FROM WORK TO PLAY

exploring the preservation of the industrial building and its reactivation through adaptive reuse

MASTER'S THESIS

Architecture and Urban Space Design
Spring 2023

Chalmers School of Architecture

Barbara Kraus

Examiner: Daniel Norell
Supervisor: Sara Olsson

CHALMERS

Title: From Work To Play
Thesis direction: Matter Space Structure
Author: Barbara Kraus
Year: 2023
School: Chalmers School of Architecture
Department: Architecture and Urban Space Design (AUSD)
Master's Programme in Architecture and Urban Design (MPARC)
Examiner: Daniel Norell
Supervisor: Sara Olsson

ABSTRACT

Industrial heritage often presents a unique challenge within the heritage and conservation discourse as its significance has been somehow recognized only in the last 50 years and its value is still frequently being dismissed. The question is also how do we approach their preservation as these usually large-scale buildings were mainly made to accommodate machinery, not human beings?

Heritage preservation in general does not have one size fits all solution. Even though many may argue there is a preferred approach, which can often be seen in institutionally protected "monuments". It is typically to maintain the objects and do only the necessary, minimal interventions. This often makes them objects that cannot be interacted with but that we passively view while listening to their story that was curated by someone else providing a set narrative.

Industrial heritage can here provide more interesting opportunities for how to approach the preservation of a building. These were once places of work that people interacted with daily, and some may still remember them being in use. They were never intended as untouchable monuments but as functional buildings, always meant to change depending on the current needs. So, their new evolution and the idea of their change, even if just subtle, may feel like a more organic part of their life.

Using the M-verkstaden in Gamlestaden, a former machine repair workshop for the SKF, built in the early 1900s, and situated in the heart of SKF's complex, as a site of investigation, this thesis aims to look at the industrial heritage as valuable evidence of its time that can be used to inform and shape its new future.

Documentation and mapping of the building play an important role in understanding the building and are used to influence the interventions. Interpreting stories of the past not as one set truth but as unfinished narratives forming a new public space that reactivates the area and allows people to connect and experience it in their own way.

THESIS QUESTION(S):

How can adaptive reuse as a form of preservation create a new future for a building while communicating its past?

SUBQUESTION:

How can industrial heritage building, more specifically M-verstaden, be reactivated for public use?

KEYWORDS:

industrial heritage, preservation, adaptive reuse, public space

TABLE OF CONTENT

INTRODUCTION

GLOSSARY

AUTHENTICITY	the quality of being real or true
VALUE	the importance or worth of something for someone how useful or important something is
IDENTITY	who a person is, or the qualities of a person or group that make them different from others
CHARACTER	the particular combination of qualities in a person or place that makes them different from others
HERITAGE	features belonging to the culture of a particular society, such as traditions, languages, or buildings, that were created in the past and still have historical importanc
REUSE	to use something again
MAPPING	the activity or process of creating a picture or diagram that represents something
MONUMENT	an old building or place that is an important part of a country‘s history

definitions are from: https://dictionary.cambridge.org/dictionary/english/

PRESERVATION

GLOSSARY

Preservation means to maintain a place with as little changes as possible (ICOMOS New Zeland, 2010).

Preservation means maintaining a place in its existing state and retarding deterioration (The Burra Charter, ICOMOS Autralia, 2013).

Restoration means returning a place to a known earlier state by removing accretions or by reassembling existing elements without the introduction of new material (clause 1.7, The Burra Charter, ICOMOS Australia, 2013).

Adaptation means changing a place to suit the existing use or proposed use (The Burra Charter, ICOMOS Australia, 2013).

HISTORY

Even though care for old structures in some form always existed, conservation as a modern phenomenon only really emerged in the late 18th century, seen as a necessity, after the violent political, social and economic modernisations in Europe - especially the French Revolution of 1789 (Glendinning, M., 2013).

The emphasis within the early conservation movement was on stability and order, yet in the late 19th and early 20th century, nationalism became its most powerful motor (p.66).

Two of the most influential names in the movement are probably Eugene Emmanuel Viollet-le-Duc and John Ruskin, both promoting a completely different approach to heritage.

E. E. Viollet-le-Duc was one of the first specialist "conservation architects" in France. One of the main figures in developing the new philosophy of "scientific" restoration, is practically a symbol of the restoration movement in Europe (Glendinning, M., 2013). Having written Dictionnaire raisonné de l'architecture française du XIe au XVIe siècle (Dictionary of French Architecture from 11th to 16th Century (1854–1868)), he defined restoration as open for modernity, aiming to define a building's artistic "essence" and recover an ideal, unified authenticity for the benefit of the present. His work was/is often criticised for searching for unified completeness above all.

On the other hand, English writer John Ruskin "pioneered a new, utopian reaction against industrialisation or modernity in general" (Glendinning, M., 2013). One that despised restoration, viewing it as "the most total destruction a building can suffer". Believing that age is the most important factor in heritage and its value comes from the fact, that it has been there for centuries. As such "we have no right whatever to touch them. They are not ours. They belong partly to those who built them, and partly to all generations of mankind who are to follow us." His strong anti-restoration view praising a "livings" monument was an emotional rather than a logical one.

In 1877 Britain, following the anti-restoration view, the Society for the Protection of Ancient Buildings (SPAB), was created, led by designer William Morris, who was also one of the main figures in the Arts and Crafts movement in the late 19th century.

Moving from how to restore to the question of the meaning of the monuments, Austrian art historian Alois Riegl, wrote one of the most significant conservation texts Der Moderne Denkmalskultus (The Modern Cult of Monuments (1903)), bringing forward the value of age.

„Age and adaptivity is what makes a building come to be loved. The building learns from its occupants, and they learn from it."

(How Building Learn, Steward Brand)

CONTEMPORARY PRACTICE(S)

Nowadays, it is becoming obvious that current largely institutionalized views on preservation, where protected objects are basically untouchable, are not sufficient as new concepts challenging this idea have been emerging. Counterpreservation, engaged preservation, experimental preservation, altering architecture, etc. All questioning what we consider heritage, its role and how we interact with it.

For example, "experimental preservationists are upending the old ideas about cultural heritage, choosing objects once considered ugly or unsavory, and usually excluded by official narratives. Questioning the longstanding identity of preservation with the governmental protection of cultural objects, and the largely unquestioned narrative that preservation bureaucracies always act for the common good" (Otero-Pailos, J. 2004).

Critiques of the current preservation discourse are mostly based on its limited view of heritage that "is dominated by the lobby of authenticity, ancientness, and beauty" (Koolhaas, R., 2004) and presents itself as an objective representation of historical truth.

"For a long time now, we have been accustomed to thinking that historic preservation "finds" and "protects" history imbedded in "built fabric." This old notion masked the practice of interpretation which is constitutive of historic preservation. We do not stumble on history, we produce it by interrogating entities" (Otero-Pailos, J., 2004).

Contemporary practices believe that for preservation to be relevant it needs to be engaging, it should challenge and question "how we relate to time through the spaces of the built environment" (Otero-Pailos, J., 2005).

According to Jorge Otero-Pailos, professor of historic preservation and a registered architect, unlike compulsion to build, the impulse to preserve cannot be justified in terms of pure necessity. Yet its power lies precisely in its non-essential condition, in its creation of excess (Otero-Pailos, J., 2004). Preservation is just one of those historic negotiations between our time and the next (Otero-Pailos, J., 2005) and its foundation is the question - what will have been? (Otero-Pailos, J., 2005).

I believe that it can be argued that preservation in terms of global crises (warming, resources, ...) can be viewed as a pure necessity with respect to resources, however, not in its "should not be touched" form. But in its potential to reactivate and/or continue the use of already existing stock that often has both, material and immaterial values not only to the communities surrounding it.

Contemporary preservation believes that things such as critical action, activation, open narrative/interpretation or experiment are indeed necessary to not only advance knowledge but to protect the future. "Suggesting that cutting-edge historic preservation is the process of keeping the old 'open' for interpretation, and of holding out the possibility that its work is never finished; indeed, cannot finish" (Otero-Pailos, J., 2004)

„Architecture is often based on the misconseption of permanency and completeness"

(Rewriting architecture - 10+1 Actions, 2020).

UNFINISHED

"Long-standing buildings often outline their original use, the original intentions of their making, the original aesthetic that determined their form, and technologies of their making. When they do so, they are free to do as they will" (Cairns, S., Jacobs, J.M., 2014).

Completeness can be viewed as an illusion that preservation often builds on, protecting the state the building is found in. However, the life of a building is never fully static, as it is often subject to changes and never stays exactly the same as the day it was built. "Once built, [architecture] continuously re-forms in relation to the passage of time, as well as the planned and unplanned renovations bought by the human and nonhuman agents it coexists with" (Cairns, S., Jacobs, J.M., 2014).

"Everything we inhabit is potentially susceptible to preservation" (Koolhaas, R. 2004).

I believe that preservation, that is open for future interpretations, can play an important role in terms of sustainability. It is important to engage actively with the existing building stock, exploring its potential to endure continuously over time, independently of its use. Change over time is inevitable. And as we cannot be sure, what is to come, designing for adaptability, while acknowledging and trying to learn from the past. As Lina Bo Bardi (Brazilian modernist architect) believed, "History only made sense as a part of the transformation of the present, ... time is not a sequential construct but the simultaneous experience of the past in the present informed by the projection of a future."

Viewing buildings and built environments as unfinished opens up new opportunities for its future.

"There is nothing permanent except change."

(Heraclitus, a Greek philosopher)

ADAPTIVE RUESE

Adaptive reuse is when an existing building that is not in use is restored and repurposed to accommodate the new use. It can be viewed as a form of preservation as it uses a building that is in decay and would likely one day be demolished.

It often works with buildings that have some cultural significance, even if not recognized by the institutions. It breathes new life into them and brings back their relevance to the community by creating a functional space that serves them.

SUSTAINABILITY ASPECT

It is often viewed as sustainable as it requires less energy than demolition or a new building would need, generates less waste than demolition, and normally requires less material than new construction, which all results in a much lower carbon footprint than new construction would have.

“Retaining an existing building is far more efficient than demolishing and recycling its components because the energy already expended to build it will not be squandered. However, existing construction typically must be modified to meet current energy-performance standards” (Bloszies, 2011).

INDUSTRIAL HERITAGE

“Only in the last 50 years, there has been a recognition and valuing of the material evidence of industrialisation (from 300 years of industrial experience). Industrial heritage is a new, novel, and challenging arrival in the heritage arena” (Cossons, N., 2012).

It is a very specific area of heritage as industrial buildings were usually not made for human scale as they accommodated machinery, and as they lose this function finding a new purpose for them while keeping their evidential value can be challenging. As it is also a product of the industrial era, the materials and techniques used can be more complex and harder to repair.

While working with industrial heritage, it is important not to forget the role these places had in people’s lives, identities and memories they formed. These are places of work that influenced everyday life.

METHOD

The project is focusing on developing a design strategy that deals with existing buildings as always changing and evolving, in opposition to it being something static and meant to be finished, while trying to acknowledge these already lived lives of the building.

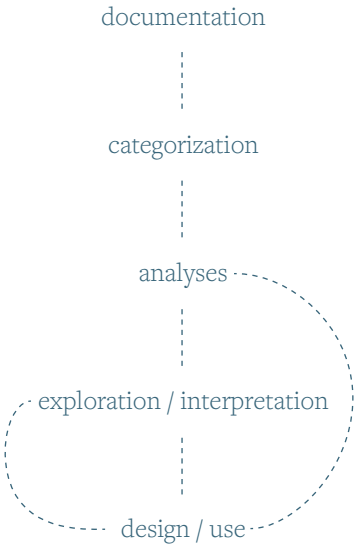
Thinking of the building as a structure full of material and immaterial layers forming its story. This approach enables a great understanding of the building that creates large exploration potential for future design as it allows different narratives to co-exist.

The result should be a design proposal that presents the continuation of the building's life, and its reactivation while preserving its "essence" by acknowledging its past narratives.

In this process, a variety of tools is used to map and document the building to create its greater understanding. These tools are further developed creating a series of explorations that are interpreted in the final proposal and its presentation.

It is an exploration of different interventions and design strategies from minimal intervention, leaving all traces of use to new designs inspired by the building and its past.

Interventions carry similar traits, for example, silver metal is a material used for entrances to clearly communicate where they are but vary in shape and size. This is intentional as throughout time interventions/ addition in the building were done without proper planning or sticking to an aesthetic.



DELIMITATIONS

This thesis is an exploration of the possible approach and does not aim to solve wtechnical details and issues.

TOOLS

PHOTOGRAPHY	to document the building and its surroundings. Focusing on different scales from encapturing larger compositions to details. From that an invetory of elements, intentional and accidental is created
SKETCHING	to quickly analyse and existing and help conceptualize new ideas
3D MODEL	to analyse and better understand spaces and help with design explorations and representation
LINEDRAWINGS and COLLAGES	to analyse the building, original state and the changes, as well explore future posibilities and represent final results

CONVERSION OF OLD FACTORY DE PORRE TO CITY PARK

LOCATION: BELGIUM - GHENT
DESIGNER: VANDRIESSCHE ARCHITECTEN
PROJECT YEAR: 2014
PHOTOS BY: JOHNNY UMANS

The project transforms an old textile factory that was not in use since 1980 into a city park as a part of a mixed-use development urban renewal project. What was once a place of a thriving industry and workplace for many became an abandoned and unsafe place. The authors say that: "The aim was to create a diversified park which could cope with this pressure and stimulate a renewed community life for the neighbourhood." The newly formed park features a variety of spaces, including a playground, multisport field, stage, orchard and pond.

The project works a lot with contrast. Design works with existing structures but is not afraid of their alterations. New spaces have been created by cutting through structures. Walls have been left with their patina and weathered appearance, while rafters have been repainted. The park's landscape, its greenery and paths, were designed organically to contrast the straight lines and orthogonality of the factory's structures. New structures are designed as light and airy elements that contrast with the existing, heavier structures.

fig.1

structures (walls) cut out („reshaped")

existing rafters painted white -> contrasting with the patina of the painted walls

the old cooling water basin
- redeveloped as a treatment pond
from where the water flows into a

walls left with traces / patina
(weathered uncovered brick,
scrathces, holes,...)

fig.2

fig.3

new light white glass structure
- creates a pavilion for the stream
turbine (becomes an artefact in
nature)
- contrasts heavy and solid coo-
ling tower

new park landscape
- organic greenery and park network,
contrasting the orthogonal nature of
the factory layouts

cooling tower
- has been preserved and restored as a sort of static
sculpture (remnant of an industrial past)

BREWERY MANUFAKTURA

LOCATION: LATVIA- RIGA
DESIGNER: SAMPLING
PROJECT YEAR: 2022
PHOTOS BY: MADARA GRITĀNE, LIENE JĀKOBSONE

The project transforms a historic manufacturing building into a brewery and a café. The building is part of a whole industrial quarter that is gradually opening itself to the public.

“The concept of this project is driven by the architects’ aspiration to highlight the long life of this unpretentious building and the various transformations it has experienced in the past” (Sampling Brewery Manufaktura, 2022).

The focus on sustainability of the transformation includes a functional layout that adapts existing spatial structure, new structures designed from materials that are durable and don‘t require additional finish(es), and furniture that is second-hand or designed from reclaimed materials.

The design preserves the building’s patina contrasting the new interventions that are simple and clean.

“The aesthetic of this reconstruction helps to establish a positive relationship with the site’s past and identity, and it increases the value of the heritage of industrial architecture, which does not have the status of a historical cultural monument,” says the leading architect at Sampling, Liene Jākobsone.

fig.4

new metal door (contrasting)

new concrete structure - rough meeting of the existing and new

added red brick - bricked in parts

fig.5

fig.6

new concrete structure (canopy above entrance) - is part of the rooof terrace

https://www.fold.lv/en/2022/07/manufaktura-brewery-by-sampling/

BOVENBOUWWERKPLAATS TRANSFORMATION

LOCATION: UTRECHT, NETHERLANDS
DESIGNER: STUDIONINEDOTS
PROJECT YEAR: 2022
PHOTOS BY: SEBASTIAN VAN DAMME

This transformation of the workshop building built in 1905 that was used for manufacturing the heavy elements for the Dutch railways tries to work with existing architectural qualities of the building, cleaning up the space but also leaving the traces of wear and tear while introducing contemporary elements of which the most significant one is the metal curtain goings throughout the building connecting interior and exterior

fig.7

fig.8

cleaned up fasade

added metal curtain going
from inside out

fig.9

fig.10

added red brick contrasting
the old one (bricked in parts)

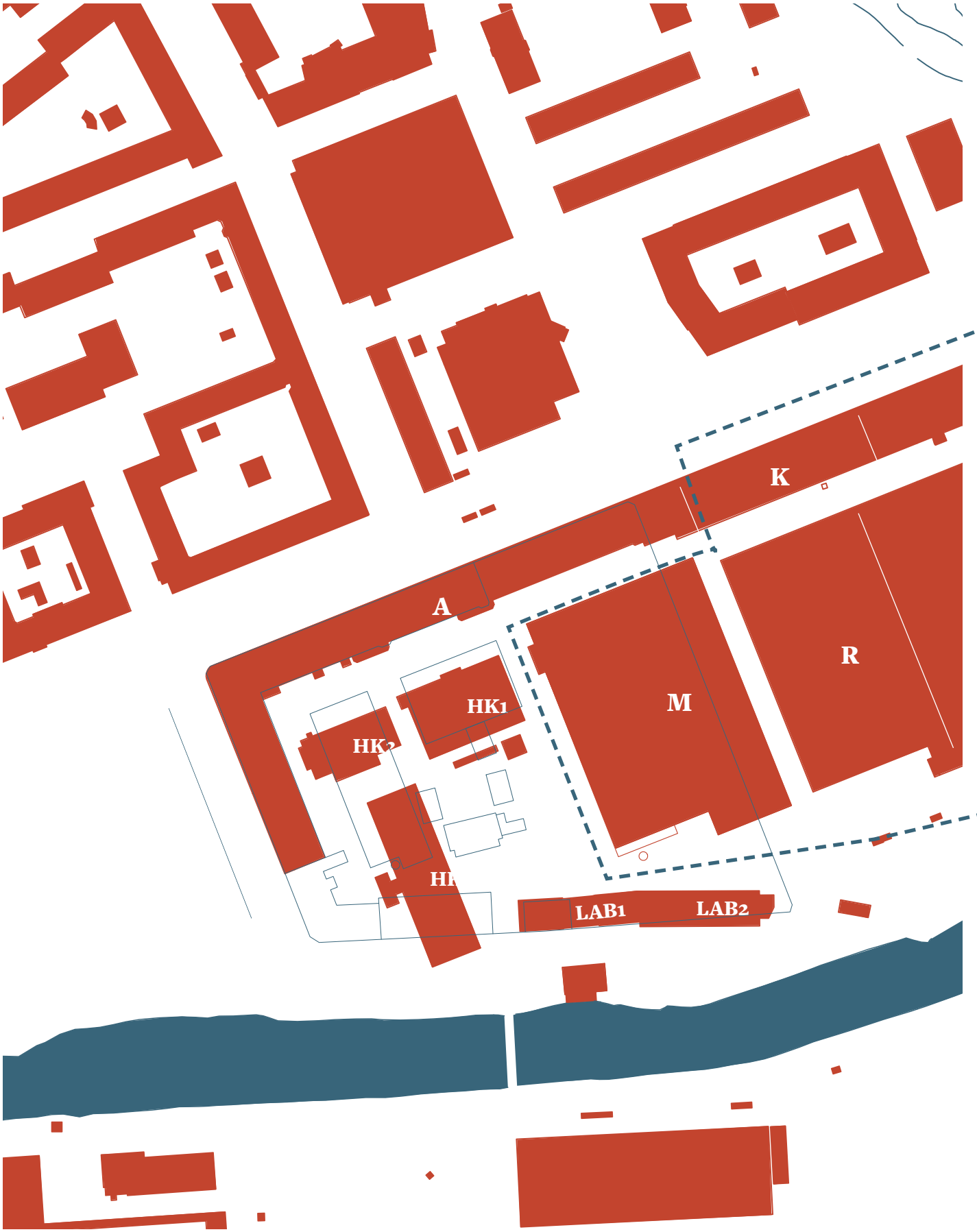
new simple windows
with antracit frames

walls left with traces
(uncovered brick, scrathces, holes,...)

SITE

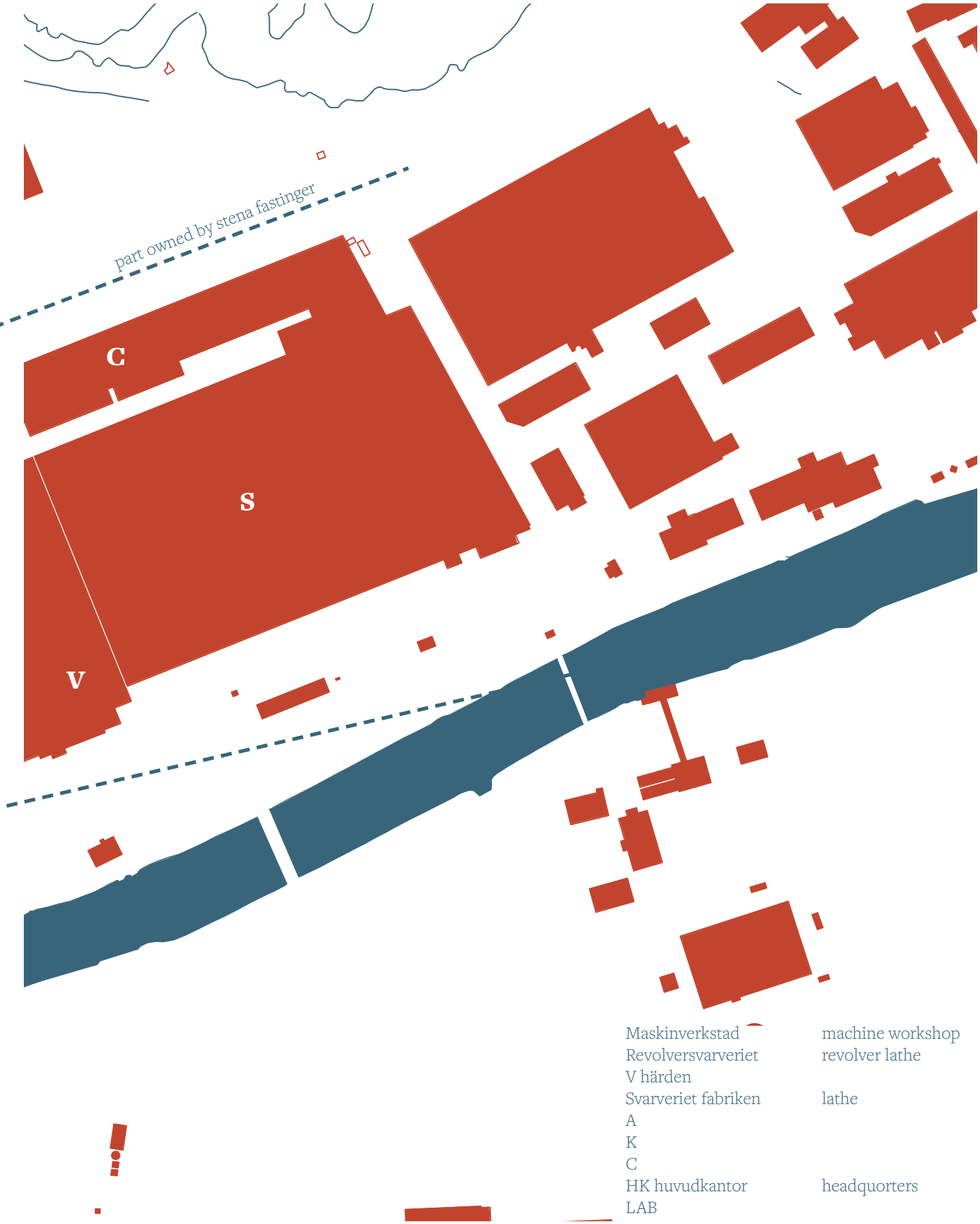
map of Gothenburg showing where the site is situated

SITEPLAN
FIGURE-GROUND DIAGRAM



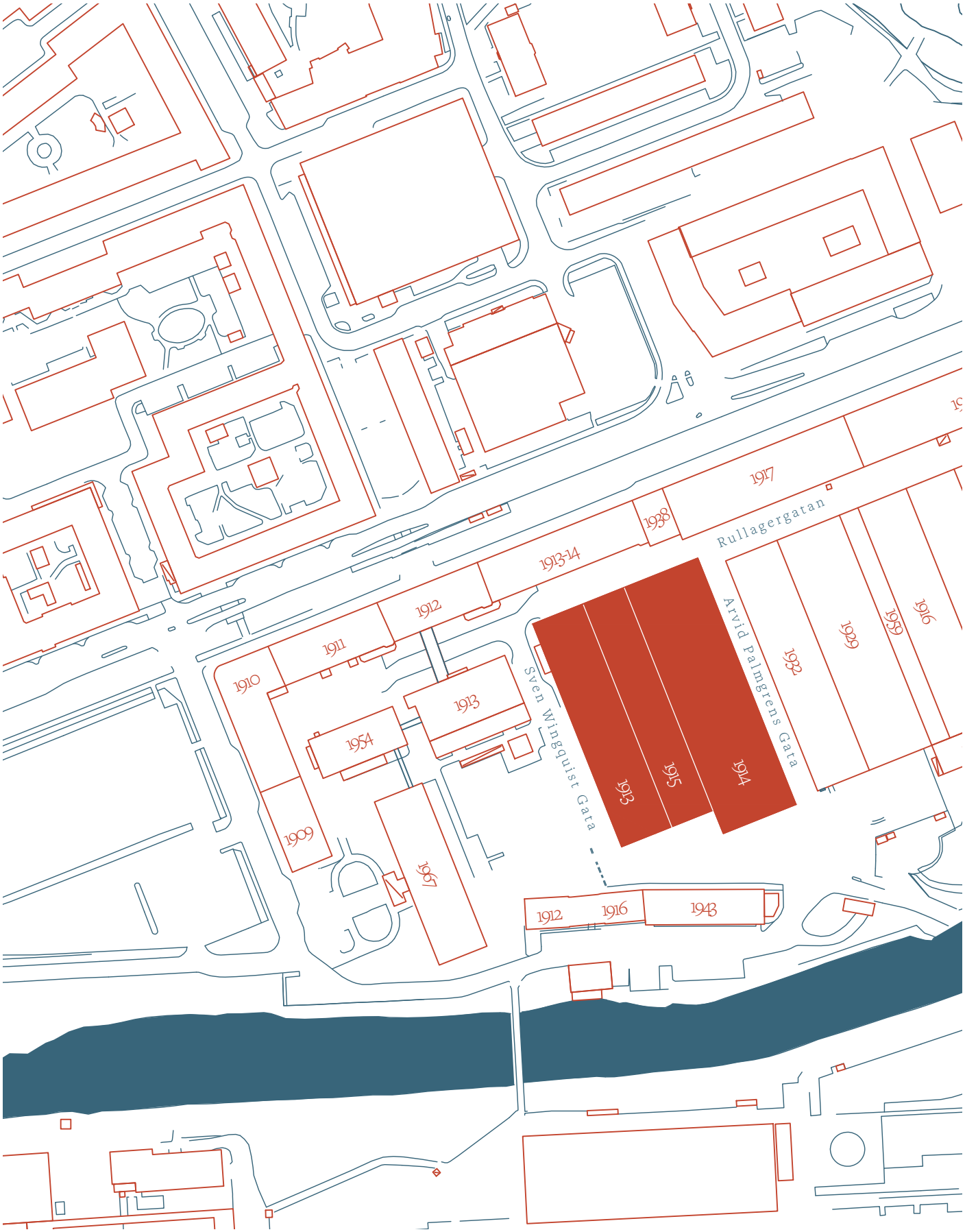
N

scale 1 : 2 000 (A3) | overlayed with siteplan from 1913



Maskinverkstad	machine workshop
Revolversvarveriet	revolver lathe
V härden	
Svarveriet fabriken	lathe
A	
K	
C	
HK huvudkontor	headquorters
LAB	

SITEPLAN
WITH YEARS OF CONSTRUCTION



N

scale 1 : 2 000 (A3)

HISTORY

GAMLESTADEN

In 1473, the town of Götaholm was founded, however, its citizens did not like the name, so they renamed it Nya Lödose. It was growing rapidly and became an important trading post, which would anger the Danes that would burn it down on several occasions. In 1621, Gothenburg was founded by Gustav II Adolf and gradually Nya Lödöse inhabitants were forced to move there.

SKF - SVENSKA KULLAGERFABRIKEN (Swedish ball bearing factory)

In the 20th century, Gamlestaden's factories became one of Sweden´s largest textile industrial complexes. Operating engineer at the Gamlestadens Fabriker cotton factory, Sven Wingquist's (1876–1953), developed the self-aligning spherical ball bearing.

This was the start of the global company SKF formed in 1907. The product was an immediate success. Growing larger every year, soon becoming Gothenburg's largest industry. With the high rate of new employees, including recruited workers from Italy (one of the earliest examples of labour immigration), a „brukssamhälle" (working community) was formed, creating a residential area close to the factories.

The quarter represents clear industrial architecture and its development from the 1900s to the late 1960s.

Fig. 11

M - VERKSTADEN

The M-workshop, designed by Ernst Krüger, was originally built as two separate workshop buildings. The west part was built in 1913 and the east part in 1914. In 1915, another workshop part was added in between connecting the two former workshop premises.

Built in national romanticism, the building´s facade is made from red brick with patterns formed by light brick, wall columns, white grid windows with visible red beams above, stone base.

The West workshop has a steel truss frame, while the east workshops bearing structure is a concrete frame. The middle room is supported by trusses and steel columns that are centrally located.

The building served as a repair workshop for heavy machinery. It included a power plant, machine workshop, forge, sand blasting, carpentry, and casting and rolling workshop.

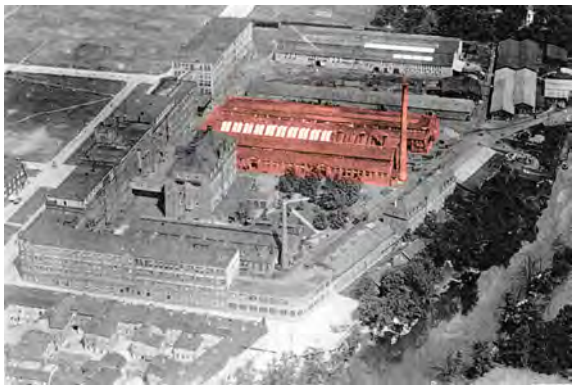


Fig. 12

Fig. 13 - SKF historical photos

CURRENT STATE AND FUTURE PLANS

At the moment, the building is not being used in any way. However, there are plans currently being discussed about the future of the quarter.

The area is supposed to turn into mixed-use space, providing new housing, offices and commercial spaces. Unfortunately, the majority of the buildings are intoxicated from previous use and cannot be restored, so they will have to be taken down and replaced by new ones.

Fortunately, this is not the case for M-verkstaden, as its pollution is not as bad and can be sanitized (however, it should not be used as a residential).

The building itself is rather well preserved with some alterations that include bricked up, covered or replaced windows, most of the entrances have been rebuilt or altered (only one original door was left in the north facade), and many installations such as pipes, ventilations, staircases, etc have been added. On the interior, many division walls or smaller structures have been added in quite an unorganised way.

LOCATION

closest bus/tram stations

Göteborg SKF
Gamlestadents Torg

train Gamlestaden station

distance from the city center (Brunnsparken)

11 min by car
14 min by tram (7, 11)
16 min by bike
53 min walk

SWOT ANALYSES

STRENGHTS

herritage and history of the whole quarter
mostly well preserved fasade
large open spaces
preserved machinery

WEAKNESSES

daylight - especially middle building
the area is closed off
not many places to access the building
additions -> unorganized, confusing
not good connections inside the building

OPPORTUNITIES

good connection to the city
can be pedestrian frienly
possible access to the river
greenery
open, creative, adjustable public space

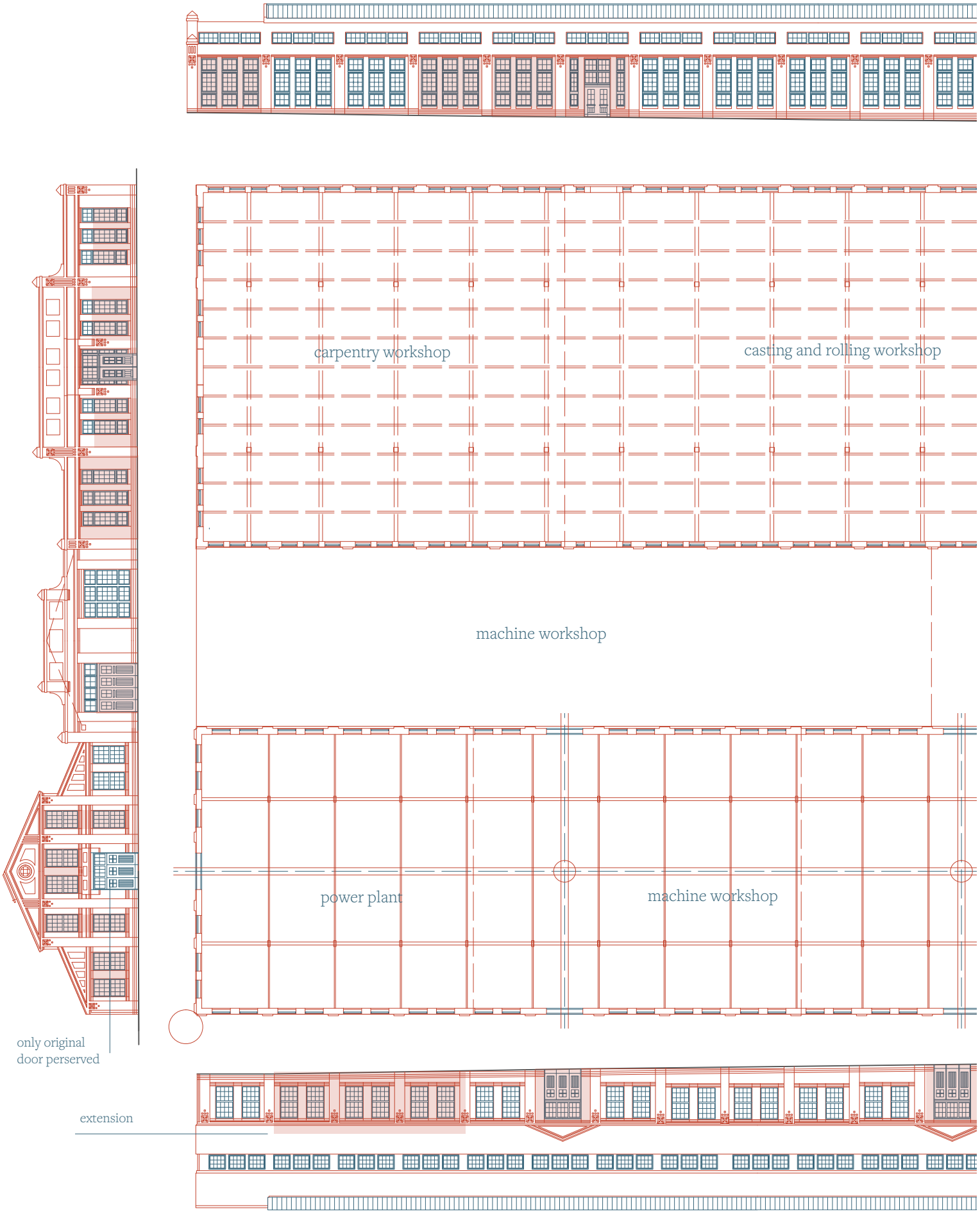
THREATS

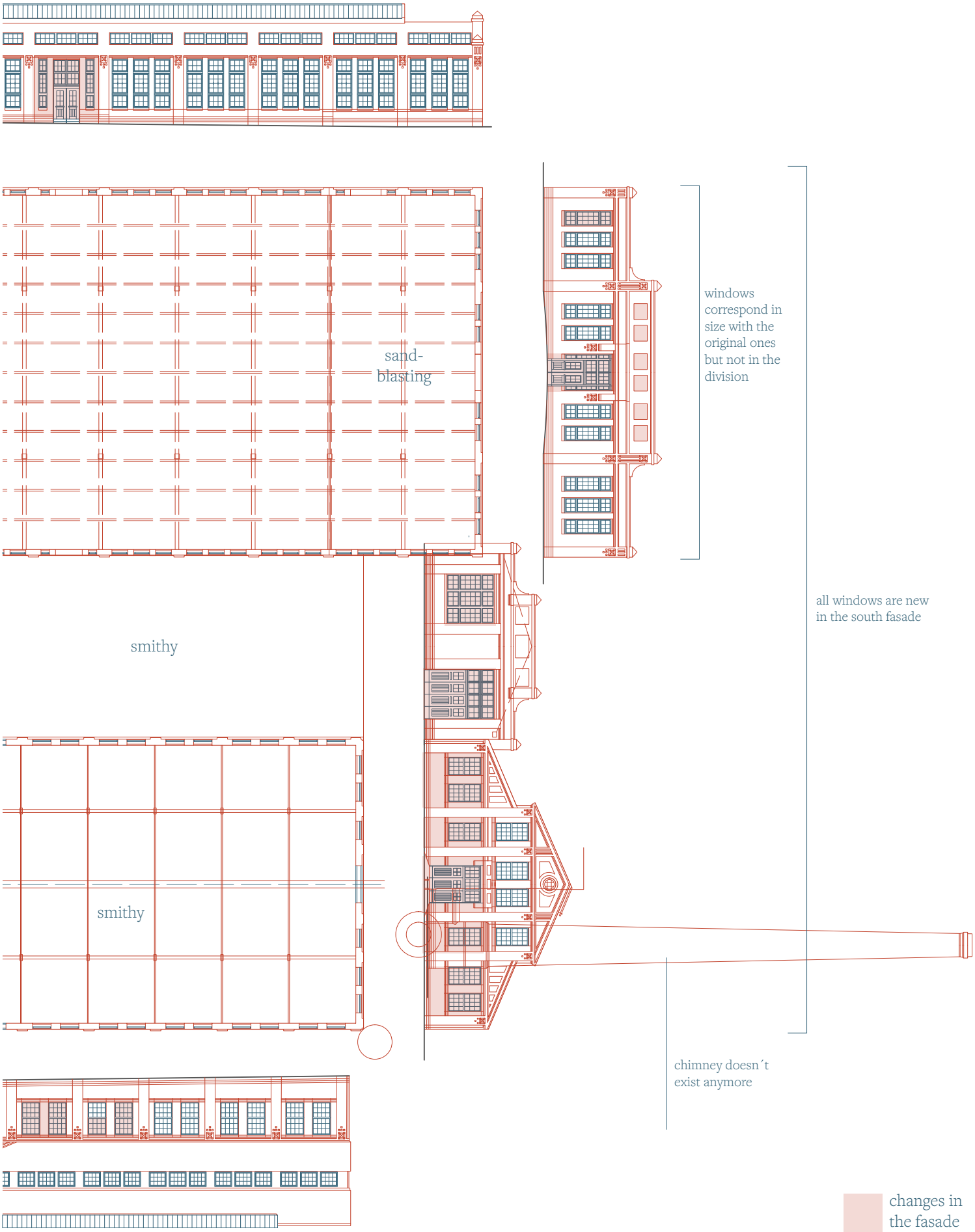
boringness of the long repetative fasades

accessibility from the main street

ORIGINAL DESIGN LINEDRAWINGS WITH MARKED CHANGES

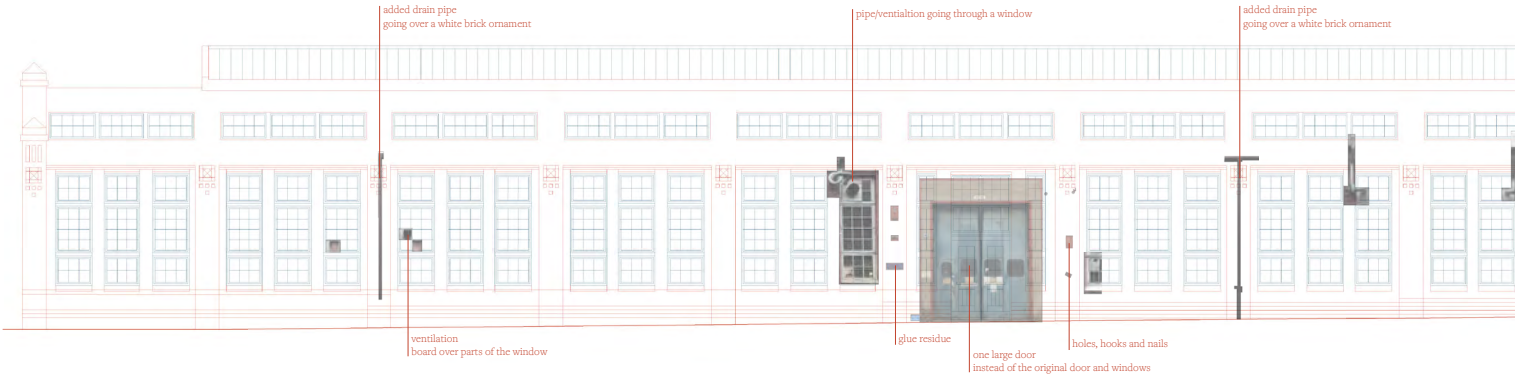
scale 1:400



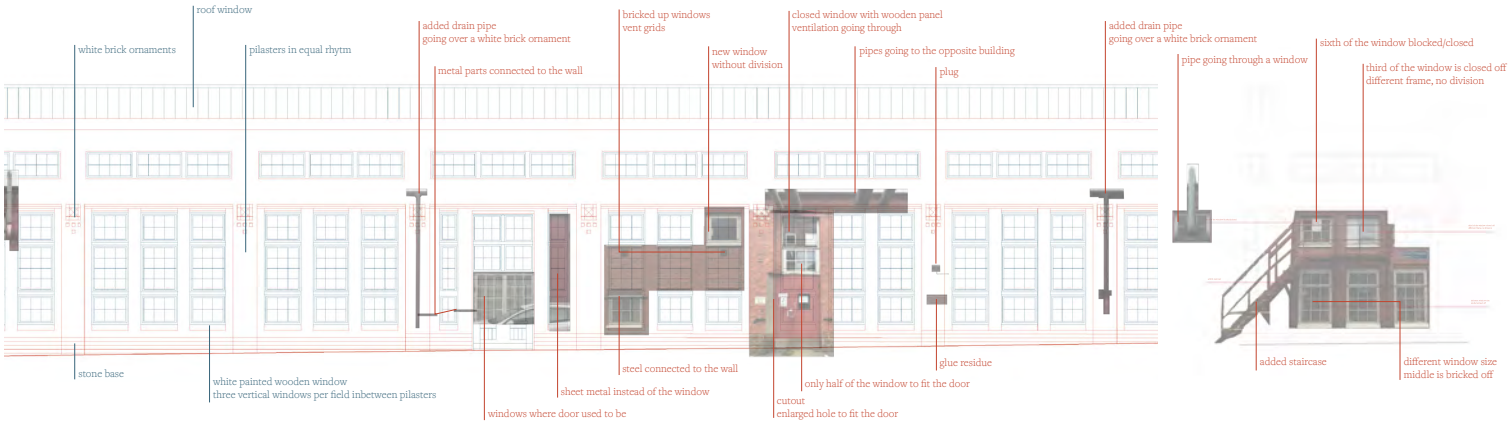

N
sand-
blasting
windows
correspond in
size with the
original ones
but not in the
division
all windows are new
in the south fasade
smithy
smithy
chimney doesn´t
exist anymore
changes in
the fasade

FACADES - MAPPING OF THE CHANGES

EAST



NORTH


roof window
white brick ornaments
pilasters in equal rhytm
added drain pipe
going over a white brick ornament
metal parts connected to the wall
bricked up windows
vent grids
new window
without division
closed window with wooden panel
ventilation going through
pipes going to the opposite building
plug
added drain pipe
going over a white brick ornament
pipe going through a window
sixth of the window blocked/closed
third of the window is closed off
different frame, no division
stone base
white painted wooden window
three vertical windows per field inbetween pilasters
windows where door used to be
sheet metal instead of the window
steel connected to the wall
cutout
enlarged hole to fit the door
only half of the window to fit the door
glue residue
added staircase
different window size
middle is bricked off


added ventilation
added ventilation
bricked up windows
bricked up windows
modified door
only original door left

PHOTOGRAPHS OF THE CURRENT STATE

SKF QUARTER

BUILDING'S EXTERIOR

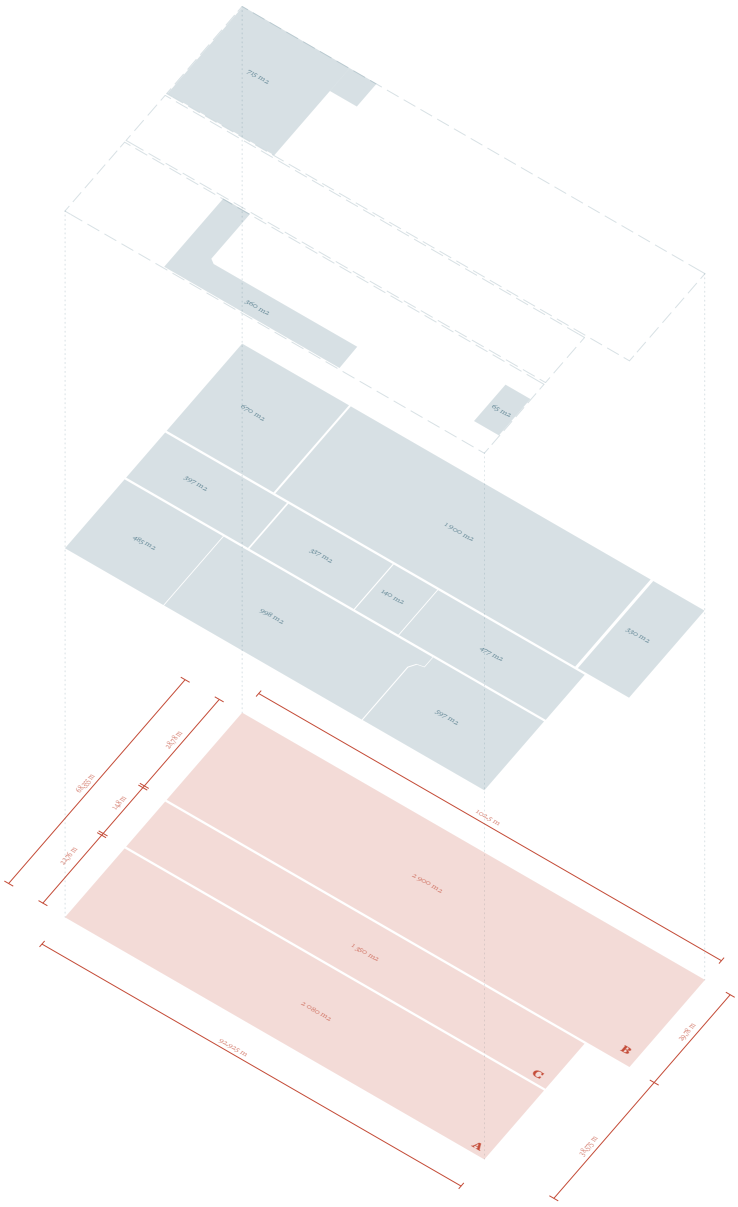
BUILDING'S INTERIOR

INVENTORY AND EXPLORATIONS

Since working with an existing building that is part of the industrial heritage, mapping the building played a big part in the process.

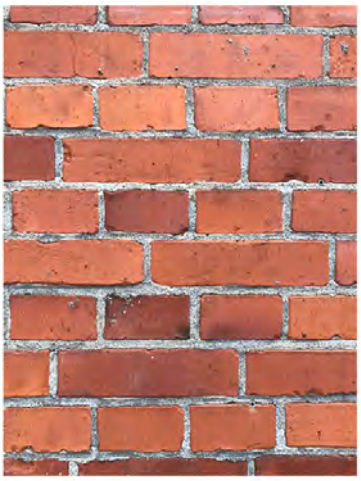
I started by categorizing elements and creating a “library”. Doing so without a hierarchy, considering original design elements as well as the “accidental” ones.

I also recreated original line drawings from old building permits to see what the original design looked like and then mapped the biggest changes on the facade.



area analyses

MATERIALS

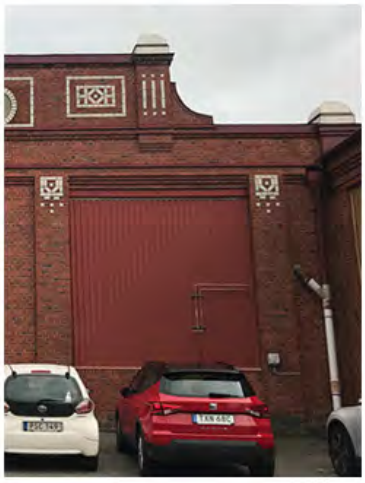
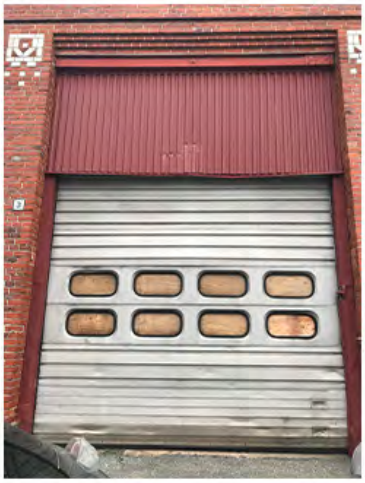


WINDOWS

DOORS



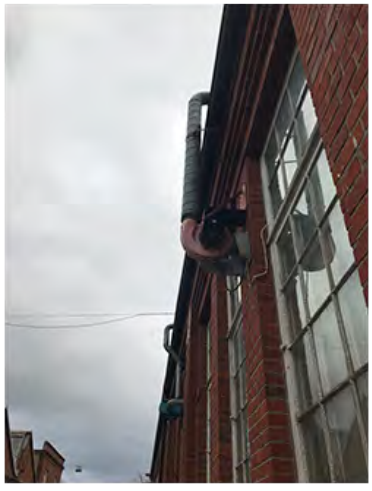


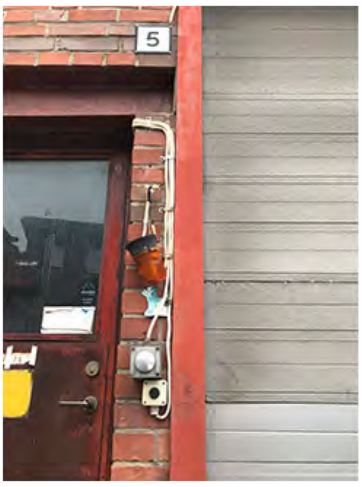

ADDITIONS - PIPES AND OTHERS





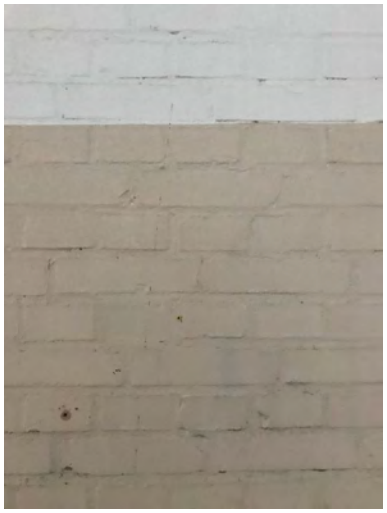
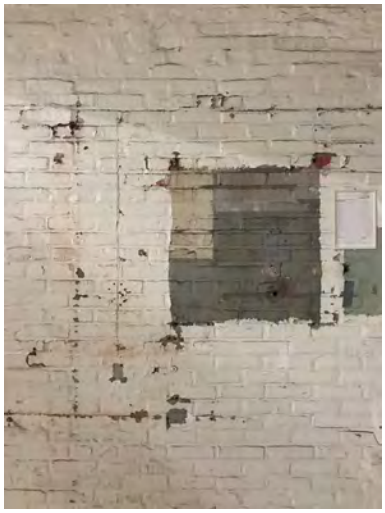

ADDITIONS - ELECTRO



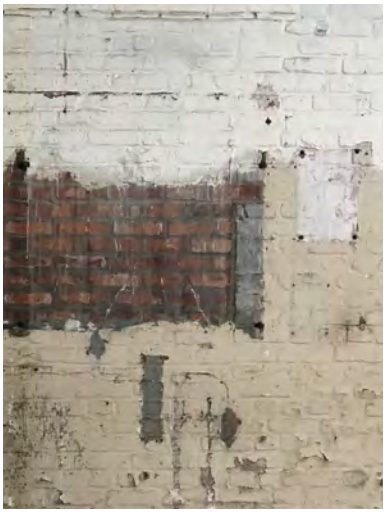
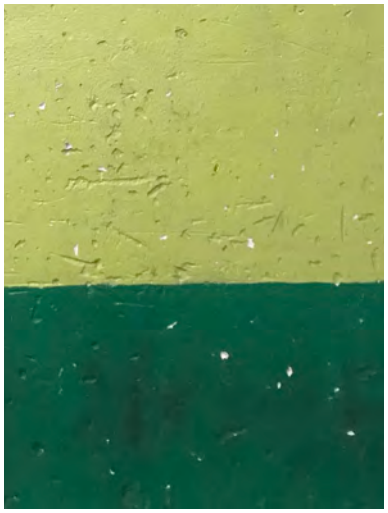
PIPES

MACHINERY AND LADDERS/STAIRS

WALLS



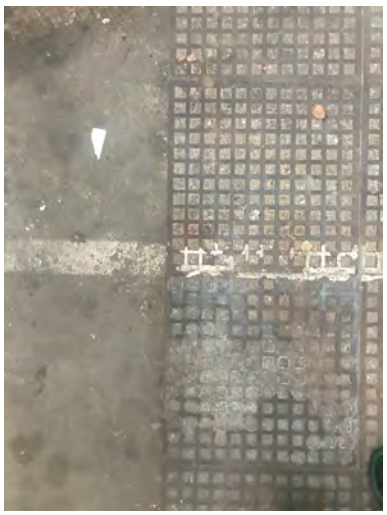




FLOORS

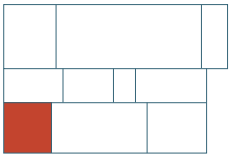




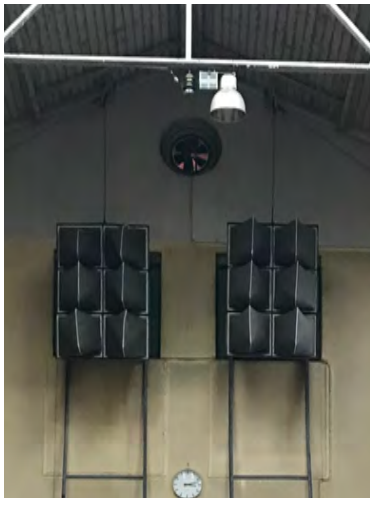





POWER PLANT ROOM



Some of the main elements and features of this room are its colours, tiles and machinery.



COLOUR PALETTE OF THE ROOM

Colour palette was extracted from the colours used in this room and they have been later worked with and used in other parts of the building.

structure

#f1f2f3 #d85843

machinery

#7baac1 #3d6670 #648b7b #253e37

doors

#4e738b #658aa6

walls

#f3e0b8 #8d8764 #d7cbae

floors

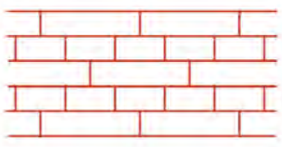
#704f4f #d6d4bc

MAIN COLOUR USED THROUGHOUT THE BUILDING

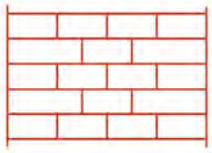
PATTERN EXPLORATIONS

Pattern exploration focuses on creating new patterns developed from the existing white brick patterns on the facades. Some of them have been used as floor tiles in parts where floor needs repair.

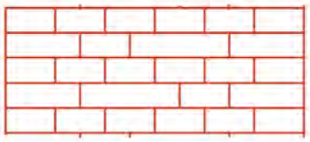
BRICK PATTERNS - FACADE



basic wall pattern **english bond**

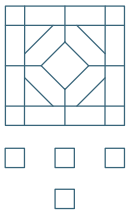


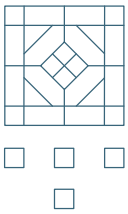
between windows pattern **dutch bond**



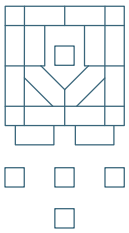
semi-column pattern **dutch bond**

WHITE BRICK ORNAMENTS ON A FACADES

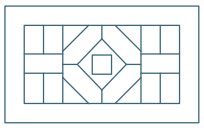




west facade (building A)

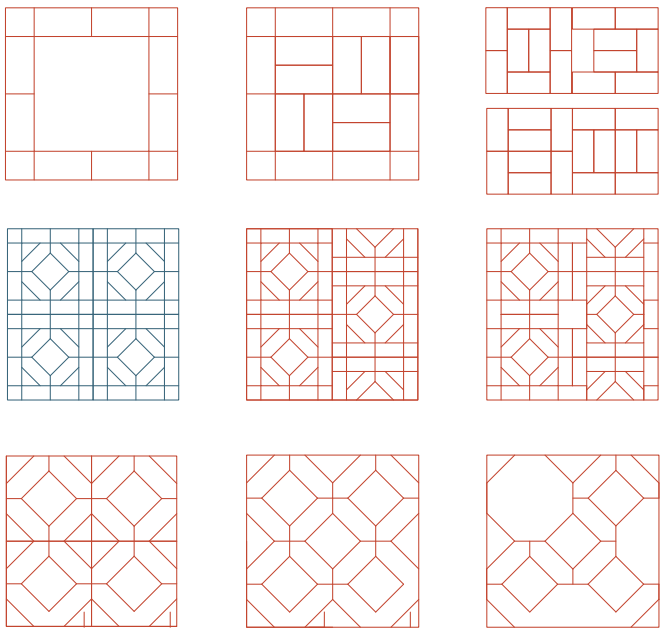


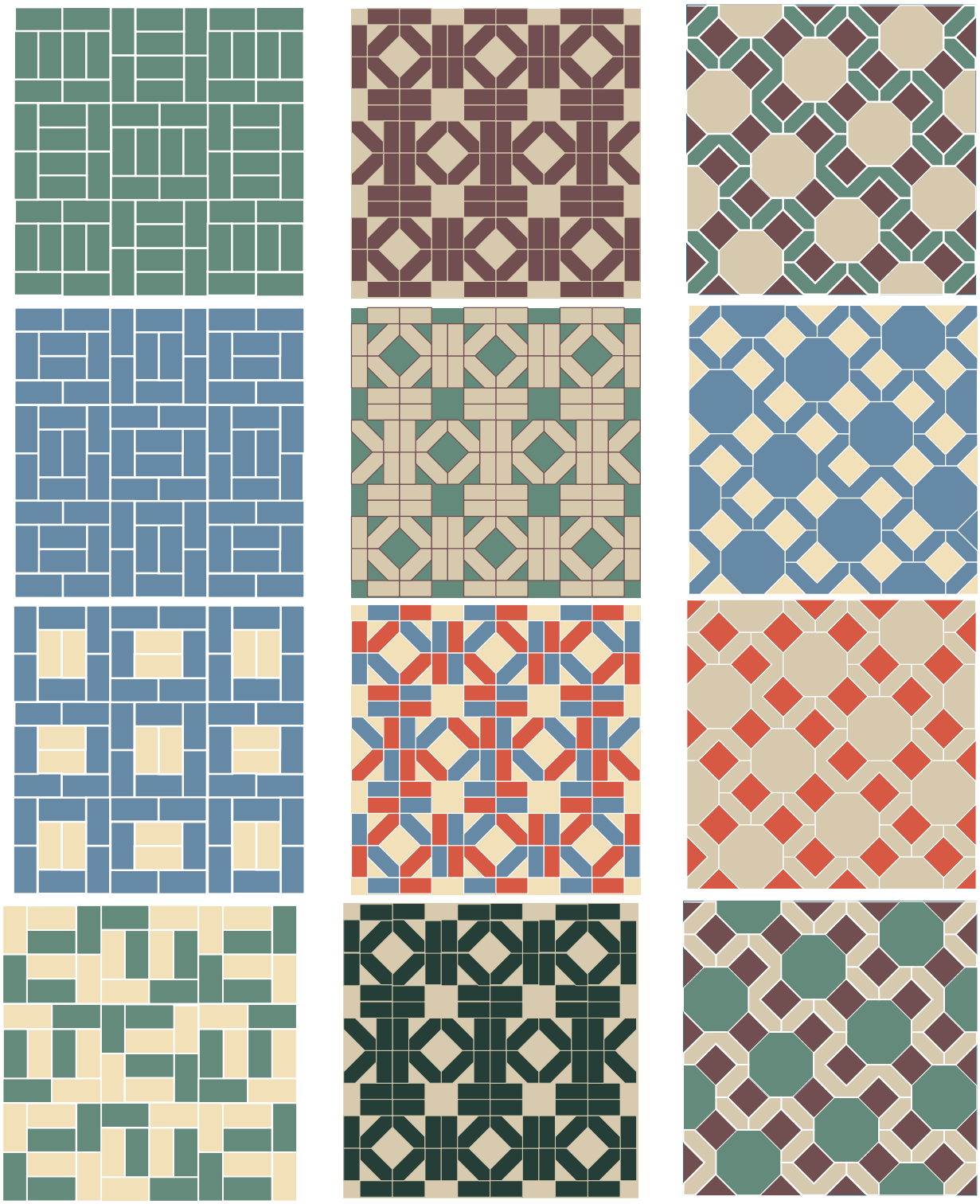
east facade (building B)



gables (building C)

NEW DESIGNS

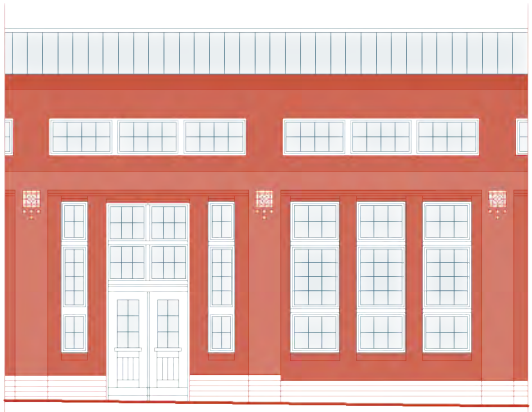




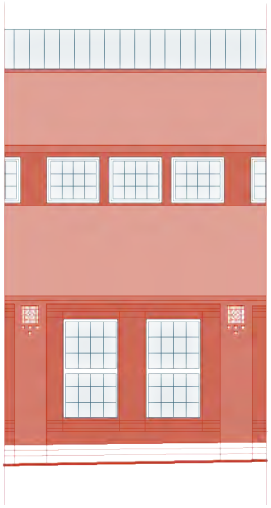
FACADE FIELD EXPLORATIONS

Exploration of the possible ways to use the fields between semi-columns. This could be the ones on the exterior as well as the interior.

ORIGINAL FACADE FIELDS



east facade (building B)



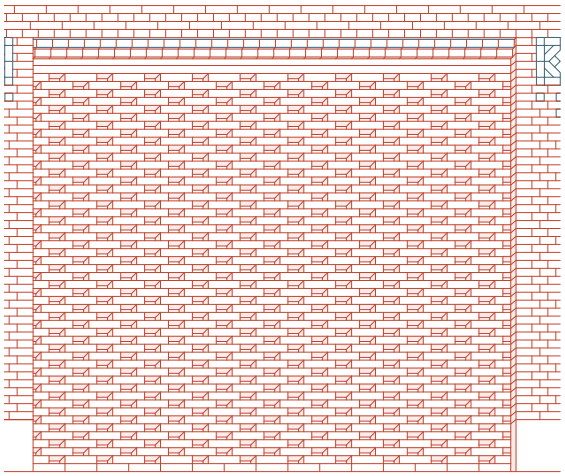
west facade (building A)

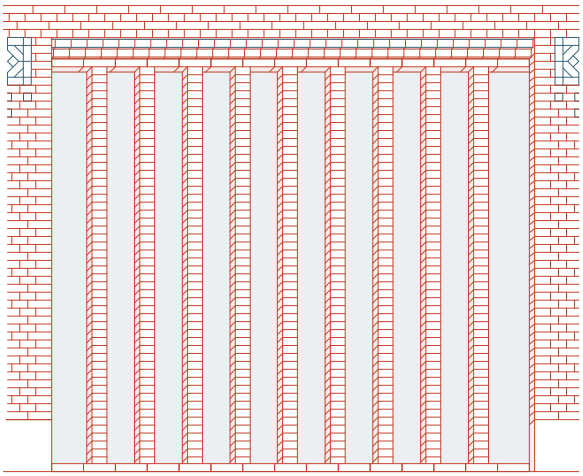
west fasade fields

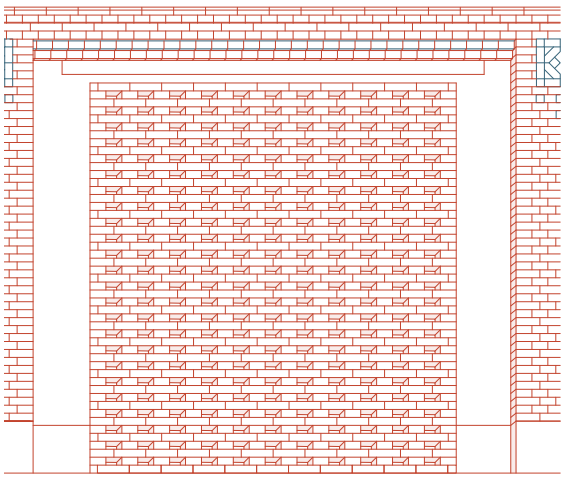
bricked up windows

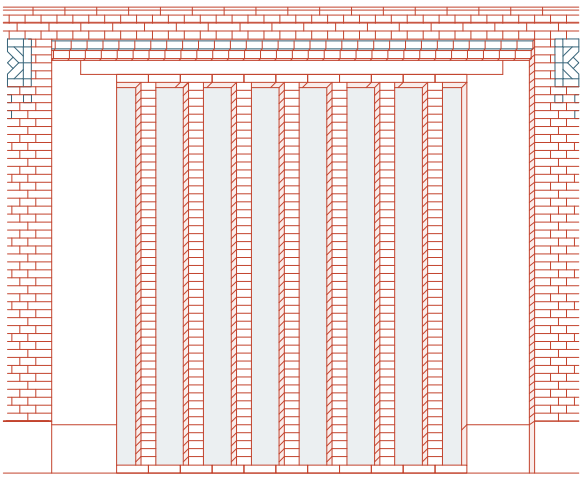
with original windows

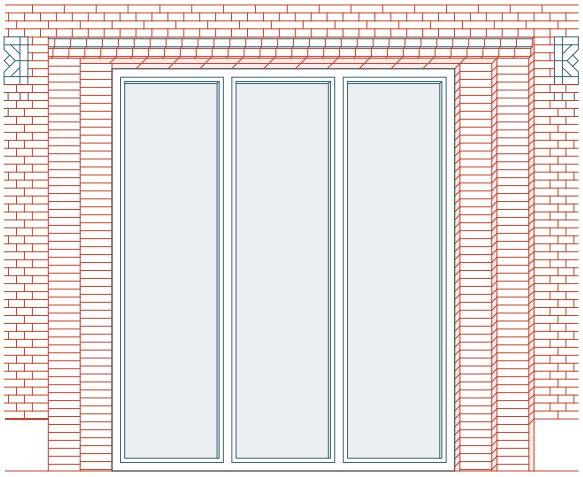
FACADE FIELD EXPLORATIONS

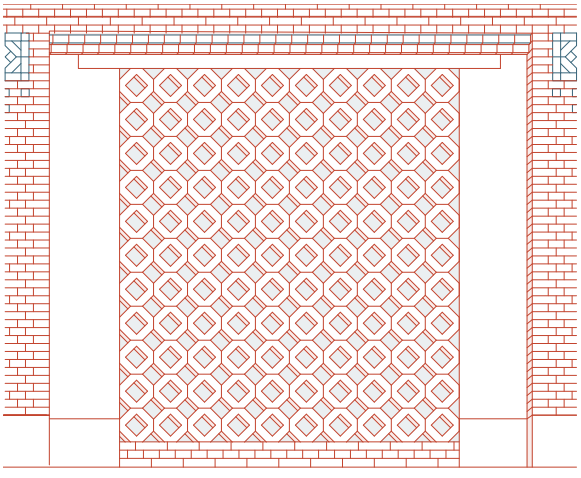












DESIGN

The project mostly seeks to remain as much of the existing building as possible only with simple alterations. The biggest change is an addition of a viewing tower with a roof terrace.

The building would be used as a public space creating a meeting point for all generations. Because of the size, it is possible to provide different kinds of public use that would hopefully attract a wide range of people to the site and help with its reactivation. Providing space just to enjoy and rest or play, shop, work or enjoy some cultural activities.

For new use, the building is divided into four parts, market, square, co-working and art gallery.

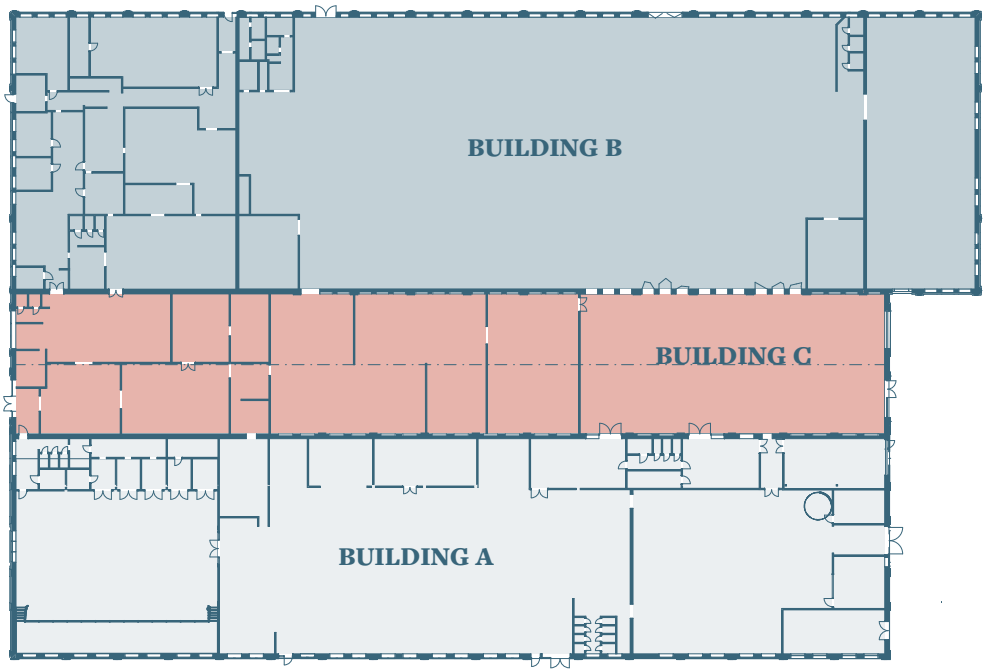
Building A, the oldest one, functions as a market, creating smaller spaces for permanent stores as well as an open space for temporary markets of various kinds from food to clothes.

Building B which is mostly one big open space is turned into a square where people can meet and just hang out or play games and sports, including a playground for all generations. The north side of the building consists of many small rooms that provides a space for co-working, providing offices of various sizes, meeting rooms and an auditorium.

Building C, which bridges two previous buildings works as a gallery space.

east

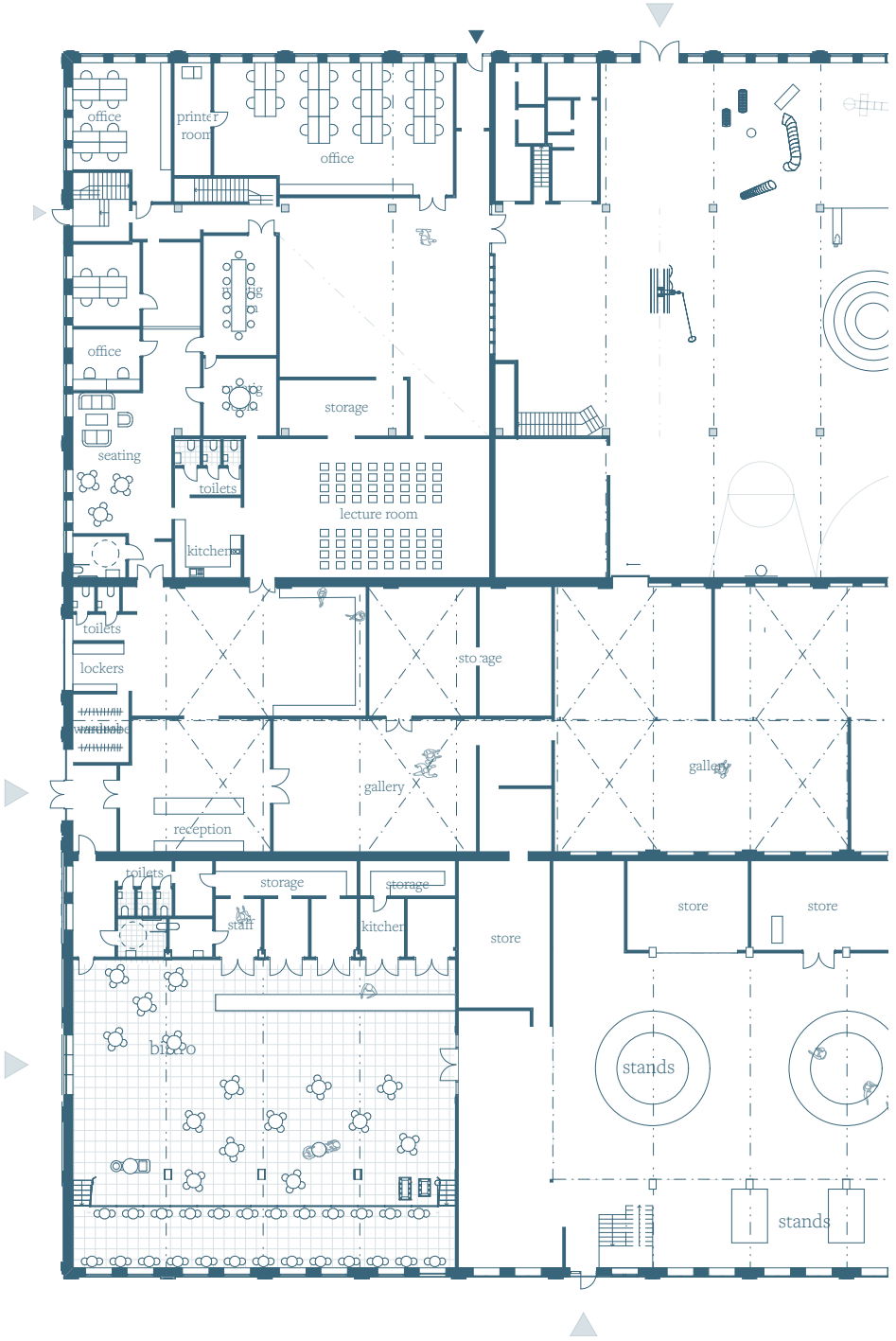
north



south

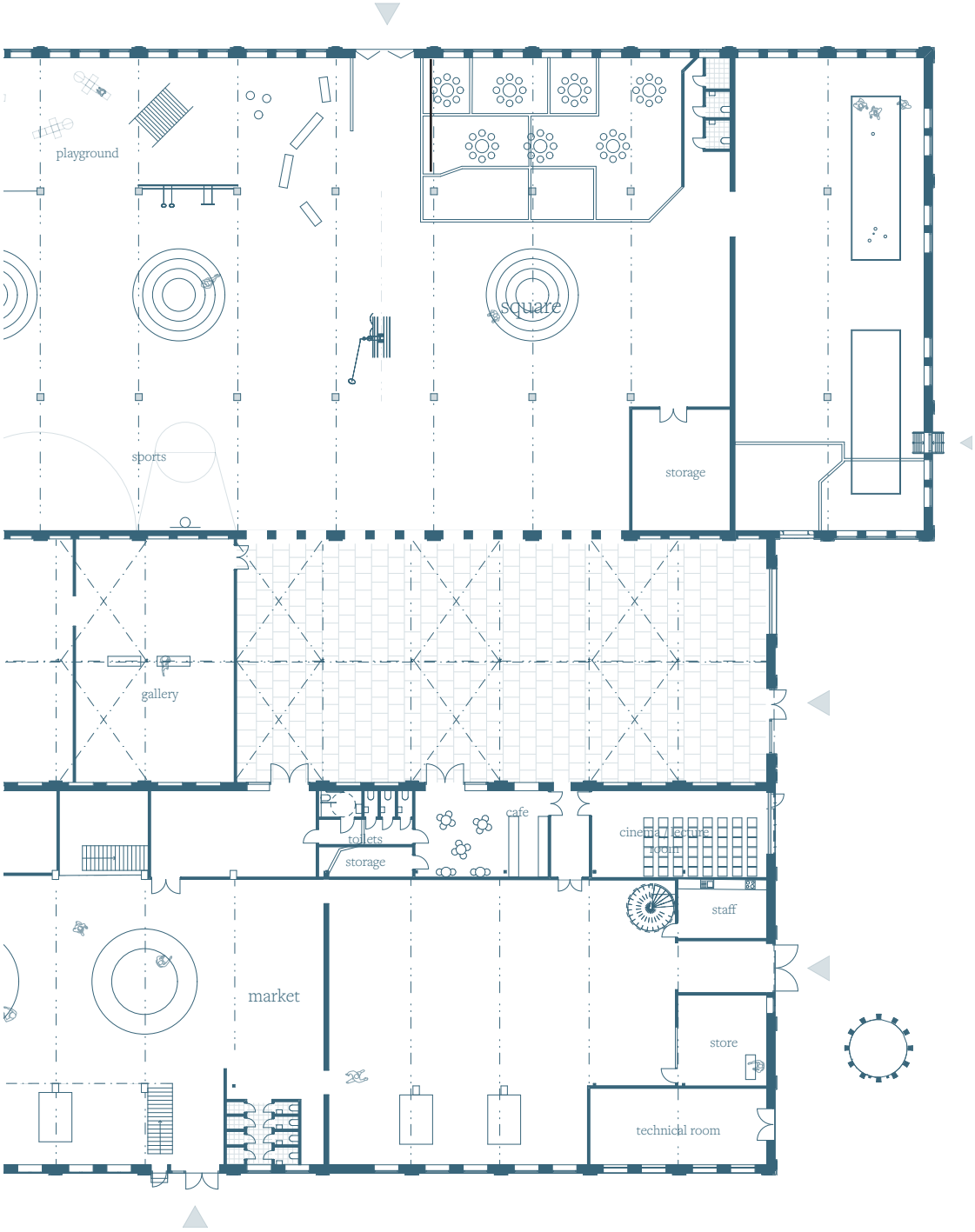
west

FLOORPLAN


office
printer room
office
office
storage
seating
toilets
lecture room
kitchen
toilets
lockers
wardrobe
storage
gallery
reception
toilets
storage
storage
staff
kitchen
store
store
store
bistro
stands
stands

N

scale 1 : 400


playground
square
sports
storage
gallery
cafe
toilets
storage
cinema / lecture room
staff
market
store
technical room

FACADES

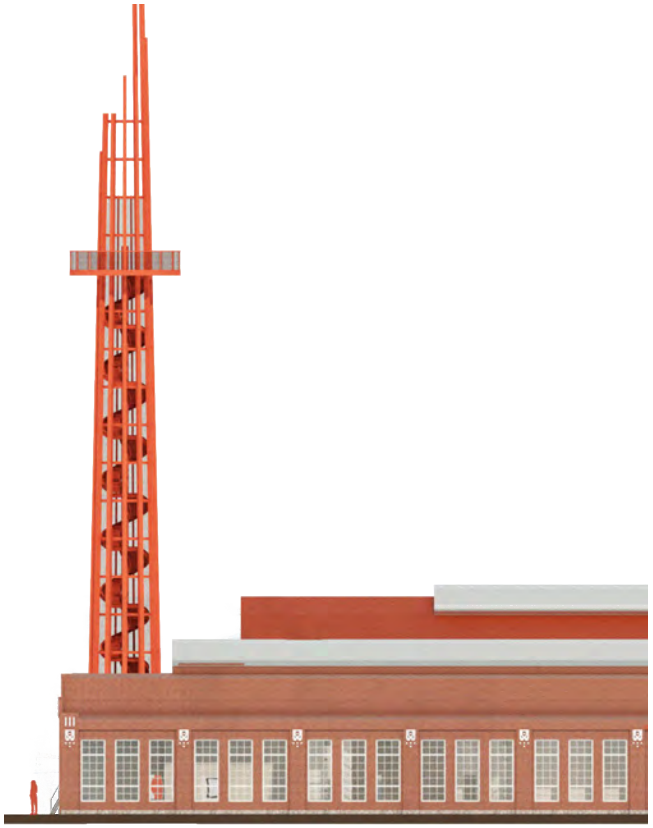
The facades of the building are overall preserved in good condition. There are visible some alterations, mainly in changes to the windows and additions of garage doors. A lot of technical elements like ventilation, and electrical installations were also added in often unsensible ways.

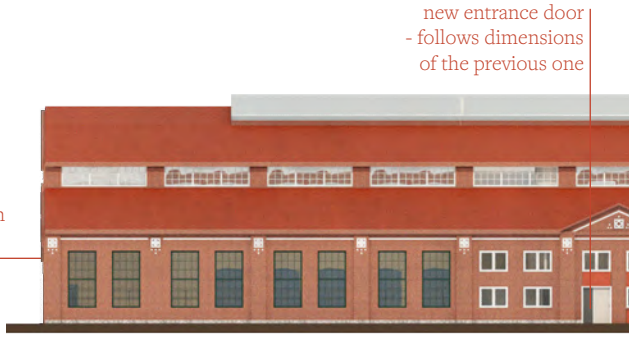
The proposed design works mainly with the entrances to the building, respecting the shapes and sizes of the existing openings and reopening the windows. Main public entrances that usually replaced now existing garage doors are done of shiny silver metal. They use the same material to signal their function to the visitors. The material was chosen as it is commonly used throughout the building, however, the finish was chosen differently than used in the building to contrast and clearly communicate that it is a new addition.

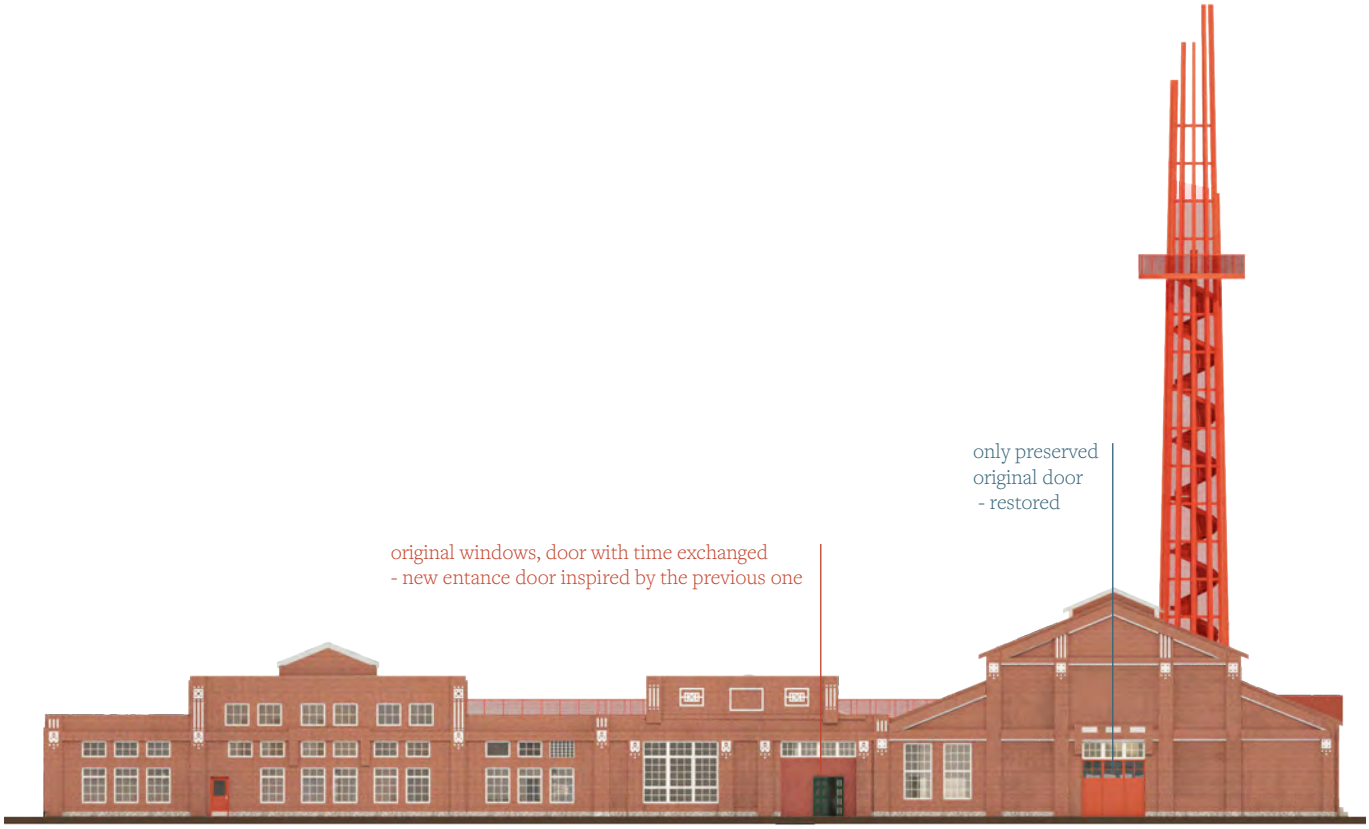
Side entrances are proposed in the red finish as they are done at the moment. In the north facade is preserved the only original door, so only its restoration is proposed.

„Re-opened“ windows follow the same design as the original ones but contrast in colour as they are not white as the rest but dark deep green.

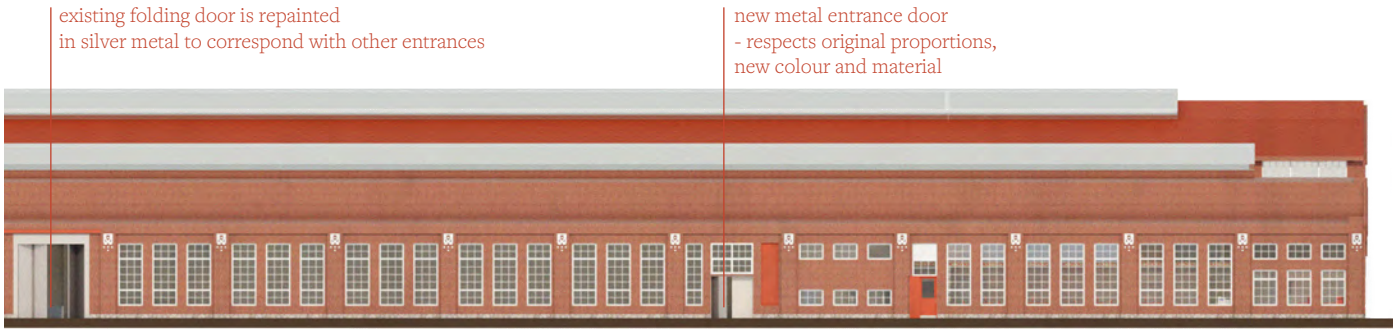
Many of the later smaller additions as signs, pipes and wirings are left to show the life of the building in all its stages.







NORTH FASADE ELEVATION 1:400



EAST FASADE ELEVATION 1:400

WEST FASADE ELEVATION 1:400

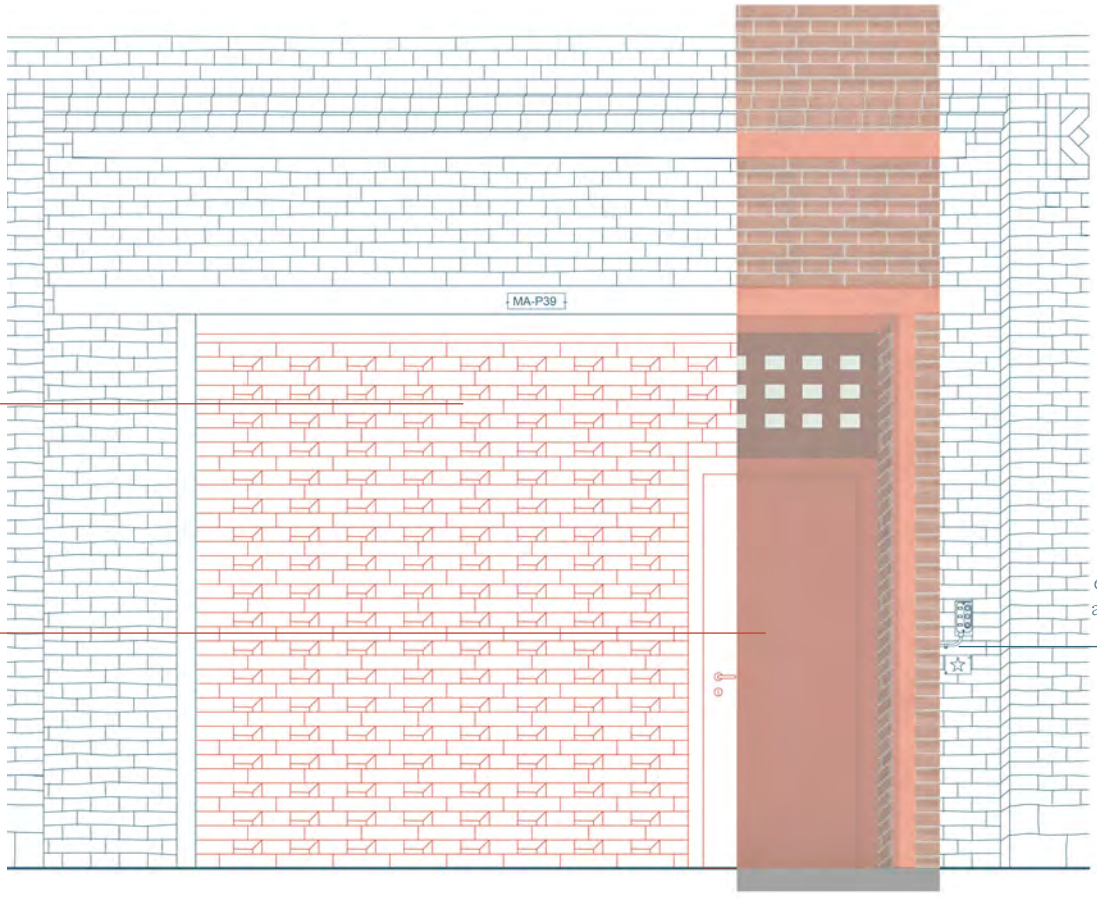
new window in place of the
door in contrastiong colour

new entrance metal door

bricked up hole from garage doors
- brick pattern with skipped
bricks for light effect

detail A

detail B



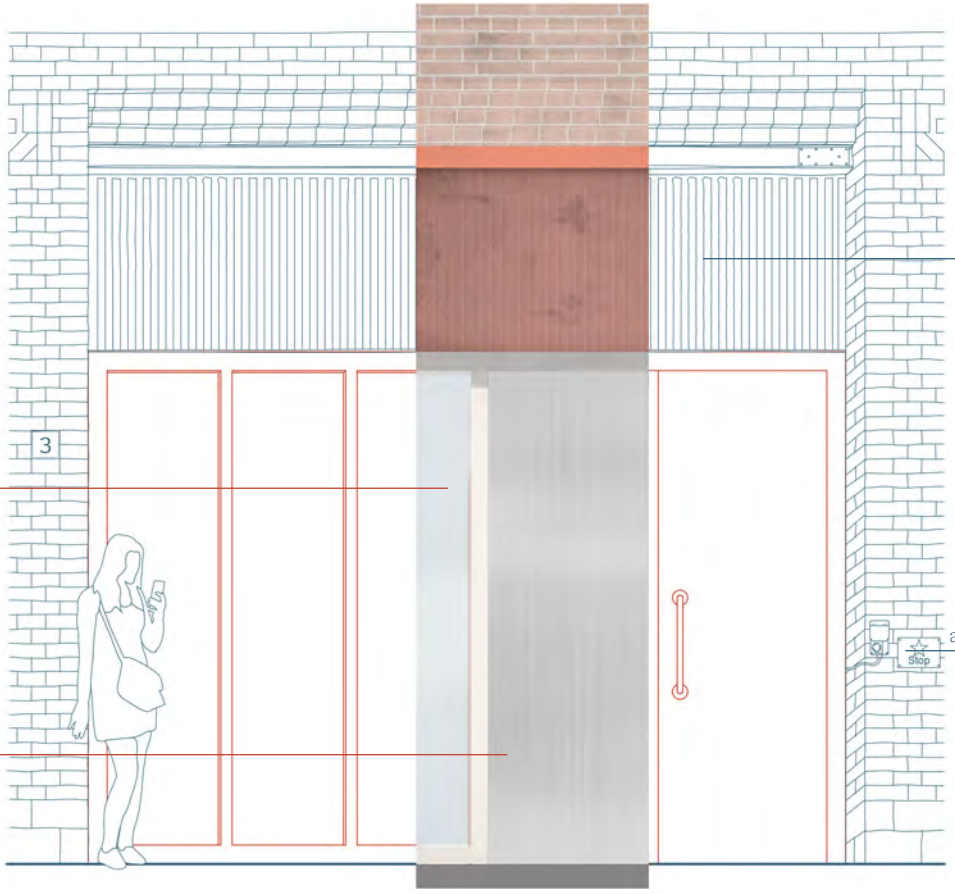
new patterned brick wall

new door
(red colour is used as that
is often a colour of existing
smaller entrances)

existing small
additions that
are left

SOUTH FASADE INTERVENTION - DETAIL A 1:40

SOUTH FASADE ELEVATION 1:200



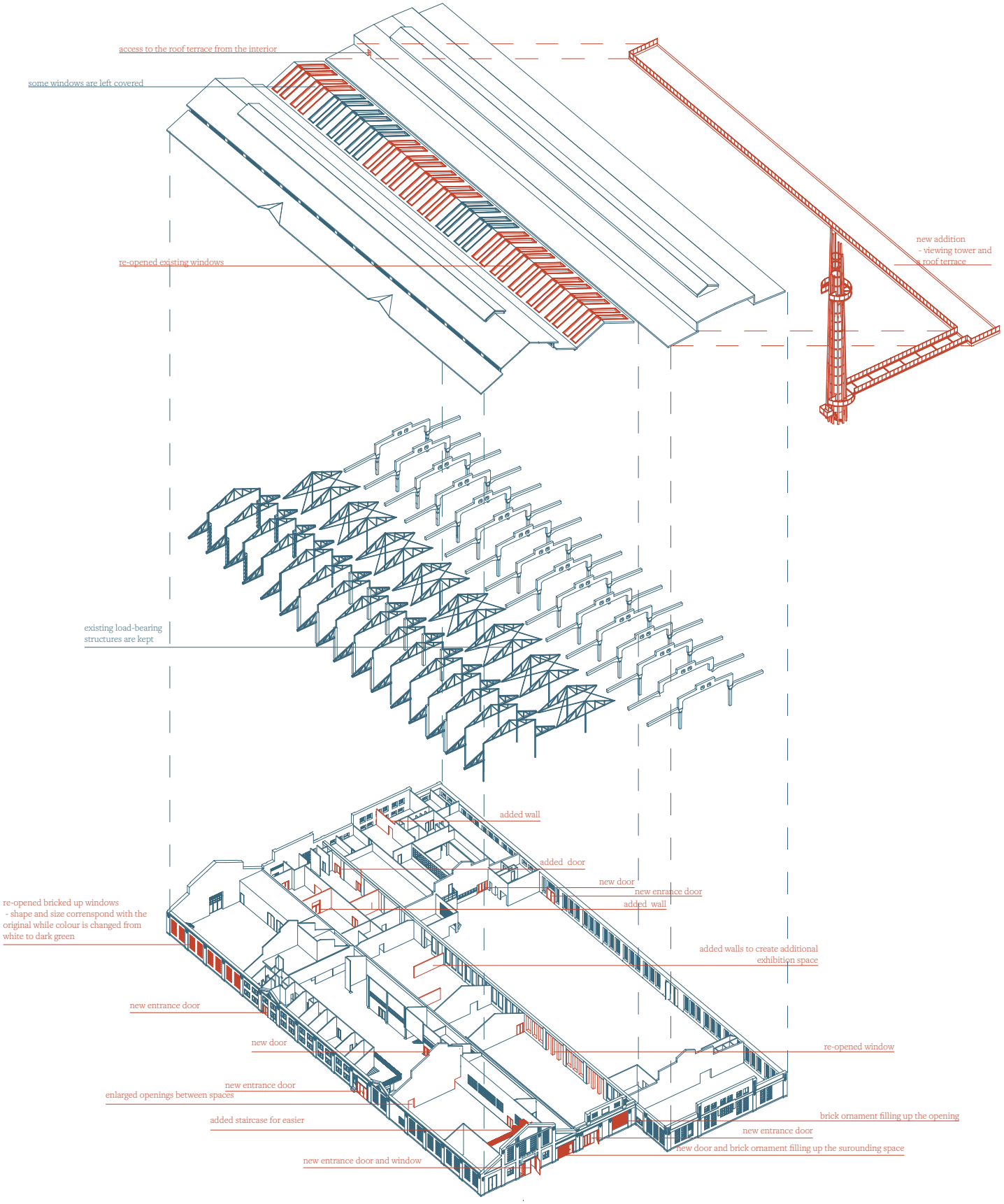
metal part is left from the previous garage doors

new windows by the entrance (they are placed by the entrance to create a more inviting space where the visitor can see what is going on inside and is not scared to enter)

existing small additions that are left

new metal door (metal is used as it is a material commonly used in the building, silver finish contrast the existing metal and signals its new addition, it is used in all public entances to the building to clearly signal its function)

SOUTH FASADE INTERVENTION - DETAIL B 1:40



Exploded axonomentry shows structure of the building in a state of a new proposal. Unchanged parts are shown in blue while interventions are highlighted in red.

BUILDING A

Building A, built in 1913, is the first and oldest part of the M-workshop. Originally north part was a power plant, the middle served as a machine workshop and the south part was a smithy.

This thesis proposes to use these spaces as a marketplace, where smaller spaces could be used as permanent stores and central open spaces would be used for the organisation of various markets, from food to clothes.

There have been proposed only smaller changes and adjustments that would make the space more functional, cleaning up the space and repainting, however, it is not done in the manner of making everything look new as traces of wear and tear as well as machinery and technical details are often left.

In the south part of the building, one smaller room is adjusted for screening and can function as a small cinema or auditorium.

The north room which used to be a power plant and is now considered to have the most significant heritage value due to its aesthetic qualities. In this proposal, it should function as a place where people can sit down and enjoy the space. A bar is placed in this space so they could take a break here and enjoy coffee or a snack.

The room has beautiful, chequered tiles, an iron railing and a vibrant colour palette that is preserved as well as the machinery in this room that is kept as a remnant of the past (see inventory). The biggest intervention is re-opening the windows in their original form to bring more daylight into the room.

power plant room

market hall - south entrance

BUILDING B

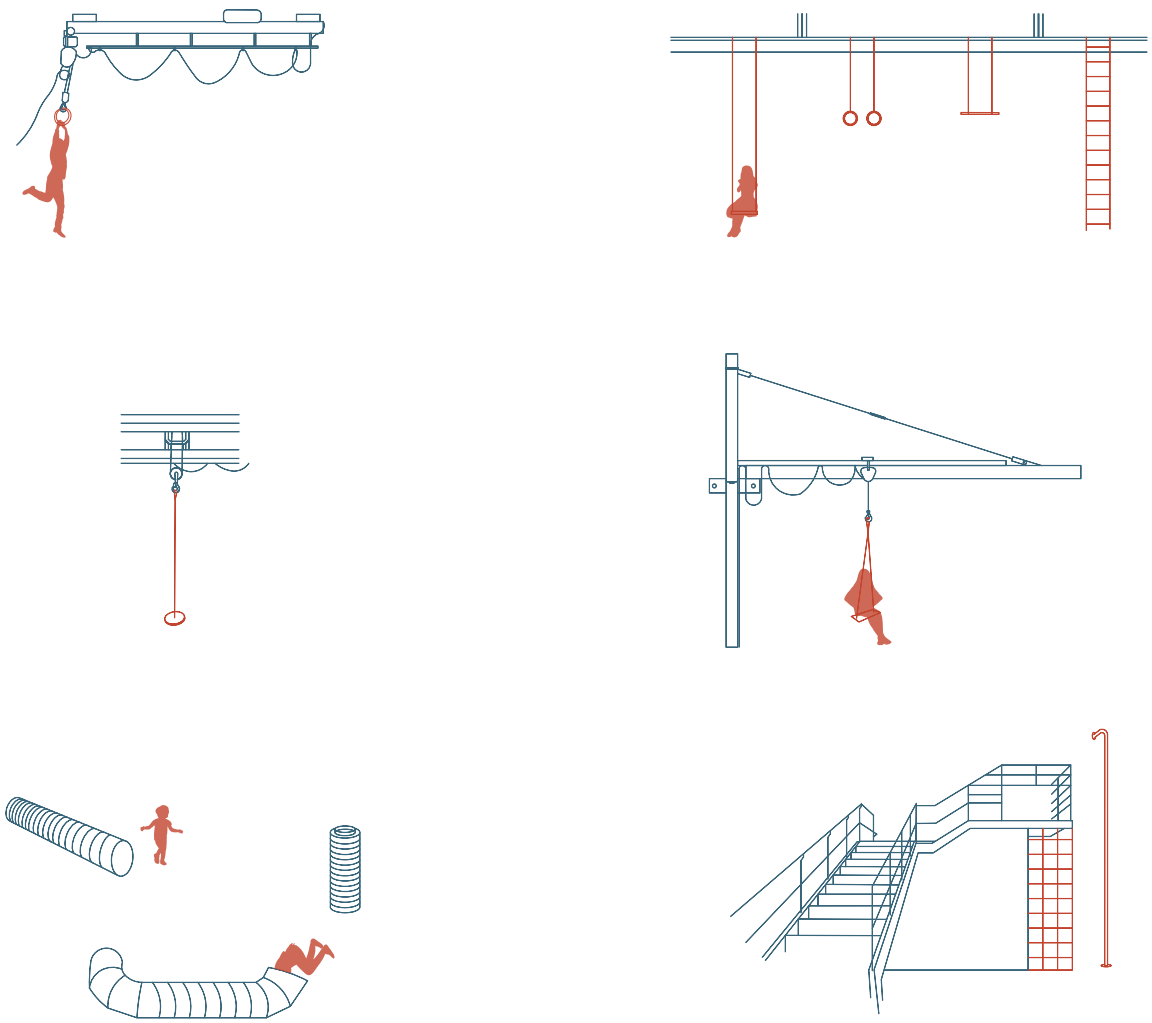
The largest interior open space is used as a covered square with playground elements. It is a meeting point for all generations providing seating spaces to rest, picnic, etc. as well as a space to be more active and play around, like basketball nets, space for pétanque, and a playground with swings and monkey bars. It reuses existing elements and is inspired by them for the new.

The north part of the building consists of many smaller rooms that lack organisation. The project proposes some changes to achieve a more organised space that can be used as a co-working space.

REUSE OF THE ELEMENTS

Many machinery elements that were originally moving objects found in this space are reused as playground elements like swings, rings, climbing nets, etc., allowing for the movement of people.

Other elements as for example ladder are moved to the window to serve as an additional entrance option.



exaples of the reused elements

square

BUILDING C

Building C was built connecting two existing workshops by the addition of gables and a roof that is supported by the outer walls of the two buildings. On the interior, originally exterior facades were just repainted and most of the windows were bricked in.

Today this part can struggle with daylight as it doesn't have outer walls through which daylight could be brought in. This was one of the reasons for choosing a function such as a gallery as direct daylight is not always required. Nevertheless, roof windows have been re-opened in some parts as currently they are all covered.

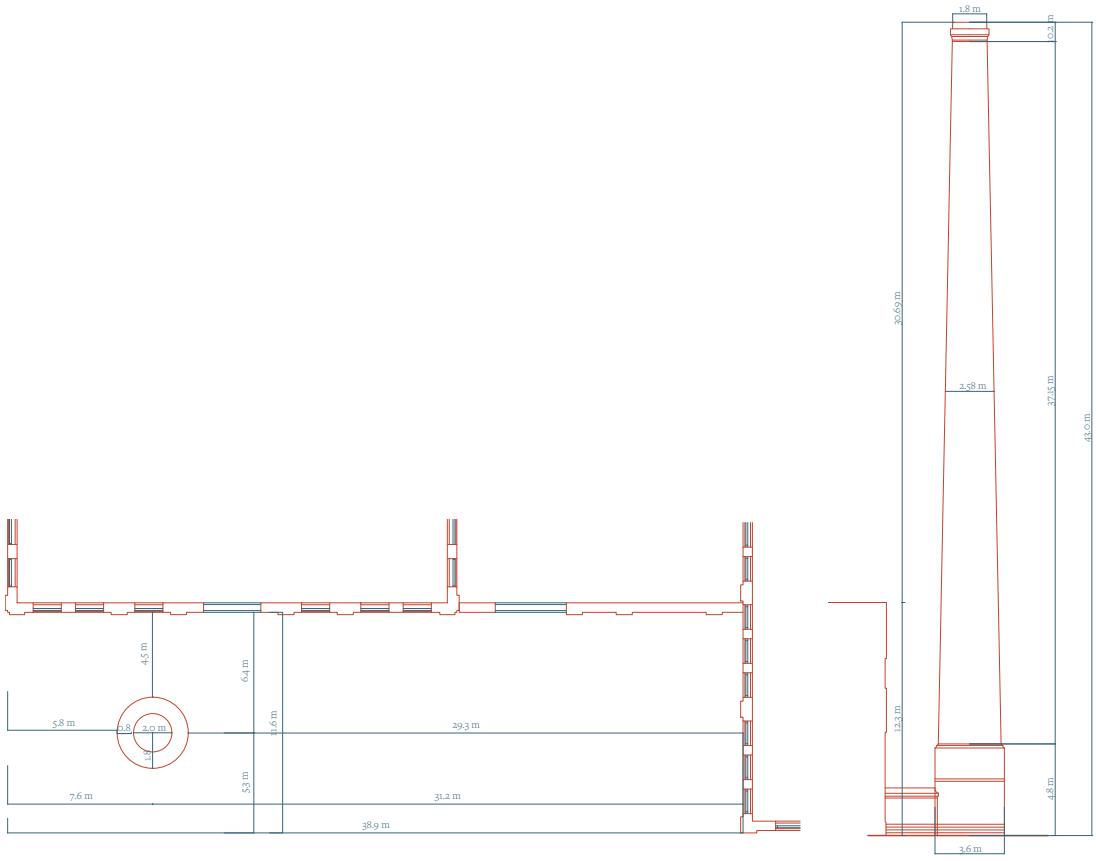
gallery space

south entrance to the building C

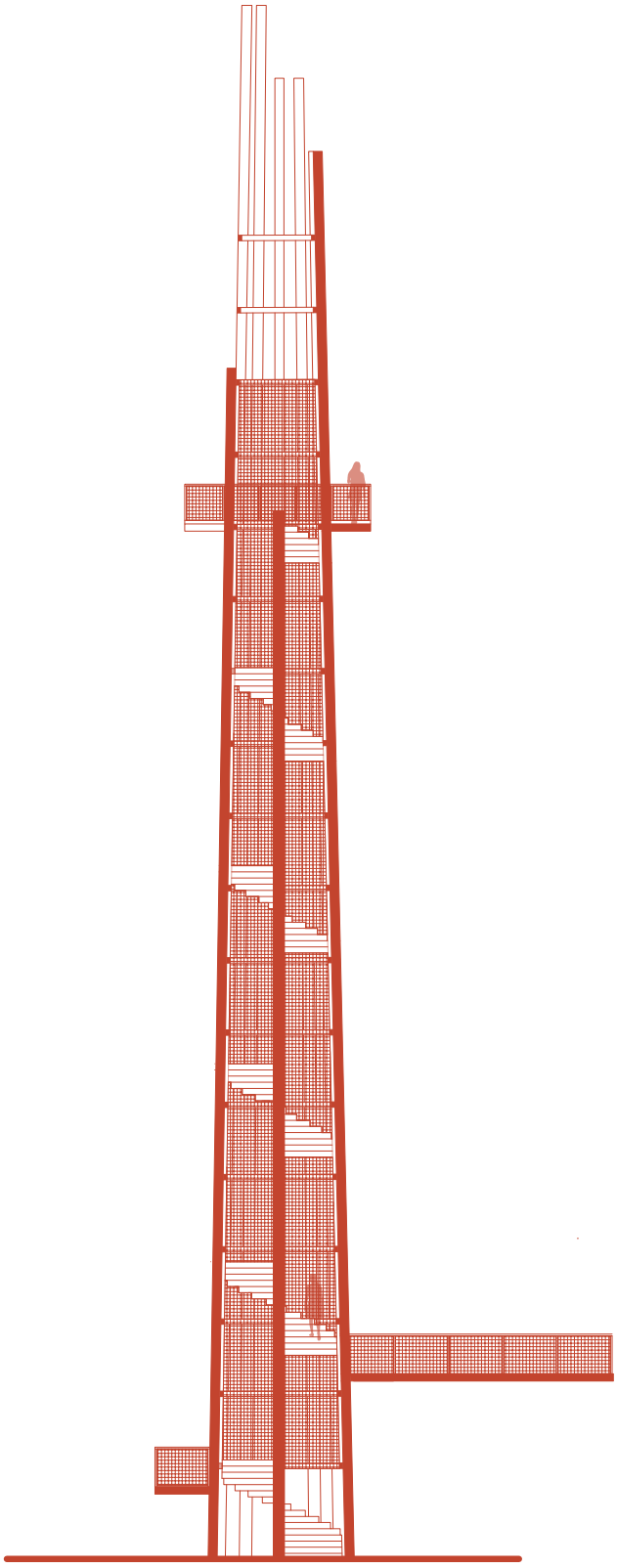
TOWER AND ROOF TERRACE

Now no more existing chimney serves as a reference - a starting point - and inspiration for a tower that will be used as a viewing platform. It is also connected to the roof terrace.

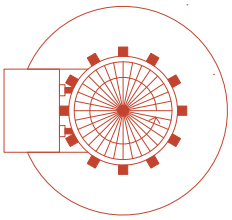
The tower is referencing a chimney in shape, but it is a lighter structure, so it does not take away as much focus from the facade. To the bridge connecting the roof terrace and viewing point, one can get with the help of an industrial elevator platform that is inspired by technical use and machinery from the building's interior. It is also an inclusive solution as it enables those with physical disabilities to get up there as well. There are also stairs placed inside the tower.



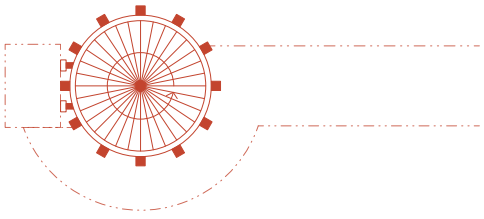
chimney dimensions according to the origical drawings 1:400



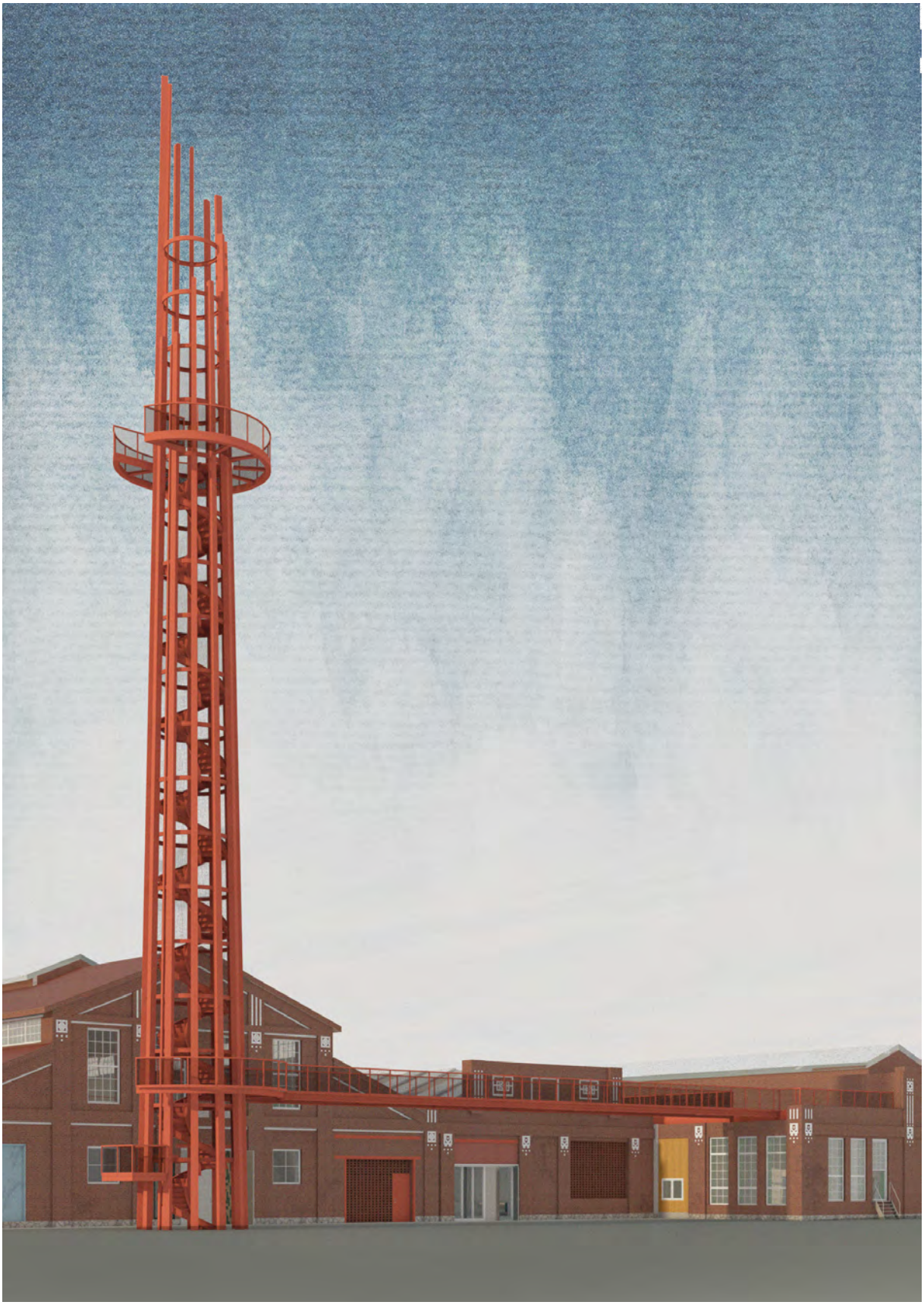
viewing tower section 1:200



2nd platform - viewing

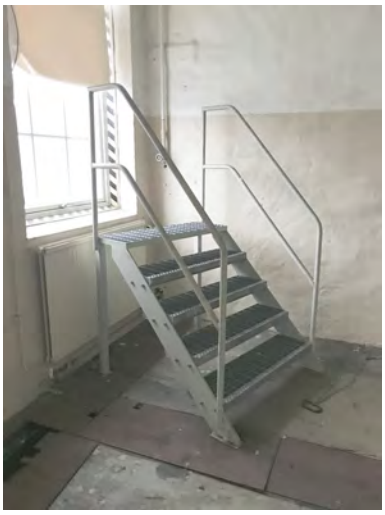


1st platform - connecting tower and roof terrace 1:200



south facade view showing the viewing tower and the bridge connecting the roof terrace

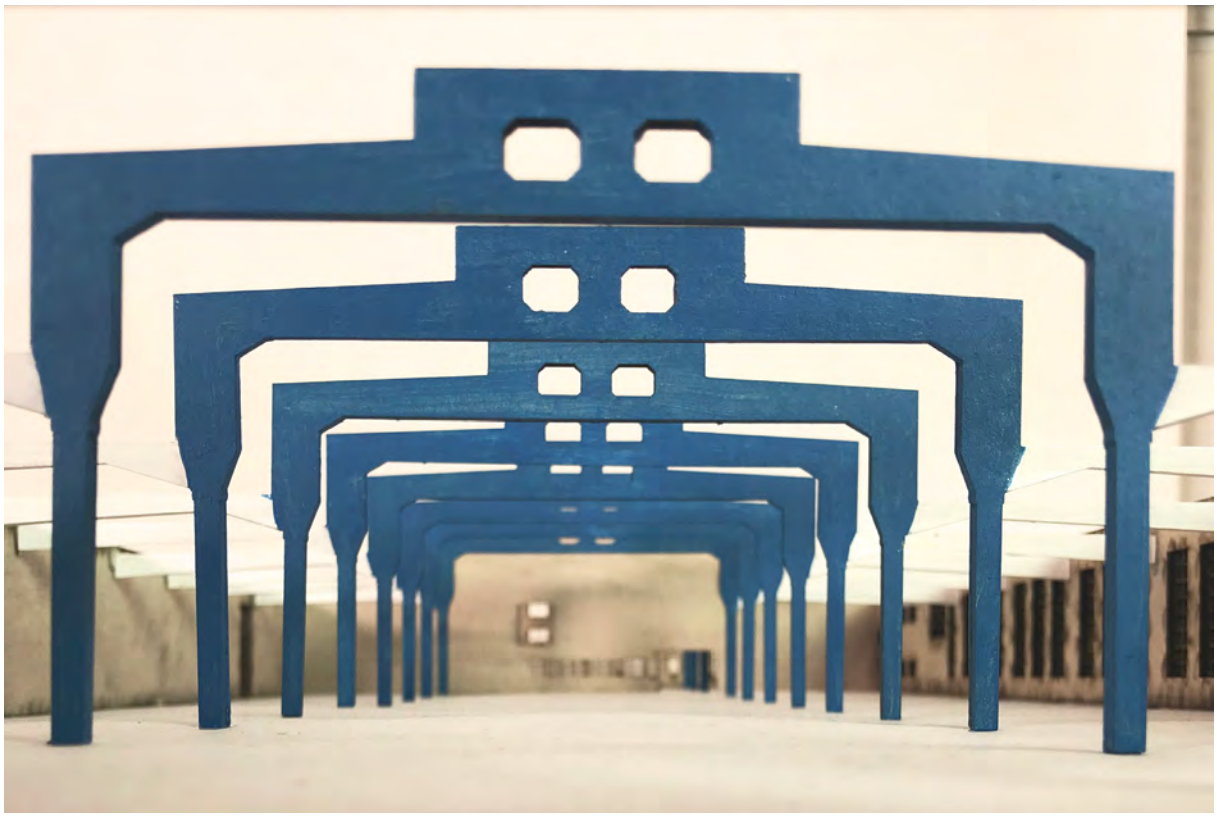
exterior view showing the relationship between the building and the tower

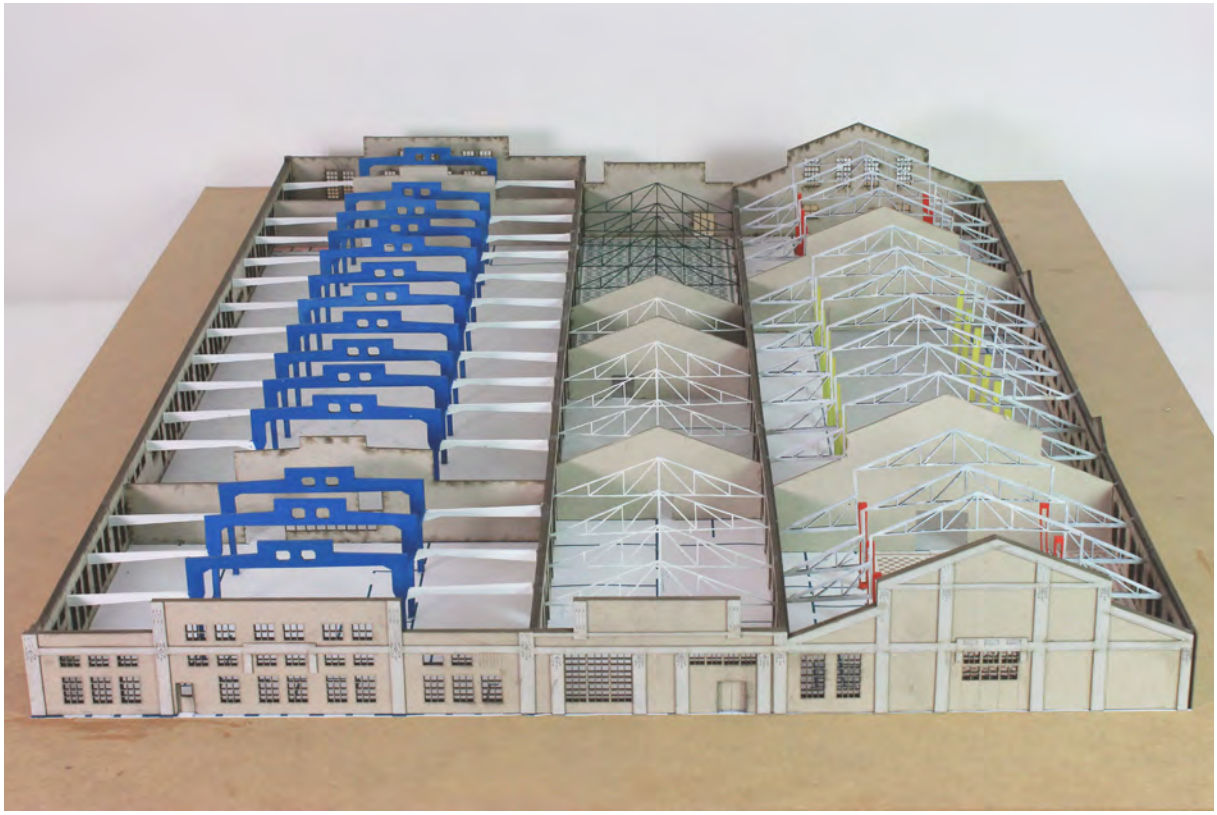


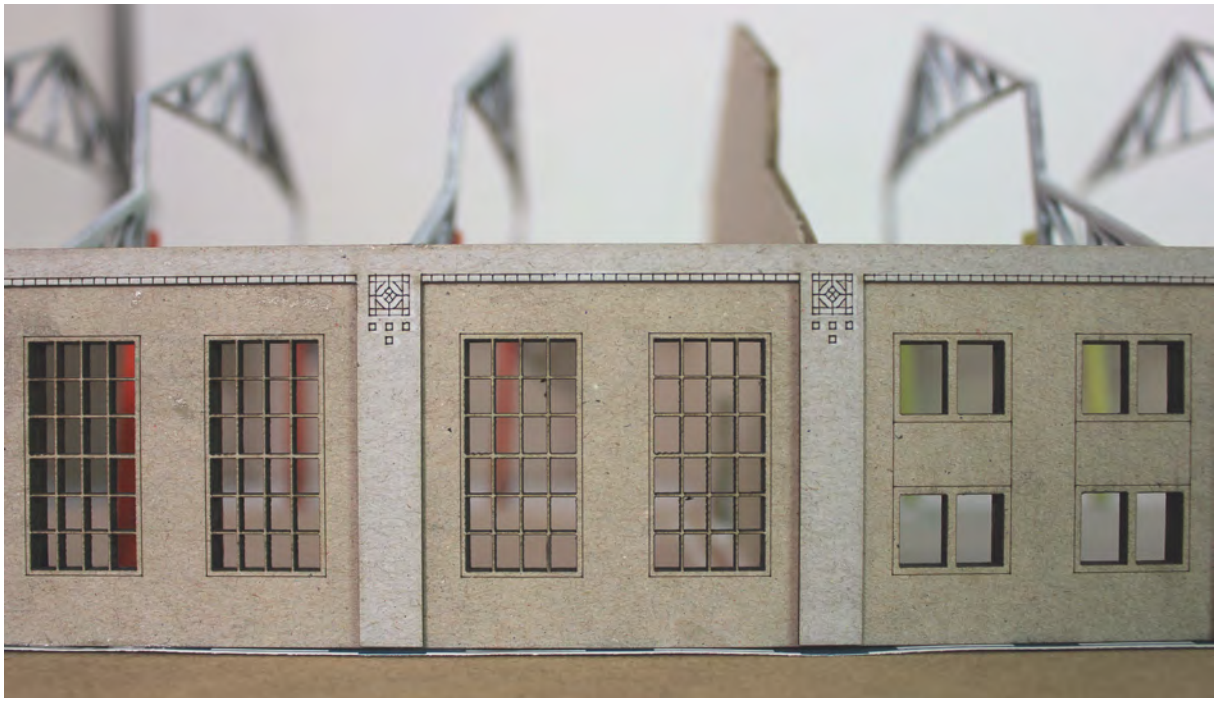
reused ladders - current situation

roof terrace - connecting bridge and the reuse of the ladder

PHYSICAL MODEL







DISCUSSION

DISCUSSION

This project doesn't provide a one size fits all solution to the question, and it never intended to do so, as there is not one simple answer that would be sufficient, and there shouldn't be. The beauty of architecture is in its diversity. It is not possible to have a universal solution to everything as conditions and needs are never the same.

Instead, this project explores one of many possible solutions to this site. It aims to question the current institutionalized preservation practices, what is considered worth "saving" and how it is done.

This thesis stands somewhere between preservation and adaptive reuse. Respecting the building's history, keeping its form and a large portion of the existing state, while implementing some changes necessary for its preservation as well as designs that will hopefully create an inviting space and help the area reactivate.

Industrial buildings have an interesting place within the built fabric. Some of them are beginning to be recognized as heritage sites but are often undervalued as they are rather "young". Additionally, they pose challenges for reuse as their size and original purpose were not intended to accommodate human scale. However, these very challenges also present great potential and opportunities to explore new solutions.

Utilizing the existing built fabric also offers a significantly more sustainable option for architecture as it doesn't require as much energy as demolishing a building or building a new one. It also allows people that have already built some kind of relationship with the existing one to maintain or renew their connection. Working with it can also provide interesting dialogues between the old and the new.

REFLECTION

This thesis started from an interest in preservation, what, how and why we preserve, as well as examining our approach to working with existing, unused building stock in general, its historical significance, and its potential for the future.

M-verkstaden was chosen as a site early in the project for its potential and location as well as its historic and aesthetic values. It is currently not in use, and it is being discussed what its future should look like. The site carries a lot of evidential value and importance to Gothenburg's industrial history as it was at the time the largest industry, and it is regrettable that today it is being forgotten as it does not provide any value for the citizens.

The goal of this project was to present a possible solution for sustainable design when working with existing built fabric, and here more specifically industrial building, which is considered a cultural heritage. New design and intervention were informed by thorough mapping and inventory of the building.

It is exploring the possible solutions inspired by the building itself and its life, where throughout time interventions were unplanned and incohesive. Creating design solutions that are hopefully engaging.

Working with a building of this scale proved challenging and I wasn't able to address everything. However, in a given timeframe, I tried to create a dialogue between the past and the future, balancing between new design and minimal interventions.

BIBLIOGRAPHY

Bloszies, C. (2012). Old buildings, new designs : architectural transformations (1st ed.). Princeton Architectural Press.

Cossons, N. (2012). Why preserve the industrial heritage? In Douet, J. (Ed.) (2013). Industrial Heritage Re-Tooled : The TICCIH Guide to Industrial Heritage Conservation. Taylor & Francis Group.

Glendinning, M. (2013). The conservation movement : A history of architectural preservation : antiquity to modernity. Taylor & Francis Group.

Koolhaas, R. (2004). Preservation is Overtaking Us. Future Anterior: Journal of Historic Preservation, History, Theory, and Criticism, 1(2), xiv–3. http://www.jstor.org/stable/25834941

Jacobs, J., Cairns, S. (2014). Buldings must die; a perverse view of architecture. Cambridge: The MIT press

Otero-Pailos, J. (2005). Echoing: How to Situate the New. Future Anterior: Journal of Historic Preservation, History, Theory, and Criticism, 2(1), ii–vii. http://www.jstor.org/stable/25834954

Otero-Pailos, J. (2004). The Contemporary Stamp of Incompleteness. Future Anterior: Journal of Historic Preservation, History, Theory, and Criticism, 1(2), ii–viii. http://www.jstor.org/stable/25834939

Otero-Pailos, J. (2005). Historic Provocation: Thinking Past Architecture and Preservation. Future Anterior: Journal of Historic Preservation, History, Theory, and Criticism, 2(2), ii–vi. http://www.jstor.org/stable/25834968

Otero-Pailos, J. (2016). "Experimental Preservation," Places Journal, September 2016.
Accessed 18 Jan 2023. https://doi.org/10.22269/160913

Randall Mason (2018) Engaged Preservation, Journal of Architectural
Education, 72:2, 200-204, DOI: 10.1080/10464883.2018.1496727

PHOTOGRAPHS / PICTURES

fig. 1, fig. 2, fig. 3 - Umans, J. (2014). *Old factory de porre conversion to city park in Ghent*. [photographs]. Retrieved from: https://afasiaarchzine.com/2016/04/vandriessche/

fig. 4 - Gritane, M. (2022). *Sampling - Brewery Manufaktura*. [photograph]. Retrieved from: https://www.fold.lv/en/2022/07/manufaktura-brewery-by-sampling/

fig. 5, fig. 6 - Jakobsone, L. (2022). *Sampling - Brewery Manufaktura*. [photographs]. Retrieved from: https://www.fold.lv/en/2022/07/manufaktura-brewery-by-sampling/

fig.7, fig. 8, fig. 9, fig. 10 - van Damme, S. (2022). *Bovenbouwwerkplaats Transformation / Studioninedots.* [photographs]. Retrieved from: https://www.archdaily.com/991822/bovenbouwwerkplaats-transformation-studioninedots?ad_source=search&ad_medium=projects_tab

fig. 11 - *Svenska Kullagerfabriken AB*. [photograph]. Teknik- och industrihistoriska arkivet / Tekniska museet (ARK--K1784). Retrieved from: https://digitaltmuseum.se/021017387737/skf-kullager

fig. 12 - Bilden visar SKF-området efter den intensiva utbyggnadsfasen 1907-1917. Bildkälla: Göteborgs Stadsmuseum

fig. 13 - M-verkstadens taklandskap 1922, sett mot väster från Rullagergatan. Mittpartiets ursprungliga takutformning är markerad. Bild: Göteborgs Stadsmuseum

If not stated otherwise (like in figures above), photos used are taken by the author.

STUDENT BACKGROUND

2017 - 21	Bachelor's degree in Architecture and Urbanism at Faculty of Architecture at Czech Technical University in Prague
2021 -	Master's programme MPARC at Chalmers University of Technology

master courses

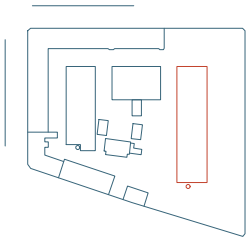
ARK650	Sustainable development and the design professions
ARK626	Transformation projects and environmental care
ARK442	Design and communication tools
ARK132	Matter space structure 2
ARK595	History, theory and method 2
ARK258	Matter space structure 3

APPENDIX

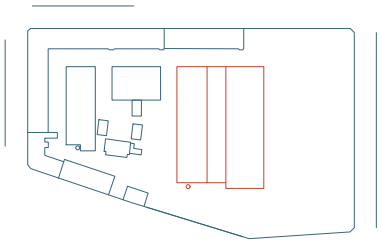
This appendix contains the rest of the inventory.

SITE EVOLUTION

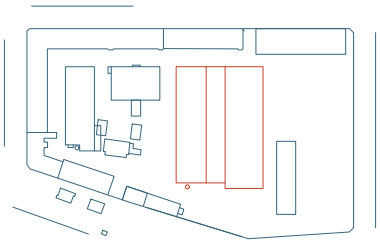
1913



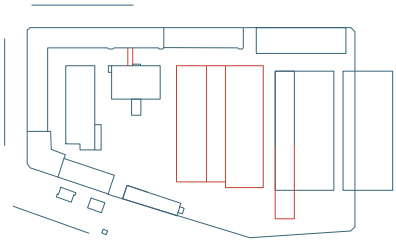
1914



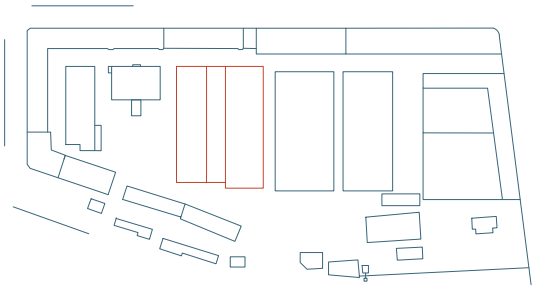
1916



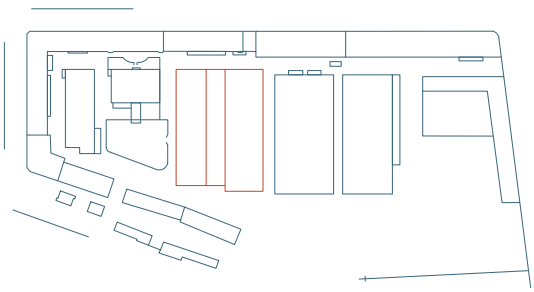
1928



1941



1944



´MODIFIED´ WINDOWS

SIGNS

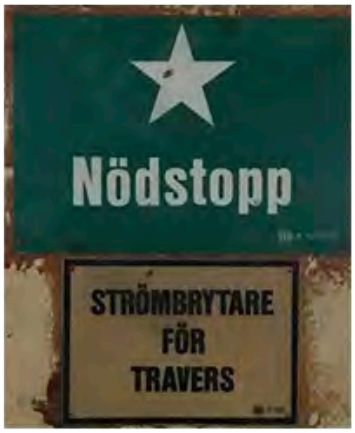

Ögondusch


Bryt och lås
frånskiljaren före
arbete på telfern


Branddörr
stänges efter
arbetstidens slut


ANVÄND
HÖRSELSKYDD


Sjukbår


Nödstopp
STRÖMBRYTARE
FÖR
TRAVERS


VID UTTAGNING FRÅN DETTA
MATERIALSTÄLL GÄLLER:
REKVISITION TILL REPV. FÖRRÅD.
ENDAST EN LÄNGA AV VARJE SLAG
PER ARBETSTILLFÄLLE OCH ORDER
UTTAGES.
RESTLÄNGDER EFTER KAPNING ÖVER
3/4 M ÅTERPLACERAS PÅ SIN ANGIVNA
PLATS I MATERIALSTÄLLET.
RESTLÄNGDER UNDER 3/4 M TILL SKROT.


STRÖMBRYTARE
FÖR
TRAVERS

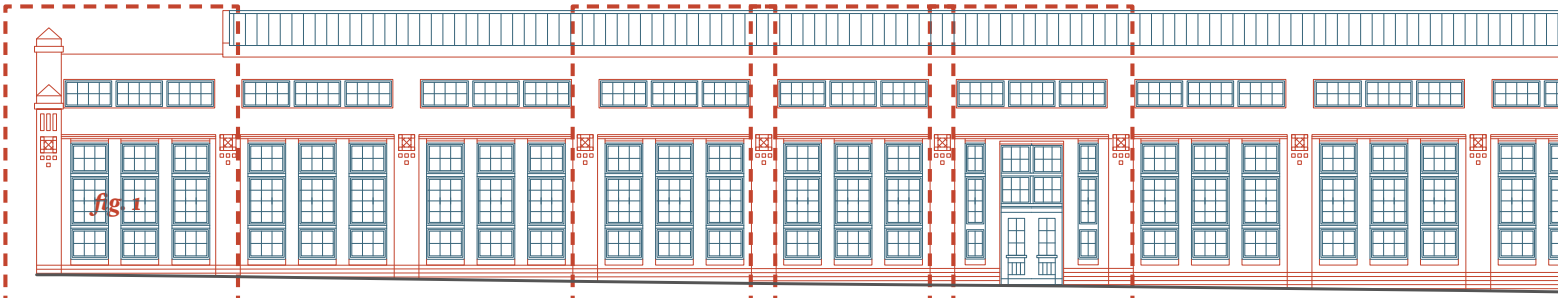

OBSERVERA
Oxygenapparaturen aktas för olja och annat fett som kan
förorsaka explosion.
Uttagsapparaturen för acetylen får under inga förhållanden
utbytas mot annan apparatur. Dubbeluttag får ej anslutas
till acetylenapparaturen.
Stäng alltid med uttagspostens ventiler- ej med brännarven-
tilerna. Använd ej onödig kraft vid avstängningen.
Brännare får ej läggas in i verktygslåda med slangarna an-
slutna till uttagsapparaturen.
AGA


DU
STÄNGER
VÄL
PORTEN

FACADE MAPPING

EAST FASADE - PHOTOCOLLAGE

EAST FACADE -MAPPING OF THE CHANGES



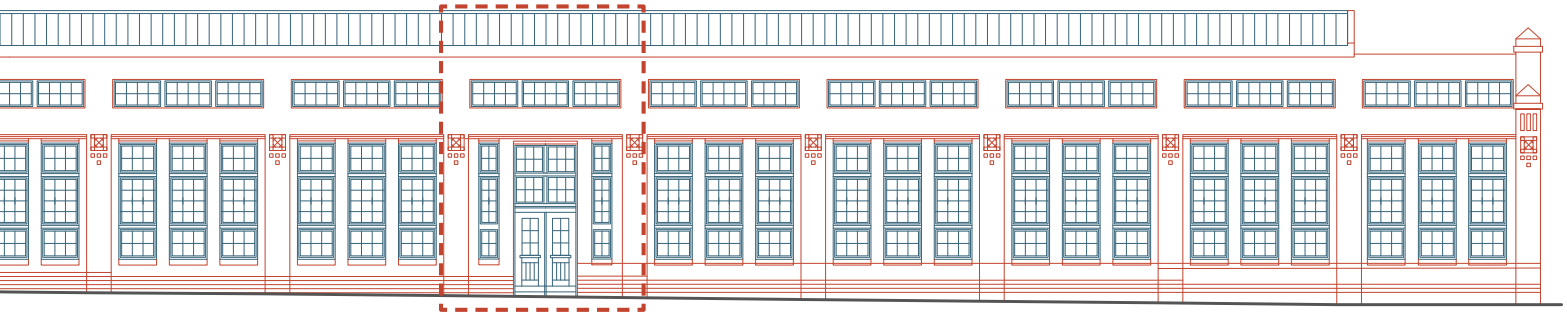
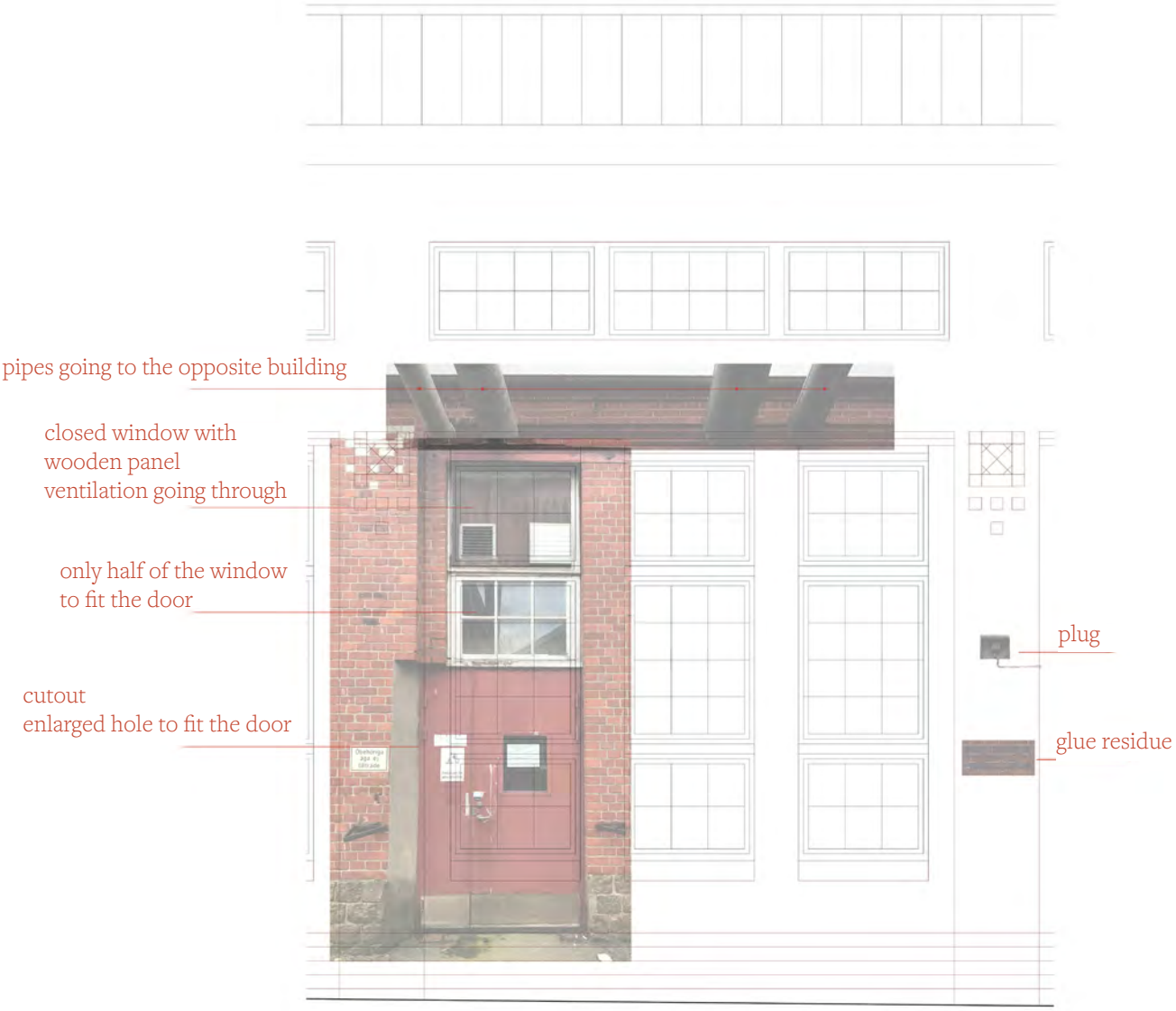
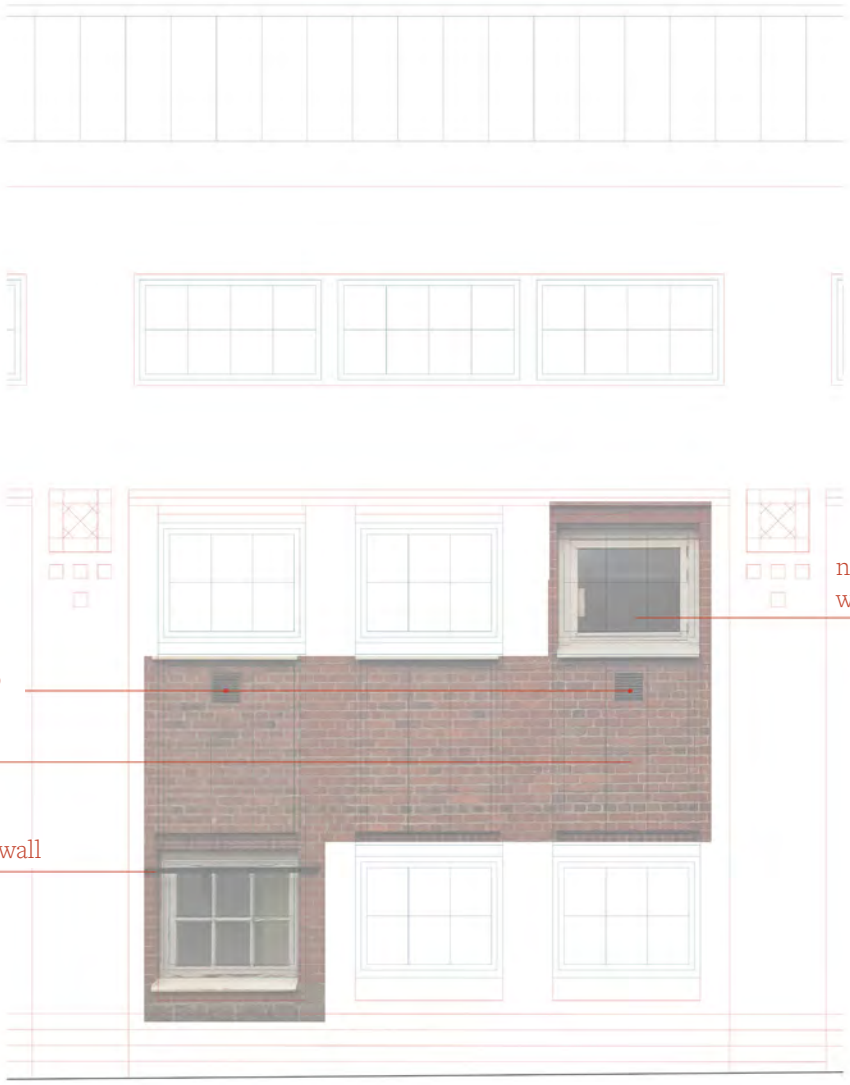


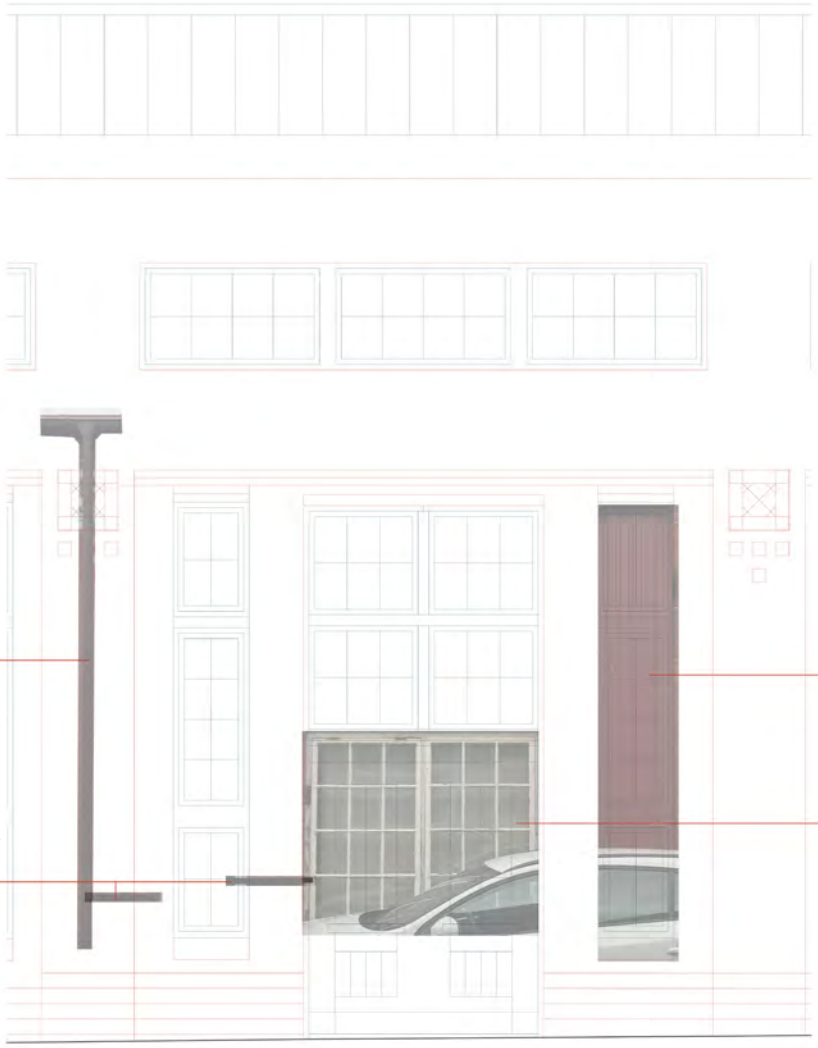
fig. 5

EAST FACADE -Fig.1

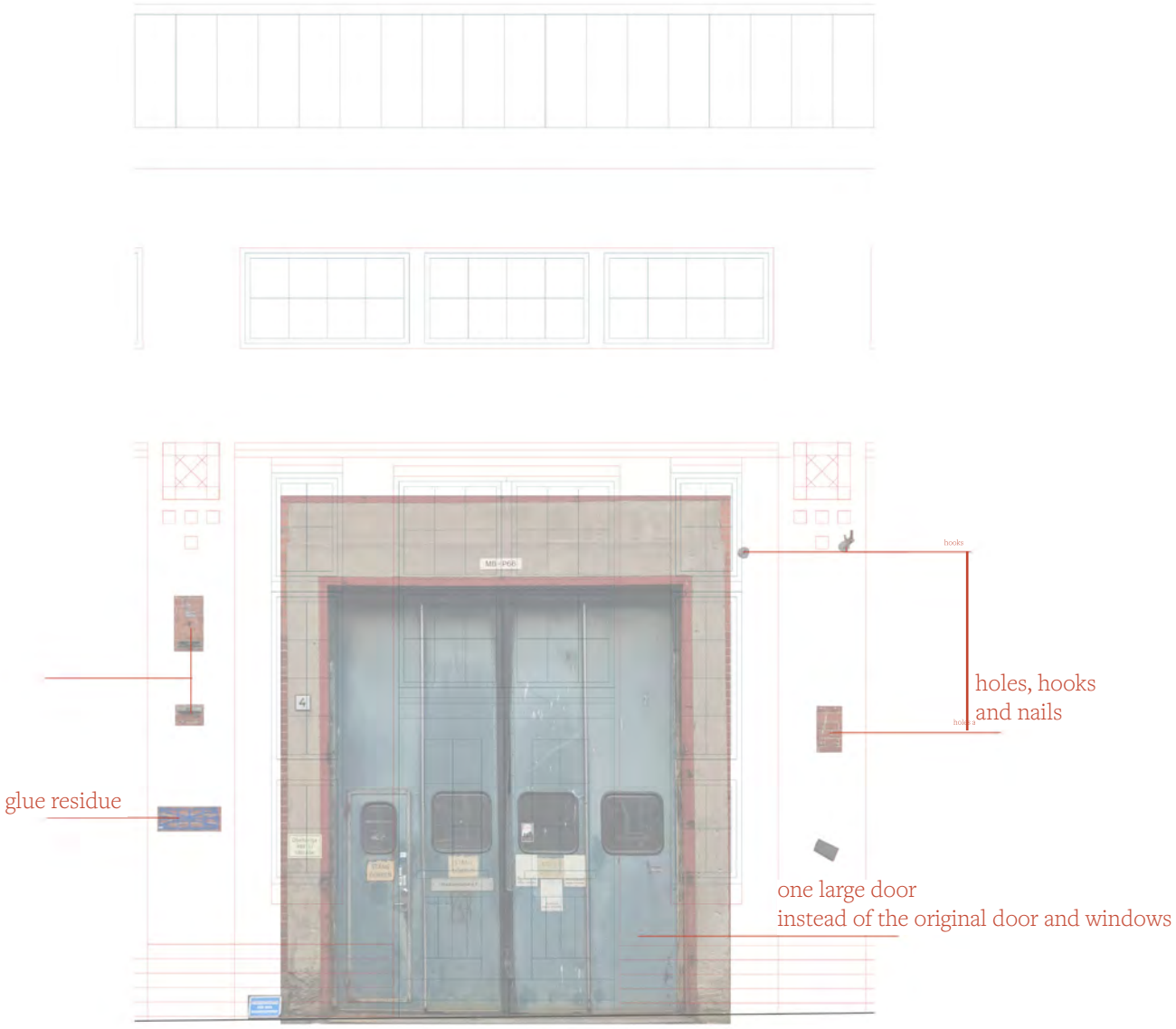
EAST FACADE -Fig.2



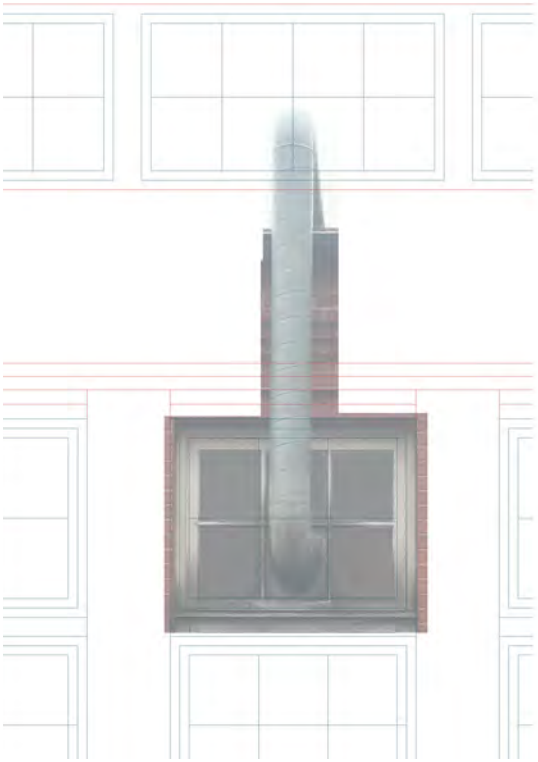

new window
without division
bricked up
windows
vent grids
steel connected to the wall


added drain pipe going over
a white brick ornament
sheet metal instead of the window
windows where door used to be
metal parts connected
to the wall

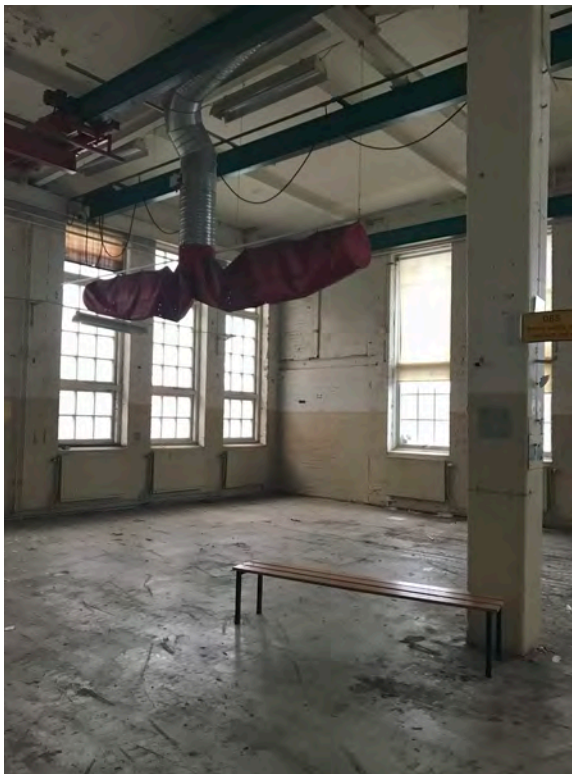
EAST FACADE -Fig.5



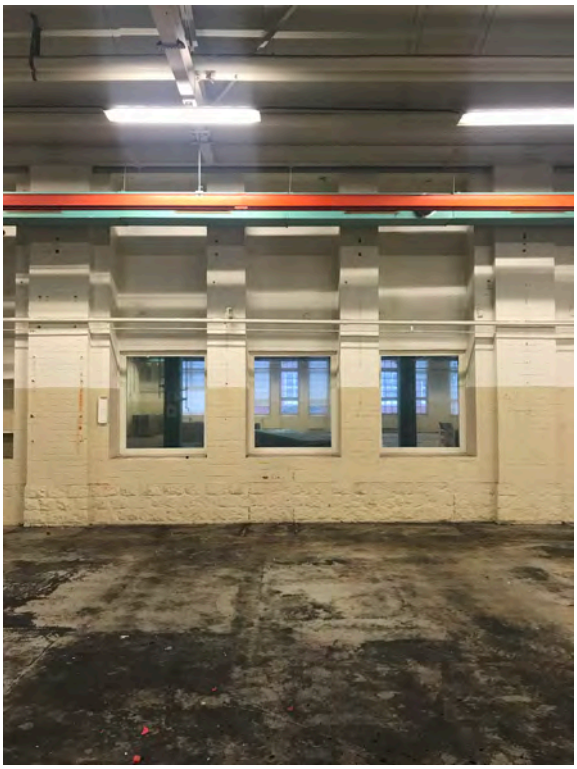
EAST FACADE -some others



INTERIOR SPACES

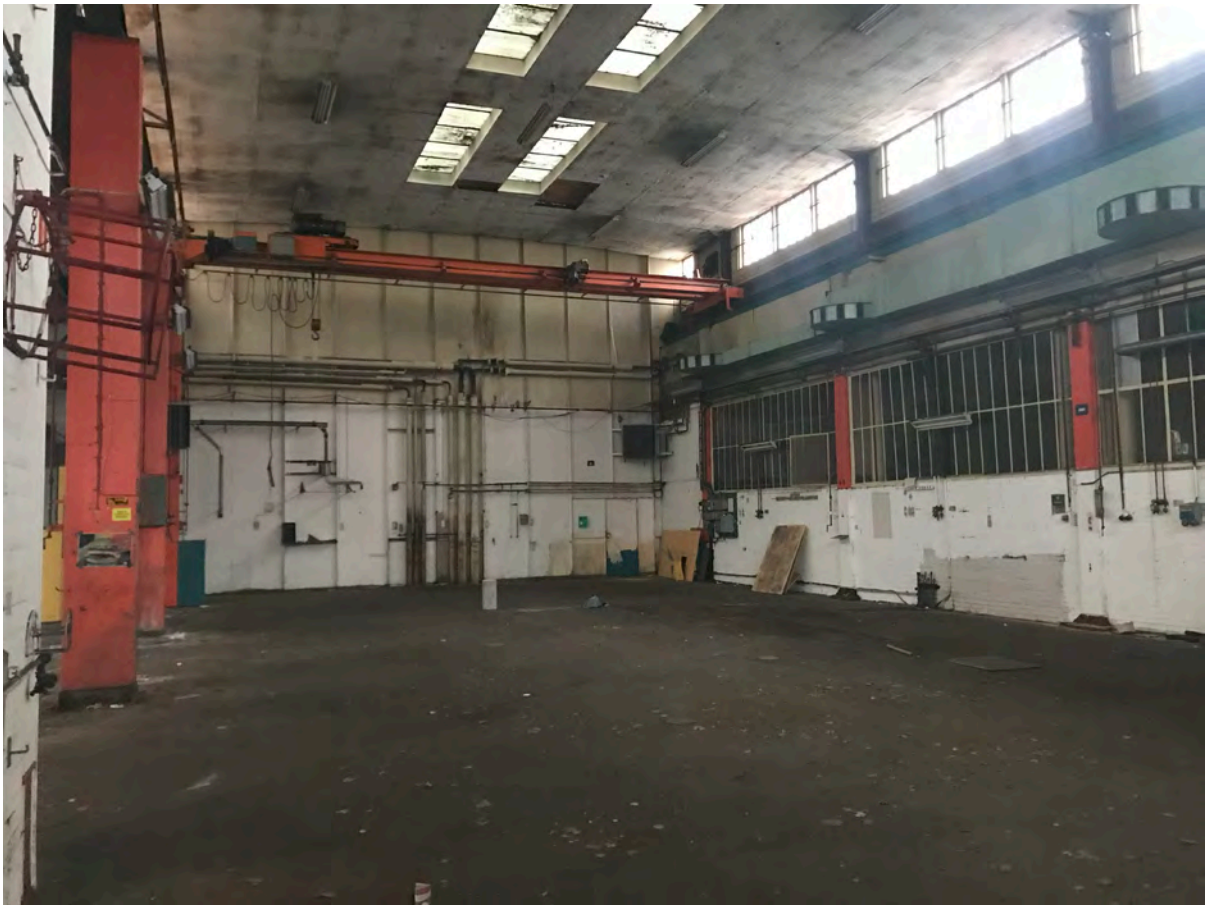



DEMAG
5 to




MT-53
MT-54


VID UTTAGNING FRÅN DETTA
MATERIALSTÄLL GÄLLER:
LYFTDON



CHALMERS
UNIVERSITY OF TECHNOLOGY