

**EXPLORING THE CONTEXT OF THE
RAILWAY IN BANDUNG**

CULTURAL VALUE ANALYSIS & ASSESSMENT “KNIL MAGAZIJNEN”

CULTURAL VALUE ANALYSIS AND ASSESSMENT OF THE
“KNIL MAGAZIJNEN” IN BANDUNG, INDONESIA

TUTORS

JOB ROOS

NICHOLAS CLARKE

STUDENTS

BAMERNI ALLEND

PANGALOU ELECTRA

RIGA DESPOINA

**CULTURAL VALUE ANALYSIS AND ASSESSMENT REPORT
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Wetenschap

SHL Shared Heritage Lab *Bandung*

FOREWORD

As part of this year's, 2018-2019, Heritage & Architecture Studio: Bandung Shared Heritage Lab, we were assigned to investigate the historical, cultural and social development of the railway backbone in Bandung, Indonesia. The aim of the studio is to explore the notion of shared Heritage between the Dutch and the Indonesians. Two very important things directed our research from the very beginning. The first was our different nationalities and thus the difference in our cultural background which demanded us to study and investigate both the Dutch and Indonesian history so as to position ourselves in terms of the events that affected the social, economic and cultural development of the colonial city of Bandung to the current mega-city. The second was the current architectural discourse and the urgent need to face social inequality, segregation, availability of basic infrastructure to low-income communities and environmental change which directed our focus also on the social layer of the city and its current and future needs along with heritage conservation.

For the afore-mentioned reasons this report can be seen as more than just a Cultural value assessment report of "KNIL MAGAZIJNEN". It constitutes our research documentation and conclusions in an attempt to understand the historic, cultural, socio-economic and urban development of the city of Bandung throughout its history and evolution, from the former Colonial City to the current mega-city. Consequently, the book begins with a historical overview in the form of a timeline where the development of the railway is presented against the most important events that affected the urban development of the city. To understand the meaning of Colonialism and its contribution to the development of the Indonesian infrastructure we repeated the same process for the Netherlands. The Dutch line you can find in the second Appendix, at the end of the book.

Then follows our first attempt to understand the city, how it expanded and what its issues are today. The backbone scale, the railway of Bandung, allowed us to explore and understand the role of the railway in the city's development as well as its relationship with the areas that developed around it. We tried to picture the evolution of the railway as a spatial entity and its relationship to the context throughout the city's evolution in history. Moreover, we tried to understand its symbolic significance and thus how it can be adapted for the future. It was during this exploration that we came across "KNIL MAGAZIJNEN".

The second part of the book is indeed our cultural value assessment of "KNIL MAGAZIJNEN", where we try to understand and interpret the tangible and intangible qualities of the monument as well as the context in which it is situated, again throughout history, so that we can develop a proposal that addresses the current social needs and respects the existing values.

CONTENTS

| | |
|---|------------|
| FOREWORD | iii |
| HISTORY | 01 |
| A BRIEF HISTORY OF BANDUNG BANDUNG'S ARCHITECTURE IN THE COLONIAL PERIOD INDONESIAN RAILWAY-URBAN DEVELOPMENT TIMELINE | |
| JAVA & METROPOLITAN AREA | 29 |
| JAVA RAILWAY MAP 1931 JAVA LANDSCAPE DIAGRAM BANDUNG MOUNTAIN MAP BANDUNG METROPOLITAN AREA LAND USE | |
| CITY SCALE | 39 |
| SUBDIVISION OF INDONESIA EXPANSION OF BANDUNG URBAN CONTEXT IN NUMBERS | |
| BACKBONE SCALE RAILWAY | 65 |
| RAILWAY STATIONS RAILWAY BACKBONE - LAND USE OVERVIEW INDIVIDUAL ZONES - LAND USE | |
| “KNIL MAGAZIJNEN” CULTURAL OVERVIEW | 109 |
| CHRONO-MAPPING MILITARY AREA CHRONO-MAPPING MILITARY AREA LAND USE A BRIEF HISTORY OF THE MILITARY COMPLEX CONSERVATION AREAS AND LISTED BUILDINGS CHRONO-MAPPING “KNIL MAGAZIJNEN” | |
| CONTEXT ANALYSIS | 131 |
| SOIL CLIMATE THE STREET SITE & SETTING | |
| BUILDING(S) ANALYSIS | 189 |
| SKIN STRUCTURE SPACE PLAN SURFACES SERVICES & STUFF | |
| VALUE ASSESSMENT | 253 |
| VALUE MATRIX OBLIGATIONS, OPPORTUNITIES AND DILEMMAS VALUE STATEMENT | |
| APPENDICES | 263 |
| APPENDIX I: INDONESIAN URBAN DEVELOPMENT TIMELINE APPENDIX II: DUTCH RAILWAY TIMELINE APPENDIX III: DRAWINGS | |
| BIBLIOGRAPHY | 325 |

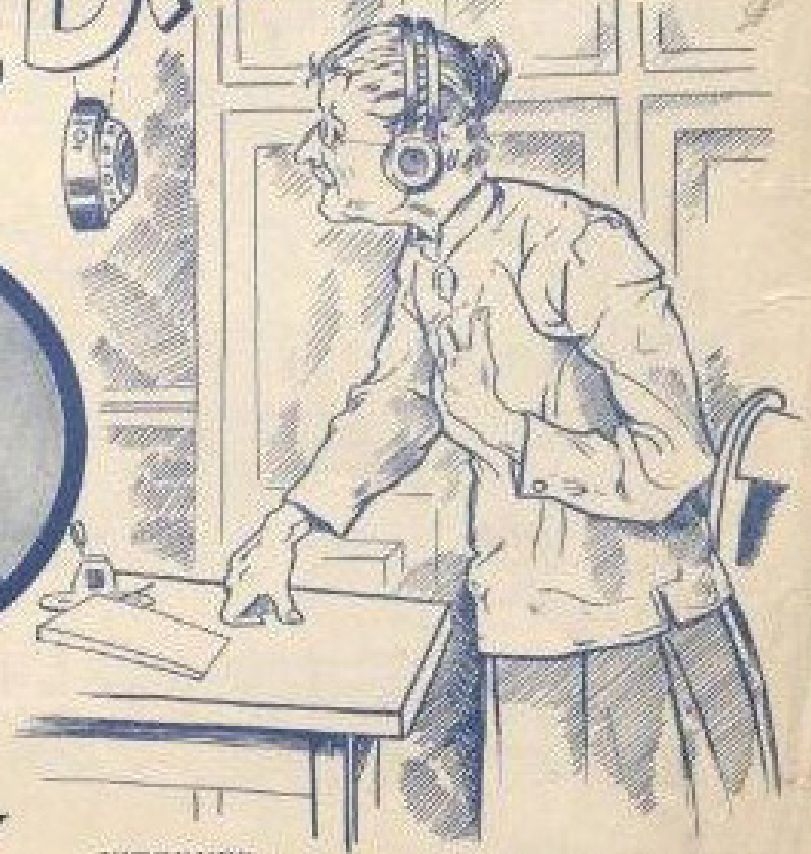


HALLO! BANDOENG!

Prijs: f.0.60



door
**WILLY
DERBY**



UITGEVER :
W. DERBY
Kweekerweg 23 - Den Haag.
Tel. 52286.

Het is een beperkte oplage van deze plaat.
voor te dragen zonder toestemming van W. Derby.

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HISTORY

CONTENTS

HISTORY

| | |
|---|-----------|
| A BRIEF HISTORY OF BANDUNG | 04 |
| BANDUNG'S ARCHITECTURE IN THE COLONIAL PERIOD | 06 |
| INDONESIAN RAILWAY-URBAN DEVELOPMENT TIMELINE | 09 |



Braga Street - Early 1930s

HISTORY

A Brief History of Bandung

From ancient archaeological findings, we know that Bandung was home to the *Australopithecus*, Java Man. These people lived on the banks of the Cikapundung in north Bandung, and on the shores of the Great Lake of Bandung. Flint artifacts can still be found in the Upper Dago area as well as the Geological Museum which has displays and fragments of skeletal remains and artifacts from that period.

The Sundanese were pastoral people farming the fertile regions of Bandung. They developed a lively oral tradition which includes the still practiced Wayang Golek puppet theatre, and many musical forms. "There is a city called Bandung, comprising 25 to 30 houses," wrote Juliaen de Silva in 1614.

The achievements of European adventurers to the Priangan region led eventually in 1786, to the construction of the road that connected Jakarta, Bogor, Cianjur and Bandung. This flow was then increased, when in 1809, Louis Napoleon, the ruler of the Netherlands, ordered Governor General H.W. Daendels, to improve the defenses, against the British. The vision was a chain of military defense units and a supply road between Batavia and Cirebon. However, this coastal area was marsh and swamp, and it was easier to construct the road further south, across the Priangan highlands.

The Grote Postweg (Great Post Road) was built 11 miles north of the then capital of Bandung. Bupati Wiranatakusumah II chose a site south of the road on the western bank of the Cikapundung, near the wells. On this site he built his dalem (palace) and the alun-alun (city square). Following traditional orientations, Mesjid Agung (The Grand Mosque) was placed on the western side, and the public market on the east. His residence and Pendopo (meeting place) was on the south side.

Around the middle of the 19th Century, South American cinchona (quinine), Assam tea, and coffee was introduced to the highlands. By the end of the century, Priangan was registered as the most prosperous plantation area of the province. In 1884, the rail line connecting Jakarta and Bandung was completed.

With this life changed in Bandung, hotels, cafes, shops sprouted up to serve the planters who either came down from their highland plantations or up from the capital to frolic in Bandung. The Concordia Society was formed and with its large ballroom was the social magnet for weekend activities in the city. The Preanger Hotel and the Savoy Homann were the hotels of choice. The Braga Street, became the promenade, lined with exclusive European shops.



Concordia Bandung

With the railroad, light industry flourished. Once raw plantation crops were sent directly to Jakarta for shipment to Europe, now primary processing could be done efficiently in Bandung. The Chinese, who had never lived in Bandung in any significant number, came to help run the facilities and vendor machines and services to the new industries. Chinatown dates from this period.

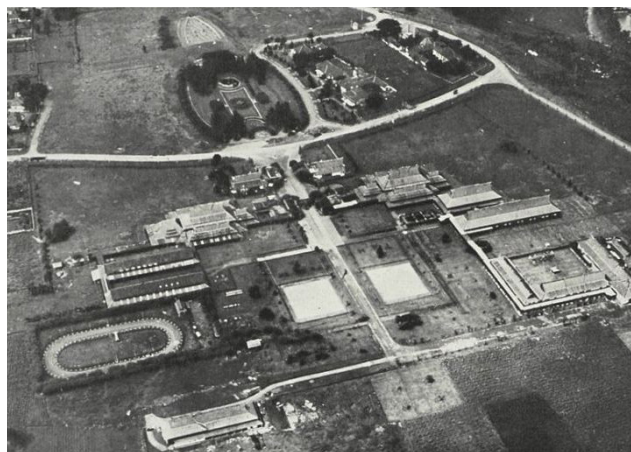
In the beginning of the 20th century, Pax Neerlandica was proclaimed, resulting in the passing of military government to a civilian one. With this came the policy of decentralization to lighten the administrative burden of the central government. Bandung became a municipality in 1906.



Grote Postweg 1937

This turn of events left a great impact on the city. The City Hall was built at the north end of Braga to accommodate the new government, separate from the original native system. This was soon followed by a larger scale development when the military headquarters were moved from Batavia to Bandung around 1915. The chosen site was east of City Hall, and consisted of a residence for the Commander in Chief, offices, barracks and military housing.

By the early 20's the need for skilled professionals drove the establishment of the technical high school that was sponsored by the citizens of Bandung. There was also a plan to move the capital of the Netherlands Indies from Batavia to Bandung, the city was to be extended to the north. The capital district was placed in the northeast, an area that had formerly been rice fields, and a grand avenue was planned to run for about 2.5 kilometers facing the fabled Tangkuban Perahu volcano with Gedung Sate at the south end, and a colossal monument at the other. On both sides of this grand boulevard buildings would house the various offices of the massive colonial government.



ITB, 1930

During WW2 the Japanese occupied Indonesia. Facing the return of the Colonial Dutch to Indonesia after the war, the citizens chose to burn down south of Bandung in what has become known as Bandung Lautan Api, Bandung Ocean of Fire. Citizens fled to the southern hills and overlooking the "ocean of flames" penned "Halo Halo Bandung," the anthem promising their return. Political unrest colored the early years of Independence and consequently people flocked to Bandung where safety was. The population skyrocketed from 230,000 in 1940 to 1 million by 1961. Economic prosperity following the oil boom in the 70's pushed this further so that by 1990 there were 2 million inhabitants.

Present day Bandung is thriving. As home to more than 35 schools of higher education, there is a vibrant collegiate atmosphere. The excellent fine arts offerings have produced an artist colony of great repute and excitement. The textile industry is the largest in the country and contributes to a vigorous business climate.



Gedung Sate, Early 1920s

Along the east bank of the Cikapundung River amidst natural scenery was the campus of the Technische Hoogeschool, dormitories and staff housing. The old campus buildings and its original landscaping reflect the ideas of architect Henri Maclaine-Pont. The southwestern section was reserved for the municipal hospital and the Pasteur Institute, in the neighborhood of the old quinine factory. These developments were carefully planned down to the architectural and main details.

Bandung's Architecture in The Colonial Period

Bandung as a city represent a range of function, architectural style, periods of time, and different approaches. Through the history of Indonesia there has been influences from different cultures. Hindu, Buddhist and Islamic cultural influences came before the Dutch settlement in Bandung. Dutch culture is seen as a part of the foreign influence, which has shaped the Indonesian culture. Bandung can be seen as embodying many architectural historical trends: the former, local indigenous sites built in the beginning of the 19th century; the Neoclassical style built during the 19th century; and modern architecture from the 20th century.

Early typical houses were thick-walled, comfortable and symmetrical, with a central room giving onto deep verandas in front and back, and high roofs for adaptation to the tropical climate. Cooking and bathing facilities, as well as store rooms and servants quarters, were at a rear separate building. This is the image of early Dutch Colonial style.

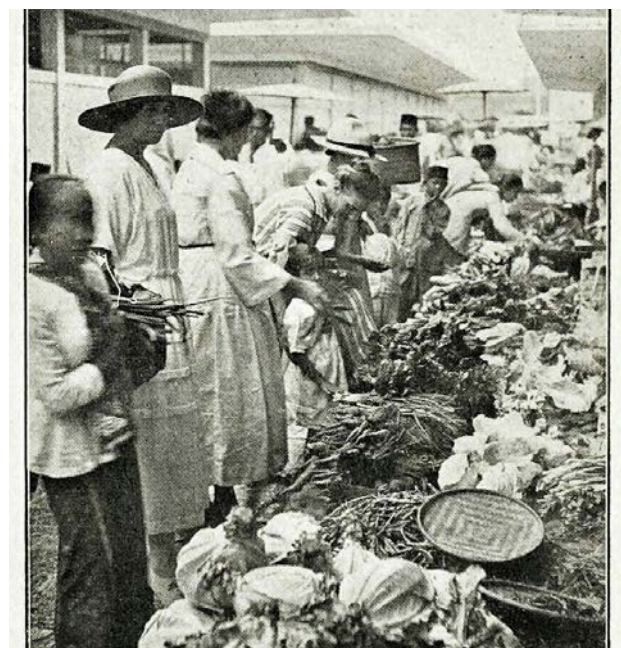
Many buildings are still used for their original purposes like the buildings in the military district, built around 1910 in Neo-classical styles; shop-houses and residencies on Merdeka Street and Braga Street. You also have bigger structures like the Indonesian bank from 1915 that is still in use. But the great examples came out of the idea of moving the capital from Batavia (Jakarta) to Bandung. This plan was followed by the movement of some government offices like Gedung Sate for the public work offices. Much of the northeast segment of the city was cleared and laid out to receive the capital infrastructures.

The Bandung town plan uses a uniform urban structure with an important town square, and formal open spaces: streets enclose buildings, in a regular grid pattern. The former east-west orientation of the Great Post Road and the later north-south Otto Iskandardinata Street, are the spinal axis and direction of the street pattern of the current city center. Morphologically, the town lay-out is open, with town blocks containing plastered white brick buildings, with narrow yards. The central district containing government offices, private offices, business and commercial activities.



Preanger, warong in the kampung, 1912

The area between the train station and the Great Post Road, contains a market, and Chinese trading area. In the southern area is located the Sundanese "kampung". The northern area of the city has a more irregular street pattern, and north-south-street orientation runs parallel to the Cikapundung River. New living areas were established later in the northern part of the city, similar to the "garden city" concept, where the residential districts were extensively built in one or two story dwelling houses with wide yards. White brick buildings with terracotta roof tiles creates a special identity from the colonial period. The multicultural influence over the city of Bandung has created a special and unique expression of architectural forms inspired from various sources, from the Sundanese vernacular, chinese traditional styles and European architectural typology.



Market center of Bandung, 1920s

One of the strong architectural style influences in Bandung is the Art Deco in Modern Architecture. Art Deco in the city of Bandung can be divided into three phases, Floral Deco, Geometric Deco, and the Streamline Deco. Examples of Floral Deco ornamentation are the organic curved lines of plant pattern and Hindu human face forms belonging to C.P Wolff Schoemaker buildings, such as Theatre and Can Dorp Bookstore, built in 1922.



Van Dorp Bookstor, built in 1922

Examples of simplified Geometric Deco motif for modern building ornamentation, is expressed by the Grand Preanger hotel that was also designed by Wolf Schoemaker in 1929. The building itself has a similar character of geometric decorative expression like the Amsterdam School style buildings.

Among all the architects who had an influence on the city shape of Bandung there was in particular three architects who had a lot of influence. Those three architects are Henry Maclaine Pont who tried to find local expression by mixing modern technology with and local traditional design. C.P. Wolff Schoemaker who represented three decades of modern architectural development in Bandung; and A.F. Aalbers, who looked for an artistic language that would unify modern technical language.

There is much indication that in the time between the world war one and two, modern art, design and architecture were strongly involved and reflected the acculturation and the ways of life of the generation, an example of a cultural integration and professional co-operation between artists, designers and architects. This was a philosophical approach, where government could demonstrate the growing interest in supporting the extensive use of art, design, new materials and technological advances for designing a modern built environment.



Savoy Homann Hotel



ITB - combination of Western and Indonesian architecture

The third and last decorative style is the streamline Deco, found at the Savoy Homann Hotel. The streamline building form, with streamline decorative elements, was designed by A.F Aalbers in 1939. Most of the Aalbers buildings represent plastic forms and contribute greatly to make the city very distinctive and modern.



Halte Lebakdjero 1920s

INDONESIAN RAILWAY-URBAN DEVELOPMENT TIMELINE

Railway Events

▶ 1595

In 1595, merchants from Amsterdam embarked upon an expedition to the East Indies archipelago. Under the command of Cornelis de Houtman, the expedition reached Bantam, capital of the Sultanate of Banten, and Jayakarta in 1596 to trade in spices.

▶ 1603

In 1603, the first permanent Dutch trading post in Indonesia was established in Bantam, West Java.

▶ 1619

The area that became Batavia came under Dutch control in 1619, initially as an expansion the original Dutch fort along with new building on the ruined area that had been Jayakarta. From the beginning of its establishment, Batavia was planned following a well-defined layout. In 1619, three trenches were dug to the east of the Ciliwung river, forming the first Dutch-made canals of Batavia. These three canals were named from south to north: Leeuwengracht (present Jalan Kali Besar Timur 3 or Jalan Kunir), Groenegracht (present Jalan Kali Besar Timur 1), and Steenhouwersgracht (present Jalan Nelayan Timur). The area of the Castle starts to the north of Steenhouwersgracht, which began with a field (Kasteelplein) north of Steenhouwersgracht.



Traditional Sundanese Village on the edge (river) of Cikapundung.



Traditional buffalo carts used by farmers and planters.

1600

▶ 17th - 18th c.

The VOC represented a new type of power in the region: it formed a single organization, traded across a vast area, possessed superior military force, and in time employed a bureaucracy of servants to look after its concerns in the East Indies. The VOC had the power to impose its will upon the local rulers and force them to accept its trading conditions. Under the governor-general of Jan Pietersoon Coen and his successors, particularly Antony van Damien (1636-1645) and Joan Maetsuyker (1653-1678), the company laid the foundations of the Dutch commercial empire. Even though it may have wished to limit its activities to trade, the company was soon drawn into local politics in Java and elsewhere, and emerged as the main political entity in the archipelago.

▶ 1641

Juliaen de Silva was sent by the Dutch government to conduct a Tatar Mematamatai Survey in the Priangan region. De Silva reported "aen een negrije genament Bandung superb uijl 25 huysen a 35" (there is a place named Bandung which consists of 25 to 30 houses)



▶ 1628

Sultan Agung from Mataram asked for help from Dipati Ukur to attack Batavia. From this point onward, the Batavian colony began to show interest and caution in the Priangan region.



Urban Development



Field land in ancient Priangan.

The crater of Mount Papandayan; the sulphur from the volcanic eruptions made the Dutch Colonial government increasingly interested in the Priangan area.



1670

Regent Wira Angun-angun transferred the new capital at the meeting point of the “Ci kapundung” and “Ci Tarum”, namely the “Krapyak” area. The establishment of the capital there was critical due to the fact that transportation to the Priangan area was carried through the rivers, in the absence of roads and trains.

1650

1674

The Dutch East Indies company VOC established a small plantation area in the fertile and prosperous Bandung Area.

1674

In return for its services to Amangkurat I, sultan Agung's successor, and then to Amangkurat II shortly afterward, the VOC received the cession of the Preanger regions of Western Java. This was the first of a series of major territorial advances.

1678

The Dutch built a small fort at Tanjung Pura at the mouth of the Citarum River - Karawang. This is the first Dutch fort in the interior of West Java.

1691

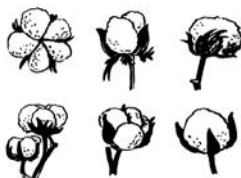
Lieutenant Adolf Winkels held an expedition to the Karawang Highlands, Priangan, Galuh and had a chance to stop in Bandung.

1692

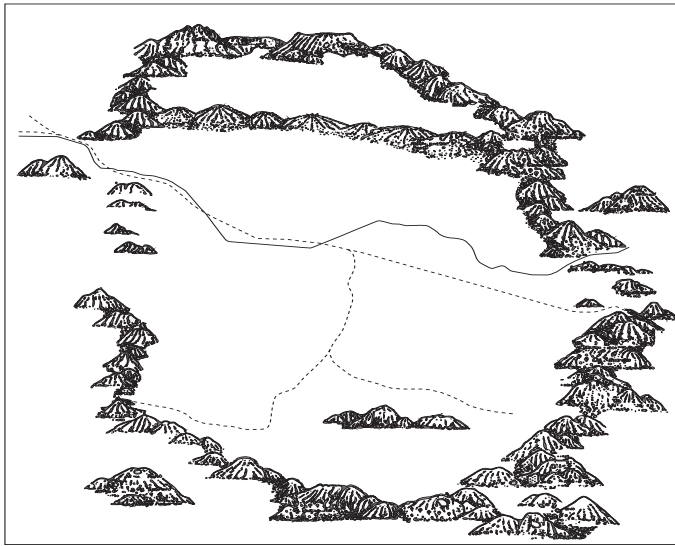
A Dutch map of the first Priangan region was created, based on the journey of Lieutenant Adolph Wingkels.

1700

The third Dutch expedition was led by Lieutenant Cluff Christiaaner and it was targeted to the Priangan region. The lieutenant had to observe the natural potential of the Priangan region and to mediate disputes that occurred between its regents. One of the accountants in this expedition, Philip van Eijk, begun to research and estimate the amount of production assets according to the Priangan natural resources such as cotton yarn, indigo, and candles /night, for the Company. The result was an increase in the amount of produce that Bandung's regent was forced to give to the VOC.



Railway Events



Mountains surrounding Bandung.



VOC logo printed on a military cannon.

1741

The Dutch Company (VOC) placed one of its soldiers in Tatar Bandung, namely Arie Top, as a Military commander in the area. Corporal Arie Top was recorded as the first white person to become a resident of Tatar Bandung ("Bandoenger").

Simultaneously, the transportation in Bandung is still carried by a stretcher, cow and buffalo.

1700

1704

Dutch forces assisted in replacing Amangkurat III with his uncle Pakubuwono I, in return for which further territory was ceded. In this way almost all of Java gradually came under Dutch control and by 1755 only a remnant of the Kingdom of Mataram remained. This was divided into two principalities; Yogyakarta and Surakarta, which survived until the end of Dutch rule. To implement its commercial monopoly, the VOC established company-factories for the collection of produce, pressured individual ruler to do business solely with

the company, controlled the sources of supply of particular products and in the 18th century, pushed through a system of forced deliveries and contingencies. In effect, the whole system of company trade was designed to extract produce from the East Indies for disposal in a European market - but without stimulating any fundamental change in the area's economy. The profits belonged to the company not to the producers.

1706

The Bandung regency was only inhabited by 1000 families living in small villages for several decades. Most of the population lived under the rule of the Regent while his prestige and power depended on the number of slaves in his possession.

1742

The number of Europeans living in Bandung increased, with three particular arrivals of specific interest. Those were the Ronde brothers and Jan Geysbergen. The third one worked for the Corporal Company, yet his name remains unclear. They were the "Exiles" from Batavia.



Priangan couple.



Situ Patenggang

Urban Development



Curug Dago.



Jalan Cagak, Nagrek.



The road segment of Groot Postweg that connects Bandung and Bogor.

1786

A supply road connecting Batavia (now Jakarta), Bogor, Cianjur, Bandung, Sumedang and Cirebon was built. A path that can be passed by horses. *This information is obtained from a travel record found by Prof. Dr. Molsbergen ECG (1935).*



1750

1756

A supervisor in Bandung named Jan de Groote was arrested for killing a native. He fled so that the central government gave 300 rings to anyone who arrested him.



Checkpoints and breaks in Sindanglaya - Cianjur area.

1780

The Netherlands lost the war against England and many of their ships were forbidden by the British. Trade was greatly affected and the VOC began nearing bankruptcy, unable to compete with the British East Indies Company. The bankruptcy was mostly due to a culture of corruption evident throughout VOC's body.

1789

Pieter Engelhard opened a Coffee Plantation on the southern slope of Tangkuban Parahi Mountain, which is a bit further from the current northern boundary of the city of Bandung.



1796

The VOC came under the supervision of Batavische Republiek (the new Dutch Government), and declared bankrupt, highlighting the end of the monopoly period. The remaining assets of the VOC were taken over by the Dutch government which also paid its debt of 134 million guilders.

Railway Events

1808 - 1810

The "Great Postweg", a 1000 km road joining the west and east coasts of Java, (today Jalan Asia-Afrika) was laid down. Since the northern part of West Java at that time was mostly swamp and marsh, the road was diverted through Bandung. Consequently, Bandung became one of the most important onshore transportation hubs in the Java Region. The Grootte Postweg (Great Post Road) was built 11 miles north of the then capital of Bandung. Daendels ordered the capital to be relocated close to the road. Bupati

Wiranatakusumah II chose a site south of the road on the western bank of the Cikapundung, near a pair of holy wells, Sumur Bandung, supposedly protected by the ancient goddess Nyi Kentring Manik. On this site he built his dalem (palace) and the alun-alun (city square). Following traditional orientations, Mesjid Agung (The Grand Mosque) was placed on the western side, and the public market on the east. His residence and Pendopo (meeting place) was on the south facing the mystical mountain of Tangkuban Perahu. Thus "The Flower City" was born.

Groote Postweg



Daendles started the construction of the Groote Postweg from Anyer to Panarukan. This giant project was mostly carried out by indigenous people in forced labor and thousands of them were victims. The road was completed in two years and greatly affected the growth of the modern city of Bandung. However, this road was not the first road - since adad 17 there had been small segments connecting Batavia, Bogor, Cianjur, Bandung, Sumedang and Cirebon. The really new road in Priangan was the road from Cisarua to Cianjur through Puncak Pas and the road that crossed the mountain in Sumedang. The train line was also underway, shortening the journey from Batavia to Bandung, which initially took more than a week.

1800

Alun-alun, Merdeka Lio, Balubur, Cobleng, Dago, Bumiwangi, and Maribaya were connected to the footpath to Jalan Braga. Passenger transportation and agricultural products, especially Coffee from Gudang Kopi (now City Hall) take advantage of this route.

1806 - 1815

The French and the British in Java. The fall of the Netherlands to France and the dissolution of the company resulted in due course to significant change in the administration of East Indies. Under Napoleon I the Batavian Republic became the Commonwealth of Batavia and then the Kingdom of Holland, with one of Napoleon's marshals, Hermal Willem Daendels, serving as governor-general. Daendels strengthened Javanese defenses, raised new forces, built new road within Java and improved the internal administration of the island. He attempted to formalize the position of the Javanese regents, subordinating them to the Dutch officials and emphasizing their character as Civil servants of a central government rather than as semi-independent local rulers.

1825

The city of Bandung was mapped for the first time in the City Planning called "Plan der Negorij Bandung".

The Governor-General Van der Capellen issued a ban on private plantation entrepreneurs in the Priangan region and extended his contract.

The shop and "Thiem Hotel" stand in front of herberg (pesanggrahan) managed by C.P.E Loheyde. This building later became the Grand Hotel Preanger.



1846

1842

Riots occurred on December 30. The "Tjigoeriang" market which was located around the Kapatihan area of Bandung was on fire. The traders were forced to move and eventually occupy a new market, namely the Baroe Market in Prince Soemedanweg or now Jl. Otto Iskandar Dinata.

POPULATION: 11,136

with 30 foreigners, and 9 European citizens who were not government officials - usually tea entrepreneurs.

See also:
APPENDIX I: P. 266

Urban Development



▶ 1840 / 1850

From 1840 there was a fierce battle over whether railways were useful and necessary. Proponents believed that there was a need for a faster transport of coffee, tea, rubber, tobacco and sugar from the interior to the ports. Strategic considerations also played an important role in the decision-making. The number of Europeans was small, largely government servants or inter-mediators, that would not be able to think much about traveling; while the Javanese were not traveling enthusiastically. Furthermore, It was feared that the railways in Java, would firstly not be able to withstand natural forces such as rainwater and subterranean fire, secondly would never pay up; and finally that they would become a threat to finance and Dutch authority. There was also a great debate regarding whether the construction should be done by the state or by private individuals.

▶ 1860

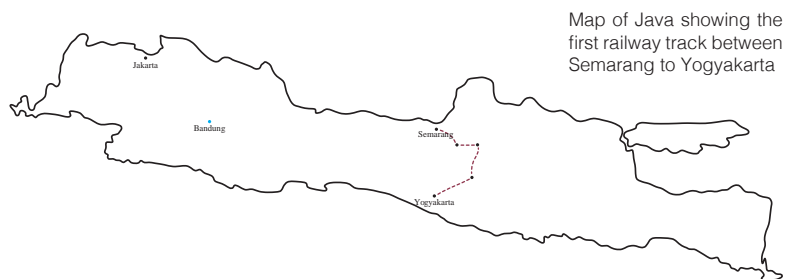
The culture system came under attack not only from a humanitarian point of view but also from private business interests in the Netherlands. The latter appealed to liberal economic principles in support of their right to share in the riches of the East Indies.

▶ 1863

The private Dutch East Indies Railway Company, supported by an interest-rate guarantee from the Dutch State, began the construction of the first railway line in Indonesia.

▶ 1867

In June 17, 1864, Governor-General Mr. L. A. J. W. Baron Sloet van Beele broke ground for the railway line in Java. The line belonged to the Nederlandsch-Indische Spoorweg Maatschappij (Netherlands East Indies Railway Company), while the first line in operation was between Semarang and Tanggung. The line opened in August 10, 1867 and would later expand its track to reach the City of Yogyakarta.



Map of Java showing the first railway track between Semarang to Yogyakarta

1850

▶ Bandung was appointed as the residence for the part of West Java name Priangan, which until then settled in Cianjur, with 12,000 inhabitants.

The relocation of certain Departments from Batavia to Bandung would become the leading factor of Bandung's economic growth and development.



The Regent of Bandung was Wiranatakusumah IV. He ruled until 1874 and was considered successful in terms of the growth and development of Bandung.



▶ 1867

The Indische Empirestijl style building located on Jalan Oto Iskandar Dinata (Pakuan Building / Governorate) was completed. This building is now named Pakuan Building and Kadi, and constitutes the residence of the Governor of West Java.

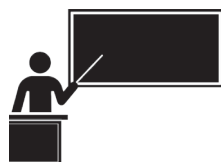
▶ The railway line was then unprofitable, so the company turned to the government for help in completing the rest of the 166 km long main line to Yogyakarta through the Vorstenlanden. The high construction cost was partly caused by the decision to build the tracks at the standard gauge (1435 mm/4' 8½").

▶ 1863-1865

Other plantations in Ciumbuleuit Cikembang, Cirenang, Jatinangor and Cikajang were rented to W.A. Baron Baud - marks the end of the government's tea plantation for ever.

▶ 1866

To facilitate the functioning of the government, the Middle School for Indigenous Employees was established, including the first Teacher School Building for the Indigenous People in the Dutch East Indies. The building now functions as the office of Bandung's Police Department.



Railway Events

1867 - 1900

The NIS 1867-1900. The established philosophy was that first comes the train, then the stations. The engineers looked at the locomotives, railroads and bridges as the central point of interest in the construction of railways. The first stations were of the greatest simplicity and efficiency. Small, often made of bamboo and wood, nothing more than a kind of a barracks which was sometimes accompanied by a small gallery. The reasons behind this approach can be traced back to the fact that NIS was a private company, where economy was paramount, as well as the fact that the railway line was constructed for the transport of goods, with very few expectations in terms of passenger transport.

1870



Picture of the station of Buitenzorg, an example of how simple the station looked like.

1873

The NIS opened the Batavia (Jakarta) - Buitenzorg (Bogor) line, with a narrower track width of 1,067 meters. For financial reasons, the government decided to build all important rail and tram lines in Java with this width. The work was finally completed in 1873, with a branch to William I, named after the military fort there at the town of Ambarawa.

1877

The first station was the station of Surabaya. A lot of the stations today still have the same iron roof as it did when they got build.

On May 16, 1878, the first state line, Surabaya-Pasuranga, was festively opened by the governor-general.

In 1879 the railway line to Malang was completed. The first SS route's aim was to open up areas for sugar plantations.



1870

1871

Banceuy eslesai Prison was built.



1867

NIS station from Alas Toewa in 1867.



The making of railroad tracks around Purwakarta.

1879

"Opleidingschool voor Indlandsche Ambtenaren" (OSVIA) was opened. The school was popularly known as "Sakola Menak" (Mythical School) because its students were the children of important individuals such as the regent and the duke of the area. The school was located in the Tegalega area.



Bamboo stalls which became the forerunner of Pasar Baru in the Chinatown area.



The house of the Assistant Resident of the Priangan which later became the official residence of the Governor of West Java



Urban Development

1880

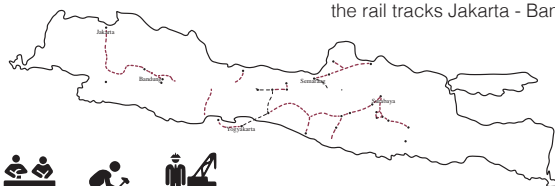
In 1880 the rail line connecting Jakarta and Bandung was completed, and promised a 2 1/2 hour trip from the blistering capital to Bandung. Consequently, Bandung's life changed; hotels, cafes, shops sprouted up to serve the planters who either came down from their highland plantations or up from the capital to frolic in Bandung. The Braga street became the promenade, lined with exclusively Europeans shops. With the railroad, light industry flourished. Once raw plantation crops were sent directly to Jakarta for shipment to Europe, now primary processing could be done efficiently in Bandung. The boosted light industry, attracted Chinese migrants looking for work and marked the beginning of social segregation based on political power, wealth & ethnicity. The Chinese who had never lived in Bandung came to help running the facilities, vendor machines and services of the new industries. Chinatown dates from this period.



1888

The East Java lines were connected to the Central Java net. The Java West-Coast could be reached at Anjer.

Map of Java after the expansion of the rail tracks Jakarta - Bandung.



1884

In 1884 the Bandung Station or Hall Station opened.



1880

The establishment of the "Toneelvereniging Braga" association. Tonil Braga was founded by the Assistant Resident, Pieter Sijthoff. According to Haryoto Kunto, the name Braga street was taken from the name of this association. Another possibility is that the name Braga was taken from the term "rigabaraga" which according to a Sundanese writer, M.A. Salmun means "walking along the river". The location of the road Braga is indeed side by side with (river) Ci kapundung.

Telephone network entered Bandung.



1885

Pieters Park was built and is the first Flower Garden built in the city of Bandung. Its name was dedicated to the memory of the Priangan Resident Assistant, Pieter Sijthoff, who contributed greatly to the development of the City of Bandung. The botanical design park named Dr. R. Teuseur is now called Park City Hall. Previously it was often referred to as Kebon Raja because there was a school building called Sakola Raja or Keerkschool.

1884

The Bandung-Batavia railroad track was successfully connected and inaugurated on May 17. The Bandung-Jakarta trip which previously lasted 2.5 days could now be done in less than a day. The problem of isolation in Bandung started to disappear. The train station at "Spoortstraaweg" (now Jl. Barat Station) was built as a hybrid of colonial and Chinese architectural styles. The opening of the railroad tracks caused many immigrants to enter and live in Bandung, from Europeans who opened businesses around Bandung to the Arab community concentrated in the area around Pasar Baru.



Railway Events



Late 1880s

Map of Bandung from around 1888. Here you can see how the railway road is dividing the city in two. The black dots represent the buildings made in stone whilst the others are Kampung areas.

1886 - 1919

Different types of locomotives.



1894

In 1894 the Java West Coast lines could reach Anjer and in 1903 Banjuwangi, situated on the East-Coast. This accomplishment marked the first period in the history of the railway enterprise in Java, when the construction of the trunk, primary, lines could reach the whole island.

In the meantime the construction of secondary lines, local trains (called tramways), had been taken in hand.



1899

By 1899, west and east Java, were connected through the railway tracks. The Jakarta to Surabaya route was crossing the South region of Java.



1890

1890

The first Viaduct in Bandung was built in Pasir Kalikiweg. The construction of the Viaduct was intended to avoid direct meetings of two road tracks, for example between highway and railroad lines.

1891

August Savelkoul took over the clothing company "Vaxelaire" in Gambir Batavia and renamed it to "NV. Kleedingmagazijn v.h. Firma Aug. Savelkoul". The company gradually moved to Bandung where in 1913, the construction of their building on Jl. Braga, was completed.

1893

R.A.A Martanagara began serving as Regent of Bandung. He was well educated, with a broad cultural insight. R.A.A Martanagara is often referred to as "the father of the Modernization of the City of Bandung".

1894

The Bandung-Cilacap railway line was officially opened. The oldest shop in Braga; the "Hallermann" store was opened.

1896

The formation of "Bandung Garnizun" in Cimahi, signifies the start of the Dutch East Indies military concentration on the cool highlands of Bandung, followed by other military areas in Padalarang and Batujajar.

"Kampung" Bandung was honored by the Executive Board of the Sugar Plantation Entrepreneurs Association, (Berstuur van de Vereniging van Suikerplanters) based in Surabaya, as the venue for the first congress. The event gave birth to the nickname for the city of Bandung as "De Bloem der Indische Bergsteden" or "Flower City of the Mountains in the Indies".



POPULATION: 29,382

of whom 1250 were Europeans.

Urban Development

1900s

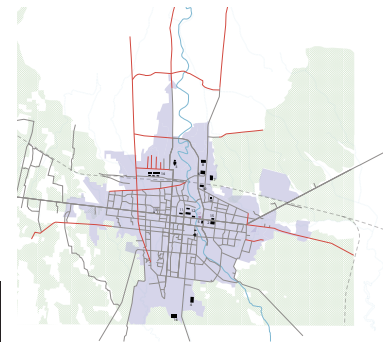
In order to prevent accidents, the railway lines needed to be inspected regularly. For this purpose, inspection vehicles or drainages were used, just like in the Netherlands. On the photo you can see a senior officer in white tropical uniform under an umbrella to protect himself from the sun. Two barefoot workers are pushing him forward. A flag flew on the roof to signal to the train staff that track was occupied.

Station Bandung

After the turn of the century, Bandoeng became increasingly important and attracted all sorts of institutions, such as the headquarters of the State Railways, the Ministry of Transport, Public Works and Water Management, the Pasteur Institute, factories and banding offices as well as the Technische Hogeschool. The city expanded strongly with the industry to the south and the residential areas to the east and north. The railway line, in the beginning, the northern border of the city, came through the city afterwards.

1906

The Bandung train route through Padalarang and Cikampek via the Sasaksaat tunnel along the 1000 meters was completed.



POPULATION: 38,000

The station grew modestly. After earlier smaller interventions, the station was enlarged in 1901 after the completion of the new connection with Batavia. Twenty years later there was a very radical renovation that gave the station building a completely new look.



1900

1900

For the first time public roads in Bandung used asphalt layers. The first public, paved road lane was a fragment of Jl Gereja until Jl. Braga, while Jl. Bandung was the asphalt paved road, in order to avoid mud during the rainy season and dust during the dry season.

Motorbikes and cars started to enter Bandung.



1906

Bandung was given the status of a municipality, which in 1926 became City Municipality.

“Bandung Vooruit” was appointed as a non-governmental body, to replace the role of the city government in managing and paying attention to the interests of the citizens of the city.

1908

Boedi Oetomo



The ethical politics that were put in place at the time gave rise to new social groups which underlined the importance of education in progress. Dr. Wahiding Sudirohusodo, supported by Dr. Sutomo and his colleagues in STOVIA, took the initiative of establishing a modern organization, called “Larhirlah Boedi Oetomo” to expand and improve education for the Indonesian people.

1904

In addition to the “Braga Tonil Association” which was founded in 1882, in 1904 “Bandoengsche Kunstkring” was established (Bandung arts association). This event is evidence of Bandung’s ambition, as a city, to become a “City of Culture”.

Dewi Sartika established a school for girls in Bandung. “Sakola Istri” was inaugurated on January 16. A few years later the school changed its name to “Sakola Kautamaan Istri”.



The “Stoomwals machine” is used to pave the streets of “Gemeente Bandung”.

See also:
APPENDIX I: P. 270

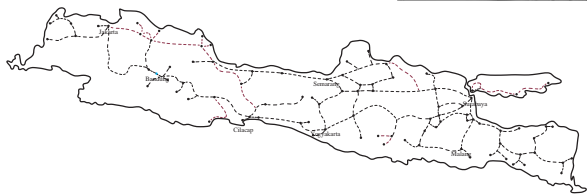
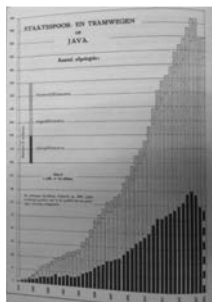
Railway Events

1878 - 1924

Graph showing the amount of travelers between 1878 and 1924, in Java, for different transportation methods.

1913

By 1913, transportation via railway tracks was possible through the north region of the Java too. New tracks, crossing the heart of Java were built to assist in the creation of a coherent network throughout the island.



1914 - 1925

Several stations are built by van Gendt between 1914 and 1925. To name a few; Maggari, Pasar Senen, Kroja, Poerwokerto and many small hubs between the line Cheribon - Kroja.

F. Cousing, the architect behind the new station in Bandung was working closely with van Gendt.

1918-1924

The Dutch colonial government built the railway line Bandung–Ciwidey, during 1918–1924. From Indonesia's declaration of independence in 1945 until early 1970, this railway line was the main connection between Bandung and Ciwidey, with three daily services.

1918

The region southern of the railway was developed. The "Karees" area was built even though most Europeans preferred to live in places at a higher region.

1919

The government elevates the railroad in the city by making a lower cross (viaduct) in Cikapundung.

1910

1911

The Ministry of War (Department van Oorlog) was to be relocated to Bandung as the last defense against the attacks of Dutch enemies. East of Bandung (Kiara Condong) a military production institute was prepared, while west of Bandung, was the center of the Garrison power in Cimahi and the centre of air power in Andir. The Cavalry troops were initially stationed in Cimahi but later moved to Bandung while the artillery forces had been at Batu Jajar from the beginning.

The Department of Public Works built sports' fields and parks including the Maluku Park, then called Soenda Park. In turn, this military core grew rapidly in line with the establishment of various military services and industries.



1914

The Department of War was constructed.

The military headquarters was moved from Batavia to Bandung around 1920. The chosen site was east of City Hall, and consisted of a residence for the Commander in Chief, offices, barracks and military housing.

1916

The first SI National Congress was held in Bandung. For the first time the dominance of the foreign population in all aspects of human life is addressed, criticizing the "disheartening" apathy of the native population to participate in political matters and attempting the awakening and motivation towards change.

At the turn of the 19th century, Bandung was still very small, with a street network concentrated around the main square and with Groote Posweg as the main road. On the north-south axis were the Residentweg, Pasar Baroeweg and Prince Soemedangweg. Along the way there were European houses, made of stone, surrounded by a large yard with a walkway in between, decorated with white bear pots. The not-so-rich people's houses were built from woven bamboo and lime. Electricity, gas and drinking water existed only after 1915. Indigenous people (except those whose status was similar to Europeans) lived in the villages behind the householder. In the center of the city were important offices, shops, banks and hotels such as Homann Hotel, Preanger Hotel and Hotel Wilhelmina.

Urban Development

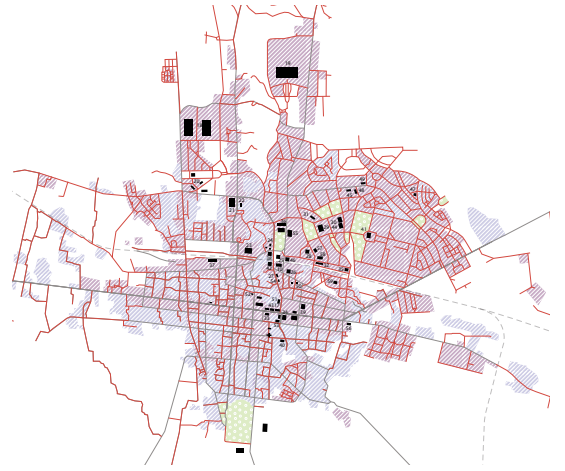
1924
Bandung Station



1923
The railway headquarters and the Salvation Army office were built. On Jl. Pasteur, the Juliana government hospital (RSHS) was constructed while on Jl. Dago the Catholic hospital St. Boromeus.



1925
Monumental lamp, in the memory of 50-year jubilee SS Bandung. Restoration of the station in colonial style.



1928
Bandung got a new railway station, designed by the architect F. Cousin. The station was given a new modern facade with blue art-deco stained-glass windows in the high hall. The design may have been inspired by the "Naar-den-Bussum" station in the Netherlands from 1925. During the renovation, new electrical lighting was installed, from the Bergman company in Surabaya. An innovative, 'watertight construction' which was then considered 'the best lighting of the whole Indies with a load capacity of 13.5 kilowatts'. A few years later, concrete umbrella roofs were added as an extension to the existing iron roof.

1920

The construction of the Government Bedrijven building (Gedung Sate) by Johanna Catherin coops, the eldest daughter of B. Coops, first mayor of Bandung, was initiated. This magnificent building that combines western and eastern architectural styles was designed by an architect named Gerber with appointed contractor, Lim A Goh.

Andir airfield was built for military purposes.

1921
The gas plant in Kiara Condong was established. Bandung's residents experienced the use of "gas lights" as street lighting.

1922
The Artillery Construction Workshop (De Artillerie Constructie Wingkel) with the OE-Made School of Rifles and the Projectile Factory moved to Bandung. Then followed munitions, construction factories and rubber factories dedicated to the production of goods for "GoodYear" as well as the Padalarang Paper Factory.

1924
One of the oldest football clubs in Bandung was established with the name "Union". Simultaneously, a football field in Karapitanweg was built and initiated the development of "Sidolig" in Groote Postweg (now "Siliwangi Stadium").

1925
A field that was originally intended for the military activities of the colonial army, changed its function to a public park, named Insulindepark. This park is now called Traffic Park.

1926
Landskoepok Inrivhling en Instituut Pasteur, the only vaccine and serum producer in Indonesia, moved to Bandung from Jakarta and occupied a building specifically designed by Prof. C. P Wolff Schoemaker.

1928
The length of railway and tram roads in Indonesia reached 7,464 km out of which 4,089 km were government-owned and 3,375 km belonged to the private sector. At the same time, out of the 7,464 km; 2,802 km were of standard gauge (1.067 m), 205 km of broad gauge (1.435 m), 120 km with narrow gauge (0.600 m) and 2,258 km of tram-ways with a gauge of 1.067 m (with one single exception: municipal trams)



See also:
APPENDIX I: P. 275

Railway Events

- ▶ Generally, on the SS during the 1930s, passenger train speeds and frequencies were increased. As an example, the Jakarta-Bandung express routes were only two in 1934, taking 3 hours and 40 minutes. In November 1, 1934, the frequency was doubled, and duration was reduced to 2 hours and 45 minutes, later to be further decreased to 2 hours and 30 minutes.
- ▶ The railway system served more functions than just the transportation of goods and passengers. In this photo you can see how the railway tracks were being used for selling food and other objects to the visitors.
- ▶ Map of the railway system from 1930s. The railway track from today is more less similar to this map of Java's railway system.



1933

The building of the station is totally renovated and rebuilt with the art deco architectural design of Dr. Ir. J.W. Ijzerman. [The engineer who built the railroad to Bandung and one of the founders of THS (now ITB).]

1939

In 1939 the plans for Bandung's Station were numerous including the extension of the building to the east side, the expansion and increase in the number of platforms, accessible via pedestrian tunnels and the construction of completely new platform roofs. In the end, only the number of platforms was expanded and a second roof of the old type was added.

1930

- ▶ In the thirties, just as in the Netherlands, hardly any construction was carried out as a result of the great depression.
- ▶ Indonesian Football Association Bandung (PSIB), the embryo of PERSIB, was formed from the merger of Bandoeng Indische Voetbalbond (BIVB) and Nationaal Voetbalbond (NVB) on 29 April.
- ▶ The Pasundan Istri was established, a social organization for women.
- ▶ **1933**
"Jubileumpark", one of the widest gardens in Bandung, was built to mark the 25th anniversary of the Dutch Queen, Wilhelmina. In the beginning, the park functioned as a Botanical Garden of rare plant species. Years later, this park became Bandung's Zoo.



1938

Major changes in the urban planning of the city took place such as the widening of roads, trees being cut down so that large shops and offices can develop. The Jalan ABC gradually became a modern shopping area with a tight distance between buildings. Traffic increased so that the adjustment of road arrangements in the city's arteries was an urgent need. The architect Karsten was invited as an advisor for the planning of Bandung, especially in terms of traffic and public housing. One of the Karsten's projects, called "giving new life", was the Cikapundung plan, namely the road and bridge that crossed Cikapundung river. However, the walk along Cikapundung was never realized.

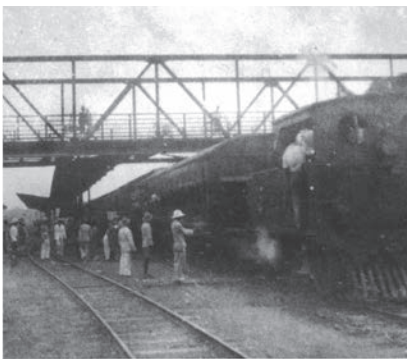


See also:
APPENDIX I: P. 276

Urban Development

1945

Bandung was divided into two. Brigadier General MacDonald gave an ultimatum to the indigenous population in the northern part of Bandung, to relocate in areas south of the railroad. The ultimatum would be implemented by 11/29/1945. North Bandung was occupied by British troops, the combatants remained and set up guerrilla pockets around the Boromeus hospital, cihampelas, haurpancuh, sadangsaip, etc., whereas South Bandung was under the control of the Republic of Indonesia.



1945

A few days later after Indonesia proclaimed its independence on August 17, 1945, the takeover of Japanese railway station and headquarters took place. Bandung Central Railway Office was reclaimed on September 28, 1945 (now commemorated as Indonesia Railway Day).

The Train Youth Movement took over the railway system the same day and declared the establishment of Djawatan Kereta Api/DKA, a state train company.



Arrest and detention of independence fighters by Dutch forces during the 1st Police Action in Bandung, in July 1947.



Mahratta Indian troops (Gurkhas) loaded their equipment to the 31st Dakota Squadron transport aircraft, in Batavia (Jakarta), to fly to Bandung.



1940

The "Dwi Warna" Building is one of the last buildings that was built by the Dutch East Indies Government, before the second World War. The design was made by Hendriks, an architect from the City Government (Gementee).

1942

The Government of the Netherlands East Indies surrendered unconditionally to Japan. During the war years, the Japanese converted all broad-gauge railway lines, so the existing rail network in Indonesia consists of narrow port. Furthermore, all rail companies were assembled in one organization.

Youth Force Organization

The aim of the Youth Force is to form a coherent front, to show the youth's determination to fight for the future and to consolidate its role in the city and its life.

POPULATION: 590,000

1945

Indonesia proclaimed its independence on August 17, 1945.

1946

Facing the return of the Colonial power to Indonesia, citizens chose to burn down Bandung in what has become known as "Bandung Lautan Api", Bandung's Ocean of Fire.

1947-1948

West Java Conference I

The First West Java Conference was held in Bandung. This conference was considered to be the basis for the formation of a "Pasundan" state.

West Java Conference II

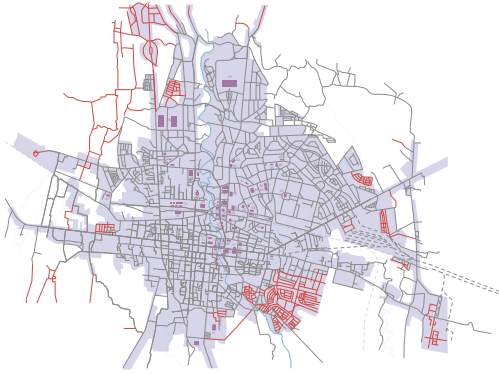
At this conference there were three groups: the sect which wanted an interim government for West Java, a stream that wanted a temporary government for West Java, and a stream that did not want a state position before a general election was held.

West Java Conference III

Implementation. On February 25, there was written official recognition of the new country. R. Abdoelkadir Widjoatmodjo was government commissioner for the RECOMBA government affairs in West Java.



Railway Events



1953

Dieselisation started (by 1980s most of the mainline services had been converted).

The DKA became Djawatan Kereta Api-Repoblik Indonesia/DKARI in 1950. This meant that the train service was directly under the control of – and managed as part of the services overseen by – a government Ministry of transportation.

A batch of 100 steam locomotives were ordered.

1981

In the 1981–1984 period, the land alongside and on the disused railway came to be completely occupied. The rice fields all along the railway land were converted to housing, at first as temporary houses, made of bamboo.

1970s

Electric multiple units were obtained from Japan, replacing 60-year-old locomotives.

Since the independence era, all mainline railways in Indonesia had been managed by the state. The owners of the private railway were compensated.



1990

On the north side of the train station building, a new, second, building was erected in what the Indonesians call the “Joglo” style - which partly took over the function of the old. One of the reasons was undoubtedly the need for greater accessibility and parking space for cars. The south side was difficult to reach due to the heavy city traffic.

**POPULATION:
2,000,000**

1950

1955

Bandung was the host of the first Asian-African Conference, which was an important step towards the non-Aligned movement, an important force in world politics during the Cold war Period.

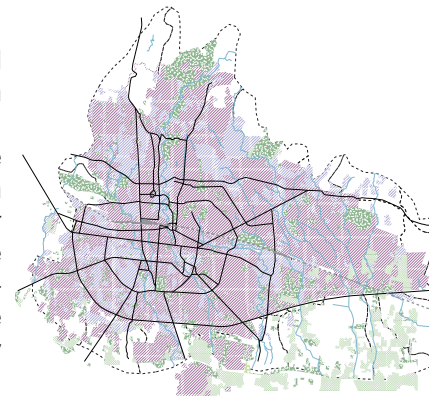


1960

**POPULATION:
1,000,000**

1971

The Bandung municipal government promulgated an urban master plan in 1971 to replace the one made by Thomas Karstens in 1930. Following this master plan, Bandung was to be developed into ‘a multi-functional city serving the development of the industry and trade-commerce’.



1987

Local residents committed to the conservation of Bandung’s buildings, environment and culture, established the “Bandung Society for Heritage Conservation”, in 1987. It has now over 500 members from different fields and professions. Voluntary contributions fund the oldest heritage organization in Indonesia.

Urban Development



▶ **2015**

The Indonesian government announced its plan to build a high-speed rail system connecting Jakarta to Bandung and devised a competition between Japan and China. On late September, Indonesia awarded the multi-billion railway project to China (150km).

▶ **2007**

In 2007, the Indonesian government privatized the train company and abolished its monopoly on the train operation.

2000

▶ **2014**

**POPULATION:
8,200,000**

▶ **2015**

Bandung held again the conference and 25 mayors from Asian and African cities signed the "Declaration of the Smart City", which sealed the commitment to the development and construction of the sustainable smart cities models through a network of knowledge, technology and investments among those cities.

Conclusion

From the timeline where we presented the development of the railway system against important events and developments in the urban fabric of the city of Bandung we were able to understand the material and immaterial consequences of the Dutch colonialism in Java and Bandung in particular. In order to maintain our objectivity and to critically reflect on our findings we tried to combine both western and eastern resources. This allowed us to trace the Indonesian perspective on the shared heritage between the Netherlands and Indonesia.

Moreover, we were able to understand how the railway as a spatial element affected the city's development, how it was organized around it and how it was used by the imperial government to distribute and trade the Indonesian products to the rest of the world. It also made us understand that the railway development did not only affect the physical appearance and structure of the city but also the social environment.

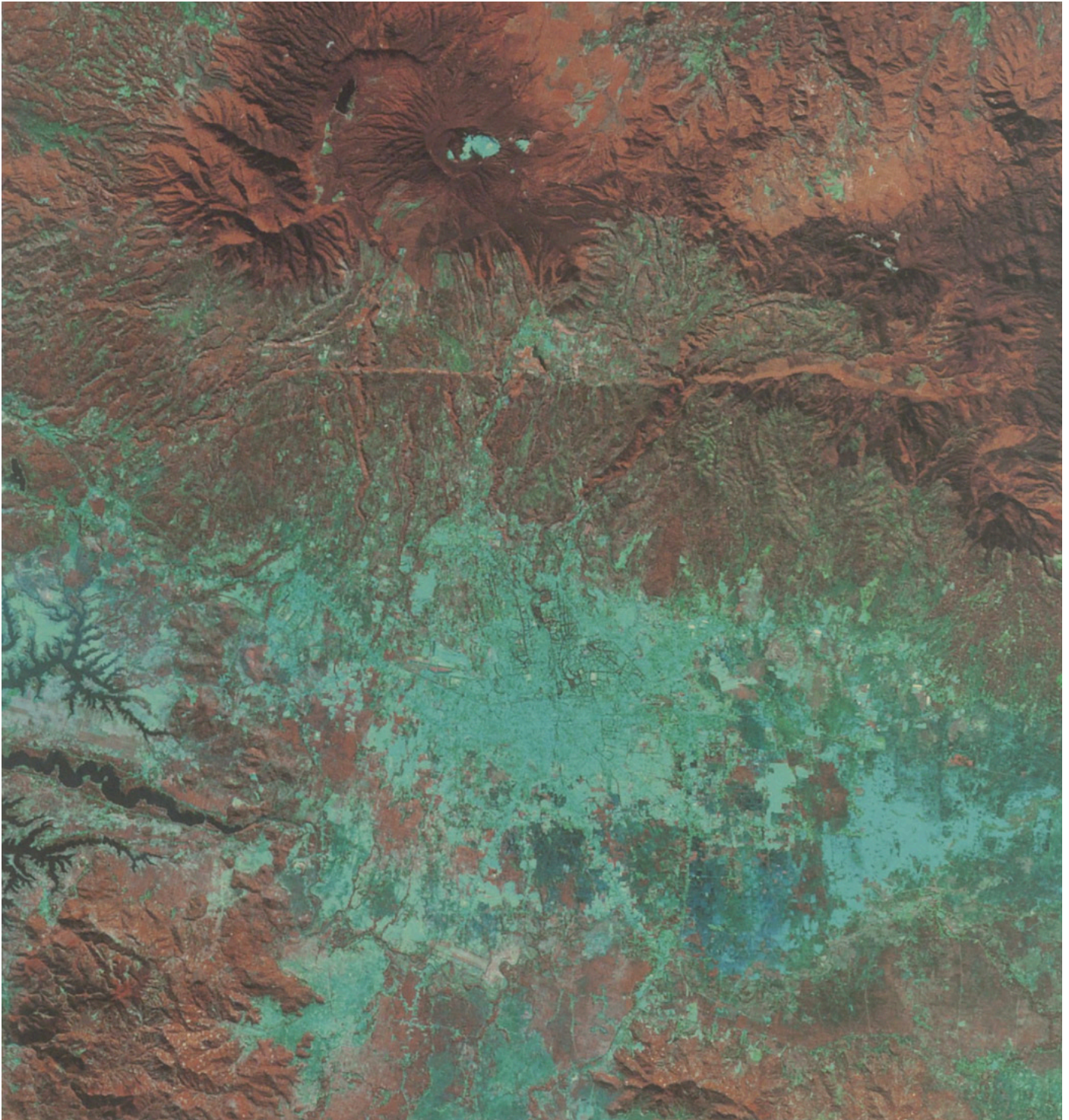
Last but not least, it made us understand that Colonialism in Indonesia had both positive and negative consequences and thus the shared built heritage of the era can also carry both positive and negative qualities that we will need to investigate in the following chapters in terms of "KNIL MAGAZIJNEN".

JAVA & METROPOLITAN SCALE

CONTENTS

JAVA & METROPOLITAN SCALE

| | |
|------------------------------------|-----------|
| JAVA RAILWAY MAP 1931 | 32 |
| JAVA LANDSCAPE DIAGRAM | 34 |
| BANDUNG MOUNTAIN MAP | 35 |
| BANDUNG METROPOLITAN AREA LAND USE | 36 |



Satellite image of Bandung late 1980s
© VOSKUIL, R. P. G. A. (1999). Bandoeng: beeld van een stad. Purmerend, Asia Maior.

JAVA & METROPOLITAN SCALE

Java Railway Map 1931



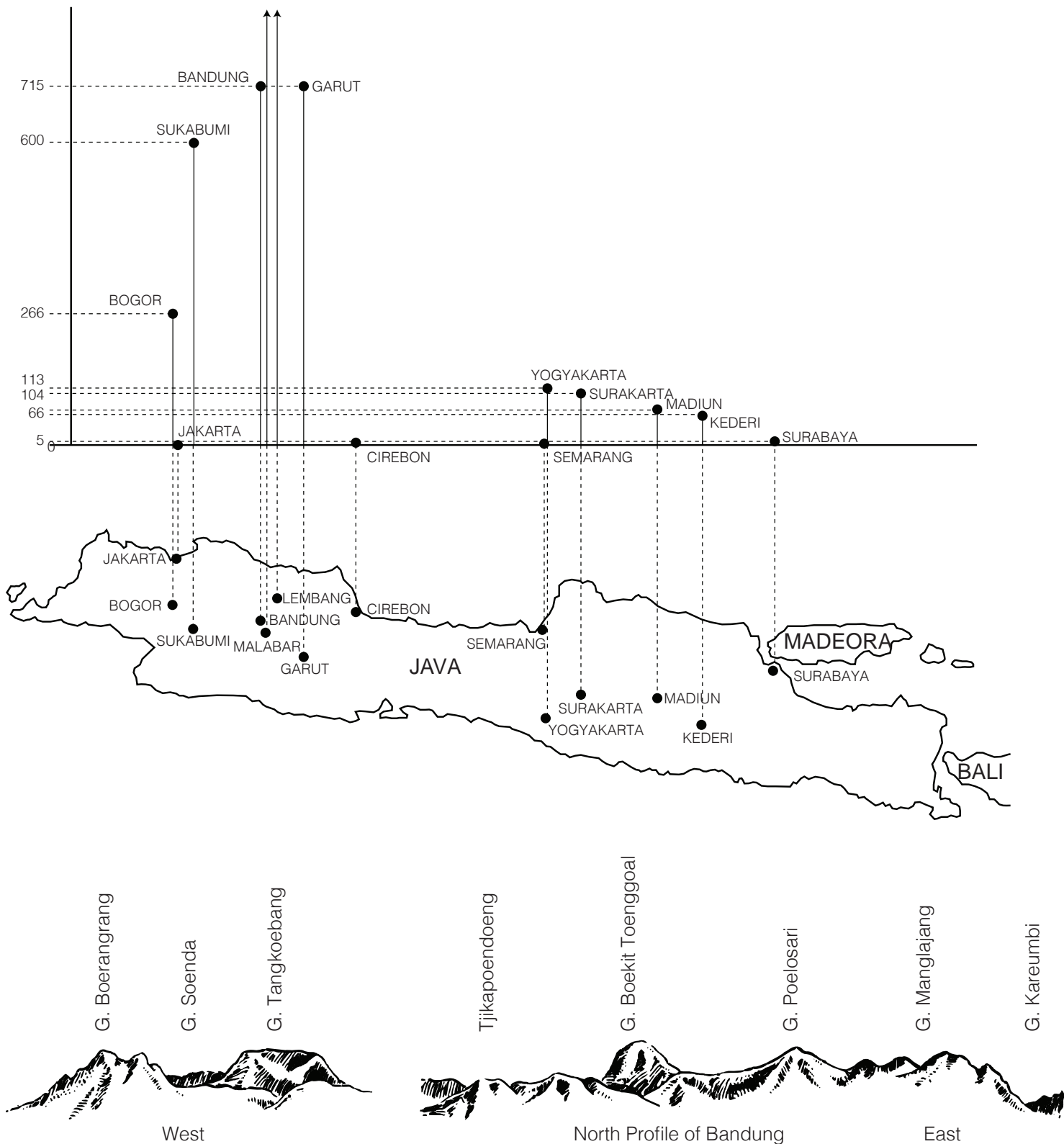
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- ~~~~~ Particuliere spoorwegen der 2e kl., waarvan de exploitatie voorloopig is gezakt.
- S.S. automobielwagens in eigen beheer.
- Autodiensten in belangzamenzeenschap.
- Particuliere boorte-bindingen in aansluiting op de spoorwegen.
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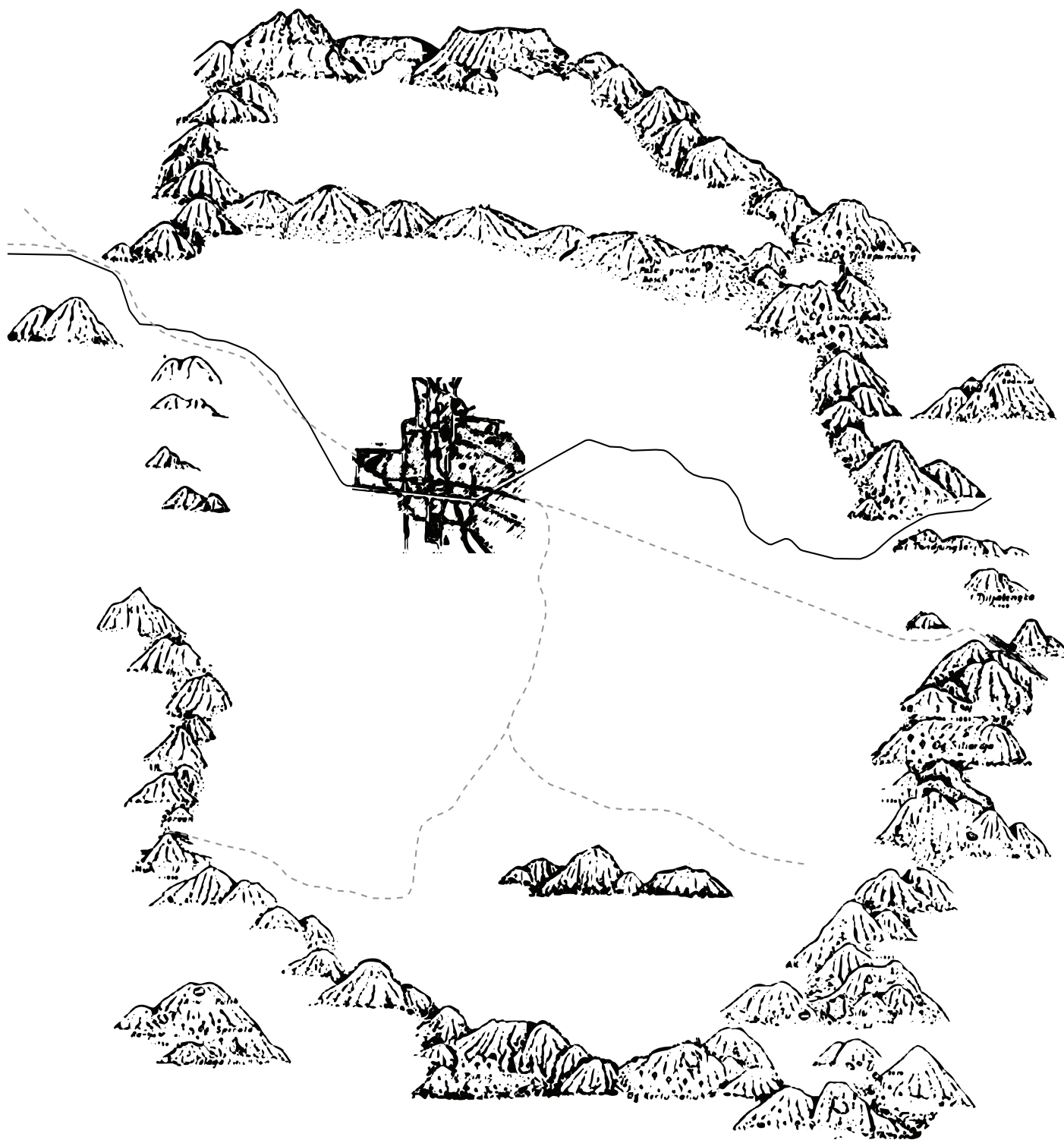
I N D I S C H

Java Landscape Diagram

One of the most important elements in terms of Bandung's identity as an urban entity is the relationship with the surrounding mountains. With its cooler elevated landscape, surrounded by major plantations, Bandung has become a pleasant place to live in Indonesia. Such place naturally attracts people to come. Bandung is located approximately 700 meters above sea level, while its mountain, G. Papandajan, has peaks reaching 2672 meters above sea level.



Bandung Mountain Map



- G. Boekit Djarian
- G. Tjakraboena
- G. Kareumbi
- G. Mandalawangi
- G. Galbenggoeng
- G. Goentoer
- G. Tjikoerai
- G. Sanggar
- G. Rakoetak
- G. Kendang
- G. Geulis
- G. Malabar
- Pangelegang
- G. Tiloe
- G. Patoeha



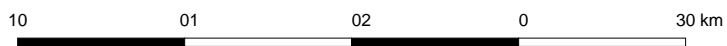
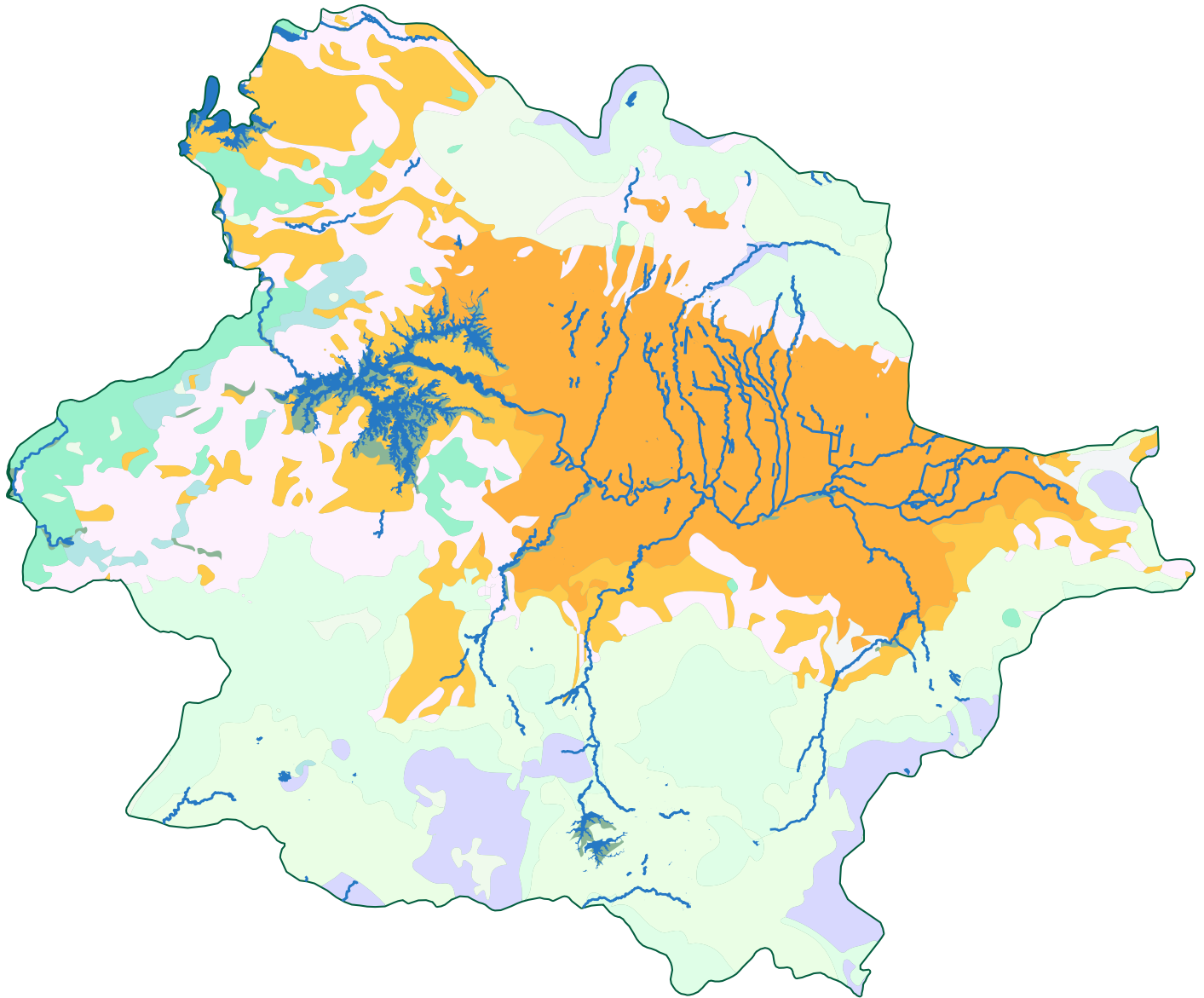
East










South profile of Bandung

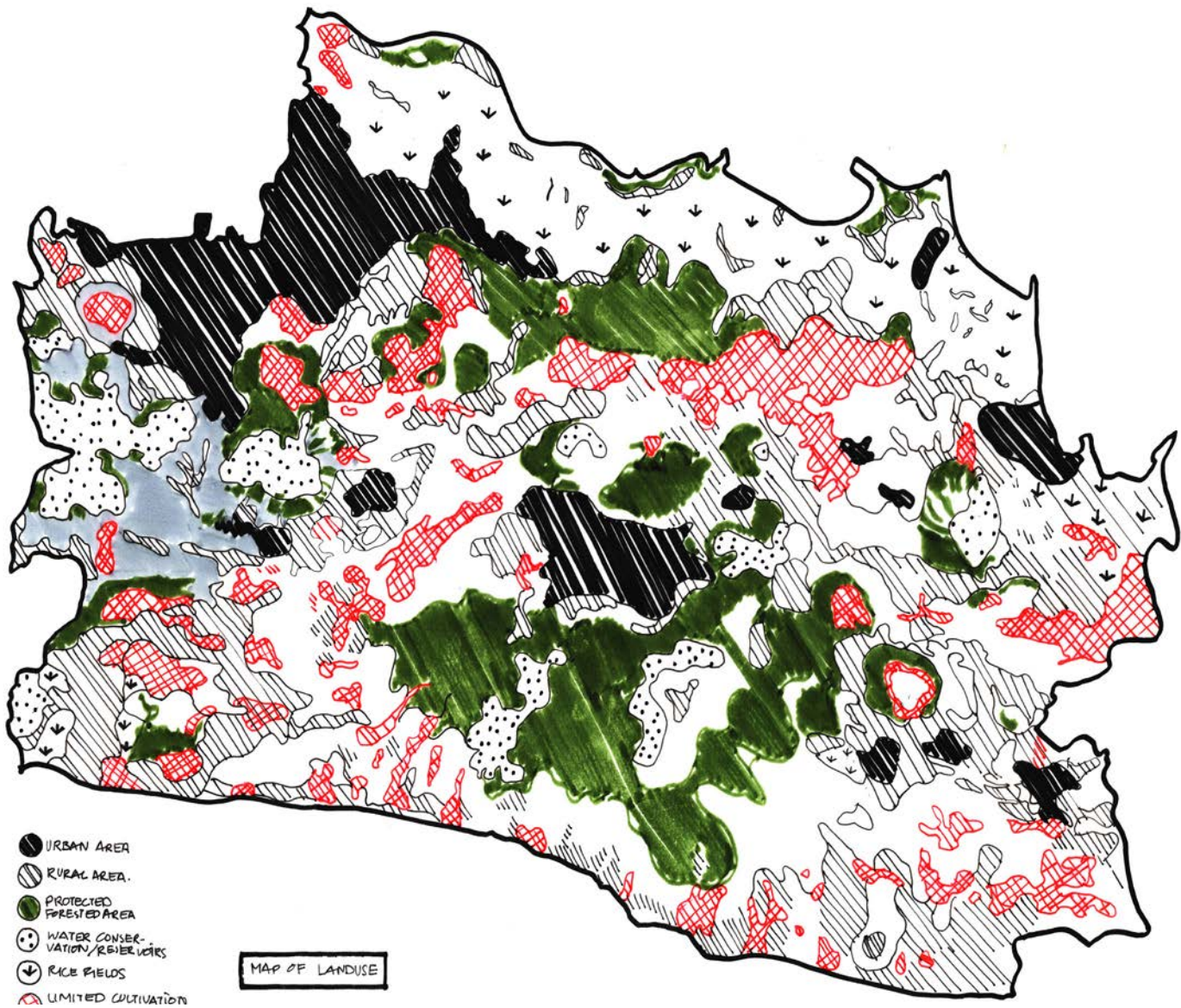
West

Bandung Metropolitan Area







Land Use Map



-  Urban Settlements
-  Rural Settlement
-  Protected Forest
-  Protection against Subordinates
-  Permanent production Forest
-  Limited production Forest
-  Nature Reserve and Nature Conservation
-  Prone to Natural Disasters
-  Water Basin



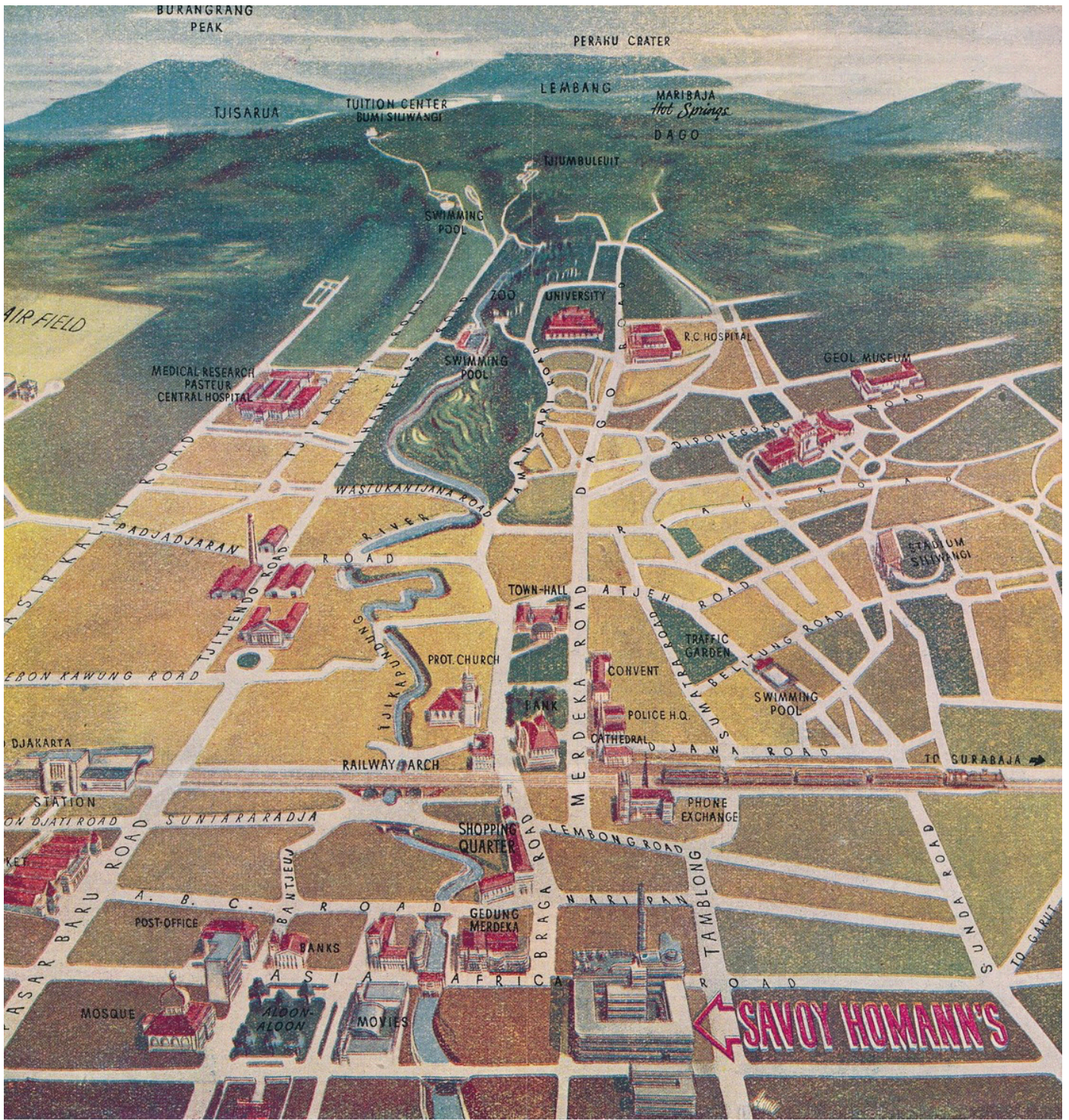
10 01 02 0 30 km

-  Central Urban Area
-  Rural Area
-  Protected Forest
-  Protection against Subordinates
-  Rice Fields
-  Limited Cultivation Area

CITY SCALE

CONTENTS
CITY SCALE

| | |
|--------------------------|-----------|
| SUBDIVISION OF INDONESIA | 42 |
| EXPANSION OF BANDUNG | 44 |
| URBAN CONTEXT IN NUMBERS | 52 |



Map of Bandung from Savoy Homann's
 © <http://www.javauction.com/index.php/catalog/ubahmaks?max=50&mode=pilih&id=H>

CITY SCALE

Subdivision of Indonesia



Indonesia is made up of 17,504 Islands



Java

Sumatra

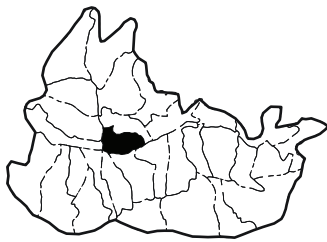
Kalimantara

Sulawesi

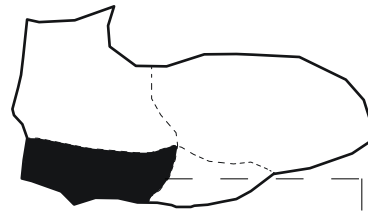
Maluku

Papua

The 17,504 Islands are serviced by "6 big ones"



Kota Bandung is divided into **30 Kecamatan.**



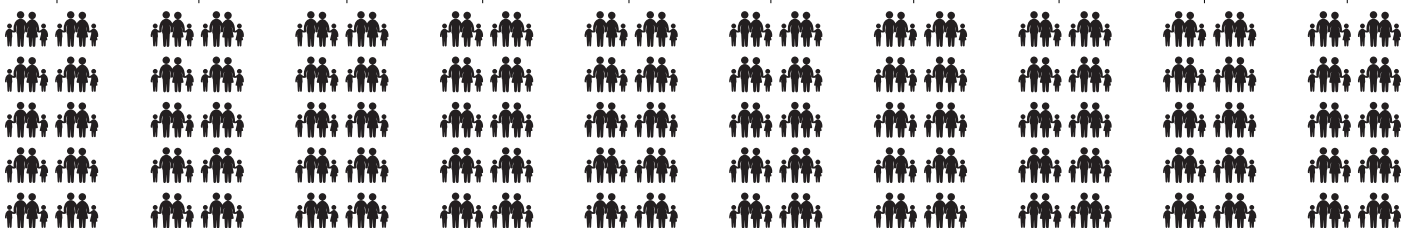
Each Kecamatan is again divided into smaller districts, called **Kelurahan.**



Each Kelurahan can have **2 - 10 RW - Rukun Warga**



Each RW is responsible for **3 - 10 RT Rukun Tetangga**



Each RT is responsible for **10 - 50 families**

The neighborhood structure in Indonesia is based on a special system which is called RT and RW. RT is Rukun Tetangga (neighborhood harmonious) and RW means Rukun Warga (citizen harmonious). They're the lowest strata of the Indonesian government tree who run the daily social life of the citizens. This shows how the Indonesian democracy is structured, from the bottom-up or top-down. If a person has an issue with something, he or she will contact their personal RT, who will again contact the respective RW. The RW needs to then ask the person in charge of Kelurahan according the problem. If they can not solve the issue in the Kelurahan, the next step is Kecamatan who will refer to the Municipality of Bandung for the matter. If further attention is needed the last body to be informed is the Provincial Government of Bandung.



North entrance to Kebon Pisang, the kampung closest to the chosen site.

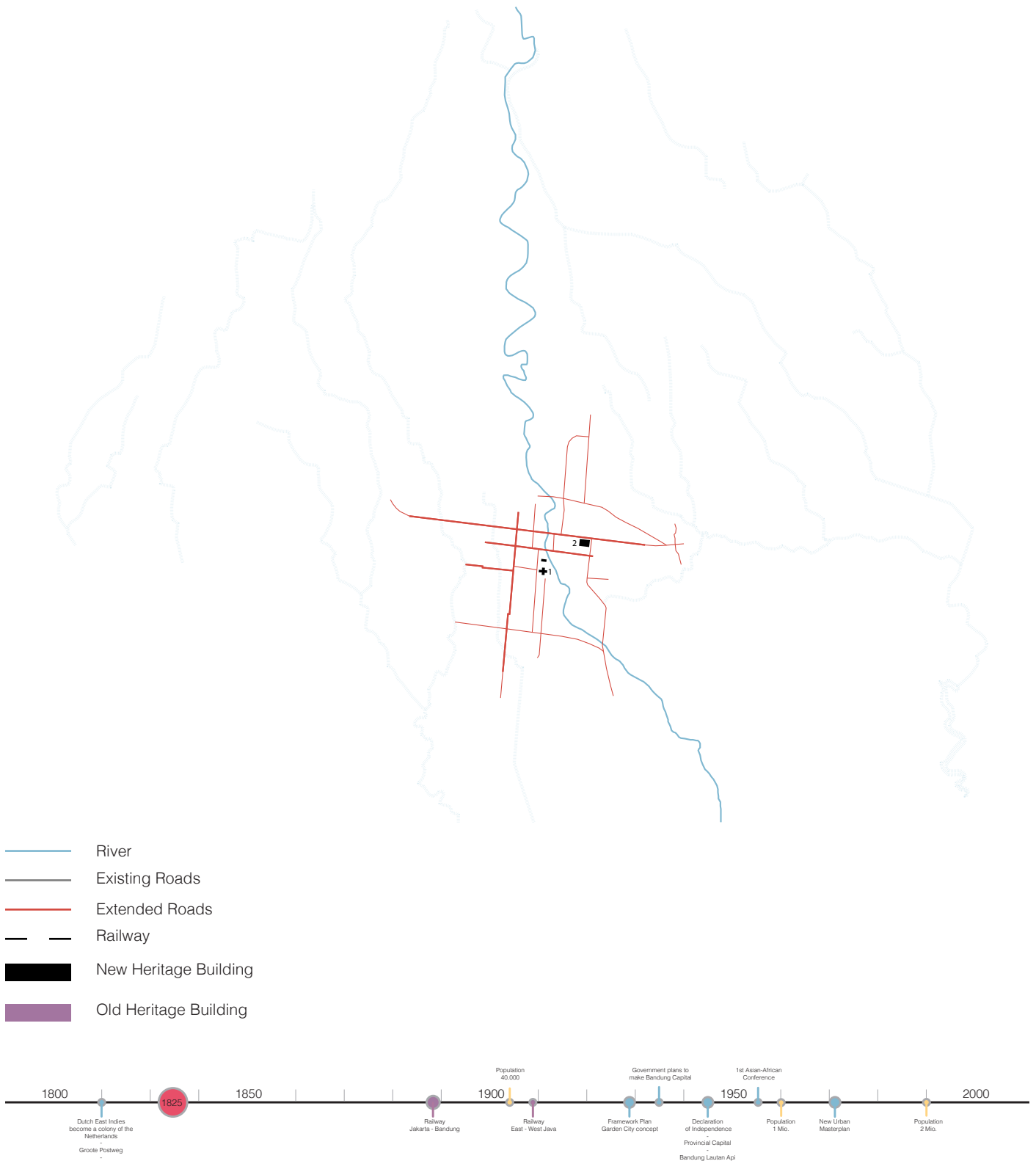


South entrance to Kebon Pisang, the kampung closest to the chosen site

Expansion of Bandung

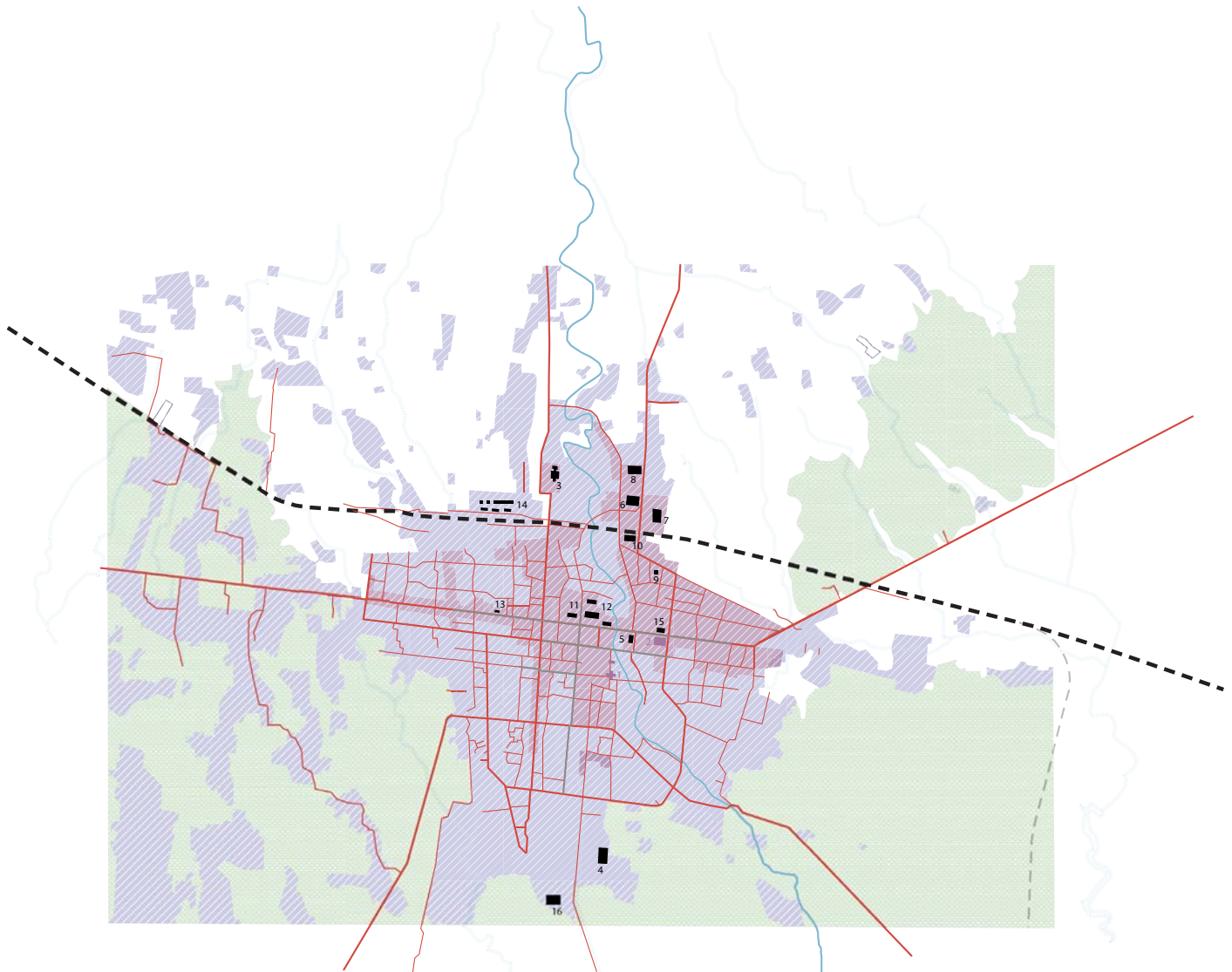
1825

The Grote Postweg (Great Post Road) was built 11 miles north of the capital of Bandung. On this site, the Dutch built the dalem (palace) and the alun-alun (city square). Following traditional orientations, Mesjid Agung (The Grand Mosque) was placed on the western side of the plot, and the public market on the east. Building 1 The Regent House and 2 Preanger (renovated) are still standing today.

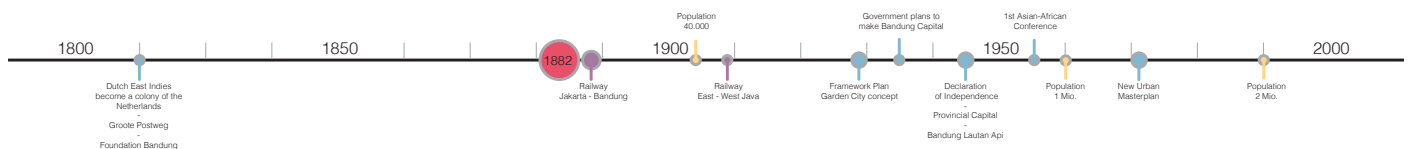


1882

By 1882 the city had a great expansion in the southern area. When the railway was built in 1882 (started to run in 1884) most of the cities expansion was south from the railway line. South American cinchona (quinine), Assam tea, and coffee were introduced to the highlands, these goods were transferred and sold on the markets in Bandung. The red lines show the new roads.

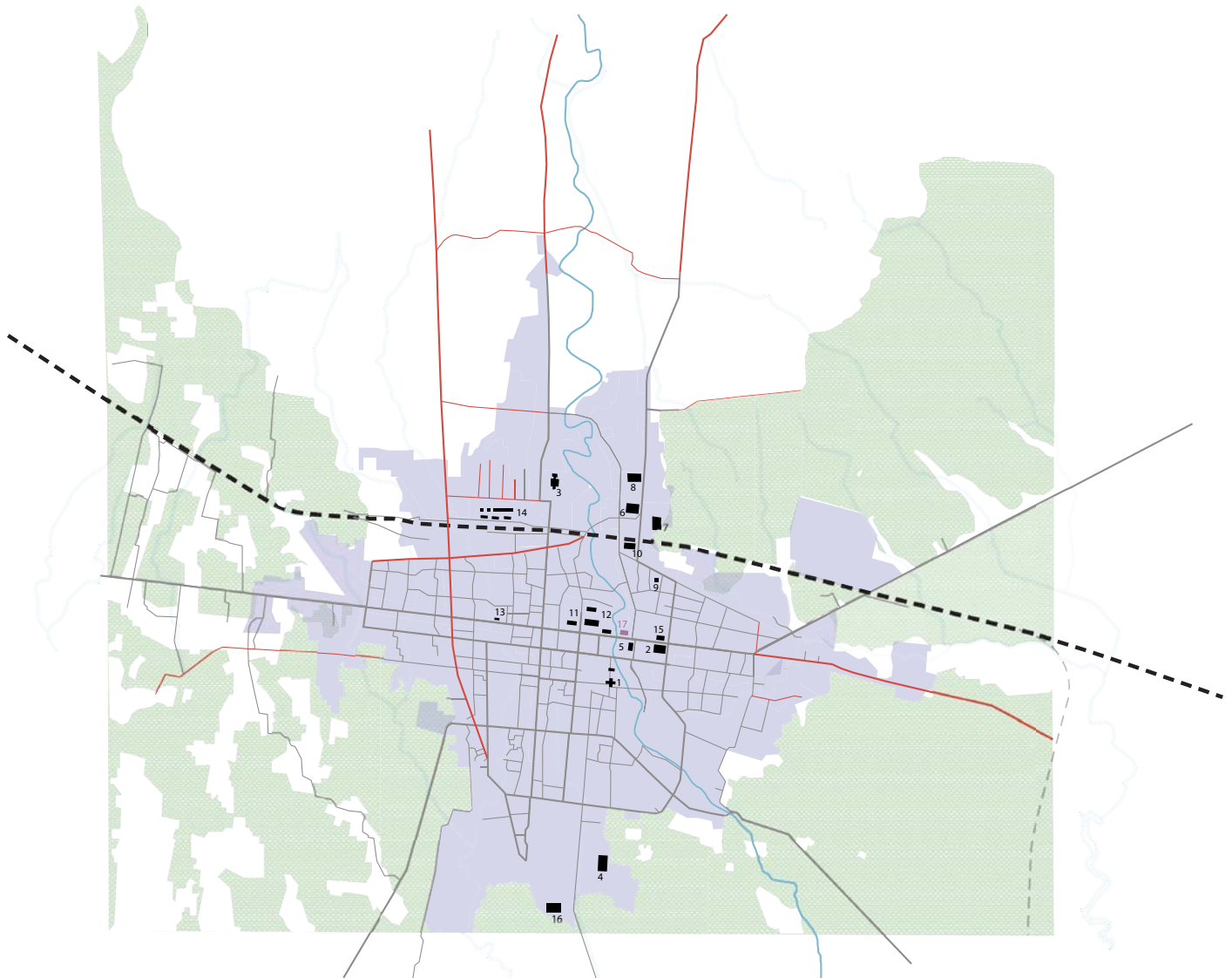


- River
- Existing Roads
- Extended Roads
- - - Railway
- New Heritage Building
- Old Heritage Building

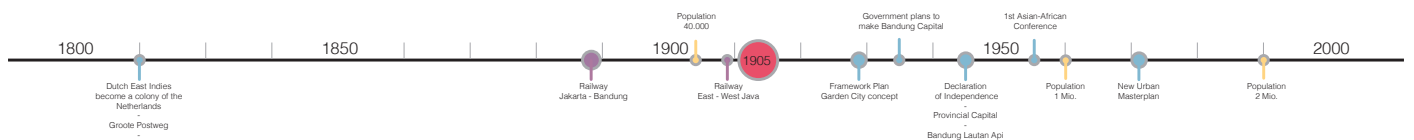


1905

The railway changed the life in Bandung. New hotels, cafes, shops sprouted up to serve the planters who either came down from their highland plantations or up from the capital to frolic in Bandung. The Concordia Society was formed and with its large ballroom was the social magnet for weekend activities in the city. The Preanger Hotel and the Savoy Homann were the hotels of choice. The Braga street became the promenade, lined with exclusively Europeans shops.

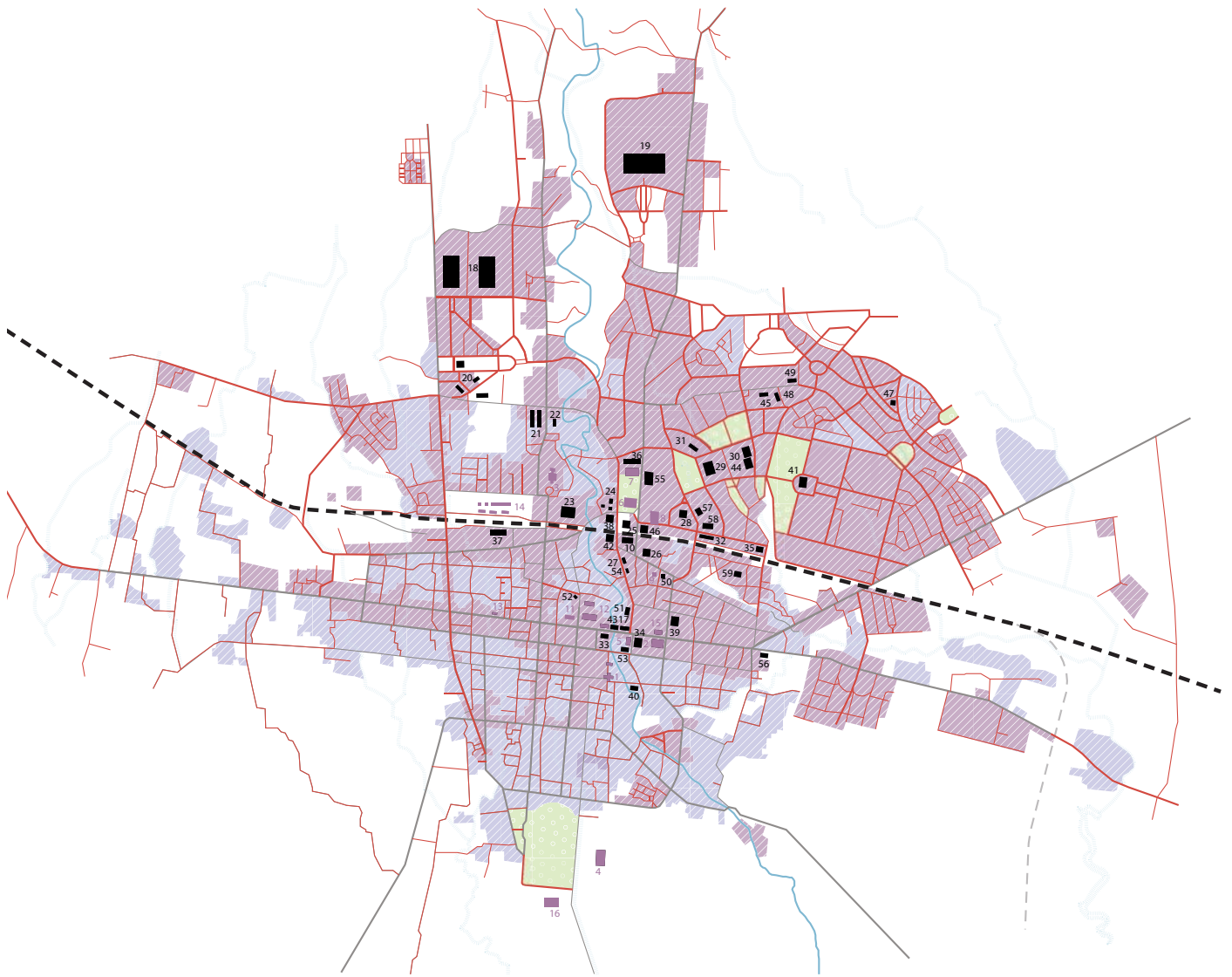


- River
- Existing Roads
- Extended Roads
- - - Railway
- New Heritage Building
- Old Heritage Building

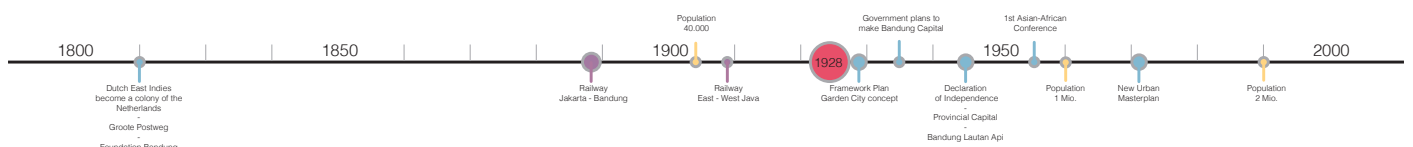


1928

From 1905 to 1928 the city saw a great expansion north from the station. ITB and Gedung Sate were built by the end of 1920. City Hall was built at the north end of Braga to accommodate the new government. This was soon followed by a larger scale development when the military headquarters was moved to the east of City Hall and consisted of a residence for the Commander in Chief, offices, barracks and military housing.



- River
- Existing Roads
- Extended Roads
- - - Railway
- New Heritage Building
- Old Heritage Building

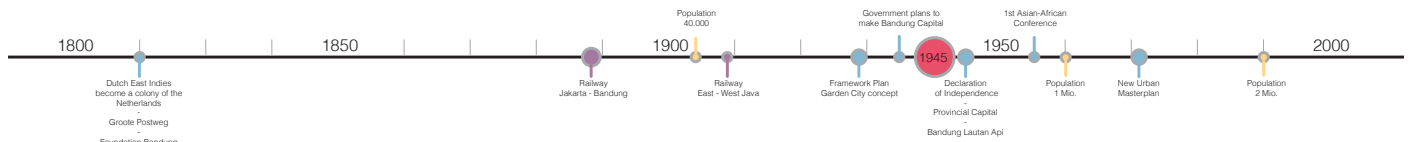


1945

From 1928 to 1945 the city expanded to the west and east side of the city, but these changes were not as big as it was planned based on the Karstens plan of 1933 because of the great depression and the second world war from 1940 - 1945.

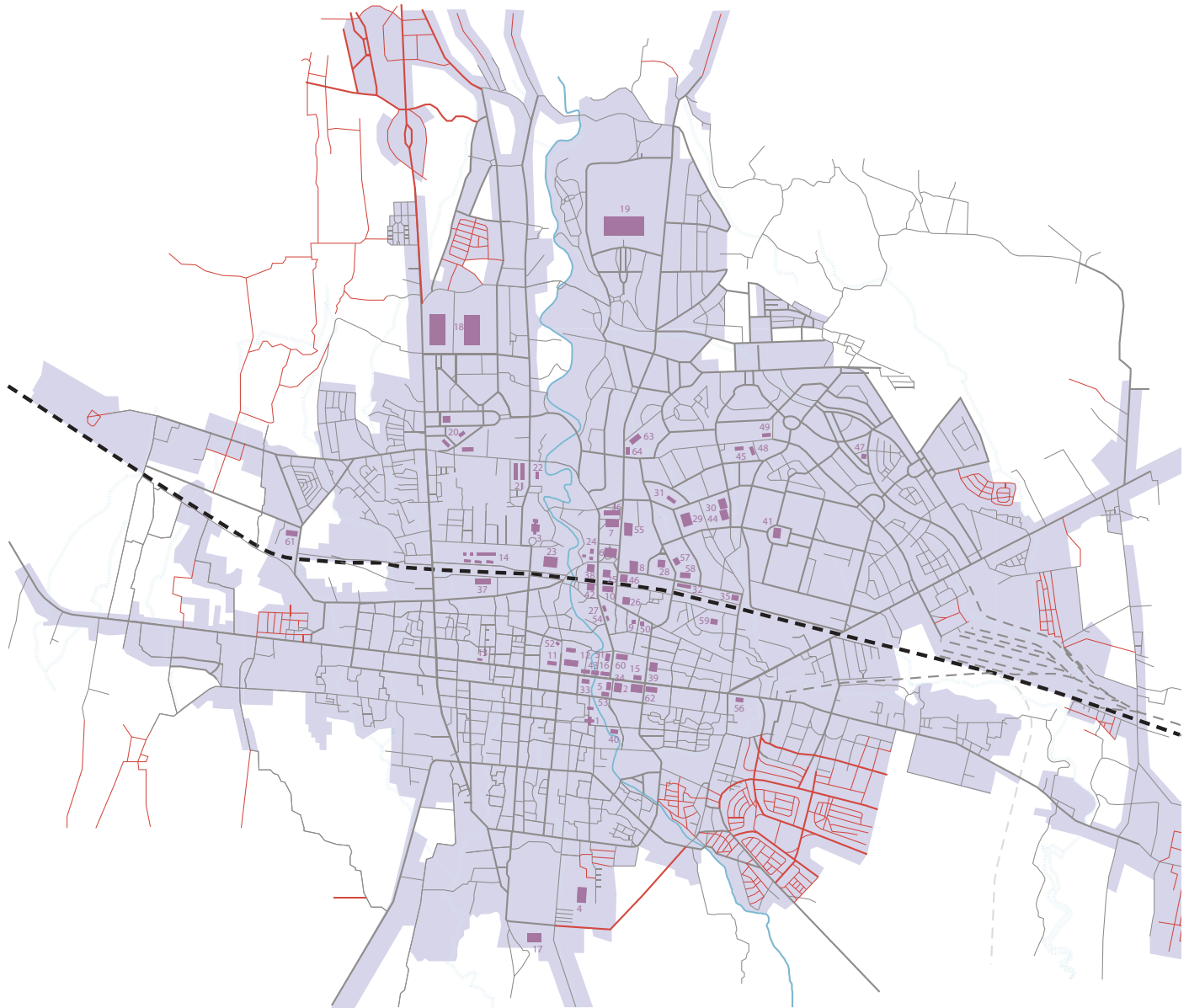


- River
- Existing Roads
- Extended Roads
- - - Railway
- New Heritage Building
- Old Heritage Building

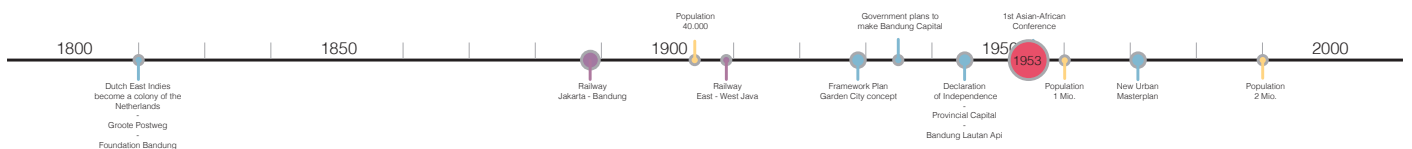


1953

After Indonesia became independent in 1949 the population skyrocketed from 230,000 in 1940 to 1 million by 1961. Economic prosperity following the oil boom in the '70s pushed this further so that by 1990 there were 2 million inhabitants. A lot of dense Kampungs started to occur around areas that were supposed to be green parks according to the Dutch city planning.

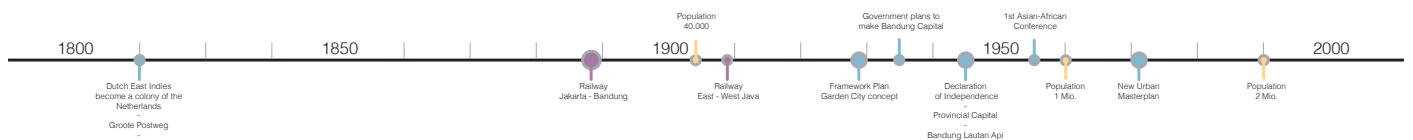


- River
- Existing Roads
- Extended Roads
- Railway
- New Heritage Building
- Old Heritage Building



Expansion of Bandung | Monuments

1810 - 2018



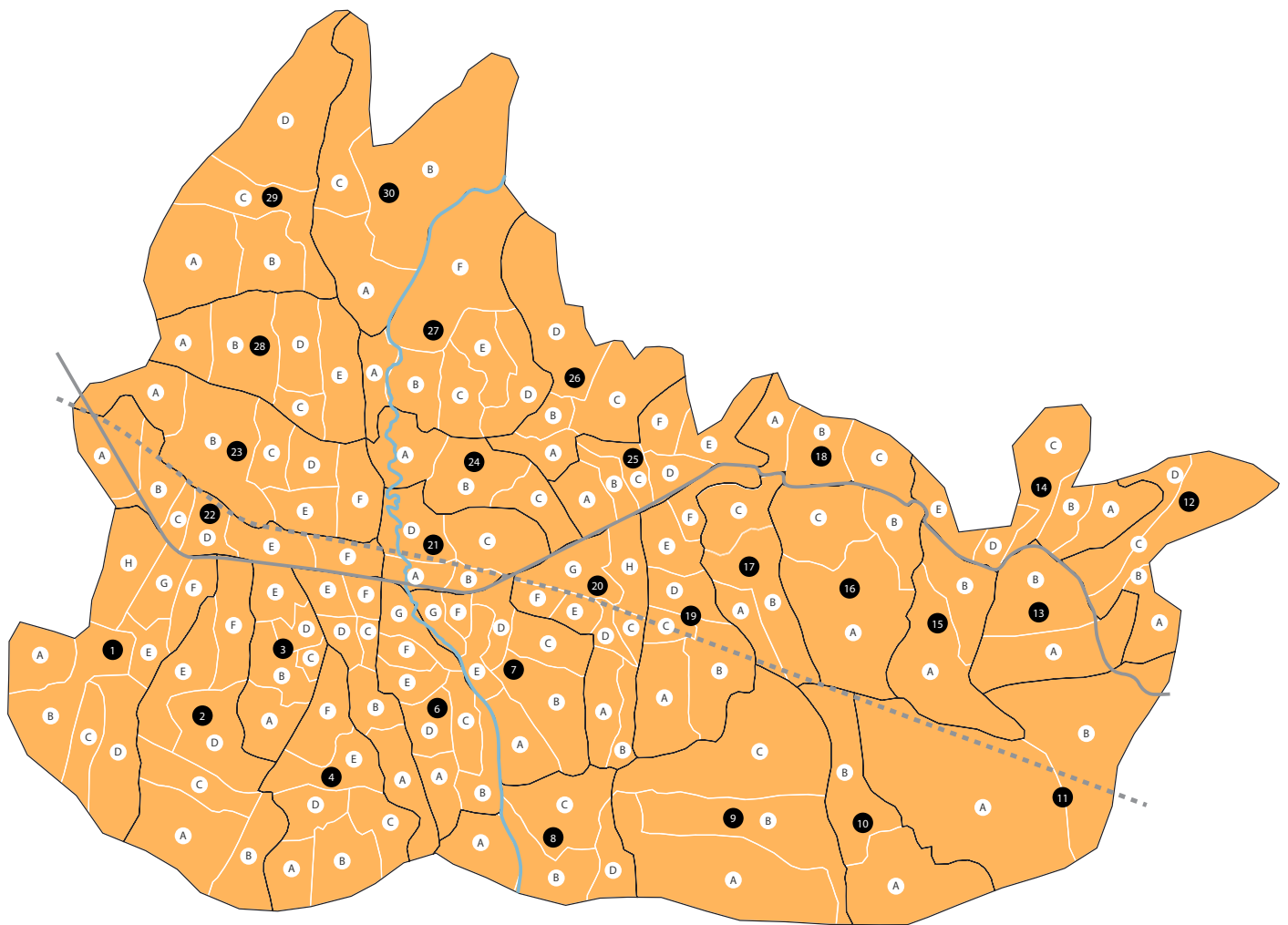
Expansion of Bandung | Monuments

1810 - 2018

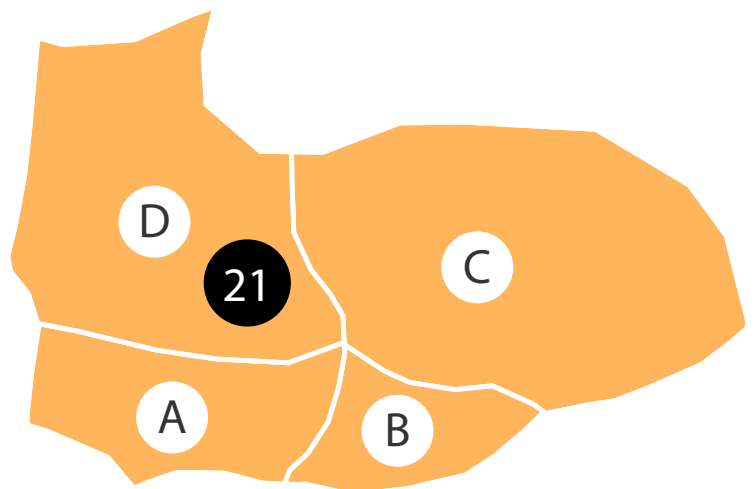
- 01 - 1825 Woning van den regent
- 02 - 1825 Hotel en toko thiem - Hotel Preanger
- 03 - 1882 Gedung Pakuan
- 04 - 1882 Hubdam / Siliwangi
- 05 - 1882 Kantoor van J.R. de Vries en Co. (demolished, now Toko de Vries)
- 06 - 1882 Polwiltabes
- 07 - 1882 Kweekschool voor in onderwijs Bandung
- 08 - 1882 woning directeurder kinakultur
- 09- 1882 woning van den ondercollekteur Bandoeng
- 10 - 1882 Koffypakhuis
- 11 - 1882 Post. en telegraafkantoor
- 12 - 1882 nieuwe gevangenis / woning van den asf: resident / europ: school
- 13 - 1882 Europeesch kerkhof
- 14 - 1882 bandung station (under construction)
- 15 - 1882 woning van den controleur
- 16 - 1895 Sociëteit Concordia (now the Museum Konperensi Asia Afrika)
- 17 - 1882 School coorkinderen van inl
- 18 - 1928 Municipal hospital / pasteur institute
- 19 - 1928 Technical high school
- 20 - 1928 smaller schools (blind institute / school for natives / Missionary)
- 21 - 1928 Quinine factory
- 22 - 1928 Kon wilhelmina ophthalmic hospital
- 23 - 1928 Head office - government railway
- 24 - 1928 Local court / protestant church / government 2nd school
- 25 - 1928 Java bank
- 26 - 1928 Telephone office
- 27 - 1928 Maison bogeryen - Braga Permai
- 28 - 1928 Offices, water power & electricity
- 29 - 1928 War department
- 30 - 1928 Bandung Jaarbeurs
- 31 - 1928 Palace commander - in. chief of the army
- 32 - 1928 Main military guard
- 33 - 1928 Nederlandsch Indische Handelsbank
- 34 - 1928 Warenhuis De Vries
- 35 - 1928 Het Leger des Heils
- 36 - 1928 Raadhuus Gem. Secretarie en Technische Diensten
- 37 - 1928 New Station Bandoeng
- 38 - 1928 Bank BJB Syariah
- 39 - 1928 Bank Pacific
- 40 - 1928 Radio City
- 41 - 1928 Militaire Sociëteit
- 42 - 1928 Gedung Landmark Braga
- 43 - 1928 Gedung Merdeka
- 44 - 1928 Gedung Moh. Toha
- 45 - 1928 Gedung Sate
- 46 - 1928 Katholieke kerk Bandoeng
- 47 - 1928 Oosterkerk
- 48 - 1928 Post-, Telegraaf- en Telefoondienst
- 49 - 1928 Museum Geologi
- 50 - 1928 House of H. ter Poorten
- 51 - 1928 New Majestic
- 52 - 1928 PD Bandung Baru
- 53 - 1928 Perum Listrik Negara - Distribusi Jawa Barat dan Banten
- 54 - 1928 PN Gas
- 55 - 1928 Santa Angela school
- 56 - 1928 SMK Negeri 15 Bandung
- 57 - 1928 SMP Negeri 2 Bandung
- 58 - 1928 SMP Negeri 5 Bandung
- 59 - 1928 Wisma van Deventer (SMK BPP)
- 60 - 1942 Bank BJB
- 61 - 1942 Rumah Potong Hewan (slaughterhouse)
- 62 - 1942 Savoy Homann Bidakara Hotel
- 63 - 1942 SMA, SMP Santo Aloysius
- 64 - 1942 Villa Tiga Warna

Urban Context in numbers

Districts and Sub-districts



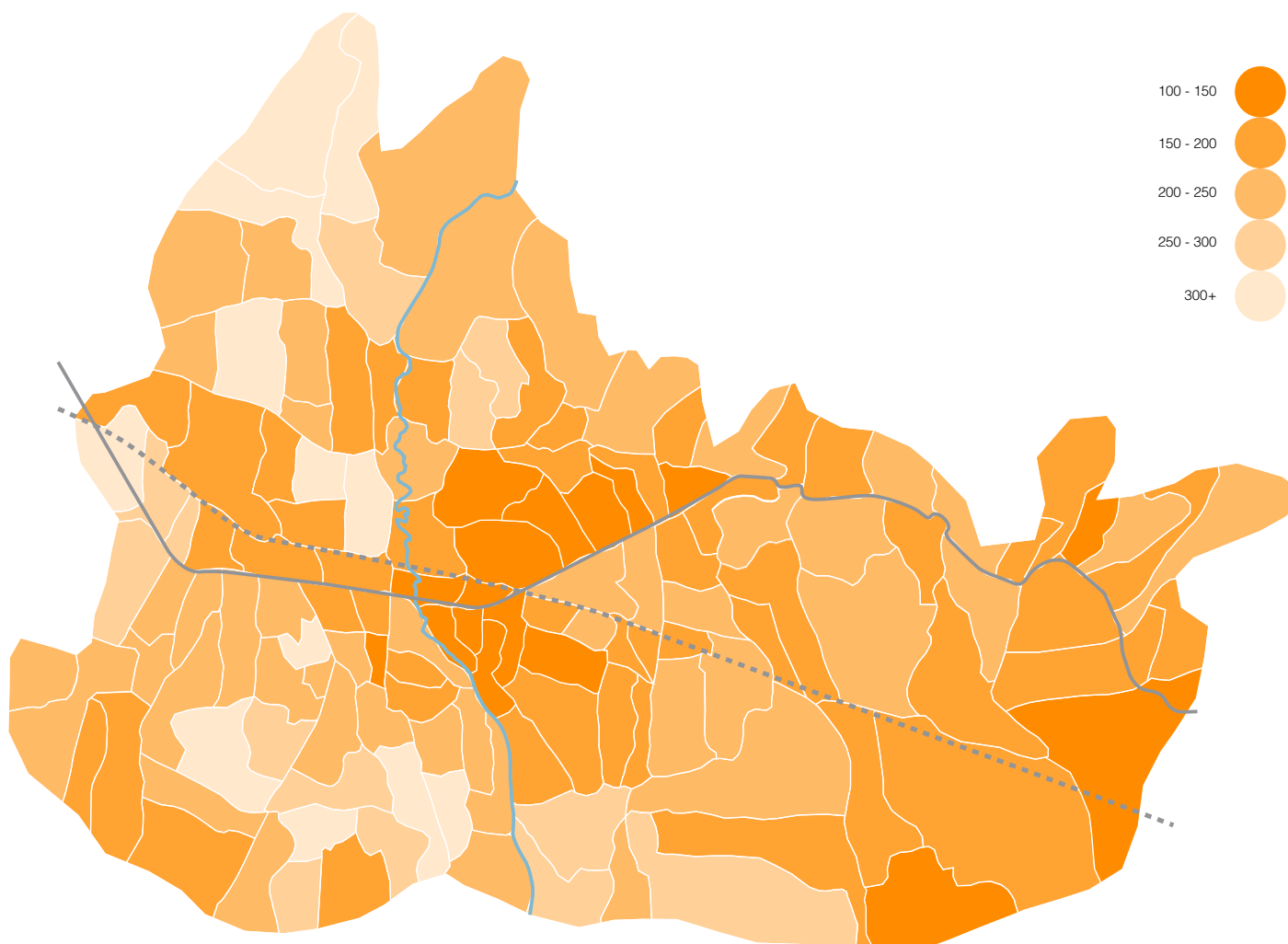
Bandung is divided into 30 district and 139 sub-districts. The Military area is located in district 21 and 24. The Military storage - “KNIL Magazijnen” that we are going to analyse later in details is located in district 21; Sumur Bandung. Sumur Bandung is again divided into 4 sub-districts, Braga, Kebon Pisang, Merdeka and Babakan Ciamis. The storage itself is located in sub-district D; Babakan Ciamis. South from D you can find the Kampung in Braga and Kebon Pisang. C is mostly used for Military purposes whilst B is a combination of commercial activities and Kampung (informal settlements).



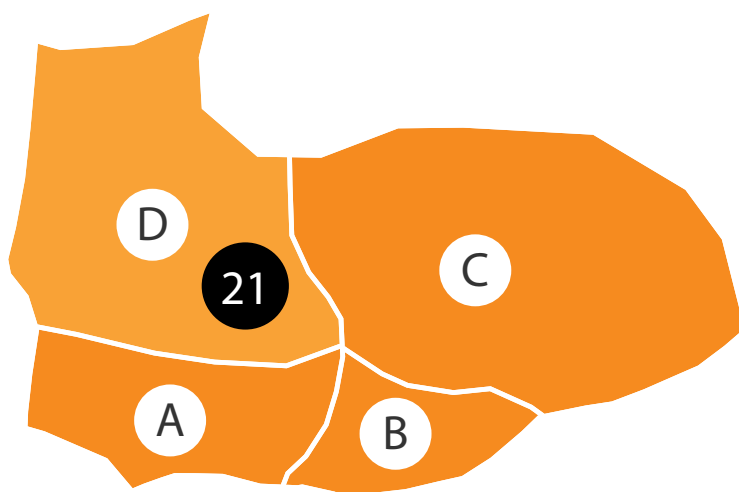
| | | | | | |
|---|------------------------|----|---------------------|----|-------------------------|
| 1 | BANDUNG KULON | 9 | BUAH BATU | 21 | SUMUR BANDUNG |
| A | Gempolsari | A | Cijawura | A | Braga |
| B | Cigondewah Kaler | B | Margasari | B | Kebon Pisang |
| C | Cigondewah Kidul | C | Sekejati | C | Merdeka |
| D | Cigondewah Rahayu | | | D | Babakan Ciamis |
| E | Caringin | 10 | RANCASARI | 22 | ANDIR |
| F | Warungmuncang | A | Derwati | A | Campaka |
| G | Cibuntu | B | Cipamokolan | B | Maleber |
| H | Cijerah | | | C | Garuda |
| | | 11 | GEDEBAGE | D | Dunguscariang |
| 2 | BABAKAN CIPARAY | A | Cisaranten Kidul | E | Ciroyom |
| A | Maraguska | B | Cimincrang | F | Kebon Jeruk |
| B | Cirangrang | | | 23 | CICENDO |
| C | Margahayu Utara | 12 | CIBIRU | A | Sukaraja |
| D | Babakan Ciparay | A | Pasirbiru | B | Husein Sastranegara |
| E | Babakan | B | Cipadung | C | Pajajaran |
| F | Sukahaji | C | Palasari | D | Pamoyanan |
| | | D | Cisurupan | E | Arjuna |
| 3 | BOJONGLOA KALER | | | F | Pasirkaliki |
| A | Kopo | 13 | PANYILEUKAN | 24 | BANDUNG WETAN |
| B | Suka Asih | A | Cipadung Kidul | A | Tamansari |
| C | Babakan Asih | B | Cipadung Wetan | B | Citarum |
| D | Babakan Tarogong | | | C | Cihapit |
| E | Jamika | 14 | UJUNGBERUNG | 25 | CIBEUNYING KIDUL |
| | | A | Pasangrahan | A | Sukamaju |
| 4 | BOJONGLOA KIDUL | B | Pasirjati | B | Cicadas |
| A | Cibaduyut Kidul | C | Pasirwangi | C | Cikutra |
| B | Cibaduyut Wetan | D | Cigending | D | Padasuka |
| C | Mekarwangi | E | Pasirendah | E | Pasirlayung |
| D | Cibaduyut | | | F | Sukapada |
| E | Kebonlega | 15 | CINAMBO | | |
| F | Situsaeur | A | Cisaranten Wetan | 26 | CIBEUNYING KALER |
| | | B | Pakemitan | A | Cihaurgeulis |
| 5 | ASTANAANYAR | | | B | Sukaluyu |
| A | Karasak | 16 | ARCAMANIK | C | Neglasari |
| B | Pelindung Hewan | A | Cisaranten Kulon | D | Cigadung |
| C | Nyengeret | B | Cisaranten Bina | | |
| D | Panjunan | C | Sukamiskin | 27 | COBLONG |
| E | Cibadak | | | A | Cipaganti |
| F | Karang Anyar | 17 | ANTAPANI | B | Lebak Siliwangi |
| | | A | Antapani Kidul | C | Lebak Gede |
| 6 | REGOL | B | Antapani Tengah | D | Sadang Serang |
| A | Ciseureuh | C | Antapani Kulon | E | Sekeloa |
| B | Pasirluyu | | | F | Dago |
| C | Ancol | 18 | MANDALAJATI | | |
| D | Cigereleng | A | Jatihandap | 28 | SUKAJADI |
| E | Ciateul | B | Karang pamulang | A | Sukawarna |
| F | Pungkur | C | Sindang Jaya | B | Sukagalih |
| G | Balonggede | | | C | Sukabungah |
| | | 19 | KIARACONDONG | D | Cipedes |
| 7 | LENGKONG | A | Kebon Kangkung | E | Pasteur |
| A | Cijagra | B | Sukapura | | |
| B | Turangga | C | Kebon Jayanti | 29 | SUKASARI |
| C | Lingkar Selatan | D | Babakan Sari | A | Sarijadi |
| D | Malabar | E | Babakan Surabaya | B | Sukarasa |
| E | Burangrang | F | Cicaheum | C | Gegerkalong |
| F | Cikawao | | | D | Isola |
| G | Paledang | 20 | BATUNUNGGAL | | |
| | | A | Gumuruh | 30 | CIDADAP |
| 8 | BANDUNG KIDUL | B | Binong | A | Hegarmanah |
| A | Wates | C | Kebongedang | B | Ciumbuleuit |
| B | Mengger | D | Maleer | C | Ledeng |
| C | Batununggal | E | Cibangkong | | |
| D | Kujangsari | F | Samoja | | |
| | | G | Kacapiring | | |
| | | H | Kebonwaru | | |

Urban Context in numbers

Average nr of inhabitants pr RT

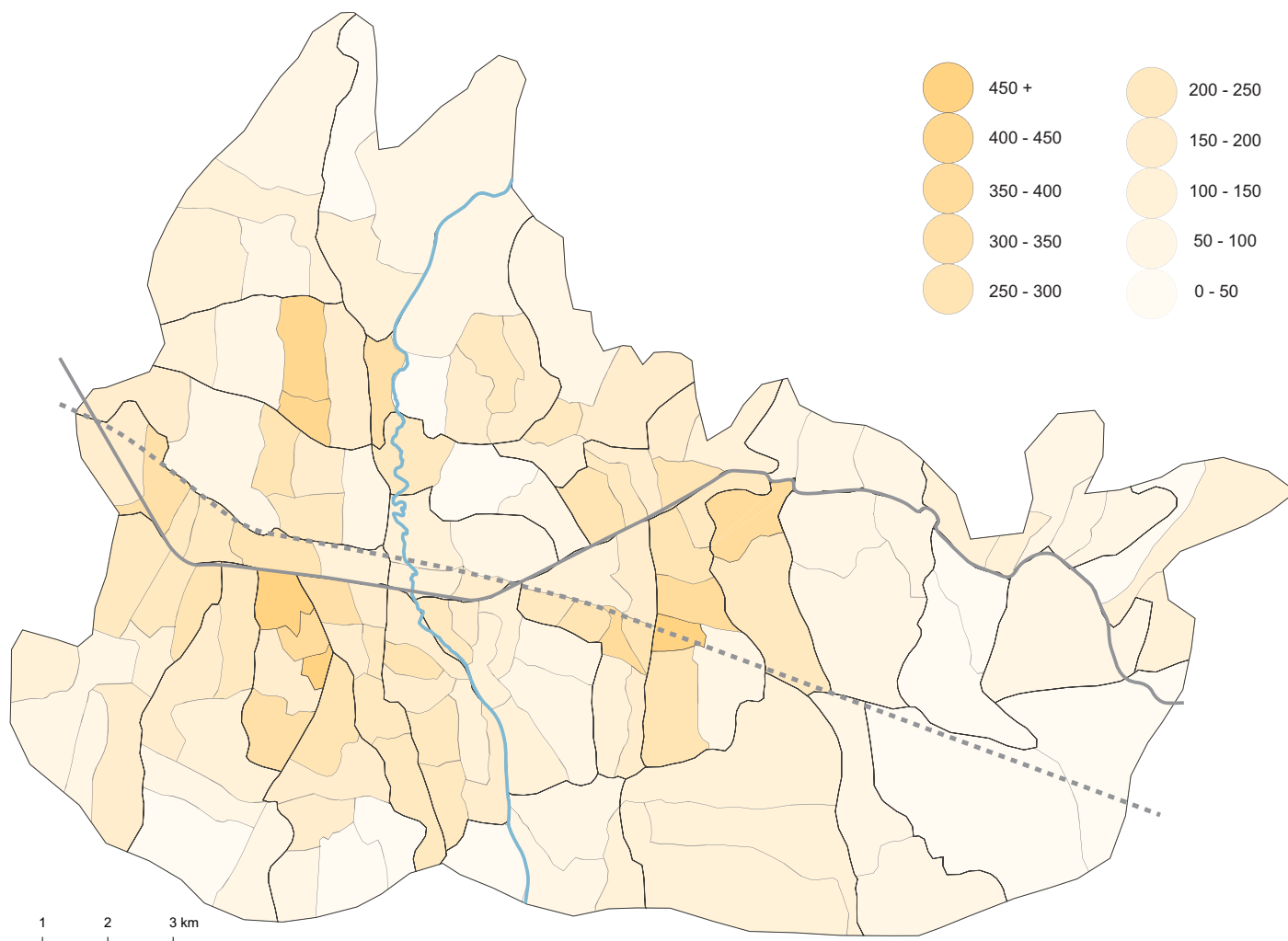


In a city scale, our site is in a generally less inhabited area than other districts in Bandung when it comes to average nr of inhabitants pr RT. If we zoom in to district 21 where our site is located we can see that the “KNIL Magazijnen” has more inhabitants per RT than A, B, and C. Based on our observations from our field trip to Bandung, we believe that the number of inhabitants per RT does not necessary represent the number of inhabitants per sub-district since the sub-district A where Kampung Pisang is located is much more densely populated than the area around “KNIL Magazijnen”.

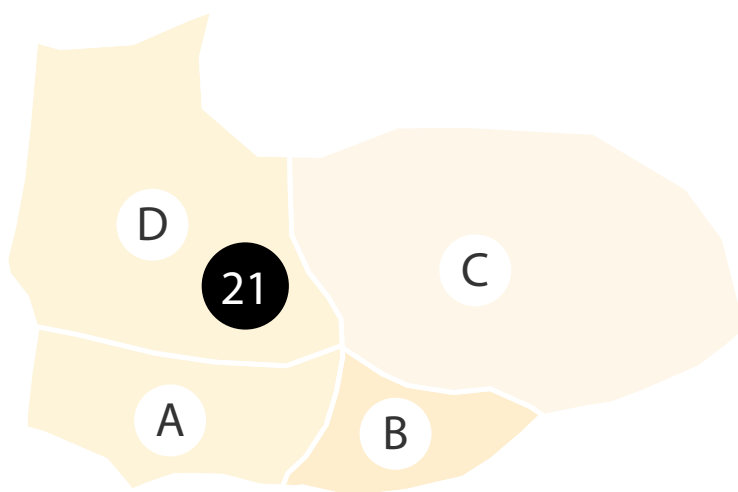


Urban Context in numbers

Average population density per subdistrict

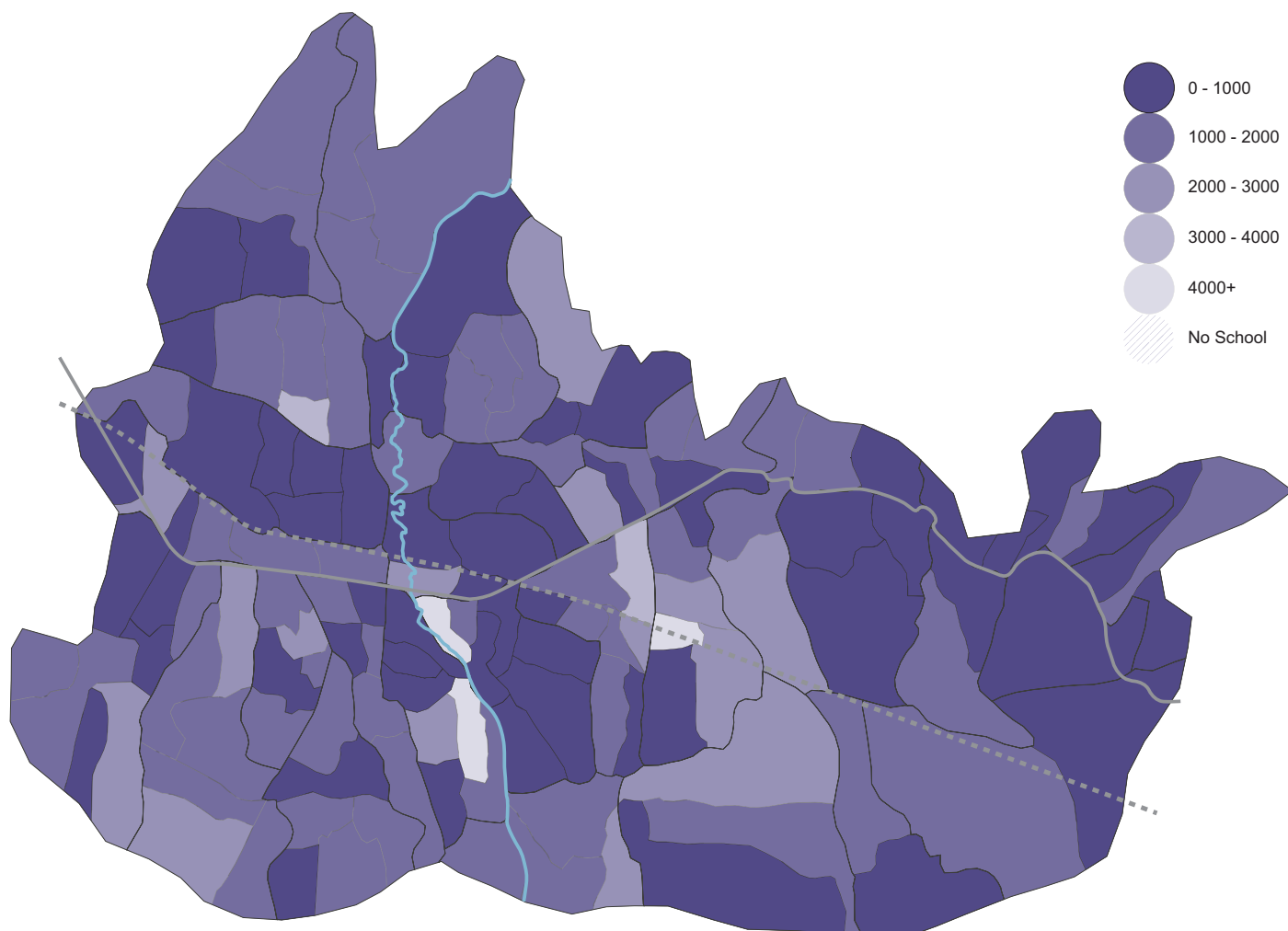


High numbers of average population density per subdistrict south from Ciroyom, Tamansari area along the Chikapondong river, around ITB as well as some areas along the railway in the central and eastern part of the city are clearly demonstrated on the map. When it comes to our area, however, we believe that the numbers derived from the statistical database do not much the real situation. Subdistrict A & B is way more densified than C & D.

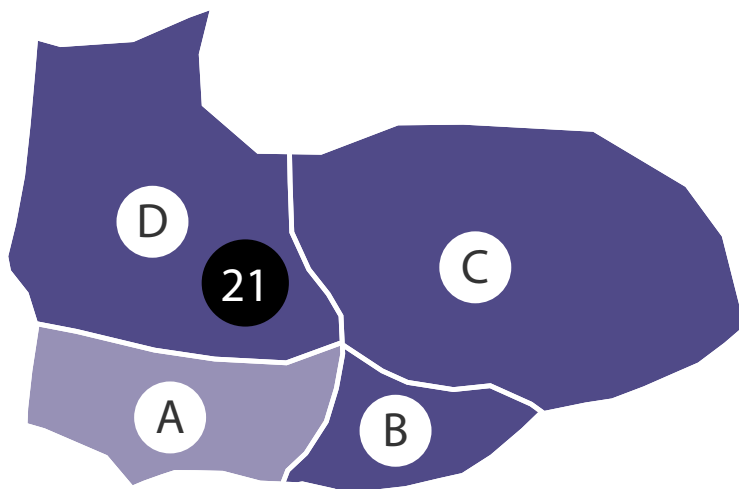


Urban Context in numbers

Amount of inhabitants per school per subdistrict

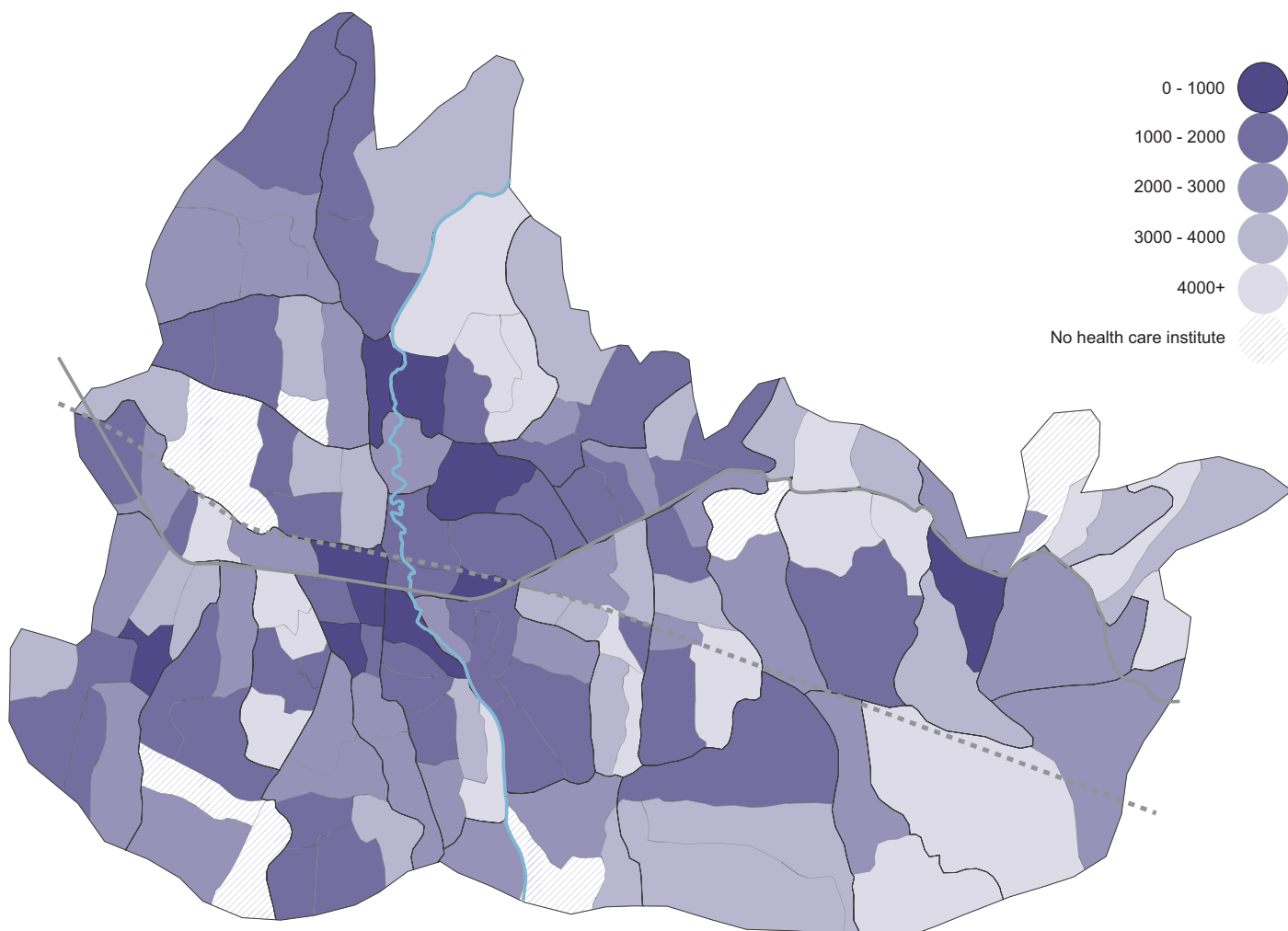


The general feeling we got from the number of inhabitants per school per subdistrict is that north from the railway there are more schools per inhabitant compared to the more informal areas south from the railway. This is also visible for our own site where A (and also B according to our own analysis) had fewer schools per inhabitant.

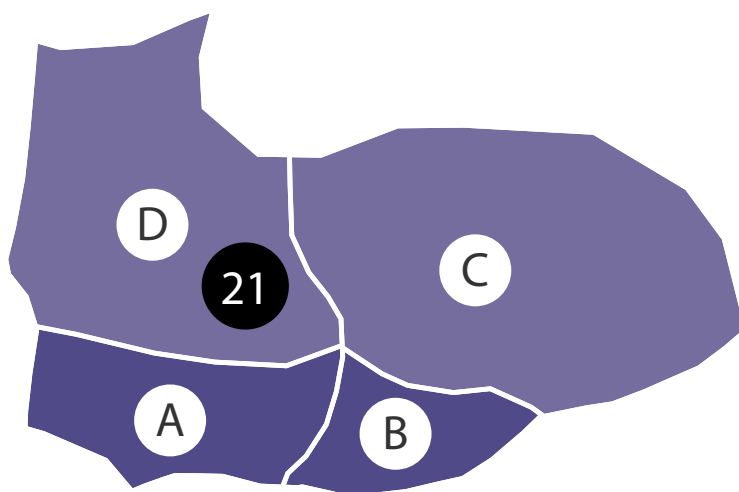


Urban Context in numbers

Amount of inhabitants per healthcare per subdistrict

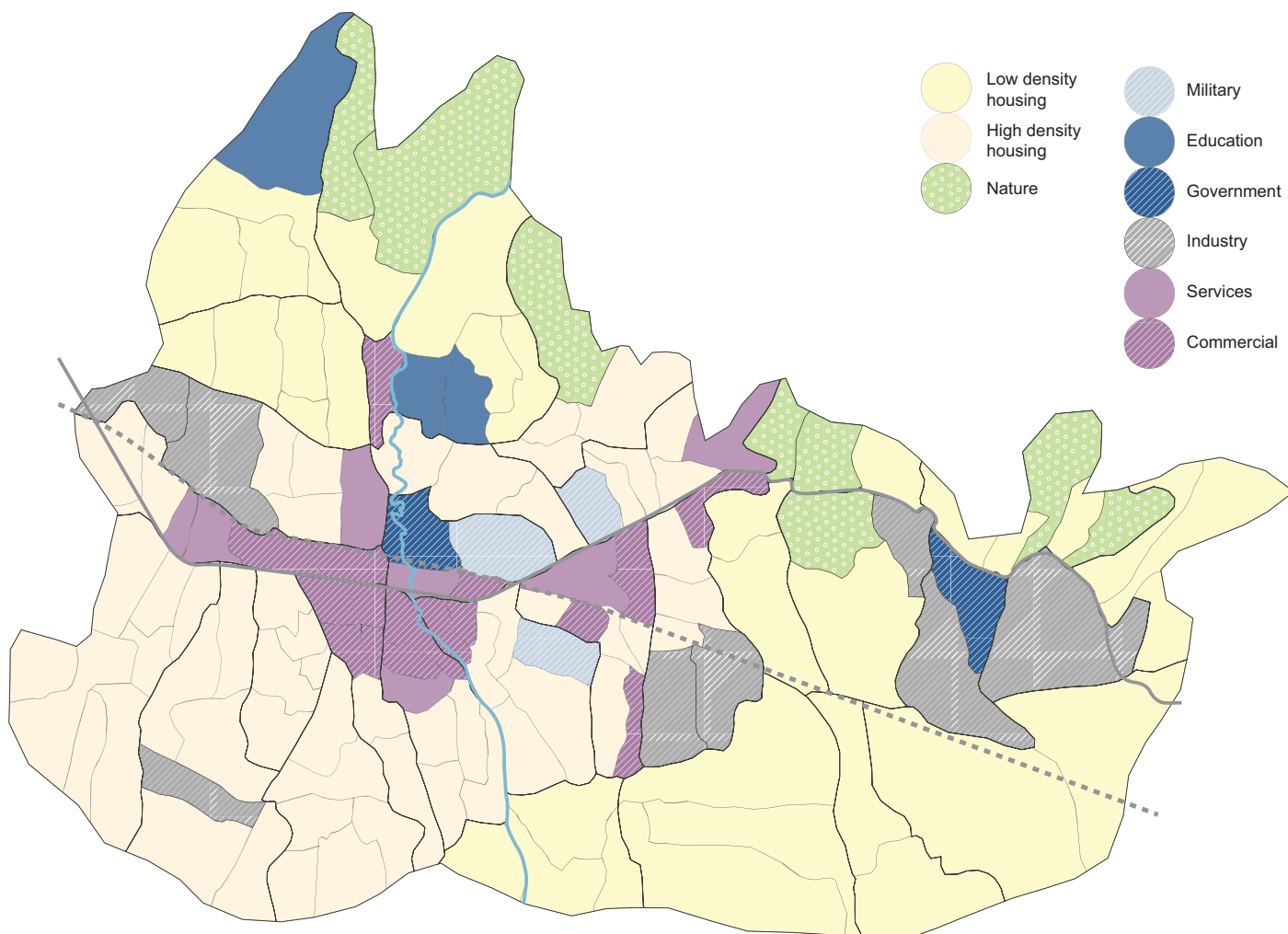


The amount of inhabitants per healthcare per subdistrict is valuable to analysis as it gives us an overview of where in the city the inhabitants have healthcare compare to the number of people living there. The city scale shows that these numbers can vary from district to district. When we zoom into our site the number of inhabitants per healthcare is different in the military area C & D compare to the kampung areas A & B. This means that fewer people have access to healthcare in the Kampung, low income communities.

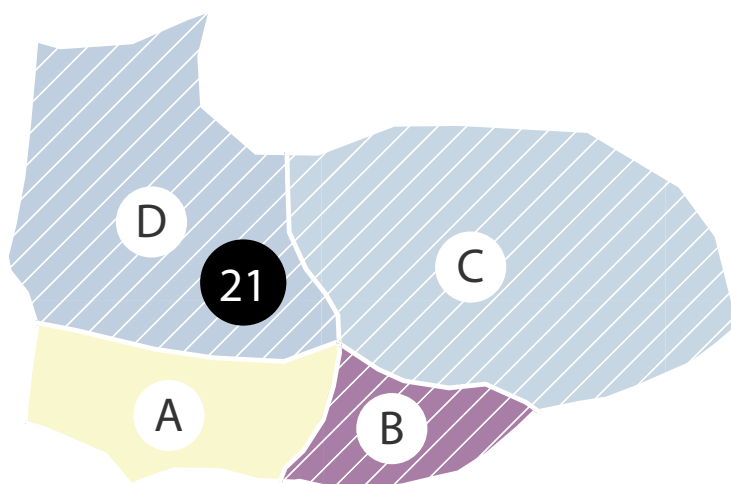


Urban Context in numbers

Main landuse per subdistrict

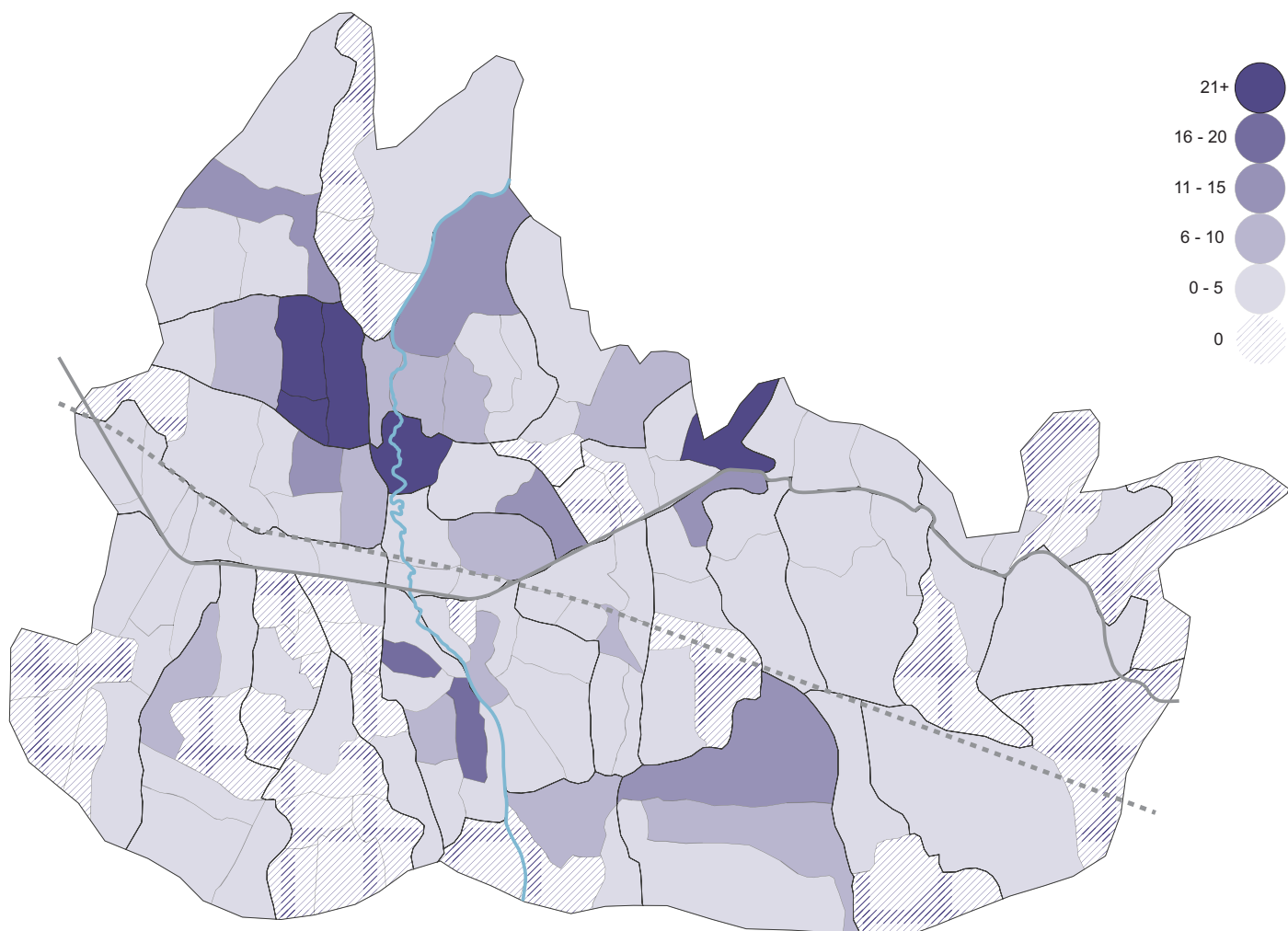


The general feeling you got from the context of the main land-use per subdistrict in Bandung is that the main services and commercial uses are happening along the railway. If we zoom in to our site we know that D & C is mostly used for military purposes with some governmental and commercial programs. A is mostly low-density kampung houses while B is a combination of commercial and low-density housing. Further analysis in terms of the land use along the railway backbone will follow.

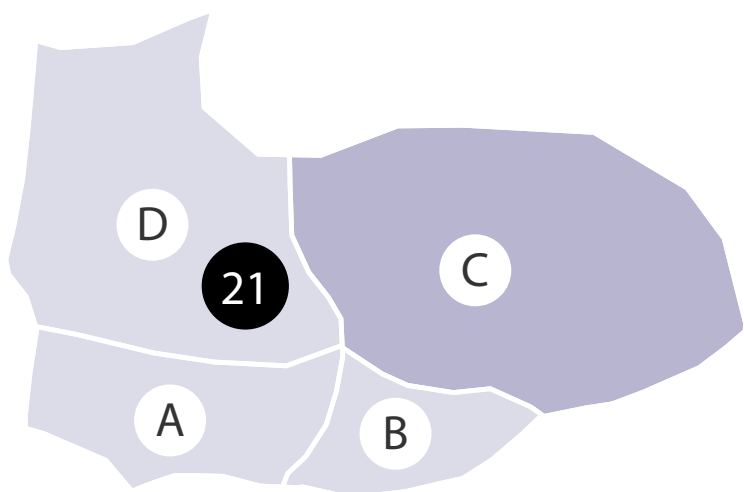


Urban Context in numbers

High educational institutes per subdistrict

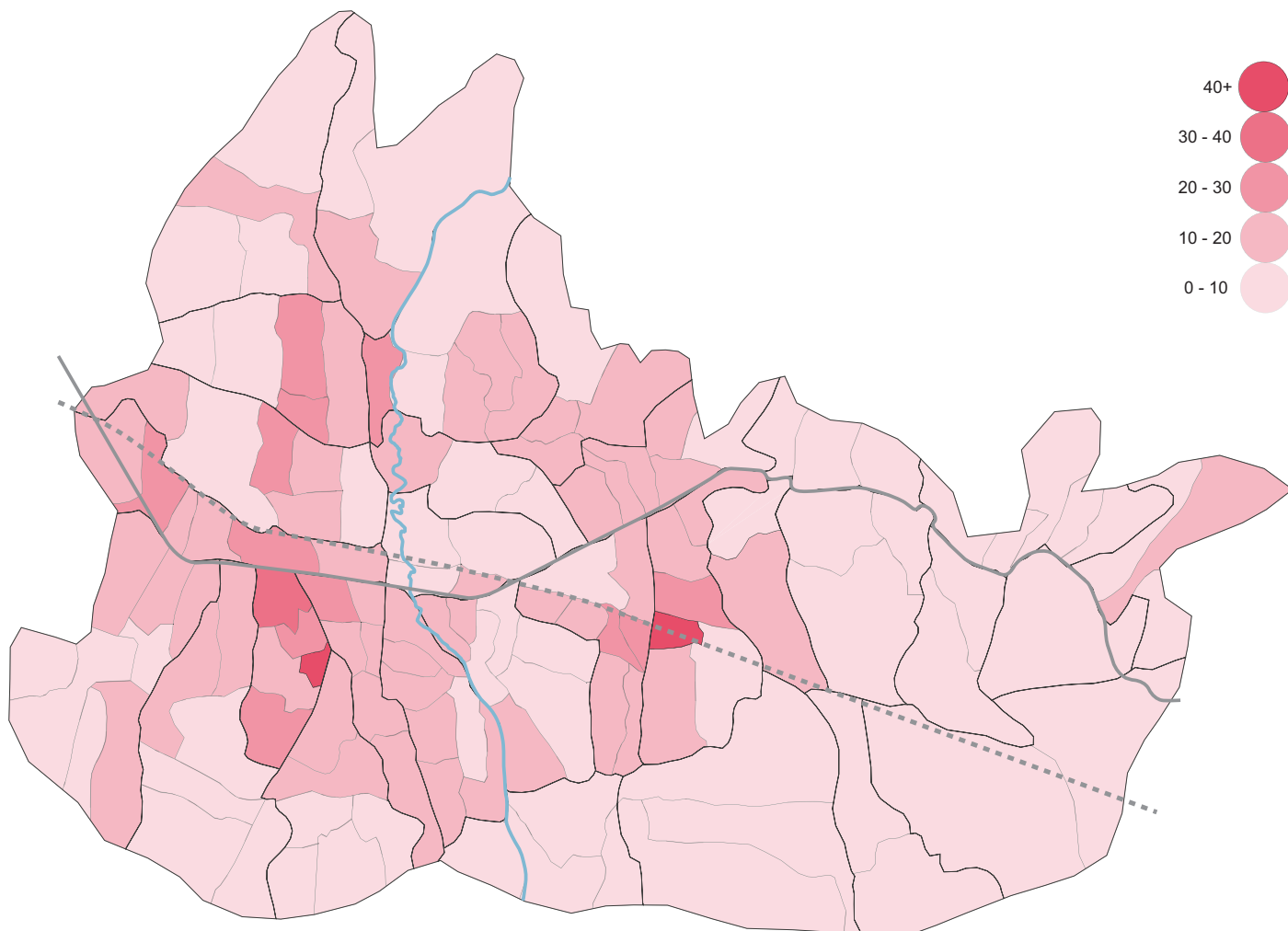


There are in general a lot of higher educational institutes in Bandung. ITB is seen as one of the most famous ones, in Indonesia, when it comes to technology. It is also around this area where you can find most higher educational institutes in Bandung. At district 21 there are not that many higher educational institutes besides the ones that the military is offering and the ones that serve the military families.

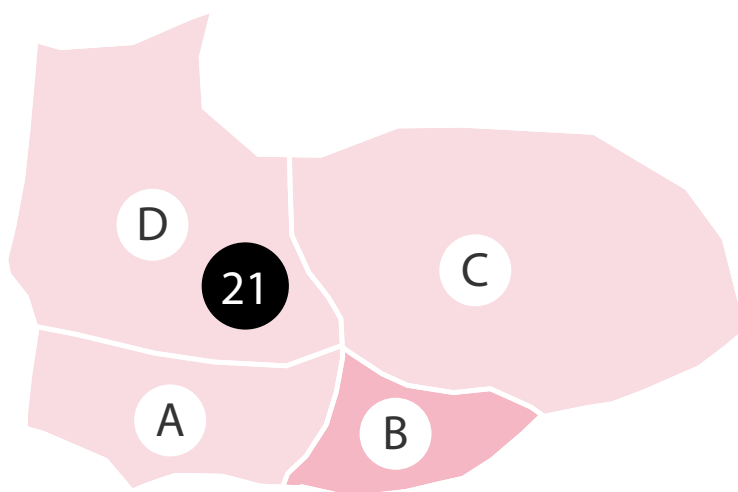


Urban Context in numbers

GRDP per subdistrict

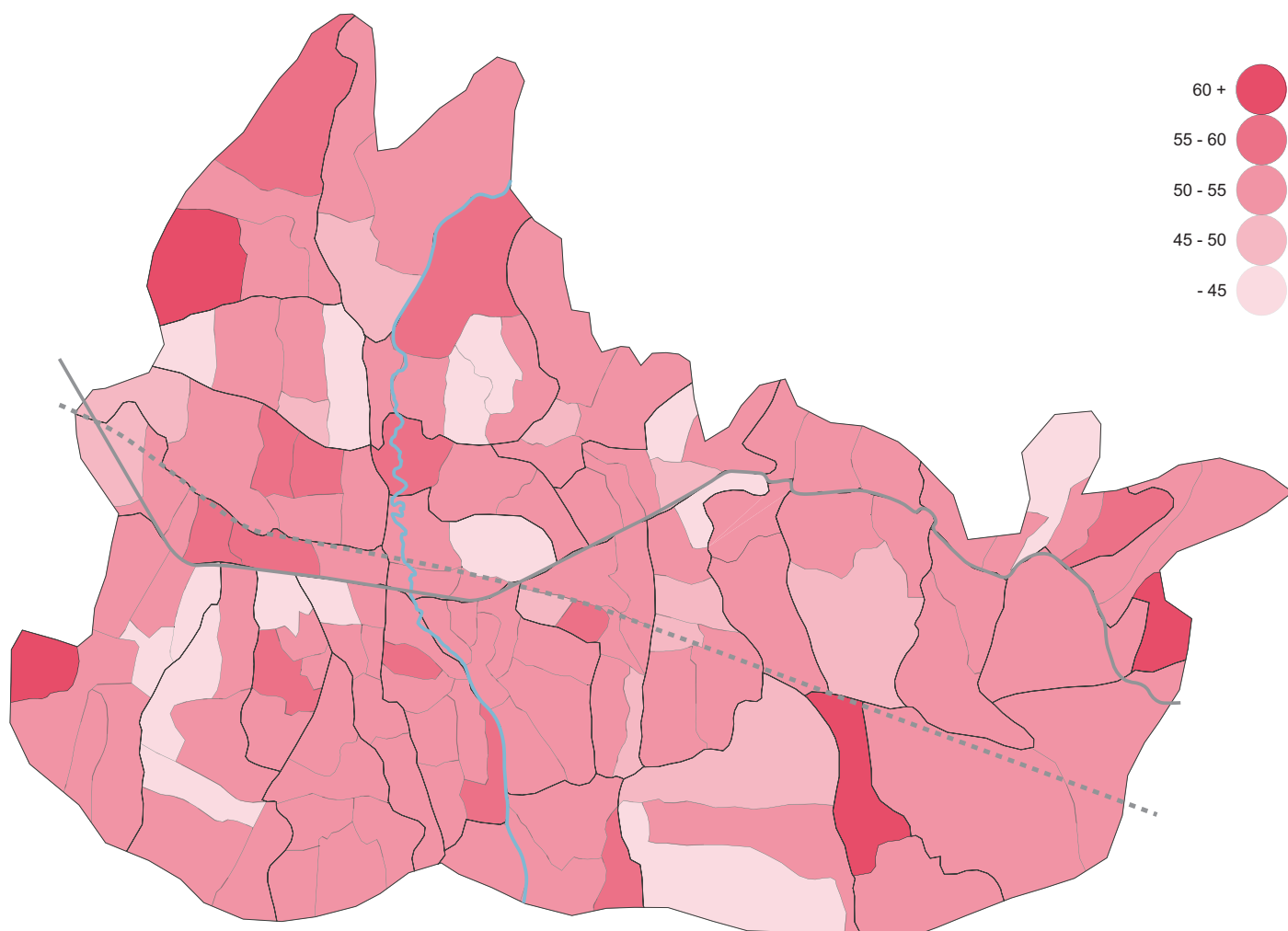


Gross regional domestic product (GRDP) is a statistic that measures the size of a regional economy. The general overview of the map is telling us that the military area does not have a high contribution to the economy. When we zoom in to our site we can see that B; where there is a combination of housing and commercial activity there is a higher GRDP in the surrounding area.

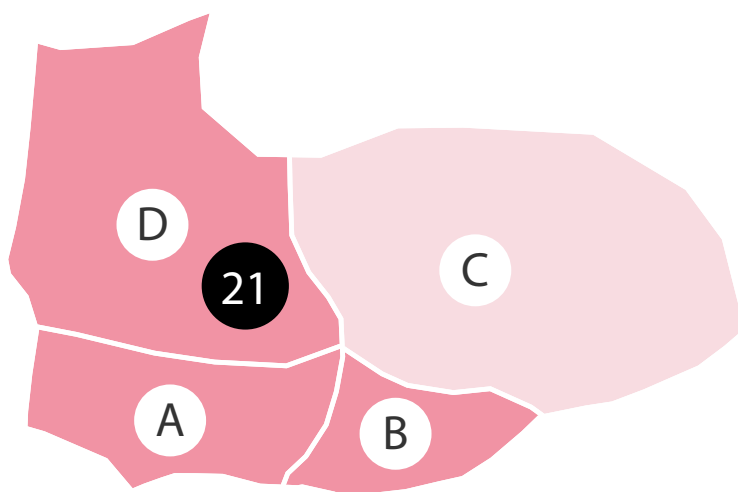


Urban Context in numbers

Employment in % per subdistrict



In general, it looks like the city has on average 50% employment rate per subdistrict. The lowest area is the area south of Ciroyom where the average is less than 45% while a few places have over 60%, and are mostly located on the edges of the city of Bandung. Our site is just above the average with employment rate around 50-55%, besides subdistrict C with an employment rate under 50%,



Conclusion

This part of the analysis was a joint effort with the rest of Bandung Shared Heritage Lab which is comprised of students from Architectural Engineering, Landscape architecture and Urbanism along with Heritage and Architecture. It constitutes our first attempt to grasp what the city is about and how it developed throughout history to what it is today. Due to the fact that this part of the research was executed before our field trip to Bandung, without our observations on site, it was based on statistical analyses that we found and then reflect back to based on our observations. It was an important part of research because along with the timeline that preceded, we were able to understand the structure of the city and its public space, how the core of the colonial city functions today and what are the main social inequalities and how they are distributed on the cityscape.

BACKBONE SCALE | RAILWAY

CONTENTS

BACKBONE SCALE | RAILWAY

| | |
|--------------------------------------|-----------|
| RAILWAY STATIONS | 68 |
| RAILWAY BACKBONE - LAND USE OVERVIEW | 70 |
| INDIVIDUAL ZONES - LAND USE | 72 |

Stations-emplacement, Bandoeng.



Early drawing of Bandung when the railway came in 1884
© <https://i.pinimg.com/736x/82/fb/af/82fbaf7c74aebda002a44f59c456eccf--east-indies-very-busy.jpg>

BACKBONE SCALE | RAILWAY

Railway stations

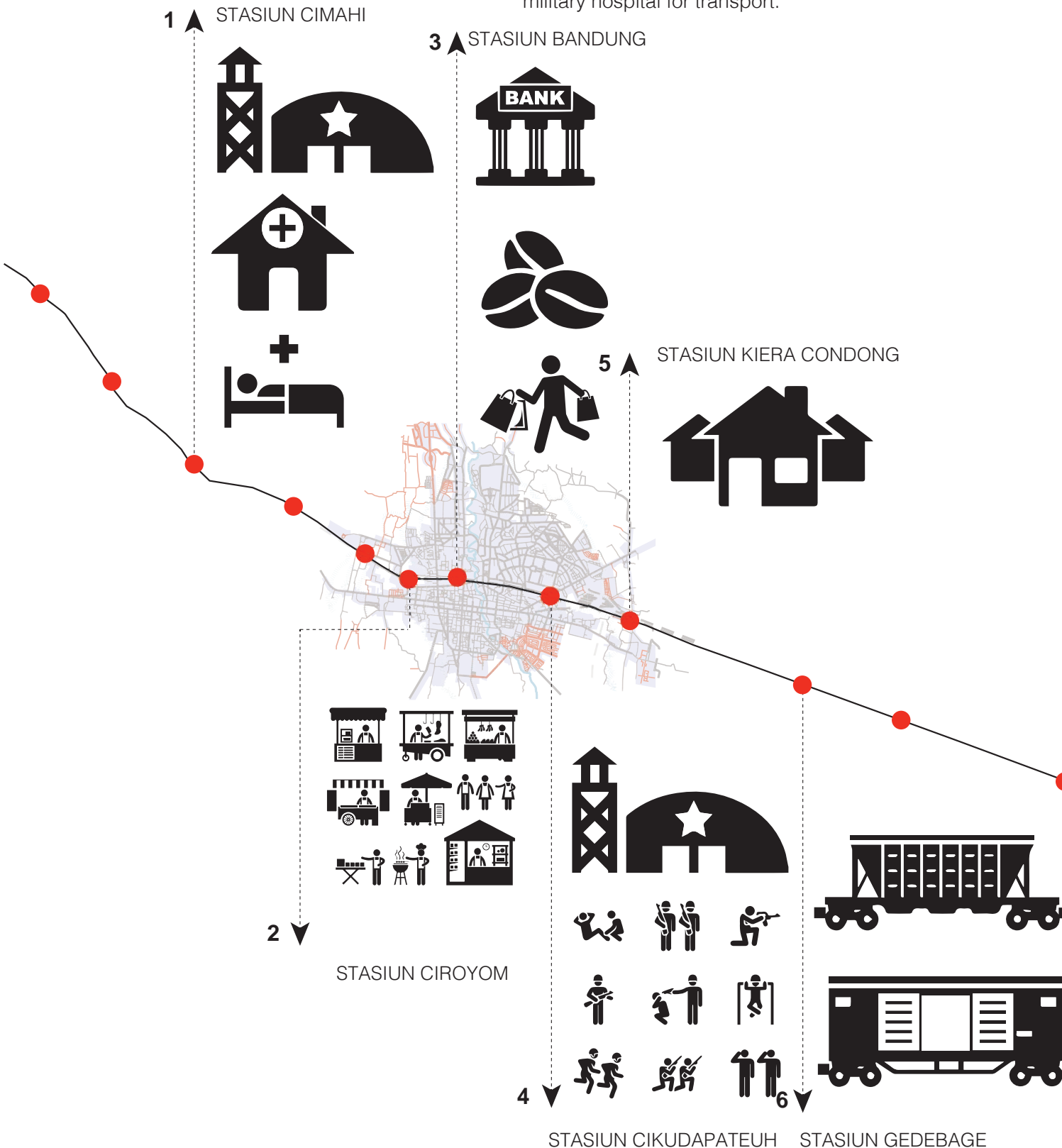
What type of program came out of the different stations?

The railway had a strong impact on the industry and economy of Bandung. This short diagram is showing what type of industries developed along the different railway stations as well as connection between the military and the railway system of the City to give the broader historical context of the "KNIL Magazijnen".

1 Stasiun Cimahi



Stasiun Cimahi (Tjimahi) was built in 1884 to serve the military hospital for transport.



2 Stasiun Ciroyom



Out of Stasiun Ciroyom came the local market where they sell everything from fruits, vegetables and meat to clothes etc.

4 Stasiun Cikudapateuh



Stasiun Cikudapateuh became a military station where goods were stored for the military came before it was distributed out of the city.



7 STASIUN
CICALENGKA

3 Stasiun Bandung



The Central Station became the area of expensive shopping, banks, and plantation market. Most famous areas was Braga street.

5 Stasiun Kiaracondong



A military production institute was constructed in this area. Many military families and workers settled down for living too.

6 Stasiun Gedebage



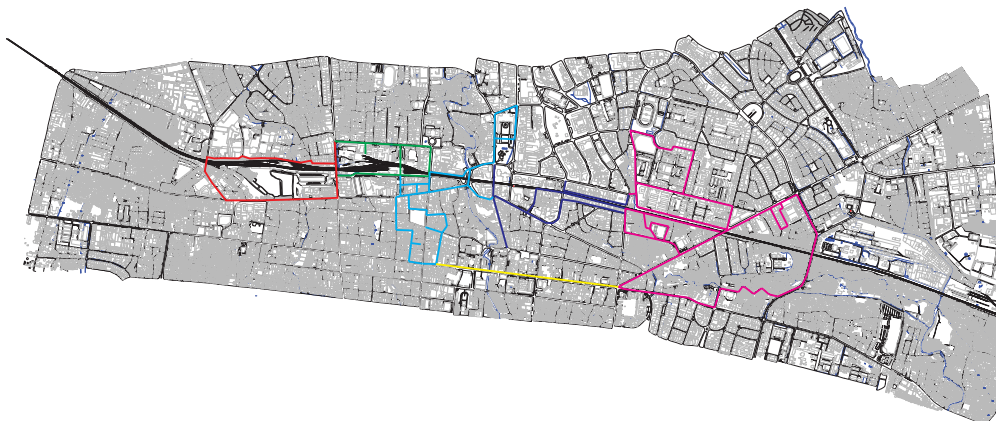
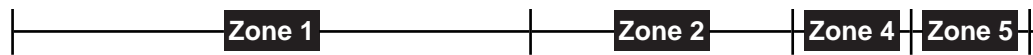
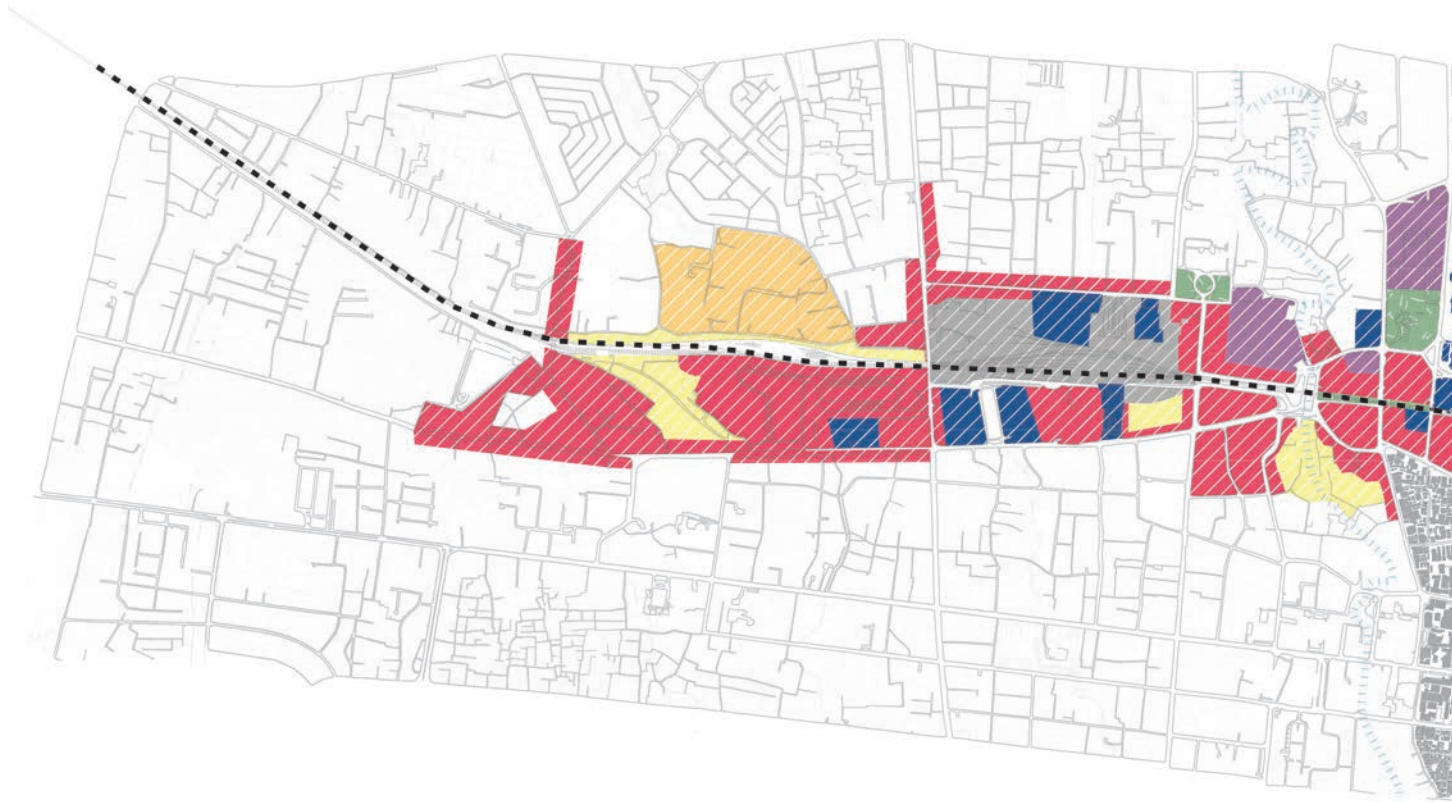
Station Gedebage was created to serve a container industry in the area for storage and packing. It was a midpoint from the plantations to Bandung's city center.

7 Stasiun Cicalengka

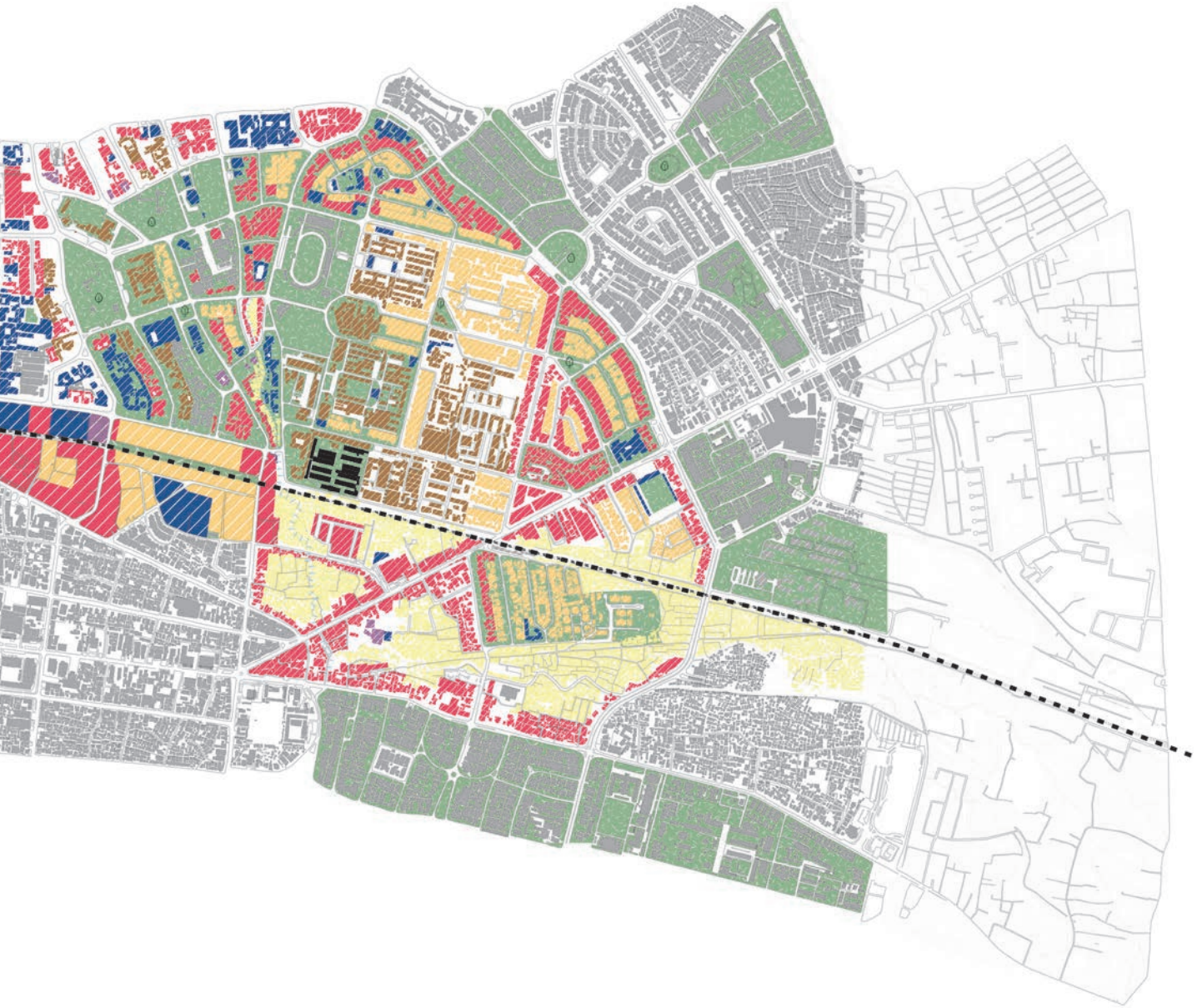


Station Cicalengka was built to transport goods from the plantations to Bandung and Jakarta.










Railway Backbone - Land Use Overview



Different Zones according to Walking/Exploring Schedule during the field trip in Bandung. Distance covered in a week.

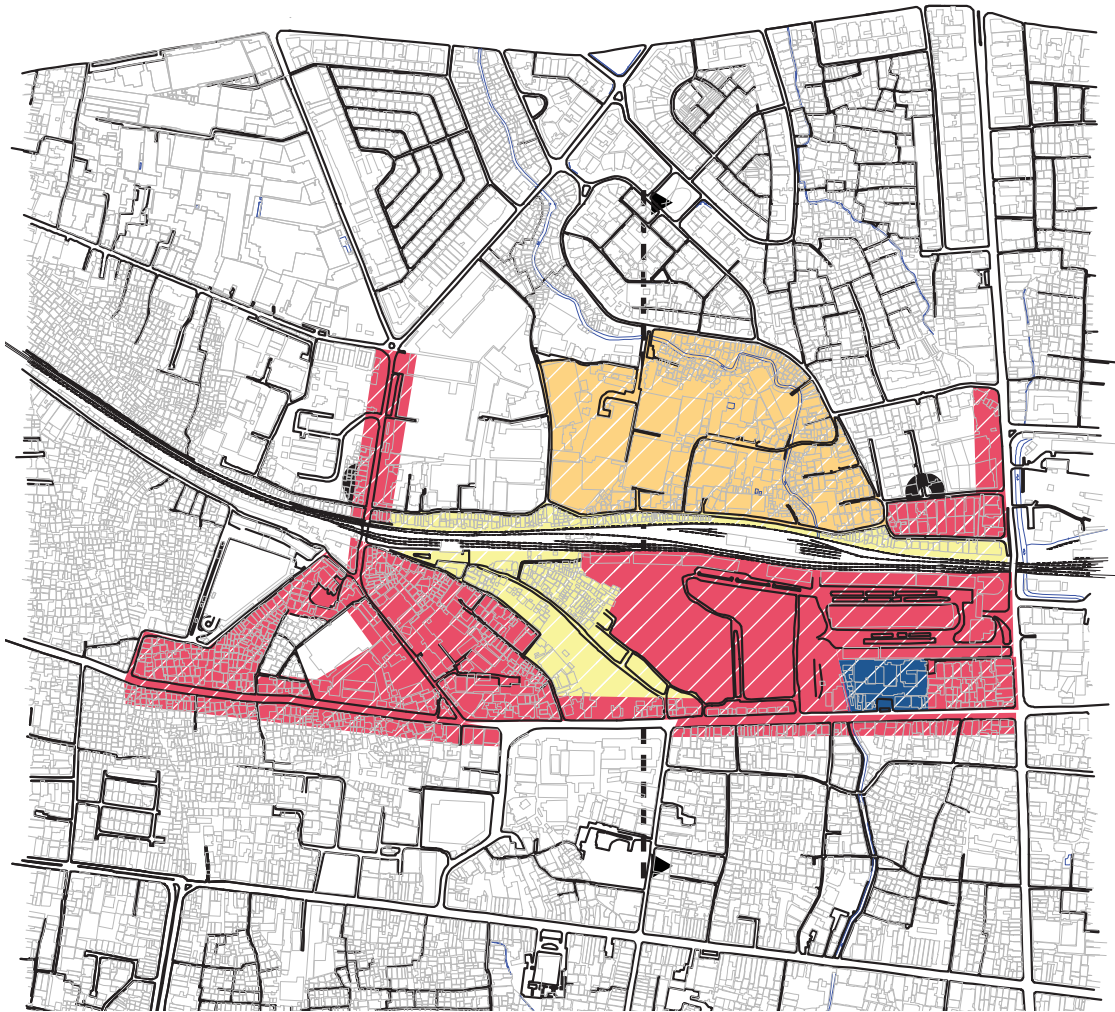


Zone 6 | Zone 7 | Zone 8 | Zone 9

-  Green Areas
-  Commercial Areas
-  Services (Schools, Hospitals etc.)
-  Governmental Buildings
-  Residential Areas
-  Kampung
-  PT Kereta Api Assets
-  Offices or Unidentified
-  Military Areas
-  Chosen Site

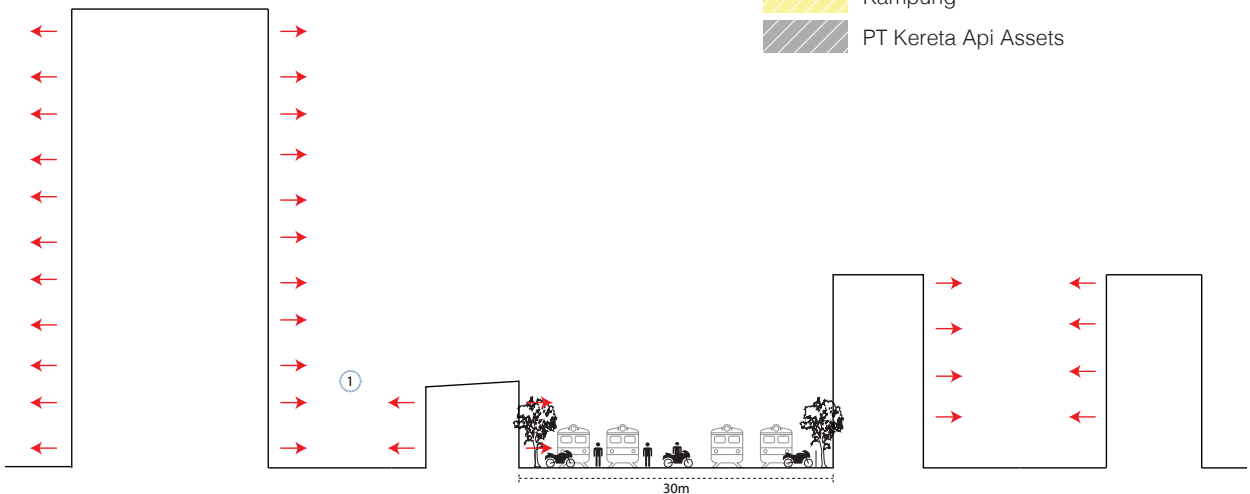
Individual Zones

Zone 1 - Land use



Map

-  Green Areas
-  Commercial Areas
-  Services (Schools, Hospitals etc.)
-  Governmental Buildings
-  Residential Areas
-  Kampung
-  PT Kereta Api Assets



Section | Connections | Orientation










Collection of Photographs

Individual Zones

Zone 2 - Land use



Map

-  Green Areas
-  Commercial Areas
-  Services (Schools, Hospitals etc.)
-  Governmental Buildings
-  Residential Areas
-  Kampung
-  PT Kereta Api Assets



Collection of Photographs



Collection of Photographs



Collection of Photographs

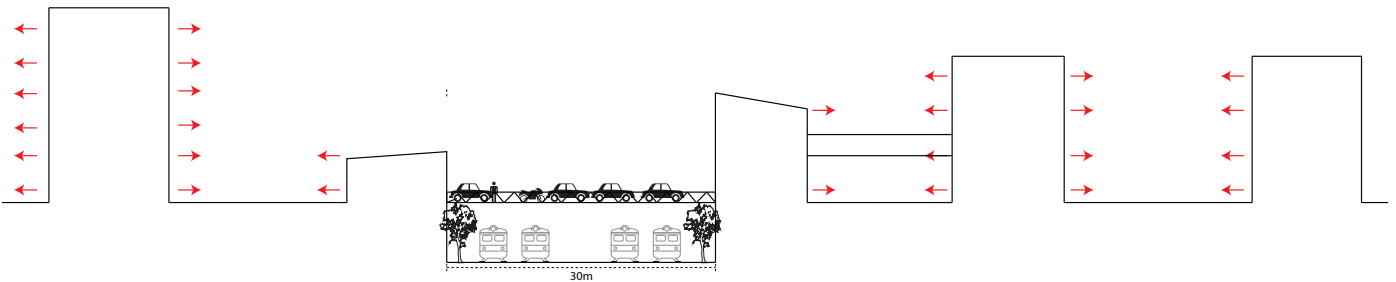
Individual Zones

Zone 3 - Land use



Map

-  Green Areas
-  Commercial Areas
-  Services (Schools, Hospitals etc.)
-  Governmental Buildings
-  Residential Areas
-  Kampung
-  PT Kereta Api Assets



Section | Connections | Orientation



Collection of Photographs



Collection of Photographs



Collection of Photographs

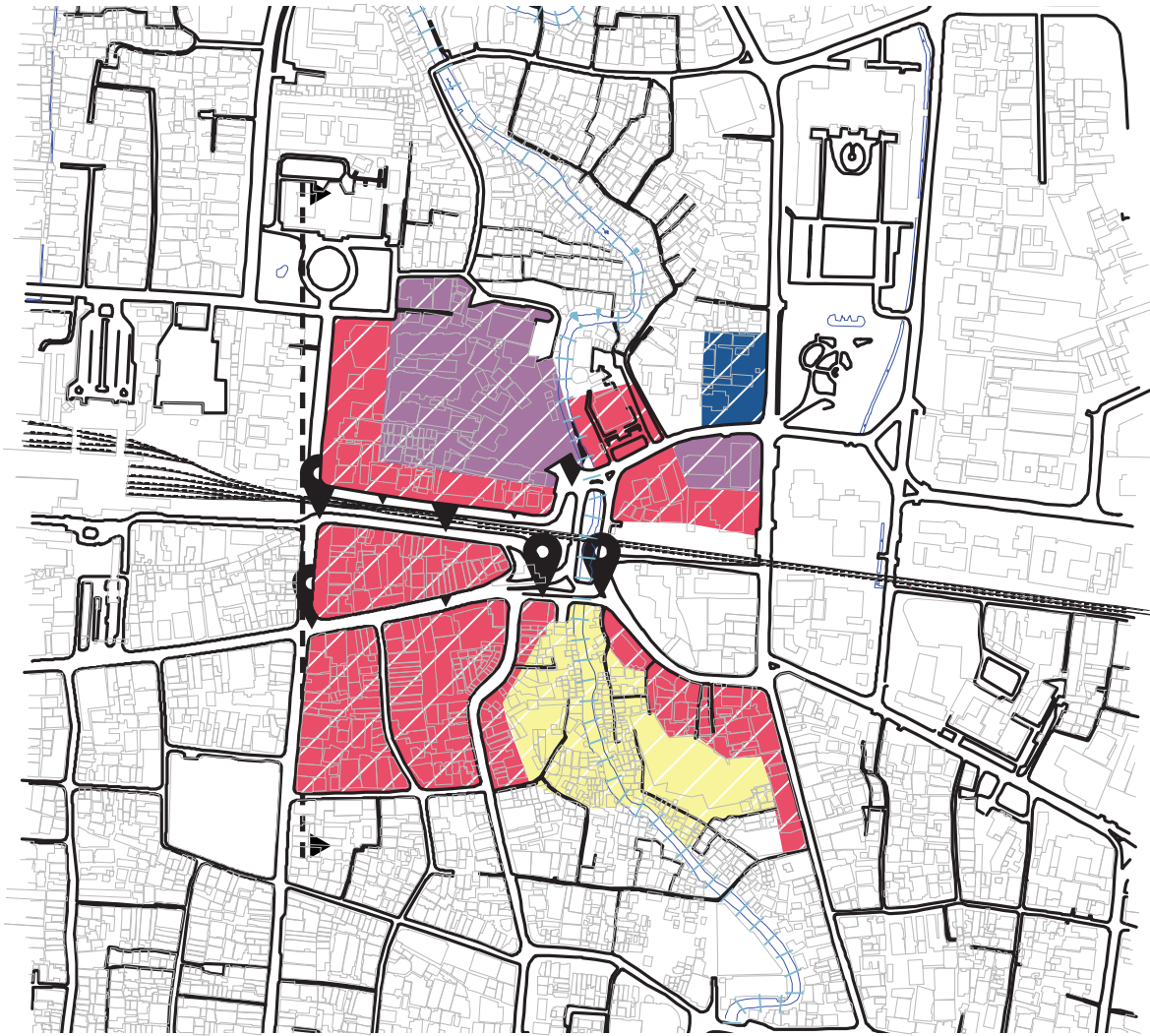


Images from © <https://www.google.nl/maps/>

Collection of Photographs

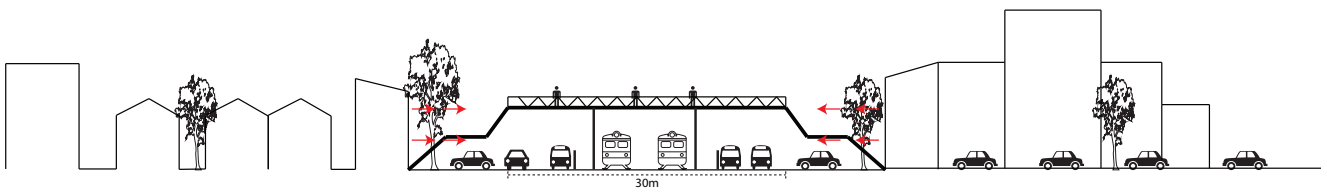
Individual Zones

Zone 4 - Land use



Map

-  Green Areas
-  Commercial Areas
-  Services (Schools, Hospitals etc.)
-  Governmental Buildings
-  Residential Areas
-  Kampung
-  PT Kereta Api Assets



Section | Connections | Orientation



Collection of Photographs



Collection of Photographs

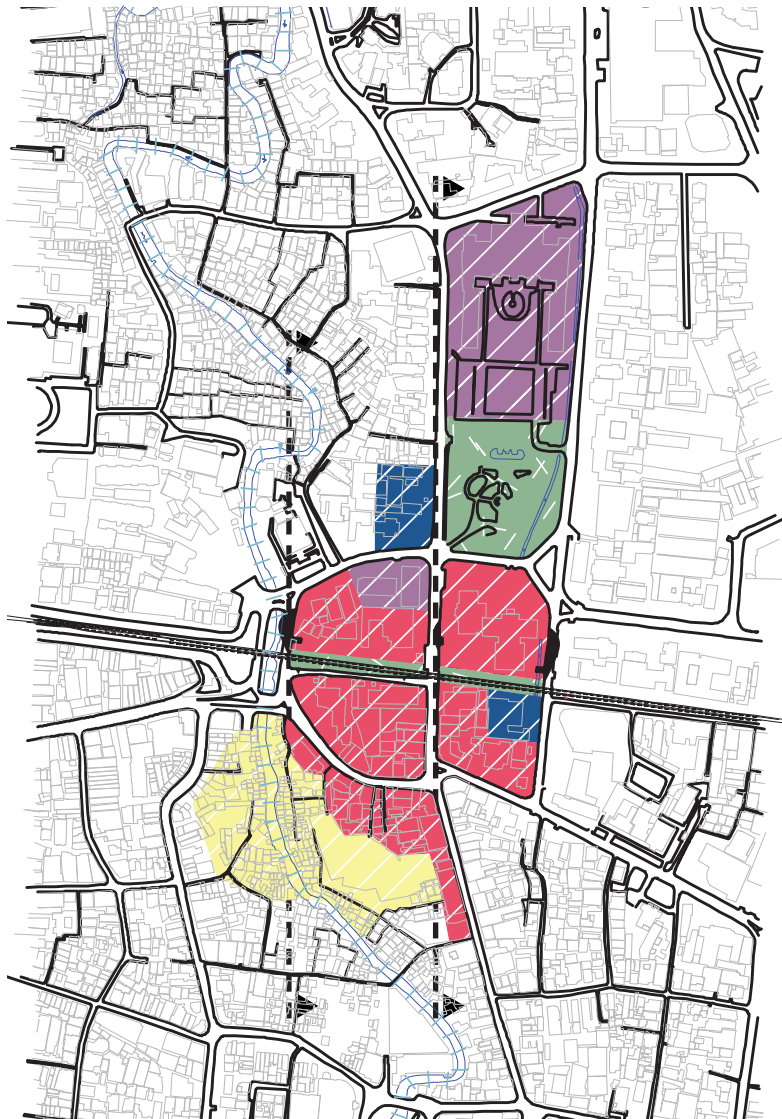




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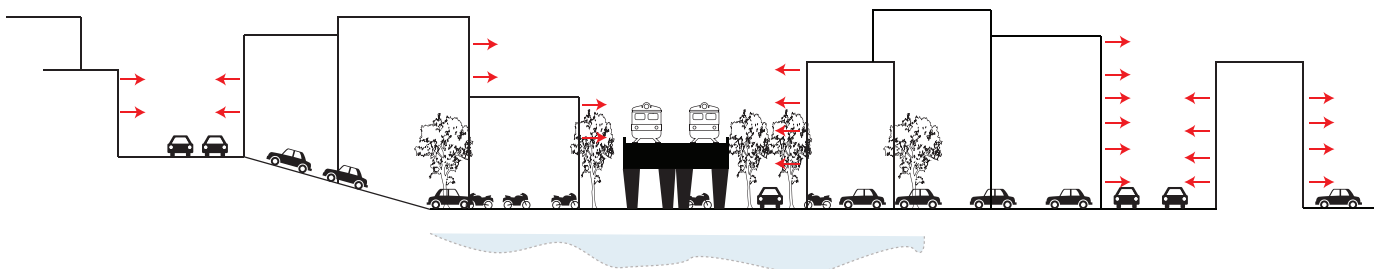
Individual Zones

Zone 5 - Land use



Map

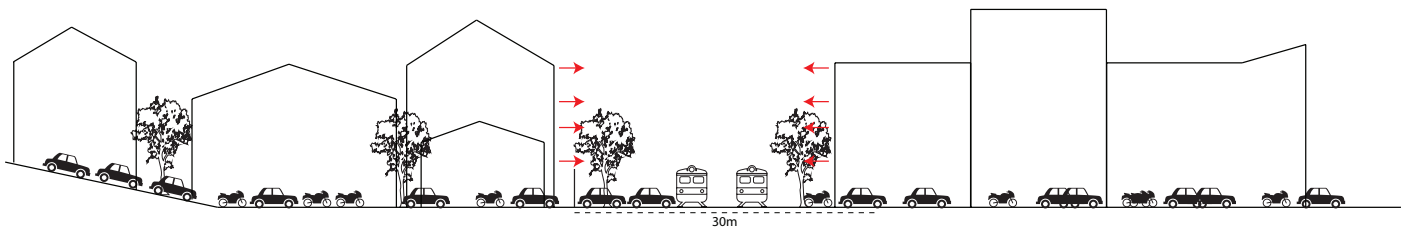
-  Green Areas
-  Commercial Areas
-  Services (Schools, Hospitals etc.)
-  Governmental Buildings
-  Residential Areas
-  Kampung
-  PT Kereta Api Assets



Section | Connections | Orientation



Collection of Photographs



Section | Connections | Orientation



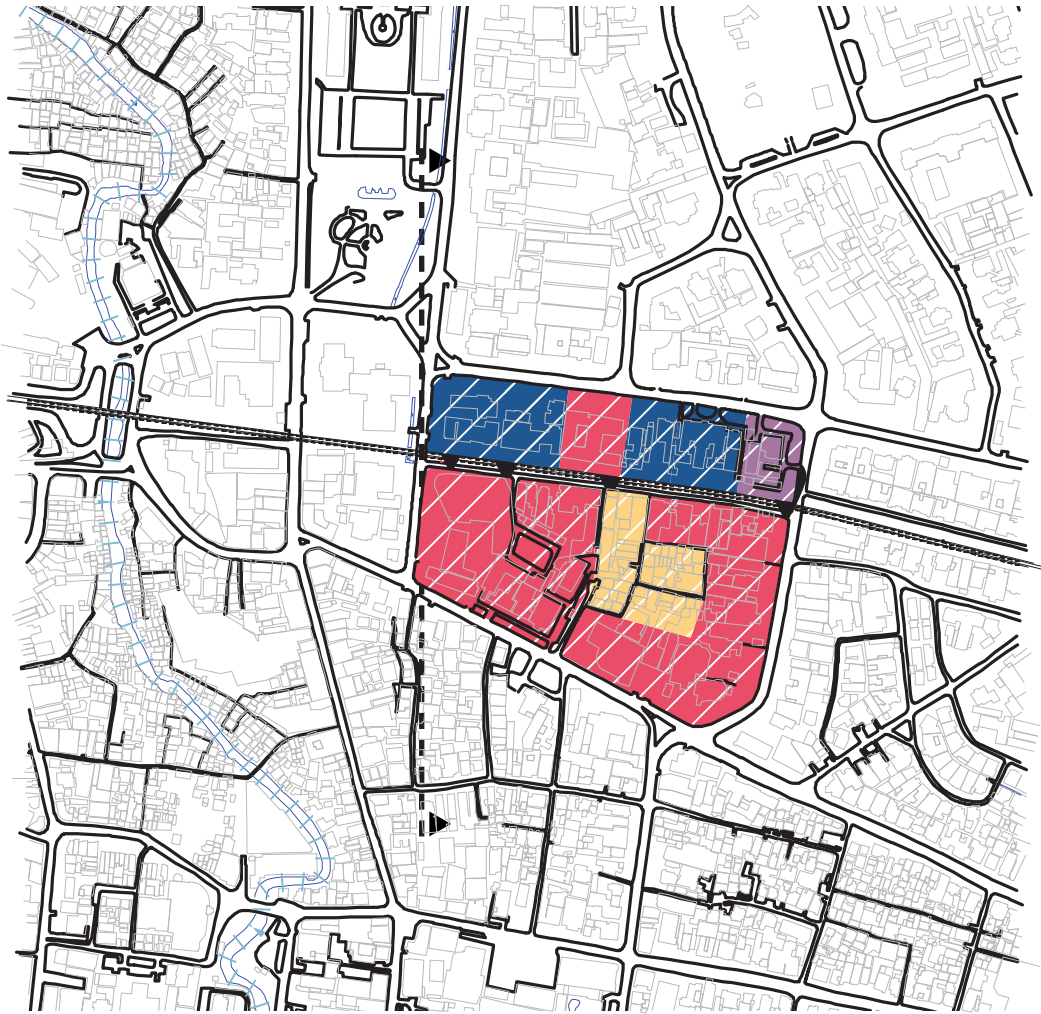
Collection of Photographs



Collection of Photographs

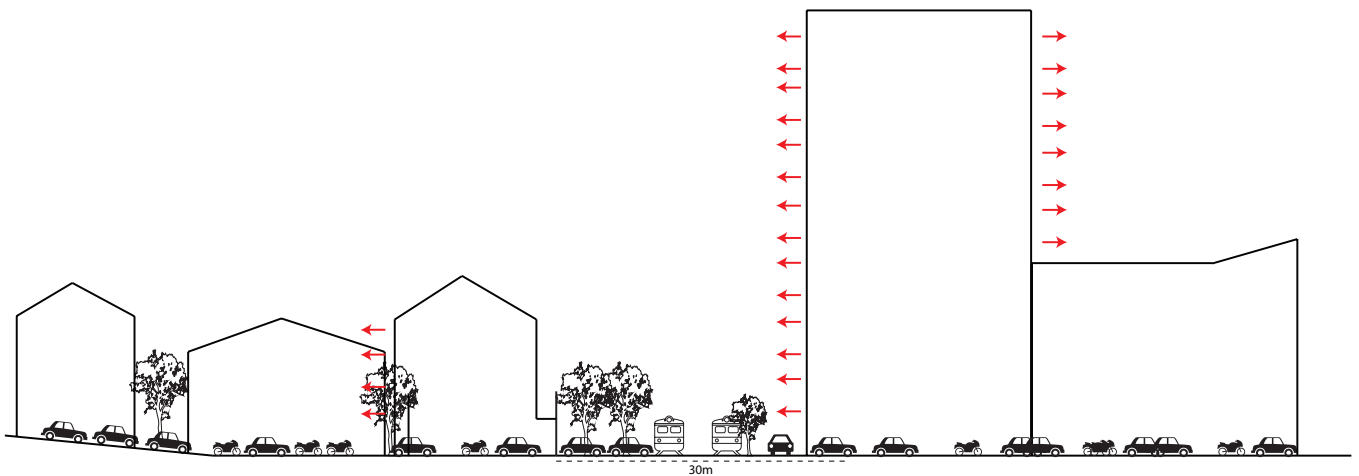
Individual Zones

Zone 6 - Land use



Map

-  Green Areas
-  Commercial Areas
-  Services (Schools, Hospitals etc.)
-  Governmental Buildings
-  Residential Areas
-  Kampung
-  PT Kereta Api Assets



Section | Connections | Orientation



Collection of Photographs



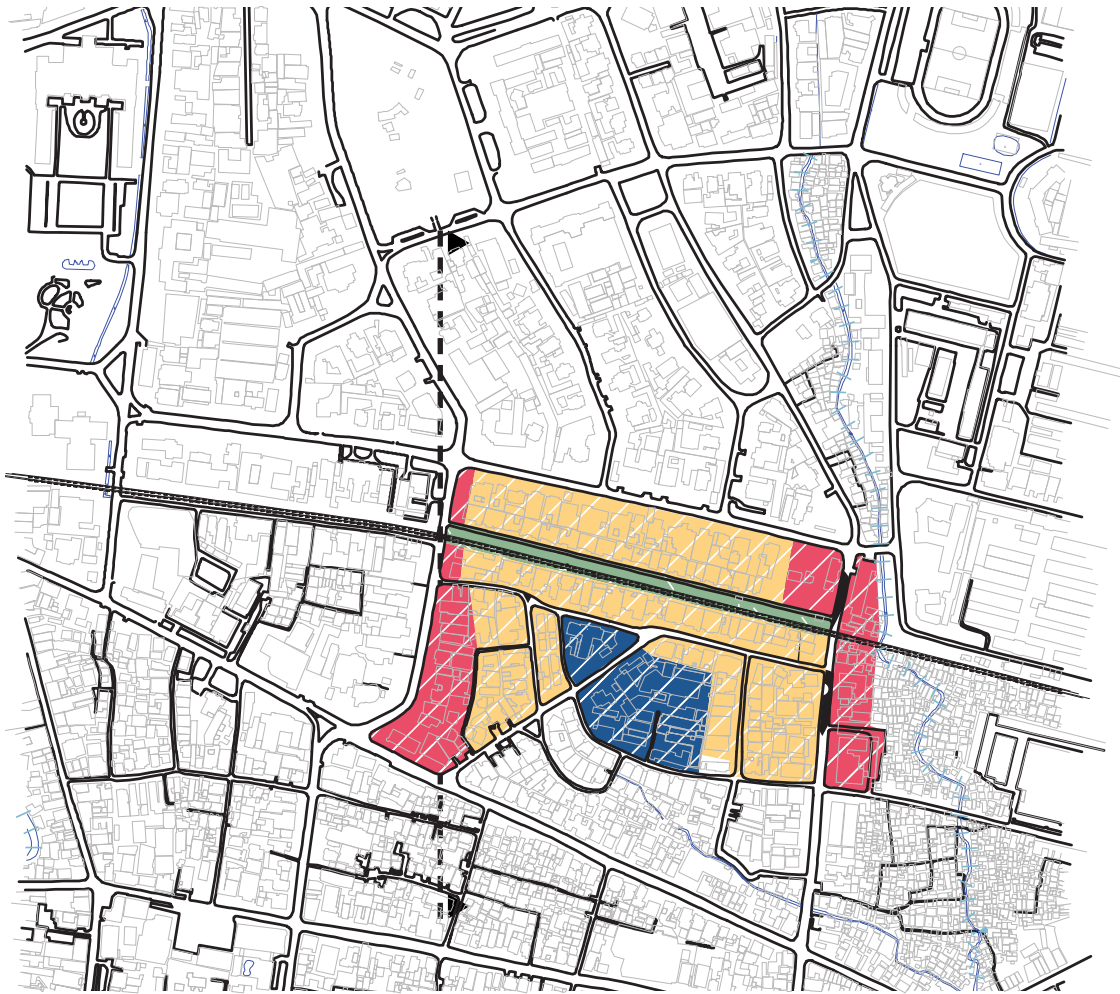
Collection of Photographs



Collection of Photographs

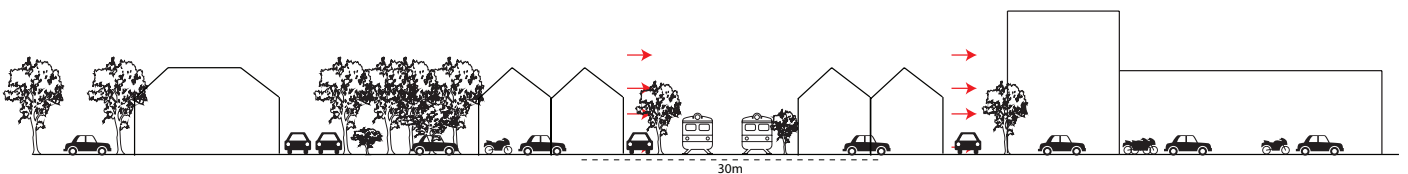
Individual Zones

Zone 7 - Land use



Map

-  Green Areas
-  Commercial Areas
-  Services (Schools, Hospitals etc.)
-  Governmental Buildings
-  Residential Areas
-  Kampung
-  PT Kereta Api Assets



Section | Connections | Orientation



Collection of Photographs



Collection of Photographs



Collection of Photographs



Collection of Photographs



Collection of Photographs

Conclusion

As it was mentioned in the beginning the focus of our studio is the railway backbone and the urban development around it, therefore this chapter of the book constitutes our attempt to understand its development throughout the evolution of the city of Bandung along with its social, cultural and economic consequences.

The first part shows the use of the railway and the surrounding areas during the colonial period while the second part addresses the problems of the same environment today, highlighting the need for urgent intervention and re-interpretation of the original spatial and immaterial qualities of the area.

In terms of the current condition and its analysis, the fact that we were able to zoom in a particular area of the city allowed us to reflect on the information we gathered initially and led us towards "KNIL MAGAZIJNEN". It made it easier for us to grasp the working systems of the city, its problems and opportunities. The railway that once was the core of a servicing system that was feeding the areas around it, either in terms of the military or industrial sector is now a physical boundary between the north and south regions of the city and contributes to a significant extent to the traffic problems and the social inequality and segregation between the formal and informal areas of the city.

Without this scale of analysis we would not be able to come up with proposals that address the social needs of our time and thus address problems in a city scale level. Our site for this year's studio graduation is "KNIL MAGAZIJNEN" but similar interventions can happen throughout the railway backbone and thus we want to further elaborate on this section later on in terms of design and urban planning opportunities.

“KNIL MAGAZIJNEN”

CONTENTS

“KNIL MAGAZIJNEN”

CULTURAL OVERVIEW

| | |
|---|------------|
| CHRONO-MAPPING MILITARY AREA | 112 |
| CHRONO-MAPPING MILITARY AREA LAND USE | 114 |
| A BRIEF HISTORY OF THE MILITARY COMPLEX | 117 |
| CONSERVATION AREAS AND LISTED BUILDINGS | 119 |
| CHRONO-MAPPING “KNIL MAGAZIJNEN” | 120 |



Military area Bandung early 20th century
© https://upload.wikimedia.org/wikipedia/commons/2/21/COLLECTIE_TROPENMUSEUM.jpg

“KNIL MAGAZIJNEN”



CULTURAL OVERVIEW

Military Area Timeline

1898

Weapons and gun factories (Artilerie Constructie Wingkel, abbreviated as ACW) were moved from Surabaya to Bandung, not from the railroad tracks, around Kiaracondong.



1913

in 1913, V.L. Slors designed the building in the neoclassical style for the Department of War office (Sabau Building) on the Kalimantan road, and the Pasundan Paguyuban Pasundan building on the Sumatra road, on 7000 m2 land.



1900

1900 - 1913

In the early 20th century, the Ministry of War (Department of Oorlog or DVO) was moved from Central Jakarta (Weltevreden) to the area around Taman Lalu Lintas Bandung. To realize the concept of the city of Bandung as the center of the Military Command.



Dutch Colonial Period

1911

The War Ministry (Department van Oorlog) was placed in Bandung as the last defense against the attacks of Dutch enemies. East of Bandung (Kiara Condong), a military production institute was established, while west, in Cimahi, was the center of the Garrison power and in Andir, the air power center. The Cavalry troops were initially stationed in Cimahi but later moved to Bandung while the artillery forces were placed at Batu Jajar from the start.

The Department of Public Works built sports fields and parks including the Maluku Park, then called Soenda Park. In turn, this military heart grew rapidly in line with the establishment of various military services and industries.

1942

1914

The Department of War is located in Bandung.

The military headquarters was moved from Batavia to Bandung around 1920. The chosen site was east of City Hall, and consisted of a residence for the Commander in Chief, offices, barracks and military housing.

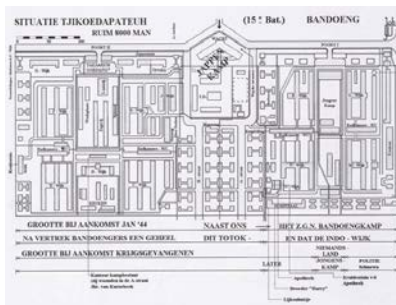
1914 - 1942

As a support facility, the Government equips cities with military buildings and housing for its personnel, as well as public facilities such as schools, swimming pools and churches. In an effort to maintain the concept of garden city that was applied in that era, this area is equipped with green open spaces.

1942 - 1945

On 6 and 7 March 1942 there was heavy fighting at the KNIL-posts north of Bandung. Japanese airplanes dominated the skies, and the morale among the KNIL troops was low due to the many retreats. Many of the native servicemen, especially the Javanese among them, had already abandoned the area. When the Japanese were finally on the verge of breaking through to Bandung, the situation seemed hopeless. On March 8, it was agreed at Kalidjati airfield that the general capitulation of the KNIL would be announced the next morning.

In the beginning of the occupation the military area was used as a camp for Dutch, Australian and American people, but from October 1943 the camps in Tjimahi and Bandung served as assembly camps for men and boys from all over Java.



Military area during the Japanese occupation



Bandung during the Dutch occupation



Indonesian army takes over the area.

1942 Japanese Occupation 1945

1942

The Government of the Netherlands East Indies surrender unconditionally to Japan. During the war years, the Japanese converted all broad-gauge railway lines, so that the existing rail network in Indonesia consists of narrow port. Furthermore, all rail companies were assembled in one organization.

Youth Force Organization

The aim of the Youth Force is to form a compact youth front with one determination to face all possibilities that will occur in the country and continue efforts to consolidate youth in Bandung city.



Bandoeng interneeren kamp 1942

1945 Dutch Occupation 1949

1945

Bandung is divided into two. Brigadier General MacDonald gave an ultimatum that the indigenous population in the northern part of Bandung had to move south with the railroad as the boundary. The ultimatum would be implemented by 11/29/1945, then Bandung would be divided into two. North Bandung was occupied by British troops, the combatants remained and set up guerrilla pockets around the Boromeus hospital, cihampelas, haurpancuh, sadangsaip, the surrounding and sadangserang. Whereas South Bandung was under the control of the Republic of Indonesia.

1946

Facing the return of the Colonial Dutch to Indonesia, citizens chose to burn down Bandung in what has become known as "Bandung Lautan Api", Bandung's Ocean of Fire.

1949 Indonesian Army 2018

1949

After the Dutch accepted the independence of Indonesia, under high pressure from UN, the Indonesian government took over the Military area and started to use and adapt it to its needs. Siliwangi (military in Indonesian) controlled all buildings and complexes that were previously owned by the Dutch East Indies Military Force.

1949 - 2018

Military area under Indonesian army. Some parts are in bad condition, whilst others are running normally.

Chrono-mapping

Military area



1882

- Groote Postweg and the railway line were built. Already by 1882, you can see the intersection between the two backbones.

- The area that is known as the Military kawasan today did not have any construction regarding the built environment at the time.

- A few houses in timber (black dots) are built north from the railway line. These houses are called Tjiperak and Baloebyer.

- The area was generally green and used for rice fields and vegetation.



1904

- This map is the earliest drawing showing the first development of the military area.

- Not clear what the purpose of the storages was west from the intersection between the railway and Groote Postweg.

- In the 22-years difference between this and the first map, there have been built a lot of new residential areas, south from the railway line.

- The area was still green and used for rice fields and vegetation beside the first storages built of the "KNIL Magazijnen".



1910

- The first map showing the military storage complex that we are working on.

- In the 6-years difference from the previous map, two new blocks have been built in the military area.

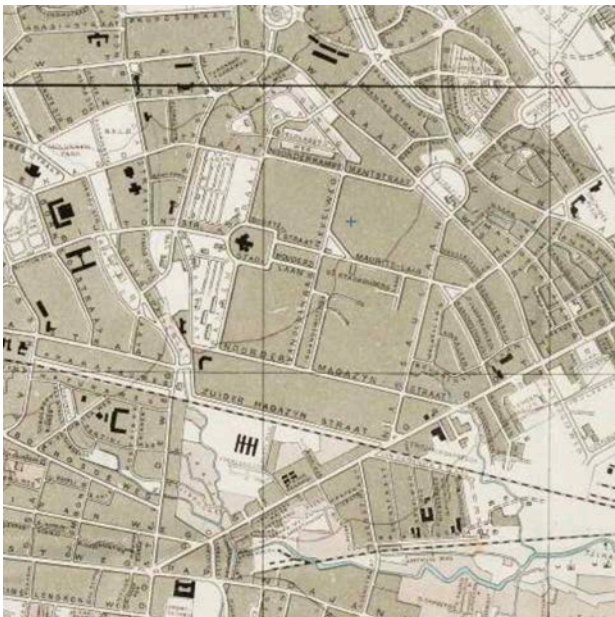
- The railway has expanded from two to three tracks in the part opposite to the military storage, "KNIL Magazijnen". This was done to move goods easily to the warehouses.

- The military department was still situated in Semarang, but we can see the first ideas of moving the headquarters to Bandung by 1910.



1921

- First detailed map after the Department of War moved to Bandung.
- There were dedicated two plots for green areas on the west part of the complex. The two blocs are still used as “green” areas today by the military and the surrounding community.
- A clear line is visible from the military storage to the north of the complex. The main military buildings are built on the west side of the map, whilst housing for the workers was built on the east side.
- There was still some unused space on the northeast area of the complex.



1946

- From this map, we can see the final program and also the final outcome of the military complex after moving the Department of War to Bandung.
- First signs of built construction for factories and commercial services south of the railway tracks from Magazijnen D.v.O
- New railway tracks going south from the original track that was laid down in 1882. They were called 3A and 3B. 3A was going from Bandung to Dajeuhkolot, whilst 3B was extending to Pasar Kosambi.



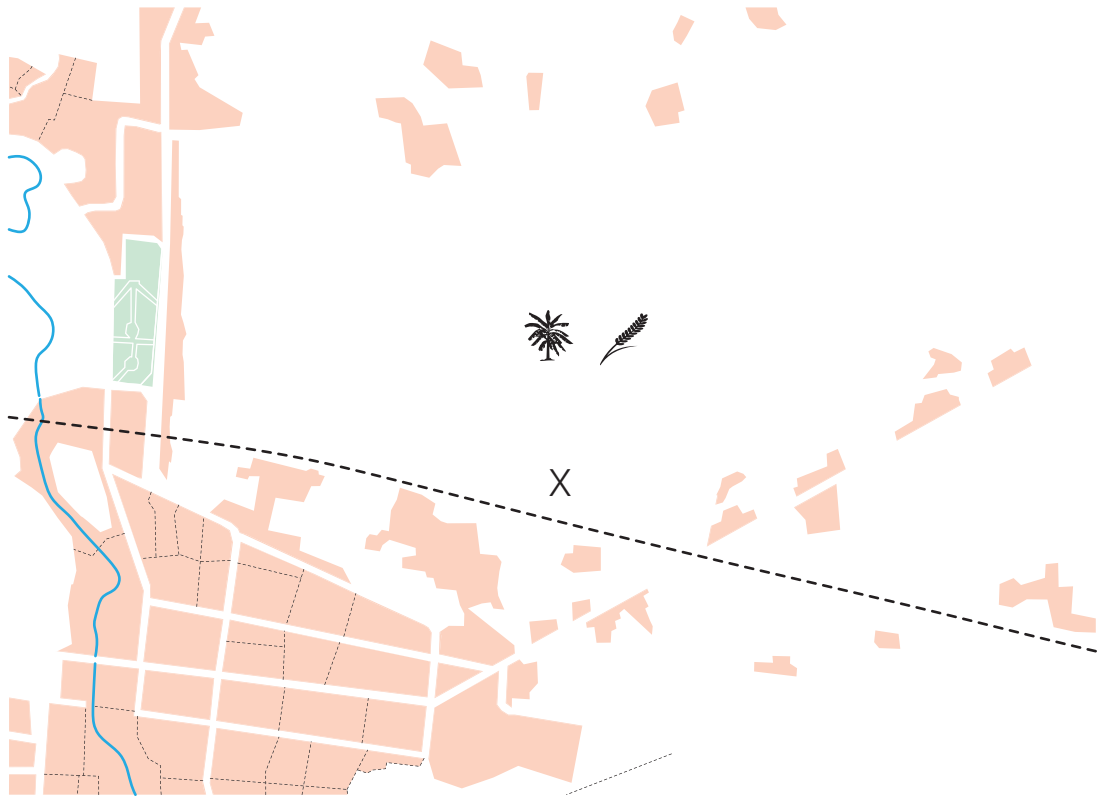
2018

- Areal photo from google earth showing how the original footprints from 1933 are still pretty much in use today like it was 90 years ago. There have been some changes, but the streets have the same formal layout.
- The area south from railway line is today changed from a factory / commercial area to a living kampung. Informal structure. The densification on the south side and complete isolation and segregation between the two communities are clearly visible from the aerial photo.
- The railway track 3A and 3B are demolished together with the extra railway track that used to transfer goods to the military storage.

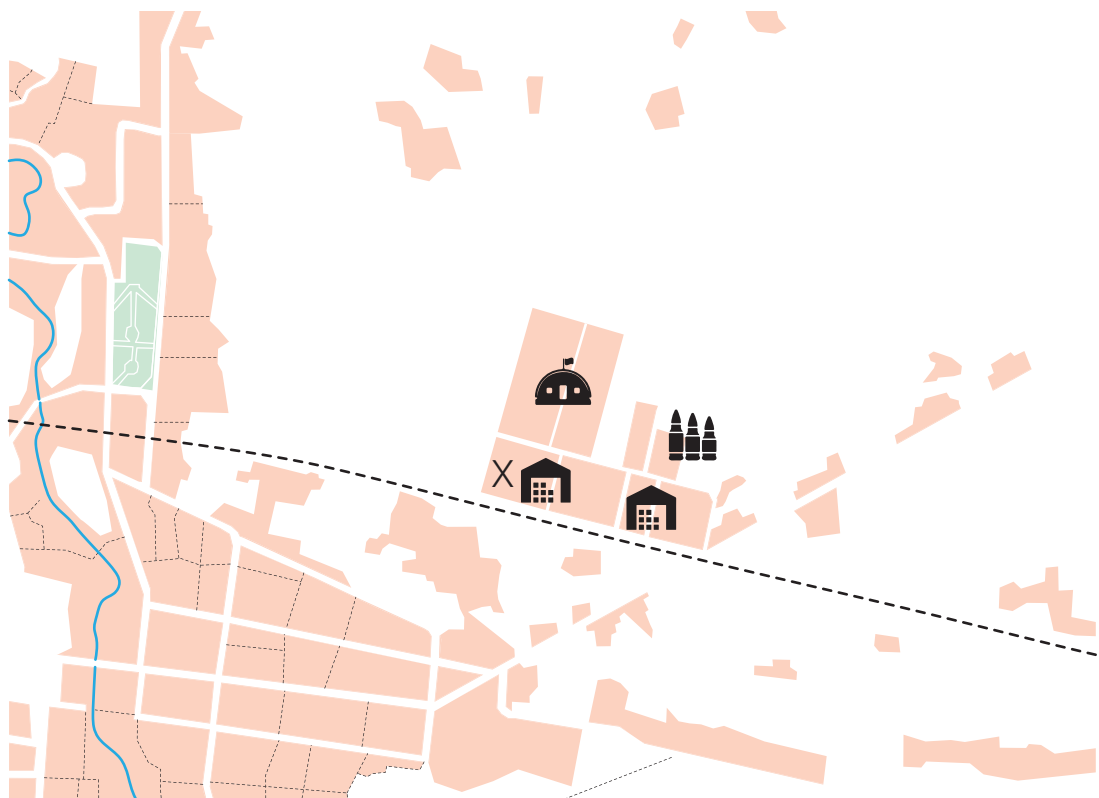
Chrono-mapping

Military Land Use

1. 1882



2. 1910



Banana
Trees



Rice
Fields



Battalion



Storage



Ammunition



Park &
Training



Doctor



Society
Club



Transport
Goods



Department
Buildings



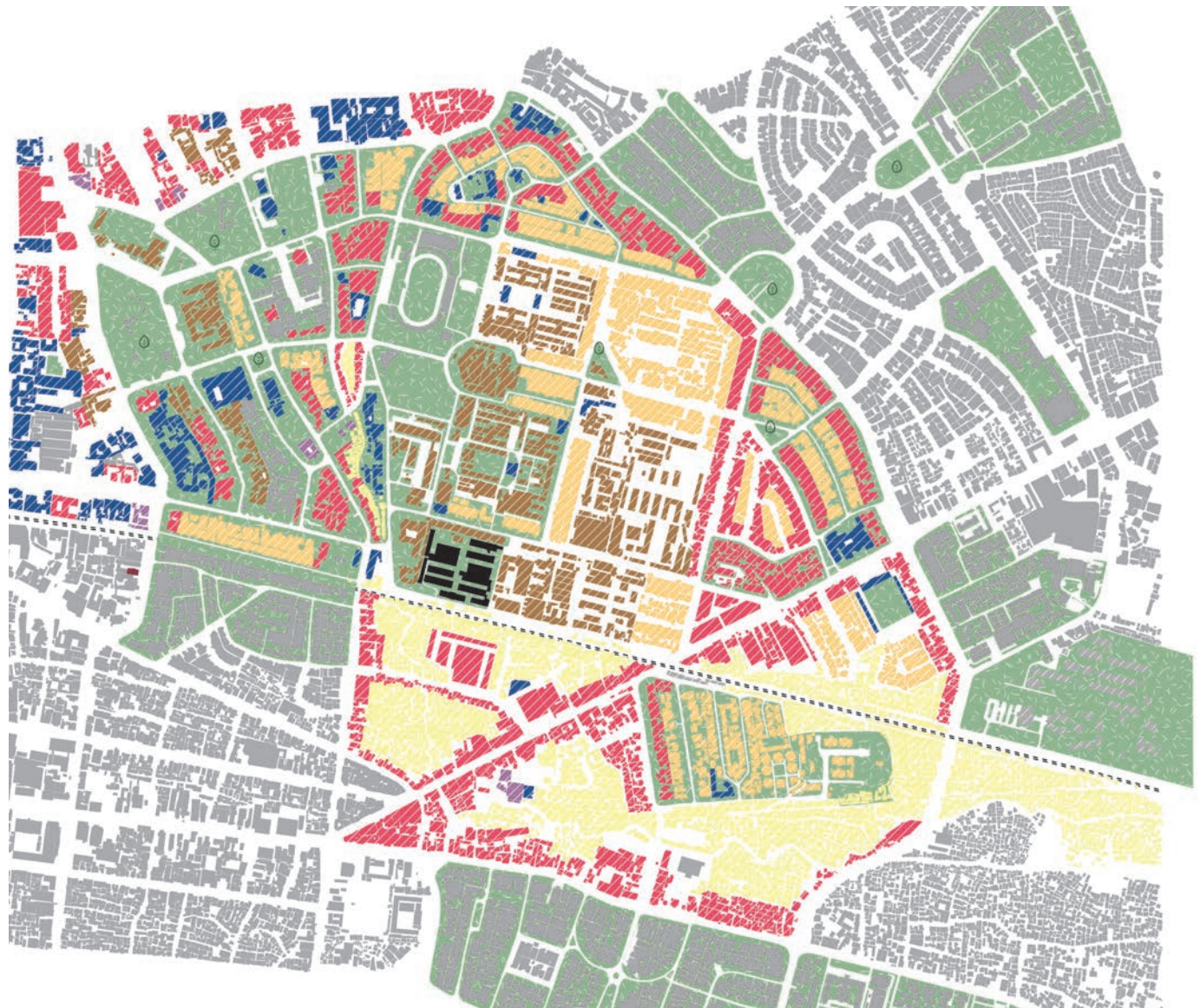
Military
Housing



Military
Training

Chrono-mapping Military Land Use

5. 2018



- Green Areas
- Commercial Areas
- Services (Schools, Hospitals etc.)
- Governmental Buildings
- Residential Areas
- Kampung
- PT Kereta Api Assets
- Offices or Unidentified
- Military Areas
- Chosen Site

A brief History of the Military Complex

In order to realize Bandung as the Center for Civil Government, the city became the capital of the Dutch East Indies (a replacement for Batavia). The Dutch Government began planning the construction of various governmental and military buildings.

In 1896, power center of the Dutch East Indies was moved to Cimahi; its purpose was to defend and protect the security of the city of Bandung.

In 1898, weapons and gun factories (Artillerie Constructie Wingkel, ACW) were moved from Surabaya to Bandung, not far from the railroad tracks, around Kiaracondong. This move led to a big wave of immigrants - employees of the gun factories from Surabaya. These people formed a village on Kiaracondong road called Babakan Surabaya.

In the early 20th century, the Ministry of War (Department of Oorlog or DVO) was moved from Central Jakarta (Weltevreden) to the area around Taman Lalu Lintas Bandung.

In 1913, V.L. Slors designed the building in the neoclassical style for the Department of War office (Sabau Building) on the Kalimantan road, and the Pasundan Paguyuban Pasundan building on the Sumatra road. In 1918, R. L. Schoemaker and C. P.W. Schoemaker planned the headquarters of the Army Military Command (Paleis van de Legercommandant) in an Art Deco style, at Kalimantan (Borneo) road north of the present Traffic Park.

As a support program, the Government equipped the city with military buildings and housing for its personnel, as well as public facilities such as schools, swimming pools and churches. This area was part of the "Garden city" concept that was implemented in various places around the world at the time. The main area still looks complete and well maintained, although there have been changes here and there, the original character has been maintained.



Artillerie Constructie Wingkel © <https://www.pindad.com/>



Department of War office © <https://www.tracesofwar.nl/>



Jappenkamp Bandung
© <https://www.tracesofwar.nl/>

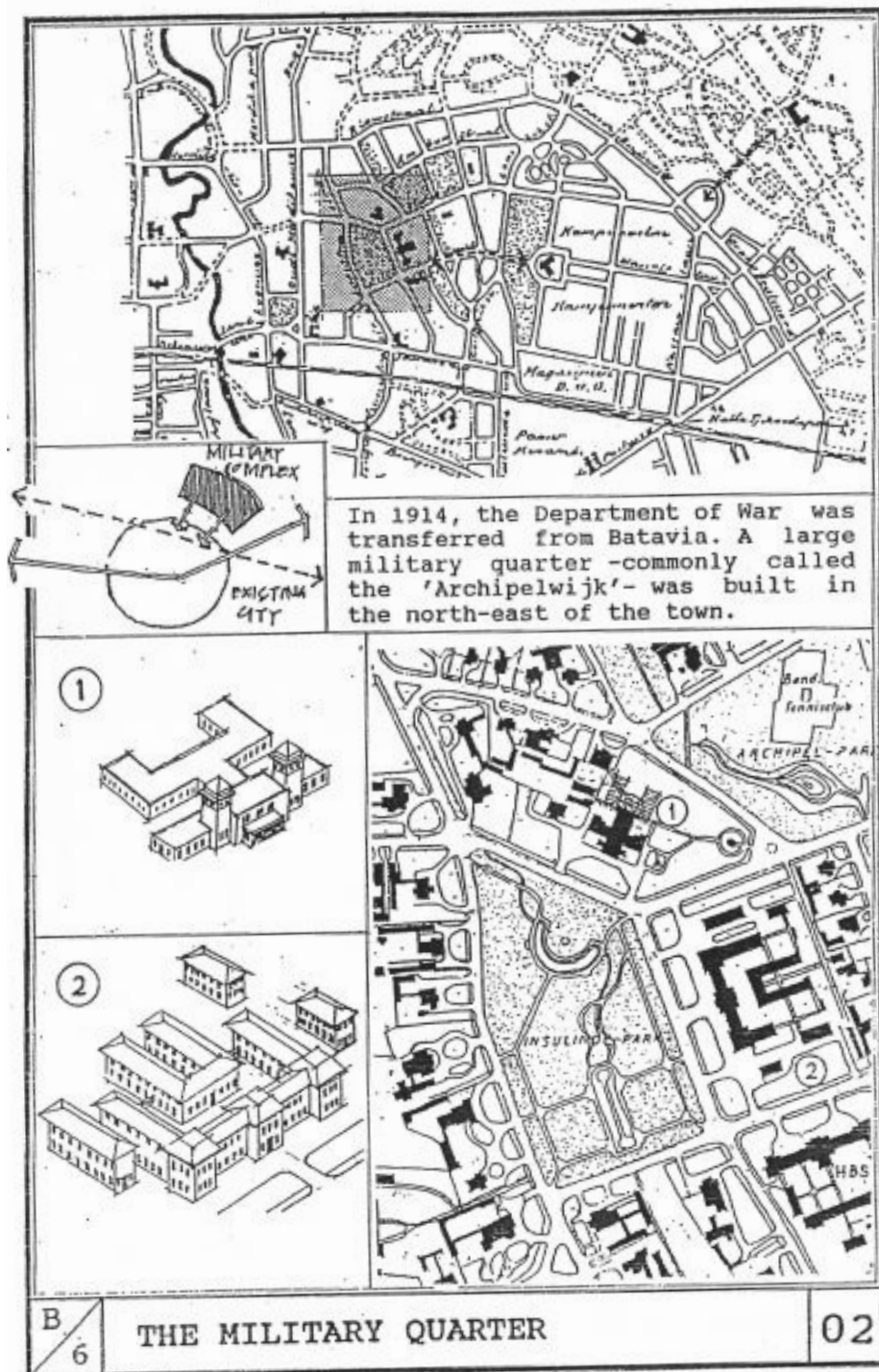
During the Japanese occupation there was an internment camp for Dutch people. The 'Direktorat Keuangan Angkatan Darat' building of the Military Society was included in this camp.



Paleis van de Legercommandant
© <https://www.tracesofwar.nl/>



Department of Oorlog or DVO
 © "Tentang Bandung Tempo Doloe", pdf.

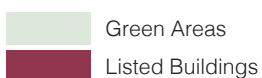


© "Bandung - The architecture of a city in development", volume II.

Conservation Areas and Listed Buildings

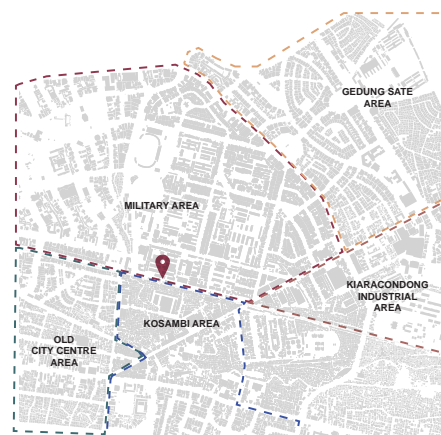


Map

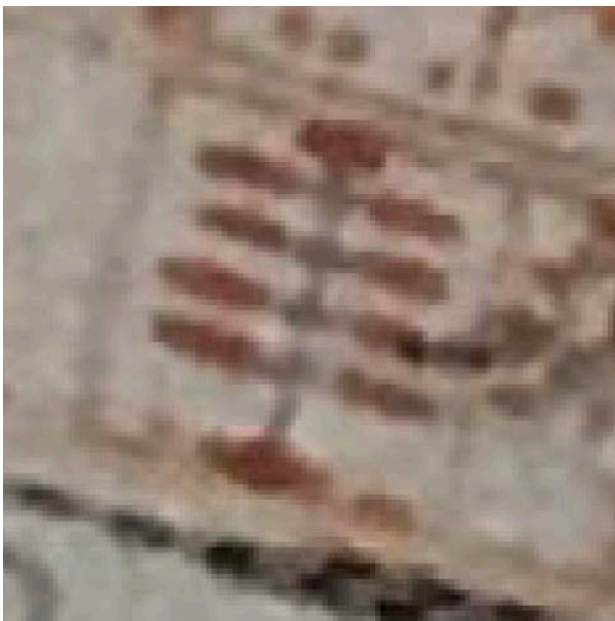


As you can see in the map above, our chosen site is part of the Heritage Conservation areas of the military area. There are various other buildings that are also listed in the surrounding environment. Most of the buildings are related to the military use of the area. The listed buildings are of various styles, from Neoclassical and Art Deco style buildings of the colonial period to more industrial construction styles as well as some religious buildings.

- | | |
|---------------------------------|-----------------------------------|
| 1. Kologdam (ex. Jaarsbeurs) | 10. Komando Daerah Militer III |
| 2. Complex Kodam III Siliwangi | Department Markas Sabau |
| 3. Makodiklat TNI | 11. Galeri Kita |
| 4. SMP Negeri 7 | 12. Direktorat Keuangan Siliwangi |
| 5. Gereja St. Albanus | 13. SLTPN 5 |
| 6. Gedung Rumentang Siang | 14. Paguyuban Pasundan |
| 7. SMU 3-5 | 15. SLTP Negeri 2 |
| 8. Dir.Kesehatan Angkatan Darat | |
| 9. PRIMKOPAD DM III Siliwangi | 16. Gabungan Koperasi RI |



Chrono-mapping "KNIL Magazijnen"



1910

- First map showing our site in details. We believe the storage complex was built somewhere between 1905-1910.

- In this map, you can see the original set up of the warehouses. One main building facing the Southern Magazijnen Straat towards the railway track to take in the goods. From there you can see the original tracks into the 8 warehouses. One, almost identical building, was facing the Northern Magazijnen Straat.

- We can also assume that the brick wall that divides the different complexes was there also from the beginning.



1921

- A map from 1921, showing the first changes to warehouses since it got built between 1905 - 1910.

- The biggest changes that have been done to the complex were the two extra warehouses built between four of the original warehouses. You can still see the connection between two main buildings and eight warehouses, while there were actually ten warehouses now.

- Some of the warehouses might have been extruded a couple of meters along the longitudinal side. We can assume this because of the changes from the previous drawing.



2018

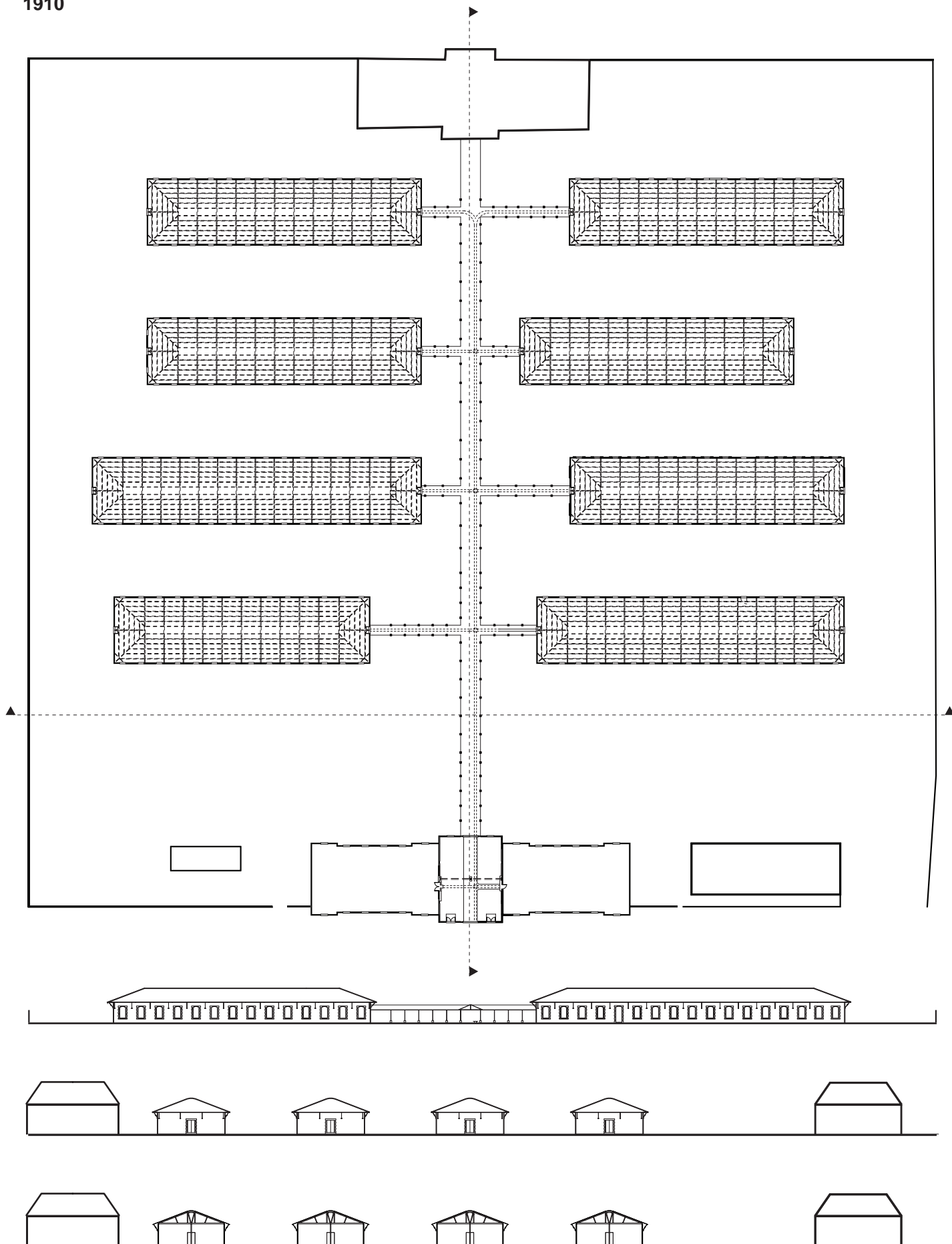
- The green and white roof structures are recently renovated warehouses.

- Somewhere after 1921, two additional buildings were constructed perpendicularly to the old complex.

- On the northern part of the complex, two new buildings were constructed from the left and right side of the original building at some point between 1921- and 2018.

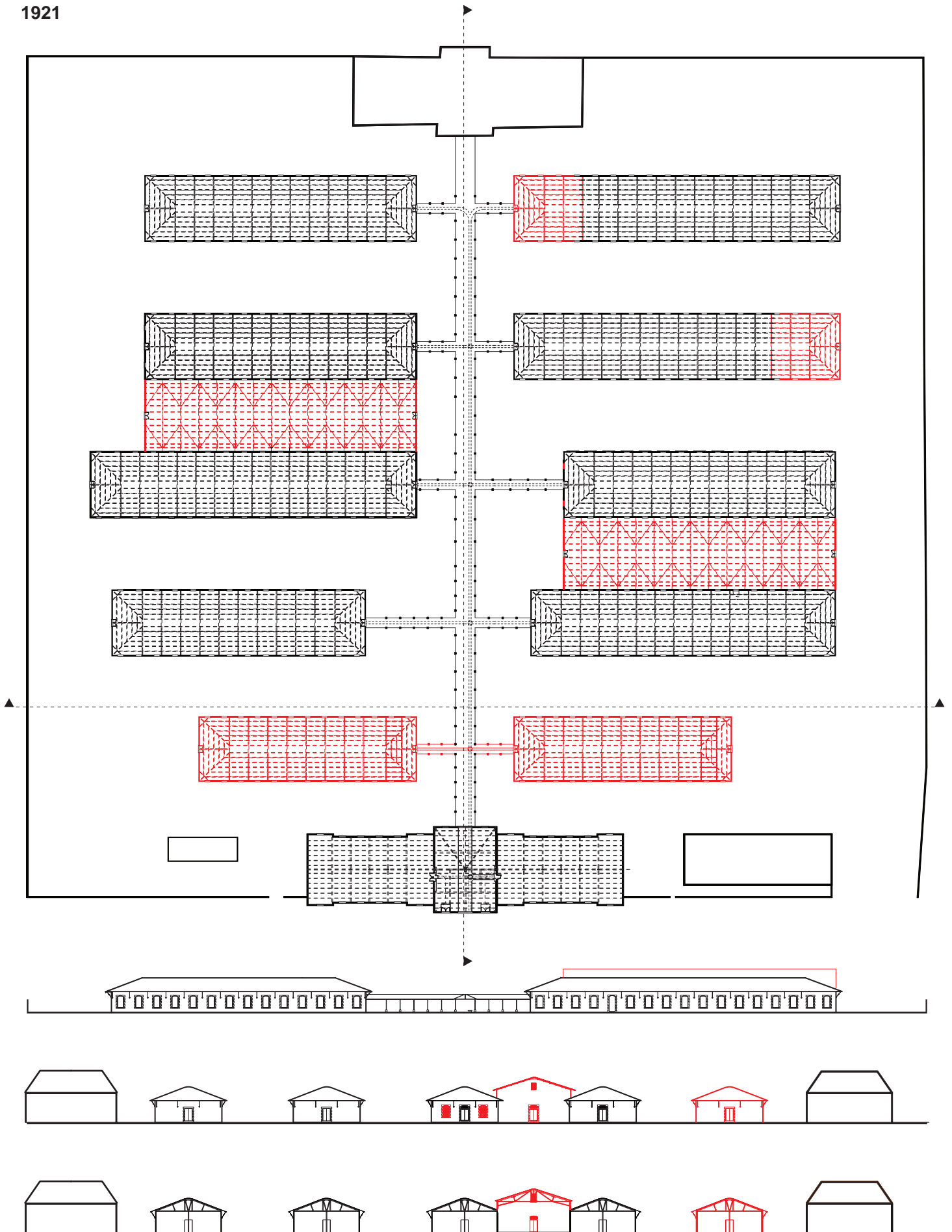
Chrono-mapping
"KNIL Magazijnen"

1910



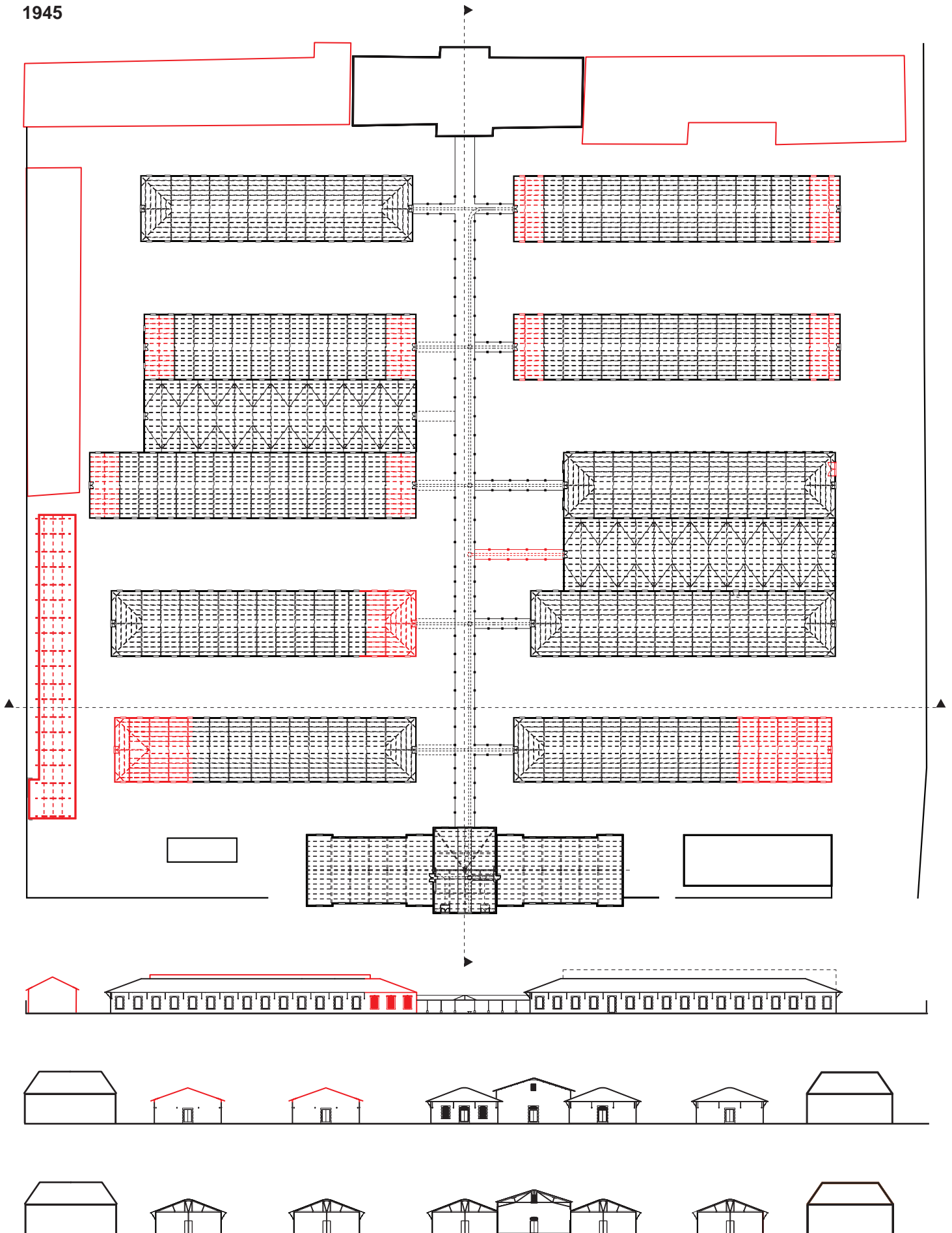
Chrono-mapping
"KNIL Magazijnen"

1921



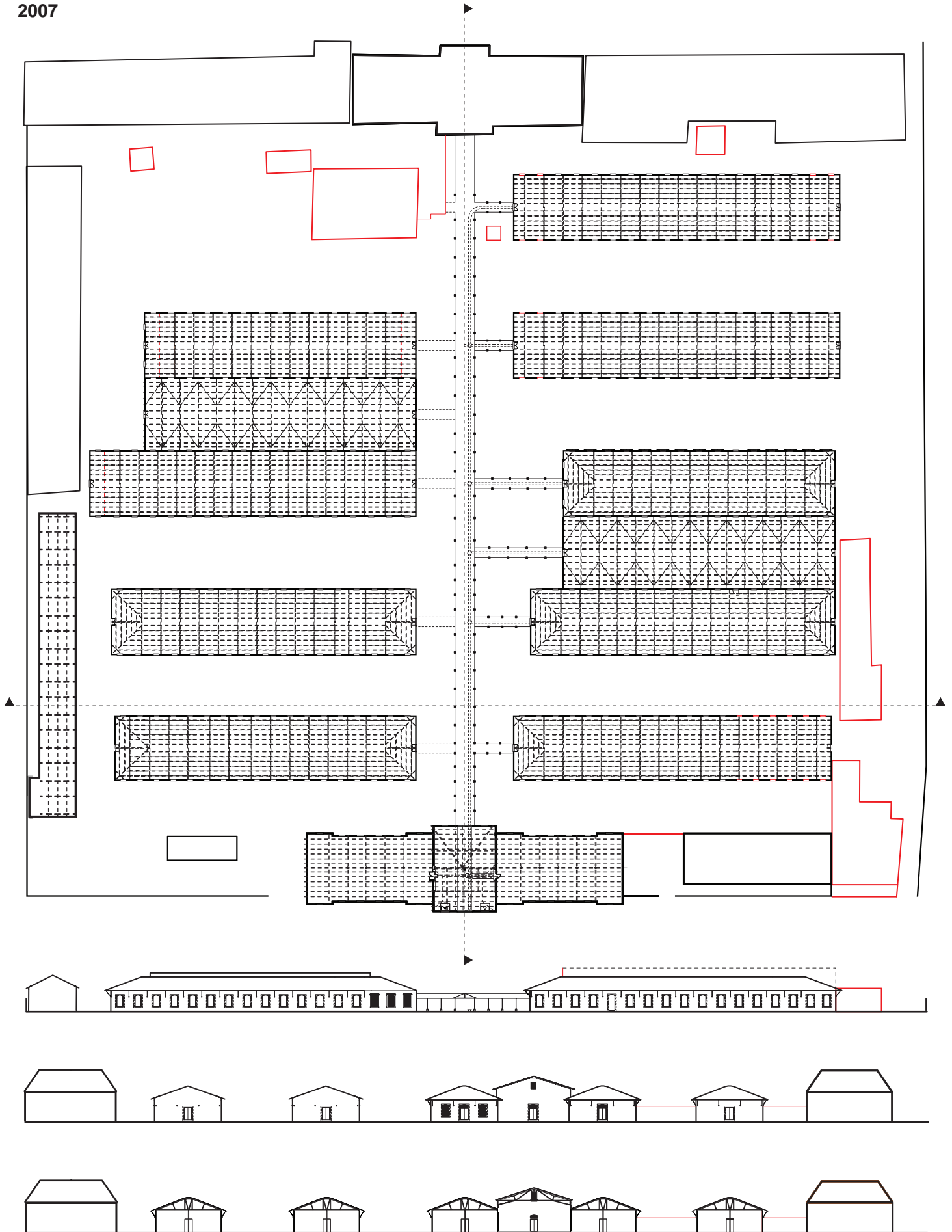
Chrono-mapping
"KNIL Magazijnen"

1945



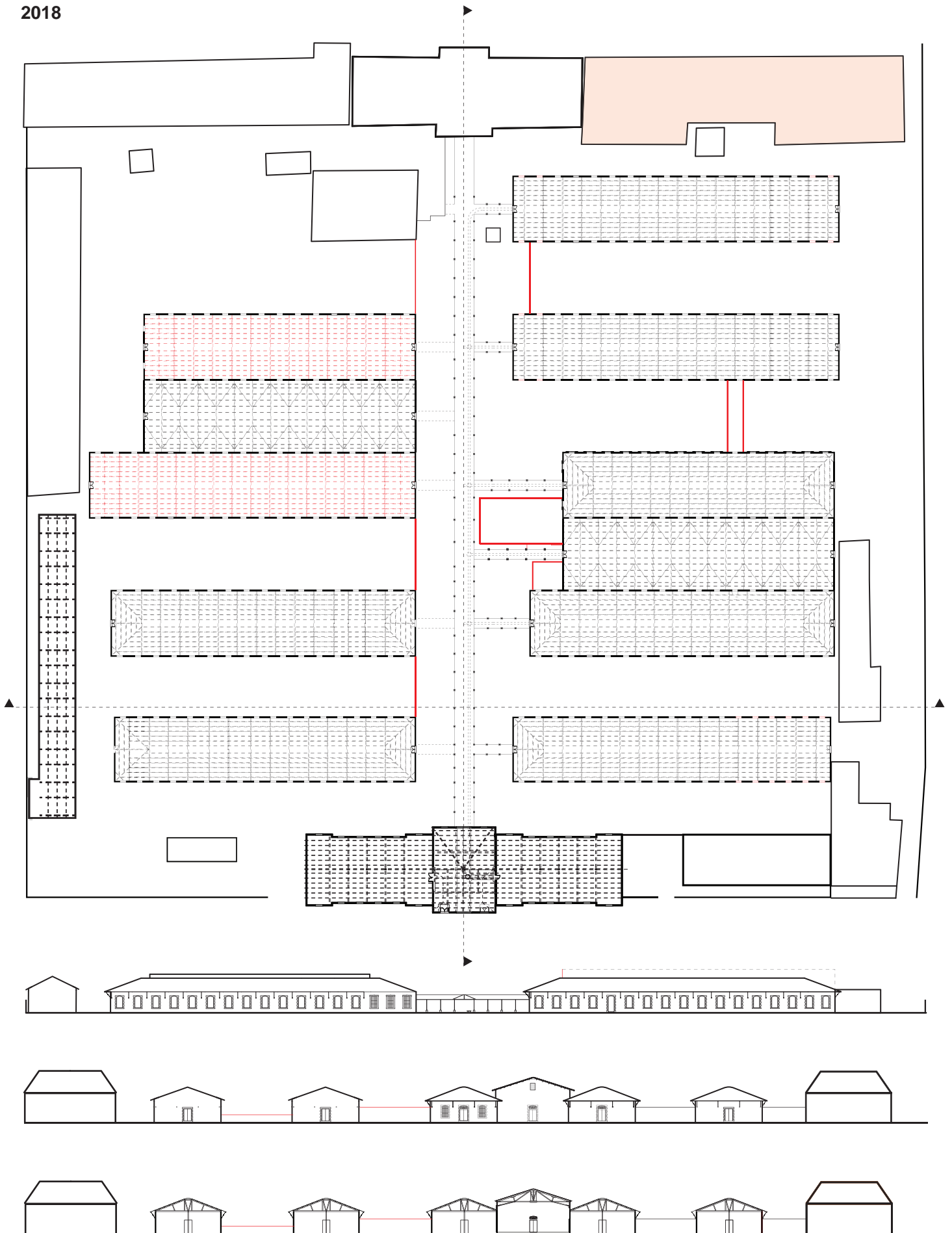
Chrono-mapping "KNIL Magazijnen"

2007



Chrono-mapping "KNIL Magazijnen"

2018



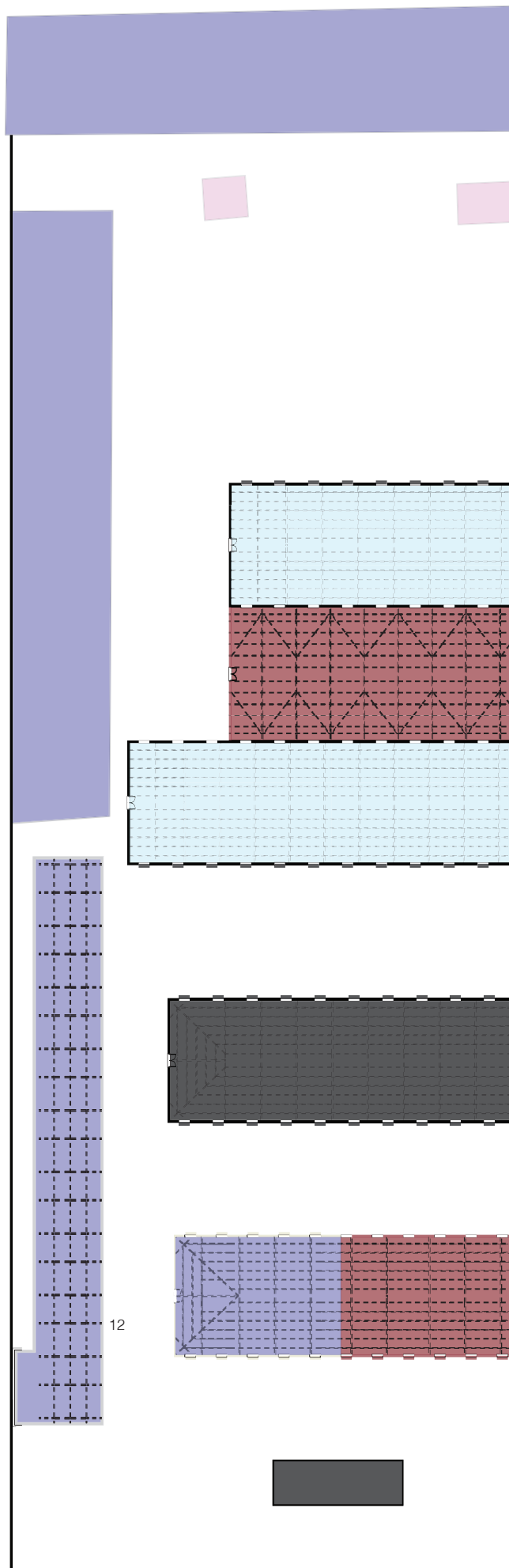
Chrono-mapping

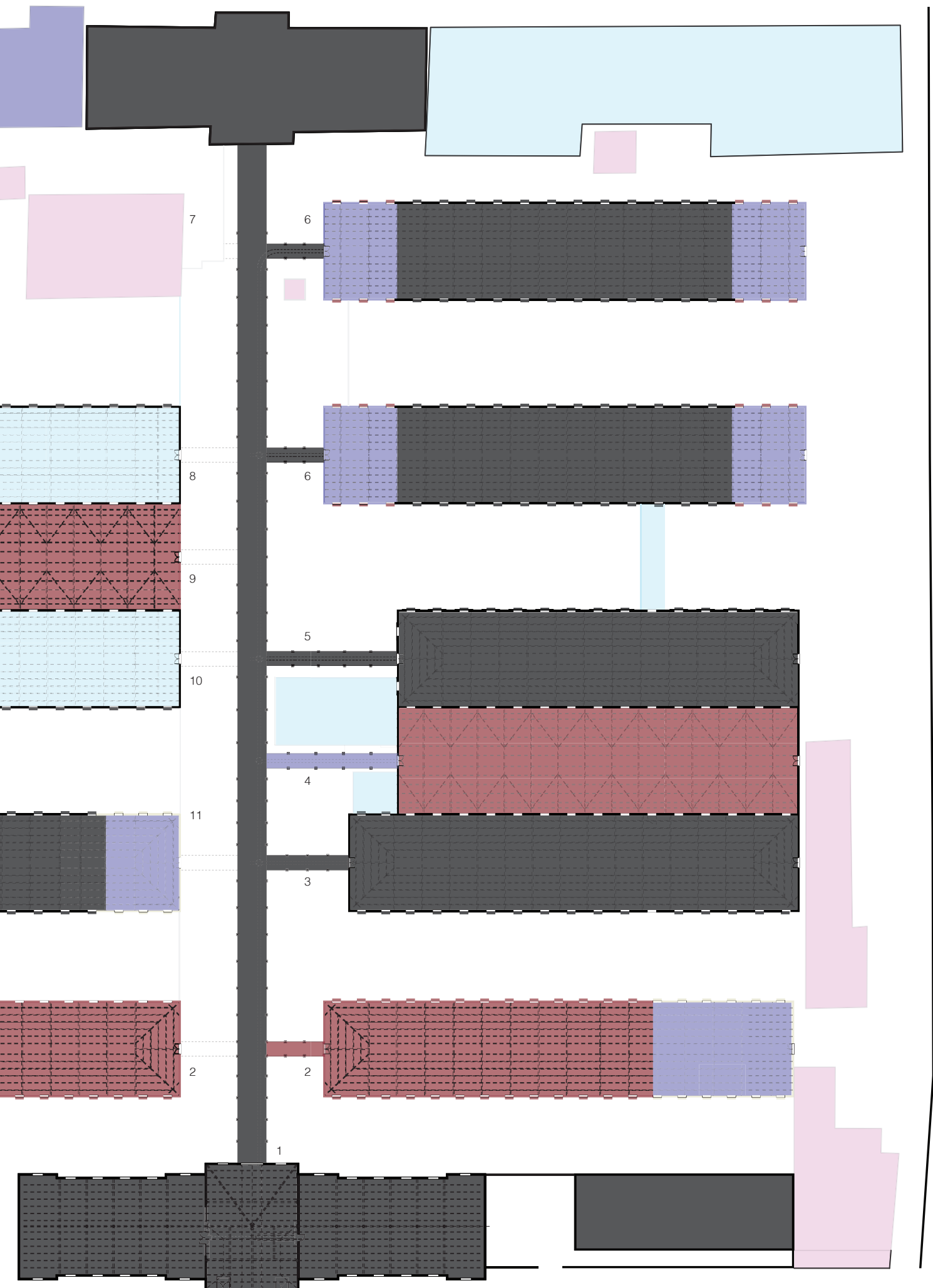
“KNIL Magazijnen” 1904-2018

1. Main building was built before 1910. Small changes in the construction of the building have taken place since then.
2. Storages built between 1910 - 1921. Sometime between 1921 - 1942 there was an extension of the storage space.
3. Storage built before 1910.
4. Storage built between 1910 - 1921. The Storage is connecting storage number 3 & 5.
5. Storage built before 1910.
6. Storage built before 1910. The storage had an extension and some changes in the roof structure between 1910 - 1921
7. Storage built before 1910. The storage was demolished sometime between 1949 - 2007. Small part left that is used by the military today.
8. Storage built before 1910. Changes in roof structure two times. Once between 1921 - 1942. Second time they did a completely new roof change in 2015.
9. Storage built between 1910 - 1921. The Storage is connecting storage number 8 & 9.
10. Storage built before 1910. Changes in roof structure two times. Once between 1921 - 1942. Second time they did a completely new roof change in 2017.
11. Storage built before 1910. The storage had an extension between 1921 - 1942
12. Extra storage built between 1921 - 1942.

Legend

| | |
|---|-------------|
| ■ | 1900 - 1910 |
| ■ | 1910 - 1921 |
| ■ | 1921 - 1942 |
| ■ | 1949 - 2007 |
| ■ | 2007 - 2018 |





Conclusion

The analysis of the Chrono-mapping uncovers the historical and structural development of “KNIL magazijne”. The Dutch army built the complex sometime between 1904 – 1910 with an entrance building on the south side that had connection to the railway. There was a south-north axis from this point with connection routes between the four main warehouses with a trolley servicing system. The next large development were in 1921 when four new storages were built. There was also a smaller intervention on two of the older storages. The complex continued to grow after this. Just before the Japanese occupation in 1942, there were two new smaller storages on the west side of the plot together with two new front buildings on the north side. Furthermore, the openness and flexibility of the storages made it possible for most of the storages to expand in the period between 1921-1942. The storage furthest northeast was demolished after the Indonesian army took over the military storage in 1949. Last but not least, the complex to a relatively small degree during 1949-2007 with the addition of two minor structures for the workers. From 2007 until today there have been changes in the roof structures of some of the storages for environmental and structural reasons. This reflects that the complex offers a certain degree of freedom to the architect in terms of the new intervention since different parts of the complex show different qualities and values, both tangible and intangible. The trolley track has definitely lost its purpose and central role in the working system of the complex. The same applies for the relationship of the front entrance building, in the south side of the complex, with the railway.

CONTEXT ANALYSIS

CONTENTS
"KNIL MAGAZIJNEN"

CONTEXT ANALYSIS

| | |
|----------------|------------|
| SOIL | 135 |
| CLIMATE | 143 |
| THE STREET | 149 |
| SITE & SETTING | 161 |



CONTEXT ANALYSIS



SOIL



Collection of Photographs



Collection of Photographs



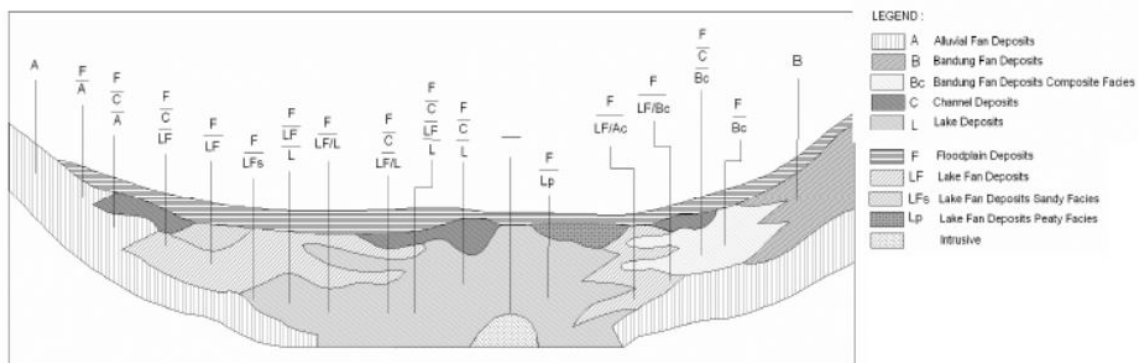
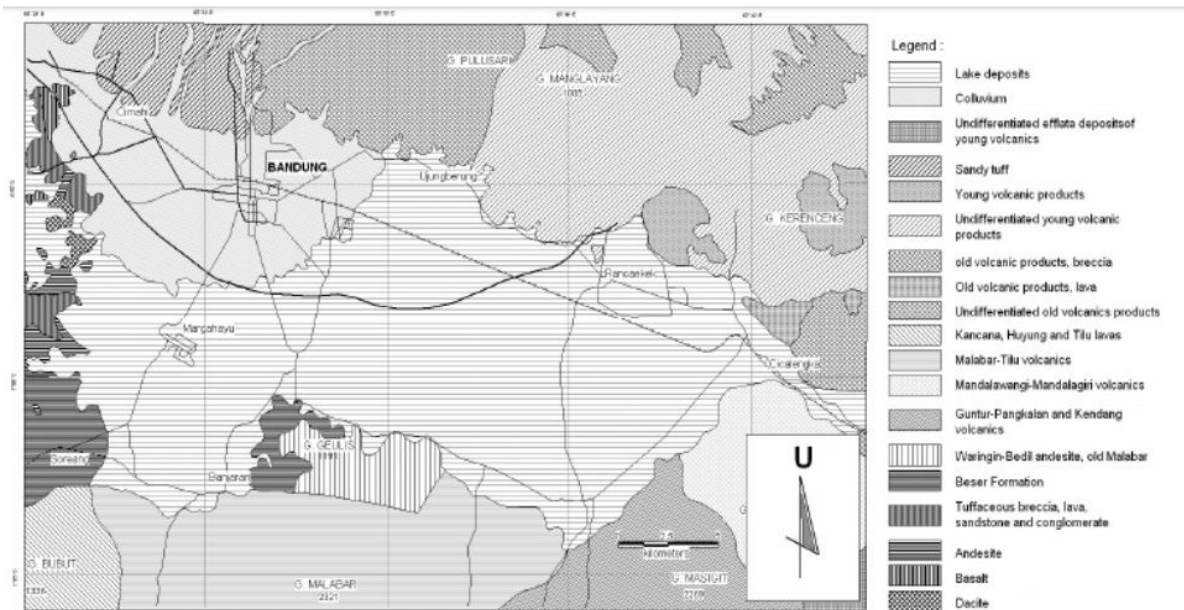
Collection of Photographs

Ground Surface

The area within 2 miles of Bandung is covered by artificial surfaces (100%), within 10 miles by artificial surfaces (40%) and cropland (25%), and within 50 miles by trees (46%) and cropland (32%).

Subsurface, Geological composition

Generally, the subsurface of the Bandung Basin comprises horizontal Quaternary deposits consisting of floodplain deposits, channel deposits (as lenses), lake deposits, lake fan deposits, Bandung (clastic) fan deposits, and alluvial fan deposits representing the oldest products. Therefore, the aquifer mostly comprises deposits of channels and lenses.



©Dam, A Chronology for Geomorphological Developments in the Greater Bandung Area, West Java, Indonesia.

Topography

Bandung
Within 2 miles of Bandung contains only modest variations in elevation, with a maximum elevation change of 0.82 kilometers and an average elevation above sea level of 708 meters. Within 10 miles contains only modest variations in elevation (1.2 kilometers). Within

50 miles also contains extreme variations in elevation (3.0 kilometers).

“KNIL Magazijnen”

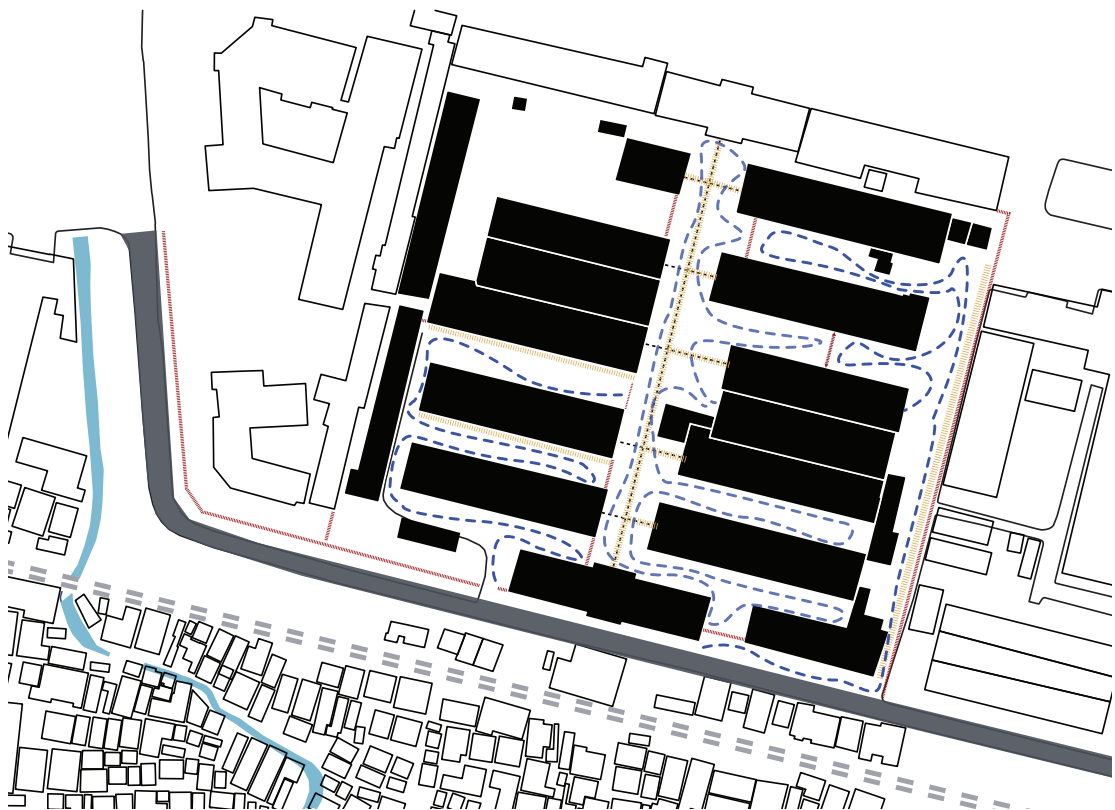
The site is partly flat, but it slopes a little bit on the west side of the plot, where there is a slightly higher landscape compare to the east side. Our approximation is around ± 1 meter difference, from west to east.

Irrigation Canals



Paths

On the trolley track there is a sloped pavement from both sides that leads the water to the drainage system. New gardens are elevated slightly above the rest of the location.

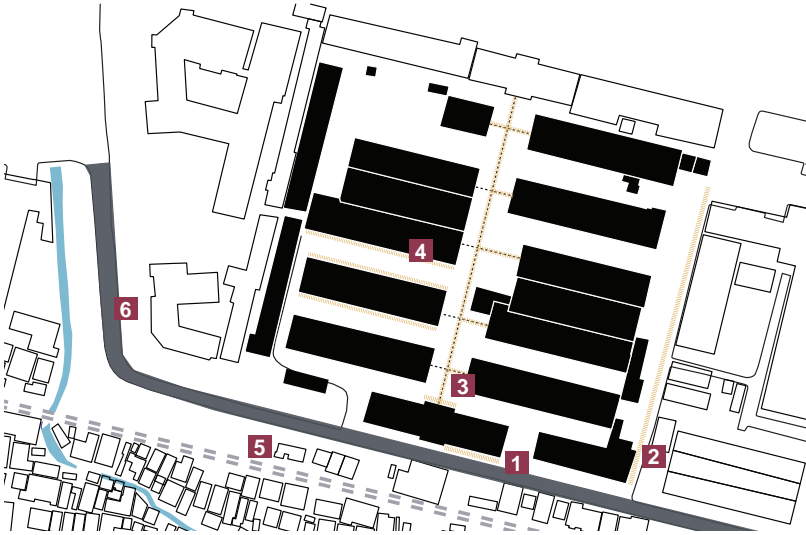


Yellow hatched pattern Paved path

Red dashed line Wall | Barrier

Blue dashed line Free circulation Path

Pavement



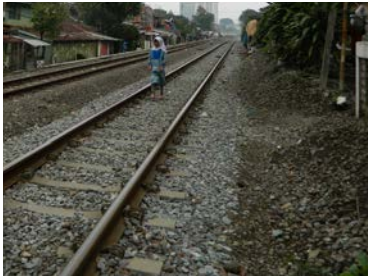
1. Street Pavement



4. Building exterior corridor.



3. Courtyard corridor



5. Railway



6. Asphalt



2. Currently main entrance to the complex.

Gardens and Flowerbeds





CLIMATE

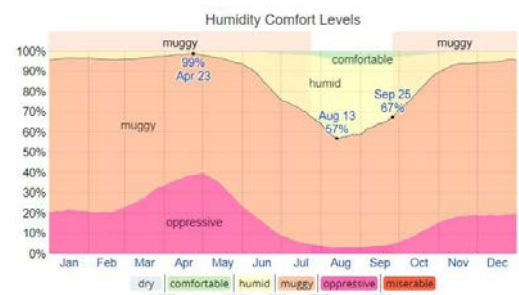
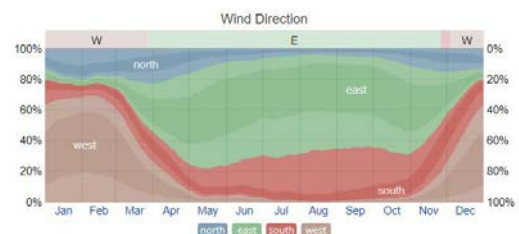
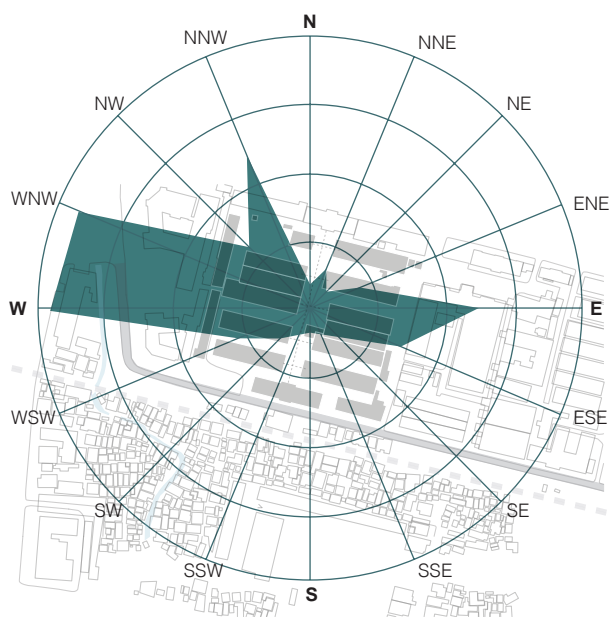
Climatological conditions



Data derived from: © <https://www.windfinder.com/#9/-6.8722/107.5425>

The summers are short, warm, and muggy; the winters are short, comfortable, and oppressive; and it is wet and overcast year round. Over the course of the year, the temperature typically varies from 17°C to 29°C and is rarely below 16°C or above 31°C.

Prevailing Wind Direction



Data derived from: © <https://weatherspark.com>

Wind

The average hourly wind speed in Cimahi experiences mild seasonal variation over the course of the year. The windier part of the year lasts for 2.7 months, from December 16 to March 6, with average wind speeds of more than 8.3 kilometers per hour. The windiest day of the year is January 31, with an average hourly wind speed of 10.1 kilometers per hour.

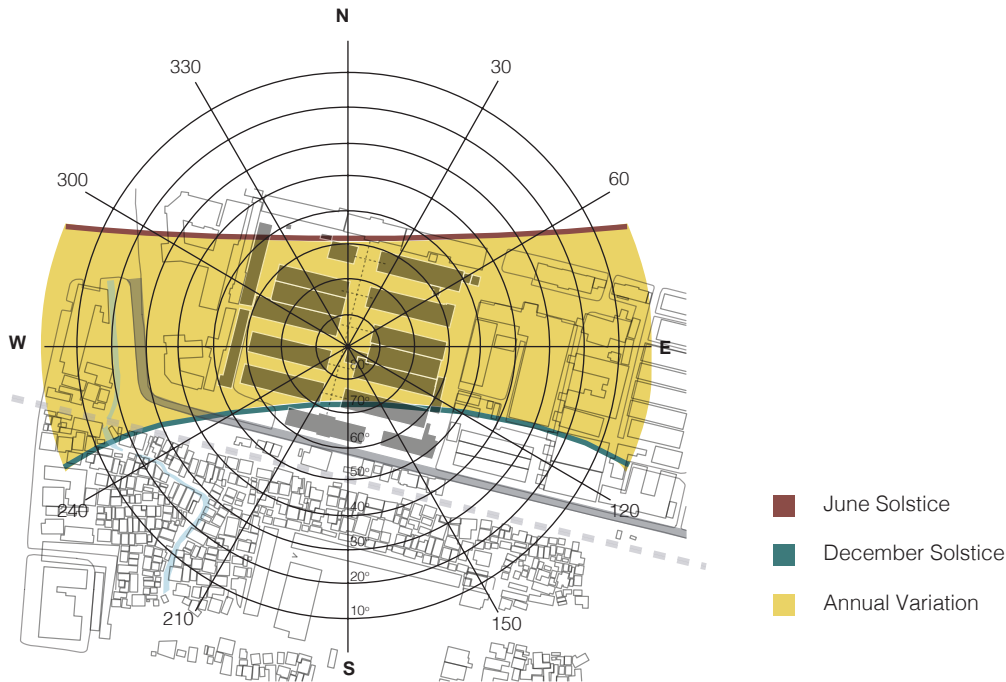
The calmer time of year lasts for 9.3 months, from March 6 to December 16. The calmest day of the year is April 19, with an average hourly wind speed of 6.6 kilometers per hour.

Humidity

Cimahi experiences significant seasonal variation in the perceived humidity.

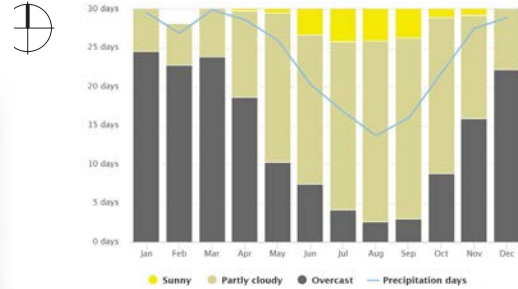
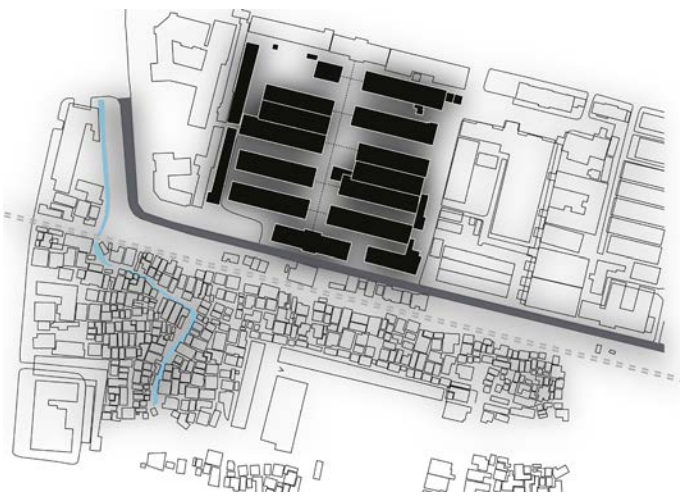
The muggier period of the year lasts for 10.0 months, from September 26 to July 24, during which time the comfort level is muggy, oppressive, or miserable at least 67% of the time. The muggiest day of the year is April 25, with muggy conditions 99% of the time. The least muggy day of the year is August 13, with muggy conditions 57% of the time.

Daylight



Sun

The length of the day does not vary substantially over the course of the year, staying within 31 minutes of 12 hours throughout. In 2018, the shortest day is June 21, with 11 hours, 43 minutes of daylight; the longest day is December 22, with 12 hours, 32 minutes of daylight.



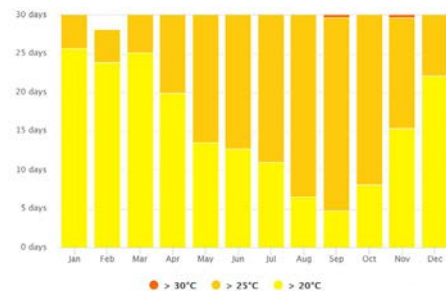
Cloudy, sunny, and precipitation days, from: © <https://www.meteoblue.com>

Shady parts most of the time on the north side of the buildings. Good distance between the buildings make sun light penetrate around the plot easily.

Temperature

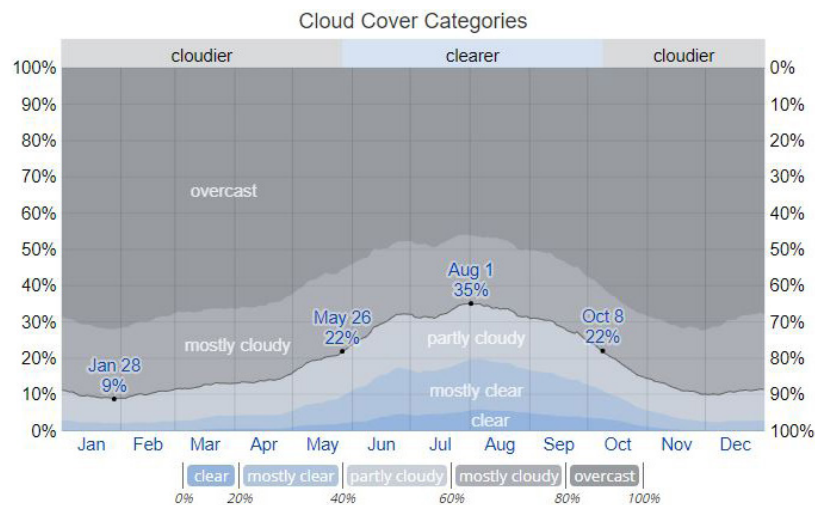
The warm season lasts for 2.4 months, from September 1 to November 13, with an average daily high temperature above 29°C. The hottest day of the year is October 3, with an average high of 29°C and low of 18°C.

The cool season lasts for 1.9 months, from December 31 to February 24, with an average daily high temperature below 27°C. The coldest day of the year is August 10, with an average low of 17°C and high of 28°C.



Maximum temperatures, from: © <https://www.meteoblue.com>

Rain

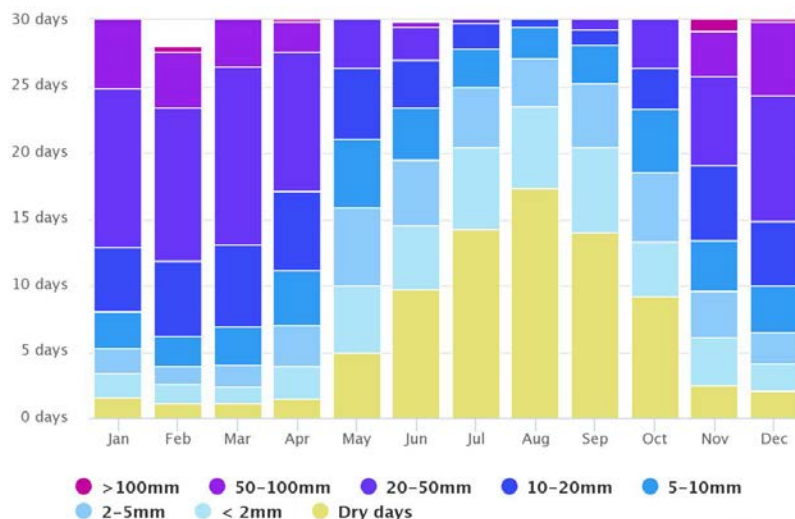


Cloud cover,
© <https://weatherspark.com>

Cloud cover

The clearer part of the year begins around May 26 and lasts for 4.5 months, ending around October 8. On August 1, the clearest day of the year, the sky is clear, mostly clear, or partly cloudy 35% of the time, and overcast or mostly cloudy 65% of the time.

The cloudier part of the year begins around October 8 and lasts for 7.5 months, ending around May 26. On January 28, the cloudiest day of the year, the sky is overcast or mostly cloudy 91% of the time, and clear, mostly clear, or partly cloudy 9% of the time.



Precipitation amounts,
© <https://www.meteoblue.com>

Precipitation

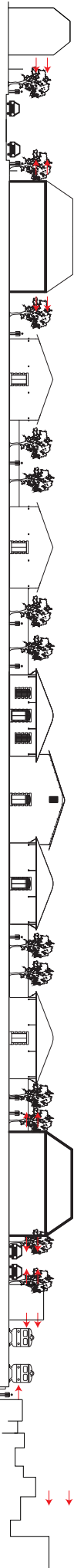
The wetter season lasts 6.7 months, from October 20 to May 10, with a greater than 44% chance of a given day being a wet day. The chance of a wet day peaks at 73% on February 6.

The drier season lasts 5.3 months, from May 10 to October 20. The smallest chance of a wet day is 14% on August 8.

Among wet days, we distinguish between those that experience rain alone, snow alone, or a mixture of the two. Based on this categorization, the most common form of precipitation throughout the year is rain alone, with a peak probability of 73% on February 6.

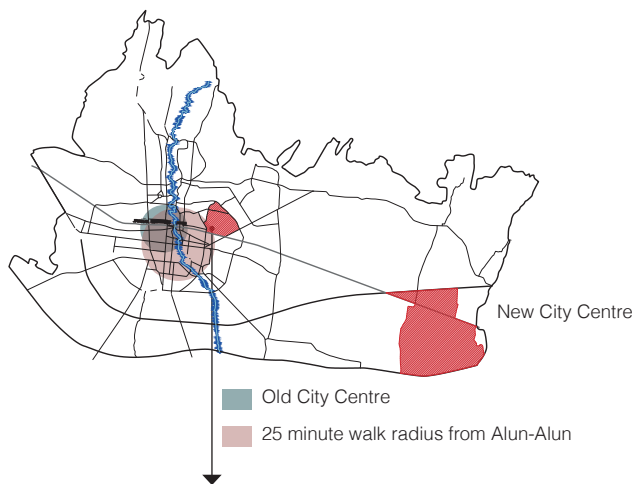


THE STREET



Collection of Photographs

Site in the urban and cultural landscape



The site is located just 25 minutes a way from the center of the city (Alun-alun) on foot. (10 minutes by car).

The whole military area, living and working, comprises a significant amount of land that could be used differently so as to address the needs of the constantly increasing population. From our perspective it shows more potential than creating a new city center to the east of Bandung. The same financial investment could be used to improve the quality of life in the existing urban setting.

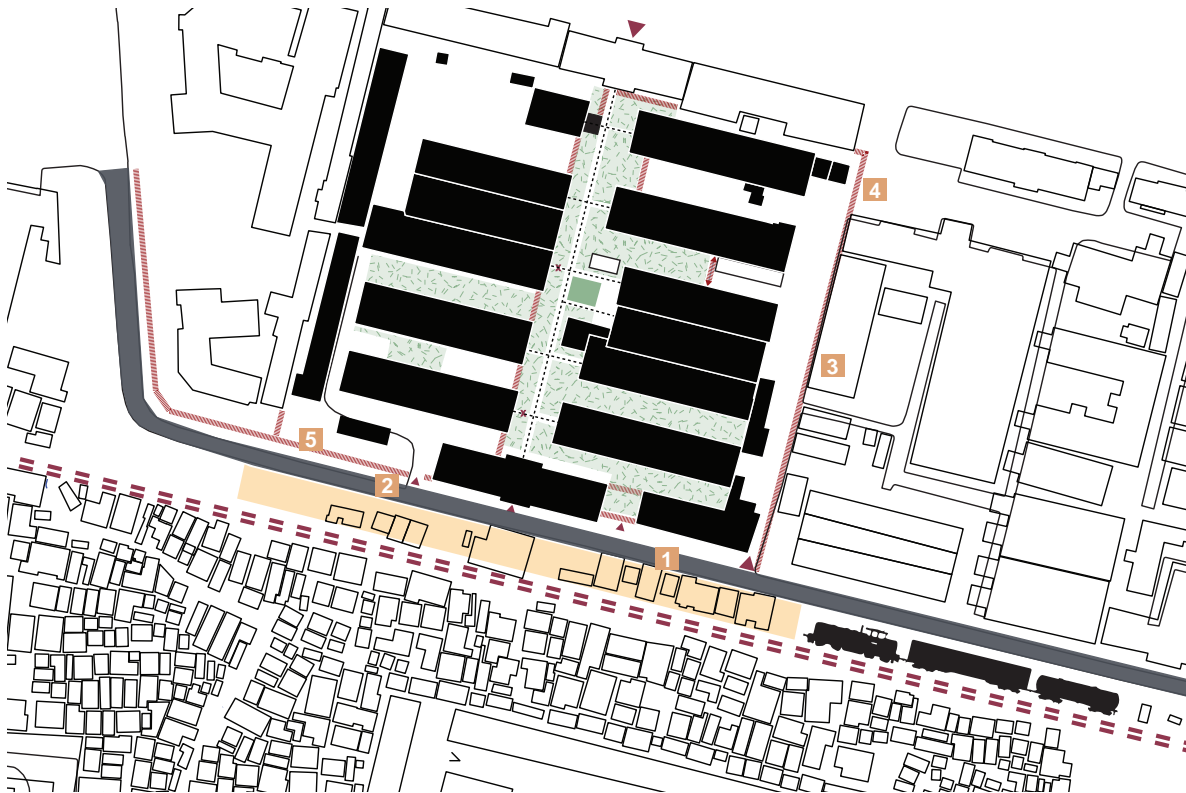
From a cultural perspective the location of the military complex is very important. As we saw earlier the military complex is part of the conservation areas of Bandung. There are a number of listed buildings that belong to the military and their history has a lot to offer in terms of understanding the shared heritage between the Dutch and the Indonesian people. The military complex also belongs to the implementation plan the “Garden City” concept which was also initiated by the Dutch as part of the “global” movement of the era towards Healthier and Greener cities. Moreover, its direct connection to the city’s infrastructure, particularly the railway, offer a greater understanding of the city’s urban, social and economic development. Different layers of time are also visible at the site. The Dutch east Indies military era, the Japanese military era - not so strongly visible -, and the Javanese military era (Siliwangi). Last but not least, the current use of the specific site reflects the Creative City concept of Bandung.



Collection of Photographs



Boundaries - Walls



Outer perimeter brick wall



1. Front Wall, South Elevation.



1. Back side of front Wall, South Elevation.



2. South elevation wall entrance.



3. East Wall, Separating our site from the rest of the military facilities.

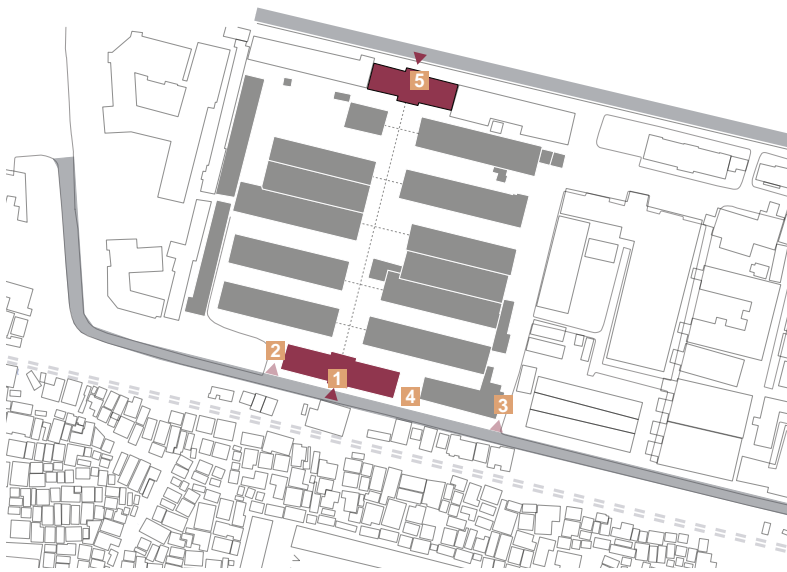


4. North East Side of the site.



5. South-West corner of the complex.

Main entrances



1. South Elevation, originally main entrance to the complex.



2. Service entrance to the west of the main building. Currently one of the two main entrances to the complex.



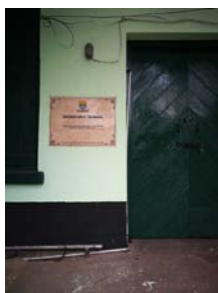
3. Currently, the main entrance to the back of the complex. Gated entrance.



4. Service entrance to the courtyard, side of the main building.



5. North Elevation, Main entrance similar to the South Central building's main entrance arrangement.



It is evident from the surrounding perimeter wall, encompassing the complex that it is quite segregated from its surrounding environment. Its former military function, required a high level of security and privacy therefore it was quite necessary. The main access to the inner heart of the plot was done via the two main entrance buildings on a North-South axis. Especially the south entrance has quite a grandeur character.

At the moment the only way to access the inner heart of the complex is by using the originally, secondary entrances, where vehicles have also access and then through the back side of the buildings. The site has a strong enclosed character that needs to be taken into consideration when designing an open, accessible to the public space.

Inner walls



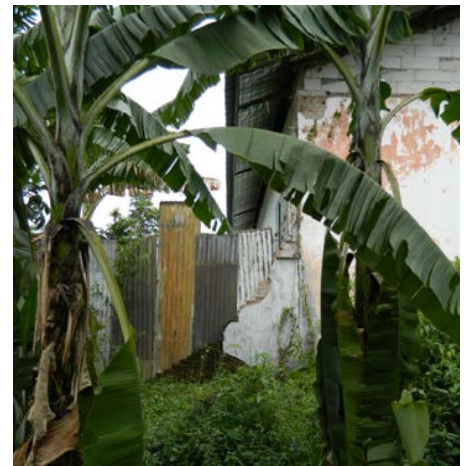
1. Main Building courtyard wall



5. North Entrance to the inner yard.



2. Main separation wall of the complex from South to North.



3. Newer Corridor Structure in between two buildings.

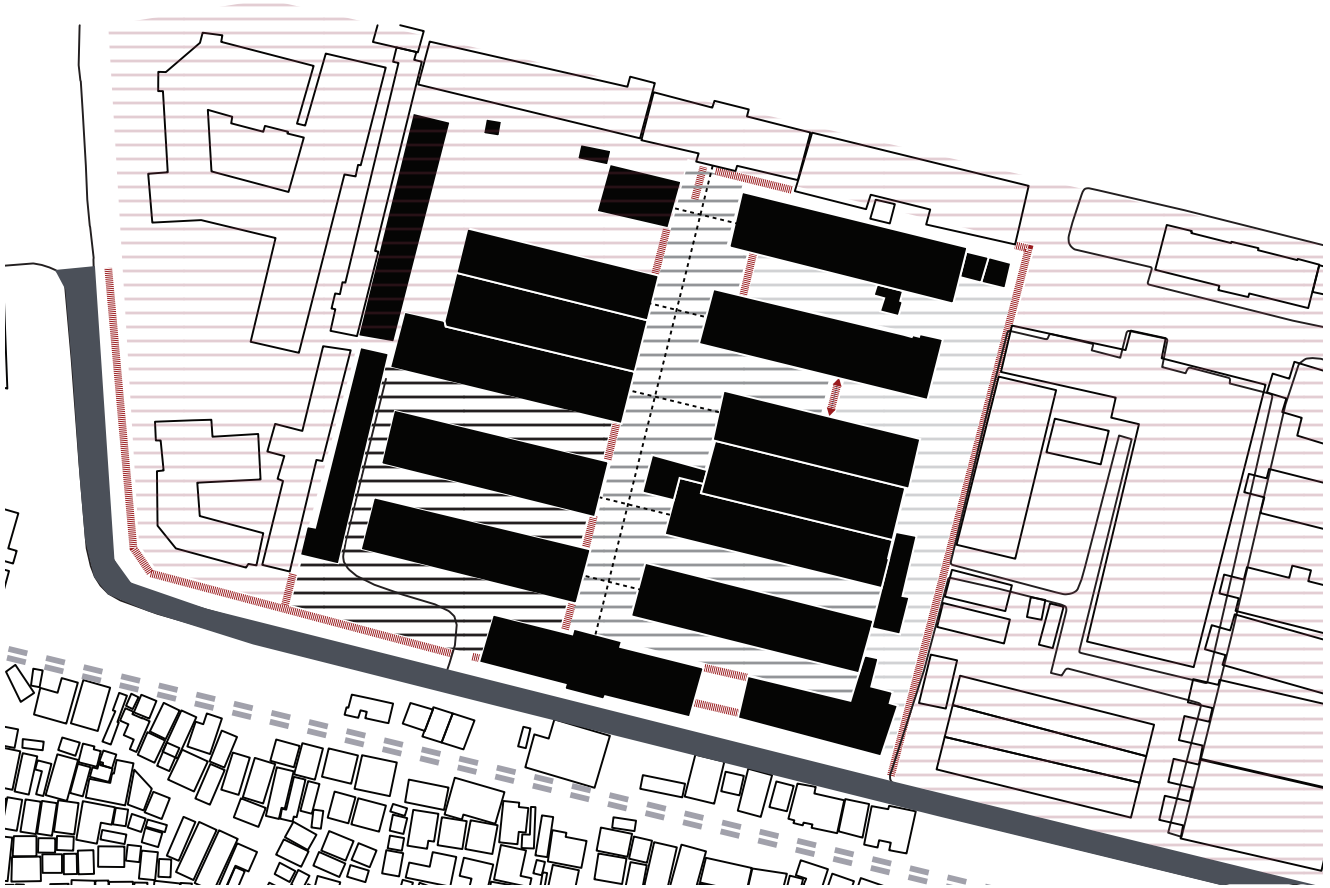








4. North Entrance to the inner yard.

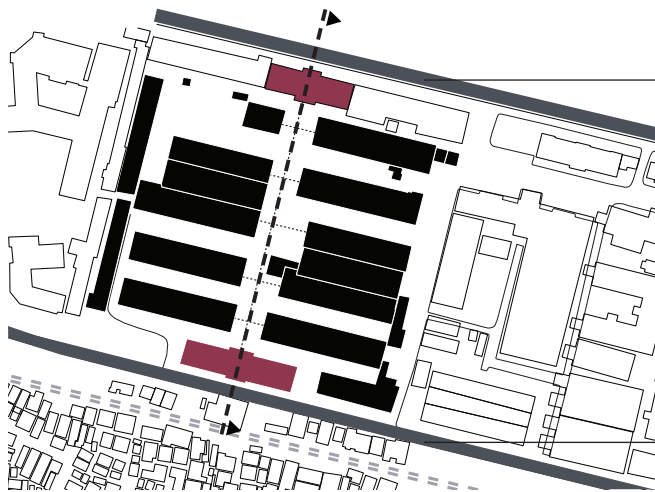


5. Imposed boundary to separate the military building from the rest of the complex.



-  Military use not accessible
-  Open accessible
-  Accessible only through the buildings
-  Accessible but not really public

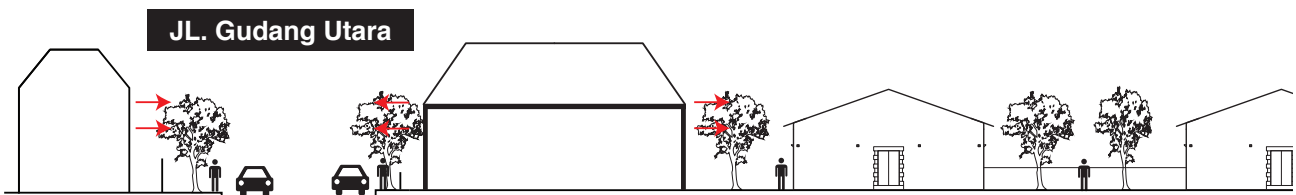
Street Edge



JL. Gudang Utara

Meaning:
"North and South Warehouse Street"

JL. Gudang Selatan



Military

Site

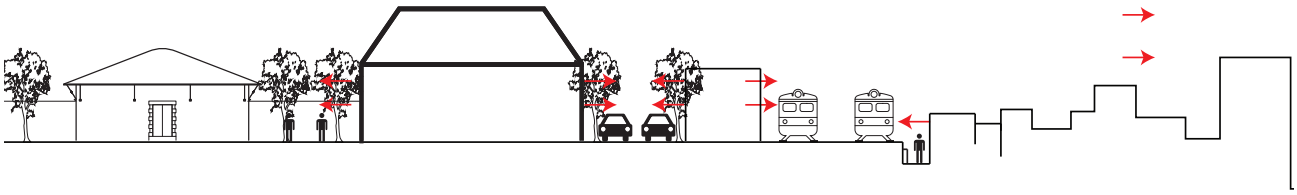
North

The north street edge of the complex is definitely better taken care of by the military people. There is pavement that pedestrian can walk on, even with signaling for blind people's assistance (There are places where it is quite dangerous). Moreover, the buildings are facing the street and have enough space in-between, most of which is dedicated to private use or parking and not to the public. There is also a fence present to highlight this. Beautiful big trees exist from both sides of the street (Garden City Concept), however sometimes they obstruct the pedestrian movement. There where some pedestrians but generally it was a relatively high speed road.



Collection of Photographs

JL. Gudang Selatan



Site

Railway

Kampung

South

This is the south street edge of the complex that is connected to the railway tracks. Once again the buildings are facing the street. The street itself, is smaller than the north one while no real asphalt is used for its texture. There is no pavement for pedestrians and the street is too narrow for the two-way vehicle movement that has been established. Parking space is available only in certain very limited areas.

Most of the opposite street edge is used for waste collection or retail of informal character.

Furthermore, there are various small alleyways that connect this side of the street with the parallel to it, railway tracks behind the narrow strip of structures.



Collection of Photographs

Conclusion

Based on the current environmental issues that Bandung is facing careful consideration needs to be given to the soil and climate during the design process. From our analysis it was evident that the site has a very nice balance between interior and exterior spaces. Already there have been changes to the landscape that allow people to use it for recreational purposes.

The soil is suitable for the plantation of different species including flowerbed, shrubs, trees etc while the existing irrigation channels may prove useful to ensure the non-flooding of the plot, since there were unpaved areas where we show significant flooding and mudding. The circulation in and around the complex has definitely lost its original quality, prestige and should be therefore re-interpreted. Especially the entrance building with the railway track.

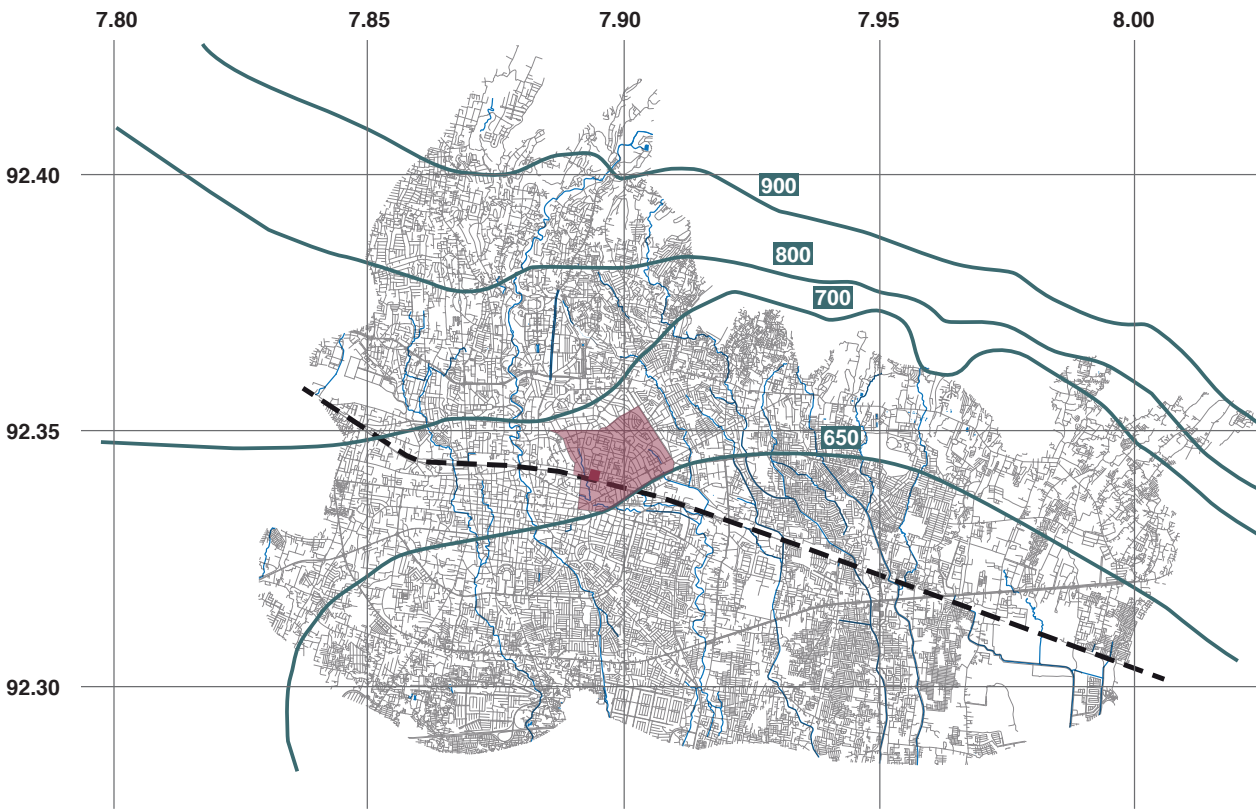
The climate in Bandung is friendly to the users' comfort. The buildings receive enough light at the sides but the core of the void can be quite dark in certain cases further analysis is going to be done once a 3-dimensional model has been made. The most important thing to consider is the right balance between the interventions that affect the physical structure of the buildings and additional installations.

The complex is located in-between two streets, Gudang Selatan and Gudang Utara. Gudang Utara has pretty much managed to maintain its original character, orientation and use with the surrounding military complexes. Pedestrian accessibility can definitely benefit from some small interventions. On the other hand Gudang Selatan is treated as a parking space and waste collection point. The original entrance is not used at all, while alternative routes to the interior of the complex have been created. It is important to understand this in relation to the value assessment that will follow later on. Furthermore, the informal settlements south of the railway have expanded to its north edge. The entrance building of has lost its connection to the railway system yet has managed to maintain its grandeur, imperial character. Further analysis is provided under the Skin section. Due to this, the servicing system and central axis of the complex has also lost its original function and needs to be re-interpreted.



SITE & SETTING

Landscape

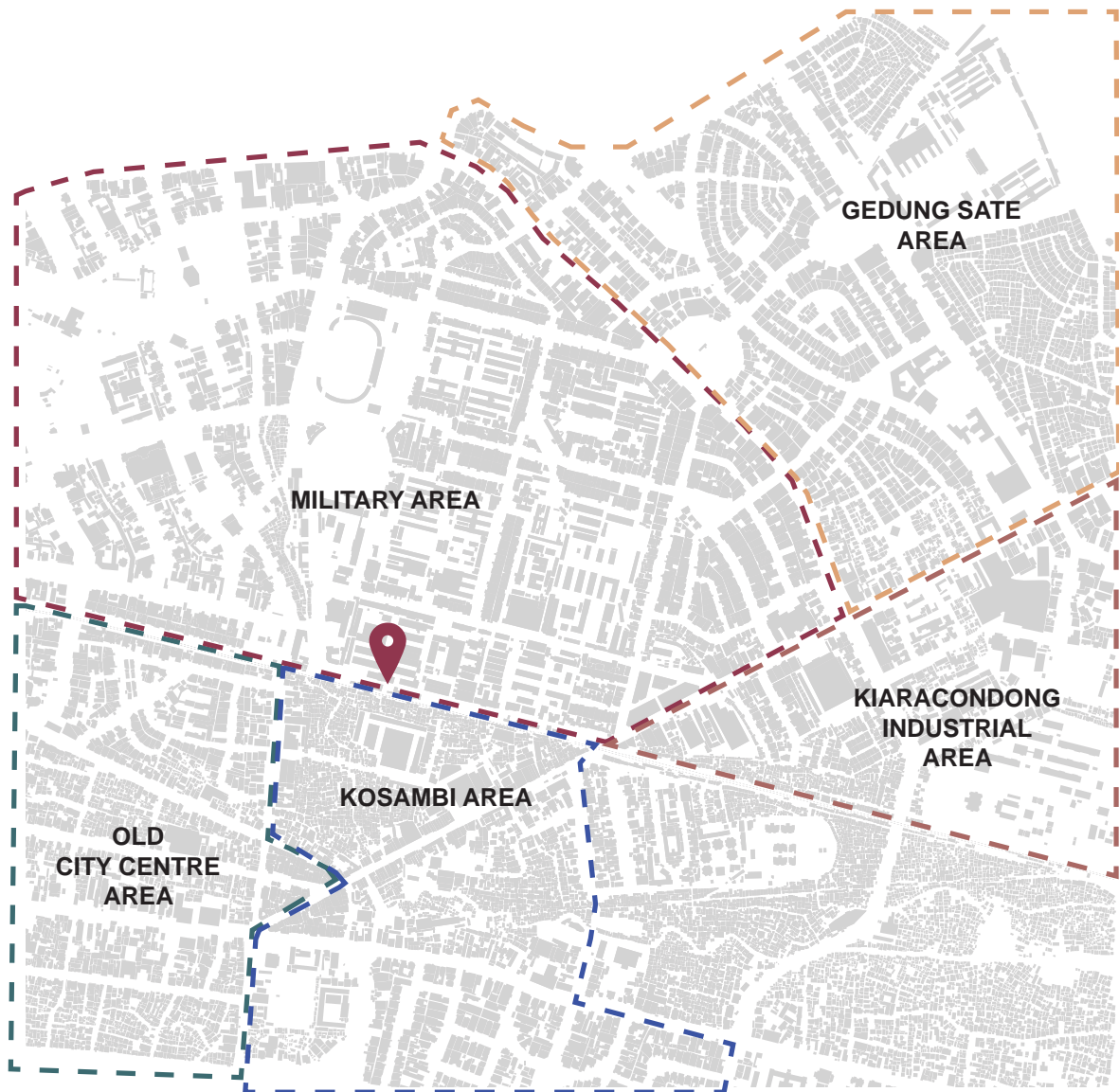


City map with contours

The site is relatively flat, there is a small slope from the south street edge to the north street edge of the specific complex and a greater increase in the surrounding context (the whole military area) of approximately 50 meters.



Density



Map with Bandung's different zoning areas

We can see that our specific site constitutes a boundary along with the railway between a very structured, low-density, urban environment and a highly populated, dense kampung area developed in between the railway track and the commercial street-scape of the Jl. Asia-Afrika.



Aerial Photograph,
from: © <https://earth.google.com>

Military Area



Pasar Kosambi Area



The military district in the city of Bandung has one of the most strong and planned grids in the city. It is also one of the greenest and less dense areas. Therefore, there are a lot of opportunities so as to alleviate the pressure from the city centre in terms of the constantly increasing population.

In addition this areas is particularly interesting because of the combination of land uses that are present. The are both living and working zones, clearly defined as well as parks and centres of communal activity as we will see later on.



Pasar Kosambi is also a very interesting area in the city due to the multiple faces it has. The edge of Jalan Asia-Afrika is a commercial zone where people can find all sorts of commercial activity, from very formal and expensive stores to more informal street fenders. There are plenty of textile and clothing stores as well as retailers.

The most important aspect of this area is the kapumpung Pisang which has been developed between the commercial zones and the railway tracks. Overpopulated, very dense but at the same time one of the most properly taken care of kampungs that we encounter during our stay in Bandung. The kampung as various entrance points (at least North, South, East and West). There is no place for cars, only motorbikes or bicycles that increase the amount of noise coming from the railway. Public space is completely absent.

In the middle of the kampung, there is "Kosambi International Trade Centre", a huge complex, whose use we were unable to determine. We assume that it combines living and working environment.



Gedung Sate area



Kiaracondong, Industrial Area













Old city Centre Area



Kampung area

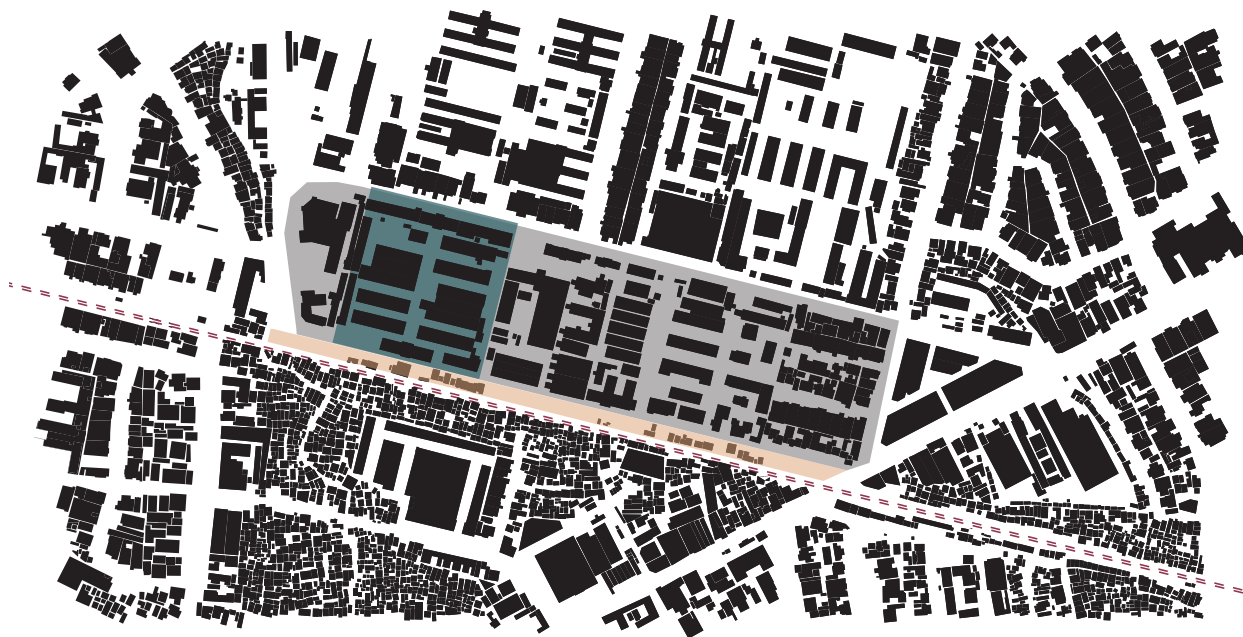


Land use

-  Green Areas
-  Commercial Areas
-  Services (Schools, Hospitals etc.)
-  Governmental Buildings
-  Residential Areas
-  Kampung
-  PT Kereta Api Assets
-  Offices or Unidentified
-  Military Areas
-  Chosen Site



Our complex



Our chosen site, as a complex, along with the rest of the warehouses and military buildings between Gudang Utara and Gudang Selatan, is part of a buffer zone, between the strongly planned, low density military district and the very organic, high density Pisang Kampung, south of the railway. The complex is not as dense as the kampung but it is not as sparse as the rest of the military warehouses that are still in use. Moreover, the fact the street is used from both communities, even though for very different things, further highlights this observation.



The railway itself is also part of this buffer zone, since the organic, informal kampung has been partly extended to the north side but only to this narrow (yellow) strip of land.

This narrow strip is also seen as part of the buffer zone since its activities are strongly associated with the government and the collection of waste.











Any kind of intervention in the area as well as suggested function from the former military complex should take this information into careful consideration.



Landmarks and Public Spaces



Map

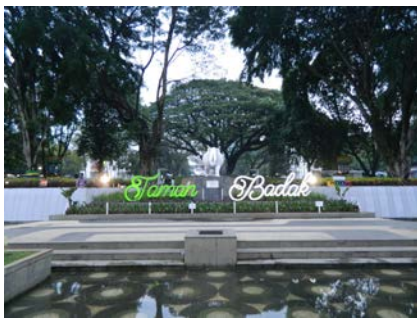
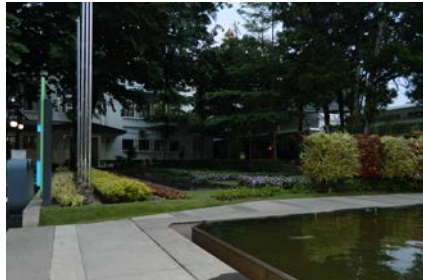
- | | | | |
|---|----------------------|---|---------------------|
|  | Important Buildings |  | Libraries |
|  | Green space |  | Cultural Activities |
|  | Parks (Public Space) |  | Sports |
|  | Landmarks | | |
|  | Government Buildings | | |

Based on the different zoning-areas that we saw earlier, the military area includes most of the landmarks and public green spaces of all the different zones/districts in the area, still almost all are located north of the railway. The same applies as we saw earlier for listed buildings and conservation areas.

The green open space is a reminder/continuation of the Garden City Concept implementation. There is a combination of public parks and private parks that require a ticket that not everybody in the surrounding area can necessarily afford.

Parks

1. Bandung City Hall Park



Bandung's City park is a very interesting landscape. There are open, public spaces for different facilities and uses, from playgrounds for the children to open-air karate lessons.

The vegetation is strongly planned and constitutes a combination of trees, shrubs and flowerbeds. It is important to mention that the park is gated and probably has fixed opening hours.

2. Ade Irma Suryani Nasution Traffic Park



An area of 3.5 ha is in it there is \pm 1,000 trees and many flower gardens, including many rare tree remains our care and preserved its existence, because it is so beneficial for the comfort of the environment and the health of people in Bandung, West Java in particular but also the society in general. Ade Irma Suryani Nasution garden or park Traffic is one of the recreation park located at the center of the city of Bandung. The place is very suitable as a family recreation, here your children can learn a lot about the traffic signs. In addition to a garden, this place is also used for training center read traffic signs. Some new faces besides spatial planning and zoning, the face of a traffic park train also now has an increasingly modern look like a Japanese Shinkansen fast train.

The traffic park is one of the most popular tourist attractions in Bandung which is always crowded on holidays and weekends. You can ride various kinds of rides in this traffic park.

The history of the Bandung traffic park is quite unique, because it was originally a land for military training for Dutch soldiers. Initially the first family recreation park in Bandung was named Insulindepark, but after the events of September 30, the name of the park was changed to a traffic park Ade Irma Suryani Nasution.

Photographs,
from: © <https://tamanlalulintasbandung.com/>

3. Taman Maluku - City Park



Photographs,
from: © <http://www.bandungmagazine.com>

This Rotterdam-born man later dedicated himself as a missionary for the Dutch East Indies at the age of 27. On October 15, 1872, for the first time he came to Indonesia and spread Christianity in the Padang area. After from Padang, he continued his mission to the Aceh region.

In Aceh, precisely in 1977, the Dutch government gave a plot of land which is now known as Pante Pirak. For the service area, the Dutch soldiers then set up chapels made of wood. The existence of this chapel is not too long, because the location is in a flood-prone area. Therefore, the Dutch army then established a more suitable place in the form of a church. Later, the church that was founded became the first church in Aceh. Also in Aceh he remained for 33 years before finally ending his service as pastor and missionary.

At the end of his service, he settled in the city of Magelang, Central Java. In this city also Father Verbaak ended his life.

During his life, he was known as a person who cares for humanity. Helping victims of war both from their nationalities, even indigenous peoples. For his concern, he is known as a person who is close to the community and loved by everyone.

In honor of his services, The Dutch East Indian Army built a monument in the form of a tangible statue in the city of Bandung, precisely in the Maluku park which was formerly known as Moluken Park.

4. Centrum Music Park



Photographs,
from: © <https://earth.google.com>

The Centrum Music Park is on a round-about. In terms of its landscape it combines of trees, shrubs and flowerbeds as part of its greenery and an amphitheater seating area which serves various different activities. Parents may sit there and wait while their children are playing or young people may gather to play music etc.

There are also a lot of instruments' sculptures distributed around the park. Opposite to the park there is a school therefore its location is particularly important. Centrum Music Park is a public park.

5. Taman Tongkeng - City Park



Photographs,
from: © <https://earth.google.com>

6. Taman Cempaka



Photographs,
from: © <https://earth.google.com>



7. Taman Pramuka



Photographs,
from: © <https://earth.google.com>



Scouting provides young people with opportunities to participate in programs, events, activities and projects that contribute to their growth

as active citizens. Through these initiatives, young people become agents of positive change who inspire others to take action.

8. Taman Persib



Photographs,
from: © <https://reisha.net>



Taman Persib is an active park. It comprises of 6 football courts



in the middle and various other sport facilities around them.

Public space in Kampung areas



Landmarks ★



Managing Bandung Monument



Pastor's H.C.Verbraak Statue



Statue of Culture



Scout Kwarcab Bandung



Bandung Conference Memorial Statue

Museums

1. Museum Mandala Wangsit Siliwangi



Photographs, from: © <https://earth.google.com>

Wangsit Mandala Siliwangi Museum is a military museum. Siliwangi is the name of the regional military command of the Army in West Java and Banten whose name is taken from the king of the Sunda Kingdom whose capital is in Pakuan Pajajaran whose authority is said to be unlimited, it is also considered to be wise and dignifying in terms of the government to be associated with the military. The museum was inaugurated by the Siliwangi division commander Colonel Ibrahim Adjie on May 23, 1966. This museum is located on Jalan Lembong, Sumurbandung sub-district. This road was taken from the name of Lieutenant Colonel Lembong, one of the Siliwangi soldiers who became a victim in the Queen of Justice Fair War coup. Previously the road was named Oude Hospitaalweg.

The museum building which has the final Romanticism architectural style was built in the Dutch colonial era between 1910-1915 as the residence of Dutch officers. After Japan occupied Indonesia in 1942, this building was used as a base to hide from the Japanese. After independence, this building was taken over by the Siliwangi forces and was used as the headquarters of the Siliwangi Division (Bandung Military Academy) in 1949-1950. Then in 1979 the building was renovated into a two-story building.



Photographs, from: © <https://komunitasaleut.com>

2. Museum Virajati Seskoad



Photographs, from: © <https://earth.google.com>

This museum was built with the intention of perpetuating and developing the role and results of the struggle of Seskoad, also functioning as a means of education and recreation and is expected to motivate future generations.

Virajati Seskoad Museum is under the Army Command School, the Army. Collection of Virajati Seskoad Museum consists of types of history, logic, and art. Collections owned by this museum are all 400 collections.

Creative Spaces

1. Creative Hub Bandung

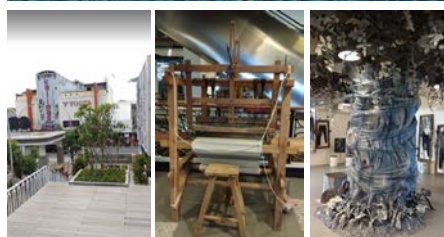
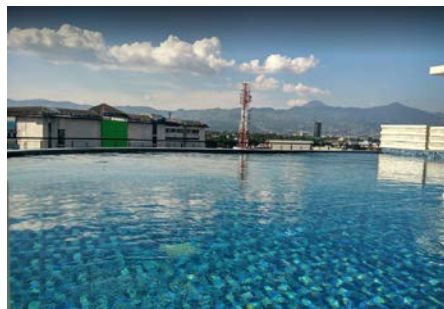


Bandung Creative Hub is a laboratory for various creative industry sectors in the city of Bandung. It is the first public facility from the government that accommodates the interests and needs (actors) of the creative industry in the city of Bandung. One part of the government's plan regarding the establishment & development of various creative nodes in the city of Bandung, each of which has a focus and function according to its location and capacity.



Photographs,
from: © <https://earth.google.com>

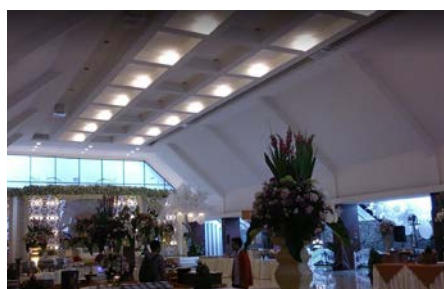
2. Greko Creative Hub



This is an tower complex that combines a creative hub with commercial and recreational activities on the ground floor and apartments on the high rise.

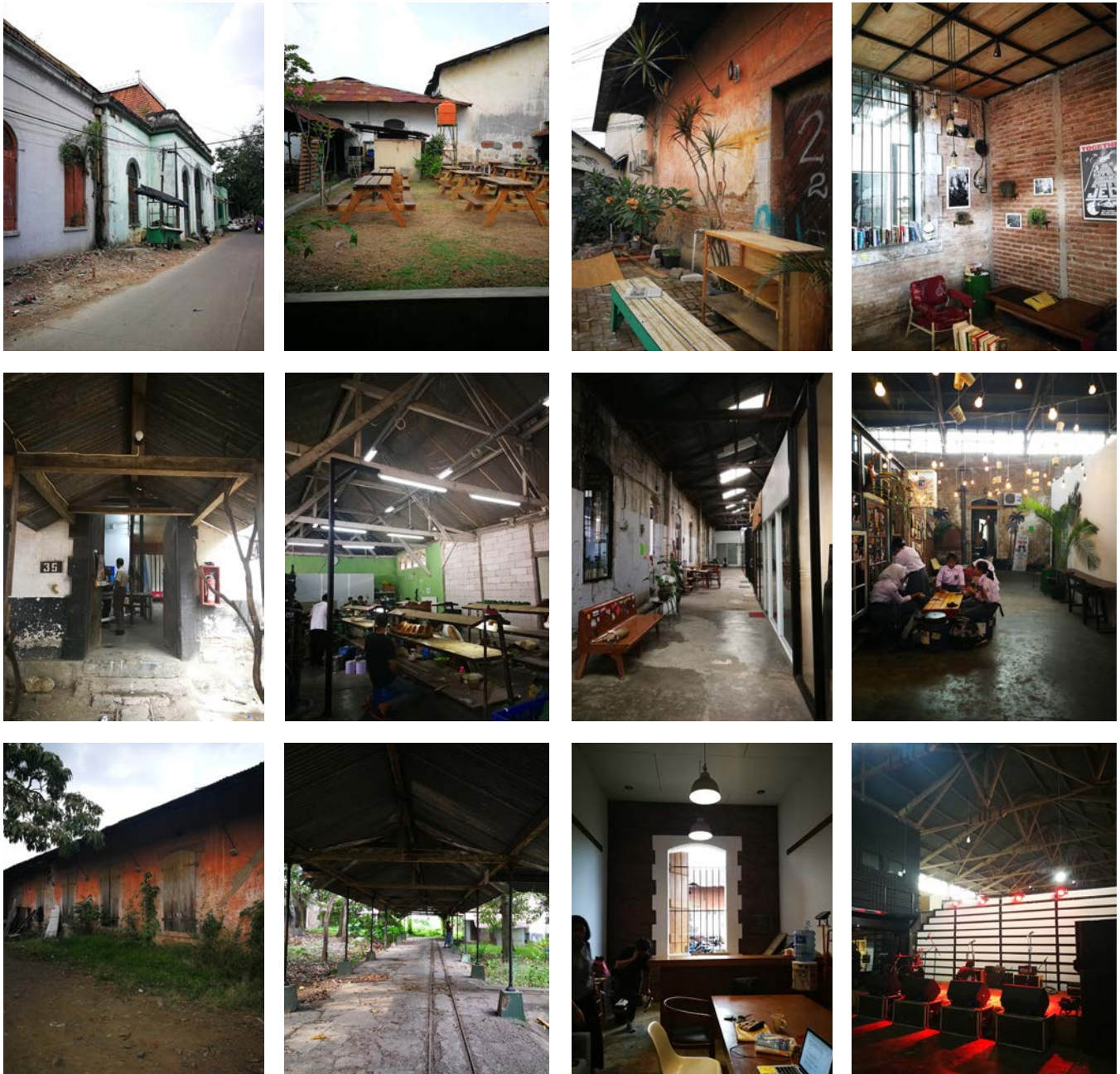
Photographs,
from: © <https://earth.google.com>

3. Other - Gedung Satata Sariksa, Graha Tirta Siliwangi



Photographs,
from: © <https://earth.google.com>

4. "Spatial" - Gudang Selatan no.22



Collection of Photographs

Interview with Ardo Ardhana; the man behind "Spatial"

In 2015 individual people acquired the opportunity to rent space in the former military warehouses. Rent was provided according to the space acquisition the unit was a 4-pillar division (3,5 m x 14,0 m). The idea was to convert this space into an alternative space where exhibitions, art and music performances can take place. The goal is multifaceted:
 1) to support the community
 2) to provide Bandung with a really active cultural and retail space that establishes connections with various parts of the city.

Spatial has a very defined target group that mostly comes from the creative hub of Bandung. People are specifically tied to specific events that are planned in spatial. There is not enough support by the military or the government so as for the people to use signs and way-finding labels that would make spatial open to the public. In addition the different individuals would have to be responsible for controlling the public in terms of illegal activity such as Drugs, Alcohol etc. The government's role is dubious;



even the initiative has received support and financial grants from the Creative Economy Ministry as well as the Cultural Ministry, the City Government's plan to use empty assets around the city will force the people of spatial to move to another location. The character of the space is somewhere between the formal and informal boundary.

1. GOR dan Taman Saparua - Sports Complex



Photographs,
from: © <https://earth.google.com>



2. Stadion Siliwangi - Stadium



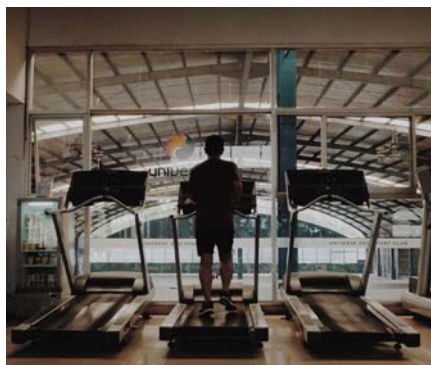
Photographs,
from: © <https://earth.google.com>

Siliwangi Stadium is located at Jln. Lombok Bandung, this stadium was previously called SPARTA field. This refers to the Dutch East Indies military football team that was in Bandung at around 1916. This team is a transfer team from Batavia and uses vacant land on the current Lombok road as a place to practice and play. The field is sometimes also used by Dutch soldiers for row training because of its location in the military. The arrival of the military and its football team to Bandung, possibly related to the plan to move the capital of the Dutch East Indies from Batavia to Bandung at that time.

After 9 years of an independent Indonesian state precisely in 1954 the SPARTA field area was built a stadium managed by Kodam III / Siliwangi and intended for physical formation of members of Kodam III / Siliwangi. As a more representative stadium has not yet been held in the city of Bandung to hold large sports activities, especially football, the stadium with a capacity of around 28,000 spectators is identical to the Persib Bandung cage. In June 11, 1987, PSV Eindhoven was the strongest team in the Netherlands and the European scene and was strengthened by Ruud Gullit, holding a friendly match against Persib Bandung at the Siliwangi Stadium and witnessed by approximately 25,000 Bobotoh

who packed the stadium stand. The stadium was built precisely 8 years after Bandung Lautan Api (BLA) on March 24, 1946, at the initiative of the Commander of the Army and Territorial III, Colonel Inf AE Kawilarang began the construction of the stadium for sports activities for the citizens of Bandung City and for training the Siliwangi soldiers. Built on Kodam's land, construction costs were collected from salary cuts for soldiers and Kodam employees for 2 years. Moreover, because of the tightness of the land in the city of Bandung two companies of the army were forced to take land in Lembang for several weeks. At that time there was only the main stand and made of wood. In January 1, 1976, the Siliwangi Stadium experienced rejuvenation. Almost all parts of the stadium were demolished. The construction of the stadium was carried out by PT. Propelat involving around 300 workers.

3. Siliwangi Swimming pool, Tennis Court and Wellness Centre



Photographs, from: © <https://earth.google.com>

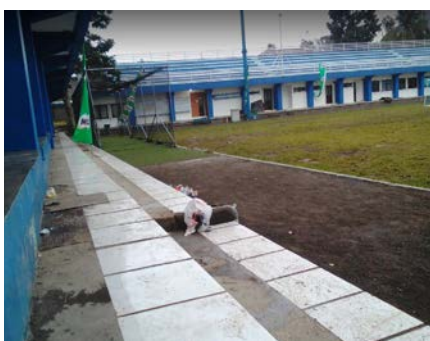
4. Siliwangi Driving Range Siliwangi Golf



Photographs, from: © <https://earth.google.com>

Siliwangi Golf Driving Range can be the only golf practice in Bandung and a Golf Driving Range that is quite strategic with an area of about 2 hectares located in the center of Bandung. Equipped with various supporting facilities such as Cafe Resto, & Golf equipment shop. Siliwangi Golf also accepts for everyone who wants to learn about Golf sports because in the mission carried out by Siliwangi Golf related to this sport does not belong to a particular group and can be played by all people and all groups.

5. Stadion Persib Sidolig - Stadium



Photographs, from: © <https://earth.google.com>

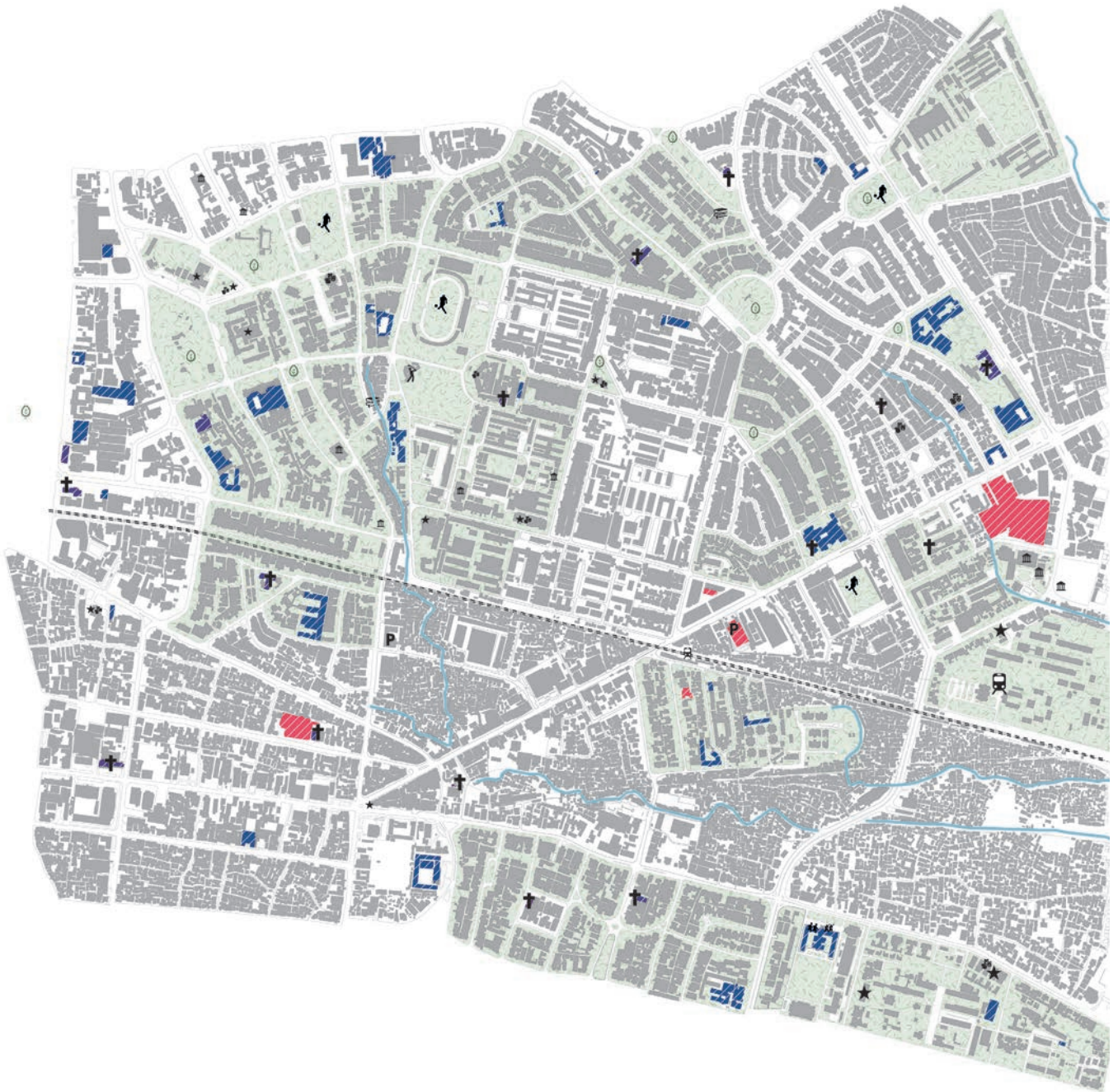
Sports in kampung areas



In the kampung areas there is provision of space for sports or other recreational facilities, in most cases there are certain empty concrete plots for football but apart from that children are forced to play along the railway track, even when biking.

Collection of Photographs

Communal Facilities



Map



From the map illustrated above, it is evident that most of the communal facilities such as schools or churches are in the periphery of our site. Schools are mostly situated north of the railway and are usually near, or opposite to green public space. Churches are also located in various places around are site, but again mostly in the Northern part where most of the Dutch people where living during the Colonial period.

Last but not least, commercial activities, in terms of shopping malls are not strongly present in this area. There are a few, in the main streets, however the commercial sector is mostly characterized by small retail shops, or street fenders. Kampung areas south of the railway, have their own religious spaces (multicultural) however, schools are not present, with the exception of the religious education young children receive.

Accessibility



Map of Public Transportation

- Railway
- Intersections
- Bus stops
- Train stops
- Pedicap stop
- 10 min walking distances from South entrance
- 10 min walking distances from North entrance

- Slow traffic
- Medium traffic
- Fast traffic



Map of average traffic during weekdays

Angkot



City transport, well-known as “angkot” (angkutan kota), has several routes in Bandung and it is the cheapest public transportation in Bandung.

Angkot doesn't have any station. The way their system works is that you can get on or off from whenever and wherever you please. To get on the car we just need stand at the side of the road and wave our hand to the driver. To get off from the car we just need to say “kiri” which means “left” to the driver to make the car stop.

Bus



There are various different lines inside the city of Bandung that provide services to different parts of the city as well as connections to the satellite cities of Bandung. The first are Bus Lines in Bandung by Angkutan Bandung which however do not provide services to our area. Then there are Bus Lines by DAMRI, by Trans Metro Bandung and Bus Lines by Kobanter Baru. According to the bus line the bus stops are also different.

The Trans Metro bus stops are elevated consequently the design of the buses is also different with elevated doors. The stations are completely enclosed therefore there is protection against the weather. In smaller buses such as the ones provided by Kobanter Baru the station is just a post with a label.



Pedicab



Pedicab, or well-known with “becak” in Indonesia, has a driver behind the passenger's seat, that always paddles the pedicab. This kind of transportation is the slowest among the others and can't go too far because it depends on the human power. Most of them operated in residential areas and the suburbs.

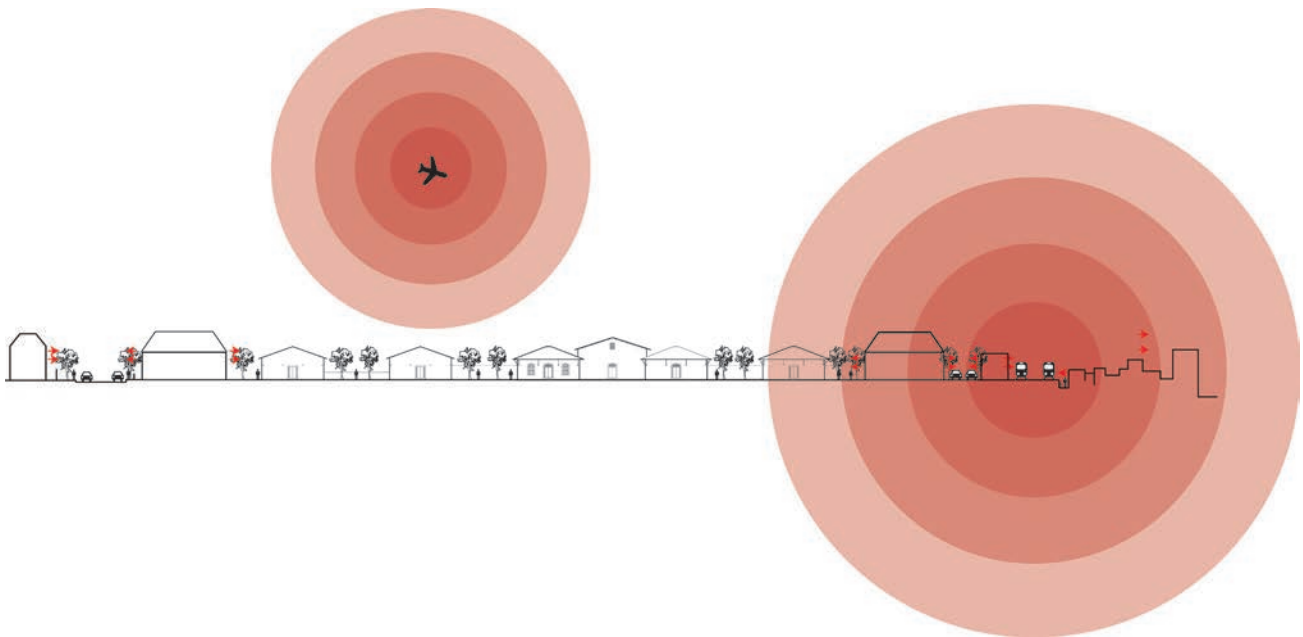
Cycling



There is the Dago car free day and the Asia Afrika car free day where most people use bicycles to move around however they are using the car routes since there is no provision of cycling routes in the city of Bandung. In our specific area there is no sign of cycling activity.

Pollution

Noise



Noise pollution is definitely one aspect that needs great consideration when redesigning the area. Not only the railway that is very close to the main entrance of the building causes disturbance every time that it passes but also the planes fly at a very low height at this particular point in the city, resulting in loud noise interruptions as well as vibrations.

Smell



All kinds of waste are evident in the street between the railway and our complex. Gedung Selatan is a collection point for waste in terms of plastic and paper. There are various pavilions where people are separating waste products that have been collected by the surrounding areas. It is often that waste dominates the street since there is not much more activity apart from people that either live or work in this zone. There were also areas where people were burning waste. Apart from the street the river was also full of trash, polluting the water as in other areas around the city of Bandung.

Negative visual impact



Waste



Posters



Cables



Gutter and Biological Growth



Graffiti



Air-conditioning

Conclusion

This chapter offered us valuable insight into the morphological, social and economic conditions of the context. The “KNIL Magazijnen” is located at the intersection of four different sub-districts and/or conservation areas. Consequently, any intervention to the existing complex will affect the social environment of four different zoning areas whose needs need to be taken into account in the proposed master plan for the railway backbone. The most important thing to take into account is the difference between the strongly structured grid of the military areas and the informal settlement of the Pisang kampung. The two areas are strikingly different both in terms of their morphology, land use and support infrastructure provided by the government. Public spaces and green spaces are abundant in the military area whilst non-existent in the kampung. The same applies for communal facilities, schools and creative centers. The whole analysis helps us to understand how much the area has evolved throughout its history and come up with a master plan and intervention proposal that address the social and cultural context of the “KNIL Magazijnen”. Transportation routes were also crucial to look into since the railway contributes so much to the traffic problem of the city. Last but not least, one of the most striking aspects of the site during our visit that will definitely have an impact in the design interventions was the noise pollution. Both noise from the trains and air-planes needs to be taken into account while the existing values of the complex are maintained.

BUILDING(S) ANALYSIS

CONTENTS
"KNIL MAGAZIJNEN"

| | |
|----------------------|------------|
| BUILDING(S) ANALYSIS | |
| SKIN | 191 |
| STRUCTURE | 209 |
| SPACE PLAN | 227 |
| SURFACES | 235 |
| SERVICES & STUFF | 243 |



BUILDING(S) ANALYSIS



SKIN



Nature of the skin and roof

In general, the skin of the buildings that the complex “KNIL Magazijnen” is comprised of are made of plaster on Dutch-bond, brick wall. There is also some finished plaster work on the interior skin in some of the warehouses. The roof is mostly covered with corrugated steel sheets. The most-striking element is the reddish patina on the exterior of the buildings.

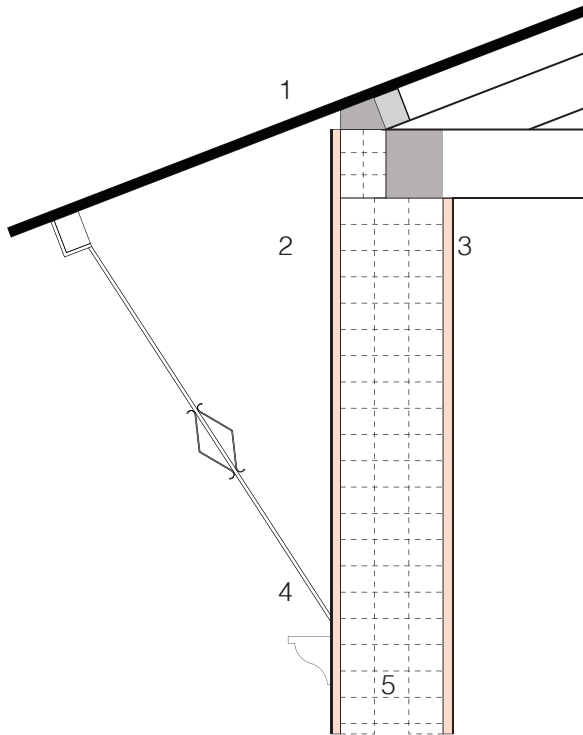
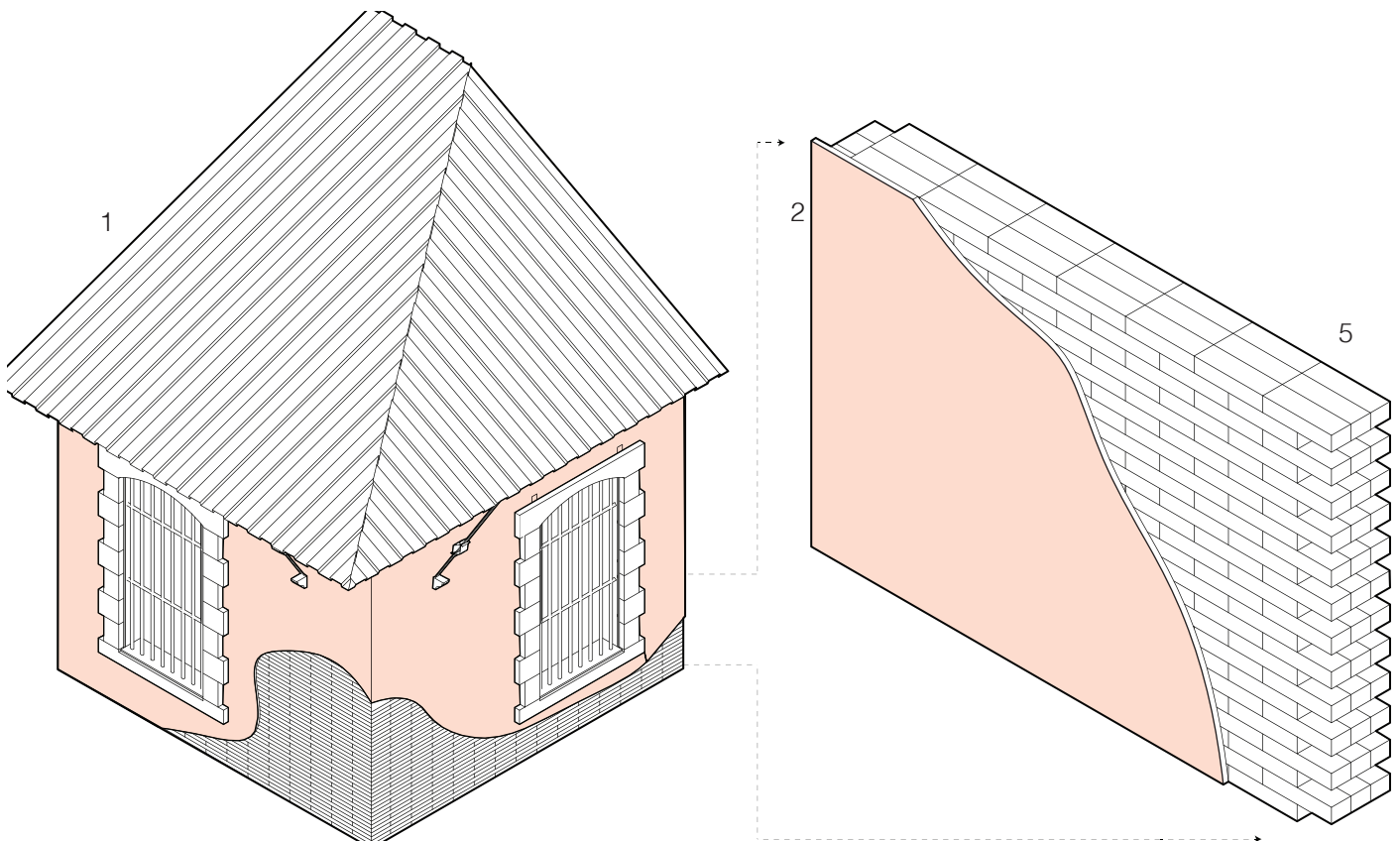
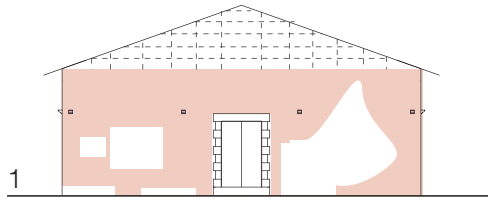


Photo 1: Skin of Spatial
 Photo 2: Skin of front building
 Photo 3: Changes to skin
 Photo 4: Original Warehouse skin
 Photo 5: Changes in skin color over time
 Photo 6: Warehouse

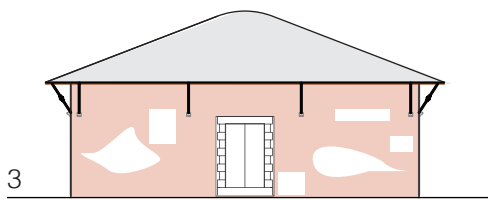
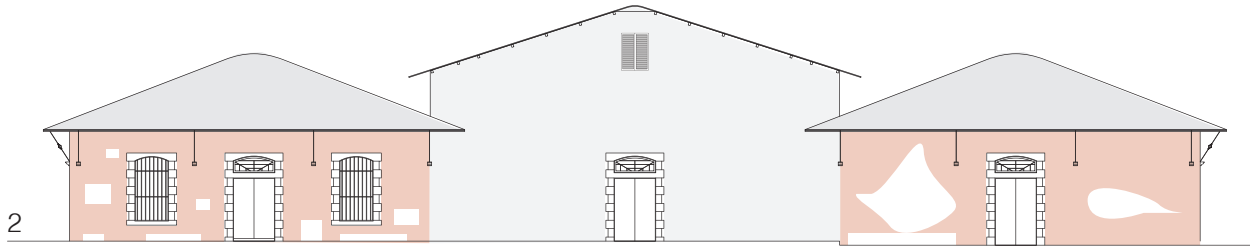
1. Corrugated steel roof cover
2. Plaster cladding exterior
3. Plaster cladding Interior
4. Wrought iron tension rod
5. Brick wall



Type of materials, colors and roof style for each building

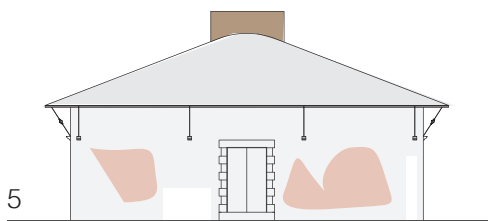
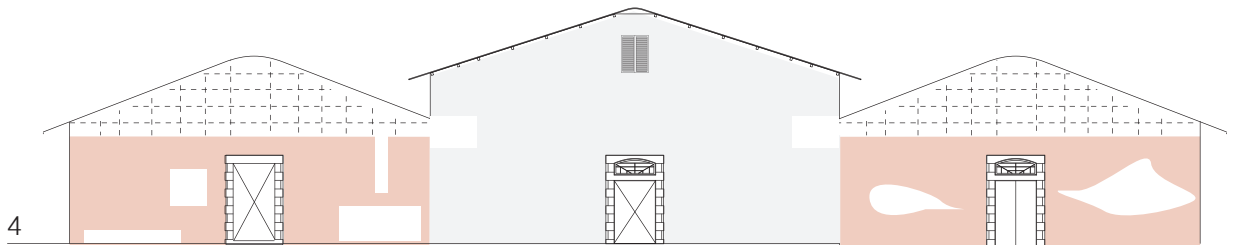


1: There are two warehouses of this type. They have the original brickwork from the early 20th century, but at some time they decided to extrude the short sides of the building with some extra concrete blocks, and this is why they have a salt-box roof shape. The red patina, is the result of washed away plaster.



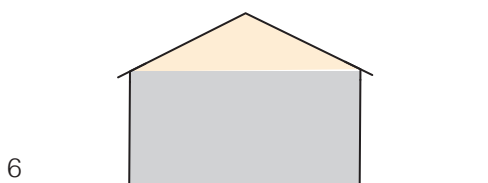
2: Two original hip roof style warehouses connected with a third, taller building in between. Building in the middle is white.

3: Original warehouses with a hip roof style. The red patina is strongly present. Corrugated steel sheeting is covering the roof. This building is in a relatively, bad condition.

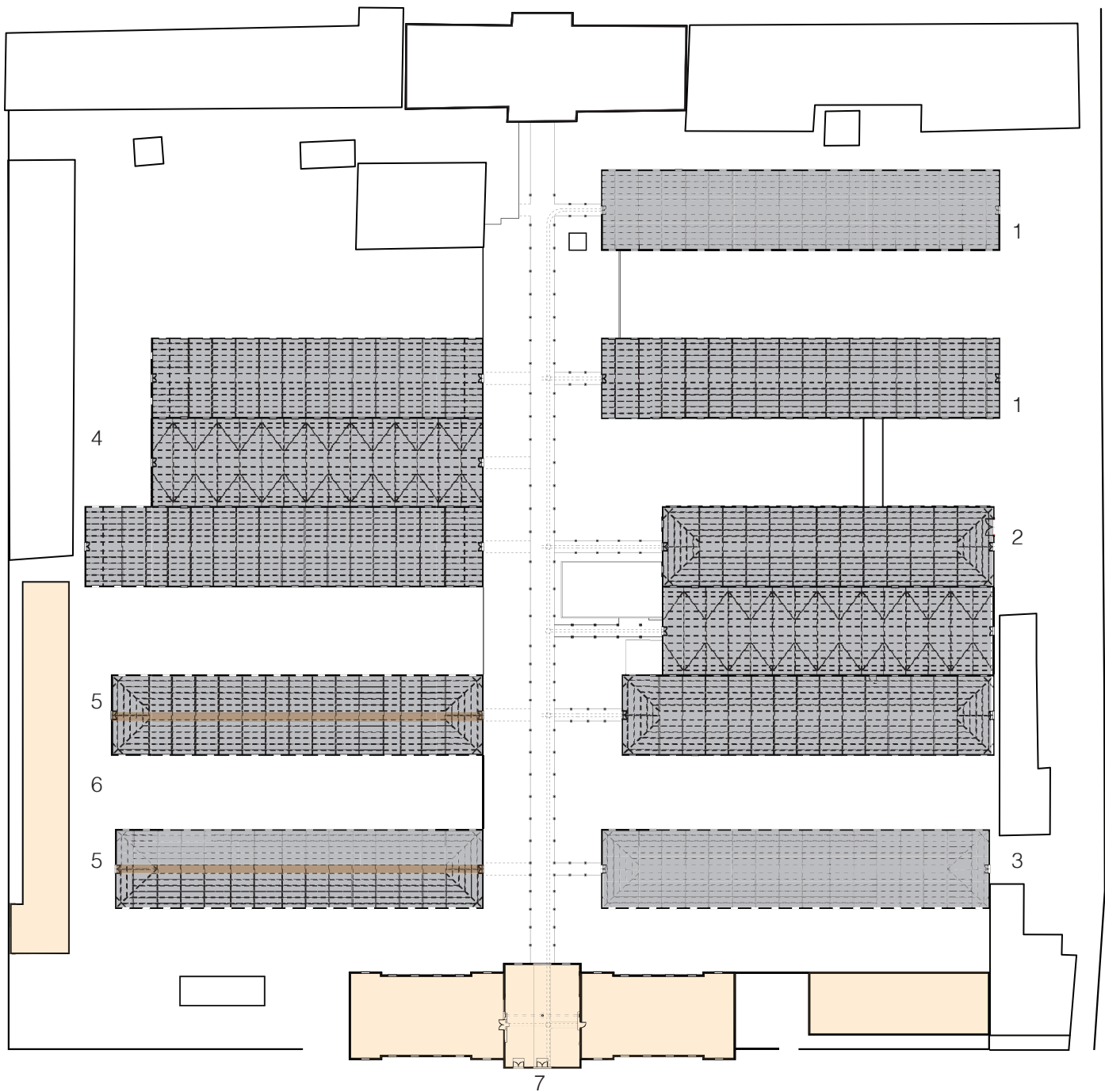


4: Two warehouses that look like number 1, connected with a taller building in between like in the example of number 2.

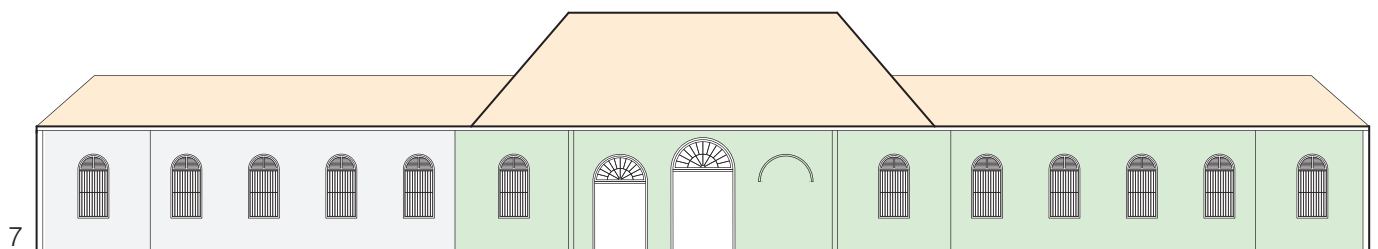
5: These buildings have the same materials and skin form as number 3, just with an extra ventilation system build on top of the roof structure.



6: Same materials as in the rest of the complex, even though this one is clearly built after the other ones. The roof is covered with tiles, separating it from the rest of the warehouses. Walls are built up of bricks and are covered with white/gray plaster.



7



7

7: Main building at the south entrance of the complex. A brick wall structure, covered with plaster. 2/3 of the building is painted in the military green color (Siliwangi green), but most of it has vanished away today. The rest of the building is in gray/white plaster. The roof is covered with orange/ceramic tiles.

Entrance Building

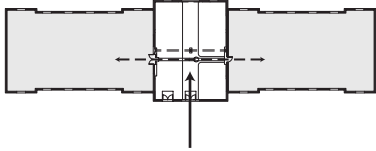
The entrance building is the main, and first building you see from the south side of the complex. The entrance building is a typical example of the "Beaux - Arts" School architectural style that expressed the prestige of the imperial power at the time. The building worked as the connection point between the warehouses of the complex and the railway tracks, through the inspection and provisioning of the goods to the warehouses through the trolley track system.



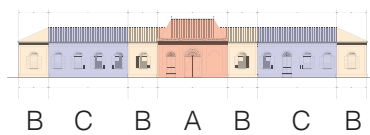
Raised first story



Classical details: References to a synthesis of historicist styles and a tendency to eclecticism; fluently in a number of "manners"



Hierarchy of spaces, From "noble spaces"—grand entrances and staircases—to utilitarian ones



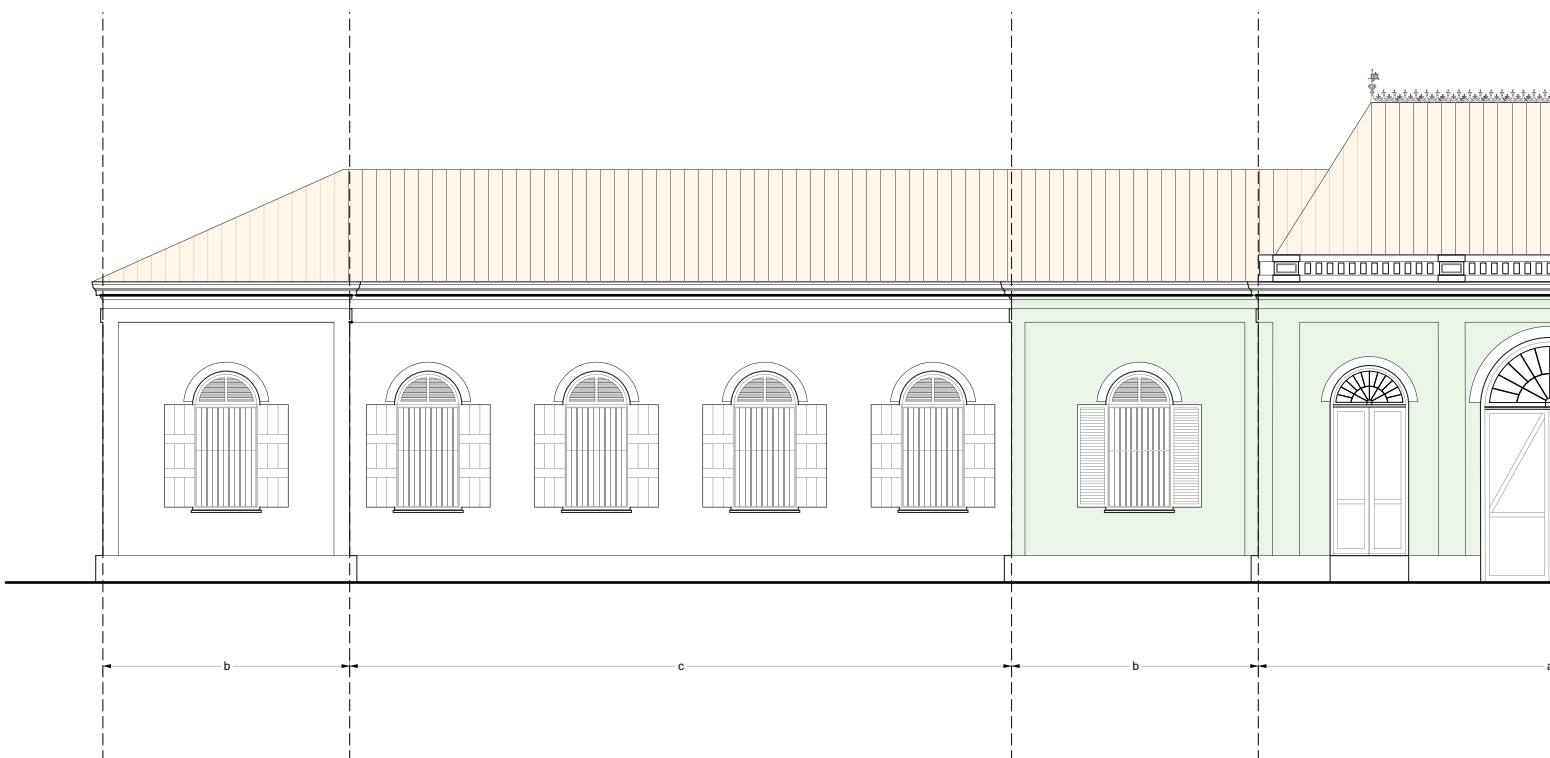
Symmetry, The building is symmetric with strong references to Beaux Arts Schools idea of symmetry.



Hierarchy of spaces, In this photo we can see how the hierarchy of spaces. The main entrance have a stronger impact than the sides as it works as a grand entrance.



Symmetry, From this photo we can see how B | C | B is symmetrical on the right side of the building.

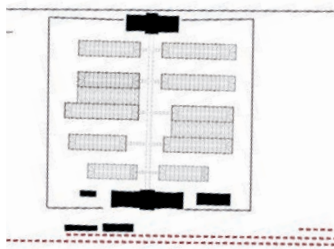




Arched and pedimented doors



Arched windows



The building was previously directly connected to the railway.



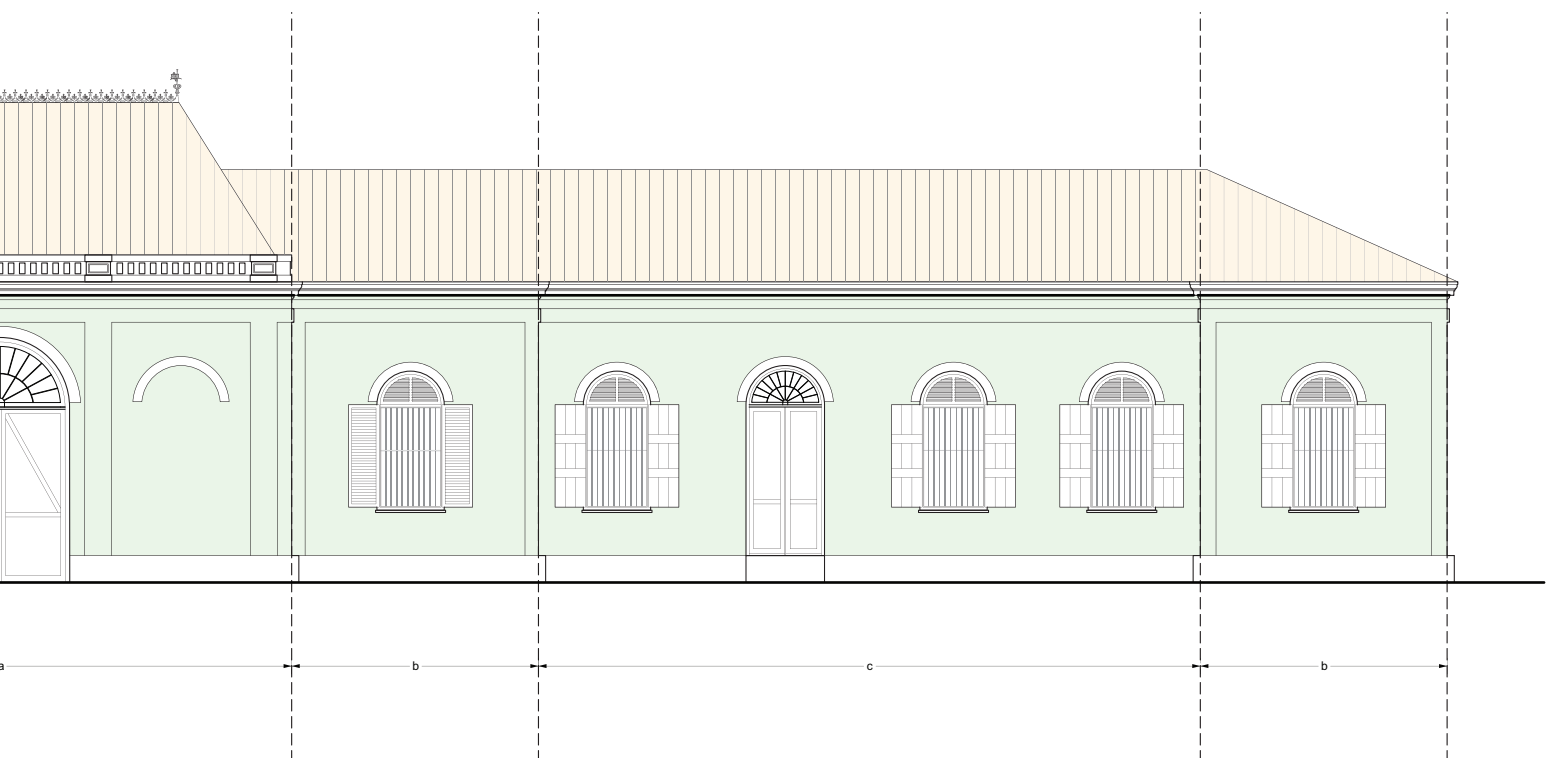
Connection point between the railway and the transportation of goods to Bandung and provisioning the good to the warehouses.



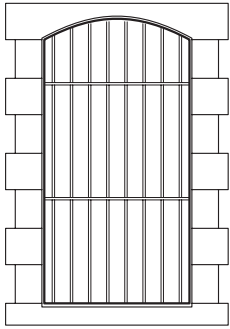
Classical architectural details: balustrades, pilasters & acroteria, with a prominent display of richly detailed clasps, brackets and supporting consoles



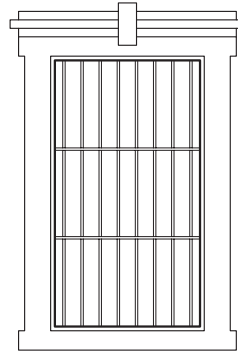
Imperial style with a lot of small ornaments on it. Some of them are from F.W Braat in Delft.



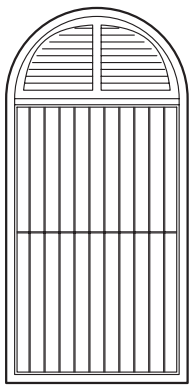
Type and Location of Windows



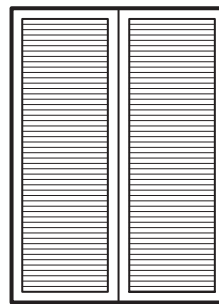
1. Original window style for the storage buildings. Can have timber shutters.



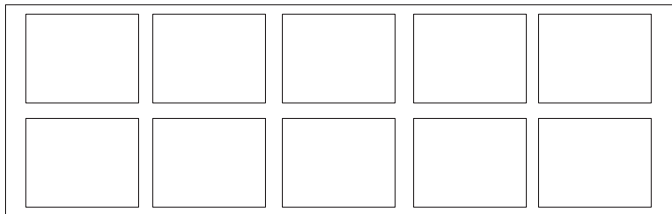
2. We believe that they build this type of window with ventilation after they expanded the storages, since they were always found at the ends of the warehouse.



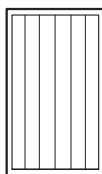
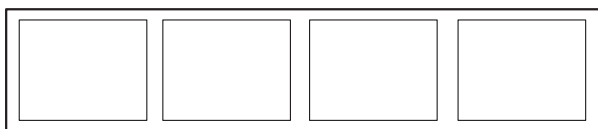
3. This type of window is only used in the main building on the front of the complex.



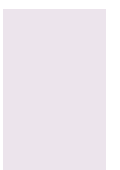
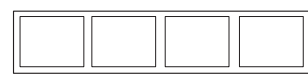
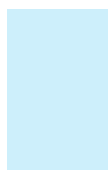
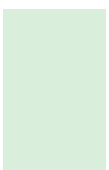
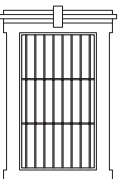
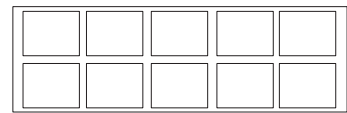
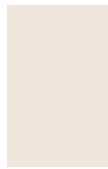
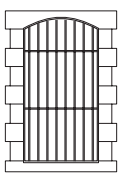
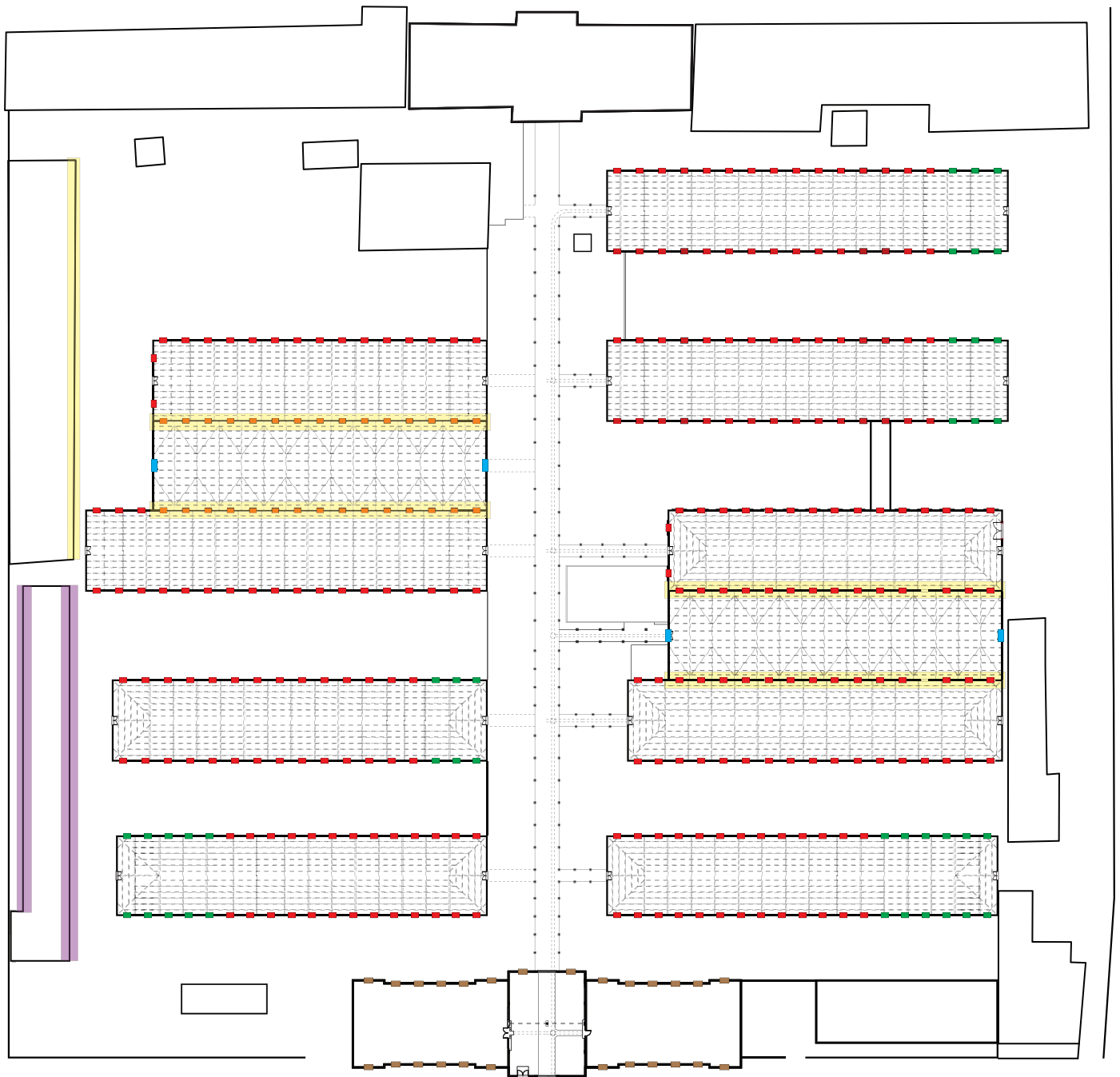
4. Window with timber louvers at the top of spatial. It's identical building on the other side does not have it though.



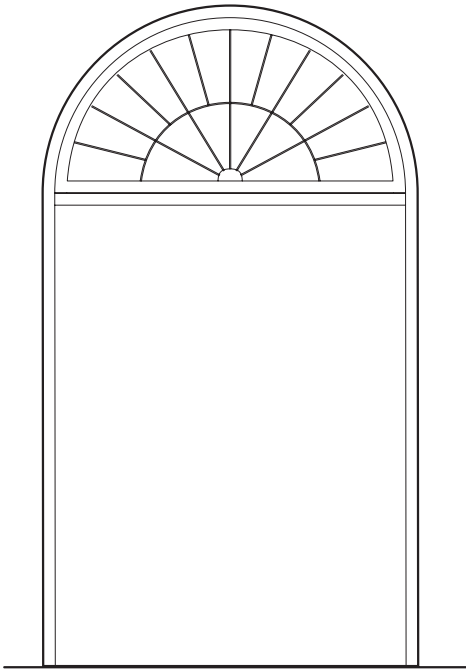
5. Window style all along the long elevation of spatial.



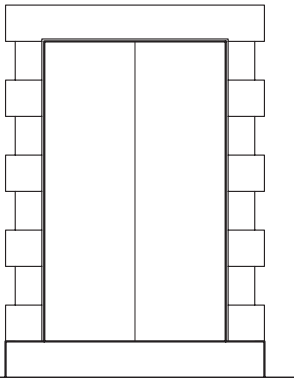
6. Window style for the new, small and narrow warehouses that are perpendicularly placed in terms of the rest of the complex.



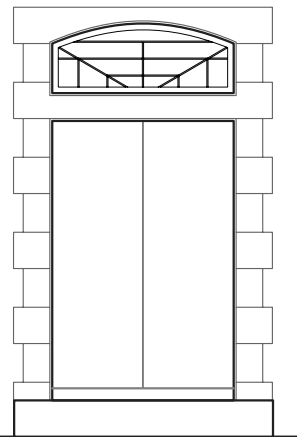
Type and Location of doors



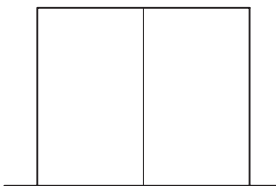
1. The front door of the whole complex and was originally meant to be the main axis to the site.



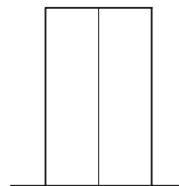
2. Door type used for most of the warehouses. Small ornaments around it.



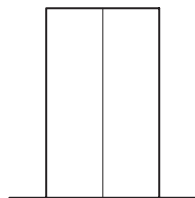
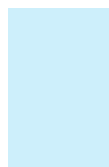
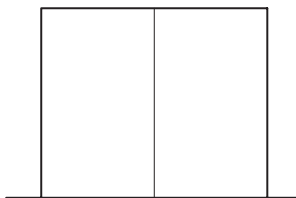
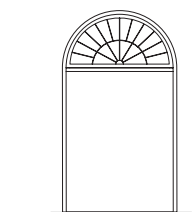
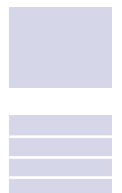
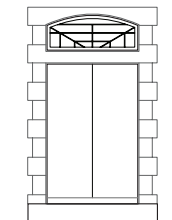
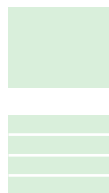
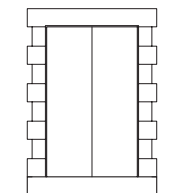
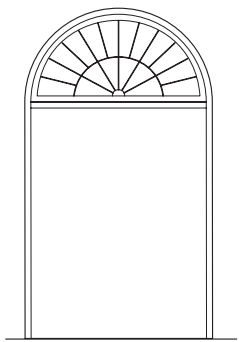
3. Door type used for Spatial. Ventilation space on top of the door.



4. Some warehouses have areas cut out for this new bigger door type.



5. Smaller, normal door size. Not as old as the other ones.



Traces of changes, scars, or signs of weathering



1. Scars | Almost all over the complex you can find traces of scars on the skin. The plaster that originally had covered the brick structure is more or less gone, whilst the rest has lost its color. The red patina is the most striking feature of the exterior skin due to the peeling of paint. Furthermore, additional damages such as the loss of adhesion, ex-foliation, the push out of the mortar joint, as well as various damages originating from biological growth.



2. Changes | Some of the storages around the complex have been renovated, expanded etc. The photo is showing how they used concrete blocks to make the storage a little bit taller.

You can also see in this photo how the steel corrugated roof cover has been changed.



3. Changes | This photo is showing how the same building as the photo above has also implemented a new steel column to strengthen the superstructure of the storage.



4. Weathering | The yellow, orange color change in the plaster in this photo shows how the skin is affected by the drain system when it rains too much in Bandung. The cause of this damage type can be found, for example, in clay components, brick firing process, and /or organic matter which results in the chromatic alteration of the plaster.



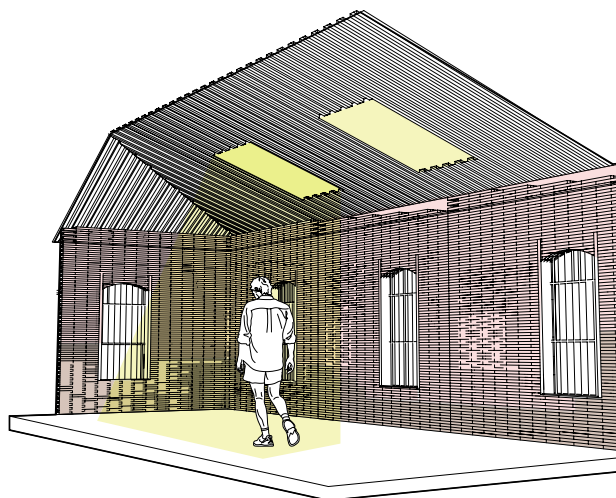
5. Changes | Most of the storages that are still in use for military purposes have the front door facing the community center at the east side closed with concrete blocks. But the original entrance is still visible.



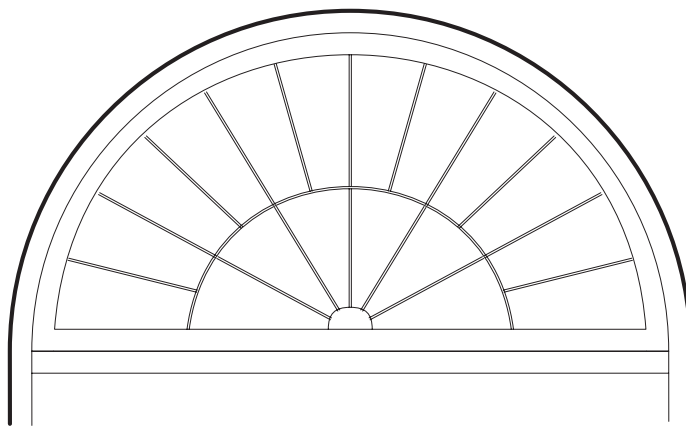
6. Weathering | As we can see in this photo, most of the roof structure around the complex is seriously damaged due to the material's exposure to weathering. The timber structure is rotting and needs to be maintained.

Protrusions and Decoration

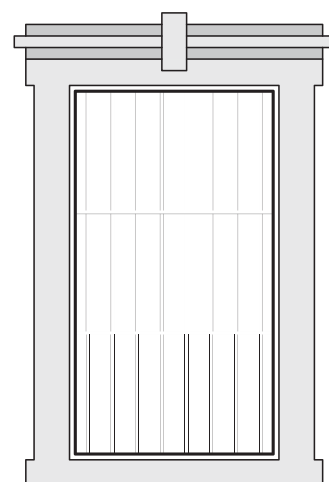
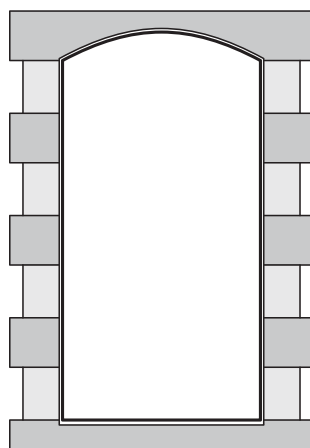
Some storages have skylights integrated into the roof structure. Works really well.



Ornament on doors is worth mentioning. Especially the front door that has some handmade structures and ornaments on it.

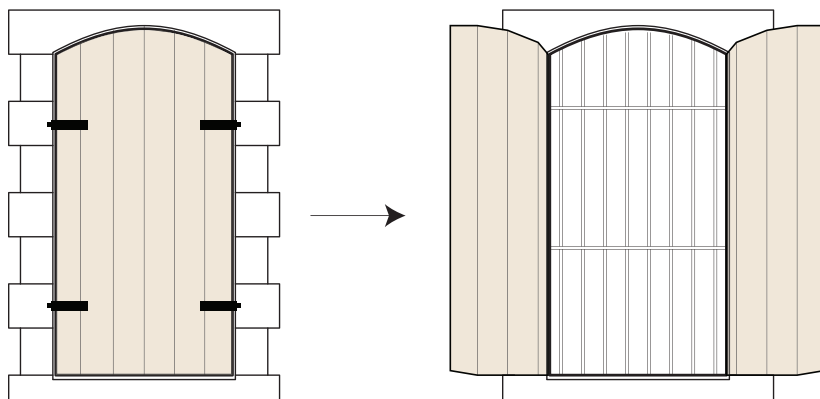


Most of the windows have some decorative work on their edges. This is making the windows stand out and it is worth mentioning.

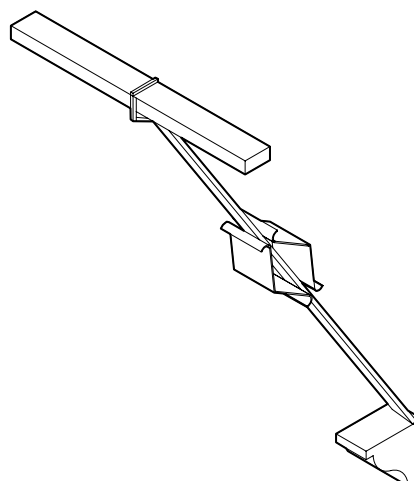




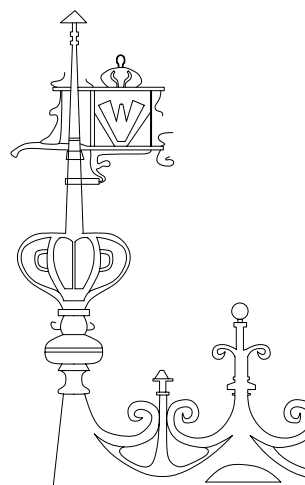
The Steel locker that holds the timber cover plates for the window is also worth mentioning. Some windows do not have the timber cover left, but you can still find the steel holder on most of the windows.



The simple, but beautiful steel structure that is holding the roof structure on the old storages. The tension rod is made from wrought iron.



The main building has balcony designed in classical imperial style with a lot of small ornaments on it. Some of them are from F.W Braat in Delft.



Conclusion

The warehouses are built with bricks in Dutch cross bond style covered with plaster, with a very simple, utilitarian character. The entrance building is a typical example of Beaux Arts School architecture. This is giving the complex an imperial aura from the south axis. The warehouses and the front building have elements such as windows, doors and ornaments that are worth mentioning as it shows signs of age and art work. Other important protrusions and decoration worth mentioning are the tension rods along the elevations of the warehouses. These elements are also telling us that the complex has been transformed, as some of the window and door styles date back to moments when the warehouses were expanded, to serve the growing needs of the military. Furthermore, it is important to understand that the complex has several traces of changes, scars and signs of weathering that need to be further analyzed and taken into consideration during the design process.

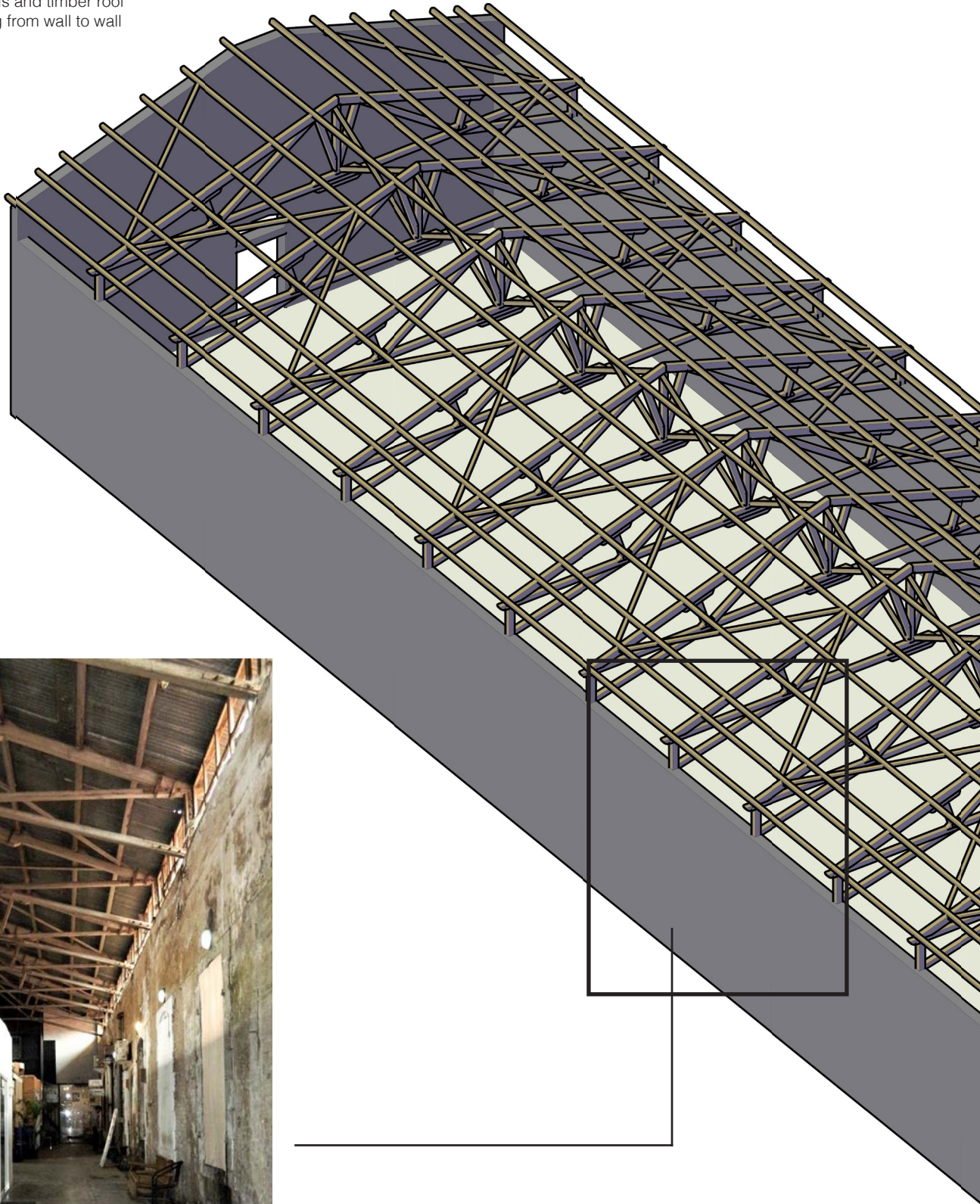


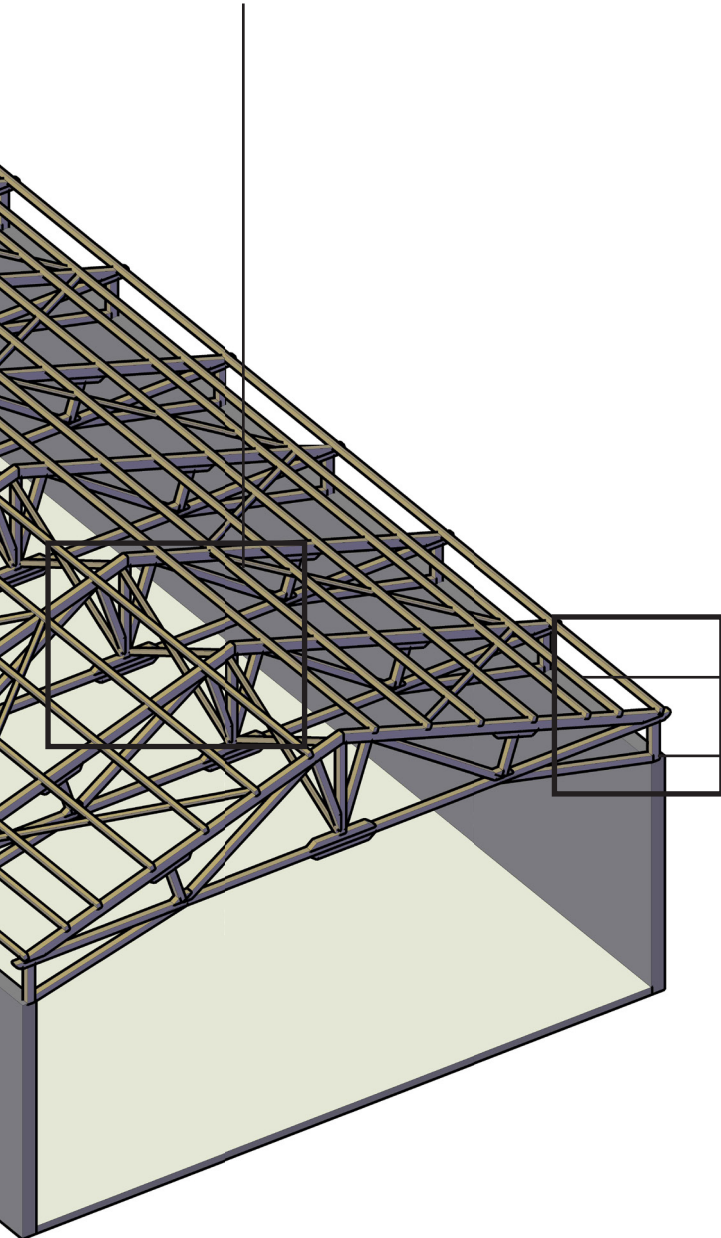
STRUCTURE

Shape: Form and State

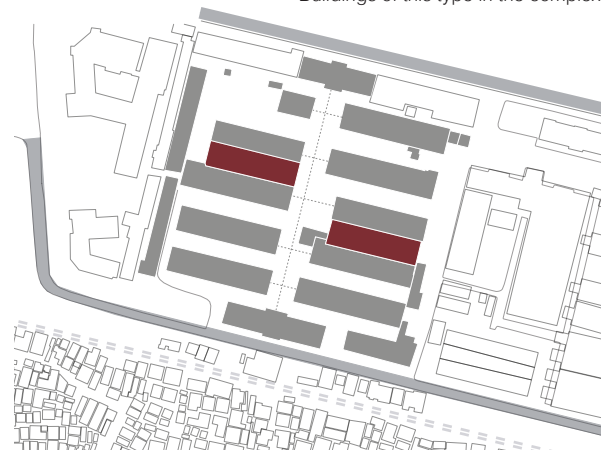
The complex consists of two different categories of buildings. In the first category, which represents the majority of them, there are traditional structures with load-bearing brick masonry walls, covered with timber roof construction. In some of these buildings, the roof construction is an open gable (1a) spanning from wall to wall, whereas in others it is a hipped roof construction (1b), with a supportive column in the middle. In the second category, there are buildings with timber-framing and non-load-bearing brick infill. Only two of the 19 buildings of the complex belong to this category. All different types of buildings are further presented.

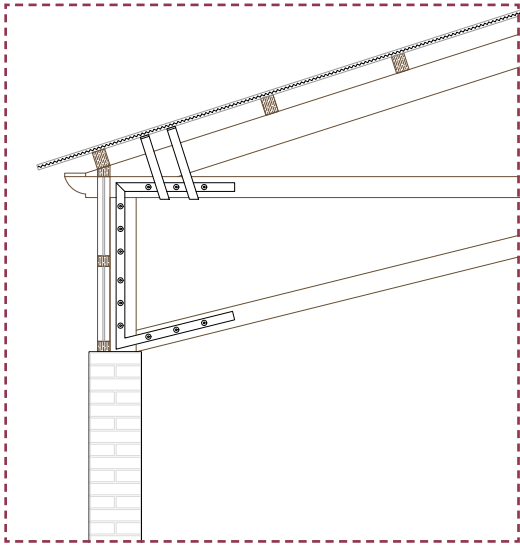
TYPE 1A: Building with load bearing brick masonry walls and timber roof structure spanning from wall to wall



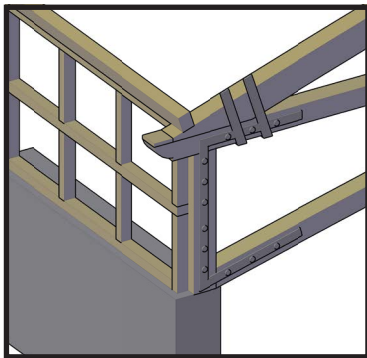
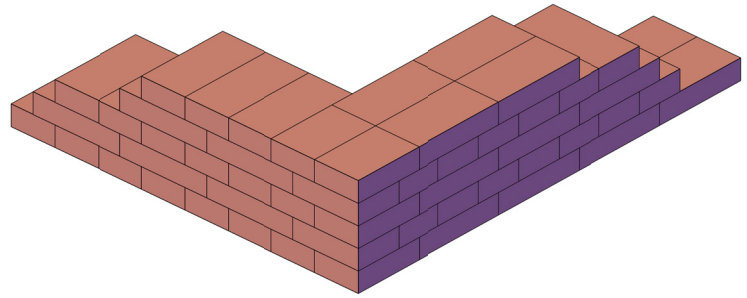


Buildings of this type in the complex





The load bearing walls are solid construction, of 30cm thickness. They are made of “soft mud molding machine” bricks in Dutch bond. This bond is exactly like English cross bond except in the generating of the lap at the quoins. In Dutch bond, all quoins are three-quarter bats—placed in alternately stretching and heading orientation with successive courses—and no use whatever is made of queen closers. To the Dutch this is simply a variant of what they call a cross bond.



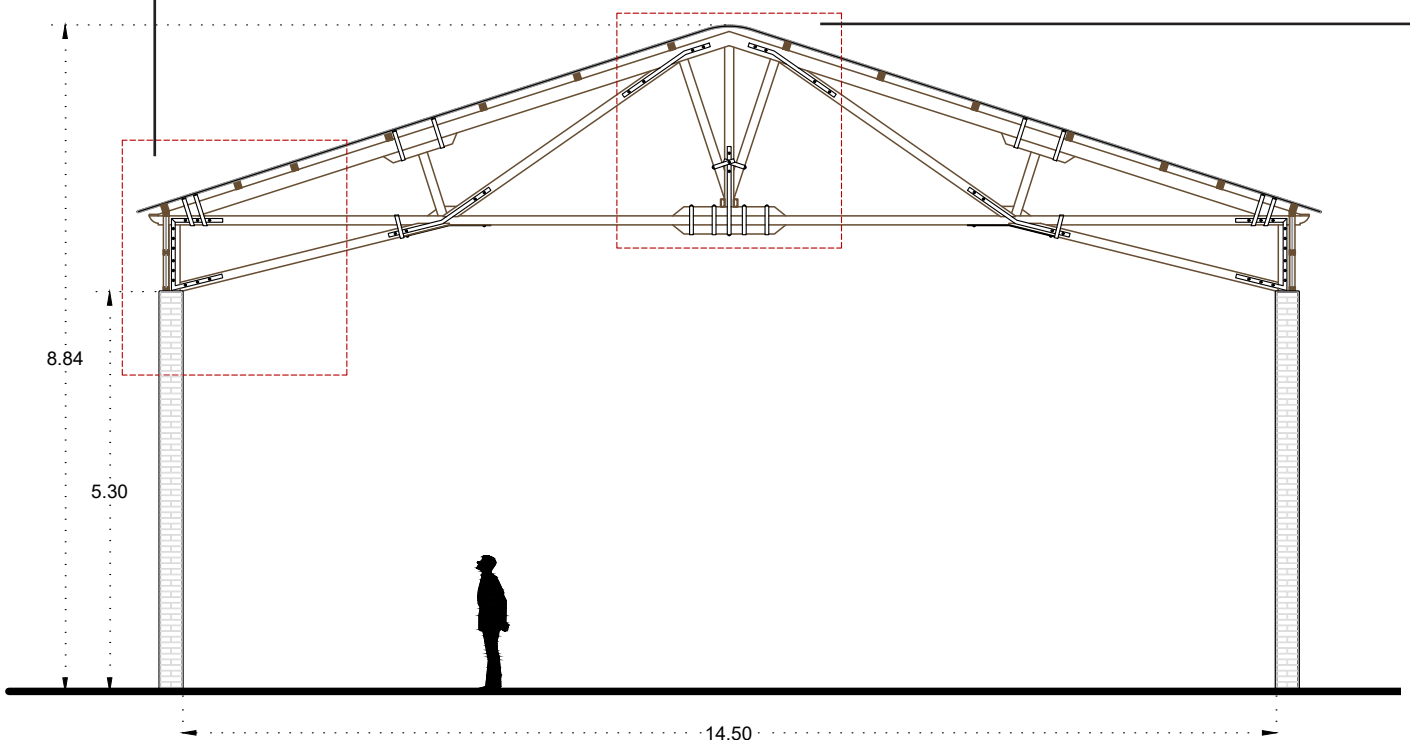
The roof structure does not penetrate the wall, but stands on top of it. In between the structural elements, there are timber framed windows.

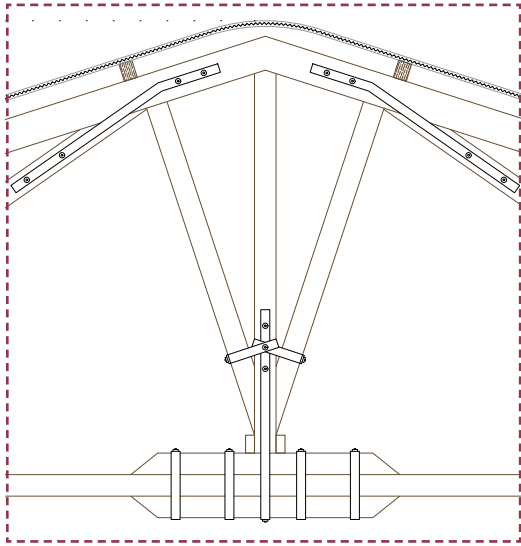


2. Arrangement of bricks in the corner



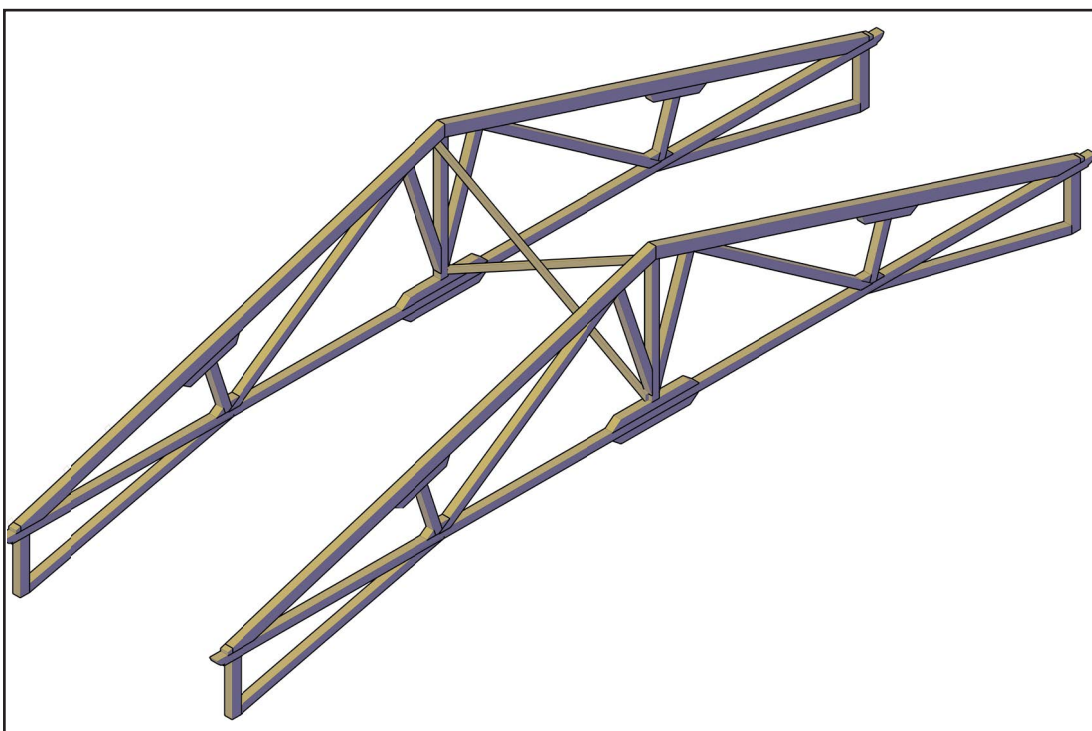
3. Part of the brick masonry wall of the building





The different timber elements are connected with cast iron joints.

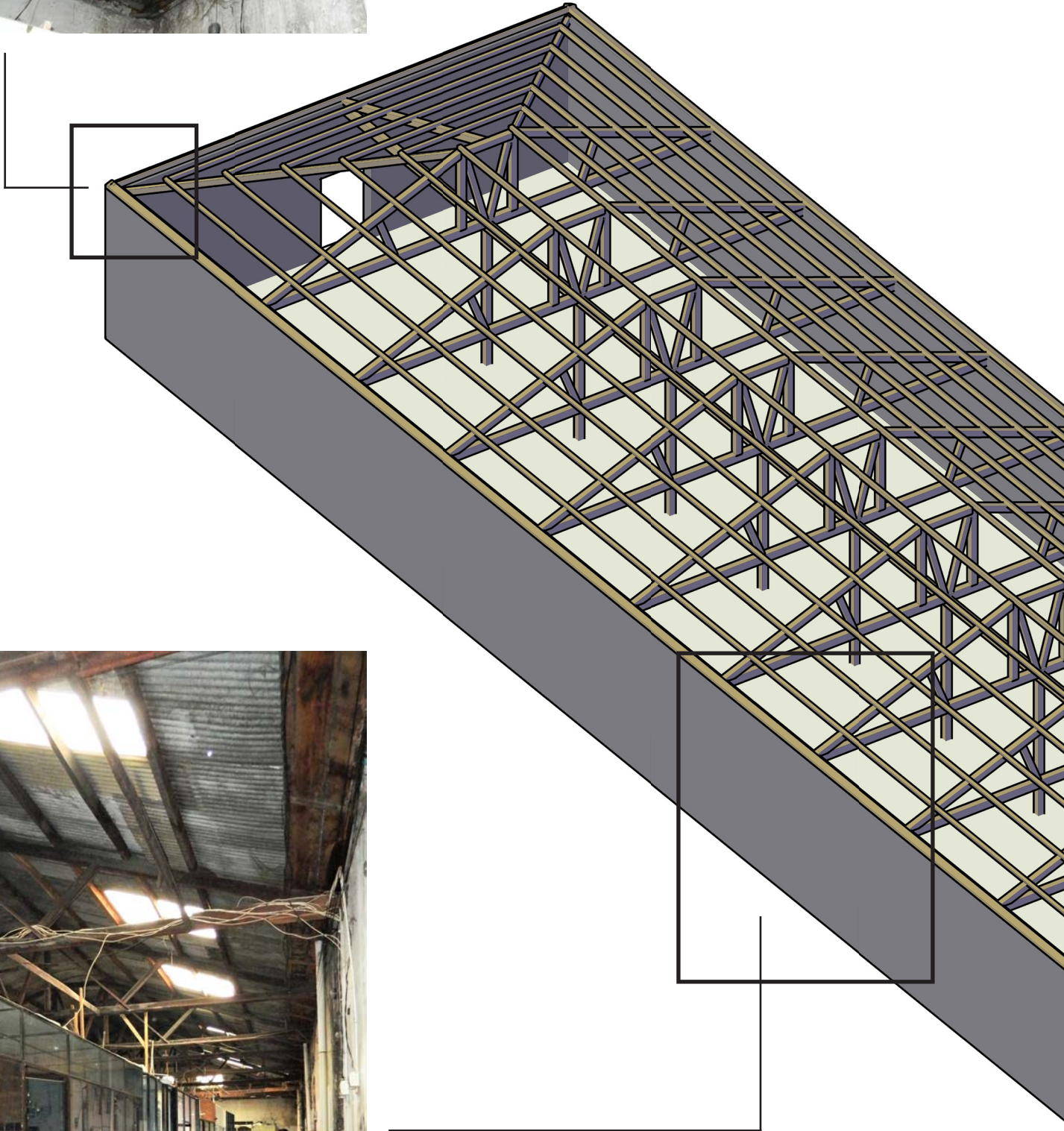
Cross timber elements for connecting the trusses and strengthening the structure

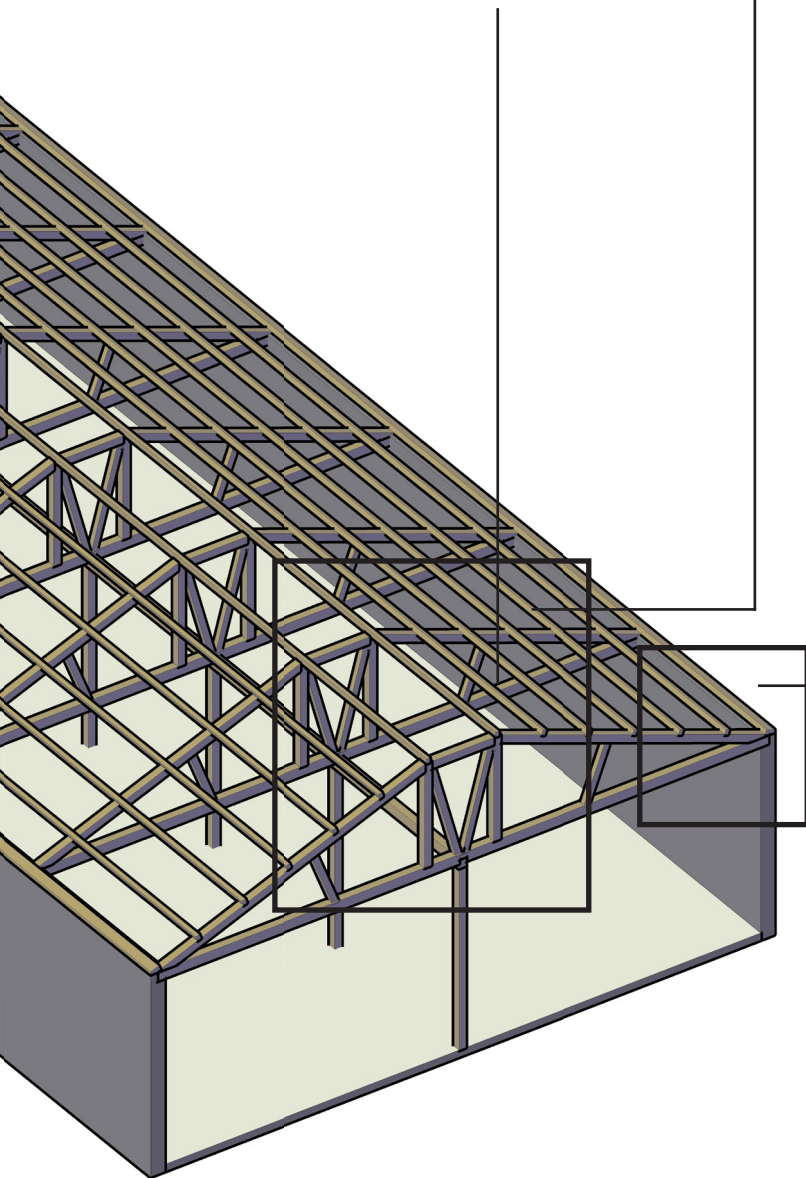


The whole construction is in a good state, with no visible later additions or alterations for strengthening either the brick masonry wall or the timber roof structure. The cast iron joints are noteworthy, and reflect the age of the buildings.

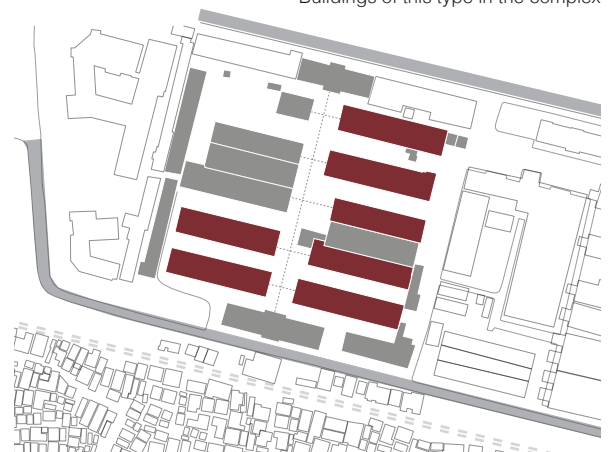


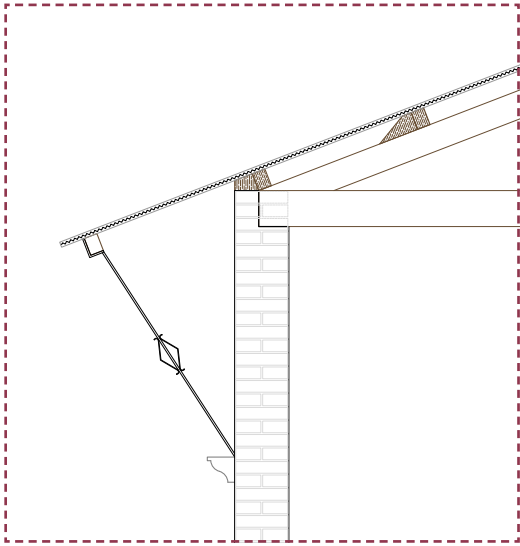
TYPE 1b: Building with load bearing brick masonry walls and timber roof structure with a supportive column in the middle.



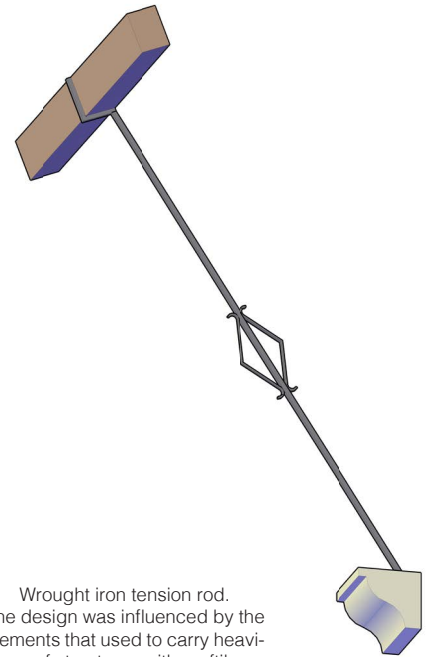


Buildings of this type in the complex

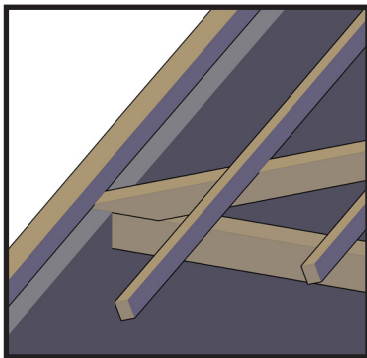




The load bearing walls are solid construction, of 30cm thickness, made of “soft mud moulding machine” bricks in Dutch bond as well. This roof structure is a timber hip roof, with wrought iron tension rods on the outer part.



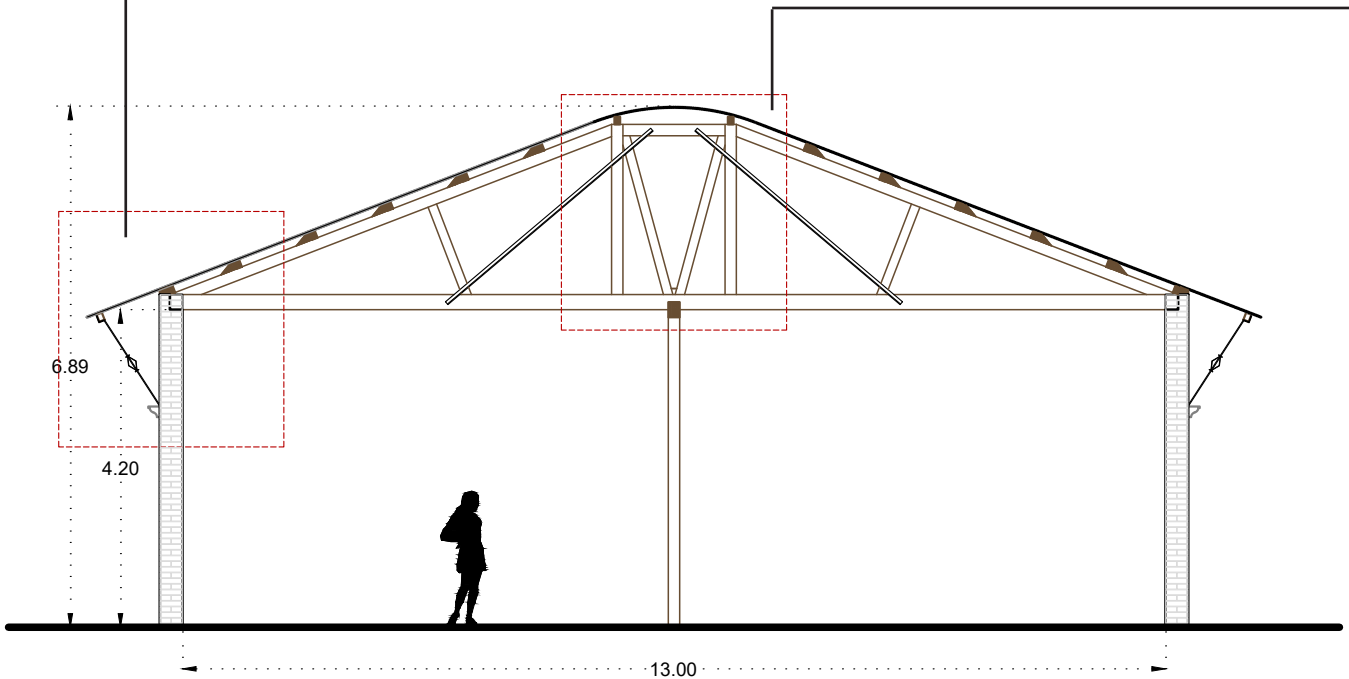
Wrought iron tension rod. The design was influenced by the elements that used to carry heavier roof structures with rooftiles.

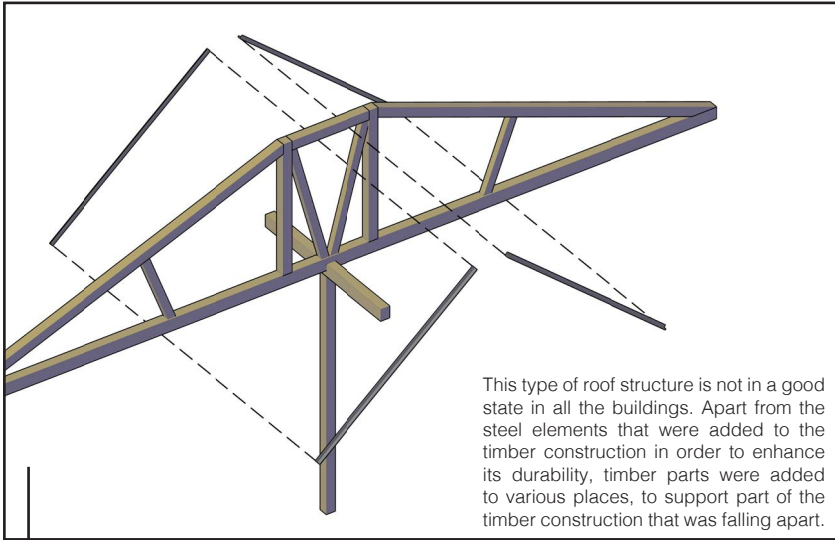


The roof structure penetrates the wall, as the horizontal timber beams are stabilized within it.



Outer part with tension rods that stabilize the light roof material (corrugated steel)



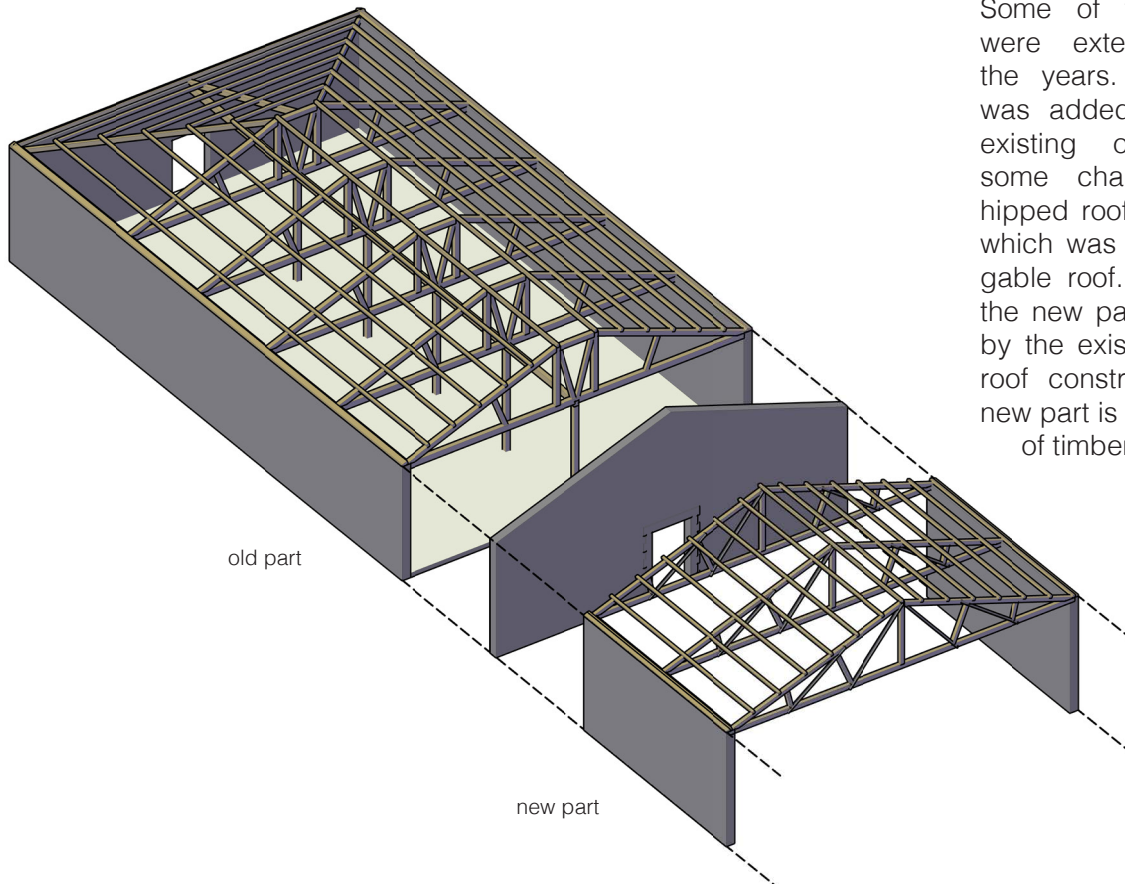


This type of roof structure is not in a good state in all the buildings. Apart from the steel elements that were added to the timber construction in order to enhance its durability, timber parts were added to various places, to support part of the timber construction that was falling apart.



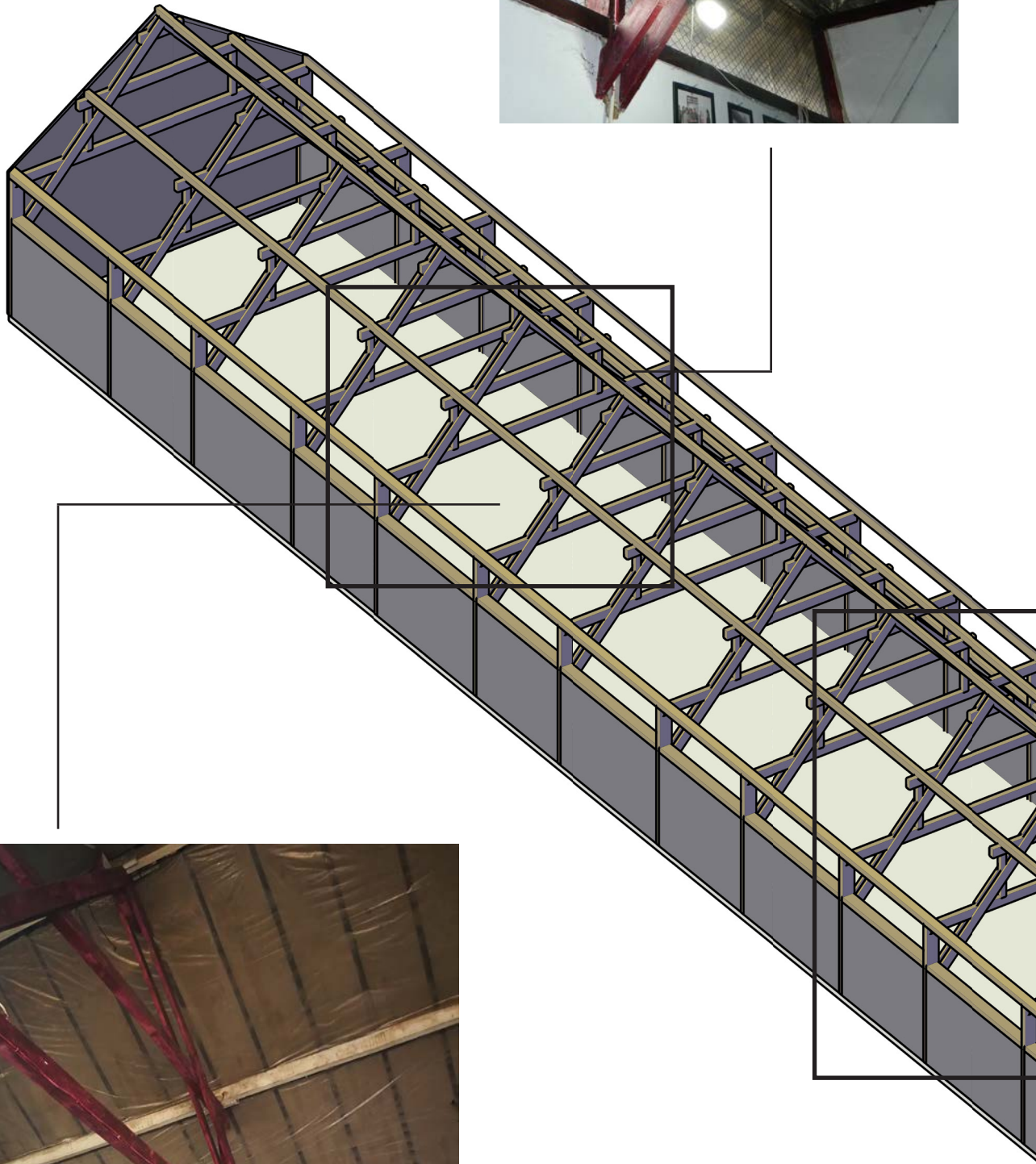
Existing roof structure with additional steel elements

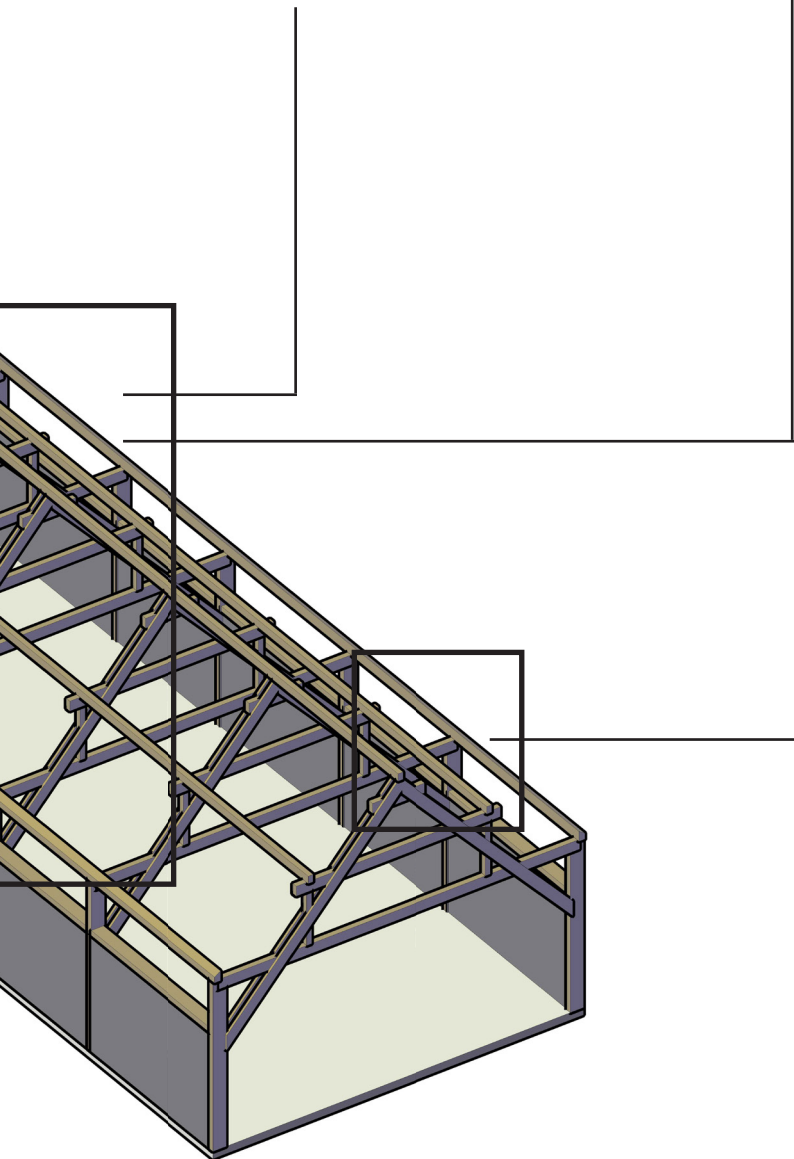
Roof construction of the new part



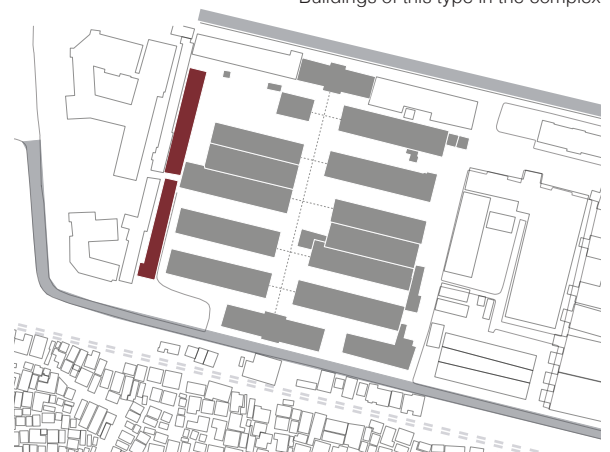
Some of the buildings were extended during the years. A new part was added next to the existing one, causing some changes in the hipped roof construction, which was altered into a gable roof. The old and the new part are divided by the existing wall. The roof construction of the new part is a combination of timber and steel.

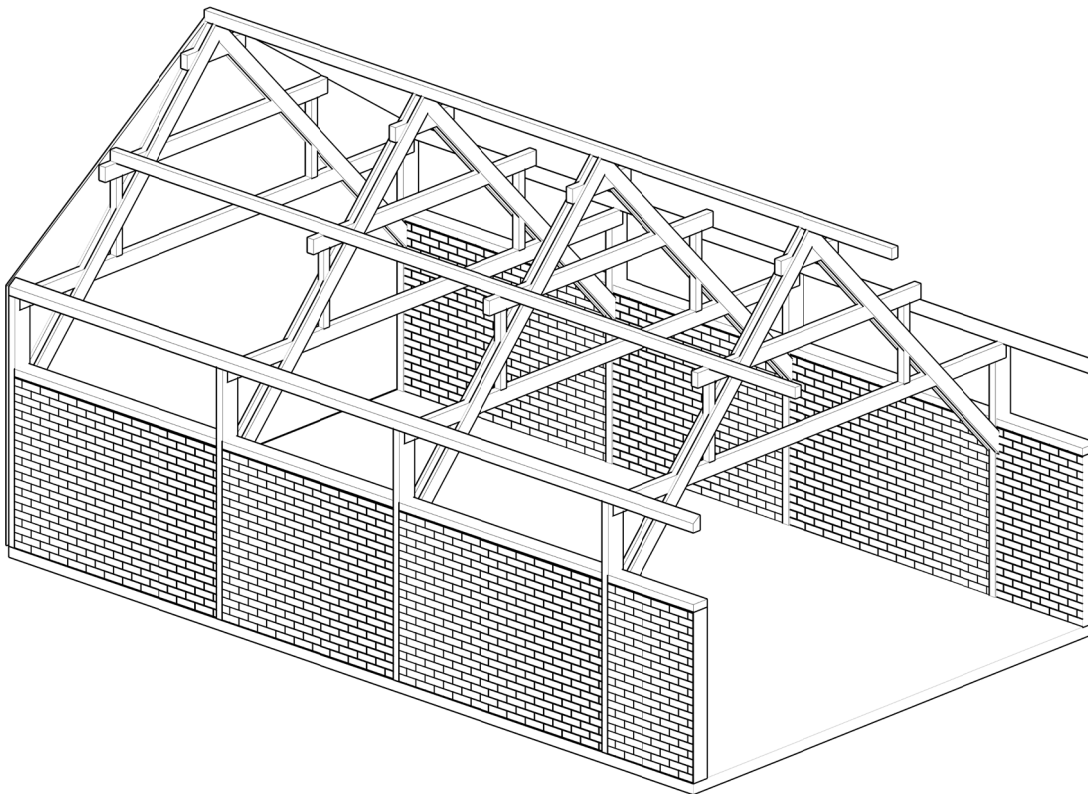
TYPE 2: Building with timber framing construction, with non-load-bearing brick infill.





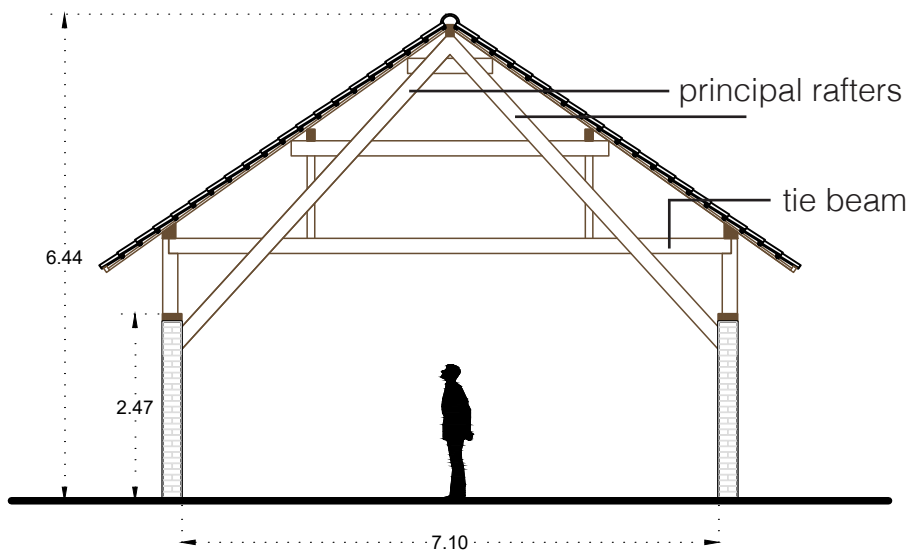
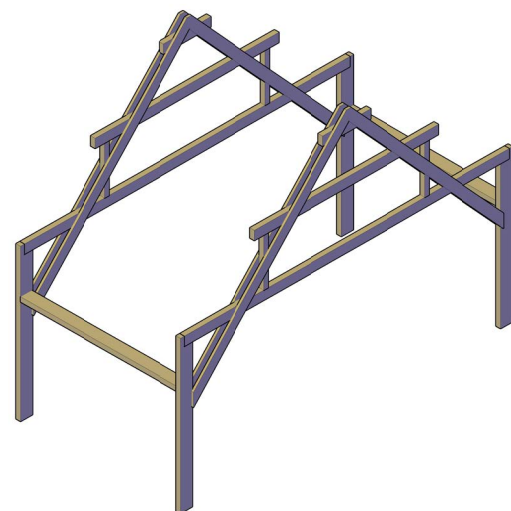
Buildings of this type in the complex





In this type of construction, the timber frame is the primary structural support for the building. The principal rafters deflect the loads on the roof to the wall post, which then directs the loads to the foundations. The main purpose of the horizontal member, the tie-beam, is to prevent the walls from being pushed apart by the load of the roof.

Timber Framing is a centuries old construction method of creating timber framed structures jointed together with wooden pegged mortises and tenon joints. People throughout the world have been living in timber framed structures for thousands of years, because of the ease of construction, the durability of the material, and the ready supply of wood for timber frames.





The timber-framing structure of the building is partly visible in the facade, although it is plastered. This is only because of decay and poor building construction, and not for aesthetic reasons.

In this building, there are various technical shortcomings in the non-load-bearing walls, big parts of which have been replaced. The timber structure, as well, is not in a good state.

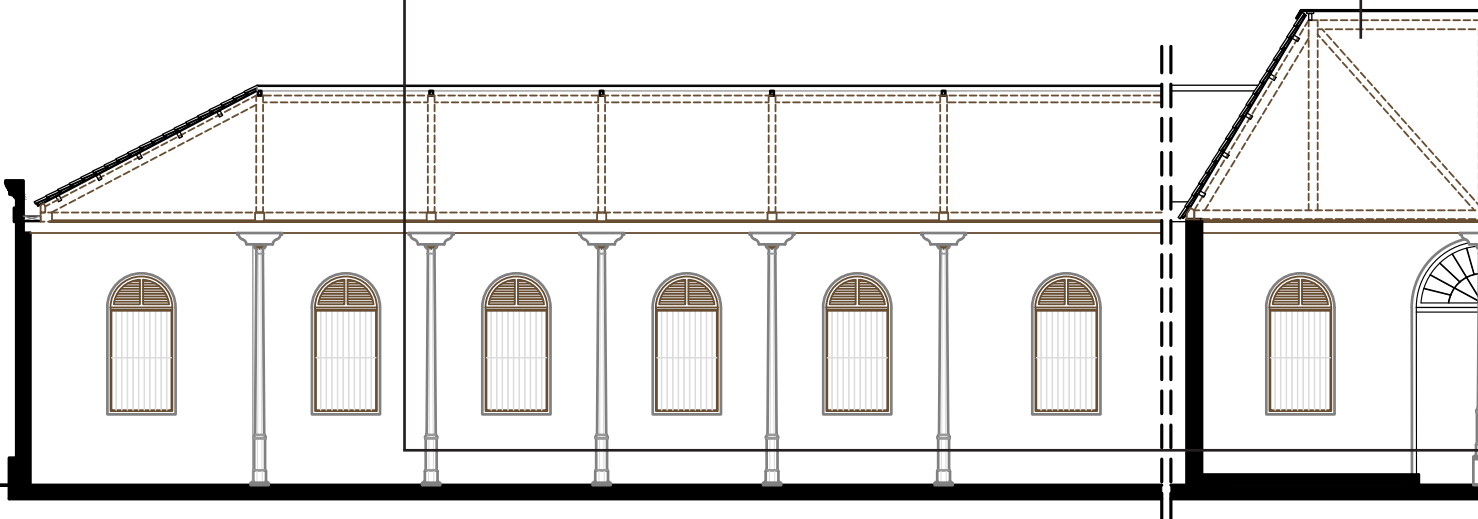
ENTRANCE BUILDING: Built in the Ecole des Beaux-Arts architectural style load-bearing brick masonry walls, with timber roof structure, with a row of supportive columns in the middle.



The roof structure has a row of supportive timber columns in the middle. Only in the central part of the building the column is made of cast iron and reflects the prestigious character of the it. In the east part of the building, one of the timber columns has been later replaced with a concrete one. The roof structure is covered by a timber ceiling.



Mansard roof construction for the front facade.





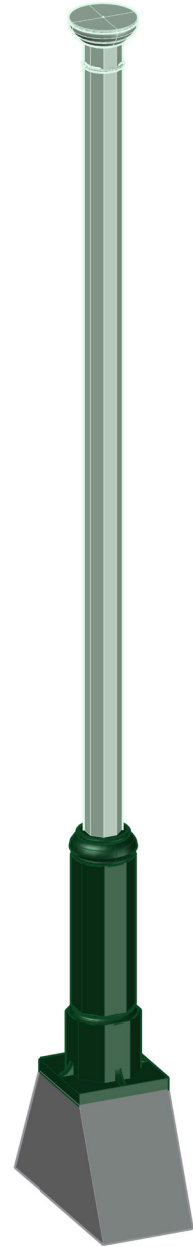
connection of the beam, the wall and the ceiling



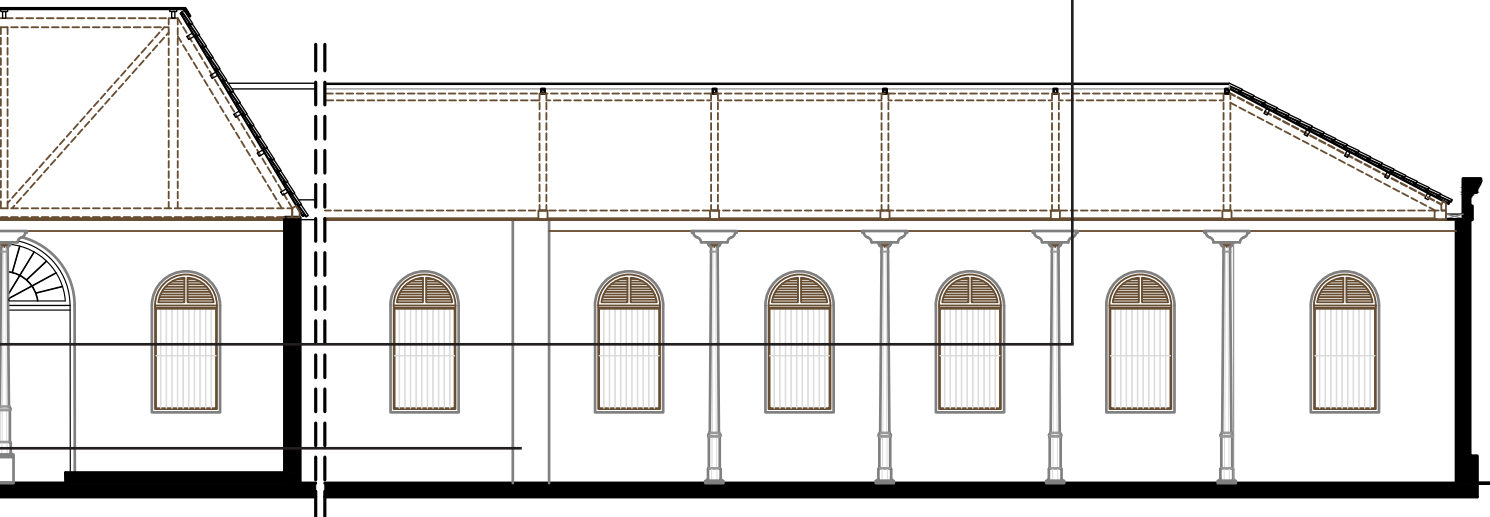
connection with the longitudinal beam



photographs of the various parts of the cast iron column



Cast iron column in the central and most prestigious building of the complex, adding historical and aesthetic value



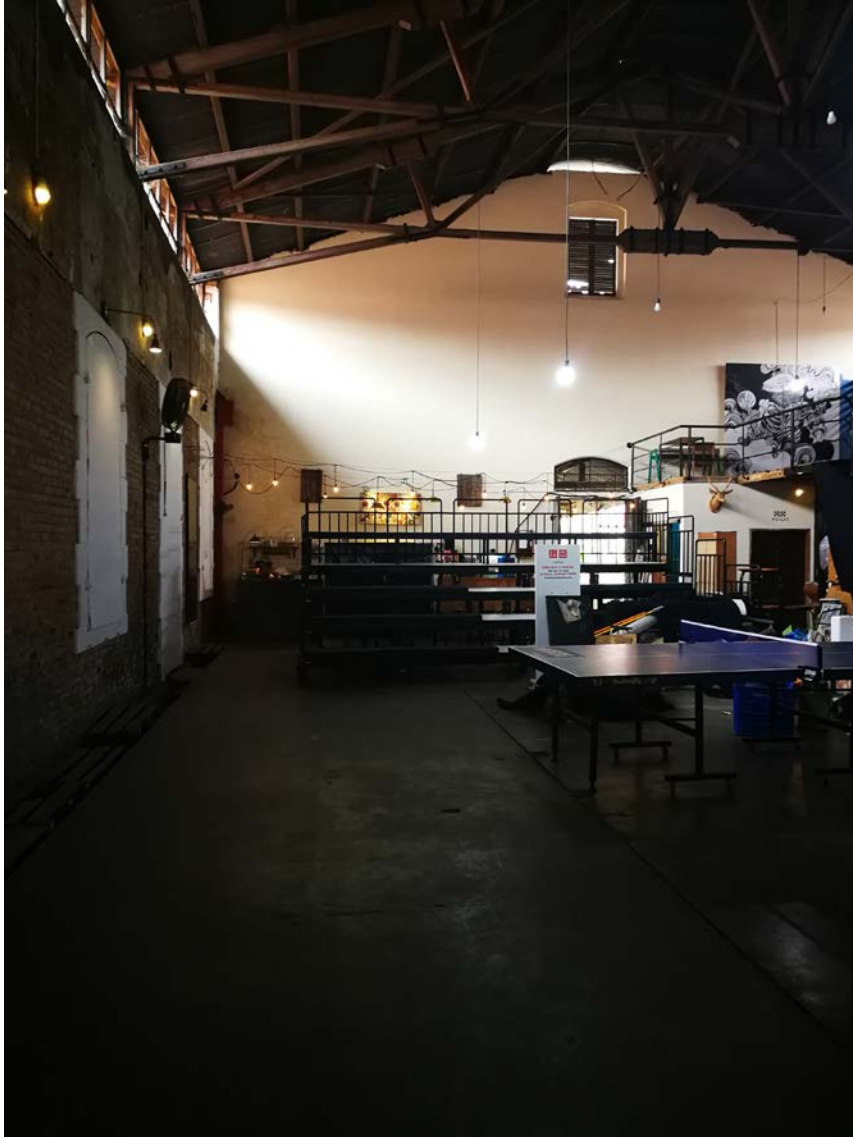
Conclusion

The majority of buildings in the complex are made with load-bearing brick masonry walls and timber roof structures. Only later additions in the roofs were made with metal. This difference in the materials used reveals the historic evolution of the buildings, and highlights the rarity value of the timber roof construction. The cast iron joints used in the original roof, add historical value to it.

The load-bearing walls, in combination with the roof structure, create large volumes in the interior space, which is then easily adaptable to many different kinds of uses, and enhances the spatial experience. The type of construction, as well as the materials used for the realization of it, reveal the utilitarian character of these buildings which were built in a short time as warehouses.

Important to notice, also, are the two timber-framing buildings in the complex. Timber-framing is a centuries old construction method, known for the ease of construction and the durability of the material. It is likely that these two buildings were made in a very short time to cover urgent needs, as they also don't comply with the general arrangement.

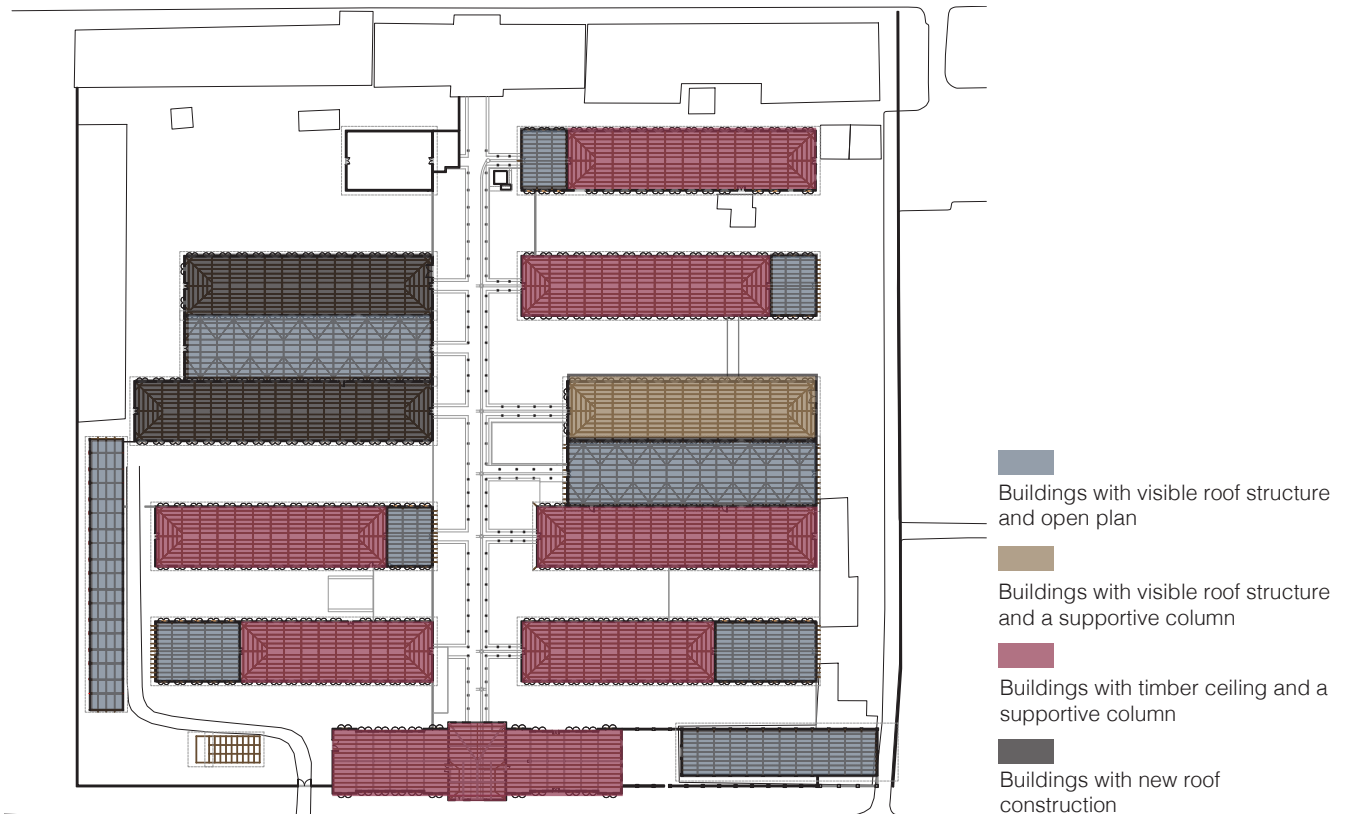
The wrought iron tension rods of the hip roof structure, and the cast iron column of the entrance building add to the aesthetic value of the complex.



SPACE PLAN

Structure-space relationship

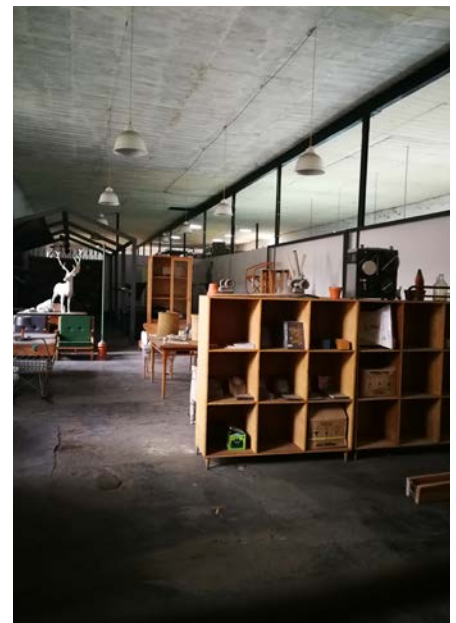
The type of construction affects the space plan as well. The load-bearing walls allow for large inner volumes, which enhance the spatial experience of the place. Depending on the roof structure, however, there are three different categories of the interior arrangement. In the first category, there are all the buildings in which the roof structure spans from wall to wall and the plan is completely free of columns. In the second category, there are buildings with one supportive column for the roof structure in the middle. In the third category, there are buildings similar to the ones in category two, but with a timber ceiling, which reduces the height and doesn't reveal the roof structure above. In the diagram below all categories are presented.



example of a building with visible roof structure and an open plan



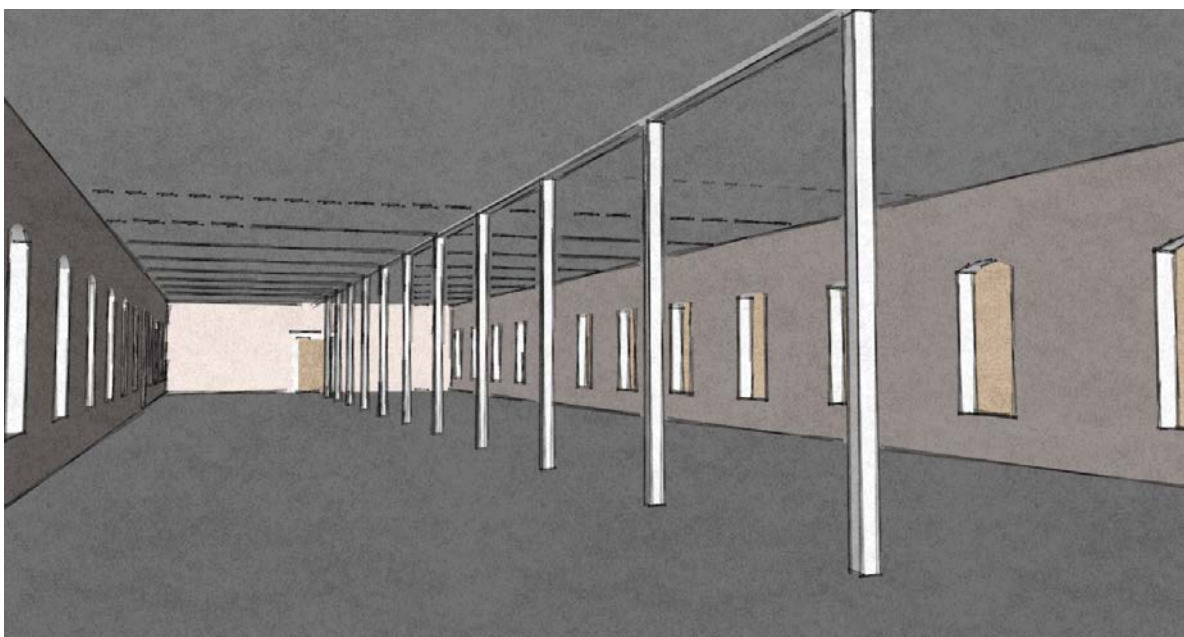
example of a building with visible roof structure and a row of supportive columns



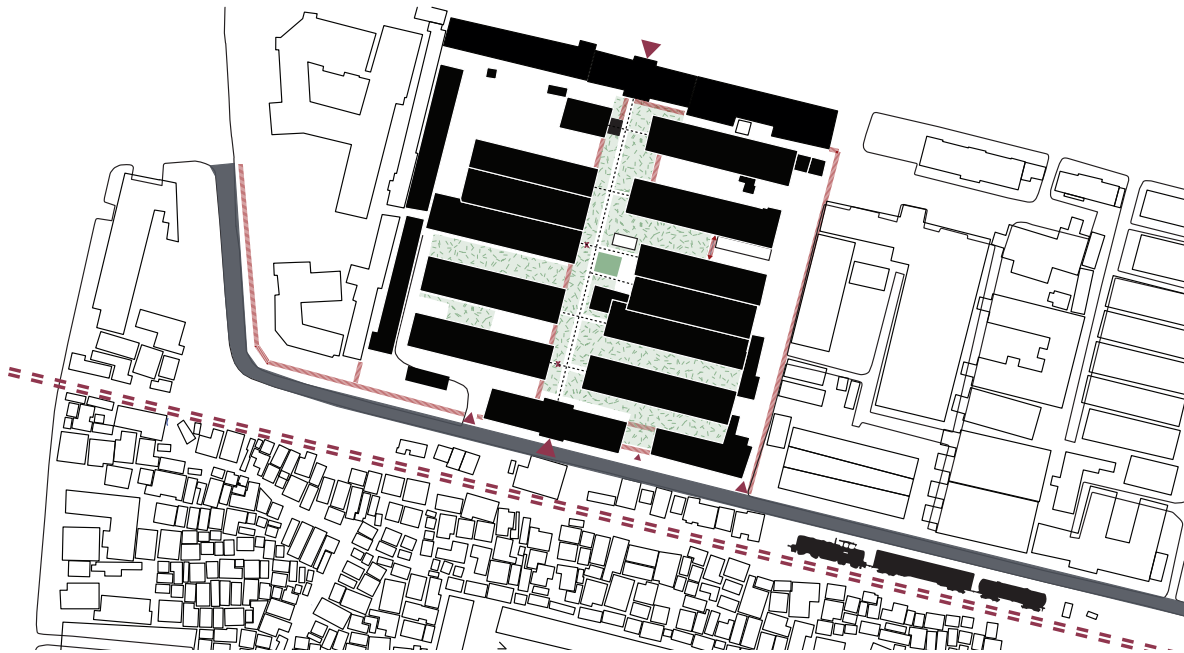
example of a building with covered roof structure with timber ceiling



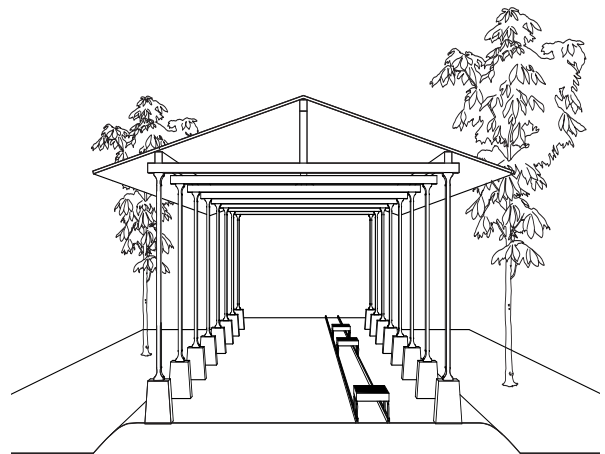
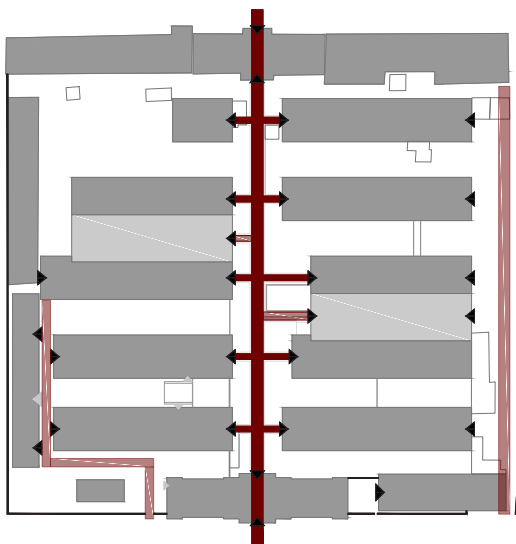
Spatial experience in buildings of category 1



Space plan, street and the immediate surroundings



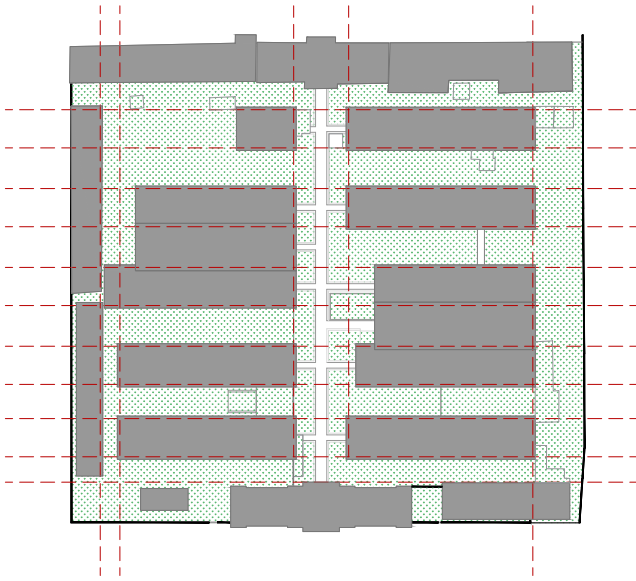
The complex is axonometrically oriented towards the street, with two main access points, one on the north side and one on the south side. In both cases, the entrance is located in the middle of the central building. These are also thought to be the initial entrance points to the complex, which were inter-connected with a walkway. Later additions led to more entrance points on the south side, along the original wall that divides the complex from the outer environment. Nowadays, the main entrance on the south side is no longer in use, and instead, the side entrances are preferred. In the north side, the main entrance is still in use. In the diagram above the current situation is presented.



The access to each individual building is allowed through entrance doors of 1,50m. width, located on the short sides of them. The internal walkway, which connects the entrance buildings, is also connected to the entrances of the individual buildings, organizing the movements and creating a system. This internal walkway is also covered, protecting people and goods from the weather. This is the path that was used in the past in order to transfer the goods within the complex. The old trolley and its tracks are still visible.

Today, two more paths can be noticed in the complex. One on the left of the main entrance, leading to the two vertical buildings, and one on the right, leading to the other side of some of the buildings. These paths are mostly used today, and their corresponding entrances as well. Some later openings on the long side of the buildings are also noticed, which allow for communication between opposite structures.

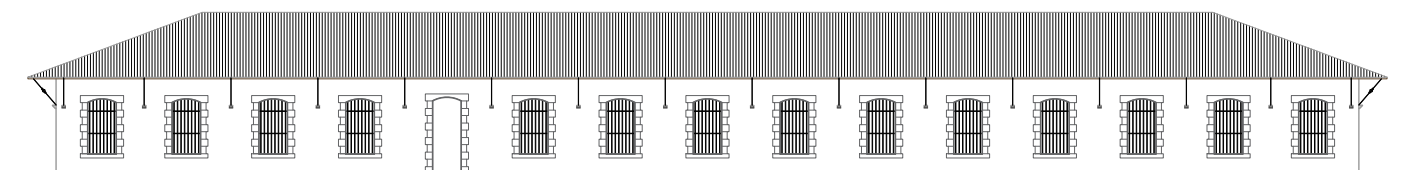
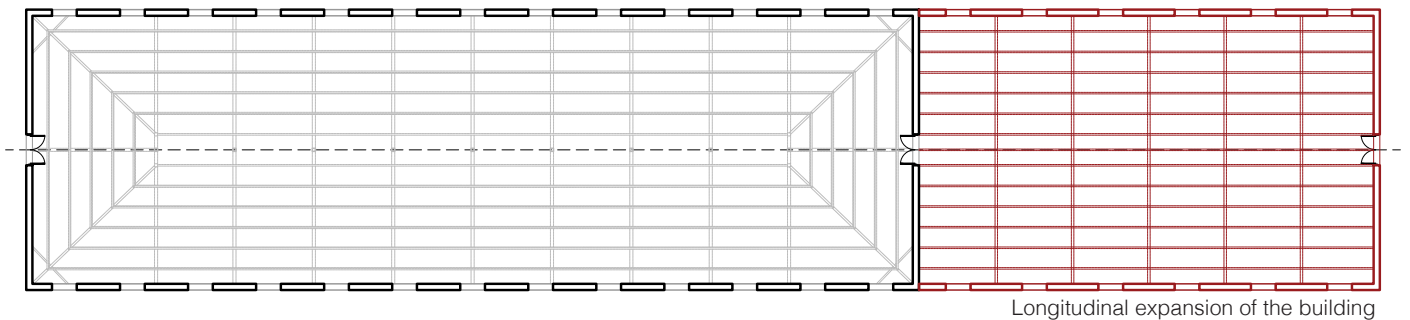
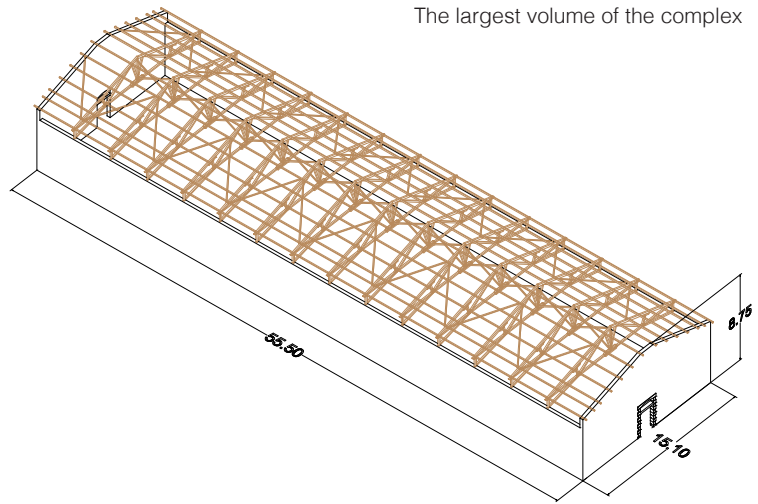
Spatial arrangement



Built and open space are evenly distributed in the complex. The buildings are constructed on a certain horizontal grid in which each building has 13.60m width, and the in-between space is 14.50m. In the complex, there are two examples where the former empty space between two buildings is built up. The new enclosed space is of 14.50m width, with a timber roof structure spanning from wall to wall, which makes it the largest volume of the complex. The new enclosed space has 14.50m width, 55.50m length, and 8.75m height.

The type of construction, both the nature of the load-bearing brick buildings, and the spatial arrangement of the complex, allowed for various alterations of the buildings throughout the years. The load-bearing brick walls were expanded on the long side of the buildings, and new roof structures were added to the new parts. Also, alterations to the type of roofs were materialized. This characteristic reveals the utilitarian and flexible character of the buildings, which were each time adapted to cover new needs. The arrangement of the buildings along a central axis, allowed for expansion of them towards the edges of the complex.

The largest volume of the complex



The type of construction and the spatial arrangement of the buildings allowed, also, for the repetition of windows for ventilation and daylight.

Conclusion

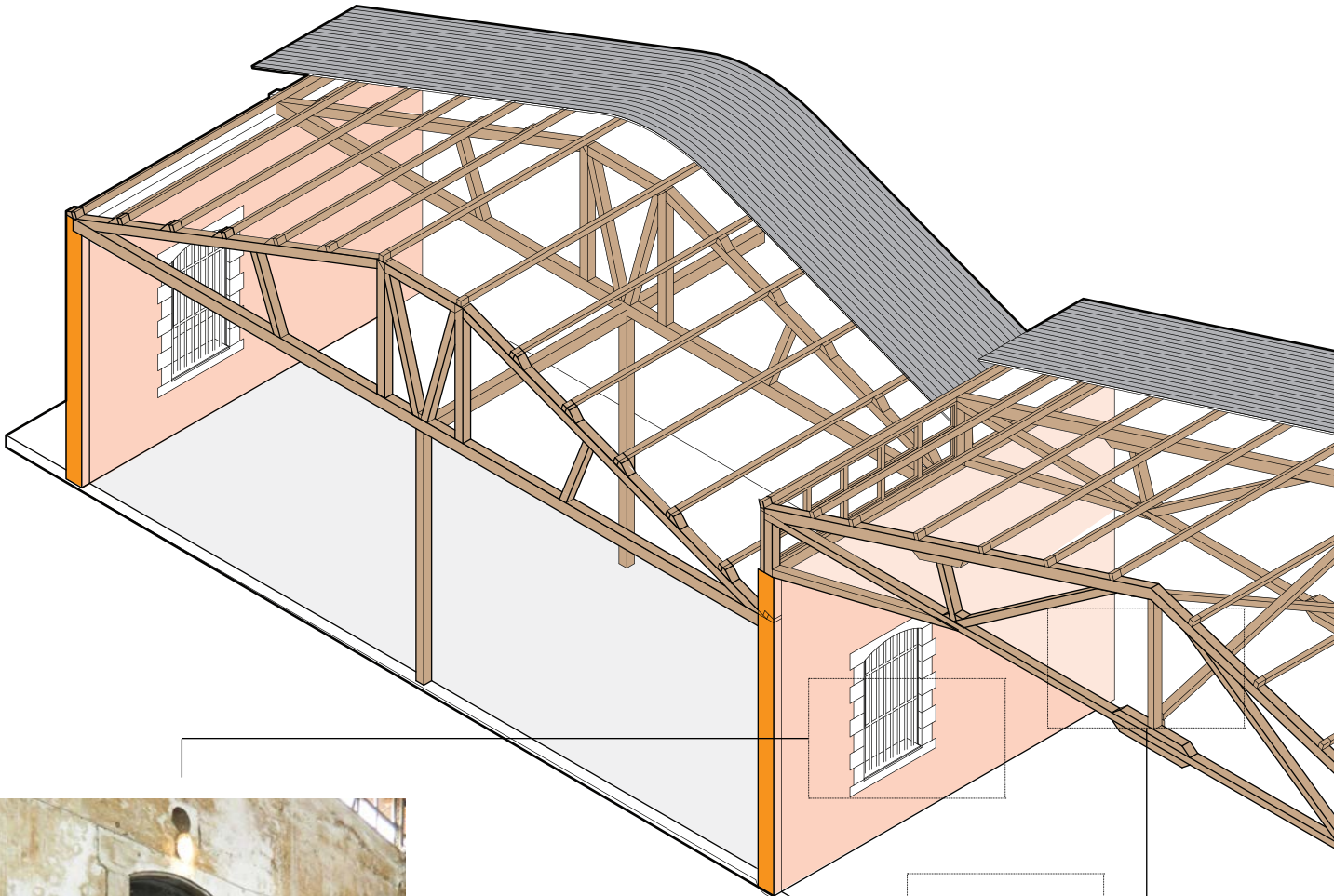
The space plan, directly affected by the type of construction, is characterised by the openness and the flexibility of it. Free from many structural elements, the large inner space is available to transformations and adaptations in order to serve its use. In fact, the buildings were indeed expanded many times throughout the years in order to adapt to the need for more storage space. The different phases of the buildings, noticed in the additions to the roof structures and the different types of windows, add historical value to the complex.

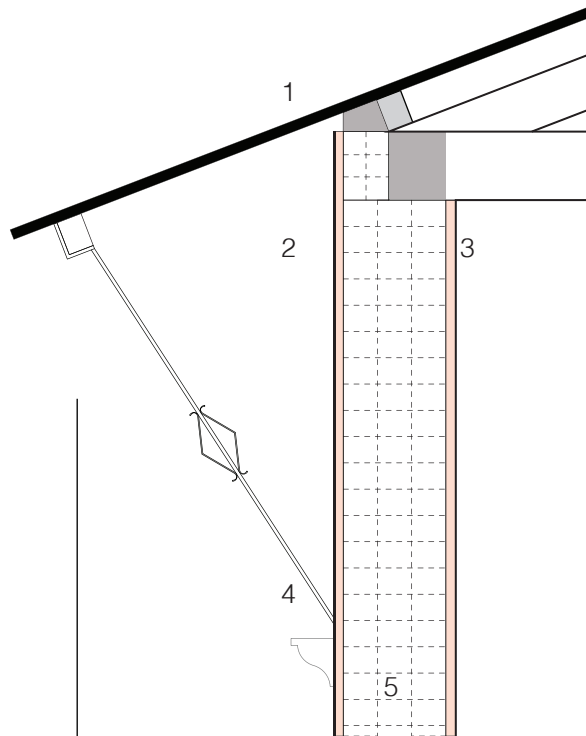
The arrangement of the buildings along a central axis, allowed for the expansion of them towards the edges of the complex. The repetition of the openings in the facade, also, makes the buildings easily adaptable, without affecting their character.

Regarding the spatial arrangement of the whole complex, furthermore, it is noteworthy that it is axonometrically oriented towards the street, with two main access points, one on the north side and one on the south side. In both cases, the entrance is located in the middle of the central building, and leads to an inner covered walkway, which connects all buildings to it. This spatial arrangement served the use of the space as storage, and ensured the provision of the goods to the military. Nowadays, the main entrance on the south side is no longer in use, and instead, the side entrances are preferred. The use of this inner walkway has also decreased significantly, although, the old trolley and its tracks are still visible.

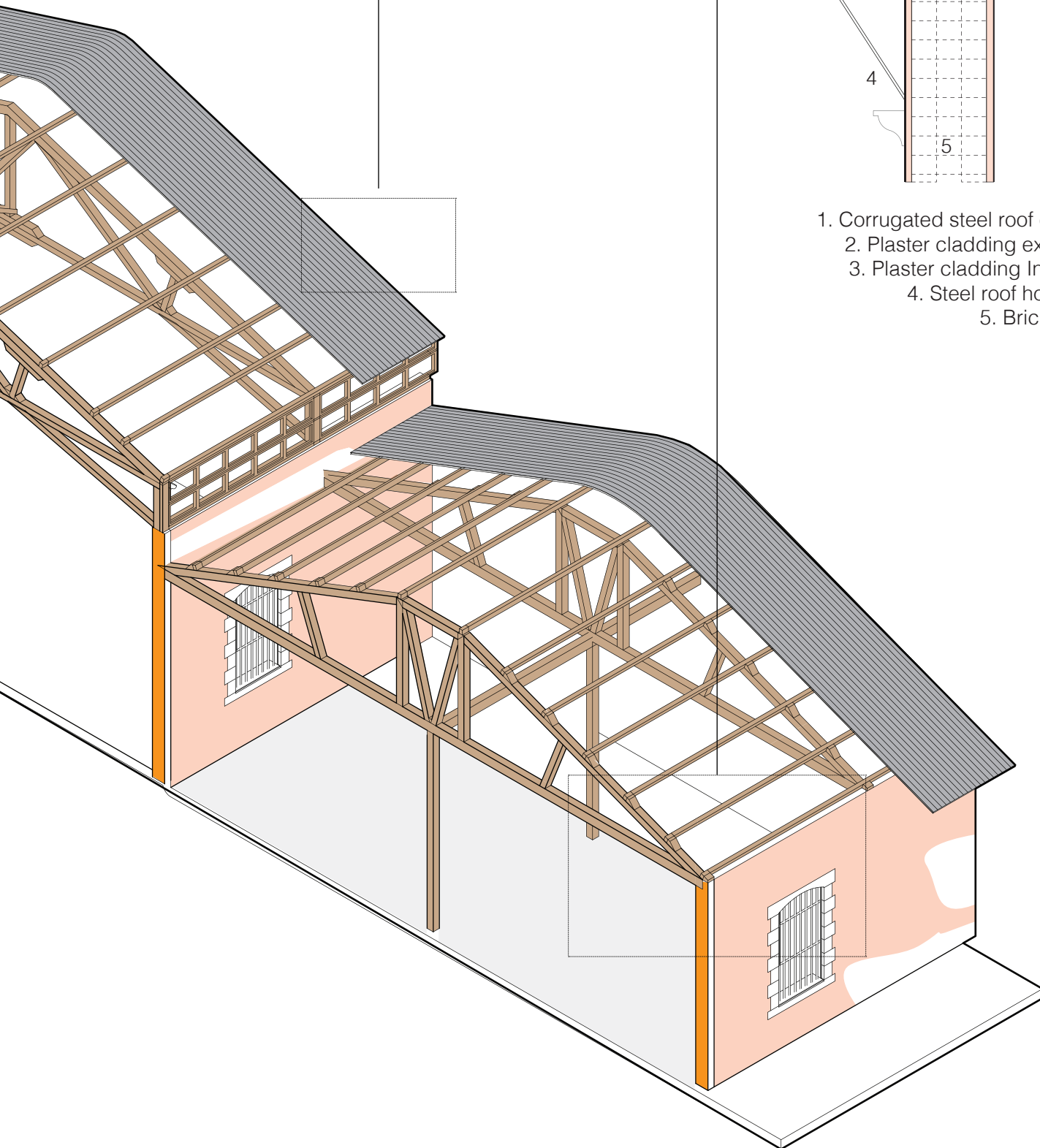


SURFACE





1. Corrugated steel roof cover
2. Plaster cladding exterior
3. Plaster cladding Interior
4. Steel roof holders
5. Brick wall



Signs of repair, weathering, corrosion, cracks or technical changes



1. Technical changes | In the main building we can see that they have implemented a new concrete column to strengthen the structure. The old, thin columns are made of iron compared to the new column.



2. Technical changes | Over the years a lot of the roof structure have struggled to keep the roof stable. This is why there has been a lot of small technical changes in the roof structure.

In this photo, we can see how they have added a lot of new timber pieces to strengthen the structure.



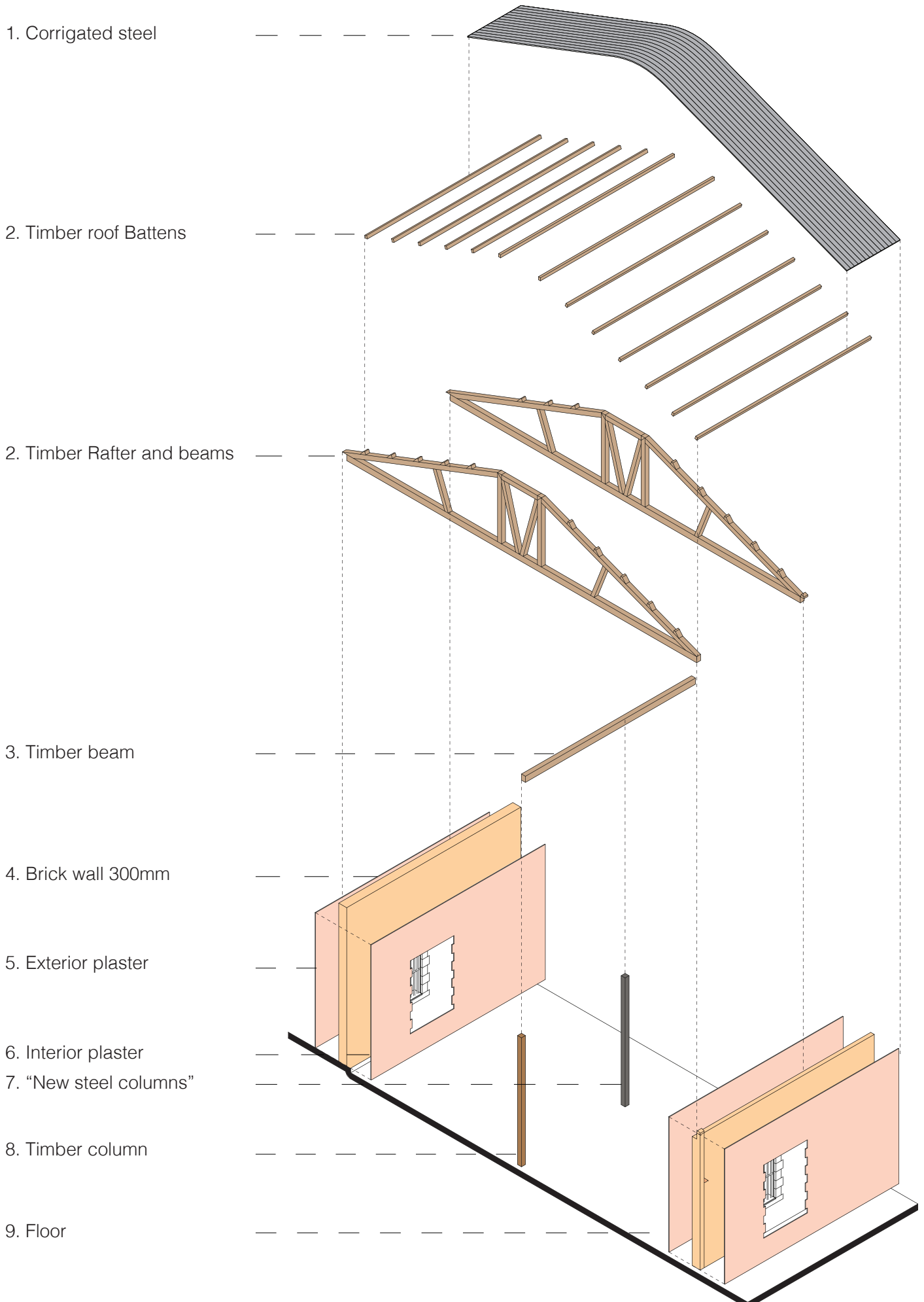
3. Changes | All around the complex we can see traces of changes to the surface due to either program or technical issues.

In this photo we can how they cover up the windows because of the program on the other side of the wall.



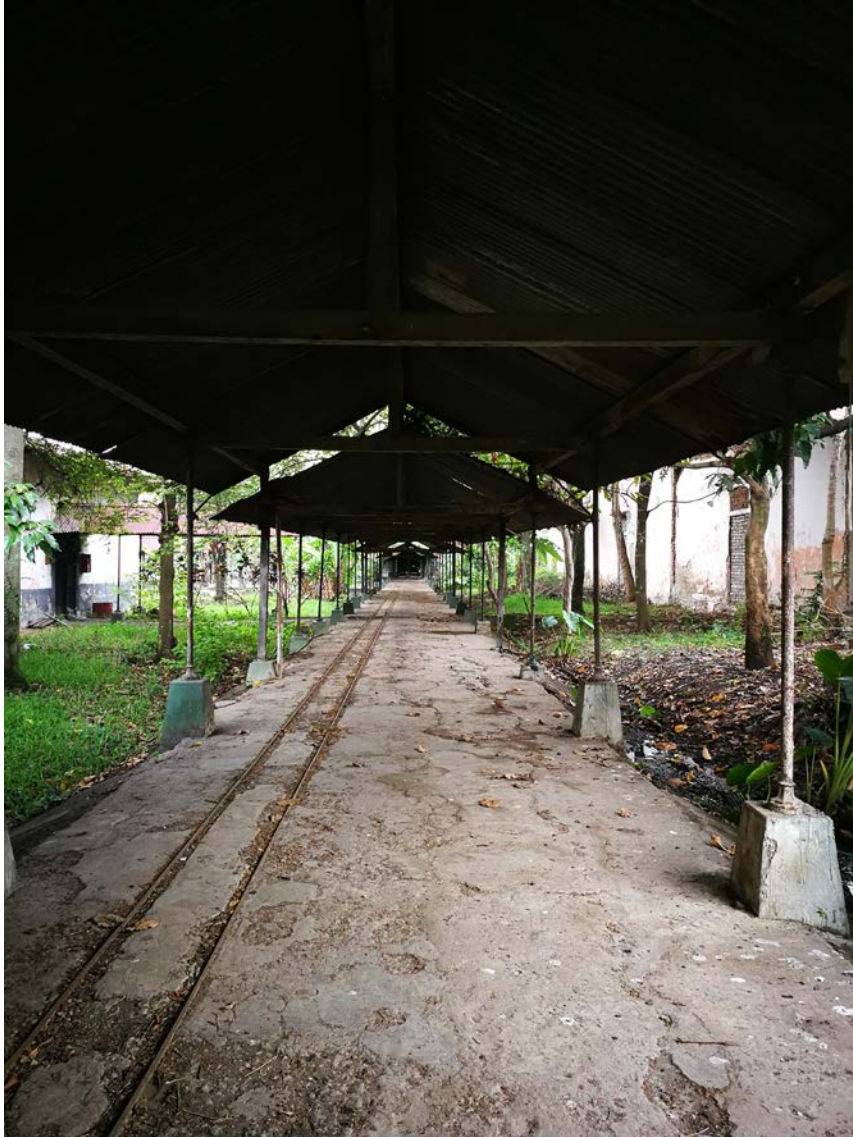
4. Corrosion | Almost all of the roof structure that is made of corrugated steel have scars of corrosion. In general, they are in really bad conditions.

Finishes and colours of the supporting elements of the superstructure



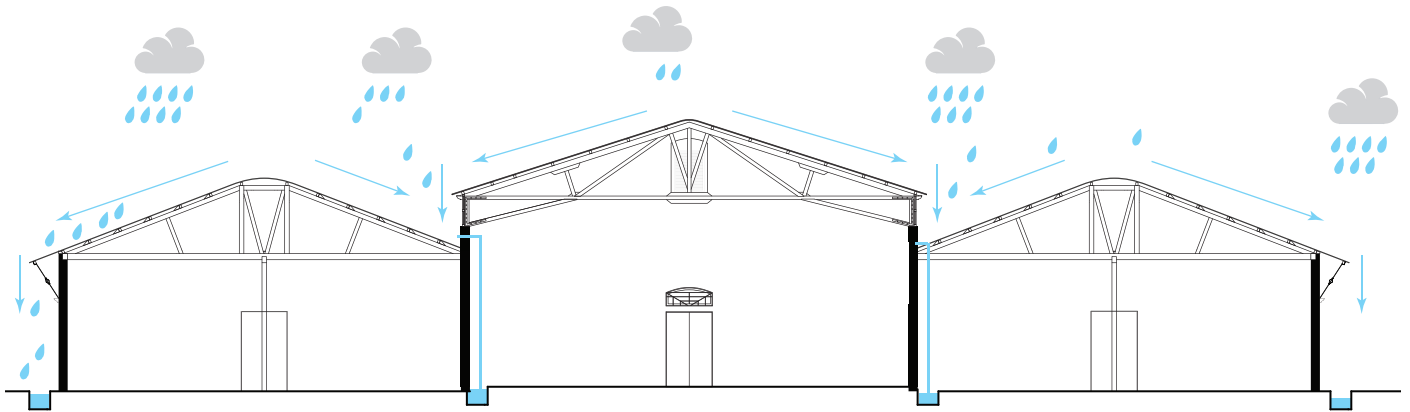
Conclusion

In general, the storages are structured with load bearing walls covered with plaster. The roof is made up of timber rafters and beams, whilst it is covered with corrugated steel sheets. An exception to this is the entrance building and some of the new storages that have roof tiles instead of corrugated steel. What is worth mentioning is the patina that has been developing over the years due to the natural decay of the materials, the polishing and weathering of the plaster. This shows how the surfaces of the different buildings have changed through history. Moreover, it was this exposure and decay that revealed the Dutch cross bond to us. The patina as a strong aesthetically appealing aura that creates a spatial atmosphere in terms of the spirit of the place. The general color of the patina is red and white, beside the entrance building that is recently painted green by the military. The green paint works as "label" to the people that this complex is owned by the military.



SERVICES & STUFF

Gutter and Drain system



In general, the gutter system is really poor and the roof cover can struggle against heavy rain.

1 Diagram: Roof covers the interior from rain. Some storages have a gutter system along the building.

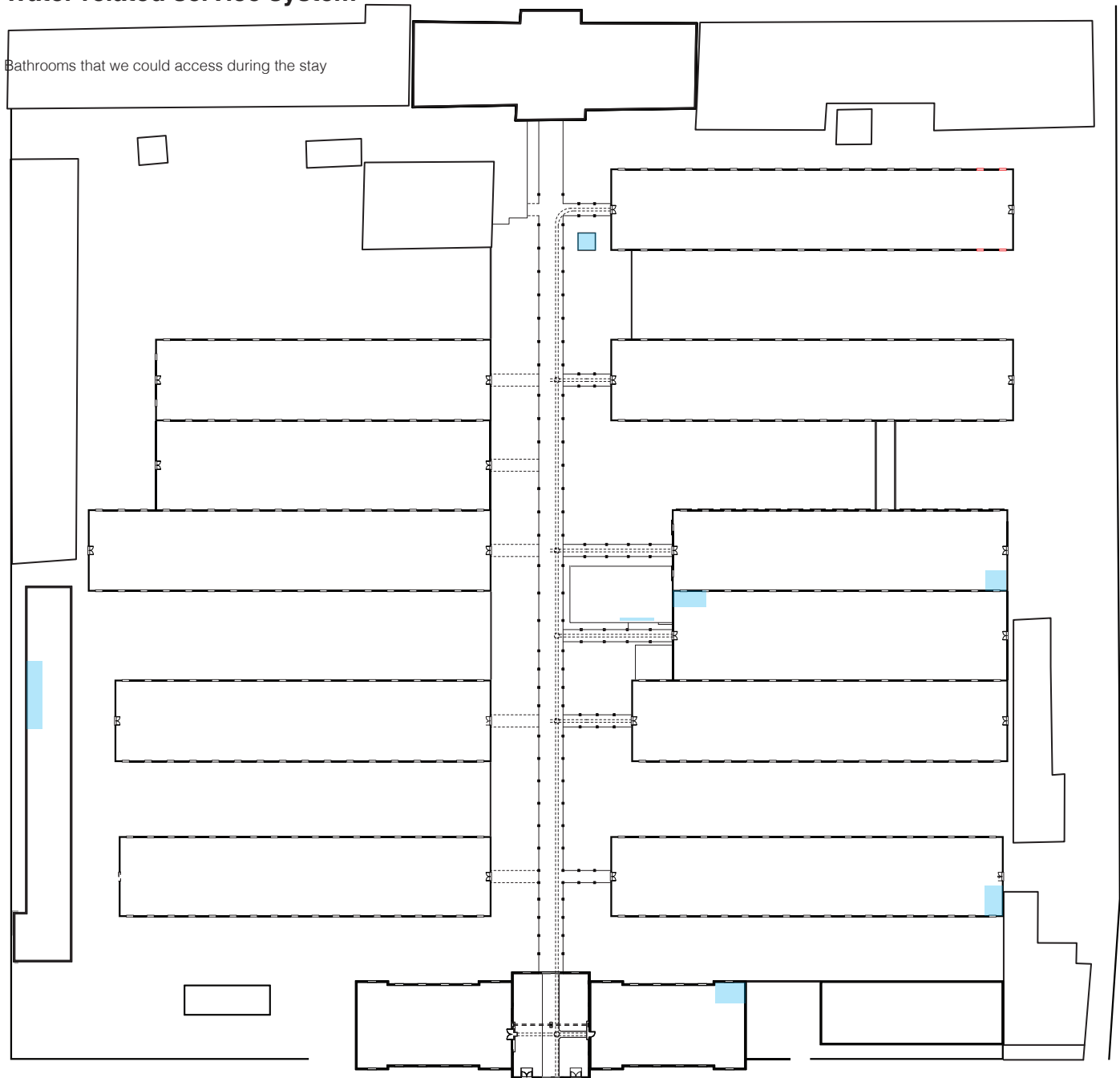
1 Photo: Drain system

2 Photo: Damage on the roof because of rain

3 Photo: Drain system



Water related service system



Water supply to the sink



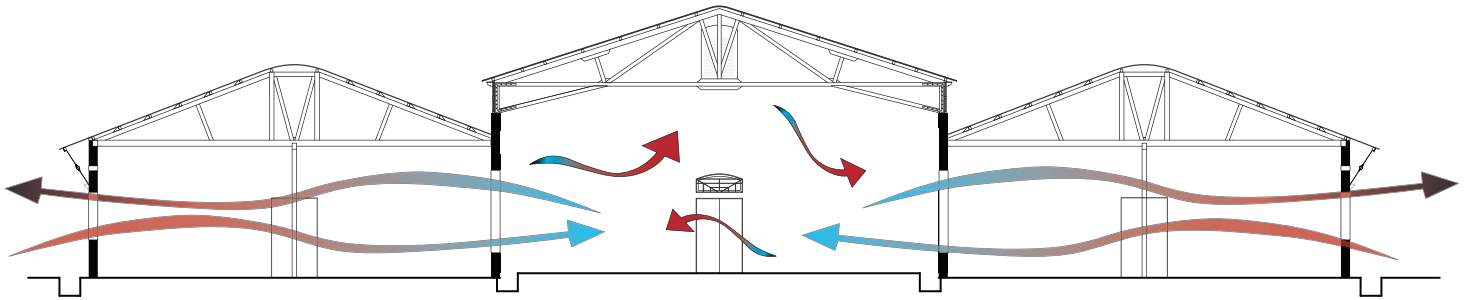
Place to wash yourself



Mosque



Ventilation system



Today there are some AC systems to cool down the storages. Initially, according to the original construction of the complex, there was some sort of cross-ventilation system through the ventilation holes along the building, above the windows.

1. Diagram: Cross ventilation for fresh air

1. Photo: Ventilation system on top of the window

2. Photo: Cut out for ventilation

3. Photo: Ventilation holes



Heating & Cooling system



1. Series of photos showing how the complex is using mechanical air-conditioning to remove heat and moisture from the interior of the military storage to improve the comfort of the people who are using the area today.

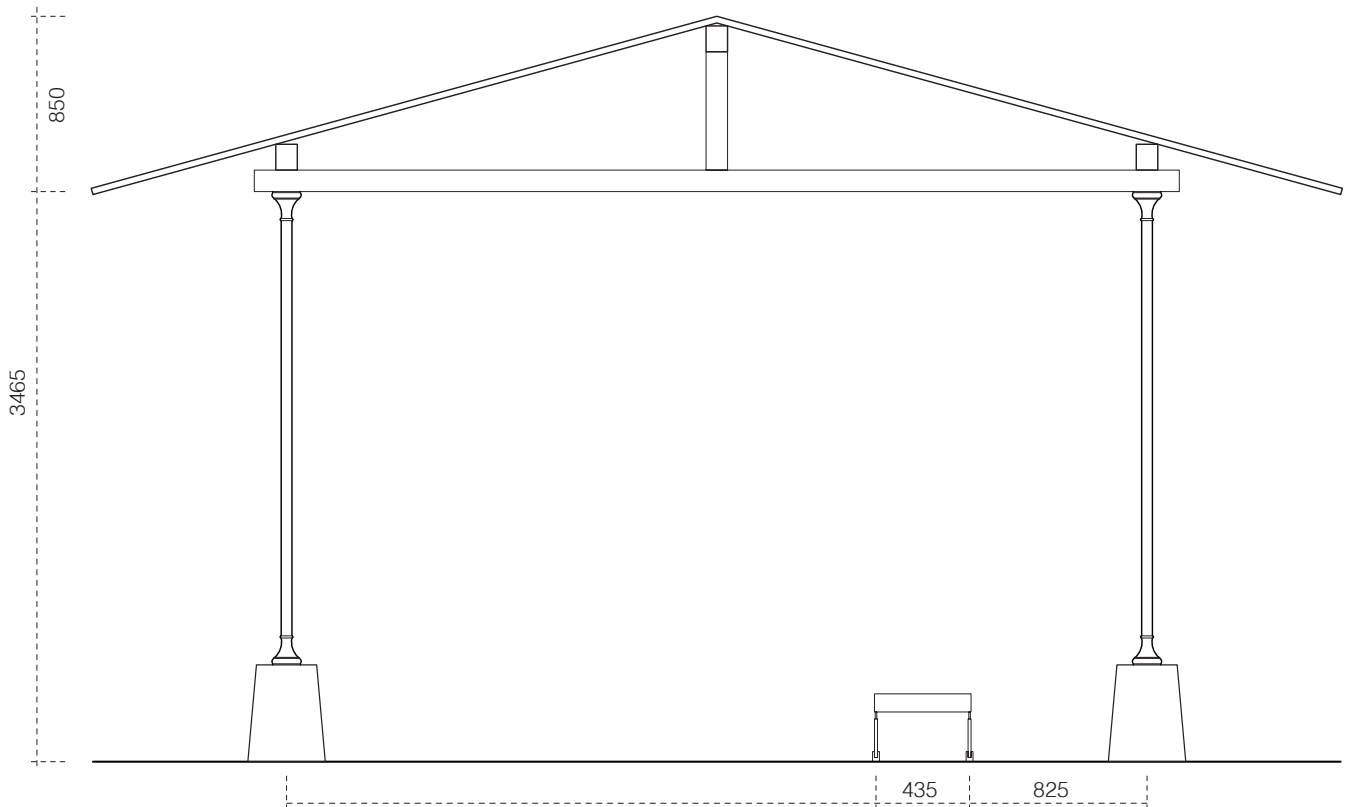
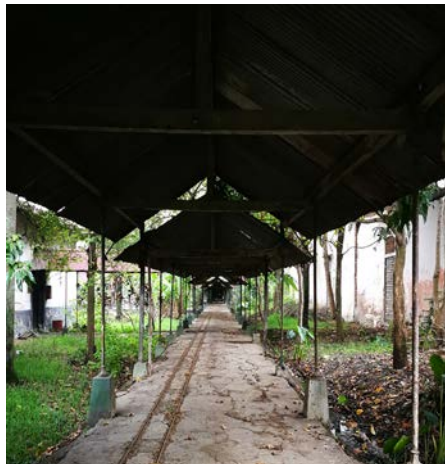
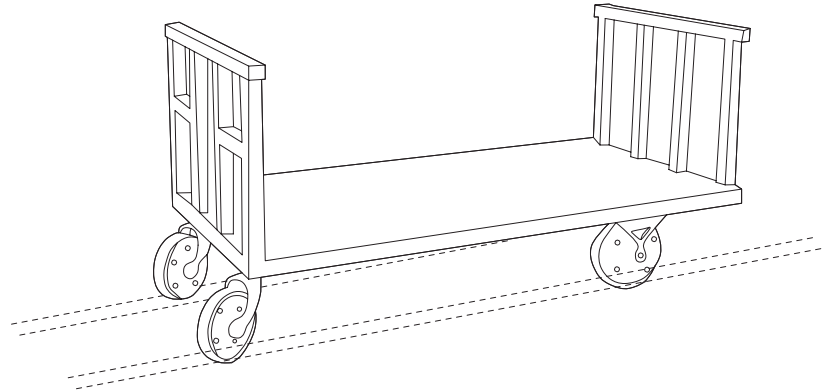
There are therefore a lot of holes in the brickwork for the installation of pipes today.

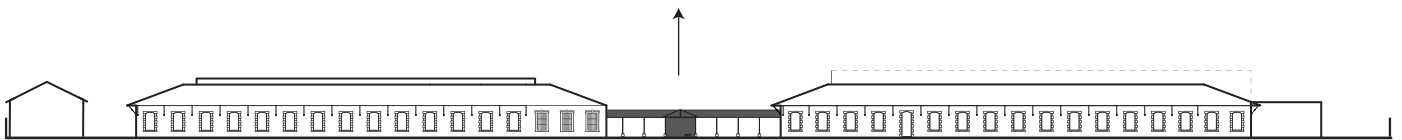
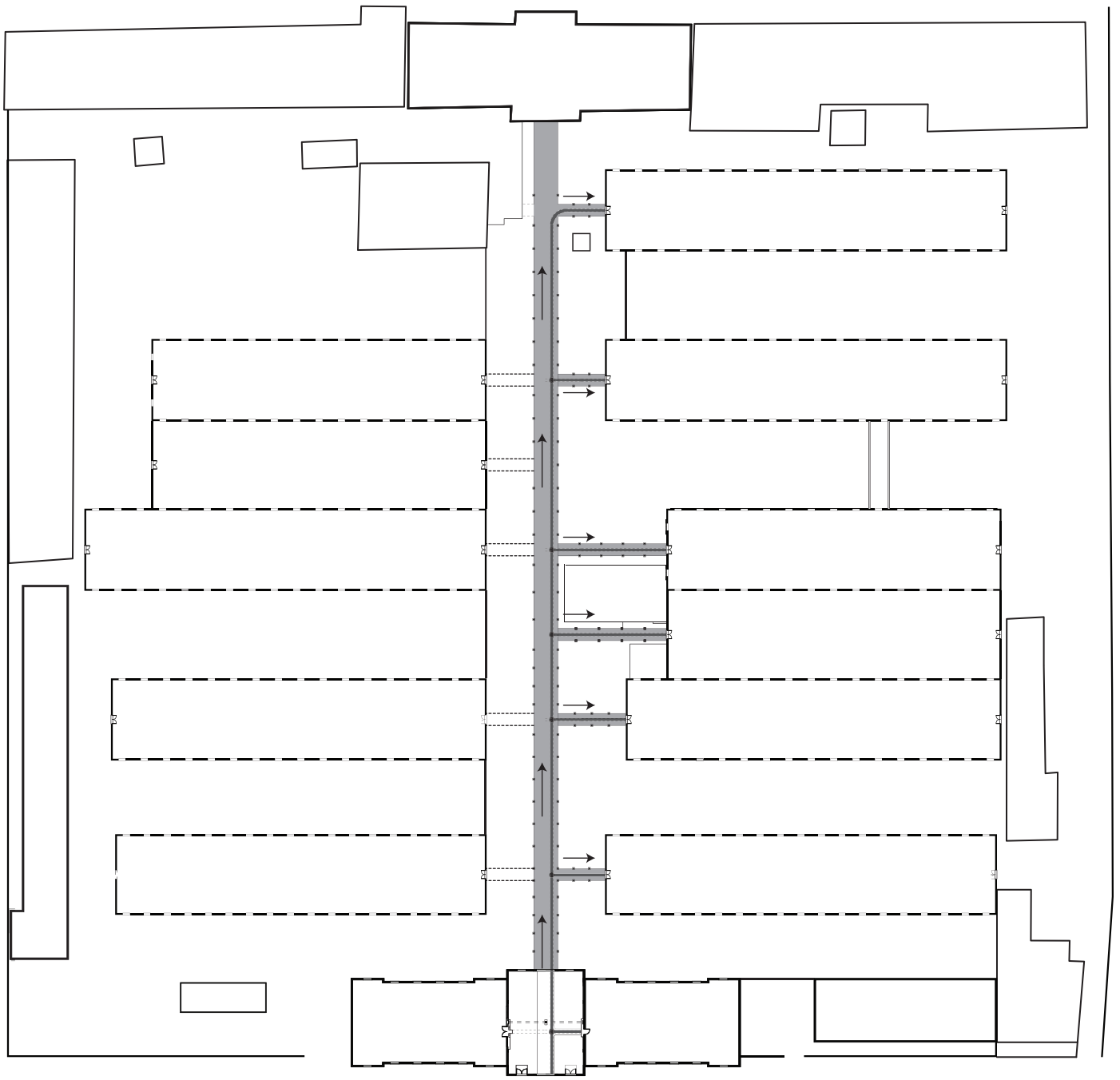


Trolley, Servicing system



Trolley track underlines the function of the space as a storage complex, and it's, therefore, an important object when it comes to services & stuff. The trolley tracks start at the front building before it continues towards the rest of the complex (map diagram)





- Trolley Track
- Trolley Track roof cover

Conclusion

One of the important aspects for services & stuff is the trolley track as it underlines the function of the space as a storage complex, and it is therefore an important object to mention and consider when valuating the “KNIL Magazijne”. The track works also as a connector between the different storages by forming the central axis circulation for the plot. Furthermore, the trolley track reveals the previous connection between the railway and the complex. The track has signs of age, history, art and rarity importance as it is particularly special in its context. Beside this, there are services, such as gutter, drain and ventilation systems around the complex underlining the simple utilitarian character of the warehouses. Most of these utilitarian services are in bad conditions and therefore it is important to consider the obligations, opportunities and dilemmas that are embedded in their intangible qualities when considering their maintenance, restoration or adaptive re-use.

VALUE ASSESSMENT

CONTENTS

“KNIL MAGAZIJNEN”

VALUE ASSESSMENT

VALUE MATRIX

256

OBLIGATIONS, OPPORTUNITIES & DILEMMAS


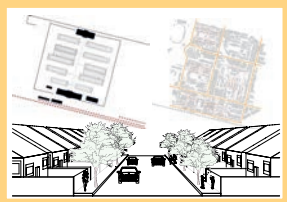




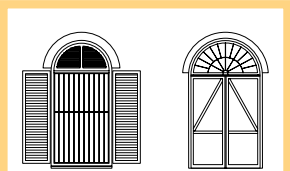
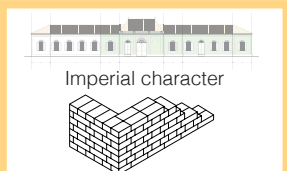
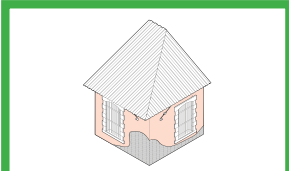
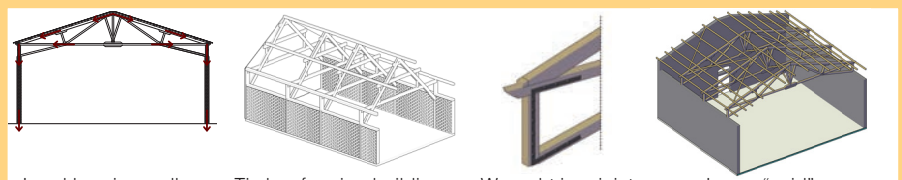
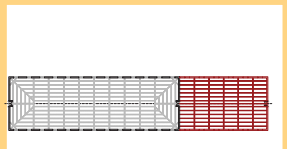
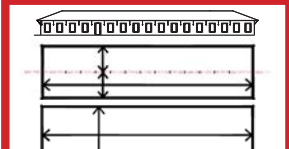


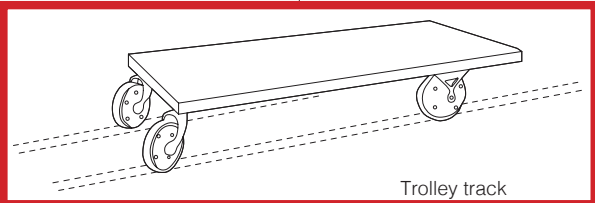
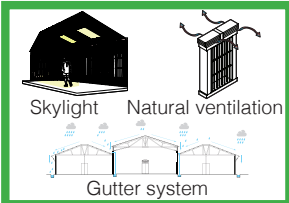
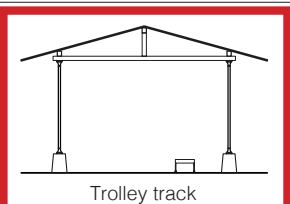
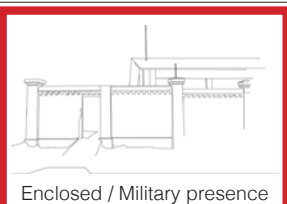
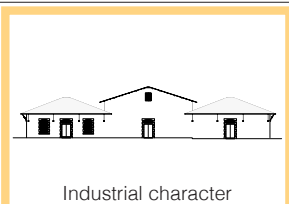

258




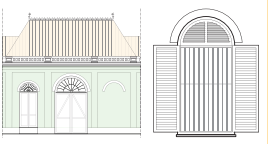
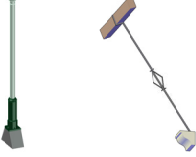
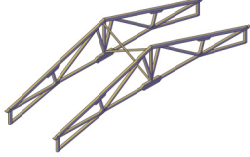

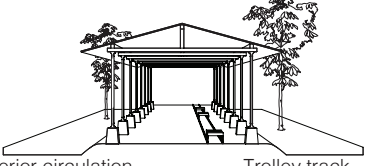
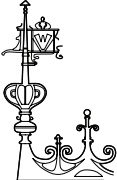


VALUE STATEMENT

260

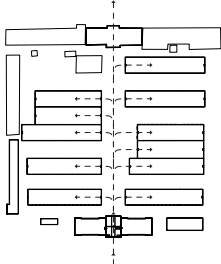
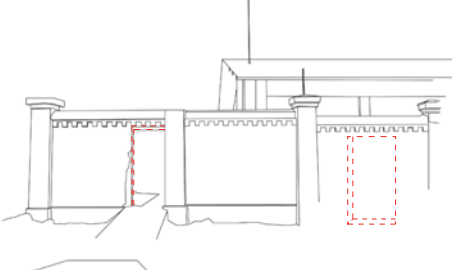
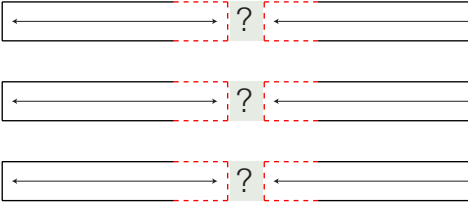
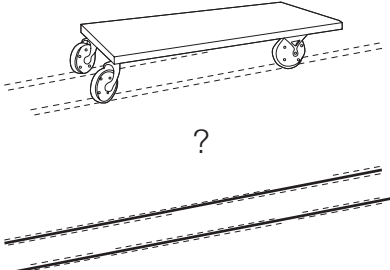
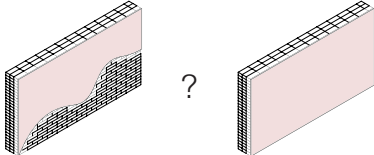
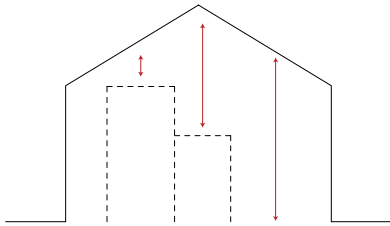


VALUE ASSESSMENT

| | AGE VALUE | HISTORICAL VALUE | USE VALUE | NEW-NESS VALUE |
|---------------------|---|---|--|--|
| SURROUND SETTING |  <p>Railway as a spatial element</p> |  |  <p>Combination of land uses</p> | |
| SITE |  <p>Enclosure by a wall</p> |  <p>Layers of military history</p> |  <p>Built vs open space</p> | |
| SKIN |  <p>Elements</p> |  <p>Imperial character Dutch cross bond</p> |  <p>Utilitarian construction</p> | |
| STRUCTURE |  <p>Load bearing wall Timber framing building Wrought iron joint Large "void"</p> | | | |
| SPACE PLAN | |  <p>Evolution of buildings</p> |  <p>Flexibility + Repetition</p> | |
| SURFACES |  <p>Patina</p> |  <p>Military green colour</p> | | |
| SERVICES |  <p>Trolley track</p> | |  <p>Skylight Natural ventilation Gutter system</p> | |
| STUFF | | | | |
| SPIRIT OF THE PLACE |  <p>Trolley track</p> |  <p>Enclosed / Military presence</p> |  <p>Industrial character</p> |  <p>New social uses</p> |

| RELATIVE ART VALUE | RARITY VALUE | OTHER VALUES | DILEMMAS |
|---|---|---|---|
| | | |  <p>Military dominance</p> |
| |  <p>Connection through central axis</p> |  <p>New social uses</p> | |
|  <p>Ornaments on openings</p> | | | |
|  <p>Cast iron column Tension Rods</p> |  <p>Timber roof structure</p> | | |
| | |  <p>Re-use</p> | |
| |  <p>Exterior circulation Trolley track</p> | | |
|  <p>F.W Braat Iron decoration</p> | |  <p>W for Wilhelmina Intentional commemorative value</p> | |
| | | |  <p>Patina</p> |

| | OBLIGATIONS | OPPORTUNITIES | |
|------------------------------------|---|---|--|
| SITE & CIRCULATION | Re-establish the north-south axis; connectivity between buildings through the trolley path. | To create programmatic connections and link it to the railway | |
| SITE & SURROUNDING WALL | The enclosure should be preserved since it reflects the character complex, the spirit of the place. | Possible to select new puncture the wall to enhance the sense of enclosure | |
| SITE & SPATIAL PLAN | Openness and flexibility are key elements that define the character of the place and should be maintained. | New programmes can be adapted to this context through flexible space-plan | |
| SPIRIT OF THE PLACE | The trolley track expresses the spirit of the place therefore, it is an obligation to redefine, re-interpret its use. | | |
| BUILDING & STRUCTURE | To maintain and enhance the timber roof structure, one of the rare qualities of the buildings. | The fact that not all parts are original or do not have the same qualities, or values makes interventions possible in case the new function or the comfort of the user demand it. | |
| BUILDING & SPATIAL PLAN | | The “void”/ spatial character of the building creates opportunities for any kind of programme to be established. | |
| | | | |

| DILEMMAS | PROBLEMS / ILLUSTRATION |
|--|--|
| <p>How to do this while maintaining and re-using the trolley track?</p> <p>How does it work in case of different functions/programmes in different buildings?</p> |  |
| <p>How do you open up the complex to the public, while maintaining the wall and thus its enclosed, private feeling?</p> |  |
| <p>How do you maintain openness and flexibility while densifying the complex so as to address the needs of the growing population in Bandung?</p> |  |
| <p>Do you keep the system visible and/or working or the tracks are enough to tell the story of the place?</p> |  |
| <p>Finding the balance between the original roof and the historic additions and the new intervention is crucial.</p> |  <p>Age value (patina) vs need for maintenance</p> |
| <p>How do you create new spaces that are needed for the new used but maintain this aspect of the existing building? How do you fill in the space so that the "void" is still visible? How do we create a sustainable</p> |  |

Value Statement for “KNIL Magazijne”

“KNIL Magazijne” is located between Gudang Seletan and Gudang Utara, just outside city center of Bandung, Indonesia. It was used as a storage unit for the military district during the Dutch colonial period (1900s – 1942), the Japanese occupation (1942 – 1945) and after the Indonesian independence until 1990. Today the complex is rented out to private individuals for light industry and social activities. We estimate the date of origin, based on historical maps, to be between 1900 – 1905, with later additions before 1942. Further alterations were done to the complex between 1942 - 2017. The complex consists of 19 buildings which are enclosed by a perimeter wall. Their spatial arrangement is organised along a central axis / servicing system that served the purpose of the former use. The warehouses are constructed with load bearing brick masonry walls and timber roof structures. On the exterior the patina, the articulated mouldings and the wooden shutters characterize the buildings. Furthermore the entrance building, on the south side of the complex, constitutes an example of imperial architectural style - “Beaux-arts” that reflects the colonial past of “KNIL Magazijne”.

The “KNIL Magazijne” forms the south edge of the broader military district. An area of the city that was planned according to the Garden city concept of the 20th century that included administration and utilitarian buildings as well as residential and communal spaces. The whole district is developed on a strong grid reflecting the formal character of the military with wide streets, public spaces and greenery. The complex’s proximity to the railway justifies its use as a storage space. The entrance building was the connection point between the railway and the warehouses, inspecting and provisioning the goods to the warehouses through the trolley track system. Today, “KNIL Magazijne” works as a buffer zone between the formal military neighbourhood and the informal settlement south of the railway.

The “KNIL Magazijne” is worth of preservation because of the tangible and intangible values inherited in its physical appearance and interpretation within the current urban setting. More specifically, on a site level, the wall that encloses the whole complex has historical value because it reflects its military past and age value due to its natural decay and craft-work. Moreover, the spatial arrangement of the storage buildings around the industrial system / trolley track has rarity value since it represents the historical functional system of the complex. On a building level, the load bearing construction of the warehouses has use value considering it allows for flexibility and adaptability of the interior environment and the repetitive rhythm of the façade openings. Besides, the timber roof structure has historical and rarity value because of the uniqueness of the material used. Smaller elements such as the wrought iron tension rods on the exterior and the cast iron column of the entrance building show significant art value as they reflect the architect’s intention to balance technical and aesthetic aspects. Furthermore the entrance building has historical and art value being a typical example of the Beaux Arts School architectural style located in Bandung. Last but not least, one of the most important elements of the complex to which age, historical, rarity and art value has been attributed to, is the trolley track. It has age and historical value because it reflects the history of the place and its use as a storage while art and rarity value considering of its uniqueness in the context.

What’s Next?

We believe that one of the main obligations for site & circulation of the KNIL Magazijn is to re-establish the north-south axis connectively between the storages of the complex through the trolley path. The trolley track expresses also the spirit of the place, therefore it is an obligation to redefine, re-interpret its use. This will create programmatic connections for the different programs on site. The question we have to ask our self is, how can we do this while maintaining and re-using the trolley track, and how will this work if the storages have different functions. Is it enough to keep the trolley track visible and/or working or are the tracks themselves enough to tell the story of the place?

Additionally, the enclosure of the site & surrounding wall should be preserved as it reflects the character and the spirit of the place. Yet, the challenge is to open up the site again to the public. There should therefore be possibilities to create new punctures through the wall,

but still enhance the sense of enclosure.

Moving to building scale, the key elements of the site & spatial plan of the complex is the openness and flexibility of the storages. They define the character of the place and should be maintained. By enhancing this one can adapt new programs to the context through flexible space plans. Yet, we should not forget that Bandung is undergoing a rapid growth in population. How to maintain openness and flexibility while densifying the complex is therefore a problem we have to address.

Moreover, the timber roof structure of the buildings should be maintained and enhanced as it is one of the rare qualities of the complex. However, the fact that not all parts are original or do not have the same qualities, or values makes interventions possible in case the new function or the comfort of the user demands it. The structure & spatial plan do also create a “void”/ spatial character of the buildings, were opportunities for any kind of new program can be established. The question is, how is it possible to do this while finding the balance between the original roof and the historic additions and the new interventions. In additional, how do we create new spaces that are needed for the new use, but maintain this aspect of the existing building? How do we fill in the space so that the “void” is still visible?

Nerveless, we should not forget to take climate control in use even though we have obligations to sustain. The patina that has been created over the years is an example of this problem. The patina does have age and aesthetically appealing aura for the spirit of the place. Should this be conserved or is it a need for maintaining the structure? Problems like this have to be taken in consideration as it is an important factor for our goal to design a sustainable future.

APPENDICES

CONTENTS
APPENDICES

| | |
|---|------------|
| APPENDIX I: INDONESIAN URBAN DEVELOPMENT TIMELINE | 266 |
| APPENDIX II: DUTCH RAILWAY TIMELINE | 279 |
| APPENDIX III: DRAWINGS | 293 |



Halte Lebakdjero 1920s

APPENDIX I: INDONESIAIAN URBAN DEVELOPMENT TIMELINE

1810

Herman Willem Daendles...

Daendles assigned the Bandung Regent to move his "palace" 10 km to the north of Krapyak, precisely at the intersection of (river) Ci Kapundung with Groote Postweg. Groote Postweg was intentionally made a little north of Krapyak because the area south of Bandung often suffered from the (river) Ci Tarum's flooding. The Alun-Alun was made in conjunction with the establishment of the city of Bandung. During the same year, the Dutch imposed a ban on the European citizens who wanted to go to the Priangan region to work as private entrepreneurs. This regulation was adopted because the Dutch government was afraid of losing its monopoly and thus its main source of income. Moreover, Bandung at that time was difficult to access, located in the middle of the Priangan forest.



1811
1812

Daendels ordered that every family in Priangan region to be obliged to plant 1,000 coffee trees according to the old company regulations.

Hindia Balanda moved to the British Empire. Under the rule of the British Empire the population of Bandung regency increased to 60,000.

Raffles recruited several Dutch people to work for the British Government, including the assistant resident Andries de Wilde. At that time, Bandung and Cianjur were nominated by the British government to become the capital of Priangan, although in the end Cianjur was elected. The British government, in contrast to the previous government, gave permission to the establishment of public markets. Initially only once per week, then more often. This then spurred economic growth in Bandung. "Tjigoeriang" Market was built behind Kepatihan.

Within a century, Bandung's population rose by 400%, while coffee production to 1700%. This reflects that most residents in Bandung were imposed with a very heavy duty of forced cultivation. Evidently there many who chose to live far away, on the slopes of the mountain, and earn their living by planting rice, like their ancestors did under the rule of Pajajaran and Mataram Kingdom, causing Bandung's growth to stagnate.

The population of the district capital was estimated to be only hundreds to thousands of people. The housing construction still used bamboo and thatch roofs. According to the tradition, the regent's house was always marked with two bring-in phones, a mosque in the "deknya", a residential house, as well as a "paseban" and an "alun-alun".



Ci Kapundung



Ci Tarum



Peeling coffee beans at a coffee processing company in Bandung.

Generally houses were adjacent to their coffee gardens. The obligation to plant coffee did not apply to district office employees, deputies, Chinese groups and other foreigners. In the 19th century many of these foreign groups came to Bandung by bringing their respective "opas". Many of these "opas" were then in conflict with the natives. These people then joined the KNIL. Most of them came from Ambon, Bali, Menado, Java and Madura tribes.

Masjif Agung in Alun-alun is a simple traditional stage building. Made of tires and thatched roofs. The face of the Great Mosque, which at that time was named Bale Nyunvung, was his first face.

Because of its proximity to high-ranking officials, a handful of entrepreneurs were placed in private plantations in Priangan. Among them are Andries de Wilde. In 1816-1825 he made a plantation in Guning Parang - Sukabumi, and in 1813-1819 in Ukung Berung - Bandung.

Dr. Andries de Wilde submitted a suggestion to the Dutch Government, so that the capital of the Residency of Priangan was moved from Cianjur to the "city" of Bandung. With the transfer of the capital city of residency to Bandung, the government expected to facilitate the economic development of Bandung, generating business opportunities.



Duke of Aria Wiranatakoesoema, Regent of Bandung.



Bandung Grand Mosque after being rehabilitated.



Bandung pavilion.



Coffee plantations in Kidul Sukawana in the north of Bandung.

1852

Late 19th century...

At the expense of the government, the Alun-alun neighborhood was overhauled, including the Great Mosque. Meanwhile the Groot Postweg (Jl. Asia Afrika) was seen as a dichotomy, dividing the city into two parts, namely south and north. The north was intended for the European residencies while the south was meant for the natives.

Priangan residency was declared open to anyone. The official announcement from the Dutch East Indies Government was delivered by van Steinmetz Pride Resident and it was published in the newspaper "Java Bode" on 11 August 1852.



Great Mosque in Alun-alun area, Bandung.

1853

Permits were issued to settle in the Bandung, Cianjur and Sumedang areas for Europeans, while the ban on holding new private businesses remained and was even tightened. This regulation brought back the Chinese group who had previously been forcibly transferred by Daendles in 1810 from Cirebon. The Chinese people received special protection from new competitors, so that more and more Chinese citizens came to Bandung.



Street atmosphere from peak- Cianjur - Bandung at the end of the 19th century

1860

Around 1860 the means of transportation in Java, in Dutch East India / Indonesia, were still primitive and consequently the conveyance of products from the interior was a complicated matter. Transportation took place through fraught animals.

1895

Societeit Concordia was completed at the end of Braga Street, and was opened to the the Dutch audience. The function of the building was for social, recreational and entertainment activities. Societeit Concordia was not available to the Indigenous people.



Initial design of societeit concordia (Gd Merdeka).

Tegalega Horse Racing was established, before the establishment of horse racing in Jakarta and Bogor. *"...In the morning, Bandung would be filled with curious European people who would just arrive by train. Thousands of people, Europeans and natives, would gather in horse races to bet in July. In addition to the rich European groups, the Regent's of Garut, Sumedang and Cianjur would be present as well. If the regent's horse would win, the horse would parade around the city in the afternoon. It would be surrounded by a series of jasmine and cananga flowers, preceded by a line of angklung music groups..."*



Tegalega's horse race

Until this era, there were almost no cars in Bandung. Transportation was done using horse pedestals.

To overcome the epidemic of tropical diseases, the construction of the building complex "Pasteur Institute" was initiated in Bandung.



Cihampelas Baths, Dutch people said that they often found frogs and snakes in their ponds.



Sampling of Smallpox immunization in a buffalo at the Pasteur Institute.



K.A.R. Bosscha stood in front of the porch of his house at the Malabar Tea Plantation.



Quinine plantation in Subang, one of the quinine suppliers for the Quinine Plant in Bandung.



Old Preanger Hotel Building.



J.R. De Vries & co. , - Department Store - famous at Groote Postweg

K.A.R. Bosscha was appointed head of the Malabar tea plantation (NV assam Thee Onderneming Malabar). Bosscha, who had a very high interest in science, later helped to change the face of Bandung in terms of science. He began by changing the standard size of "bahoe" to "hectare" and the standard length of "pal" to "kilometer". K.A.R. Bosscha was then actively involved as a founder in various institutions such as "De Preanger Telefoons Maatschapij", "De Bandoengsche Electriciteits Maatschapij", "De Automobile Import Maatschapij", "De Stedelijk Ziekenuis", "De Technische Hoogeschool", and others. On December 20, 1920, Bosscha began the construction of the Bosscha Observatory-Serrenwacht, which was actually inspired by the fond of his nephew in the field of astronomy.

For the first time in the Priangan Region, a newspaper called "Preangerbode" was published on Monday, July 6, edited by Mr JHLE Merverden. The subscription money was f.2.50 for half a year. Abdul Muis, author of "Salah Asuhan", worked as a journalist at "De Preangerbode" while he was living in Bandung.

The Kina factory named "Bandoengche Quinine Fabriek N.V" was established. One of the oldest industrial factories in the city of Bandung, which occupies the space between the corner intersection between Jalan Cicendo and Jalan Pajajaran. The factory constitutes a historical landmark, in the Highland of Bandung and the international world, as the largest supplier of quinine in the world. The quinine processing plant was imported from Lembang, Subang and Pangalengan.

Grand Preanger Hotel was officially opened to the public. The tenants of the hotel were mainly Preanger planters or business owners. Later, the hotel was renovated according to C.P. Schoemaker's, assisted by Soekarno, design of Indische Empire Stijl architecture. (Soekarno was later the first president of the Republic of Indonesia).

The residents of Bandung and the surrounding areas, successfully formed a forum for channeling participation and aspiration in the urban life, under the name "Vereeniging tot nut van Bandoeng en Omstreken" (Bandung and surrounding community welfare associations). The founder was the Priangan Resident, Pieter Stiljthoff while the Resident Mr. CW Kist, was the chairperson of the Honorary Association.

The Regent of Bandung, Martanagara, established the European Trade Office, Banks and Shops along the Grote Postweg (Jl. Raya AA). Besides that, he also built and fixed Jl. Braga, from now on, referred to, as "De meest Europeesche winkelstraat van Indie", "the most prominent shopping area in the Indies".

1900

Early 20th century...

The first bank was established in Bandung, long before, Gemeente Bandung. It was "NI Escompto My" whose office was located at Jl. Merdeka Lio, under the supervision of Notary P. Vellema. Almost all plantation owners in Priangan became Escompto Bank customers, so the company quickly developed, and moved to Jl. Braga (Journalist Center) on May 1, 1900.

Bosscha founded his first tea factory in the Malabar complex. Now the factory has changed into a sports arena.

The Great Mosque has been renovated again. This time it was equipped with special features of traditional mosques, in the form of rectangles and overlapping roofs with three layers as well as a drum, a "kentongan", a "mihrab", and a pond.

1901

The inauguration of the first blind center in Bandung thanks to a Dutch ophthalmologist named Dr. C.H.A. Westhoff. Member of the association, besides Westhoff, was also the Regent of Sumedang, R.A.A. Soeriaatmaja. The name of the association was Vereniging tot Vernetering van het lot der Blinden in Nederlandsch Oost-Indie (Foundation for the Improvement of Blind People's Fate in the Archipelago).

1903

The installation of a water channel ("Water Leiding") with its water source in Dago was completed. In March, there were 20 former "Boer rebel marapiadana" who chose to live in the Bandung area to produce milk and raise cattle in Pangalengan, Lembang, and Australian horses in Parongpong. It was they who founded "Bandoengsche Melk Centrale" (BMC), the first milk cooperative in Indonesia. In addition, they also had plantations in Tatar Priangan, and opened a trading office that organized the plantation's commodity exports.

1904

The Kerkhoven family, Bosscha and Mollinger, known as Preanger planters, had driven the Serpollet brand steam car and the Darracq brand gasoline car on the streets of Bandung and mountain roads around Bandung.

Tjihampelas swimming pool, which belongs to Ny. Homann was built in a simple style.

1906

City Hall was built at the north end of Braga street to accommodate the new government, separated from the original native system.

The Baroe Market was built in the form of a permanent market building as a line of shops in the front and market outlets at the back side of the buildings.



Former building N.I. Escompto at the corner of Jl. Asia Africa and Jl. Braga.



Malabar Tea Machinery is the exporter of tea to the world.



The Great Mosque in its traditional design, which is influenced by Arabic architectural styles, by Chinese and Hindu styles.



Blind people employed as woven craftsmen.



Water polo is popular with Bandung residents since Bandung already has a decent swimming pool.



Pasar Baru, Traditional Market of the City of Bandung, which once held the title of the cleanest market in the Dutch East Indies.



Orion cinemas.

Westhoff founded an institution called Koningin Wilhelmina-Ooglijders Gasthuis, the forerunner of the Cicendo Eye Hospital. The location was in Jl. Cicendo (now Sisimangaraja road).

“De Crown Bioscoop” and “Oranje Elector Bioscoop” were constructed. The premiere of the cinemas took place almost at the same time. “De Crown Bioscoop” was the first to appear. “Oranje Electro Bioscoop” followed right afterwards with its first performance on Saturday night, December 1.



The New Javasche Bank Building in Merdikaweg is currently being used by Bank Indonesia.

“De Concurrent Juweliers” Jewelry Store opened at the Jl Braga area.

The formation of Budi Utomo (“Noble Endeavor”) is often considered as the beginning of organized nationalism. Founded by Wahidin Sudirohusodo, a retired Javanese doctor, was an elitist organization, the aims of which - though cultural rather than political - included a concern to secure the co-existence of the traditional culture and the growing contemporary society.



Busy people were installing street lighting in front of the new De Vries Shop.

“De Javasche Bank” (now Bank Indonesia) was established on Jl. Braga. This building was designed by the architect Edward Cuypers.

Edward Cuypers also designed the renovation of “De Vries” shop, grocery store.



Housing construction on Jalan Riau which is still quiet.

The Homann Hotel was renovated with the construction of an additional building and changed its name to Grand Hotel Homann.

Riouwstraat (Jl. Riau) was still the eastern boundary of the city of Bandung. Housing construction in Riouwstraat began in the late 1910s.

Pedati became the main conveyance in Bandung and were pulled by cattle or horses.

Tap water was introduced in the North Bandung. In the city brochure it was called “Het Bandoengsche drink water volt rots zo zuiver”, which meant that the water was pure and drinkable without being cooked.



The establishment of banks in the Groote postweg is closely related to the rapid growth of plantation businesses around the city of Bandung and other efforts in the center of the city.

Three friends - Douwes Dekker, Suwardi Suryaningrat (Ki Hajar Dewantara) and Doctor Cipto Mangunkusumo founded the “Indische Partij” in Bandung.

Escompto Bank (now Bank Mandiri on Jl Asia Afrika) occupied a new building, opposite the Post Office.

1913

Early 20th century...

The shop “Au bon Marche” next to AAC) was established by A. Makkinga. This shop was selling the latest clothing fashions directly from France.

The results of the students’ “Kautamaan School of Religion” were exhibited at “Tentoonstelling De Vrouw” in Batavia. On this occasion, Dewi Sartika obtained a diploma, from the administration of her business school, in advancing the education of indigenous young women.

1914

“De Express”, one of the print media that plays a role in the national awakening movement was published by Tiga Serangkai, Ki Hajar Dewantara, dr. Tjipto Mangoenkoesoemo and Douwes Dekker. They also triggered the establishment of Indische Partij.

“Pasundan Circle” was established with the intent to educate Sundanese people. It was established in Jakarta by STOVIA students who felt the need to have their own organization. The objectives of this organization were:

1. to glorify the Sundanese language and culture
2. to refer to science from the Dutch language
3. to participate actively in advancing Sundanese knowledge
- and 4. not to participate in the governing of the country.

1915

Bandung reported an average temperature of 22 degrees Celsius, with 17 degrees Celsius during night time and around 27 degrees Celsius during daytime. Rainfall ranged from 1800mm a year on average.

“Erste De Nederlandsche Indische Spaarkas en Hypotheekbank” DENIS Savings Bank And Mortgage was established at Jl. Braga no. 14 , now occupied by Bank Jabar.

Dr. WD van Leeuwen discovered a rare orchid in the city of Bandung. The flower was called “Microstlylis Bandongensis”.

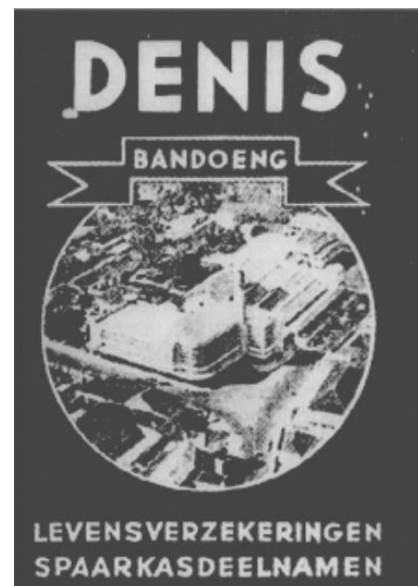
The municipal land office, responsible for the city’s development plans, was propagating with brochures comparing Bandung to Batavia, to attract the Government and other business entrepreneurs so that they move to Bandung.

The child mortality rate was quite high, so that Bandung got the nickname “Child’s Grave”.

At the same time, Bandung was declared a fairly clean city, which led to the increase in the number of Europeans who chose Bandung as a place to live from 1915-1942, namely from 2,000 to 30,000 people.



HBS students (SMA 3 & 5 now) are conducting a study tour to Pembangkit Electric Power in Dago.



The New Building of DENIS which has an architectural style similar to that of Hotel Homann because it was designed by the same architect, Aalbers.



HBS students take a picture together on the school yard.



The M.U.L.O. building in Sumatrastraat which still functions as a school to date.



The atmosphere of the "Jaarbeurs" (Bandung Annual Exchange), the means to showcase the industries of the City of Bandung to the Dutch East Indies.



Housing construction in Riau followed the construction of state company offices which were moved to Bandung.

A swamp in the northern Bandung area was used as a field for military activities, this field was the forerunner of Bandung's Traffic park.

"Hoogere Burger School" (HBS) on Jl. Blitung (now SMA 3) started accepting students. The building was designed by Wolff Shoemaker.

Experiments with telegraph radio telecommunication were conducted, with a receiver on Tjangkring, at the foot of Mount Malabar.

The residents of Bandung city began to enjoy clean water supplies with the establishment of "Diens Technische Afdeling" (DTA). The DTA water was examined first by the "Technische Hygiene Laboratory". The source of the water were 9 springs in the northern Bandung area.

Government's MULO building located in the corner of Soematrastraat (JL. Sumatra) and Javastraat (JL. Jawa) was completed. The building was built by the Government of the Netherlands and is now the SMP 5 in Bandung.

The central area of the European community's activity was increasingly lively during the Annual Exchange (Jaarbeurs) which was held in a complex of buildings in the region. Complex Jaarbeurs (now Kologdam Building) is located on Jl. Aceh and it was built in 1917.

Bandung's Private Electric Company was established which later became G.E.B.E.O. ("Gemeenschappelijk Electriciteit Bandoeng en Omstreken") with the establishment of a small hydro-power plant in the Dago Bengkok area, in Pangalengan, Dayeuh Kolot and Lamajan, that were used for the benefit of tea plantations and Malabar radio stations.

The "Government Enterprise Department" ("Het Department van Gouvernements Bedrijven") moved to Bandung, including the various agencies that were under government control such as the Railways, the Trams, Posts, Telegrams, Telephones and Mining. This caused increased development in the northern boundary of the Riau road; rice fields were leveled, new roads were made and the provision of public needs such as gas, electricity and plumbing was planned. New housing was also built, equipped with tile and brick factories in Banjaran.

1919

Early 20th century...

Molukunpark or Maluku Park was built around Jalan Aceh, Jalan Seram, Jalan Ambon, and Jalan Saparua. The park was equipped with ponds and fountains. Around the garden, trees were planted. Although referred to as a “garden”, at first the city parks, looked bare. The colonial government sensed the swamp trees of Bandung to later plant trees that were more suitable for the urban atmosphere.

Dr. Ir. J.W.Ijzerman was someone who contributed greatly to the establishment of the THS school (now ITB) and the making of an artistic and neatly arranged garden which is now called Taman Ganesha.

N.V Workshop. Fuch & Rens was founded in Braga.



Maluku Park, Saparua Park and Traffic Park. Although referred to as a “garden”, in the beginning the city parks looked bare because the new shade trees were planted. The colonial government deliberately cut down the swamp trees of Bandung to later plant Bandung with trees that were more suitable for the urban atmosphere.

1920

The Inauguration of “Het Instituut Pasteur en Landskoepokinrichting” (Biofarma / Pasteur Institution and vaccination).

The “Technische Hogeschool Bandung” (THS) was officially established. The building was designed by Henri Maclaine Pont (1885-1971). The “Technische Hogeschool Bandung”, which has now changed its name to ITB, started its activities by opening the Civil Department.

The layout of the building, as a result of the architect Henri Maclaine Pont’s design, has its own charm with the concept of the north-south axis, where Mount Tangkubanperahu is the point of view. The building’s unique characteristic is the West and the East Hall with their distinctive wooden arch structures.

The Centrum swimming pool was built by C.P. Wolff Schoemaker. This swimming pool was specifically dedicate to white people, residents of other countries were not allowed to swim there.

Gedung Merdeka was expanded again with the design made from C.P.Wolff Shoemaker.

“Oranje Plein” was built with a simple park. The park was shaped like a circle with a Gazebo-like building placed on top. Tama is now called Taman Pramuka.



Sculpture data J.W. Ijzerman at the Ijzerman park (ganesha park), Dr. Ijzerman is an engineer who designed the fire railroad track from Bandung to Bogor. He was also the person who made a petition to the Dutch Work to establish a Technical Inistut in Bandung.



Henri Maclaine Pont who succeeded in making a breakthrough in Indisch’s architecture with the initial design of the Technische Hoogeschool (ITB)

1921

Dr. Sam Ratulangi became the first person to use the name “Indonesia” in his insurance company at JL. Braga - Assurantie Maatschappij, Indonesia, according to Prof. Ir. Waworoentoe, former Chancellor of Sam Ratulangi University in Manado).



The new design of Societeit Concordia (Gd. Merdeka) was designed by C.P. Wolff Schoemaker.



St. Peter's Church in Merdikaweg (Jl. Merdeka) is the first Catholic church in Bandung. Before the church, the land was used as farmland.



The atmosphere of the Jaarbeurs exhibition during the day and the atmosphere of the Jaarbeurs parade at night.



Because the Malabar Radio station on the slopes of Mount Puntang is only a transmitting station, the receiving equipment is in Rancaekek.

Soekarno arrived for the first time in Bandung to continue his education at the "Technische Hoogeschool" (TH).

Wolff Schoemaker designed the Church of St. Cathedral Petrus, with stained glass ornaments that depict stories in the Christian Scriptures.

Dago Bengkok hydro-power started operating. The generator was made by Smit Slikkerveer. The electricity produced was channeled to illuminate the homes of the Dutch residents, inhabited in the North Bandung, while the indigenous people who lived in the south used teplok lights.

The "Plengan Hydroelectric Power Plant", located in southern Bandung, about 45 km from the city, was completed.

In the corner of the Maluku Park, the bronze statue of the Jesuit Father of the KNIL army, H.O. Verbraak S.J. who had served in Aceh and West Sumatra during the years 1874-1907 was placed and inaugurated.

A radio station on the slopes of Mount Malabar was established at an altitude of 2.300 m, with an antenna that was 200m long, led by C.J.De Groot. In 1923, its use was inaugurated by proclaiming "Hello Bandung" by Willy Derby. Then, the phrase "Hallo, hallo Bandung" was established.

The Geology Museum was moved from Batavia to Bandung, in Rangka, preparing Bandung as the Capital of the Dutch East Indies.

"Jaarbeurs or Annual Bazaar" was held by "Bandoeng's Vooruit" during June-July. Enlivened by various attractions and entertainment. This annual exchange promoted tourism in Bandung. Now the Jaarbeurs Building on Jalan Aceh, is the location of the night market. The building was designed by C.P. Wolff Schoemaker and his sister, R.L.A. Schoemaker.

The first radio telegraph connection between the Dutch East Indies (Indonesia) and the Netherlands occurred on May 5.

"Maison Bogerijen ("Braga Permai") Restaurant", located at the corner of Braga Weg (Jl. Braga) and Oude Hospitalweg (Jl. Lempong), was constructed in the style of traditional European architecture, a remnant of a European cafe.

Sukmiskin airport was officially transferred to Andir. This airport has now been equipped with aircraft repair facilities.

1922

1923

1925

Early 20th century...

178 schools were built in Bandung.

Wolff Schoemaker was the architect for the Bethel Church on Jalan Wastukencana. He also designed the Majestic Biskop which was originally called Concordia. The building now shelters the Asia Africa Cultural Center (AACC).

The Lamajan Hydroelectric Power Plant, 35 km from Bandung, was the second hydro-power plant to start operating.

Tugu Lentera Listrik was built in the front yard of Bandung Train Station on June 5, in the memory of 50 years of Staatsspoorwegen - SS (PJKA, now PT. Kereta Api Indonesia, PT. KAI). The landmark, designed by Ir. E.H de Roo, functioned also as a Triangulation Point for city mapping and measuring. Evidently had very high historical value, but unfortunately, it was dismantled in the 1950s.



The first radio conversation between the Dutch East Indies (Indonesia) and the Netherlands was realized. The conversation was carried out by the Governor-General of the Dutch East Indies with officials of the Kingdom of the Netherlands, on June 3.

The Sports Education School (Kweekschool van Het Indoeuropesch Verbond) was built at Papandajanlaan (Jl. Gatot Subroto.).

The movie-star legends of Hollywood, Charlie Chaplin and Mary Pickford stayed at Hotel Savoy during their visit to Bandung.



Indoeurop Kweekschool van Het Sch Verbond in Papandayan Lahan which has been demolished for housing construction.

The first flight routes between Batavia - Bandoeng and Batavia - Semarang were conducted by the airline company "KNILM".

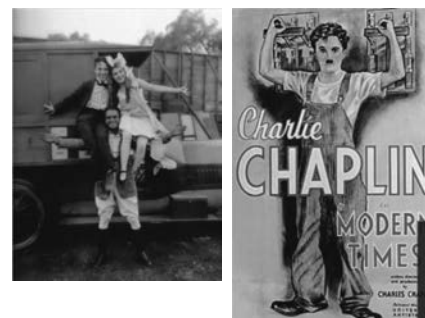


The flight path served by KNILM 11 years after the opening of the Bandung airport flight.

Automatic telephone operations were made possible. New telephone numbers in Bandung ranged from three to four digits.

1935

Charlie Chaplin and actress Paulette Goddard stayed at the Grand Hotel Preanger.



The "Association of Eastern Listeners" or VORL ("Vereeniging voor Oostersche Radio Luistenaars") began broadcasting in Bandung, on April 30. Broadcast material was intended to maintain eastern art cultures, especially Sundanese arts. These VORL radio administrators were the Regent of Bandung, R.T Hasan Soemadipradja, Wiranatakusumah V, and Otto Iskandar Dinata.

Pasar Baru won the title of the cleanest and most structured market in Java.



VORL Studio located behind Holland Inlandsche School (HIS) Padoendan.

1927

1928
1934
1935



Suasan First Meeting of Bandung City Council in Pendopo. It was seen that the Bandung Regent sat in front of the meeting. Bandung at that time was a colonial city with three layers of government for three different races, namely Europe, China and natives.

There was criticism in terms of the development of the city, among others, regarding the loss of trees, in the newspaper "De Preanger Bode". The criticism disappeared when the government planted thousands of trees on the edge of Bandung called "Tuinstad" ("Garden City") or "Bloemenstad" ("Flower city").

According to the Herber Lehmann's study, in Bandung in 1936, the population consisted of 12% Europeans (inhabiting 52% of the Bandung area), 10% Chinese people (inhabiting 8% of Bandung area), and 77% indigenous people (inhabiting 40% of Bandung).



To accommodate "local tourists" namely weekend-visitors such as the Preanger planters, Homann renovated its antique Baroq hotel, to become a "modern hyper" hotel with the latest lighting system. The new design of the Savoy Homann hotel was made by the architects AF Albers and RA de Waal, in 1939.



In its promotion which reads -This is what you get in Bandung if you stay at the Grand Hotel Savoy Homann-, Hotel Homann offers all the top-class services commonly offered in major cities of the world.



APPENDIX II: DUTCH RAILWAY TIMELINE

Railway Events

► “Dutch Golden Age”
During this period, Dutch trade, science, military and art were among the most acclaimed in the world. Its center was the province of Holland and its commercial capital Amsterdam. The 1st Industrial Revolution took place in Zaanstreek (north of Amsterdam), driven by a wind-powered industry.

► **1600s**
Dutch East and West India Companies established a far-reaching colonial empire, with settlements and trade stations from Japan to Indonesia, India, Ceylon, and the Cape of Good Hope in the East to West Africa, Brazil, the Caribbean, and North America in the West. The Dutch Republic was initially a trade-based entity which derived most of its influence from merchant enterprise and Dutch control of international maritime shipping routes through strategically placed outposts, rather than expansive territorial ventures.



► **1792 - 1799**
French Revolutionary Wars, title given to the hostilities between France and one or more European powers between this period. It thus comprises the first 7 years of the period of warfare that continued through the Napoleonic Wars until Napoleon's abdication in 1814, with a year of interruption under the peace of Amiens 1802-1803. The end of 1799 may be conveniently taken as the dividing point between the Revolutionary and Napoleonic phases of the conflict, since in that year the consulate of Napoleon Bonaparte was established.

1600

► **1568 - 1648**
“Dutch Revolt” against the Spanish king. The 7 northern provinces were recognized as independent power.



► **1618 - 1648**
“Thirty Years' War” One of the most destructive conflicts in human history and the deadliest of the European religious wars.

► **1588 - 1795**
“Dutch Republic - Republic of the United Netherlands”. Dutch republic state whose area comprised approximately that of the present Kingdom of the Netherlands and which achieved a position of world power in the 17th century. The republic consisted of the 7 northern provinces and it grew out of the Union of Utrecht in 1579 which was designed to improve the military capability of its signatories within the larger union of the rebelling provinces. For the next two centuries political control of the decentralized state shifted repeatedly between the province of Holland and the princes of Orange, who represented a greater degree of centralization.

► **1700s**
The Dutch Republic suffered a long economic standstill. Amsterdam remained the financial capital of the world, but Great Britain overtook the Netherlands in virtually every other area.

► **1795**
In 1795, the republic collapsed under the impact of a Dutch democratic revolution and invading French armies.



Urban Development

1827

Werkspoor NV, the abbreviated and later the official trade name of the Royal Dutch Factory of Tools and Railway Equipment, was a Dutch machine factory, known by, among others, (ship) steam engines, engines and rolling stock. The company in 1827 founded by Paul van Vlissingen (1797-1876) and Abraham Dudok van Heel (1802-1873) with the support of King William I. The company, originally based in Amsterdam (Oostenburg), was founded in 1826 by Paul van Vlissingen as a repair shop for steam engines for the Amsterdam Steamship Company, of which he was co-founder. In 1827 a former smokehouse of the Dutch East India Company was rented to expand. After Abraham Dudok van Heel became a partner in 1828, the company was given the name Factory of Steam and Other Tools, under the firm Van Vlissingen & Dudok van Heel.

Around 1850 Werkspoor was the largest machine factory in the Netherlands. The company then counted about 1000 employees. Among other things, steam engines, steam boilers and machinery for the sugar industry were produced, and from 1843 to 1846 also some steam locomotives. In 1850, some steam tugs were built for Egypt. During this period the designation Royal was awarded to the factory. The company was partly dependent on government orders. In 1871, the company was reorganized because of financial problems in the construction of the Moerdijk Bridge. The new company, a limited company, got the name Royal Factory of Steam and other Tools. Around 1890 this company also came into difficulties. It was continued from 1891 with financial assistance from the Stork machine factory as the Dutch Factory of Tools and Railway Equipment.



1800

1831

The opening of the England's Liverpool - Manchester Railway, the world's 1st modern railway.

1837

Hollandsche IJzeren Spoorweg-Maatschappij (HIJSM or HSM), the first Dutch railway company, was established in Amsterdam. The founders were the civil engineer Willem Christiaan Brade and the businessmen Serrurier and Le Chevelier, all from Amsterdam.

Why Colonial?

The colonies represented an important asset for the Netherlands. During the time of the Dutch Republic, its East India Company had managed to acquire land from all around the world, from the Caribbean to some island on Japan. In the Indies, the small number of Dutch lived chiefly on the island of Java, with some military and trading establishments elsewhere. The thousands of other islands, although officially under Dutch rule, were largely left to themselves until the end of the nineteenth century, when law and order were imposed in the whole archipelago by treaty with local rulers where possible, by military force when necessary. The sale of agricultural products from the East Indies made up an important share of the Netherlands national income, but market fluctuations and tropical diseases made their contribution undependable. Only from the 1850s onward did the annual sales of coffee, tea, sugar, and other cash crops produce an important and reliable revenue for the Dutch state.

1839

On September 20, 1839, the first railway built in the Netherlands, the Amsterdam-Haarlem line, opened to the public. It reached Leiden in 1842, The Hague in 1843, and, Delft and Rotterdam in 1847. This line, also called the Old Line, was constructed by the HIJSM with a track gauge of 1945 mm (broad gauge). All later railway lines, however, were constructed with the usual standard track (1435 mm), and so, in 1866 all the wide tracks were converted into normal ones, in order to be able to connect the line to other existing lines.



Delft 1839



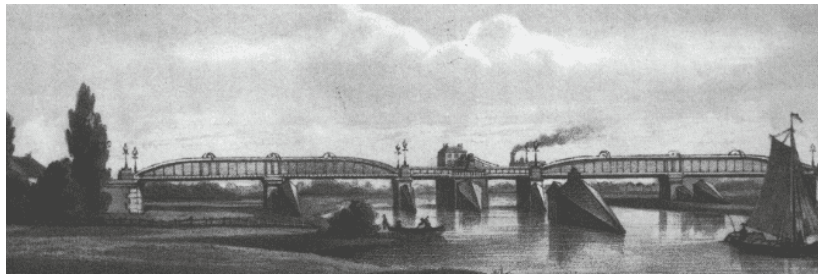
Amsterdam - Haarlem 1839

Railway Events



1856

Rhenish Railway at Utrecht



1855 IJssel River near Westervoort



1848

In 1848, the Rijkswaterstaat (RWS), the executive agency of the Ministry of Traffic and Water Management in the Netherlands, later called the Ministry of Infrastructure and Water Management, was founded. It was the successor of the Waterstaat, the Board of Public Works, which since 1798 and until then supervised all works of national importance, including rivers, canals, highways, and defenses against the sea. The railways had also become its responsibility.(Then part of the Ministry of the Interior, the Waterstaat became a separate ministry in 1877.) The Rijkswaterstaat manages and develops the main roads, main waterways and main water systems on behalf of the Ministry. The main task of the service is to work on the smooth and safe traffic flow (“dry water state”), the maintenance and improvement of the system of waterways (“wet waterstaat”) and the protection against flooding.



Ministerie van Infrastructuur
en Waterstaat



Rotterdam

1850

1860

In 1860, altogether not more than 335 km of lines existed, negligible compared to Belgium's 1.729 km in an area roughly the same size. Even Switzerland, a smaller country with a later start, had 1.058 km of railways by the end of 1860. The German states, especially in Prussia, had also forged ahead. Furthermore, with Antwerp's rail connection to the Rhineland in operation since 1843, German commerce was shifting from the Dutch ports to the Belgian port and to Hamburg and Bremen. Meanwhile, foreign and Dutch investors were clamoring for concessions for the best possible routes, with no thought of a coherent network. The government was afraid of foreign concession hunters, especially Belgian and English, who threatened to bring the railways of the Netherlands under foreign influence to the possible further detriment of the commercial interests of Amsterdam and Rotterdam. A new ministry under F.A. van Hall and S. van Heemstra proposed that the state

construct a network of 800 km of rail lines, for which ten million guilders (four million dollars) annually were to be set apart over a period of ten years. The money would come from the East Indian revenues, which flowed more richly into the government coffers every year. The act passed the Second Chamber on July 27, 1860, and the First Chamber on August 17 of the same year. The engineers had little trouble building 800 km of railway lines over soft ground and marshy areas, but the great bridges presented a formidable challenge. Weak dikes, lots of drifting ice in winter, high water in spring from the melting snow in Switzerland and Germany, and shallow places in summer, all contributed to the difficulty. For the construction of bridges wrought iron was mainly used. Steel, which was lighter and stronger, was however too brittle to be trustworthy. Only at the end of the 1860s would steel become the major material for bridge construction.



Urban Development

▶ **1866**

The State Railways used iron ties of a design by Cosijns on a large scale in the beginning of 1866.

▶ **1865**

Holland Railway locomotive in Haarlem (broad gauge)



1868 Gerrit van Diesien's Culemborg Bridge



1868 Road bridge across the yard of the Rhenish Railway at Arnhem

▶ **1863**

The rolling stock company Damlust of Utrecht (a new company set up for the construction of rolling stock) and an Amsterdam financial group led by the banker F. van Heukelom, together, founded the Maatschappij tot Exploitatie van Staatsspoorwegen (Company for the Exploitation of the State Railways), usually abbreviated to Exploitiatiemaatschappij or, more often, Staatsspoorwegen (State Railways). Despite its title, State Railways was always a private limited company, not a government institution.



1866 Utrecht Station

1860

▶ **1860 - 1873**

International cooperation: The Association of German Railway Companies was a group that banded together to help establish uniform working rules, safety measures, bookkeeping, and such, and to act as a clearinghouse for its participants. Although founded as a German business, the Association included the Aachen-Maastricht from the start, and several Swiss, Austrian, Belgian and Russian companies soon joined. The "Rhenish" in 1860 was the first entirely Dutch railway company to become a member, followed by the State Railways; the Holland joined in 1873.

▶ Between 1860 and 1873 many station buildings were built along the railway lines laid out by the State of the Netherlands according to a standard model. From 1863 most of them were operated by the State Railway Exploitation Company (SS), only the "Den Helder-Amsterdam" line operated by the HIJSM. The stations were built by the Rijkswaterstaat government service, so they are also referred to as Waterstaatstations. Standardization aimed to increase the building pace and cheaper construction, but also met the desire to uniform the appearance of the buildings along the track.

The division into classes related to the size of the station. The class was related to the number of inhabitants of the place where the station was built. The type SS first class was the largest model, destined for larger provincial cities. Type SS fifth class was the smallest model. The architect was the railway engineer Karel Hendrik van Brederode .

A total of 96 station buildings were built according to the various standard types. Of these, 26 are still present.



Railway Events

1866 - 1876

Rotterdam - Dordrecht - Moerdijk - Breda railway finished

1870

Members of the Royal Institute of Engineers inspecting lines.

1870

State Railways: In 1870 the company moved its offices to Utrecht, in the center of the country and directly connected to its own network.

1870

Since the 1870s steel had become available in larger quantities and the original somewhat brittle steel of the first years had been developed into a suitable material for bridges, locomotives and rails. On the main lines steel rails replaced the fast-wearing soft iron rails. A domestic steel industry did not exist until after the WWI and all rails had to be imported, chiefly from Germany and Belgium but also from England. Wooden ties called "Sleepers" in England, did not last long in the damp Dutch climate and experiments to strengthen them with kyanizing or superficial burning met with no great success until the development of pressure-impregnation with creosote. Meanwhile, engineers tried to hand at developing iron or steel ties.

1874

The Holland Railway: The Amsterdam-Hilversum-Utrecht stretch of the Holland Railways' new single-track extension into Germany completed in 1874, the Eastern Railway, carried nine passenger trains daily, with one connecting Hilversum-Amersfoort train. The villages in the Gooi - the pleasant sandy area east of Amsterdam, began to grow quickly now that rail transportation to Amsterdam was available. The middle classes much preferred to live in the green villages of Baarn or Bussum than in the crowded and dirty city.

1877

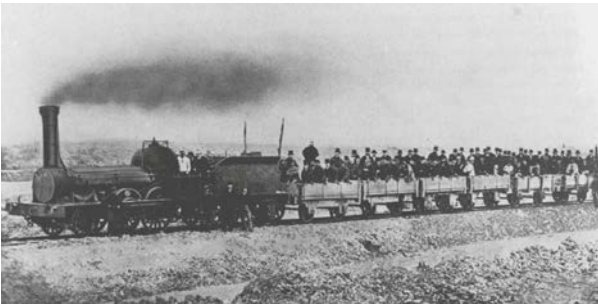
Rotterdam Station



1875

Most passenger cars were of the traditional British compartment and no central corridor. The conductors walked along the foot boards of the moving train to check the tickets, until this dangerous practice was abolished in 1875. After that year, ticket platforms were constructed just outside the major stations for checking the ticket of every passenger.

1870



1870 Members of the Royal Institute of Engineers inspecting lines.

1874

The Fortification act of 1874 meant that most fortress towns could now expand beyond their confining fortifications, with permanent stations replacing their temporary wooden buildings. Grandest of all the new stations was the central station of Amsterdam by P.J. Cuypers and A. L. van Dendt. Other stations of the Holland Railway were: Leiden (1879), The Hague (1891), Haarlem (1905-1906) by D.A. N Margadant and Delft (1883) by C. B Porthumus Meyjes.

1875

A new law introduced in 1875, strongly influenced by German railway laws, laid out a framework to be filled in by successive government measures. ARD (General Regulations for the railway service) - 1875, ARV (General Regulations for Railway Traffic) - 1876. ARD mostly covered technical matters. It also laid down rules about safety measures, signaling installations, movable bridges, inspection of locomotives and rolling-stock. By 1889, 20 passenger trains were running daily between Amsterdam and Hilversum in each direction.

Urban Development

▶ **1883**

Delft Station



▶ **1881**

Den Hague Station



▶ **1880**

In 1880 the Netherlands government after protracted negotiations bought all the old Antwerp-Rotterdam lines on Dutch territory giving the State Railway full control over the Flushing-Venlo route. Unlike the Holland Railway, the state Railway relied on freight traffic from the start.

▶ **1890**

Re-organization of 1890. The first goal of the railway agreements of 1889-1890, whose accomplishment required the purchase of the Rhenish, was to create equal opportunities for the two remaining railway companies the State and Holland. For this purpose some lines formerly operated by the State Railways were transferred to the Holland. However, because of personal antagonisms, the cooperation between Holland and State Railways, so desired by the government, never materialized.

▶ **1889**

The new Central Station in Amsterdam, the most important one till today, was put into use.



▶ **1899**

Hengelo Station, designed by G.W. van Hengelo.



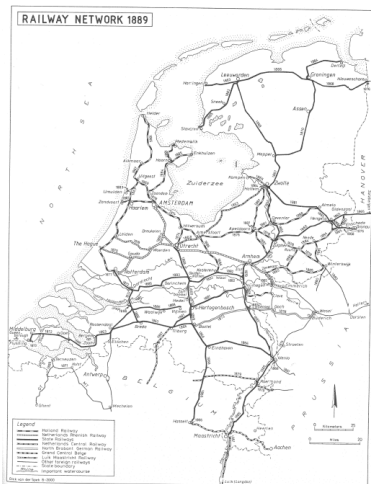
1880

▶ **1887**

In 1887, the Holland railway introduced a nonstop express (max. speed 90km/h) that traveled the 85 km between Amsterdam and Rotterdam in only 75 minutes and a year later only in 70. [Today the fastest electric trains do 86 km in 60 minutes]

▶ **1889**

Railway network.



▶ **1890**

With the growth of rail traffic, all the main lines had been doubled by 1890.

▶ **1892 - 1893**

Due to the expansion of the rail network, the central workshop in Haarlem also expanded. Especially the years 1892-'93 are important in the history of the workshop, because a large boiler factory, a wheel shop, a warehouse building, a cleaning department and an administration building were added to the complex. The upholstery and the Grote Reparstelling were built during those years as well. By dampening a site to the north of the workshop on the Oudeweg, more room was created for further expansion from 1913 onwards. A large locomotive depot was built, equipped with heavy cranes.

▶ Haarlem Station



Railway Events

▶ **1903**

The Great Railway Strikes of 1903. The railway employees started a strike early that year in solidarity with the striking dock workers in Amsterdam. The strike had been completely spontaneous and unorganized, and wage demands had not even been put forward. Union leaders were as surprised by the strike. The strike made a profound impression on the public and the government. The government realized the power of the workers and how dangerous it could be if they went on a strike as the railway traffic completely stopped because of the

situation. Almost 1000 strikers got fired. By 1905 the commission saw that workers should get better conditions. No more long and irregular working hours, low wages, lack of representation on the boards of the pension funds, arbitrary dismissal, disciplinary penalties, and so on. (Photo of Amsterdam station during the strike 1903)



▶ **1901**

The almost complete joint Holland-Central Railways junction station.



▶ **1910**

Part of the new harbor installations of Amsterdam

▶ **1916**

The two remaining railway companies; State and Holland Railways, on November 25, 1916, signed the Agreements and came into force on January 1, 1917. The new combination called itself *Nederlandsche Spoorwegen* (NS).



1900

▶ **1903**

A state railways employee checks a signal bridge at night

▶ **1905**

An Atlantic at the head of an international express.



1907 Testing the new swing Bridge across the Gent0 Terneuzen Canal near Sluiskill

▶ **1914**

Railway network 1914

1914

Old and new locomotives at the State Railways engine sheds at Utrecht



▶ **1913**

Amsterdam Rhenish Station (Weesperpoort)



▶ **1913**

The State-Holland Railways joint station at Rotterdam



Urban Development

▶ **1925**
4-4-0 express engine



▶ **1925**
Naarden-Bussum station from 1925 by architect H.G.J. Schelling. New station in Bandung was inspired by this one.



▶ **1920s**
An electric motor train on the Hague-Leiden large electrification program



▶ **1935**
The level crossing at Amsterdam Linnaeusstraat circa before the tracks were raised.

▶ Cattle continued to travel by rail in the interbellum



▶ **1934**
One of the first diesel-electric trains (Den Hague)



▶ **1930s**
Rotterdam Delftsche Poort Station, electric railroading



▶ **1936**
The Verkeersfonds (Traffic Fund) was established.

1920

▶ **1928**
The trade Journal Spoor-en Tramwegen (Rail - and Tram-ways) founded in 1928 was a first step toward closer cooperation between tram way and railway companies, who just over a decade ago had been sworn enemies. The new journal became the voice of the rail lobby and the technical journal for all concerned, under the vigorous and competent direction of its editor-in-chief, S.A Reitsma, whose previous journalistic and railway experience came in the propaganda department of the State Railways on the Island of Java, in the Dutch East Indies.

▶ **1928 - 1934**
A long train of motor cars and trailers in Amsterdam Central Station



▶ **1933 - 1936**
A period of severe economic crisis in the 1930s, affected countries around the world, including the Netherlands. "The Great Depression" in the Netherlands, occurred between 1933 and 1936, significantly later than in most other countries. The refusal to drop the gold standard plays a central role in that. The Great Depression led to political instability and riots, and can be linked to the rise of the National Socialist Movement in the Netherlands. The depression in the Netherlands lessened at the end of 1936, but real economic stability did not return until after World War II.

▶ **1934**
Railway network 1934



▶ **1938**
The Netherlands waterways had traditionally posed stiff competition to the railways in terms of carrying freight, especially bulk goods such as ores, coal, stone, and -later- oil. A number of factors had given the waterways an added edge: the ongoing straightening and deepening of the major rivers; the opening of the Merwede Canal in the 1890s from Amsterdam to the Rhine; and the faster steamboats, and steam tugs hauling long rakes of barges, that replaced sailing ships. By 1938 the gap between freight traffic on water and on rail was 91.5 million tones against 14.6.

Railway Events

▶ Despite its policy of neutrality, the Netherlands was invaded on the morning of 10 May 1940, without a formal declaration of war, by German forces moving simultaneously into Belgium and Luxembourg. The attackers meant to draw Allied forces away from the Ardennes and to lure British and French forces deeper into Belgium but also to pre-empt a possible British invasion in North Holland. The Netherlands army had been mobilized since Germany had invaded Poland in August 1939, but nobody, including railway officials, had believed that an attack on a strictly neutral country would really come. Yet some preparations had been made. Military authorities expected the great rivers to be the first strategic target of a possible attack, so all bridges had been mined and small concrete bunkers had been built on nearby riverbanks to repel attackers. And indeed, at the approach of the Germans, the Netherlands military blew up most bridges of the country on time. Also a lot of buildings, including railway structures, were destroyed here and there, but the bombardment of Rotterdam from the air on May 14 caused by far the most damage. The civilian power in the Netherlands had been placed in the hands of the secretary-generals, the highest-ranking civil servants, who stood just below the cabinet ministers. They were supervised by German officers and civilians, but during the early years of the occupation the Germans left a lot to the Dutch authorities.

▶ **1947**

Rebuilding the piers of the Zaltbommel Bridge



▶ **1952**

State Mine Maurits



▶ **1955**

Prefabricated track with concrete ties on Eindhoven-Venlo line



1940

▶ After the Netherlands army surrendered, the relatively light damage to the railways was soon repaired, apart from the great river bridges and the lines through Rotterdam and the stations in that city. Netherlands Railways came under the Dutch secretary-general of Waterstaat, D.G.W. Spitzen, and the directors managed to establish a good relationship with him. But in 1943 Spitzen was sacked by the Germans and replaced with a member of the Dutch Nazi party, the Nationaal Socialistische Beweging (NSB), which meant a lot of trouble for the Netherlands Railways. For the time being, the directorate of Netherlands Railways wanted to cooperate with the German authorities as fully as possible to make sure the trains kept running, a priority for the Dutch population. In order to achieve this, the Netherlands Railways had to take charge of German military Wehrmacht transports.

▶ **1945**

First train in western part of the country after Liberation.



▶ **1946**

Repairing the IJssel bridge at Deventer.



▶ **1956**

Delft trains along street level.



▶ **1957**

One of the fast Swiss-Dutch TEE luxury trains.



Urban Development

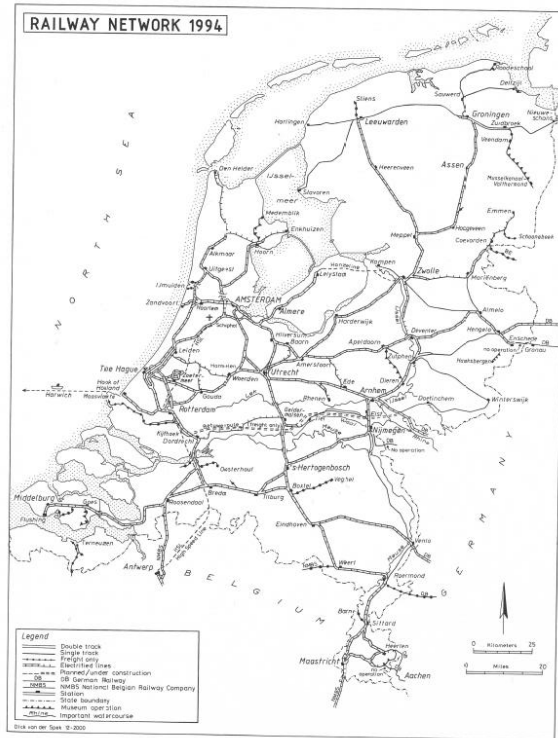
1966

Delft's new high-level line



1994

Railway network



1974

Den Hague Station



1960

1980

Until around 1980 very few smaller companies remained outside the holdings of Netherlands Railways.

1983

Light and airy Zaandam Station.



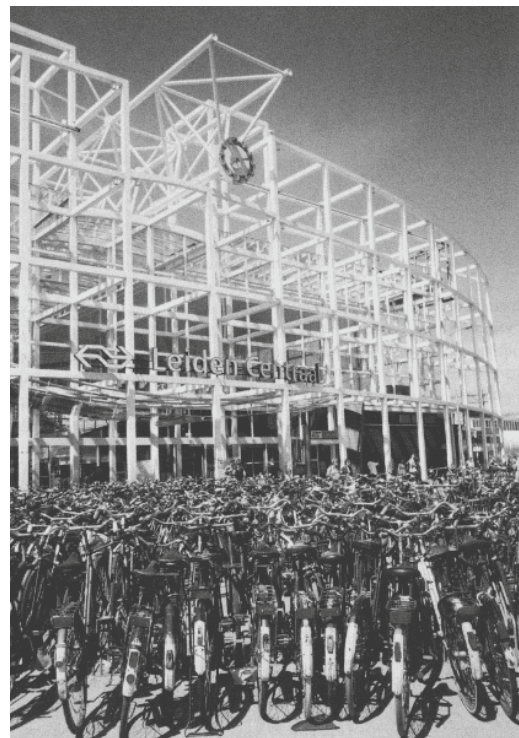
1986

A push-pull, double decker Amsterdam-Haarlem train.



1996

Leiden Central Station.



Railway Events



2014

Rotterdam Central Station



2015

Delft Central Station



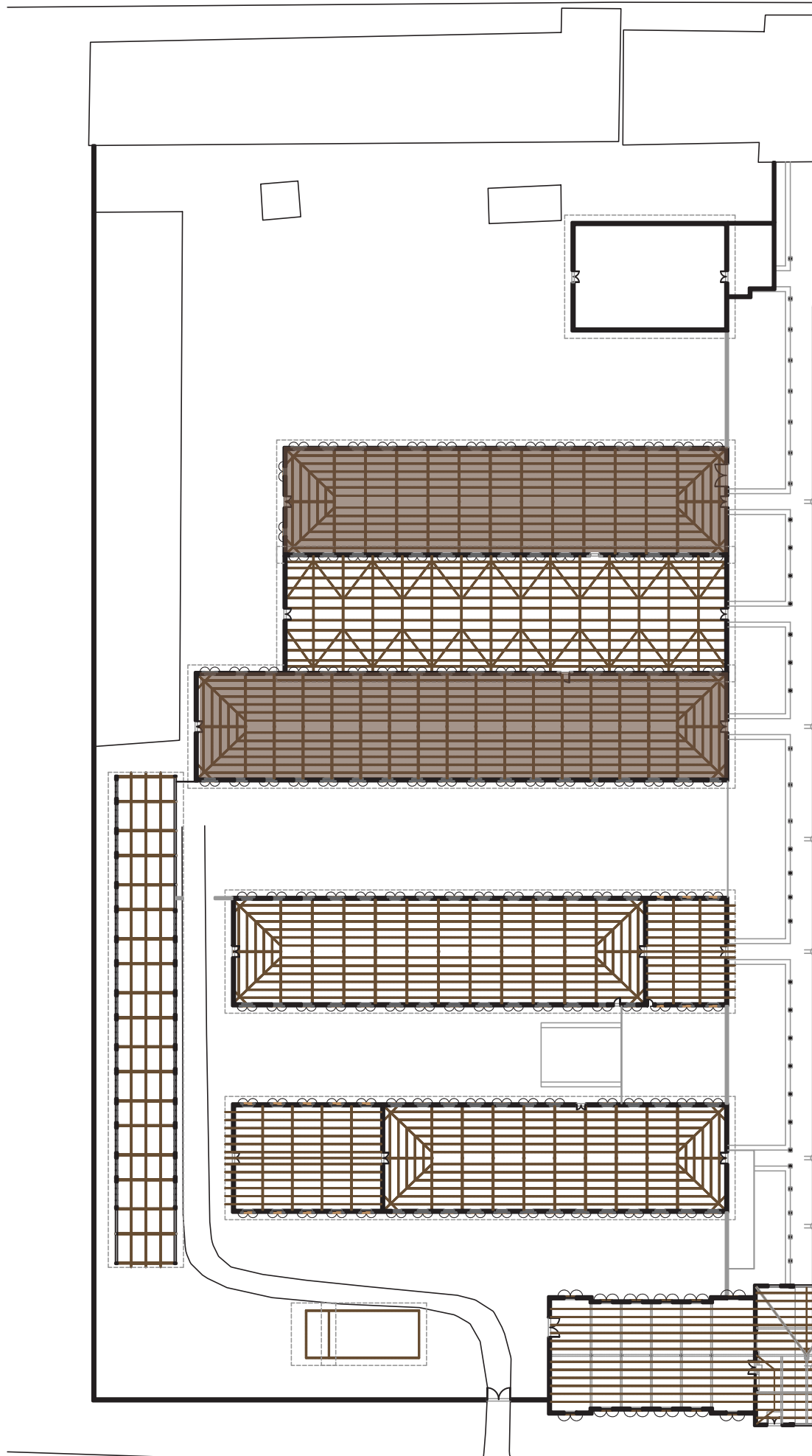
2000

Urban Development



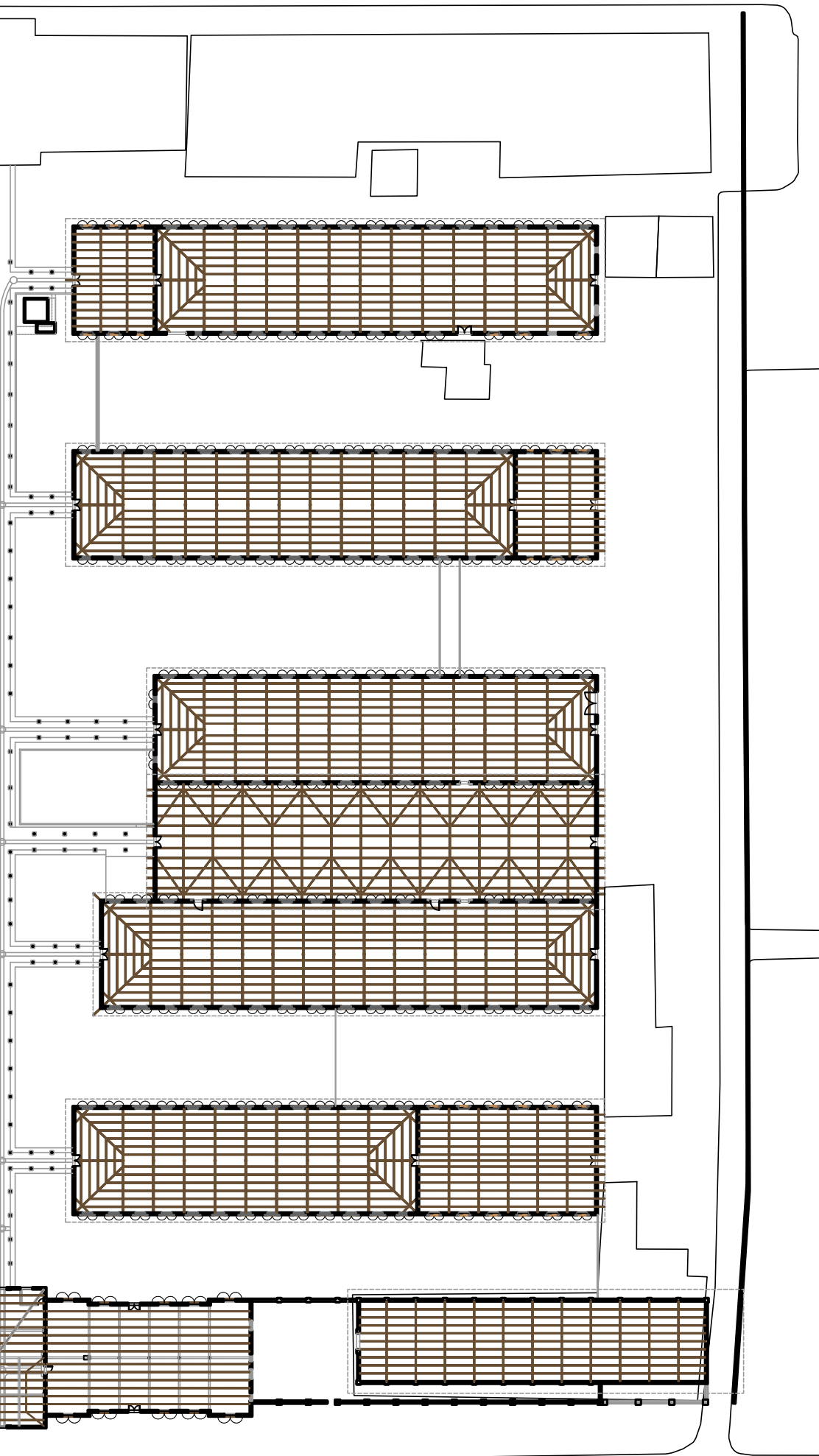
APPENDIX III: DRAWINGS

“KNIL MAGAZIJNEN” Complex

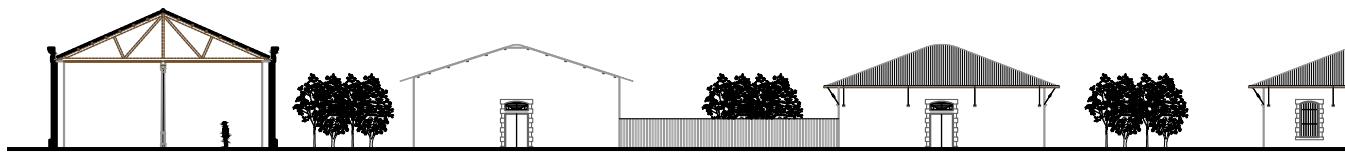
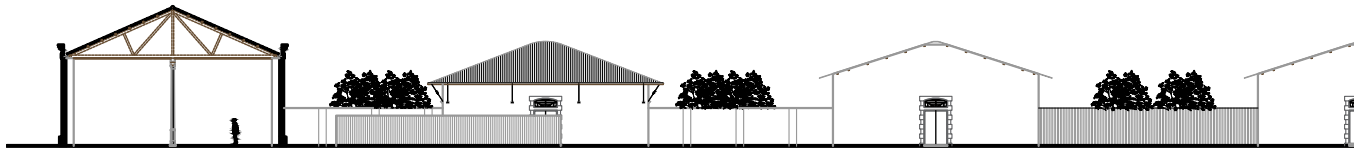


GROUND FLOOR PLAN



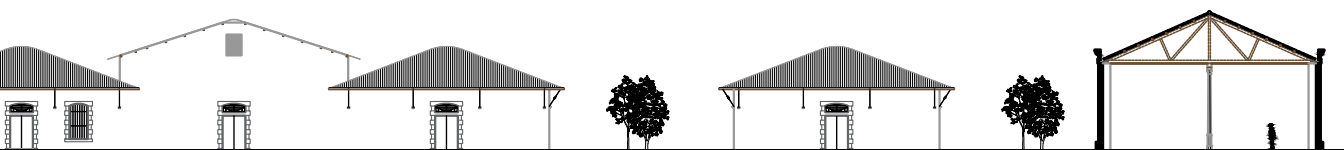


**“KNIL MAGAZIJNEN”
Complex**

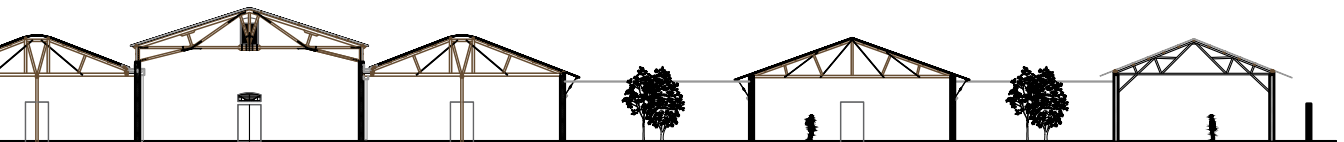




WEST LONGITUDINAL ELEVATION-SECTION | SCALE 1:500

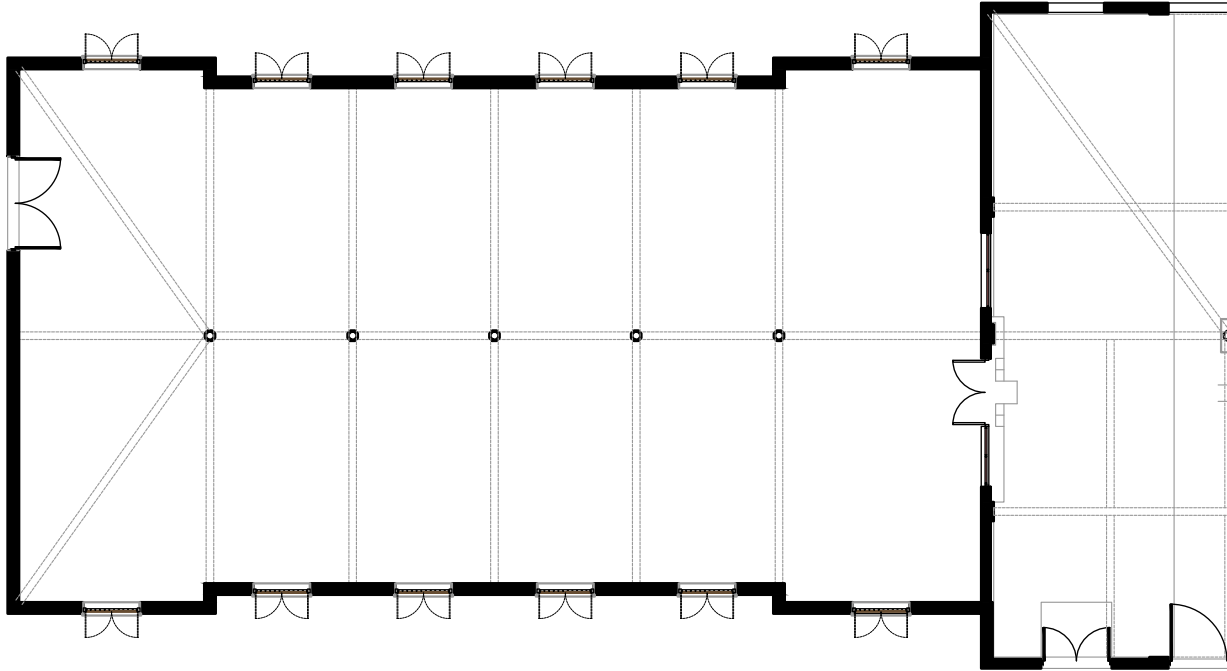
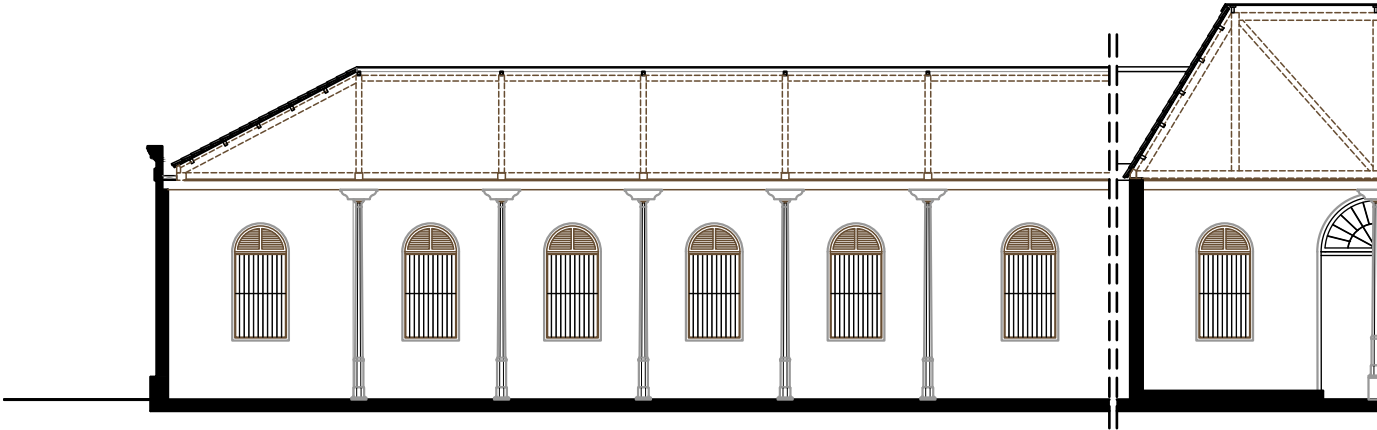


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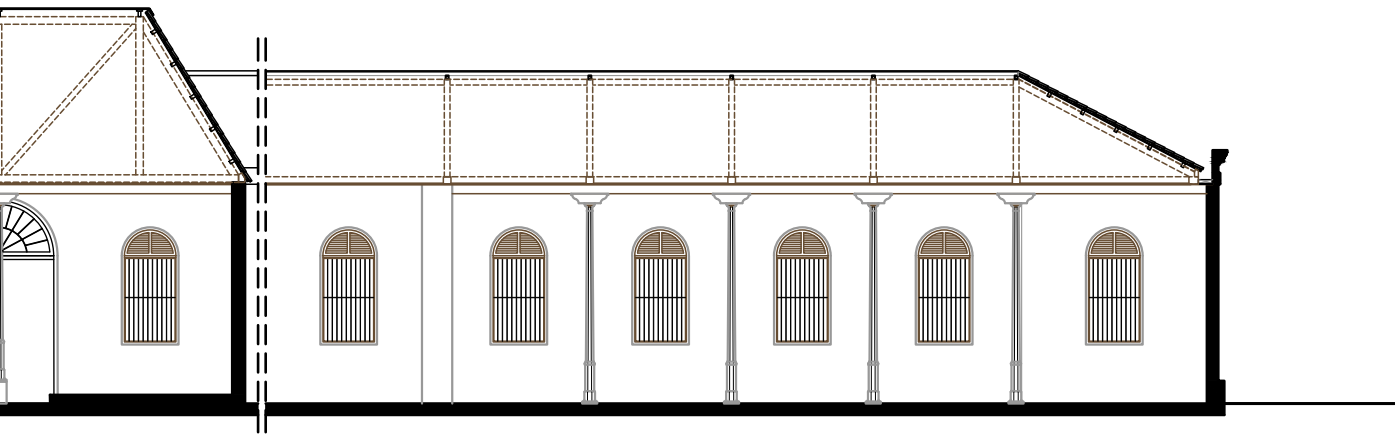
EAST SECTION | SCALE 1:500

Entrance building

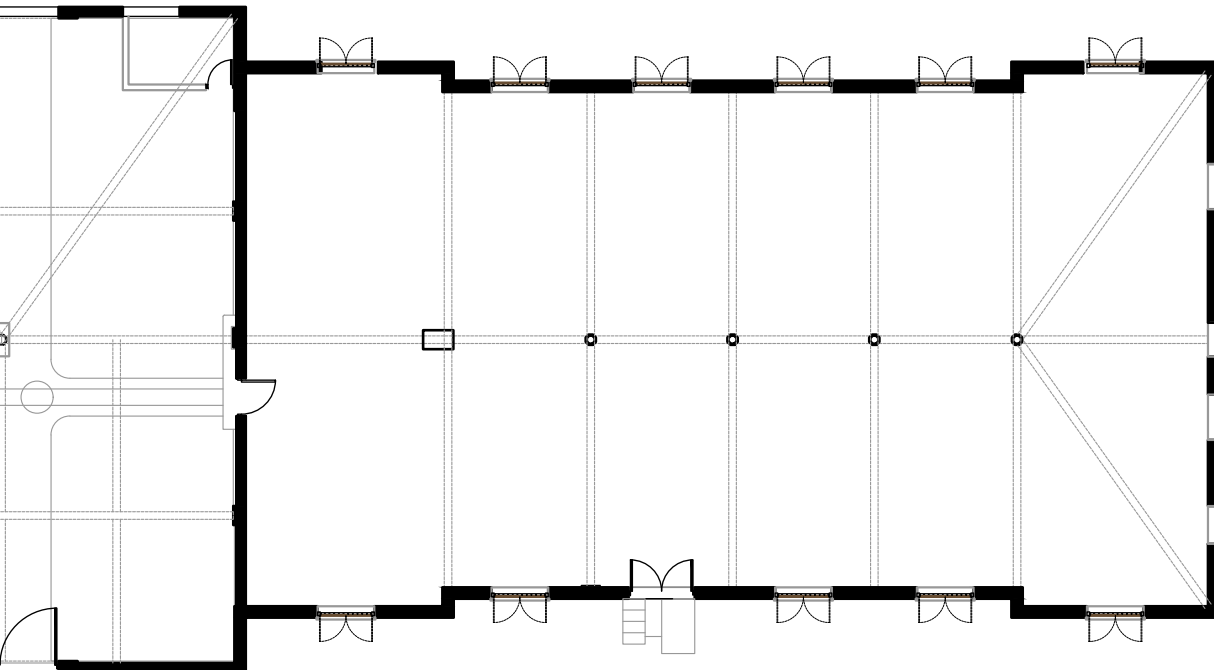




FRONT ELEVATION | SCALE 1:200

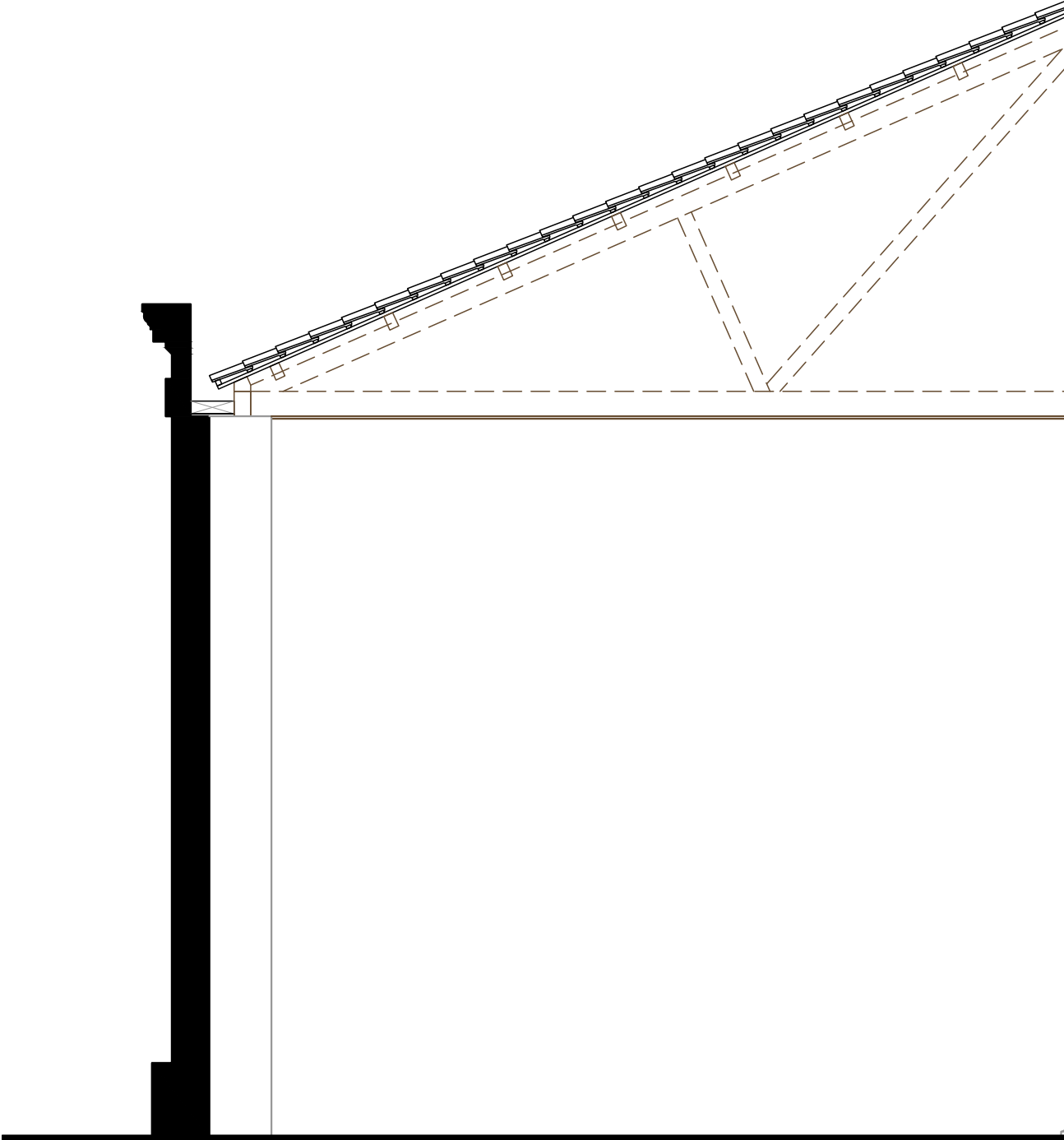


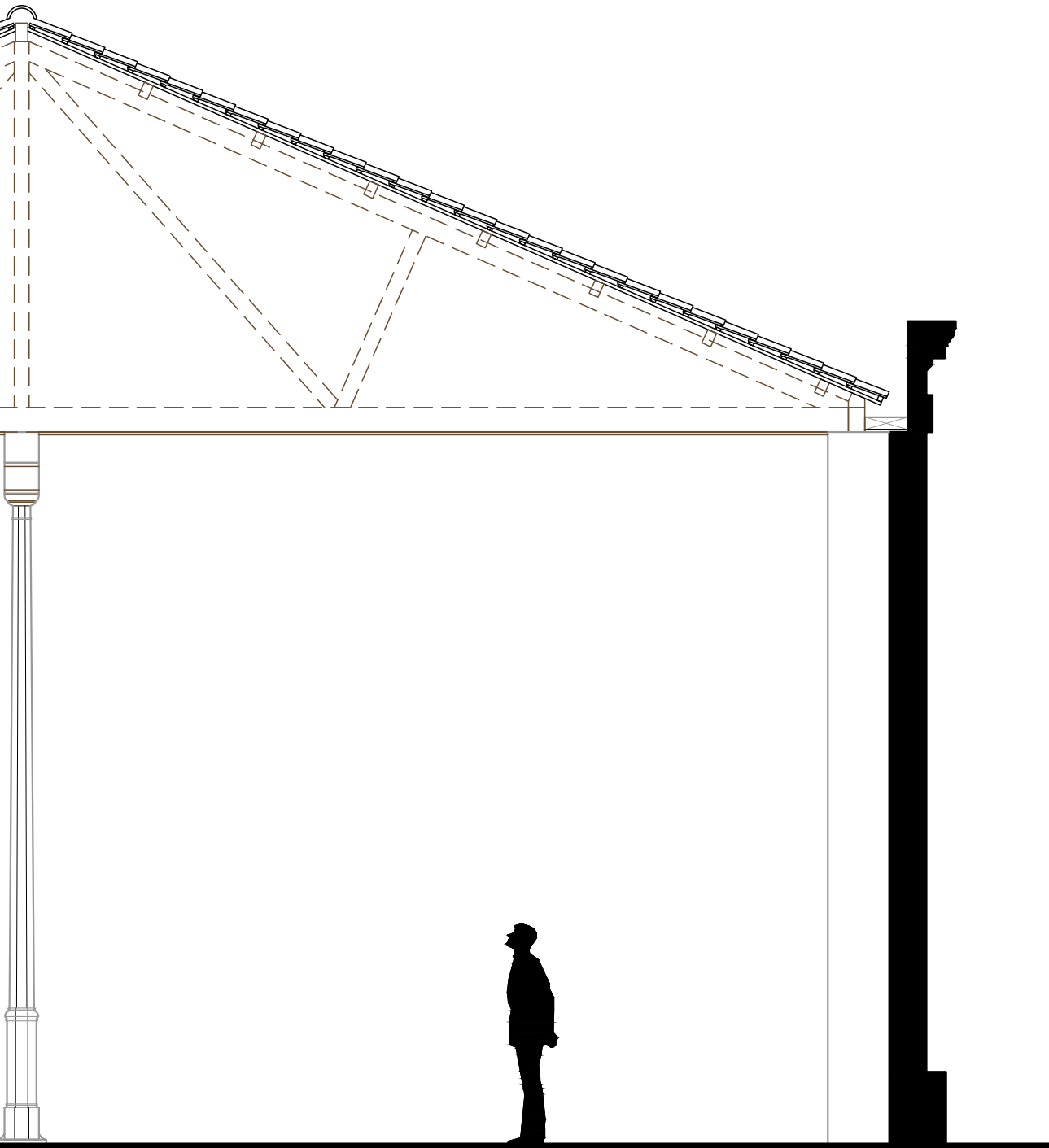
LONGITUDINAL SECTION | SCALE 1:200



GROUND FLOOR PLAN | SCALE 1:200

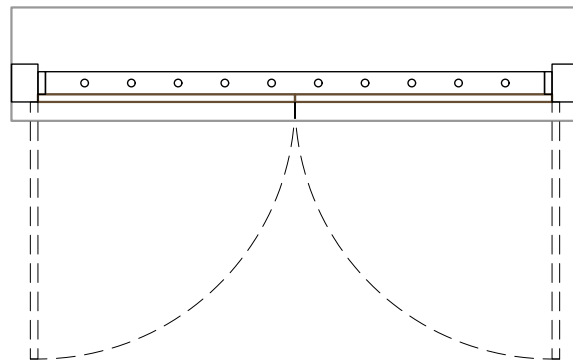
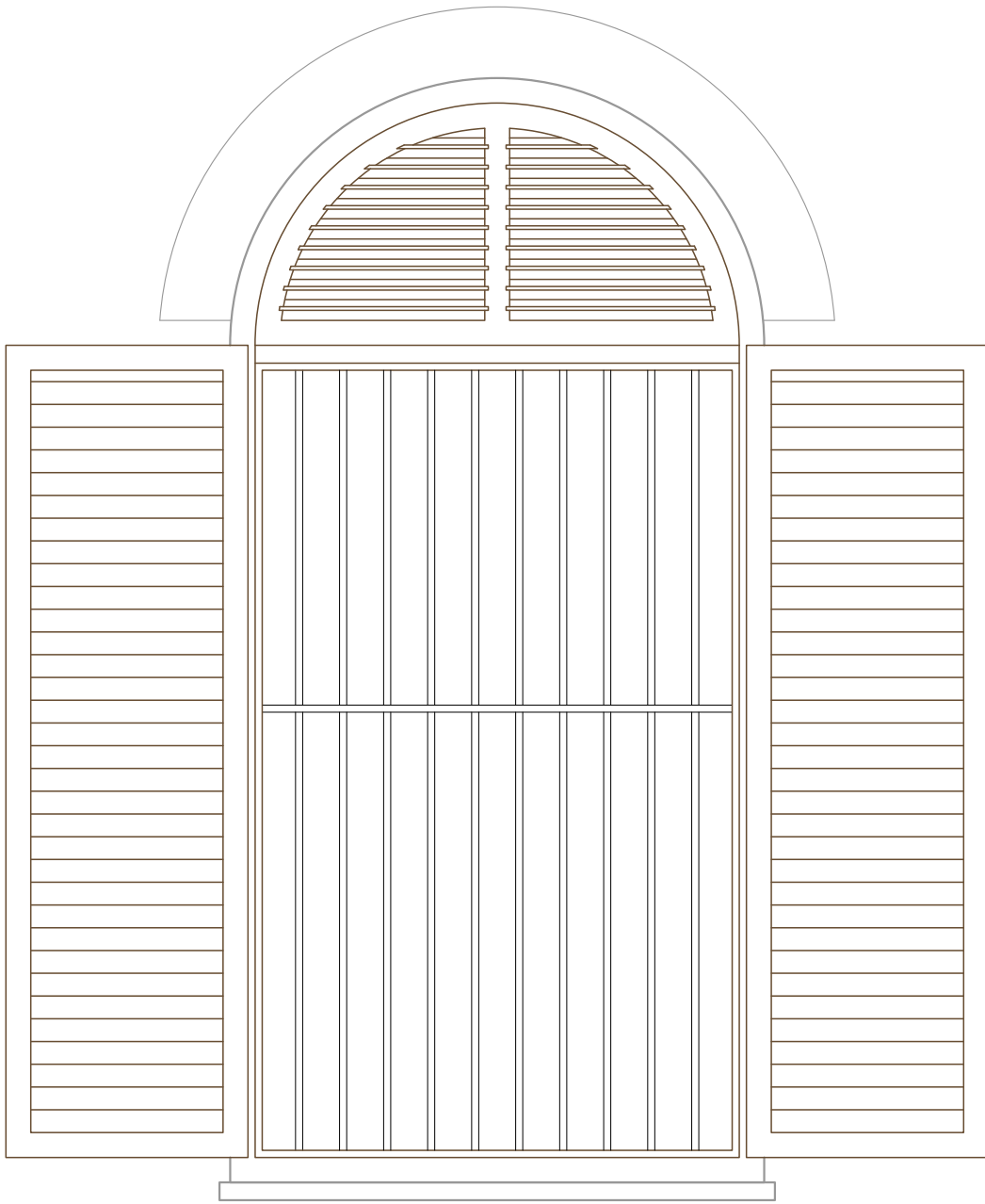
Entrance building





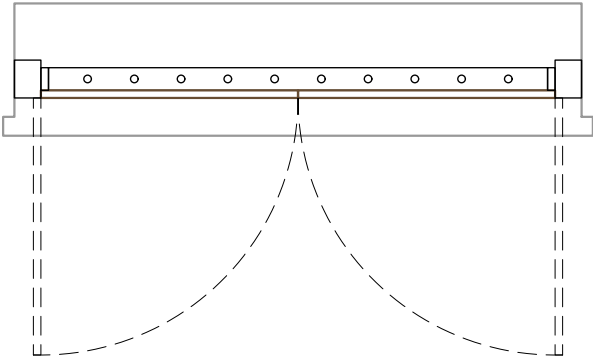
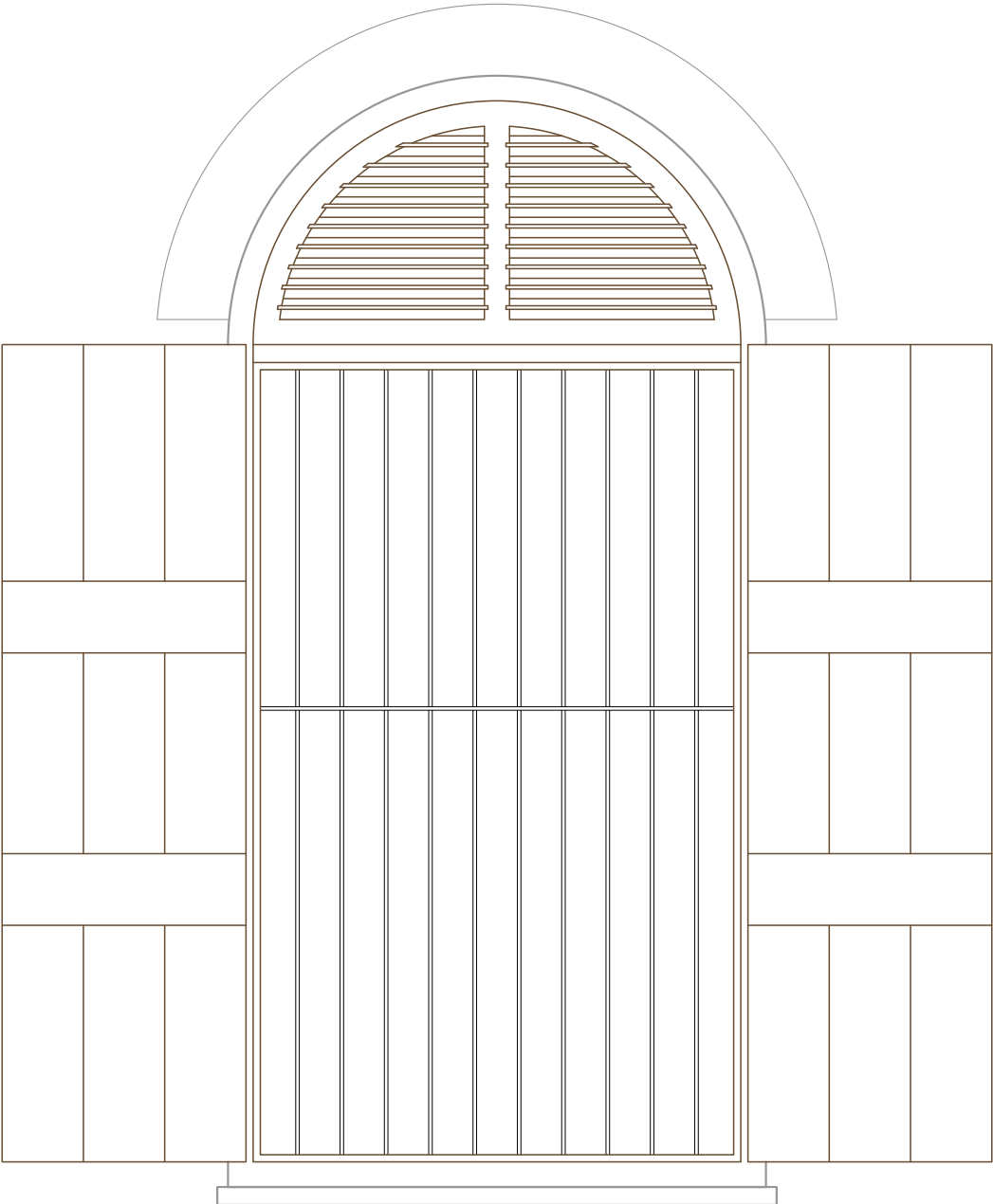
CROSS SECTION | SCALE 1:50

Window with timber louvers



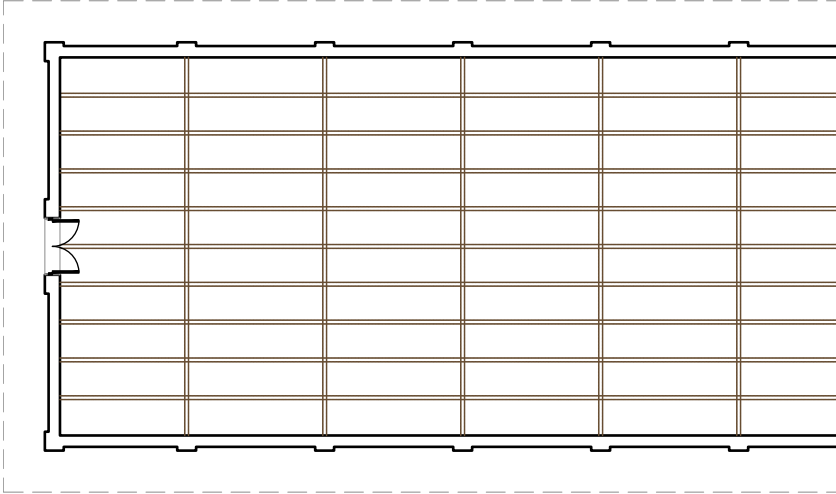
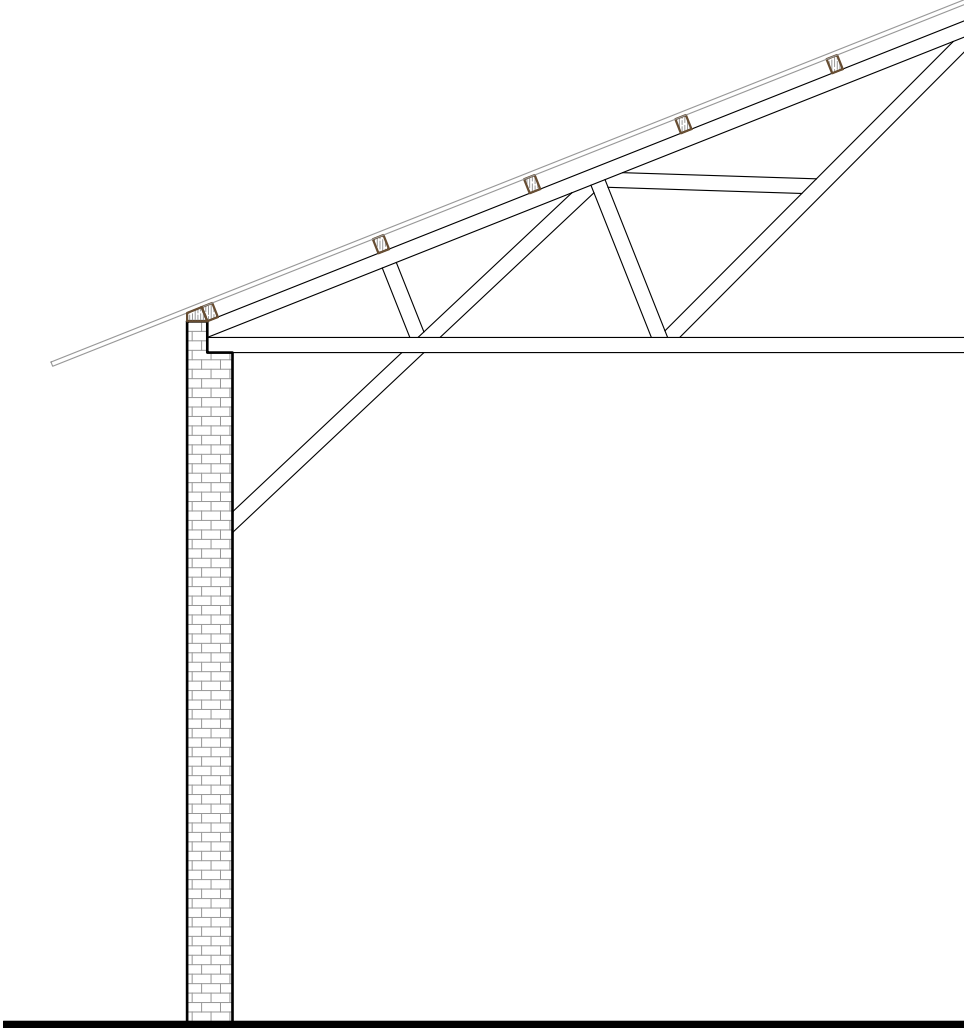
ELEVATION & PLAN | SCALE 1:20

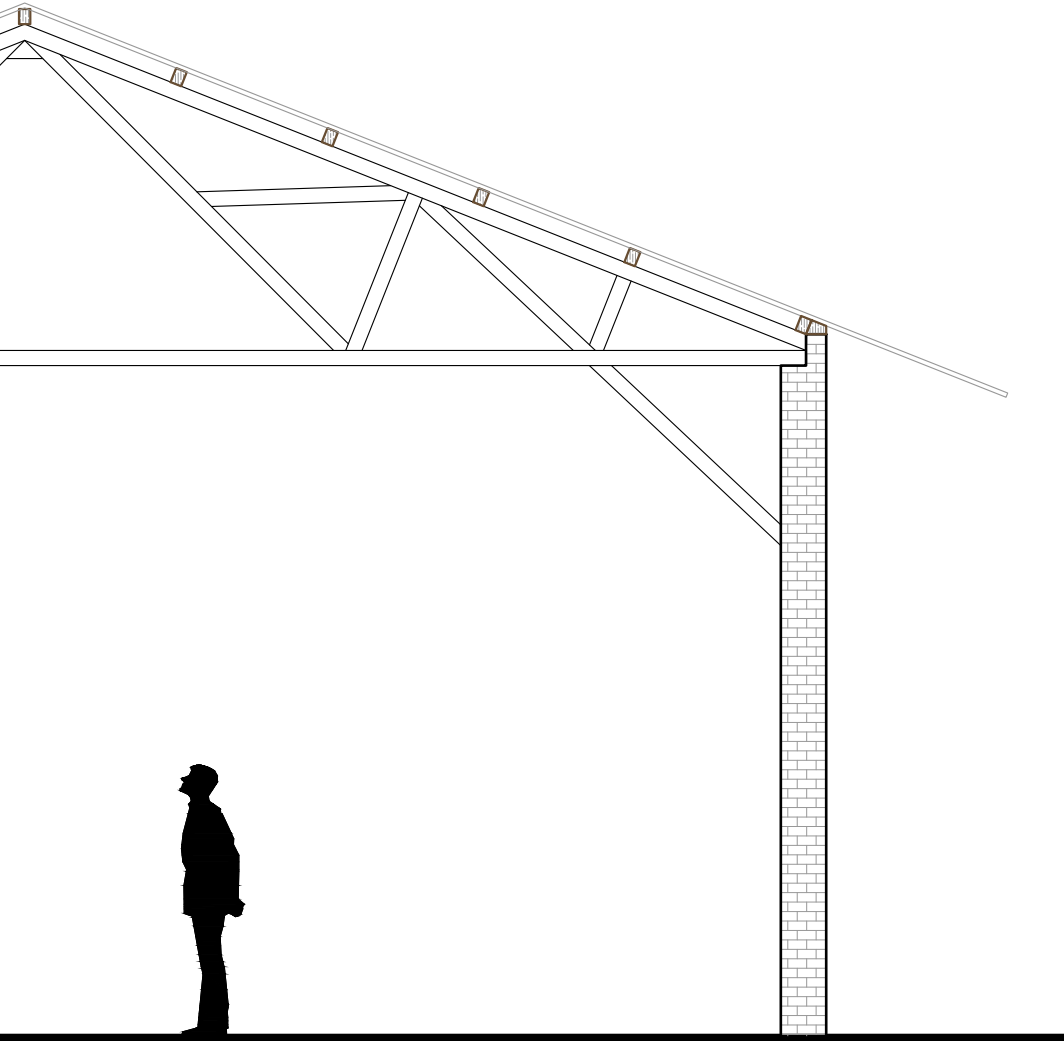
Window with timber shutters



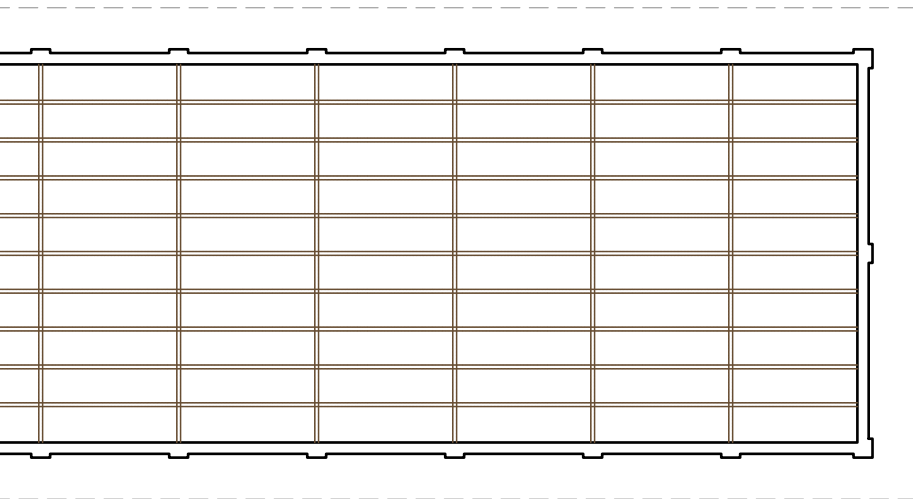
ELEVATION & PLAN | SCALE 1:20

East Entrance building



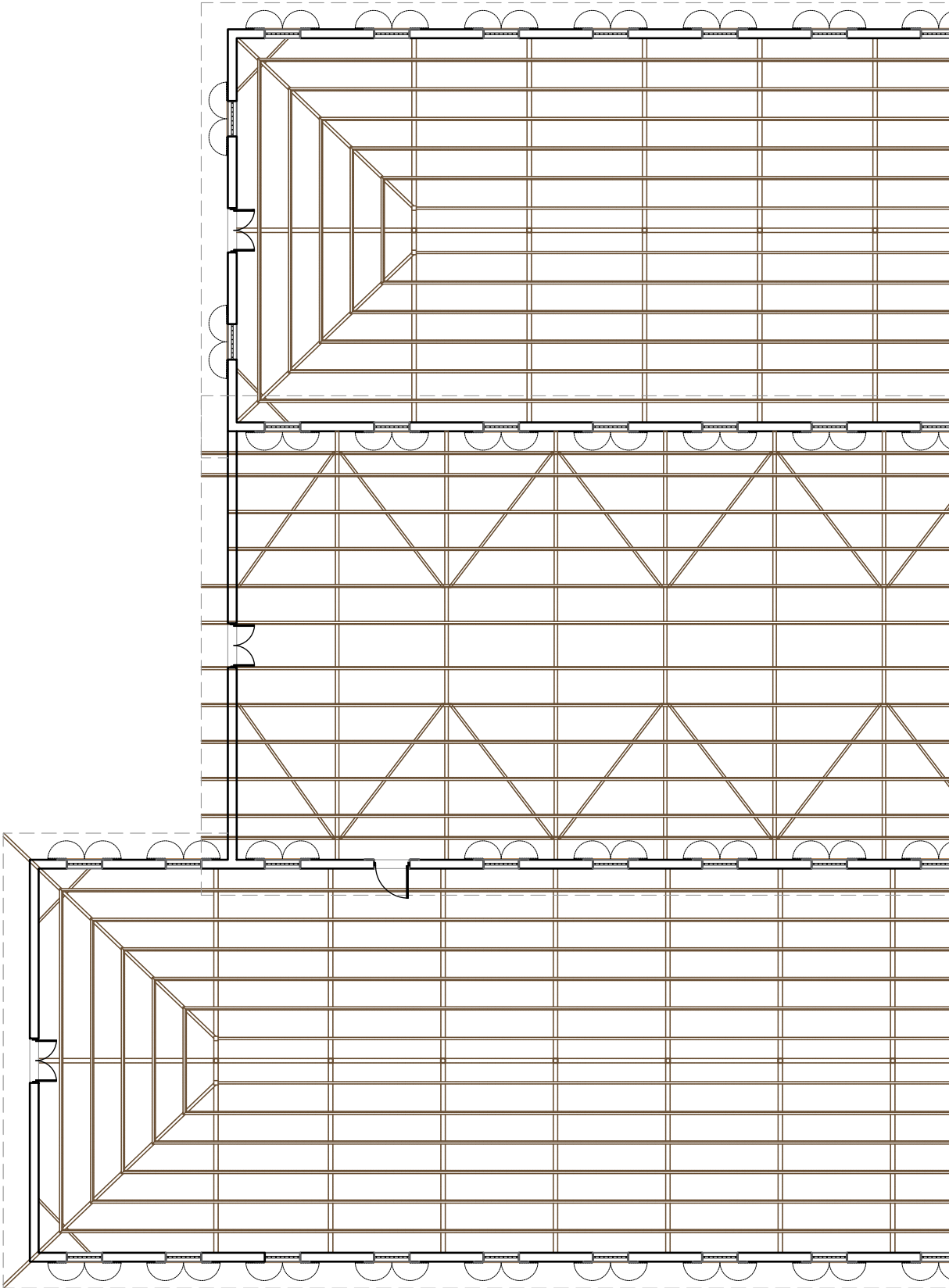


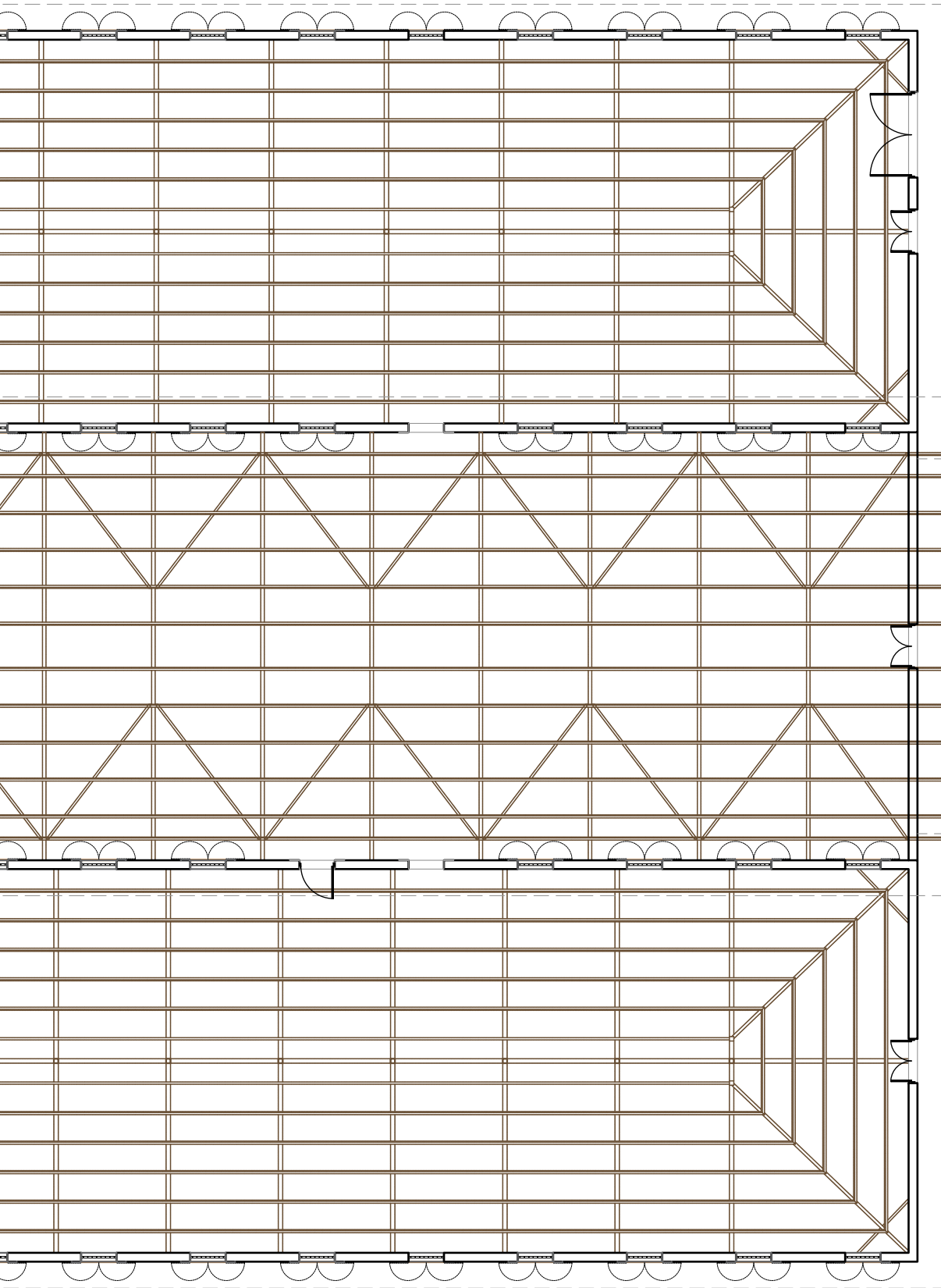
CROSS SECTION | SCALE 1:50



GROUND FLOOR PLAN | SCALE 1:200

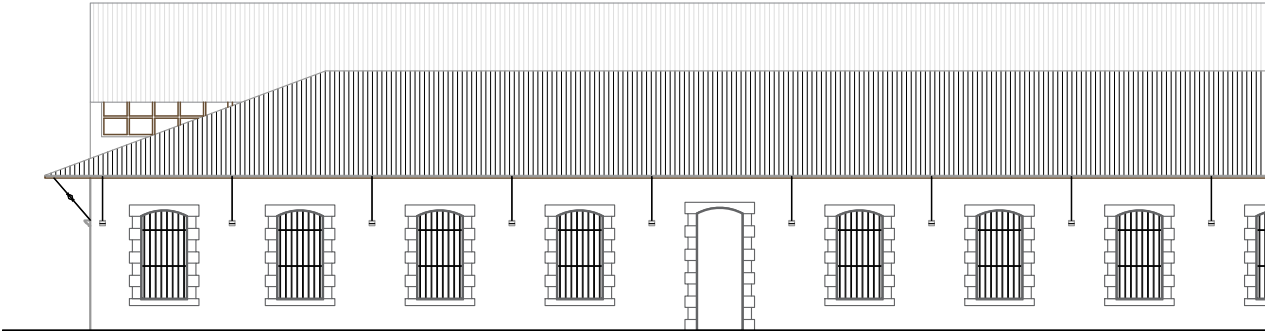
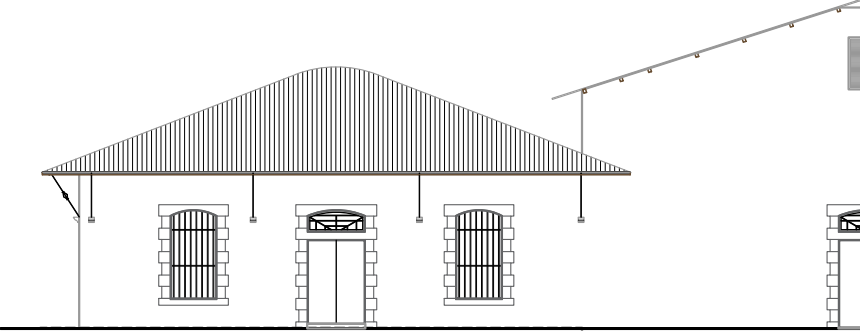
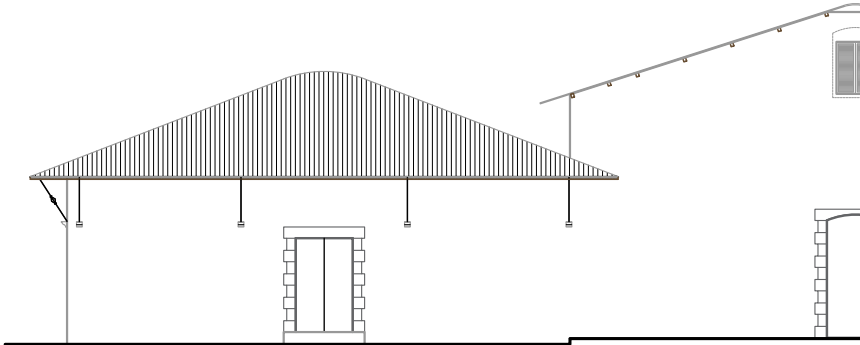
“SPATIAL” Building complex

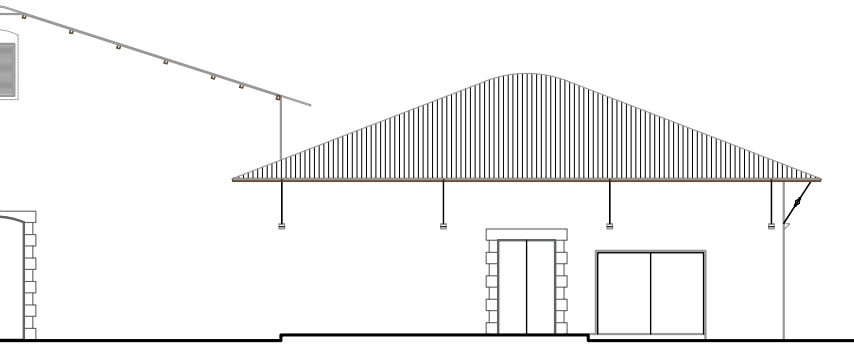




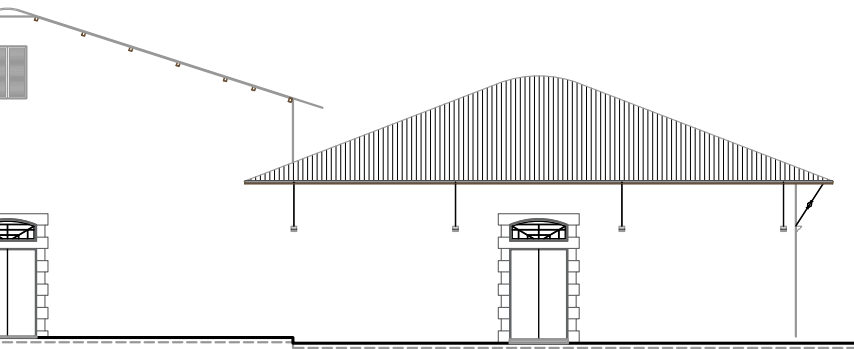
GROUND FLOOR PLAN | SCALE 1:200

“SPATIAL” Building complex





EAST ELEVATION | SCALE 1:200

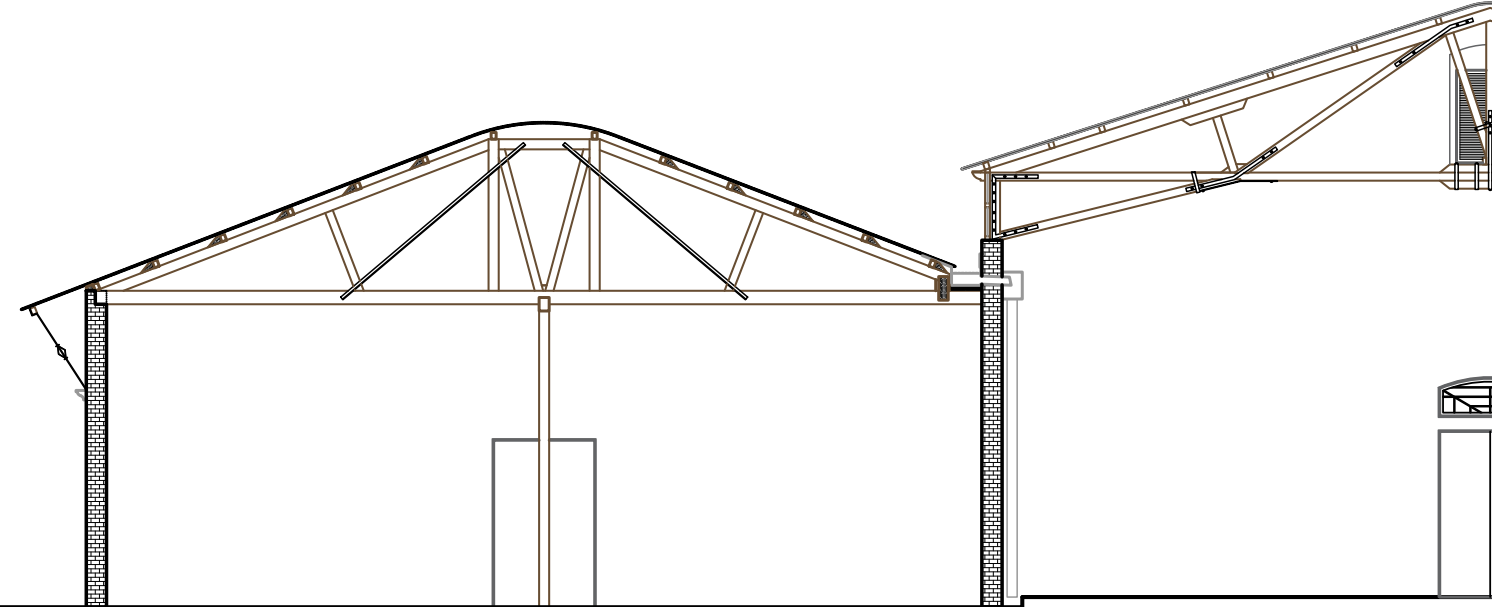


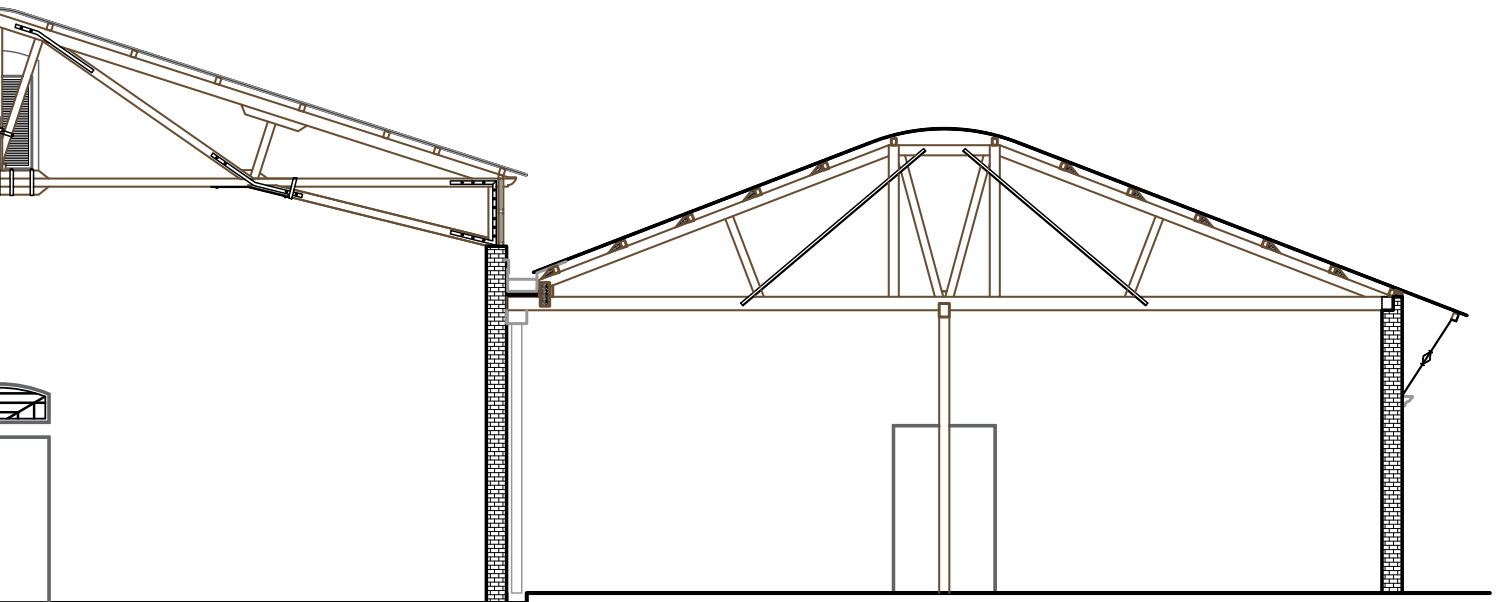
WEST ELEVATION | SCALE 1:200



SOUTH ELEVATION | SCALE 1:200

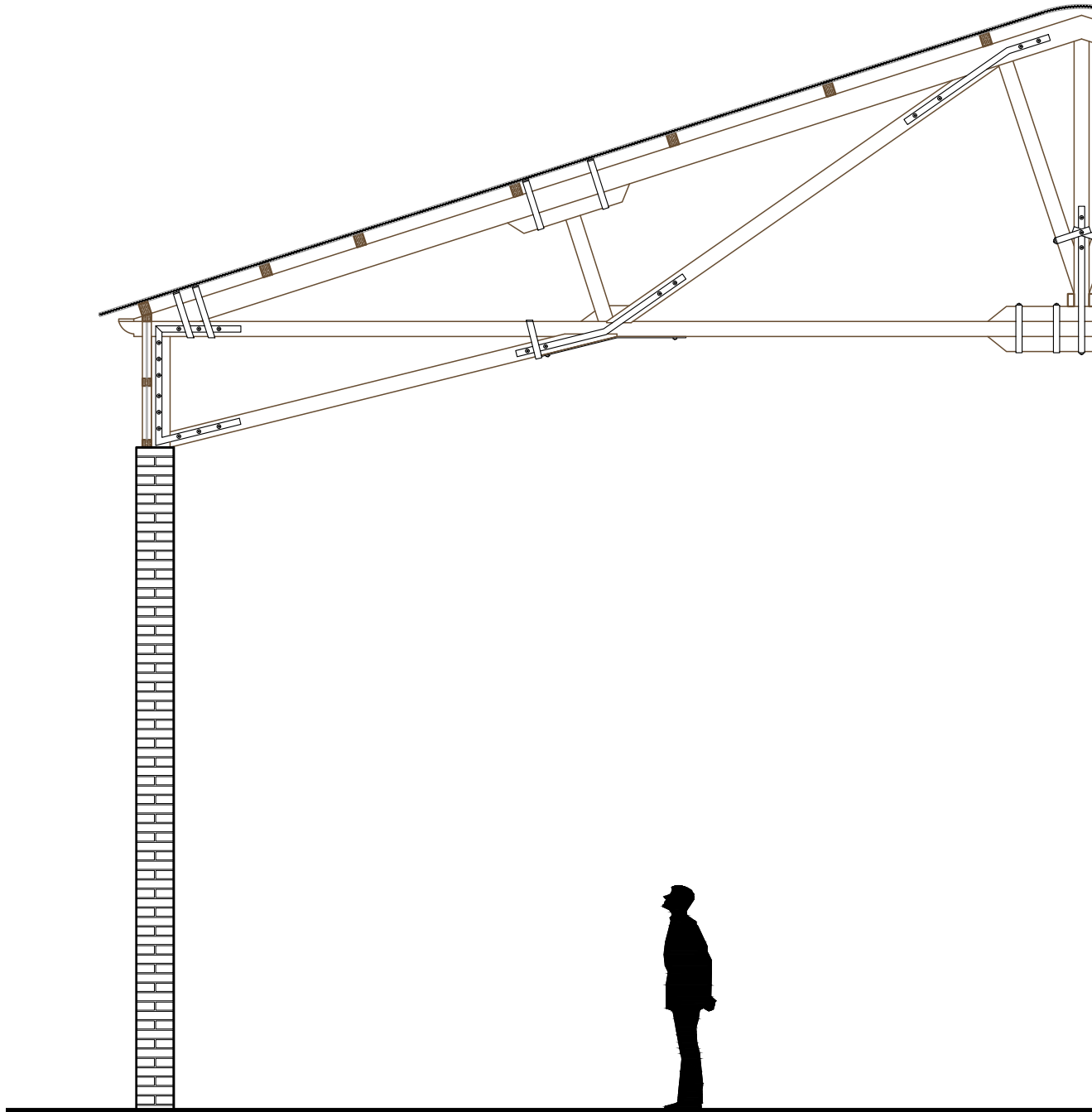
“SPATIAL” Building complex

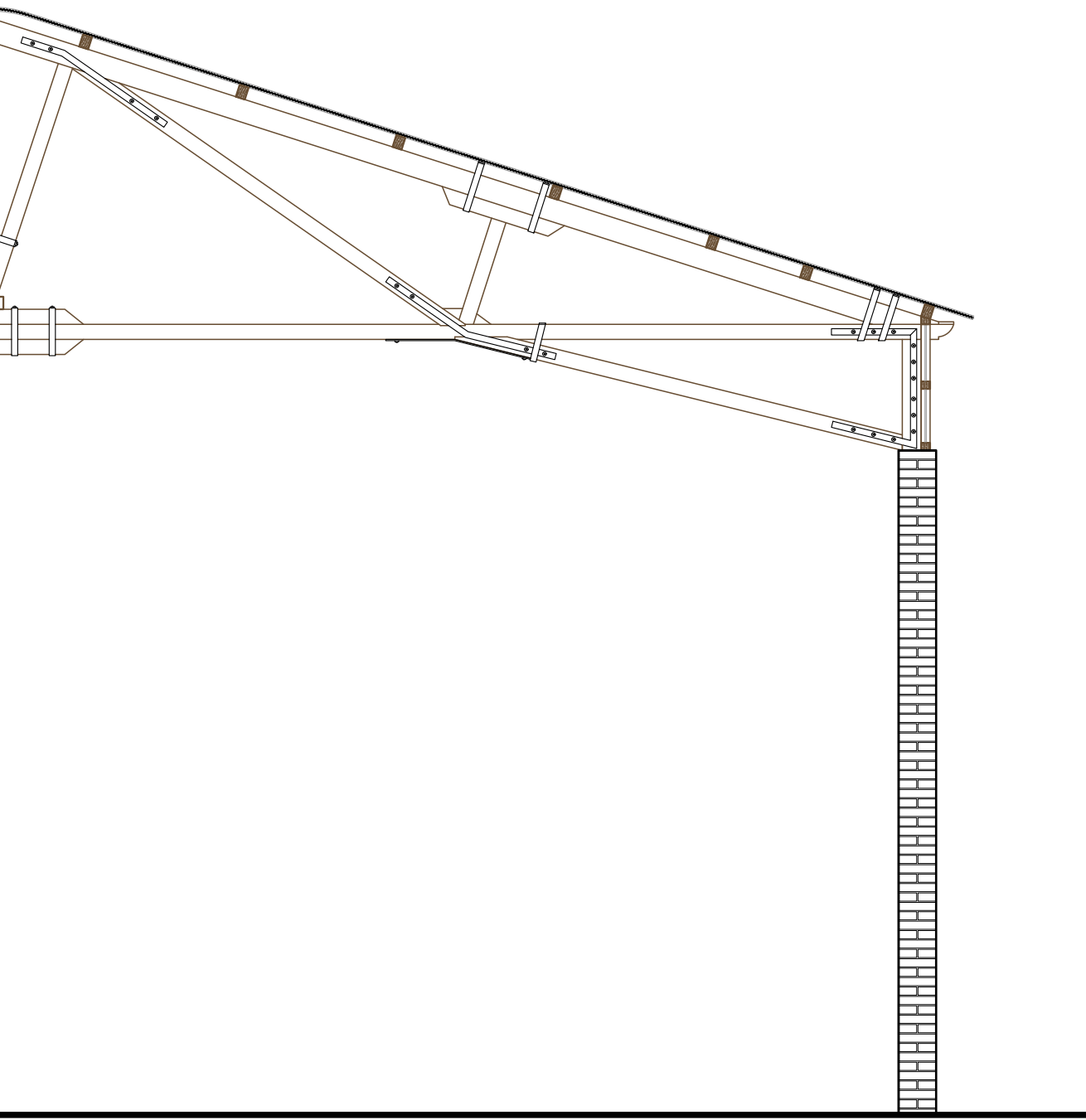




CROSS SECTION

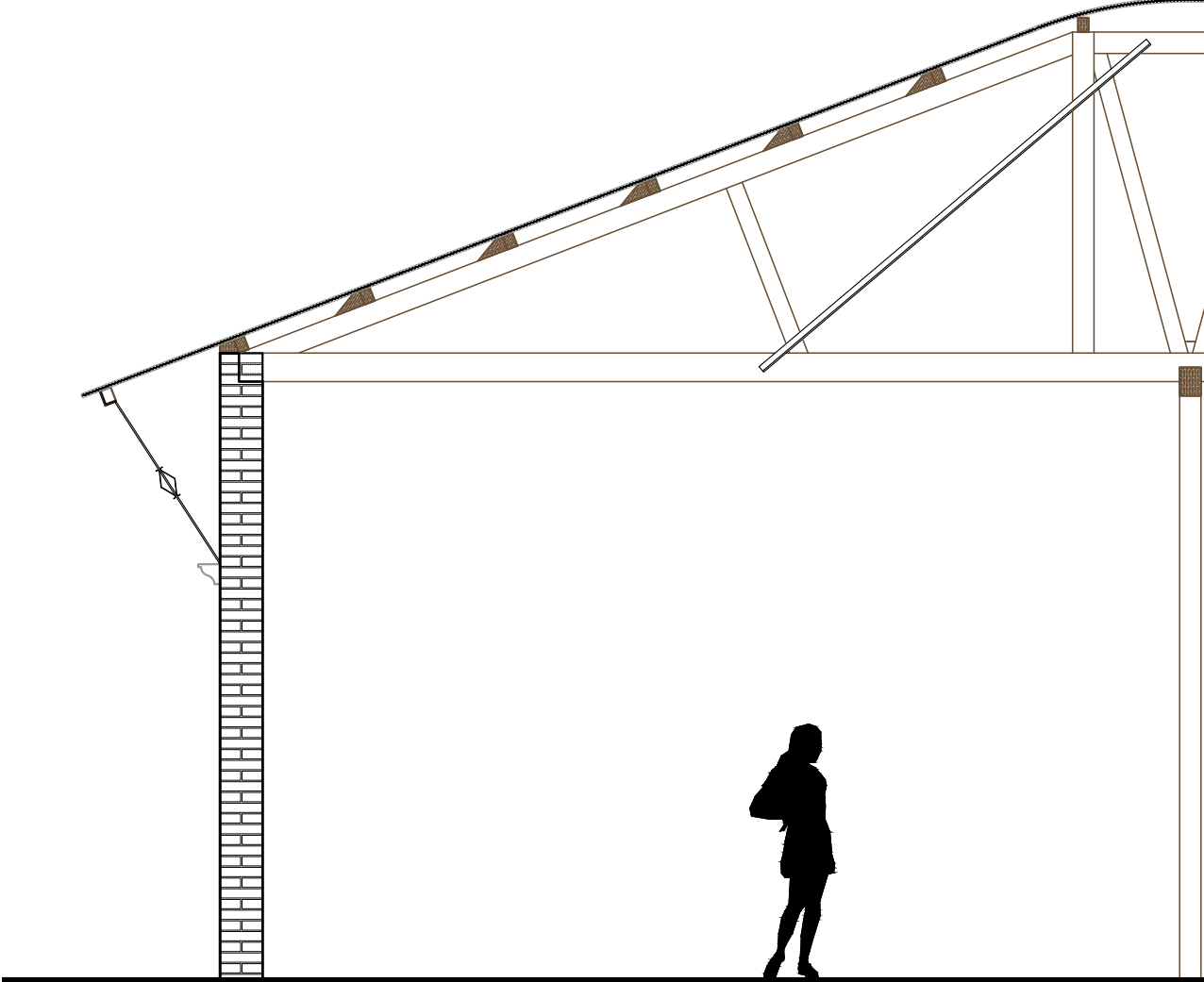
Gable roof building

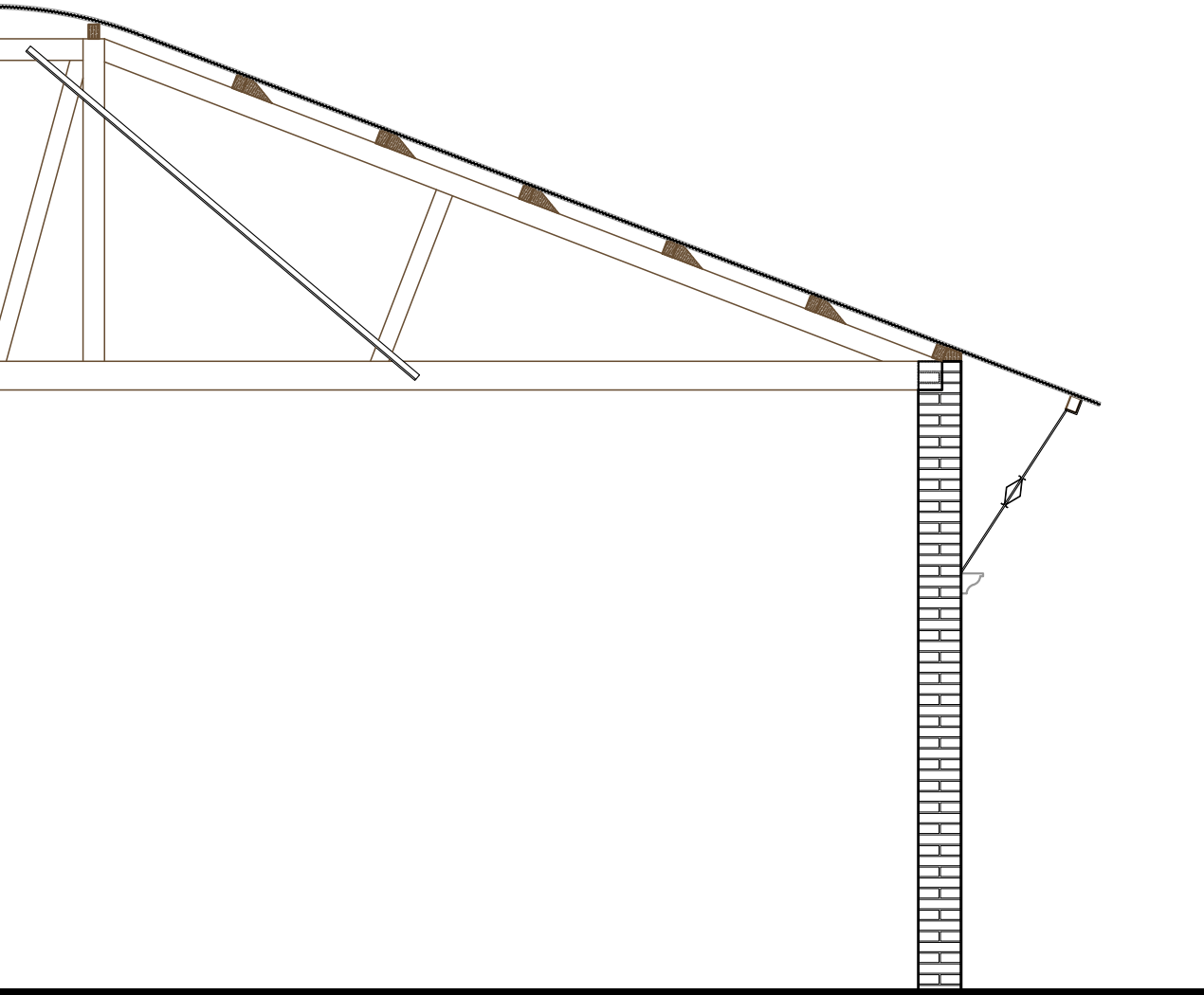




EXAMPLE OF A BUILDING WITH GABLE ROOF CONSTRUCTION
CROSS SECTION | SCALE 1:50

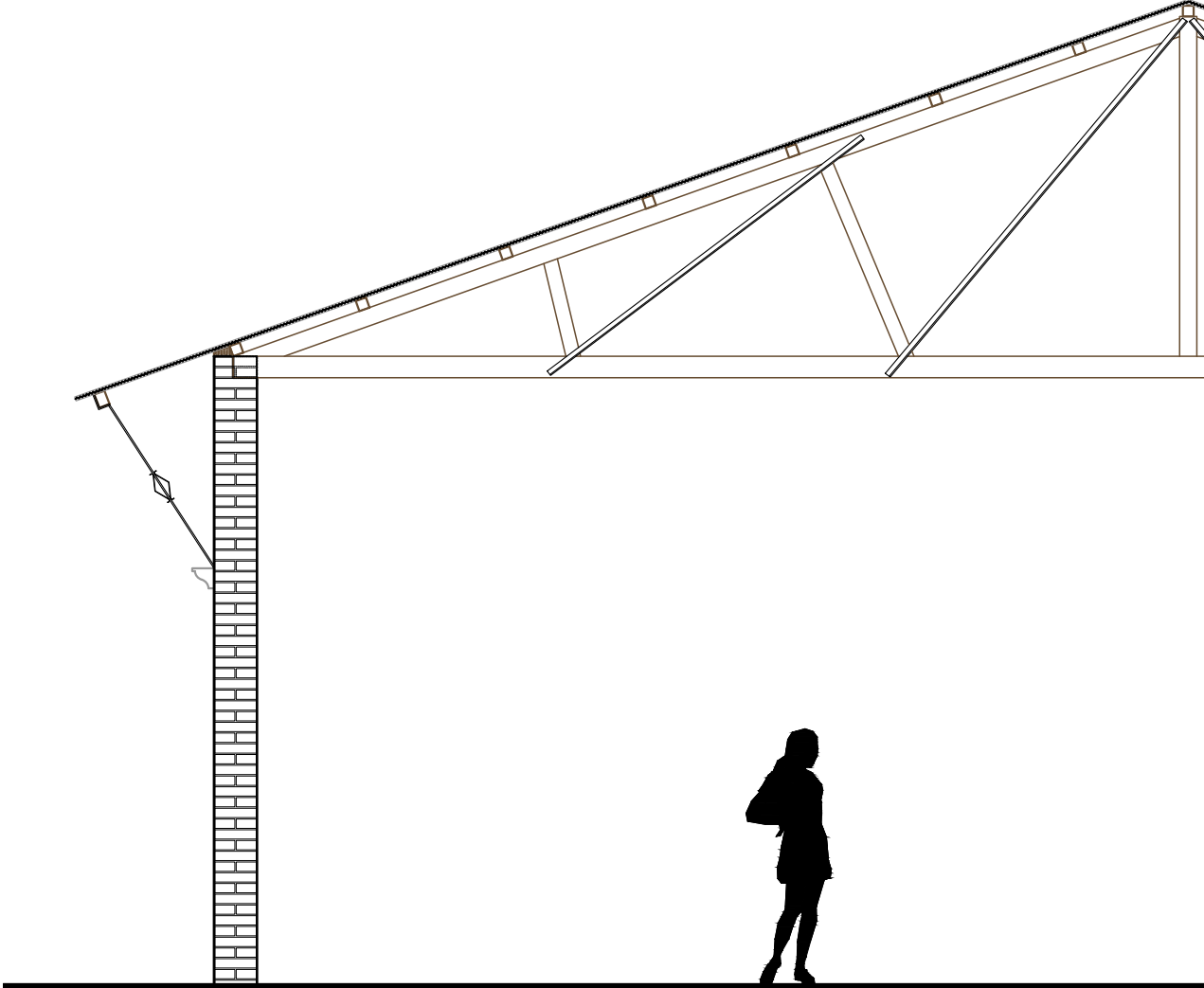
Hip roof building

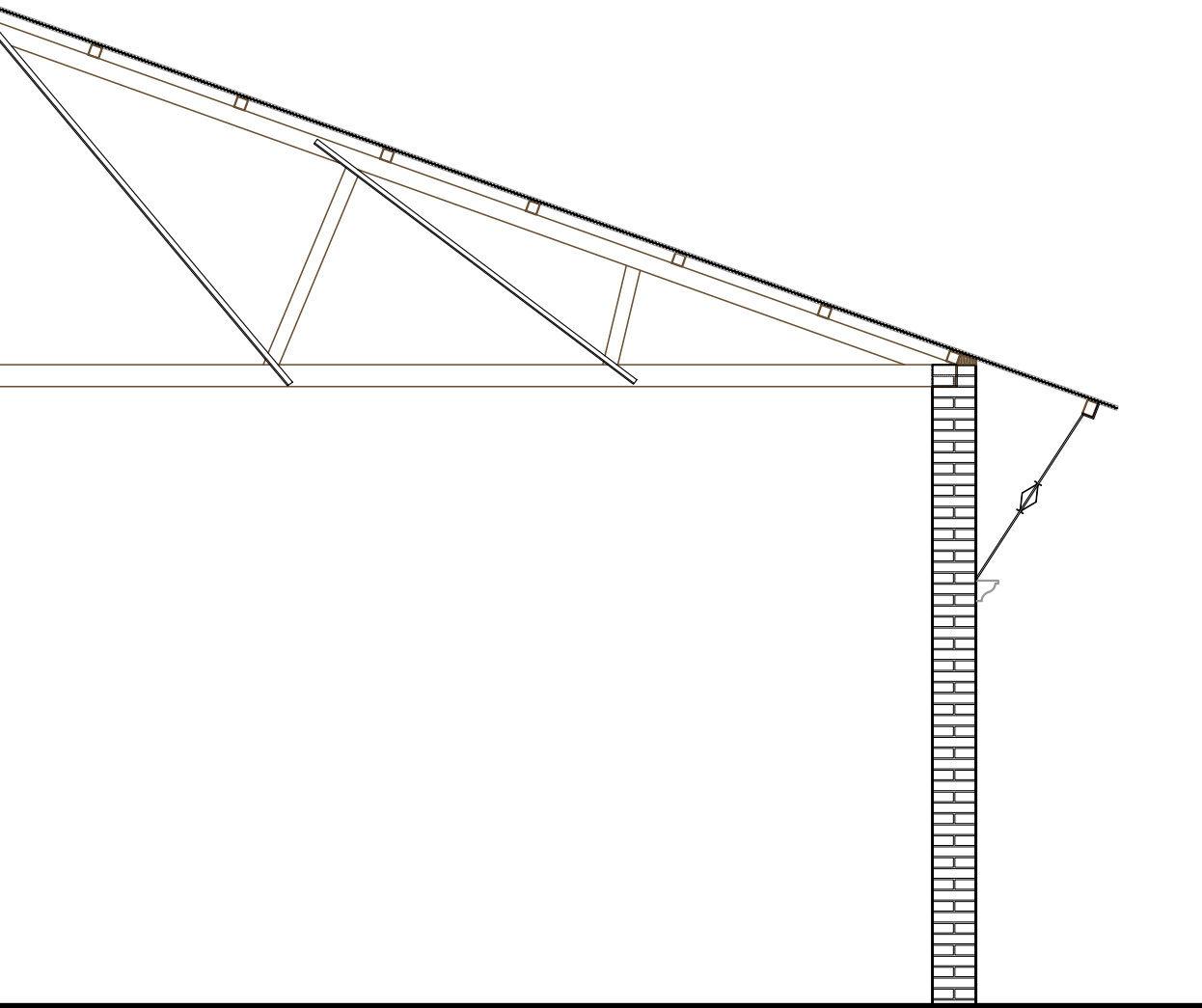




EXAMPLE OF A BUILDING WITH HIP ROOF CONSTRUCTION
CROSS SECTION | SCALE 1:50

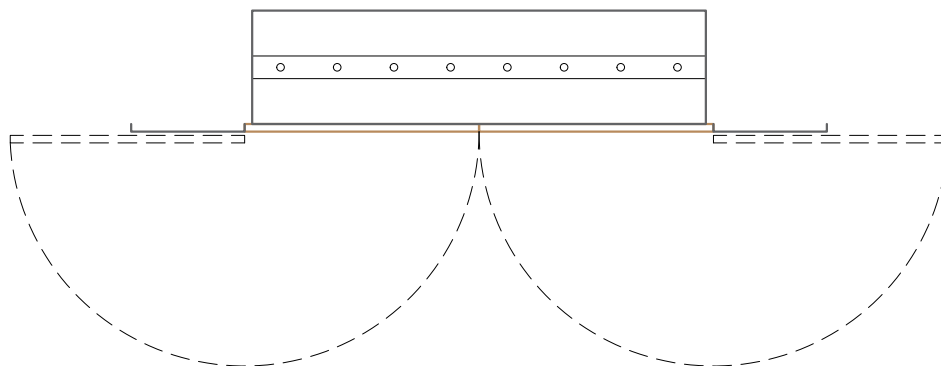
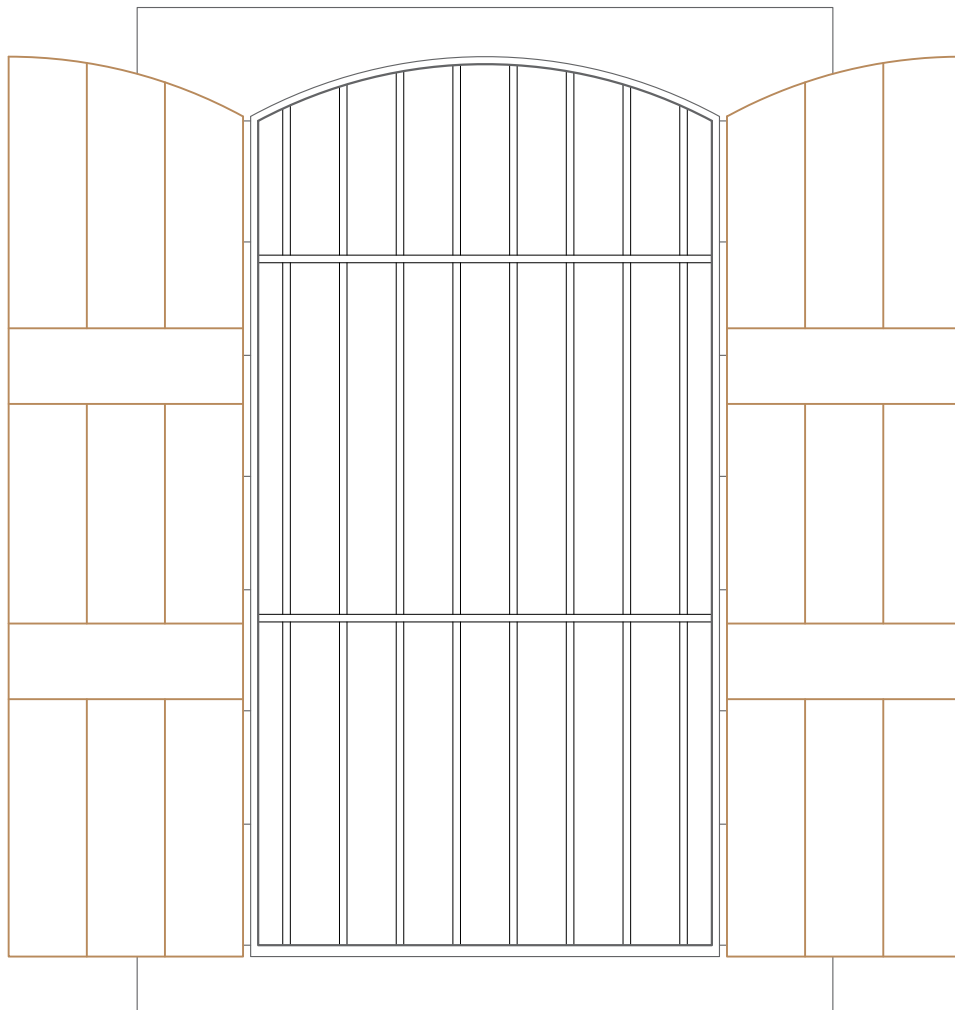
Example of the extension part in the hipped roof building





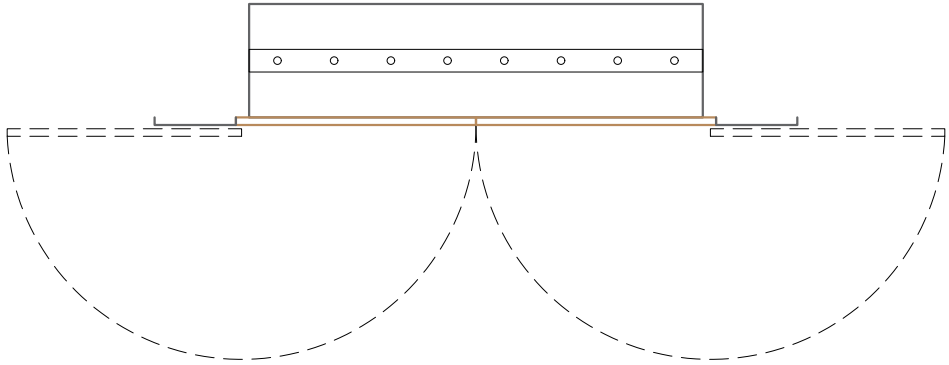
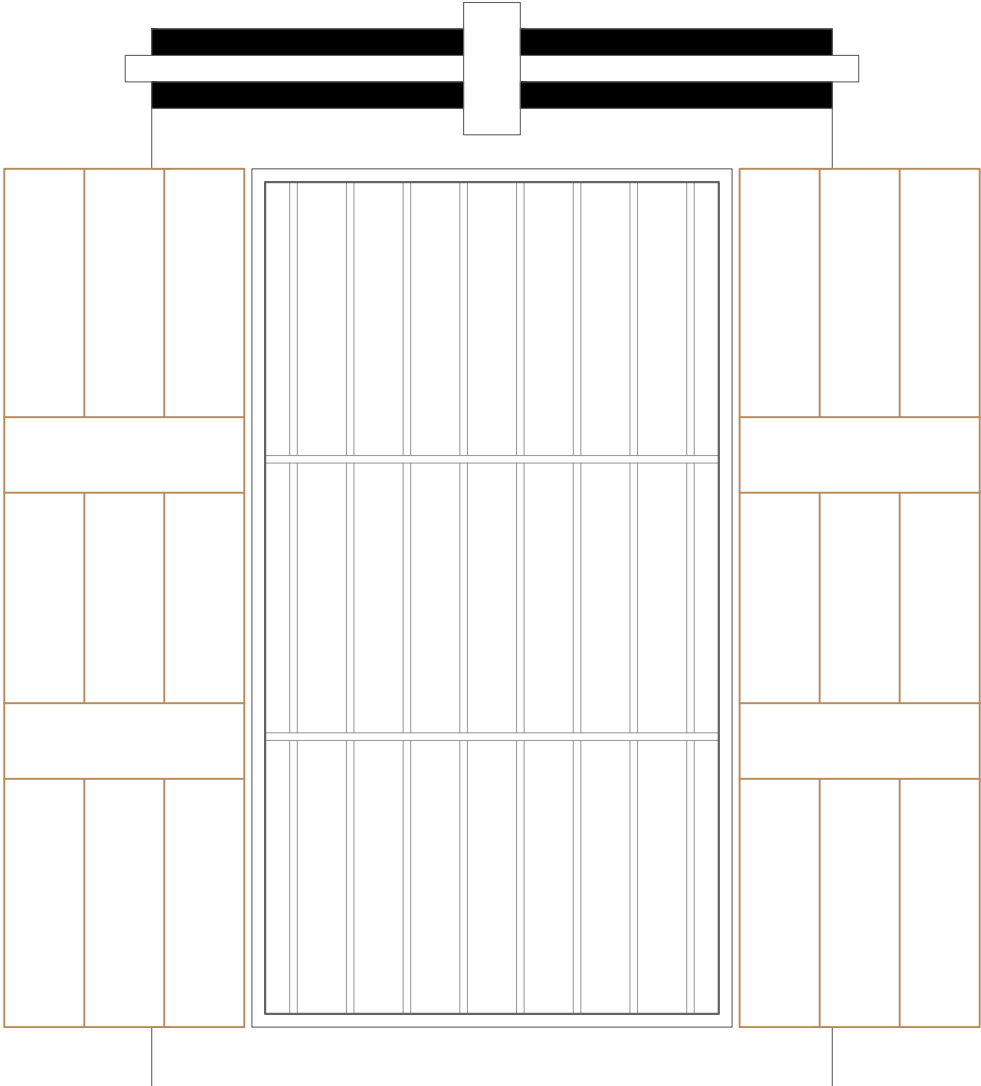
EXAMPLE OF THE EXTENSION PART IN THE HIPPED ROOF BUILDING
CROSS SECTION | SCALE 1:50

Ornamented window



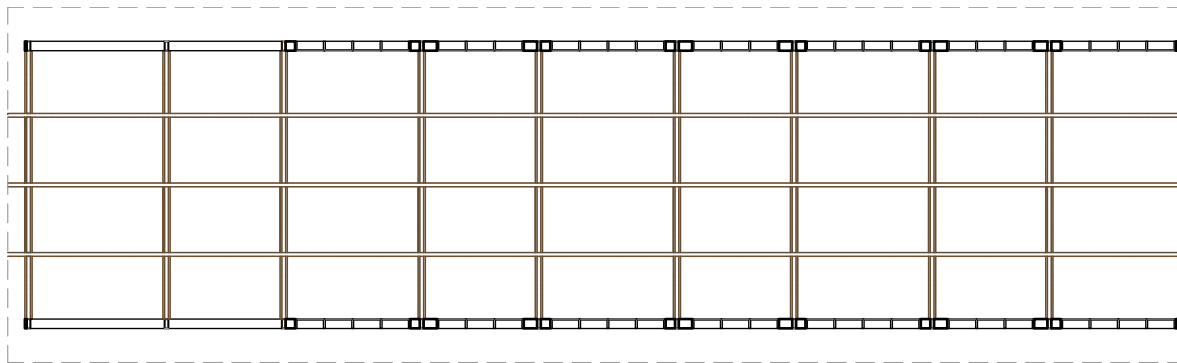
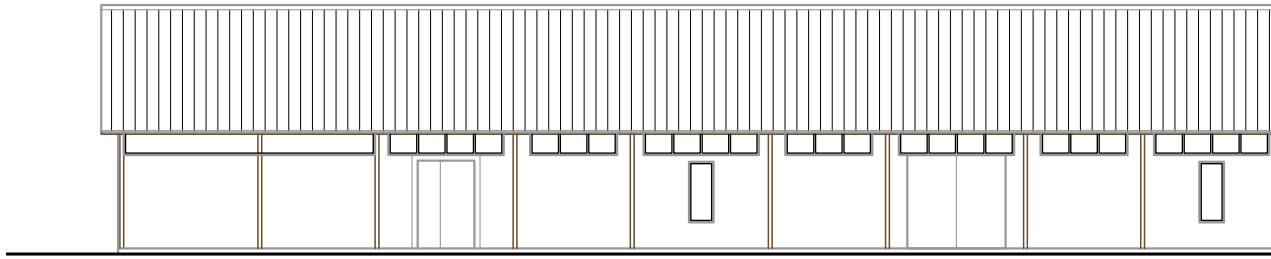
ELEVATION & PLAN | SCALE 1:20

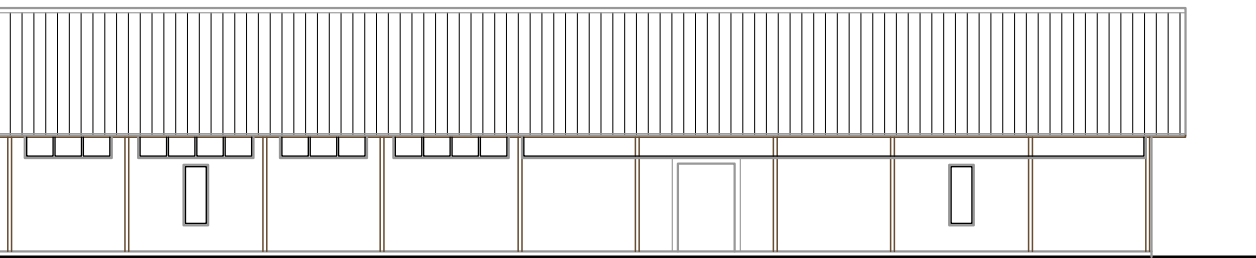
“Ventilation” window



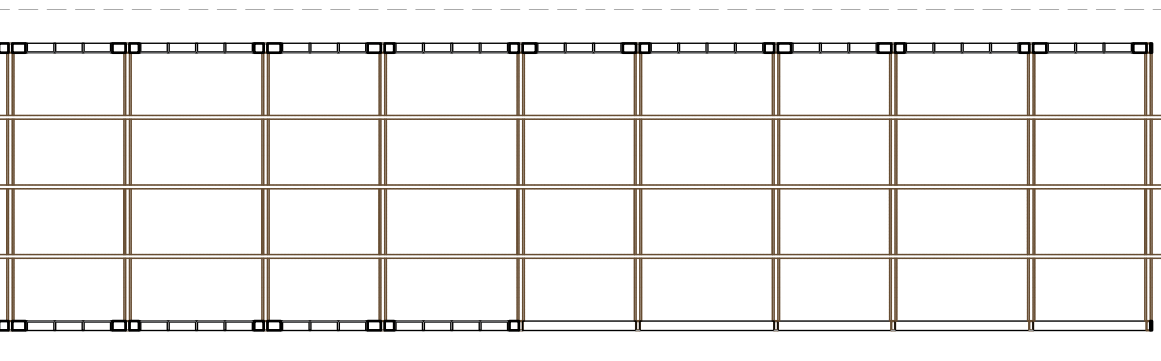
ELEVATION & PLAN | SCALE 1:20

Timber frame building



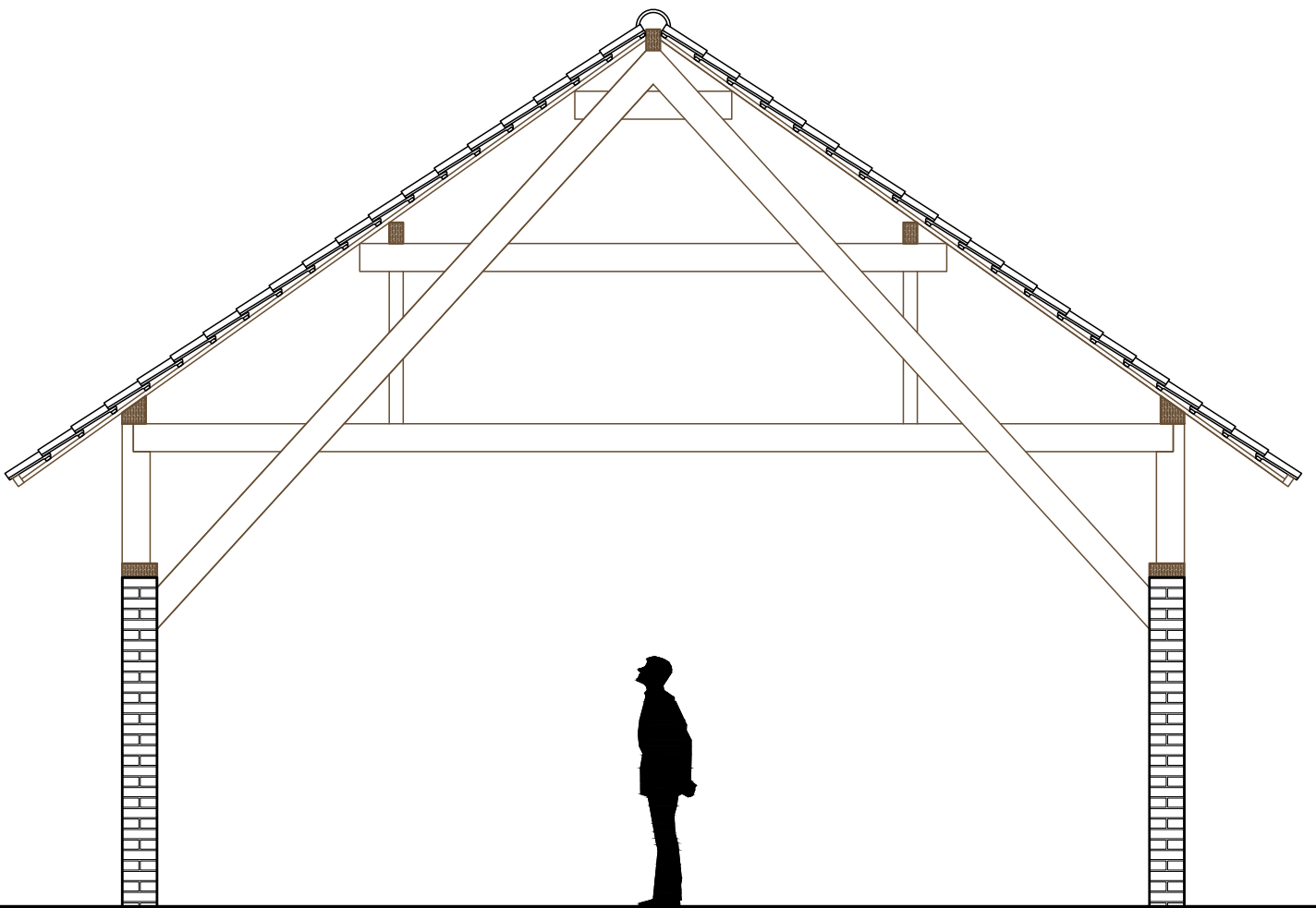


EAST ELEVATION | SCALE 1:200

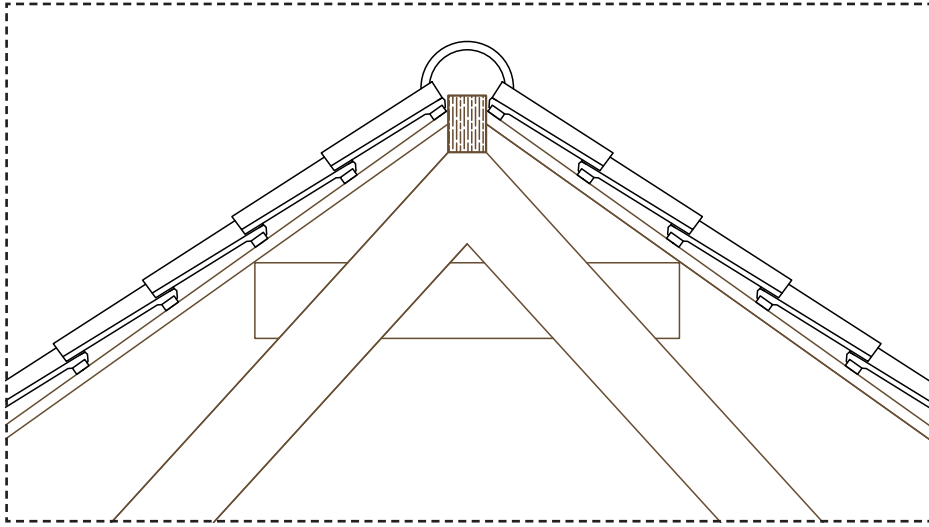


GROUND FLOOR PLAN | SCALE 1:200

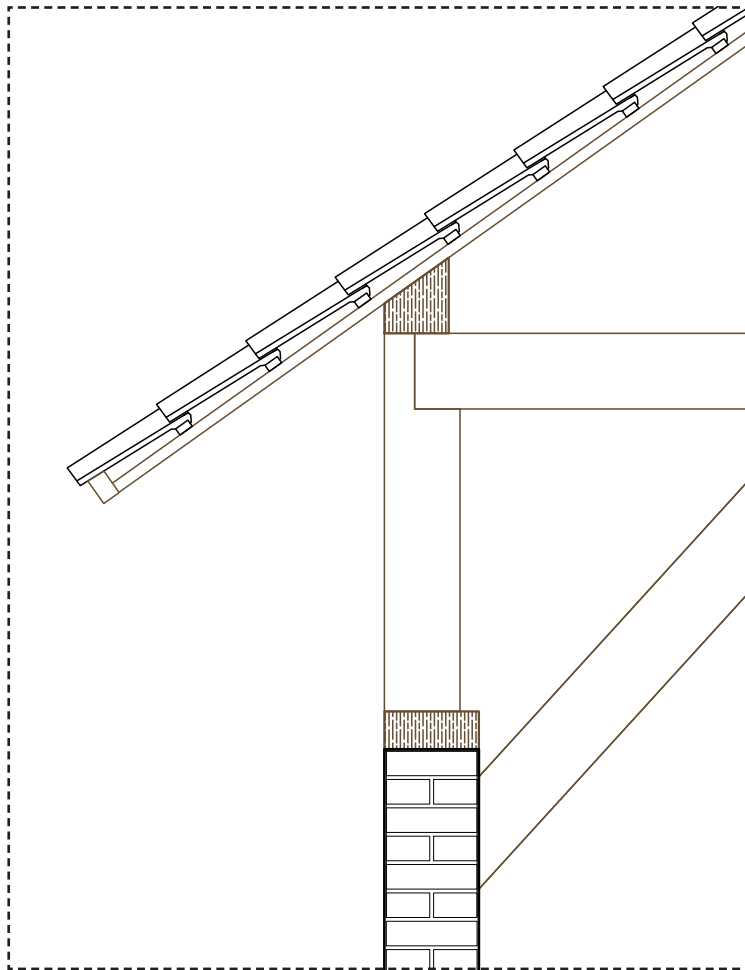
Timber frame building



CROSS SECTION | SCALE 1:50



ROOF STRUCTURE DETAIL | SCALE 1:20



STRUCTURE DETAIL | SCALE 1:20

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All the illustrations that we used for the Indonesian railway-urban development timeline were either produced by the authors, in the case of maps and black and white illustrations or the above sources. A significant number of photographs was taken by an existing timeline that we were given by Bandung's Heritage Society for Conservation, in the form of images, whose sources are unknown to us and thus are referenced to Bandung's Heritage Society for Conservation.

BACKBONE SCALE | RAILWAY

RAILWAY STATIONS

The photographs in this section were derived from a variety of sources as well. Some were given to us from Bandung's Heritage Society for Conservation in a .jpeg format without the official references. Additional photographs were derived from the following sources:

'Search Results | Colonial'. Accessed 10 December 2018.

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"KNIL MAGAZIJNEN"

CULTURAL OVERVIEW

CHRONO-MAPPING MILITARY AREA

Maps derived from:

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CONTEXT ANALYSIS

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APPENDICES

APPENDIX I: INDONESIAN URBAN DEVELOPMENT TIMELINE

All the photographs were taken by an existing timeline that we were given from the people that represented Bandung's Heritage Society for Conservation in our interviews during our field trip in Bandung, in the form of images, whose sources are unknown to us and thus are referenced to Bandung's Heritage Society for Conservation.

APPENDIX II: DUTCH RAILWAY TIMELINE

All images were taken from: Veenendaal, A.J. *Railways in the Netherlands : A Brief History, 1834-1994*. Stanford, California : Stanford University Press, 2001.

ANY PHOTOGRAPH OR DRAWING THAT HAS NOT BEEN PARTICULARLY REFERENCED EITHER IN THE CAPTION OR IN THE LIST ABOVE WAS CAPTURED/MADE BY THE AUTHORS DURING OUR FIELD TRIP IN INDONESIA 11/10/2018 - 06/11/2018 AND AFTERWARDS.

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