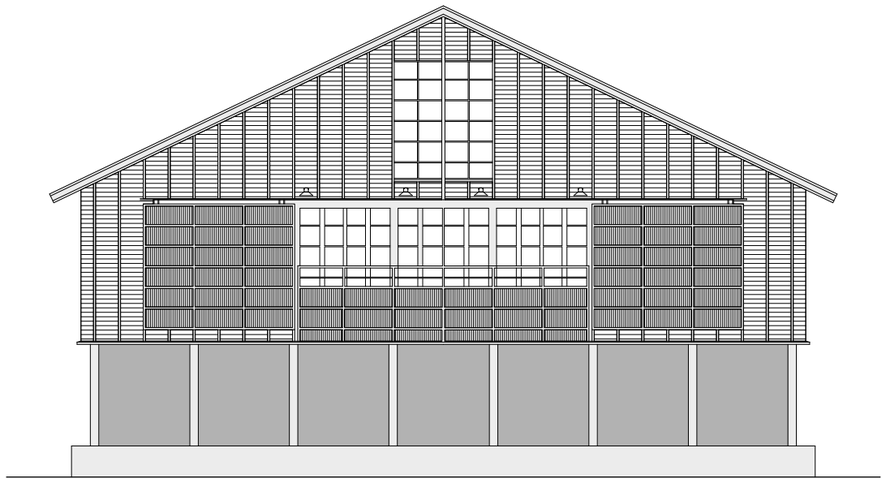


Fig. 34. Drawing of Sågen

Architects: 2BK Arkitekter.
Location: Roslagen, Sweden Year: 2017

This is a renovation project of an old economy building. The building still has much in common with traditional Swedish economy buildings. The basic silhouette is maintained but the facade is strictly following a rhythm. The carefully and strictly designed facade is not typical for traditional economy buildings, but a nice modern touch to refine the traditional appearance. Care for facade details in all scales along with carefully executed craftsmanship is what makes this building stick out and address its belonging also amongst contemporary buildings.

Key takeaways:

This building has a monochrome exterior appearance but also a lot of details which sets a rhythm in the facade when looking closer. This building alludes to the development of a building tradition without being afraid to introduce modern touches and order. This makes it easy to relate to and is hopefully more appreciable over time.

This project was studied mostly in exterior and interior pictures, facade drawings and informative texts by the architects.

Architectural reference: Atelje Södersvik

Aspects of relevance/reference focus

Building program/ function program	Contextual relevance/ belonging	Local value creation/ interference	Construction rationality	Appreciation forecast	Architectural apperance & proportions
	X	X	X	X	X

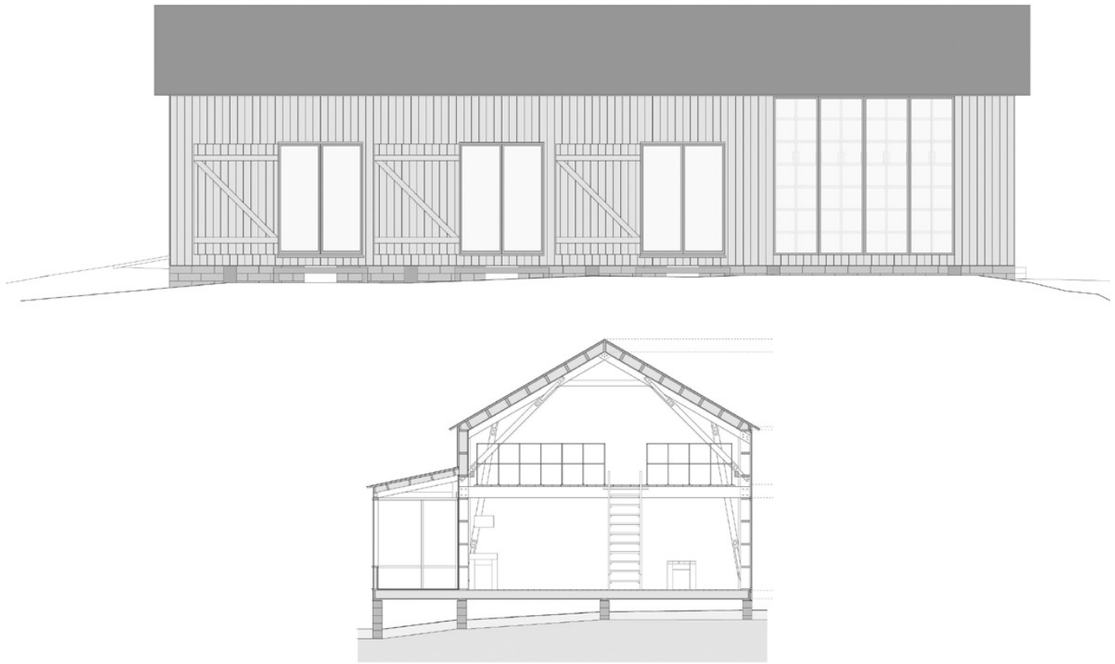


Fig. 35-36. Drawing of Ateljé Södersvik

Architects: Anders Johansson & Anja Thedenius. Location: Södersvik, Sweden Year: 2018

This building is a further development of the Swedish barn tradition focusing on the wooden pole structure and the silhouette of the building. It is designed cleverly, and the windows are nicely integrated into the structure. The exposed timber frame structure itself is in some ways rationalised to minimise wood carving on site by instead using metal plates and bolts. Even though the technique might be associated with traditional building, the raising of the construction was a fairly effective task which did not require cranes but only tackles and ropes.

Key takeaways:

Barns were, just like many old yard buildings, simple non-insulated buildings but in this interpretation, the architects also wanted comfort in the building. The low-tech approach and working with the logic of the materials in this project go well in hand with interpreting the barn. The architects have strived to show the pole construction and have done so in a logical way.

This project was studied in detail both in drawings and in photo documentation from the entire construction phase. The project was also discussed with the architects.

Architectural reference: Wood production facility in Switzerland

Aspects of relevance/reference focus

Building program/ function program	Contextual relevance/ belonging	Local value creation/ interference	Construction rationality	Appreciation forecast	Architectural apperance & proportions
X	X	X	X	X	X

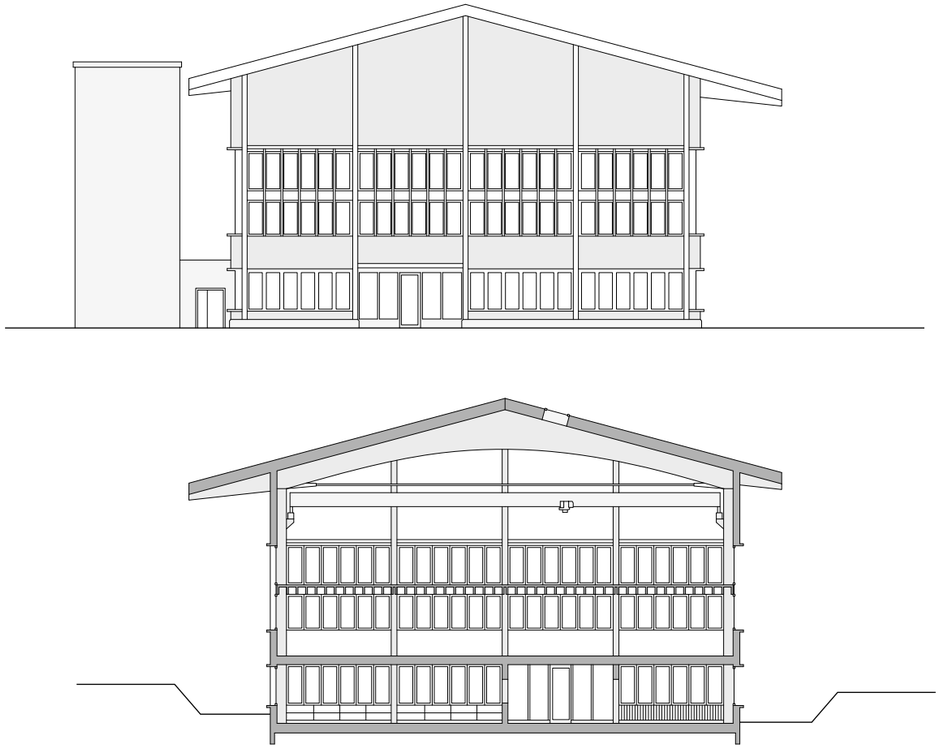


Fig. 37-38. Drawing of Wood production facility

Architects: AMJGS Architektur, Marti AG Matt Location: Glarus Süd, Switzerland. Year: 2019

This is a wood production facility where the architects have treated materials and details as if it was a villa. In this project, wood is present on almost all surfaces and in the load-bearing structure. Comparing the building silhouette to the surrounding buildings, the design interprets the building tradition in the Swiss context, which still has a building culture that is more connected to traditions compared to the Swedish case. However, in the interior, the functional needs are prioritised yet carefully designed. Functional requirements have been nicely integrated, for instance, the installation of the traverse, and the woodworking machines.on wires in roof construction to hold the primary roof beams together and maintain the ceiling height

Key takeaways:
This project exemplifies how a building can be designed to maintain continuity with its context and to be optimised for an industry purpose. Nice ways of installing machines and other functional equipment. Working with wood and different wood products in all scales of the building. From wooden cobblestone floors in the office spaces to the carefully designed facade.

Architectural reference: LOT Holzbau

Aspects of relevance/reference focus

Building program/ function program	Contextual relevance/ belonging	Local value creation/ interference	Construction rationality	Appreciation forecast	Architectural apperance & proportions
X		X	X		

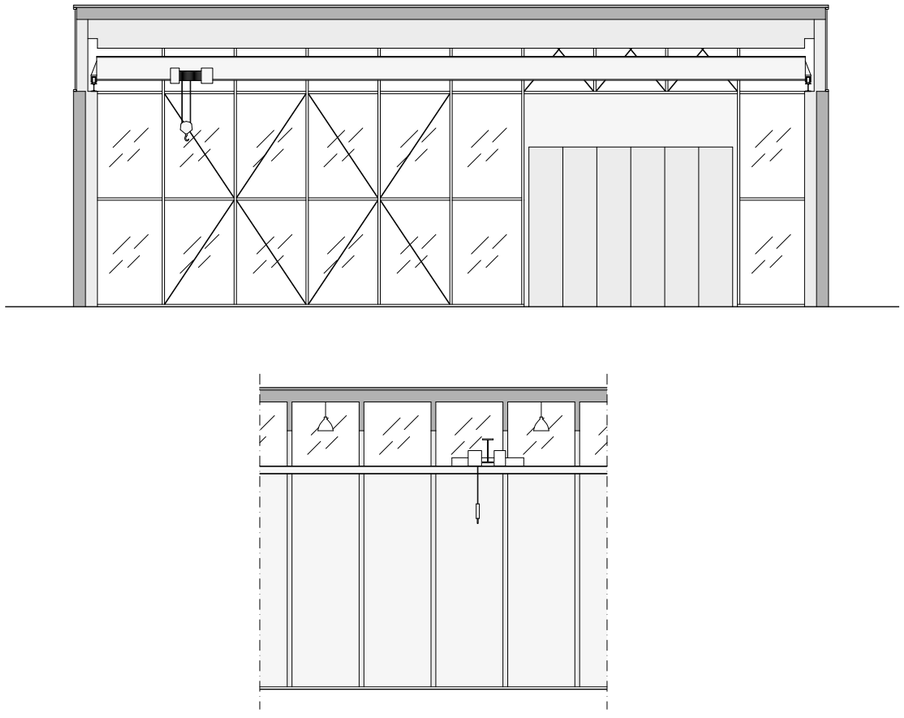


Fig. 39-40. Drawing of LOT Holzbau

Architect: Walter Unterreiner
Location: Feldkirch, Austria. Year: 2000

This workshop building is dominated by wood and light in a dramaturgical composition. Pillars and roof beams meet almost seamlessly right behind the high windows on the long sides, creating an almost floating roof appearance. This is also where the traverse rail is placed. The gabel is glassed from ground to ceiling with only some wooden beams and tension wires behind the glass. Even though this building has little relevance to the contextual design approach, it is still a relevant workshop reference illustrating how architectural ambition can be expressed also in this type of building.

Key takeaways:

Clever integration of travers in the pillar row and nice details for the construction of the glass wall with timber and tension wires as an example of a possible modern touch to a building with functional focus. Also, this type of building can inspire the project with its dramaturgical composition of walls, roof and windows.

This project was studied in drawings and photo documentation.

Programmatic references: Boat and Shipyards

For the sake of understanding the specific operations of a traditional boat yard but also to understand their building methods and aesthetics, multiple yards have been visited or studied in the literature. In Bohuslän, many yards remain although most of them are shut down. Still one can gain useful insights for how the places worked. The reference material is based on the visits and studies of multiple yards in Bohuslän, none of which alone reflects a comprehensive picture. Together, however, and in combination with literature, they shape a good understanding of how places like this work. In addition, two yards in Norway have been studied, one of which has also been visited. These Norwegian yards also are especially interesting in the way they are run as competence centres which combine a commercial yard business with visitor intervention and knowledge exchange. The following yards have been studied:

- Hällevikstrands varv, Orust
- Lilla Kålviks båtbyggeri, Orust
- Holmuddens varv, Orust
- Allmags varv, Orust
- Gösta Johanssons varv, Orust
- Svinevikens båtbyggeri, Orust
- Bassholmens varv, Skaftölandet
- Isegran Fartøyverncenter, Norway
- Hardanger Fartøyverncenter, Norway

Key takeaways:

Aesthetics and building method
The old yard buildings are simple buildings with pole timber frames covered in a plank façade. These buildings are rarely, or only in limited spaces, insulated. Reused building components such as windows and doors often occur. Some yards have the characteristic shape from having been extended several times. Hällevikstrand is a grand example of this. Other yard buildings seem to have an intact outer shape, e.g. Studseröd's yard before it was demolished. In Hardanger however, many of the buildings are new but in a traditional Norwegian style. They are charactarised by steep roof angles and horisontal facade planking in colors of yellow ochre and red.

Hauling
A yard building or buildings are almost exclusively located in direct connection to the water. All of them have some sort of method for hauling boats, either a slipway, travel lift, large forklift truck or a crane. In some rare cases, the boats could be moved to different buildings in the yard by a rotating slipway rail switch. So was the case of Allmag on Orust. For environmental reasons, it is required to have a special facility which takes care of the contaminated water when the anti-fouling is pressure washed in connection to the hauling.

Winter storage
Winter storage is often an important part of the business for small boat yards. Smaller boats are usually stored on land during the winters, sometimes outdoors with a tarp and sometimes indoors. To avoid drying the boat, the climate shouldn't be too dry or heated. A roof, non-insulated walls and gravel/soil floor provide a good climate for wooden boats. Except for the boat, storage of spars, sails, engines and other gear is also needed. Commonly, the boats are put on trailers or wooden blocks and supports. During the rest of the year, these need somewhere to be stored as well. Larger boats are left in the water with a protective tarp cover. To avoid damage from ice, electric propellers are creating constant currents in the harbour basin.

Fig. 41. Hällevikstrands varv

Boatbuilding
When building a wooden boat, special tools and space are required. The machine park differs between the different yards which makes them more or less dependent or self-sufficient. Some yards have their sawmills to saw timber into planks. Consequently, these yards also need more storage space both for timber and for the planks to dry. The basic machines set up in the workshop include a surface and a thickness planer, bandsaw, vertical moulder, column drilling machine, table saw and chip collector. Complementary to this are all the hand tools, many of which are specific for boatbuilding. Sometimes, it's necessary to steam bend the hull planks or the frames in shape. A steam box is necessary, preferably close to where the boat is being built. Commonly, the boats are built on a wooden floor ground since templates, bow and sternpost often are fixed to the floor with wooden battens in the early stages.

Maintenance / Repair
The annual maintenance of traditional boats is done in the spring. During this period, a workspace is necessary. Repair works often require professional competence, tools and methods. For minor repairs, the work can probably be done outside but repairs ranging over longer periods are at least done under a roof, often in the workshop. However, the larger boats are heavy and difficult to move around. Works are often done with the boat on the slipway even though this sometimes leads up to a gigantic boat house. So is the case in Hällevikstrand, Hardanger and Studseröd before it was demolished.

Fig. 42. Lilla Kålviks båtbyggeri

Site analysis

In addition to the historical backtracking of the site and its context described in the background chapter, the site analysis focuses on conditions such as climate, typography, borders, access, and orientations.

The site of J.W. Berg's yard is the property on which this project will be focusing. Hälsö 1:345 remains an industrial property as one of few on the island. This allows for industrial activities.

Janne/Petters Yard was located next to J.W. Bergs in the north.

Except for coming to the site by boat, there is a one-way road leading to the site. Today, there are two gates in the fence. South of the site, there is a carpark for around 20 cars.

One of Gothenburg's and Bohuslän's busiest navigational channels passes by the site in the east. The waves coming from passing boats can be a problem if they pass at a high speed. There is however a breakwater structure and floating pontoon protecting most parts of the site.

The natural shoreline of Kwia was much closer to the houses in the past. The site and the surrounding areas were gradually landfilled as the need for space, transportation and municipal water and sewer services increased.

The houses in Kwia are oriented in different directions. Their placement are adapted to the natural typography. Many of the houses were built before Varvsvägen even existed (before the landfills).

The site is relatively sheltered from winds coming from southwest to northwest by the island itself (1). It is, however more exposed to wind coming from the other directions (2).

With the site located in a protected low spot, it gets significantly warmer than the surrounding areas on sunny days when the wind is coming from the west. On the other hand, the island also blocks the sunset early in the evening, leaving the site in shadow.

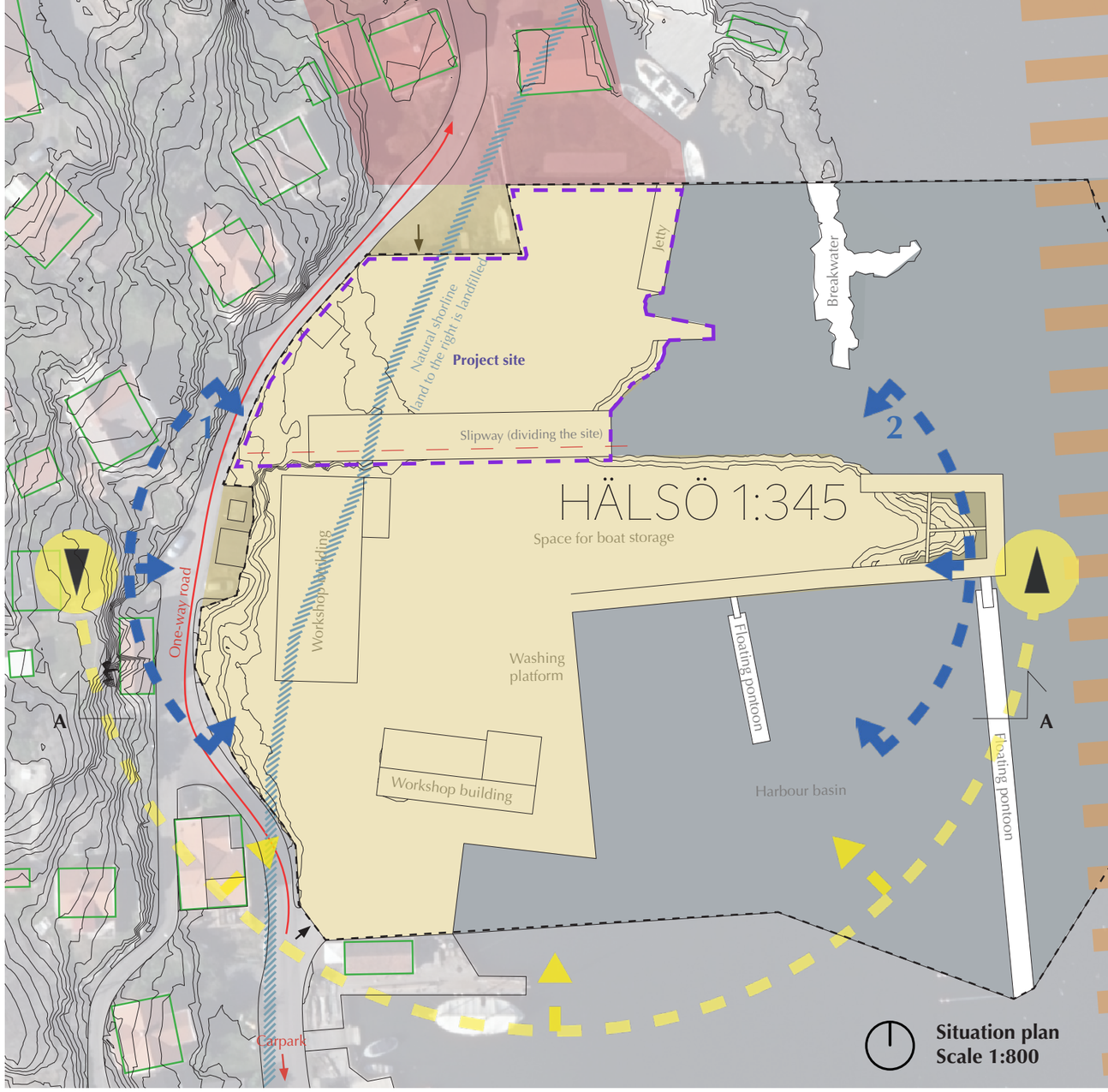


Fig. 43. Site analysis diagram

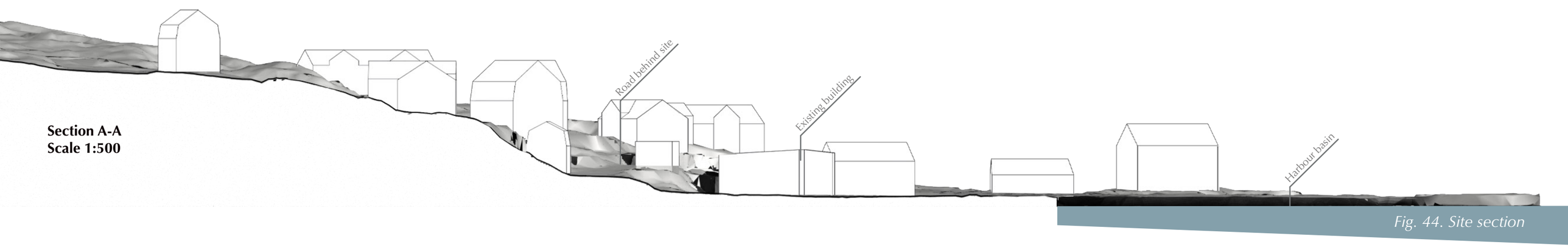


Fig. 44. Site section

Fig. 45. Kwia with Björkö in the background, south of the site.

Fig. 46. North of the site. Hälsö, Stuvö and Källö-Knippla in the background.

Fig. 47. Villas along Varvsvägen, nort of the site.

Fig. 48. View from the old school, northwest of the site

Fig. 49. The southern slipway is covered with gravel. Varvsvägen is behind the fence.

Fig. 50. Northern parts of J.W. Berg's old yard plot, where the slipways used to be.

Fig. 51. View from the pier.

Fig. 52. The entire plot is seen from the southeast.

Guiding factors

The site analysis along with the historical background is compiled in the following guiding factors, a set of statements for the upcoming design work. Together with the research questions, they will form a more detailed material for evaluating the result:

(1) *Hälsö 1:345 is an industrial property with remains from the old shipyard. The proposal will make use of its already-established reputation, specific conditions and opportunities.*

(2) *The existing slipway will be suggested to be restored and activated again, setting the place for a connecting workshop building. Therefore the design proposal will be suggested in the northern part of the plot.*

(3) *The building cannot disturb too much, both size and noise must be taken into consideration. The nearby resident houses are located close to the plot, the new volume shall be placed with a proper distance to them.*

(4) *The character of the building shall be both inviting and rough but ordered in its character and it shall honour boatbuilding and the building traditions.*

(1) *In contrast to the old yard buildings seen in the photo documentation, where the buildings seemed to be built as the need occurred resulting in a cluster of multiple buildings, the new volume shall be determined by all functions from the beginning.*

(5) *The building needs to be flexible, it needs to be able to adapt to different activities and work setups, boats of different sizes and have the spaces needed to be good both for the workers and external groups, for instance, course participants.*

(6) *Interior spaces shall be treated carefully. When possible, installations and equipment shall be integrated with the building.*

(7) *The building shall allow for future adaptations.*

Overall program

This building program is produced from the study of existing yards where the relations connect according to how the plot looks today. This design proposal will focus on a main workshop building, leaving other buildings and the plot as a whole to be designed in the future. Hence functions are included than what the design proposal will cover. The highlighted functions will not be prioritised in this design work.

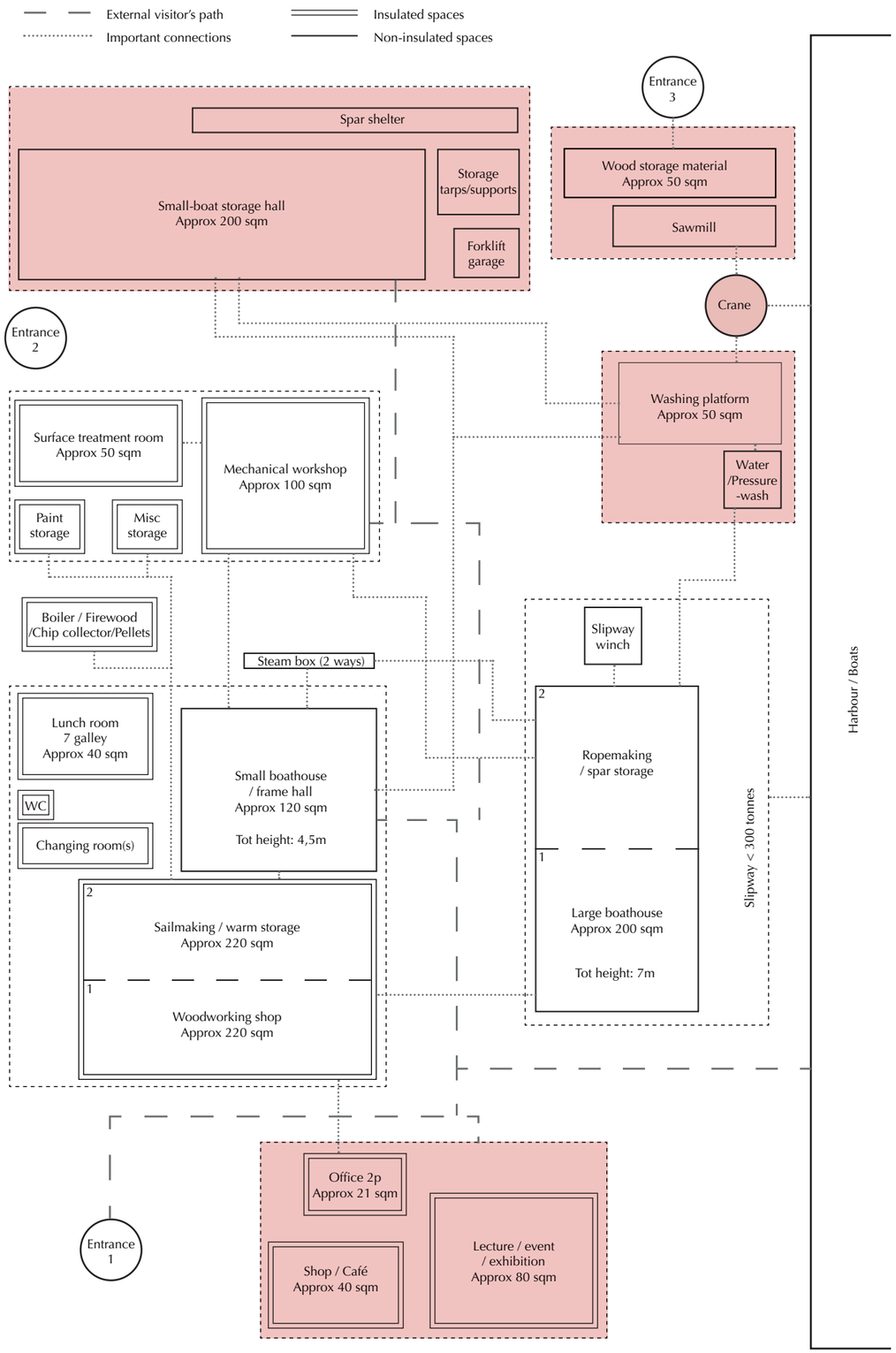


Fig. 53. Overall program for the competence centre.

4|Design proposal

- Design diagrams
- Site plan
- Facades
- Sections
- Plans
- Section perspectives
- Detailed sections & facade elevations
- Perspectives exterior
- Perspectives interior
- Physical models

Fig. 54. Inside Hällevikstrands varv

Almost all design choices are compromises between more or less conflicting ideas, ambitions, needs and requirements. To start with, some essential design choices are shown in diagrams to communicate the arguments behind them.

The final proposal is then illustrated in drawings and visualisations, both on an overall scale of the whole site, a building scale and on a detailed scale focusing on building components and construction solutions.

Design diagrams

Volume & plan:

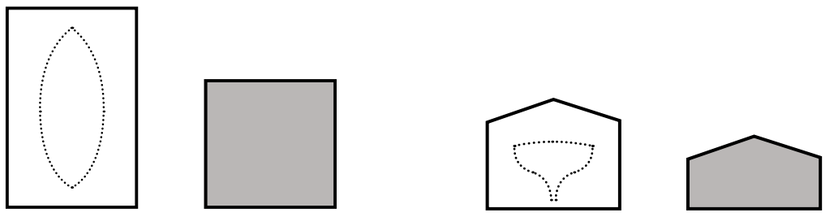


Fig. 55. First volume study, boat hall and workshop in separate volumes. In line with the traditional yard cluster, but not practical for a new building.

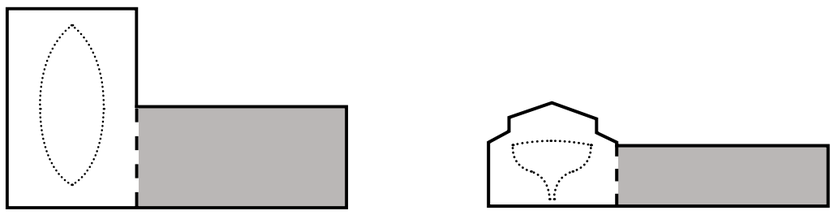


Fig. 56. Boat hall volume connected to workshop volume. Traditional as a volume but poor flow and access.

Fig. 57. All within one volume, workshop on one side. Better access between the boat and the workshop. Effective construction.

Fig. 58. Workshop and boathall in the same volume. Access to all sides of the boat but not enough space for machines on the sides, only in front of the boat.

Fig. 59. Boat hall in the middle and workshops in two plans along the sides. Good access to all sizes of boats from all sides. Appropriate space around the machines and all within a volume with strong connections to one of the old yard buildings.

Placement:

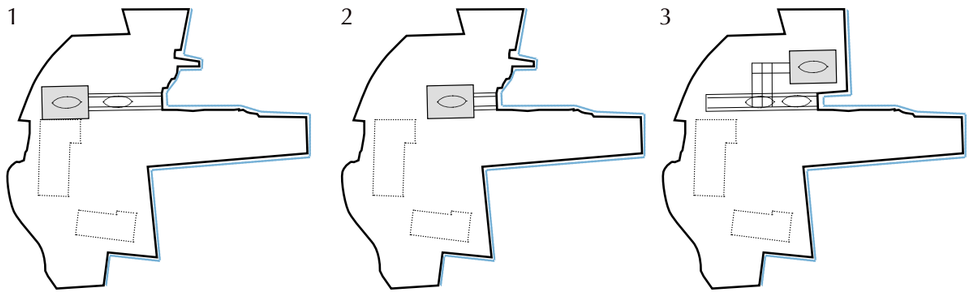


Fig. 60. Placement
1) Volume too close, both to the existing workshop and the villas behind.
2) Not enough space for a boat on the slipway in front. No boats with masts can be hauled.
3) Switch system for boats going into the building. Slipway otherwise not affected.

Section:

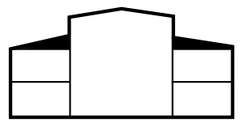


Fig. 61. Introducing the timber frame construction inside the building and conventional exterior walls.

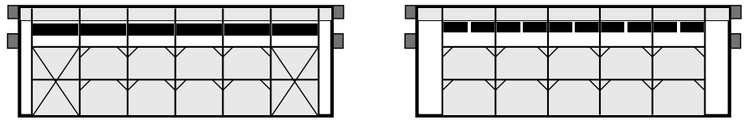


Fig. 62. Testing the amount of pillars in the exposed timber frame structure. Large diagonal braces are needed for the traverse. In the iteration to the right, these can be integrated into the wall. This number of pillars also works better with the plans.

Facade:

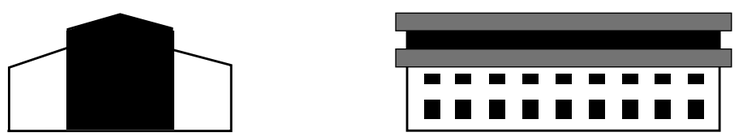


Fig. 63. The tall boat hall is all covered in glass, workshop areas are closed.

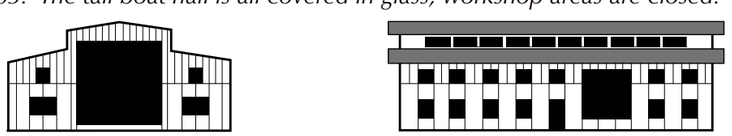


Fig. 64. Working with the square. Adjusting the roof angle and adapting the square to fit to the rhythm of the facade-dividing elements.

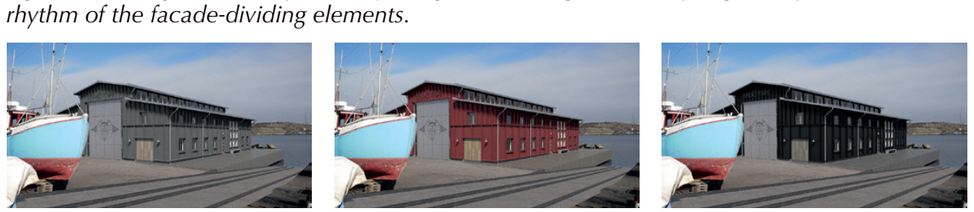


Fig. 65. Testing different facade treatments. Gray tar vitriol, Falu red paint and Falu black paint

Site plan

Boat workshop
(new building)

Area processed in this project

Slipway

Existing yard building

Existing yard building

Space for harbour

Fig. 66. Site plan scale 1:500

Facades

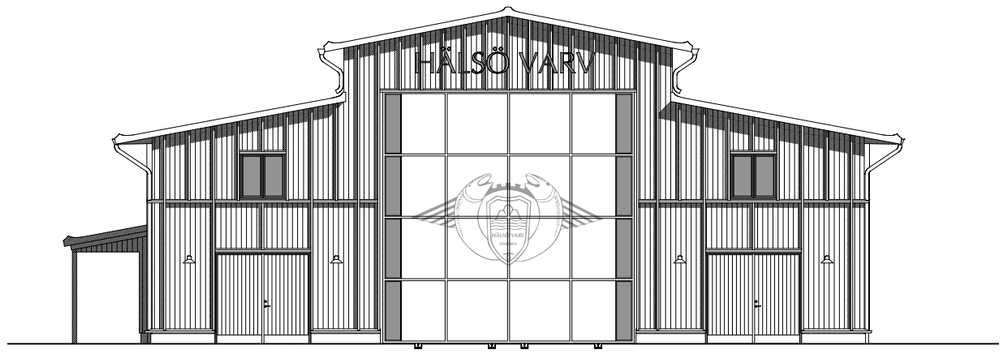


Fig. 67. Facade towards west

Fig. 68. Facade towards south

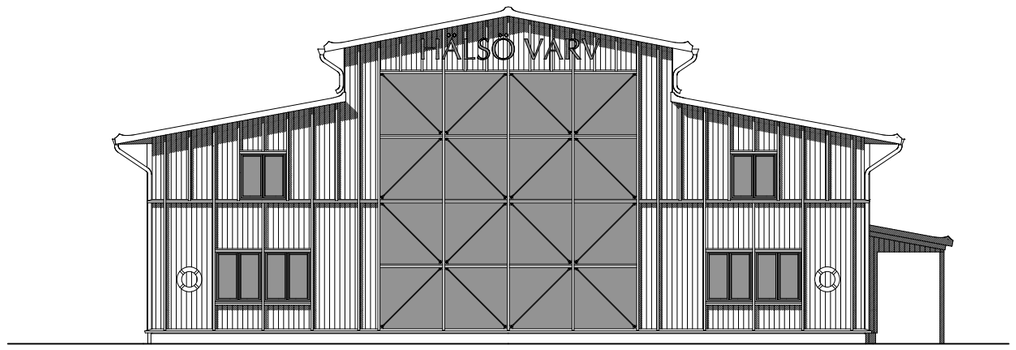


Fig. 69. Facade towards east

Fig. 70. Facade towards north

Scale 1:150

Sections

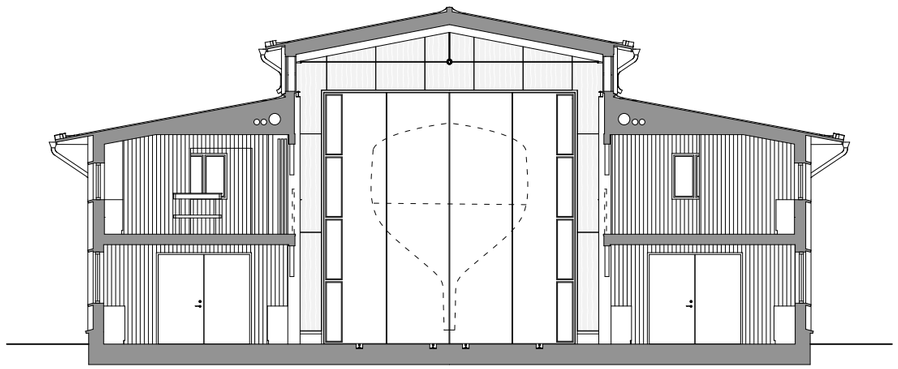


Fig. 71. Section A-A

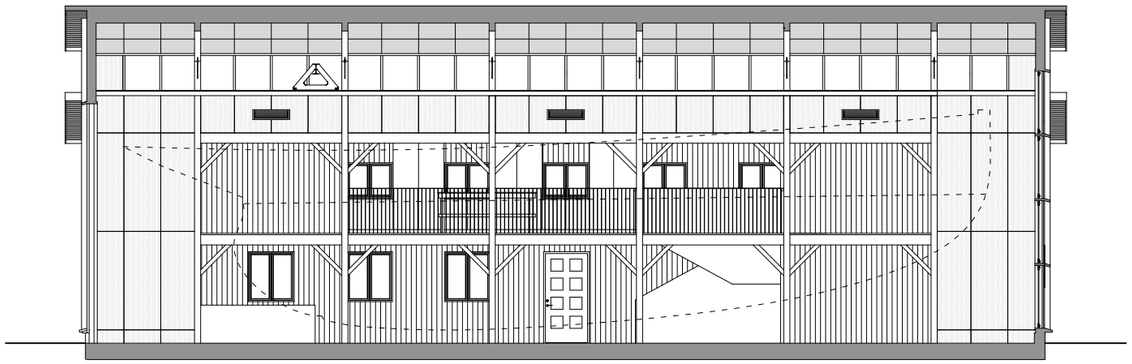


Fig. 72. Section C-C

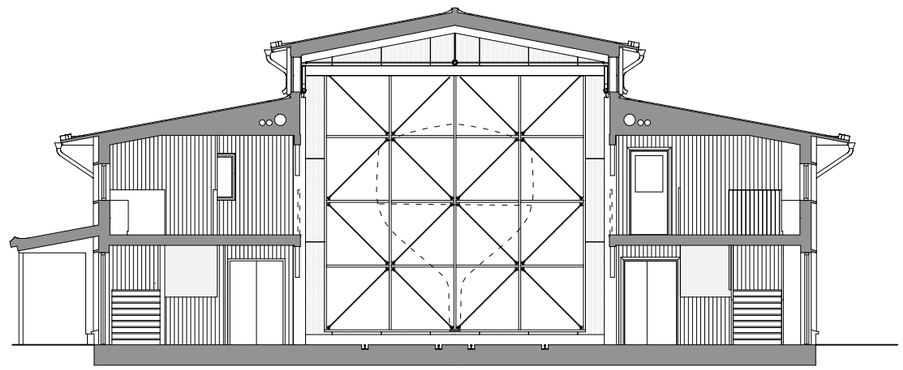


Fig. 73. Section B-B

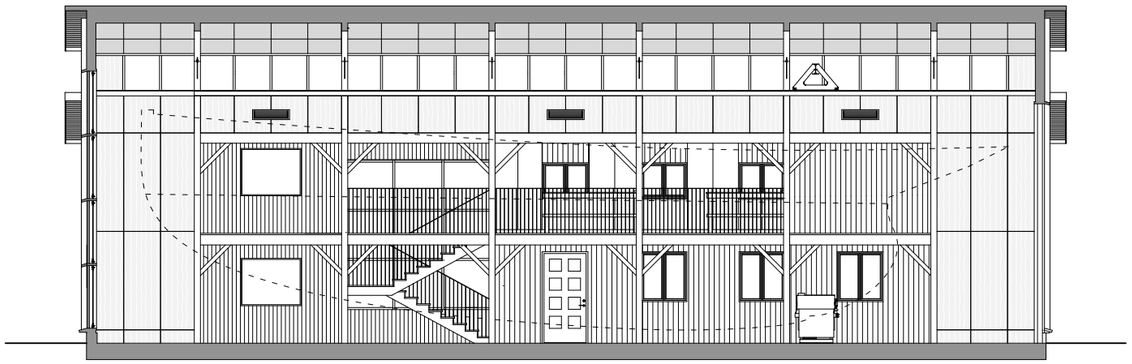
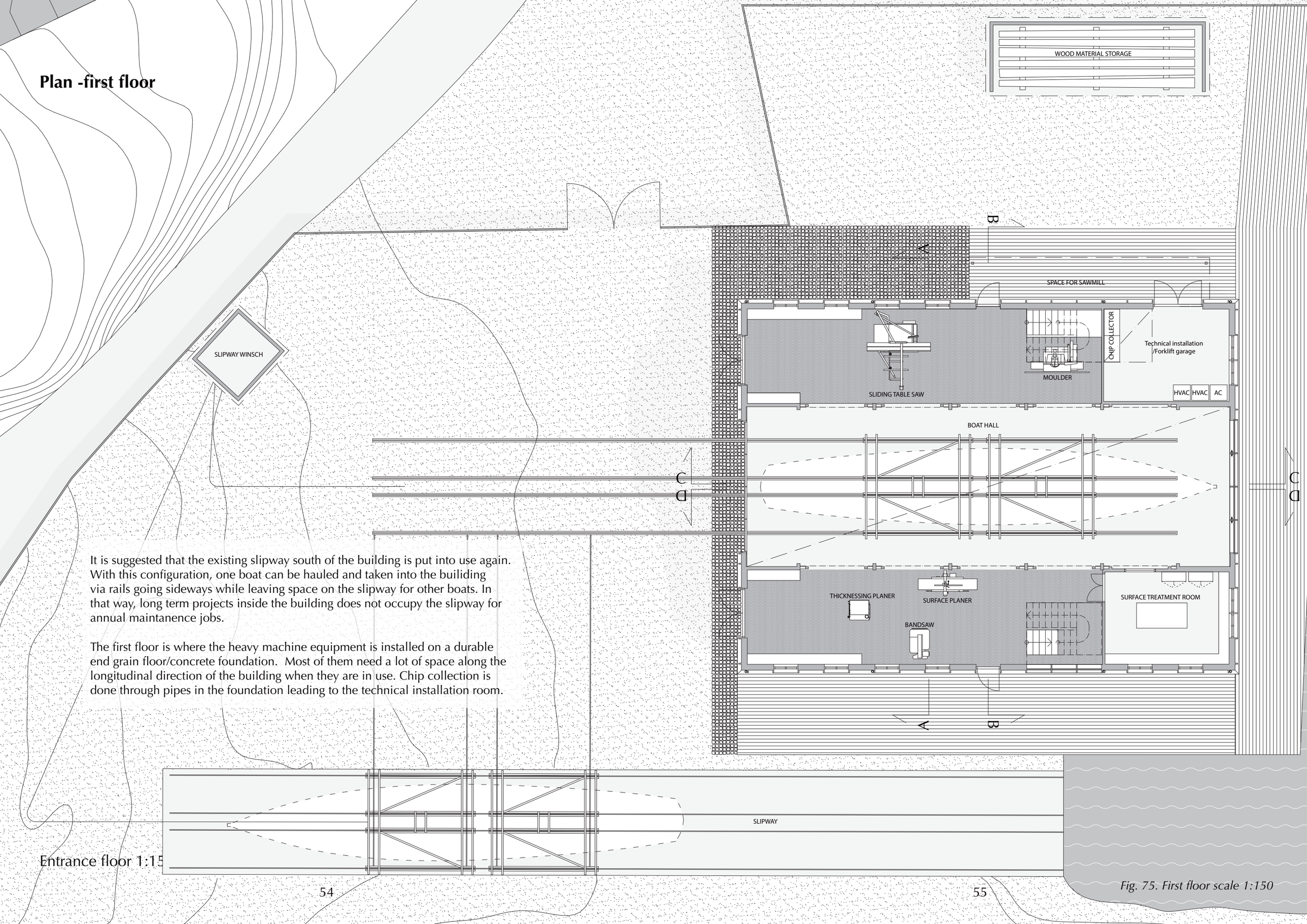


Fig. 74. Section D-D

Scale 1:150

Plan -first floor



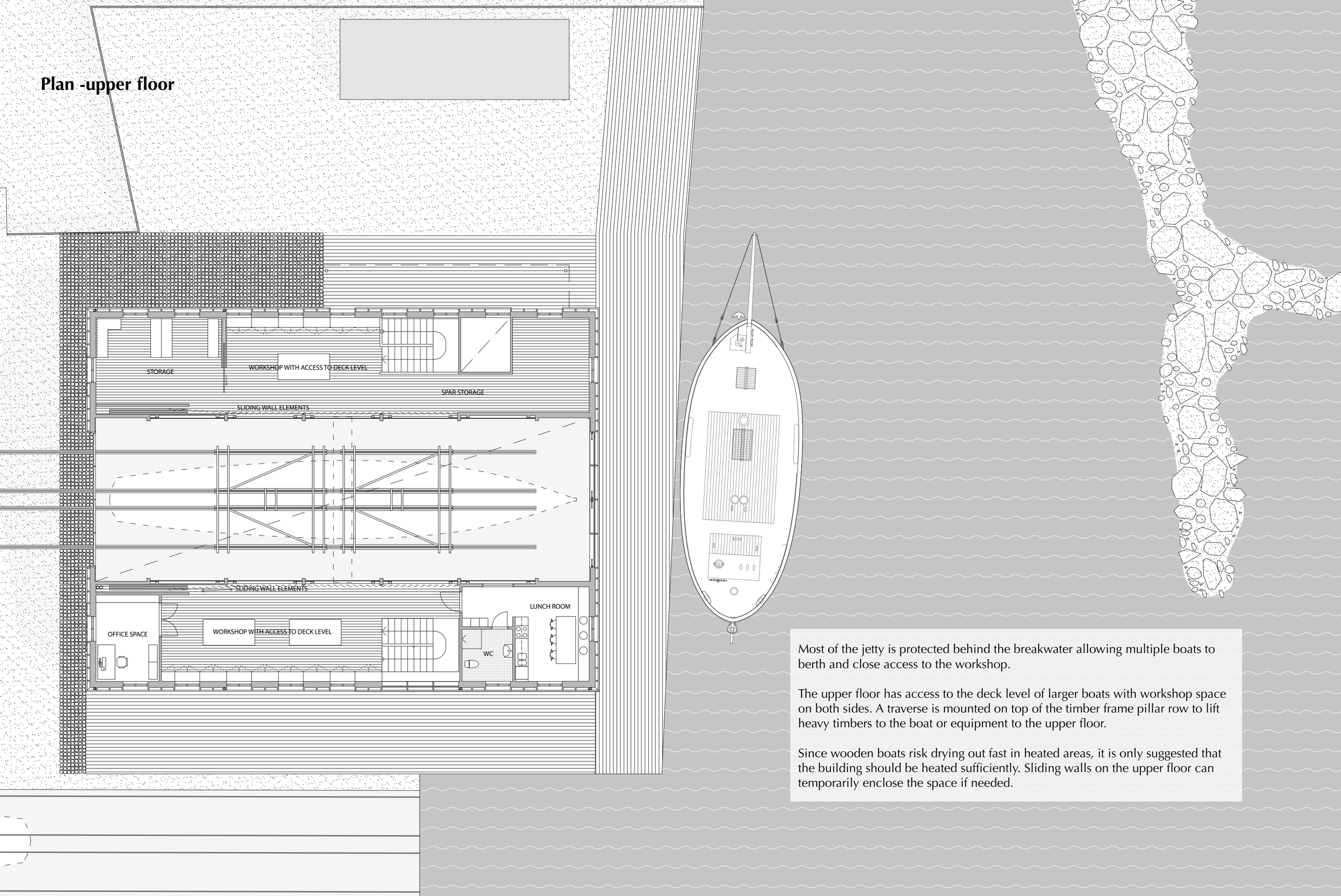
It is suggested that the existing slipway south of the building is put into use again. With this configuration, one boat can be hauled and taken into the builiding via rails going sideways while leaving space on the slipway for other boats. In that way, long term projects inside the building does not occupy the slipway for annual maintanence jobs.

The first floor is where the heavy machine equipment is installed on a durable end grain floor/concrete foundation. Most of them need a lot of space along the longitudinal direction of the building when they are in use. Chip collection is done through pipes in the foundation leading to the technical installation room.

Entrance floor 1:15

Fig. 75. First floor scale 1:150

Plan -upper floor



Most of the jetty is protected behind the breakwater allowing multiple boats to berth and close access to the workshop.

The upper floor has access to the deck level of larger boats with workshop space on both sides. A traverse is mounted on top of the timber frame pillar row to lift heavy timbers to the boat or equipment to the upper floor.

Since wooden boats risk drying out fast in heated areas, it is only suggested that the building should be heated sufficiently. Sliding walls on the upper floor can temporarily enclose the space if needed.

Fig. 76. Upper floor scale 1:150

Section perspective

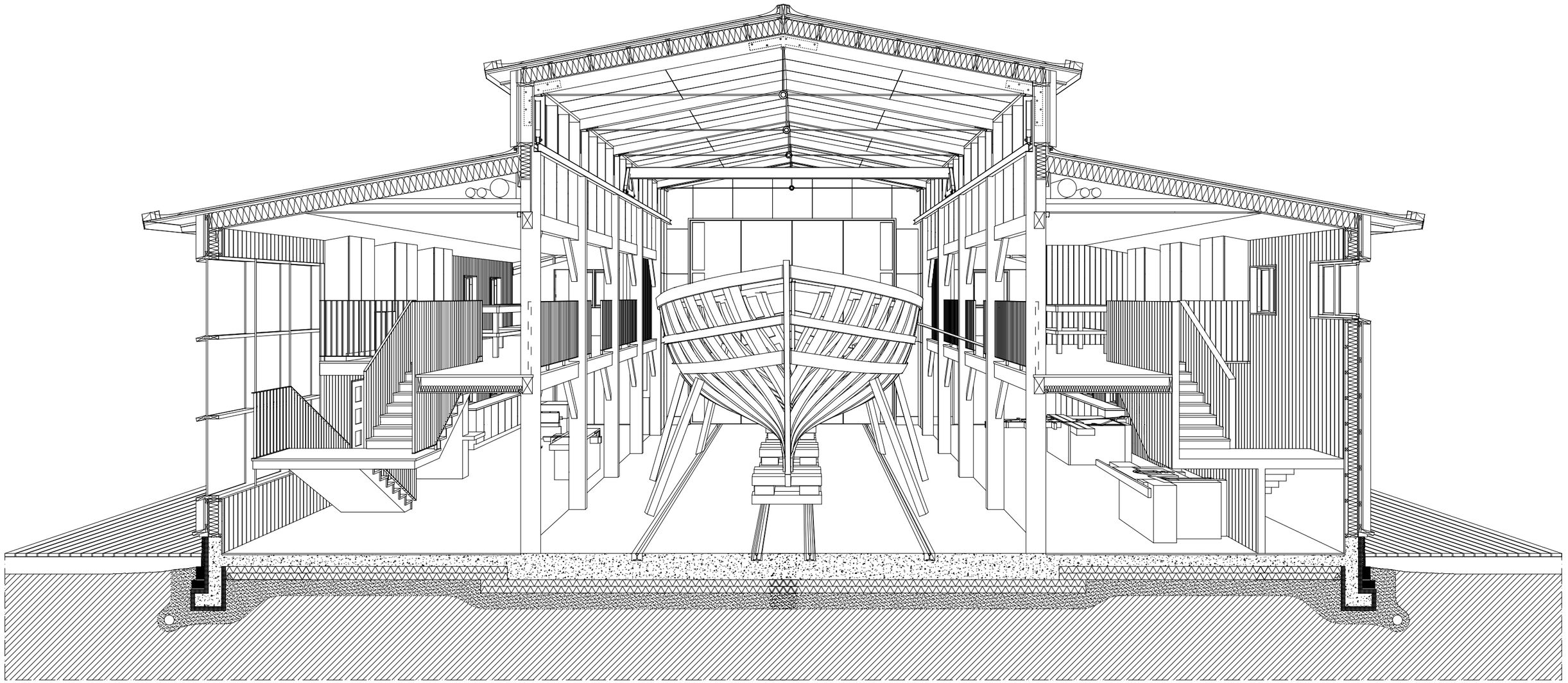


Fig. 77. Section perspective

Detailed section & facade elevation

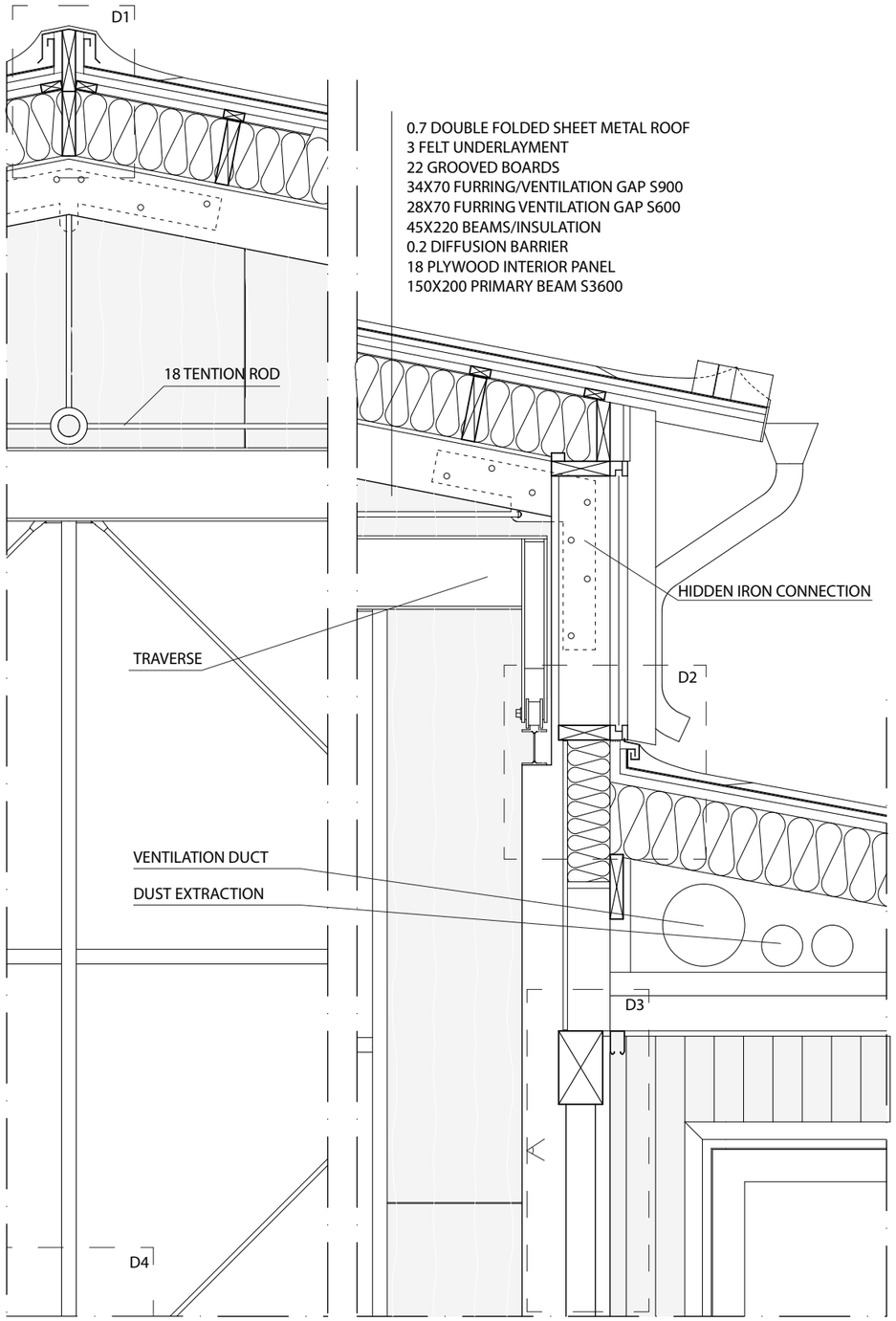


Fig. 78. Detailed section & facade elevation scale 1:25

Detailed section and facade elevation

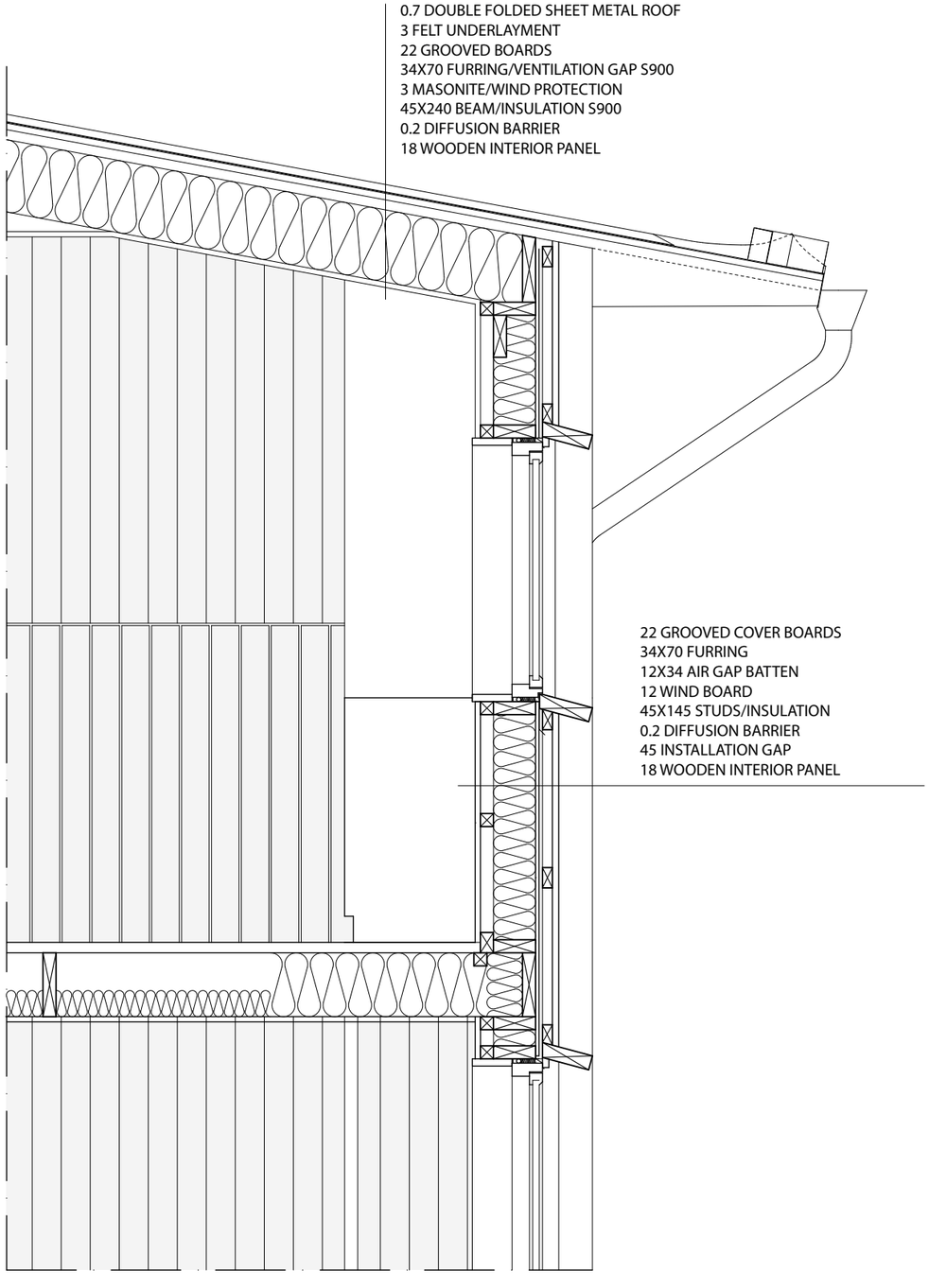


Fig. 79. Detailed section & facade elevation scale 1:25

Detailed section and facade elevation

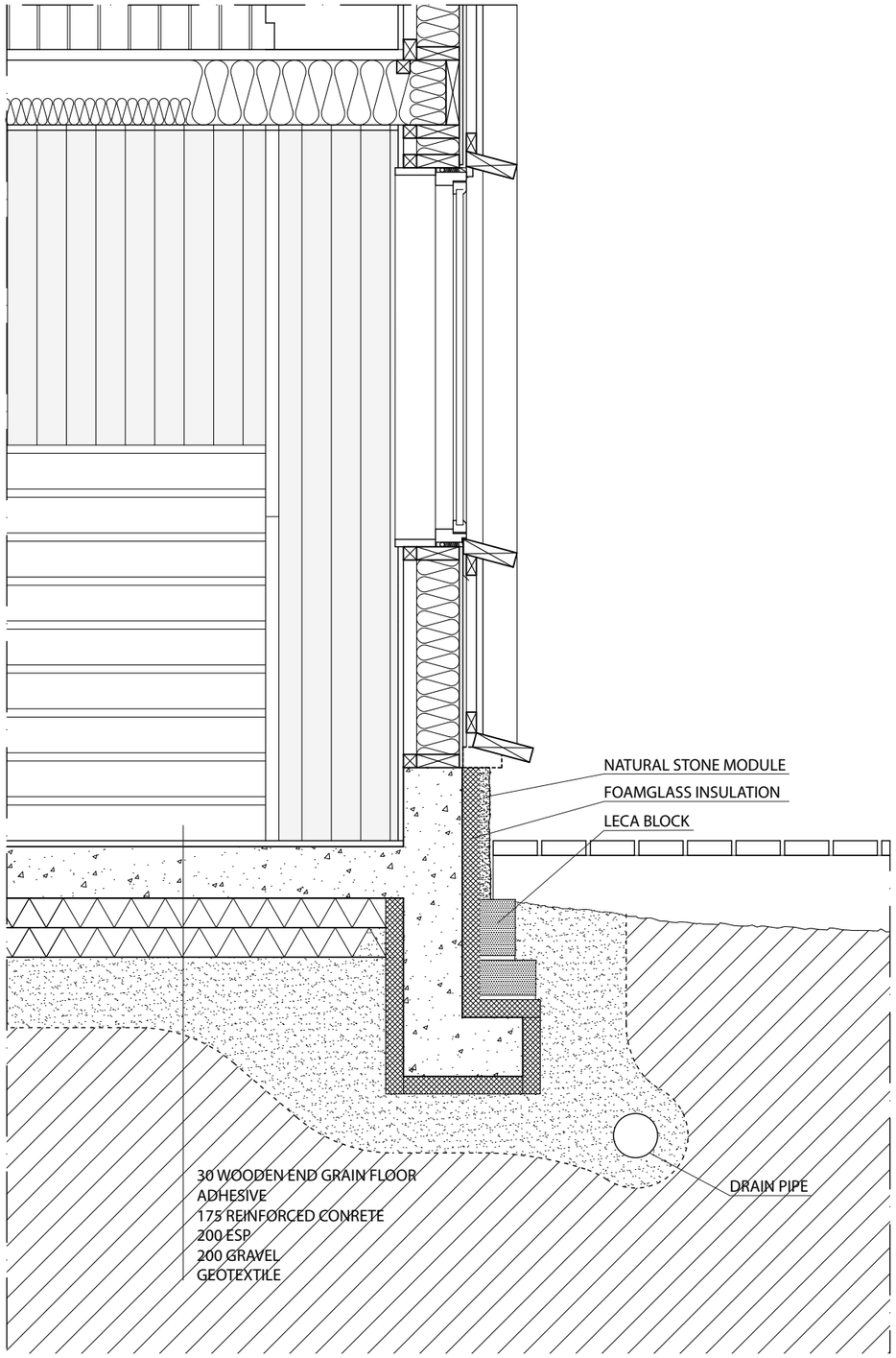
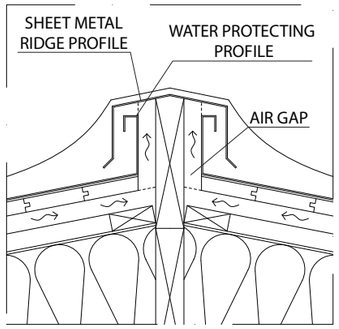


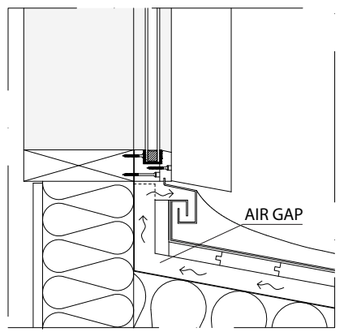
Fig. 80. Detailed section & facade elevation scale 1:25

Highlighted details

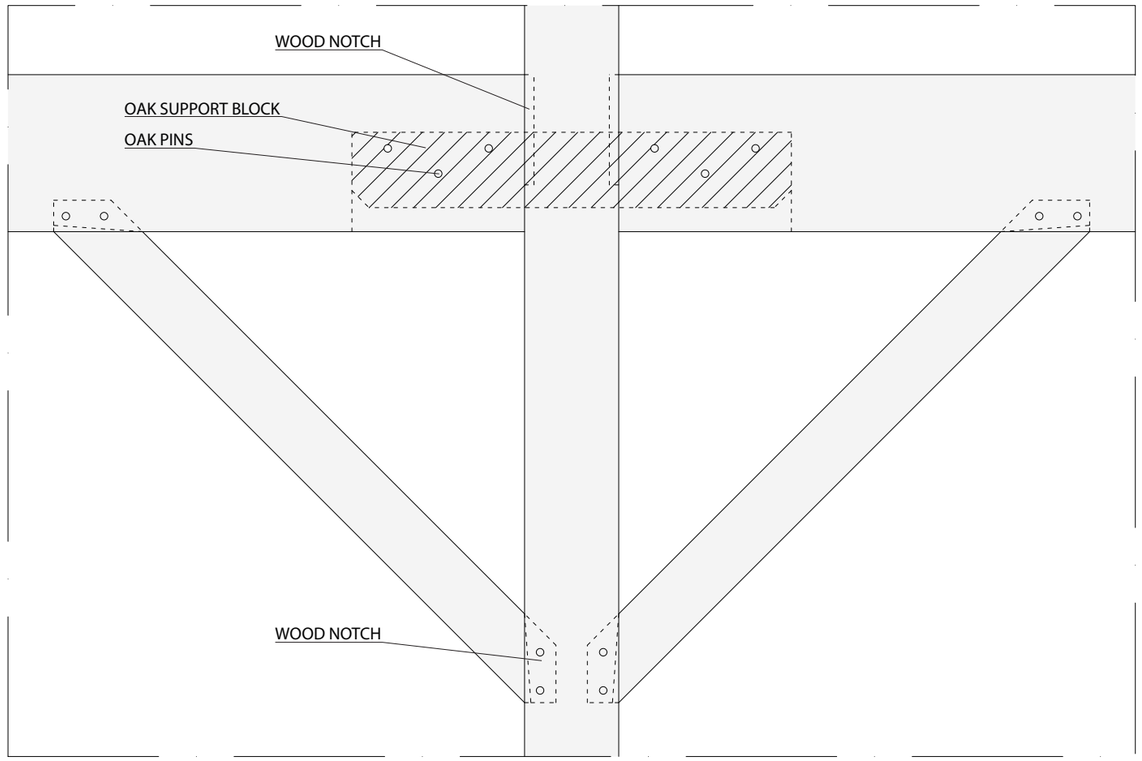
D1 ROOF RIDGE VENTILATION

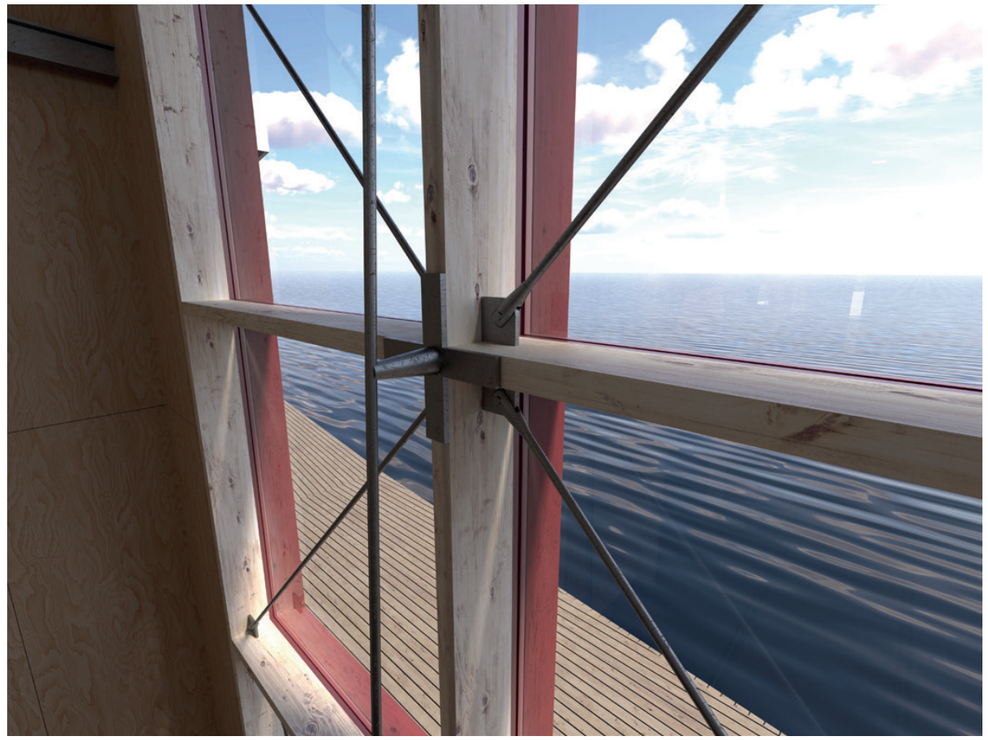


D2 LOWER ROOF VENTILATION

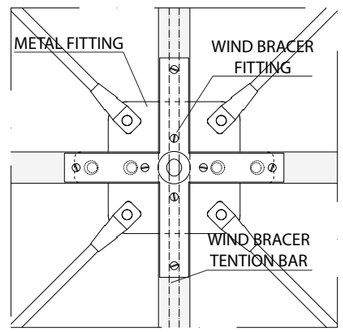


D3 JOINTS IN TIMBER FRAME STRUCTURE





D4 WINDOW CONNECTION



D5 CONNECTION TIMBER FRAME-GROUND

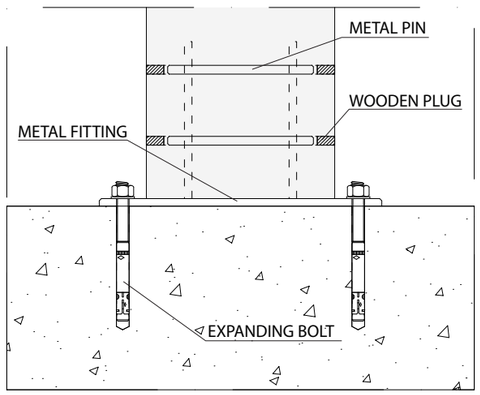


Fig. 81-86. Highlighted details scale 1:10

Perspectives -exterior

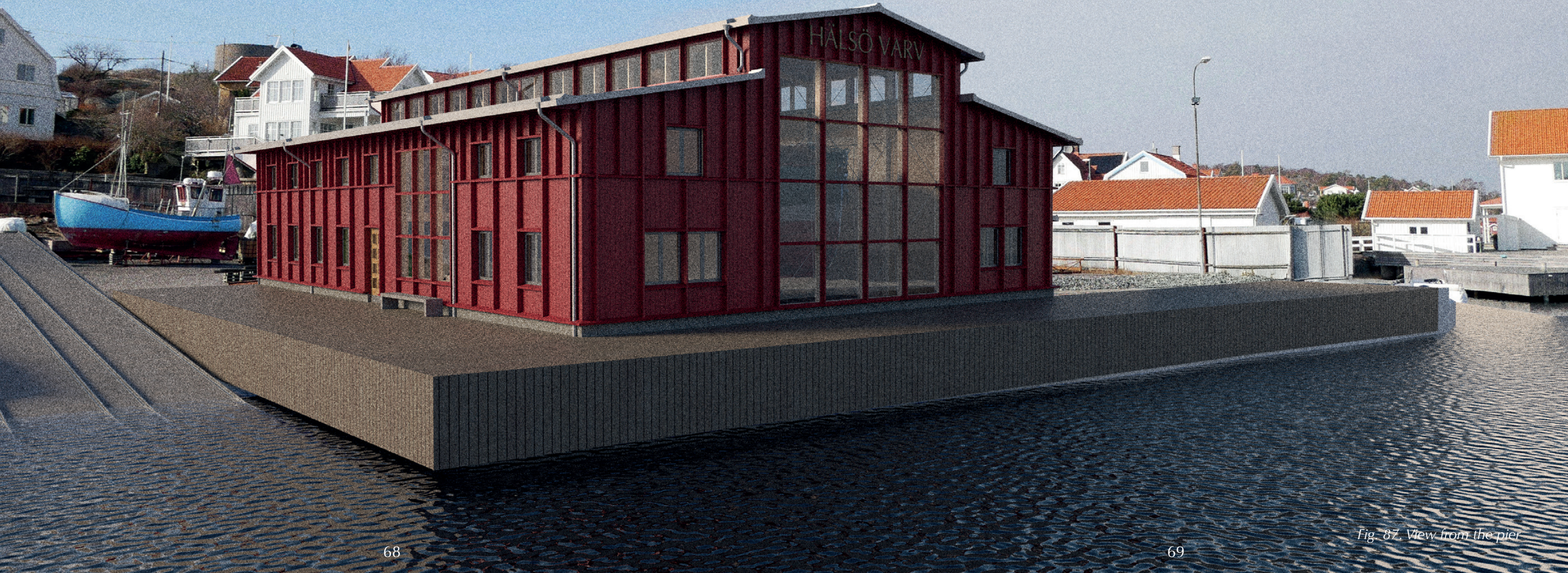


Fig. 87. View from the pier.

Perspectives -exterior

Fig. 88. View from the slipway

Fig. 89. View from west

Fig. 90. View from the sea

Fig. 91. Aerial view of building and the site

Perspectives -interior

Fig. 92. Interior space towards Björkö

Fig. 93. Workshop with close access to the boats in deck level

Fig. 94. Workshop with heavy machines on the first floor

Fig. 95. Stairwell behind the window towards south

Physical models

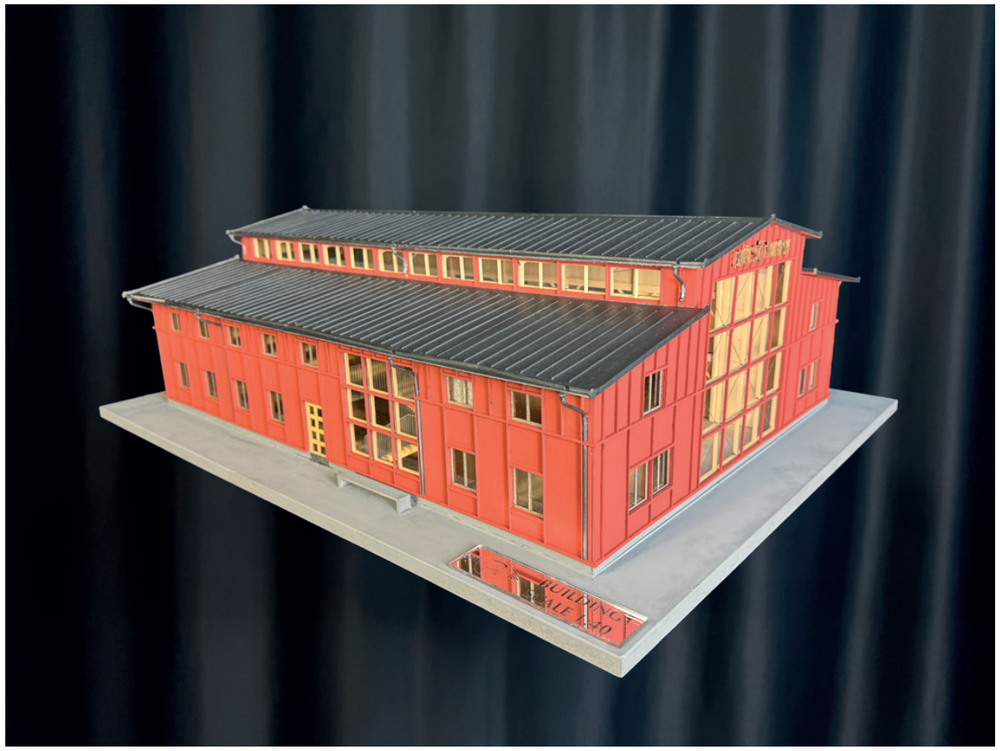
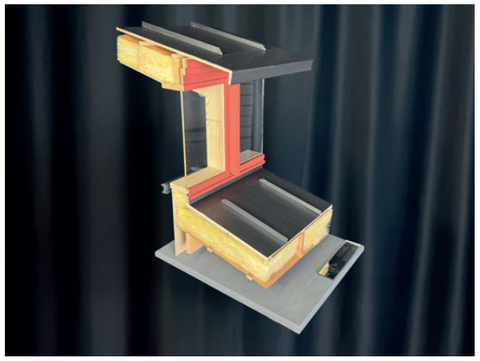


Fig. 96-98. Model of entire building, scale 1:40



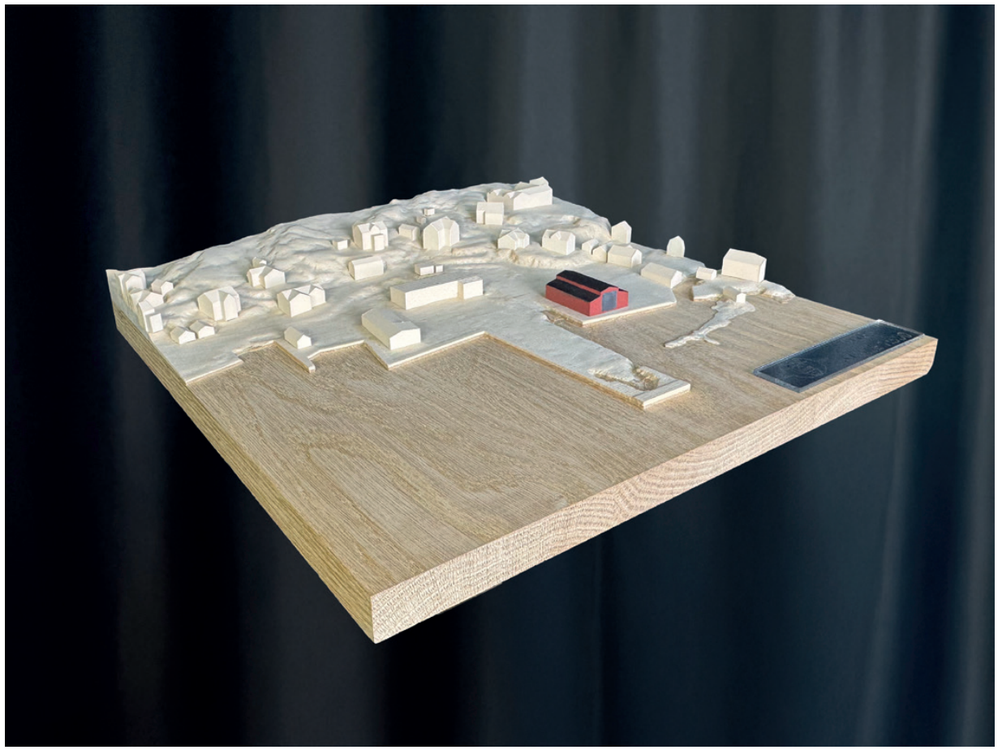


Fig. 99-100. Model of detail, scale1:5. Fig. 101. Site model, scale 1:500

5 | Discussion

Fig. 102. Hällevikstrands varv

Discussion & Reflection

This project has explored the implementation of a contextual design approach. The aim of the thesis was to find an interplay between new and old buildings and to explore how a new industrial building could be appreciated and valuable to a coastal village on the Swedish west coast. The research questions to be answered are again:

-In what way can a new industrial building be added in a historically sensitive environment to add value, rather than disturb?

-How can traditional aesthetics and construction found in the context be combined with the benefits of contemporary architecture in the seeking for continuity?

An implementation of a contextual design approach has thus been explored and has resulted in a building proposal for a competence centre on Hälsö. The proposal combines both the historical context of its site with modern building elements and standards.

To properly evaluate the project in accordance with the research questions, we trace back to the test factors established in the method at the beginning of the thesis. Below are the project outcomes in relation to each factor.

Contextual relevance & belonging
Initially, the development of the volume mainly had functional motivations, but the similarities between one of the old yard building designs were soon evident. The old mechanical workshop was very different functionally but the similarities was from here on strengthened and adapted for the new proposal. The final volume as well as the centre activities fits well into the image of a coastal village with a legacy of boatbuilding. However, the size is somewhat deviant.

Architectural appearance and proportions
As a conflict between functional needs and the small-scale building topology, the building is taller, wider and longer than most other buildings on the site. For rational reasons, a single volume was chosen over the more traditional cluster of multiple volumes. The placement has therefore been crucial to avoid neighbours' dissatisfaction. The appearance of the building can be described as a further development of the old traditional boathouse-, magazine-, and yard aesthetics having compositional, functional and constructional similarities. The proposal is however adapted to modern construction and with a much more ordered rhythm and rigid proportions. To some extent, modern elements have also been introduced that have nothing to do with the traditional. The big windows, for instance, manifesting the building as a competence centre and a landmark on the coast.

Local value creation
The establishment of a small-scale industry in a coastal village is in any case an indication of belief in that place's future. In the case of Hälsö, this proposal also connects to the island's historical legacy and hopefully comes with both goodwill and local pride. Additionally, a Competence Centre for Maritime Crafts and Heritage Preservation would play an important role in preserving crafts and the fleet of historical vessels, an important part of Sweden's cultural history.

Building program & Function program
With inspiration from reference projects, the focus has been to optimise the building to its activities and to maintain high architectural value. Installations and equipment have been taken care of, either by hiding or by clever integration to building parts. Any how, one can not forget that the building is just one part of the competence centre, yet to be designed as a whole with more functions within its program.

Construction rationality
Conventional insulated wall construction is applied to all external walls. Inside the building, the tall boat hall is carried by the timber frame construction. The idea was to use conventional and traditional methods where each method works best.

Appreciation forecast
Architecturally, it is a proud building which takes part in the development of coastal aesthetics while still being rooted in its past. At a late stage in the design process, the gray facade treatment was tested. Even though the red has a given place on a building like this, the gray tar vitriol would connect the building to its time and still feel rooted in a better. It would probably age in a nice way as well. Learning often comes at the end.

6 | BIBLIOGRAPHY

- Reference list
- List of figures

Fig. 103. Assortment boxes, Hällevikstrand

Reference list

AlFadalat, M & Al-Azhari, W. (2022). An integrating contextual approach using architectural procedural modeling and augmented reality in residential buildings: the case of Amman city. *Heliyon, 8*(8). https://doi.org/10.1016/j.hon.2022.e10040

Avermaete, T., Patteeuw, V., Szacka, L.-C., & Teerds, H. (2019). Revisiting Critical Regionalism: Critical Regionalism Revisited. *Oase: tijdschrift voor architectuur, 103*, 1-10.

Bohusläns Museum. (2024). *Bohusläns byggnadstradition*. Bohusläns museum. https://www.bohuslansmuseum.se/samlingar-och-historia/gamla-historiska-artiklar/bohuslans-byggnadstradition/

Borge, E., & Bremertz, M. (2017). *Båtbyggare på Orust* (1st ed.). Votum & Gullers Förlag.

Bornmalm, L., Bång, K., Fredriksen, C., & Ohlsson, C. S. (2008). *Fiskebåtarna & Varven Skeppsbyggarna* (1st ed.). Breakwather Publishing.

Dickson, D. (2023). Architechture Always Reflects the Values of Its Current Culture. *Arch daily. https://www.archdaily.com/1005617/architecture-always-reflects-the-values-of-its-current-culture*

Frampton, K. (1983). Towards a critical regionalism: Six points for an architecture of resistance. Foster H (ed.) *Anti-Aesthetic. Essays on Postmodern Culture*, Seattle: Bay Press, pp. 16–30.

Hansson, B. (Lecturer). (2023). *Hälsös historia - från dåtid till nutid* [filmed lecture]. Youtube. https://www.youtube.com/watch?v=2m15h49NyKo&t=702s

Köhlner, N. (2011). Importen av byggvaror ökar. *Byggindustrin*. https://www.byggindustrin.se/affarer-och-samhalle/hallbarhet/importen-av-byggvaror-okar-10262/

Lambe, N. R., & Dongre, A. R. (2019). A shape grammar approach to contextual design: A case study of the Pol houses of Ahmedabad, India. *Environment and Planning B: Urban Analytics and City Science, 46*(5), 845-861. https://doi.org/10.1177/2399808317734207

Lampugnani, V. M. (1993). Die Provokation des Alltäglichen. *Der Spiegel 1993*(51). https://www.spiegel.de/kultur/die-provokation-des-alltaeglichen-a-8c994d13-0002-0001-0000-000013683465

Lassen, U. H. (2021). *Bygga i stolpverk* (2 ed.). Ulrik Hjort Lassen.

Lefvert, A. (2012). Eternit - en fasad att bevara. *Göteborgsposten* 2012-07-16. https://www.gp.se/livsstil/bostad/eternit-en-fasad-att-bevara.4859da21-a02f-4074-b4bb-f42a74fd15d0

Loberg, F. (2024). *Delad skatt och boplikt – kommuntoppar kräver nya regler för sommarboende* https://www.dagenssamhalle.se/offentlig-ekonomi/kommunal-ekonomi/delad-skatt-och-boplikt-kommuntoppar-kraver-nya-regler-for-sommarboende/

RTF (Rethinking the future). (2022). *What is the difference between regionalism and critical regionalism?*. https://www.re-thinkingthefuture.com/architectural-community/a8886-what-is-the-difference-between-regionalism-and-critical-regionalism/#google_vignette

Skanse, P., & Claesson, S. (1987). *Båtar i Bohuslän*. Båtdokumentationsgruppen.

SKR. (2025). *Kommunernas intäkter, fördelning*. Sveriges kommunder och regioner. https://skr.se/skr/ekonomijuridik/ekonomi/statistikekonomi/sektornisiffror.71725.html

Ståhl, E. (Ed.). (1982). *Bohusläns samhälls- och näringsliv 3. BÅTBYGGERIET* (1st ed.). Bohusläns museum., Etnologiska Institutionen, Göteborgs Universitet, & Landstinget Göteborg & Bohus län.

Svensson, A. (May 2014). *G.B. Santesson & Söner.* http://gamlagoteborg.se/2014/05/18/g-b-santesson-soner/

Werne, F., & Östnäs, S. (1983). *Bygge i Bohuslän* (1st ed.). Wahlström & Widstrand.

Quirin, B. (1984). *Båtbyggaren del 1.* Föreningen Allmogebåtar.

Öckerö kommun. (1985). *Hembygdsprojekt 1985 Öckeröarnas historia, Hälsö -ön historia.* Öckerö kommun.

Öckerö kommun. (2025). *Statistik, Kommunen i siffror.* Öckerö kommun. https://www.ockero.se/kommun-och-politik/statistik#h-Befolkningpero

List of figures