TU Delft

FENIX II

P1 REPORT

14 - 4 - 2020

Architectural Analyses

Building Technology

Cultural Value Report

Students

Melchior Bos
Fons Bramer
Tryfon Stogiannis
Gi Suk Kwon
Sophie Vrisekoop

Tutors

Ir. W.L.E.C. Meijers
Mr. N.J. Clarke MPhil
Ir. F.W.A. Koopman
Dr.ir. C.I.C. van Emstede

ADAPTING 20 C HERITAGE

< Picture F.1, Fenix II

Report Information

Fenixloods II

Picture F.2, Fenix II

Personal Information:

NAME	Melchior Bos
STUDENT NUMBER	4340701
TELEPHONE	0629550965
E-MAIL	M.T.P.M.Bos@student.tudelft.nl

NAME	Fons Bramer
STUDENT NUMBER	4488539
TELEPHONE	0031646611427
E-MAIL	fons.bramer@hotmail.com

NAME	Tryfon Stogiannis
STUDENT NUMBER	4127811
TELEPHONE	063831944
E-MAIL	T.Stogiannis@tudelft.nl

NAME	Gi Suk Kwon
STUDENT NUMBER	4910443
TELEPHONE	0647659829
E-MAIL	nest635@gmail.com

NAME	Sophie Vrisekoop
STUDENT NUMBER	4032942
TELEPHONE	06 44 02 50 40
E-MAIL	s.vrisekoop@gmail.com

Studio Information:

STUDIO	Heritage & Architecture Msc 3 Adapting 20C Heritage : Rotterdam Harbour.
COURSES	AR3AR142 AR3AR032 AR3AR022*
BUILDING	FENIX II Veerlaan 19 3072 AN Rotterdam
TUTORS	Ir. W.L.E.C. Meijers Mr. N.J. Clarke MPhil Ir. F.W.A. Koopman Dr.ir. C.I.C. van Emstede
DATE	14-04-2020

Picture F.3, Fenix II >

Preface

Fenixloods II

Picture F.4, Fenix II

This Architecture and Heritage analysis has been conducted as part of the Msc 3 studio Adapting 20 C Heritage : Rotterdam at the Delft University of Technology. The focus of the analysis is the Fenix II warehouse located in Katendrecht, Rotterdam. The analysis is systematically structured and based on the layers of Brand as they are explained in the book Designing from Heritage by M. Kuipers (2017). The subjects are extended according to the specific needs of the building, with attention given accordingly. Findings in the analysis are given in the separate chapters and all relate to an overall research question. By translating the findings into a values matrix, that was extended to incorporate the relevance to the historical time frames - narratives and based on the heritage value matrix

(presented in the book Designing from Heritage by M. Kuipers on page 88) an individual position can be taken as a first step into the design process.

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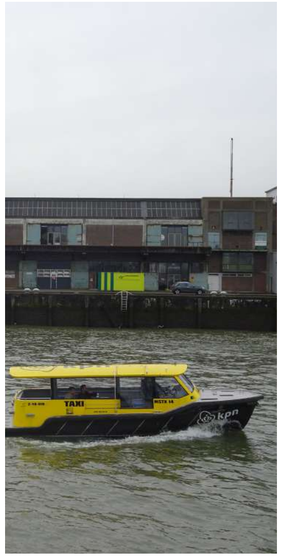
Introduction

Fenixloods II



Picture F.5, Fenix II

The rich harbour history of the city of Rotterdam remains visible in the still existing big industrial buildings. Most of those buildings nowadays are vague echoes of lost flourishing times. They are used as storage, have a temporary function or are just completely abandoned. Once part of the biggest warehouse of the world and located in an upcoming lively neighbourhood, the Fenix II building has a lot of potential. The challenge of the assignment is developing a 'smart' design for the adaptive re-use and finding a balance between preservation and development. (Studio text 2020)

This analysis is based on a broad research question an divided up into subject in order to grasp the essence of the assignment and to help the designer on the start of the design process. The aim of the final design is to adapt the Fenix II building into a sustainable building that is a worthy reminder of the past.

Demarcation

The structure of this analysis is, as mentioned in the preface, based on the layers of Brand. By following this concept of analysing the building, a structural historical analysis can be presented. After a general introduction, to specify the basics, a more detailed research on cultural value, architectural value and technical value will be presented.

By holding on to the main topics, stated in the table of content and based on the layers of Brand, and labelling 'important' timeframes, each topic will address the architectural analysis or building technology or a combination of the two. The layers of Brand have seven topics to analyse a building from the outside in. Site, Skin, Structure, Services, Spaceplan, Stuff and Spirit op place. In addition to these topics General information, Damages and Future are added to make it an overall analysis

The timeframes we choose to be important are; 1922; When the Original building was build, 1950; When the after war interventions turned the building into Fenix II and 2013; When the building got a new function.

We deliberately choose not to address the future as part of timeframe because we cannot know for sure that this will actually happen. Instead we researched this as a separate topic.

In the end there will be a Historical analysis, Current Situation and future research that will help us understand the importance of the Fenix II building as part of Rotterdam's industrial harbour heritage.

Research focus and Research question

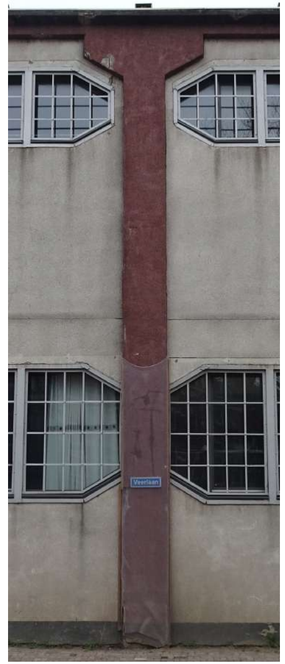
Fenixloods II

We study the Fenix II warehouse in Rotterdam to discover and understand the importance it plays as part of the city's industrial harbour heritage. The architectural, cultural and technical aspects of the building are researched and analysed in order to form a global picture of the potential values of the building, that add to its character and make it worth preserving. Using the values, design decisions and choices can be clearly communicated, argued and tested in a systematic way in order to lead to "heritage - conscious" interventions. These values are often "hiding" between the architectural , structural and material elements of the building, requiring a deeper research to understand their significance for the building.

We are analysing the different stages of the building, from the construction - reconstruction - refunction by making use of archival drawings and photos, site visits in order to document the current state of the building as well as historical research about the important events related to the building. The Brand layers and the questions from "Designing from Heritage" by M.Kuipers are used to achieve a systematic study of the building and its elements. By mapping the changes and the values of the building and relating them to historic timelines, the significance of these aspects becomes evident while the dilemma's, the opportunities and the obligations for a future intervention are formulated.

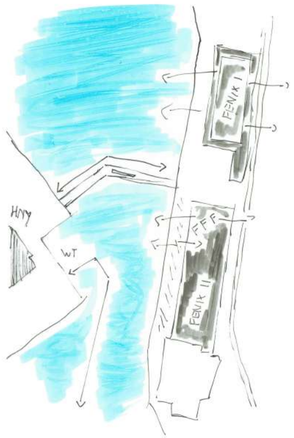
The goal of this research is illustrated and discussed in a final P1 report where the conclusions are visualized and explained. Colour schemes are used to rank importance and show the relevance to history but also indicate future possibilities. The final matrix will be the conclusion of our assessment, accompanied with our individual starting points and goals for the start of the design phase.

The following subjects and questions will be the core of the value assessment. Each topic will end with a conclusion on which values it represents and if these topics have a high value or a low value, also if they have no value it will be elaborated why they don't have value. In this way the final Cultural Value Matrix will be clear and traceable throughout the report.



Picture F.6, Fenix II

General Information



Context

Fenixloods II

San Francisco loods 1925

Aerial view San Francisco loods 1945

Holland Amerika Lijn 1918

The Building

The Fenix II building is located in Rotterdam (the Netherlands) in the Katendrecht area and considered to be part of the Rotterdam harbour heritage. (Flexus, 2018) Originally build as the San Fransisco loods, which was completed in 1923, it mainly functioned as a warehouse for household goods from passengers of the Holland America Lijn. (Pama, 2018.)
When a fire, in 1954, destroyed the middle part of the San Fransisco loods a redesign for two separate buildings (Fenix I and Fenix II was made). As Breimer stated in a press release for the municipality of Rotterdam, the buildings were named Fenix because they literally arose from their own ashes.

The Assignment

The assignment for building the San Fransisco warehouse came from the company Holland Amerika Lijn (HAL). First shipping from two wooden warehouses, which they rented from the municipality in 1915, the HAL gave architect van Goor in 1916 the assignment to design a big concrete warehouse to accommodate their exponential growth. (chapter 'The Architect'). The San Fransisco warehouse was 136 meters long and, in 1923, the biggest warehouse in the world. (Flexus, 2018. P 181)
During the bombing, in the second world war, the waterfront of the building and the quay were so heavily damaged that a rebuild was necessary. (chapter 'The Building)

The Purpose

HAL was originally founded in 1873 as NASM (Nederlandsch Amerikaansche Stoomvaart Maatschappij) and owned 133 ships which transported almost 4 million passengers and 75 million ton of cargo over a period of 200 years. (Rozendaal 2015)
In the period between 1880 and 1920 HAL, Located in de Rijnhaven (1897), became one of the biggest shipping compagnies in the world, transporting emigrants that came to Rotterdam from all over Europe. (Koops, 2018)
From 1950 the fleet grew even bigger to accommodate the demand in passenger and cargo transport. In 1971 the last passengers were transported to 'the new world' and the company moved to Amerika, this was because of the competition from intercontinental flights and the decrease in demand. (Rozendaal, 2015)

The Harbour

De Rijnhaven was part of the general developments of the city and port. An overview of these developments can be found in chapter 'Rotterdam; City and Harbour'.
In the second part of the 19th century a transition is made from merchant city to mechanized transit- and general cargo port city. During this transition the demand for large warehouses increased. (Flexus 2018, P.21.) The Rijnhaven was originally built as a winter storage for Rijnschepen, but got transformed into a transit seaport using the latest mechanical interventions such as electric cranes. (see chapter 'Stuff'')

The Social aspect

In 1894 Katendrecht and Charlois were annexed by Rotterdam, for the purpose of the harbour expansions on the south bank. (Flexus 2018, P.19.) From 1911 a large group of Chinese laborers settled in Katendrecht. When the city of Rotterdam appointed the area as an overflow area. (Flexus 2018, P72.) And not-adapted people moved to Katendrecht. (people that could not live anywhere else in the city). The social character can be described as unique. During the period of poverty and occupation, Katendrecht was a sanctuary as the German occupier prohibited its soldiers to set foot on the quay. (see chapter 'Katendrecht Social')

Rotterdam

City and Harbour

1850

1889

1897 Rijnhaven

1905 Maashaven

1937

1988

2007

2017

Rural character
Urban character

1340 Rotterdam reveived city rights. A small city gradualy took shape.

1850 Rotterdam grew rapidly.

1875 'De nieuwe waterweg' was layed out givig the city the opportunity to grow and become the largest port of the Netherlands.

1886 Along with the digging of the 'Koningshaven' the residential area 'Feijenoord' is developed.

1889 Expansion of the city on the south side of the river.

1897 Increase in use of quays. The 'Rijnhaven' was constructed to serve as a shipment harbour for grain, fruits and coal.

1900 Economic growth of the Rotterdam area was stimulated by the development of new harbours and quays.

1905 The 'Maashaven' was constructed to suplement the demands of the 'Rijnhaven' and also served as a shipmentharbour for grain, fruits and coal.

1916 Construction of the 'Vierhaven' that served as a cargo port.

1931 Construction of the 'Waalhaven' that served as transshipment for bulk-goods.

1937 Construction of the 'Merwehaven' with the introduction of long quays and harbour basins.
Along with a large-scale growth in the urban context.

1946 The construction of the 'Eemhaven' currently (2020) serving as a container storage but originally constructed as cargoport.

1988 Transformation of 'Vierhaven' and 'Merwehaven' into fruit ports.
Rotterdam became 'Mainport' of the Netherlands

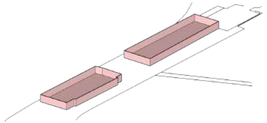
1988 The city of Rotterdam mainly consists of 'build environment' the lack of 'green' and the 'unsave feeling' in the neighbourhoods grows.

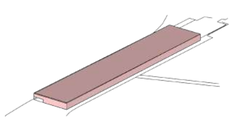
1994 On 'Zuid' a Naval simulator center is build, this is the start of the grow of 'Zuid'

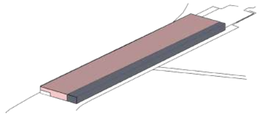
1995 Masterplan 'Wilhelminakade'

2007 During the big scale renovations on urban scale the city got an upgrade. Drawing more people to the city.

2017 Rethinking and redeveloping of the city helped it grow into a pleasant place with a more readable character.







1895 Wooden Warehouses

In the late 19th century wooden sheds served as warehouses for the upcoming harbour industry.

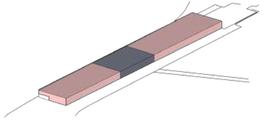
In 1915 the NASM rented a site on the southwest side of the Rijnhaven from the municipality because the fleet and the number of lines of the H.A.L. to the United States had expanded significantly. The old wooden sheds were demolished after a storm and plans were made for a new and much larger warehouse. (Flexus 2018, P. 181)

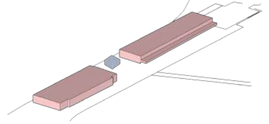
1922 San Francisco

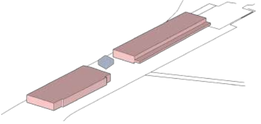
The Holland America company builds 'San Fransisco', the then biggest warehouse of Europe. The building was mainly used for storage of households that moved to America. The two story building was 25.000 m2 and had a length of 360 m.
The integration of electric cranes and the possibility for three steamships to dock at once made the building unique. (Flexus 2018, P.181)

1944 Bombing

In the second world war the quay, a large portion of the façade and most of the harbour installations were destroyed. Most of the construction survived and a plan was made to rebuild the warehouse. (Flexus 2018, P.182.)







1948 Fire

Right after the second world war, the plan to restore the building was set into motion.
In this period the warehouse was used as an auto repair shop. During construction a fire destroyed the middle part of the building and a decision was made to split the building up into two separate buildings. (Flexus 2018, P.182.)

1955 Fenix II

Rebuilding into Fenix I (121 m) and Fenix II (164 m), the buildings literally arose from the ashes.
The quay was reconstructed, rearranged with traintracks and new cranes and could be deepend.

In the middle section a new canteen, office space, washing facilities, a bicycle shed and garages are built.

The function it had after rebuild was storage again. Redevelopment and reopening of the building into a temporary cultural function.
(Flexus 2018, P.182.)

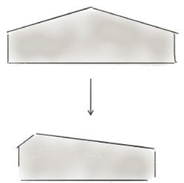
2006 Fenix II

In 2006 the municipality acquired both warehouses with the intention of redeveloping the location. This is partly to support developments at Katendrecht and the Wilhelminapier. The Rijnhavenbrug was completed in 2012 and from that year onwards several developments in the area were established, including Theater Walhalla, the Codarts Circus School, the Fenix Food Factory and many other culinary and cultural initiatives. The low rents and the rugged character of the area were infectious to pioneer de Kaap.
(Flexus 2018, P.185.)

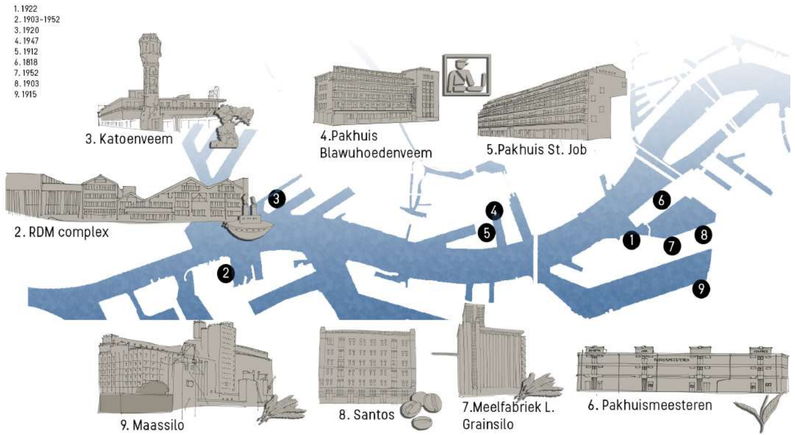
Typology

Fenixloods II

1. San Fransisco, typical two stories port warehouse



Change of the form in the 1950's



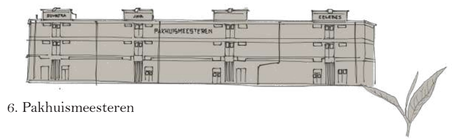
Map with warehouses in the port of Rotterdam

The building is a warehouse building and in both the original design as well as the rebuilding in the 50's the building was built considering this function. Although it's a function that does not have a morphological typology that clearly represents it, the products stored and the logistics of the building have a very big effect on the final form. The rest of the warehouses in the harbours of Rotterdam are following the same pattern, leading to big diversity. The original size of San Francisco had a clear relation to the logistics of the building,and not so much with the size of the items stored. The items stored, were in most cases, movable by people so size and weight were limited. The huge length of the building would not only allow for a big amount of goods to be stored but also for access to more ships on the quay side and more openings on the side of the road.

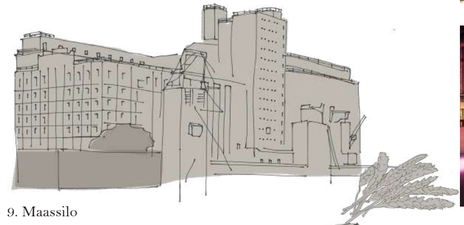
The big changes in technology,economics and logistics, as well as the change of the harbors to transit ports would result in one story low buildings where the dock activities would take place. The first floor was kept for both Fenix 1 & 2 after the extensive works in the 50's, with changes on the facades and on the quay that would correspond to the new storage needs. New requirements concerning safety and interior conditions are expressed in the facades as well as in the form, with the cranes and the rail taking a more prominent position for the function of the building. The building functions as a temporary storage, with a strong connecting rol between the water and the land, making use of cranes and rails to support the loading and unloading of goods.

In the last phase of the building,the functions are public but the changes in the building remained limited, having no effect on the form of the building. The big modern interventions on the Fenix 1, that transformed the building to also house residential spaces,contrasts with the "abandoned" look of Fenix 2, but the similarities in the form and the expression still give away their strong connection.

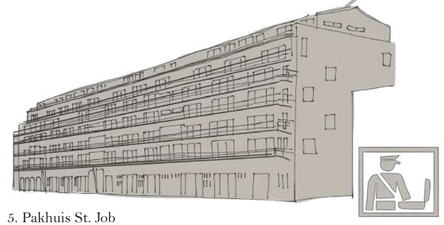
Warehouse buildings that used to function as storage spaces or customs for the harbour are nowadays transformed to different functions to accommodate the move of harbours out of the city center. These references are not only relevant for their new function but also for the "local" tradition of dealing with industrial heritage in the city.



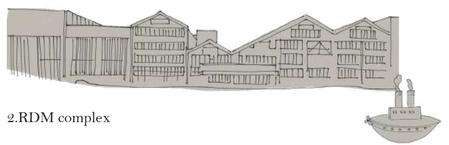
6. Pakhuismeesteren



9. Maassilo



5. Pakhuis St. Job



2.RDM complex

Transformed to a hotel with a mercado on the ground floor. The hotel has 217 rooms combined with gathering spaces and long stay apartments. Utilizing the height of the construction, the architects added two stories on top in order to create the required space.

Transformed to event location by removing columns to create bigger spaces.
Trying to keep as many authentic details as possible as well as the industrial appearance. A broader renovation would also take place.

Transformed into 109 loft-apartments and penthouses. The owners could choose the interior division of their property. The uniquely expressive facade is kept, reminding of the docking activities on the side of the port.

Transformed to a creative campus area for students and fresh entrepreneurs as a collaboration of the port company, the highschool of the city. The complex is an on going project adjusting to the needs of the city, though retaining it's industrial character

The Architect

Fenixloods II

Oceaanhuis Rotterdam 1909

Gazelle Rijwielfabriek, Dieren 1915

San Francisco Loods, Rotterdam 1922

C.N. van Goor (1861 - 1941)

C.N.van Goor around 1920

Cornelis Nicholaas van Goor was a renowned architect in his time. When he finished his education at the Rotterdamse Academie, he started working for the municipality of Rotterdam.
Although his oeuvre only has seventeen buildings, six of them still remain within an urban context. (erfgoed, 2016)

From his work three similar buildings stand out by there industrial appearance.
All of the mentioned projects are warehouses, where bombed during the Second World War, rebuild in some way and all have a new function with a program that fits the building.

Gasfabriek, Rotterdam ; 1884
Walenburg, Rotterdam ; 1895-1902
Local church, Rotterdam ; 1895-1902
Residence Imming, Rotterdam ; 1895-1902
University building, Rotterdam ; 1902
Oceaanhuis, Rotterdam ; 1909
Dwelling complex, Rotterdam ; 1904
Stokvis & Zonen, Rotterdam ; 1910
Gazelle Rijwielfabriek, Dieren ; 1912
Stokvis & Zonen, Rotterdam ; 1911
Stokvis & Zonen, Amsterdam ; 1914
Dwelling complex, Groningen; 1915
San Francisco Loods, Rotterdam ; 1922
Timber building, Rotterdam ; 1920
Hudighuis, Overschie ; 1928
Office Blijdorp, Driebergen ; 1928
Gate Blijdorp, Rotterdam ; 1939

Oceaanhuis

The Original building, from 1909 had three building layers. The collaborative design, together with architect J. Verheul Dzn, is called 'Transition-Architecture'. In 1942 the building was bombed but rebuild and expanded in 1948. The new tree layers, designed by H. Geistdorfer in a more traditional architecture style, expose red brick facades and squared window frames.
It had a function as a warehouse for household equipment and motorised bikes. In the 1970s diverent functions were housed in the building. In 2017 a last redesign was made by Mei architects as an apartment complex housing 184 dwellings, another additional layer was added to the building. During transformation the focus was to preserve as much as possible of the 'old' visible layers. (bouwen met staal; June 2019)

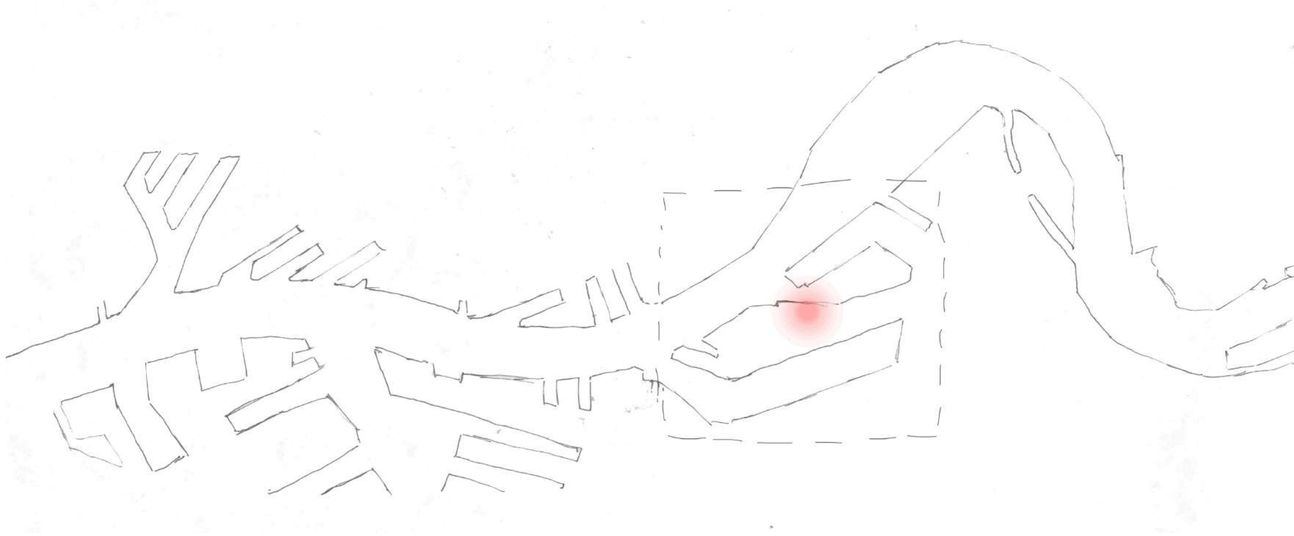
Gazelle Rijwielfabriek

The main building with three building layers became part of a bigger ensemble of factory buildings from the Gazellefabriek. In 1944 the whole complex was heavily bombed but almost entirely rebuild in its original architecture style. The building was considered to be a 'Beeldbepalend element' in the urban fabric.
It was a bicycle factory until 2011 when a redesign into offices took place. As of today its still part of Gazelle. (https://diereninbeeld.nl)

San Francisco Loods

The San Francisco Loods was build between 1916 and 1922. The then biggest warehouse had a main part of two building layers and an office part of four building layers. The building was conciderd to be highly advanced for its time because of the eight electrical cranes on top of the building and the use of re-enforced concrete. During the second world war part of the waterfront facade and quay were destroyed =, leaving the building heavily demaged. During rebuild in 1947 a fire caused the building to be separated into two. After rebuild the warehouse function returned. In 2000 the buildings became vacant. From 2013 until 2019 it had a cultural function but as of 2020 a redesign into a museum/cultural function. (Rotterdam.nl 2017)

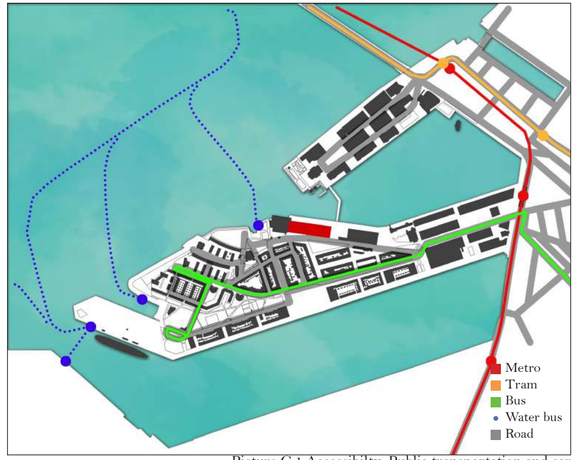
SITE & SURROUNDINGS



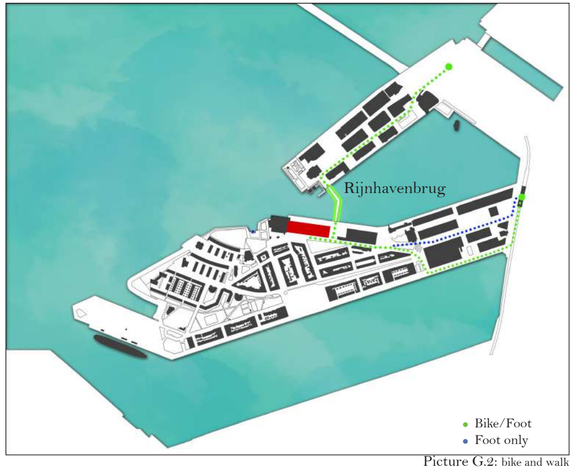
Accessibility

Fenixloods II

Question
How is current accessibility of Katendrehct?
Is Fenix ll well connected to city and other part of the city?



Picture G.1 Accessibilty: Public transportation and car



Picture G.2: bike and walk

Picture G.3 Rijnhavenbrug

There are four main roads near Katendrecht, which are well connected to the road network inside Katendrecht. Public transport is also well connected. The metro and tram are connected to the entrance of Katendrecht, and the bus and waterbus are connected to the interior of Katendrecht.

However, due to the attribute of Katendrecht, which is peninsula, all means of transportation ,except for the Waterbus, are connected to Katendrecht in one way. These transports must pass through the tail of Katendrecht before entering the peninsula.

Because of this, the traffic of Katendrecht is low compared to the surroundings and has a quiet atmosphere.

Approaching via walking and bike were similar to other means of transportation. However, since the Rijnhavenbrug was completed in 2012, Katendrecht acquired a direct connection with Wilhelmina Pier and improved accessibility to the surroundings.

Conclusion :
Katendrecht has good accessibility and a quiet atmosphere.

Question
What are the current functions of surrounding buildings?

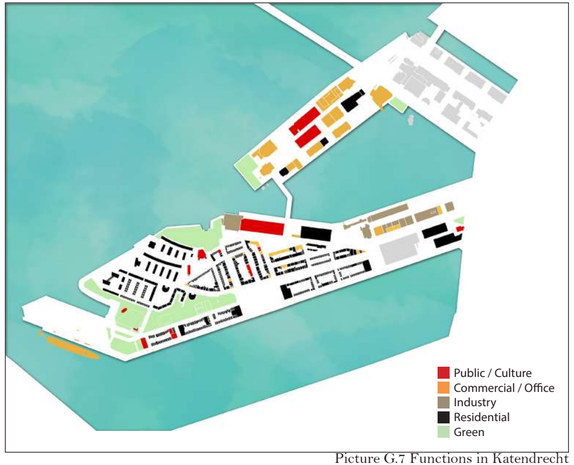
Functions

Fenixloods II

Picture G.4 Aerial photo from 1926
Industrial buildings on the quay side and old residential core are clearly visible.

Picture G.5 picture of deliplein
There were many entertainment for sailors.

Picture G.6 Continuous shops near Deliplein
They have highly flexible subdivisions.



Picture G.7 Functions in Katendrecht
based on PDOK

Currently Katendrecht consists mostly of residential buildings, except for the north quay line, which contrasts with the commercially developed Wilhelmina Pier.
In the old Katendrecht, industrial buildings were built along the quay line, but most of them are now converted into residential areas through renovation or new construction after demolition. The core buildings located in the center of Katendrecht have more commercial buildings than the surrounding residential areas.

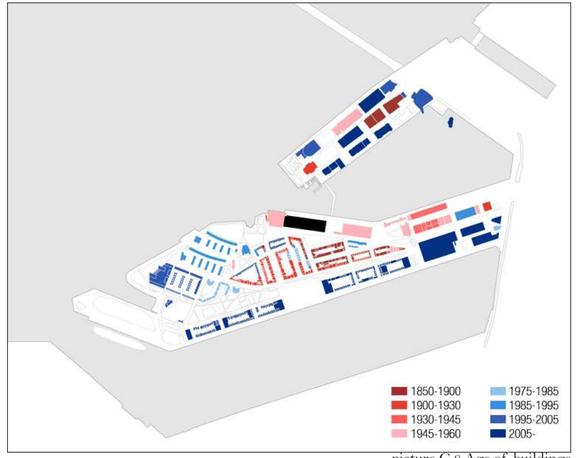
Unlike the surrounding residential areas, the core buildings are designed with high flexibility to be used in various ways such as shops and restaurants according to the development of Catendrecht (P.J.Bouman and W.H.Bouman, 1955). Also, most of the commercial buildings located in old core are concentrated around Delipein.

Conclusion :
Katendrecht is shifting from the industrial area of the past to the current residential area.

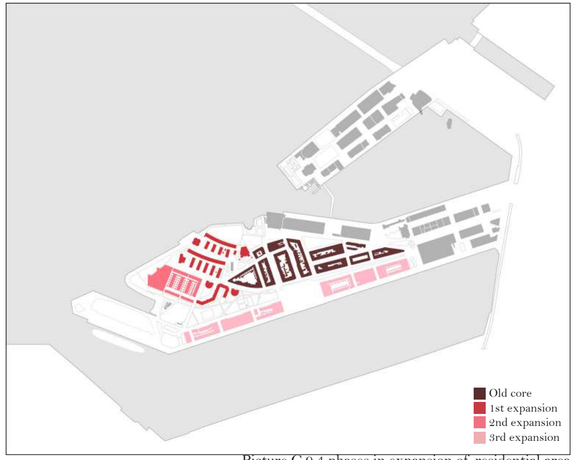
Building Age

Fenixloods II

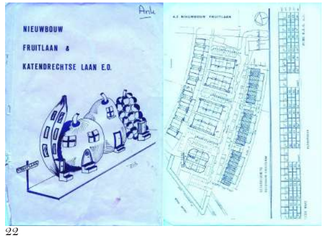
Question
When buildings were built and where is the oldest part?
Are pre-war buildings still existing?



picture G.8 Age of buildings
based on code.waag.org



Picture G.9 4 phases in expansion of residential area



picture G.10 Construction project on fruitlaan

The oldest part of Katendrecht is the old residential core located in the center, and as mentioned earlier, many buildings of the core area built during the development of Katendrecht in the past are preserved. Similarly, industrial buildings on the north quay side are also preserved. However, the industrial buildings located in the south disappeared with the expansion of the residential area, and now they have turned into a residential area. Lately, a new large-scale complex is being created in the area of the entrance to Katendrecht as part of the Entree Katendrecht project.

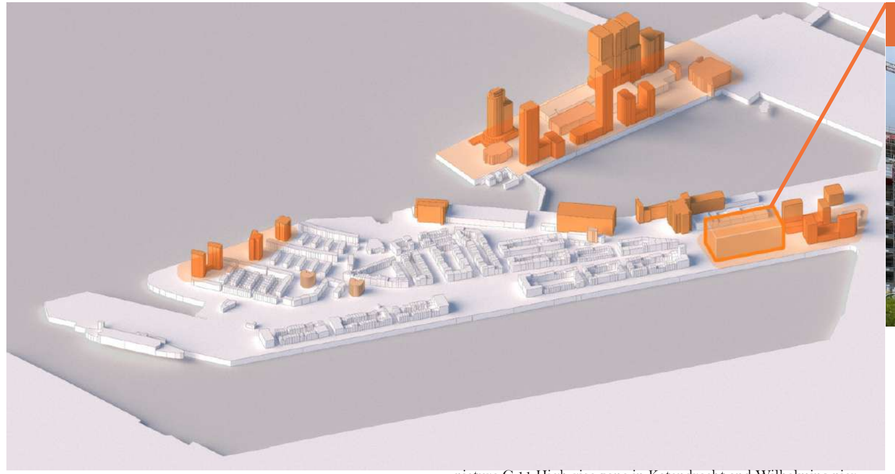
The expansion of residential areas can be divided into four categories. The central old core existed from the past. When the 1st Katendrecht Haven was filled, the first residential expansion took place there. After about 10 years, a second residential expansion occurred to the south of the first area, and in the 21st century, an elongated residential area twas created in south part of Katendrecht.

Conclusion :
Most buildings in the old core and the industrial area are built before WWII. Each area was developed in a certain timeline.

Question
Is there contrast of height or volume in Katendrecht?
How does skyline look like?

Height and volume

Fenixloods II



picture G.11 High-rise zone in Katendrecht and Wilhelmina pier
based on Ahnviewer

Picture G.12 Entree Katendrecht
Current situation under constuction.

There are several height and volume contrasts in Katendrecht. First, industrial buildings built along the north quay line have high heights and huge mass, in contrast to residential buildings that occupy most of Katendrecht.

Contrast exists in a residential area as well. The apartments built along the east quay line have high height, in contrast to other buildings inside the residential area.

Recently, as part of the Entree Katendrecht plan, a huge complex is being built at the entrance of the Katendrecht, and this huge volume and shape differentiates it from the others.

The Wilhelmina pier consists of highly developed high-rise buildings, and this high skyline contrasts strongly with the entire Katenrecht.

Conclusion :
High-rise buildings are located along the quay side except south of Katendrecht.

Chronomapping

Fenixloods II

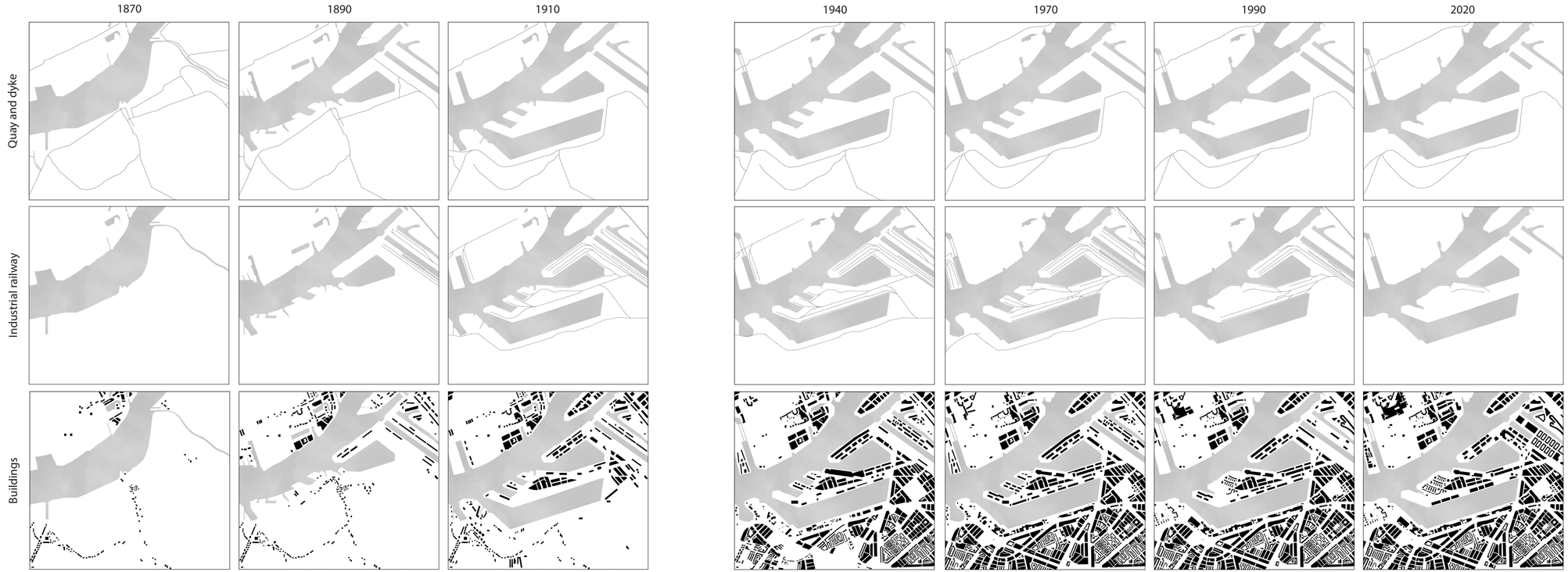
The formation of the Katendrecht zone is related to its development history. Among them, it is closely related to industrial structure such as railways, quay, dyke, and ports. This is evident in this chrono mapping.

The quay line changed rapidly due to construction of several ports, especially the two main inland ports, Maashaven and Rijnhaven. At the same time, the dyke line also changed a lot. In addition, the development of the industry accompanied with this change had a great influence on the construction of the Katendrecht railway.

The construction and expansion of the railway influenced the formation of the structure of Katendrecht and the formation of the morphology, which continues to present day and vice versa. Especially in the case of the old core, it is following exactly the same shape of the past railway. The shape of the fabric inside the old core was formed by dyke lines that existed in the past.

Conclusion :
Industrial structure and Katendrecht's urban fabric are closely connected.

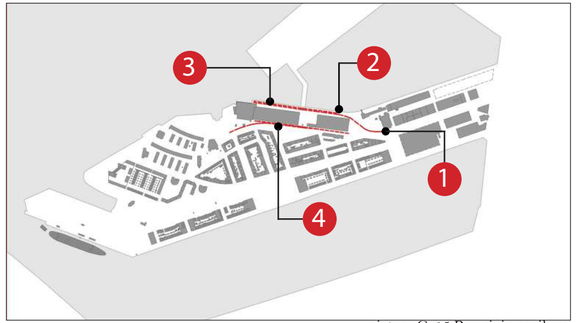
Question
How was Katendrecht developed?
How were zones in Katendrecht formed?



Picture G.13
Chronomapping
based on
Rotterdam Municipal Library
Rotterdam Municipal Archive
topotijdreis.nl

Question
How are urban structure and old elements related?
Where does old railway still exist?

picture G.14 Projection of former dyke and railways
They are closely related with urban context
based on topotijdreis.nl



picture G. 15 Remaining railway
based on PDOK, topotijdreis.nl

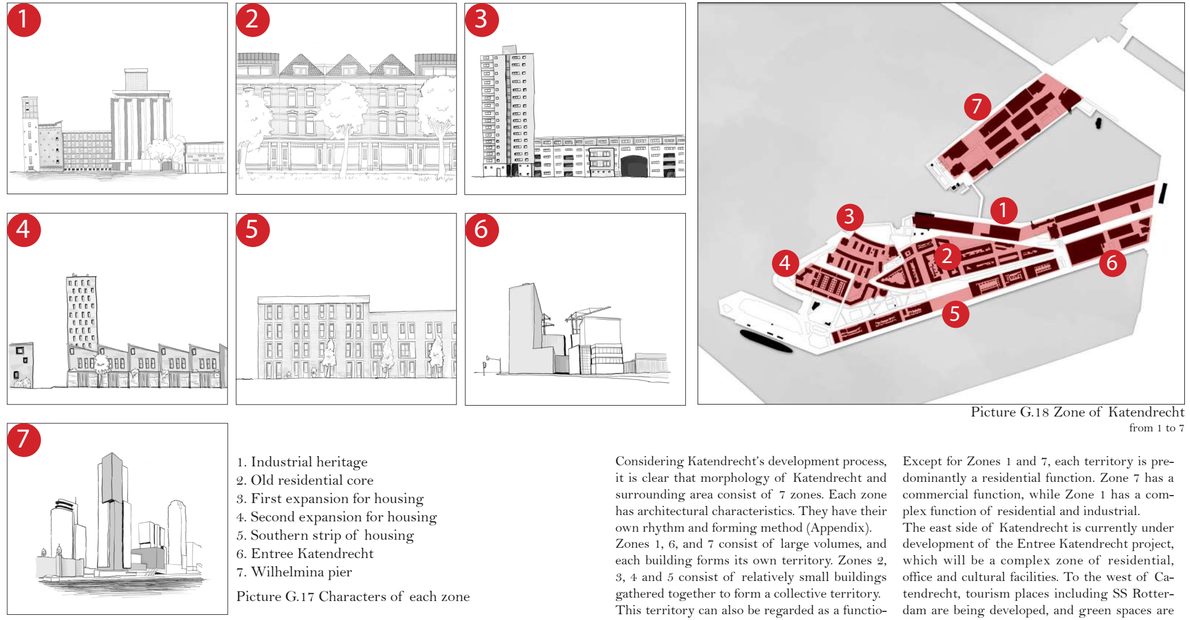
picture G.16 Current situation of railway

As mentioned above, many industrial structures were closely connected to the formation of the city structures of Katendrecht, of which the railroad had the most direct connection to the formation of urban structures. They were tightly intertwined with each other and extended across Katendrecht.
After installation of first railway along the north quay line, as the industry expanded, the railroad gradually expanded to the south, and the buildings expanded at the same time.

This relationship remains largely in the modern city structure of Katendrecht. Although most of it has gone, the old core still retains it almost until present day. This is evident when the former dyke and former railways are projected onto the modern catendrecht.
Most of the railways have disappeared, but they are still preserved around Fenix I and II.

Conclusion :
Context of Katendrecht is closely related with former railway and this relationship is clearly visible in old core area.

Question
What is the difference of the surronding area?
How is the atmosphere of each zone?



1. Industrial heritage
2. Old residential core
3. First expansion for housing
4. Second expansion for housing
5. Southern strip of housing
6. Entree Katendrecht
7. Wilhelmina pier

Picture G.17 Characters of each zone

Considering Katendrecht's development process, it is clear that morphology of Katendrecht and surrounding area consist of 7 zones. Each zone has architectural characteristics. They have their own rhythm and forming method (Appendix).
Zones 1, 6, and 7 consist of large volumes, and each building forms its own territory. Zones 2, 3, 4 and 5 consist of relatively small buildings gathered together to form a collective territory. This territory can also be regarded as a functional territory. This is because each territory has a dominant function.

Picture G.18 Zone of Katendrecht
from 1 to 7

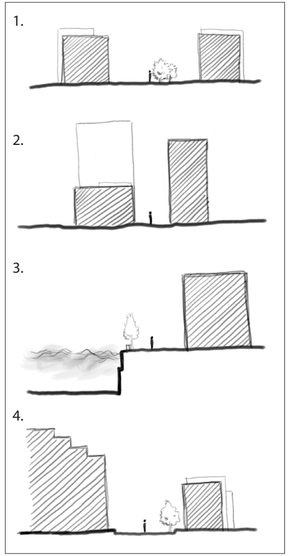
Except for Zones 1 and 7, each territory is predominantly a residential function. Zone 7 has a commercial function, while Zone 1 has a complex function of residential and industrial.
The east side of Katendrecht is currently under development of the Entree Katendrecht project, which will be a complex zone of residential, office and cultural facilities. To the west of Catendrecht, tourism places including SS Rotterdam are being developed, and green spaces are spreading out.

Conclusion :
Katendrecht and its surrounding concsist of 7 zones. They have own atmosphere and dominant funtion.

Street profile

Fenixloods II

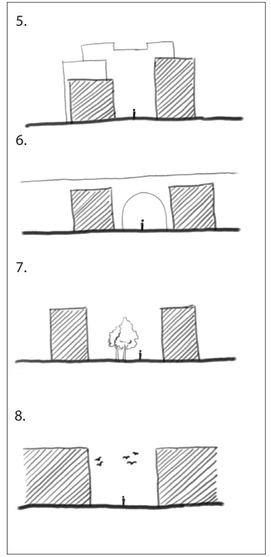
Question
How were streets formed in Katendrecht?
How is the atmosphere of them?



Long lines

1. Brede Hilledijk
2. Alley in Entree Katendrecht
3. Maashaven Noordzijde
4. Veerlaan

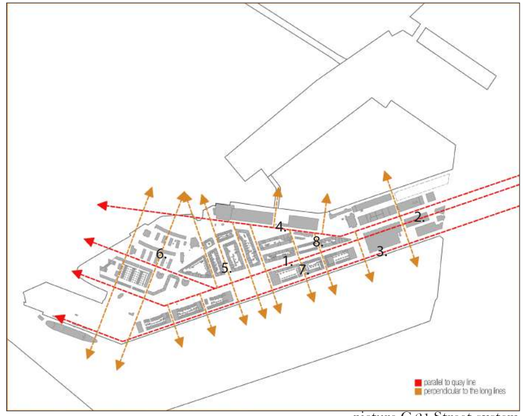
Picture G.19 street profile of long line



Short lines

5. Rechthuislaan
6. Overzetveer
7. Ambonpad
8. Timorstraat

picture G.20 street profile of short line



picture G.21 Street system
cross connection between long and short lines

Katendrecht's street system consists of two main components. The one is long line which is parallel to the quay line and the other is short line perpendicular to the long line. These two lines intersect each other and form the street network of Katendrecht, just like a grid. This long line is a line of logistics and was created following the flow of logistics in the past industrial era. The short line is surrounded by urban fabric and is formed by urban morpholgy consisting of building blocks.
Because of this characteristic, if visitor walks along the street, the visitor can see not only the changing sequence of building blocks while going through different zones but also spatial transition from narrow to vast space(Appendix).
This is because the end of the line is always connected to water.
In addition, these street characteristics create spatial layering. This creates a layer of overlapping buildings that contrast with the scale differences of the buildings(Appendix).

Conclusion :
The streets here consist of intersections of long and short lines, which produce spatial transitions from narrow to vast and layering of space.

SPACE PLAN

Space Plan

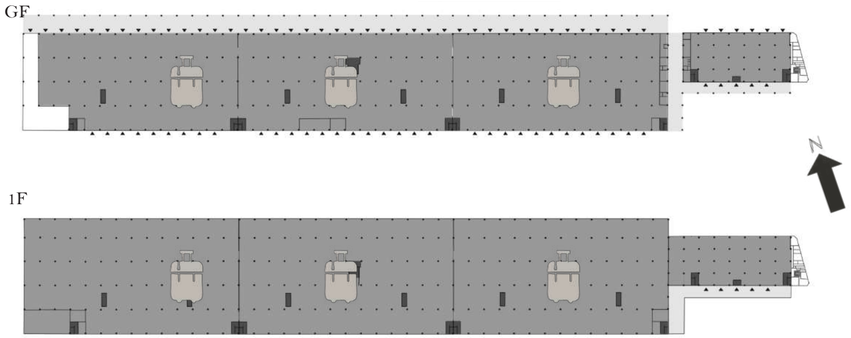
Fenixloods II

The columns dictate the rhythm of the interior spaces

Lenght and repetition are strong characteristics of the building.

The strong repetition of the structure in the space

Space Plan 1922



Floor Plans 1922

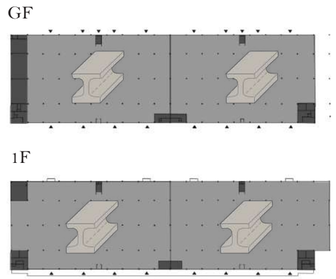
Q: How much was the space? What were the functions ? What were the divisions ? How were the secondary functions organized?

The space plan of the building has changed in all the phases, with changes regarding the size, the function and the interior layout. The original building of the 20's had the biggest area and space compared to all the phases. The space was divided between two floors, with the ground floor of 21,076m2 interior space and 4650m2 exterior covered space, while on the first floor, except from a balcony of 622m2 the rest of the 22,117m2 is part of the interior of the building. The main volume of the building was internally divided in 3 big, open spaces while the smaller volume was separated by an open hall on the ground floor and a wall on the first floor, and was 2 floors higher than the rest of the building. The triangular corner of the small volume was functioning as housing and was 732m2 with an attic space of 183m2. The secondary functions of the building and the vertical movement spaces occupy an insignificant amount of space when compared to the massiveness of the building. Located mainly on the perimeter of the space they facilitate the main storage and docking activities.

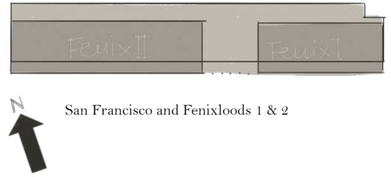
The access to the ground floor was guaranteed by the repetitive openings throughout the whole length of the two facade's, and in combination with the open interior we can only suspect that the principle of smallest route was followed in the logistics of the building, minimizing the energy needed for the goods to travel from the road or rail to the water. Small spaces for the passengers and a passenger staircase were present.

Conclusion: Three similar spaces with small differences that had the same function and would work the same way in combination with a high percentage of open facade.

Space Plan1950

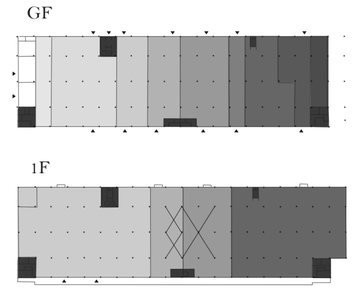


Floor Plans 1950



San Francisco and Fenixloods 1 & 2

Space Plan 2013



Floor Plans 2013

Space Plan 1950

The San Francisco building would be followed by Fenix 1 and 2 after the destructive fires in the late 40's. The two buildings were erected on the two edges of the old main volume and would also function as storage spaces but for a different company. The Fenix 2 is the longest one, with 164 m long facade translating to 15,744m2 over two floors. The space inside the warehouses, quite smaller than before, would be similar to the previous space in many aspects. The open space with the use of concrete columns was repeated and the secondary spaces, as well as vertical movement spaces were situated perimetrically. The interior space inside the Fenix 2 was divided in the middle by a wall but the function remained singular. The openings of the facades were decreased in half, closing up the building to and from the exterior. The storing function is strengthened in the building,while inside the building the movement still remains linear and directed perpendicular to the water and the road.

Conclusion : Big reduction of the size. Division in two spaces. Similar spatial experience of "open" space with less openings on the facades.

Space Plan 2013

The building had a major change in function in 2013, as part of a series of multiple projects in Katendrecht and the city. With minimal intervention, due to "heritage value" but also economic restrictions, the building would start the third phase of its life. A recreational area was generated in and around the building, with multiple public functions taking place in the building. If the mixture of functions would not have been enough to take care for a broader public, the presence of horeca companies in combination with the "car-free" "view on the maas" terrace, made the building inconspicuous in the busy city. The functions ranged from bike shops to creative companies but the biggest change was made in the case of the circus, where a higher space was needed, and was created by removing part of the first floor. The interior of the building was split up in more than 9 different spaces on the ground floor and 4 on the first floor. Many of the openings were closed up and what was left was utilized according to each user's needs, but the direction of the building remained once more the same. The functions would be transported to the Fenix 1 building after it's transformation to residential spaces, and the Fenix 2 would be transformed to house the "landverhuisers" museum among others, reminiscing the past days of the building and the area.

Functions GF : Posse, Fenix Food Factory, Oosterom Interiors, Circus Rotjeknor, Circus Codart, Crooze Fietsen Winkel, Pinball Museum, Crossfit Nultien

Functions 1F : Rentable space (IABR), Circus Codart, Circus Rotjeknor, Fenix Work Space

Conclusion : Multiple divisions on both floors. Multiple functions combined under one roof, with individual openings for each user.

Space Plan

Fenixloods II

Question : How does the rhythm and scale change through the three phases of the building ? How does the spatial experience change through the phases ? How does the volume change?

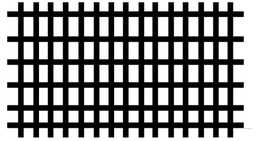
The rhythm and the scale of the building are strongly dominated by the structure. The changes of the structure are reflected to the plan of the building. The follow up of the fire would change the building's experience drastically. The multifunctionality also resulted in big changes in the experience of the building.

The massive spaces of the 1920's

The high space in the 2013 layout.

Rhythm and Scale

1920



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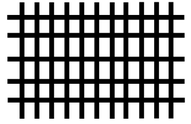
1950



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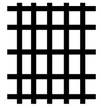
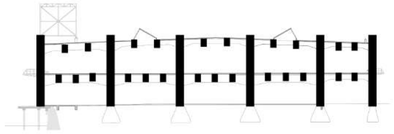
2013

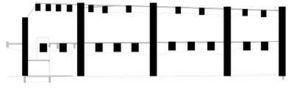


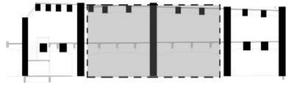
5

1-8

Conclusions : The total amount of space is reduced in the fifties but still a much bigger volume is experienced in the fifties, compared to the 2013 experience. The space gets very linear with the 2013 divisions and the rhythm in the perpendicular direction is only present in the bigger spaces.

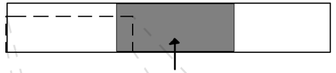


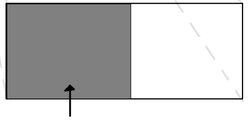


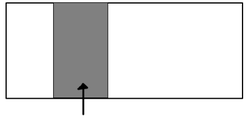


One important spatial change happened in 2013 when a part of the first floor was removed creating for the first time a higher space in the narrative of the building. The experience of that space became completely different than the rest of the building.

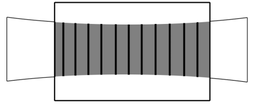
Spatial experience

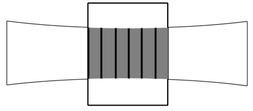






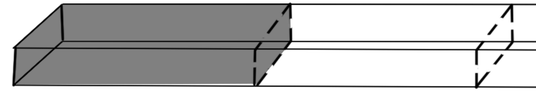
Conclusions : The rhythm changes in the reconstruction with the overall space of the building becoming much smaller. In 2013 the building remains the same in size, but the internal divisions interrupt the experience of the rhythm.

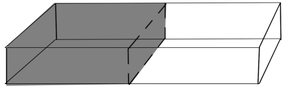


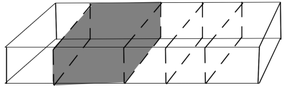


The reduction in space, translates to reduction of the repetitive elements of the structure present in the space. This becomes even more obvious when visiting the bigger spaces on the first floor compared to the spaces in the ground floor.

Volume







The experience of the massive size the building had in its original form is completely lost with the reconstruction. Separating the building in smaller volumes and spaces facilitates the practical use of the building at the cost of the spatial experience.

Space Plan

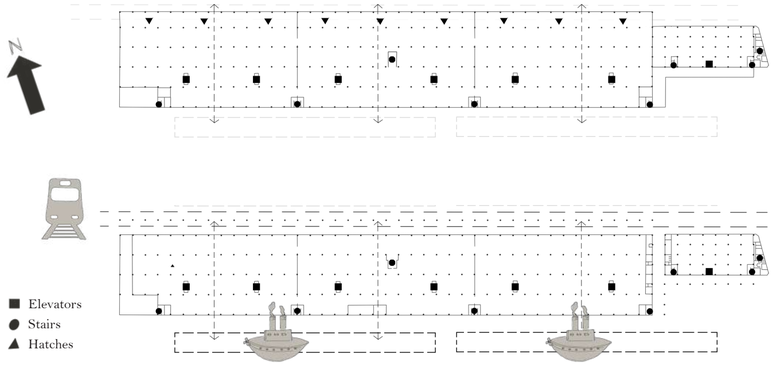
Fenixloods II

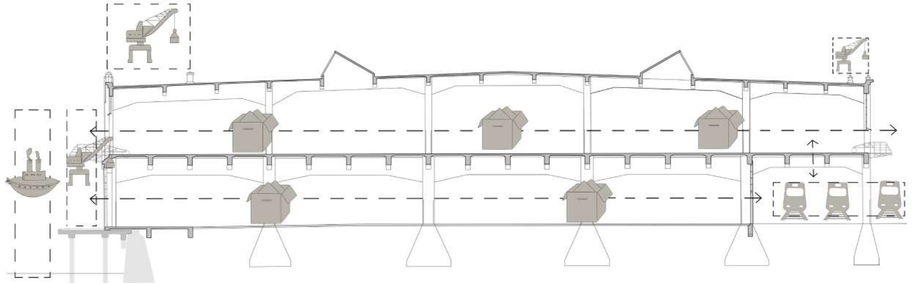
Q: How was the transport through the building organized ? How was the storage of the building organised ?

Circulation 1920

The original plan would function in the direction parallel to the water. More than six elevators and seven staircases would facilitate vertical movement inside the storage spaces. The combination of cranes , floor hatches, bridges and railways would work together to store stuff in the building and transport them through it to the ships. The length of the faade would allow for at least two of the biggest vessels used in that time to be accessed through the building.Lighter and smaller items were much easier to be stored and processed on the first floor, in case the big open spaces on the ground floor were occupied by bigger and heavier items, but this is just an assumption, since there is limited literature in this matter. The repetitive openings of the facade on both floors allow for total flexibility of the use in the interior, allowing and suggesting a linear movement from one side of the building to the other.

Space Plan 1922

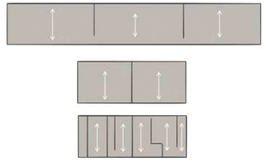




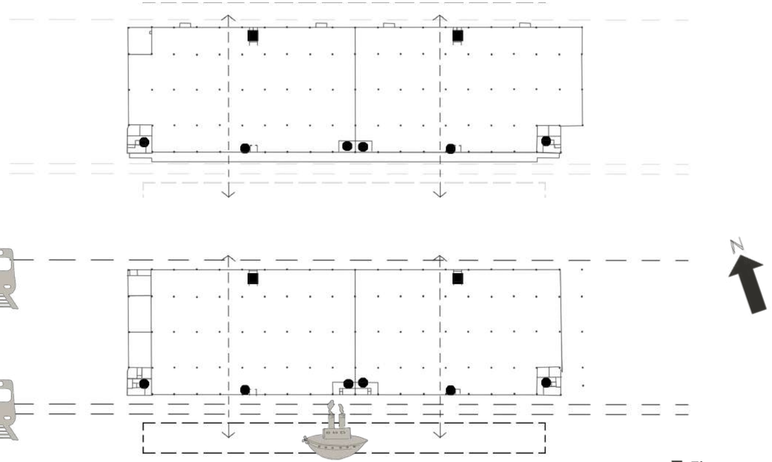
Space Plan1950

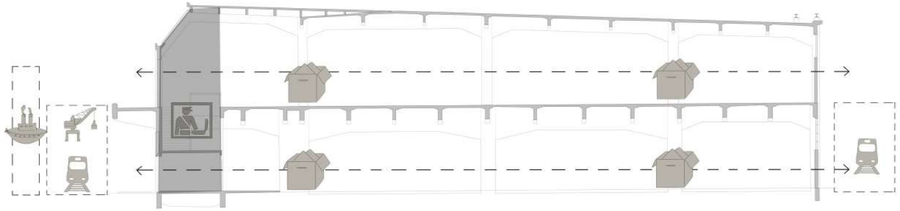
Circulation 1950

The new floor plan would keep the original direction in the movement. Cranes on the side of the quay combined with railways would process the bulk of the products. The building would function as storage and the douane spaces were added.The docking activities were taking place on the quay, since the weight of the products was much bigger.



The movement direction inside the building stays the same





Space Plan

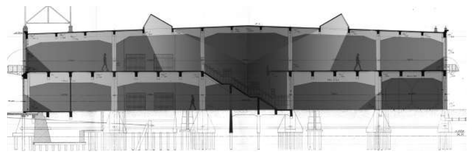
Fenixloods II

Q:What was the effect of the daylight in the space ? How did it change?

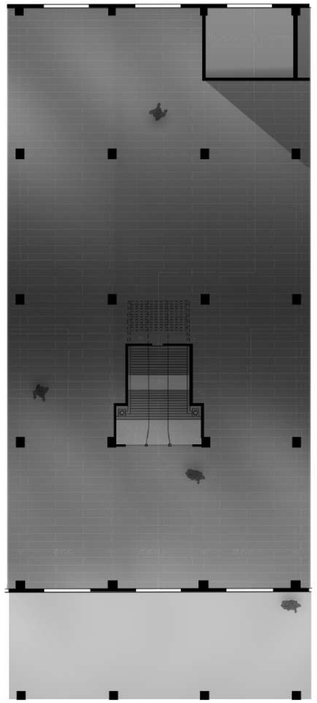
Daylight 1920

On the original floor plan the repetitive openings of the two facades would allow for maximal daylight infiltration. Each grid module had openings on both sides and on both floors. The roof had two rows of roof lights. The width of the building (GF-54,5m, 1F- 65m) would though be much bigger than in the next phase, making daylight infiltration harder.

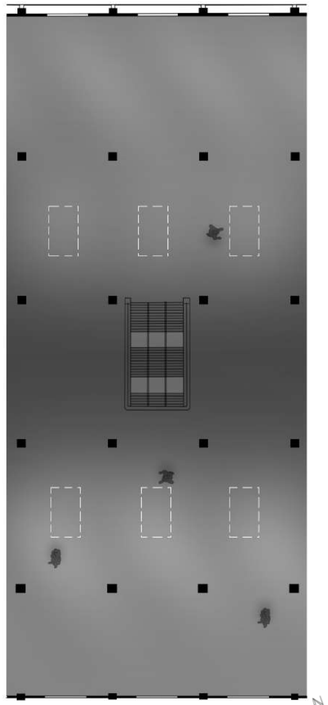
Section with the daylight infiltration



Space Plan 1922



GF



1F

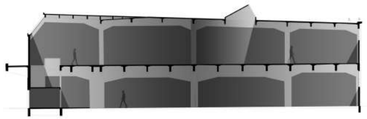
Space Plan1950

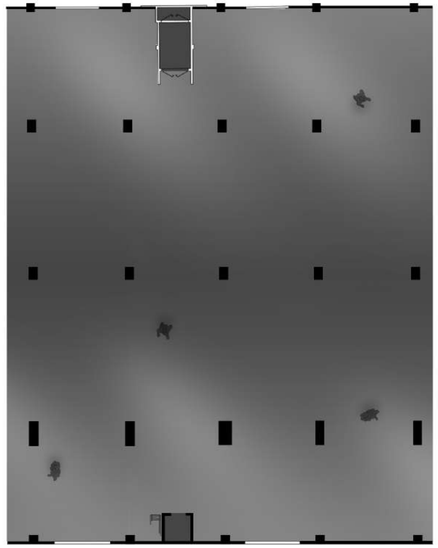
Daylight 1950

The daylight entering the building through the facade changed in the Fenix with the reduction of the opening. Big parts of the facade were closed off, and the roof lights were only one row. The long opening across the top of the first floor facade would make the first floor much better illuminated than the ground floor. The width of the building was much smaller in this phase allowing for much easier infiltration of daylight.

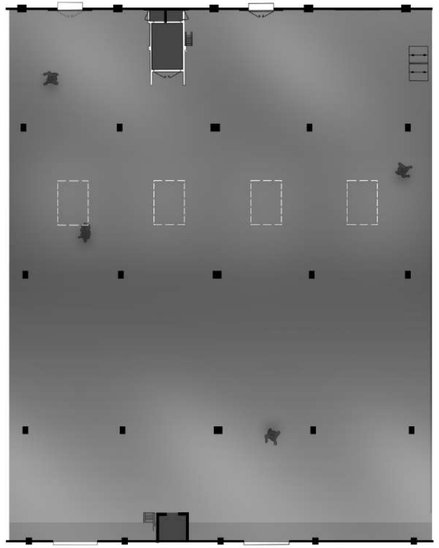
Conclusion : The repetitive daylight of the 20's was reduced with the reduction of the openings and the reduction of the roof lights. The interior divisions during the last phase of the building would even further reduce the daylight infiltration.

Section with the daylight infiltration





GF



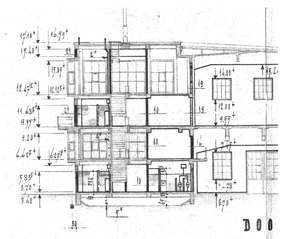
1F

Space Plan

Fenixloods II

Question: Why are the corners of the building different than the rest ? What was their use ?

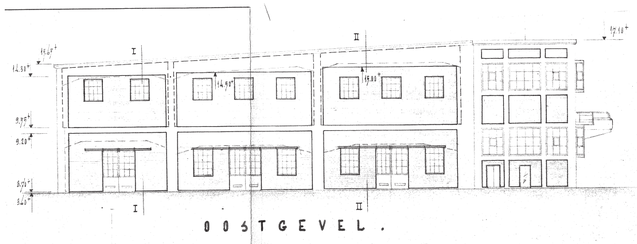
When the fire during the reconstruction separated the building into two, new plans were made for the new buildings. The Fenix 1 and Fenix 2 came in place of the original building with the two buildings retaining some of the most distinct elements from the composition of the original building. A major change were the corners of both buildings on the side of the quay that both internally but also externally were very different than the rest of the building. The space created between the two buildings is marked on one side by these corners, forming an outside space, marked by the expression and the style used on the facing facades during the 50's. Both the small plain and the corners of the two buildings are present in 2013 and they remained intact even after the transformation of Fenix I.



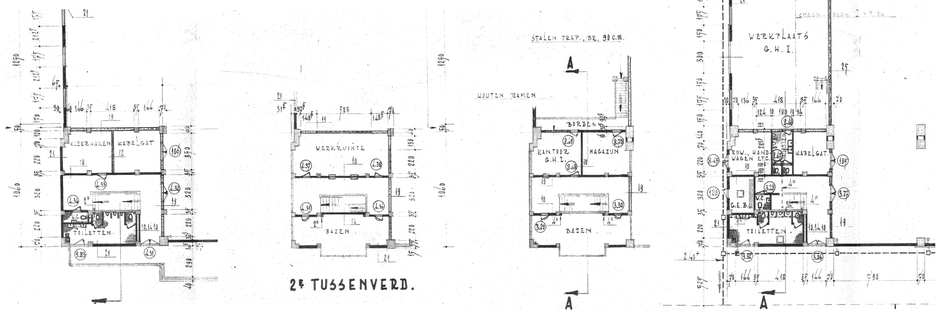
Section and floor plans

The different levels introduced in the 50's with the boss offices present at the corners

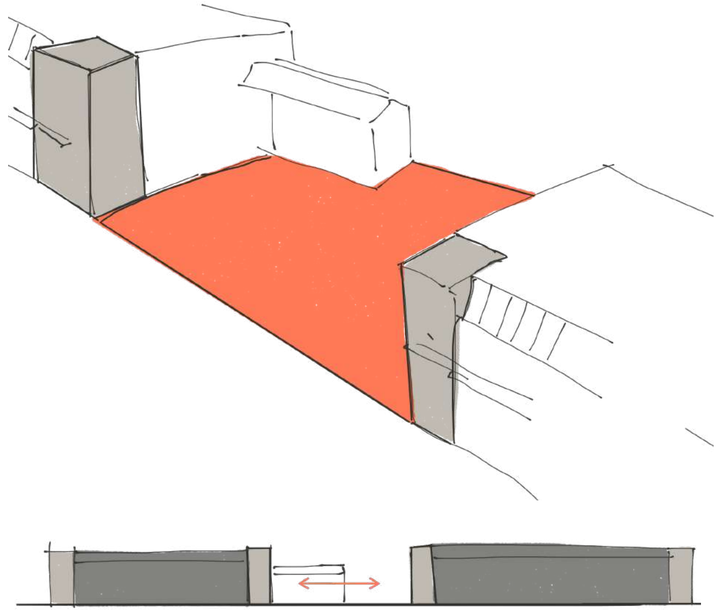
Corners 1950



The design of the in between facades with the different corners.

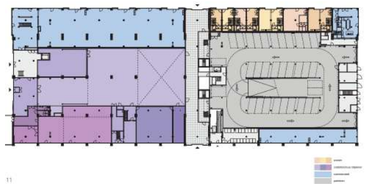


Fenix "plein"



The corners of the two buildings and the exterior space they frame.

Fenix I & II



In the transformation of the Fenix I, the corners were kept.

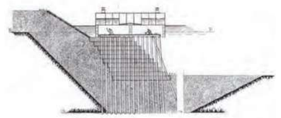
Conclusion : The two corners on Fenix I and Fenix II are part of the facade composition dating back in the 50's. They have a more expressive articulation with more openings externally and more levels internally. These elements connect the buildings with each other framing the edge of the public space created in between them.

STRUCTURE

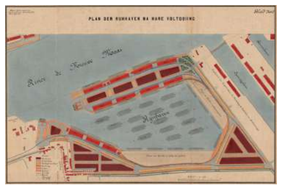
Structure / Foundation

Fenixloods II

Picture F.6 Duikerklok



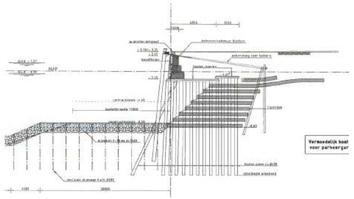
Picture F.7 Section Duikerklok in work

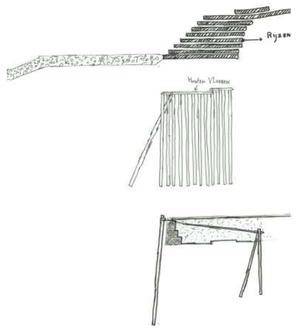


Picture F.8 Plan for the Rijnhaven after completion, 1888

Quay 1901

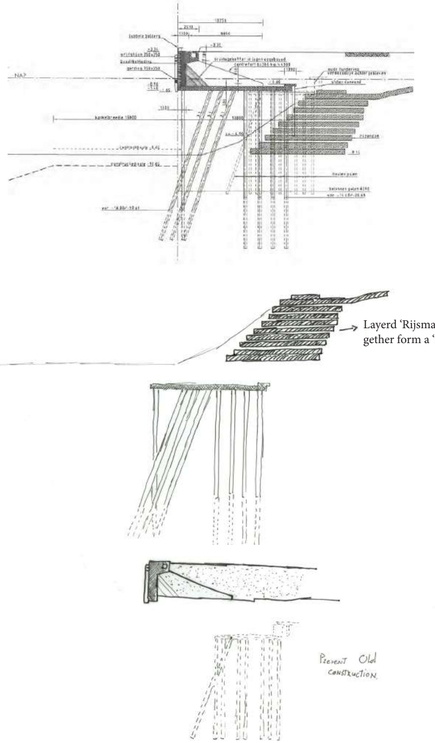
Picture F.9

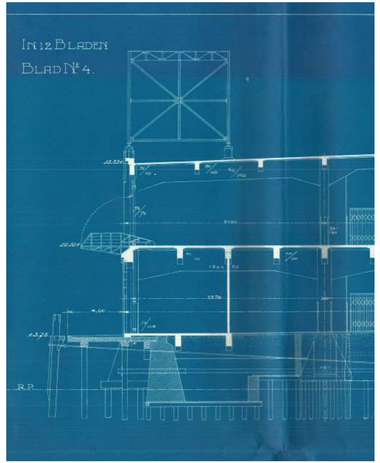




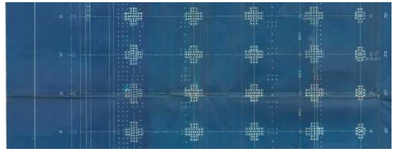
Quay 1947-1948

Picture F.10

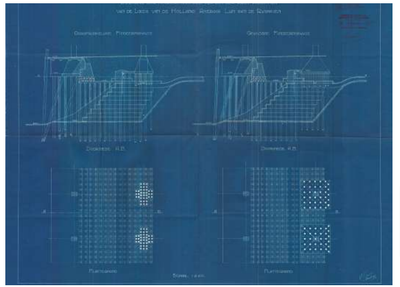




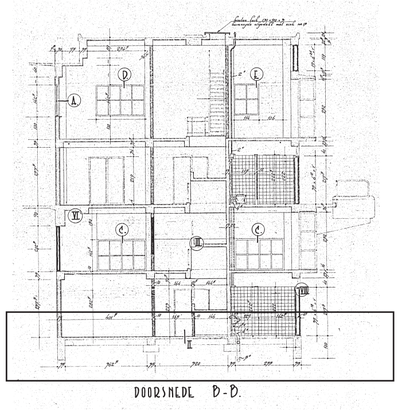
Picture F.11 Section - Drawing archive October 1916



Picture F.12 Foundation 1 - Drawing archive April 1916



Picture F.13 Foundation 2 - Drawing archive April 1917



Picture F.14 Information on foundation 1950

The first question about the structure deals with the foundation/quay of the San Fransisco / Fenix warehouse. When analyzing the drawings from 1922 the first thing noticed was the missing of a foundation on the quay side of the building (grid line F). The first questions were – Why is there no 'new' foundation part drawn on this side / what is the foundation now?

To answer this an analyses of the quay of Rotterdam was necessary to understand what is underground. In "Cultuurhistorische verkenning Rijnhaven" the process of the Rijnhaven is treated from when the excavation of the harbor started to the building of the quay. The quay was build in 1901, and later rebuild in 1947-1948, 2 years before the Fenix II was realized (van Winsen, van Velzen, Franse, Waaijer, & Flexus, 2018).

Building a Quay in 1901 existed out of a couple of steps, shown in the sketch 'Quay 1901'. Firstly the harbor dredged and the bottem was covered with "Rijzenmatten" which together formed a "Rijzendam". These were layers of woven twigs which where covered with dredged clay and peat. These "Rijzendammen" functioned as a reinforcement for the soil. The second step was the driving of wooden piles into the reinforced soil. After the wooden piles were in place, divers working in a 'Duikerklok' would place a wooden floor on top of the pile. This machine made it possible by air pressure for workers to work underneath the water. The final step was to build the quay (van Winsen et al, 2018).

The quay, as it was built in 1901, is visible in the section drawing of October 1916. What is different is the expansion of the quay to the left. What is visible in this section drawing is that the waterside of the building is placed on top of the old quay construction. The Foundation 'poer' what can be seen in the background is possibly from the wooden buildings that stood there before the San Fransisco building.

After WWII the biggest part of the Rijnhaven was reconstructed, under which the quay of the Fenix II. This new quay was built according to the quay drawing of 1947-1948. The old wooden piles are probably still underneath the new quay. The reconstruction was made out of concrete piles and a concrete floor/quay (van Winsen et al, 2018). As drawings from 1950 don't show a section of the quay, it is hard to say wat kind of quay construction is present at this moment. It is also hard to make an assumption for the foundation of the reconstruction in 1950. For the grid lines -A-B-C-D- it is stated in the 'specifications and conditions' from 1950 that the old concrete foundation is used (Gemeente Rotterdam, 1949). But in 1950 a column on gridline D was added and the new façade wasn't situated on an old gridline. The only information that there is on this new foundation is shown in the drawing of 1950. Also, the pictures shown from 1922 of the foundation (on the next page) don't match the drawings of the foundation.

Conclusion

In the situation of 1922, there was no newly added foundation on the waterside, because the new construction was put on top of the quay construction. How the foundation is at this moment is hard to say for the entire foundation. The biggest part of the foundation is reused, but for the foundation on the quay side an assumption is made. This assumption is shown in sections that follow.

Structure

Fenixloods II

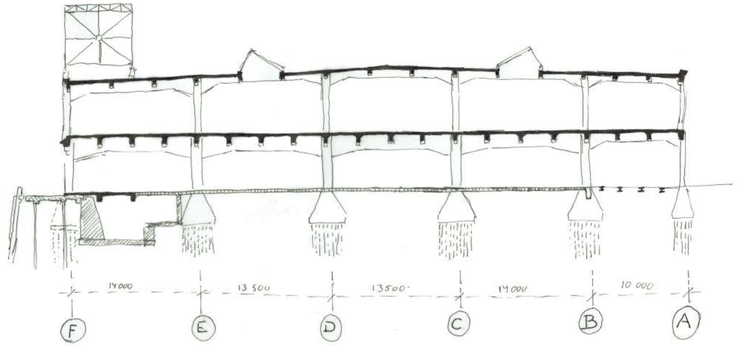
Picture F.15 The Foundation

Picture F.16 The Foundation

Picture F.17 Ground Floor

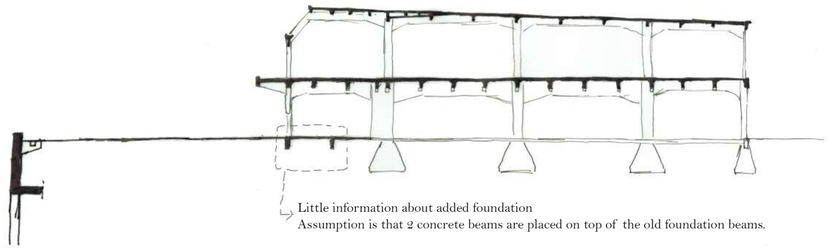
Structure 1922

Picture F.18

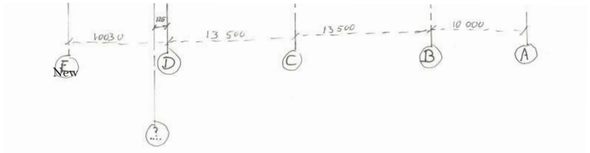


Structure 1922

Picture F.19

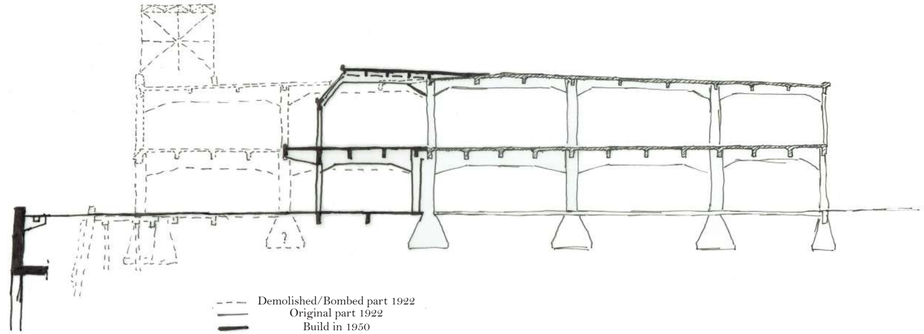


Little information about added foundation
Assumption is that 2 concrete beams are placed on top of the old foundation beams.



Structure 1922-1950

Picture F.20



For the construction of the San Francisco Warehouse and the Fenix II warehouse the main question was, what changed over time? In what way is the construction of 1922 still present in the building now a days, and what changes were made in the reconstruction in 1950? Also what material is the construction made of?

To start with the last question, the construction is almost entirely made out of reinforced concrete casted in situation. In 1922 there were cranes on top of the building. These cranes, and the tracks they moved on, were made out of steel. This steel construction was placed on top of the concrete construction. This part was then placed on partly the existing construction of the Quay, as shown in the drawing 'Structure 1922'. According to the tender of the municipality of Rotterdam in 1949, the steel tracks needed to be well kept. Where these steel tracks are now is unknown.

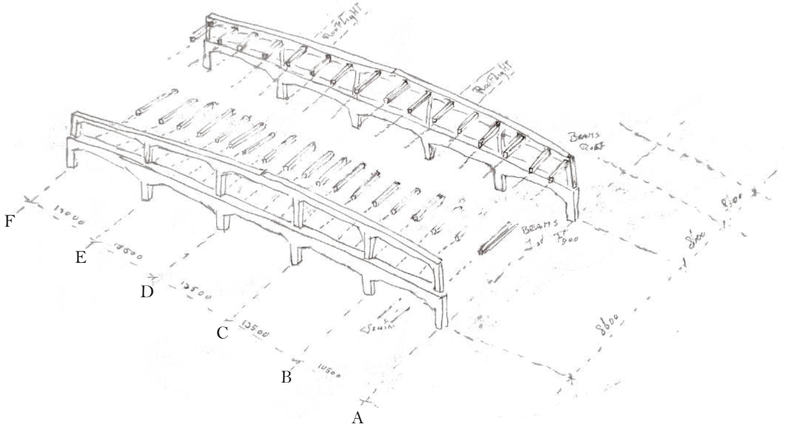
In 1950, after the bombardment and a fire, the Fenix warehouse was constructed. The two gridlines on the water side (F-E) where destroyed along with the quay. The municipality wrote a tender in which they stated: "The making of a reinforced concrete construction and skelet, on the existing foundation, with the additional tasks. This to rebuild the concrete warehouse "San Francisco" at the Rijnhaven (Rotterdam-Katendrecht." (Gemeente Rotterdam, 1949). The new building wasn't exactly a remake of the old San Francisco. The reason for this new layout can possibly be because of the new crane types that were placed allong the quay. These cranes are shown in the 'Service' Chapter. On the waterside a new gridline was made and a new column row was added just along the D gridline. This new construction was made in a similar why as the construction from 1922. It was made of reinforced concrete casted in situation. The new to made roof was made of "Bimsbetonkassettenplaten" which partly was placed on top of the existing roof. As shown in the drawing 'Structure 1922-1950' approximately 65% of the construction of the current building is original from the construction of 1922. The darkest lines are added in 1950. On the next two pages the two different main constructions are shown 3D. Also the way this construction deals with the stabilisation is showed on the next 2 pages.

Conclusion

This building has an entire construction made out of reinforced concrete casted in situation. The steel part of 1922 should be kept somewhere, but where is unknown. The foundation of the new gridline is drawn as a concrete beam in the drawings of 1950. From these drawings of 1950 no new 'poer' is shown.

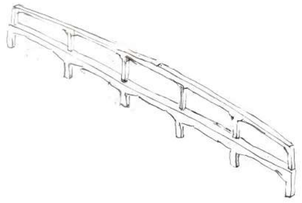
The construction of 1922 is still present in the current building. The way of producing the construction is the same in 1922 as in 1950, and also the atmosphere these concrete beams and columns provide is stayed the same.

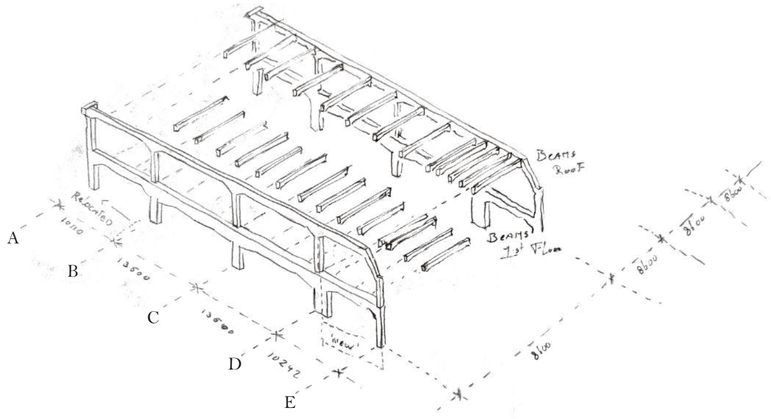
The stabilisation is dealed with by the concrete construction. The beams are connected to the collumns with a moment-fixed connection.



Basic Construction 1922

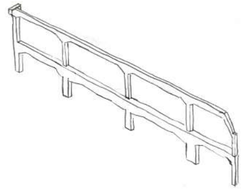
Picture F.21





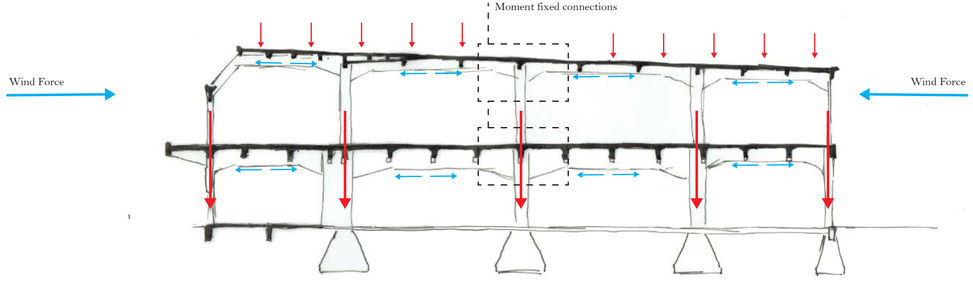
Basic Construction 1950

Picture F.22



Forces 1950

Picture F.23

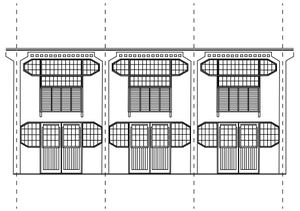


SKIN & SURFACES

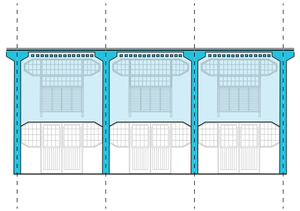
Facades changes during its lifespan

Fenixloods II

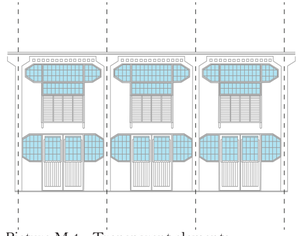
picture M.1 - Facade 1920 streetside



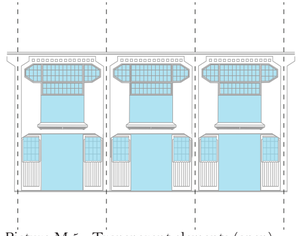
Picture M.2: Grid/repetition of the facade



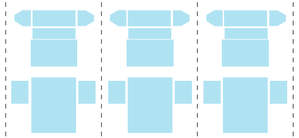
Picture M.3 - Different layers/ ornaments



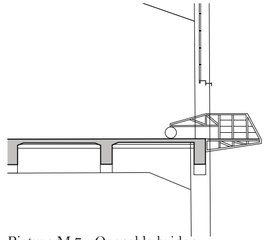
Picture M.4 - Transparent elements



Picture M.5 - Transparent elements (open)

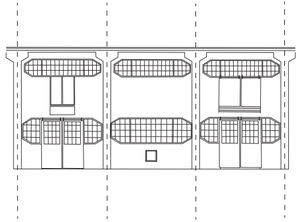


Picture M.6 - Rithmical elements

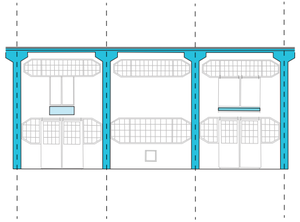


Picture M.7 - Openable bridge

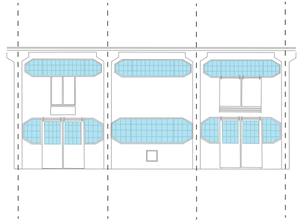
Picture M.8 - Facade 1950 streetside



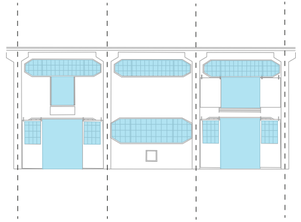
Picture M.9 - grid/repetition of the facade



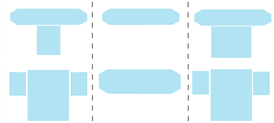
Picture M.10 - Different layers/ ornaments



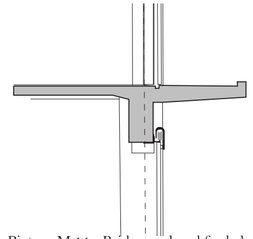
Picture M.11 - Transparent elements



Picture M.12 - Transparent elements (open)

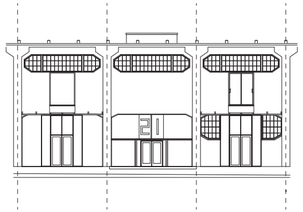


Picture M.13 - Rithmical elements

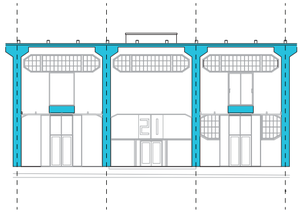


Picture M.14 - Bridge replaced for balconies

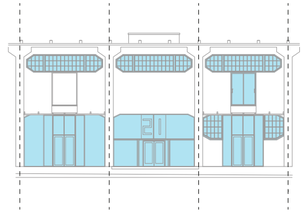
Picture M.15 - Facade 2013 streetside



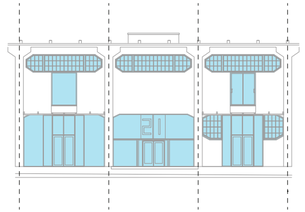
Picture M.16 - Grid/repetition of the facade



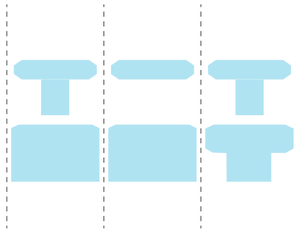
Picture M.17 - Different layers/ ornaments



Picture m.18- transparent elements



Picture M.19- transparent elements (open)



Picture M.20 - rithmical elements

Questioning

The questions strived to be answered are as following:
- What are the changes occuring in the appareance of facades of the Fenix wharehouse during its lifespan?

Before answer this question several aspects are been discussed.
Firstly, the appereance is focused upon the architectural expression of the facades, as the use of materials will be discussed later in this report.
Secondly, facades is divided in the streetside and the quayside, as these are the two most prominent facaces.

Thirdly, as the wharehouse also changed in length due to the fire will not be taken into account in thaarchitectural expression. Because the fire is already discussed within this report and because the this change has little influence on the scale in which this research is done.

And lastly, within the lifespan of the building three major changes are identified. The initial building, which was build from 1916 till 1922 (later referred as 1920). The renovation that happened from 1949 till 1951 (later referred as 1950) and the last changes in 2013 when the food factory came into the building.

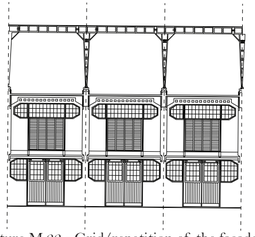
Conclusions

The important conclusions from the facade from 1920 is that the ground floor is one gridline backwards compared to the first floor, the horizontal elements, which are the concrete coloms, the square ornaments above the windows and the notch which the colom makes at the end. Secondly, the changable facade, which the bridge and the openable doors, giving an dynamic facade. Thirdly, the form language; which has this distinguished T-figure that comes back in every gridline.
In 1950 the facade changed as the facade on the ground floor was lined up with the one on the first floor. Secondly the Cement Cristal Granite is applied on the facade, hereby the ornaments disappear and the vertical coloms are accentuated. Also, the distingueshed T-figure changes to a T-T figure. And this dynamic Facade changes more towards a static facade as the bridges are taken away and changed for few balconies and pads,however the facade still has the caracter of the elements which are openable in the facade.
In 2013 the facade undergoes a more organic change, as the facade changes not in total but only where activities are settled. Where openable elements are changed towards glass doors and even the facade elements which are placed in 1950 are changed for glass facade elements. However, lot off elements from 1950 and 1920 are kept, such as the doors and windowframes. This will be discussed later in this report.

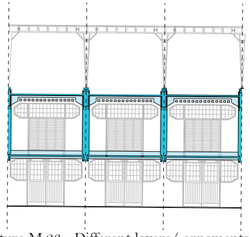
Facades changes during its lifespan

Fenixloods II

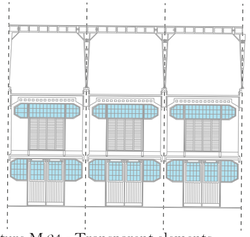
Picture M.21- Facade 1920 quayside



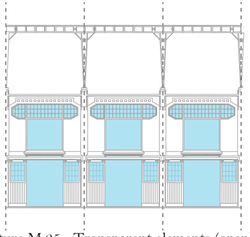
Picture M.22 - Grid/repetition of the facade



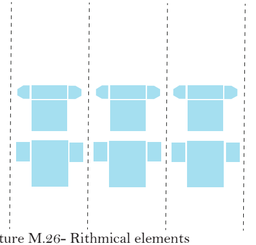
Picture M.23 - Different layers/ ornaments



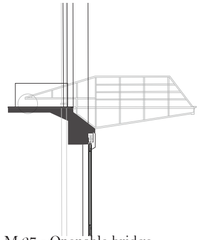
Picture M.24 - Transparent elements



Picture M.25 - Transparent elements (open)



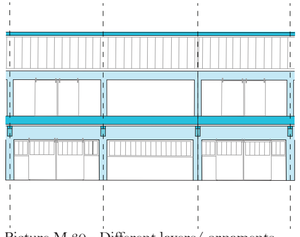
Picture M.26- Rithmical elements



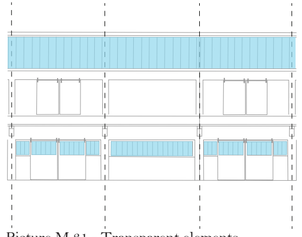
picture M.27 - Openable bridge

Picture M.28 - Facade 1950 quayside

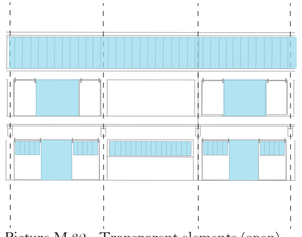
Picture M.29 - Grid/repetition of the facade



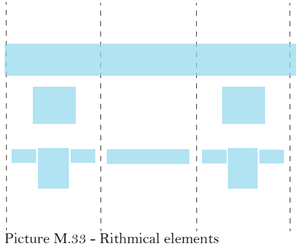
Picture M.30 - Different layers/ ornaments



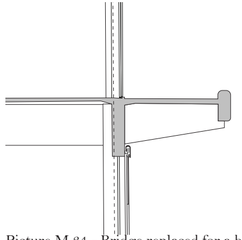
Picture M.31 - Transparent elements



Picture M.32 - Transparent elements (open)



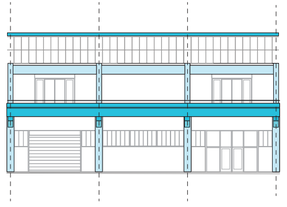
Picture M.33 - Rithmical elements



Picture M.34 - Bridge replaced for a balcony

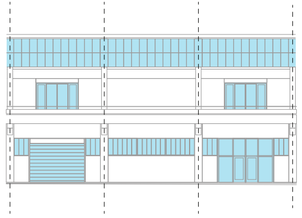
Picture M.35 - Facade 2013 quayside

Picture M.36 - Grid/repetition of the facade

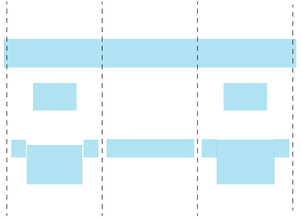


Picture M.37 - Different layers/ ornaments

Picture M.38 - Transparent elements



Picture M.39 - Transparent elements (open)



Picture M.40 - Rithmical elements

Conclusions

The architectural expressional has similar elements as the facade from the streetside; the square ornaments, the framework around the ornaments and the vertical elements, however these vertical elements are different, as they begin on the first floor. As for the openable elements, it is also very similar. Ony the brigde part, is longer, making the architectural expression a little bit different as the bridge reaches higher and the coloms reaches higher due to the support for the crane. The dynamics and the form language of the facade is the same as the streetside.

The facade had to be rebuild in 1950 because it was completely demolished during the war. Therefore the form language has changed and a band window and bricks has been introduced. The distinguised T shape has changed towards the more slick T-T form and the dynamic facade has changed to a more static one, as one big balcony was introduced. Also the width of the quay has been substancely increased. This causes for a new working method as the cranes are situated on the quay instead of the building. It makes it possible to store the goods on the quay and the balcony instead of directly putting it in the building.

In 2013 the facade did not change as much as the front facade, the biggest aspect changed are the glass doors on the first floor, making the dynamic, changeable facade even less changeable.However, it was already not as visible due to the fact it partly hidden behind the balcony.

Materialisation

1922

Questioning
What materials are used within the building

Fenixloods II

Roof lights

Electrical cable trought contrete beams made by dovetailed bobbins

Miskleurig hardgrauw

Wooden (probably) boss office

Concrete coloms with a dark paint finishing up to

concrete floor with a finishing of creosoted pinewood layed in asphalt

Picture A: First Floor 1920
picture is taken on the first floor at the westside of the building, looking in the length of the building towards a seperation wall. On top are the rooflights and on the rightside is street situated with the smaller bridges. (seen in the picture M.40)

Cast-in-place concrete

Wooden (probably) boss office

Hole for unloading the train

Hole for the bridges

Steel profile for protection

Picture B: First Floor 1920
Picture is taken on the first floor next to the wall somewhere in the centre of the building. The streetside is to the left. Looking diagonal into the building. (seen in the picture M.40)

Cast-in-place concrete

steel sliding doors

wooden floor (5 mm thick, 5 m long planks) laid on sand

Picture C: Ground Floor 1920
picture is taken on the ground floor in the middle part of the building, looking in the west direction towards the passangerstairs and on the leftside is street situated. (seen in the picture M.41).

Cast-in-place concrete

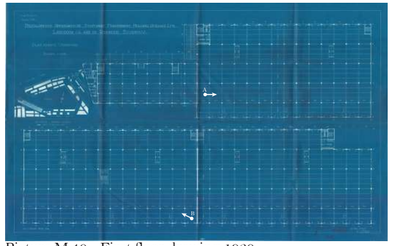
Electrical cable trought contrete beams made by dovetailed bobbins

passanger stairs with spruce doors

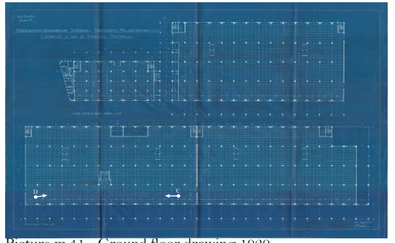
elevators

wooden floor (5 mm thick, 5 m long planks) laid on sand

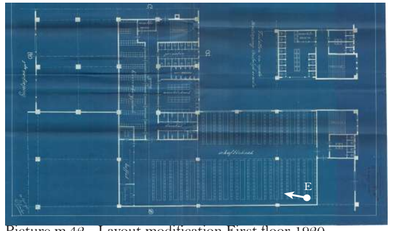
Picture D: Ground Floor 1920
Picture is taken on the ground floor in the centre of the building, the street is situated on the rightside. Looking diagonal into the building. (seen in the picture M.41).



Picture M.40 - First floor drawing 1920



Picture m.41 - Ground floor drawing 1920



Picture m.42 - Layout modification First floor 1920

Questioning
What materials are used within the building

1922

curtain walls

Abrasive grout

Hard baked tiles

White american pinewood tables

(probably) finishing of creosoted pinewood layed in asphalt.

Picture E: canteen on the First floor 1920 (archive Rotterdam)
Picture is taken on the first floor in the canteen which is situated on the westside of the wharehouse. The street is situated on the leftside. Looking diagonal into the canteen. (seen in the picture of layout modification of the first floor).

Picture F.30 - Windows

Picture F.31 - Fenestra Booklet

Picture F.32 - Fenestra

The windows from 1922 originally exists out of a Fenestra system. This system was made because, in this time, large glass surfaces were hard to make. Therefore, this system provided smaller windowframes inside a larger windowframe. As seen in picture F.30, replaces windows still use the vormlanguage of the old Fenestra system (Detroit Steel Products Company, 1925).

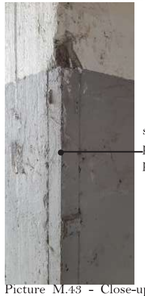
Conclusions

The main materials used in the building are cast-in-place concrete, metal, pinewood, pinewood laid in asphalt and for the other spaces such as the canteen, the toilets, section room have more details such like hard baked tiles. In specification of the materials is discribed that hard baked tiles are also used for the floor, however this is not visible in the picture above. The windows exists out of a Fenestra system.

Materialisation

Fenixloods II

1950



Picture M.43 - Close-up colom

Picture M. 44 - Close-up of colom of the transition from new and old.

Picture M.45 - Close-up of colom at the corner.

Picture M.46 - Facade streetside

Picture M.47 - Facade waterside

Picture M.48 - First floor

Conclusions

The Materials used during the renovation of 1950 are inline with the materials of the materials used in 1920; The cast-in-place concrete and the reuse of the doors and windowframes. However, bricks and bimsbeton cassette are introduced in the construction and the Crystal Cement Granite is added as glattering. Also the floor on the ground floor is taken out. However, the hard baked tiles where distroyed in during the war hereby these are not found anymore in the materialisation.

2013

Picture M.49 - Windowframe from inside of the building

Conclusions

In 2013 several materials and elements are added to fit towards the functions which came into the building, such as the food factory. New window and door frames where added on a professional and provisional way as seen above. Also a lot off elements from 1920 and 1950 which does not have any functional use are kept.

Picture M.50 - Close-up of the facade on the quayside

Picture M.51 - Close-up oof a facade on the Streetside, (M. Bos, 2020)

Damage

Fenixloods II

Damage on steel and brick

Damage on concrete - rebars`

Moist spot - Damage on rebars

Veerlaan Facade fragment 14 - 16

Question : What are the main damages on the facades ? What are possible solutions ?

The main materials that are found in the facades of the Fenix 2 are concrete, brick, plaster and steel. These materials are mainly from the 20's and the 50's with few additions that happened later on when parts of the facade were closed up, or elements that had a functional importance for the building were replaced, like glass or doors and frames. The use of the building also has left its marks on the facades. By analysing the damage on the facade the main damages can be teamed up for a systematic approach to solutions.

1.Damage on the concrete- Exposure of rebar

The parts of the structure that form the frames on the facade are damaged, exposing the rebars to exterior conditions. This could lead to damage of the rebars and compromise their function. Solutions for decreasing further rusting of the rebar are not cheap or easy to apply.

2.Mechanical damage

Around the frames of the windows and the doors there are multiple places of the facade that have been damaged. Forces related to the frames are the most possible cause since the damage becomes more, the more the connection points. Repairing this type of damage is not only esthetical but also reduces the energy loss in the interface of the materials.

3.Cracks

There are multiple cracks across the facade with the ones spreading horizontally across the plastered parts being less dangerous than the ones extending vertically on the concrete structure parts. Before intervention to cracks, the possible cause should be identified so that the right action for balancing the forces can be calculated.

4.Surface changes - Staining

The facade is in a very big part damaged by rust leaking of the metallic frames. Rust caused by exposure to the elements stains the facade in a stalactite shape on the bottom of the frames. This type of damage has no effect on the properties of the material but has a very big effect on the overall appearance of the building. Removing these stains is possible but should be accompanied by maintenance on the frames so further leaking of rust can be avoided.

Veerlaan Facade fragment 4 - 7

5.Roof damage

The part of the roof that hangs above the facade is also damaged. That part of the roof is also connected to the remains of the rails from the cranes. Restoring these parts can be easily achieved but with consideration for the rails.

6.Surface alterations

These are damages of different nature and are mainly either mechanical with portion of the original material gone either surface changes where only the top layer is affected somehow. This type of damage is mainly related to the age and the use of the building and is easy to repair due to its superficial nature. This thought should always be done considering the effects an intervention can have on the aesthetics but also on the properties of the material.

7.Moist spots - Biological growth

On the facade and the balcony on the side of the river there are moist spots and biological growth, mainly on the concrete. This could be the result of the higher water moisture on that side but possible leakages from the rain drainage can not be excluded. Cleaning elements with minimal loss of material should be considered where the cause of the problem could be fixed.

Conclusions : For future interventions on the building the following should be considered :

- effect of the damage on the technical condition of the building

- goals and costs

- cause and extent of the problem

- the architectural effect of the damage on the building

- the position of the element in the narrative of the building

- results and side-effects of the intervention

- unique approach to each damage

Moist spots and biologic growth

Rust staining on concrete

Technical Elements

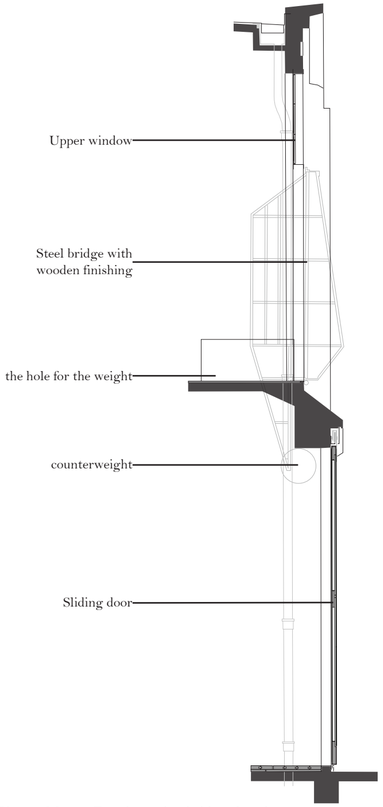
Fenixloods II

Picture M.*52* - The bridges quayside
In this picture it is visible how the bidge works (open)

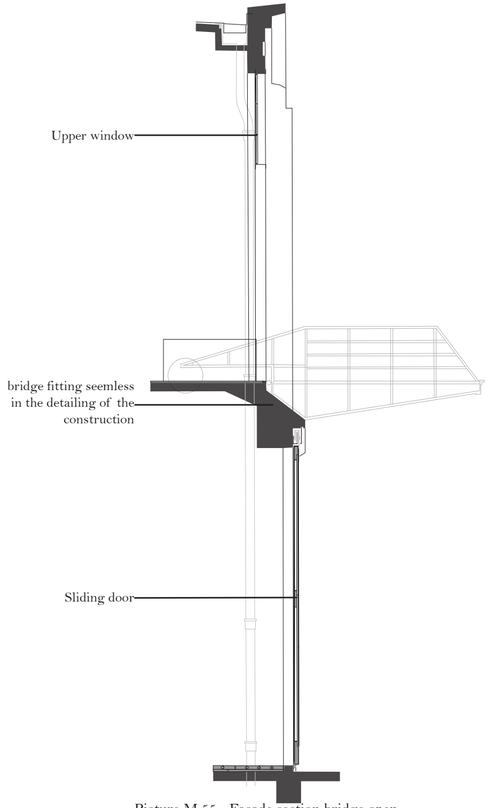
Picture M.*53* - The bridge quayside closed
it is visible that cranes move along the quay when the bridges are closed.

Questioning
Where there any kind of technical elements added into the design of the facade?

Conclusion
Because the quay is very short, a solution had to be designed to be able to load the cargo on the first floor, without taken to much space as the cranes needed to be able to maneuver along the quay, seen in the second picture above. To pull up the bridge a clever design was made with an counter weight which when through the floor and fitted just below the construction of the ground floor.



Picture M. *54* - Facade section bridge closed



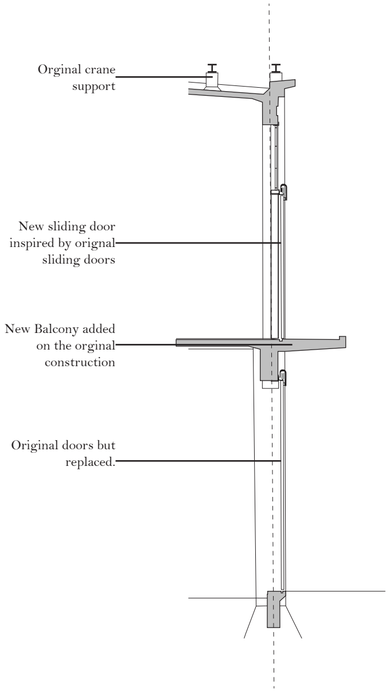
Picture M.*55* - Facade section bridge open

Picture M.*56* - Balcony waterside
how the balcony is situated according tot he quay

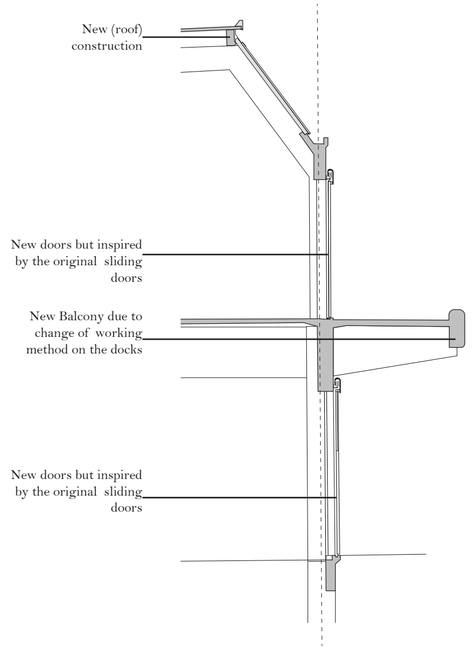
Picture M. *57* - balconies streetside
Balconies on the streetside

Questioning
Where there any kind of technical elements added into the design of the facade?

Conclusion
In 1950 they changed the retractable bridges for fixed balconies. Also the amount of cantilevers has significanlty been diminished. However, on the qauy side the bridges where replaced by one long balcony, giving more space for storage but on the streetside, the amount of cantilevered space has dropped significantly by these small balconies, this was due to the organisational aspect of the building. Where the train does not go through building but goes in front and behind the building.
The balconies where added on the existing construction, this will be elaborated on later in report.

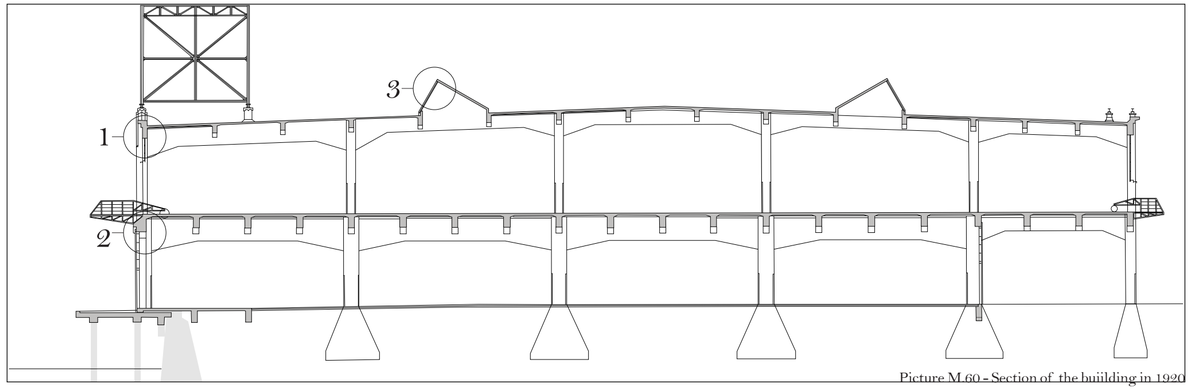


Picture M. *58* - Section Streetside

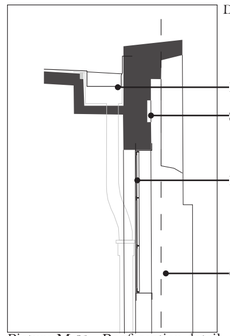


Picture M. *59* 0- Section waterside

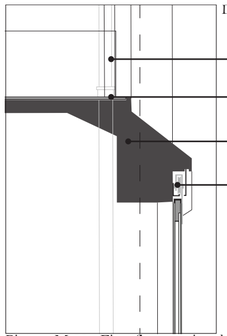
1922



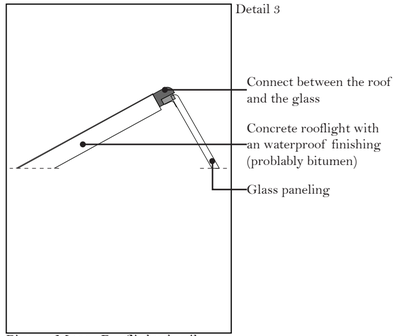
Picture M.60 - Section of the buiilding in 1920



Picture M.61 - Roof section detail

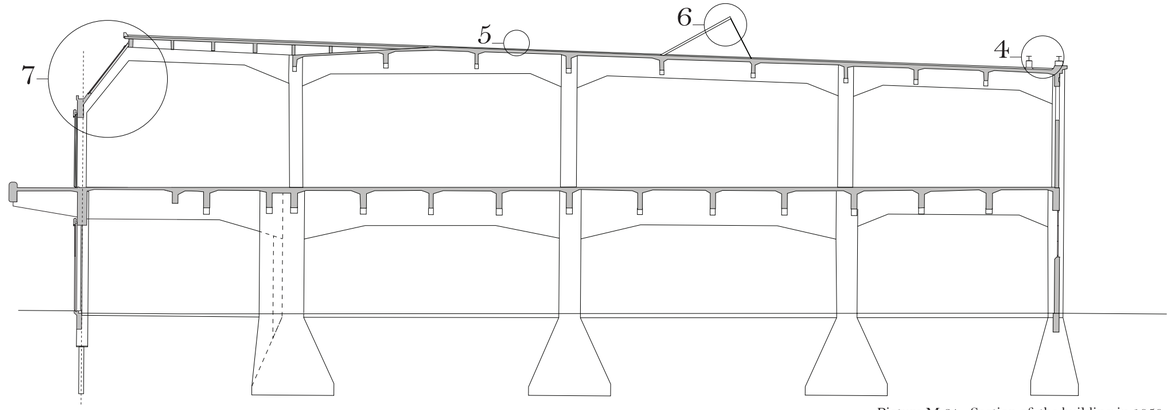


Picture M.62 - First floor section detail

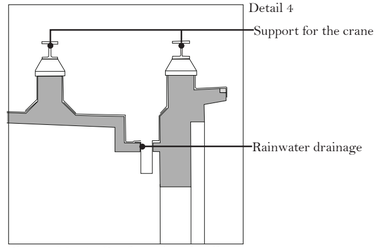


Picture M.63 - Rooflight detail

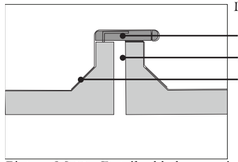
1950



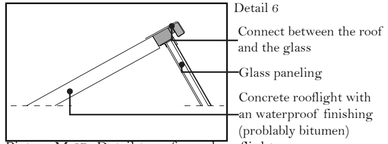
Picture M.64 - Section of the building in 1950



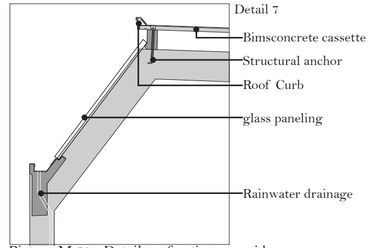
Picture M.65 - Roof section detail



Picture M.66 - Detail added expension joint



Picture M.67- Detail transformed rooflight



Picture M.68 - Detail roofsection quayside

SERVICES

Services

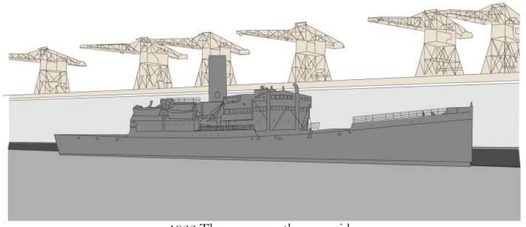
Fenixloods II

1950's the building on the road side

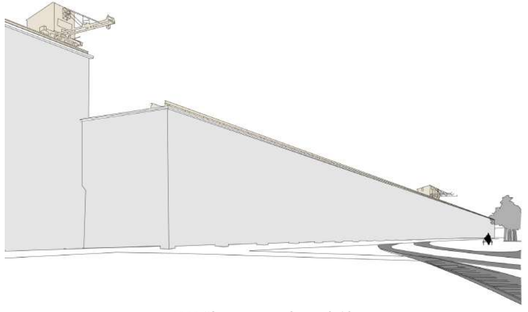
1950's the aluminium products

1922 the landverhuizers to America

1922



1922 The cranes on the quay side



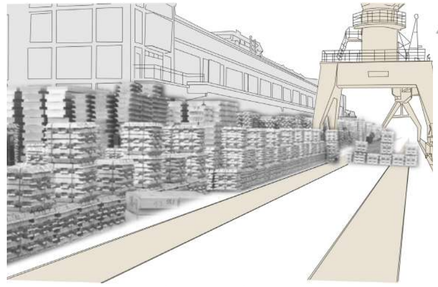
1922 The cranes on the road side

1922 the landverhuizers to America

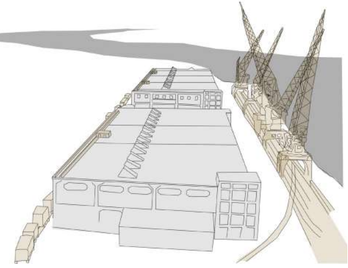
Cranes

In the San Fransisco building the "landverhuizers" would store their belongings, which were later transported as well. The building had a connection to the water with the use of 8 cranes which were loading the ships in combination with the cranes the ships were caring at that time. The cranes were placed on the roof of the building and would use electricity to lift the b longings from the building. The other side had also 3 cranes, most probably electrical and were used to lift the items from the wagons or the street. There is a big difference in the amount of cranes on the two sides of the building, showing the difference of intensity in the process. The ships had to be loaded much quicker and often multiple at a time. On the road side the belongings of the travelers were stored in a much slower pace.
Today there is a part of the rails on the road side that survives on the roof of the building.

1950



1950 the cranes on the quay side

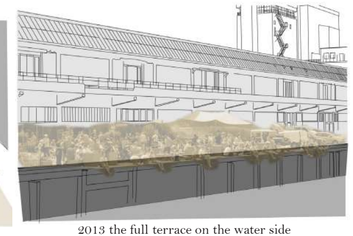


1950 the two buildings functioning as a machine

Cranes

Rotterdam is the head-office of the C. Steinweg organisation ever since the company was founded in December 1847 as a shipping agent. Handelsveem B.V. was created in 1895 by C. Steinweg, which resulted in C. Steinweg - Handelsveem B.V. Handelsveem was set-up to offer warehousing services which subsequently expanded into stevedoring and other logistical services. The activities that the building housed in the 1950's, were among others the storage and transport of metal and soft elements for the company. More than 5 cranes were used for the transport of these elements. Modern cranes, that could move on rails, in combination with multiple rail systems, on both sides of the building, would render both buildings into a modern machine. The new cranes are too big to fit on top of the buildings, but they still had smaller ones on the road side to lift the incoming items.

2013



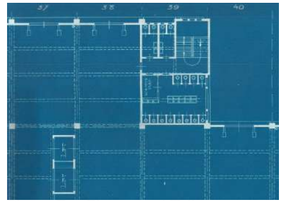
2013 the full terrace on the water side

Cranes

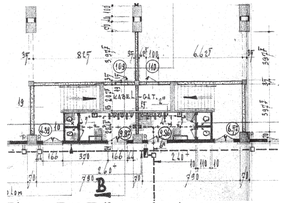
The new functions of the building had compeltely different requirements than the previous phases. The cranes were removed, since their use became obsolete for the building.

Services

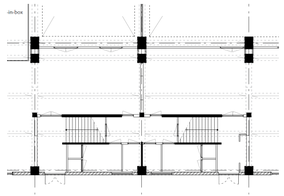
Fenixloods II



Picture F.24 Elevator and Toilets 1922



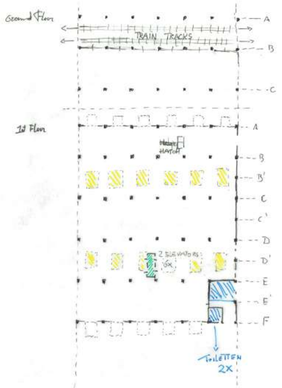
Picture F.25 Toilets and stairs 1950



Picture F.26 probably toilets and stairs 2018

Services 1922

Picture F.27

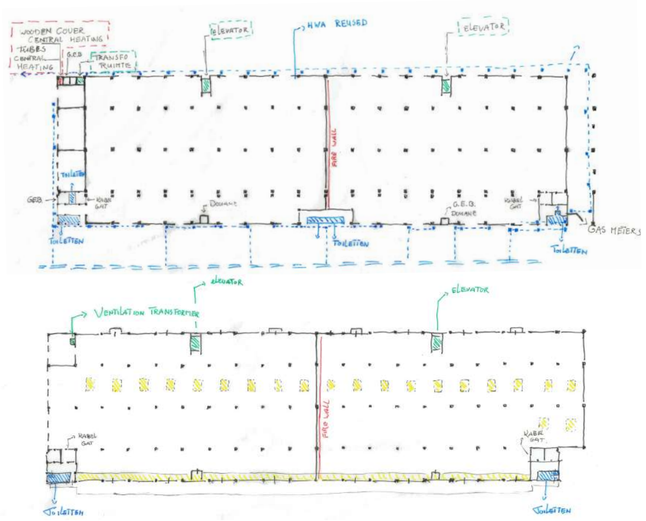


The services in this building is an element which is not really present. Probably because it was a huge ware-house in which there is no specific climate needed. For that reason the main question related to the ser-vices is, what services were present and why?

In the situation of 1922 there were five services provided. On the ground floor there was a canopy located on the south side of the building. Here trains could come, and through hatches in the floor of the 1st floor goods could be taken from the trains or loaded on the trains. The south façade and the north façade both had openable bridges, through which goods were transported. A service that stood out for that time were the 12 elevators that, according to the 'culthuurhistorische verkenning rijnhaven', transport trucks from the ground floor to the second floor. Roof lights were made for better light conditions inside the building. Fur-ther there were two bath/toilet places for employees to wash themselves.

Services 1950

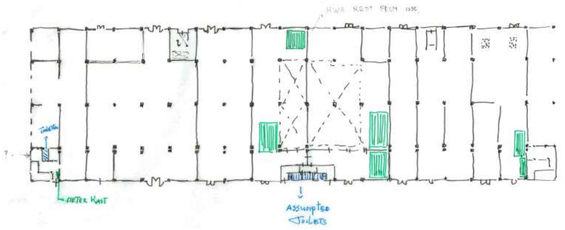
Picture F.28



In the reconstruction of 1950 a couple of services were added. In the Fenix II there were five bathrooms, which were mostly entered from outside. A central heating was placed, together with Transfo-spaces. Rooms with G.E.B. were added, what stands for 'Gemeentelijke Energie Bedrijven' (assumption). The old elevators were destroyed, but in the Fenix II two new elevators where located on the street side. Also a new sewer system was realized which was connected to the sewer system of the city of Rotterdam. On the waterside a new roof light was made along the entire façade.

Services 2018

Picture F.29



Legend

The drawings made of the current situation from 2018 by Polderman do not show much information about services. What they do show are additional 'Box in Box' services.

Conclusion

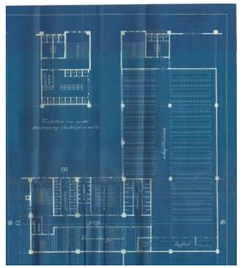
Because of the functions the San Francisco warehouse and the Fenix II warehouse both had it is logical there aren't many services provided. Services that can be named as important are the Bridges, Roof lights and the way rainwater is processed inside the building

STUFF

Stuff

Fenixloods II

Stuff 1922



Drawing of interior changes from 1922

On the right there is a big eating space with tables and sittings, as well as a fridge a kitchenete and a buffet. On the bottom there is a space filled with lockers.

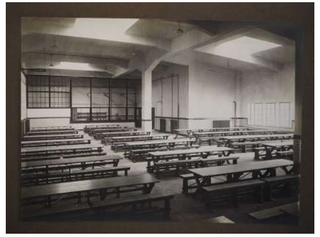


Photo from the interior in 1922

This is most probably the kantine space for the workers.

Question : What were the main stuff present in the building ? What has remained ?

1920

The main storage spaces of the building had little to no furniture. There were smaller spaces that were either meant for the passengers or the dockers that had some furniture. This becomes obvious through archival drawings and photos. None of the furniture survives today.

1950

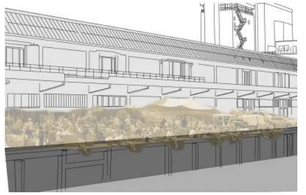
In the Fenix I and Fenix II the function remained similar, so again, little furniture was present in the building. Most of the spaces for the workers were on the side of Fenix I. The absence of facilitary spaces makes the absence of furnishings more concrete.

2013

The new functions of the building had completely different requirements than the previous phases. The presence of horeca functions had big requirements in furcnishings both on the interior as well as the exterior. The cranes were removed, since their use became obsolete for the building and tables and chairs took their place. On both sides of the building, small terraces would allow the public to enjoy the nice spot of the city. The main horeca function, the "food factory" was also designed as a furnishing in the building. The different companies would function from stands inside the building, that were placed as "box in box" in the old storage space. These additions were designed to be temporary and could easily be removed from the building, almost like a furniture, that at the end of its lifetime gets removed, without big implications for the building.

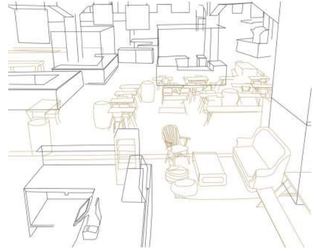
Conclusion : There is no present trace of any of the furnishing that was present during the three phases.

Stuff 2013



2013 the full terrace on the water side

2013 empty terrace on the water side



2013 the interior of the food factory

SPIRIT OF PLACE

Spirit of Place

Fenixloods II

View on the Maas from the San Francisco

View on the quay side in the 20's

Katendrecht peninsula in the 1960's

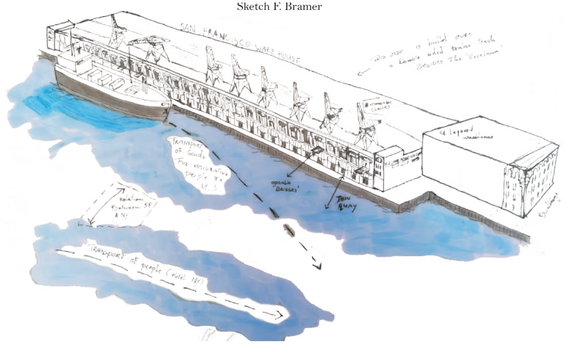
Interior impression in the 20's

The interior, of the food factory

View on the road side in the 20's

1922

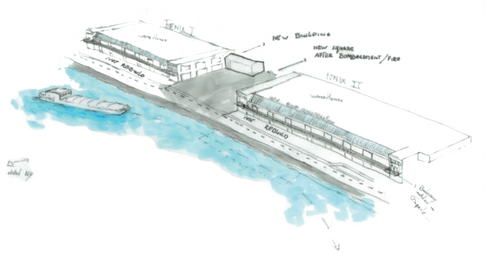
Sketch F. Bramer

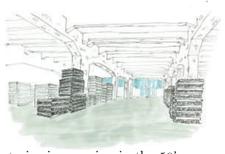


The building and it's environment

The building's spirit of place was connected and affected both by the function that it housed but also by the dominant sphere of the whole Katendrecht peninsula. It has until today a very strong industrial feeling that is connected to it's materialisation, interior and form.The use of concrete for the structure in combination with unplastered masonry and steel frames and doors give an immediate indication to the visitor about the character of the building. A sober exterior, where expression and decoration are kept to the minimum, indicate the rational character of the design and the focus on functionality instead of representation. Masonry remains exposed on the facades and very little effort is made to smooth out the harsh nature of concrete both inside and outside, creating a robust visual result. The building appears even older than what it truly is due to the absence of modern structural or architectural elements. The open interior, with the concrete columns on a strict grid, fits perfectly to its industrial character and expresses once more the need for flexibility and openness that its previous function required. There is very little to none finishing on the elements of the interior making it even more harsh and rough for the visitor. The limited openings result in a dark interior, that feels even more secluded compared to the high-rise buildings and busy-streets on the peninsula across. The two stories buildings with the long facades contrast the residential buildings across the Deliplein, and the towers across the water. It's simple and sober form and its unattended industrial materialisation though, make it stand out between the crystal clear modern buildings around it, and draw the eye of the passerby even next to the high buildings of Provimi and Fenix 1.

1950

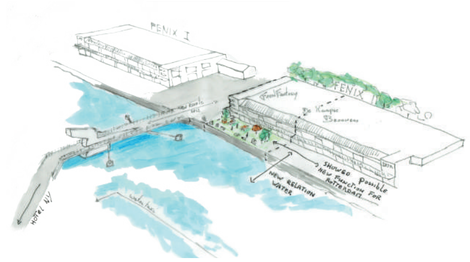




Interior impression in the 50's

The Katendrecht peninsula in the 50's

2013



The busy terrace on the quay

Water

The proximity of the water on one side has a big effect on the atmosphere of the whole site. The water not only offers an open view towards the river and the city, but also adds a feature of movement to the building. The river is one of the few elements in the city that still offers a glimpse to a constant moving and changing "nature". Even though completely man-made and controlled, the move of the harbour activities outside of the city harbours, allows for a different experience with the river, than what originally was, as a busy harbour area.The site is at the same time separated from the Wilhelminapier with water, but also connected in a human level with the bridge, allowing for easier crossing of people, but restricting traffic. Through the openness the water offers, the site relates to the two characters of the city of Rotterdam, with the high-rise buildings on the side of the center and the high cranes on the side of the port. The metropolitan and the industrial characters come together in the city and also on the site, which is neighboring modern buildings but has still an old industrial building in it.

1920

The story of the "landverhuizers" is very important for the site itself since the memories connected to it are in many cases more personal, exhibiting the quest of people towards a better life. The emotional connotation becomes even stronger when we realise that for many of the people traveling at that time, returning was not an easy option, and that a lot of permanent goodbye greetings towards the family of even the country took place there. At the same time, it can be as well seen as the first step towards a new beginning, and that is always intriguing and fascinating for the human soul.

1950

The rich history of Katendrecht has as well an influence on the atmosphere of the place. The "free" character of the area may not be immediately traceable on the site but was decisive for the whole peninsula and is still maintained as a historical layer in some of the buildings. Looking at the Deliplein on one side, one can only imagine the life taking place on the rebellious peninsula that still reminds us of those times, and the importance "freedom" has had for the people of Rotterdam, even during dark times.

2013

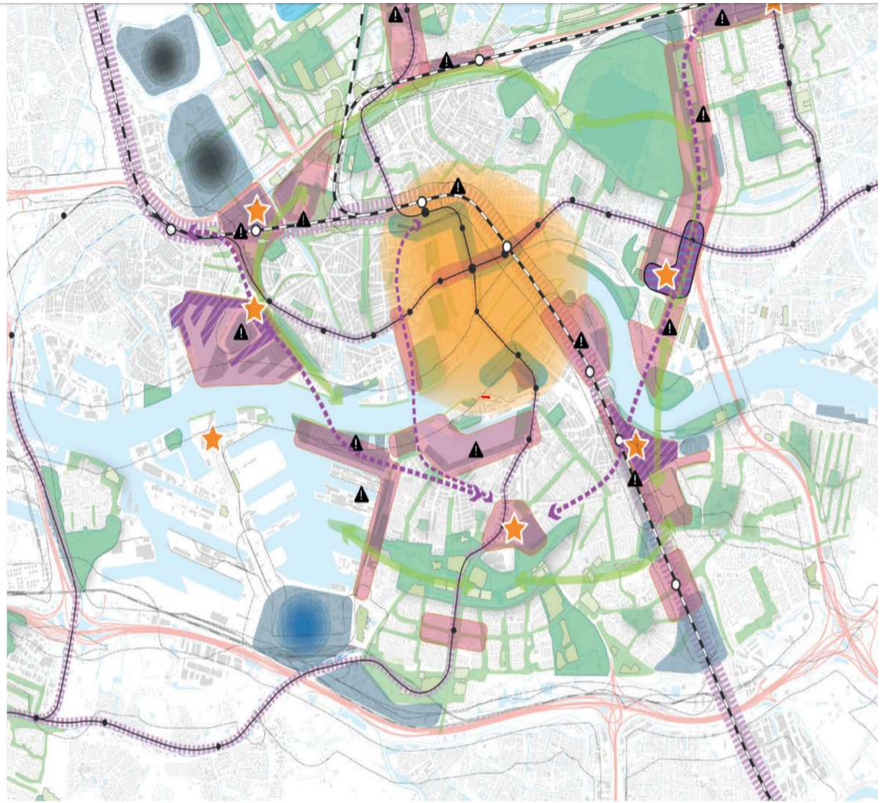
During the latest phase of the building, a whole new atmosphere was generated in and around the building, attracting the young and hype public of the city. Modern functions and horeca functions combined with the industrial character of the existing building and a strong "eco-sustainable" approach and branding would turn the site into a recreational hotspot in the busy city of Rotterdam. The young locals and internationals of the city would hoard the place on sunny days, using even the quay for siting, after the terrace tables and chairs on both sides were full. Completely informal and robust, the building relived its former glory in the 20's when it was again full of people performing all kinds of dock activities, but this time it was crowds of visitors enjoying a beer or a stroopwafel.

FUTURE

Space for good growth

Legenda

- Search area urbanization
- Existing business parks
- Existing office locations
- Exsisting allotment complexes
- Existing Sports complexes
- Transformation to mixed use area
- Concentration HMC (Hoge Milieu Categorie) businesses
- Concentration harbour related businesses
- Point of attenton for environment and health
- Future interaction with environment
- New HOV-connection (Hoogwaardig Openbaar Vervoer)
- Sportscircle
- Greenstructure
- Fenix II



Future

Rotterdam

Future City

In the past century Rotterdam has had many urban development to adapt to the prospected city demands. Alongside the realised urban development; visions, ideals and ambitions that where not in the line of growth never got executed. Because the future is unpredictable and the plans and ambitions endless, a selection for this chapter is made.
In this chapter the most resent planned developments will be explored with a focus on 'Omgevingsvisie Rotterdam' from 2019 and 'Rivier als getijdenpark' from 2018. These documents all come from the municipality of Rotterdam and are planned to be set into motion in the near future.

Rotterdam is considered to be an important junction in the metropolisation of de Randstad (Rim city) area in the Netherlands and part of the Maritime capital of Europe since 2017.
The document 'Omgevingsvisie Rotterdam' talks about "Space for good growth" were the growth of the city is explained through 12 keypoints and 'Space for transition' which is more speculative.

1 Densification within the existing city that strengthens the city; The realisation of 50.000 new dwellings for 2040. A growth of 70.000 jobs on strategic places for 2040. Intensify a more inclusive use of space. (see appendix 'Increase of business at riverside')

2 Social facilities grow with the cities demand and are used more intensively; Applying the Rotterdam reference standards (as described by the municipality 2018) for social facilities to guarantee sufficient capacity. Maintaining and intensifying the current capacity of sports grounds. Matching the educational offer to the demand, both the direct surroundings and the housing facility.

3 Further development of HOV (Hoogwaardig Openbaar Vervoer) as a carrier for urbanization on an urban and regional scale.

4 Strengthening the city centre to a high-quality interactive environment meaning more bicycle, footpaths and public transport. More space for active mobility, walking and cycling, and public transport, with less space for cars. Grow to 60,000 residents in 2040. (see appendix 'Pedestrians and cyclists')

5 Reinforcing the green-blue structure of the city space for growth requires strengthening the green-blue structure; This to improve the livingconditions of the residents making it more healthy and vital, biodiverse, climate adaptable and better air quality.

6 Focusing on a balance between tranquility and activity The densification of the existing city will become a lever for strengthening the quality of the living environment.

7 Developing governance principles for diversity and affordability Makin a fully accessible and liveable city for all Rotterdam residents.

8 Giving space to business that is shaping the new economy Also maintaining the space for business as much as possible.

9 Concentrate and intensify companies with a high environmental category in certain areas to make space for the economic transition.

10 City and district hubs as a starting point for logistics of goods and raw materials in the urban area. The energy transition therefore poses a major challenge for Rotterdam. Besides spatial measures, it is also about raising awareness among Rotterdam residents about the usefulness and necessity of the energy transition.

11 Focus on limiting energy demand, reusing residual flows and generating electricity sustainably. Measures for the energy transition are combined with the construction task, with a healthy, safe and climate-adaptive design of our environment, and with measures for accessibility and renovations that are used for other reasons.

12 Softening and cooling the public space, especially in the old city districts. This requires a transition from existing situations, in which functions in public space must be exchanged or replaced (management task).

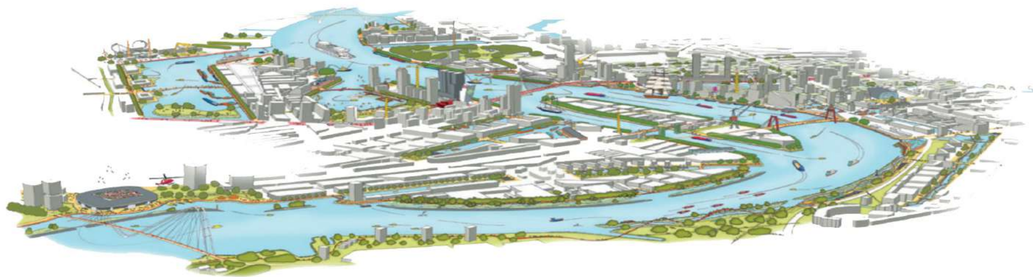
Tidal Parks
A tidal park is a broad and natural way to bring 'nature' into the city. It has the aim to give the river a more natural look, to experience the river more and to make the river more attractive in relation to the urban surroundings. In order to develop tidal nature, it is important to increase the contact zone between water and land as much as possible; by softening embankments, lowering banks and deepening the bottom near the bank. In the meandering river, space can be sought for landing in the inner bend and space for erosion in the outer bend. By responding well to the hydro morphology of the river, the siltation in the inner bend of the river can be increased, while in the outer bend the abrasion effect of the flow is taken into account.

In Rotterdam 9 tidal parks will be developed before 2040. (see appendixes 'Future Tidal Parks' and 'Opportunities') The seven aims given by the municipality in the document 'Rivier als getijdenpark' are:

1 Bringing city and nature together.
2 Increasing the natural wealth.
3 Creating an interactive learning environment.
4 Increasing watersafety.
5 Producing and experiencing food production.
6 A base for city development; investing in green urban- and workenvironment.
7 Closing regional cycles; Reuse of residual flows and development of knowledge

Tidal park Maashaven (2018-2022)

Adding high-quality public space to the Maashaven and combining that with the realization of a sustainable inland shipping hub by rearranging the berths of inland shipping, an increase in value for the city and port will follow. The tidal park consists of a park in the water with nature-friendly banks, adding public space, nature values and the experience of the tide and reconnecting the city to the port in an attractive manner. The deepening of the 'Nieuwe Waterweg' has started in 2018. The sand that is released is used for the tidal park. (see appendix 'Mix of City and Harbour')



VALUE ASSESMENT

Cultural Value Matrix

Fenixloods II

Riegl Values / Brand Layers	Age Value	Historical Value	Intended Commemorative Value	Non- intended Commemorative Value	Use Value	Newness Value	(Relative) Art Value	Rarity Value	Other Values	
Surroundings	The surrounding architecture / old core of Katendrecht (residential area) / Inland ports (rijnhaven, maashaven)	deliplein/ urban morphology/quay line		Old core built before war		Rijnhavenbrug		Position in the busy city center/ the building is surrounded with the growing city center of Rotterdam- openning up possibilities for the future	Spatial transition - Openness	
Site	- Train Tracks / (	remaining railway/ quay lines		Industrial heritage	Recreational function of the deli plein/ quay width				Potential for development	
Space plan		The movement inside the building is directed towards water		San Francisco -> Fenix 1 & Fenix 2/ reminder of the fire	Connection between land and water transport			Biggest in Size storage building (1920)	Open space	
Surfaces	Original windowframes - doorframes	Fenestra system of the windowframes			Large openings/large doors		structure present on the facade	openable bridges	the feeling of the roughness of materials	
Structure	Grid	Structure that remained was reused			Large indoor space		Repetition Structure			
Services		Cranes remnants on roof			Natural lighting inside of the building		Visible remains of previous services (drainage/electri		Rain water drainage happens inside the building	
Skin	Decay in the plaster	Lack of representative elements/ decorations			Very functional. warehouse/storage/ transport		Endless continuation of rythm (1920)	Biggest building in time of construction (1920)	Architectural expression and facade articulation (1920)	
Stuff										
Spirit of Place		3 different periods - 3 different feelings		Storage				Was not occupied by Germany during the WW2	Between two different characters of the city, residential and commercial	

	High Value	**Medium Value**	**Low Value**

Water
The building has a very strong connection to water. Multiple values of the buildings derive from this relation.
-Vicinity to the ports
- the building is parallel to the water line
- function develop and evolves according to the activities of the
- openings and equipment is used to utilize the connection
- structure responds to the foundation of the quay
- the water was th main way of transport for the items stored
- future opportunities are also connected to water - the water i a big part of the atmosphere of the site

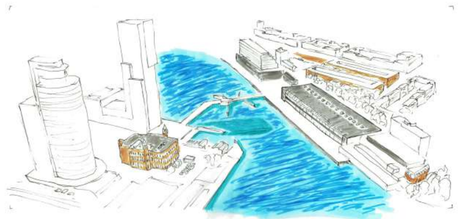
Historical Importance Matrix

Riegl Values / Brand Layers	Importance for Historical Timeframe		
	1920	1950	2013
Surroundings	Building H.A.L emigration to Amerika	Mix of cultural and residential functions	Rijnhavenbrug; connection with Kop van Zuid
Site	quay was one of the reasons the building is located here / possible for the big size of boats to dock	-rails and bump block on the quay side still present	Public use of the site
Space plan	-big "open" spaces	From 1 into two buildings	-internal division makes the building multifunctional
Surfaces			
Structure	foundation still present and used	articulation of the grid in the facade (8,60)	
Services	2 rows of rooflights / Cranes on top of the building	1 row of rooflights / Cranes in front of the building	
Skin	Repetition	Text on facade: N.V. Handelsveem C. Steinweg	Text on facade: Fenixfoodfactory
Stuff			-box in box design works as a layer of furnishing
Spirit of Place	Strongly related to transport/ storage function	Strongly related to transport/storage function	becomes part of (harbour) heritage rotterdam

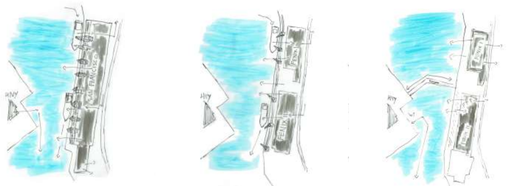
After the value assessment, the most prominent values are mapped according to their position n the narratives for the different storylines of the building

Cultural Value Matrix

	Age Value	Historical Value	Intended Commemorative Value	Non- intended Commemorative Value	Use Value	Newness Value	(Relative) Art Value	Rarity Value	Other Values
Surroundings	The surrounding architecture / old core of Katendrecht (residential area) / Inland ports (rijnhaven, maashaven)	deliplein/ urban morphology/quay line		Old core built before war		Rijnhavenbrug		Position in the busy city center/ the building is surrounded with the growing city center of Rotterdam- openning up possibilities for the future	Spatial transition - Openness



Historical and Age value of the surroundings



Relation surroundings with water

Surroundings

The surrounding architecture / old core of Katendrecht (residential area) / Inland ports (rijnhaven, maashaven). The surroundings are valuable due to their age and their evolution through time that is still visible and present in the urban scale around the building

deliplein/ urban morphology/quay line. Elements of the urban context like the Deliplein and the quay line are important for the historical narrative of the building. The urban morphology also survives and remains an important part of the history of the place.

Old core built before war. The old core built before the war still survives today as a not- intentional reminder not only of the effects the war had on the area but also as a remain of the old style of the neighborhood.

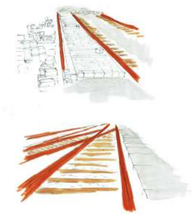
Rijnhavenbrug The Rijnhavenbrug is important for the mobility of the area, connecting the two peninsulas for the pedestrians but restricting at the same time the car traffic between the two.The bridge brings the site one step closer to the center of the city.

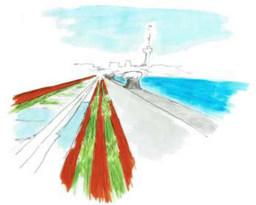
Position in the busy city center/ the building is surrounded with the growing city center of Rotterdam- opening up possibilities for the future. The position of the building in the busy center of Rotterdam allows for future possibilities to be exploited. As part of the center the building could much easier get a new life with a new function.

Spatial transition - Openness The building has multiple open views around it. This adds to the qualities of the exterior, making it more pleasant and interesting for the users.

Cultural Value Matrix

	Age Value	Historical Value	Intended Commemorative Value	Non- intended Commemorative Value	Use Value	Newness Value	(Relative) Art Value	Rarity Value	Other Values
Site	- Train Tracks / (	remaining railway/ quay lines		Industrial heritage	Recreational function of the deli plein/ quay width				Potential for development





Rails and train tracks on the site

Potential value.

Site

Train Tracks The train tracks still present on the site were added during the expansion of the quay in the 50's and were used for both train wagons and cranes. They are original from that period but have no function today for the building or the area.

remaining railway/ quay lines These two elements are of high historical value since the function history of the building is strongly related to them. Changes in them also reflect on the building and vice versa.

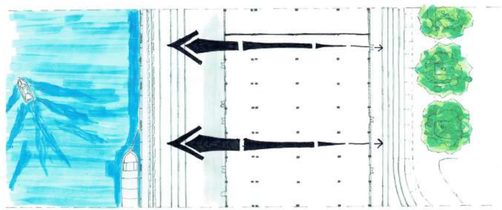
Industrial heritage. The site is part of the industrial area of Katendrecht. The site is also part of a series of industrial buildings in the inner city ports that remain and are being transformed today as part of the industrial heritage of the city.

Recreational function of the deli plein/ quay width On both sides of the site, recreational activities can flourish. Either on the Deliplein, or the quay side, the location can be very attractive for the public.

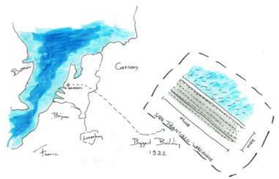
Potential for development The recent redevelopment of Fenix II reveals the importance of the building for the future of the area but also the possibilities that should be considered when designing a new lifecycle for the building.

Cultural Value Matrix

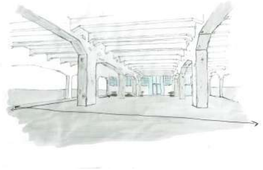
	Age Value	Historical Value	Intended Commemorative Value	Non- intended Commemorative Value	Use Value	Newness Value	(Relative) Art Value	Rarity Value	Other Values	
Space plan		The movement inside the building is directed towards water		San Francisco -> Fenix 1 & Fenix 2/ reminder of the fire	Connection between land and water transport			Biggest in Size storage building (1920)	Open space	



Historical relation to water



Rarity value



"Open" space value

Space Plan

The movement inside the building is directed towards water. The building had and still has a very strong direction in the movement inside the building. This is related to the position and the function of the building. The openings of the facades are also important for the movement direction.

San Francisco -> Fenix 1 & Fenix 2/ reminder of the fire The events that have lead to the two buildings of today, deriving from San Francisco are part of the story of the building. The big change in the space plan is a reminder of those events.

Connection between land and water transport. The building has formed a barrier - connection between the "mainland" of the peninsula and the water. The building utilizes this connection today to bring the two sides closer. With the division into Fenix 1 & 2, the connection became stronger even on the public space level.

Biggest in Size storage building (1920) The big size of the building was decisive for the internal logistics and its ability to process the docking activities across a big part of the quay.

Open space The "open" space is a quality strongly connected to the few internal divisions of the first two phases of the building that would allow for bigger spaces with the structure being the most dominant element in the space. This was lost in the 2013 layout.

Cultural Value Matrix

	Age Value	Historical Value	Intended Commemorative Value	Non- intended Commemorative Value	Use Value	Newness Value	(Relative) Art Value	Rarity Value	Other Values	
Surfaces	Original windowframes - doorframes	Fenestra system of the windowframes			Large openings/large doors		structure present on the facade	openable bridges	the feeling of the roughness of materials	

Rarity value

Surfaces

Original window frames - door frames. The window openings and door openings are for a big deal on the original position they were designed in 1920. The 1950 reconstruction would reduce the openings but not their size or their position, with some original frames surviving until today.

Fenestra system of the window frames The system used to articulate the openings had a strong effect on the overall appearance of the facade contributing to its repetition and composition. The window frames are an important element of the technical history of the building.

Large openings/large doors The size of the openings for windows and doors allows for a big part of the face to remain flexible and useful until today, adapting to new layouts and internal requirements.

Structure present on the facade The structure is a composition element of the facade creating rhythm and strengthening the repetitive character of the facades. This rhythm was and still is one of the most dominating elements of the facades.

Openable bridges It was not very common the extensive use of openable bridges throughout such a long facade. The integration of the two layers was important for the appearance and the function of the building.

The feeling of the roughness of materials A lot of the material properties are still visible and add to the industrial character and feeling of the building. The finishing layers do not manage to smooth the texture of the surface, with the roughness expressed also in the interfaces between different materials.

Cultural Value Matrix

	Age Value	Historical Value	Intended Commemorative Value	Non- intended Commemorative Value	Use Value	Newness Value	(Relative) Art Value	Rarity Value	Other Values	
Structure	Grid	Structure that remained was reused			Large indoor space		Repetition Structure			

The grid is original

expression of the structure in the space

Structure

Grid The structure follows the original grid of the San Francisco building. The same sizes in the grid allow for maximal similarity to the original expression of the structure in the space and on the facades.

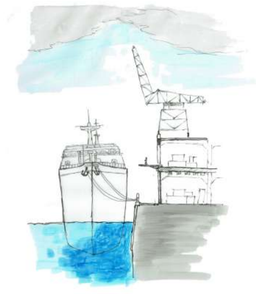
Structure that remained was reused Big parts of the structure and mainly the foundations of the original 1920 building were reused in the 1950 and remain until today part of the building. This makes the structure a result of multiple layers from multiple times.

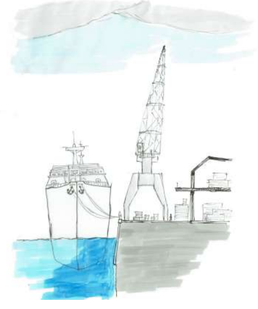
Large indoor space The sizes in the grid and the structure allow for big continuous internal space. This was mainly compromised in the 2013 reuse when internal divisions were added. The structure can support higher weight loads and is designed therefore

Repetition Structure The repetition of the structure sets the rhythm for the whole building being at the same time not only a structural but also a compositional element in the design.

Cultural Value Matrix

	Age Value	Historical Value	Intended Commemorative Value	Non- intended Commemorative Value	Use Value	Newness Value	(Relative) Art Value	Rarity Value	Other Values	
Services		Cranes remnants on roof			Natural lighting inside of the building		Visible remains of previous services (drainage/electri		Rain water drainage happens inside the building	





Historic value of the cranes

Services

Cranes remnants on roof. The crane rails on the roof are a reminder of the previous use of the building. The cranes being an integrated element since the first design are still represented in the modern building as part of its history.

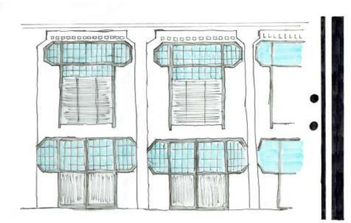
Natural lighting inside of the building The roof light openings originating in the design of 1920, even though reduced, allow for extra daylight in the interior of the building adding to the overall utility of the space.

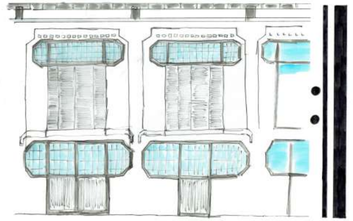
Visible remains of previous services (drainage/electricity/elevator pits) These remains even though they are not completely useful for the modern functionality of the building, add to its old and industrial character.

Rain water drainage happens inside the building This makes the age of the building more obvious in the interior of the building, and the absence of these elements on the facade, strengthen the sober character it has. This although can have negative effect since the age of these elements effects their condition.

Cultural Value Matrix

	Age Value	Historical Value	Intended Commemorative Value	Non- intended Commemorative Value	Use Value	Newness Value	(Relative) Art Value	Rarity Value	Other Values
Skin	Decay in the plaster	Lack of representative elements/ decorations			Very functional. warehouse/storage/ transport		Endless continuation of rythm (1920)	Biggest building in time of construction (1920)	Architectural expression and facade articulation (1920)





Rhythm as element of the composition

Skin

Decay in the plaster The damage in the facade materials adds to the old character of the facade. Worn out parts make the facade appear older than it technically is.

Lack of representative decorations During the reconstruction in the 1950s, big parts of the facade were covered in plaster adding sobriety in the appearance of the facade. The refined expressiveness of the 1920's was covered for a more factual approach to the composition.

Very functional. warehouse/storage/ transport Even though the openings are greatly reduced compared to the original design of the 1920's, the remaining still manage to render the building into a very functional space. Their size and position are also of big importance for this.

Endless continuation of rhythm (1920) The repetition on the facade is one of the strongest compositional elements in the exterior appearance. Partially reduced in the 1950's design, this rhythm is still present and dominant in the lengthy facades.

Biggest building in time of construction (1920) The building possesses a special position in the building history of the city, being the biggest warehouse built in that time. This had not only practical consequences but also representative ones for the company at that time.

Architectural expression and facade articulation (1920)

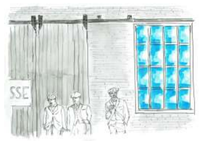
Cultural Value Matrix

	Age Value	Historical Value	Intended Commemorative Value	Non- intended Commemorative Value	Use Value	Newness Value	(Relative) Art Value	Rarity Value	Other Values
Stuff									

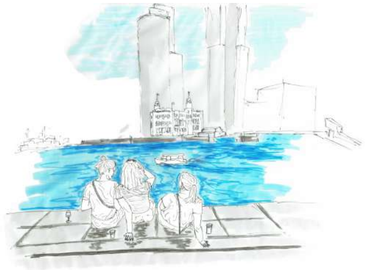
Stuff

There are no values traceable on this layer of the building since there is nothing surviving until today. Their presence in the original designs had also no further implications for the building.

	Age Value	Historical Value	Intended Commemorative Value	Non- intended Commemorative Value	Use Value	Newness Value	(Relative) Art Value	Rarity Value	Other Values
Spirit of Place		3 different periods - 3 different feelings		Storage				Was not occupied by Germany during the WW2	Between two different characters of the city, residential and commercial



City attraction



View over the river

Spirit of Place

3 different periods - 3 different feelings Each era had its own different feeling for the building and the site. That allows for a rich history and for connections to memories and events. There are positive and negative aspects for each of these period but together the form the intangible narrative of the building.

Storage Even though the building has been changed from a mono functional to a multifunctional space, the storage character is still the strongest one. The industrial characteristics compose a greater atmosphere on the whole site.

Was relative free during WW2 The "free" spirit of Katendrecht would make this place unpopular among the occupying soldiers allowing for more free behaviour. This is similar to the "free" informal character the building had during its last phase among others as horeca space. Formality was never a goal.

Between two different characters of the city, residential and commercial The fact that the building is situated between two different urban characters in the city creates a lot of potential for the future use of it. The site is an urban interface with many possibilities.

Water

The building has a very strong connection to water. Multiple values of the buildings derive from this relation.

-Vicinity to the ports

- the building is parallel to the water line

- function develops and evolves according to the activities of the poort

- openings and equipment is used to utilize the connection

- structure responds to the foundation of the quay

- the water was the main way of transport for the items stored

- future opportunities are also connected to water - the water is a big part of the atmosphere of the site

The building has a very strong connection to water. Multiple values of the buildings derive from this relation.

-Vicinity to the ports

The building is in an old city port. The connection to the rest of the city ports and the mobility that the water provides create possibilities for the future. This connection is not only historical but also practical since Rotterdam is a city that strongly utilizes its relation with water.

- the building is parallel to the water line

The building is not as close to the water as it was originally in 1920 but still the quay is an inseparable part of this building's site. The "open" visual relations that the water creates are not only valuable for the building, but also for the urban architecture. Buildings that are separated with water have to work together to form the cityscape.

- function develops and evolves according to the activities of the poort

The changes in the functions of the city ports are reflected in the changes of the building. Changing from industrial to recreational and residential changes also the use of water. The functionality does not get reduced but the focus shifts towards the recreational and the architectural nature of the element.

- openings and equipment is used to utilize the connection

The building is defined by this relation with a big part of the facade being open towards the water. The openings that where utilized until now to support the industrial functions, still create a big connection to the quay and the water with their size and repetition.

- structure responds to the foundation of the quay

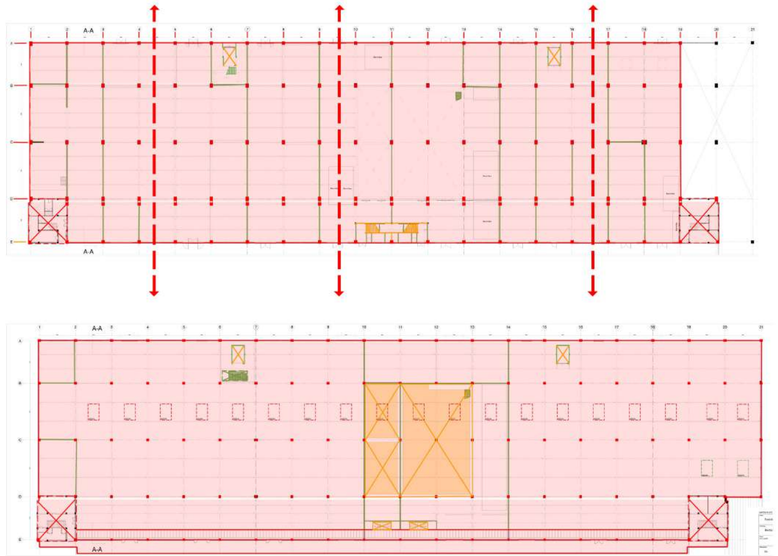
The original foundation is following the structure of the quay. The building used to be so close to the water that the two had not only a functional but also a structural connection underground.

- the water was the main way of transport for the items stored

Transportation on water was much more efficient in comparison to trains in the period the building was built. The owner of a spot in the port of Rotterdam was guaranteed strong connections to the main cities of the whole world.

- future opportunities are also connected to water - the water is a big part of the atmosphere of the site

This relation with the water can be utilized in future designs to create possibilities, like building on water or establish connections, with the use of water taxis by example. Or even create a recreational area between land and water, as seen in other city ports that their space is reclaimed by the city.



High Value
Medium Value
Low Value

Floor plans

The facades are considered high value in this scheme because they are important for the layout and the shape of the whole building.

The interior division is considered of low value because it hinders the spatial experience and expression of the building as a whole.

The corners are considered of high value due to their uniqueness and relation to the Fenix I.

The elevators are considered of low value since they are modern and do not contribute in any way in the narrative of the building.

Their shafts are considered more important since they are part of the 1950's layout.

The direction in the building is considered of high value because it has not changed throughout the different layouts.

The high space is considered of medium value for its uniqueness in the building

The roof lights are considered of high value because they were part of the original design of the building.

The stairs are considered of medium value because they are a practical feature of the 1950's design but are not special.

The structural columns are from different time periods but their high value derives from their position on the original grid, and their spatial expression.

The floors are considered of high value because they define the space of the building. Their " material " originality could not be accurately traced and is not considered in this decision. Their different construction dates did not contribute enough to differentiate their assessment.

The balcony is considered an important feature in the 1950's design.

Significance

Fenixloods II

The Façade did undergo several transformation as discussed in this report. In this visualization of the facades, the different elements of the façade are grade into three different values:

- Red meaning High value
- Orange meaning medium value
- Green meaning low value

These different grading are coming from the in-depth research done within this report and are graded via several aspects of the building; Historical meaning, aesthetics, materialization, use, etc. This resulted in the following drawings. However, in these drawings not all the aspects where able to be visualized. Therefore it is important to discussed them. The aspects which are not visualized are:

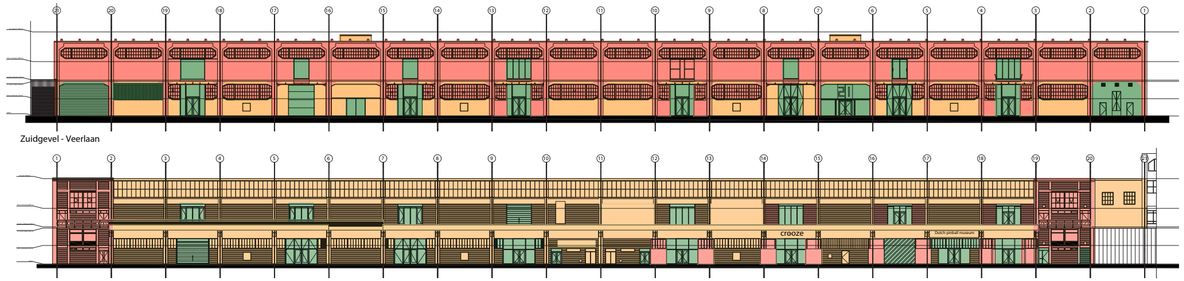
Firstly, the materialization of the façade at the street side (Veerlaan). In 1950 a layer of Cristal Cement Granite was added on the façade. This added on layer has a low value, because this masks the real materialization of the façade and it also masks the original form language of the construction in façade.

Secondly, the Detailing is not visible, this is also due to the gladding. In the original façade, details where present above the windows on the first floor. These details has high value because, this adds an extra layer of detail making it a more complete structure.

The third aspect are the window frames. Eventhough the windows are visible in the drawings, different sorts of windows are present: The original windows made by Fenestra, The restored window frames of fenestra and the recent window frames. The windows frames which where added recently have low value because these are not inline with the other façade elements and have no historical value. The restored and the original window frames have high value because they have historical value because they are made by fenestra and the form of the window frames adds towards the total image of the façade. Eventhough the restored they have different appearances, the historical value is not changed and therefore are graded the same. To specify which windows are restored they are marked with a "R".

In the Façade on the Paul Nijghkade, the corner offices are valued as high because they where typical for the use after 1950 and the original doors sliding doors of 1950 where valued as high because they are very typical to this type of building making the former use very explicit. The façade itself is rated as medium value because in during the war the original façade was destroyed. However the materialization and the form language adds towards the overall appearance of the building. The only parts with low value in this façade are the doors recently added because, as previously stated, they are not inline with the rest of the expression of the rest of the façade.

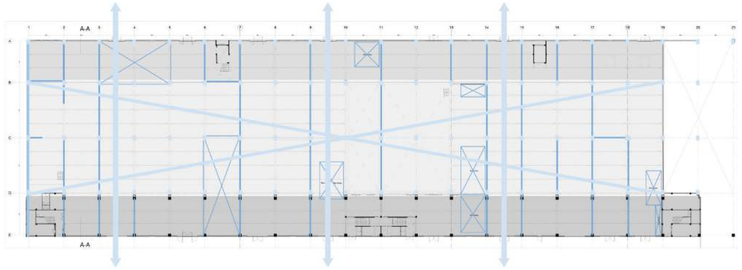
The East façade, was build after the fire of 1947. The façade has medium value because the when comparing to the intended expression of the building this extra layer of detail is missing, however, the value is on the line of being of high value because it expresses the structure of the building and has similar form language as the intended building. The corner element is rated as high value because this expresses the former use but also has this second level of detailing. Also the sliding doors and the naming on the façade are rated as high value as they are iconic for the use of the building. But the infill by recently placed window frames are rated as low value because they have not the expression as the rest of the building.

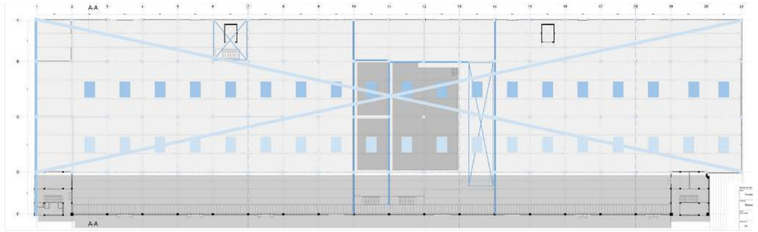


High Value
Medium Value
Low Value
R = Renovated

Historical Significance

Fenixloods II

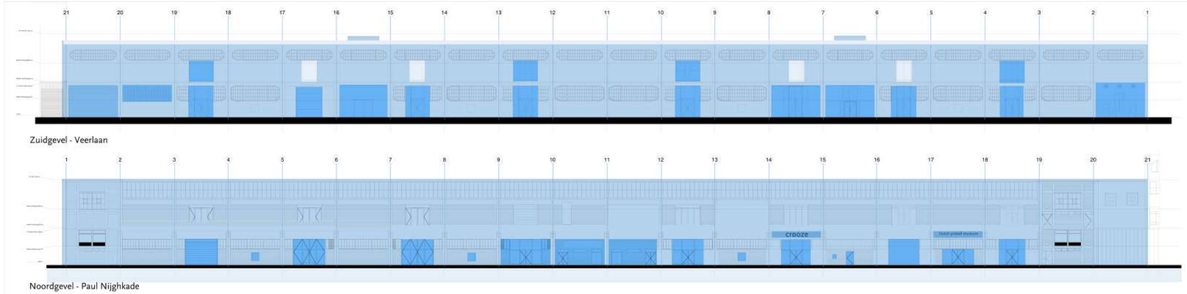




2013

1950

1920



2013

1950

1920

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Fenixloods II

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Preface / Introduction / Demarcation / Research focus and Research question

Picture F.1-2+5-6 F.Bramer (2020)
Picture F.3 S.Vrisekoop (2020)
Picture F.5 M.Bos (2020)

General Information

Context
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Picture G.1-2+7-9+11-21. G.S.Kwon. (2020).
Picture G.3 Rijnhavenbrug. (2013). Retrieved from https://www.dearchitect.nl/projecten/rijnhavenbrug
Picture G.4 De Maashaven en katendrecht op een luchtfoto uit 1926. (n.d.). Retrieved from http://fotos.serc.nl/zuid-holland/rotterdam/rotterdam-49240/
Picture G.5 KATENDRECHT & TATTOO BOB AT BROADCASTER MAX. (2018). Retrieved from https://www.tattoobob.nl/info/nieuws/katendrecht-tattoo-bob-bij-omroep-max
Picture G.6 HISTORIE KATENDRECHT. (n.d.). Retrieved from https://www.tattoobob.nl/info/historie/historie-katendrecht
Picture G.10 Fruitlaan. (n.d.). Retrieved from https://historisch-katendrecht.wordpress.com/fruitlaan/

Space plan

- The strong repetition of the structure in the space. Archive Rotterdam
- The massive spaces of the 1920's. Stadsarchief gemeente Rotterdam, (1916-1922), H.A.L.
- The high space in the 2013 layout Van Schagen architecten (2013). Fenixloods II
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Picture F.6 de Gijt, J. G. (2019). A History of Quay Walls: Techniques, types, costs and future. Geraadpleegd van https://www.researchgate.net/publication/46115658_A_History_of_Quay_Walls_Techniques_types_costs_and_future
Picture F.7-10 van Winsen, M. R., van Velzen, H. J., Franse, M., Waaijer, P., & Flexus. (2018). Cultuurhistorische verkenning rijnhaven. Geraadpleegd van https://www.rotterdam.nl/wonen-leven/rijnhaven/180816-doc-cultuur-historische-verkenning.pdf
Picture F.11-13 Stadsarchief gemeente Rotterdam, (1916-1922), H.A.L.

Picture F.14 Stadsarchief gemeente Rotterdam, (1916-1922), H.A.L.

Picture F.15-17 Stadsarchief gemeente Rotterdam, (1916-1922), H.A.L.

Picture F.18-23 F.Bramer (2020)

Skin / Surfaces

Facades changes during its lifespan
M.1 Facade 1920 streetside, Stadsarchief Gemeente Rotterdam, (1916-1922), H.A.L.
M.8 Façade 1950 streetside, stratenkdr.wordpress.com, (1994), Veerlaan - laatste loopster mabonloop, Retrieved from https://stratenkdr.files.wordpress.com/
M.15 Façade 2013 streetside, M. Bos, (2020), Own reproduction
M.2 till M.7, M.9 till M.14, M.16 till M.20 Analytical drawings, M. Bos, (2020), Own creation, based on: Stadsarchief Gemeente Rotterdam, (1916-1922) H.A.L ; Stadsarchief Gemeente Rotterdam, (1950), H.A.L. ; Polderman, (2018), Fenix II loods, Bestaande situatie - gevelaanzichten noord en zuid, Retrieved from brightspace.tudelft.nl
M.21 Façade 1920 quayside, Stadsarchief Gemeente Rotterdam, (1916-1922) H.A.L
M. 28 Façade 1950 quayside, Feijenoordsemeetsers.nl, (1994), Feijenoordse meesters toen en nu, Retrieved from feijenoordsemeesters.nl/Toen%20en%20nu.htm
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M.22 till M.27 , M.29 till M.34 Analytical Drawings, M. Bos, (2020), Own creation, based on: Stadsarchief Gemeente Rotterdam, (1916-1922), H.A.L. ; Stadsarchief Gemeente Rotterdam, 1950, H.A.L. ; Polderman, (2018), Fenix II loods, Bestaande situatie - gevelaanzichten noord en zuid, Retrieved from brightspace.tudelft.nl

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A till E Pictures after the Build, Stadsarchief Gemeente Rotterdam, (1916-1922), H.A.L. Floor plans 1920, StadsArchief gemeente Rotterdam, (1916-1922), H.A.L., Modified
M.43 till M.46, M.51 Pictures of Fenix 2, M. Bos, (2020), Own reproduction
Picture M.50 Close-up of the facade on the quayside, F. Bramer, (2020), own reproduction
- The materials specified in the pictures A till E are retrieved through archival research from: Stadsarchief Gemeente Rotterdam, (1916-1922), H.A.L.
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Picture F.30+32 F.Bramer (2020)
Picture F.31 Detroit Steel Products Company. (1925). Fenestra blue book of steel windows. Detroit, 2250 East Grand boulevard: Detroit Steel Products Company. Geraadpleegd van https://archive.org/details/FenestraBlueBookOfSteelWindows/mode/2up

Technical Elements
M.52, M.53 Pictures of the bridges on the quayside ‚Stadsarchief Gemeente Rotterdam, (1916-1922), H.A.L. informed on 02-2020)`
M.54, M.55 Sections of façade in full-length 1920, M. Bos, (2020), own creation, based on Stadsarchief Gemeente Rotterdam, (1916-1922), H.A.L.
M.56, M.57 Pictures of the balconies of the Fenix 2 warehouse M. Bos, (2020), own reproduction
M.58, M.59 Section of façade in full-length 1950, M. Bos, 2020, own creation, based on: Stadsarchief Gemeente Rotterdam, (1950), H.A.L.
M.60 till M.68 sections and building 1920 and 1950, M. Bos, (2020), own creation, based on: Stadsarchief Gemeente Rotterdam, (1916-1922), H.A.L.; Stadsarchief Gemeente Rotterdam, (1950), H.A.L.

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Picture F.24 Stadsarchief gemeente Rotterdam, (1916-1922), H.A.L.
Picture F.25 Stadsarchief gemeente Rotterdam, (1916-1922), H.A.L
Picture F.26 Polderman. Bureau voor monumenten en restauratieadvies. (2018). Bestaande Situatie - Begane grond [Illustratie]. Geraadpleegd van https://brightspace.tudelft.nl/d2l/le/content/192770/viewContent/1617386/View
Picture F.27-29 F.Bramer (2020)

Stuff

- Drawing of interior changes from 1922. Stadsarchief gemeente Rotterdam, (1916-1922), H.A.L.
- Photo from the interior in 1922. Stadsarchief gemeente Rotterdam, (1916-1922), H.A.L.
- 2013 empty terrace on the water side Romy (n.d.) Retrieved from https://travellovers.nl/fenix-food-factory-rotterdam/

Pictures

Spirit of Place

- View on the Maas from the San Francisco. Stadsarchief gemeente Rotterdam, (1916-1922), H.A.L.
- Katendrecht peninsula in the 1960's Histrorisch Katendrecht (n.d.).Luchfoto van de Maashaven N.z. links onder is de 'oude' Maashavenstraat met rechts daarvan het kantoor van de Havendienst 1956. Retrieved from http://fotos.serc.nl/zuid-holland/rotterdam/rotterdam-28218/
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- View on the quay side in the 20's. Stadsarchief gemeente Rotterdam, (1916-1922), H.A.L.
- View on the road side in the 20's. Stadsarchief gemeente Rotterdam, (1916-1922), H.A.L.
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Future

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- River and expansions, Gemeente Rotterdam, 2019, Retrieved from (https://rotterdam.notubiz.nl/document/7761417/1/s19bb012293_4_41092_tds) (p.1)

Appendixes

- Future maps of Rotterdam: Tweaked into layout and translated from Dutch to English.
All made for the municipality of Rotterdam 16th of April 2019.
- Future Getijdenparken, Retrieved from
https://www.rotterdam.nl/wonen-leven/getijdenpark/Getijdenpark.pdf (p.12)
Opportunities, Retrieved from
https://rotterdam.notubiz.nl/document/7761417/1/s19bb012293_4_41092_tds (p.31)
- Pedestrians and cyclists, Retrieved from https://rotterdam.notubiz.nl/document/7761417/1/s19bb012293_4_41092_tds (p.26)
- Increase of business at riverside, Retrieved from
https://rotterdam.notubiz.nl/document/7761417/1/s19bb012293_4_41092_tds (p.34)
- Mix of city and harbour, Retrieved from
https://rotterdam.notubiz.nl/document/7761417/1/s19bb012293_4_41092_tds (p.43)

Picture G. 22-32+34-43. G.S.Kwon. (2020).
Picture G.33 Walhallalaan Beeldmateriaal. (n.d.). Retrieved from https://stratenkdr.wordpress.com/walhallalaan-beeldmateriaal/

Katendrecht social
Drawings all made by Sophie, 2020. Based on maps from topotijdreis.nl

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- 1922 The biggest chinatown, Unknown, 1925, Retrieved from https://inburgerking.wordpress.com/2017/09/08/poepchinezen-een-ontroerend-portret-over-de-chinezen-van-katendrecht/
- 1950 Decay, Unknown, 1958, Retrieved from https://nl.pinterest.com/pin/389068855299321654/
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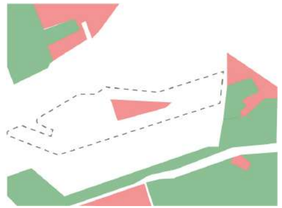
- 2013 Fenix Food Factory, Unknown, 2015, Retrieved from https://indebuurt.nl/rotterdam/gids/fenix-food-factory/

APPENDIX

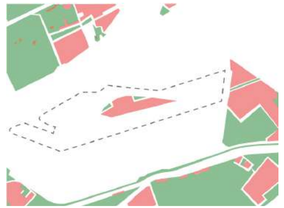


1910 Social growth in Katendrecht

Multiple new communities are located around the new harbour expansions.

Man made parcs and small squares for markets and meeting others. Katendrecht has 225 dwellings and 1105 inhabitants.

The main population consisted of laborers from the south of the Netherlands, drawn to the city because of the jobs in the harbours.
(Cooiman 2019, P.46.)



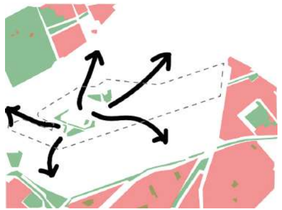
1922 The biggest chinatown

Demolition of 700 houses, a church, schools and public squares. 3500 inhabitants moved elsewhere.

In 1922, Katendrecht housed sixteen guest houses where 444 Chinese people camped. In 1926 there were 28 lodgings with about 1500 persons. Some lodgings had more than 100 Chinese, packed in small rooms. The Cape grew into the largest Chinese colony in the Netherlands.
Due to the changes in living conditions and the specific type of people it attracted the neighborhoud became know as 'problematic'.
(Flexus 2018, P. 24)

1950 Decay

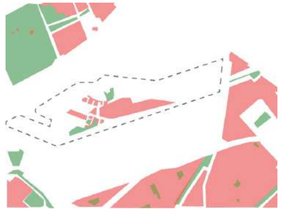
Bombed during the war, 1500 dwelling where demolished.
Decline in the use of Katendrecht, vacancy of buildings both dwellings and businesses; people went elsewhere.
Due to the large amount of vacancy the municipality of Rotterdam started locating the low-income and socially challenged inhabitants in Katendrecht. The collectiveness was almost non-exsisting.
The remaining green, parcs and recreational areas where mainly used by harbour visitors.
(Flexus 2018, P. 48)



1970

In a large scale city renewall period; 850 dwellings and 57 businesses where renovated. 750 new dwellings where realised alongside the harbour area.

Mix of dwellings, shops, (adult) entertainment and recreation occured.
(Flexus 2018, P. 51.)



1990

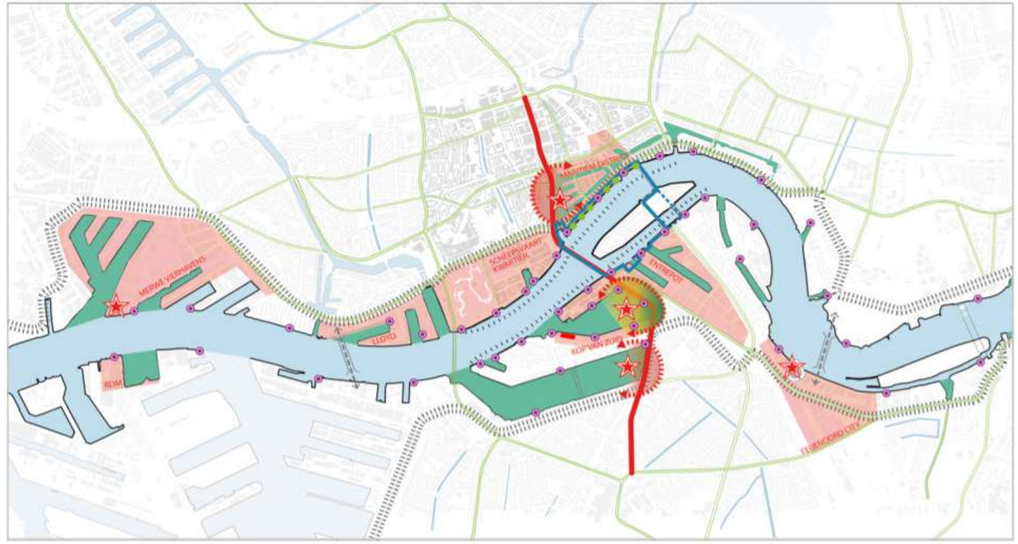
In the end of 1981, Katendrecht had 25 registered prostitutes. There were 181 a year earlier. Katendrecht became a more regular residential area. The aim was to achieve shopping concentration and the persivation of the old core. The objective was also to preserve neighborhood cafes and restaurants on the Deliplein. Bringing back the liveliness.
(Cooiman 2019, P.53.)

2013 Fenix Food Factory

Revival of Katendrecht.
Large scale renovations, big new dwelling blocks, schools, shops and better connection to other parts of the city gave a boost to the area.
Alongside the new dwelling blocks parcs and recreational areas where revived or build.
The city recognizes the alternative character Katendrecht has and tries to emphasize this.
(Cooiman 2019, P.71.)

Future city

Increase of business at riverside



MORE ATTRACTIONS, RESTAURANT AND TEMPORARY INITIATIVES

- Urban and tourist attractions
- More restaurants
  Maaswith every 1,5 km and citywith every 500m
- Strengthen city ax
- Strengthen path around the bridges

ATTRACTIVE QUARTERS

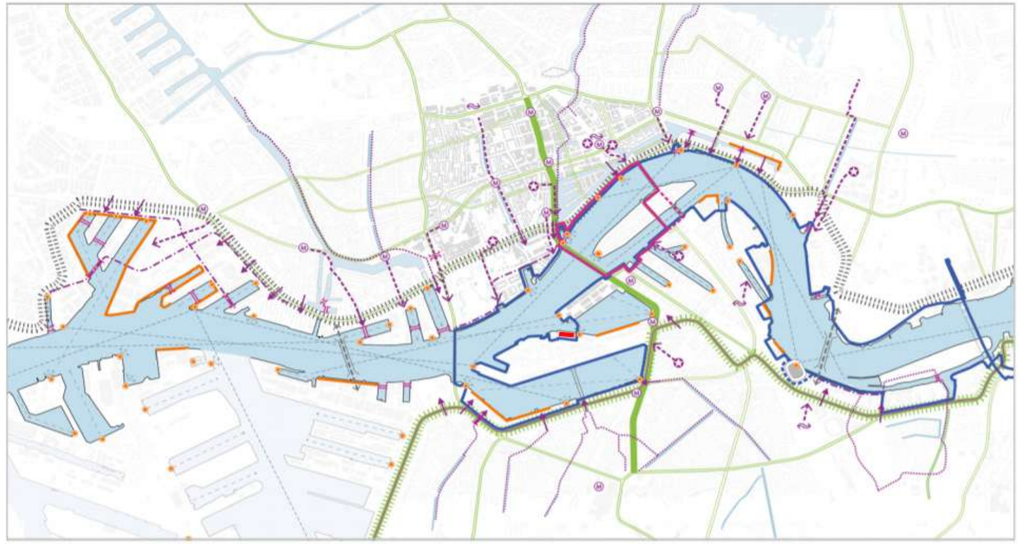
- Strenghten (new) city quarters facing the river
- Intensify the urban waterfront
- Lively characteristic harbor basin

URBAN MEETING POSSIBILITIES AT THE RIVERSIDE

- Intensify the urban functions in metropolitain harbor basins
- Rijnhaven: The Urban Meetingplace
- Boompjes(kade): Lively and green city boulevard
- Fenix II

Future City

Pedestrians and cyclists



Attractive route alongside the river

- City axis connecting north and south
- Bridges that need optimalisation
- The New 'Maasparcours'

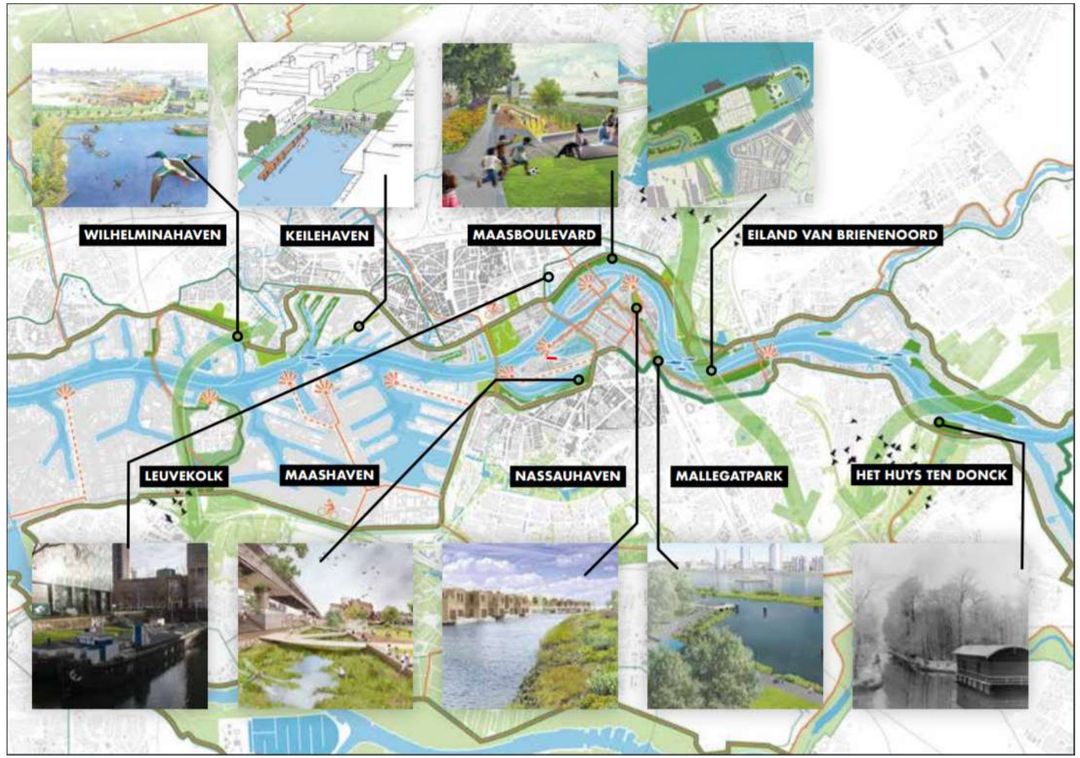
- Continuity through bridges over basins
- New continuous cycle route
- Dyke as attractive and connecting route
- Public quay

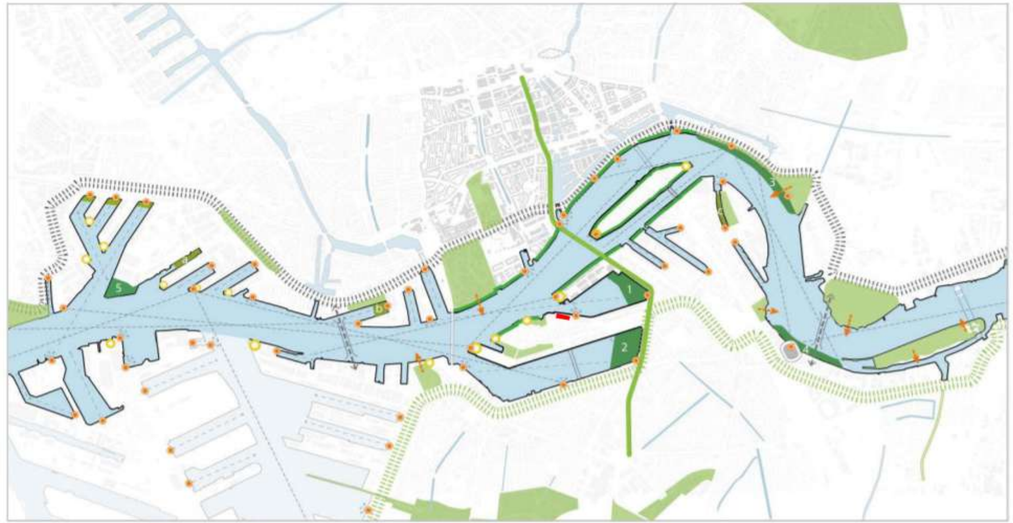
Attractive route towards the river

Other transport opportunities

- From subway station
- From NS Station
- From original destination
- Other crossings

- Attractive and clear routes Linked to girth and rivers
- Greenstructure; girth and avenue planting
- Lookout
- Fenix II





City (tidal) parks at the river
1 Rijnhaven
2 Maashaven
3 Maasboulevard
4 Stadionpark
5 Kop aan de Maas

Utilize sight lines

City axis as an attractive green connection

Existing parks

Strengthen interaction with the river

Fenix II

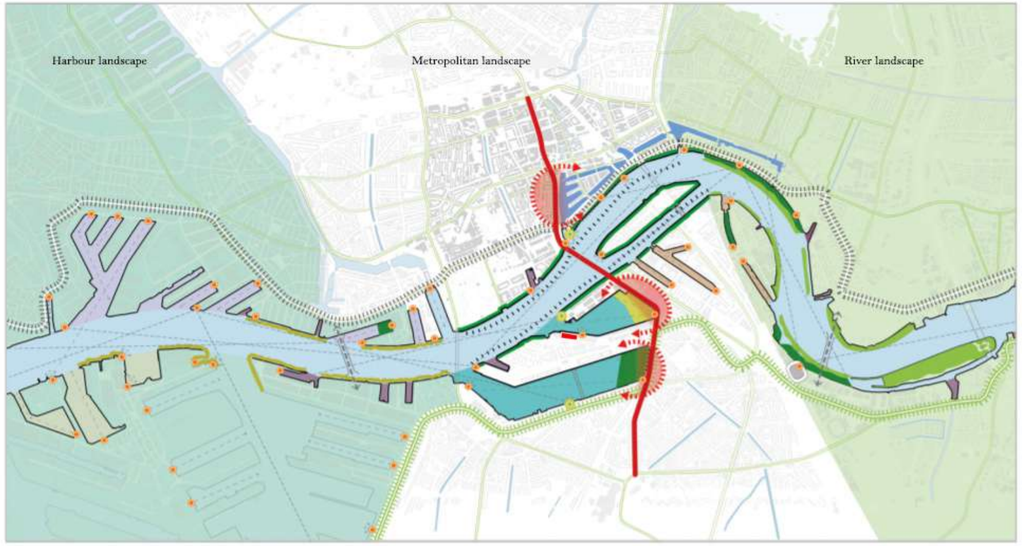
(Tidal) parks including:
a Keilehaven
b Schiehaven
c Nassauhaven

Linear park structure on the quay

Green Headers

Tidal Parks

Mix of City and Harbour



EXPERIENCEABLE WATER INTERACTION

- Tidal parks
- City Beaches Rijnhaven

THE USE OF SIGHTLINES

- Potential sightlines
- Used sightlines

STRENGTHENING THE LANDSCAPE

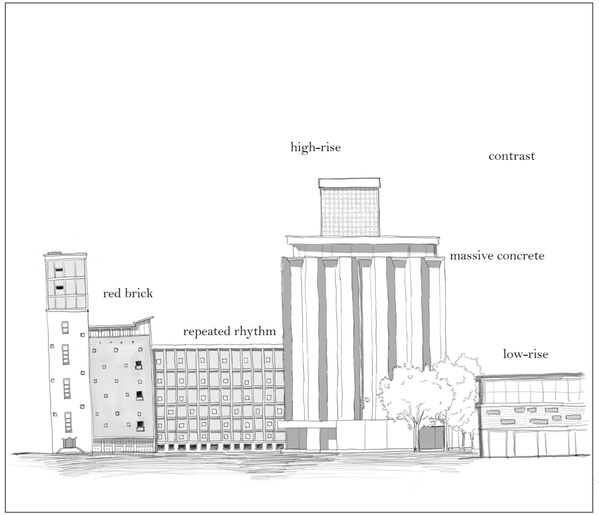
- City waterfronts, both banks
- City ax
- Metropolitan harbor basin
- Green structure: Webbing and avenue planting
- Bank profile Harbour landscape
- Bank profile Metropolitan landscape
- Bank profile River landscape
- Fenix II

Typology harbor basin:

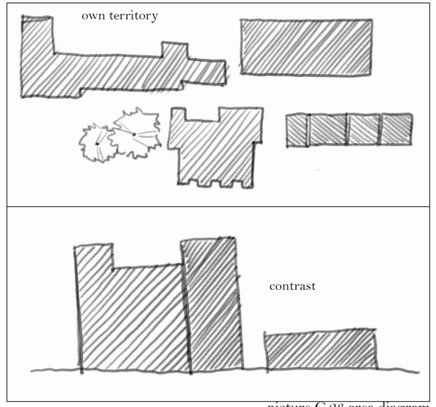
- Inland ports
- Small port of entry
- Basin harbour
- Industry-/rail harbour
- Big port entry
- Heijseharbours

Zone 1

Industrial Heritage



picture G.22 Atmosphere
Industrial heritage



picture G.23 area diagram
Top : planar diagram
Bottom : vertical diagram

Atmosphere

Industrial buildings have high heights and huge volumes, each forming one zone. This is in sharp contrast to the opposite residential area. On the other hand, the buildings, which were mainly used as warehouses, have a high volume but low height, so they are in contrast to high buildings in the same industrial area.

Each building is not unified and has its own facade. However, repeated rhythms can be found in the facade of a building.

Many of the buildings retain skin from the past. Red brick and concrete are mainly used, and the concrete that contrasts with the surroundings highlights the huge volume of the building.

Forming method

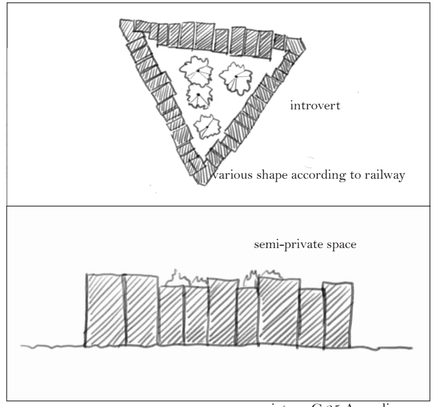
In the area where the massive mass buildings of Zone 1 are gathered, each building comprises its own block. On the other hand, near the entrance of Katendrecht, where low buildings were gathered, several buildings form blocks shaped like long belts.

The contrast can be felt in the vertical approach as well as in the planar approach. High-rise buildings and low-rise buildings contrast in one zone.

Zone 2

Old residential core

picture G.24 Atmosphere
Old residential core



picture G.25 Area diagram
Top : planar diagram
Bottom : vertical diagram

Atmosphere

Zone 2 consists of narrow, low-rise buildings. Each building has a similar volume and the whole looks like a lump.

Each building has a similar facade and design, so it looks as if the same rhythm is repeated over and over. Inside the old core, most of the buildings were pre-war, but some areas were newly built after the war.

However, they also look like the same rhythm sequence because they follow the shape of the past building. Trees are also lined up along the streets around the building, which is also felt as part of the rhythm.

The continuity is further emphasized by red bricks which are used for all but the roof. The lower part of the building has a more open atmosphere, unlike the upper part, and is actively interacting with the street. Many of these are used for commercial use.

Forming method

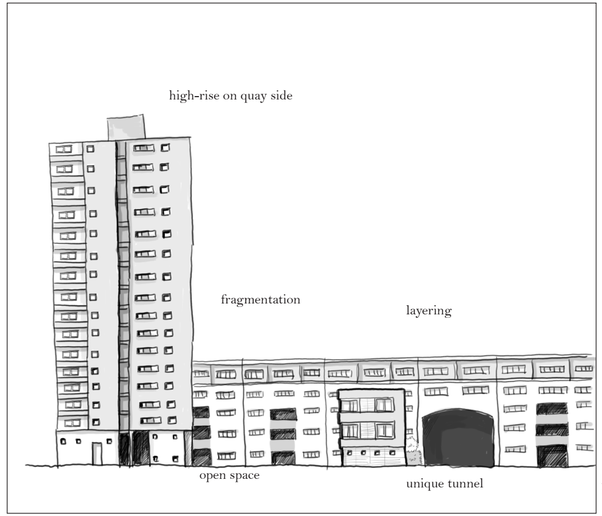
In the old core, small buildings are gathered to form a block, and these blocks are gathered to form a huge core.

Each block has a closed shape with a courtyard inside. Since these blocks were influenced by the development of Katendrecht and the industrial railway, they have various shapes such as triangles and rectangles.

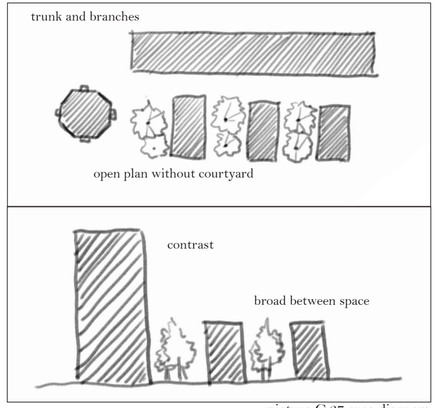
The buildings all have a similar volume and surround the courtyard as a single connected belt. No courtyards are visible from outside the building blocks. The courtyard becomes a semi-private space for residents.

Zone 3

First expansion for housing



picture G.26 Atmosphere
First expansion for housing



picture G.27 area diagram
Top : planar diagram
Bottom : vertical diagram

Atmosphere

Zone 3 consists of elements of various sizes and shapes. Except for the high rise towers on the quay side, they have a similar design, but they don't feel like a similar lump because the mass are different and there are fragmentation elements such as mid-open spaces or unique tunnels. Also, since they are openly arranged, several types of buildings are layered and viewed simultaneously.

A repetitive rhythm is felt in one type of building. The high rise tower also exhibits vertical repetition.

Most buildings use red and yellow bricks, but they do not feel like something continuous because they have their own personality.

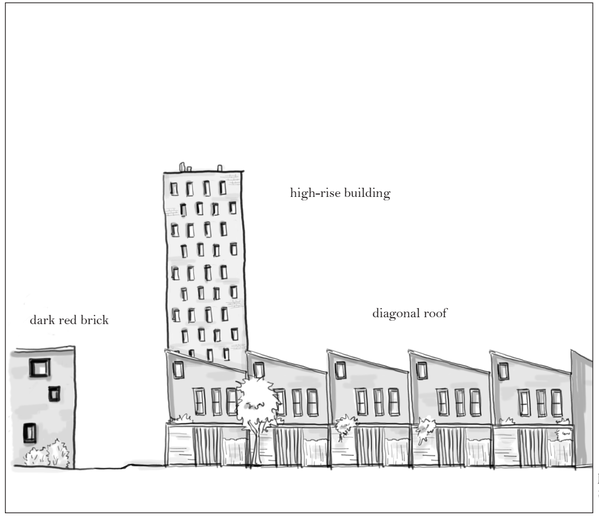
Forming method

Buildings composition in zone 3 is fairly open. Unlike other regions, they do not have a courtyard. They have one elongated building like tree trunk and small buildings are arranged as small branches extending from there. Therefore, you can feel the layering of various buildings.

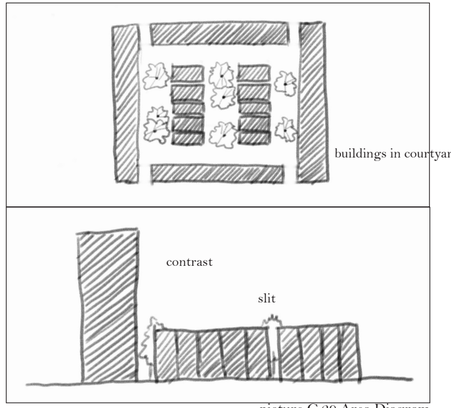
This characteristic is also felt in elevation. The elongated building becomes the background, and the high-rise building and the low-rise buildings with broad between space line up in front of it.

Zone 4

Second expansion for housing



picture G.28 Atmosphere
Second expansion for housing



picture G.29 Area Diagram
Top : planar diagram
Bottom : vertical diagram

Atmosphere

Zone 4 has a similar volume and type of building to the nearby Zone 3. Like Zone 3, it has a high rise tower on the quay side. An elongated volume surrounds the edge of the zone and small volumes of buildings are placed inside. The buildings inside have a diagonal roof, showing a distinction from the surrounding box-shaped buildings.

Each type of building has the same repeating rhythm. For small buildings inside, the same buildings line up and feel like one lump.

The buildings are all made of dark red birck, emphasizing continuity, and distinctly forming a zone.

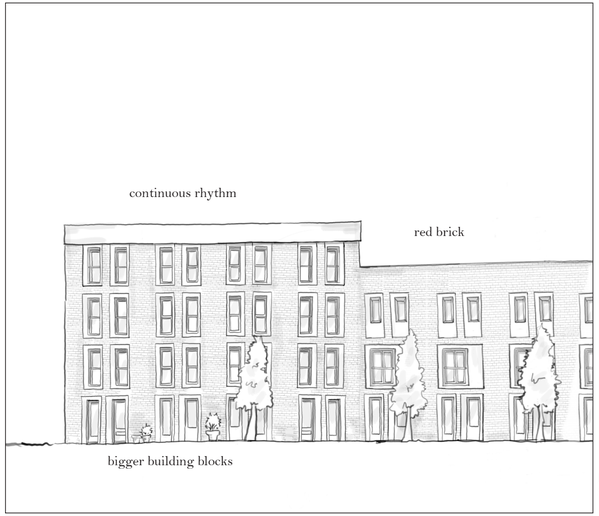
Forming method

Each block in Zone 4 doesn't have a courtyard, but looking at the entire zone, it takes the form of a huge courtyard. The long volumes of the buildings are squared like a courtyard, and the small volumes of the buildings are arranged inside.

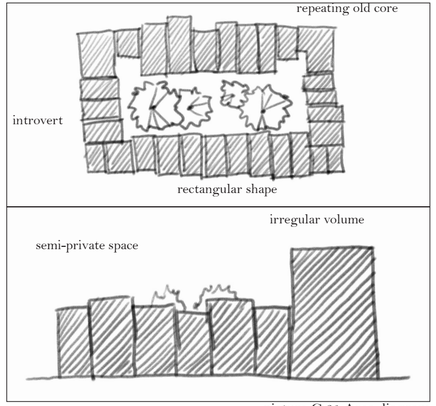
For this reason, the shape of the introverted courtyard appears on the elevation, but it is not surrounded by a single band of buildings, but slit which is fragmentation segment is placed to secure connectivity with the inside.

Zone 5

Southern strip of housing



picture G.30 Atmosphere
Southern strip of housing



picture G.31 Area diagram
Top : planar diagram
Bottom : vertical diagram

Atmosphere

Zone 5 is recently built residential complex, and its form follows the old core. However, the overall volume of blocks increased rather than the old core, and the volume of each building also increased.

The facade of the building can be divided into two sections. Similar rhythms are repeated in both zones, and the continuity of the facade is felt, but the facade in the east is similar enough to feel like a single band. The western section, on the other hand, feels a certain degree of continuity due to the similarity of the rhythm, but it does not look like a single band because it has its own personality.

Zone's south and north are also in sharp contrast. The south shows unity using red bricks, but the north shows different aspects from material to design.

Forming method

The formation of Zone 5 faithfully follows the old core. Several buildings gather to form one block, and each block has an introvert courtyard. However, the volume of each building has increased, and the shape of the block including the courtyard is also different. The old core had various shapes depending on the formation of the railway, but in this zone, it had a straight rectangular shape.

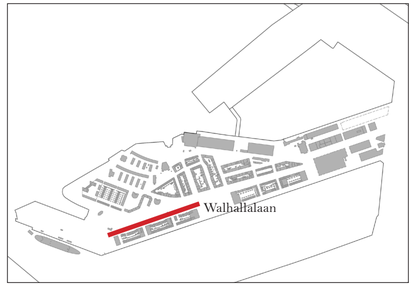
The elevation is the same as the old core, showing an introvert and closed appearance. The inner courtyard is cut off from the outside and becomes a semi-private space. However, unlike the old core, irregular volumes stand out at both ends.

Zone 5-unique ambience

Fenixloods II

picture G.32Photograph of unique facade in zone 5
These unique facades are arranged along Walhallalaan
Source: Own creation

picture G.33 Construction of some houses in Walhallalaan in 2003
These area were developed by individual before massive development plan
(Source : www.Katendrecht.info - Walhallalaan)



picture G.34 Location of Walhallalaan
This facade produce unique ambience in not only Zone 5 but also KatendrechtKatendrecht

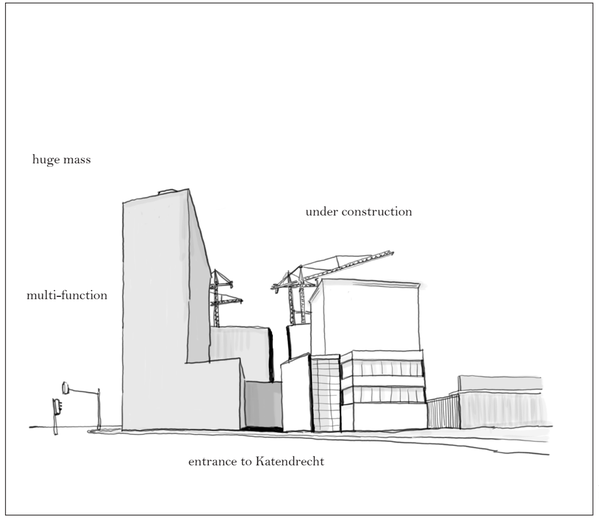
Looking around the long residence area in south of Katendrecht, you can feel a different atmosphere at Walhallalaan. Unlike other streets where the design and rhythm are repeated, this street forms a special streetscape. It is produced by the unique facades of each building. Other streets, even if they consists of different buildings, are following their surroundings context, but in this street each building has its own unique facade. These uniquenesses come together to form a unique streetscape, which creates an atmosphere not seen in other streets in Katendrecht.

The reason why this landscape was formed is related to the development process in the area. In the past, many warehouses were located here, but they were all demolished as redevelopment began in the late 90s. Later, before large-scale development by companies began, it was first developed by individuals. Each architect hired by an individual designed unique buildings, and they gathered to create the same landscape as it is now.

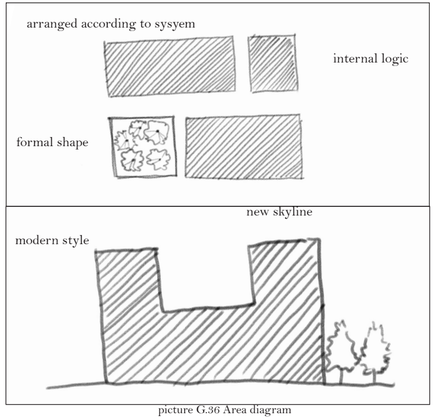
Conclusion :
This street was developed by individuals, and each unique building gathers to form a unique streetscape.

Zone 6

Entree Katendrecht



picture G. 35 Atmosphere
Entree Katendrecht



picture G.36 Area diagram

Atmosphere

Entree Katendrecht is the most recently built area, with new high-rise buildings in massive volume. These buildings form their own territories with huge volumes. Each building has its own personality, but each has its own logic and repetitive rhythm.

This zone seems to have been created according to certain rules, from building blocks to greenery.

This new high-rise zone will be the entrance to the future of Katendrecht.

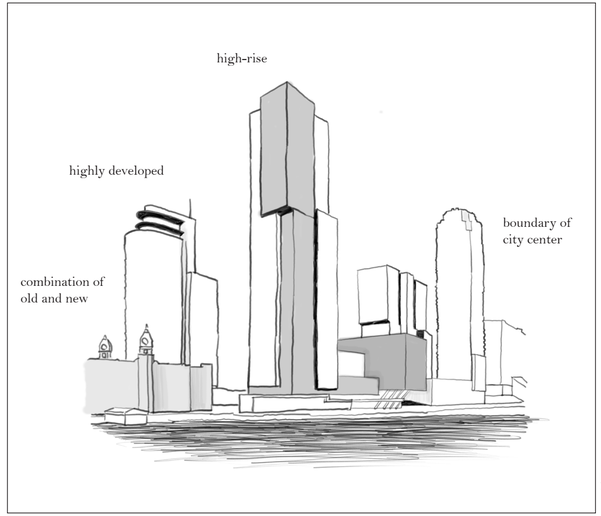
Forming method

The buildings in this zone are arranged in a modern way, not in a layout that includes the courtyard as in the past. Each building forms a very formal area, as is green space. These elements were intentionally arranged according to the internal logic.

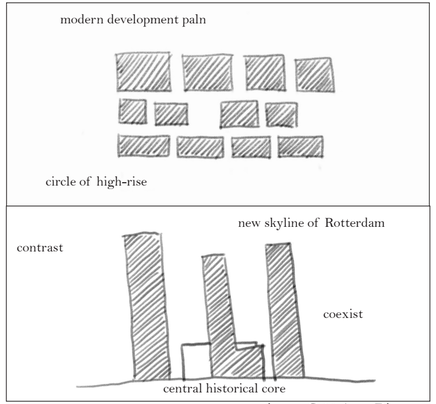
The tall, large volume, and the modernly cut mass form the new skyline of Katendrecht.

Zone 7

Wilhelmina pier



picture G.37 Atmosphere
Wilhelmina pier



picture G.38 Area Diagram
Top : planar diagram
Bottom : vertical diagram

Atmosphere

The Wilhelmina pier, which can be seen from the Fenix ll warehouse, has a strong contrast with Katendrecht. Except for some of the central historical buildings, the peninsula is surrounded by high-rise buildings and is a very developed area.

At the same time, new high-rise buildings coexist with historical buildings of the past.

The new skyline formed by these high-rise buildings is in strong contrast to the overall low-height Katendrecht. It feels as if it forms the boundary of the developed Rotterdam city center.

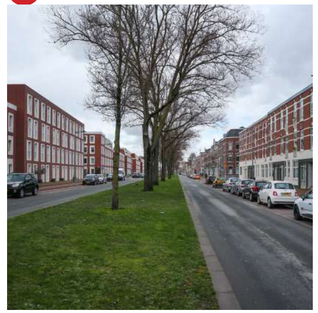
However, at the same time as Rijnhavenbrug was built, Katendrecht gained a direct connection to the Wilhelmina pier.

Forming method

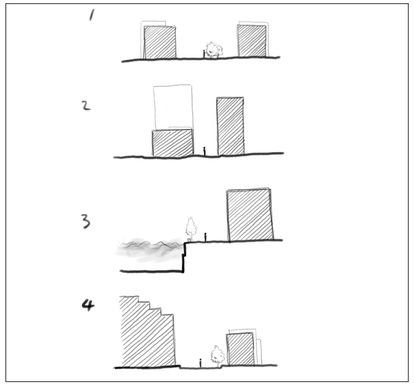
Each building here has its own iconic appearance and is arranged in a modern way according to the Wilhelmina pier development plan.

The high-rise building surrounds the central historical building. It forms a strong height contrast and at the same time coexists functionally. These vertical elements form the new skyline of Rotterdam.

1 Brede Hilledijk

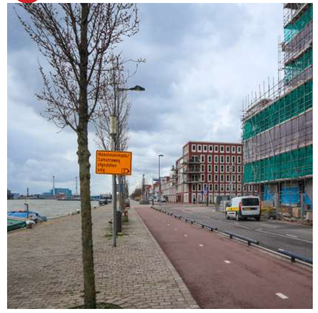


2 Alley in Entree Katendrecht

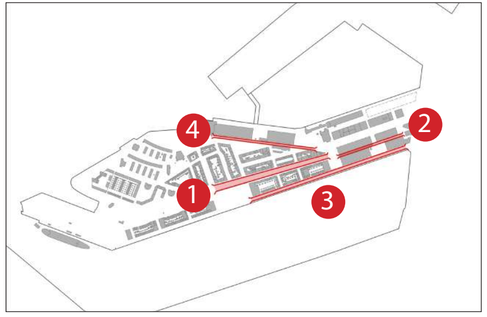


Picture G.39
Street profile
short line
Source: Own creation
Own photograph

3 Maashaven Noordzijde

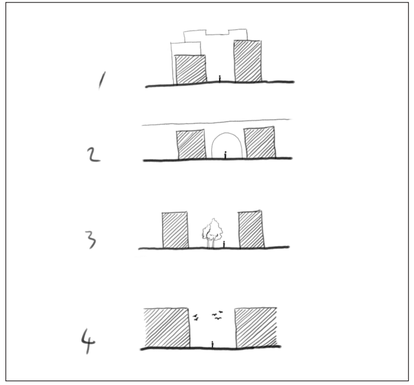


4 Veerlaan



1 Rechthuislaan

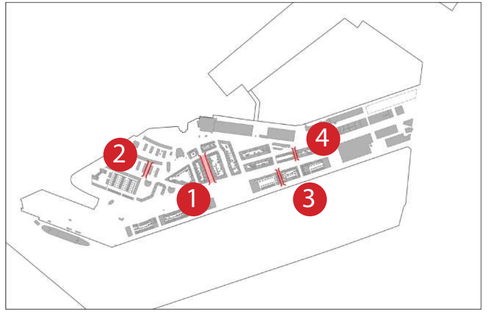
2 Overzetveer



picture G.40 Street profile
short line
Source: Own creation
Own photograph

3 Ambonpad

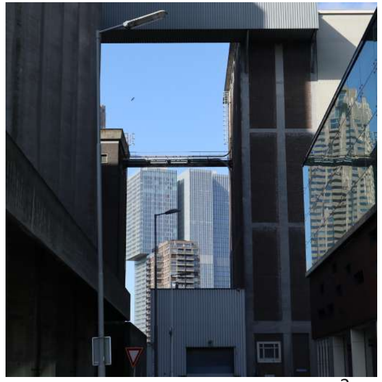
4 Timorstraat



Layering of space

Fenixloods II

1.



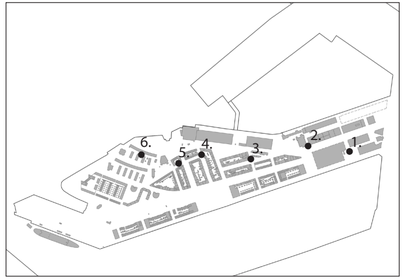
2.

3.

4.

5.

6.



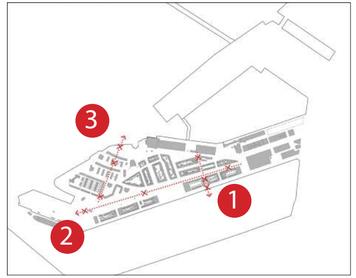
Picture G.41Layering of space
Source: Own creation
Own photograph

There are various spots on the street network of Katendrecht where you can feel the layering or framing of space. Within Katendrecht, you can feel a variety of layering of diverse buildings, and the quay-side buildings framing the water, green area and Wilhelmina pier's high-rise buildings.

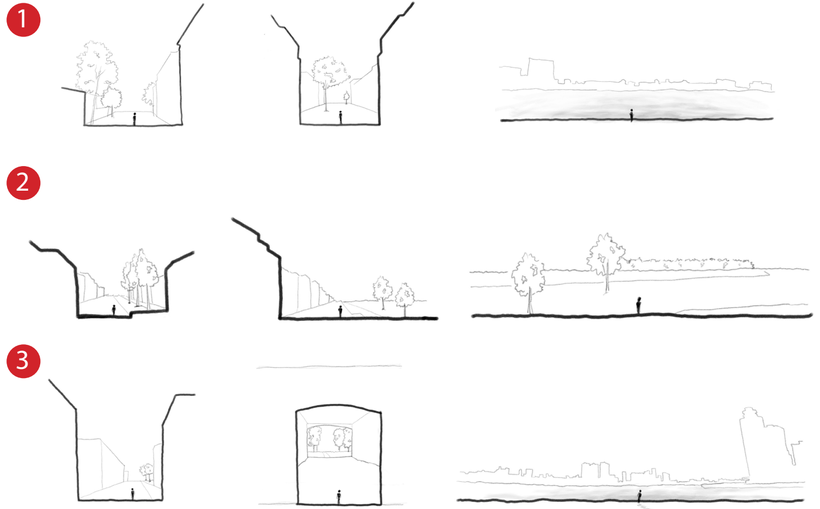
This layering is created by several factors. The first is a shape of landscape created by giant havens. The second is the spatial transition created by the cross connection between the long line and the short line mentioned before.

The last one is the different zones and their scale differences.

Conclusion :
Layering is producing unique streetscape and it is closely related to street network and contrast between zones.



1. From Lombokstraat to Ambonpad
2. From Brede Hilledijk to Walhallalaan
3. From Staalstraat to Sterappelhof



Picture G.42 Sparial transition from narrow to broad
Source: Own creation

Katendrecht has a number of spatial transitions. You can feel the transition of this space if you move along one axis in the street network that is mentioned earlier. When passing through the interior of Katendrecht, space is limited by the surrounding buildings. This limited space transitions in various ways while the surrounding context changes. This is further emphasized by buildings of various scales.

The streets then lead to the Maas river or huge havens or a large park (except for the north quay side), and the space which is limited so far is no longer restricted by walls or surroundings and is not framed anymore. Eventually, the space is completely transformed into a vast open space.

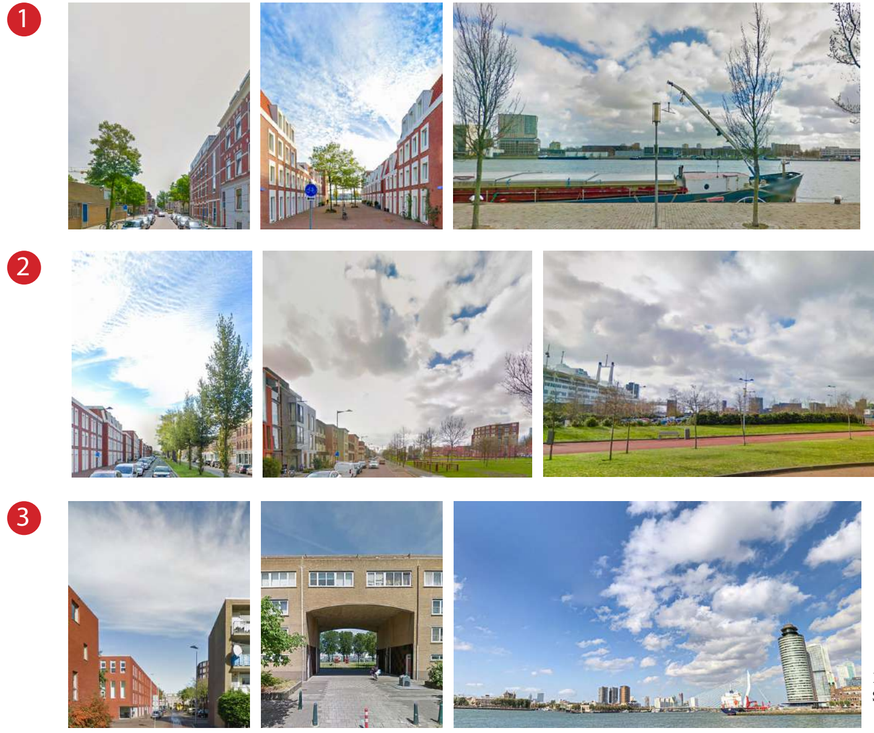
The transitions in this space are produced by the landscape of Katendrecht called Peninsula and the long and short lines of cross-connection leading to the water. In addition, the transitions thus produced are further emphasized in the characteristics of various Katendrecht zones.

This transition will be analysed further in following research.

Conclusion :

Spatial transition from narrow space to vast is related to context of Katendrecht. These transitions can be found many place except north quay side. This can be a fvuture oppotunity or problem.

Spatial transition
Fenixloods II



1. From Lombokstraat to Ambonpad
2. From Brede Hilledijk to Walhallalaan
3. From Staalstraat to Sterappelhof

Picture G.43 Photo of sparial transition
Source: Own creation

Damage Appendix

Fenixloods II

The main materials that are found in the facade of the Fenix 2 are concrete, brick, plaster and steel. These materials are mainly from the 50's with few additions that happened later on when parts of the facade were closed up, or elements that had a functional importance for the building were replaced, like glass or doors and frames.

Damage to concrete

Disintegration
There is not so much loss in the cohesion of the concrete that is used on the facades and even less layering observed.

Cracks
There are cracks on the concrete but most of them are immediately relatable to problems of the reinforcement, since in many cases the cracks result in its exposure. The facades have little load bearing capacity and most of these cracks appear to extend on the surface. We can consider that they are not structural nor that they affect the total cohesion of the structure.

Surface changes and blemishes
Chromatic alteration
The changes in the colour of the concrete that can be observed, can be related to moist spots accompanied by biological growth in the form of biofilms and moulds. The cause was not obvious but the proximity to water, and the age of the drains of rainwater could be possible reasons for this.

Superficial Irregularities
Voids
Small bug holes are caused by air, entrapped between the concrete surface and the form work. If the concrete is not adequately compacted, air present in the concrete can not move to free surfaces and may get entrapped in between the concrete and the formwork.(considering the time the building was made, the techniques of concrete puring were not as perfected as we know them today)

Deposit
Soiling
Soiling is present through the facade, but for the most part comes from the long exposure of the building to ship and motor fumes.

Staining
Staining is present and is in many cases originating on the metallic elements on it, like frames of doors and windows. It has a rust colour in most

places and appears in descending forms around openings.On the spots were the reinforcement of the concrete is exposed, we observe as well this phenomenon.

Graffiti
The facades have been damaged in a few places by the creativity of people but it remains limited, considering their length.

Efflorescence
It was observed in the interior of the building. (more research needed)

Deformation
Both displacement and bending are observed but the cause could be both from excessive loads placed on the building but could also be the result of the rebuilding of the 50's, were we know that the remaining parts of the San Francisco were used in the new building. A conclusion is hard to make considering the function of the building as storage and the history of its construction.

Damage to reinforcement
Both inside and outside, the exposed reinforcement shows rust layers due to its exposure to air, moisture and this can have a very negative impact on its function. Extended loss of rebar diameter was not primarily observed but the rebars are exposed in many spots, and since rust is present, we can assume that its original capabilities could have been compromised.

Damage on plaster

Surface change

Fading
It is observed on the facade but it is easily traced on the long exposure of the material to sunlight.

Deposit
The same applies as with concrete. There are also signs of Graffiti removal that have changed the colour of the remaining material.

Disintegration and Cracking
The facades show a lot of damage due to their age. There is layering and detachment in multiple places, most probably due to loss of adhesion.

Biological growth
As in concrete.

Missing part
There are a lot of parts of the material that are missing, in different sizes, depths and places of the facades. Some are easily reasoned due to their position next to frames.There are many causes possible, varying from corrosion of iron elements to mechanical impact, frost action etc

Damage on Brick
(.....)