PERCEPTION CRISIS

-Industrial architectural interventions to maintain perception image of Rosenlundsverket

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PERCEPTION CRISIS: INDUSTRIAL ARCHITECTURAL INTERVENTIONS TO MAINTAIN PERCEPTUAL IMAGE IN THE CASE OF ROSENLUNDSVERKET

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Sketch of Rosenlundsverket

ABSTRACT

Industrial buildings are crucial to cities as they not only reflect the historical development, but also serve as monuments which create historical recognition and identification. However, as they are no longer adapted to current requirements, they will end up being demolished or abandoned as there is no need for industrial production. There will be a discern change in their roles which could lead to the vanishing of their image into the development of the city. This thesis focuses on the historic power plant Rosenlundsverket, Gothenburg, Sweden. which will be shut down by 2023. Although its future is still indeterminate, it is expected that the role of Rosenlundsverket in the city will change.

Nowadays, Rosenlundsverket is facing a perception crisis. How to intervene such an industrial building so that its function is transformed while still maintaining the original image?

Based on The Image of the City, which suggest that people's perception of space is intermittent, fragmented, and subjective, this project introduces the concept of perception image. The strategy adopted in this project consists of three parts. The street photos of the target building are first obtained through site visit and presented on overhead film. Utilizing overhead film's characteristic that allows simultaneous display of images from different layers when overlaid, the photos are collaged to visualize the perception image. Perception image together with Aemulatio referred in Adaptive Reuse of Built Heritage are applied at the end. A strategy that let the new design take on the form of the original design instead of separating them as the traditional intervention would perform can aim the industrial building be adapted to the change of its role.

The project is based on the assumption that "Rosenlundsverket will be transformed into a public building". By repurposing the roof, a forecourt is added to the original power plant. The new design will be presented in its original form and blur the separation between the old and new parts of the building, Rosenlundsverket will be therefore transformed into a public building while still maintaining its original perception image.

Keywords : adaptive reuse, industrial architecture, perception image, Aemulatio

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Last but not least, big shout out to myself for surviving this “war”. That’s dope.

CONTEXT

INTRODUCTION

PURPOSE

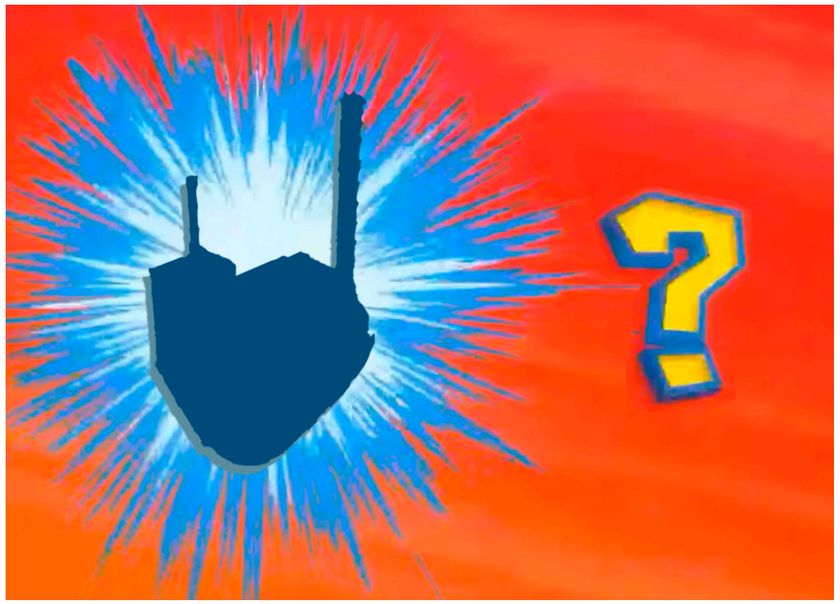
Today's industrial buildings are facing a perception crisis.

The industrial production of a city often reflects its history and development. As a crucial part of a city, industrial buildings provide a significant sense of history and identity. Their significance transcends the roles they were originally designed to fulfill. They not only represent the historical progress of urban development but also stand as important symbols of a city. Due to their unique functions, industrial buildings often have massive volumes and distinctive appearances, making them hard for the public to ignore. Yet, because of their specialized purposes, most people know little about them beyond their exteriors. Industrial buildings are more like symbols of the city, monuments within the urban landscape.

Nowadays, some of the industrial buildings that once played an important role in the development of the city are no longer adapted to current development, they will end their mission, some of them will be abandoned, while others will have a new mission- they will no longer serve the industrial production as they used to be.

This change will lead to a substantial shift in the once unapproachable image of industrial buildings. They are no longer mysterious monuments. Moreover, the functional transformation often involves demolition or renovation to better adapt to the new roles, significantly altering the public's perception of these buildings over time. This evokes concern that the city's glorious history and the industrial buildings that embody it might fade away as perceptions shift during development.

HOW TO INTERVENE IN INDUSTRIAL BUILDINGS SO THAT THEIR FUNCTION IS TRANSFORMED WHILE STILL MAINTAINING THEIR ORIGINAL PERCEIVED IMAGE?



What Will Industrial Buildings Become? (Reference from the meme Who's That Pokemon?)

THESIS QUESTIONS

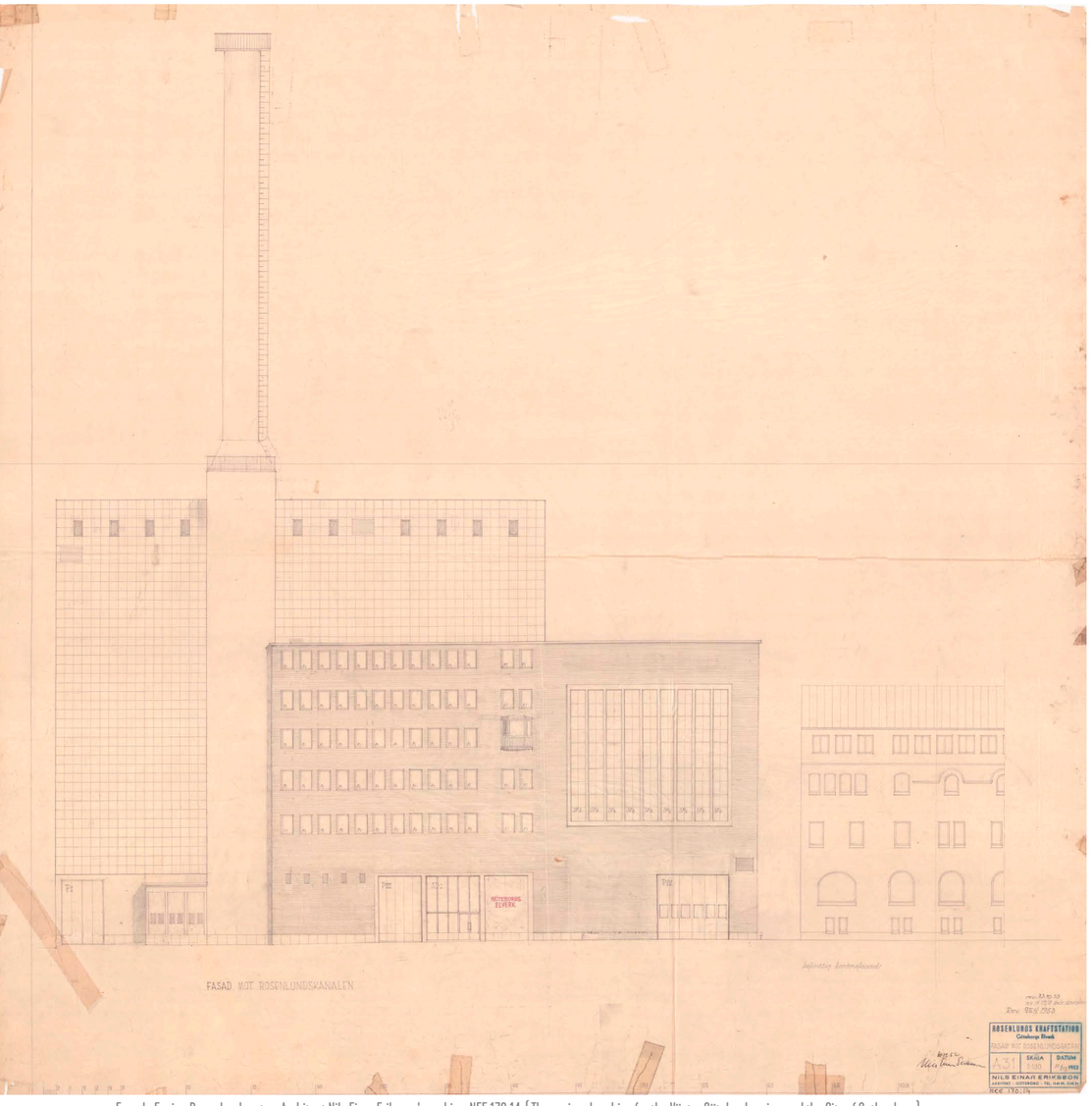
This thesis draws on the intervention of industrial architecture to explore the impact of its changing role on the way people perceive industrial architecture. And tries to address the question above.

At the same time, it responds to several related questions based on the target building, as follows:

-What does the perceptions of the target building look like?

-What are the unique elements in the perceived image of the target building that represent its industrial architecture?

-How can these unique elements be applied in interventions that have new functions while maintaining the original perceived image?



Facade Facing Rosenlundsgatan, Architect Nils Einar Eriksson's archive, NEE 170:14, (The regional archive for the Västra Götaland region and the City of Gothenburg)

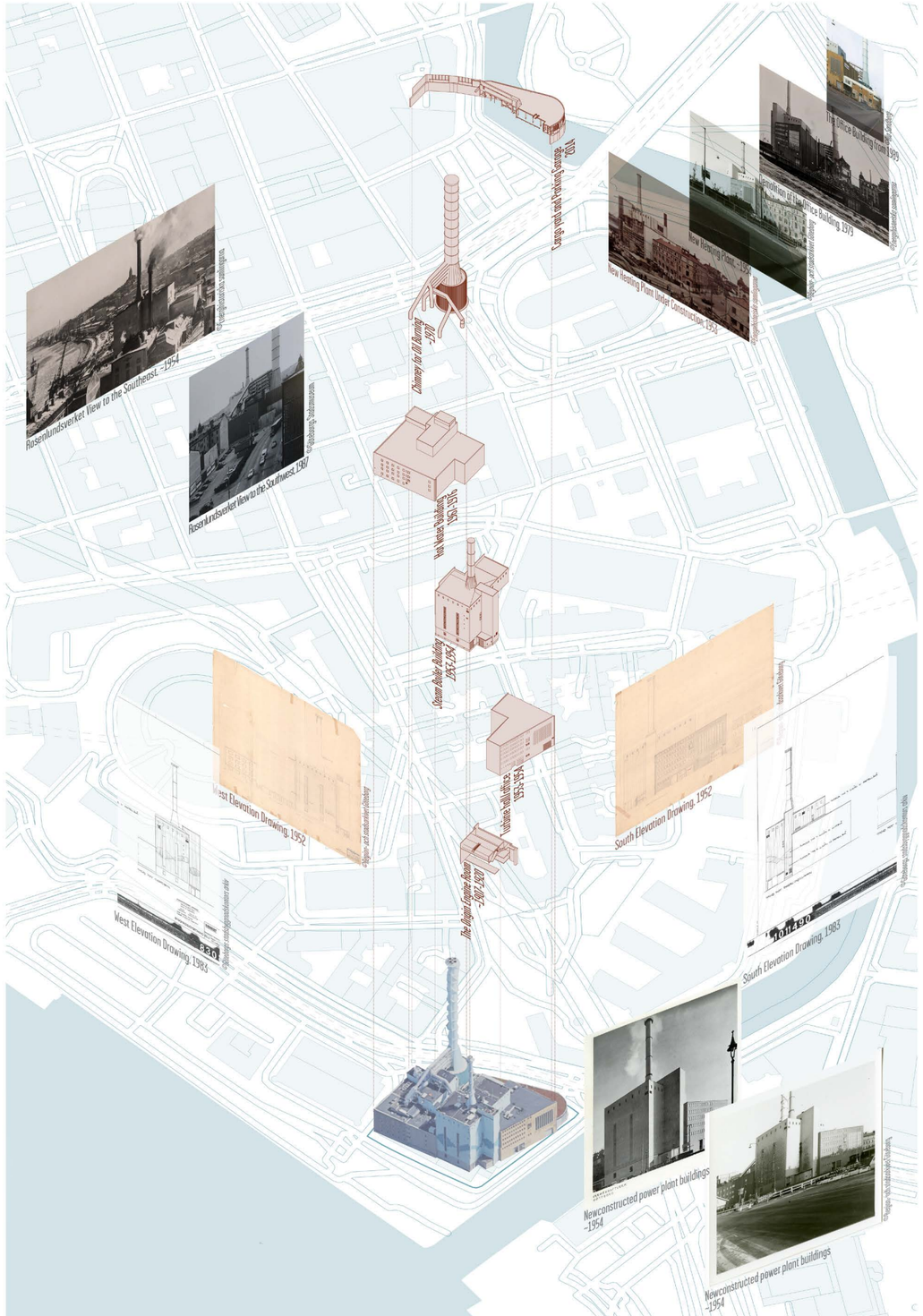
BACKGROUND

History of Rosenlundsverket

The oldest building on this site dates back to 1846. Gothenburg's first gasworks, the Götheborg Gas-Aktiebolag, which brought lighting to Gothenburg's streets. In 1901-08, many of the buildings of the gasworks were demolished and a new municipal power station was built on the original site to supply electricity to the trams. This power station, designed by Hans Hedlund, was built in 1901-02 and experienced several extensions until 1908, when the construction of most of the power plant buildings was completed.

The former power plant was gradually demolished in order to meet the needs of modern production until the expansion of the power plant in the early 1950's. Most of what we know today as Rosenlundsverket was built during this period. Most of what we know today as Rosenlundsverket comes from the reconstruction of that period. From 1952-1954, the power plant was expanded with two new buildings, a yellow brick building on the south side that served as the turbine hall, control room, offices, and employee lounge. The other was the production building in the southwest corner, which was topped by a 34-meter-high red metal chimney. Between 1960 and 1980, four new water heater boilers were installed, located in the northwest corner of the site. The power plant's most visible chimney was completed in 1970. The designer, Nils Andréasson, designed the chimneys to blend in with the sky by turning them from dark to light blue from bottom to top. At the same time, the façade of the production building was clad in metal panels decorated with a light blue mosaic wave pattern, meant to respond to the water. The southeast corner of the building has experienced two renovations: The power plant's office building, originally constructed in 1903, was demolished in 1979 and rebuilt in 1987-1989. In 2013, this section underwent another reconstruction and was replaced by a smaller and lower parking lot.

The Previous Power Station Design by Hans Hedlund from Early 20th Century
Left: Tram Power Station, 1902; Mid: The Power Plant with The New Coal Elevator, 1908; Right: The Newly Constructed Office Building, 1903 (Energihistoriska samlingarna)

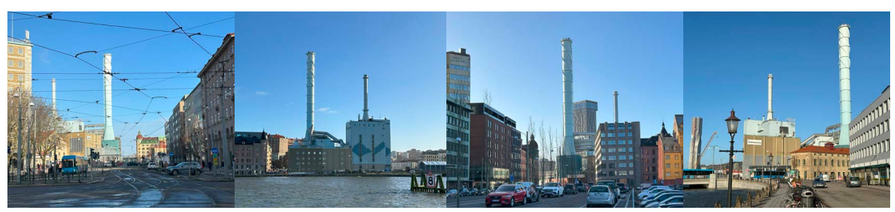


The History of Today's Rosenlunsverket

Today's Rosenlundsverket

Today, Rosenlundsverket is located in the southwest corner of Inom Vallgraven, in the heart of Gothenburg, facing east towards Esperantoplatsen, directly opposite the Esperantoplatsen Skatepark and the Carolus XI Rex Bastion. To the west, it is adjacent to the sea, near Stora Badhusgatan. With Rosenlundsgatan separating it from the canal to the south, facing Göteborgs Litteraturhus across the river. To the north is Surbrunnsgatan, across which lies Merkurhuset, comprising both new (2022) and old (1898) parts. Rosenlundsverket's location is considered one of the most attractive in Gothenburg, praised as “Göteborgs mest attraktiva läge” (Bergmark, 2018). From the perspectives of developers and residents, its location offers many advantages. Surrounded by bars and restaurants and comprehensive public transport services, it is not only between two ferry centers, but also very close to the transport hub Järntorget, making Rosenlundsverket a notable landmark whether for daily commutes between the north and south coasts or weekend leisure.

As a power plant, Rosenlundsverket currently serves purely as a peak and reserve heating plant for the district heating system, only operational on cold days or when other production units or pipelines malfunction. This is due to Gothenburg's commitment to the climate issue, which, according to the climate plan, has as one of its goals to be fossil fuel-free by 2030 district heating (Gothenburg, 2014). It is therefore expected that the Rosenlundsverket will be shut down in the first half of 2030.
Furthermore, the area where Rosenlundsverket is located is also in the blueprint for the future development of Gothenburg, included in the Södra Älvstranden development area, which will be subject to a major urban renewal in the coming years, with a vision of creating a waterfront community center: a mixed area with walkways, leisure areas, as well as homes, offices, stores and restaurants. However, opinions about Rosenlundsverket vary. One part of the population doesn't like it as a behemoth at the water's edge, believing that its massive scale blocks the view of the city. Wannholt and Jörnmark (2017) from Wannholtpartiet say, "Today, there are no objective reasons for allowing an old industrial building to occupy one of the city’s most important spaces". Moreover, the demolition of Rosenlundsverket would enhance the connection between Carolus XI Rex Bastion and the river, offering visitors a better understanding of the bastion's historical surveillance over the river basin (Gothenburg, 2018). Nevertheless, there are also many academics and politicians who would like to preserve the Rosenlundsverket and transform it into a nightclub (Emmyly Bönfors, 2023) or a cultural center (Jacob Sahlqvist, 2023). They see the Rosenlundsverket not only as an important link to the city's early industrialization, but also as having the potential to become an important link between the north and south sides of the city in the future development of Gothenburg.



Rosenlundsverket in Different Streetview

THEORY

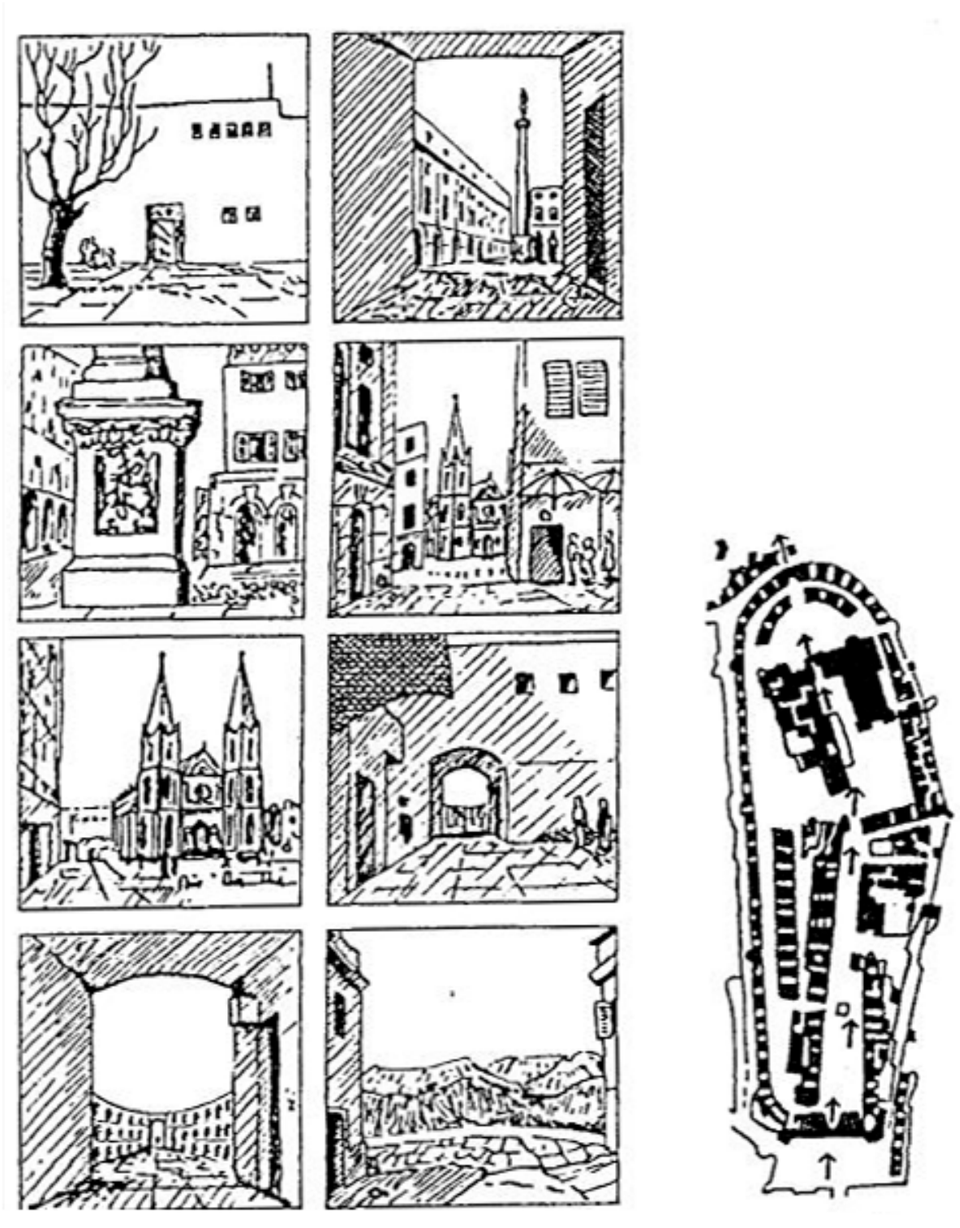
The Image of Perception

“We are not simply observers of this spectacle, but are ourselves a part of it, on the stage with the other participants. Most often, our perception of the city is not sustained, but rather partial, fragmentary, mixed with other concerns. Nearly every sense is in operation, and the image is the composite of them all.”

This is how Kevin Lynch describes the image of the environment in "The Image of the City". This image also applies to architecture: people's perception of buildings is also fragmented. Either due to unfamiliarity with a building, people rarely pay attention to its appearance, or they only notice parts of a building because it is obscured by surrounding buildings and vegetation. Or perhaps, as shown in "Serial Vision" in "The Concise Townscape", people's focus changes as they move around, and the focus is also different. So people's perception of buildings is often fragmented, but this fragmented image does not affect our perception of the whole building.

Kevin Lynch explains in the book that this image can be roughly categorized into three components: identity, structure, and meaning. What is recognized as a separate entity that shows distinction from other things is called " identity "; Structure refers to the spatial and graphic relationship with the surrounding elements; at the same time, this goal also needs to have some meaning for the observer, to meet these three elements, an object has the conditions to be perceived.

Applied to the perceived image of architecture, people do not need to recognize the "complete" appearance of the building, and people can never perceive the whole appearance of the building at the same time, so the relationship at the structural level is more of a relative logical relationship, and people's perceptual image will be recognizable as "appearance" based on the relative structural relationship. People's perceptual impression will "describe" the recognizable "appearance" according to the relative structural relationship, and like using the montage technique to complete the parts that are not perceived, to establish a "complete" perceptual image.



Existential space as experienced in serial vision and from the perspective of the person in the street (Gordon Cullen, 1971)

Entrance to the Hotel Furka Blick, Switzerland. Renovation by OMA in 1991 (Jeroen Meijer, 2006)

Former Zeche Zollverein mine converted to the Ruhr Museum in Essen, Germany. Renovated by OMA in 2010 (mompl, 2013)

Aemulatio/Supplementation

Since adaptive reuse has become an important aspect of architecture and preservation since the 1970s, many scholars have developed strategies for intervening in historic buildings. In “Adaptive Reuse of Built Heritage”, Bie Plevoets and Koenraad Van Cleempoel categorize these strategies into two systems, one describing physical interventions in the space in which they are located, and the other describing the aesthetic relationship between the old and the new, the two strategies varying slightly as they go along but Most authors will combine both when describing strategies. Because the core of adaptive reuse is that a clear division between old and new is essential in order to respect the historical and architectural significance of the existing building, “any extra work which is indispensable must be distinct from the architectural com- position and must bear a contemporary stamp. Position and must bear a contemporary stamp.” (ICOMOS, 1964)

But the renewal projects of the last decade have deviated from this principle; they do not belong to the existing categories, but rather embody a more original view of architecture. They seek to establish a newer, more poetic relationship with the original space. As OMA’s “Preservation Manifesto “suggests, “Preservation creates relevance without new forms,” a relationship that seeks to resemble rather than contrast the existing, hidden, or lost aspects of the building. This relationship seeks to resemble rather than contrast, incorporating existing, hidden or lost qualities of the building and re-establishing them in a novel way.

In “Adaptive Reuse of Built Heritage,” Bie Plevoets and Koenraad Van Cleempoel refer to this as Aemulatio, which is derived from three terms used in literature and the arts to define the nature of the relationship between the model and the facsimile that is being copied: Translatio, Imitatio, and Aemulatio.These three terms, in their original context, imply a certain process of development, the sequence of which is an increasing freedom from the prototype.

The authors cite Scott’s understanding of intervention in On Altering Architecture: improvement and copying (2008) to explain Translatio as meaning the act of transforming architecture from a past era to the present. The second step, Imitatio, is a more selective restoration that focuses on reinterpreting elements through the architect’s subjective understanding in order to restore the building to its original form. The final step, Aemulatio, Bie Plevoets and Koenraad Van Cleempoel is interpreted as a transcendence of aesthetics and function. This approach requires the architect to identify the deficiencies of the original building due to problems of time and function, and to allow the new design to take on the form of the old, complementing the original building and making it adaptable to and capable of carrying out the new functions of the new era.Jorge Otero-Pailos also mentions this approach in his Supplement to OMA’S Preservation Manifesto, where he argues that referencing old forms rather than new ones makes the intervention more culturally relevant and is a return to contextualism but beyond it.

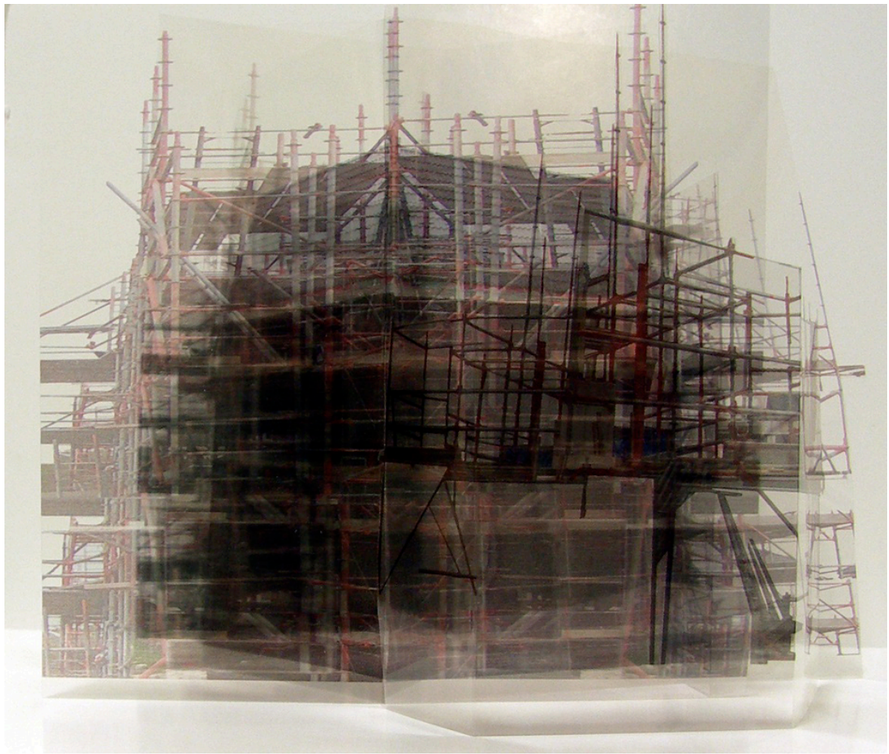
Three Dimensional Collage

Collage comes from the French word coller, an art form in which different forms of objects are pasted onto a piece of paper or canvas to create a new whole. At first people collaged pieces of different subjects together, giving them a deconstructed form and appearance. Later, people were not satisfied with paper collage and introduced more diverse materials to combine, incorporating non-traditional materials into their artistic creations, adding depth and narrative layers.

Three-dimensional collage, on the other hand, is an innovative approach that goes beyond traditional collage, incorporating a variety of objects to create artwork with depth and volume. This art form allows artists to explore spatial relationships, textures, and forms in a more dynamic way, assembling them in ways that challenge traditional perceptions of art and composition.
 is an American graphic artist known for his collages. He explores the concepts of identity, memory, time and space in his artworks, creating a new visual and conceptual language by combining traditional art mediums with fragments of modern life, making his artworks carriers of memories that remind the viewer of an individual or collective past. The historicity of these objects and images and the stories they carry challenge the viewer's traditional perception of memory.

His artwork "Shades", created in 1964, is a unique and innovative piece. It consists of six lithographs printed on Plexiglas panels that are interchangeable and mounted in a slotted aluminum box. By allowing millions of states of presentation through different sequences of arrangement and different viewing perspectives, the work gives the artwork a versatile and ever-changing character. Robert Rauschenberg redefines traditional canvas space in "Shades", breaking the confines of two-dimensional space by incorporating relationships of depth and creating complex visual and conceptual spaces that provoke the viewer to experience both physical and psychological space. Although Cathy Curtis (1999) criticized that the viewer should have re-picked up and re-arranged the images on the Plexiglas panels, some parts of them could not be read because of the depth relationship. But it also side-steps the fact that three-dimensional collage presents a fragmented, ambiguous character of memory.

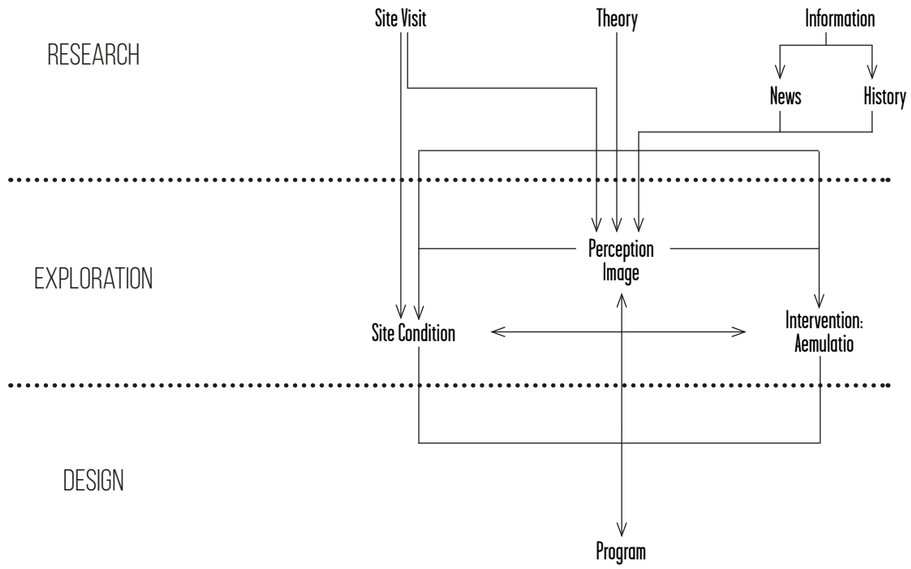
Shades (Robert Rauschenberg, 1964)



Dutch artist Alexa Meyerman's work from the exhibition Exhibition Hermetic City (2008) utilizes this three-dimensional collage in an architectural representation. She folds transparent strips of photographs into hologram-like areas and buildings. The light and perspective changes make the work appear different. Curator Yasmijn Jarram (2008) commented that visitors can look through these objects or walk around them, so it appears that the buildings in the scene are changing shape, with some of their details emphasized and others disappearing. Through this three-dimensional collage, she presents an "incomplete" and "changing" image of the building.

Top: 11:30 AM Bottom Right: 10:22 AM (Alexa Meyerman, 2011&2010)

METHOD



DELIMITATION

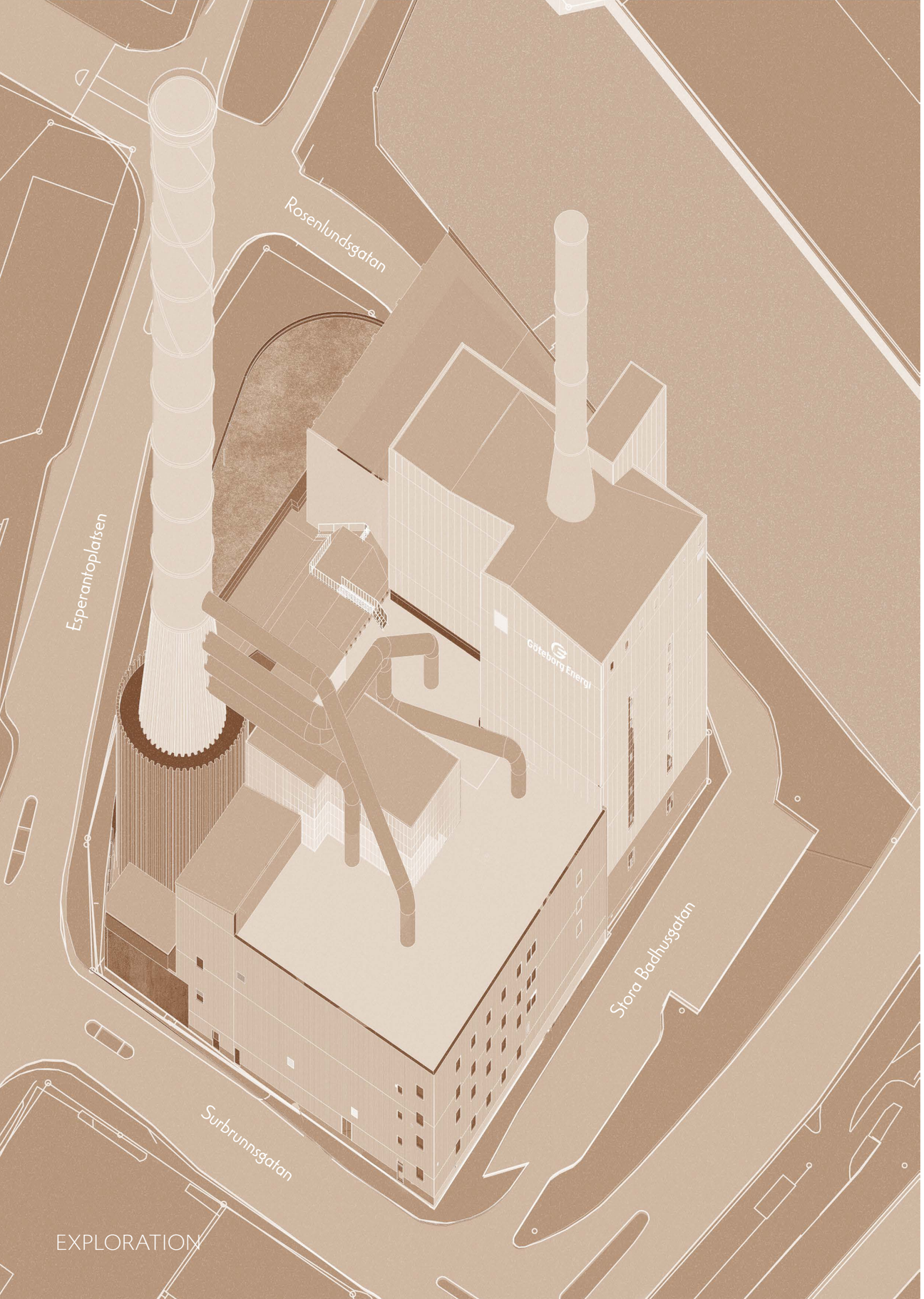
This thesis discusses how to maintain the perception image of industrial buildings, which inherently possess a sense of mystery and inaccessibility to the public due to their non-public nature. Therefore, the discussion only addresses the public's perception of the exteriors and external spaces of Rosenlundsverket. All strategies discussed will not involve its interior.

As previously mentioned, once industrial buildings have finished their mission, they typically face demolition, abandonment, or reuse. In order to make the idea of preserving the perceived image more tenable, the thesis assumes that the views of Wannholt Partiet have not been widely accepted. Rosenlundsverket will be preserved as a crucial piece of Gothenburg's future development and serve as a key cultural center linking the old and new districts of Gothenburg (Jacob Sahlqvist). Referring to the famous examples of industrial building renovation, the Tate Museum and Berghain bar, this thesis assumes that Rosenlundsverket will be transformed into a public cultural space that combines functions such as a nightclub and a museum.

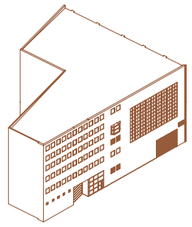
During the reasearch phase, based on The Image of the City, which suggest that people's perception of space is intermittent, fragmented, and subjective, this project introduces the concept of perception image.

In exploration phase,The strategy adopted in this project consists of three parts. The street photos of the target building are first obtained through site visit and presented on overhead film. Utilizing overhead film's characteristic that allows simultaneous display of images from different layers when overlaid, the photos are collaged to visualize the perception image.

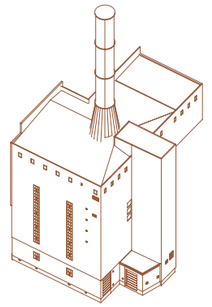
Perception image together with Aemulatio referred in Adaptive Reuse of Built Heritage are applied at the end. A strategy that let the new design take on the form of the original design instead of separating them as the traditional intervention would perform can aim the industrial building be adapted to the change of its role.



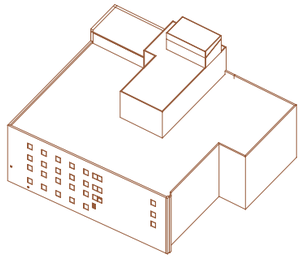
EXPLORATION



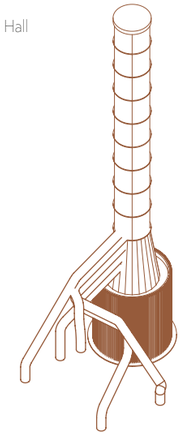
Turbine Hall



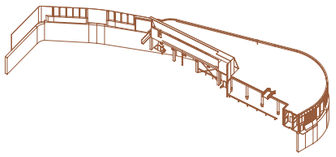
Production Building



Boiler Room



Chimney



Parking Garage

SITE ANALYSIS

Before discussing Rosenlundsverket's perception, the thesis first studies the basic information about Rosenlundsverket. Today, Rosenlundsverket is located on the southern bank of Göta älv, surrounded by four roads: the busiest Esperantoplatsen, Rosenlundsgatan, Stora Badhusgatan, and Surbrunnsgatan. According to Jessica's thesis, today's Rosenlundsverket consists of five parts.

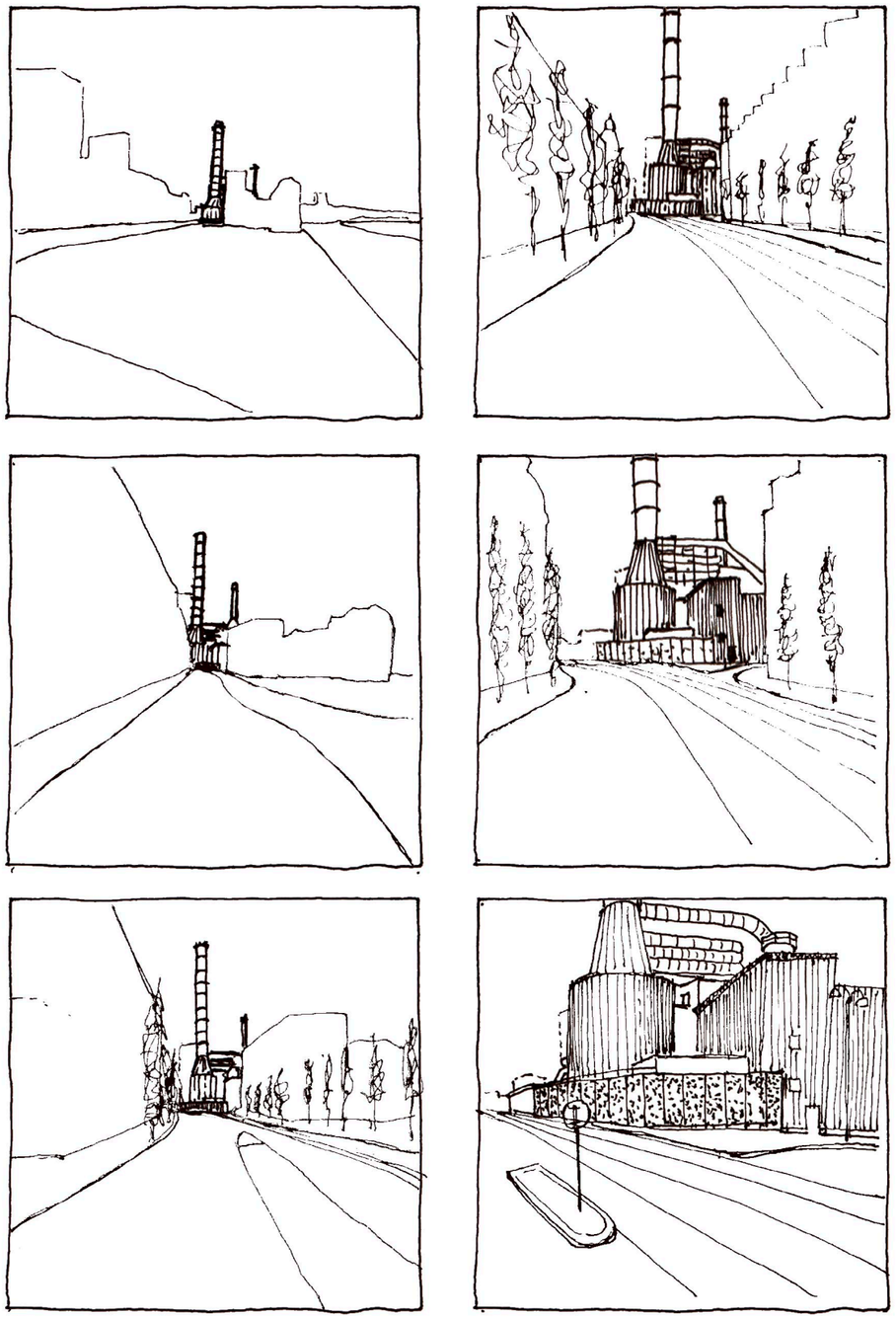
-Turbine Hall: The oldest part of today's Rosenlundsverket, located on the southern side of the site.

-Production Building: Built during the same period as the Turbine Hall, this is the tallest volume (excluding the chimney), located at the southwest corner of the site.

-Boiler Room: Situated in the northwest of the site, this is the largest volume within Rosenlundsverket.

-Chimney: The tallest and most visible structure on the site, located in the northeast corner.

-Parking Garage: The newest addition to Rosenlundsverket and the volume with the lowest height on the site.



Serial Streetview of Rosenlundsverket from Stora Badhusgatan, inspired by the serial vision in The Concise Townscape.

PERCEPTION IMAGE

To ensure that Rosenlundsverket maintains its original image during its role changing, it's essential first to understand how it was originally perceived in the city. However, It is found out that the perception people recall in mind is always vague and most of the time the perception is different from the reality.

And according to the site visit, the differences can be summarized as follows:

1. Due to the surrounding, Rosenlundsverket does not appear fully from the streets; parts of it are obscured.

2. As the distance to Rosenlundsverket changes, some parts initially obscured by nearby buildings become visible, while others that were visible may disappear.

3. The image of Rosenlundsverket changes depending on the perspective of observation. For example, although the light blue chimney is visible from all angles, its relationship with other parts of the building is different.

4. Although Rosenlundsverket is observed from different distances, the perception of Rosenlundsverket integrates these observations, allowing it to be perceived simultaneously from multiple perspectives.

Based on these differences, it is evident that comparing to reality, the perception image of Rosenlundsverket is not static. Instead, it is dynamic, fragmented, and multidimensional in perception.

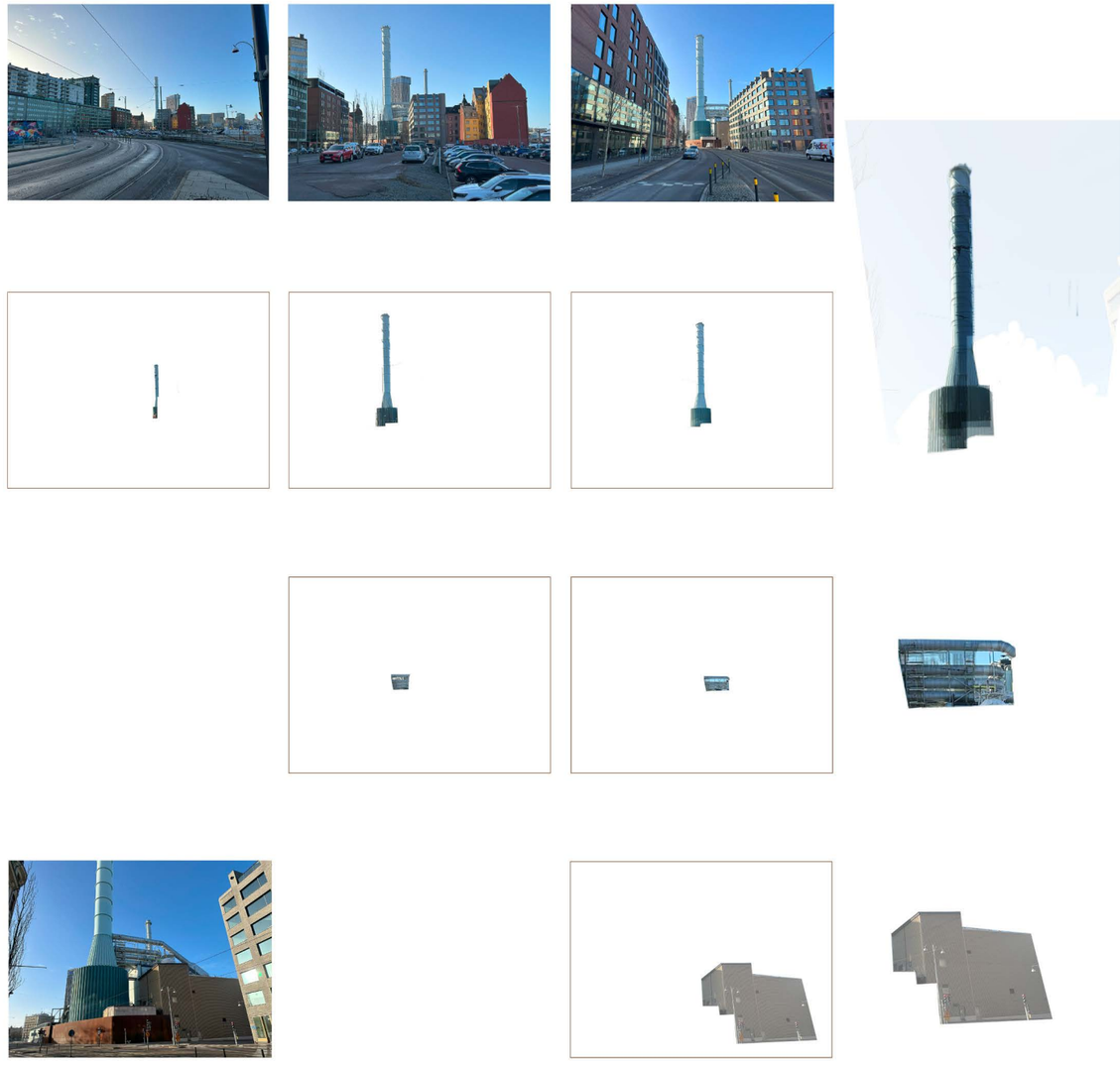
To maintain the perception image, this research attempts to visualize the dynamic, fragmented, and multidimensional perception image through collage on overhead film. Overhead film is a translucent material that allows the simultaneous display of images from different layers when overlaid. It display the simultaneous states of Rosenlundsverket as observed from different distance.

First, photos taken from the same street are selected and printed on overhead film, and these photos are overlaid base on the main elements from this direction.

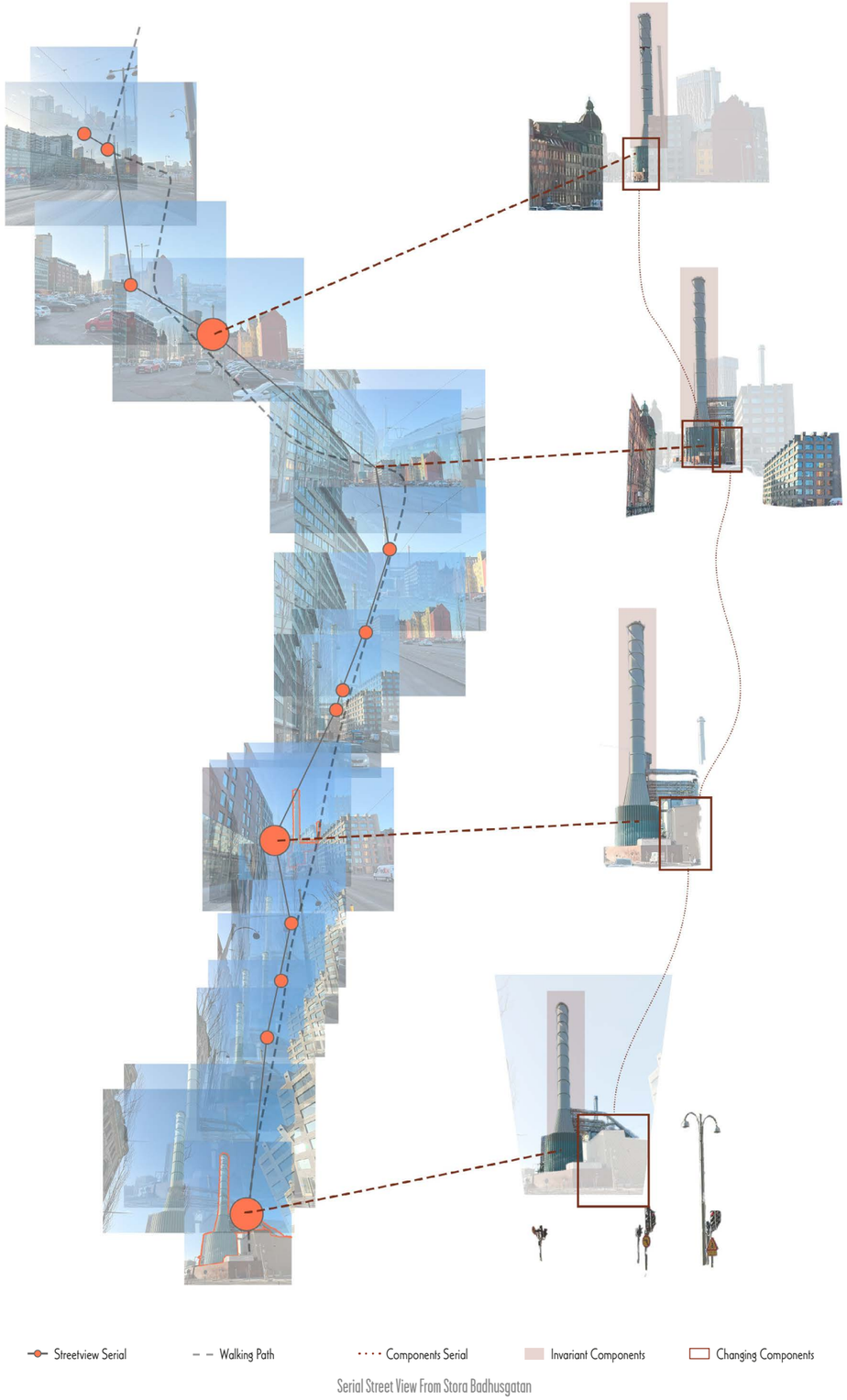
By examining the depth of color in the overlaid sections, it is clearly showing that the changes in Rosenlundsverket from the same perspective. Darker areas indicate that the architectural elements remain visible longer in the frame and are recorded more frequently, leaving a deeper impression in perception. Lighter areas suggest that these parts of the building are recorded less frequently, indicating that these components may be obscured by surrounding buildings at certain angles and appear less often in the frame. This also indicates that these elements are observed less often from this perspective, making it difficult to show clearly in perception image.

Despite the perspective causing the same components not to align perfectly, resulting in misalignment, and forming ghost images on the screen, this somehow reflects the blurred and fragmented characteristics of the perception image. By analyzing the shades of color in these street view photo collages, we can determine which components of Rosenlundsverket are more easily perceived from different directions.

Pick the Photos Taken From the Same Streets



The State of Different Components in Collage

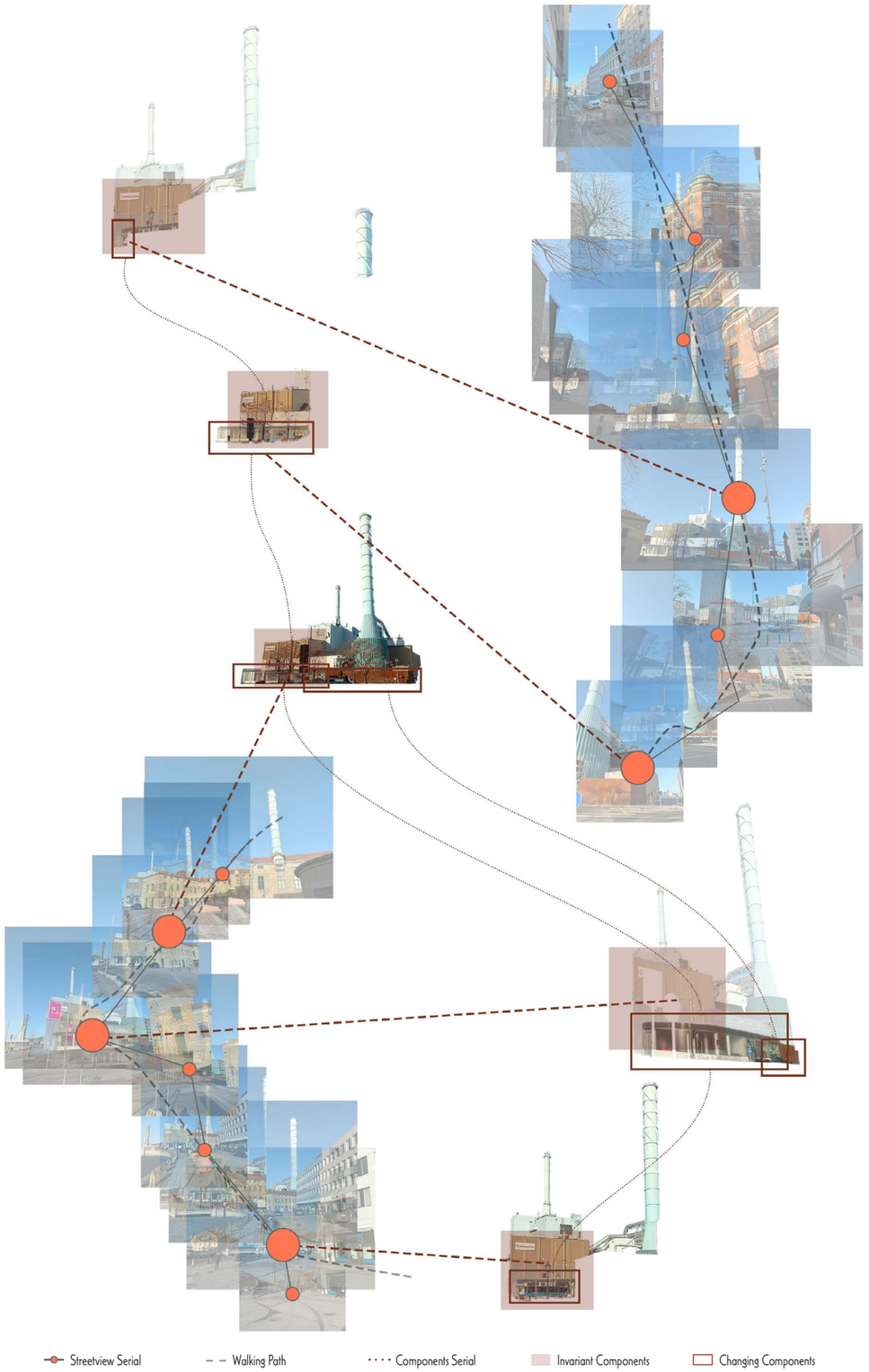


Serial Street View From Stora Badhusgatan

Perception image from Stora Badhusgatan(North Side):

Getting off at Station Stenpiren and walking along the Stora Badhusgatan approaching Rosenlundsverket, the huge light blue chimney and its dark blue corrugated steel cylindrical base are constantly in the sight. Although the base is partially covered, since there are no skyscrapers overlapping it behind, the chimney can be seen to stand out with the empty sky as a background.

Gradually, after getting closer to the Rosenlundsverket, there are four giant silver-gray pipes connected to the chimney that begin to be exposed to sight. Finally, a block away from Rosenlundsverket, the Hot Water Building, which is obscured by the Merkurhuset, comes into view.

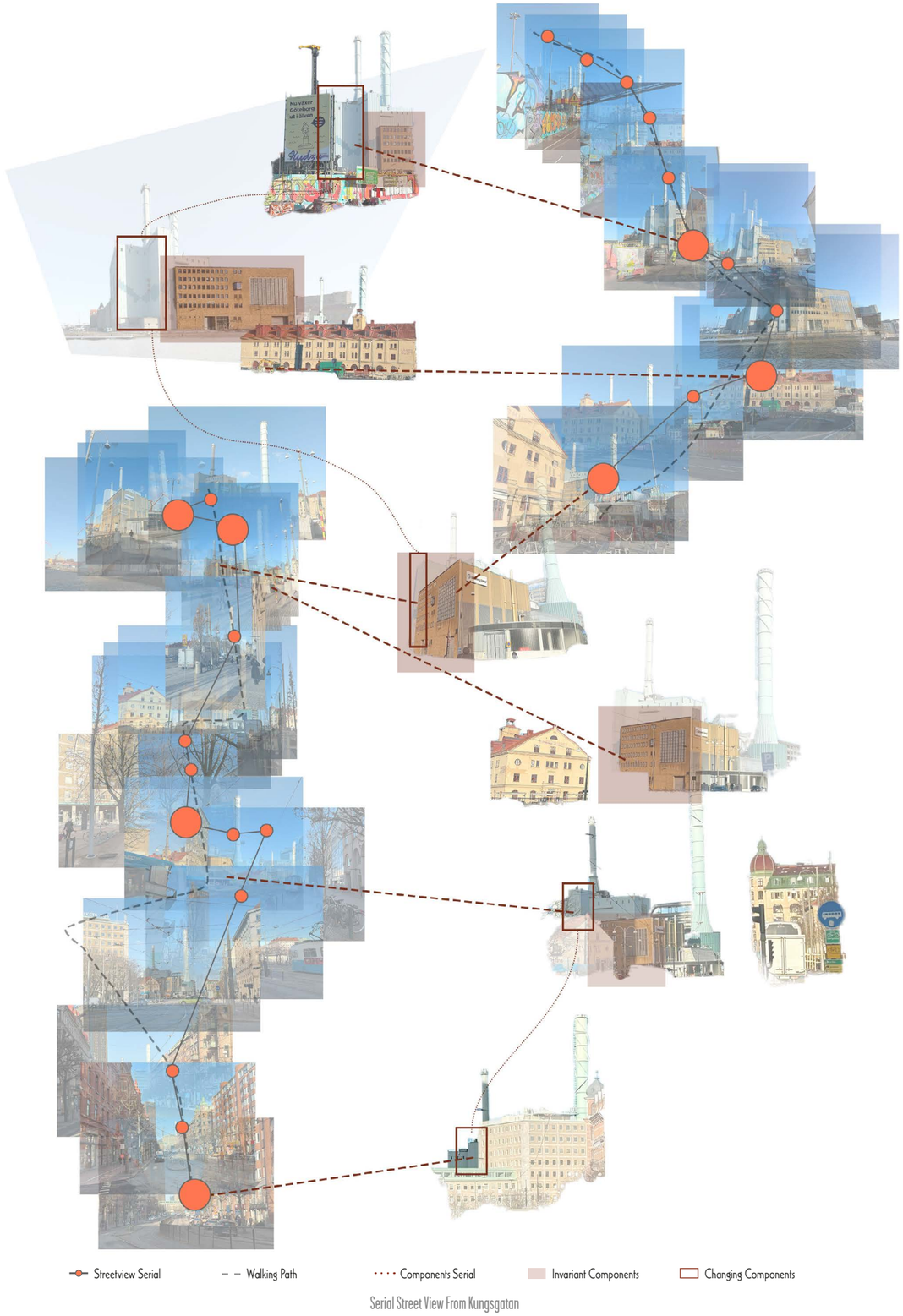


Serial Street View From Emigrantvägen & Linnégatan-Esperantoplatsen

Perception image from Stora Kungsgatan(East Side):

Approaching Rosenlundsverket along Kungsgatan, elements along the street are obscured by trees next to Esperantoplatsen Skatepark, while the higher grid of the turbine hall facade and the windows of the production building behind remain in view.

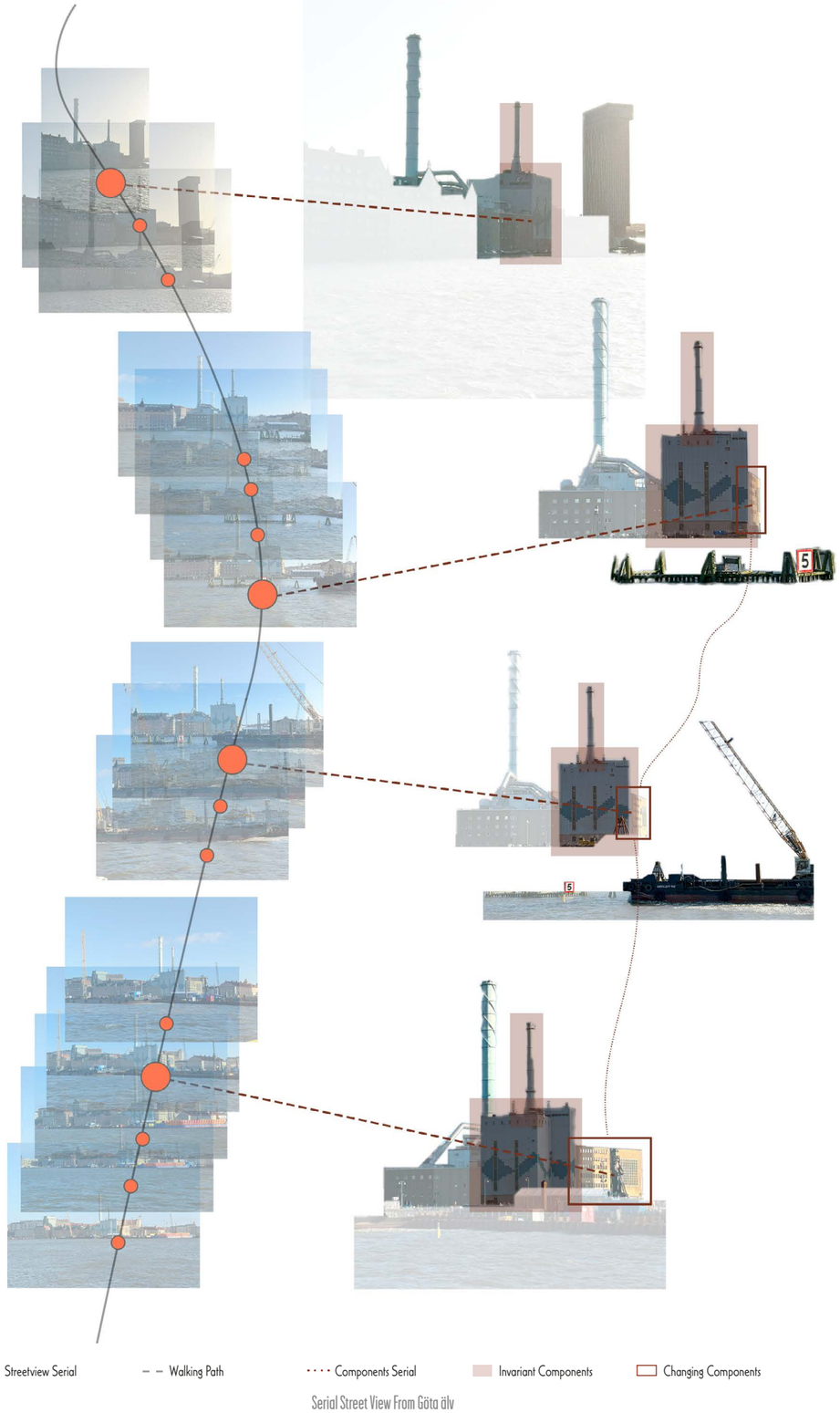
When arriving directly at Esperantoplatsen, the street-side barriers and the short parking building come into view.



Serial Street View From Kungsgatan

Perception image from Emigrantvägen & Linnégatan-Esperantoplatsen(South Side):

Moving northeast from Järntorget station, the parking building at the southeast corner and the large windows on the south side of the turbine hall enter the view quite early. The production building on the left only appears in view after passing Frilagret. Along with it, the deep blue mosaic wave pattern on the facade of the production building also becomes visible.



Serial Street View From Göta älv

Perception image from Göta älv(West Side):

Observing the west side of Rosenlundsverket along the Göta älv, the most striking features are the deep blue mosaic wave pattern and two slender windows on the production building. The entire western facade of the Hot Water Building is fully visible in the view. Upon closer inspection, the box rib panels between the windows have a different density of the pattern, seemingly indicating the axis of the facade.

Frosted Glass

Corrugated Metal Panel

Pan Metal Panel

Stone Brick

Brick

Box Rib Metal Panel

Corten Steel Panel

Box Rib Metal Panel

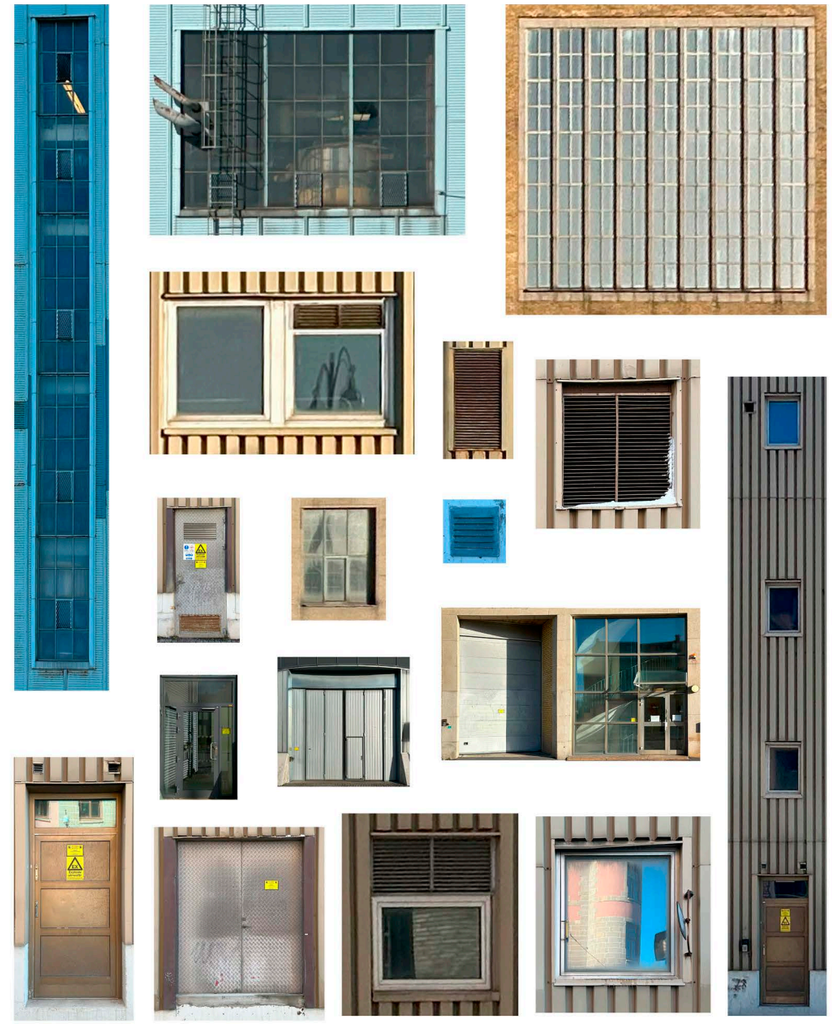
Box Rib Metal Panel

Pan Metal Panel

Box Rib Metal Panel

Corrugated Metal Panel

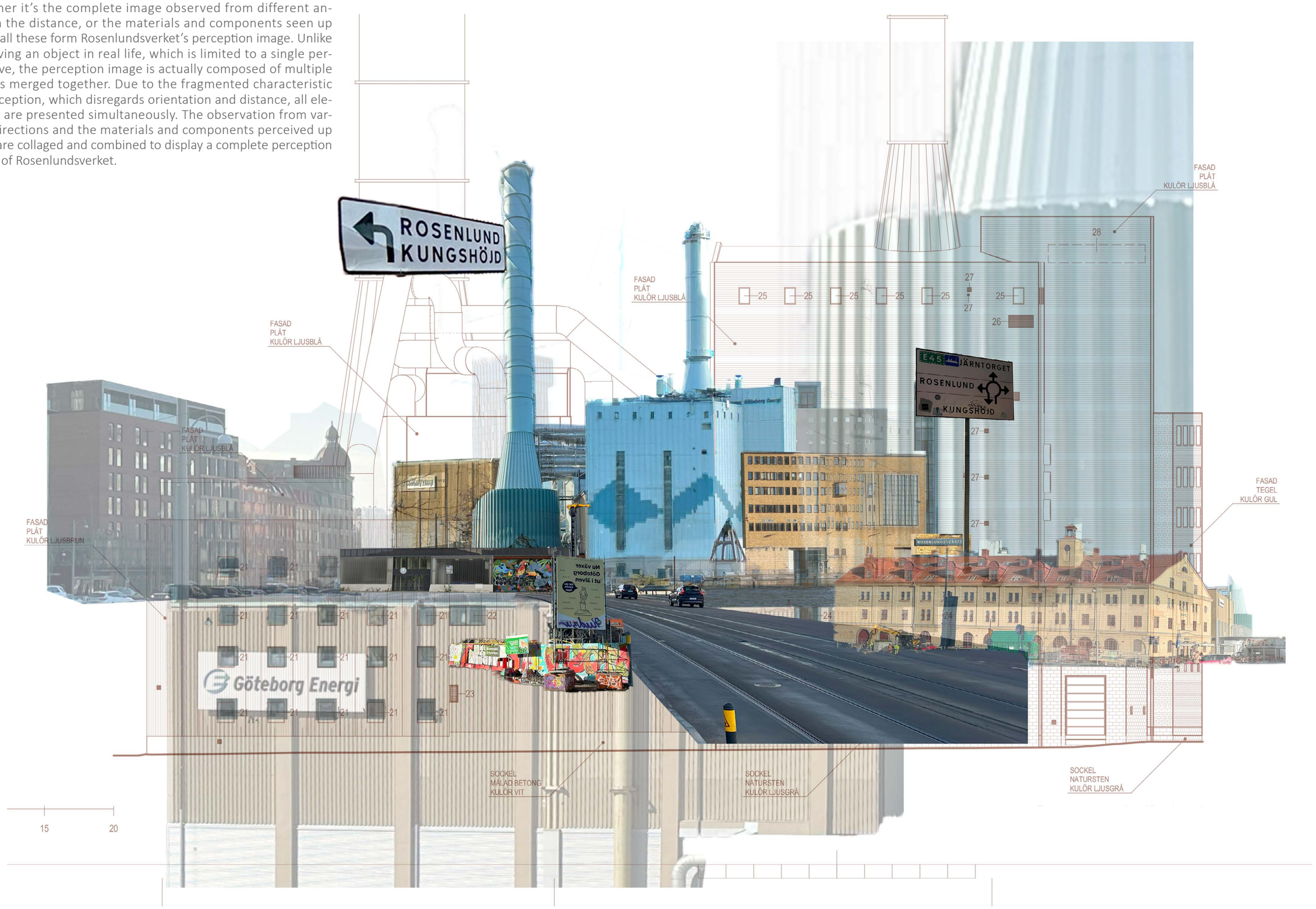
Materials used on the surface of Rosenlundsverket



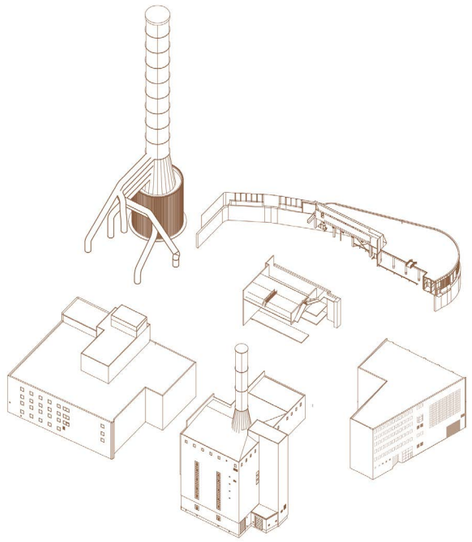
Components observed from Rosenlundsverket

When the observation getting close enough to Rosenlundsverket, the view can no longer contain the entire building. Its complete image becomes diminished, and instead, it is perceived through its materials and components. These elements are also important parts of Rosenlundsverket’s perception image. Observations noted that materials such as box rib metal panel are extensively used for façades. Moreover, standardized openings and outstanding ventilation pipes emphasize Rosenlundsverket’s industrial characteristics. Due to its significantly industrial characteristics, these details, which are typically only visible up close, also clearly emerge in the perception image.

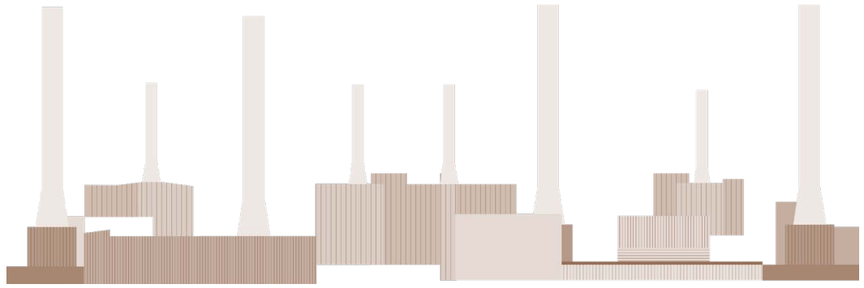
Whether it’s the complete image observed from different angles in the distance, or the materials and components seen up close, all these form Rosenlundsverket’s perception image. Unlike observing an object in real life, which is limited to a single perspective, the perception image is actually composed of multiple images merged together. Due to the fragmented characteristic of perception, which disregards orientation and distance, all elements are presented simultaneously. The observation from various directions and the materials and components perceived up close are collaged and combined to display a complete perception image of Rosenlundsverket.



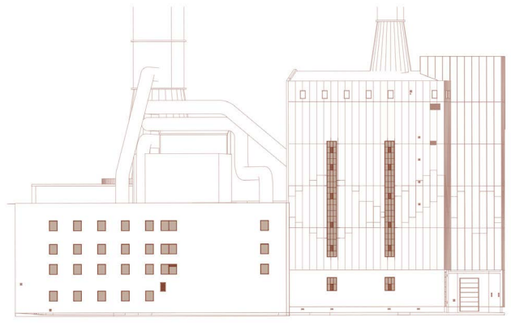
Perception Image of Rosenlundsverket



Massing



Pattern



Components

AEMULATIO

After capturing the perception image of Rosenlundsverket, it serves as a basis to explore the characteristics of Rosenlundsverket's original form. Rosenlundsverket's original form can primarily be categorized into three aspects: massings, patterns and components. By analyzing these three aspects, additions that align with the original form can be explored, ensuring they match to the original perception image.

Massing Study

Based on the assumption that Rosenlundsverket will be transformed into a public building, it is clear that the existing, as an industrial building, lacks some features typical of public buildings. Firstly, Rosenlundsverket lacks an entrance to the public. Additionally, the inherently inaccessible characteristic of industrial buildings contradicts the openness expected of public buildings. To meet the functional requirements of a public building, Rosenlundsverket needs to be expanded. Thoughtless interventions would inevitably damage the original perception image of Rosenlundsverket as an industrial building. For instance, if the ground floor of Rosenlundsverket were to be opened directly to the street, it would significantly impact its inherently introverted and mysterious industrial character. Additionally, the streets surrounding Rosenlundsverket are not wide enough to handle the increased visitor that such openness would need. Therefore, this thesis investigates the placement of addition massing to explore strategies that enable the new massing to align with the original form, minimize the distinction between old and new, and maintain the existing perception image.

According to the existing volume of Rosenlundsverket, the placement for the additions have been broadly categorized into three levels: street level, mid-level, and rooftop level. By integrating additions at these different positions with the perception images from various directions, the project studies the impact of the added volumes on the original perception image of Rosenlundsverket:

-Along the street: Operations at the street level will significantly affect the mysterious, and inaccessible perception image of Rosenlundsverket. Particularly, the east facade, which faces the busiest and most visible street around Rosenlundsverket, any intervention at this level will impact the perception image.

-Rooftop: Compared to the street level, additions at the rooftop level are less likely to have a decisive impact on the perception image, as the additions are less visible due to perspective reasons.

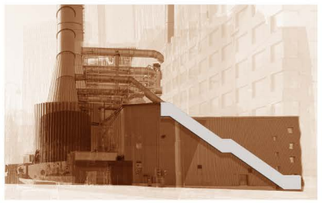
-Mid-Level: Clearly, if additions are made on the rooftop, it is inevitable to increase the volume on the facade to connect the street level to the rooftop. However, volumes located on the facade can significantly impact the perception image. Therefore, compared to the busier east side and the sparsely built south side, the north side, which is more obscured by adjacent buildings, and the west side, which can only be perceived from the water, are more suitable for connecting the added volume to the rooftop additions.

North Side

Rooftop

Along the street

Connection #1



Connection #2

East Side

Rooftop#1

Rooftop #2

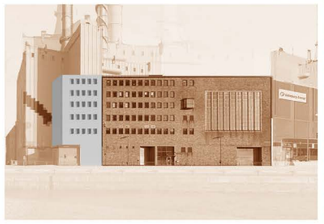
Rooftop #3

Along the street

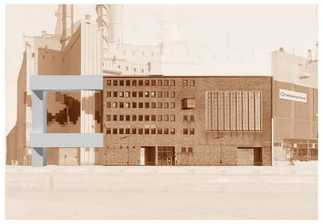
South Side

Rooftop

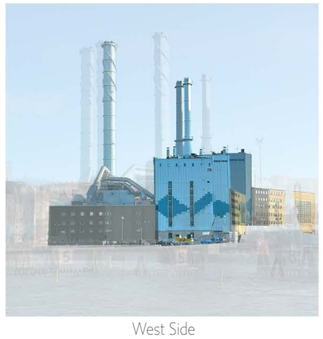
Along the street



Connection #1



Connection #2



West Side

Rooftop

Along the street

Connection #1

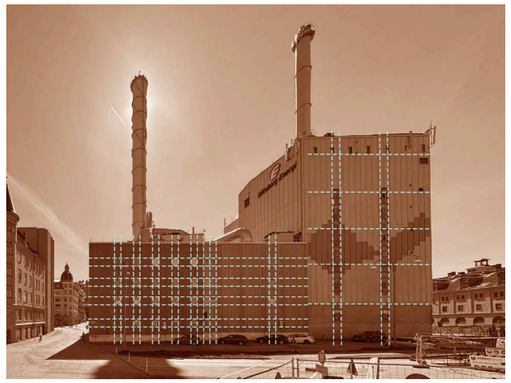
Connection #2

Massing Study

Pattern Study

Industrial buildings often have very unique patterns on the facade due to their specific program. These patterns, composed of various elements, create a unique rhythm and are part of Rosenlundsverket's perception image. By extracting these patterns and applying them in the design, the new additions can also maintain the same perception.

The north facade of the building is primarily composed of box rib panels, which divide the boiler room into four sections. Additionally, there are two sets of windows on each side, each displaying distinct patterns.

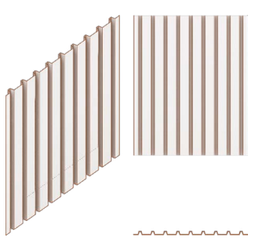


The western side of the boiler room is covered with more uniformly arranged windows. In addition to continuing the horizontal divisions of the box rib panel pattern from the north facade, there are also vertical divisions formed between the windows.

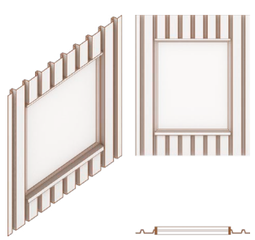
Adjacent to the boiler room, the production building also incorporates two strip windows that guide the visual orientation and present vertical divisions.

The east facade facing Esperantoplatsen, the street with the busiest traffic, is the most compositionally diverse of all the facades. The left side features the turbine hall facade, which includes structural columns left behind after the demolition of the original office building, serving as axial lines.

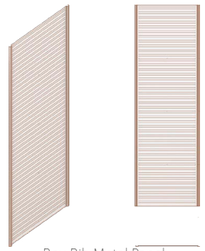
On the right side, the boiler room and the chimney are covered with metal corrugated panels of varying scales.



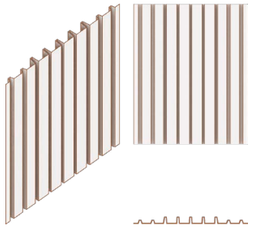
Box Rib Metal Panel



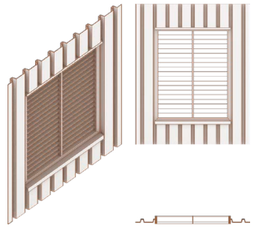
Opening#1



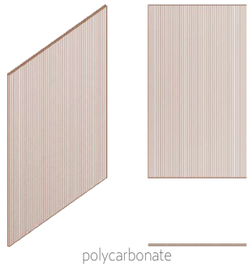
Box Rib Metal Panel



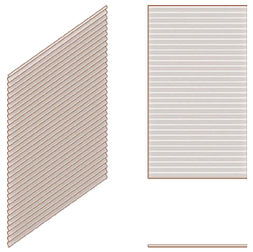
Box Rib Metal Panel



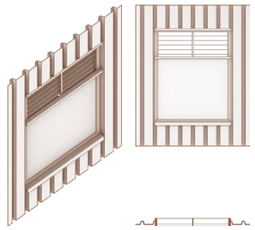
Opening#2



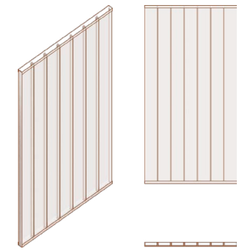
polycarbonate



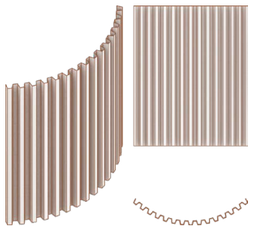
Box Rib Metal Panel



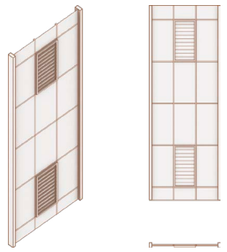
Opening#3



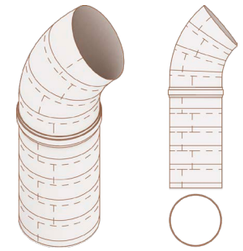
Frosted Glass



Box Rib Metal Panel(Curved)



Opening#4



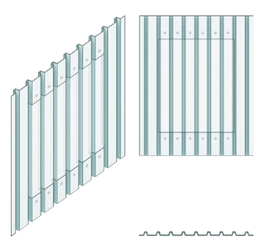
Ventilation Pipe

Original Component & Texture

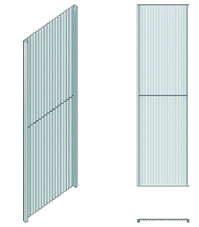
Component Study

The components and materials used on the facade are also important parts of its perception image. Additional components should correspond to the original ones to maintain a same perception image.

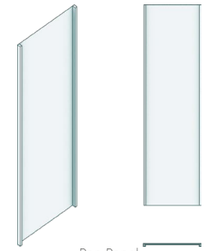
During the field research, the materials and components of Rosenlundsverket were documented and categorized. This included the primary facade material of metal panels, windows and ventilation fans with matching modules, translucent partitions used in specific areas, and industrial components that signify Rosenlundsverket's industrial architecture characteristics. Using these forms as a reference, the study explores new components that align with the original forms to ensure that the new additions match the perception image of Rosenlundsverket.



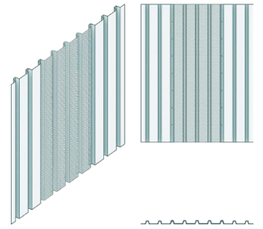
Box Rib Polycarbonate Panel



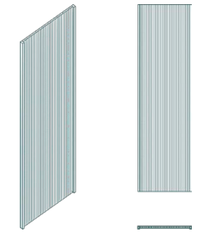
Corrugated Metal Panel(Vertical)#1



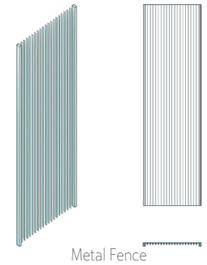
Pan Panel



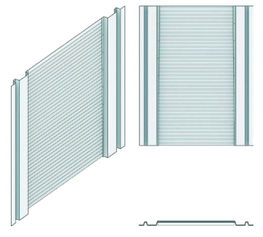
Preforated Box Rib Metal Panel



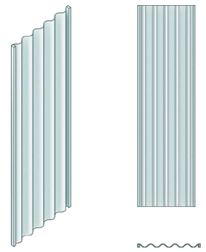
Polycarbonate Panel



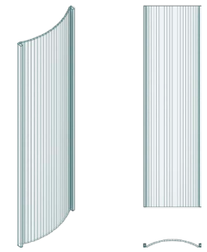
Metal Fence



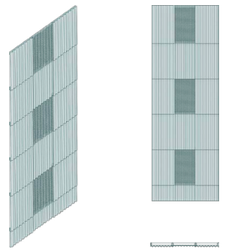
Corrugated Polycarbonate Panel(Horizontal)



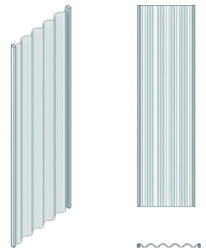
Corrugated Metal Panel(Vertical)#2



Polycarbonate Panel (Curved)



Corrugated Polycarbonate Panel(Vertical)



Corrugated Polycarbonate Panel(Vertical)

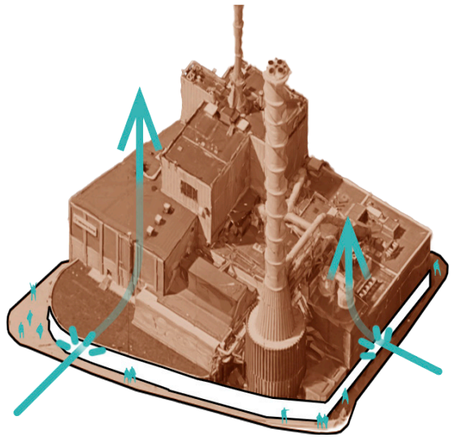
New Component & Texture

Referencing the forms of box rib and corrugated panels, perforated metal sheets and translucent corrugated panels have been introduced. This allows the new materials to maintain the original industrial facade texture while introducing translucent properties, enhancing the visibility and richness of the facade for the additions.

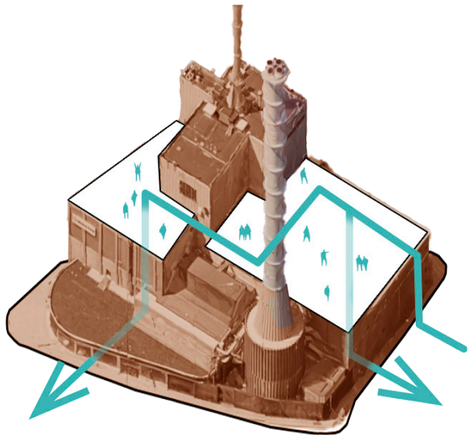
Referencing the module of the blue pan panels used in Rosenlundsverket's production building, and incorporating other textures present in Rosenlundsverket, components of the same module have been introduced, including curved panels that match the curvature of the ventilation ducts. This integration ensures that the new components harmonize with the existing form, preserving the perception image of Rosenlundsverket.

DESIGN

CONCEPT



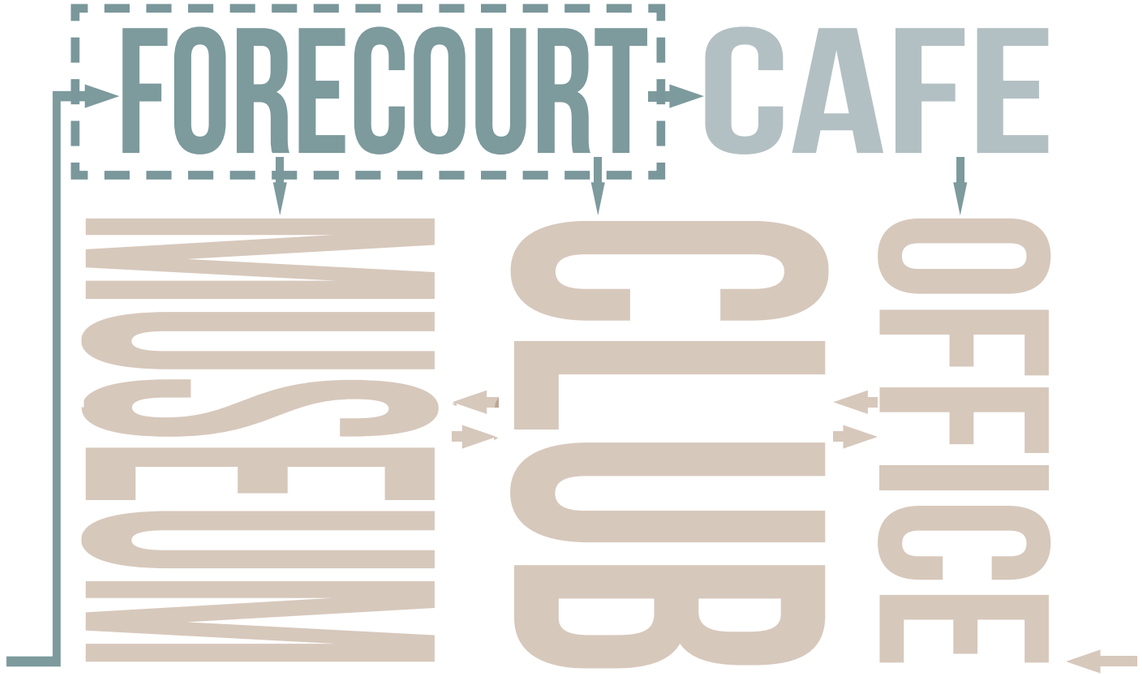
Bottom to Top



Top to Bottom

This project is based on the assumption that Rosenlundsverket will be transformed into a public building. As previously mentioned in Massing Study, the inherently closed perception image of Rosenlundsverket as an industrial building conflict with the characteristics of public buildings. If conventional public buildings are used as a reference, directly transforming the ground floor would not only deviate significantly from its original perception image, but also fail to contain the increased visitors due to the transformation into a public building due to the lack of a size matching plaza.

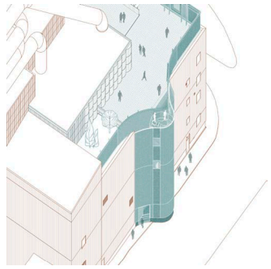
Therefore, this project reverses the general bottom-to-top flow, placing the entrance of the Rosenlundsverket on the rooftop.First, it leads the visitors from the street to the rooftop, using the rooftop space as a forecourt to accommodate the increased visitors. By building different foyers for different programs, people are guided from top to bottom into the public building. This approach not only absorbs the increased traffic from changing into a public building but also minimizes intervention at the street level, thereby maintaining the original perception image.



Program of Rosenlundsverket

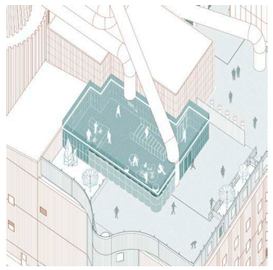
In the design, specific interventions are divided into five parts: the entrance, the exit, the museum foyer, the club foyer, and the café.

PROGRAM

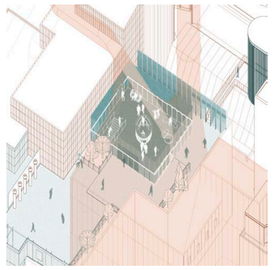


Entrance
A vertical transportation hub located near the main street on the northern side of Rosenlundsverket. Its function is to guide people from the street to the rooftop.

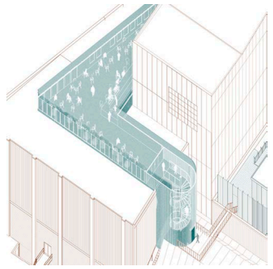
Exit
A vertical transportation hub. Situated away from the main street, it handles vertical transportation and acts as a backyard.



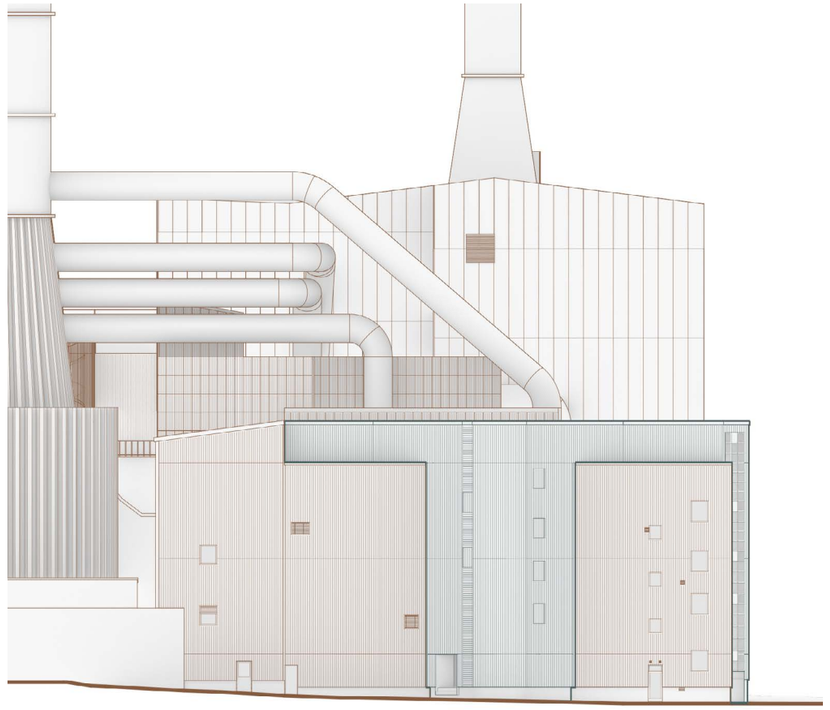
Museum Foryer
Guides visitors from the forecourt into the museum within Rosenlundsverket.

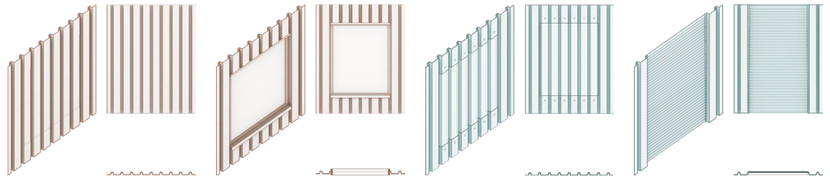


Club Foyer
Directs visitors from the forecourt into the club within Rosenlundsverket.



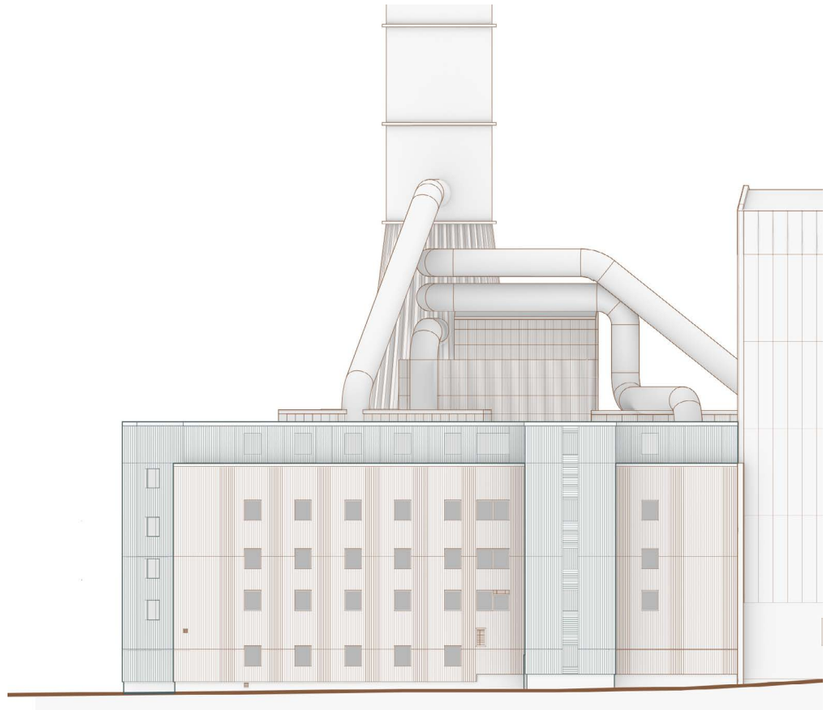
Café
Located at east of the rooftop, serving as a space for viewing, and gathering.

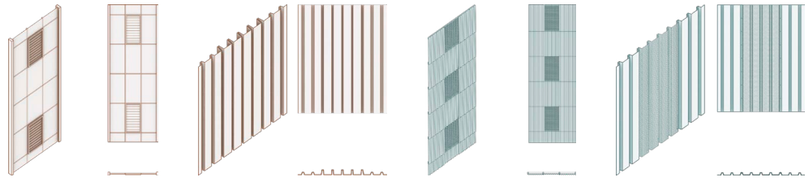




Entrance

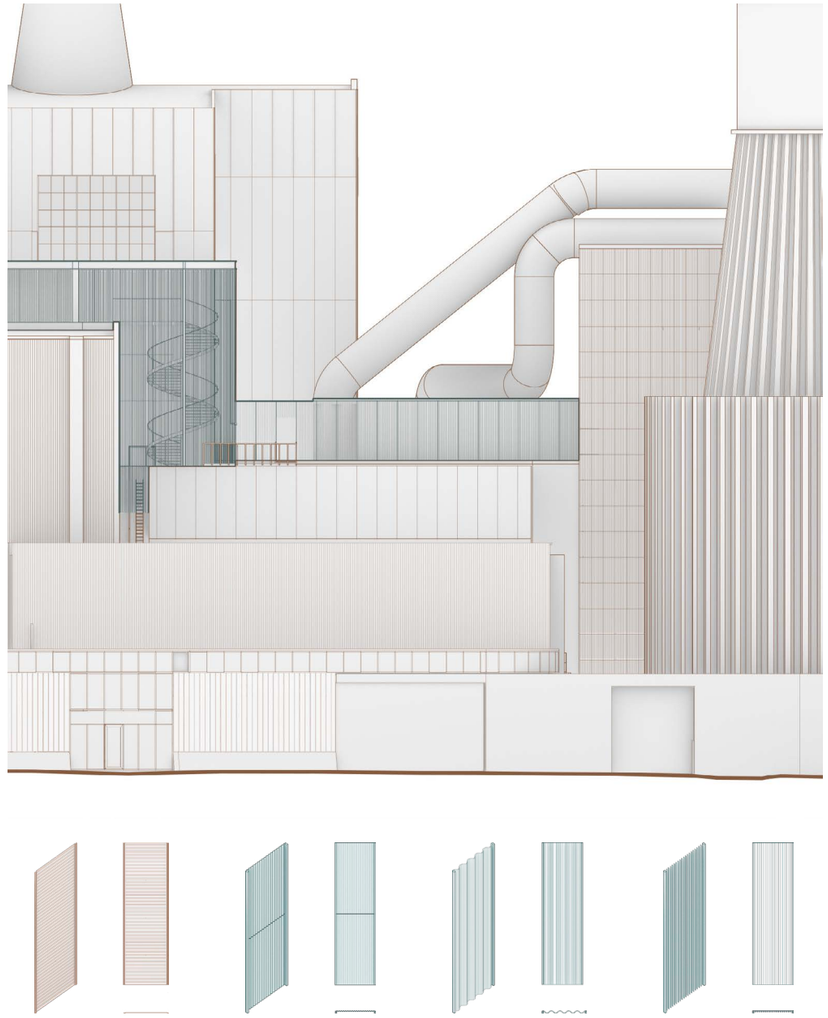
The arched volume at the entrance is inspired by the cylindrical shape of the chimney, using box rib panels that are also used at where it attached. To create a distinction between the old and new sections, the addition part uses the metallic color, and all the sizes are align with the original façade. The windows on either side are made from transparent corrugated panels, with their size and positioning referencing the windows on either side of the original façade. Moreover, the material used above and below the openings are horizontal corrugated panels, inspired by the vents on the façade.





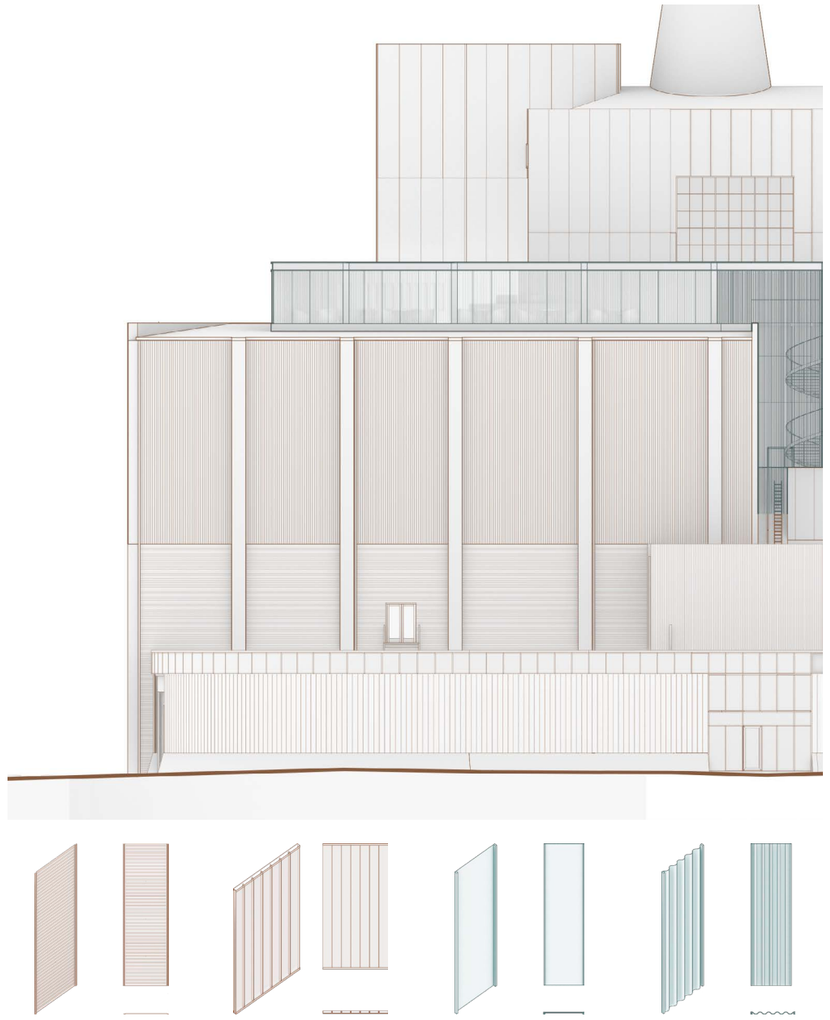
Exit

The vertical circulation volume at the exit responds the frequent use of slender geometric elements on production building's façade. The openings on rooftop's railing not only align with those found on boiler room but also use perforated box rib panels to present a translucent texture that emphasizes the axis lines of the original facade. Additionally, the side windows of the volume reference the unique window patterns found on the production building.



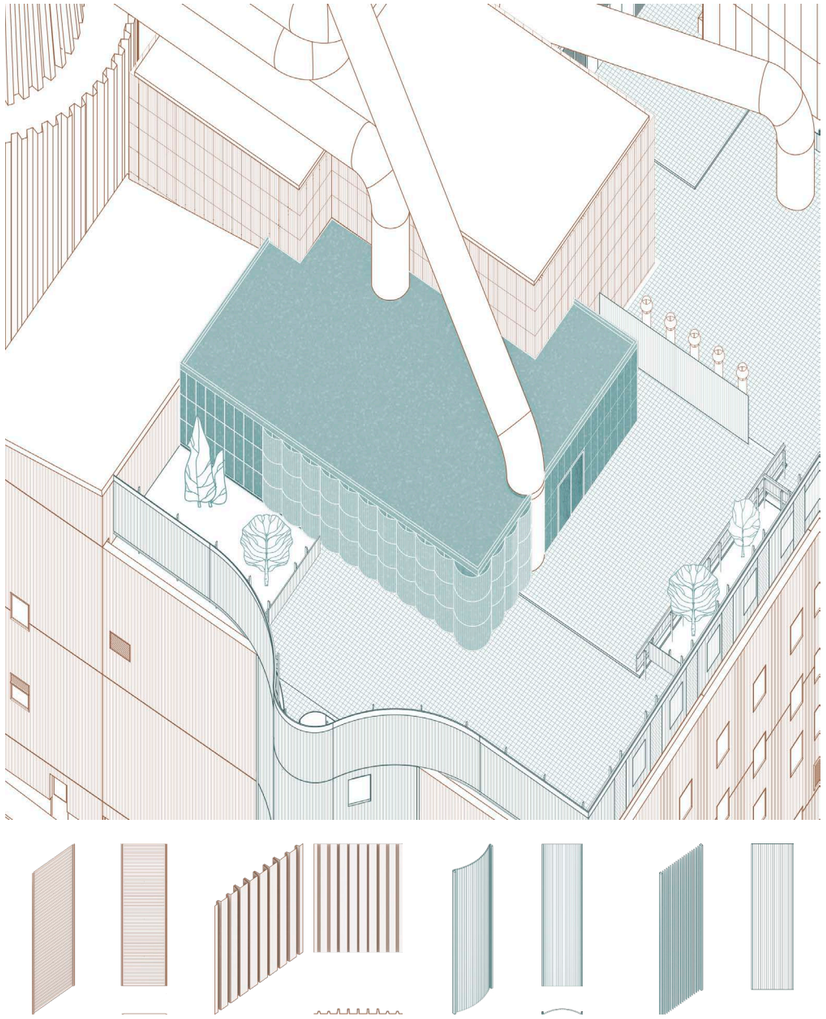
Club & Spiral Staircase

The nightclub utilizes materials with the same modular dimensions as the pan panels used in the production building, with varying levels of transparency based on the program. Metal and translucent panels use corrugated sheets with the same module as those on the right side. The metal fence on the left also uses the same modular dimensions. The spiral staircase connecting the club and the café echoes the spiral patterns found on the top of chimney.

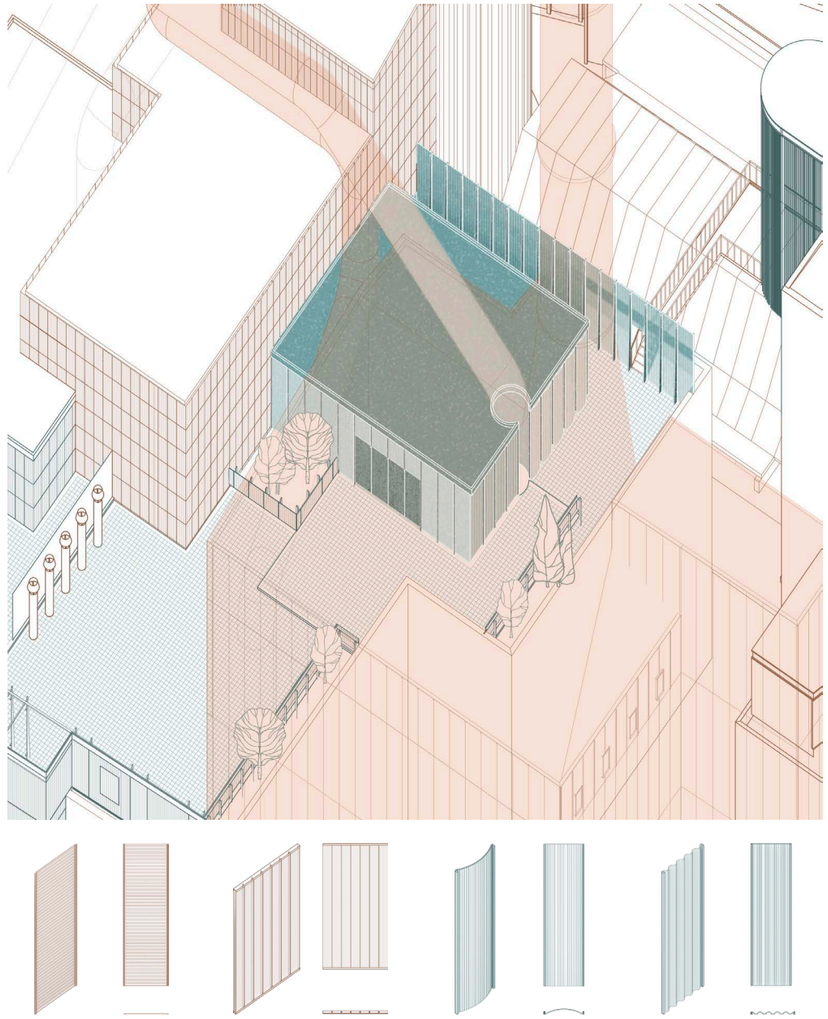


Café

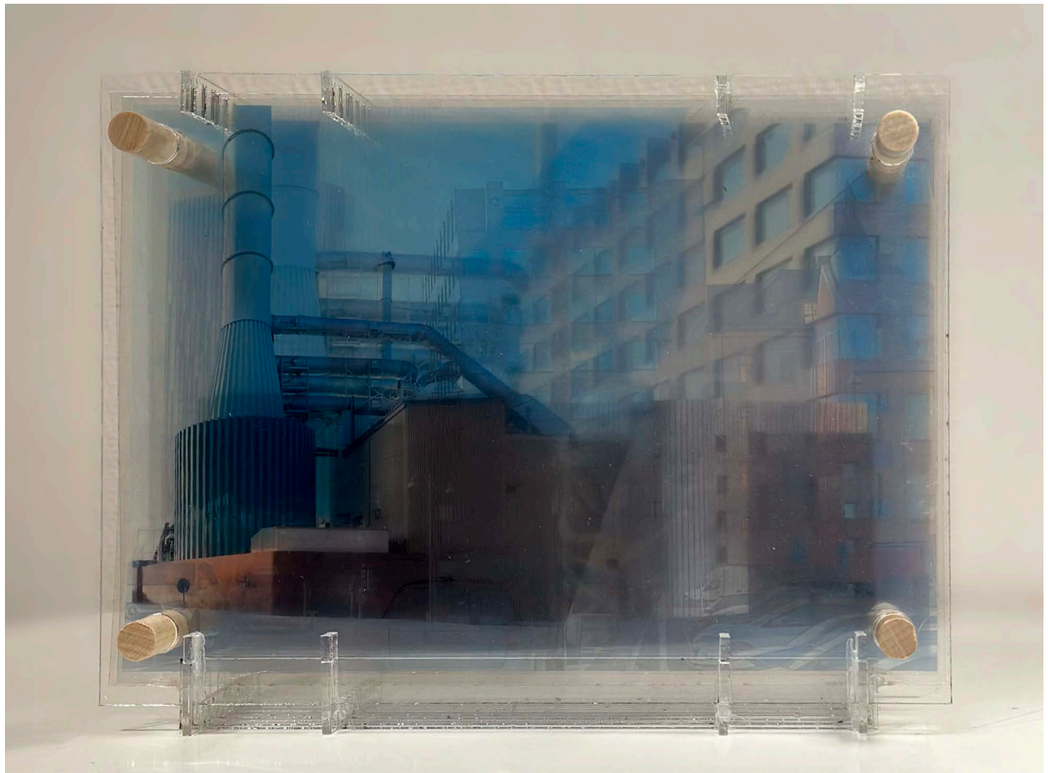
The column showing on the café’s façade reference the east façade of the turbine hall, while the modular dimensions of the polycarbonate panels between the columns correspond to the panel on production building. The outstanding roof and floor slabs take inspiration from the parking building’s emphasis on horizontal elements.



Museum Foyer



Club Foyer



Three Dimentional Collage Model of Rosenlundsverket's Perception Image (North Side)

DISCUSSION

Project Result

Perception image, in some contexts, can be considered an annotation of Aemulatio as mentioned in discussions of adaptive reuse of built heritage. It is also a quantifiable strategy under contextualism. By observing the target building, extracting key elements, and translating them, the approach of “new interventions appearing in old forms” becomes more actionable. This approach offers valuable reference for interventions under contextualism.

Refllection

However, the method of deconstructing a building and extracting its elements might not be effective for more integral projects. If the target building does not consist of various volumes from different periods like Rosenlundsverket, or if it doesn’t contain strongly iconic industrial elements such as chimneys and pipes, its perception image might be way different. This could lead to challenges in extracting clear and specific old forms effectively.

Additionally, perception is subjective and abstract, making strategies that materialize perception image highly subjective and likely to change over time. Consequently, the strategies derived in this manner may not be convincing enough. For instance, during the massing study, it was concluded that extension at street level would severely break the original perception image of Rosenlundsverket. However, upon reviewing materials recently, it was discovered that addition massing on the west side was not entirely unreasonable.

This project also has several regrets, the most significant being that Rosenlundsverket has become a protected project, preventing internal site visit like previous thesis did. As a result, the design was limited to the building’s exterior spaces, lacking a deeper exploration of the interior. This restriction hindered a comprehensive understanding of Rosenlundsverket and the chance to showcase the more appealing aspects of its industrial characteristic within the project.

This also resulted in the project’s inability to observe Rosenlundsverket’s roof, making it impossible to reference the original roof components during the design process. Although the concept of maintaining the same perception image was better implemented, the inability to make site-specific designs is still quite regrettable. Similarly, it was impossible to capture views of the rooftop space and recreate its vibe, preventing the forecourt from being expressed in a more realistic way like the other facades.

Furthermore, there is considerable improvement in the process of materializing the perception image. Limited by materials and time, the installation could only present Rosenlundsverket’s perception image in a less vivid way. If there were an opportunity to display Rosenlundsverket on a more transparent, visually impactful, and larger medium, it might better materialize this subjective and abstract concept. This enhancement could lead to a more nuanced and effective representation of the building’s character.

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Image

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