



P e t r u s ' f r o n t o n

Cultural value assesment of
the 'Timmerfabriek' at the
former Sphinx in Maastricht

Heritage & architecture
AR 3 AR 111
Bert van Bommel

Report cultural value
130 28 68
Jafeth Hagoort

Cultural value

04/Definition

06/On the face of industrialisation

08/what stories does the context tell?

10/which stories are of value?

10/which structures then, are of value?

12/The brains of Sphinx

14/what stories does the building tell?

18/which stories are of value?

18/which spatial relations then, are of value?

20/The façade of Regout

22/what stories do the elements tell?

24/which stories are of value?

24/which elements then, are of value?

26/Value assesment

28/Bibliography

Definition

borderland

Situation

city - context - building - elements

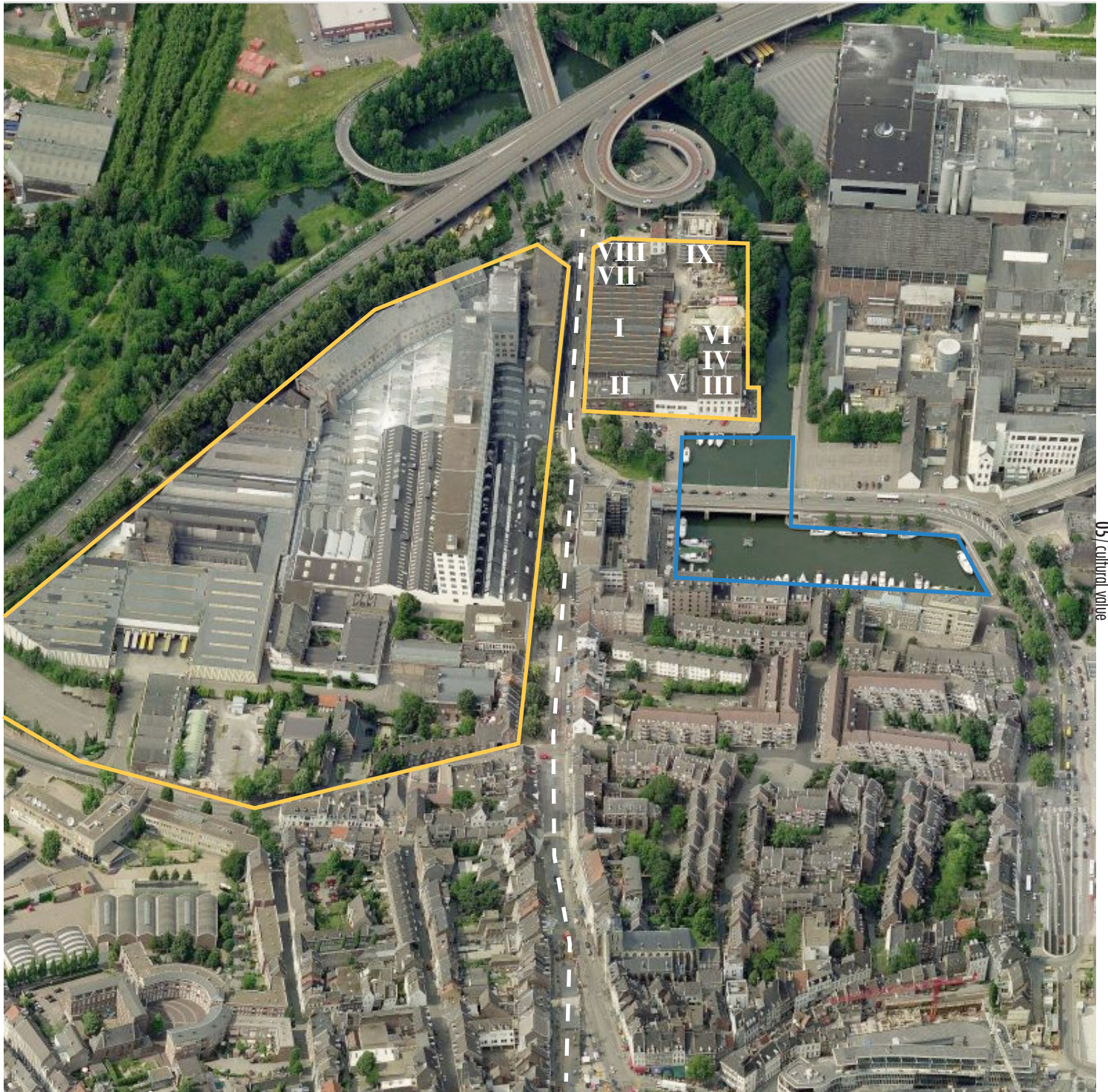
This report concerns the Timmerfabriek in Maastricht. Goal is to make an inventory and assesment of the cultural values. Three scales are considered as the building consists of elements but is itself an element also. First the role of building and context in relation to city. Maastricht has appeared in many forms over time, as has the context of the Timmerfabriek. Variations are Sphinxkwartier [yellow], factory area [yellow, left], Kop van de Sphinx [yellow, right], Boschstraat [white, dotted] and Bassin [blue]. Second the buildings are seen in their context. This context is clearly the Sphinxkwartier and more specifically Kop van de Sphinx. The Timmerfabriek, a warehouse [I] is one of the buildings on the Kop next to the shwroom [II], both build in 1905. In 1910 a power station [III] and boilerhouse [IV] appear and a year later the Kistenmakerij [V]. Additionally the Kop consists of an old Tramremise [VI] dating back to 1888 and another boilerhouse [VII]. Never owned by Sphinx but in the area where buildings that are now demolished [VIII] and a, in 2006, newly build unknow structure [IX].

Cultural value

onlooker - spectator - observer

At each scale historical data is gathered and shown by images. By wondering what stories the building tells the studied literature is dissected. These are arranged along a timeline for the sake of clarity. Reasoning what stories are valuable is, besides an assesment, taking a position. The argumentation (in dis- or agreement with literature) is based on what I consider important to passer-by, visitor or user (which is to say not for me as architect). Which elements then, are of value relates im- and material aspects to the stories that are valuable. Moreover, elements of beauty are singled out. It is these aspects that I argue should be kept in the new desgin; because they make the building significant.

The definition of cultural (historical) value was not researched. The building (aspects), I consider a carrier of cultural values of the past. Culture can be understood as a specific way of doing bound to a place or group. Culture brings forth certain objects and habits that represent it. Seen this way, a building can be of value because it carries the memory of a culture in which other ideas, about for example beauty and building, existed. The highest value could be assigned to building(aspect)s that, besides being beautiful, teach us about (the culture of) ourselves or others. "Door een monument te verzorgen behoeden wij dan ook niet alleen de daaruit sprekende schoonheid, maar doen wij tevens recht wedervaren aan de geest die voor onze eigene mede bepalend is geweest." (Tillema, 1975, VIII)



On the face of industrialisation

context in relation to city



1649

repository.tudelft.nl



1649

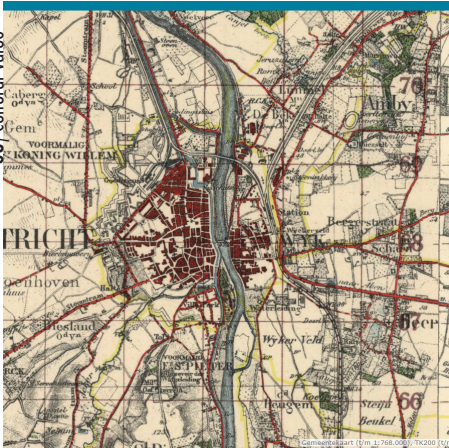
repository.tudelft.nl



1832

beeldbank.cultureelerfgoed.nl

06/cultural value



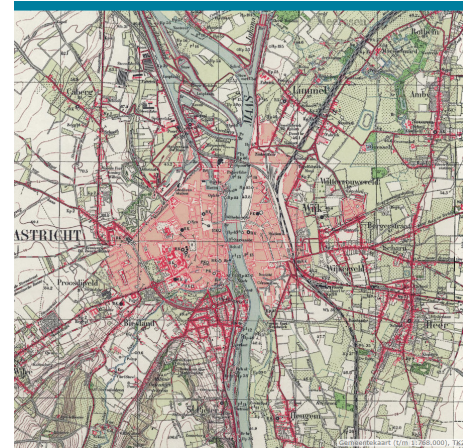
1911

topotijdreis.nl



1924

topotijdreis.nl



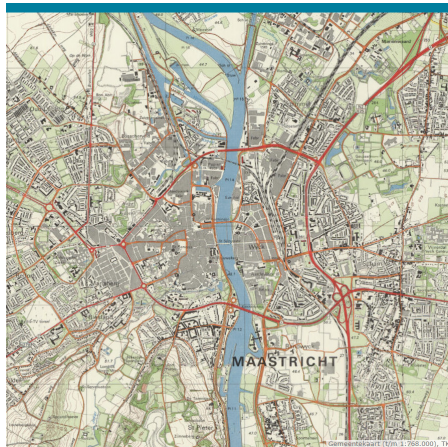
1938

topotijdreis.nl



1979

topotijdreis.nl



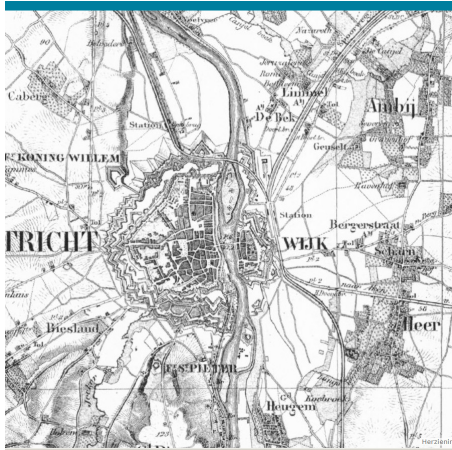
1989

topotijdreis.nl

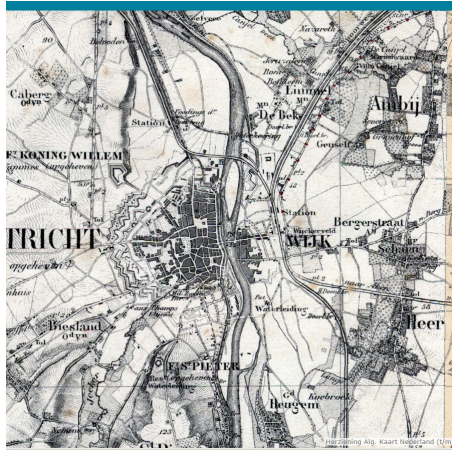


1999

topotijdreis.nl



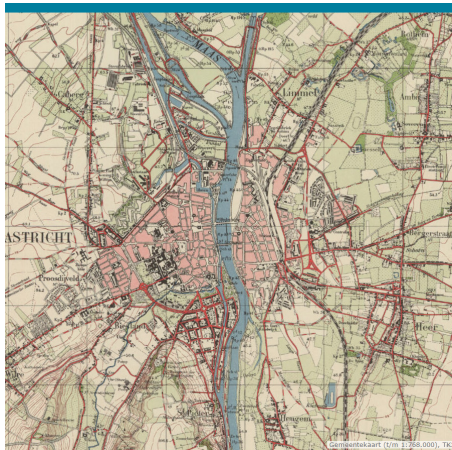
1850 topotijdreis.nl



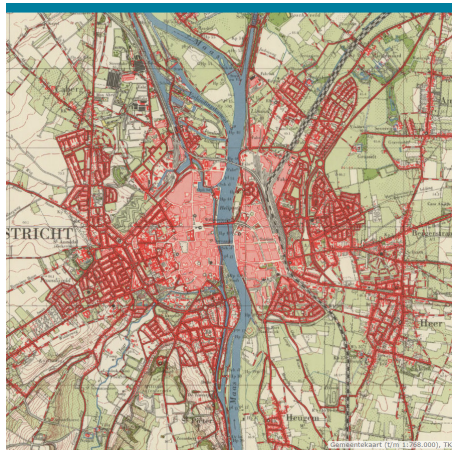
1864 topotijdreis.nl



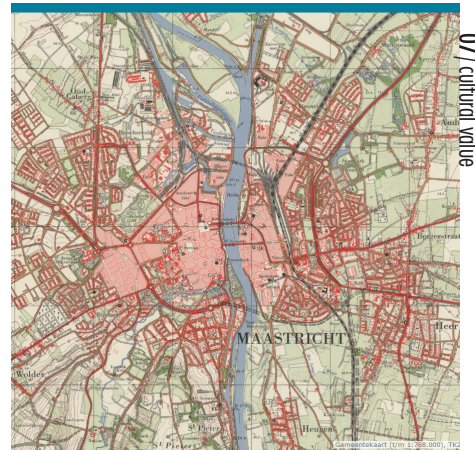
1902 topotijdreis.nl



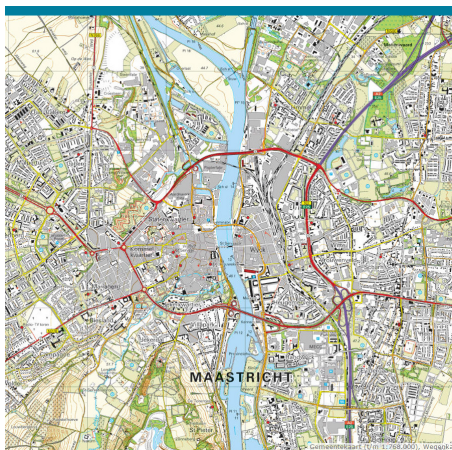
1954 topotijdreis.nl



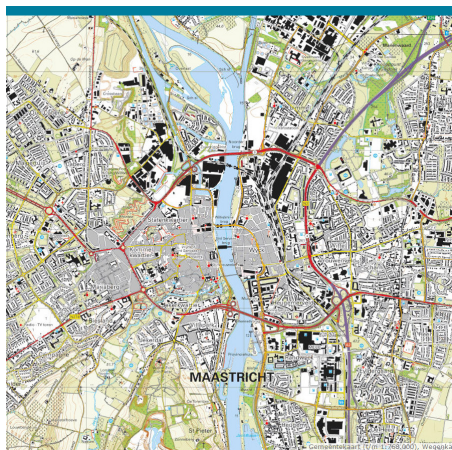
1959 topotijdreis.nl



1968 topotijdreis.nl



2009 topotijdreis.nl



2011 maps.tudelft.nl

What stories does the context tell?

The industrialisation of Maastricht

The meaning the Timmerfabrieks' context has to the city of Maastricht roughly consists of three periods according to the cultural historical research by Oranjewoud (Oranjewoud e.a., 2003). Left over from these periods are mainly structural changes, some artefacts but also stories that played a significant role in the history of Maastricht.

In the first period, from prehistory to early Middle Ages (1000 ad), the area is part of the *countryside*. The Maas stippled freely causing, among other things, characteristic height differences. Despite the fact that the area does not yet belong to the city a route along the current Boschstraat "already in Roman times is an important road to Nijmegen" (Oranjewoud, 2003, 6).

In the second period, from late Middle Ages till demolition of the fortress (1000-1867), the area (where three monasteries are founded) is mainly part of a whole in *military interventions*. Around 1500 a city wall is built with a gate in the area called Boschoort, also Hochtort. Except reinforcements of the old wall a new fortification is made in 1632-45. This is also worked on, for example by building Fort Willem I in 1815-23. "In this period[.] the fortification east of the Boschoort was breached to let the Zuid Willemsvaart enter the city [because the river Maas was impassable]. This breakthrough was a weak link in the chain of defence" (Oranjewoud e.a., 2003, 9). Eventually the fortification is lifted and demolished, although not completely, not long after. "The northwest of Maastricht was not densely built on in the late Middle Ages. The area consisted of many gardens and two pools. Buildings developed in a ribbon along the Boschstraat and Maagdendries. Exceptions were big complexes like the Antonienklooster, huis van de Duitse Orde and St. Andriesklooster" (Oranjewoud e.a., 2003, 10). Only a part of the St. Andriesklooster remains.

In the third period, especially between 1814 and 1845 *trade and industry* transform the image of the city. Even before demolition the fortifications are jeopardized by the Zuid Willemsvaart en Bassin in 1817-1826. "In this period [after separation of Belgium] the first factories of *Petrus Regout* are established for making glass, pottery, guns, potash, minium en nails. Through time these factories grew more and more[...]. Around 1845 the factory area was already about a quarter of what is now. The complex was situated very strategically near the Bassin, a basin of the Zuid Willemsvaart. This basin was, until railways appeared around 1857, the only way to import raw materials like coal and export industrial products" (Oranjewoud e.a., 2003, 13). Only after demolition of the fortifications a second basin could be made which was necessary after arrival of the paper mill in 1850. "The released fortress grounds were reserved for industrial purposes only. That way Petrus Regout managed to buy the area for expansion of his pottery[...]. He erected, among other things, a gas plant. Before demolition of the fortifications his company reached the northside of the Kistenmakerij. In 1889 the current Sphinx area is filled" (Oranjewoud e.a., 2003, 14).

Which stories are of value?

Early industry in Maastricht

The most important story of building and context in relation to city is the industrialisation of Maastricht. In particular early industry at the Bassin and more specifically Petrus Regout's factory. This story is valuable because it tells about the transformation from fortified to trade to industrial city. Old structure disappear, like fortifications and new structures appear, like basin, railway and avenue (singel). The ribbon development on narrow plots along the Boschstraat makes way for a new kind of building on a large area. The story contributes to the history, identity and explanation of the current city.

The storyline starts with breaking through fortifications to enable trade over a new waterway. Petrus Regout moves his workshop to the Boschstraat for this reason. Because trade flourished and the waterway allowed importing raw materials he was able to set up a factory. The succes of his enterprise made the factory area grow to a previously unknown size. Also demolishing the fortifications allowed for growth. At that time Regout buys the Kop van de Sphinx to build a warehouse for the passing over of import and export. The prominent place, apart from production leads to the building of an office and showroom. The busy and poorly maintained quay at the Bassin makes Regout decide to also add a railroad and gaslights (both a first in Maastricht).

Which structure then, are of value?

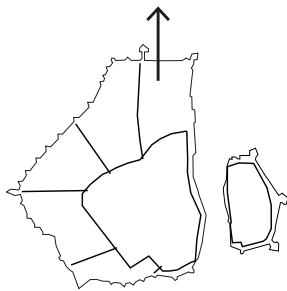
The breakthrough

The significance of the building resides in the stories it can tell. Certain elements are of value because they tell a story that is important. The valuable aspects of context in relation to city are mainly structures.

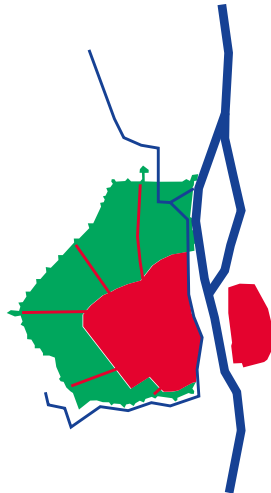
Structures that tell of the industrialisation of Maastricht are, in succession: basin, railway, and a new road network. Within the context of the building this concerns the acces routes via Boschstraat to Bassin (from 1825), depot (from 1900), and Maagdendries (from 1970). These are of positive value. At least as important is the disappearance of fortifications; an immaterial aspect of positive value.

The location of the building near a basin is the most valuable aspect which is best able to tell about the industrialisation of Maastricht, it's origin and role of in it of Petrus Regout. The Bassin is of high value to city as much a Sphinx and Timmerfabriek.





vroege industrie



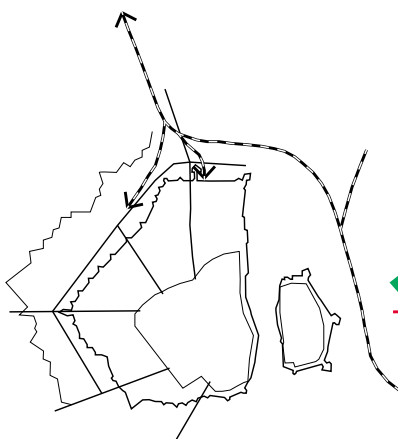
binnenstad



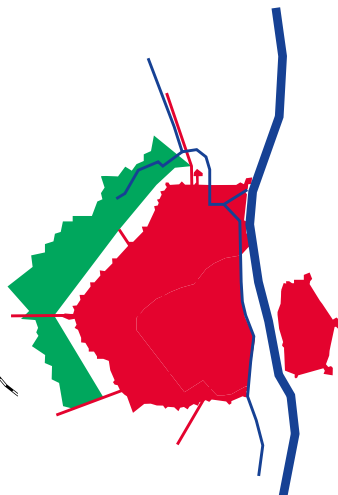
1850

1:50.000

topotijdreis.nl



spoor



binnen de stad

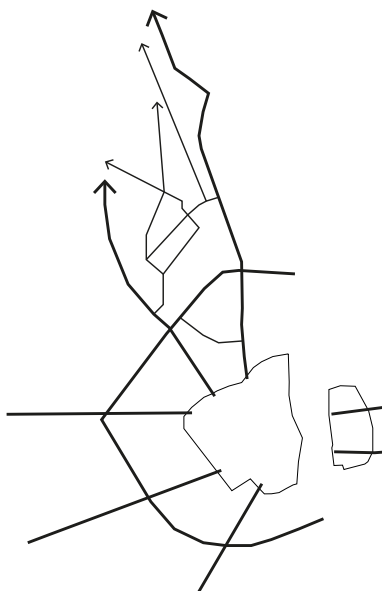


1902

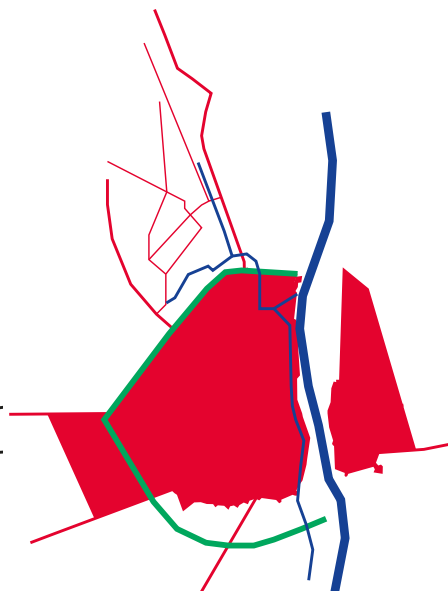
1:50.000

topotijdreis.nl

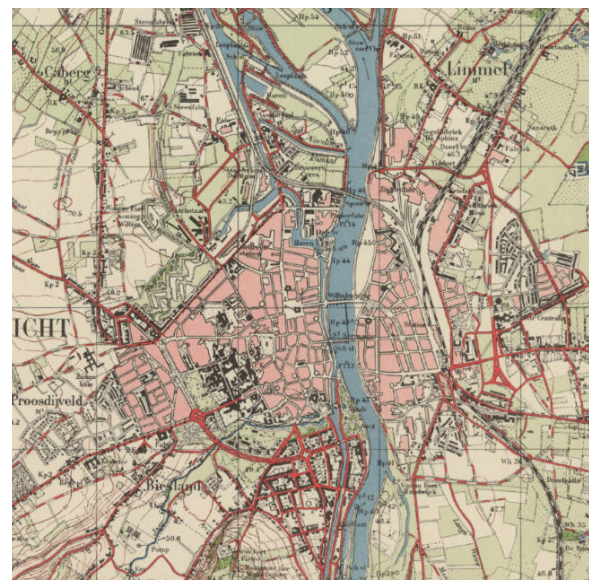
11 / cultural value



late industrie



omsingeling van de stad



1954

1:50.000

topotijdreis.nl

The brains of Sphinx

building in relation to context



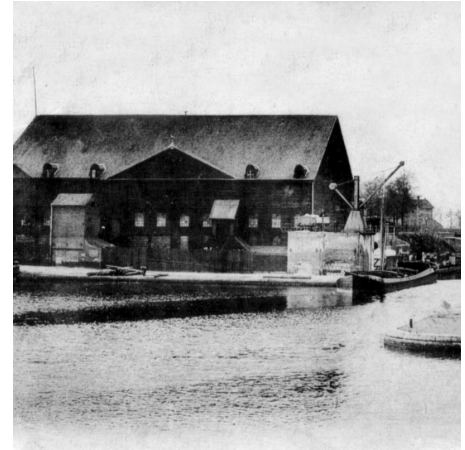
1868

rhclimburgpubliek.hosting.deventit.net



1900

rhclimburgpubliek.hosting.deventit.net



1905

mestreechtersteerke.nl



1941

rhclimburgpubliek.hosting.deventit.net



1960

rhclimburgpubliek.hosting.deventit.net



1961

rhclimburgpubliek.hosting.deventit.net



1979

rhclimburgpubliek.hosting.deventit.net



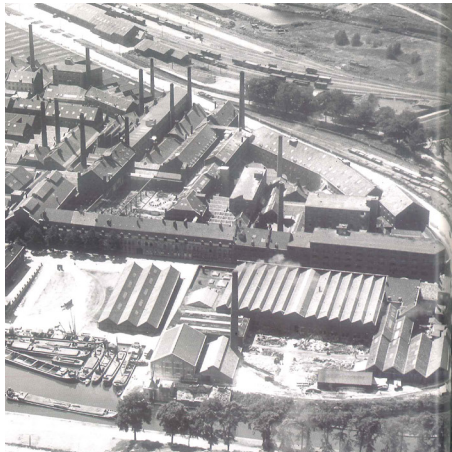
1984

rhclimburgpubliek.hosting.deventit.net



1986

rhclimburgpubliek.hosting.deventit.net



1927

kruisinga,2000,66



1930

rhclimburgpubliek.hosting.deventit.net



1930

rhclimburgpubliek.hosting.deventit.net



1965

rhclimburgpubliek.hosting.deventit.net



1973

rhclimburgpubliek.hosting.deventit.net



1979

rhclimburgpubliek.hosting.deventit.net



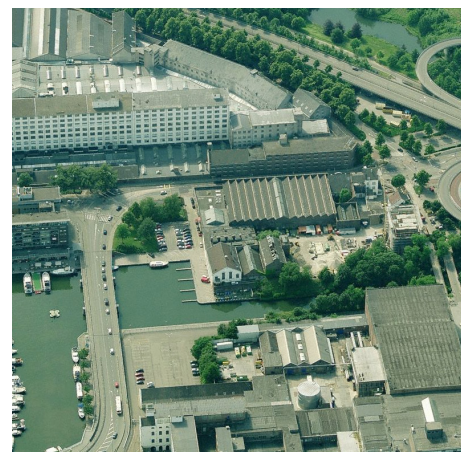
1987

rhclimburgpubliek.hosting.deventit.net



1990

rhclimburgpubliek.hosting.deventit.net



2011

bing.com/maps

What stories does the building tell?

The Sphinxkwartier

The significance that the buildings have in relation to the context, being Sphinxkwartier, is divided into eight periods in research by Sasja Kruisinga (Kruisinga, 2000). Those periods are characterized by spatial developments which are the result of Sphinx's evolution. The buildings at the Kop van de Sphinx are an outcome of explosive growth in the factory area led by Petrus Regout until roughly 1899, but only arise after his death. The building at the Kop has characteristics of prestigious project and as such herald a new period. A period of electricity and reinforced concrete in which they soon become somewhat outdated.

In 1350-1632 nor in 1632-1814 there is a factory and are spatial developments irrelevant for the story of Petrus Regout. This period lies before construction of a basin and consequently before industrialisation in Maastricht. The future Sphinx area consists of ribbon development along the Boschstraat and some monasteries and gardens; all within the fortifications. There does exist a large house at Boschstraat 1303 before 1814 that from 1827 houses the workshop of Regout for grinding of crystal.

In 1814-1845 the area of Regout *arises* rapidly due to the basin. He buys a house as workshop but soon owns abutting lots on which he places factory buildings that grow but not surpass the scale of monasteries yet. "Remarkably raising one factory continually forces Regout to set up another one, either because certain raw material or excipients aren't produced in Holland, or because the quality is disappointing" (Kruisinga, 2000, 31). That way the complete production process for making glass takes place already in 1839 within factory walls using furnaces and steam engines.

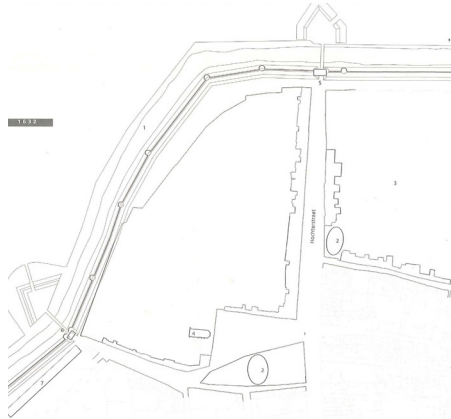
During this period the *Bassin* and Zuid Willemsvaart come into existence thanks to koning Willem I in 1817-26. This basin is directly an important settlement for economic activity; the reason Regout moves to Boschstraat 1303 in 1927. "Shipping by ship was after all the only way of transport in a time that railways were unknown in the area and roads were in bad condition" (Kruisinga, 2000, 31).

In 1845-1867 a further *growth* of the factory is visible that now also builds, for its time, high. "It is striking that pottery took the upper hand, as Regout started out with glass" (Kruisinga, 2000, 39).

This period also consists of *prestigious projects* by Regout. "From the amount of purchases in real estate one can conclude that financially things went well" (Kruisinga, 2000, 40). For housing (a restricted number of) employees he buys a former Penitenten klooster (1863) until his own Cité Ouvrière was built (1864) after which he also erects the Hooghuis (1865) including shops. Except personal purchases (castle and Refugiehuis) he buys a plot (1851) on the eastside of the Boschstraat. There he builds "two wooden buildings, near the basin, connected by a wooden gangway. These buildings served as packaging room, warehouse and carpentry workshop" (Kruisinga, 2000, 41). Already in 1850 he builds a little railroad and gaslights along the basin. The crowdedness and steep, unpaved ramps make him decide to work evenings and unload by using a wagon, instead of waiting for the government work on the slope (1957). Gaslight, which from 1858 onwards comes from the Stedelijke Gasfabriek, allows for deeper factory buildings and longer working hours.

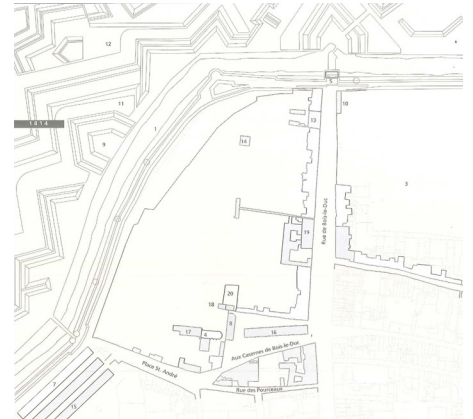
In 1867-1899 the area keeps *enlarging* explosively, now beyond former fortifications. "After formal abolishment and demolition of the fortress Regout soon bought former grounds of it (1872) to make possible an ambitious spatial plans" (Kruisinga, 2000, 45). Their realisation meant a disproportionately scale and density of building. "At the turn of the century the area along the Boschstraat was completely full" (Kruisinga, 2000, 45). The current borders of the Sphinxkwartier; Fronten- en Fransensingel are already reached.

During this period, from 1870 onwards sons of Regout gradually take the daily *leadership* as shareholder of the partnership. Petrus Regout dies in 1878. His four sons take over the company which in 1899 is named Sphinx (a trademark in use since 1879).



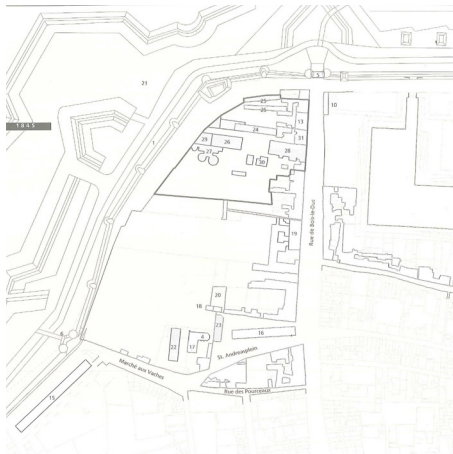
1632

Kruisinga,2000,10



1814

Kruisinga,2000,14



1845

Kruisinga,2000,22



1867

Kruisinga,2000,38



1899

Kruisinga,2000,44



1924

Kruisinga,2000,58



1970

Kruisinga,2000,68



1999

Kruisinga,2000,80

15/cultural value

In 1899-1924 all goes well until the First World War, after which things get going again. The area does not change by growth or expansion “but by application of *new powersources and building materials*: steam power and gaslight where increasingly replaced by electricity. Moreover reinforced concrete appeared. Application of this new building material enabled the full factory area to grow ‘in height’” (Kruisinga, 2000, 59).

In this period the *Kop van de Sphinx* comes into existence. The warehouse, power station and Kistenmakerij are among the few newly built projects and all have a *representative and innovative* purpose and appearance. The Timmerfabriek of 1905 is a big warehouse with offices next to a showroom with offices. The facade along the Boschstraat hides its sheds and is different from the backside. In the power station with boilerhouse from 1910 two steamengines generate electricity. The power station is, as the Timmerfabriek a combination of ornamental masonry outside and a steel construction inside. In both an *architectural idiom* for industrial buildings is sought after. A leap forward, also concerning industrial architecture, is the Kistenmakerij dating back to 1911. “The firm F.J. Stulemeyer & Co from Breda designed it. Probably a concrete skeleton, filled in with brick. On the inside an outside of concrete buildings no ornament was attached” (Kruisinga, 2000, 63-64).

During this period the *Bassin* slowly loses its value for the factory. “The economical importance of the basin decreased quickly in the twentieth century. The growing ships could not pass the narrow, curvy route via Zuid Willemsvaart, basin and the canal to Luik anymore. In the thirties a junction canal was made between Zuid Willemsvaart and Maas at Bosscherfeld[...] Deathblow for the old inland was the Beatrixhaven of 1950” Kruisinga, 2000, 35). In 1903 the municipality (finally) connects the railroad to a depot. It seems that this was taken into account when building the Timmerfabriek and Kistenmakerij. The depot along the westside of the factory en railway on the Kop suggest that raw materials entered the factory directly and end products left via the Kop.

In 1924-1970, only after the crises and Second World War the Sphinx runs well again. In 1958 it merges with rival Société Céramique. “This period is characterized by rationalisation of the company and the *drive for modernization* [thirties]. A lot of old factory buildings are broken down. In modern buildings one could attain a higher production with less personnel” (Kruisinga, 2000, 71). Both production of glass (1925) and pottery (1969) disappear from Sphinx repertoire that now mainly consists of producing sanitary. Tunnel kilns replace fired kilns with chimney, transforming the Sphinxkwartier.

This period was also used to build the *Eiffelgebouw*. “In 1927 the board of directors decided to build a new factory for producing sanitary. The so-called Eiffelgebouw. This seven storey high building of reinforced concrete[...] had to enable a rational approach to the production process[...] By arranging all the phases in a logical order[...] The Eiffel belongs to the architectural movement of het Nieuwe Bouwen, in which utilitarian applications of form with modern constructions and materials where to lead to a functional building and dividing up of spaces” (Kruisinga, 2000, 75-76).

The Timmerfabriek owes its meaning in this period to the rationalisation, railway and nearness of the Eiffel. It housed both the first, in offices, and last, in warehouse, phase of production.

In 1970-1999 more is demolished than built. Mainly the *infrastructure* is developed. “The infrastructure around the factory area underwent big changes, because of which the entrance of the factory moved to the Maagdendries” (Kruisinga, 2000, 81). That also made the Kop of the Sphinx less of a strategic location. The new showroom, offices and warehouse of the fifties prove this. Trucks replaced the train that had made the basin superfluous. “One of the most radical changes in infrastructure in the surroundings was the construction of the Maasboulevard around 1980 connected with the bridge over the basin” (Kruisinga, 2000, 81). In 1999 Sphinx is taken over by a Finnish company that moves all of the production activities to Sweden in 2010.

Concatenating buildings

1827	13 - werkplaats kristalslijperij van Regout
1834	24 - glasslijperij (kolossaal gebouw)
1836	26 - aardewerkfabriek
1837	29 - meniefabriek
1838	25 - spijker en geweerfabriek
1839-42	27 - aardewerkovens
1839	28 - glasblazerij
1839	30 - potasfabriek
	1814-45 31 - toegang fabrieken
1845-67	33 - aardewerkfabriek
1845-67	38 - <u>inpakruimte en magazijn</u>
	1845-67 36 - ingang en fabriekspoort [bestaand]
	1847 34 - gasfabriek en gashouder
1857	35 - hoogbouw
1857	39 - glasblazerij
	1865 37 - hooghuis
1865	40 - kalkfabriek
1865	41 - meniefabriek
	1865 42 - drukkerij

Prestigious projects

A vertical timeline on the left side of the page, marked with yellow dots at the top and bottom, and a blue dot at the year 1902. The timeline represents the years of construction for the Rijksmuseum building.

Year	Event / Construction Phase
1873	53a - poortgebouw [bestaand]
1875	43 - gebouw B [bestaand]
1875	44 - gebouw A [bestaand]
1875	46 - brikkenbouw [bestaand]
1877	47 - decorateliër [bestaand]
1878	51 - gashouder
1885	45 - gebouw C [bestaand]
1893	49 - gebouw voor gipsfabricage [bestaand]
1893	52 - glasfabriek
1893	53 - molengebouw [bestaand]
1902	55 - gasfabriek
1902	56 - glasfabriek
1903	57 - vormenmakerij [bestaand]
1905	58 - <u>magazijn met kantoor en toonzaal</u> [bestaand]
1910	59 - <u>elektrische centrale (zeer decoratief)</u> [bestaand]
1911	60 - <u>kistenmakerij en zagerij (eerste gebouw) van beton</u> [bestaand]
1916	61 - sanitairfabriek van beton [bestaand]
1918	62 - verdiepingen op molengebouw [bestaand]
x	63 - betonnen gebouw voor holvormers
1923	64 - gipsmagazijn
1923	65 - verdiepingen op brikkenbouw [bestaand]

Industrial buildings

Transition

1926	73 - overdekte hal voor vierkante ovens
1928	68 - verdiepingen op decorateliër
1929	69 - Eiffel I [bestaand]
1930	70 - Eiffel II [bestaand]
1930	72 - overdekte hal voor tunnelovens
1933	74 - aardewerkmagazijn
1934	75 - magazijn A-B [bestaand]
1941	71 - Eiffel III [bestaand]
1950	76 - showroom [bestaand]
1955	78 - magazijn
1956	77 - kantoorgebouw [bestaand]

1970-99 79 - expeditie
1970-99 80 - sanitairmagazijn-west
1970-99 81 - sanitairmagazijn-oost
1970-99 82 - nieuwe ingang Maagdendries
1970-99 83 - kantine
1970-99 85 - magazijn

Industrial architecture

Which stories are of value?

Transition of Sphinx at the Kop

The stories the building can tell in relation to the context coincide with the Kop van de Sphinx. That Kop tells about innovation, representation and organisation of the Sphinxkwartier by Petrus Rehout. The buildings at the Kop introduce new power sources and building materials, have a representative appearance but functional layout, construction and back but house programs that may be seen. The Kop van de Sphinx is the head office at the front and emphasizes that the factory is located at the back.

These stories are important because they tell of the way Petrus Regout designed his factory. That factory was, for a long time an important part of the economy, image and inhabitants of Maastricht.

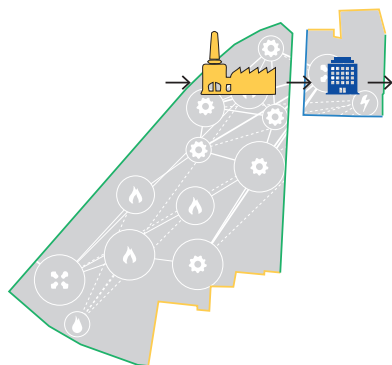
Which spatial relations then, are of value?

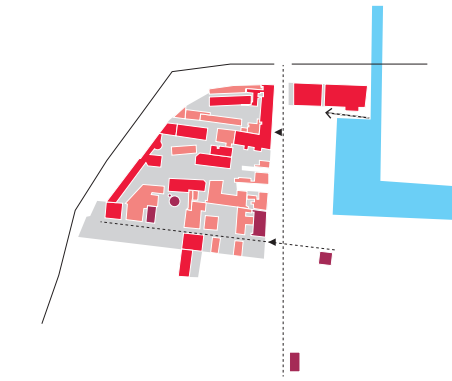
Front to back

The significance of the building resides in the stories it can tell. Certain elements are valuable because they can tell a story that is important. The valuable aspect of the building in relation to the context are mainly relations it has with other buildings within the context of the Sphinxkwartier.

The buildings at the Kop van de Sphinx form an ensemble with clear a frontside that is of high value to the story. Together the buildings become, so to say, the headquarters of the factory at the Boschstraat.

Besides with the backside of the buildings themselves, the representative front facades contrast with the bare buildings and wall around the factory area. For that reason the building at the westside of the Boschstraat as well as the wall around the factory are of positive value for the story.





1867

Kruisinga, 2000, 38



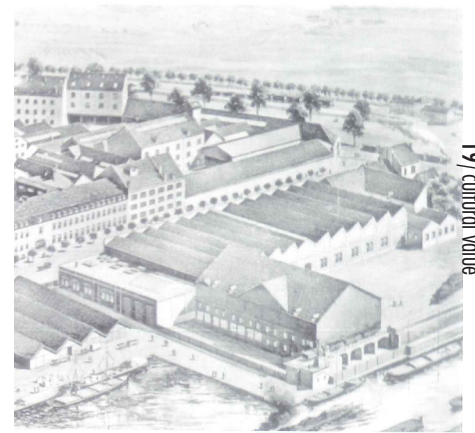
1868

rhclimburgpubliek.hosting.deventit.net



1899

Kruisinga, 2000, 44



1900

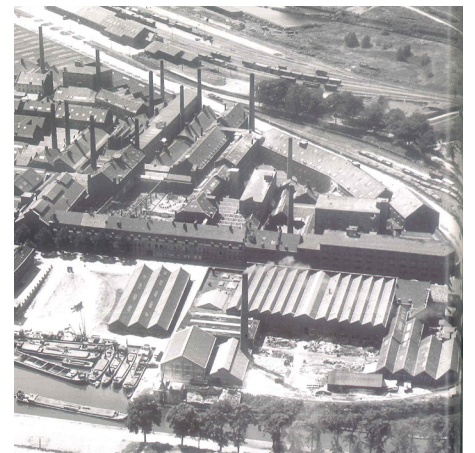
kruisinga, 2000, 53

19 / cultural value



1924

Kruisinga, 2000, 58

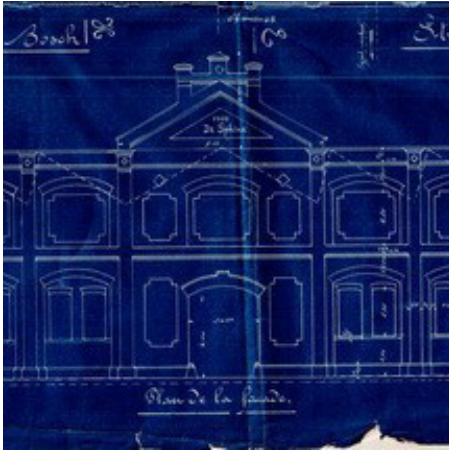


1927

kruisinga, 2000, 66

The façade of Regout

elements in relation to building



Westgevel ? RHCLimburg



Westgevel 2000 kruisinga,2000,64



Westgevel 2006 beeldbank.cultureelgoed.nl



lichtstraat 1905 rhclimburgpubliek.net



lichtstraat ? kruisinga,2000,62



lichtstraat 2006 beeldbank.cultureelgoed.nl



verdieping 1905 rhclimburgpubliek.net



verdieping 1905 rhclimburgpubliek.net



verdieping ? kruisinga,2000,62



Oostgevel 2006 beeldbank.cutureelefgoed.nl



Oostgevel 2012 mestreechtersterke.nl



Westgevel 2016 W.Bronstring



lichtstraat 2006 beeldbank.cutureelefgoed.nl



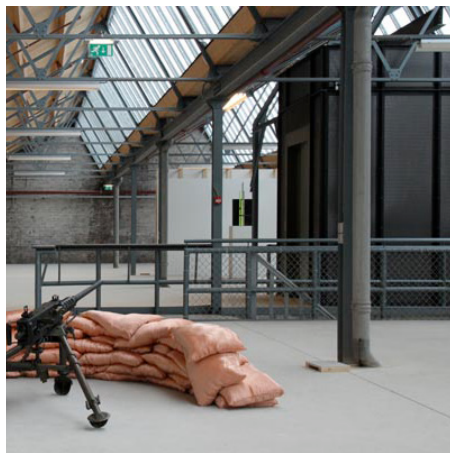
restaurant 2008 laudybouw.nl



lichtstraat 2016 W.Bronstring



verdieping 2006 beeldbank.cutureelefgoed.nl



verdieping 2011 artupdate.nl



verdieping 2016 auteur

What stories do the elements tell?

Of beauty to science

The significance that the elements of the Timmerfabriek have in relation to the building itself are divisible into beauty and importance to science according to research by Res Nova (Res Nova, 2006a). At this scale the building is considered on its own.

The beauty of the building is apparent in the *contemporary form idiom of the facade* which is consciously representative. “The built complex of 1905 shows a clear example of the in 1890-1910 dominating historicizing architecture, whereby form language was determined by the character of the building. The whole is erected in an eclectic brick architecture, in which (quasi-)medieval and classicist forms are applied. In the first category are ‘muizentandfriezen’, pilaster strips and arched windows, in the last ‘ongekorniste’ - plinths of the - pilasters, cassettes and cartouches. The representativeness of the buildings is also emphasized by the careful finish of the facade, which is attained by filling the imperfections of the brick and applying cut joints[...]The construction behind is accentuated by pilasters and horizontal strips on the facade[...]At the same time the sheds are hidden by the facade” (Res Nova, 2006a, 22-23).

The construction behind the facade is of beauty because “of the functional solutions in steel that were realised by *applying the material as it should be* applied[...]The interior is dominated by a slender steel construction. The riveted steel columns and trusses on the first floor give the hall a grand character. Especially on the first floor, where no walls have been placed, this is best experienced” (Res Nova, 2006a, 23).

Moreover the building is *practically unchanged and intact*.

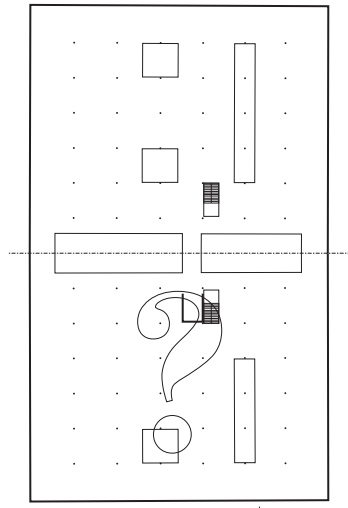
For science also the *representativeness* of the building is of importance. “Untill the twentieth century the Sphinx area was characterized by factory buildings in a sober ‘zakelijke’ style. These buildings stood in stark contrast to other buildings on the terrain intended for housing[...]The last group was characterized by a historicizing form idiom not entirely free of underlying symbolic tension[...]After the transition to Sphinx in 1899 the architecture changed. The 1902 built glass factory was itself a very representative building [like the Timmerfabriek], in which contemporary concepts of tasteful industrial architecture resonate” (Res Nova, 2006a, 29).

The application of materials in the building can be called *innovative*. “For building the big warehouse the ‘new’ material *steel* was used. Not only is the building an early example of such an application in Holland, it is also an early example in which both beams and columns were made of steel (untill the twenties mostly cast iron was used for columns) (Res Nova, 2006a, 29-30).

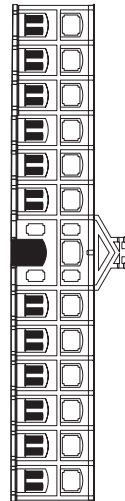
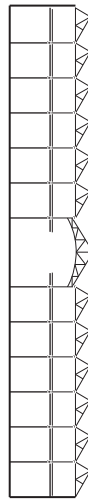
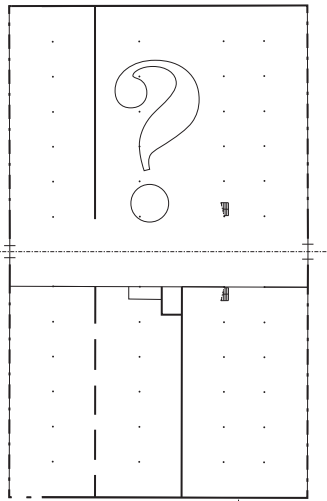
“The space south of the central bay in the warehouse is closed off by a *glass wall*[...]Especially the ‘roedeverbinding’ of this wall is exceptional, because it is an example of a very early steel connection[...]This was the only way because welding was not yet possible in the early days of steel construction (explaining the rivetted steel construction as well)” (Res Nova, 2006, 30-31)

“Likewise *concrete* appeared at the Kop van de Sphinx. The floors/ceilings of the warehouse consist of an approximately twelve centimeter thick reinforced concrete floor, which by way of steel subgirders rests on the heavier I-beams” (Res Nova, 2006a, 31).

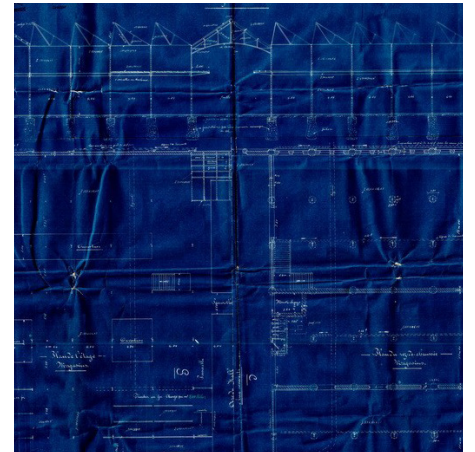
The building is an early example of the *utilitarian typology*. “Entirely according the starting points of Delft professor J.J. Klinkhamer, the first architect to link his name to industrial building[...]the function of a building is determinative for its form language. Because of this the factory buildings get a sober, (pseudo-) medieval appearance whereby the ornament is used to indicate the construction behind. The more representative buildings are built in a richer, eclectic style[...]Furthermore the warehouse can count as a prime example in the tradition of shed roof halls, not just because of the concealing way it is expressed, but also because of the early application of the new materials steel and concrete” (Res Nova, 2006a, 32-35).



?



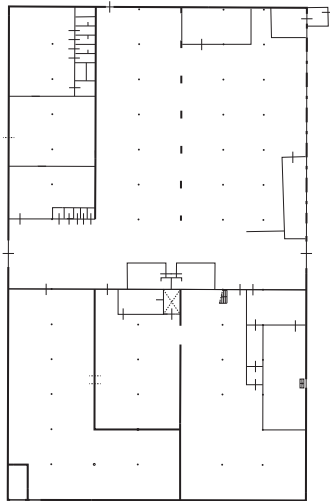
1:1000



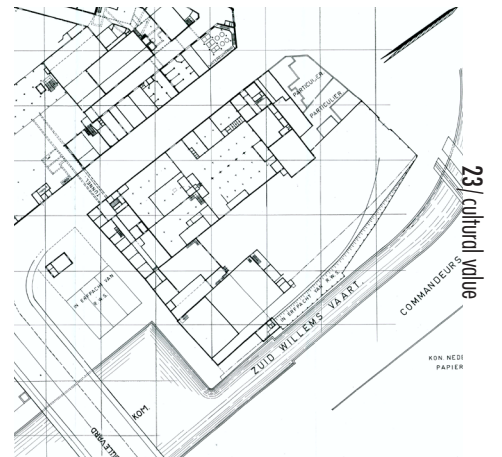
?

rhcLimburg

1989



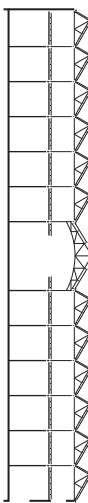
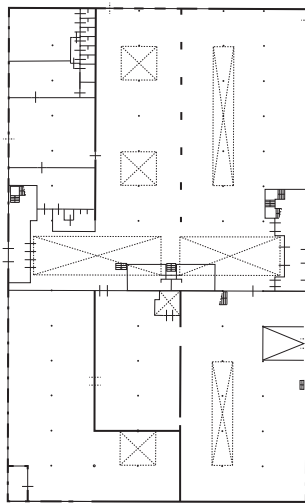
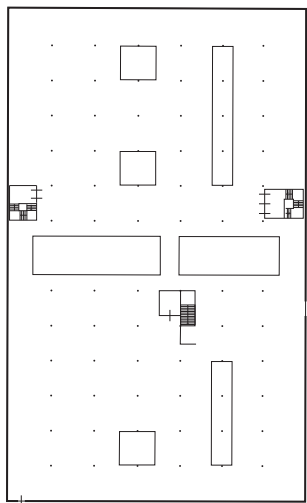
1:1000



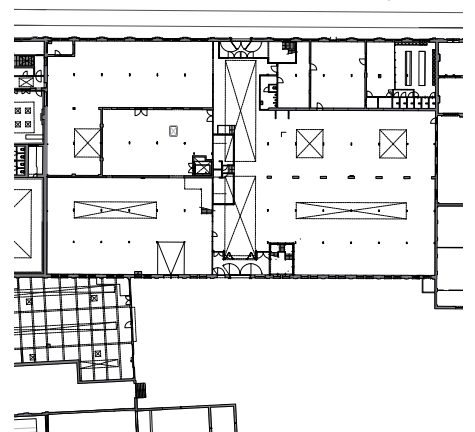
1989

SphinxArchief

2009



1:1000



2009

ENarchitecten

Which stories are of value?

Representation

The stories as described are of positive value. They have a significance that transcends the context of Sphinx and Maastricht. They bring about the experience of beauty and make of the building an object of study. Concerning innovative use of materials, typology and form idiom the building tells a story that is of value to science.

The stories that relate the building to Sphinx are of even higher value because they address the local public and interpret besides the building also the place it's at.

The most direct, albeit immaterial link with Sphinx resides in the blueprint. "The entrance of the workshop and south volume in the original design were furnished with a fronton coronation with pinnacles and the inscription '1834 P.R. 1905'" (monumenten.nl/monument/45108, geraadpleegd op 10/04/2016). The reminder of Petrus Regout and the way he provided his factory with a face are now mainly readable in the story of representativeness. The modern and functional techniques inside contrast with the historical and symbolic facade outside.

Which elements then, are of value?

Fronton

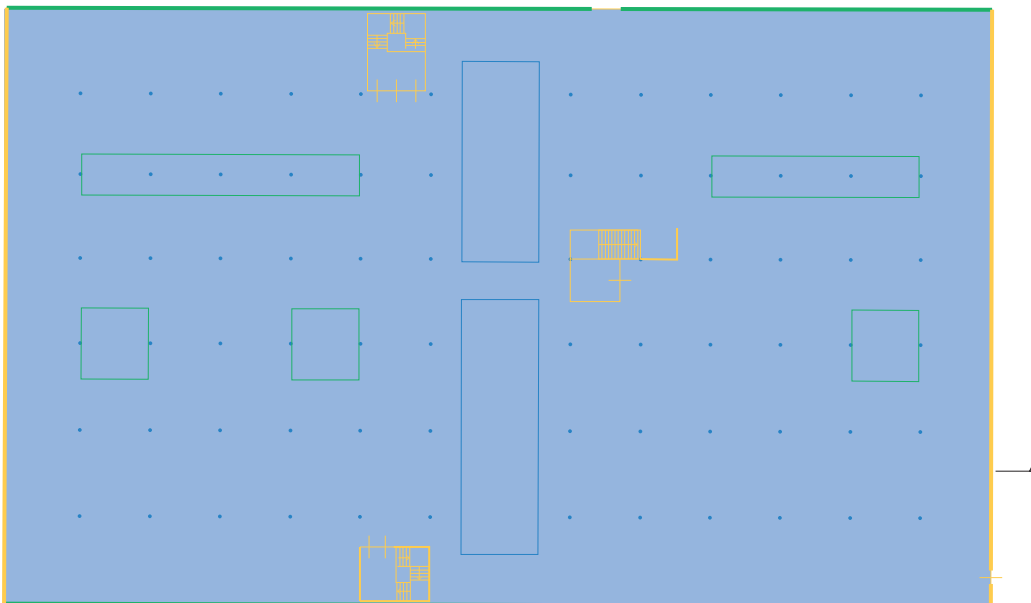
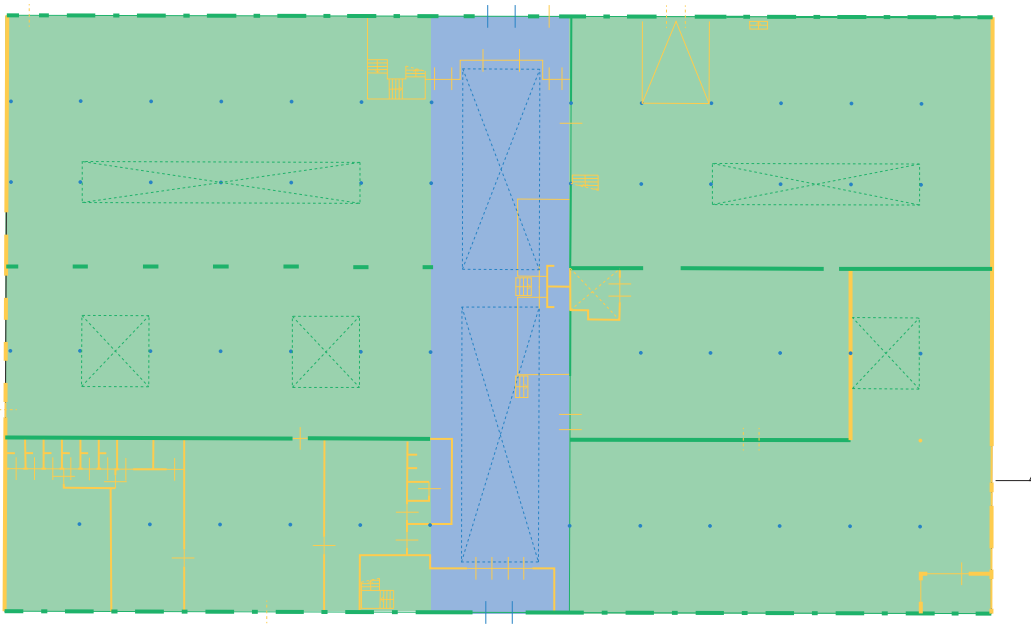
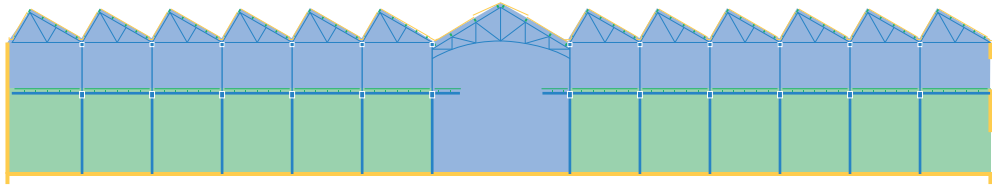
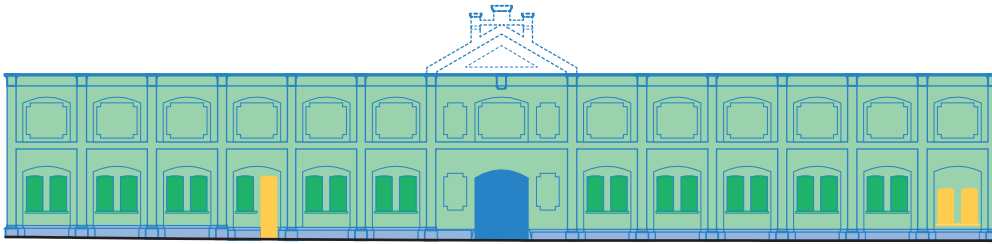
The significance of the building resides in the stories it can tell. Certain elements are valuable because they can tell an important story.

The elements that can tell of the prestigious Sphinx with representative front are of high value. The relief and facade drawing are distinctive features relative to respectively factory buildings and backside of the building itself. The agreement between back and front facade is brick, the difference in natural stone is of higher value. The central doorway highlights a symmetrical design that is followed by windows on the westside and parted by windows on the eastside.

The relationship between inside and outside is indicated by the windows that are placed above eye level. The interior derives its character to a slender steel construction that contrasts with the facade. The brick walls that locally replace columns follow the main structure but are less valuable. The added partitions are even less valuable. The spatial experience on the first floor is of higher value than at the ground floor because of the absence of walls or partitions. The central axis behind the doorways, topped by a rooflight, is with regards to spatial experience of highest value. Furthermore is it a functional aspect that tells of the original use of the building.

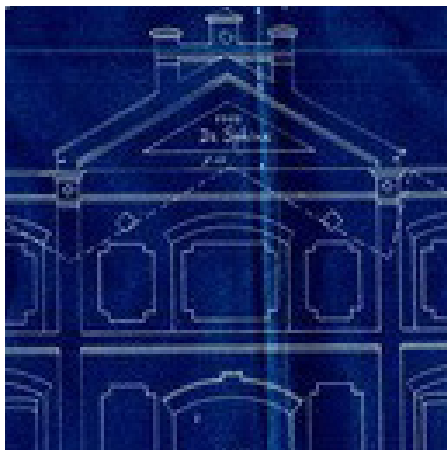
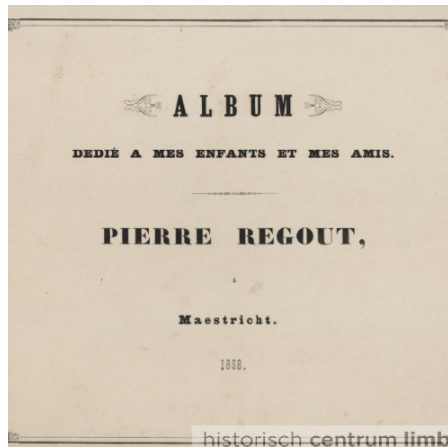
Of beauty, thus positive value are the complete west facade and steel construction. Besides saving their intact condition it is of importance to keep them as a whole to retain their beauty.

To science it is important to keep elements that can serve as an example. That is why the glass wall and concrete of the first floor are valued positively.



Value assessment

assortment



- *spatial value* ● *high value*
- *material value* ● *positive value*
- ⊙ *immaterial value* ● *indifferent value*

Value assesment

Front matter

Essence of the Timmerfabriek is that it was part of the industrialisation of Maastricht, was a prestigious front and functional back of the Sphinx area, and is an example of the search for a representative idiom for industrial architecture.

Protagonist in the stories the building tells is Petrus Regout. His story is of worth for the passer-by, visitor, user and even scientist.

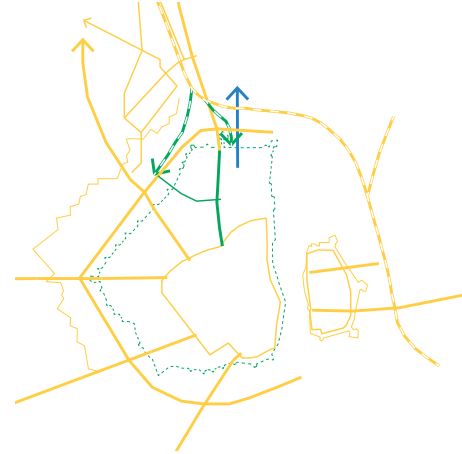
Petrus Regout settled at the Bassin that breached the fortifications in favor of trade. The trade over water made it possible to produce his products in Maastricht. The factory grew out of, until then known, proportion which the bypasser cannot overlook.

Petrus Regout built prestigious projects that gave his factory a face. These derived from the company's prosperity and showed it's importance to the visitor.

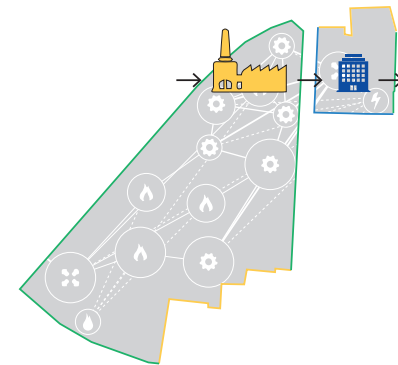
Petrus Regout acted as master builder, demonstrating his knowledge of contemporary views on architecture. His initials are displayed on the representative buildings at the front of his factory. It reminds the user but also bypasser, visitor, and even scientist of the relevance his name has. To the Sphinx and Maastricht in particular, but also to early industry and corresponding architecture in general.

Aspects of the building that tell of this story or beauty are valuable and should be kept. The Bassin is of interest to the story of industrialisation. The ensemble at the Kop van de Sphinx with symbolic front and practical back, closed exterior and open interior, are important for the story of prestige. The rich, historical idiom of the west facade and economical, innovative steel construction are significant for the story about representation (of industrial architecture of the time).

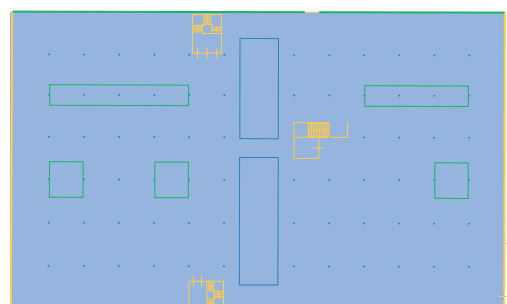
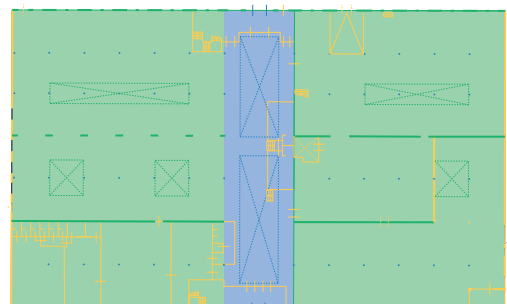
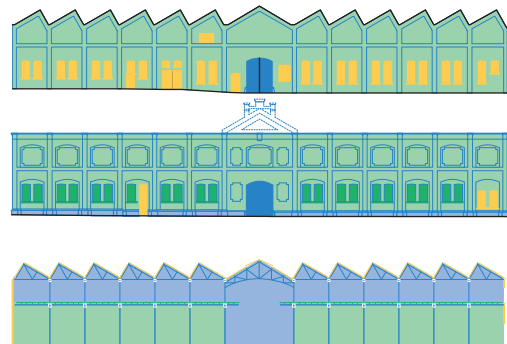
Redevelopment of the building contributes to the visibility of its aspects and experience of its story. Thus it is important that valuable elements are kept as much as possible. In that way the building, as witness to what was, can remain as significant.



industrialisation



prestige



representation



Bibliography

collection

Literature

- Kruisinga, Sasja. 2000. *Het Sphinxterrein. Onderdeel van de Noordwestentree van Maastricht*. Vol. 5. Maastricht: Stichting Werkgroep Industriële Archeologie Maastricht.
- Mekking, Aart. 1975. "Petrus Regout, een ondernemer als bouwheer." *Wonen-TA/BK* no. 75 (1):8-28.
- Oranjewoud, Vestigia, and IAA Architecten. 2003. Cultuurhistorische waarden Belvédère. Aanvullend onderzoek. Maastricht.
- ResNova, Don Rackham, and Karl Konopka. 2006a. De Kop van de Sphinx te Maastricht. Waardenstellend onderzoek deel 1 A prima vista. Maastricht.
- ResNova, Don Rackham, and Karl Konopka. 2006b. De Kop van de Sphinx te Maastricht. Waardenstellend onderzoek deel 2 Capita selecta. Maastricht.
- Tillema, Jan. 1975. *Schetsen uit de geschiedenis van de monumentenzorg in Nederland*. 's-Gravenhage: Staatsuitgeverij.



Public Space

Public space

Introduction

The posed problem of this graduation project is how to redevelop an old warehouse, taking into account its cultural value, in a former industrial area within the inner city of Maastricht. The design assignment this results in is developed by thematically researching three elements within the posed problem. The themes, chosen because of personal fascination when confronted with the actual location and building are cultural value, public space, and vacancy.

This report concerns the theme of public space. Besides being part of the work for Ar3Ar022 and Ar3Ar142 it mainly serves as input and reference for the graduation project. As such it revolves around the research question: "What structure does the public space of Maastricht have, and what place does the building have in it"?

The content of this report describes the present structure of the public space in Maastricht from a large towards a smaller scale. Of each treated scale or aspect in this report the research question leads to a particular conclusion and position. Description of the present is followed by questioning proposals for future developments. Prior to the present state of public space the historically relevant structures of it are introduced.



Figure 1: Municipal plans concerning public space
gemeentemaastricht.nl/bestuur-en-beleid/ (2011)

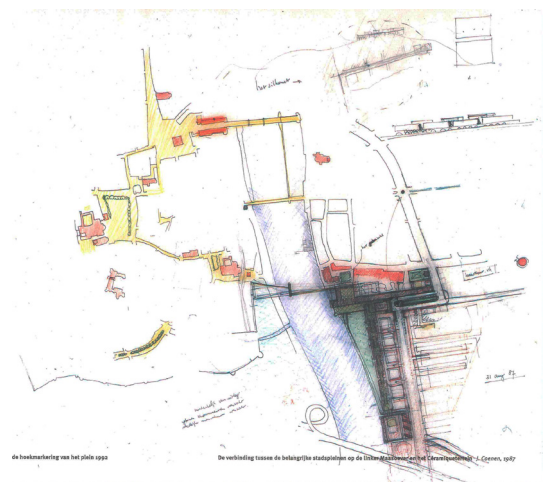


Figure 2: Analytical mapping of public space
Minis, S.E. & van den Boogaard, J. *En plein air*, 1999



Figure 1: Petrus Regout square along Boschstraat
Wieger Bronstring

Public space / past / innercity

What historical structure does the innercity of Maastricht have, and what place does the building have in it?

The **historical** structures that appear most influential are fortifications. The city wall dates from 1500 and its Boschpoort to the north existed where the entrance of the building is now. Even older is the city wall within that from which radians directed one towards the city gates. Both walls can still be recognized as borders of innercity and its center, whereas the radians now are primary streets with strict fronts and monumental buildings. Although fortifications were demolished in 1867 in favor of trade and industry some remnants can still be found. Some fortifications build from 1632 onwards, including waterways, have been incorporated in the city parks surrounding the innercity.

Conclusion

The innercity of Maastricht has some remnants but especially the structure of historical fortifications.

Position

Historical structures have, besides meaning, proven their merits and shapen a place. Therefor they should be leading in spatial developments.

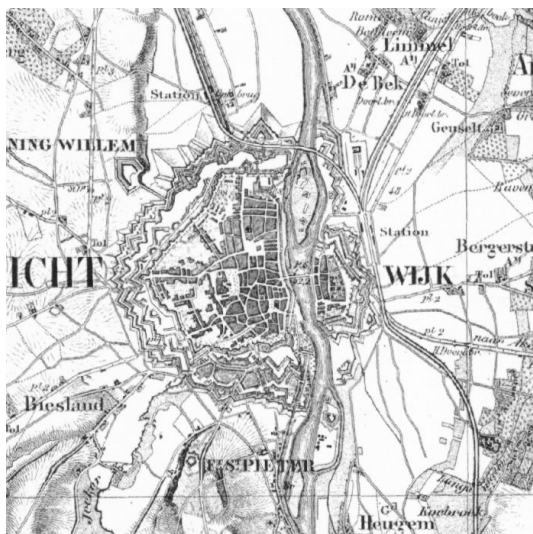
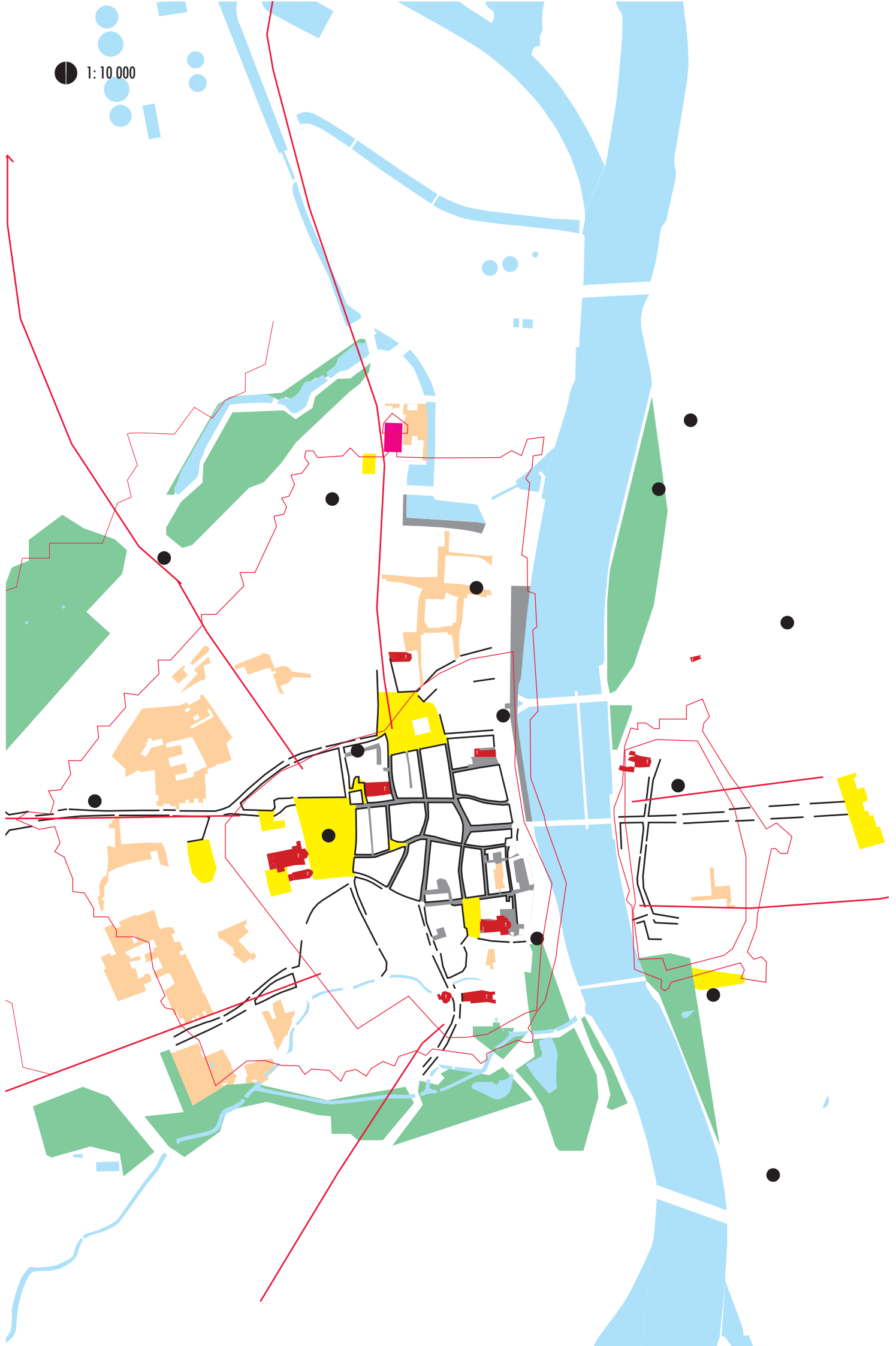


Figure 1: Maastricht 1850
topotijdreis.nl/



Figure 2: Maastricht 2011
topotijdreis.nl/

1:10 000



Public space / present / innercity

What structure does the public space of Maastricht have, and what place does the building have in it?

The public space of Maastricht is concentrated within the center of the innercity which is for pedestrians only. This urban component is complemented by commerce and squares, more often than not related to a church. Commerce also adjoins radials from the center of the innercity towards the central trainstation and residential areas of the city. The structure of this urban component of public space is a following, if not continuation of the historical structures that have shaped Maastricht.

The same is true of the green component of public space. The structure that city parks consist of or follow is the former fortification. A contiguous singel nowadays reinforces this innercity border, also redirecting traffic around it.

A less well defined albeit charisterically distinctive component of public space are boulevards. Structurally they could be said to appear along the Maas and its branches.

Conclusion

The public space of Maastricht is defined by historical structures. The historical center and radials from it are its urban component and contain commerce. Former fortifications, the innercity border are its green component and contain city parks. The river Maas is its blue component bordered by quays.

Position

The building lies within the innercity, next to its green border and along the water. The courtyard of the building and its location should be public and lends itself best to continue the green and blue aspect of it.



Figure 1: Innercity center street Grote Staat
images.google.com/

Figure 3: City park Stadspark
images.google.com/

Figure 2: Innercity square Markt
images.google.com/

Figure 4: Boulevard Maaspromenade
images.google.com/

1:10 000



Public space / present / Boschstraat

What structure does the public space of Maastricht have, and what place does the building have in it?

The main element of public space with a direct relationship to the building is the Boschstraat. This urban component originates in the Markt square which is on the edge of the innercity center but, by its priority for pedestrians, still very much a part of it. This Markt also hosts a weekly market that reaches the first residential blocks of the actual Boschstraat that also house commerce on the ground floor. Up until Achter de Barakken, the street along the south border of the former Sphinx area, the Boschstraat converges. Even though the street itself becomes significantly wider beyond it the buildings still belong to the scale of those before. The first row of buildings to the east even belongs to roughly the same building period [1750-1850]. After these however the buildings along the Boschstraat change in scale, echoing the industrial developments that arose around the Bassin. First by two recent buildings, a cinema and office building, replacing former buildings of industrial scale. After this, at the end of the Boschstraat where a city gate used to be, by two buildings of the former Sphinx. One of which being the building at hand.

The streetscape of the Boschstraat shows a clear front, in contrast to the less strict fronts in **courtyards** and backs in **gardens**. They are an indication of hierarchy being primary public, semi-public and private.

Conclusion

Scale and vicinity of buildings in the innercity center southside of the Boschstraat differs highly from the innercity borders north end of the Boschstraat. Semi-public courtyards tend to be greener and have less strict plot lines than highstreets like the Boschstraat, as do the gardens which face backsides.

Position

Only by its location along the Boschstraat the building has a connection to the innercity center. Its courtyard however has the potential to be both a green and blue public space.



Figure 1: Streetscape south end of Boschstraat
maps.google.com/

Figure 2: Streetscape north end of Boschstraat
maps.google.com/

1:3 000



Public space / present / context

What structure does the public space of Maastricht have, and what place does the building have in it?

Within the context roughly three ways of entering the building, through public space, exist. Most likely people become acquainted with the building by finding oneself on the Petrus Regout square. Either by passing through the Boschstraat, parking on the Sphinxterrein, or visiting the cinema. Here, the cobblestones remind one of the innercity pavement while further up ahead the Boschstraat regular paving stones appear. Less likely, all the more because of the bridge, one will enter from the quay along the Bassin. Albeit in a different pattern the same innercity cobblestones are found. Least likely is entering from the park through the courtyard, both still under construction. No specific flooring can be discerned yet.

Conclusion

The structure of public space is accentuated by choice of pavement. Entering the building requires crossing and moving through a busy and narrow street that is clearly not (paved as) a public friendly space. As of yet, entering through the courtyard is not likely.

Position

The courtyard has great potential to become, besides a green and blue component of public space, the main way to enter the building. Because most people will keep coming from the Petrus Regout square this will not suffice. A more pedestrian friendly connection between the square and quay is also necessary.



Figure 1: Entrance sequence from Petrus Regout square through Boschstraat

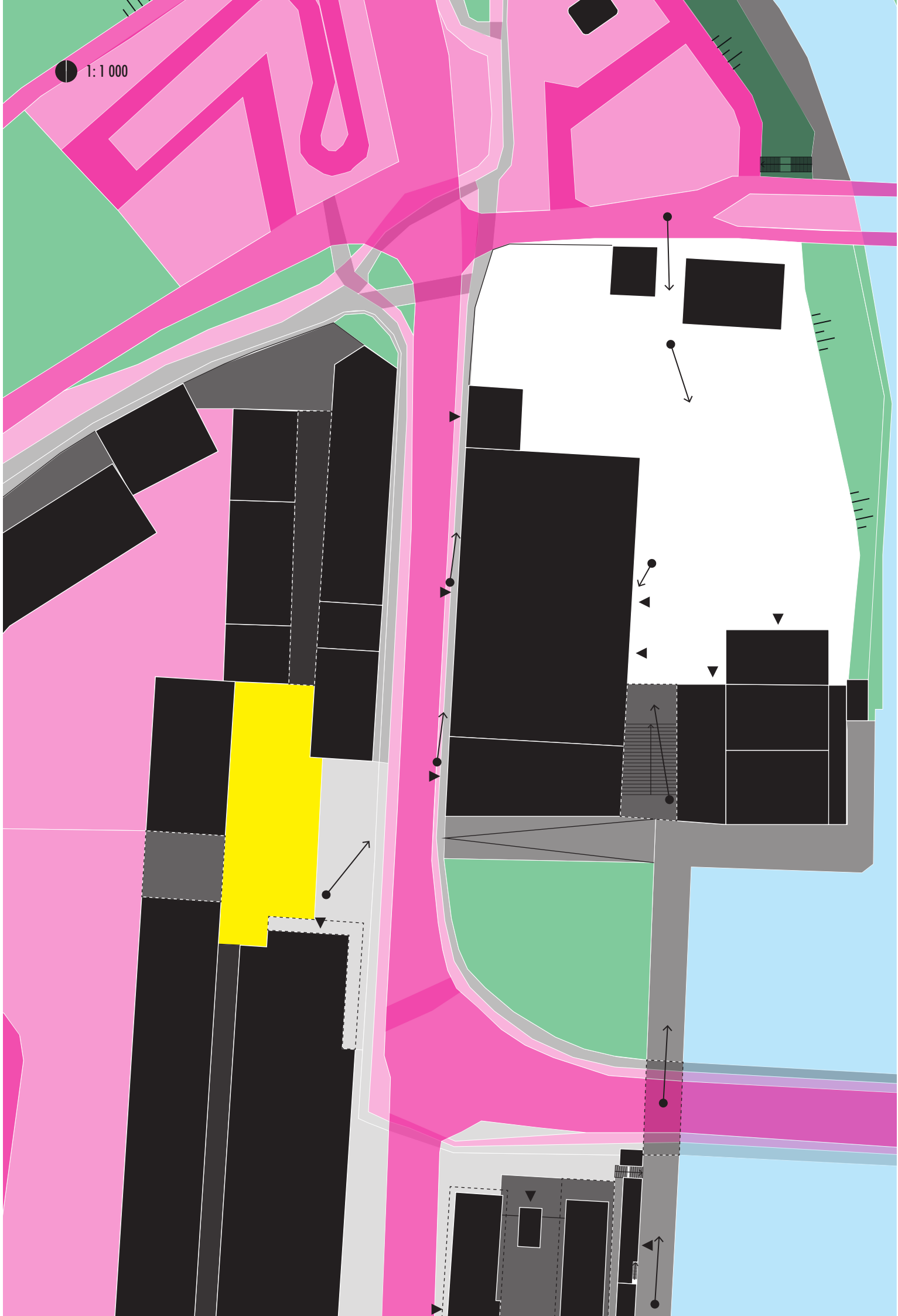


Figure 2: Entrance sequence from quay through Timmerhuis



Figure 3: Entrance sequence from park through courtyard

● 1:1 000



Public space / present / courtyard

What structure does the public space of Maastricht have, and what place does the building have in it?

Besides the Boschstraat on the west side the building is also directly adjacent a courtyard on the east side. It is irregularly closed off by former Sphinx buildings on the south and west side. A channel and slope run along the east side. This sudden change in height is also tangible on the stairs through the Timmerhuis building. Thus the courtyard is closely connected and open to both quay and park level. Besides this all buildings can be entered from it. The building potentially connects Boschstraat and courtyard.

Conclusion

The courtyard behind the building can be part of as well as introduce the quay and park. It is connected directly to both and indirectly to Boschstraat and Petrus Regout square. The building could make this connection direct.

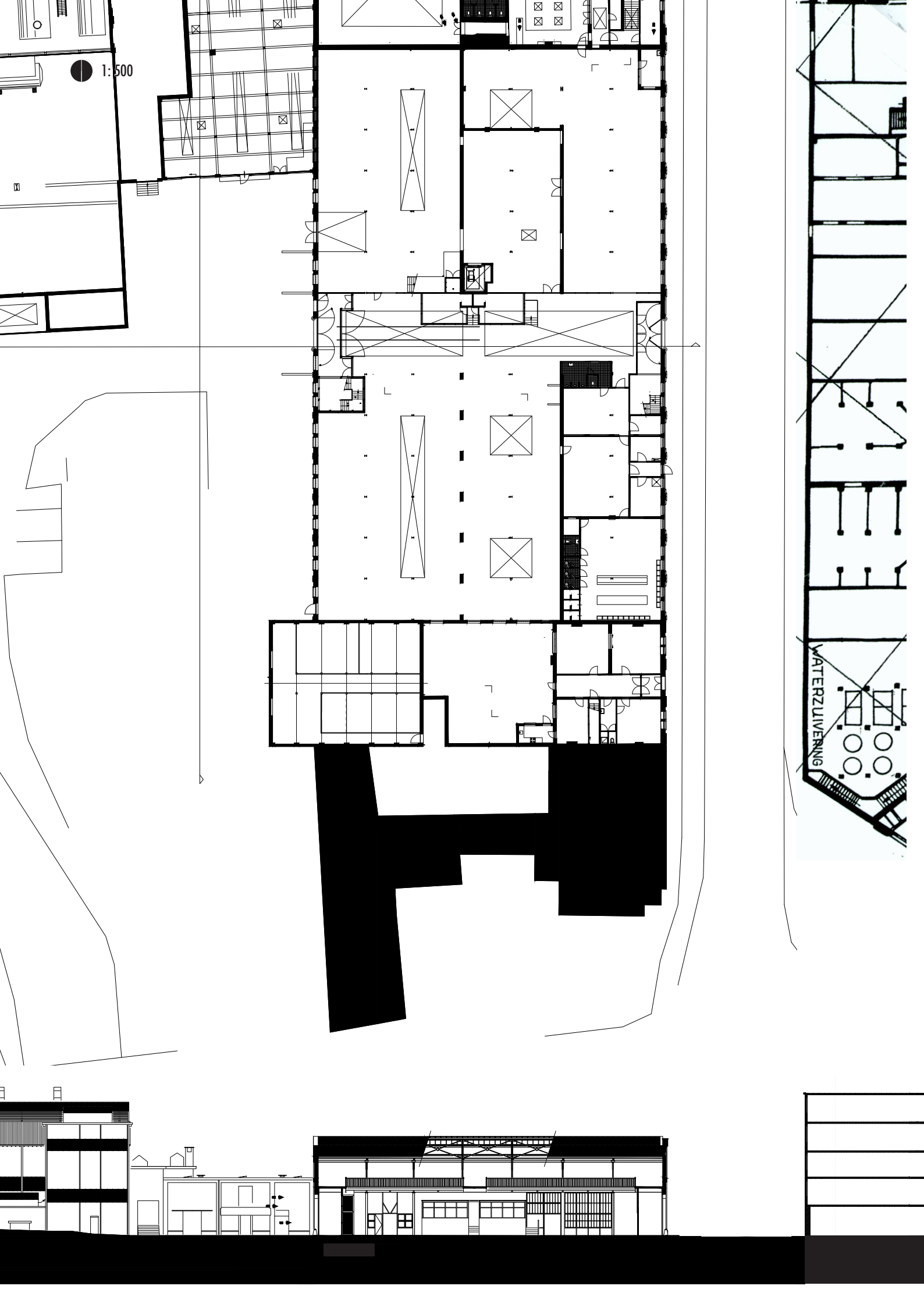
Position

The building lies along the Boschstraat but towards the courtyard. By using the building to connect both, a continuation of public space could be attained that is now messy if not absent.



Figure 1: Courtyard oktober 2016
www.flickr.com/photos/belvederemaastricht/

Compilation of drawings
Maurer united; Sphinx archief; Kirsten van Zeijl



Public space / future / municipal proposals

What structure will the public space of Maastricht have, and what place does the building have in it?

The municipality intends to extend and continue the urban components of public space in order to connect them. This means, among other things that the Boschstraat will be invested in. For people to actually use it up until the border of the innercity a key project is executed. This entails redirecting the Noorderburg to fully develop the Frontenpark as well as developing the Sphinx area into a cultural hotspot. Besides reaching the Bassin the Frontenpark will also be connected to the Hoge Fronten. The entire Maasboulevard is supposed to be activated by directing the new tramline to Hasselt along it.

The vacancy strategy of the municipality for the innercity coincides with public space insofar as the areas of its main structural components should be prioritized when redeveloping. Buildings in and on parks and boulevard (to be) meanwhile should disappear.

Conclusion

The plans stress a coherent structure for slow traffic, and continuation of now unconnected public space by way of key projects. The building is part of a cultural hotspot project activating the north end of the Boschstraat. The courtyard lies inbetween park and quay that will be developed also.

Position

The Sphinx area is able to enliven the Boschstraat but the tram alone cannot activate the boulevard. Peripheral projects cannot be prioritized while the city center is as vacant as it is.

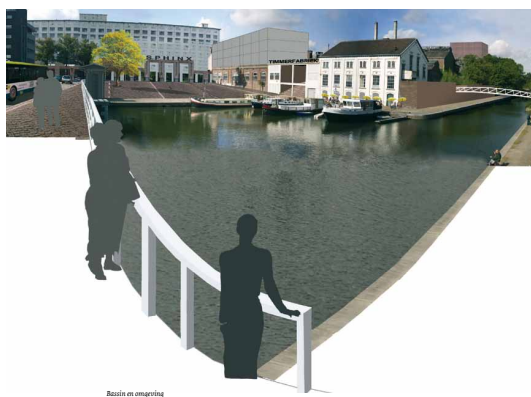


Figure 1: Vision Bassin
Structuurvisie Maastricht 2030 (2012)

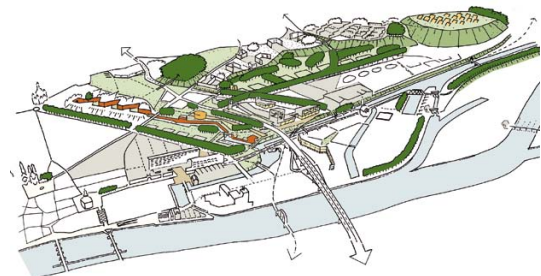
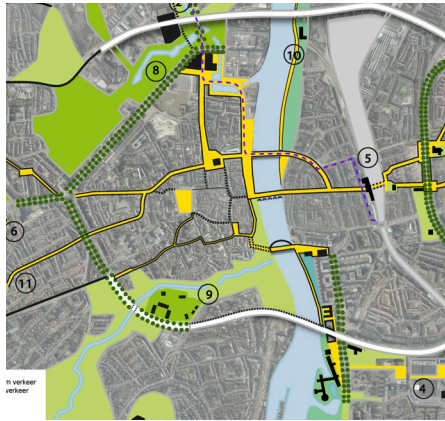


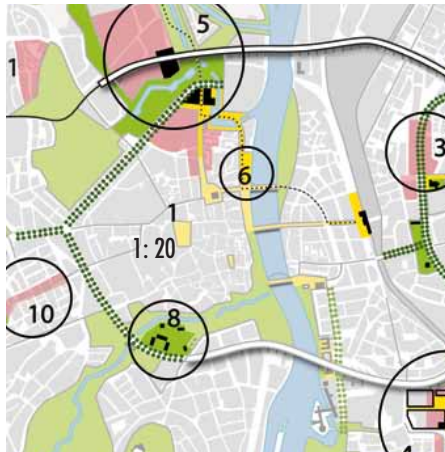
Figure 2: Vision Belvedere or Plan Palmhout
Structuurvisie Maastricht 2030 (2012)



public space target 2030 (2012)



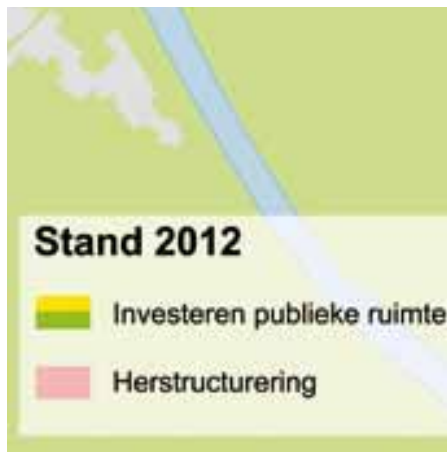
situation 2012 (2012)



situation 2018 (2012)



vacancy strategy (2013)



Door het verdwijnen van de barrière van de A2 en het opschuiven van de landing van de Noorderbrug ontstaat een samenhangend stedelijk gebied dat begrensd wordt door Brusselsepoort (1) in het westen, Belvédère in het noorden (2), de Geusselt in het oosten (3) en Randwyck in het zuiden (4). De enige grote fysieke barrière in dit gebied is het spoorwag-emplacement.

Als gevolg van deze ingrepen neemt in dit gebied het autoverkeer af en is er veel plaats voor fietsers, voetgangers en openbaar vervoer. De hoofdstructuur wordt gevormd door een bundel van "verkeers-lichtvrije" doorgaande routes vanaf de Rechtbank (6) en Mariaberg (11), via de binnenstad en een nieuwe traverse over of onder de sporen (5) naar het hart van Wittevrouwenveld en Geusselt (3).

De singels aan de westzijde krijgen een tegenhanger aan de oostzijde: De Groene Loper (7), die kruisingsvrij verbonden is met de Geusselt en Randwyck. De binnenstad wordt uitgebreid met het Frontenpark (8) aan de noordzijde en het Tapijnged (9) aan de zuidzijde, dat deels openbaar wordt en onderdeel van het Stadspark.

De subcentra worden voor langzaam verkeer goed verbonden met het centraal stedelijk gebied. Het Stadion en Zwembad (3) zijn via de Groene Loper veilig bereikbaar, Boscherveld (2) en het gebied rond Bassin zijn via het Frontenpark met elkaar verbonden, Brusselsepoort krijgt een verbeterde fietsverbinding via de Bilselbaan.

De wens is om de Avenue Ceramique als stedelijke boulevard naar het zuiden door te trekken tot aan de kruising met de Randwijcksingel. Het gebied Randwyck Noord (4) krijgt een duidelijke oriëntatie op het Gouvernement. Hier komt voor langzaam verkeer de hoofdtraverse van het gebied Randwyck. (4) Het gebied tussen MECC en Ziekenhuis wordt vormgegeven als een ontmoetingsruimte en krijgt meer verblijfskwaliteit.

Tenslotte ontwikkelt de oostelijke Maasoever zich op termijn verder tot een groene oever die de stad met het landschap verbindt (10).

- Geusseltpark**
wordt getransformeerd door te investeren in openbaar groen, sport, leisure en onderwijs. Hierdoor ontstaat een hoogwaardig woon- en werkgebied.
- Herstructurering van Malberg**
is in uitvoering.
- Grensmaasproject (Rivierpark Maasvallei)**
is in uitvoering.
- A2-ondertunneling**
Fysieke maatregelen voor werkzaamheden worden gerealiseerd.
- Maastricht Culturele Hoofdstad 2018**
Door de ondertunneling van de A2, de aanpak van het Noorderbrugtracé, de komst van de tram en de herstructurering van de omgeving van het Bassin als cultureel kwartier zijn belangrijke voorwaarden vervuld voor Culturele Hoofdstad 2018.
- Herschikking maatschappelijk vastgoed**
Volop in gang, waarbij voorzieningen zoveel mogelijk worden gekoppeld aan bestaande ontmoetingsplekken in wijken. Een nieuw centrum komt tussen Limmel en Nazareth, op de Hoolhoeslocatie.
- A2 Maastricht**
Is ondertunneld en de Groene Loper is gerealiseerd. Dit biedt kansen voor vernieuwing van het oostelijk stadsdeel, in eerste instantie direct rond de Groene Loper.
- Randwyck-Noord.**
Door ondertunneling van de A2 verbetert de bereikbaarheid van Randwyck. Dit versterkt het vestigingsklimaat. In het gebied worden initiatieven gebundeld om de Maastricht Health Campus te realiseren en tevens een centrale ontmoetingsplek te creëren.
- Omlegging aanlanding Noorderbrug en gebiedsontwikkeling Belvédère**
Hierdoor ontstaat de kans om het Frontenpark te ontwikkelen als parkgebied. In de omgeving
- industriële erfgoed voor t gebied. In Boscherveld k handel een grote diversite functies. Het Frontenpark deze gebieden
- Tram Hasselt-Maastricht**
Door de aanleg van de tram Boschstraat en Bassin een Maasboulevard. Herinrichting verhoogt de kwaliteit vanaf het station.
- Brusselsepoort**
Vernieuwing winkelcentrum aanpak groene wijk en gewing woonwijken in West
- Tapijnkazerne**
De vergroting van het stads aantrekkelijkheid van de 2
- Beatrixhaven**
Aanpak van de ontsluiting multimodaliteit en herstructurering
- Blauwe Loper**
Realiseren Blauwe Loper, vanuit Mariaberg met de l aan vernieuwing in Blauw
- Herstructurering**

Public space / future / plan palmabout

What structure will the public space of Maastricht have, and what place does the building have in it?

The plan made by Palmabout Urban Landscapes is based on municipal proposals as found in their vision for Maastricht 2030.

Conclusion

The plan mainly follows historical structures; it reintroduces a continuation of the fortifications as a park and proposes to maintain the industrial scale in the Sphinx area. The main operation is to move the highway.

The courtyard of this plan remains somewhat undefined. The connection between Eiffel passage, square, slope, and quay becomes the most important walkway.

Position

This plan, by moving the highway, allows for reinforcing historical structures of the city. Moving heavy traffic outside the innercity should also mean taking away the Bassinbrug.

The courtyard should have a stronger (historical) relationship with the canal. The new tramstation and disappearance of the Noorderbrug is a change to develop a more open relationship between building and Boschstraat.

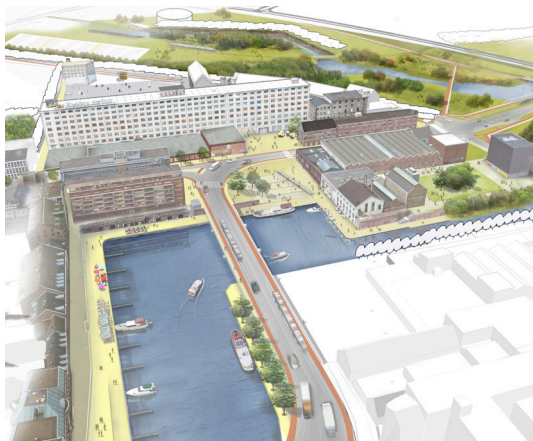


Figure 1: Impression Sphinx Noord
Sphinx Noord guidelines - Palmabout (2014)

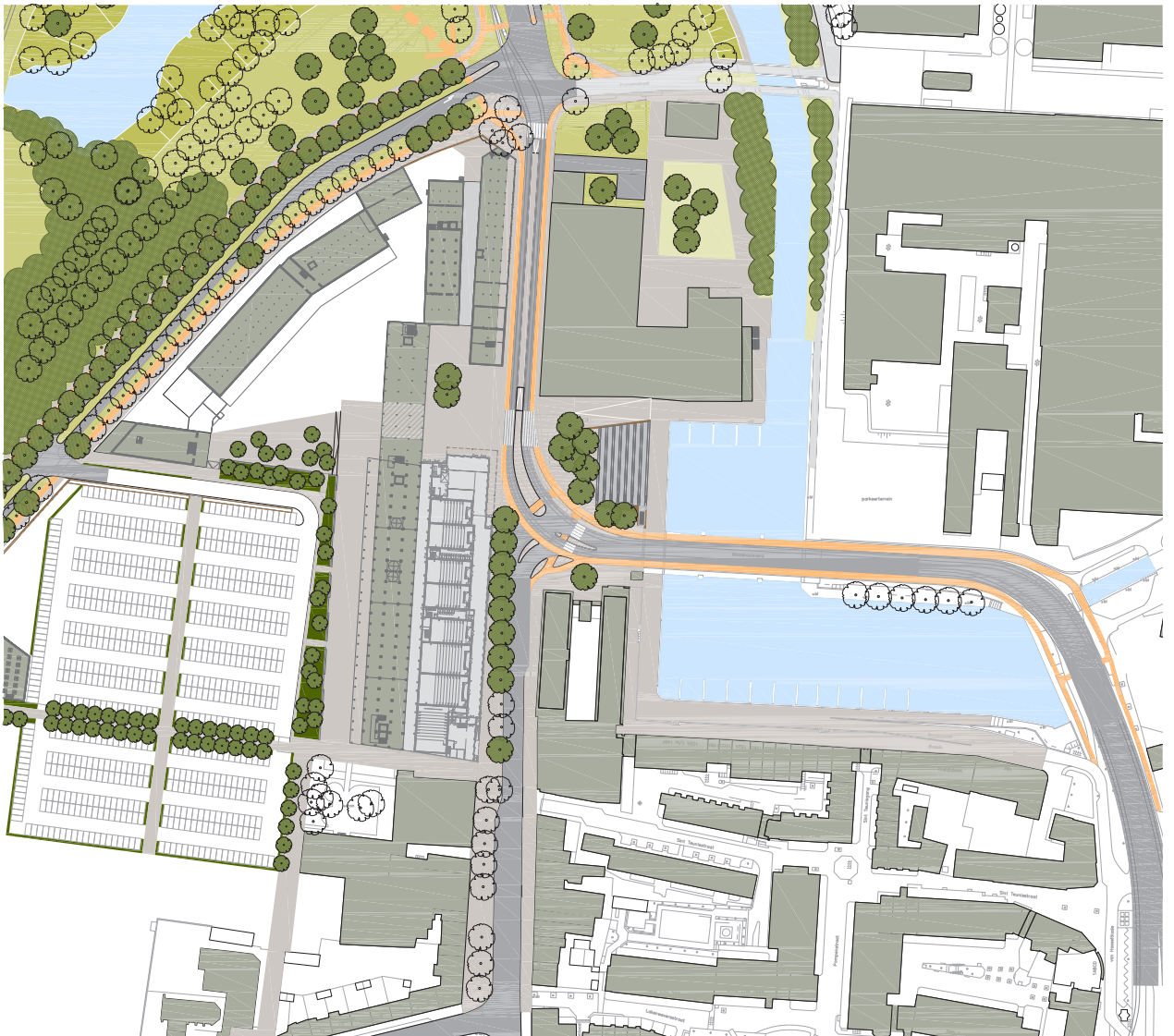


Figure 2: Impression Boschstraat
Sphinx Noord guidelines - Palmabout (2014)

1: 10 000



1: 3 000



Public space / future / kop van de sphinx

What structure will the public space of Maastricht have, and what place does the building have in it?

Plan Palmbout does not give specific guidelines for the courtyard of the Kop van de Sphinx. Nonetheless the municipality and its Projectbureau Belvedere intends to redevelop it as a cultural hotspot also. Therefor various building proposals and plans can be found, also for the Timmerfabriek in particular.

Conclusion

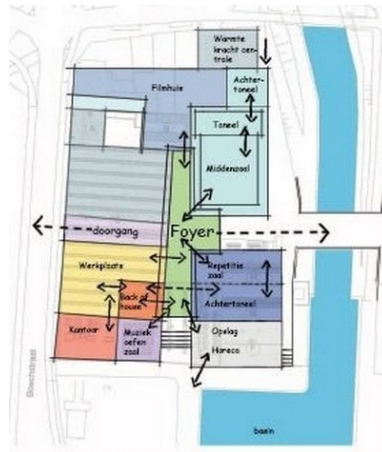
Proposals were made covering the entire plot. The actual building plans that have commenced concern only the individual buildings on the Kop van de Sphinx. No coherent plan for the courtyard remains though.

Position

Although the buildings together functioned as a specific part of the Sphinx area they have seperate cultural values. As such they should be treated. The same is true of the courtyard, which needs to be designed yet.



2008 - ? restoration - kop vd sphinx



2009 - AINSI - kop vd sphinx



2010 - EnEn - kop vd sphinx



2010 - EnEn - kop vd sphinx



2010 - BIC - kop vd sphinx



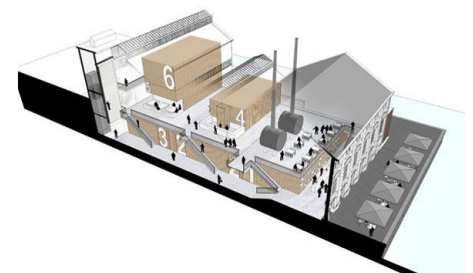
2011 - BIC - kop vd sphinx



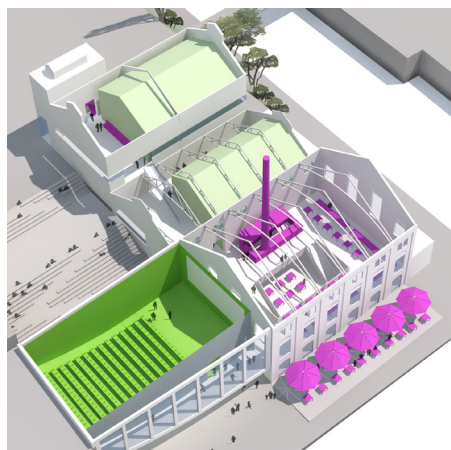
2011 - BIC - kop vd sphinx



2012 - V&B / JHK - elektriciteitscentrale



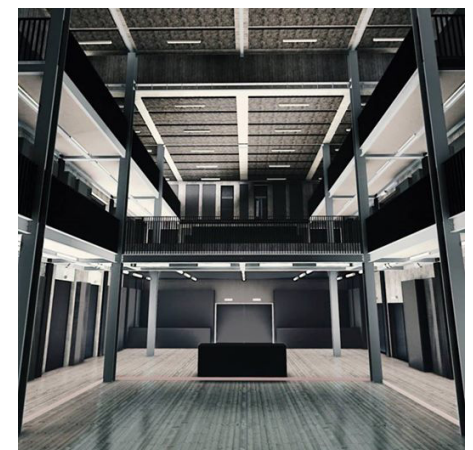
2012 - V&B / JHK - elektriciteitscentrale



2012 - Bierman Henket - elektriciteitscentrale



2014 - Maurer United - timmerfabriek



2016 - Maurer United - timmerfabriek

Architecture

Architecture

Introduction

This report is intended to be complementary to the thematic research reports on cultural value, public space and vacancy. Together they contain the analyses of both the urban and architectural scale on questions regarding the past, present and future of the building and its context. Besides being input for the graduation project they represent work to be graded under Ar3Ar022 and Ar3Ar142.

Unlike within the thematic research no overarching question is leading. More or less independent questions are asked to get certain aspects of the building clear and documented. Not in the least to be able to formulate the position taken with the design. Thus each topic contains, besides a question and conclusion, the formulation of a position. The position states what value is attached to the topic at hand and makes considerations of the design explicit.

These reports will grow along, as well as transform as the graduation project progresses.

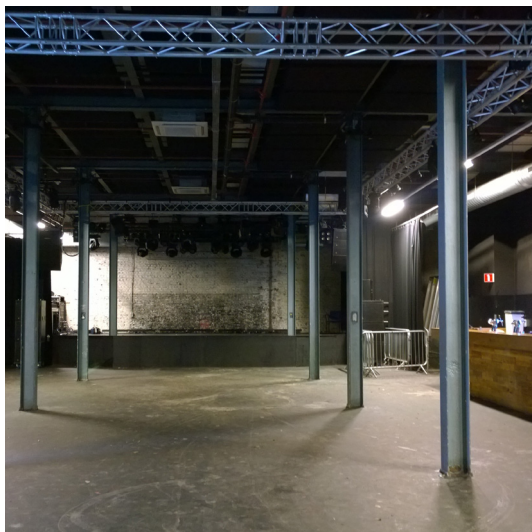
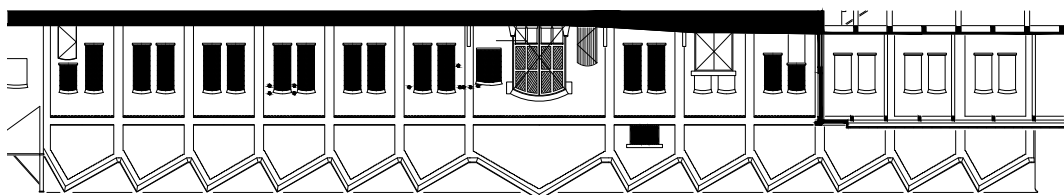
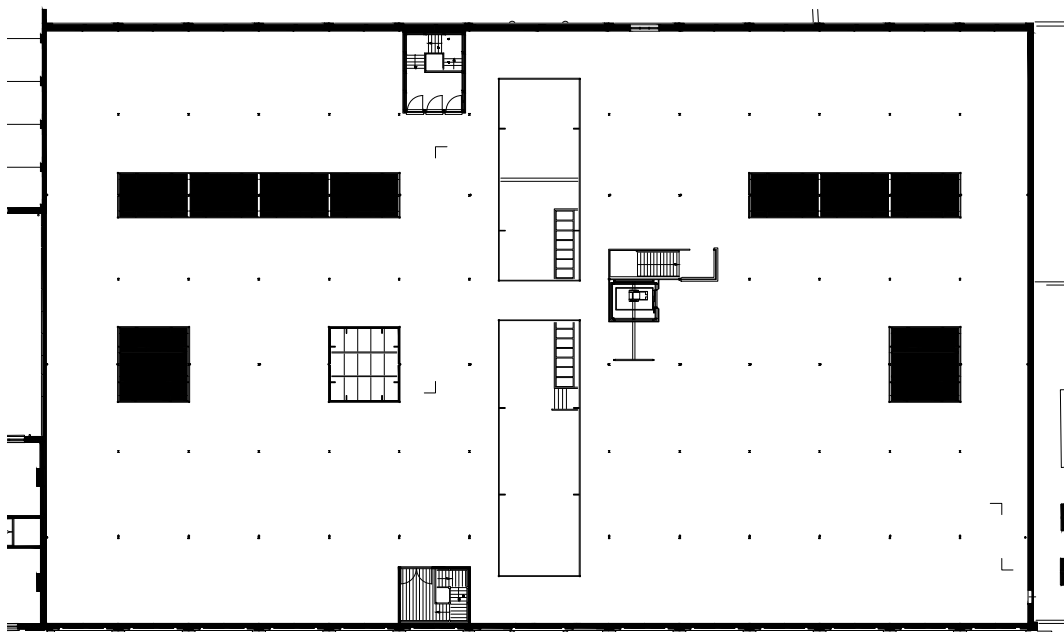
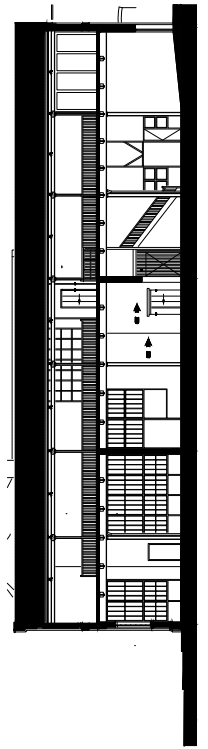
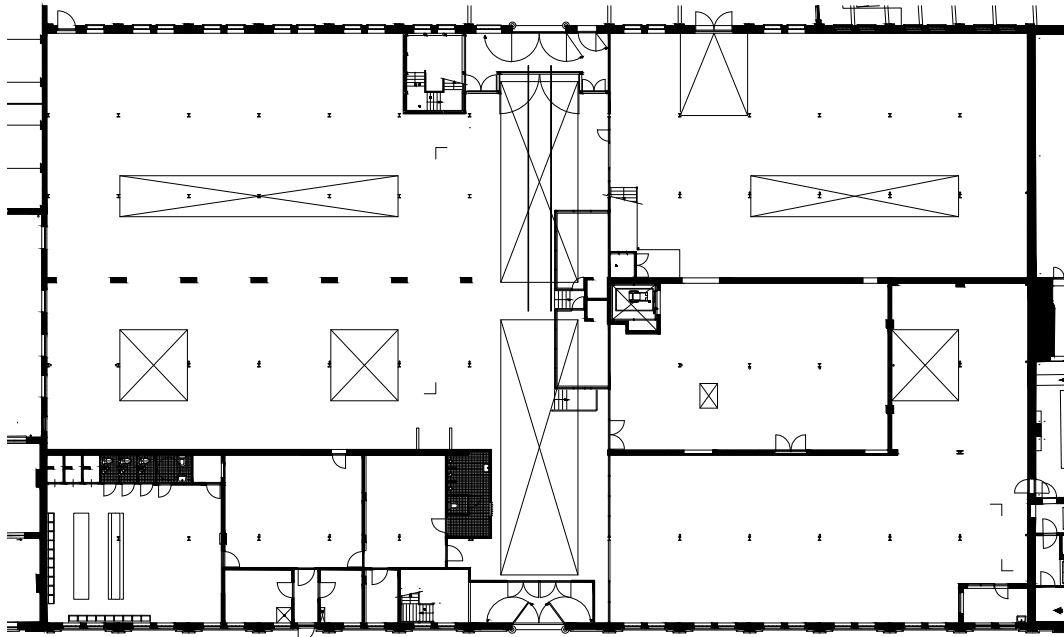
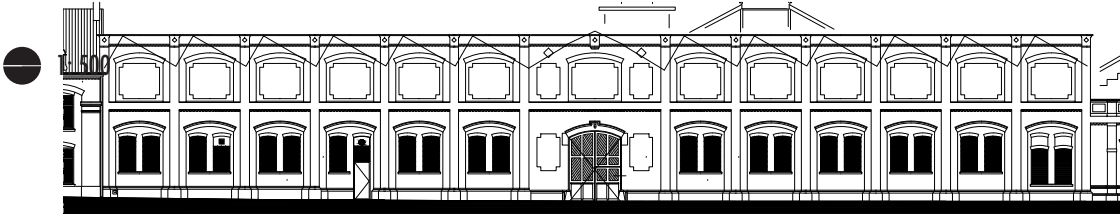


Figure 1: Interior ground floor
own picture



Figure 2: Interior first floor
own picture



To what architectural movement or style does the building belong?

“The built complex of 1905 shows a clear example of the in 1890-1910 dominating historicizing architecture, whereby form language was determined by the character of the building. The whole is erected in an eclectic brick architecture, in which (quasi-)medieval and classicist forms are applied.” (Res Nova, 2006a, 22-23)

“Untill the twentieth century the Sphinx area was characterized by factory buildings in a sober ‘zakelijk’ style. These buildings stood in stark contrast to other buildings on the terrain intended for housing[...]The last group was characterized by a historicizing form idiom not entirely free of underlying symbolic tension[...]After the transition to Sphinx in 1899 the architecture changed. The 1902 built glass factory was itself a very representative building [like the Timmerfabriek], in which contemporary concepts of tasteful industrial architecture resonate” (Res Nova, 2006a,29).

“The building is an early example of the utilitarian typology. “Entirely according the starting points of Delft professor J.J. Klinkhamer, the first architect to link his name to industrial building[...]the function of a building is determinative for its form language. Because of this the factory buildings get a sober, (pseudo-) medieval appearance whereby the ornament is used to indicate the construction behind. The more representative buildings are built in a richer, eclectic style[...]Furthermore the warehouse can count as a prime example in the tradition of shed roof halls, not just because of the concealing way it is expressed, but also because of the early application of the new materials steel and concrete” (Res Nova, 2006a, 32-35).

Conclusion

The building could be said to be historicizing, eclectic, representative, industrial, utilitarian, and a shed roof hall. Out of all of these the building only stands out as a shed roof hall.

Position

The architectural style or movement the building belongs to is considered important for the design only insofar as it contributes to the ability of the building to tell a story of cultural significance. This is true of the representative exterior in contrast to the utilitarian interior.

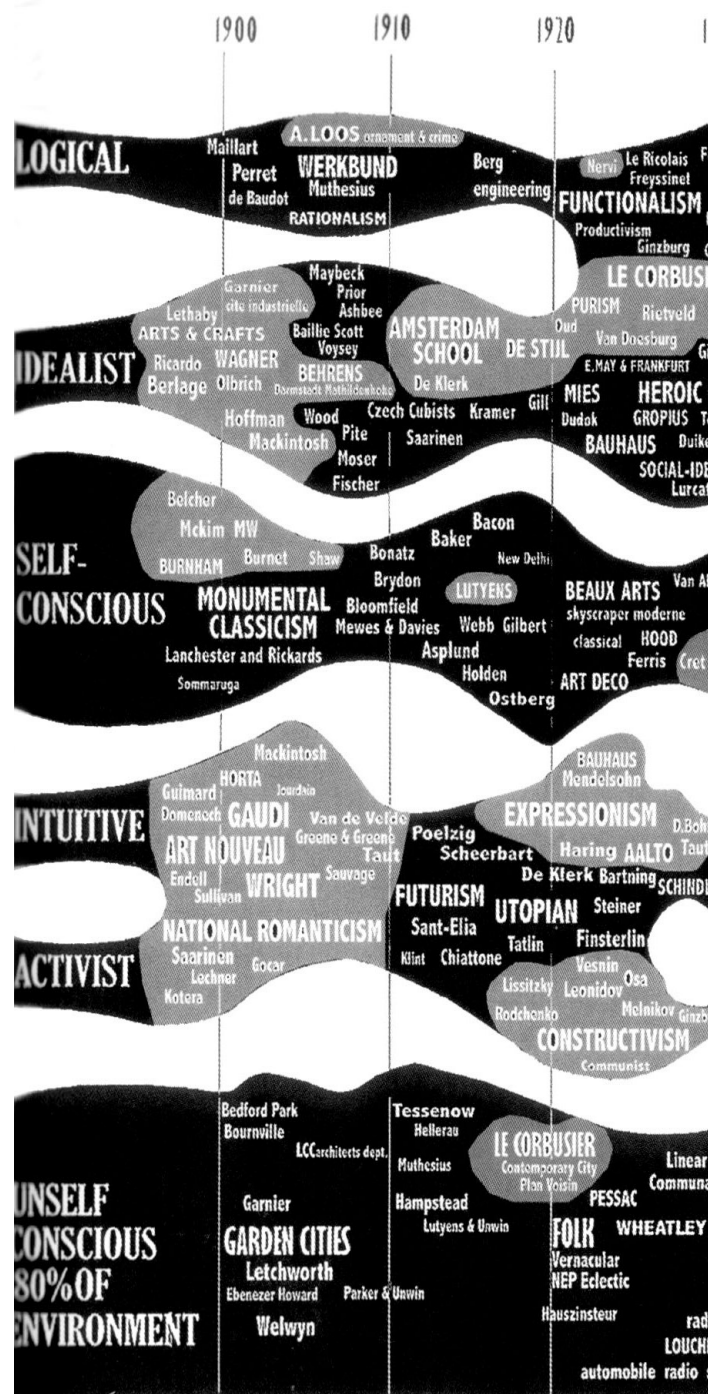


Figure 1: Charles Jencks' Evolutionary tree of twentieth century architecture
<https://www.architectural-review.com>

P.J.H. Cuypers
 neogotiek
 middeleeuwen
 verleden
 particulier initiatief

H.P. Berlage
 progressief rationalisme
 sober gemeenschapsideaal
 toekomst
 economische groei & socialisme

M. de Klerk
 amsterdamse school
 artistieke middelen
 toekomst
 woningwet/stadsplanning

What architectural typology does the building belong to?

Based on the shape of the roof, and its particular function, the building is clearly part of the shed roof hall (also sawtooth or north light roof) typology. Essentially the typology consists of predominantly wide one story buildings with a sawtooth roof that blocks direct light and heat from the sun on the closed sides and allows north (or natural) light in on the glazed sides. The building type allowed the ever growing factories of the industrial revolution to be naturally lit. Consequently (economical) artificial lighting made the type superfluous. Due to the (environmental) costs of fuel and quality of natural light the typology still remains however.

This historical logic is visible in the governmental register of monuments (monumentenregister.cultureelerfgoed.nl). It contains around twenty buildings that have a monumental status whilst having a shed roof. Almost all were built around 1900 and have a monumental status because they were part of a factory of significance. The state, construction or details of the shed roof are often explicitly named and/or appreciated as being of interest to building history. However, the only shed roof hall appreciated individually/esthetically is of a later period; 1956. Its importance is due to its designer; Gerrit Rietveld.

The typical roof shape appears independent of the specific function of the hall it covers. Thus no organisational logic belongs to this typology besides the ability to freely move around large quantities of material, machinery and people due to the absence of partitions.

Despite the short lived historical relevance of this typology it can be subdivided in the use of wooden and steel trusses with their own constructional logic.

Conclusion

The building is a shed roof hall, built to provide a broad working and storage space with daylight in a time artificial lighting was still exceptional. It contains steel trusses; a novelty at the time.

Position

This building typology only dictates the way daylight enters the building. Its constructional logic, and absence of organisational logic leave room for a multiplicity of new uses. The first floor in this particular shed roof hall does however prevent optimal use of the building as intended by the typology.

HOUTEN EN IJZEREN ZAAGKAPPEN

379

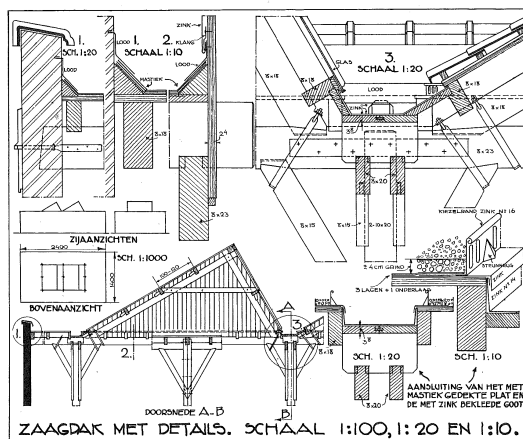


Fig. 911.

Figure 1: Wooden sawtooth roof construction
Watjes, 1925, p.378

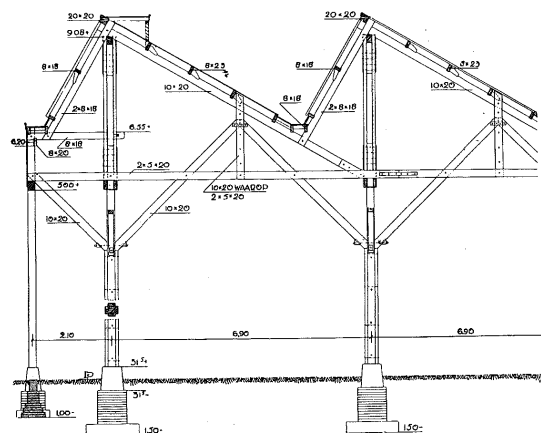


Fig 917a. Houten zaagdak, steunend op dwars geplaatst hangschoorwerk. Locomotiefloods, Utrecht (ontw. d. Bouwk. Bureau der S. S. Sch. 1:150.

Figure 2: Wooden sawtooth roof construction
Watjes, 1925, p.384



1852 Nijverdal



1864 Lieshout



1895 Ulft



1908 Amersfoort



1910 Roermond



1911 Maastricht



1913 Gouda



1916 Groenlo



1916 Naarden



1918 Roermond



1920 Venlo



1956 Bergeijk

Architecture / past / functional organisation

How has the functional organisation developed?

Of the original function, a warehouse, no clear functional division is known. Consequently it remains unclear why the interior brick walls are placed as they are. The central axis however, with large doors and free of construction, clearly enabled (un)loading goods. Perpendicular to the north of the rails in the central axis these goods could be prepared for transport or storage on the ground floor. A glass wall closes off the spaces south of the central axis. The first floor, flooded with natural light, was either used to show or work on goods. A drawing of the ground floor dating from 1989 shows a number of smaller spaces made within the existing structure. The central axis, glass wall and large workspace remain. A raised room for the supervisor stresses the north-south division. The most recent organisational changes were introduced during the restoration in 2008. Two stairwells besides the central axis detach the ground and first floor.

Conclusion

The original functional organisation largely remains.

Position

The functional organisation of a past use should not confine its future use (or experience of the past).



Figure 1: Warehouse 1905
<http://www.shclimburg.nl/bibliotheek/beeldbank>



Figure 2: Vacancy 2006
<http://beeldbank.cultureelerfgoed.nl/>

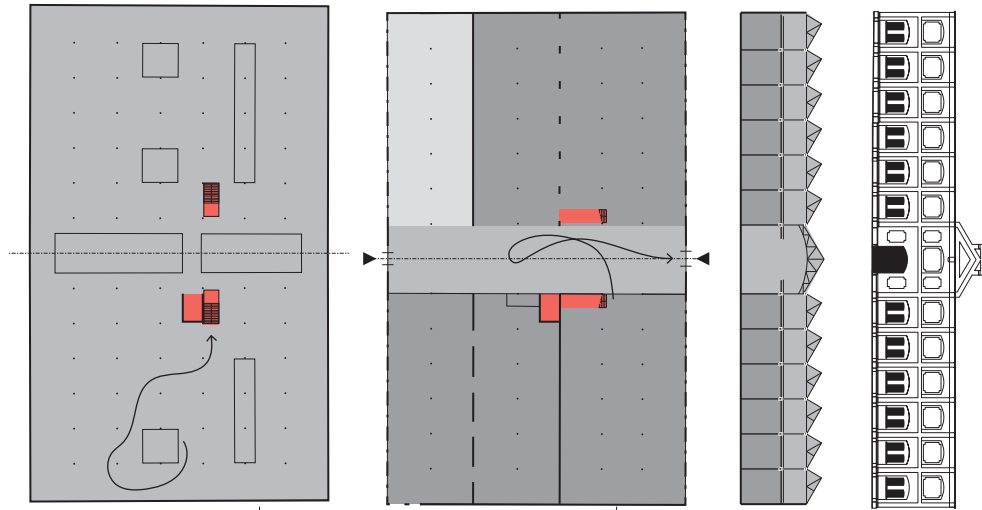


Figure 3: Restoration casco 2008
<http://www.laudybouw.nl/>

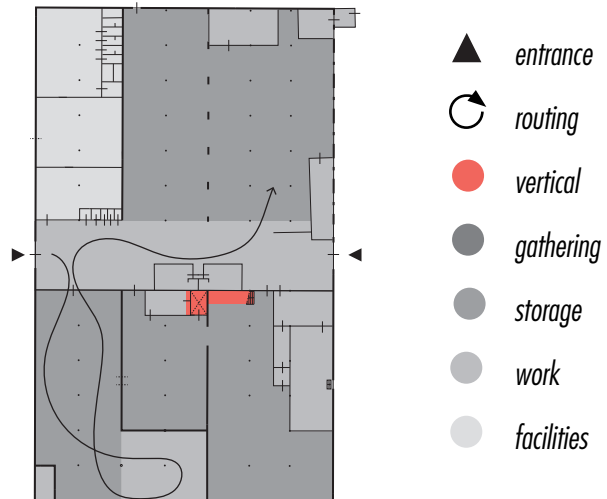


Figure 4: Event kunsttour 2009
<http://www.kunsttour.com/>

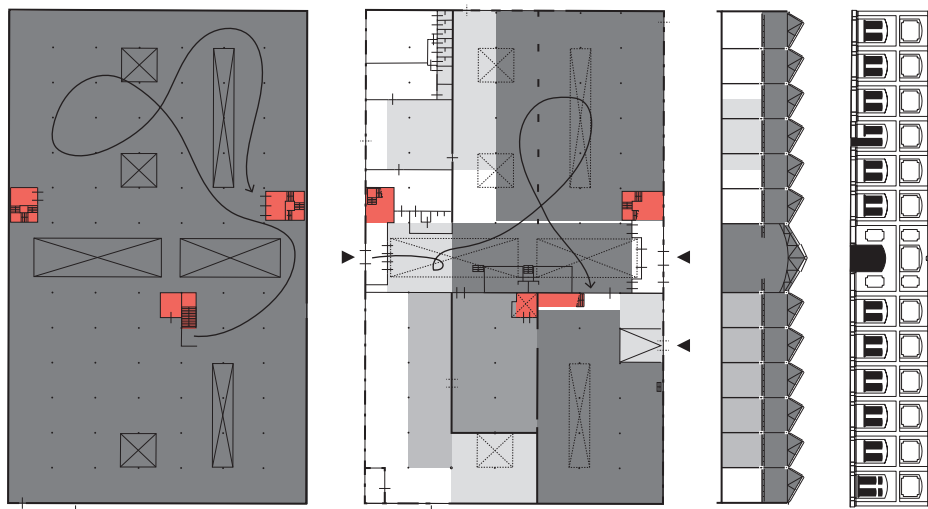
1911



1989



2009



Architecture / present / functional organisation

What is the current functional organisation?

The current functional organisation has no clear or definitive separations. It uses the original division of the glass wall south of the central axis and has added closed off entrance spaces directly connected to the stairwells. This way the south side of the building can be separated as well as the first floor. The entrance areas are used to visit (temporal) expositions on the first floor or passed to enter the foyer on the ground floor. Events are visited through the west entrance, concerts through a secondary east entrance. Lockers and restrooms are connected to the foyer. Closed off are office, backstage, and storage areas.

Conclusion

The functional organisation makes use of the building as is and depends on the separation of crowds by using different entrances and stairwells.

Position

A minimum amount of interventions has left the building as is. Organisation of the current uses in the building however prevent a coherent experience of it. The functional organisation does not fit the building nor the new use.



Figure 1: Event fashion clash 2010
<http://fashionclash-festival.blogspot.nl/>



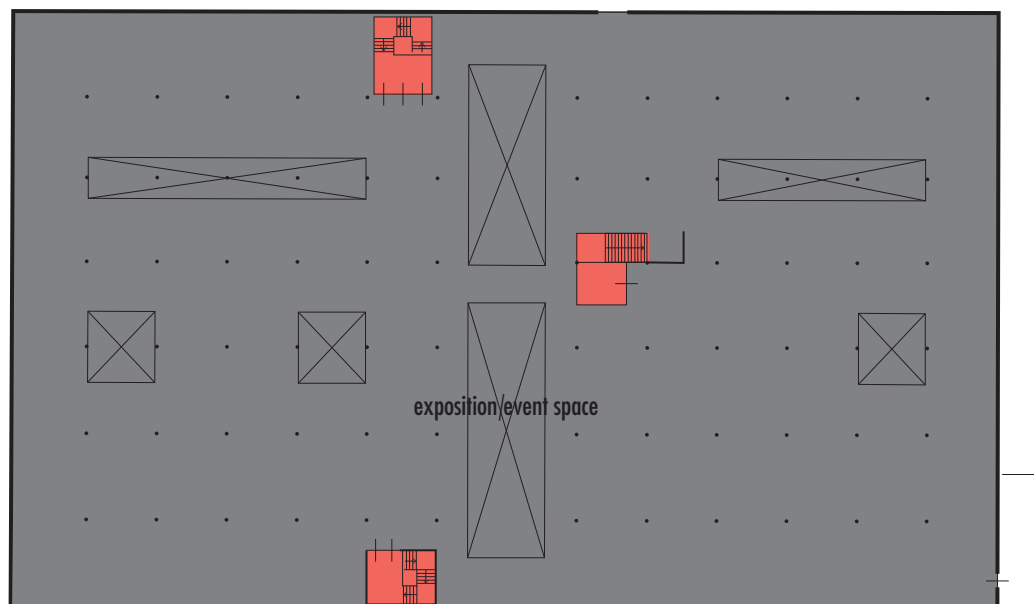
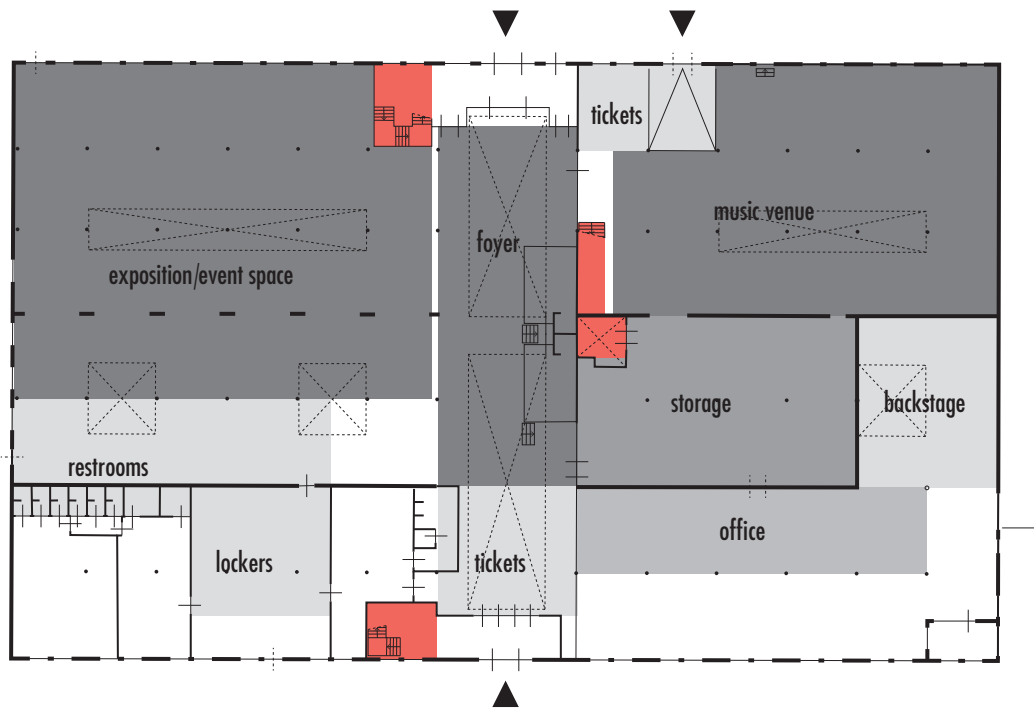
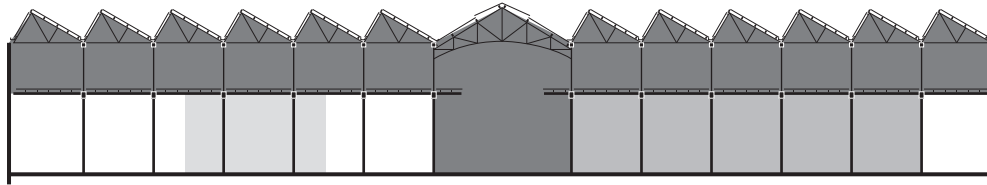
Figure 2: Exposition out of storage 2011
<http://www.artupdate.nl/>



Figure 3: Music venue muziekgieterij 2013
<http://www.muziekgieterij.nl/>



Figure 4: Event affordable art fair 2015
<http://www.townhousehotels.nl/>



Which familiar places can be associated with the spaces present in the building?

The central axis is tall, gets daylight from the roof and has a clear direction. It shows characteristics of a passage, much like a covered street and is close in both width and length to a [passage in Schiedam](#). The large open space north of the central axis is high but poorly lit and almost square. It is, also in use similar to a concert hall at the Melkweg in Amsterdam. The smallest spaces in the building against the west facade are only twice as deep as they are high but face a narrow street. In size they are comparable to [classrooms in BK city](#) like C, T, and W. The three spaces south of the central axis are high and longer than they are wide. Artificial light is needed during the day as it is in some [studio spaces at BK city](#) on the ground and first floor. The first floor is one vast space receiving north light from above. Although the space is longer than it is wide this is not distinctly experienced as such due to its large measurements, which is also true of the latest [exhibition hall at Boijmans](#) in Rotterdam.

Evt. footprint over plattegrond...

Conclusion

The excess of height, and natural light in this building is nowadays not something associated with warehouses. The scale of the spaces in the building seem unusual but can be related (in size, lighting, direction) to existing ones. By doing so both qualities as well as functional potential appear.

Position

Both the light quality and ample height give the building a (functional) potential that should be met.



Figure 1: Passage Schiedam by Pieter Sanders, 1932
nl.pinterest.com/

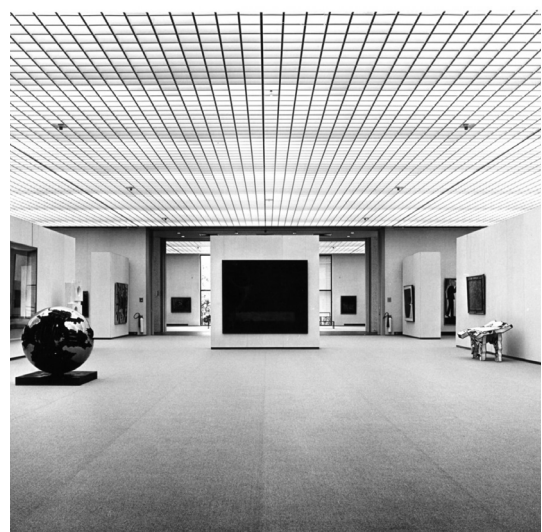
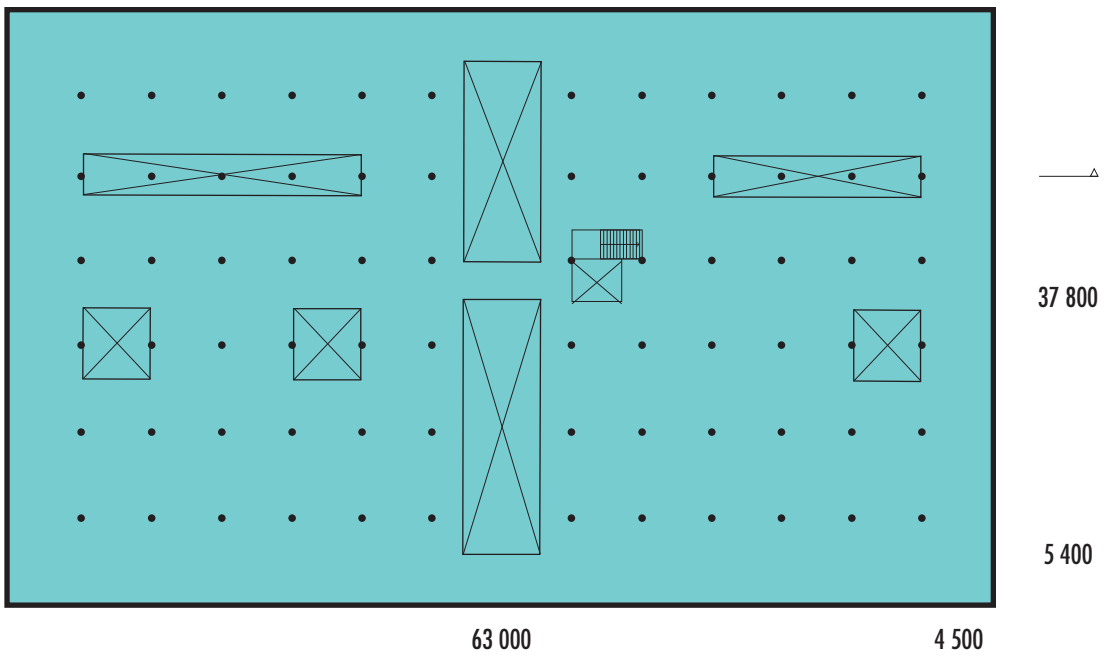
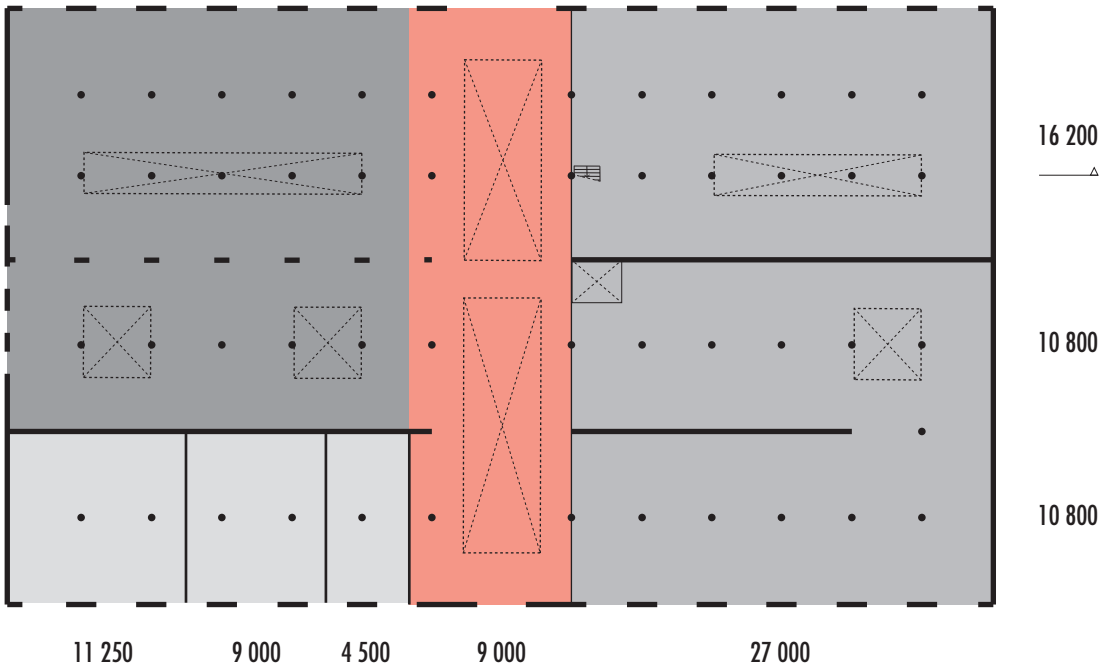


Figure 2: Exhibition hall Boijmans by Alexander Bodon, 1990
<http://collectie.boijmans.nl/>



Architecture / present / scale

How do the measurements of the building relate to the human scale?

The measurements of the building appear to relate first and foremost to the original function of storage. The height on the first floor allows both lifting and stacking but is more than twice the length of a human being. Moreover the absence of partitions and corresponding doors or windows related to the size of the human body deem the large spaces somewhat alienating. The windows in the west facade are placed at a height that allows no view in- or outside. Perhaps most telling are the entrance doors that have a smaller door built into them.

Conclusion

This building was meant for the storage of goods, and only in favor of that inhabited by men. The measurements of the building are the result of an economical optimization of use and construction.

Position

Unlike the addition at the east entrance new elements should cater to the human body.



Figure 1: East entrance allowing a carriage to pass
own picture

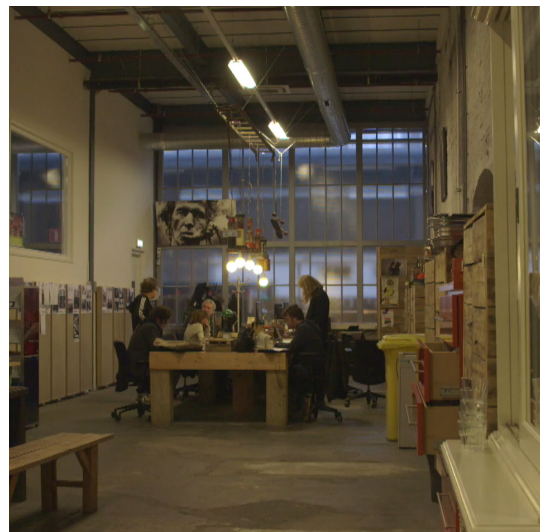
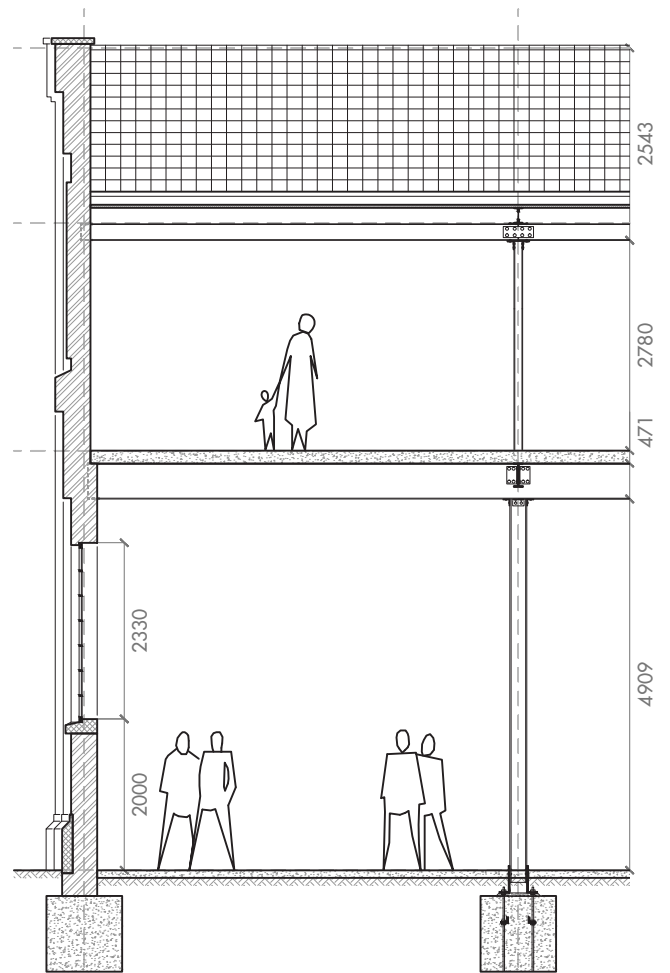
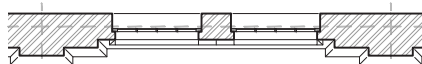
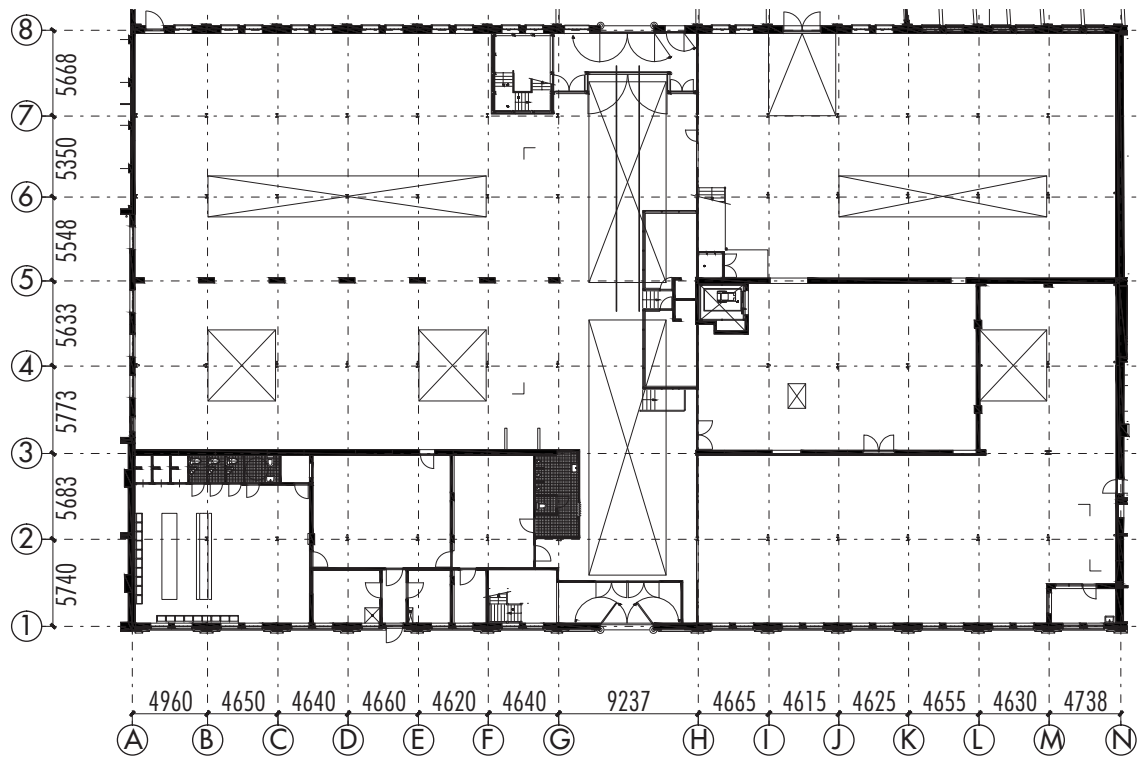


Figure 2: Office Muziekgieterij
vimeo.com/filmwerkttv/



Architecture / present / spatial structure

What is the spatial structure of the building?

The cohesion of spatial elements in this building consists of a covered street or passage in the central axis of the building to which all spaces connect. Perpendicular to its main direction lie a series of boxes; spaces more closed than open in all directions. The exception to these are the first floor and event hall. Despite the many and large openings in the first floor one experiences the space as one large hall. The event hall is an exception to the rule on the ground floor. Where it meets the central axis it lacks any form of envelopment thus a clear distinction between the two; making up a somewhat large alcove pattern. The same could have been true for the spaces behind the glass wall. This, due to its infills and opaque glass, however is more of a separating; facade than connecting element; colonnade. Perhaps the least consistent spatial elements are the entrances. The currently most used west one is a box while the east one presents itself as more of gate or portico. Besides being inconsistent they fail to acknowledge the prominence of the central axis by postponing its introduction and directing the visitor towards the adjoining stairwells.

Conclusion

The spatial structure of this building revolves around the central axis which is like a street one can pass through when both entrance doors are open. To one side this street has a facade while the other side is more like a colonnade.

Position

The pivotal role of the central axis should inform a new spatial structure. The absence of consistency, as well as suitable transitions regarding this passage obscure clarity in the current spatial structure.

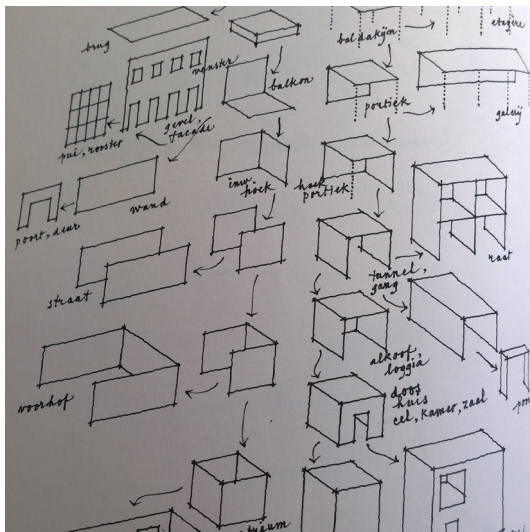
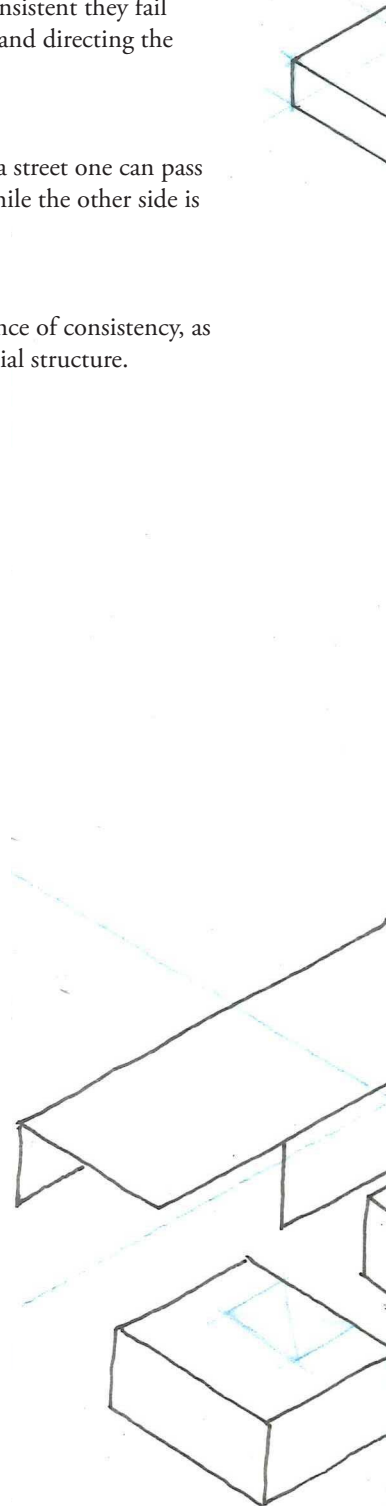
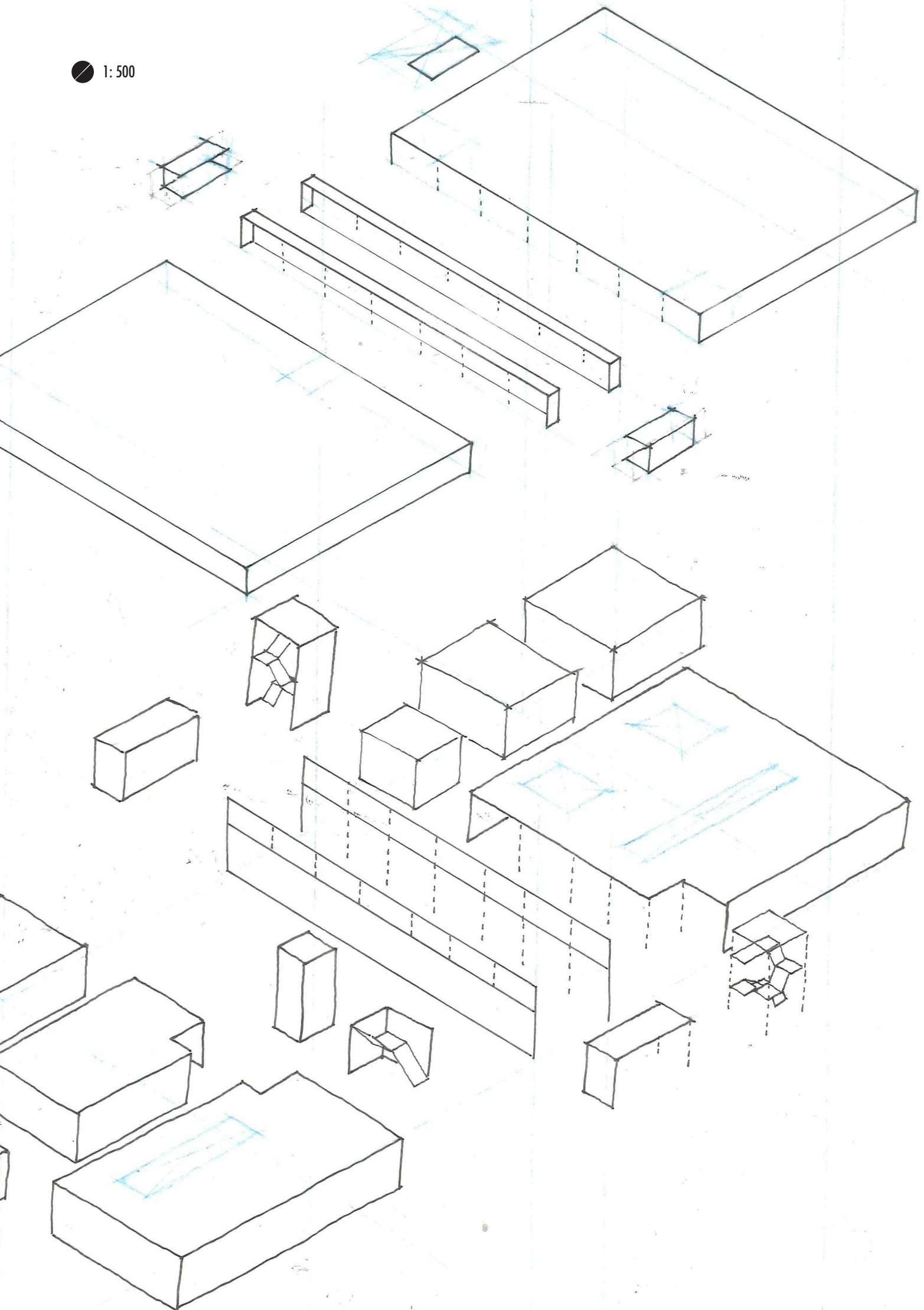


Figure 1: Basic spatial patterns
Kleijer, 2004, p. 36





Architecture / present / routing

How does one move through the building?

The building is entered from the Boschstraat or inner square via a door cut into the larger loading doors. The transition from outside to inside on the east side is direct, whereas at the west side one moves through a shallow and closed space first. The actual doors to enter the central axis of the building also vary in scale and materialization. The same is true for way one enters the spaces perpendicular to this street. Neither visibility nor clear signage introduces the spaces to be found.

Conclusion

The routing of this building is mostly absent. This works on the first floor during expositions. On the ground floor it appears less successful though. Upon arrival it is necessary to either ask for or find directions.

Position

Considering the many users this building already has the routing of this building needs to become more self-evident and clear.

18/41



Figure 1: East entrance
own picture



Figure 2: South side of the central axis compilation
own picture

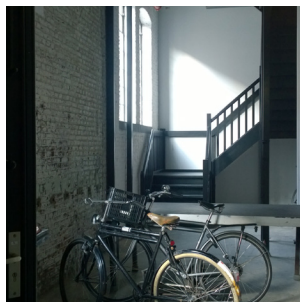
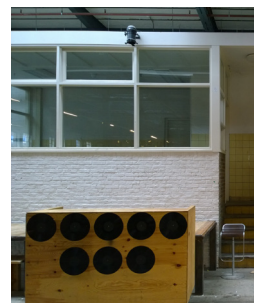


Figure 5: West stairwell
own picture



Figure 6: North side of the central axis compilation
own picture

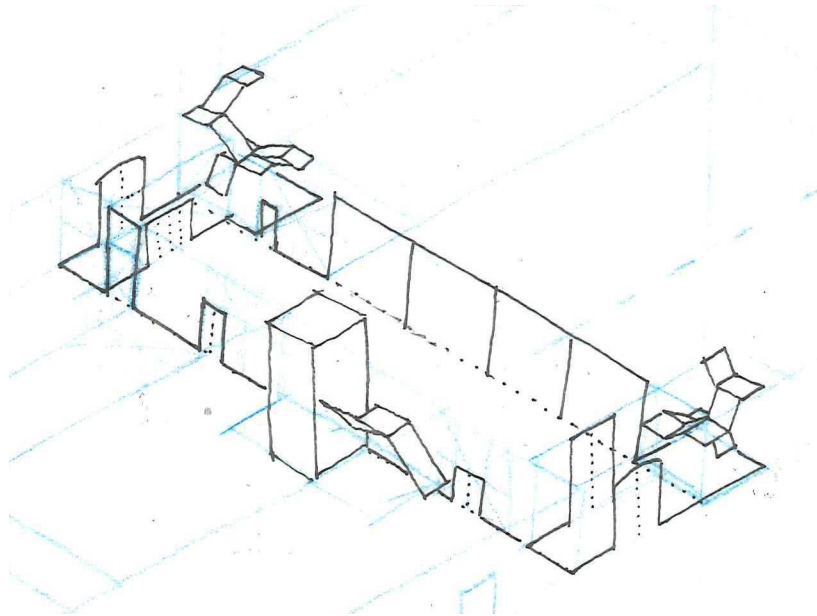


Figure 3: South side of the central axis compilation
own picture



Figure 4: Weste entrance
own picture



Figure 7: North side of the central axis compilation
own picture

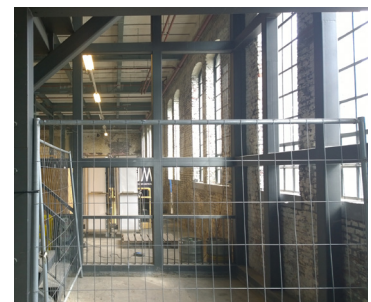


Figure 8: East stairwell
own picture

Architecture / present / rhythm and articulation

What rhythm and articulation can be found in the building?

The exterior facades introduce a rhythm to be found within the building. The rhythmic unit [page 15, facade fragment] represents but doesn't exactly coincide with the supporting structure [figure 2]. The differing treatment of the in- and outside, front- and backside stresses the purpose of the facade as representative rather than structural element. As abundantly as the front facade is articulated so little beyond the actual structural necessity is shown on the inside of that same front facade, the back facade and interior steel construction.

The pilasters, both representing and functioning as the supporting structure, set the rhythm. The facade openings stress the rhythmic unit and provide it with a sense of scale. The ornament, setting apart the front facade, articulates a story (of cultural value) that the actual building does not tell.

Conclusion

The supporting structure of the building is prominently present as a rhythm throughout the building. The present articulation of front facade is as telling of the building's significance as the absence of it elsewhere.

Position

While the rhythm will remain ubiquitous the articulation of new building elements can influence the perception of the existing building.



Figure 1: Exterior rhythm and articulation
own picture

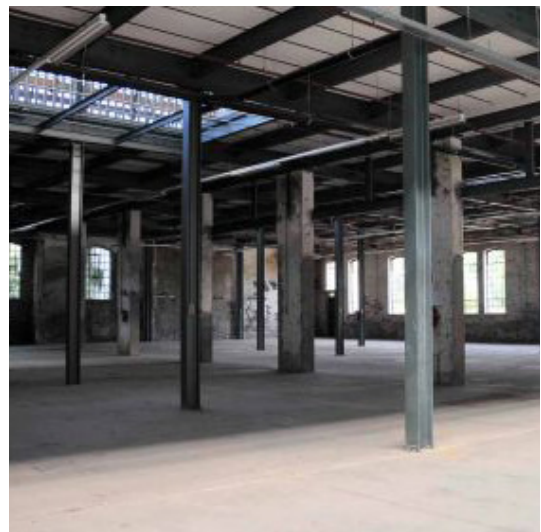
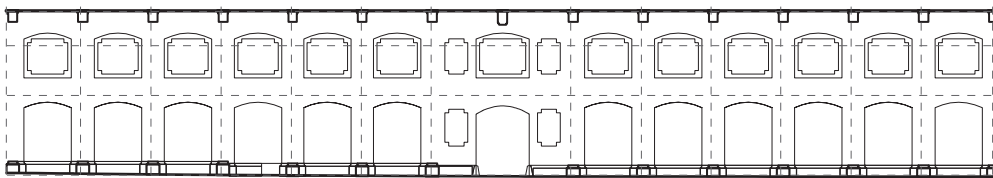
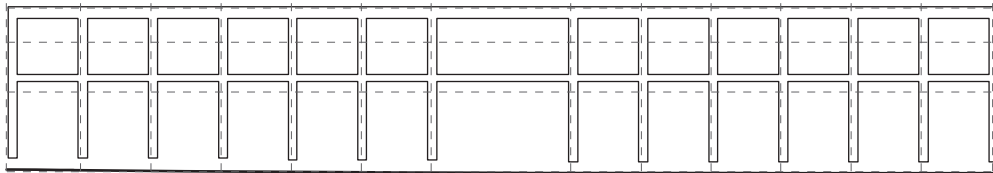
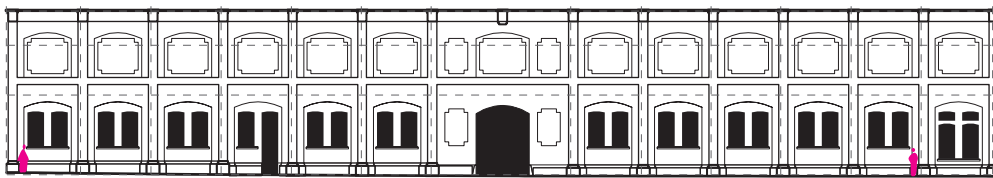
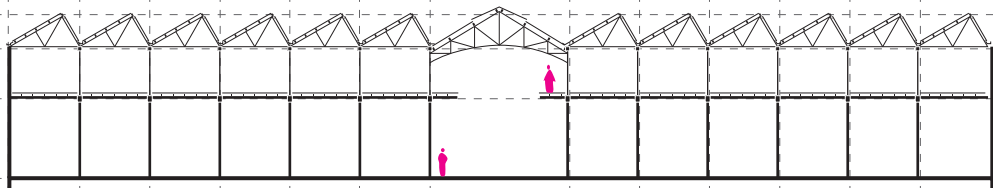


Figure 2: Interior rhythm
<http://www.nederlandsedansdagen.nl/>

● 1: 500



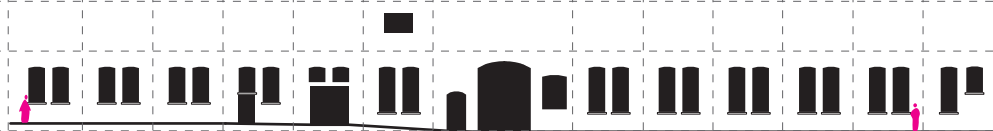
1 950



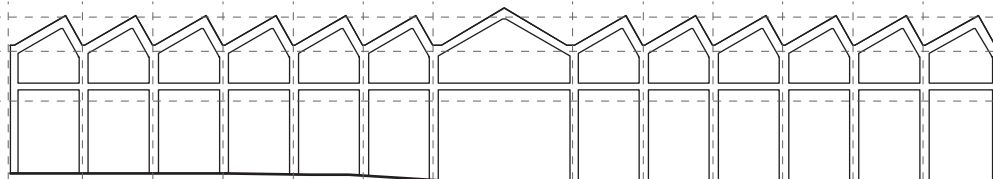
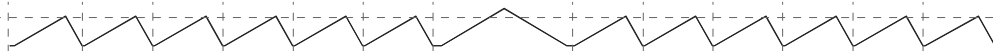
2 400

3 000

5 100



1 310



Which materials and corresponding textures and colors can be found in the building?

The building is made up of a sober palet of materials; brick, natural stone, concrete, steel, and wood. Wear on the concrete ground floor provides it with a certain patina highly contrasted by the newly poured concrete first floor. The building is enveloped in brick of which the texture and color have darkened heavily through time. The interior brick is covered as well, albeit with white paint. The smooth and slender steel columns and beams of the supporting structure have recently been painted, covering their original color. This is also true of the wooden framing of the glass wall and railing on the first floor. The new wooden beams and planking of the roof construction are an exception. The absence of a ceiling on the ground floor leaves open to view the original poured first floor concrete which was painted white.

Conclusion

The brick facades and interior walls, but also the concrete ground floor are the only elements that have been left as is.

Position

The weathering of elements left as is have the potential to put a newly chosen material in perspective.



Ceiling ground floor



Vide ground floor



Roof



Facade exterior



Blind wall



Facade interior



Column



Glass wall ground floor



Railing first floor



Ground floor exterior



Ground floor interior



First floor interior

Architecture / present / **light**

To which extent can the spaces be used without artificial light?

The only spaces currently used without artificial light during daytime are the central axis and first floor.

Conclusion

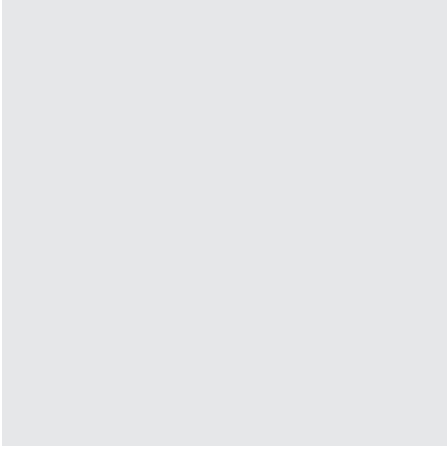
The potential of spaces on the ground floor, like the possibility of removing the first floor need to be researched more precisely.

Position

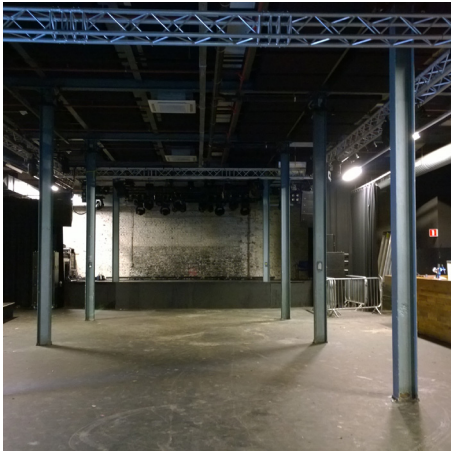
The naturally lit first floor and street have such quality, corresponding with the building typology, that it's worth to consider removing the first floor.



Light street



Light street



Concert hall



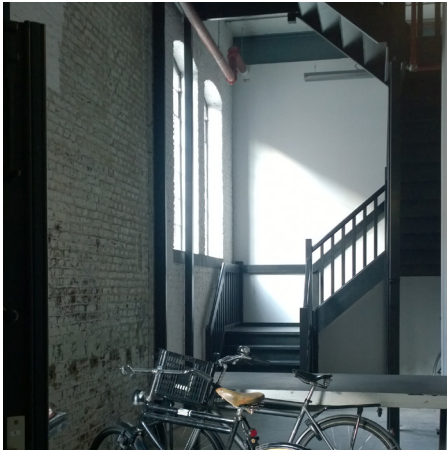
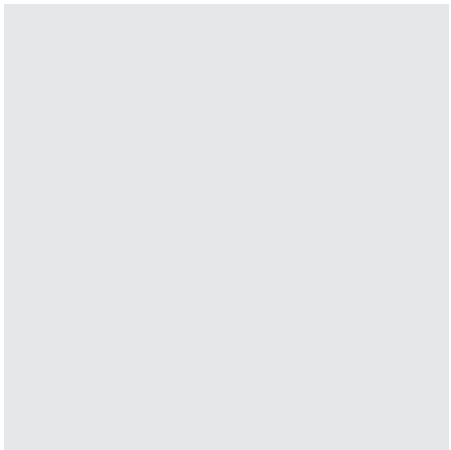
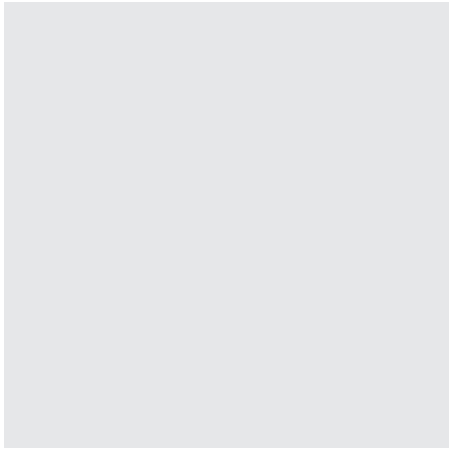
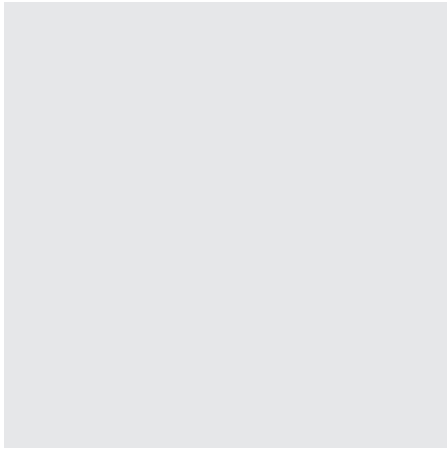
Storage



Empty



Event hall



West stairwell



First floor

Building Technology

Introduction

This report describes and documents the technical characteristics of the former warehouse along the Boschstraat in Maastricht. It is primarily intended to be an analysis as described by Ar3Ar032. It however also covers (im)possibilities regarding the redevelopment that is subject of the graduation project. For this reason the current report will grow along with the project in an attempt to document relevant information and reference projects.

The main research question in the current report is: What possibilities does the building offer for new use? To answer this question the structure of the past, present and future are treated in parts with respect to both their possibilities and state. The current report focusses on the present state and corresponding possibilities. Under 'present' the grid is presented first as it shows the relation between the loadbearing, service and material structure. These three technical structures follow in components logical to their nature.

The structure of each is shown in plan and section; abstractions of drawings by restoration architect SATIJNplus [next page]. The possibilities are based on typical details, dimensions and material. (Rules of thumb; modifications possible; compliance with modern-day requirements; adaptations necessary?) The current state is revealed in pictures related to exceptions, particularities and damage. (Adaptations necessary?)

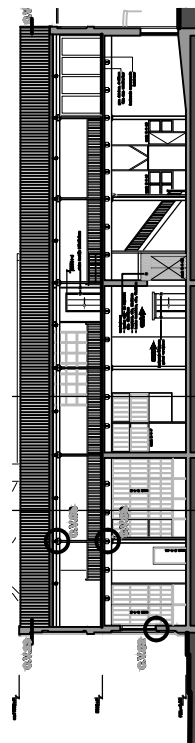
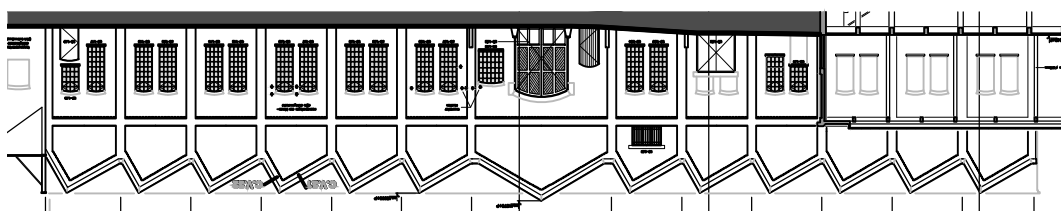
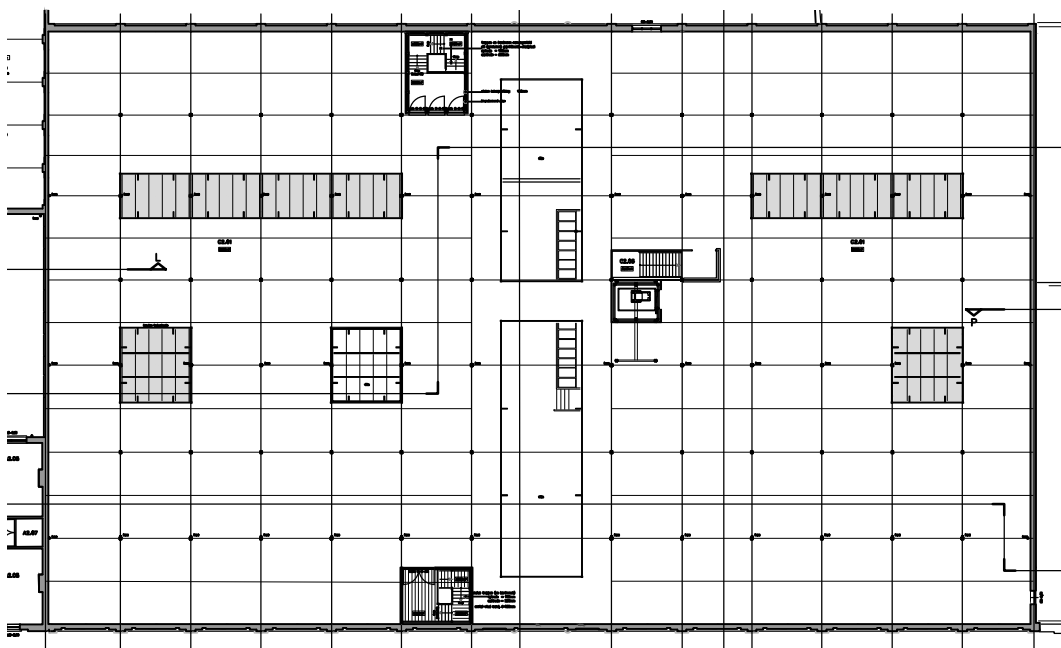
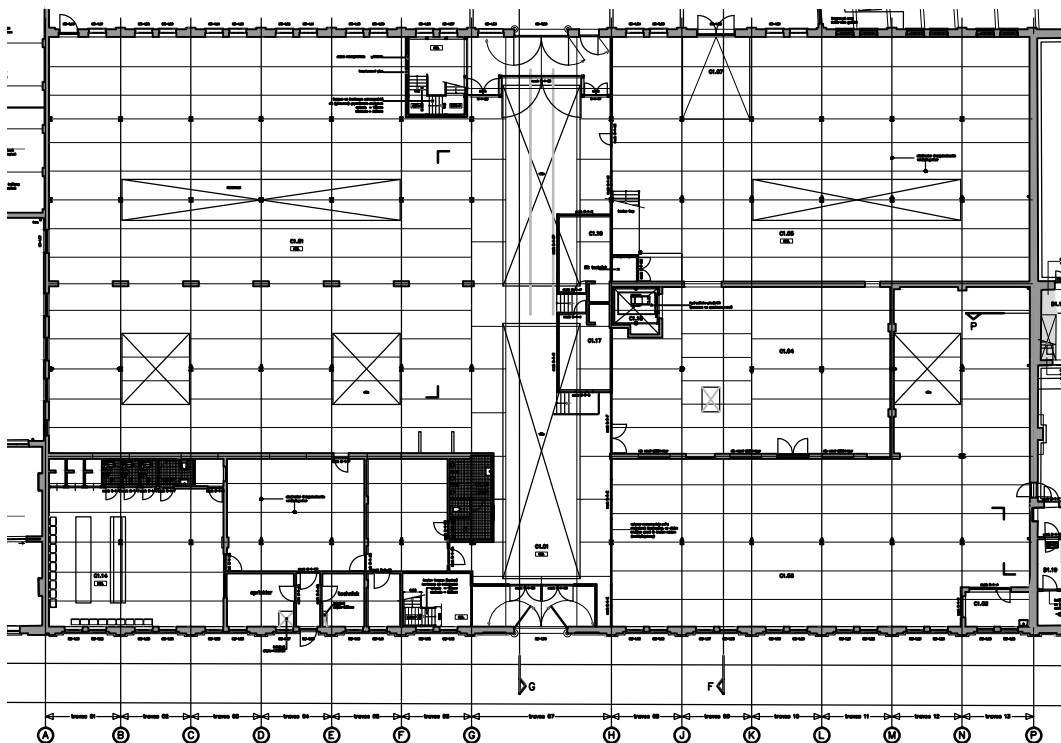
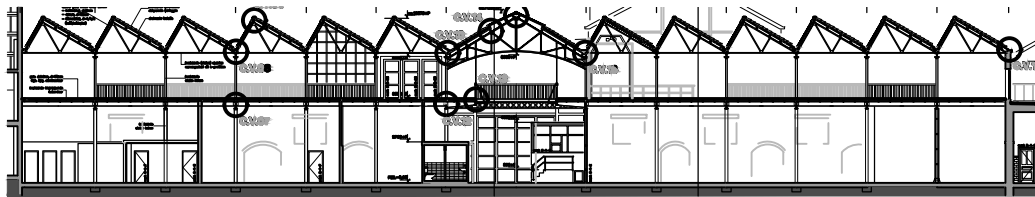
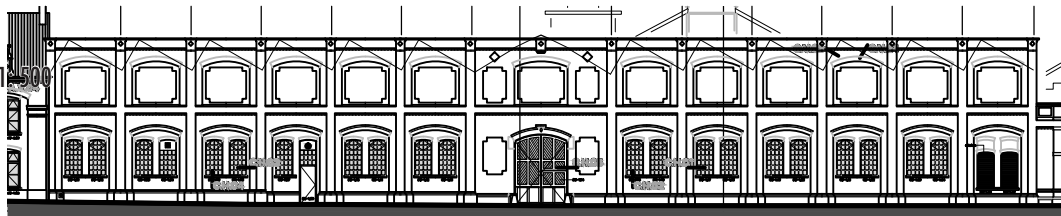
02/BT



Figure 1: West facade
<http://beeldbank.cultureelerfgoed.nl/>



Figure 2: East facade
<http://beeldbank.cultureelerfgoed.nl/>



Structure of the past, present, and future

The original structure, of 1911, is still clearly visible. Indeed, with the exception of one column, the entire supporting structure is intact. The exact moment and motivation of changes as well as their longevity remains largely unclear due to a limited archive (of drawings). What can be said is that these relatively small interventions do not interfere with construction and differ in materiality. The material and finish also suggest a temporal necessity for these closed off spaces in an open building. The same is still true when visiting the building today.

The new uses this building has already housed since 2008 (expositions, events, music venue) were made possible by a casco restoration commissioned by the municipality. Considering the material structure in combination with the supporting structure of the building reveals that it consists of brick walls, a steel skeleton frame, and concrete floors. The renovation seems to have left the brickwork untouched with the exception of filling some cracks and crumbled corners. The steel skeleton frame was completely painted in a visibly different color for preservation and fire safety. The concrete first floor, in contrast to the ground floor, is topped with a new creed showing clear seams to prevent cracks. Furthermore, the first floor wooden railings were painted, and the entire wooden, steel and glass roof construction was replaced.



Figure 1: Before casco restoration; 2006
<http://beeldbank.cultureelerfgoed.nl/>

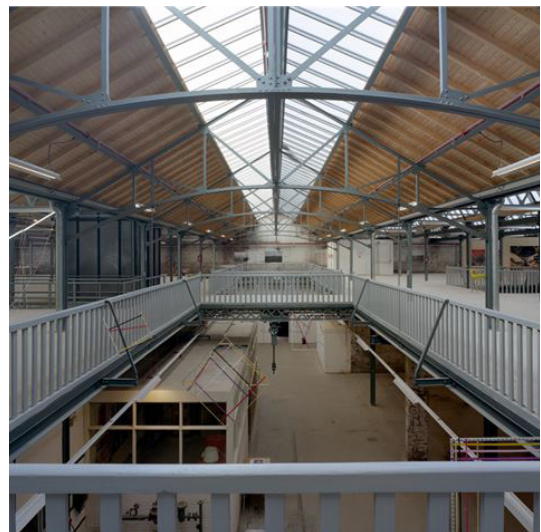
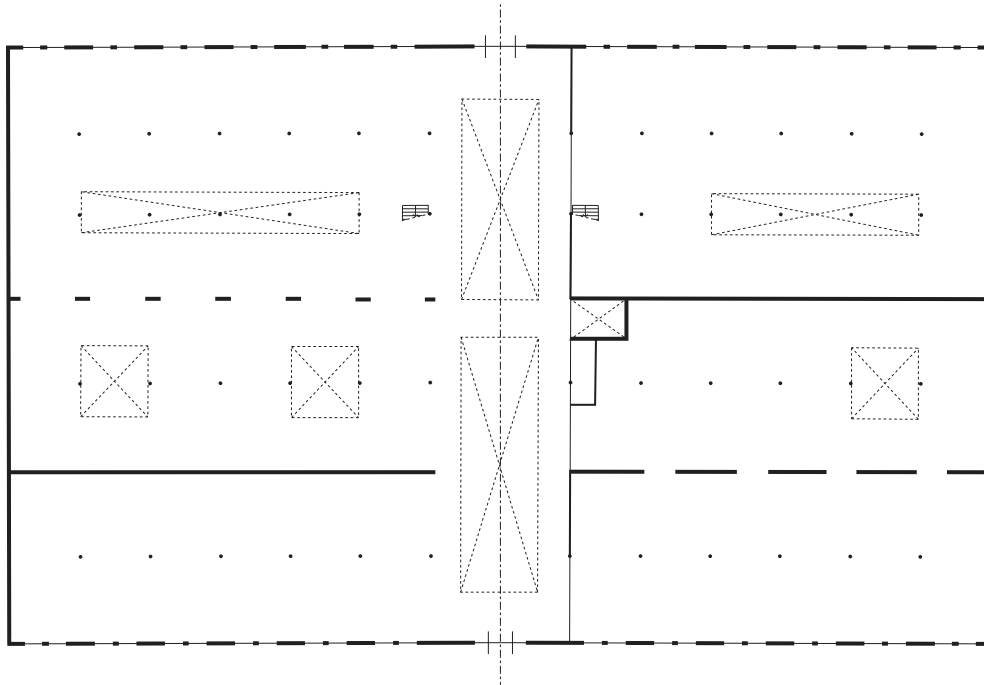


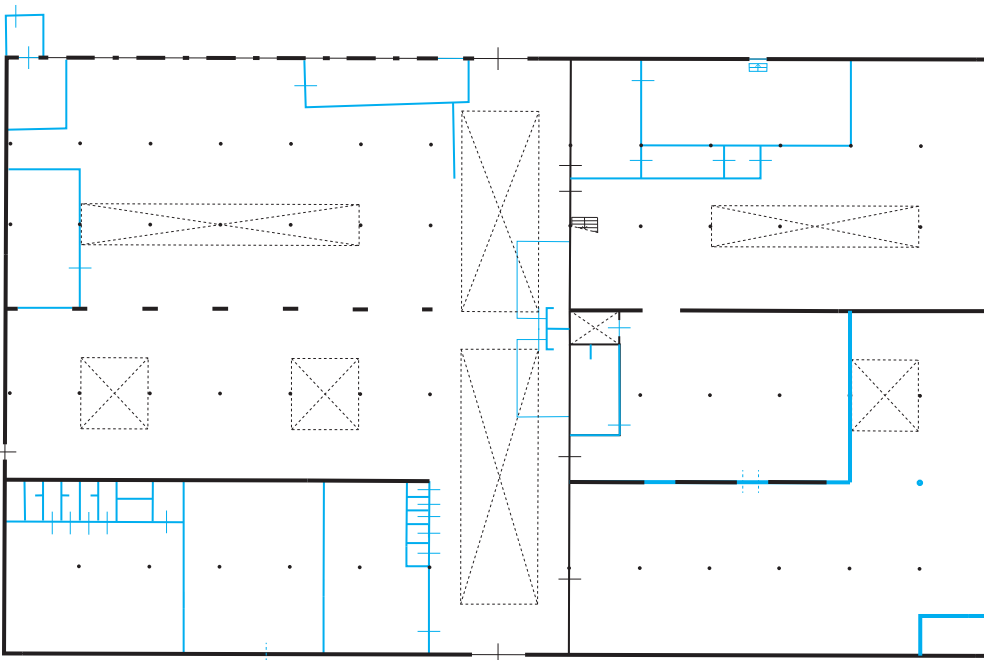
Figure 2: After casco restoration; 2008
www.ballast-nedam.nl

● 1: 500

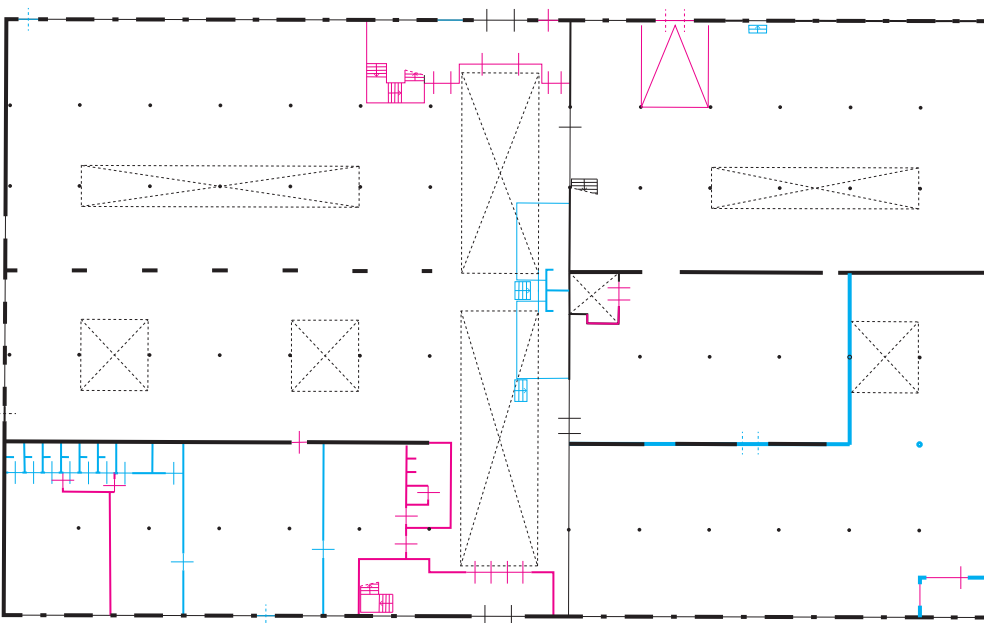
1911



1989



2009



Structure of the past, present, and future

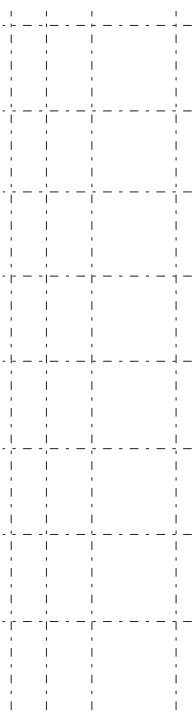
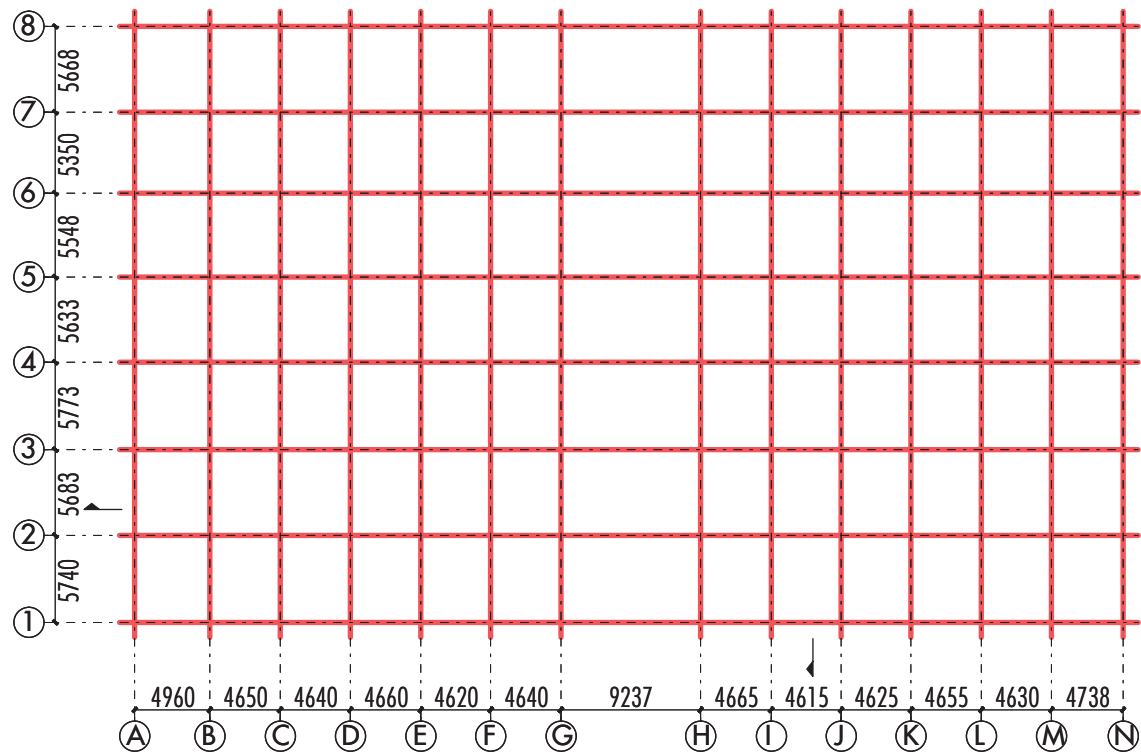
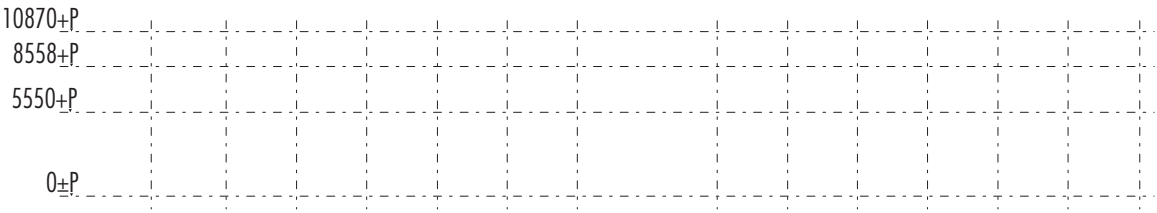
The building is divided into two, roughly, identical rectangular parts flanking a central axis. The central axis has a clear east-west direction due to a dimensional ratio of approximately 1/4. The rectangular parts also show a greater length than width, albeit in a less distinct ratio. Because the length is divided by 7 and the width by 6 the prevailing grid size of some 5,6 by 4,6 meters is even less directional with a ratio of circa 1/1,2. Even though the grid sizes are not divisible by 900 mm; common practice nowadays, the broad dimensions and height allow for a multiplicity of new uses.

Typical details, dimensions, and material (rule of thumb)

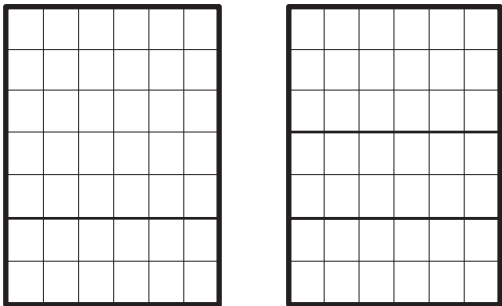
The dimensions of the grid are most probably related to the (optimal) spanning possibilities of the construction used. The choice of construction, thus grid size, was based on the foreseen use of the building. The high and wide central axis allowing the use of rails and pulleys to (un)load heavy cargo. The spacious dimensions of the prevailing grid size allow for easy transportation and storage of varying sizes and types of stock.

Exceptions, particularities, and damage

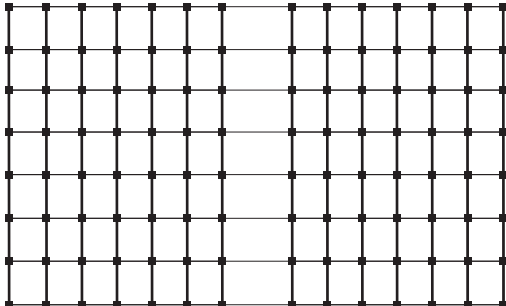
Measurements of the grid vary somewhat. This can be seen in drawings of, as well as in the building itself. These irregularities can be ascribed to the time, and according means of construction. Due to the variation it proves difficult to assess the sought after dimensions. All the more so when taking into account old measures like the inch and feet, which themselves vary greatly across countries and regions.



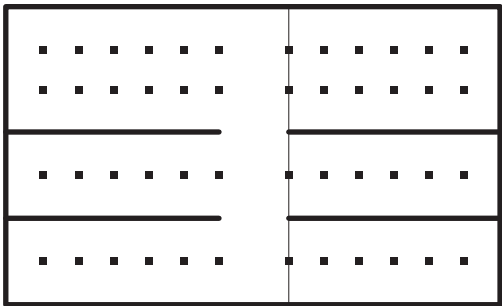
dimension



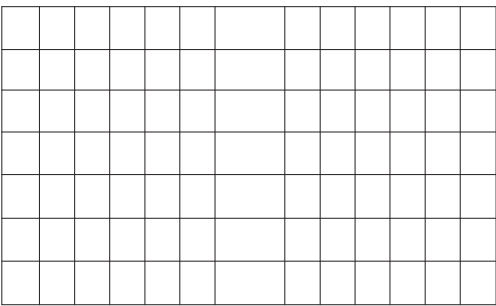
loadbearing



material



services



Structure of the past, present, and future

On a regular grid irregular footings were poured until approximately three meters beneath ground [$\pm P$]. The foundation is without piles, thus effectively a natural foundation. The connection between the anchor poured into the concrete and column is not visible. Most probably the ground floor was poured in a later period without any beams or isolation.

The current situation concerning the foundation is unchanged.

In a future situation new loadbearing constructions will need their own foundation as the existing one has no foundation beams. Considering the existing situation and location no foundation piles will be necessary.

Typical details, dimensions, and material (rule of thumb)

The footing and ground floor are poured concrete. Anchors, coupling plates and bolts are steel. The absence of foundation piles takes away worries about their condition. The anchors, coupling plates and bolts are located underneath the concrete floor; thus uninspectable. The concrete floor itself is in good condition for a concrete floor poured directly onto the ground without reinforcement. Its surface is not smooth but does not show any cracks. Apparently nothing was changed in this respect during the restoration in 2008.

Exceptions, particularities, and damage

Because of the hidden nature and single, incomplete source for the foundation plan it remains unclear how the facade walls are build upon the foundation [d2], and whether a beam was used or not.

Around the footing of a new column [M3] clearly a rectangular area was poured anew [Fig.1] showing most probably the dimension of the poured footing underneath. At certain locations, between G and H specifically, the ground floor has straight seams [Fig.2]. These are probably related to the rails through the building.

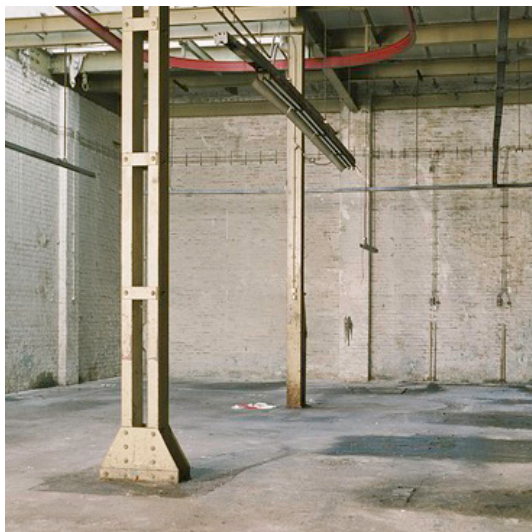


Figure 1: composite column [M3] on ground floor
<http://beeldbank.cultureelerfgoed.nl/>

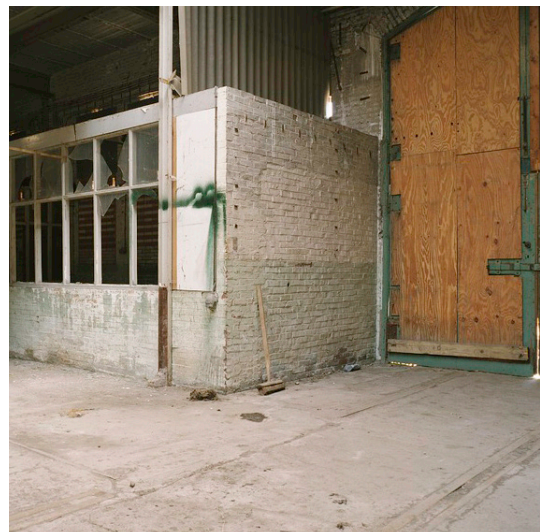
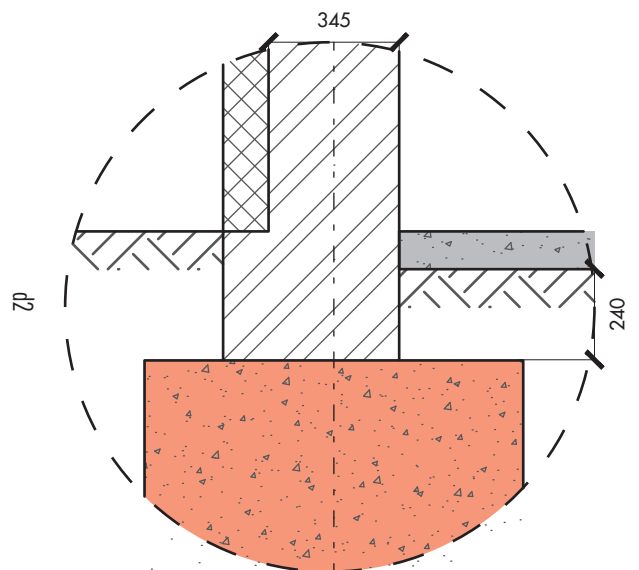
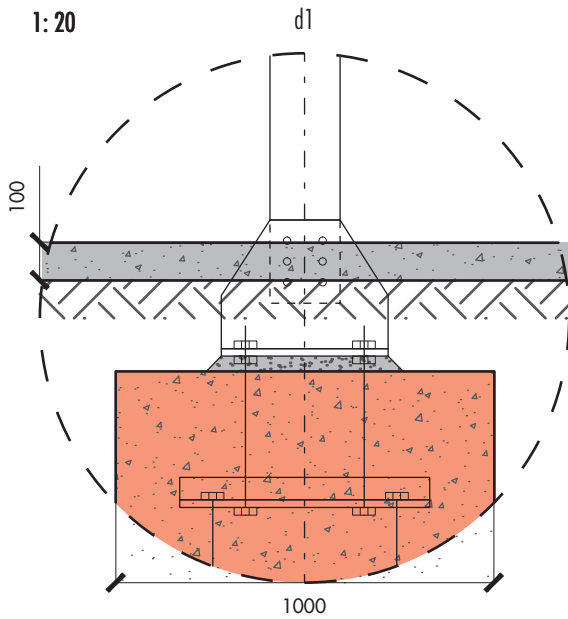
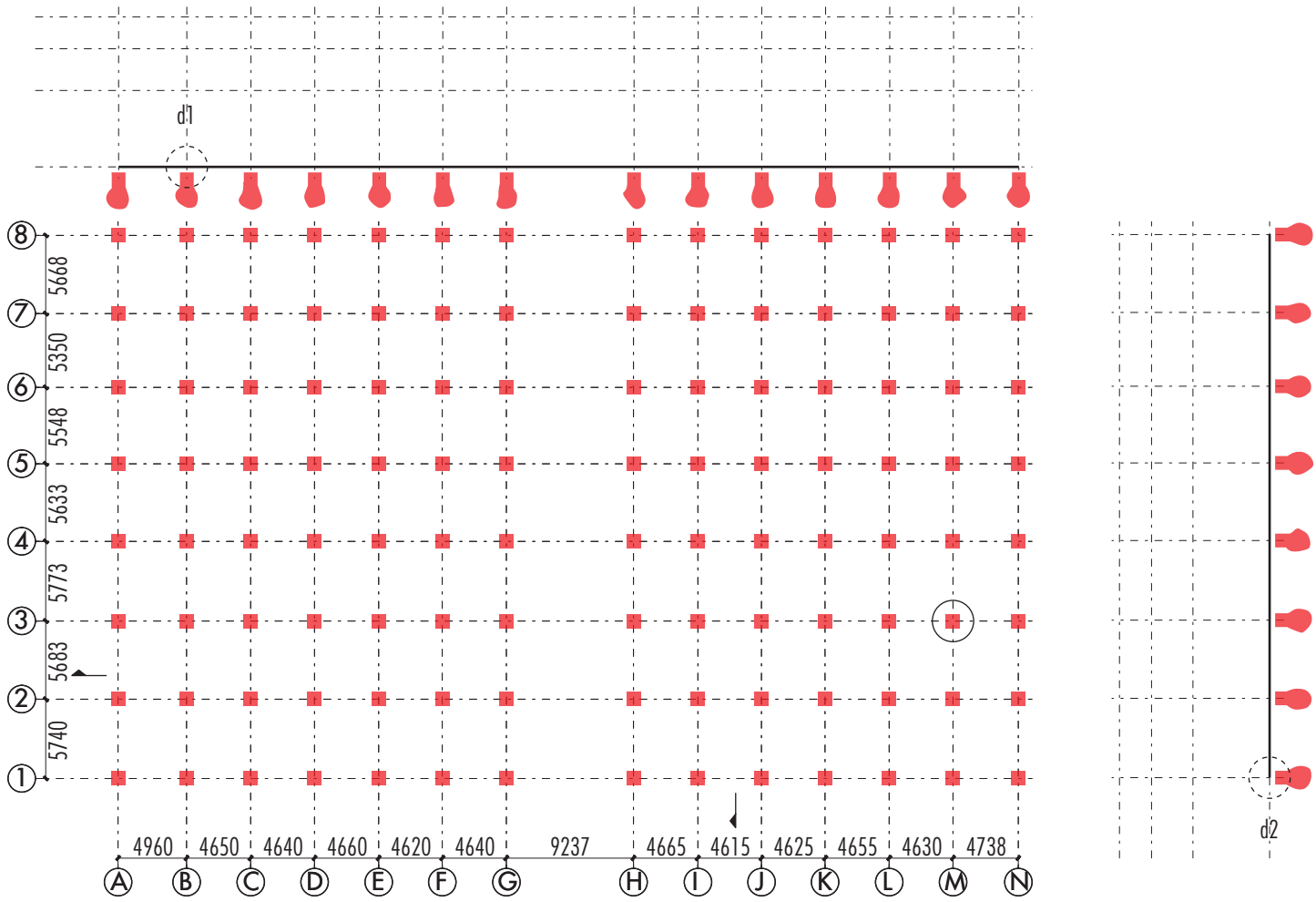


Figure 2: rails in central axis [G-H1] of ground floor
<http://beeldbank.cultureelerfgoed.nl/>



Building Technology / present / column & wall

Structure of the past, present, and future

The supporting structure of the ground floor consists of columns and wall (segments). North and south of the central axis, clear of any construction, support of the overhead structure is given by columns along 2, 4, 6, and 7 and by brick wall segments along 1, 3, 5, and 8.

Typical details, dimensions, and material (rule of thumb)

All of the columns, except M3, are 225mm high and differ from contemporary standard steel dimensions. All of the brick walls are laid in cross bond. The facade walls along 1 and 8 have a varying thickness that is 555mm, as is the wall along N, where direct support is needed. This corresponds to roughly 2,5 stretcher. The walls along 3, 5, and A have a thickness of around 350mm corresponding to 1,5 stretcher.

Exceptions, particularities, and damage

The columns directly in front of the north facade like A4 could be explained by a low loadbearing capacity of the wall that was already there when the warehouse was built. This could also explain the absence of one at A2 where a thicker wall of the neighbouring house is still present. Column L4 is still visible but built into a later brick wall. The same is true for columns H4, 6, and 7. The fact that from A5 to G5 no ongoing wall but brick columns were placed suggests that the space was intended to be open. Historical research has proven that a ditch of the fortifications used to lay there. Because of this the ground could bear less loads and more stable columns were

10/ BT

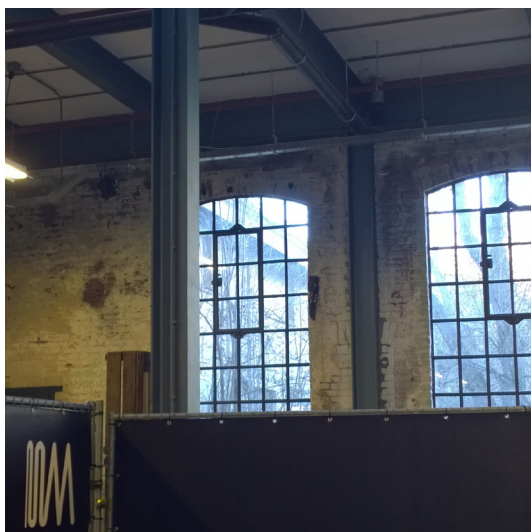


Figure 1: column [A4] within exterior wall
Own picture

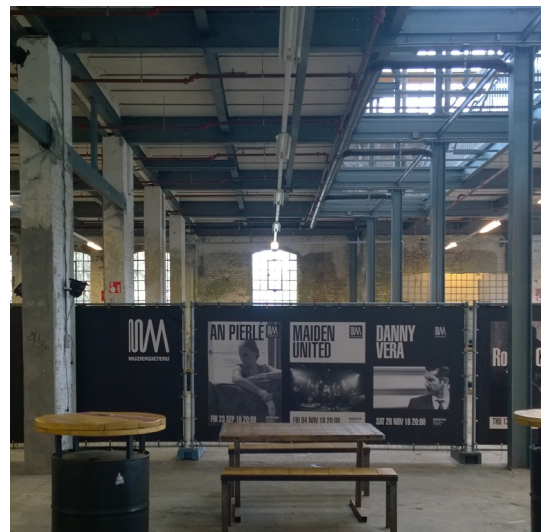
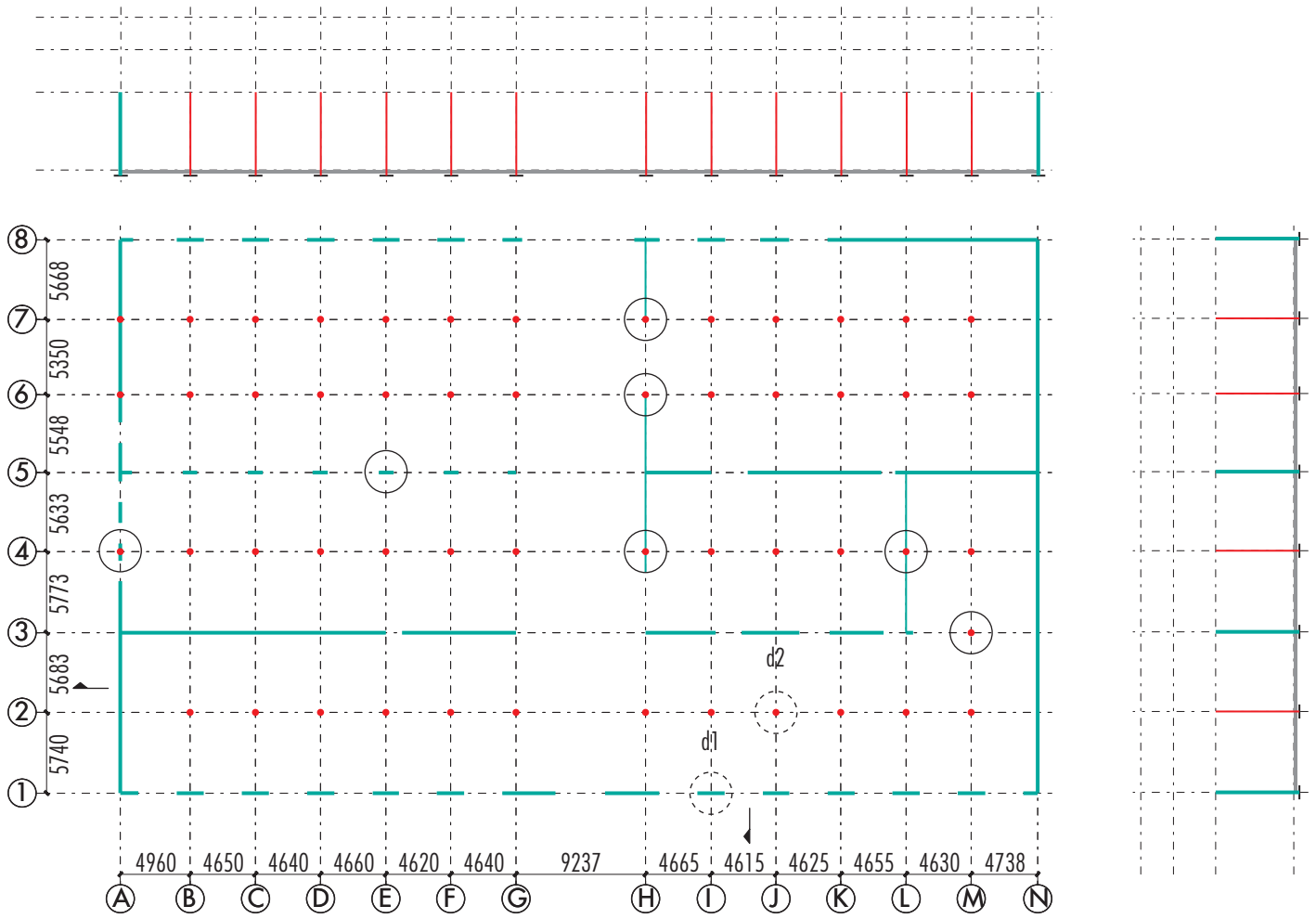
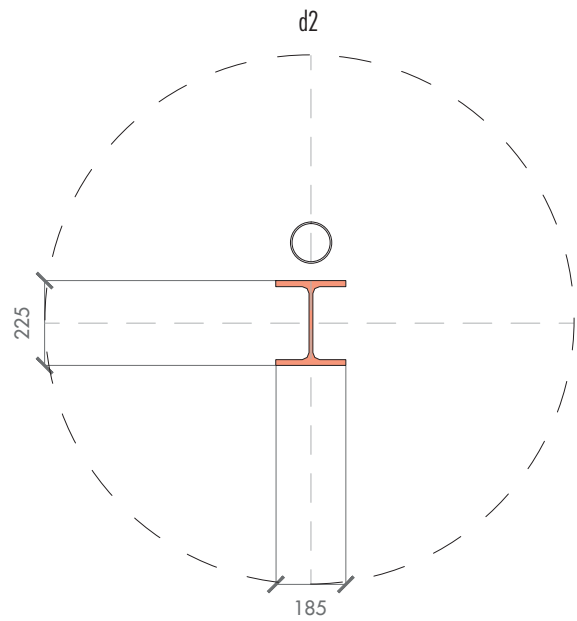
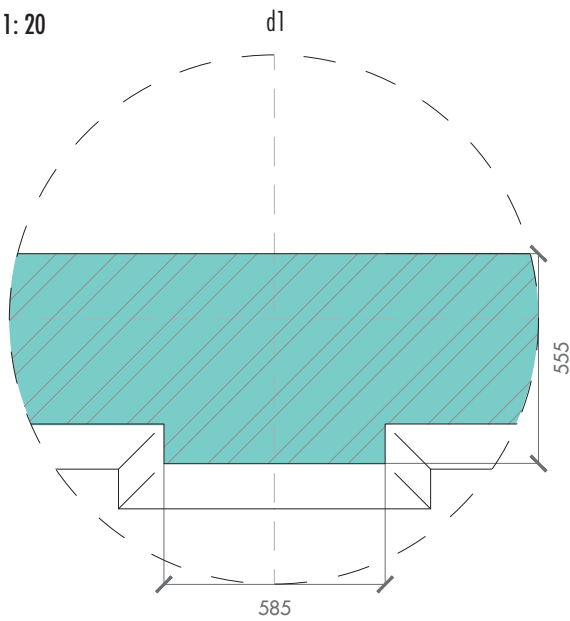


Figure 2: brick [5] and steel [6] columns
Own picture



1: 20



Structure of the past, present, and future

The primary beams are placed directly on the columns and walls in east-west direction. The connection, using steel l-profiles, is stiff in four directions. This is also true for the secondary beams that are placed in north-south direction inbetween the primary beams. In 1911 welding was not yet a possibility, thus rivets are used giving the constructive knot an expressive character.

Typical details, dimensions, and material (rule of thumb)

The height of primary and secondary beams are 471 and 310mm respectively. Neither corresponds with contemporary standardized dimensions.

Exceptions, particularities, and damage

Where the beams meet the facade or interior walls no connections are visible. The beams appear to lay directly on the brick allowing them 'work' freely while still being able to transfer loads.

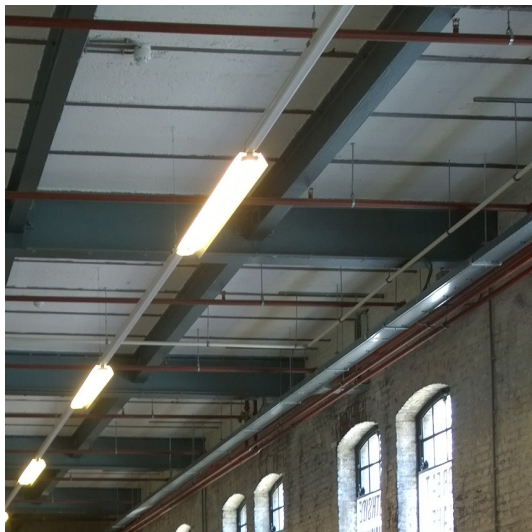


Figure 1: primary beam [J] running into exterior wall
own picture

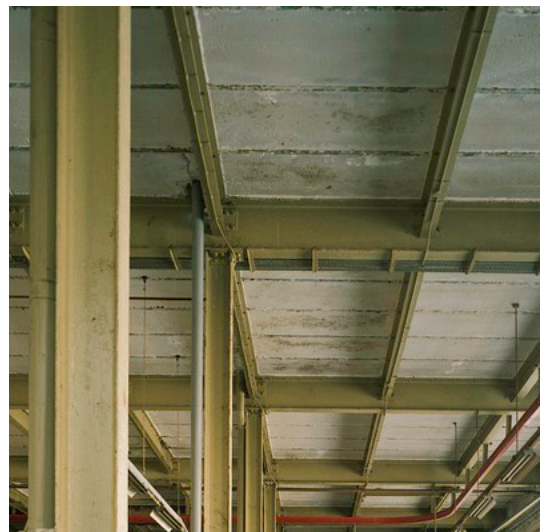
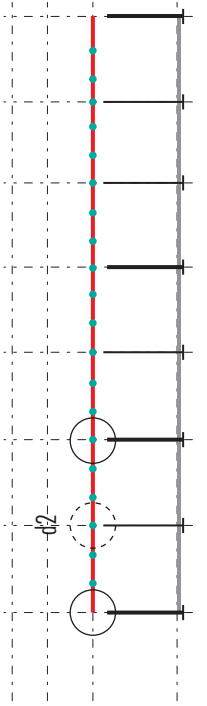


Figure 2: typical knot [J2] of primary and secondary beams
<http://beeldbank.cultureelerfgoed.nl/>



Building Technology / present / floor

Structure of the past, present, and future

Directly on top of the secondary beams tertiary beams are placed in east-west direction. They were used as a permanent formwork to pour the concrete floor. At times, along vides, they extend beyond the floor to carry a steel profile providing stability to railings.

Typical details, dimensions, and material (rule of thumb)

The original floor was 110mm thick showing the flanges of the profile within the floor on the bottom and top of the floor. During the restoration in 2008 a new screed of 60mm was poured on top of the existing first floor. Seams were made in it to prevent cracking.

Exceptions, particularities, and damage

The principal absence of regular construction in the central axis produces the necessity for alternative constructional elements. Because of this the floorspan changes direction in the central axis along the facade.

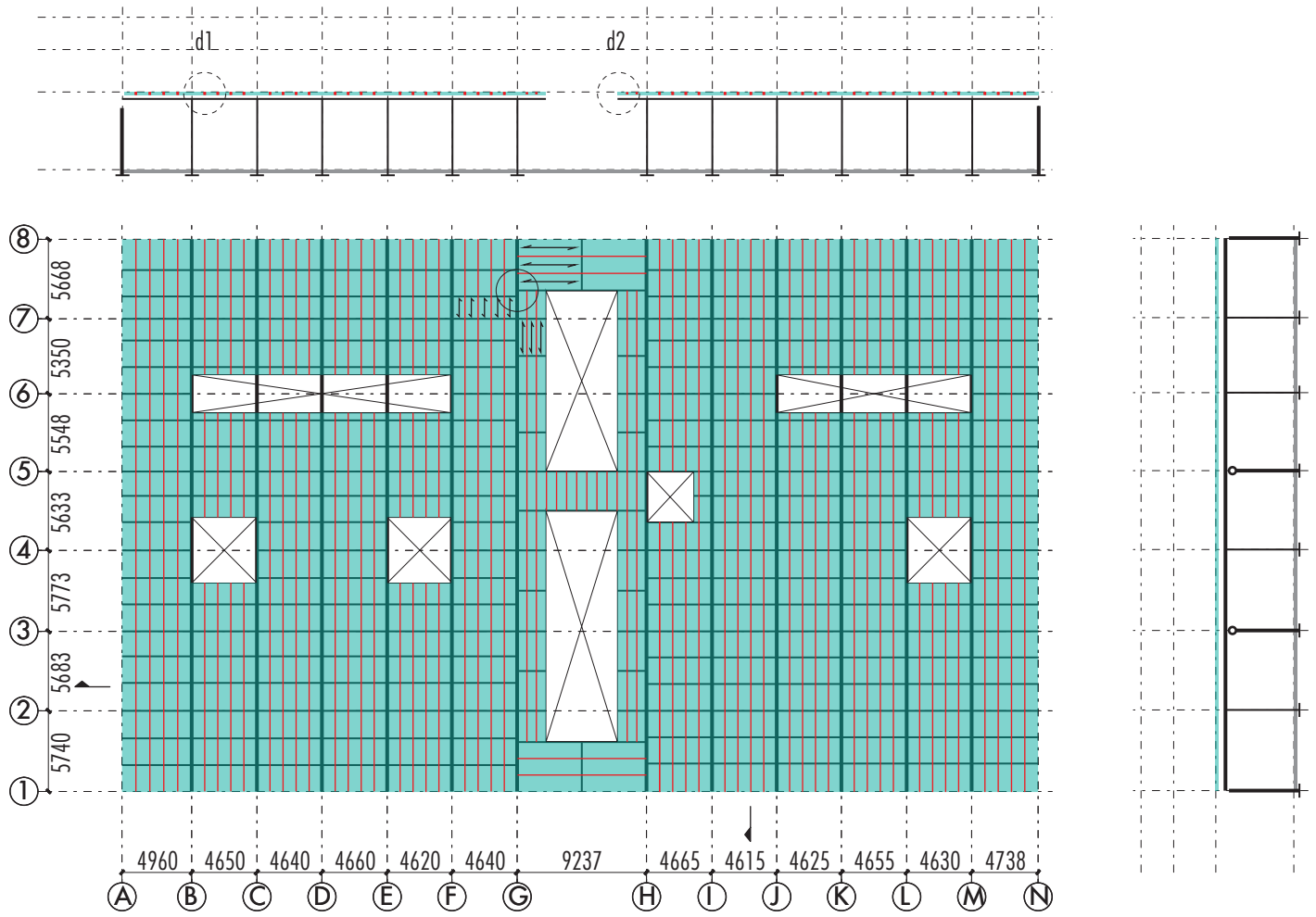
14/ BT



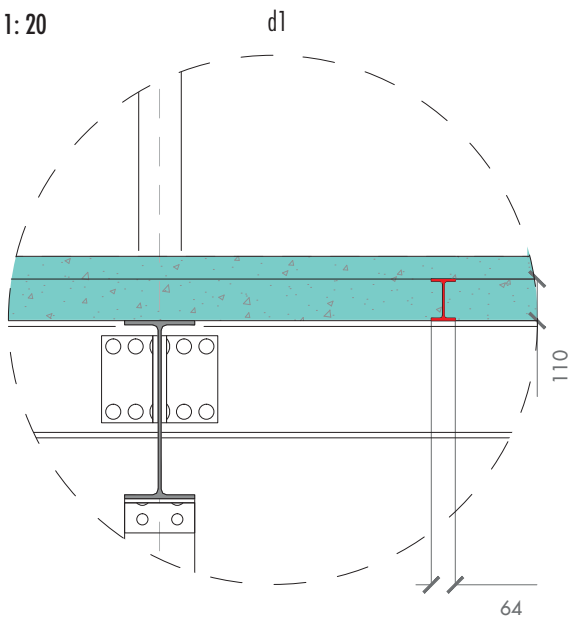
Figure 1: floorbeam [E-F] protruding mould stabilizing railing
own picture



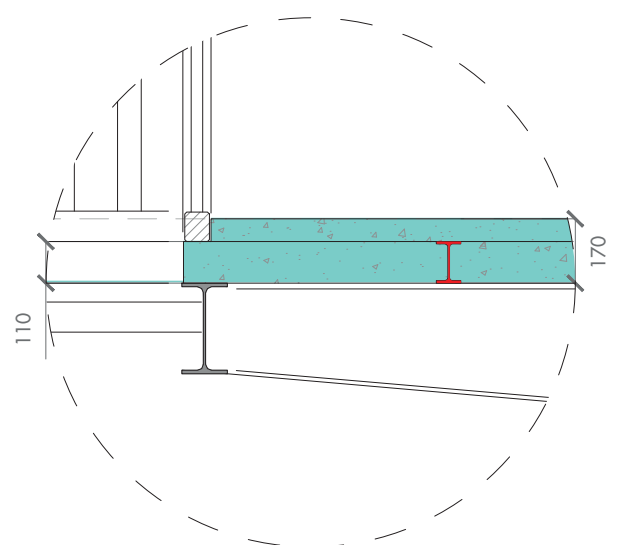
Figure 2: clear seams in first floor [H2]
own picture



1: 20



d2



Building Technology / present / column

Structure of the past, present, and future

The columns of the first floor are present on every crossing of the grid without exception. The entire first floor is clear of any walls.

Typical details, dimensions, and material (rule of thumb)

All of the columns have a height of 115mm that does not correspond to contemporary standardization.

Exceptions, particularities, and damage

Along, or even in vides the columns are connected the same way directly onto the primary beam by steel L-profile plates and rivets.

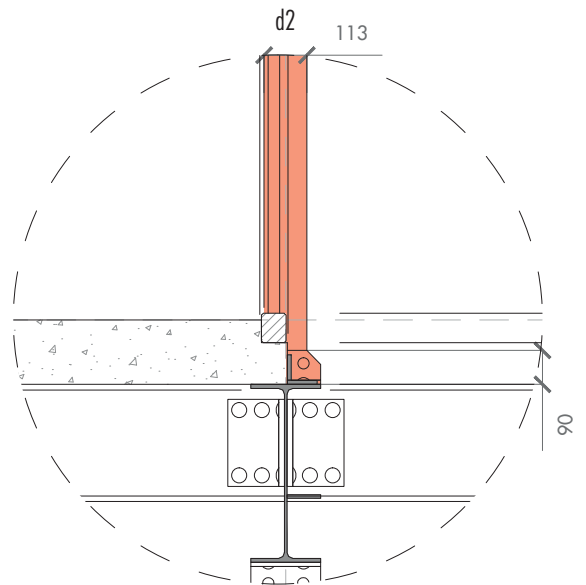
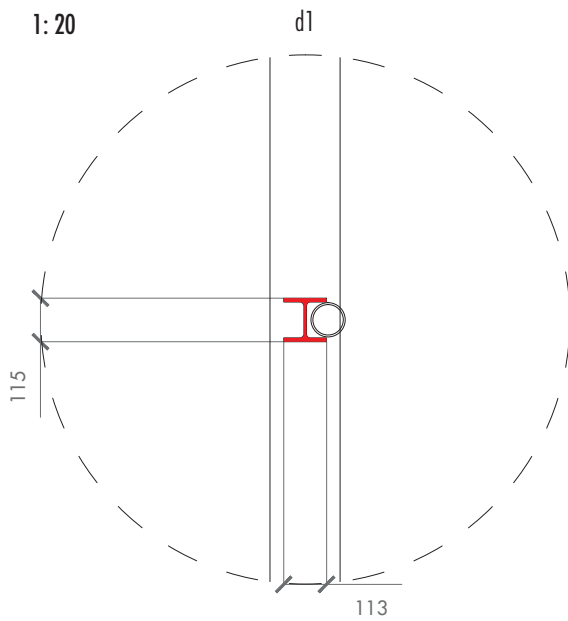
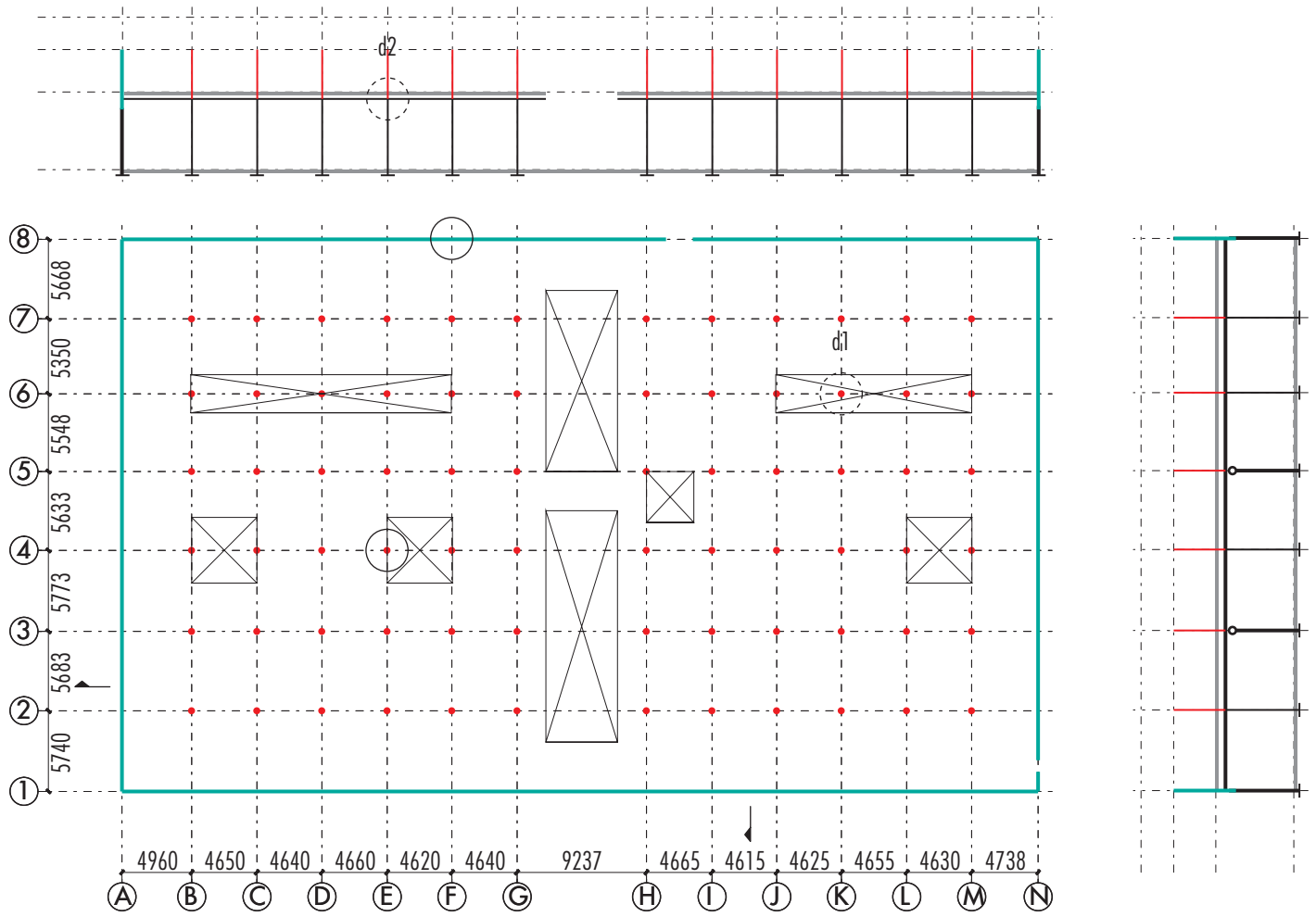
16/ BT



Figure 1: first floor column [E6] directly on primary beam
own picture



Figure 2: first floor column [E4] at border of vide
own picture



Building Technology / present / roof truss

Structure of the past, present, and future

The primary beam lies directly on top of the column in east-west direction. The connection by steel L-profile plates and rivets is stiff. The trusses in north-south direction are a construction that by nature need no stiff connections. The slender double L-profiles, although thoroughly riveted, confirm this.

Typical details, dimensions, and material (rule of thumb)

The primary beam has a height of 220mm. The trusses are made of significantly smaller L-profiles of 50mm.

Exceptions, particularities, and damage

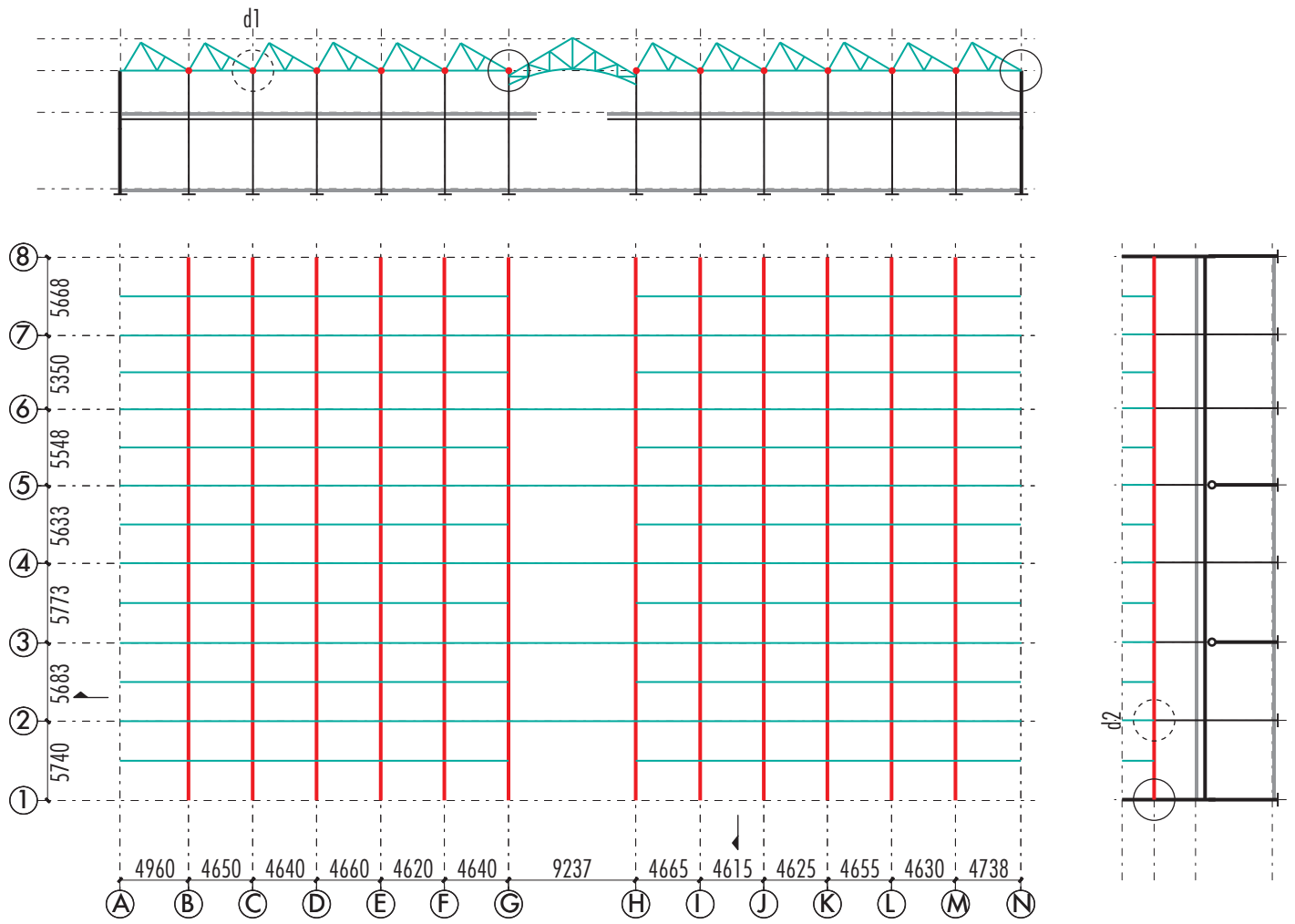
The riveted coupling plate on the primary beam itself shows that the width of the building extends beyond the then available/transportable sizes of profiled steel beams.



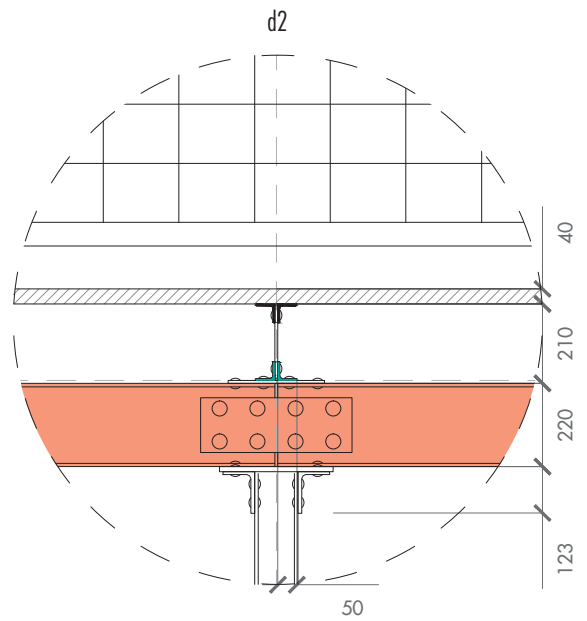
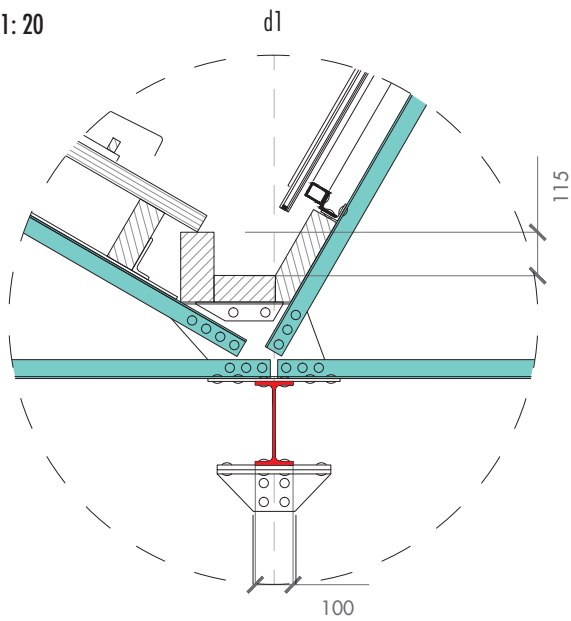
Figure 1: first floor constructive knot [17] from northwest
own picture



Figure 2: first floor constructive knot [17] from southwest
own picture



1: 20



Building Technology / present / roof

Structure of the past, present, and future

The roof structure consists of wooden beams in east-west direction placed, via L-profiles, onto the truss. These beams support planks which in turn allows lathing on waterproof foil to carry roof tiles. On the steep side of the sawtooth roof steel box sections, connected to the truss by L-profiles, carry the glass and its framing.

Typical details, dimensions, and material (rule of thumb)

The wooden beams have a height of 175mm while the the L-profiles carrying the glass framing only extend 64mm beyond the truss. The glass framing has a height of 101mm whereas the roof tiling needs 156mm.

Exceptions, particularities, and damage

Where the roof meets the facade traces of recent construction activity suggest that the same details were sought after during the restoration.

20/ BT



Figure 1: roof and wall meeting [N1]
own picture



Figure 2: roof and wall meeting [C1]
own picture

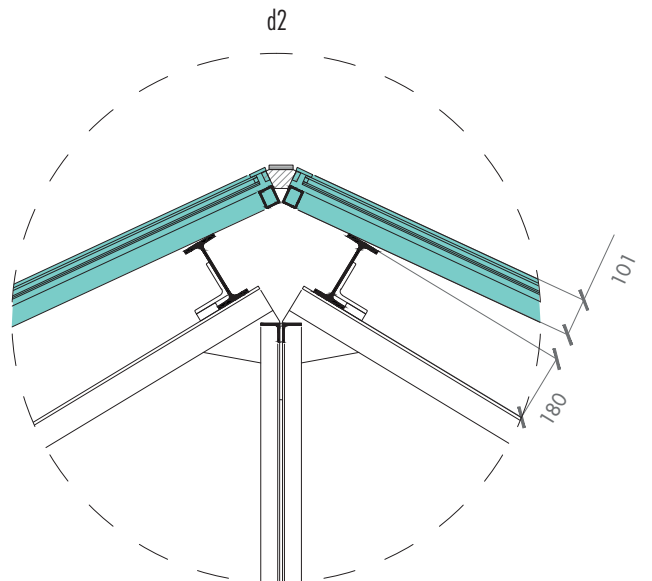
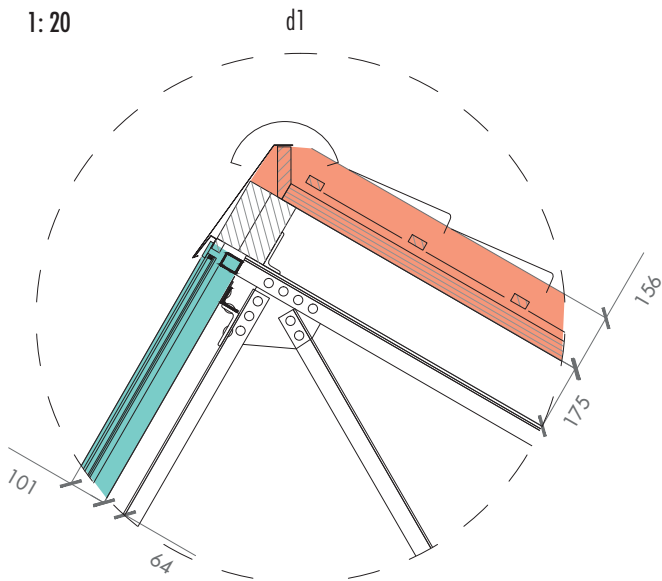
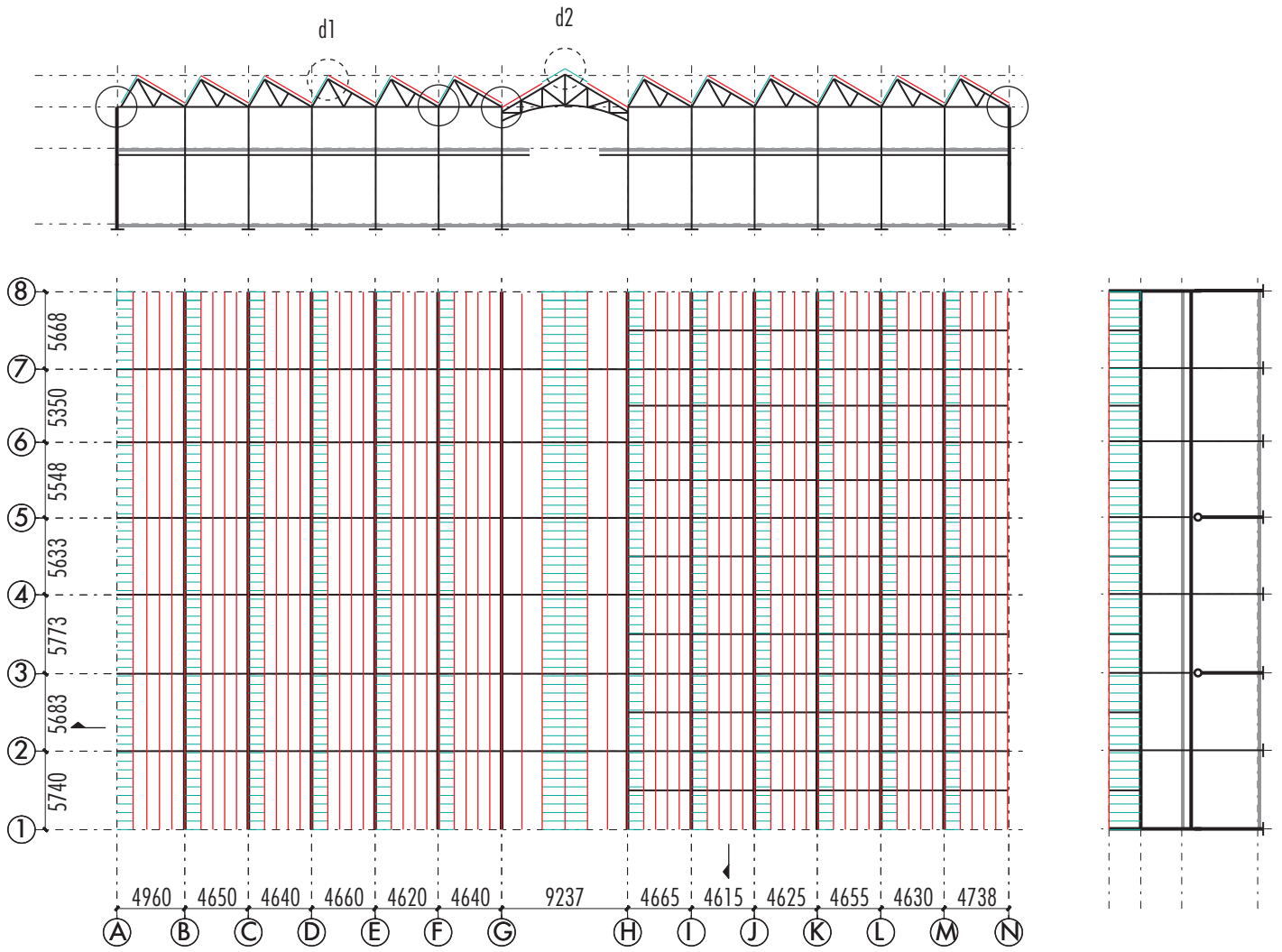




Figure 1: connection of truss to column
own picture



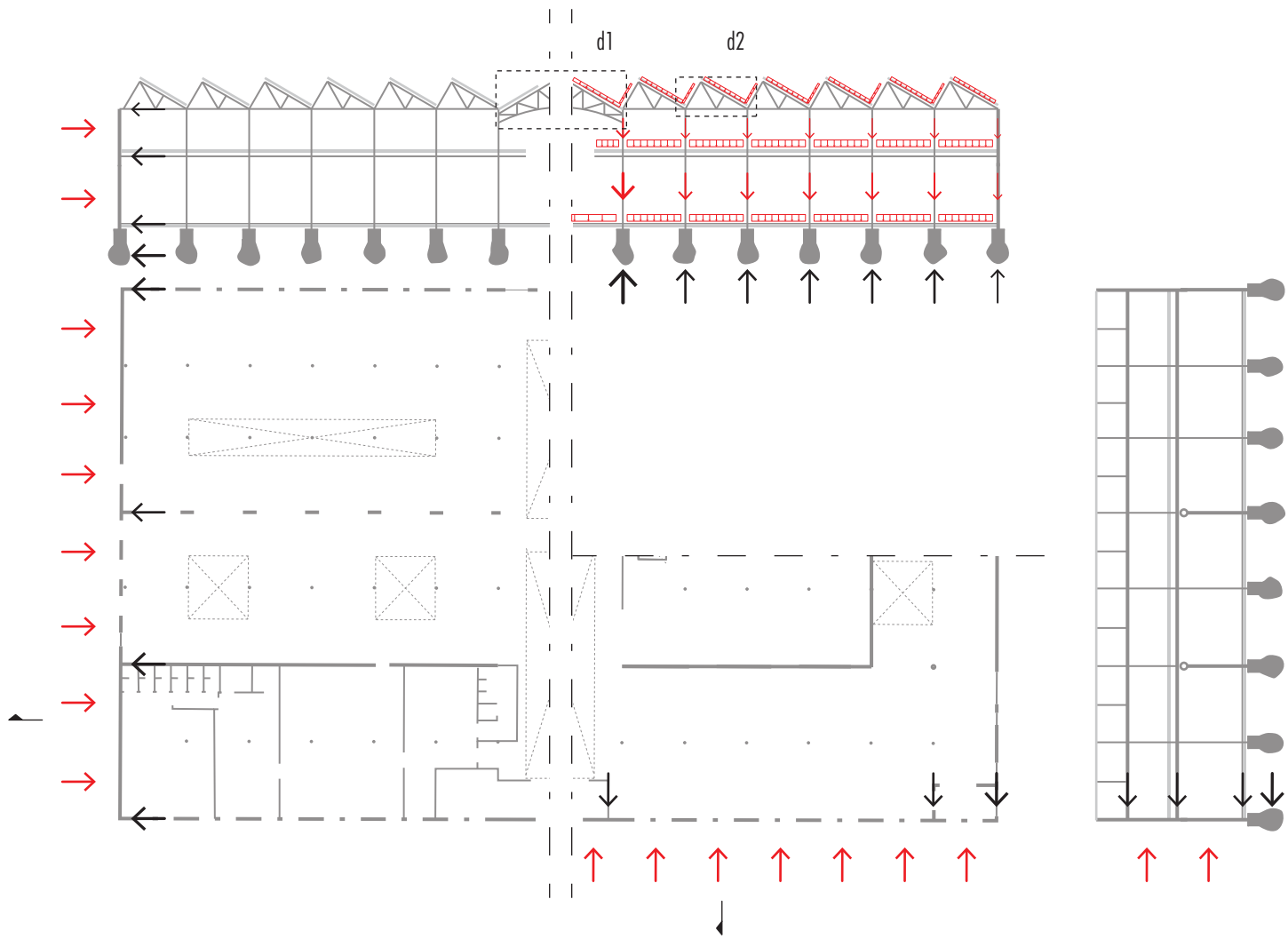
Figure 2: drawbars between trusses
own picture



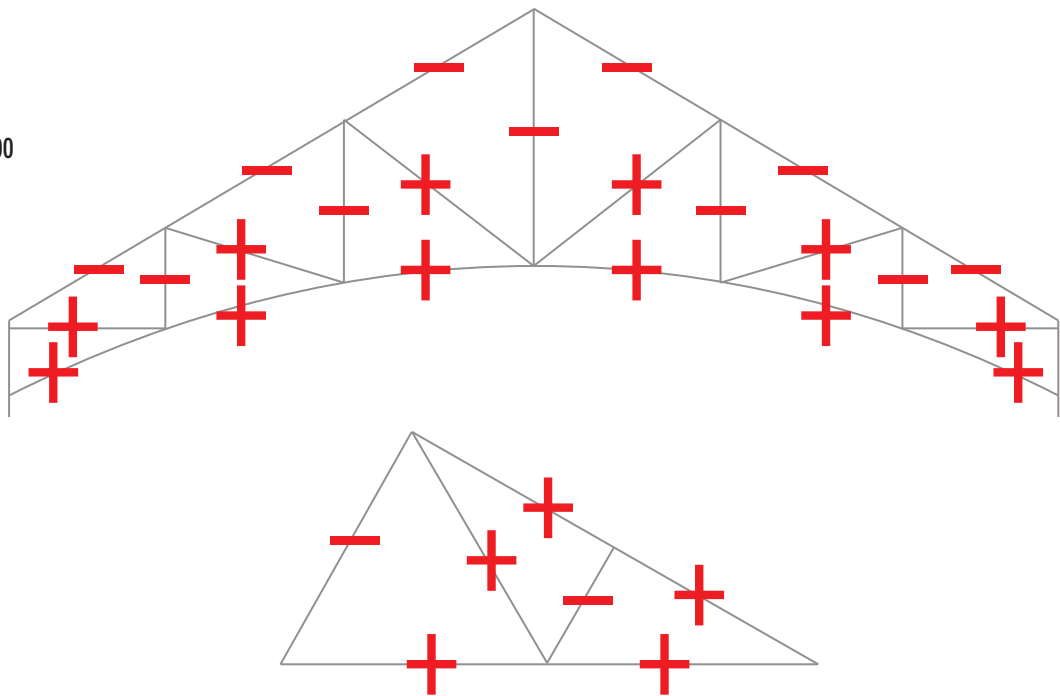
Figure 1: connection of central truss to column
own picture



Figure 2: drawbars between central trusses
own picture



1: 200



d1

d2

Building Technology / present / facade

state of components and damage to material

The natural stone plinth, treshold, and ornament are in good condition; the ornament showing least discolouration. The brick is completely intact but shows profound discolouration; stone as well as cut joint. The iron windowframes look maintained well, even though nine have been replaced at an unknown time. The glass windows show no damage and seem to have been replaced as well.

compliance to modern-day requirements

The wall, despite its thickness, does not comply to modern-day requirements. Nor do the single glazed windows and iron windowframes.

necessary adaption

Roughly three options exist. A second skin facade; placing a new facade at some distance from the old one. An adaption to the facade; placing a layer of insulation and finish as well as a second window against the old facade. Or intervening in the facade; putting insulation or energy transportation into the facade and replacing the windows.



Figure 2: detail of materials in facade
own picture

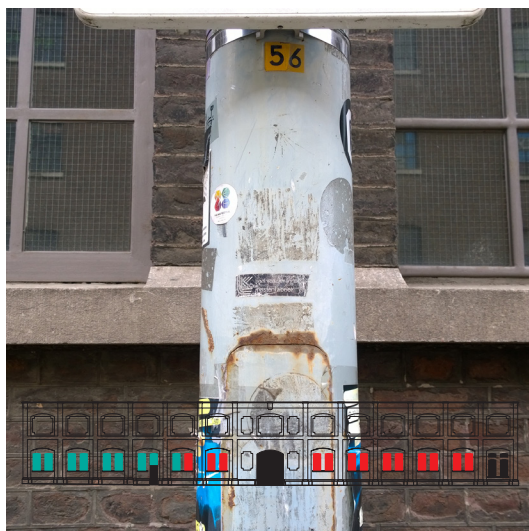


Figure 1: two different window frames in the facade
own picture

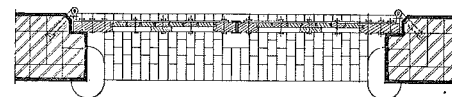
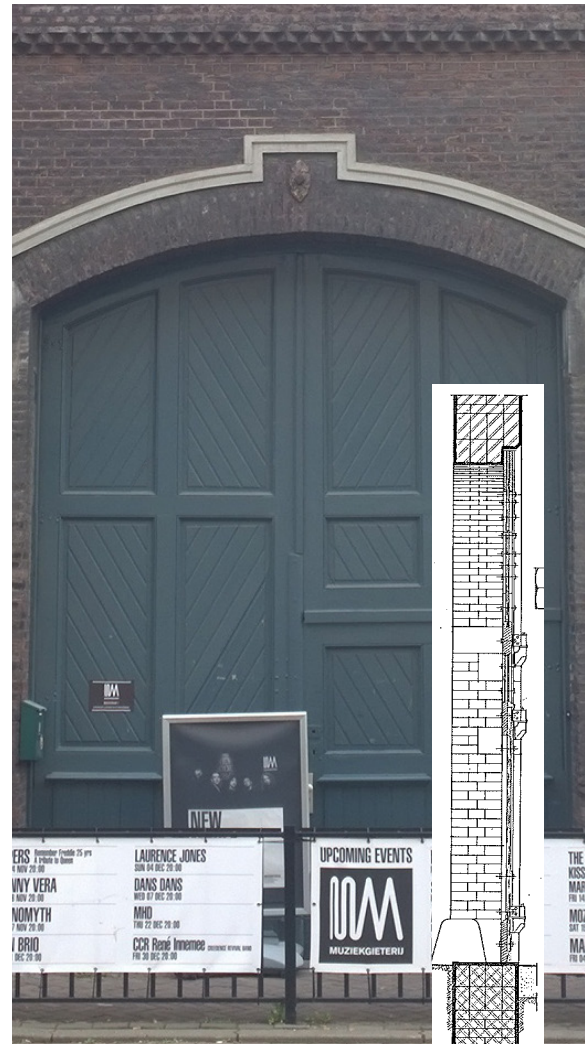
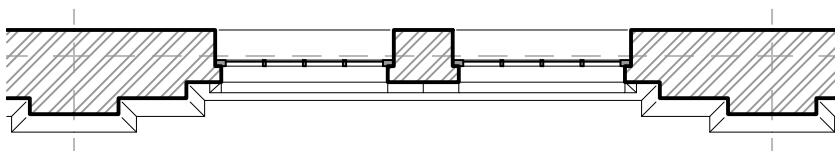
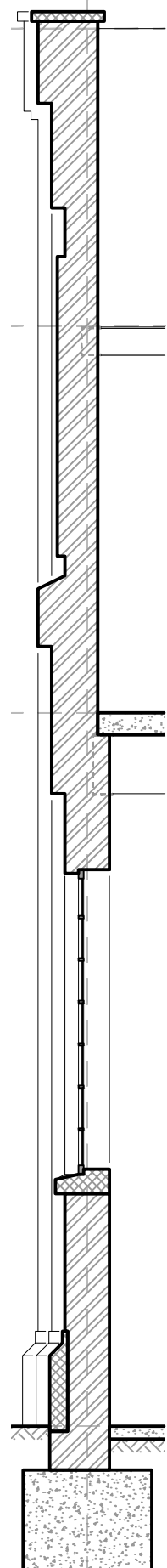


Figure 2: 1:50 detail of main entrance
Watjes, 1925, p.227



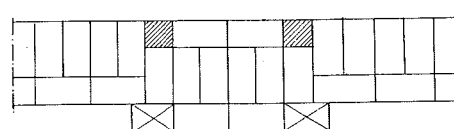
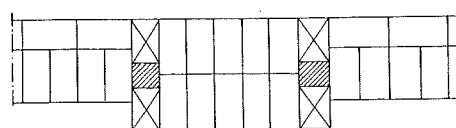
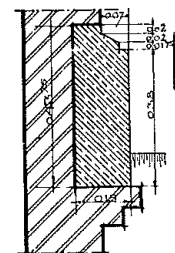
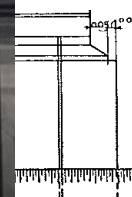
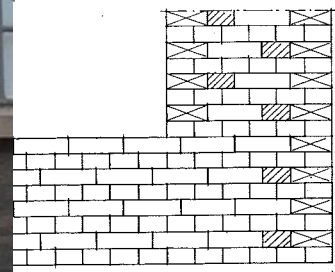
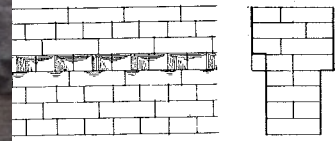
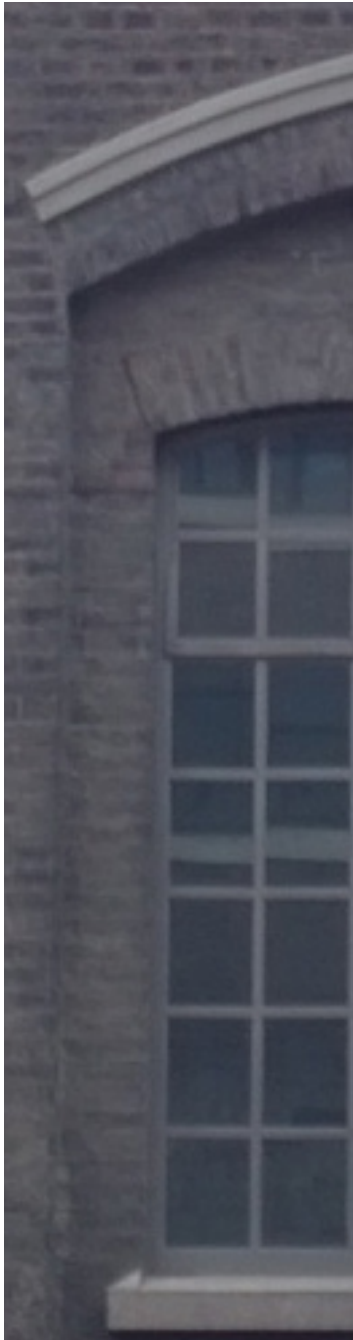


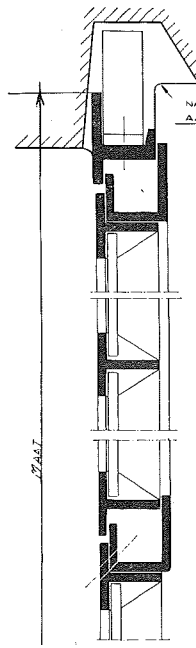
Figure 1: brick pilaster in cross bond of half a stone
Watjes, 1925, p.40

Figure 2: diagonal 'muizentand'
cross bond
natural stone plinth
Watjes, 1925, p.64, 32, 96

1:20



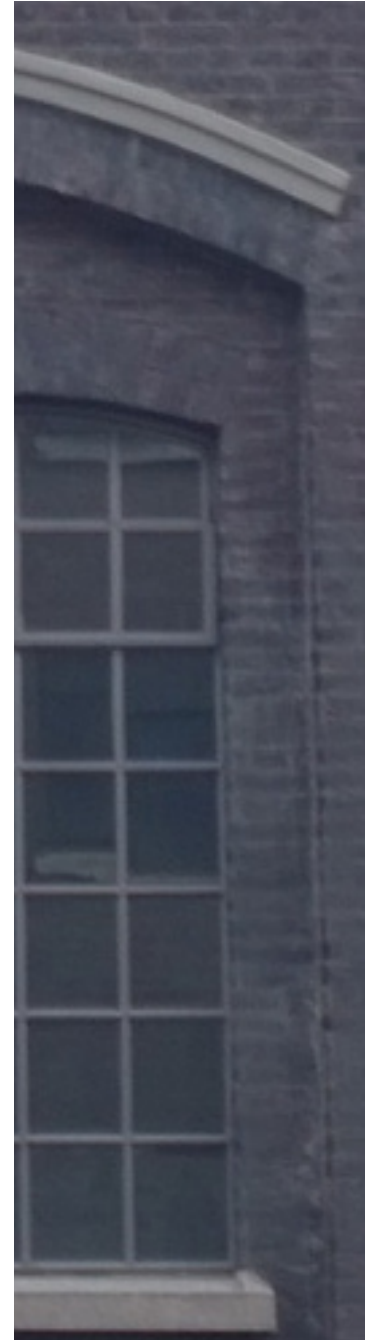
1:3



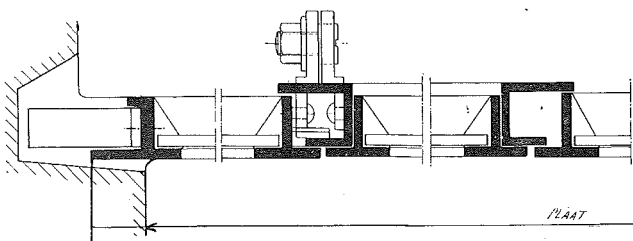
1:40



1:20



1:3



1:1

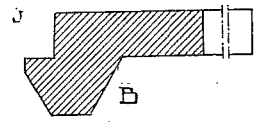
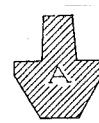
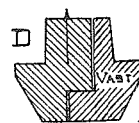
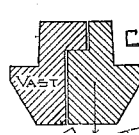


Figure 2: dragged iron window details
Watjes, 1925, p.272

Figure 2: cast iron window details
Watjes, 1925, p.255

Building Technology

What possibilities does the building offer for new use?

In description and documentation of (state) technical characteristics of the building and (im)possibilities with respect to restoration and/or renovation.

Further research

Reference key words: industrial heritage, shed hall, steel skeleton, dutch climate, transformation, music venue, music school, museum, exposition, restoration, studio, public building, vacancy strategy, temporality, heritage based design...

Specific research questions

What expiration date do the existing building elements have?

How durable are the materials used?

What materials are crucial for the element/constructive knot to function?

What is the minimal amount of additional construction necessary to remove the first floor, including primary and secondary beams?

What is the minimal amount of additional construction necessary to separate the brick facades from the steel skeleton?

What are the current climatological requirements for the intended program?

What installations will be necessary?

How much space will these demand?

To what degree can the intended program employ passive climate techniques?

...

