Politecnico di Torino

Master of Science

Architecture For Heritage

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Reconsidering Industrialization
and Post-industrialization:

Adaptive Re-use of Former
Power Plant Behind the Izmir Port Area

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Abstract

The thesis starts by researching the Industrial Revolution in Europe, mainly in Britain, and the deindustrialisation process. It reflects on how industrial sites became abandoned, the impacts on the urban context, and the effects on labor and social life. After deindustrialisation, the Nizhny Tagil Charter was introduced to prevent the demolition of these buildings, recognizing their value as industrial heritage that needs to be protected for future generations and the cultural identity of cities. As part of the research, the French term terrain vague is considered, which highlights the potential of vacant sites after the post-industrialisation period. This concept, introduced in the late 20th century by Solà-Morales, demonstrates the opportunities these vacant and derelict sites offer. Over time, adaptive reuse strategies became necessary and reusing industrial hritage sites by providing new programs has become significant for both financial and sustainable purposes.

In addition, the industrialisation process and its effects are examined in Turkey during the Republic era. As a case study, the Silahtarağa Power Plant is analyzed, focusing on its period of abandonment and its transformation through reuse strategies. This example demonstrates how a former power plant, built during the same timeframe and under similar structural conditions, has been successfully reused, providing a reference for the main case: the Power Plant in İzmir.Moreover, The impacts of industrialisation and post-industrialisation processes on industrial heritage sites are analysed profoundly considering İzmir.

The main case study investigates the area behind the İzmir port, based on site inspections and analysis in the urban context. Industrial heritage sites in the area are analyzed based on their current conditions: abandoned or reused with new programs. A major issue, evident in the area behind the İzmir port, is that many industrial sites were left as derelict spaces after deindustrialisation. However, unlike other examples, these sites have been colonized, making the surroundings unsafe and creating a poor visual appearance. To overcome this issue, the thesis focuses on Former power plant in İzmir. Currently abandoned and poorly maintained, this site is selected to explore its potential for adaptive reuse. The main goal of the thesis is to provide a new use for this site by adopting adaptive reuse methodologies based on histroical researches and analysis.

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INTRODUCTION

The Industrial Revolution began in the mid-19th century in Great Britain and gradually spread to other European countries. This research will examine the process of industrialization and its effects on social life, the implementation of large-scale factories, and improvements such as railways and steam engines. By the 1850s, industrialization had spread across Europe, and interest in it continued into the late 20th century. As technology advanced, especially after World War II, many factories, such as those in textiles, mining, and gas production, became abandoned. The 2nd part of the chaper,will analysed what happened after deindustralisation,how it affect urban fabric,labour and factories to get abandoned.Consequently, communities began to complain about these unused and highly visible structures.Initially, the common approach was to demolish these buildings, either partially or completely. However, awareness gradually shifted, and their potential value started to be recognized.Charters will be introduced to give an enhance their historical,technological and social value as industrial assets. The first formal recognition of industrial heritage sites and their value was defined in the Nizhny Tagil Charter in 2003 by TICCIH (The International Committee for the Conservation of the Industrial Heritage).Charters will be examine in a detail way to highlight that industrial heritage sites must be preserve for cultural identity and future generation.Next part is focused on thoratical term "Terrain Vague to describe derelict,vacant spaces that affected by post-industralisation period.This term will be explained from the perspective of architect Solà-Morales. The thesis will focus on how to transform these unused places, particularly abandoned industrial sites, into public spaces by adopting new uses and activities, turning them from inactive into livable areas.The last part of the chapter will introduce the methodology of adaptive reuse. Various approaches to conserving and repurposing industrial buildings will be presented to enhance industrial building potantial to re-use. Industrial buildings possess unique features such as large volumes, cranes, machinery, and chimneys. Useful tools and key interventions will be discussed, supported by case studies from around the world.

The second part of the thesis will focus on industrialization in Turkey, particularly after the establishment of the Turkish Republic. It will explore which companies and manufacturing programs emerged during this period and compare developments before and after the Republic era. Industrialization spread rapidly in Turkey, starting with the railway (transitioning from horse-drawn railways to trains) and continuing with the introduction of electricity, which replaced gas lamps as the primary source of lighting. A significant reference in this context is the Silahtarağa Power Plant, the first power plant in Turkey, which will be analyzed in detail as one of the case study.Secondlt Hasanpasa Gasworks will be part of the case study to demonstrate importance of on site participation while re-use activities were carrying out.

The third chapter focuses on the history of Industrialisation in Izmir how It began and affects on daragaci site that analysed through cartographic maps regarding 19-20th century taken from Apikam City Archive in Izmir. Developments of daragaci site will be examine by considering Electricity operations and variety of industrial on-going activities .Electricity had changed the life by establishment of Power plant, increased demand on electricity had caused using gas only on domestic purposes.Over time, manufacturing areas and storage facilities developed in Darağacı, transforming it into an unsafe and abandoned places. This chapter will consider the industrial heritage sites While some of them remain abandoned, others have been repurposed and are now accessible to the public.In analyzing the power plant, attention will first be given to its surroundings. This will include the industrial sites, their functions, locations, and brief histories. As one of these key sites, the power plant will be examined in depth, beginning with an analysis of the surrounding environment. Factors such as transportation accessibility, the function of nearby buildings, and the area's green and water infrastructure, given its proximity to these elements, will be considered. The user profile of the site will be investigated to develop an appropriate proposal for the factory's future, extending its life cycle as much as possible. Following these analyses, potential transformations for the surrounding area will be introduced.

The chapter four ,will trace the history of the power plant, starting in the 1900s with the introduction of electricity. The implementation and construction phases will be detailed, supported by archival photos. The production process and timeline of the plant will be outlined, highlighting how it became redundant and eventually abandoned. After providing this historical context, the chapter will focus on analyzing the building using photographs, site inspections, and case studies to support the idea of functional reuse and new additions.Re-use programs and design strategy were defined after the meeting with Daragaci Art Association in Izmir.Representing the initial project concept to the Konak Urban development Municipality member and Art Community with physical models and presentations.This meeting support the idea of participation actively on the site and made step forward for the Power plant project proposal.

Thanks to the Architecture Association and the Municipality of İzmir ,taken the drawings and used as base material, detailed drawings and design schemes will be developed for the factory's reuse program. The reuse methodology will consider what remains of the original structure and what needs preservation. The potential and appeal of the site, along with the possibilities for adapting new functions, will be discussed. Any new additions will respect the site's historical significance and collective memory, while enhancing the site's appeal, making it a unique building has attraction for visitors. As a theoretical approach, the concept of 'terrain vague' will be applied to address the transformation of the area, focusing on how new facilities can be integrated into these abandoned and undefined spaces. Drawings and visualizations will be provided to illustrate the design of the new use, allowing a clear comparison between the existing building and the proposed design

As last few words,have been participated the competition of what power plant wants to be in 2019 that organized by Izmir Architecture Association when I was in 3th year of student Pamukkale University Architectureand Design Department , won the student price with my collegue.This result encourage me to research deeper on this topic and develop project regarding Power Plant in Izmir after widen my horizons by having master degree on Architecture for heritage in Politecnico di Torino,Italy.

PART

01

Industrialisation to Adaptive Re-Use Strategy

“This is the fascination of industrial archaeology: it is not just ruins close to us (a hundred years ago), but a living heritage to be collectivised. [...] even though it is a very recent history [...] it is terribly attached to the walls of these buildings and to our skin, because it is among them that the true modern human condition was born”

(E. Battisti, 1978).

1.1.1

FIRST INDUSTRIAL REVOLUTION

Dating back to the 18th century, industry as a term which began to appear transformimg the economic and social dynamics of Europe. A Majority of historians consider that the industrial revolution started in Britain.Until the 1750s, britain was an agriculture country,with its main economic resources were coming from farms and cottage industries.People were working in rural settlements or small workshops.Transportation was only possible by foot or horse-drawn carriages.The Industrial revolution which began in 1750s to affect people to relocate from rural areas to city centers to work in Factories and mills Factories were needed large number of employer to operate machines that affected social life in urban centers.Industrialisation mainly changed urban pattern by creating industrial towns and increasing people population in cities whereas to the past.Addition to that,energy sources were transformed by steam which developed further the manufacturing process in terms of time efficiency and production quantity.There are several reasons why industrialisation started in Britain.First of all,Britain had major quantities of mineral sources such as coal which powered steam engine to continue manufacturing process without concerns regarding shortage of sources.Secondly,before the industrialisation, most of the countries in europe had political and social debate that had impact on industrialisation process ,It began lately and proceed slowly.Due to the fact that, The french revolution was carried on that time which decreased the communication between european continents.At the end, The continents weren't able to catch Britain innovations on industry.Addition to that,Stable government supported activities related to industrialisation and led the process go froward step. Another reason was that, Britain's strong capital investment system, which facilitated rapid business growth due to its advanced banking system, flexible credit, and substantial financial resources.

Factory System and Inventions

The Factory system has began and transformed from small cottage-based production, particularly in the cotton industry.In general machines were started to work by water ,then by steam and later by electricity.The first invention in the cotton industry was flying shuttle invented by John Kay in 1733,that speed up the process of weaving loom which caused shortage of yarns.Later,the spinning machine invented by James Hargreavers in 1765, provided yarn supply.

The water frame invented by Richard Arkwright in 1768 to provide advanced spinning frame powered by water Wheel that shown in figure 1.1.l.Crompton's mule was invented by integration of two frames which were water Wheel and spinning Frame in 1779.However,those inventions led to manufacturing cheap goods and larger quantities of products,Those inventions weren't enough to utilize by factories, spreading and exporting to other countries and production of sites.First cotton mills powered by water wheels and need to locate next to the rivers.Invention of Steam engine provide products to export another manufacturing sites and countries by implementing rail roads and transforming transportation in another step.James watt didn't invent the steam engine but developed Newcomen's early steam engine works to be more efficient and cheaper way to pumping waters from mines in 1775. Steam engines were powered by coal,gave another opportunity and flexibility to accommodate in everywhere instead of next to the rivers.In 1850s British cotton industry enlarged by using steam power.Using steam engine brought demand of coal production in 1815s and developments on iron industries.

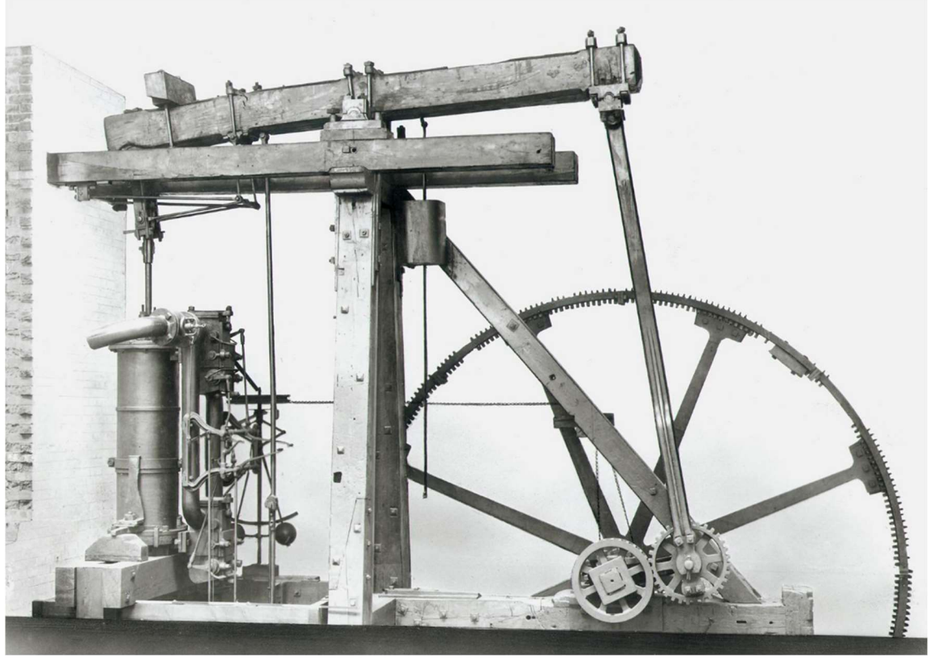


Figure 1.1.1:

James Watt Steam Engine

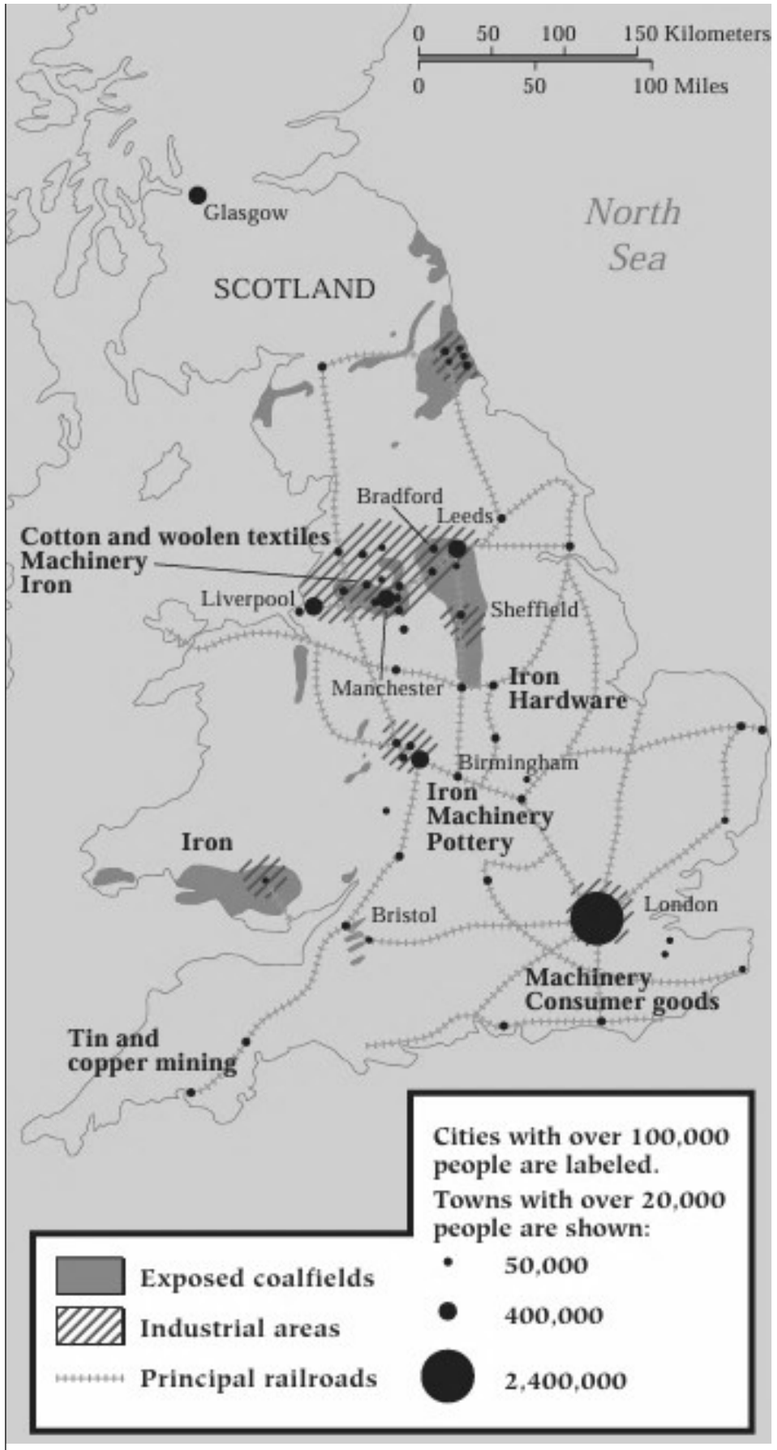
Watt & Boulton Steam Engine (Illustration) - World History Encyclopedia

By science museum,London,20 March 2023

Map 1.1.1:

Industrial Revolution in Britain.

Spielvogel J.,The Industrial Revolution and Its Impact on EuropeanSociety, Loyola University Chicago,chapter20,p.584.



Transportation

Improving iron ındustry brought the new transportation facilities,such as new roads and bridge constructions.In early 18th century, roads were in a bad maintenance because It was under protection of local communities.Then system changed that roads organised by turnpike trusts.*Using this methods improved the roads condition and another point is that ,crossing river was one of the demanding issue in that time.Abraham Darby built first cast-iron Bridge, that called as Iron Bridge, in the world to connect small towns of Coalbrookdale.Iron bridge illustrated itself as first iron structure and became popular in the late of 18th century to affect other bridge constructions to built by iron instead of stone.The most significant factor of spreading industry to all around the world was base on revolution in transportation.In 1825,world's first railway line built between coalfields in Darlington and port in Stockton belongs to the North east part of Britain.As a majority step in 1830,between Manchester cotton industry and port of the Liverpool,first public railway line opened to link mega cities in order to export manufacturing goods and sources.İn 1830-1840s,increasing implementation of iron rail lines, growth the industry of iron and coal. Railway carried the knowledge of industry and sources to the other european countries.

Expanding to Europe Continents

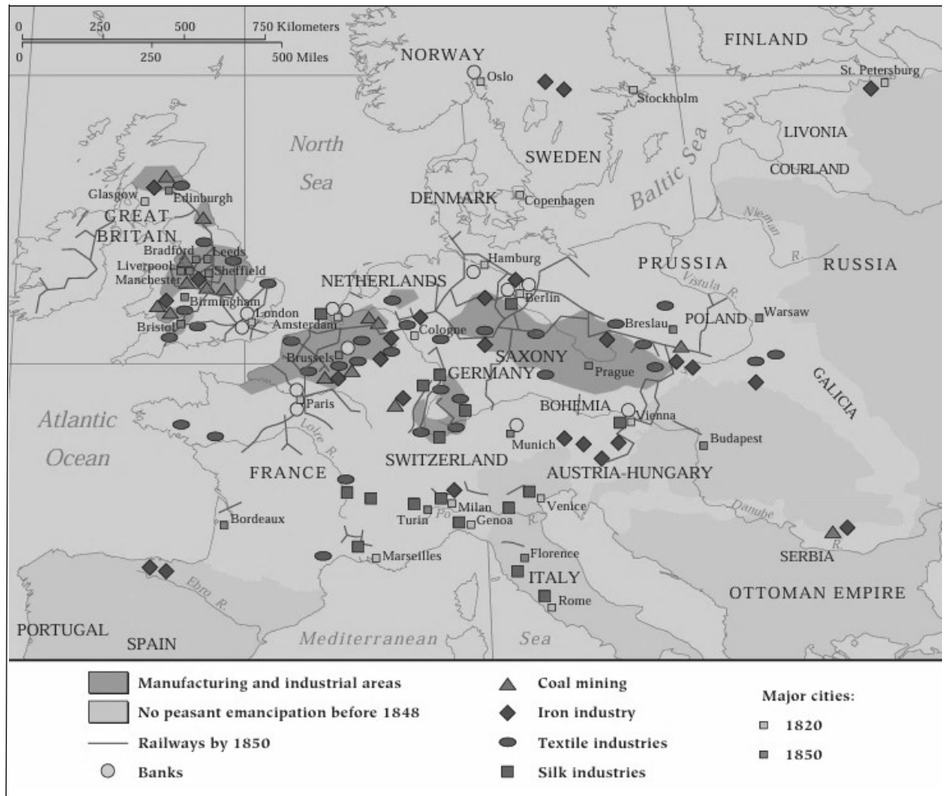
The majority of historians defined the period from 1850 to 1914 as the Second Industrial Revolution.Effects on the transportation led to the spread of industrialisation across European countries during the 19th century.Industrialisation was far behind Britain in the 1810s among continental European countries.Belgium, France, and Germany were mostly agrarian, and workers lived in small cottages to manufacture goods.One of the reasons was the French Revolution and the wars that occurred between 1790 and 1812.This slowed down the process of reaching Britain's level of industrial development.The wars affected the social and political structure of the continent.In addition to that, the lack of transportation and manufacturing knowledge was considered one of the aspects that kept Britain as the leader of industrialisation for a long time.British industry experts were prohibited from traveling to other countries or exporting parts of machines in order to prevent the sharing of knowledge about machinery and manufacturing. Later, it was realised that it wasn't possible to control people. From 1825, approximately 2000 skilled British experts went abroad.By 1850, the development of iron railways allowed industrialisation to reach other continents.

Second country that follow the ındustry development after Britain was Belgium.Belgium and Britain had several similarities as gave opportunity to starts business earlier than others.Reasons could defined having advanced banking ,potantial investors and as an addition, Belgium had large reserves of coal as mineral sources and had played a significant role in the textile industry.Belgium used steam engine as main source of power and used modern manufacture system in 1840s.France was far behind of others because of french revolution and Napoleonic war.Lack of coal sources,slow implementation of rail roads,less mass production and political conflicts made process slowly on the industrialisation in France.German economy mostly expanded with implementation of rail ways,transportation of products,opening new branches regarding manufacturing. Germany had big amount of coal and iron ore reserves that supported the manufacturing and reached moreover passed other continents rapidly.From 1870 to 1914 untill the first world war,Germany had more production goods than Britain and started to be center of industrialisaiton.

Map 1.1.2:

Industrial Revolution shows europe continents in 1850

Spielvogel J.,The Industrial Revolution and Its Impact on EuropeanSociety, Loyola University Chicago,chapter20,p.592.



SECOND INDUSTRIAL REVOLUTION

1.1.2

Industrialisation started from mid 18th century to mid 19th century called as first industrial revolution that demonstrates first interventions and technological developments that peaked up in that period.After 1825,pathbreaking interventions slowed down but got increased in the late of 19th century.Therefore,historians accept that,Second industrial revolution played role between 1870 and 1914(untill the first world war). One of the biggest comparison between two periods shown in cotton industry,It became regular with less manufacturing improvements whereas to the first ındustrial revolution Most of the significant transformations related to factory system,labor conditions,transportation and urban fabric were affected by 1st industrialisation.Second industrial revolutions mostly continued to develop and extended production facilities by technology improvement. Second industrial revolution the way of continuing the first revolution with new microinventions.Factory system had already inserted to the urban and social life before 1850s,in the second period It get improved as working conditions,labour working hours and urban infrastructure for instance sewage system,edaquate heatingAfter 1870s,railway connections,gas supply,water and sewerage system were expanded further.Major developments were based on steel, chemicals and electricity development ,electricity became an essential and significant energy source , used in multiple approach .Addition to the lighting ,It was applied to the railway system to operate electrical locomotives.Steam power was used and increased demand of sources in 1850s.After that,Diesel engine were used to operate electric railways starting from 1897.Electric locomotives replaced with steam ones.Inventions and improvements continued untill the first world war,which postponed and limited to expanding industrialisation.

From 1850s railway construction and machines showed advanced iron works that were expensive to use and caused demand of iron.Addition to that,iron has drawbacks because Its unadequately elastic and strength .Instead of iron,steel could use for the constructions but It wasn’t cheap at that moment.Henry Bessemer interwined in 1856, provided unquality steel by using interaction with air’s oxygen and correct amount of carbon.Then Robert Mushet solved the problem and improved the steel production.Cheap steel became demand and essential tool for the construction of buildings, railroads, ships and machines.Germans take the lead and developed the steel industry rapidly.

Untill 1869,french and german chemists found other synthetic dyes but Alizerin was synthesized by german chemists in 1869.Addition to that,dynamitte found by Alfred Nobel,that provide the implementation of roads and tunnels.As last,One of the pathbreaking invention carried on chemistry fields was fertilizer producing phases that consists using both nitrogen ande hydrogen elements.It was a crucial development on vegetation and agriculture field.Other microinventions were seen on the transportation and automobile industry.

Invention Of Electricity

In the first industrial revolution,steam engine were found as pathbreaking invention and used for manufacturing and factory system to generate energy that enhanced the productivity of goods.In the second revolution,electricity enhanced transportations with electric trams and gas lightining replaced with the electric lightinings.The potantial of electricity was realised at the beginning of 19th century.Firstly, electricity used on communications for the telegraphs instead of transportation or lightining in early 19ths.Telegraph was invented with chain of interventions by scientists.S.T. von Soemmering took the first action on telegraph and after as a British scientist William Cooke had patent that created five needle system to transmitting messages.Samuel morse transformed the system in an efficient way to create single needle system.Initially,Telegraph had several difficulties such as low and slow signal and message connection needed to overcome and advanced by using longer cables.

The use of electricity was a though task for using energy sources to generate electric power and transmitting in long distances.First invention on electricity was based on arc lamp by Humphry Davy in 1808.This type of lamp were usefull for outdoor spaces or indoor space in a large room.Arc lightining was glaring light and batteries were discharged in short time that wasn't durable. After that Arc lighting was developed by other scientists during 19th century that began to common and soon ,placed in restaurants,theaters.Arc lighting recognised in early 19th century but incandescent lamp was essential for indoor uses especially in houses.Usint the Electricity extended rapidly in 1870s.Untill 1879,scientists and techniciants were carried out microinterventions on dynamos,arrangement of voltages and comparison of filament materials to achive compatible incandescent lightining.

Thomas Alva Edison invented a pathbreaking invention,first incandescent light in 1879.Edison had planned to create a central power station and merge with conductors to transmit electricity to other spaces.According to that he developed paralell circuit that compatible with high-resistance filament lamp,underground conductors,light fixtures,switches and other necessities to establish his own company

Figure 1.1.2:

Edison's first public illustration of incandescent electric lighting ,31.12.1879

Image courtesy of the Library of Congress.

Cover of The Daily Graphic Newspaper for January 3, 1880, "Edison and His Electric Light" - The Henry Ford

Edison managed to have central station system that installed in New york to active his dc system(low voltage direct current system).As a result,the first permanent central Power station in the world established as Pearl Street Station in 1882.Station placed in residential and commercial zone.Edison strength the consolidation of the structure of building that had to carry dynamos.As first steam engines provided by coal fired boilers were utilized to generate 6 dynamos that had already installed to the building.Although,Pearl Street dc system wasn't adequate about finacial feasebility,Edison's transmitted system was succesfull. Familiar power stations began to establish other part of the city with the same central station system and spread to the all Europe.In 1887,Edison had total of 103 central stations in Us .In 1886,high voltage capacity and long distance transmission ac system organised by George Westinghouse and Nicola Tesla that began conflict with Edison's low voltage direct system dc.Ac system provided financial efficiency to have advantage of long distance transmissions with high voltage.Both system were used when dc and ac converters improved.In 1890, there were 202 dc stations in total developed by Edison and 323 ac central stations advanced by Westinghouse.

*"Yesterday for the first time THE TIMES Building was illuminated by electricity. Mr. Edison had at last perfected his incandescent light, had put his machinery in order, and had started up his engines, and last evening his company lighted up about one-third of the lower City district in which THE TIMES building stands".**

Figure 1.1.3:

Pearl Street station, 1882

History | IEEE Power & Energy Magazine

Figure 1.1.4:New York Times, 5 September 1882

This day in lighting history: Sept. 4, 1882 | Architect Magazine

MISCELLANEOUS CITY NEWS

EDISON'S ELECTRIC LIGHT.

"THE TIMES" BUILDING ILLUMINATED BY ELECTRICITY.

Edison's central station, at No. 257 Pearl-street, was yesterday one of the busiest places down town, and Mr. Edison was by far the busiest man in the station. The giant dynamos were started up at 3 o'clock in the afternoon, and, according to Mr. Edison, they will go on forever unless

* Sulzberger C.,Thomas Edison's 1882 Pearl Street Generating Station, Attachment A ,p. 8.

INDUSTRIAL REVOLUTION IMPACT ON SOCIAL LIFE AND URBAN PLANNING

Industrialisation has significantly affected social life of the cities considering population growth,health problems,living and working standards in new industrial towns, early in 19th century.Industrialisation as the fact that increased the death rate in 1830-1840 due to healthy issues,lack of sanitary and water sewage systems,unadequate clean water supplement and living in cellars without air conditoning.In 1750,population were estimated 140 million in Europe continents,however in 1850,It become 266 million that reflects increasing of life standards affected the death rates.Britain's population fluctuated from 6.5 million to 32.5 million between 1750-1900.Even population numbers affected by death rates and health conditions during the industrialisation,the main population diverse were visible between the cities in the first industrialisation period.Before the industrialisation period,approximately 80 percent of people were living in rural villages rather than mega cities, in 1850, 80 percent of people were living in mega cities whereas 20 percent were in countryside. Establishing factory system had increased demand of labors in new industrial cities that encouraged people to relocate center of towns.This situation has caused of transformation of urban pattern and growth of the cities . Manchester was known as the first industrial town in Britain. In 1780, there was only one factory that established by Richard Arkwright,later in 1820s 66 cotton mills and 6 spinning mills were working in Manchester.After 1845s there were more than 100 factories around the city ,increased demand of labor,housing and healthy conditions.Manchester maps were shown in Maps 1.1.3 and 1.1.4 to compare urban pattern between 1794 and 1845. Comparison of 2 maps illustrates growing mass density both center and suburbs in the city.

Working Conditions

In 1750, a new social class was born, called the middle class or the bourgeoisie. The middle class consisted of people such as artisans, factory owners, doctors, and engineers, who had sufficient income to buy land, live outside of towns, and own large houses—unlike the other group known as the working class.Factory system and mass manufacturing caused to birth of working class as a result of industrialisation. Working class had to live close to the factories where they generally located center of the town,without proper sanitary systems and polluted neighbourhood.

Map 1.1.3: Manchester map was drawn by William Green.

Started in 1787 and completed in 1794

- Maps Collection

The University of Manchester Library

Map 1.1.4:

Manchester map in 1845

- Maps Collection

The University of Manchester Library

Working class has faced with though living and working conditions.Labors were working 12 to 16 hours in the day and 6 days during the week.Factories were dreadful poor spaces with unadequate temperature conditions up to the season,lack of sanitary systems, where labor forced to spend long hours,.Factory owners were only focused on making a profit of manufacturing,both children and women were employed during the first half of the industrialisation period.Children labor was seen as advantage because of their small size of bodies allow them to crawl under machines easier, an extra salary for labor family and were paid lower compare to women and men labors.Children were exposed to long hours and poor working conditions and carried heavy stuffs in mines where they have injured mostly .Both children and women workers had paid less and were unskilled labor that benefit for employer to make higher profits.Children were supposed to go to school but Majority of labor's children were growing without education.Those harsh years and conditions were expressed from English Poet William Blake as "Dark Satanic Mills".This Term used in-

19th century in order to refer poor working life of labors in Britain. However, Firstly in 1802 and 1819, first factory act was introduced from British government to reduce working hours for children labors but majority of the mill owners didn't follow that rule. In 1833, Factory acts decreased working hours up to ten hours for children and prohibited working in the mills.for the children which under 9 years old. Addition to that,childen had to receive lectures during the day.İn 1847,working hours reduced for women to 10 hours per day.Lastly in 1874,working hours were limited up to10 hours a day from Monday to friday,6 hours on Saturdays for each employee.

Living Conditions

Industrialisation and urbanisation are two significant terms,intersected to each other in 19th century.Urbanisation changed regarding factory system established and caused growth of cities by relocating uncontrolled number of people from rural cottage villages.Result of this unplanned industrial towns with high densities in centers were inevitable.Town planning began to be considered in the early 20th century.During the 18th and 19th centuries,land uses and capacity of towns weren't taken into account to prevent unplanned slum areas.Consequently,,over population caused deman of housing and working classes had to packed to slum areas next to the factories with poor conditions.Whereas to this situation, Wealthy middle classes were living in suburbs of the towns,have private gardens and accessibility to the cultural activities,schools and hospitals. Birgminham,leeds,Manchester and Londra were called as larger factory towns.Characterization of first industrial cities development was visible on the maps with ribbon typology on main roads,infilled lands and haphazard growth by industrial housing in 1830-1840s town mapsAccording to the notes of Friedrich Engels,Labor houses were made by brick which has 1 or 2 stores,streets were mostly unpaved and consists of house disposals,without drains .Those buildings had lack of ventilation ,air flow and lighting inside of the houses.In general,houses were placed back to back,such as folded each other,in order to accommodate more flats consist as maximum 12 to 15 feet square metre for each room. Small rooms had overcrowded population.Those places can be determine as cellars. Labor houses were divided in 3 conditions.As illustrated on the schematic plan of Figure 1.1.5,Class A houses were located next to the Street which had best air ventilation and lighting.Class B was at the backward of those apartments which has better condition than Class C.Because ClassC houses faced to the narrow courtyard,hardly gets sunlight and wretched air condition.Most of them were damp fill,there wasn't any storage for animal and food disposal.

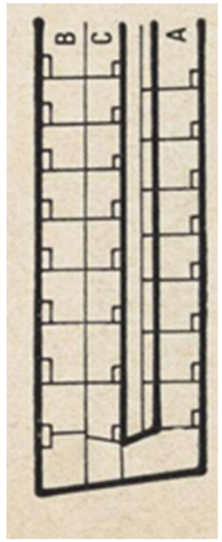
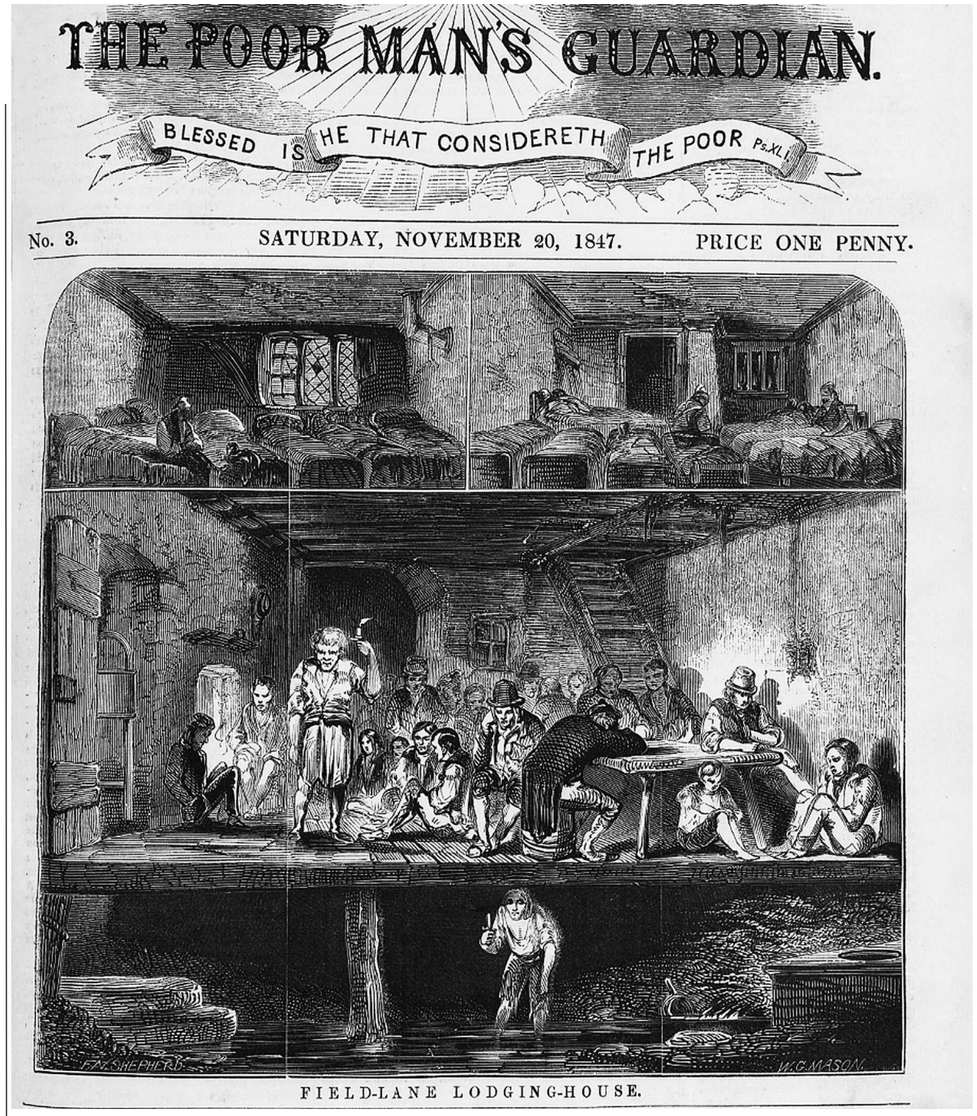


Figure 1.1.5: Shows labor slum housing plan example as A,B and C units in 19th century.

Morris,A.E.J.(1971 April),Official Architecture and Planning, Alexandrine Press,p.302.

Sanitary conditions were wretched,most of the streets hadn't any drainage, water sewage system and pure water wasn't accessible.Strees were used as a gutter Itself and contains food wastes,dirty water of laundries.Refer to Urban Reformer Edwin Chadwick's report,he mentioned Mr William Rayner examinations regarding his neighbourhood condition that,reflects houses placed as cells which has almost same dimensions,quite dark,damp and very low height,most of them without Windows, average of 4 people shared one bed.


THE POOR MAN'S GUARDIAN.

BLESSED IS HE THAT CONSIDERETH THE POOR Ps.XLI.

No. 3. SATURDAY, NOVEMBER 20, 1847. PRICE ONE PENNY.

FIELD-LANE LODGING-HOUSE.

Figure 1.1.6:

Poor Man's Guardian was a working class newspaper,society was established in 1834.

'Poor Man's Guardian' newspaper, 20 November 1847, Catalogue ref: MH 12/7489

Lodging houses - The National Archives

.Major British cities were smelling smokey by factories which produced atmospheric impurities moreover,unadaquate ventilation,over population and living in small cellars made this condition worse.Those factors caused lots of diseases dur ing first half of 19th century. Fever, typhus, cholera and scarlatin increased up to 1840s due to the conditions. According to this,Edwin Chadwick wrote a report in 1842 in order to describe living conditions of the working class in 19th century. He highlighted importance of water supplement,improvement of drainage on the streets.After his report,first Public Health Act was carried out by law in 1848 and was first step to implement modern sewerage system in Britain.Refer to the Chadwick notes,he investigated that majority of deaths caused by air pollution in middle class, he mentioned on his paper:

*"That the various forms of epidemic, endemic, and other disease caused, or aggravated, or propagated chiefly amongst the labouring classes by atmospheric impurities produced by decomposing animal and vegetable substances, by damp and filth, and close and overcrowded dwellings prevail amongst the population in every part of the kingdom."**

After first industrialisation period,considering acts were carried out by government,labor working and living conditions quality has increased.Urban planning gained significance over time due to the disease crises ,demand of housing and poor neighbourhood.In the labor houses previously hadn't properly clean water and had only common toilet in outdoor,after 1850,central heating and modern sewerage system provided with private toilets for each houses.Those improvements increased publich health and avoid mass number of deaths from diseases.Urban streets improved with drainage system ,addition to that sport facilities,entartainment and recreational areas were advanced in order to develop social life and made accessibile for labors.Invention of electricity in the late 19ths, revitilized life during the night and allow people to attend theatre and music halls.As a significant factor,in 1863 first underground railway established in london that made factories accesibile from suburbs of the town.The fact that,workers started to move far away from city centers,railway network made possible to access from their house to the mills anywhere in the city.Development of transportation,increased activities and life standarts,socialised peope even workers .During the 19th century ,working hours decreased in a proper time that allows people spend more time with families and leisure activities in the day and night.Second industrial revolution transformed both industrialisation and urbanisation.

* Chadwick,E.(1842 May), *Report on the Sanitary Conditions of the Labouring Population and on the means of its improvement,London,p.202.*

DEINDUSTRIALISATION

1.2.1

Industrialisation started in Britain during the 18th century and became dominant, spreading all around the world until the 20th century. Starting with manufacturing and producing in large factories changed urbanisation. Railways, docks, canals, and the main transportation network were implemented around the industrial factories in the city centre. The majority of the population relocated to industrial cities and urban centres from rural settlements to work and live in harsh conditions. All this reversed after the Second World War. The fact is that countries which were rapidly affected by industrialisation became centres of urban decline and deindustrialisation desperately. Britain was the leader in manufacturing, textiles, and heavy industries in the last two decades but suddenly found itself in a post-industrialisation and disurbanisation period.Deindustrialisation has two substantial factors that caused differences in the economic and urban structure. The first one is shifting from manufacturing in large plants to services. The second one is shifting employment from urban centres to rural settlements on the border zone. This diversification in urban structure is known as counterurbanisation. Both factors are linked and have shaped today's post-industrial cities.

As a profound examination of the deindustrialisation movement from an economic point of view, there are several reasons that caused urban decline in cities. One of them is that production growth decreased in manufacturing areas and shifted the economy towards services. Another failure was the distribution of world trade, an insufficient number of exports, and an unbalanced external economy. Britain started to lose its competitiveness in manufacturing output on the international stage. Furthermore, inadequate manufacturing speed caused a decline in the internal economy.The main factor is that the number of employments declined starting in the 1960s. For instance, in 1965, 8.5 million workers were employed in plants, decreasing to 5.5 million in 1984. As seen in the graph, there are two visible peak points illustrating the First and Second World War periods. During the Great Depression, the employment rate dropped to 61 percent, as shown in the "economic bust." After that, the employment rate gradually decreased from 1973 to 1983 (by 8 percent). Later on, it strongly increased and reached 72.6 percent in 1990. The gap between unemployment and the demand for jobs has expanded since 1979.As a result, manufacturing, which depended on labor force, could not keep up with the speed of machines and technological developments.

Manufacturing was growing, but the service sector was growing rapidly, and this imbalance made the British economy fail after the last two decades of industrialisation. Other reasons lie under those situations, such as government policies undertaken during the crisis and the British industry standing back in international trade all around the world.As a wide difference compared to the industrialisation period, working conditions and the workforce changed radically, and the majority of them moved to the service sectors (both tertiary industries such as health and education and quaternary industries such as intellectual services and research) or became unemployed, especially elderly and unskilled workers.In addition to that, Glasgow and Liverpool, as two cities in Britain, suffered from the deindustrialisation period with the lowest employment rates. Glasgow was a shipbuilding industrial city, and Liverpool had a port-based economy that affected them much more since heavy industry shifted to services.As a consequence, the economy moved to the services because of those reasons. New technological improvements were adopted and changed economic, social, and environmental conditions in the cities.

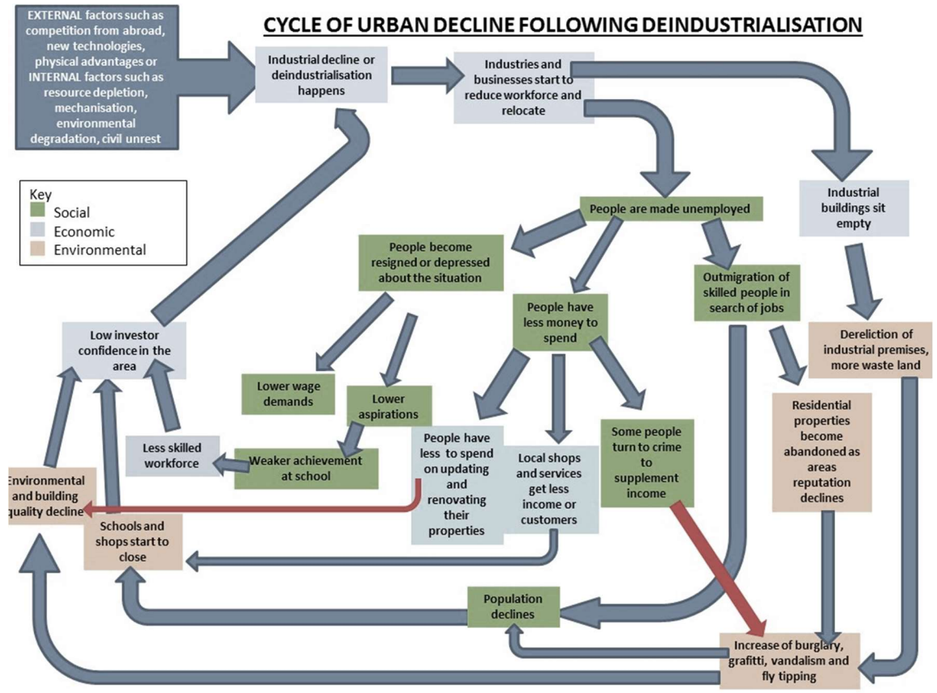


Figure 1.2.1:

Urban decline cycle schematic diagram

coolgeography.co.uk

Urban change

Figure 1.2.2:

Employment rate from 1861 to 2018 in UK

Bank of England - A Millennium of Macroeconomic Data

Long-term trends in UK employment: 1861 to 2018 - Office for National Statistics

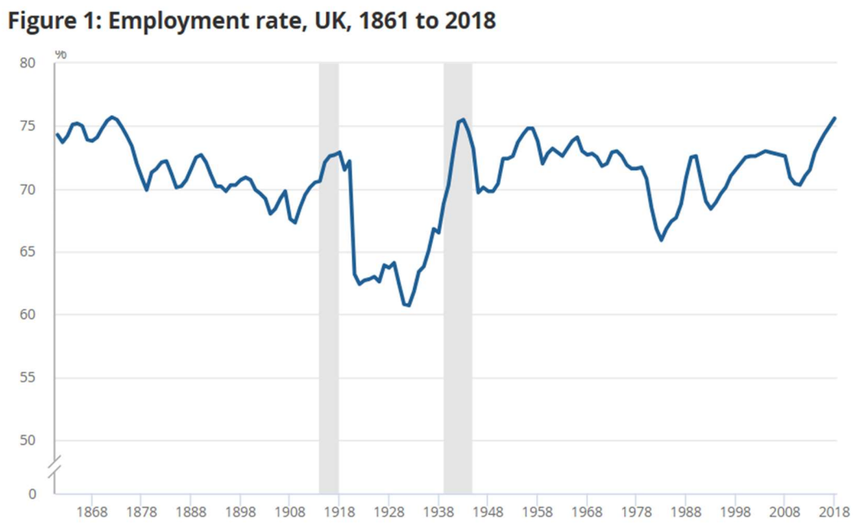
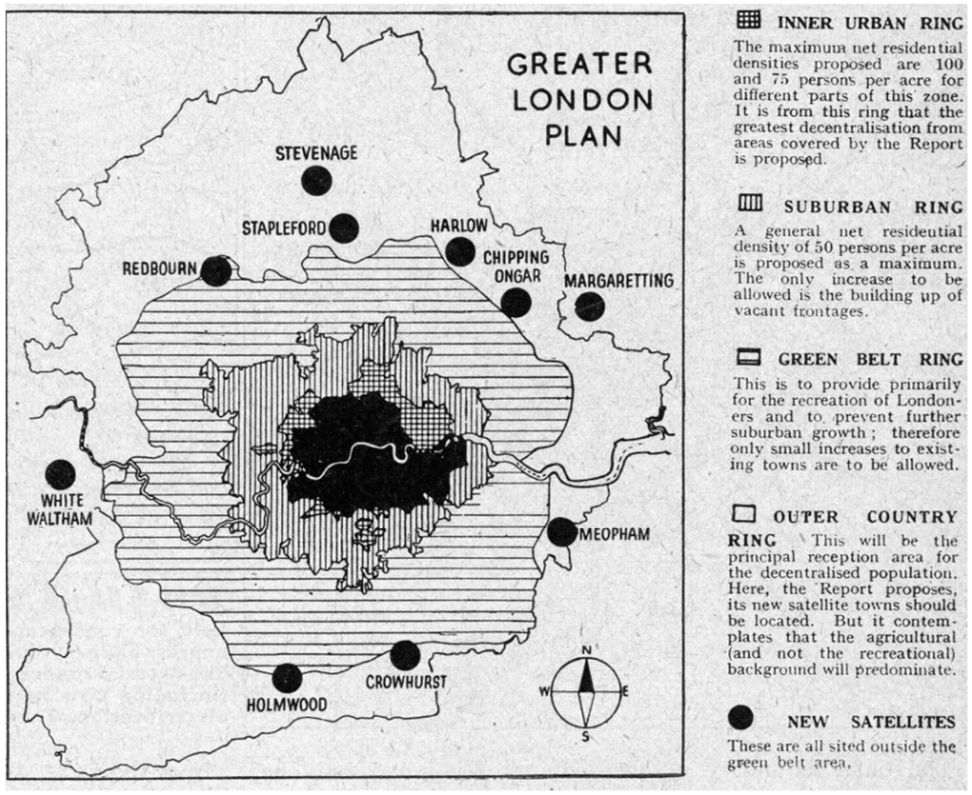


Figure 1.2.3:

Sir Patrick,A.

(1945 March) Architects' Journal, vol. 101, RIBA34757

Plan showing the Greater London Plan's four zonal 'rings' (inner urban, suburban, green belt and outer country) with new 'satellite' towns and villages indicated | RIBA pix National Statistics



During the industrialisation period, people moved from rural cottages to urban centres in order to manufacture products in factories. The demand for housing caused an economic crisis, damaged social structures, and created unplanned cities that had building stock with inadequate sewerage, rooms, and ventilation.Deindustrialisation caused decentralisation in post-industrial cities, shifting the population from urban centres to urban suburbs. Cities urban transitions were shown on the figure 1.2.3, the first ring illustrates the core of the city that has shopping markets and housing, the outer ring is called the inner city, which contains industrial factories and a mixture of housing, and another outer ring part shows the suburban zone that has residences close to the coasts or natural parts of the city.There are several reasons why the majority of the population grew in the suburban zones of post-industrial cities. First of all, due to the decline of jobs in the industry, workers lost their jobs or found job vacancies in the service sector in the outer rings of the city. Therefore, the private sector moved to the safe zones of the cities and suburbs, which are far away from urban centres.Another reason is that transportation developed further after the 19th century. Electric railway systems and underground railways were an inevitable opportunity to live in suburban areas.

Decentralisation was realised by regional planners for the first time in the 1970s with improvements in housing stocks. According to that, when industrialisation was the primary sector, society was divided into classes, the working class lived in the centre, while the middle class which had higher profits lived in the exurban zone. This situation changed, and the boundaries between classes blurred.The inner part of the city became a centre for unemployed people with poor living conditions. This situation caused social breakdowns, consisting of increasing crime, family divorces, and drug-related areas. The private housing market moved to the suburbs, and the back-to-back housing system was abandoned. Instead, new private units were created for single or two-person households.As an advantage of this relocation, it offered a cleaner environment rather than the smoke-filled industry and density in city centres. However, it also created another handicap: urban dereliction, as large factories were abandoned, transforming the urban centre into derelict and vacant sites.

1.2.2 IMPACT ON INDUSTRIAL SITES

In the 1970s, the period of deindustrialisation took place in the Western world, and this situation had economic, social, and technological consequences on post-industrial cities. Especially, deindustrialisation caused urban decline and decentralisation in cities. Industrial activities lost their power in the city core, and service sectors got the opportunity to relocate to the suburbs, where land costs were lower than in the centre.Former industrial plants started to close, transforming the city centre into derelict and vacant areas. Industrial plots located in the suburbs and outer rings of cities became empty and unused, which are called brownfields. Those sites and plants were at the centre of discussions about their value and conservation requirements; in the meantime, they were threatened by demolition.

In the 1960s, industrial archaeology emerged as a significant term to describe how people's attention to industrial sites changed over time. In 1959, the first national conference related to industrial archaeology was carried out by the CBA (Council for British Archaeology). This meeting was supported by the government to conduct a national survey on industrial monuments to identify industrial assets and protect them.While these actions were taking place, the demolition of some industrial landmarks and cultural assets was inevitable. After the demolition of the monumental arch in front of Euston Station in London, there was a strong reaction from British society. At that time, there was no official list of industrial sites, no codes related to cultural assets, and no protection law. Due to these unexpected demolitions, the CBA organised surveys to document and categorise industrial sites.Even though it was a small operation, these surveys played a significant role in identifying industrial sites and raising awareness of their potential. Numerous national conferences were organised, and during these conferences, it was considered that several industrial museums would be built around industrial sites.

TICCIH (The International Committee for the Conservation of the Industrial Heritage) was established in 1973, for the first time, industrial monuments became a universal value that needs legislative protection and is recognized by the constitution. Awareness of industrial sites value and conservation enterprises got significance from three factors. First of all, industrial monuments are considered protected artifacts by Tıccih and counted as world heritage sites by Unesco, which shows international reputation. Therefore, their universal value has been proven and shown for the public interest. As the second factor related to the industrial archeology discipline and their intention of recording industrial plant photos, memories, and any kind of document related to their past as evidence. Documenting industrial sites and carrying out surveys were significant attempts to prove and demonstrate their historical value to the public. Keeping elements and pieces of materials that were left from industrial monuments during the site inspection and studying industrial sites by documenting played a role in making our history understandable. Carrying out activities such as conferences and delegating encouraged people to be mobilized. As the last one, during the organizing conferences, importance is given to the academic developments. Industrial archeology started to be a method and lecture that were studied in universities. In the 1950s, subjects related to history, the history of architecture, and urban history increased among academic courses in universities. Those situations influenced people and communities to preserve the industrial sites and respect their past and memories.

In 1987, Iron Bridge Gorge in England was recognized as the first world heritage site. Its pioneering structure demonstrates the process of industrialization's roots to transform the deindustrialization derelict period. Beginning with the industrialization in 1709, iron was smelted with coke instead of charcoal for the first time by Abraham Darby, and later Iron Bridge was built above the river in the valley, becoming a symbol of the invention of coke and the industrial revolution. The Iron Bridge was the world's first bridge constructed with cast iron, and this breakthrough construction method influenced all architecture as innovation technology was starting to be used for other buildings. During the mid-20th century, Ironbridge Gorge was affected by deindustrialization and urban decline inevitably. So, this bridge was left to decay over time. After that, a government-funded agency held the process and saw it as an asset to preserve the iron bridge. In 1973, reinforced and conservation works had been done, and new iron bridge The George Museum held the first international conference on preservation of industrial monuments, which was called FICCIM.After the first meeting, encourage them to organize other international conferences around Europe. SICCIM in Bochum in 1976 and TICCIM in Sweden in 1978 were hosted. As a consequence of those conferences, the value of industrial heritage was recognized, and "heritage" as a word replaced the word "monument" by TICCIH later on. After the nomination of Ironbridge George in 1987, other industrial sites got importance, and rather than focusing on a single industrial site, the council decided to examine industrial landscapes. According to a list published in 1999, 7 sites in England were listed as world heritage sites.Starting in the 1990s, the approach to the brownfields was largely changed instead of being threatened unsafety areas,they were seen as cultural assets to conserve.

Figure 1.2.4:

"The world's first iron bridge was erected over the River Severn at Coalbrookdale in 1779."

İronbridge.org.uk

The Iron Bridge

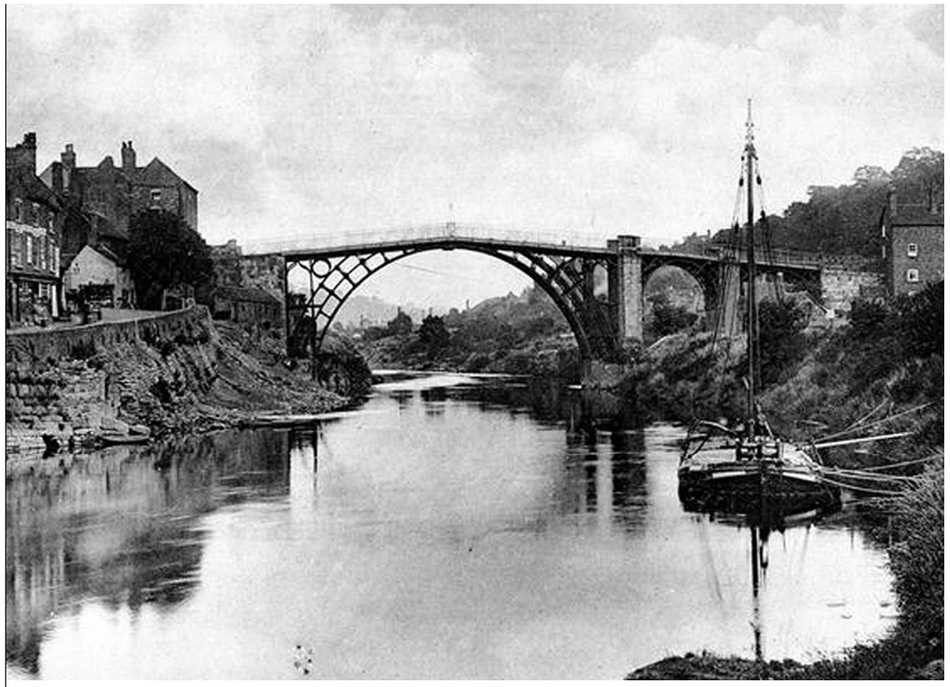
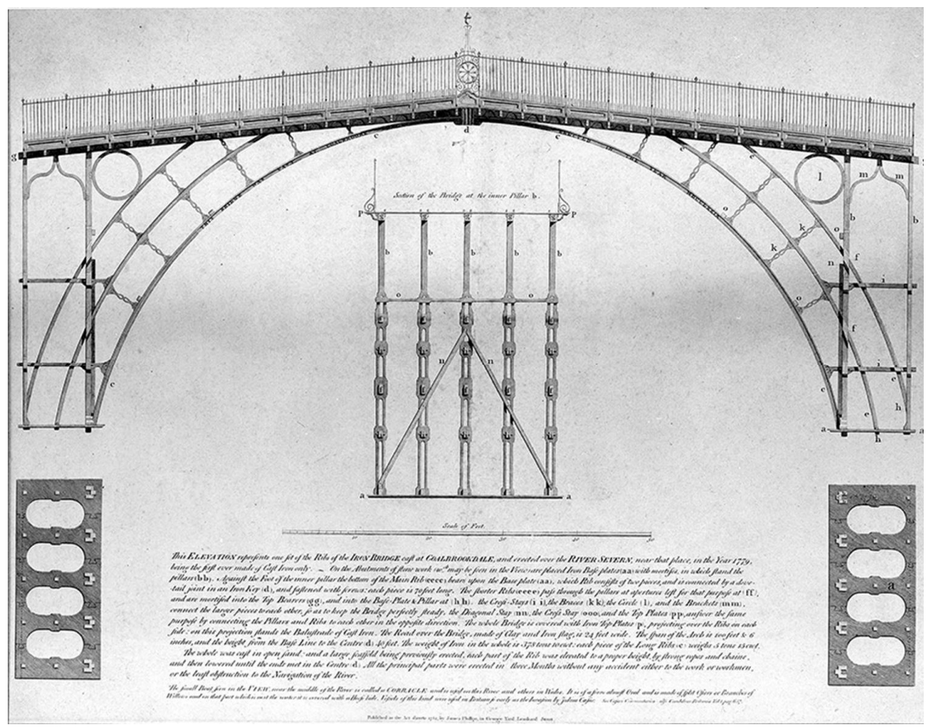


Figure 1.2.5:

The iron bridge cast at COALBROOKDALE

Engraving, William Ellis (1747-1810) after Michael Angelo Rooker, 1782.
1972.75

A View of the Iron Bridge



RECOGNITION OF INDUSTRIAL HERITAGE RESOURCES

Industrial heritage had a long story through the years, starting from preliminary roots with massive manufacturing to post-industrialization in the cities. That was crucial to understanding the past when studying the archeology discipline and history by examining evidence related to the industrial era. Those evidences are necessary to documenting information of the historical asset and increasing public attention to the industrial heritage sites. Those materials motivate people to preserve those sites and are considered having universal value. Industrial sites have unique characteristic features such as chimneys, silos, or water tanks that obviously appear in city silhouettes. This characteristic features make them landmarks in cities and constitute visual identity. Due to the lack of knowledge and understanding of the values of industrial heritage, people pay attention only to tangible heritage and material evidence. Evidential value isn't limited only to tangible heritage; another significance is recording people's lives as cultural value, which demonstrates living and working conditions over time that are known as intangible heritage. The industrialization and deindustrialization period had social, political, and economical consequences that reflect human history. While considering industrial heritage as evidence from the past, it must be taken into account that it consists of evidence of people's lives. In order to preserve the cultural identity of cities, it's relevant to recording history and keeping collective memory.

Industrial heritage preservation and its value were clearly determined by the Tıccih, Russia congress that was held in 2003. The Nizhny Tagil Charter is a significant guide to representing and understanding industrial heritage as part of our history and its outstanding value. The first congress related to cultural heritage was organized with the Venice Charter in 1964, but this document was only considering the conservation of monuments. After the post-industrial period, the demolition of industrial sites, their derelict visualization, and delegates organization created a comprehensible atmosphere in the late 20th century. It's understood that industrial sites need legal protection to carry out conservation activities and raise awareness in public society. The Nizhn Tagil Charter is the first charter that considered industrial sites as cultural assets to preserve.

The Nihyzil Tagil charter has characterized industrial heritage in different categories. Firstly, the definition of industrial heritage is clearly defined as consisting of factories, machines, mills, and warehouses where energy is generated for transportation purposes or used for accommodation and social life. In addition to that, the discipline of industrial archeology had been introduced as a significant tool to investigate and study evidence of industrial sites. Industrial sites need to be documented and recorded as tangible and intangible resources. Industrial heritage is described in the charter as a universal value that consists of different disciplines. Industrial heritage needs to be considered as resources that reflect social, technological, and aesthetic value related to its past, collected memory, and characteristic features. Giving the importance of value description, it has not only tangible remains related to machinery and components but also intangible values as a reflection of people's lives.

*"Social value as part of the record of the lives of ordinary men and women, and as such it provid"es an important sense of identity. It is of technological and scientific value in the history of manufacturing, engineering, construction, and it may have considerable aesthetic value for the quality of its architecture, design or planning."**

Methods of studying and researching industrial heritage are listed on the charter. Archeological surveys are a significant factor in proceeding with the investigation of evidence. In addition to that, historical research should have carried on with the site inspection. Recording the investigation, materials, and evidence are part of the process of studying industrial heritage. Documents, photographs, drawings, and human experiences as reference should be recorded. Another point is that it's encouraged to support the activities of associations, especially those constituted by volunteers, for global impact. Industrial site value should be shared on television, social media, and exhibitions to raise awareness of those sites potential and achieve public interest. Those initiatives play a major role in promoting activities regarding former industrial buildings among public communities.In the charter criteria for defining industrial heritage sites we have discussed, maintaining authenticity and integrity are two relevant factors in determining the most significant sites. In some conditions, machines and other authentic components were removed from the former site, then other points, as keeping original form patterns and its history or integrity of the site need to be considered with its surroundings. The criteria for assessing industrial heritage need to be defined as public announcements, and sites that are accepte\d as valuable to preserve will be protected legally. Those sites will be recognized by UNESCO and listed on the World Heritage List. In the charter, the most significant sites need to be protected without interventions to keep original authenticity, but it underlined that compatible re-use interventions would support the long life of those buildings. The Charter not only defined the value of those sites, but also provided requirements and recommendations for interventions. However, the former use is recommended in the charter; new uses are accepted while keeping original patterns. Conservation is the priority goal by keeping authenticity even if machines and other components are removed from those buildings. Before carrying out the intervention, it is necessary to analyze the former situation with the methods that were mentioned, and all the process of the intervention and any changes need to be documented and recorded. Since it's not possible to preserve everything that remains as a museum, sustainability is a key tool to have financial feasibility for a long-standing life and prevent wasting energy while considering re-use of the former building.

After the Nizhyil Tagil charter, in 2011 the Dublin Principles were published as a joint preparation by TICCIH and ICOMOS for the conservation of industrial heritage sites, structures, areas, and landscapes. The Dublin Principles refer to the Nihyzil Tagil Charter and had some recommendations and new additions. Tangible and intangible value and their differences are emphasized. public attendance of promoting cultural assets nationally or internationally and its importance for the future of those sites represented. One of the differences in this charter is that appropriate adaptation of those sites and proposal of new uses are recommended while respecting authenticity as original materials and components. Instead of advising former use, give the importance of applying new uses with considering functional integrity. Later on, adaptive reuse of former sites benefits is explained clearly by the Leeuwarden Declaration in 2018. Preserving and adopting new uses for the heritage sites has multiple advantages from the cultural, social, economic, and environmental points of view. It's described in this report how the adaptive reuse projects need to be. Re-use proposals need to adapt to different conditions easily and have to be organized reversibly and flexibly for temporary uses. Long-term use is significant to consider in terms of financial feasibility and compatibility. Another argument was mentioned in this report related to dialog between new interventions and the past. New additions, materials, and visualizations are open to discussion to have balance with the former site. As the last point, heritage sites shouldn't consider only singular elements or sites; they should be analyzed with their surroundings, paying attention to possibilities in their urban context.

*Tıccıh,(17 july,2003), The Nizhny Tagil Charter for the Industrial Heritage,Moscow ,p.2.

1.3.1

TERMINOLOGY DEFINITION OF “TERRAIN VAGUE”

Photography was a significant tool to represent architecture and the visual perspectives of cities.In the 20th century, photomontages were made by architects and designers to illustrate artifacts and urban conditions.After the Second World War, the perception of photographs changed from photomontages to experienced images.As experienced images, they began to tell narratives and stories related to memories through experiences in urban cities.Rather than simply framing views, they provided a sensibility of space and shared imaginations.During the deindustrialisation period, the majority of abandoned and vacant spaces drew the attention of photographers aiming to capture these areas.‘Terrain vague’, a French term, was experienced through photography and defined by Spanish architect Ignasi de Solà-Morales in 1995.The meaning of ‘terrain vague’ wasn’t properly explained in English.‘Terrain’ refers to territories and geographical references rather than just land.‘Vague’ has different meanings in both Latin and German.In German, it implies movement and fluctuation, while in English it refers to something vacant, unoccupied, or free.From its Latin roots, ‘vague’ also means uncertain or blurred.All these terms carry a negative connotation, reflecting blurred, unstable, vacant spaces.These void plots included industrial sites, railways, and port areas, representing the poorer parts of the city, often seen as unsafe for ongoing activities.Industrial sites are recognised as ‘terrain vague’, clearly visible in the city’s silhouette,such as military zones, abandoned factories, water tanks, and gasometers.

*“The relationship between the absence of use,of activity and the sense of freedom,of expectancy,is fundamental to understanding the evocative potantial of the city’s terrains vagues.Void,absence, yet also promise the space of the possible,of expectation.”**

Terrain vagues are open, free spaces that host daily activities and habitats.Although clearly seen as negative images through the city silhouette, the majority of them have different characteristic features, become natural sources (vegetation), and their blurred situation gives a variety of possibilities for use.Other terms used to describe those voids include brownfields, derelict land, urban wilds, or white areas.But none of them explain well the positive approach under the negative meaning, as 'terrain vague' not only refers to emptiness and uncertainty but also highlights their transformation opportunities and transient features.

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* *Ignasi de Solà-Morales i Rubió (1995), Terrain Vague.In Anyplace ,Cambridge Ma Mitt Press ,p.118-123*

Figure 1.3.1:

Man Ray Terrain vague ,1929

Terrain vague - Centre Pompidou

Figure 1.3.2:

Robert Doisneau (1912, France - 1994, France)

La Poterne des Peupliers,1934

Robert Doisneau | La poterne des peupliers (1934) | MutualArt

1.3.2

POTANTIAL OF TERRAIN VAGUES

Terrain vagues are transition zones to host temporary activities and allow people to do their own routin works.Those spaces has no defined uses because of this reason,possible to adopt temporary activities ,as the categorisation made by Karen Franck with" Isnt all public space terrain vague" essay,qualities of the space,types of activity,time and duration of activities .Refer to public or privately owned abandoned sites,they all empty and free to all possibilities and can be used for public activities. Instead of filling,emptiness gives the opportunity to use freedomly.Those sites could have social,economical or temporal approach to intend to use.Public spaces could consider as creating market or bazaar area because of financial benefits.Other possibility such as cultural revenue refer to political,historical or social approaches,hosting celebrations or just using as Daily park area.Recently in 1970s,especially in New york derelict sites became to use as community gardens to grow vegetations and spread this methodgy to consitute new public space.Using empty plots which is already abandoned with planting vegetables is signifcant for the productivity.Those vacant sites often hosts artistic acitivities such as drawings on the Street,painting abandoned building walls or phtotographing perception of the city,creating sculptures on the vacant areas.

Considering the time as another aspect that refers to the term of fluctuation or movement, there are possible changes and transformations in vacant sites related to the duration of time.As mentioned earlier, abandoned sites are daily routine spaces where activities happen approximately at the same time and in the same zones.These are routines that host a series of productive activities such as street arts, sports facilities, or simply reading books each day in the same place.These activities are temporary but systematically happen.Once terrain vagues are filled with permanent use, they are no longer abandoned, and possibilities become limited.Instead of filling those sites, temporary uses can possibly be adopted and provide the opportunity to use them for all kinds of activities,sports, arts, festivals as meeting points, commercial uses, playgrounds, or just green recreational parks.As a significant matter in the architecture field, it is important to rethink these sites and consider how to transform what is needed, based on their urban frame and the frequent activities carried out by people.Terrain vague refers to the possibilities and potentials of derelict sites that remain from the deindustrialisation period, existing user activities, and their transformation over time.Interventions should follow a combination of activities, a free atmosphere, their wild natural path, and spatial productivity.

As an example of art productivity in vacant areas, given below in Figures 1, 2, and 8, the Leake Street Tunnel, also called the "Graffiti Tunnel," consists of eight old railway arches under the former Waterloo Station, which was a totally abandoned and poor derelict area.It became famous in 2008 when the artist Banksy organized the "Cans Festival" there.Many street artists joined him to paint the walls, turning the dark tunnel into a colorful art space.Today, the area has been redeveloped and has been transformed into a dynamic hub.This place now hosts restaurants, bars, and entertainment venues.Demonstrates how terrain vague spaces can involve with urban art and culture.

Figure 1.3.3: *Leake Street Tunnel,London*

Leake Street | See & Do | South Bank London

Figure 1.3.4-5: *Leake Street Tunnel,London*

Leake Street Arches

1.4.1

ADAPTIVE RE-USE

Adaptive reuse is a term as an architectural practice for abandoned buildings , derelict sites to bringing back them to life with new uses as education,cultural,residences sport facilities.According to Leeuwarden Declaration," *However, heritage buildings that have lost their original function still embody cultural, historic, spatial and economic values. Adaptive re-use offers itself as a strategy aimed at preserving those elements that contain these values, while at the same time adapting the place for new uses".*Although in 1970s those sites were seen threaten,hazards and better to demolish by government,later on introducing industrial archeology studies,international meetings and charters were raised awareness of those sites and their potantial.Instead of demolishing or letting disused,gaving new function were become more convenient.Those sites has unique, characteristic features , they are all iconic which makes them visible in the city and easily become a landmark.Those sites generally have large span, huge dimensions that create opportunity of free spaces and big sheds.From the sustainability aspect, It is the most effective way to use existing structure for new purposes instead of building new one.It gives the alternative and cheaper way to using voids and reintegrate them to urban infrastructure. Re use is the efficient way to preserve the cultural assets , their tangible and intangible records,keeping cultural memory and identity of the city while emerging with new facilities.Transforming constitutes the link between past and future while keeping the Collective memories.

There are several benefits of reusing abandoned sites from cultural, social, and financial aspects. From a cultural point of view, all those sites and buildings have a unique character that carries the identity and sense of the city. Starting from industrial roots to the post-industrial period, they define histories and cultural memory through the years. Reuse is not only about preserving the existing vacant buildings but also about preserving cultural value for future generations. Adaptive reuse is considered a social phenomenon that brings the community together and allows people to participate actively in their future.From another aspect, contributing to urban regeneration by transforming those areas into schools, sports facilities, or cultural centers promotes social activities and revitalization in cities by involving citizens. As mentioned in the Leeuwarden Declaration in 2018, reusing in an efficient and sustainable way rather than demolishing is better for the environment. Preserving and transforming what already exists keeps embodied energy and supports the adaptation of new technologies and sustainable materials.

Strategy and Approach

How appropriate an adaptation strategy needs to be and what are the key factors to achieve a successful result? How does the project transform from passive to active? This is a key strategy for the thesis to turn the design project into a real outcome. Important notions will be argued in this part.As mentioned earlier, reuse is a social phenomenon, and sharing knowledge related to cultural assets is a crucial step. Sharing these sites on social media or other channels helps raise awareness among social communities. After the inspections and creation of design visions, it is significant to communicate with various communities, from citizens to local groups, who can enhance design strategies and contribute their ideas.Expanding knowledge and attempting to attract attention to these sites through public involvement is important. While considering public participation throughout the process, the design has to emerge in harmony with the surroundings of the site, accessibility, transportation networks, and users' preferences in order to achieve the right functions and design programs.

During the design process, temporary uses can be activated in vacant sites in order to demonstrate how the result will be after completing the intervention. For instance, the surrounding area can be revitalized by using existing abandoned buildings as cafeterias or artistic places for street artists. Open-air theaters or artist workshops can be involved in the reuse phase by using demolished or vacant plots and buildings. In that way, the surroundings of the cultural asset will be revitalized before the intervention, giving an advantage for adaptation to the site and building over time.Those abandoned sites are seen as threatening or unsafe places. It is crucial to start with temporary activities and involve citizens or local communities to activate them. Using part of the site or its surroundings by hosting various activities and people shows a practical approach to reuse projects. Reuse is a social collaboration norm that needs attendance by citizens and collaboration with public authorities. Temporary activities' implementation drives permanent and long-term usage achievement. Temporary activities represent flexibility, reversibility, openness to new adaptations, and give the necessary time for finding public and private funding to shift to long-term goals while keeping the site alive.It's a money-saving method before the intervention is carried out. Later, more structured funding supported by public and private bodies is needed. Reuse is an ongoing, evolving process that needs to adapt to new challenges, emerging new collaborations, and take advantage of new opportunities..

In the 1970s, one of the first successful examples of urban regeneration related to industrial sites, warehouses, and factory halls transformed into artist centers was in the Soho district of New York. The Soho district industrial sites were abandoned due to the high prices in the neighborhood. Soho attracted artists to live in inexpensive lofts of vacant buildings in the mid-1960s. In the beginning, they weren't officially allowed to stay, but later the artists got permission to stay in those lofts.After that, art installations began, along with the organization of theaters, art galleries, studios, and institutions such as The Whitney around Soho. That was a critical step that energized the entire district with artist productions and cultural events, giving a new direction to urban development involving artists and citizens. The district was recognized as a landmark in 1973 for transforming the urban fabric into a cultural avenue.That was a crucial strategy by mobilizing communities, creating interactive public attendance, and making an effort to prove the necessity of affordable housing for artists, art productions, preserving cultural identity, and financial dynamism.

Figure 1.4.1:

*Prince Street art fair, SoHo, by Robin Forbes, 1976. (Reproduced by permission from Archives of American Art, Smithsonian Institution.)**

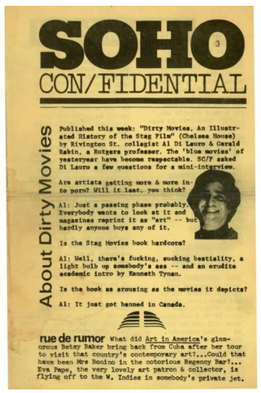
The Lofts of SoHo: Gentrification, Art, and Industry in New York, 1950-1980 - SoHo Memory Project.

Figure 1.4.2:

Soho News, , 1973.

SOHO Con/Fidential, 1976.

*Art Now Soho Guide, 1984.**

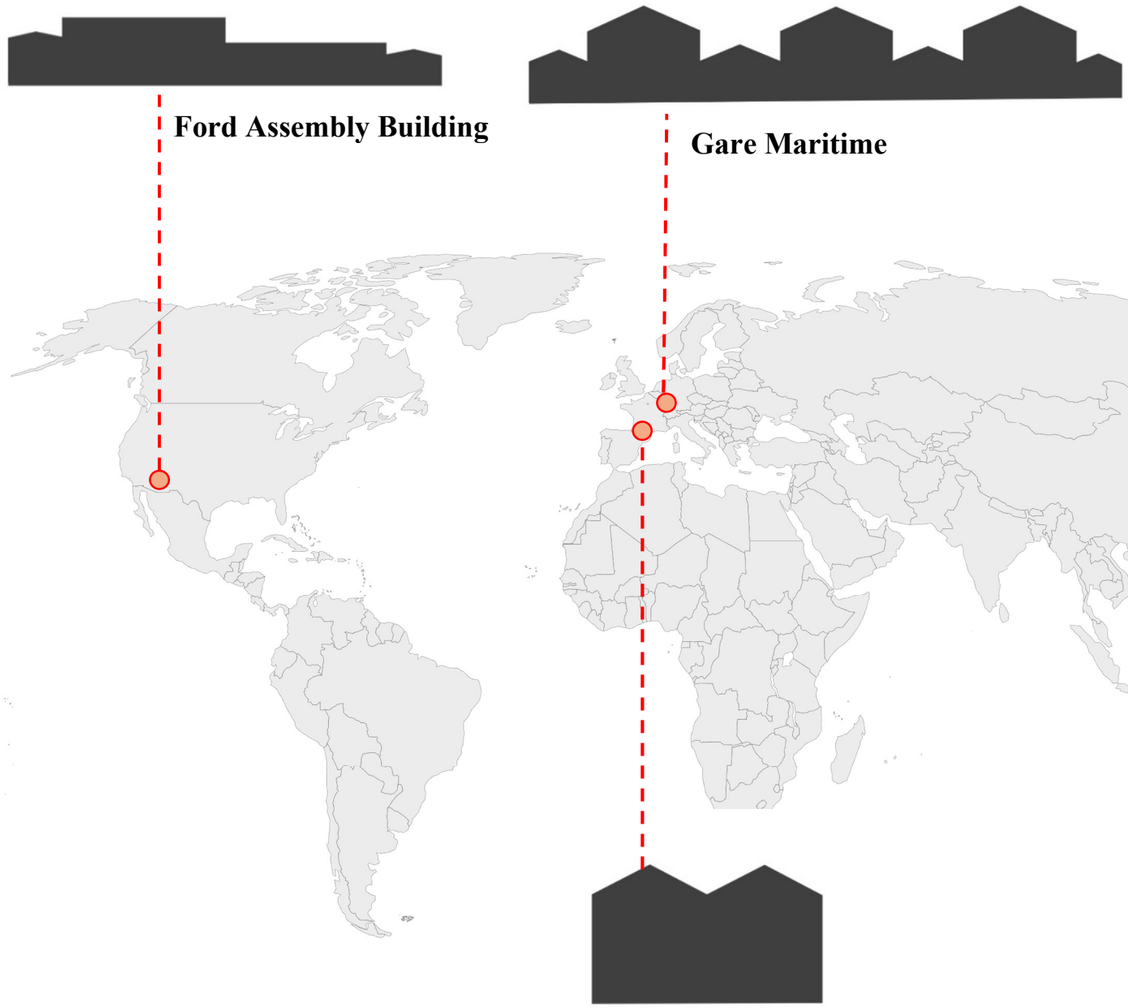


Gallery 98 | Remembering SoHo: Art Ephemera From The Neighborhood's First Galleries

CASE STUDIES

1.4.2

In this section, different interventions on adaptive reuse will be considered to demonstrate their methodologies. Frac Dunkerque shows a clearly visible intervention on the external facade, easily distinguishable from the existing building. Although the intervention in Gare Maritime was mainly carried out in the interior, it also used a highly distinguishable method through wooden insertions. The intervention in the Ford Assembly Building was entirely completed inside, with highly attention to preserving the original structure and its authenticity. As a common approach, all the case studies considered the potential of transformation in these sites and applied methodologies according to their specific needs.



Gare Maritime

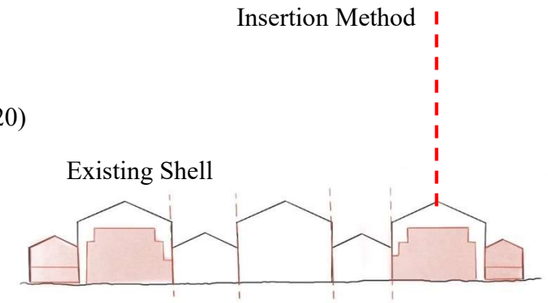
Location: Bruxelles/Belgium

Former use:Train Station(1902)

New use:Offices and Shopping(2020)

Architect: Bureau Bouwtechniek,

Neutelings Riedijk Architects



Pavilions are installed into the former train station, giving space to functions such as shopping areas and cafeterias. Main Re-use concept as decribing in figure 1.4.2,inserting new pavilions or blocks to existing building.Existing roof and structure of building used as external Shell and new volumes constituted inside of them.Green spaces and halls create relaxing and flexible walking zones. Wood is chosen for the pavilions as a natural and reversible material for construction.Sustainability is highly considered by placing 17,000 m² of solar panels on the roof and collecting rainwater. Rainwater is gathered through the greenery zones and reused.

Figure 1.4.1:

Foto from Inside of the New Gare Maritime,Foto by Neutelings Riedijk Architects

Gare Maritime Workspace / Neutelings Riedijk Architects + Bureau Bouwtechniek | ArchDaily

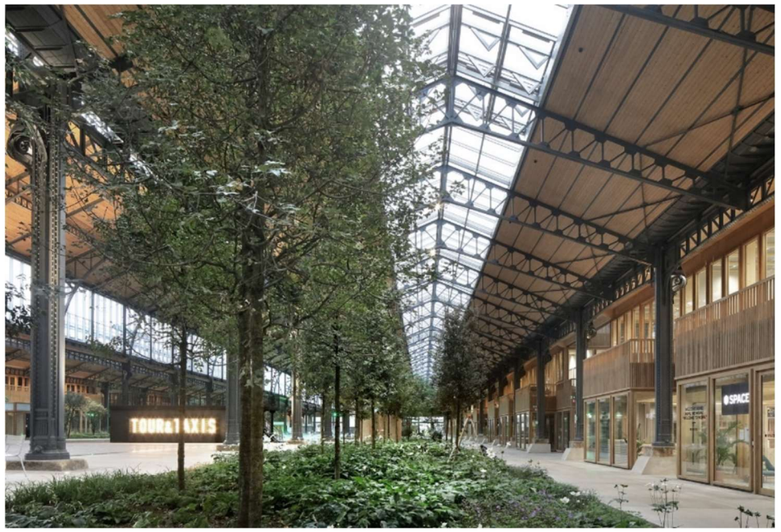


Figure 1.4.2:

Foto from Inside of the New Gare Maritime,Foto by Neutelings Riedijk Architects

Gare Maritime Workspace / Neutelings Riedijk Architects + Bureau Bouwtechniek | ArchDaily

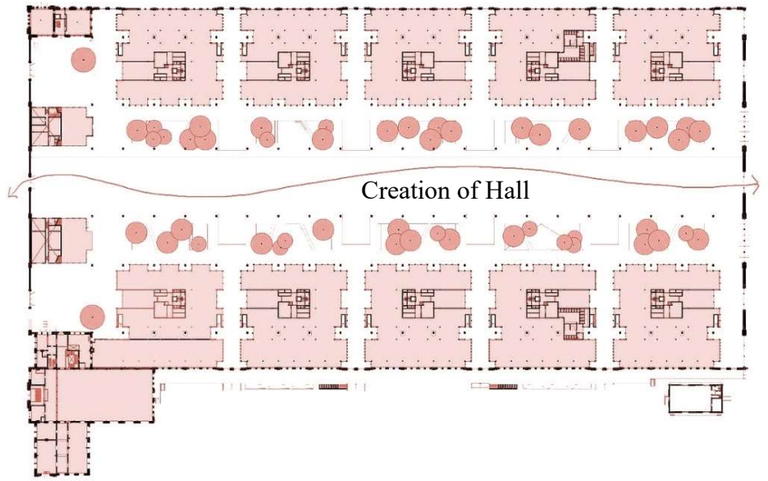


Figure 1.4.3:

Ground Floor Plan modified by Ebru Emirbayer

Gare Maritime Workspace / Neutelings Riedijk Architects + Bureau Bouwtechniek | ArchDaily

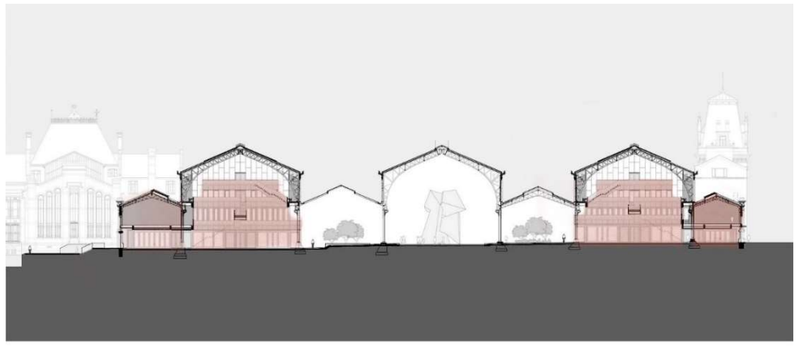


Figure 1.4.4:

Section modified by Ebru Emirbayer

Gare Maritime Workspace / Neutelings Riedijk Architects + Bureau Bouwtechniek | ArchDaily

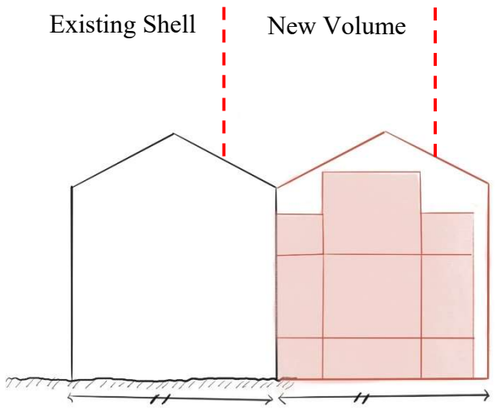
Frac Dunkerque

Location:Dunkerque/France

Former use:Former Shipyard(1949)

New use:Exhibition Center(2013)

Architect:Lacaton-Vassal



The approach of the project is duplicating original building by adding a new volume with the same dimensions and attached to the original structure .In this way first former hall is open to the larger exhibitions,independent activities,concets or sport facilities.instead of filling the inside, left totally empty and open that enhances preserving the cultural memory and identity of former plant.New addition hall serves art produvtions.galleries and revenue spaces.New volume is created in a distinguishable way to pretend to be competitive with former building,focusing transparency by using glass on the facade envelope.

Figure 1.4.5:

Foto from exterior facade of FRAC houses by Maritime,Foto by Philippe Ruault

FRAC Dunkerque / Lacaton & Vassal | ArchDaily

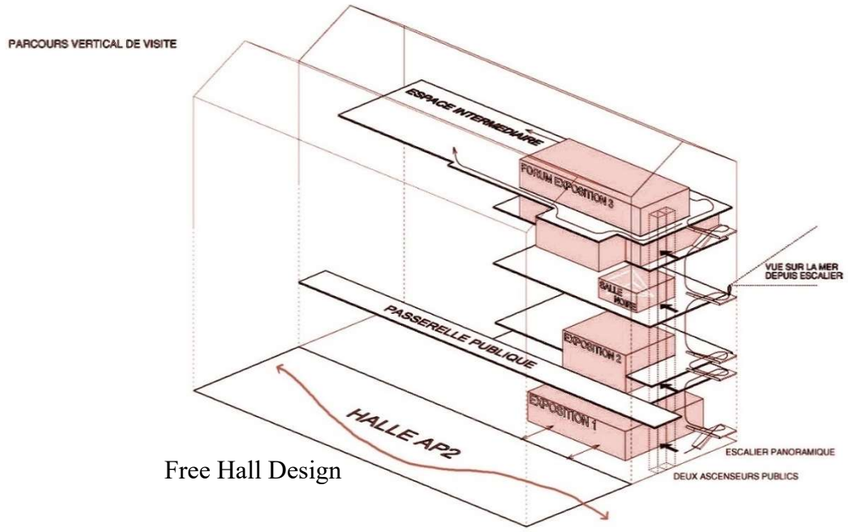
Figure 1.4.6-7:

From left to Right:

Foto from new building interior of FRAC houses

Foto from former building hall Foto by Philippe Ruault

FRAC Dunkerque / Lacaton & Vassal | ArchDaily



Free Hall Design

Figure 1.4.8:

Circulation Diagram modified by Ebru Emirbayer

FRAC Dunkerque / Lacaton & Vassal | ArchDaily

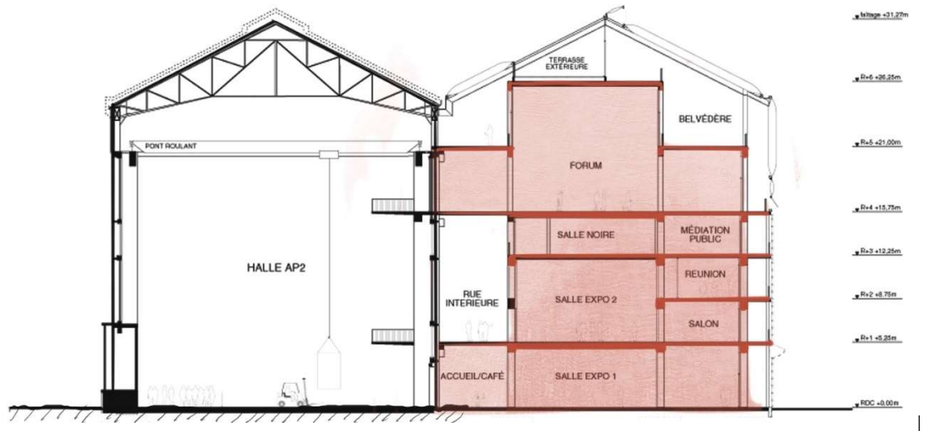


Figure 1.4.9:

Section modified by Ebru Emirbayer

FRAC Dunkerque / Lacaton & Vassal | ArchDaily

Ford Assembly Building

Location:Richmond/United States

Former use:Automobilee Factory(1931)

New use:Mixed offices and Event space(2009)

Architect: Marcy Wong Donn Logan Architects

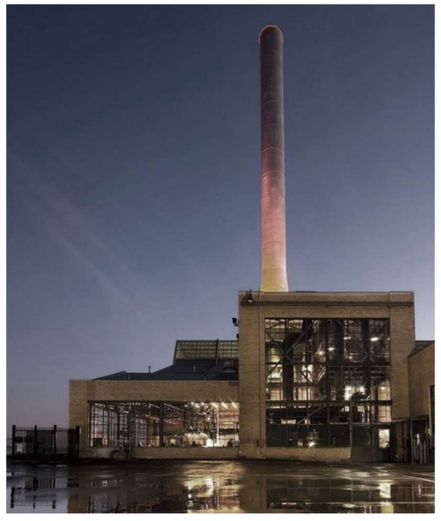


Figure 1.4.10:

Exterior fotograph by Billy Hustace Photography, Anna Finke, Alex Vertikoff Photography, Charles C. Benton

Ford Assembly Building / Marcy Wong Donn Logan Architects | ArchDaily

The former Ford factory has been revitalised into a contemporary hub hosting restaurants,bars,offices ,performance halls dancing to theatre,gathering multiple events.Design aim was preserving original structure by restorating them and adding necessary elements for hosting events .Giving the importance to keeping authenticity of building as highlighting characteristic features.(machines,chimneys).Light is considered a powerfull tool to demonstrate unique elements interior and exterior such as iconic chimney.

Figure 1.4.11:

Interıor fotograph after Intervention by Billy Hustace Photography, Anna Finke, Alex Vertikoff Photography, Charles C. Benton

Ford Assembly Building / Marcy Wong Donn Logan Architects | ArchDaily

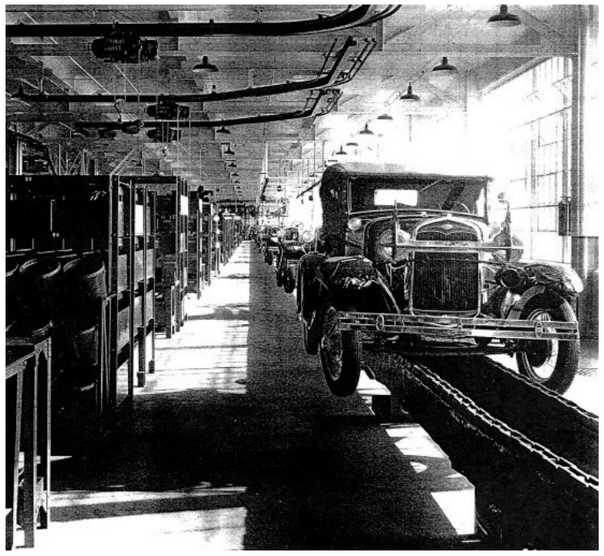


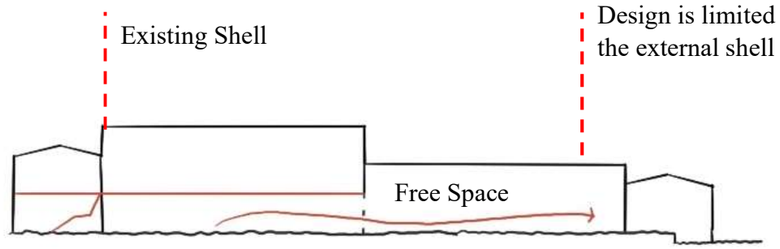
Figure 1.4.12-13

Left to Right:

Historical Picture regading former use of the plant, Ford Assembly Building originally designed by Albert Kahn for Henry Ford

Interıor fotograph after Intervention

Ford Assembly Building / Marcy Wong Donn Logan Architects | ArchDaily



Free Space allows to host different type of activities and events.

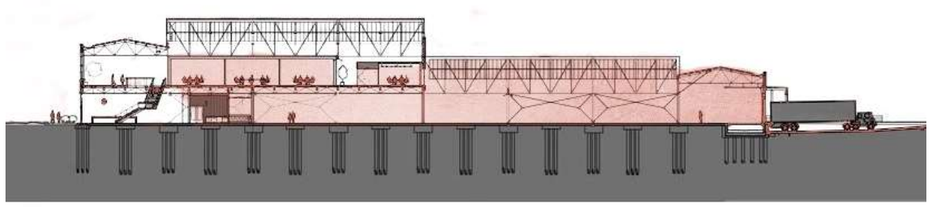


Figure 1.4.14:

Section modified by Ebru Emirbayer

Ford Assembly Building / Marcy Wong Donn Logan Architects | ArchDaily

1.5

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PART

02

Reviewing the Time frame in Turkiye : Industrialization to Post-Industrialization

"A people without the knowledge of their past history, origin and culture is like a tree without roots."
(M. Garvey)

2.1.1

INDUSTRIAL DEVELOPMENT PRE-TURKISH REPUBLIC PERIOD

As analysed in Chapter 1, the Industrial Revolution started in Britain in the 18th century and later spread to Europe and other countries around the world. Turkey, China, and India adopted industrial manufacturing later, mainly during the 20th century. This situation affected the whole process and played a role in experiencing deindustrialisation at an earlier phase compared to other countries. Before the establishment of the Turkish Republic, Turkey was under the rule of the Ottoman Empire until 1923. The Ottoman Empire could not properly follow the industrialisation and economic reforms that had taken place in Britain. Due to capitulations, political issues, and their general attitude towards production, the industrialisation process was negatively affected.The Ottomans recognised the importance of industrial manufacturing and economic reforms, they were already far behind in terms of mass production.They introduced modern initiatives such as the Tanzimat Edict (1839) and the Islahat Edict (1856) to foster industrial development and opened factories, mainly focused on textiles. Nevertheless, their economy was constrained by the effects of capitulations, which slowed the progress of industrialisation.

The first attempts related to industrialisation started in the 1790s to adopt European production methods in manufacturing. Factories such as a paper and textile mill were established in 1805 to meet the demands of the people. The Industrial Revolution marked a shift from agriculture to mechanical industries in factories. This transformation proceeded differently during the Ottoman period. Most of the attention was given to military services; factories and workshops were arranged for military needs, including shipyards and gunpowder production.Before the Tanzimat Era, manufacturing techniques were limited to local small workshops and productions.Although the shift from small-scale production to the establishment of factories was a significant step for the industry, the Ottomans were still far behind Europe. However, the gap between Europe and the Ottomans was visible in terms of industrial production and development,the system of lonca referred to local workshops and professional guilds, which influenced the growth of industry.But Their production depended on manual labor rather than mechanical sources,moreover the economy remained largely agrarian. By the end of the Ottoman period, around 80% of the population was working in rural areas. These factors affected the industrialisation process and financial conditions before the Early Republican Period..

Country	Period
United Kingdom	1783-1802
France	1830-1860
Belgium	1833-1860
United States of America	1843-1860
Germany	1850-1873
Sweden	1868-1890
Japan	1878-1900
Russia	1890-1914
Canada	1896-1914
Argentina	1935-1960
Turkey	1937-1980

Figure 2.1.1

Industrialisation period in the world

Walt Whitman Rostow, The Stages of Economic Growth, Cambridge University press, Londra 1971, p. 38.

The period between 1908 and 1922 represents significant developments, consisting of wars and the national revolution. It can be described as the early steps toward national capitalism. The Ottoman middle class developed itself mainly through trade instead of manufacturing and industrial facilities, and laborers were mostly from other nationalities. This was one of the reasons that slowed down national economic growth. Some industrial activities were carried out after 1908. In that period, 75% of the workforce was employed in industrial factories.The years between 1923 and 1929 marked a clear break from the Ottoman Empire to the Turkish Republic. This political reform affected the economy by introducing new policies. The first attempt was carried out in 1923 with the Izmir Economic Congress during the establishment of the Turkish Republic. Industry was a priority issue, and it grew by about 10% each year under the new policies. However, the middle class was not properly reformed, industrial growth remained limited, and Turkey imported more than it exported. Moreover, debt payments inherited from the Ottoman Era created difficulties in balancing the budget and managing international trade. The economic crisis of 1929 made these problems even worse and showed that liberal policies were not financially sufficient, even though efforts were made to build up industry. After the 1929 crisis, Turkey followed a more organized and controlled path to balance the economy and industry.

2.1.2

ELECTRICITY DEVELOPMENT

Illumination of streets started following the Tanzimat Edict in 1839 during the Ottoman period. At that time, oil lamps were used in front of shops and residences, which wasn't sufficient for lighting. In the 19th century, coal gas became the main source to light streets and homes using gas lamps and lanterns. Cities such as Izmir, Istanbul, Thessaloniki, and Edirne were illuminated by coal gas during that period.In that era, services were managed by foreign companies in each city,for example, Belgian companies were common for developing electric facilities in Izmir, and French companies carried out electricity, water services, and transportation operations in Istanbul. Yedikule Gasworks was established in 1880, and the Anatolian Side Gasworks followed in 1891 to light streets and residences in Istanbul. The first gasworks company was constructed in 1862 by the Glasgow-based firm Lanloux and Sons.In 1908, the expansion of tramway lines and the transition to electric power were among the primary decisions made by the municipality. Small-scale power stations were implemented in the beginning, such as in Izmir and Thessaloniki (1905). The first large-scale power plant, Silahtarağa Power Plant, was built through Hungarian and Belgian banks in 1914. Electricity was generated from this plant and transmitted to tramways and gradually expanded throughout the city. The first electric tram passed through Istanbul in 1914. By the 1920s, streets and public places were illuminated by electricity supplied from the Silahtarağa Power Plant.

During the Ottoman period and the first years of the establishment of the Turkish Republic, electricity generation was managed by foreign companies in the cities. Starting from the 1930s, the governance of the electricity system was transferred to the municipalities instead of private sectors. From the 1930s onwards, national economic policies, local companies, and affordable solutions were supported by the municipalities.The first Five-Year Development Plan was organized by the Turkish Republic between 1963 and 1967, and focused on the construction of hydroelectric and power plants, giving priority to the centralization of electricity. Throughout the 1950s, both public and private sectors constructed power plants in Türkiye. The centralization of electricity and the establishment of an independent department for electricity organization were achieved through the founding of TEK (Turkish Electricity Authority) in 1970.

Although importance was given to electricity development, the global energy crisis affected Turkey's financial situation and caused electricity shortages. In the 1970s, power plants were far behind the demand for electricity supply. Starting from the energy crisis, inadequate energy generation and delays in electricity transmission occurred, even though factory capacities were expanding.By the early 1990s, these problems worsened due to shortages in electricity transmission between the western and eastern parts of Turkey. Private sector involvement was supported by the government to promote electricity infrastructure and development. By 2004, the majority of power plants in Turkey were undergoing privatization. Eventually, most of these plants were shut down and abandoned due to insufficient capacity and later transformed by private companies.As mentioned above, the Silahtarağa Power Plant was the first large-scale power plant built during the Ottoman period, starting electricity generation in 1914. However, as its capacity became insufficient for the city's needs, the power plant was closed in 1983. In 2004, it was transformed into a university, museum, library, and leisure area.Silahtarağa is significant as the first power plant in Turkey and is similar to the thesis case study of the Izmir Power Plant. Both share characteristics such as materials, construction methods, technology, and period of construction at the beginning of the Turkish Republic. Both were built with steel frames and brick walls, and electricity was produced using coal-fired steam turbines.The next section will focus on the methodology of reusing Turkey's first power plant as inspiration for the main case study of the Izmir Power Plant.

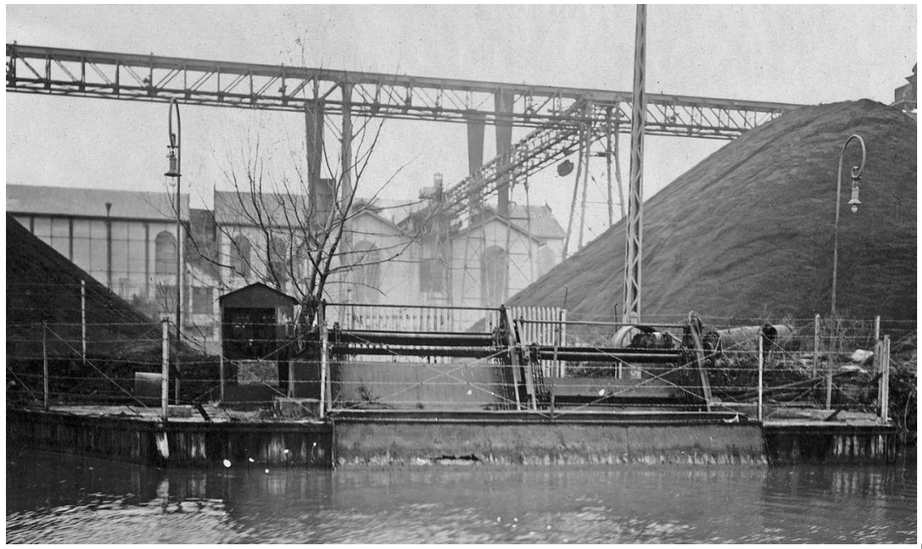


Figure 2.1.2

Silahtaraga Power Plant foto in 20.yy

Santralistanbul. NSMH. May 22, 2025, https://www.nsmh.com/Santralistanbul

Figure 2.1.3

Silahtaraga Power Plant Master Plan

Santralistanbul. NSMH. May 22, 2025, https://www.nsmh.com/Santralistanbul

DEINDUSTRALISATION POST-TURKISH REPUBLIC PERIOD

After the Ottoman Empire and following the establishment of the Turkish Republic, significant activities and investments were carried out. The first Economic Congress was held in Izmir. This congress encouraged private entrepreneurship and initiated a long-term liberal period that lasted until the 1930s. In 1927, a law for the promotion of industry supported the production of local goods through private enterprises.According to the national census in 1927, only two cities had populations exceeding 100,000: Istanbul, with 680,857 people, and Izmir, with 153,845. Meanwhile, Ankara, the capital, had a population of 65,506. These numbers demonstrate that Istanbul was the center of industrialisation and manufacturing, with Izmir following industrial activities carried out in Istanbul.Due to the global economic crisis in 1929, industrial strategy shifted from private enterprises to municipalities, which applied national, state-centered policies. Under these state policies, the first five-year industrial plan was implemented in 1934. Although investments were made in agriculture and industry, the impact of the Second World War on Turkey's financial situation was inevitable. Until 1950, the country was focused on the war effort, and industrial activities slowed down as a result.After 1950, Turkey began adopting new policies to promote private investments. In 1950, many factories were established around the cities.

Figure 2.2.1

Labors of the Ziraat Bank Adana Textile Factory during the Turkish Republic Day

SALT Research,1930s

Salt Araştırma: Ziraat Bankası Adana Mensucat Fabrikası işçileri Cumhuriyet Bayramı'nda geçit töreninde

Figure 2.2.2

A rare decorative large hictorial map of Turkey showing the economic production activities and sites in the Country.

Liam Dunne,1950, New York

Resimli Türkiye Haritası – 1950 | kartostat

Starting from the 1960s, successive five-year development plans aimed to promote industrialization and expand the machinery system to other cities. The Second Five-Year Development Plan (1968–1972) was implemented to extend industrial activities across the country, focusing on machinery, cement, and glass industries, while supporting rural initiatives.Although Turkey was still known as an agrarian country, the share of agriculture in the national income declined from 23.3% to 19.4%, whereas industrial manufacturing increased from 23.3% to 29.3% between 1978 and 1983.Following the economic crises in 1994 and 2001, inflation and foreign debt increased significantly. These factors mainly contributed to the deindustrialization process, which is clearly visible in the graph above (Figure 2.2.3), where deindustrialization peaked.

As analyzed in Britain and other European countries, deindustrialization demonstrates a transformation from industrial activities to service sectors and a decentralization process, shifting from city centers to suburban areas. Since industrial development occurred later in Turkey, the period of manufacturing and heavy industry was shorter than in other countries. This situation caused cities to experience the effects of post-industrialization before industrialization was fully developed.Even in Istanbul, where industrialization was mainly concentrated, the majority of former factories were abandoned after a relatively short period of their establishment in the 20th century. Between 1950 and 1980, when industry peaked in the country, informal poor settlements emerged around city centers close to industrial lands.As deindustrialization began to affect urbanization and city centers, the decline of industrial activities created empty and derelict industrial lands. The majority of industrial sites lost their original functions and began to be repurposed rapidly after the 1980s..

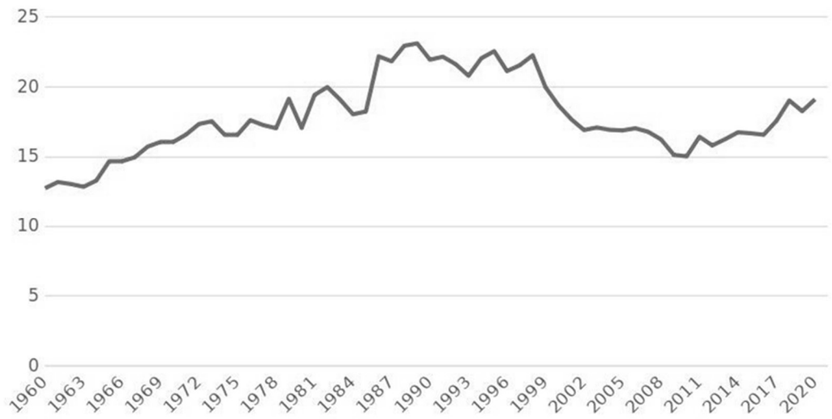


Figure 2.2.3

The graph shows share of manufacturing value according to years.Visible to see that after2000,Deindustralisation level peaked up.

World Bank World Development Indicators

Fabrika - 100 SENE 100 NESNE

2.2.2

INDUSTRIAL HERITAGE RECOGNISATION IN TURKIYE

Industrial heritage and archaeology have gained significant recognition related to the Industrial Revolution, particularly from the 1970s onwards. As mentioned in the first chapter, during the deindustrialization process, attention was given to former factories and structures to preserve them due to their cultural, historical, technological, and architectural values.This attention has recently influenced Turkey, which became involved in industrialization and manufacturing during the 20th century. Because of this, the awareness of the significance of industrial heritage sites and their preservation began in the 1990s,especially regarding former factories in Turkey, considering their historical and architectural value from the Pre-Republican and early Republican periods.Conservation approaches are generally categorized under two headings: preserving heritage monuments and preserving industrial heritage. The awareness of conservation initiatives is relatively new in Turkey. One of the first initiatives was the urban redevelopment project related to the coast of Haliç in Istanbul in the 1980s. This project initially involved demolishing some former buildings; however, after recognizing the value of these industrial sites, the approach shifted towards the adaptive reuse of those buildings.

Initial attempts to protect the Maltepe Gas and Electricity Factory, which was under threat of demolition by EGO (Gasworks Association in Turkey), became visible during this period. The power plant holds significance as the first gas factory in Ankara and was built in 1929 during the early Republican period. After a 66-year operational life, the factory became unused and its facilities were shut down.In 1991, following EGO's demolition decision, a debate began regarding the factory's value and importance with the Ankara Council for the Conservation of Cultural Heritage in Turkey. The property was recognized as a cultural asset to be protected due to its industrial value and history. Later, when EGO appealed the council's final decision, the council defended the site, rejected the application, and classified it as part of industrial archaeology.This case marked the first official use of the term "Industrial Archaeology" to protect an industrial site in Turkey, with this example dating back to 1993. However, despite this recognition, institutions did not carry out any restoration operations on the site for the following ten years.In 2006, the council suddenly reversed its decision, which resulted in the demolition of the buildings on the site by EGO.

This is a significant example of the early attempts to protect industrial heritage sites in Turkey.The demolition of one of the historical Gasworks from the Republican period without proper reason , this example shows how the lack of knowledge regarding industrial heritage sites can negatively impact a city's collective memory and cultural values.

Figure 2.2.4

Ankara Maltepe Gas and Electricity Factory demolition process.

Maltepe'deki fabrika yıkılıyor

Figure 2.2.5

Ankara Maltepe Gas and Electricity Factory demolition process.

15 june 2006

MO Ankara Şubesi E-Bülten

On the other hand, Istanbul's Silahtaraga Power Plant was transformed into Bilgi University and a museum while preserving its authenticity and all the remaining assets. The two different cities and their attitudes regarding industrial assets illustrate how knowledge based on industrial heritage has influenced decision-making. Understanding both theoretical and practical approaches to these valuable sites is essential for preserving them for future generations.The thesis explained in the first chapter the importance of the industrialization period, cultural assets, and factories,especially in Britain, where industrialization was born,to demonstrate and prove how knowledge of the preservation of these sites has developed and been practiced. Comparing the terms and approaches in Turkey aims to provide effective solutions for the proposal of the final case: the Power Plant in Izmir.

Apart from this, Türkiye has signed a number of international agreements related to the preservation of architectural heritage. The Venice Charter (1964) and the European Convention on the Protection of the Archaeological Heritage (1992) are among them. Due to the inclusion of certain provisions in these regulations concerning the preservation of cultural heritage, Türkiye adopted the terms and declarations made by ICOMOS in 2013.This declaration, focusing on the preservation of industrial heritage, includes definitions of values and approaches that were already outlined in the Nizhny Tagil Charter. The importance of industrial heritage sites was characterized, stating that they must be protected.Intervention approaches were categorized into three main types: conservation, adaptive re-use, and reconstruction. If a cultural asset has been demolished or has collapsed for any reason, it must be rebuilt on the same site, in accordance with the ICOMOS 2013 declaration.One of the key elements identified in the declaration is the active participation of various stakeholders to support the protection, transformation, and revitalization of those sites.This approach not only involves architects and experts but also encourages public participation, including citizens and local communities.A significant step was the congress which held in Istanbul from 18 to 21 May 2002, focusing on the conservation of 20th-century architectural and industrial heritage. Icomos Türkiye organized the event and invited on behalf of Docomomo and Ticcih to discuss industrial sites and their recognition in Istanbul.

CASE STUDIES

2.3.1

Two different types of case studies are chosen in Istanbul. The first one is Hasanpaşa Gasworks, which remained from the Ottoman period and demonstrates the approach and outcome of the re-use process. Participation through local authorities and citizens was a key tool, especially after 25 years of struggle, which affected the transformation process and made it possible to turn the project into reality. This example enriches all the research based on re-use strategies and terrain vague sites, as explained in Chapter 1, to emphasize the importance of participation in the process. Re-use started with interactive meetings and ongoing site activities and events, carried out to revitalize the area and raise awareness in the city.The second case is Santral Istanbul, which was transformed from the Silahtarağa Power Plant. It illustrates similar features regarding structural elements, materials, period of construction, and its previous function, in comparison with the main case, Izmir Power Plant. For this reason, this case will focus on the transformation approaches and structural composition to serve as a reference for the Izmir Power Plant.

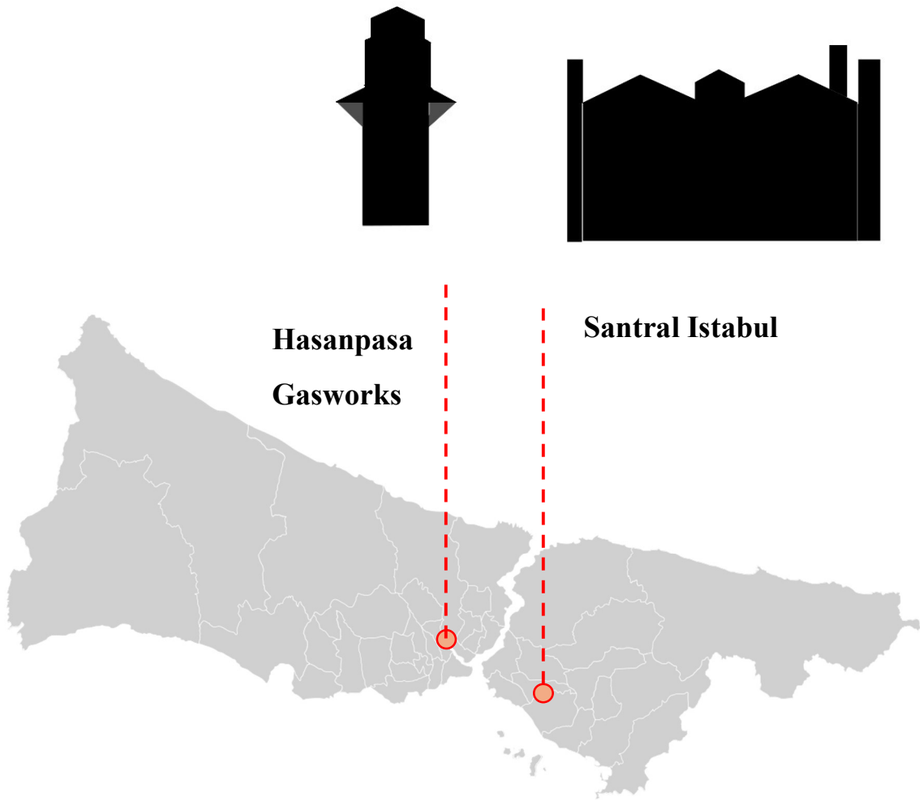


Figure 2.3.1

Hasanpasa Gasworks site *ortographic top view.*

Hasanpaşa Gasworks Park and Museum Complex / İTÜ & DS Architecture | ArchDaily

Hasanpasa Gasworks

Location:Istanbul

Former use: Gasworks(1891)

New use:Cultural Center,Park(2021) and Museum

Architect: DS Architecture, ITÜ

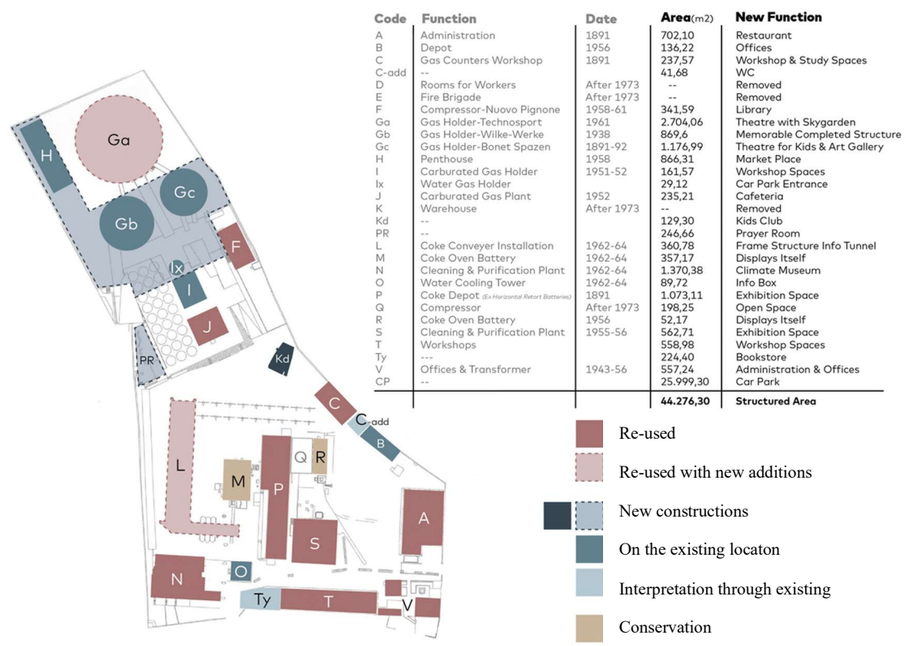
Kadikoy Hasanpasa Gasworks was built in 1891 and had been producing until 1993. Due to the rise of electricity over the function of coal gas, gasworks became disused and abandoned in the cities. The site was meant to be transformed into residences and a parking lot; through citizens and Kadikoy District Municipality, attention was paid to its value and transforming the cultural asset into a public space. In 1994, an NGO, Gasworks Environmental Volunteers, was established by citizens in the neighbourhood to preserve the site. After the recognition as a cultural asset by the Cultural and Natural Heritage Protection Board in 1996, citizens began to organize surveys on the site. Regarding the Conservation Board in Turkiye, it allowed surveys to be conducted and the reuse project to be developed by members of Istanbul Technical University Faculty of Architecture. After the project was completed, it was registered and accepted by the Conservation Board in 2001. Moreover, the significant initiatives were organizing events, festivals, and workshops during project development and the period of transformation by Gasworks Environmental Volunteers. This reuse cycle demonstrates how the reuse project development carried on the site by local people. Involvement of site actions, carrying ongoing activities before the transformation, and raising awareness of cultural assets by sharing knowledge through the city. This project was held only by non-profit organisations without investors, demonstrating the power of the public community such as the NGO. Intervention was completed by 2021 and it became one of the landmarks of the city for events and cultural activities.

Figure 2.3.2

Hasanpasa Gasworks site Picture from the past.

Museum Gazhane,Istanbul.

Hasanpaşa Gazhanesi – Gazhane İstanbul



Code	Function	Date	Area(m2)	New Function
A	Administration	1891	702,10	Restaurant
B	Depot	1956	136,22	Offices
C	Gas Counters Workshop	1891	237,57	Workshop & Study Spaces
C-add	--		41,68	WC
D	Rooms for Workers	After 1973	--	Removed
E	Fire Brigade	After 1973	--	Removed
F	Compressor-Nuovo Pignone	1958-61	341,59	Library
Ga	Gas Holder-Technosport	1961	2.704,06	Theatre with Skygarden
Gb	Gas Holder-Wilke-Werke	1938	869,6	Memorable Completed Structure
Gc	Gas Holder-Bonet Spazen	1891-92	1.176,99	Theatre for Kids & Art Gallery
H	Penthouse	1958	866,31	Market Place
I	Carburated Gas Holder	1951-52	161,57	Workshop Spaces
Ix	Water Gas Holder		29,12	Car Park Entrance
J	Carburated Gas Plant	1952	235,21	Cafeteria
K	Warehouse	After 1973	--	Removed
Kd	--		129,30	Kids Club
PR	--		246,66	Prayer Room
L	Coke Conveyer Installation	1962-64	360,78	Frame Structure Info Tunnel
M	Coke Oven Battery	1962-64	357,17	Displays Itself
N	Cleaning & Purification Plant	1962-64	1.370,38	Climate Museum
O	Water Cooling Tower	1962-64	89,72	Info Box
P	Coke Depot (Ex-Horizontal Retort Batteries)	1891	1.073,11	Exhibition Space
Q	Compressor	After 1973	198,25	Open Space
R	Coke Oven Battery	1956	52,17	Displays Itself
S	Cleaning & Purification Plant	1955-56	562,71	Exhibition Space
T	Workshops		558,98	Workshop Spaces
Ty	---		224,40	Bookstore
V	Offices & Transformer	1943-56	557,24	Administration & Offices
CP	--		25.999,30	Car Park
			44.276,30	**Structured Area**

Figure 2.3.3

New functions Diagram for Hasanpasa Gasworks

Hasanpaşa Gasworks Park and Museum Complex / İTÜ & DS Architecture | ArchDaily

Figure 2.3.4

Gasometers and Structure visibilityof Hasanpasa Gasworks

Müze Gazhane, the Gasworks Museum powering Istanbul again - Domus

The site is approximately 18,000 m² and has been considered for a multi-purpose transformation, including artist galleries, library, performance center, museum, and educational activities. As seen in the photos, existing structures were kept as a memory of the site and considered as part of the greenery. Especially, gasometers are unique attraction elements that were preserved and used as volumes to host an auditorium.

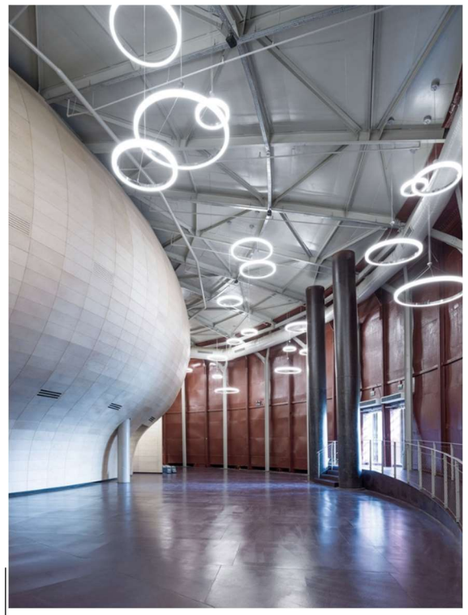
Figure 2.3.5-6

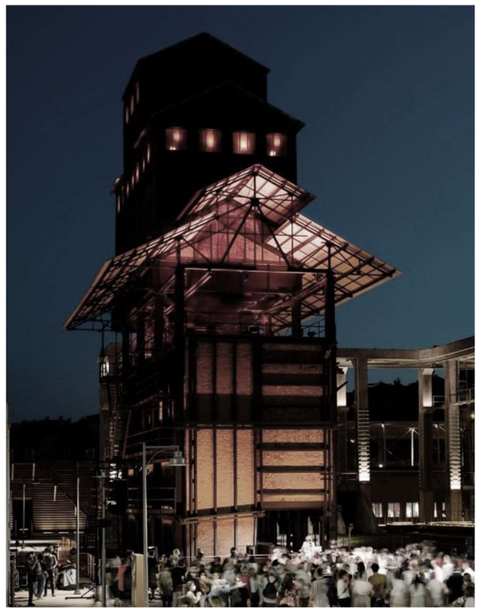
Left to Right

Interior part of Auditorium in Gasometer structure, Hasanpaşa Gasworks Park and Museum Complex / İTÜ & DS Architecture | ArchDaily

Outdoor Historical Landmark of the Site.

Müze Gazhane, the Gasworks Museum powering Istanbul again - Domus





Santral Istanbul

Location:Istanbul

Former use: Power Plant(1914)

New use:Education and museum(2007)

Architect: Nevzat Sayin,Emre Arolat

Figure 2.3.7

Silahtaraga Power Plant Ortographic Site plan

Santralistanbul. Santralistanbul - NSMH

Silahtarağa Power Plant was the first factory that started to generate electricity during the Ottoman period in 1914 and continued to operate until 1983, as mentioned in the first chapter. It was transformed into Santral Istanbul in 2007 to host the Architecture Faculty of Bilgi University and an Energy Museum; later, a new volume was added as a Contemporary Art Museum. This project was developed by stakeholders (investors, municipality, and private institutions), whereas the Hasanpaşa Gasworks example involved local community participation. This project is similar to the main focus of the thesis, the case study of İzmir Power Plant, in terms of structural composition, characteristic features, and time period, to compare and demonstrate a successful intervention.As part of the main intervention goals, machines, chimneys, and the external facade,elements of cultural memory,were preserved in their original state. Through the addition of new steel pillars, existing structures were consolidated, and galleries were created in the education zone. Only the facade preserved as it was; the building was used as an envelope to allow flexibility in the interior space for the creation of galleries and other zones..

Figure 2.3.8

Silahtaraga Power Plant ,Energy museum Exterior Facade

Santralistanbul.

İstanbul Bilgi Üniversitesi Mimarlık Fakülteleri - NSMH

Figure 2.3.9

Silahtaraga Power Plant Construction process. İn 1929.

Blue part in foto:Steel Structure

Red part in foto:Concrete structure

Photo redrawn by Ebru Emirbayer

Santralistanbul.

SILAHTARAĞA POWER PLANT

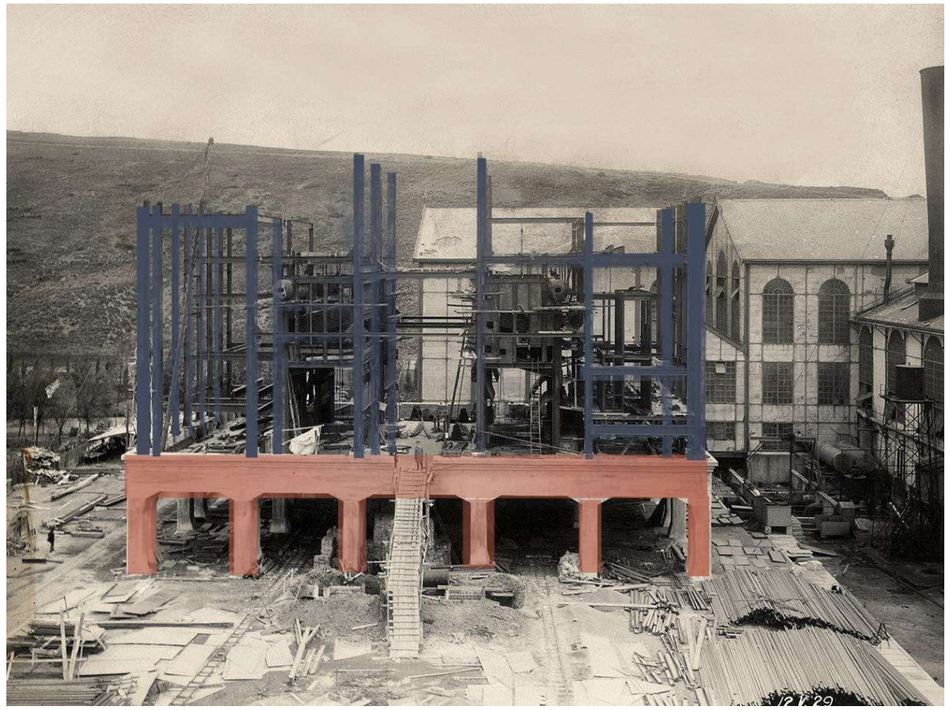
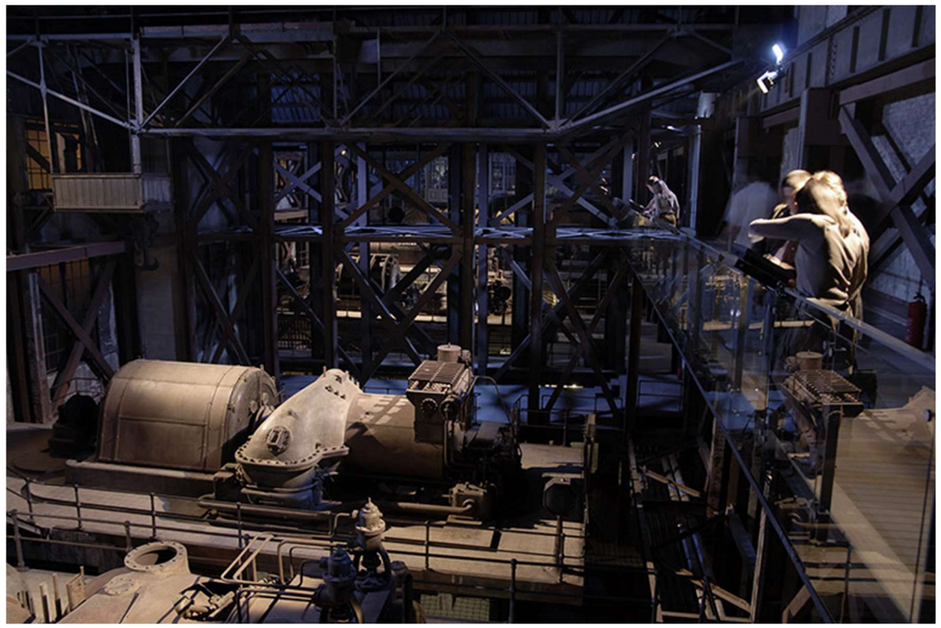


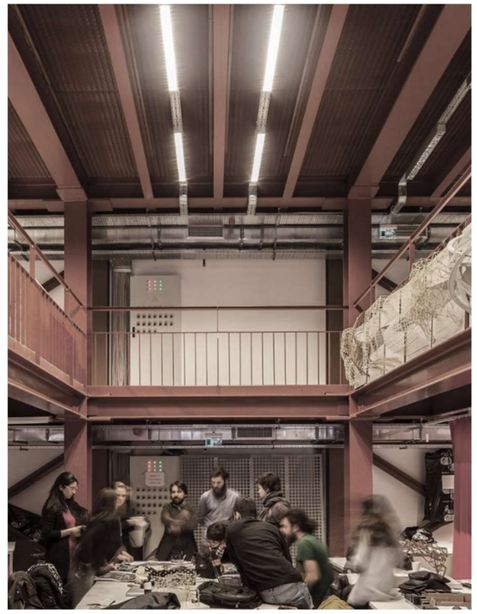
Figure 2.3.10

Silahtaraga Power Plant Energy Museum,machines were protected inside.

Santralistanbul.

HAKKINDA





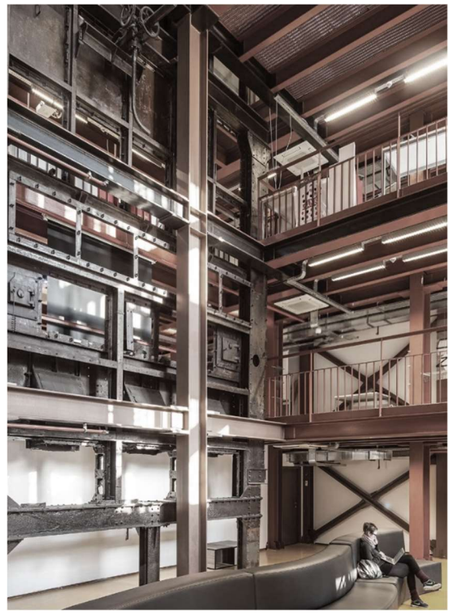


Figure 2.3.11-12

Silahtaraga Power Plant Bilgi University Architecture Faculty Inside photos

Santralistanbul.

İstanbul Bilgi Üniversitesi Mimarlık Fakülteleri - NSMH

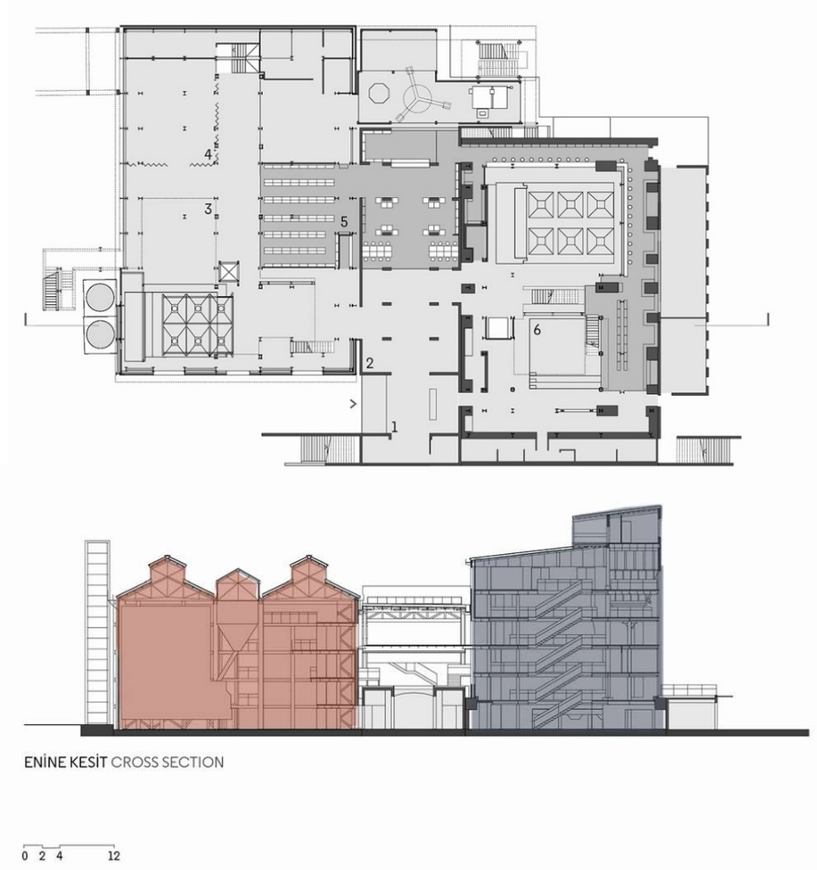


Figure 2.3.13-14

Silahtaraga Power Plant Bilgi University Architecture Faculty ground floor plan and cross section.

Red part in section:Energy Museum

Blue part in section:Bilgi University

Section redrawn by Ebru Emirbayer

Santralistanbul.

İstanbul Bilgi

2.4

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PART

03

The Case of derelict Buildings Behind the Izmir Port

"Adaptive reuse isn't just a design choice; it's a commitment to sustainability, preserving history while creating a more resilient future."

(T. Cho,Future of Cities)

3.1.1

BRIEF HISTORY OF INDUSTRALISATION IN IZMIR

Before the establishment of the Turkish Republic, the Ottoman Empire was far behind Europe in terms of industrial development. Although some steps were taken regarding the establishment of new factories and the introduction of related policies, the focus during that period was mainly on the arms and military industries.As mentioned in the previous chapter, with the foundation of the Turkish Republic, the primary goal became boosting the economy, with priority given to establishing factories and promoting industrialization-related activities.Between 1923 and 1925, carpets were essentially the only product exported from Turkey, while other goods were mostly imported. In 1927, as an initial step, the Industrial Promotion Law was introduced to support industrial activities and the establishment of factories.Due to the Great Depression of the 1930s, the First Five-Year Industrial Plan was launched to promote the development of industrial factories. However, with the outbreak of the Second World War in 1939, its effects on industrial growth were inevitable. Especially during the post-war period in the 1950s, state-led economic policies continued in order to overcome the difficulties caused by the war years.After 1950, industrialization operations were increased, focused on the private sector and investment activities during this period.

İzmir became the second largest industrial city in Turkey after Istanbul. Before the establishment of the Turkish Republic, only small-scale production and operations were carried out, such as olive oil processing.The starting point of industrialization in İzmir is considered to be the establishment of textile factories in Darağacı, beginning with the Şark Industry in 1885.Both World Wars and the Great Fire of İzmir in 1922 negatively affected industrial growth during the pre-Republican period, and industrial production did not reach a sufficient level until the 1950s. During that time, public transportation systems and factories were operated under agreements with European countries such as London, Paris, and Brussels.Around the 1950s, new factories were established in İzmir, one of the most significant being the Sümerbank Textile Factory (1953), which played an important role in the development of the textile industry.Throughout the 1960s, investments increased and helped spread industrial activities and manufacturing across İzmir. Industries particularly focused on textiles, cotton, olive oil, food production, and heavy construction materials.Due to its strategic geographical location, İzmir functioned as a major harbor city for both importing and exporting goods.

During the Ottoman period, it was defined as the largest export port in Turkey.By the end of the 19th century, industrial factories in İzmir were mostly located near the Alsancak train station and the port, due to the advantages of transportation. This area, known as Darağacı, is situated between Alsancak Train Station and the Melez River.The district was recognized for its variety of industrial facilities and manufacturing zones, which were largely influenced by British enterprises.At that time, British companies established manufacturing plants, residential buildings, warehouses, and workshop areas. Only a few factories were not operated by British companies , one notable example was the cigarette and tobacco factory, which was managed by French enterprises beginning in the 1880s.

Lands in the Darağacı district were used in two different ways. Firstly, the area consisted of large-scale factories and warehouses that were essential for industrial activities. Secondly, there were residential units for the laborers who worked in those factories.The dwellings mostly consisted of small, single-storey houses along narrow streets, built under poor conditions and lacking proper sewerage systems.Darağacı was one of the main districts where various industrial activities were carried out, such as a tobacco factory, gasworks, a paper factory, olive oil companies, and other manufacturing industries.Especially, the Şark Industry was a well-known cotton mill during that time.

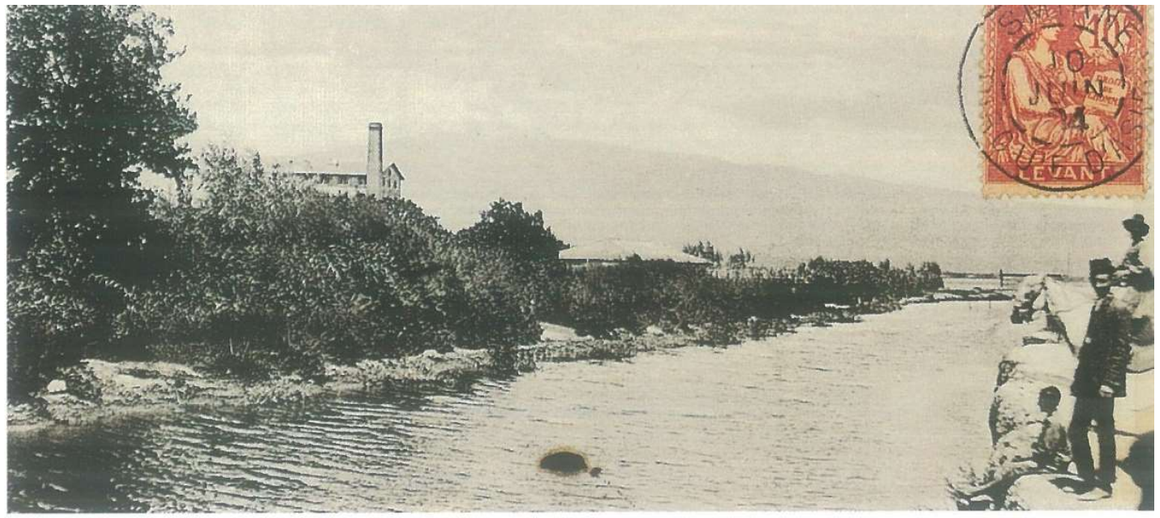


Figure 3.1.1

Photo shows the view from Melez River to Daragaci District in 1900s.

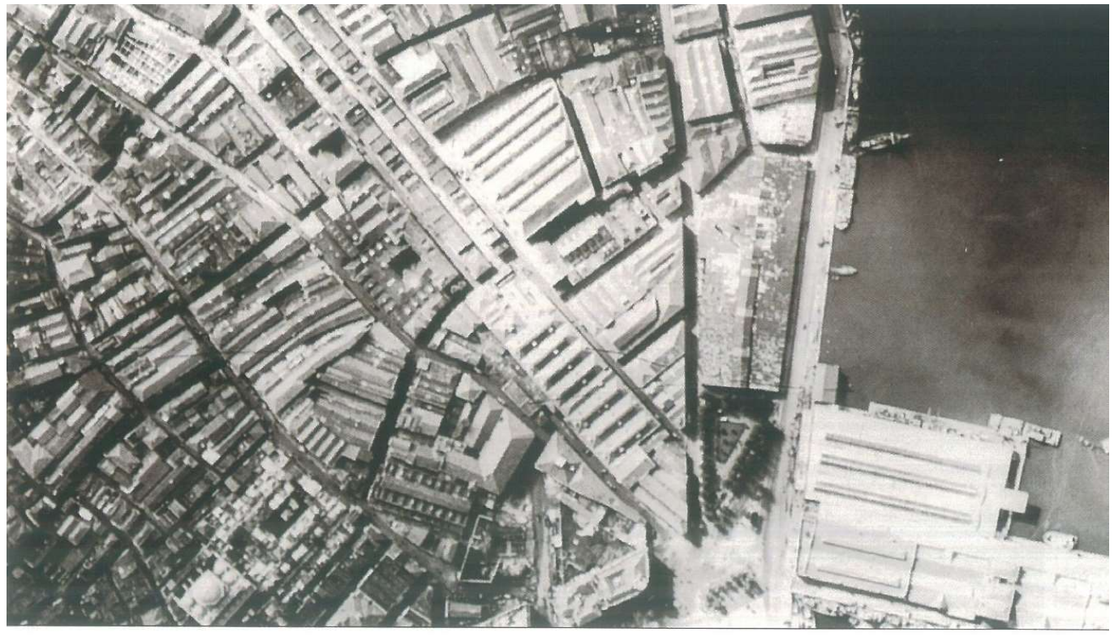
Atay Ç., Osmanli'dan Cumhuriyet'e Izmir planları,Apikam city Archive,Izmir, p.21

Due to the fact that the Daragacı district consisted of large empty lands that were not suitable for residential use and had unhealthy, smoky environmental conditions, it became known as a poor neighborhood. The majority of citizens preferred to live in Konak (the city center), which was more convenient for living and the construction of apartments.As a result, the Daragacı district was left as an isolated area and transformed into a place that only consisted of industrial activities, with less connection to the city center.The advantage of the Alsancak train station and transportation networks made it possible for laborers to access from other parts of the city, such as Buca and Bornova, to industrial sites. In this case, workers didn't have to live next to the industrial zone under poor conditions.On the other hand, the construction of the Alsancak train station also made the Darağacı district apart from the city center. For this reason, the expansion of housing slowed down, and instead of residential buildings, the number of warehouses and storage facilities increased in the area.One of the significant developments in the district was the establishment of the Gasworks factory by a British company in 1860, which introduced coal gas for lighting in İzmir. This system remained in use until 1964.Later on, the introduction of electricity influenced the infrastructure in the city.

Figure 3.1.2

Aerial photo shows the situation in 1945, typology of narrow streets between large industrial sites and warehouses in Daragaci District (Behind the Izmir Port)

Atay Ç., Osmanli'dan Cumhuriyet'e Izmir planları,Apikam city Archive,Izmir, p.22



ELECTRICITY DEVELOPMENT IN IZMIR

During the Ottoman period, coal gas was used for lighting streets, houses, and commercial buildings. After the establishment of the Republic of Turkiye, the introduction of electricity has changed the role of gas, which began to be used primarily for heating and cooking instead of lighting.Although the first initiatives regarding gasworks were undertaken by French enterprises, the İzmir Gasworks was constructed in 1859 by the Glasgow-based company Laidlaw & Sons, under the direction of A. Edwards. While the administrative offices were located in İzmir, major decisions and meetings were organized by the central office in London. The location of the factory was specifically chosen in the Daragacı district, which was known for its constant wind, in order to prevent coal dust from spreading to the city.During the Great Fire of 1922, the gasworks lost much of its network and customer base. Additionally, it began to fall behind electricity in meeting the city's energy demand. Between 1920 and 1930, both electricity and coal gas were used for lighting in İzmir. However, as electric lighting proved to be a more affordable option, the use of coal gas gradually declined, leading to financial difficulties for the company. Eventually, the municipality took over the gasworks, which continued operating until 1955.

Electricity development in Izmir was under the interest of British, French, German, and Belgian investors to carry on activities. The First World War and the silent period of industry affected the expansion of electricity in the city. The operation of electric trams was postponed from the 1916s onward, and finally, in 1945, electric trams began to be used and were managed by the İzmir municipality.At the same time, electricity wasn't common during the early Republic period, but compared to gasworks, in 1929 there were 677 electric lamps and 1,672 gas lanterns, whereas by 1934 there were 3,800 electric lamps and 1,250 gas lanterns used for public lighting.

At that time, large-scale steam turbine power plants were only located in the biggest cities: Istanbul, Ankara, and İzmir. The first power plant in İzmir was constructed by a Belgian company in the Daragacı neighborhood in 1928. The initial plan was to establish the factory in another part of the city called Güzelyalı, but due to public health concerns, the İzmir Municipality decided to build it in the already industrial Darağacı district.Although construction began in 1926, water leaked from the foundation, which required reinforcement and slowed down the construction process. For these reasons, the factory opened and began generating electricity in 1928.

Electricity generation was based on the transformation of seawater to coal. Starting in 1932, modern electricity distribution systems were organized in Bornova and Karşıyaka, other parts of the city.According to data from 1943, accessibility to electricity services was 48.5%, clearly demonstrating limited access. While 23% of electricity was used in residences, the other 67% was consumed by industrial sectors.Later, in 1945, the municipality purchased three power plants to provide more affordable services due to the increased demand for electricity and the expansion of connections with other stations in the city. Although new equipment and machines were supplied to the factory, it became inadequate and less affordable. For this reason, it was transferred to TEK (Turkish Electricity Authority) in 1971. Later on, it became completely unused and lost its function in the city, remaining abandoned since 1989.The main aim of this thesis is to analyze the surrounding area and the factory, proposing a plan for its future. It belongs to the industrialization era and is considered part of the cultural heritage to be preserved and reused for future generations.Through this approach, creating a community is a significant step to raise awareness about its importance and organize events and activities before starting the reuse process. Once actions begin on-site, the area would have already started to revitalize itself.The next chapter will focus on the transformation of the power plant and potential approaches for its future.

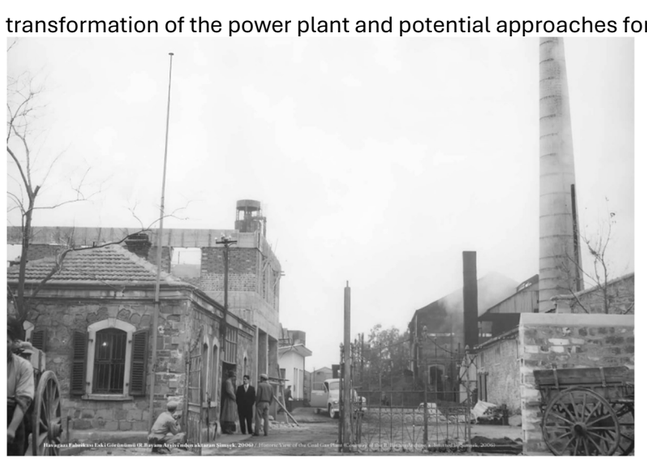


Figure 3.1.3

Photo demonstrates Gasworks in Daragaci District (Behind the Izmir Port)

Tarihi Mekanlar Kişisel Ansiklopedi Erol ŞAŞMAZ

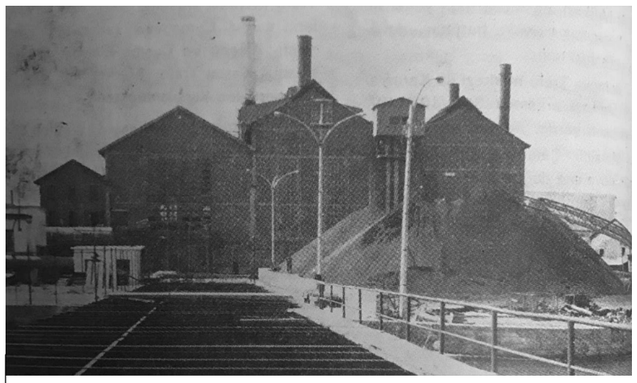


Figure 3.1.4

Photo demonstrates Power Plant in Daragaci District (Behind the Izmir Port)

İzmir Governorship. (1973).”Cumhuriyet’ın 50.yılında İzmir”, , Provincial Yearbook. Izmir.

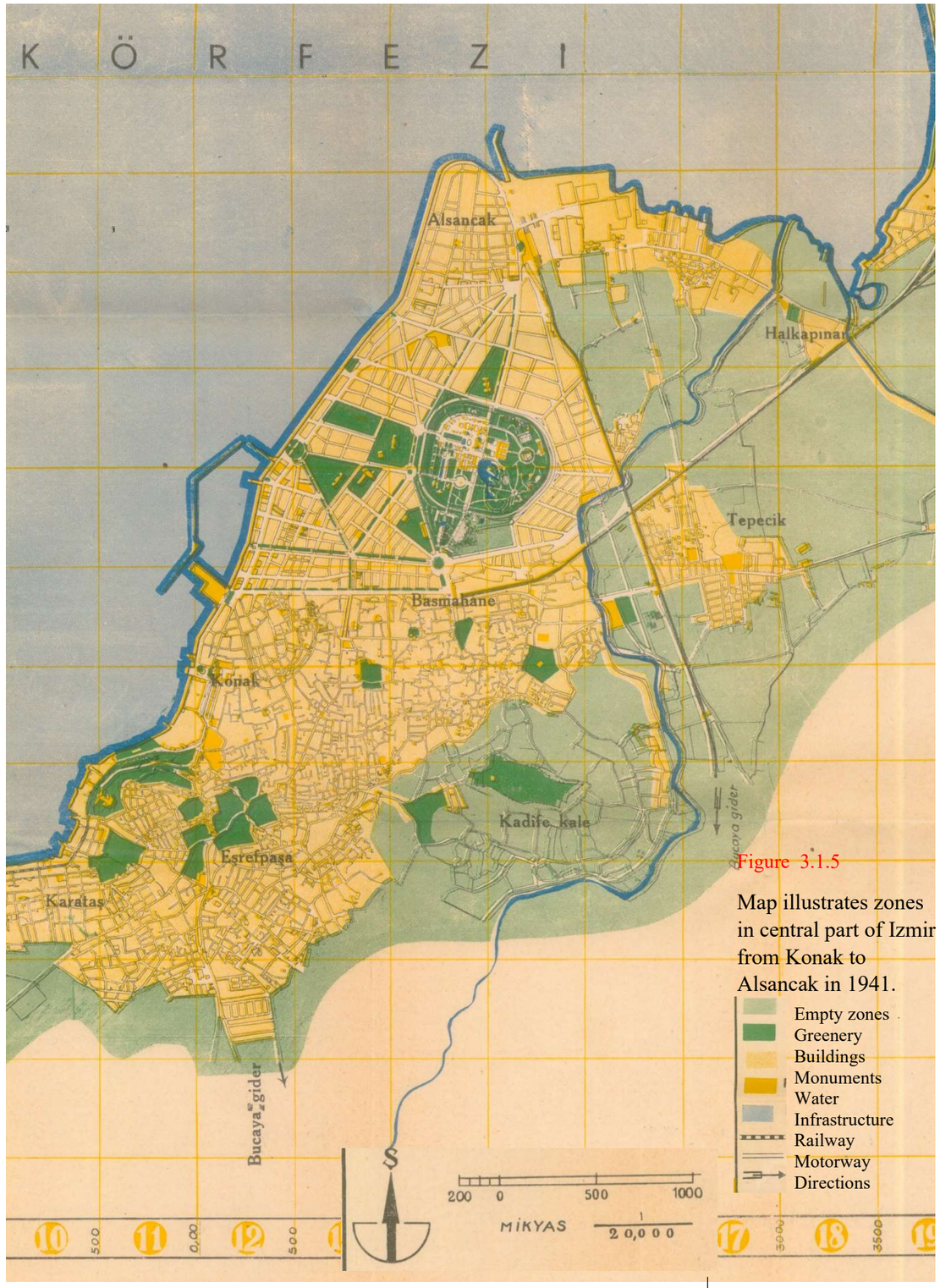


Figure 3.1.5

Map illustrates zones in central part of Izmir from Konak to Alsancak in 1941.

HISTORICAL TIMELINE

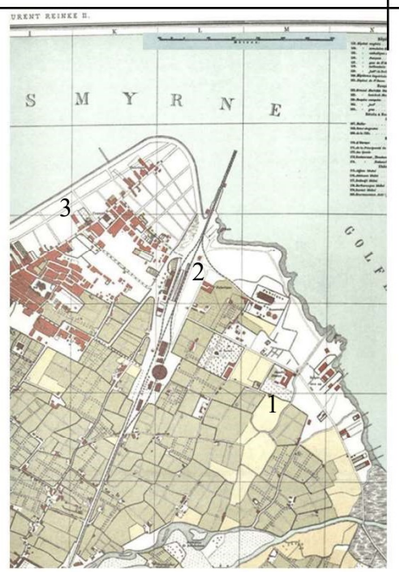
3.1.3

Atay Ç., Osmanli'dan Cumhuriyet'e Izmir planları, p.75

Photo illustrates Alsancak train station which was landmark at that moment for the city.
Map clearly has shown Gasworks, power plant area was used for warehouses before Its built.

Pınar I., Izmir city plans and maps from ottoman era p.28

1876

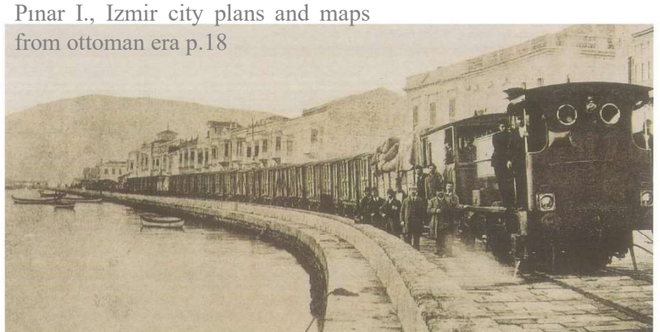


Map belongs to 1876 ottoman era that represents industrial zones especially in daragaci and Alsancak train station separated housing and industrial area as seen on the map.

1. Daragaci District
2. Alsancak train Station
3. Houses in Alsancak Center

Photo in the below shows tramway from Konak to Alsancak train station.

Pınar I., Izmir city plans and maps from ottoman era p.18

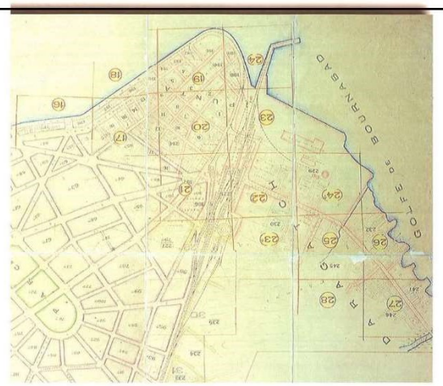


Atay Ç., Osmanli'dan Cumhuriyet'e Izmir planları,Apikam city Archive,Izmir, p.86

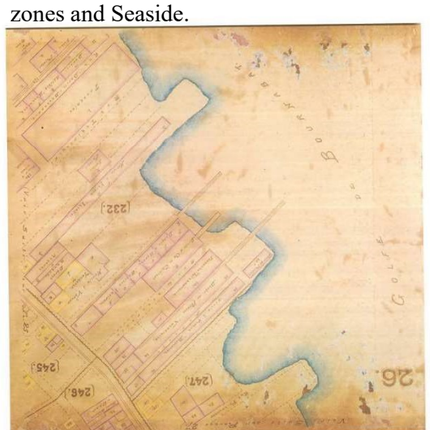
1907

Photographs represent the situation in Izmir after the Great Fire.
Atay Ç., Osmanli'dan Cumhuriyet'e Izmir planları,Apikam city Archive,Izmir, p.135

1922



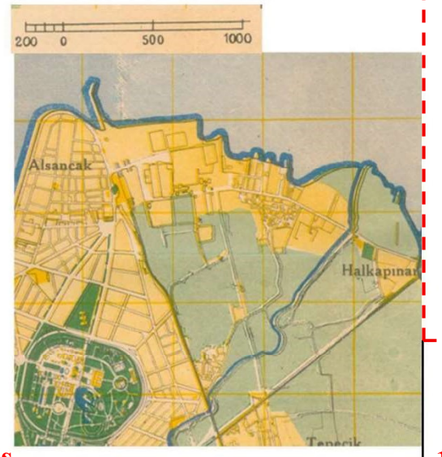
Map illustrates zones which affected by the Great fire(visible parts with numbers) This Map shows relationship between industrial zones and Seaside.



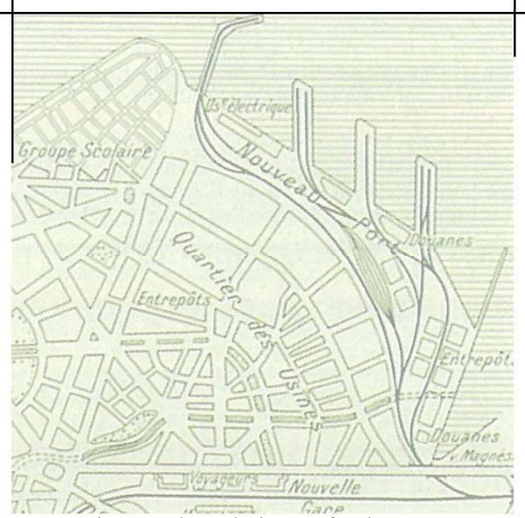
Atay Ç., Osmanli'dan Cumhuriyet'e Izmir planları,Apikam city Archive,Izmir, p.138-167

Map represents the situation in 1941 before construction of new port. Land proportions are visible in daragaci district for the comparison with Alsancak central part.

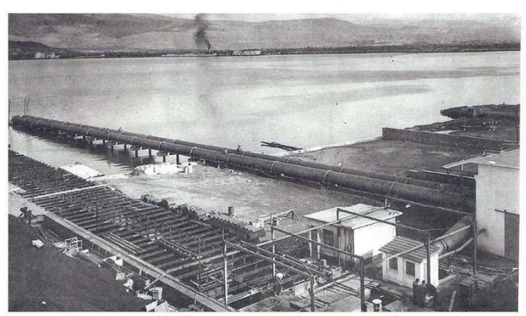
Apikam City Archive,Izmir



1930s



Map shows the design of the new port. Photo shows the connection with Sea by pipes in the Power Plant area (before the new port)



Atay Ç., Osmanli'dan Cumhuriyet'e Izmir planları, ,p.181
Photo from Architecture Association in Izmir

1941

Atay Ç., Osmanli'dan Cumhuriyet'e Izmir planları, p.84 and photo from Alsancak Limanı Açılışı, 1958 -

Photo shows the buildings that backward of the Alsancak train station in 1940s.
Photo shows after the construction of the port in 1958.

2001

Map represents the Power plant zone in a detail way, borders of the power plant changed after this map,In the project proposal part (chapter 4),It was used the last version (in 2019).

Red dots shows the industrial heritage sites.

1-Gasworks 2-Power Plant 3-Sark Industry

Izmır Municipality department of urban planning and development,Konak,Izmir

ANALYSIS OF BEHIND THE IZMIR PORT

3.2.1

The project area is considered to be the power plant site in the Daragacı district, located between the Konak and Alsancak parts of the city and behind the Izmir Port. This site is known as an industrial zone consisting of factories, manufacturing mills, and warehouses.Currently, the function of the area has changed. The factories were no longer competitive with other services and became less affordable to continue operating on the site. They were abandoned during the period of deindustrialization, and Darağacı district began to take on a silhouette characterized by vacant lots and empty warehouses surrounding the area.Instead of labor residences, new housing has replaced them, but the conditions remain quite similar to the past. In the last 5-10 years, new zones have been created to support the revitalization of the district, but this was not enough because the number of abandoned cultural assets and warehouses transformed the area into an unsafe zone.In this part of the thesis, the Darağacı district will be analyzed according to its functions, transportation, and a survey of the area before going more deeply into the power plant case study.

Figure 3.2.1-4

Photos were taken in January,2025 to show current situation from Daragaci District (Behind the Izmir Port)

by Ebru Emirbayer

LOCATION

N

Aegean Sea

Izmir Alsancak Port

Aegean Sea

Kıbrıs Sehitleri Street(pedestrian) - 15 min

Izmir Alsancak Ferry Terminal - 22 min

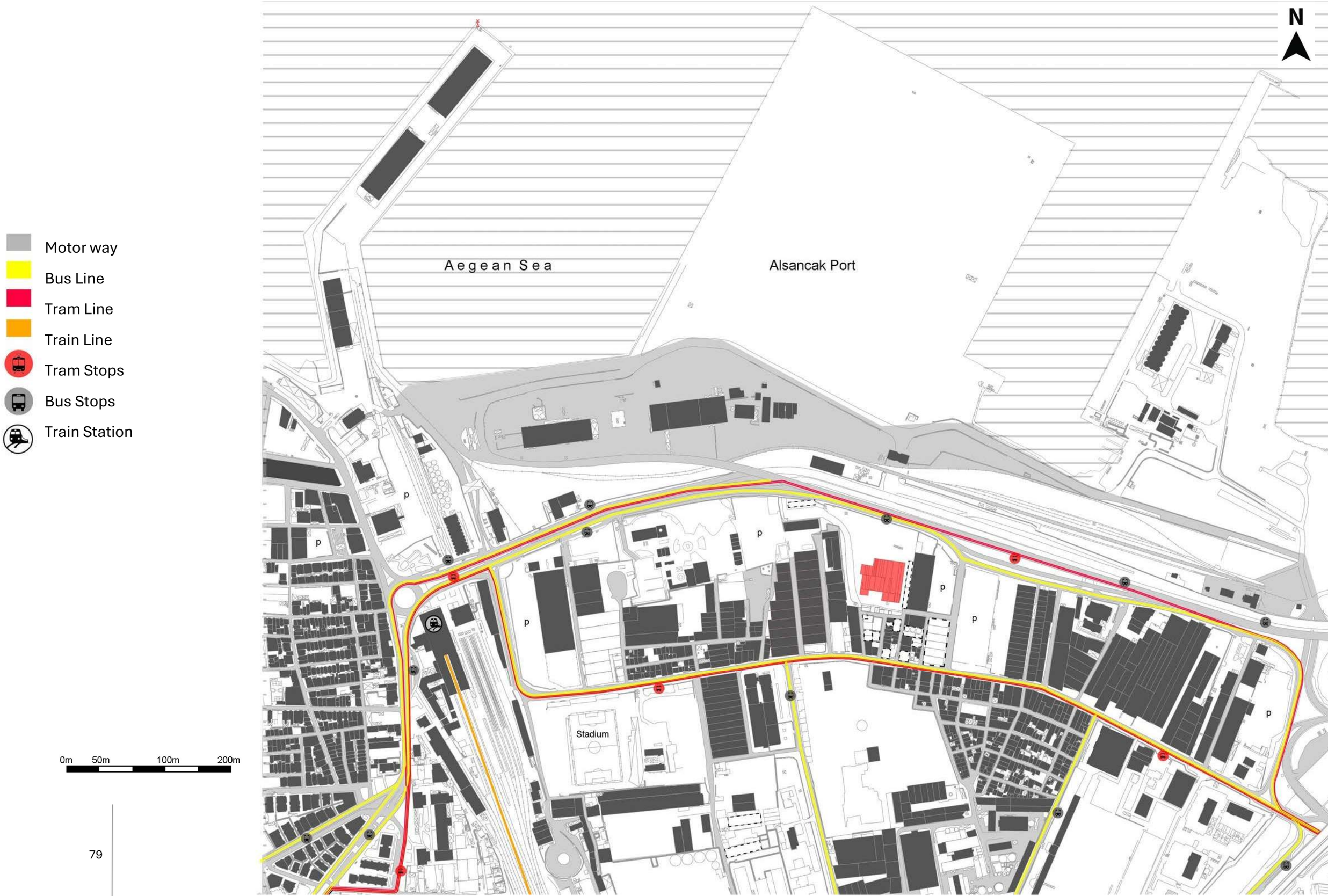
Alsancak Train Station - 10 min

Kordon Public Greenery - 18 min

Gundogdu Square - 25 min

0m 50m 100m 200m

TRANSPORTATION



FUNCTIONS


Commercial /warehouses
Residences
Private garden
Public garden
Abandoned
Industrial Heritage Sites
0m 50m 100m 200m
Aegean Sea
Alsancak Port
N
Stadium
A
B
C
D
E
F
G
H
I
J
p

3.2.2

INDUSTRIAL HERITAGE SITES ON THE AREA

TMO SILOS

The TMO (Turkish Grain Board) Silos are located in the Alsancak port zone, across from the Alsancak train station.They have attractive architectural features that make them a visible landmark in the area.The silos are characterized by 36 cylindrical towers made of reinforced concrete, each with a capacity of 500 tons.Constructed for agricultural operations, they are still used for their original intended purpose. These silos belong to the second generation of grain silos and were built in 1958.

ALSANCAK TRAIN STATION

The project began with the interest of British investors, who received a concession in 1856, and construction was completed in 1860. The site was chosen due to its strategic location close to the city center, the industrial area and the port.The site consists of a variety of buildings and functions, divided into zones, and is currently using as a transportation and administrative hub. It still functions as a train station, carrying passengers.The area has two main characteristics: firstly, its significance as a remaining part of the industrialization period, and secondly, it reflects the culture and architectural style of the past. Notably, it includes one of İzmir's landmarks, known as the first clock tower.The buildings are organized into three zones: Zone 1 consists of the terminal building, hospital, and telegraph offices; Zone 2 includes the printing house, cafeteria, and offices; and Zone 3 contains the ESHOT offices and residences. The buildings and their forms have been preserved while being transformed for new functions.

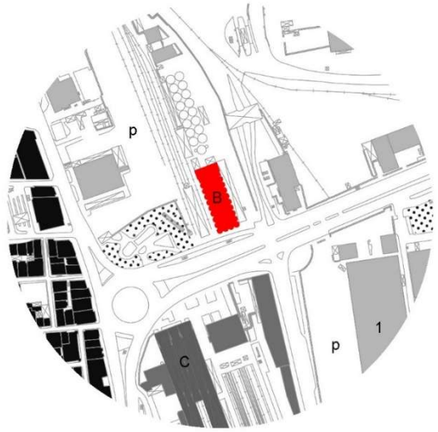


Figure 3.2.5-6

Left to Right:

Photo shows TMO Silos and Alsancak Train Station.

Izmir Development Agency.,Izmir Industrial Heritage Inventory p.66,17

ALSANCAK TEKEL TOBACCO FACTORY

The Tekel Tobacco Factory is located in the center of the Alsancak port zone. Under the regime of the Ottoman Public Debt Administration, the Régie des Tabacs was established in 1884 to produce cigarettes and other tobacco products. The factory housed many machines for packaging and cigarette production, with their capacity increasing from the 1940s onward.The factory has structural significance with its iron columns and beams on the interior, and arch-shaped windows on the façade, which have been recognized as cultural assets by the conservation board.After privatization, the plant was abandoned and became unused in 2004. In 2023, restoration works were completed, and the building was transformed into an art museum, archaeology museum, libraries, and an events space.

GASWORKS

The Gasworks, located in the Daragacı district,now known as Umurbey Neighborhood,dates back to the Ottoman period and was built in 1867 by British engineer A. Edwards. Due to the increasing demand for electricity, coal gas began to be used primarily for domestic purposes instead of lighting.In 1935, the municipality purchased the property, and it continued its functional life until 1994. In 1998, it was registered as a cultural asset by the conservation board in Turkey.In 2001, an international design competition was organized to reuse the gas plant as a cultural center. Following this approach, the site began to be used as a cultural center in 2009, including a museum, library, and hosting a variety of events such as concerts in the surrounding green area. The buildings and original forms were preserved.

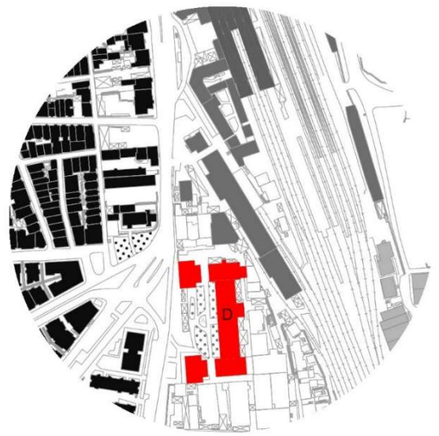


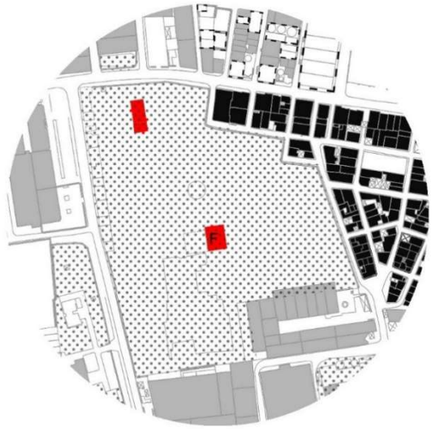
Figure 3.2.7-8

Left to Right:

Photo shows Tekel Tobacco Factory and Gasworks in Daragaci district after the intervention.

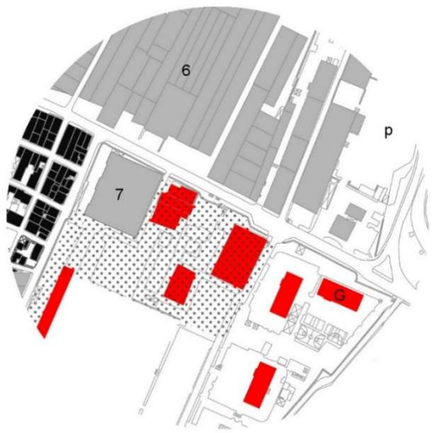
Tarihi Mekanlar Kişisel Ansiklopedi Erol ŞAŞMAZ

Izmir Development Agency.,Izmir Industrial Heritage Inventory p37



SARK INDUSTRY

Sark Industry is located in the Umurbey Neighborhood (Daragacı district), behind the İzmir Power Plant. It was originally constructed as Couzinery-Pittaco Flour Mill in 1892 and transformed into a yarn factory in 1893. Later, in 1895, it began operating as a textile factory under a Belgian-Brussels company.According to historians, industrialization in the region started with the Sark Industry textile factory. Despite initiatives to grow the industry and increase capacities, all machines were sold off in 1976.Although some operations continued, a fire in 1994 destroyed most of the buildings on the site. Only the water tank, a few buildings (such as the Engine House), and some trees remained after the fire. At that time, the site was surrounded by stone walls and left as an unused empty area.



SUMERBANK MANUFACTURING

Sumerbank Manufacturing Industry is one of the largest industrial sites established during the Republican period, covering an area of 133,673.52 square meters. Sumerbank was also affected by the deindustrialization period and was included in the privatization program, being renamed as Sumer Holding Company before shutting down in 2000.In 2006, the site was transferred to the İzmir Special Provincial Administration to be transformed into the Nevvar Salih İşgören Vocational High School Campus. During this transformation, special attention was given to preserving the original structures.In 1998, the pine and palm trees on the site were registered as protected assets. Later, in 2001, the steam power station, water tower, and other buildings were also recognized for their authenticity and designated for preservation.

Figure 3.2.9-10

Left to Right:

Photo shows Sark Industry and Sumerbank Manufactuing (vocational school) in current condition.

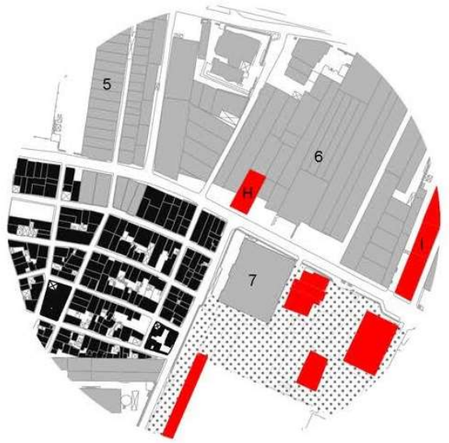
Izmir Development Agency.,Izmir

Industrial Heritage Inventory p.66,17

İZMİR / KONAK - Konak Nevvar Salih İşgören Eğitim Kampüsü-5 Turizm Mesleki ve Teknik Anadolu Lisesi

TILE FACTORY

The Old Tile Factory is located in the Umurbey Neighborhood, with its exact establishment date unknown but estimated to be in the late 19th or early 20th century. Part of the factory was destroyed and lost over time, and in 1990 it began operating as an automobile repair shop.Later, in 1998, it was recognized as a cultural asset. Following this, the remaining structures were renovated, and today the site is used as a store selling construction materials. Only the south and west parts have been preserved in their original condition. The stone masonry walls have been protected and reinforced with concrete beams.



FLOUR MILL

In 1895, the Old Flour Mill was constructed by a Greek merchant. During the Republican period, ownership changed and the mill was taken over by another company. At that time, the original chimney was demolished and In 1998, the flour mill was registered as part of the industrial assets by the conservation board.In 2002, the mill was purchased by the Yaşar Education and Culture Foundation and became part of the Yaşar University campus. Currently, it is used as the Yaşar Museum.

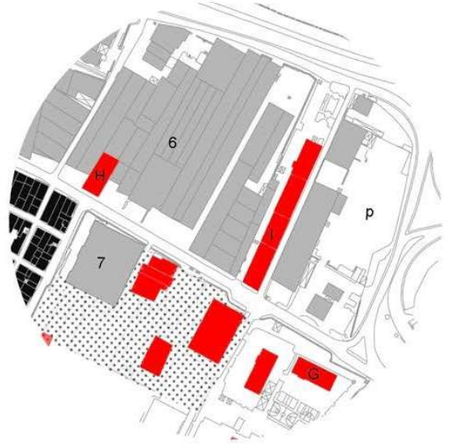


Figure 3.2.11-12

Left to Right:

Photo shows Tile Factory and Flour Mill(Yasar Museum) in current condition.

Izmir Development Agency.,Izmir

Industrial Heritage Inventory

p.42,40

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PART

04

Re-Thinking the Former Power Plant in Izmir : Adaptive Reuse Project Proposal

"The greenest building is one that is already built."

(Elefante C.).

4.1.1

BRIEF HISTORY

During the Ottoman period, even industrialization operations that were carried out resulted in outcomes that were below expectations, and developments remained far behind those in Europe. Due to economic challenges related to the World War, the Republican period did not succeed in its attempts at industrial growth until the 1950s. These improvements were also valid for the Izmir industry. Electricity played an important role in transforming cities from using coal gas to electricity. At that time, foreign investors were interested in electricity operations in Izmir. Initially, the French company Compagnie Générale de Traction tried to obtain a concession to carry out electricity operations in 1902, but the attempts were not finalized. During that period, small-scale electric stations were established, but public lighting and electric tram services had not yet started.A concession was granted to the Belgian company Traction Electricity in 1925, and Izmir's first power plant plans were drawn in 1927. However, due to the presence of groundwater in the foundation, construction operations were postponed and completed in 1928. The introduction of electricity enabled lighting and electric tram services, changed living conditions, and transformed the city into a modern urban space. In this way, events began to be organized at night, people could attend fairs in the evenings, and return to their homes safely.

Starting from 1945, state policies began to be implemented in this context, and the power plant was transferred to the municipality. The factory started to become inadequate to meet the city's lighting needs, and Sark Industry supplied the electricity transmission. In 1949, the plant's capacity was increased to 10 MW; in 1953, it rose to 20 MW; and in 1955, it peaked at 40 MW. Despite the addition of generators and machinery to increase capacity, it was still not enough to supply electricity to the entire city. In 1957, the plant was connected to other power plants to provide more energy. It was then decided to centralize the management of the plant and transfer it to TEK (Turkish Electricity Authority).The factory was left unused and abandoned from 1989 onwards, and in 1998 it was recognized as a cultural asset that needed protection. During illegal operations aimed at dismantling steel structures, a fire broke out, causing the chimneys and one of the steel buildings to completely collapse. Currently, steel structural elements are still visible on the site. In 2019, during a commission meeting, it was privatized and purchased by Sümer Holding.

The building has significant characteristics, firstly because of its strategic location in Umurbey Neighborhood (Daragaci District), which is close to the city center and adjacent to other industrial properties. Secondly, it is the second large-scale power plant in Türkiye after the Silahtarağa Power Plant in Istanbul. It belongs to the pre-Republican period and is the first power plant in Türkiye that generated electricity using lignite coal.Totally built with steel structures on a concrete foundation, the building features large spans between steel pillars and an approximate height of 30 meters, with steel-framed windows. These architectural elements make the factory unique among other cultural assets in the district. The exact location of the machines is not known, but the machinery platforms, made of thick concrete blocks, are visible. Some characteristic elements are still present inside the factory, such as movable cranes and an industrial clock. Two blocks are visible, and the main block still contains original components. The machinery zone and other supporting buildings were part of the electricity generation process. Not only the factory itself, but also other one- to two-story buildings are part of the site.Since its recognition, no restoration work has been carried out, and the site has remained abandoned for approximately 30 years. In this chapter, the proposal for the reuse project will be explained, including all analyses, on-site visits, and the project development process.

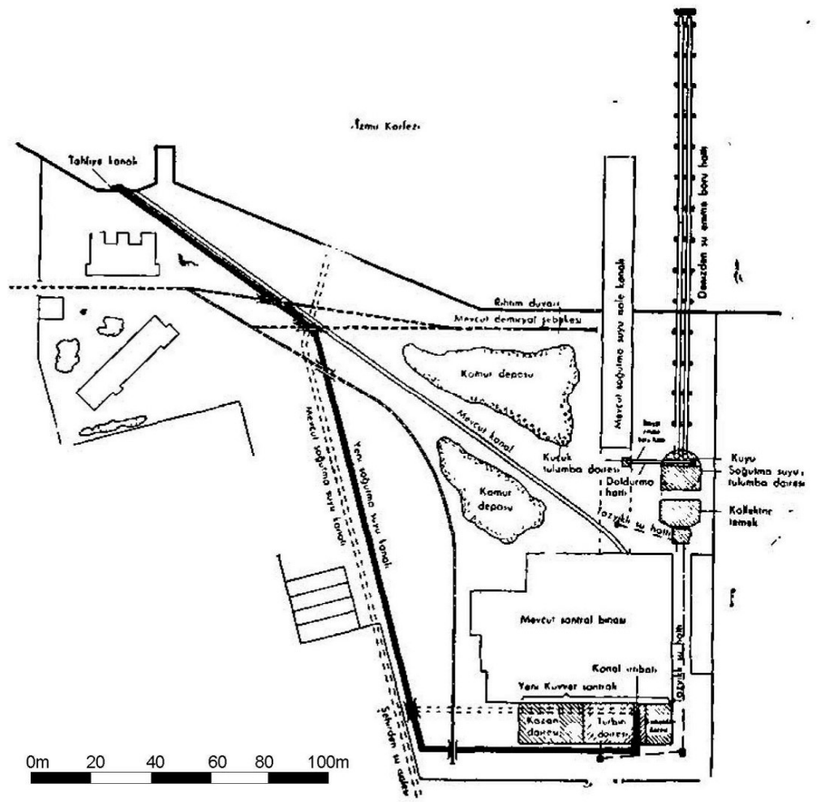


Figure 4.1.1

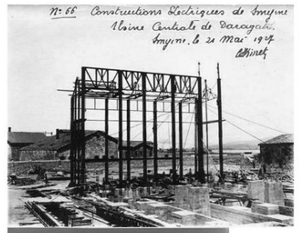
Izmir Power Plant ,site plan has shown with pipe canal system for water extraction .

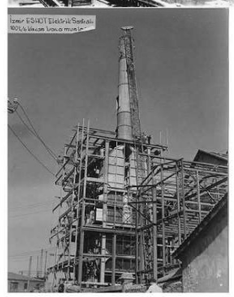
Izmir Şehri Elektrik Santralının tevsii,Izmir Elektrik Fabrikasi vaziyet plani,Elektrik muhendisligi mecmuasi,1957/7,Emo Izmir Subesi

IZMIR POWER PLANT TIMELINE

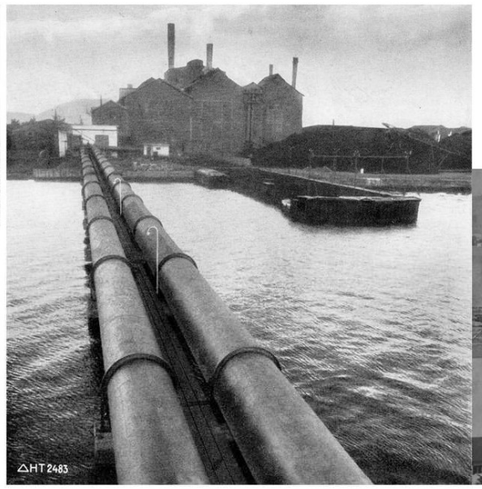
4.1.2

All documents and pictures are taken from Izmir Architecture Association archive.



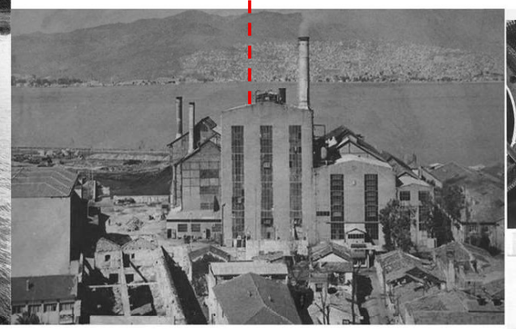


Construction Process of the Factory



Pipe system has shown before the construction of Port area.

Shows the part of the factory that collapsed due to the fire



1928

Due to the visibility of water at the foundation, the construction was postponed and completed in 1928 by the Belgian Traction company

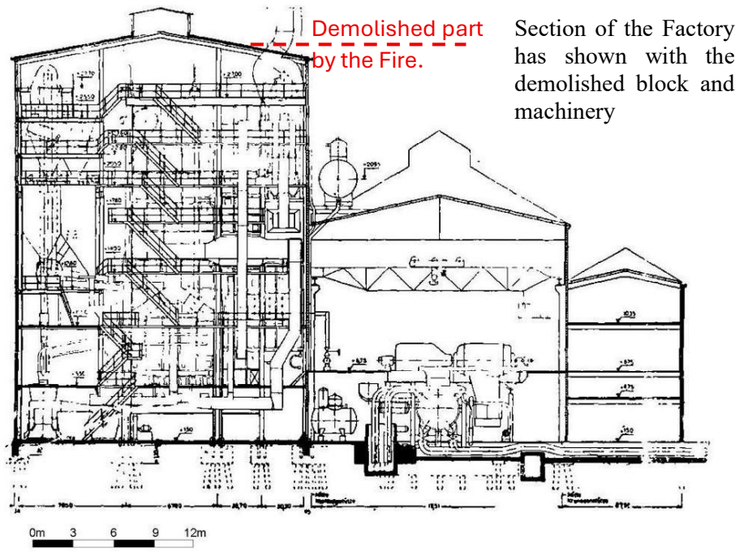
1944

1957

The plant was connected with other power plants to increase energy supply.

1971

The factory's capacity became inadequate, in order to find more affordable solutions, the power plant was purchased by the Izmir municipality and state-based policies were implemented.

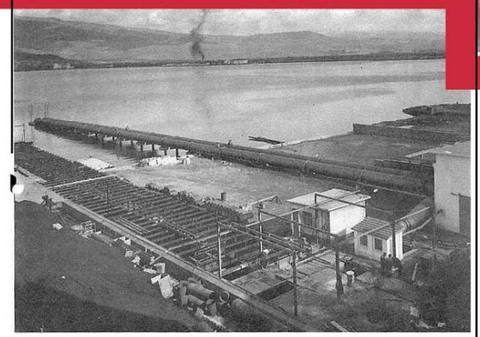


Demolished part by the Fire.

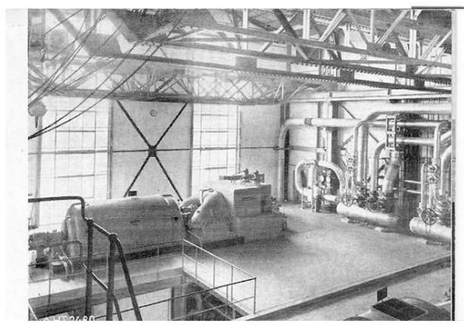
Section of the Factory has shown with the demolished block and machinery

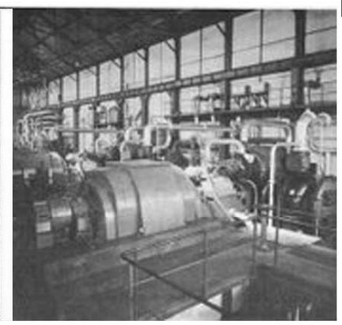
1989

Problems with the capacity of electricity generation and transmission to the entire city grew, and the solution was to connect all electricity operations to TEK (Turkish Electricity Authority). Consequently, the factory was transferred to TEK



1943 yılında devletleştirilen İzmir Termik Santrali'ndan bir görünüş.





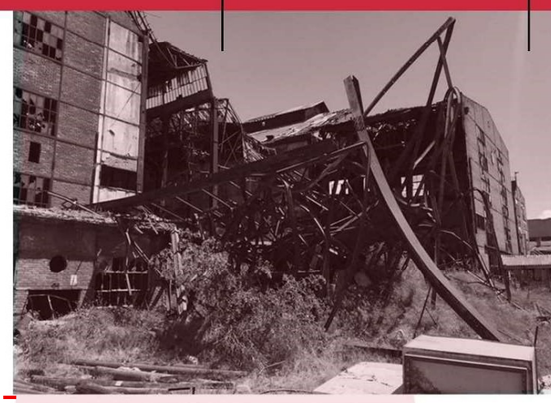
1998

The power plant was recognized as a cultural asset to be protected by the Conservation Board in Izmir. Later, illegal dismantling operations of steel structures caused a fire on the site. As a result of the fire, one of the building blocks was completely destroyed.

The power plant became an abandoned and unused vacant site in the Daragaci district.

2019

Power plant site had privatization and purchased by Sumer Holding Company.Any restoration works have been done and discussions are sill on going.



The ruins of the steel structure are visible in the collapsed part of the building.

ANALYSIS AND INSPECTIONS

4.2.1

1

Old Entrance-Closed

2

New Entrance-Security Gate

Unvisibility

3

Distance from
Cultural asset

Sark Industry-Abandoned

4

5

Poor Neighbourhood
Unsecure Area

Photographs were taken by Ebru Emirbayer

6

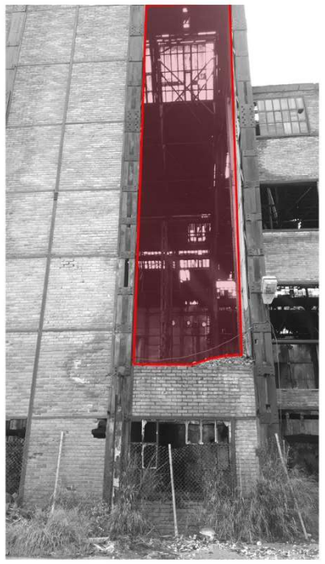
7

0m 20m 80m 100m

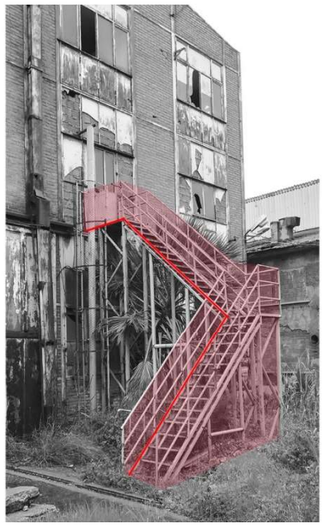
ccessibility-Unvisibility

EXISTING CONDITION ANALYSIS

VOIDS

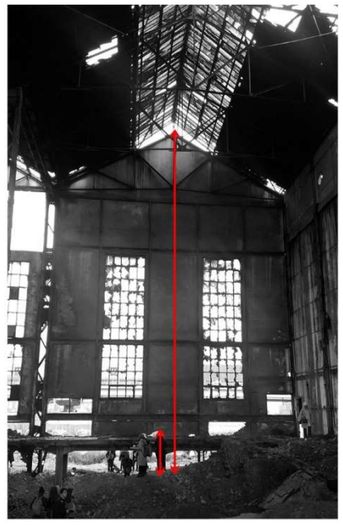


CIRCULATION PATH

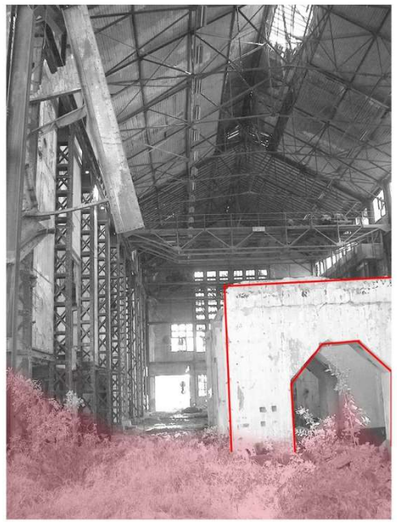


STRUCTURE

VOLUME



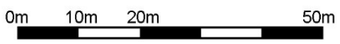
GREEN GROWTH



CRANE HOOK

EXISTING CONDITION DRAWINGS

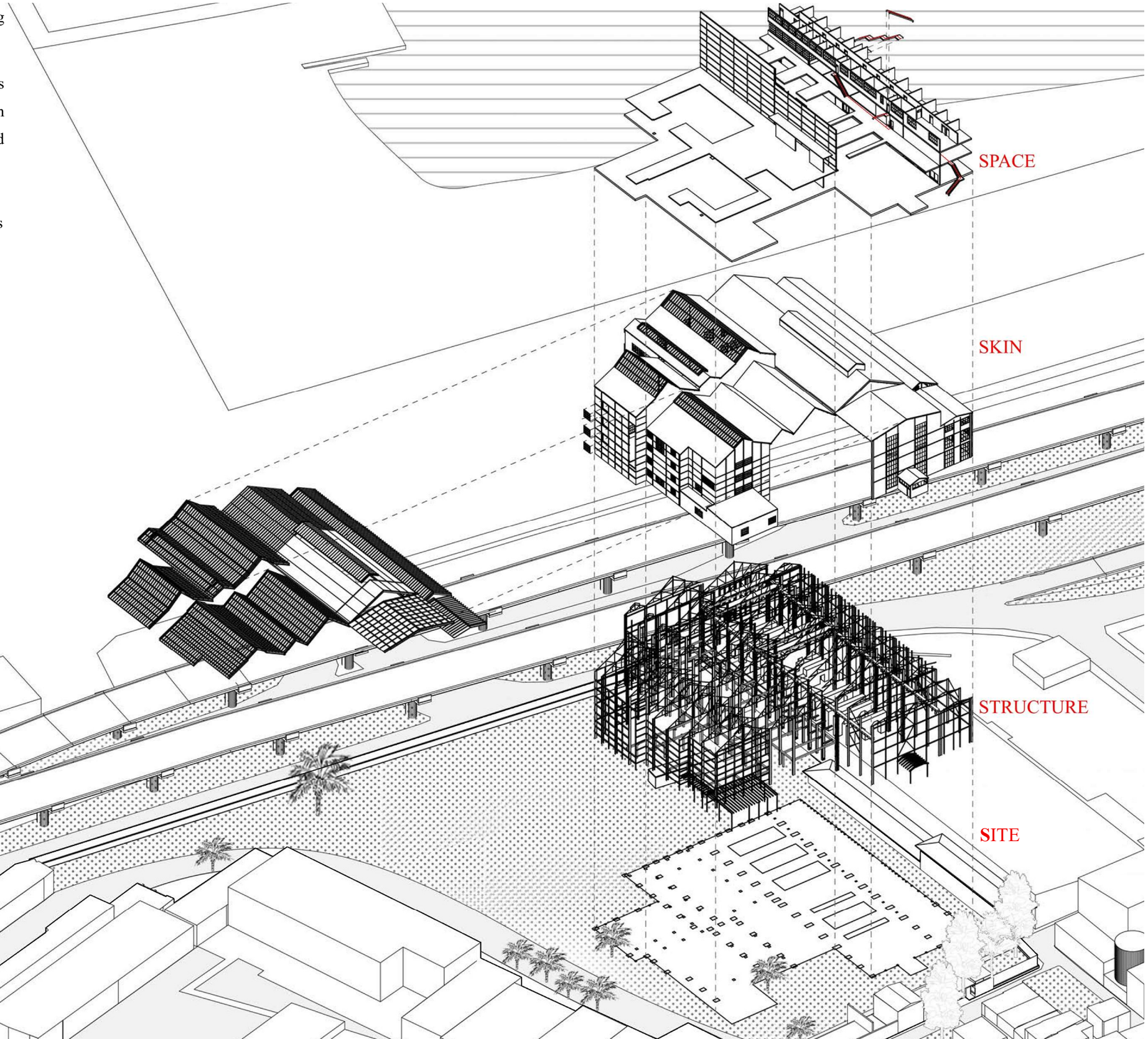
4.2.2 AXONOMETRY



SHEARING LAYERS

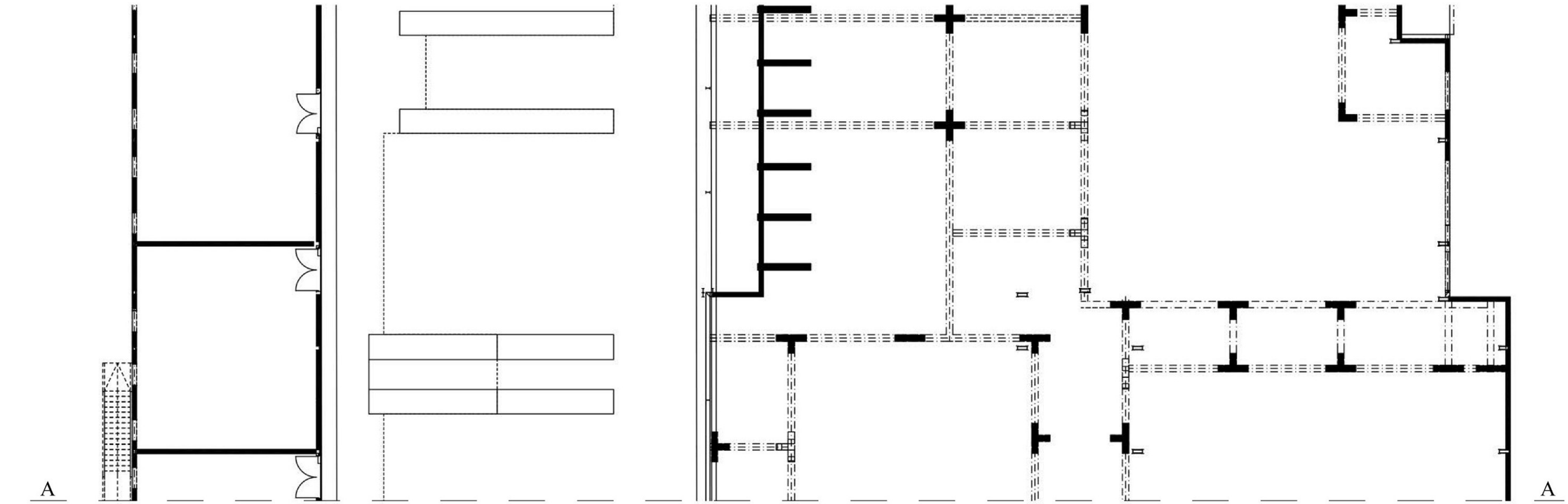
Shearing layers has categorised the existing building into 4 layers:

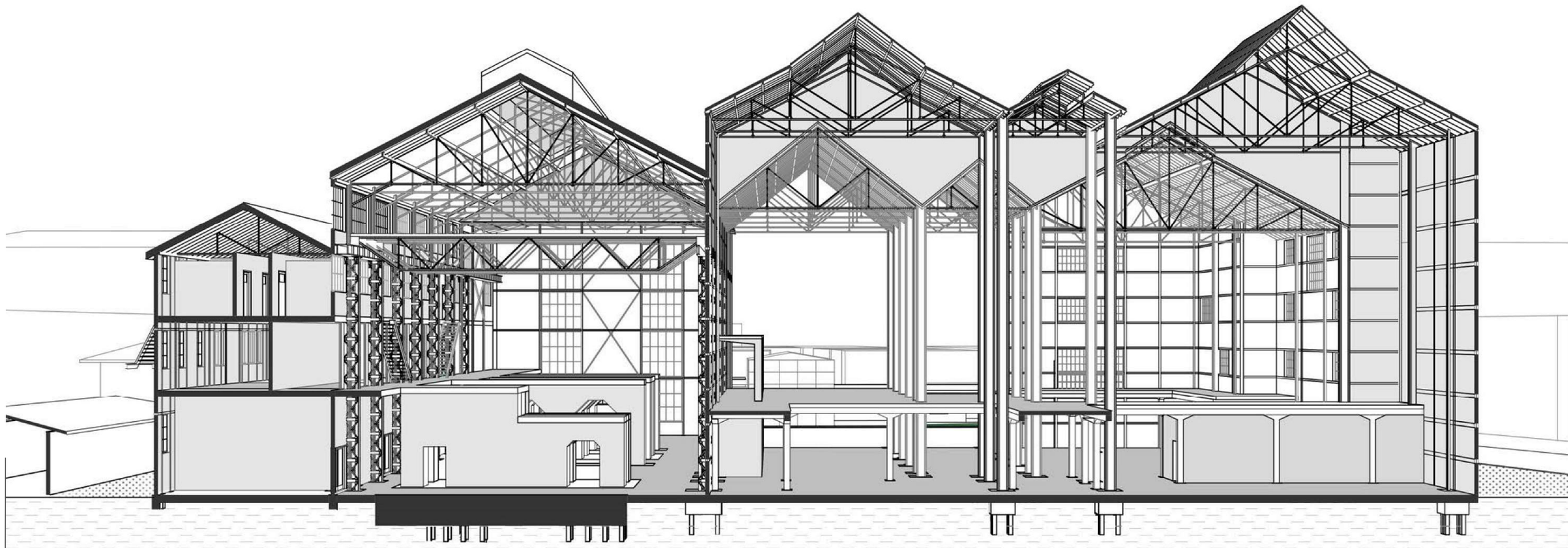
1. **Site**-Building footprints and Surroundings
2. **Structure**-Main Structure of Buildings(in the case,Steel frame with reinforced concrete foundation for machinery.
3. **Skin**-Envelope of the Factory
4. **Space**-Interior circulation,slabs and walls



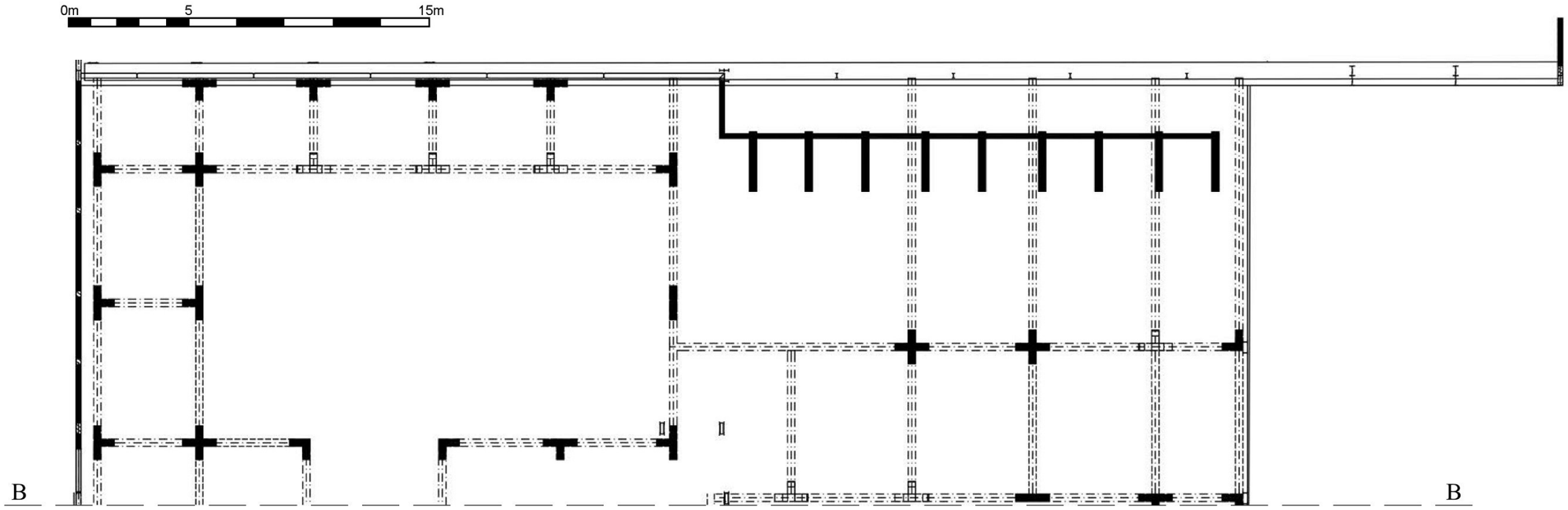
A-A SECTION

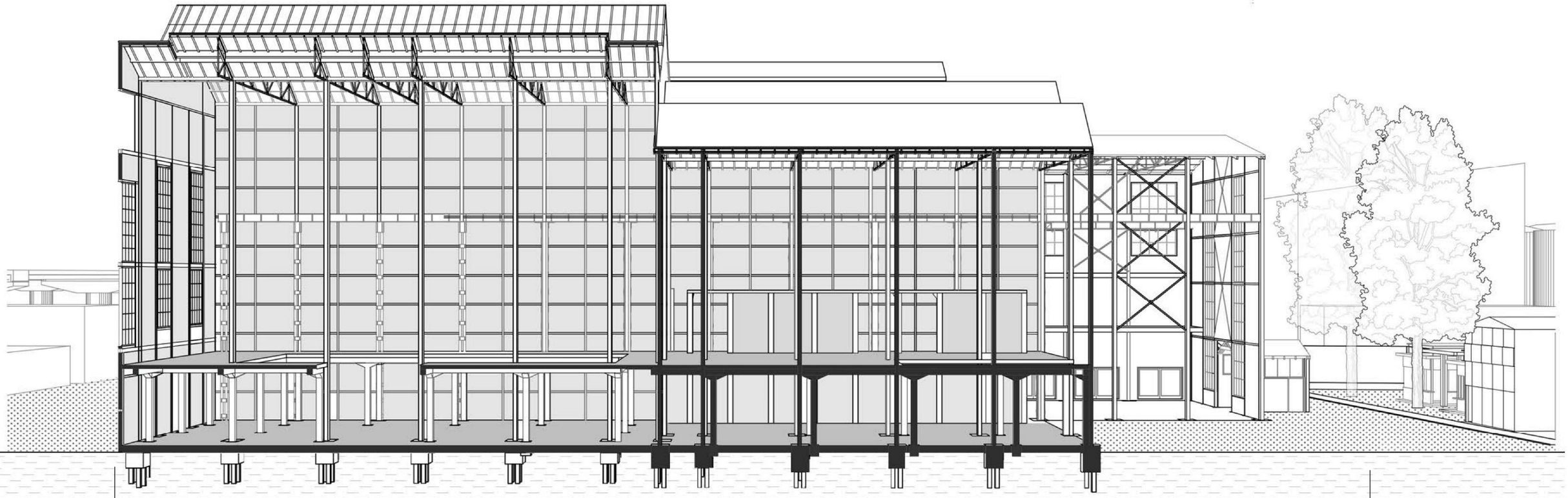
0m 5 15m





B-B SECTION



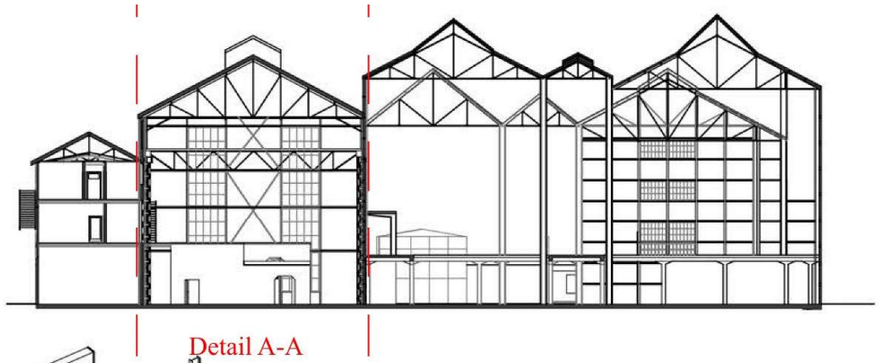


A-A DETAILS

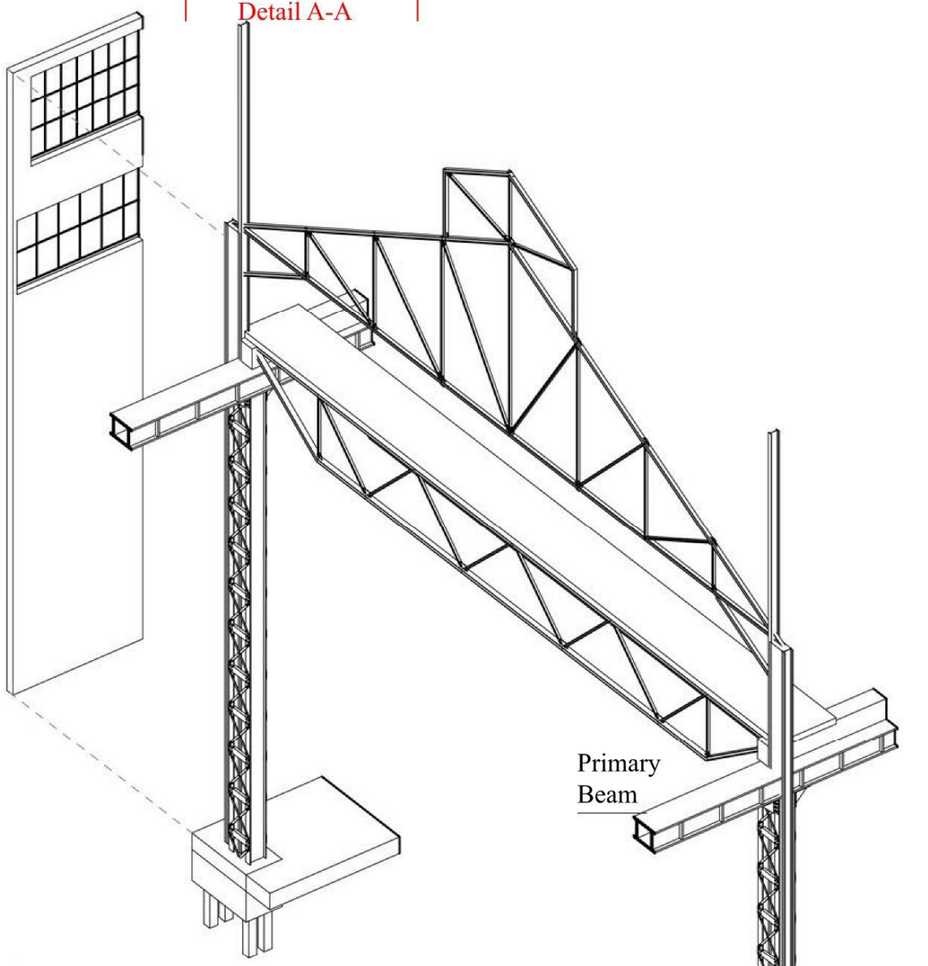
The pictures show the joints and integrations between the Crane,truss frame and steel structure on the above.

The Picture shows the construction period in 1927.

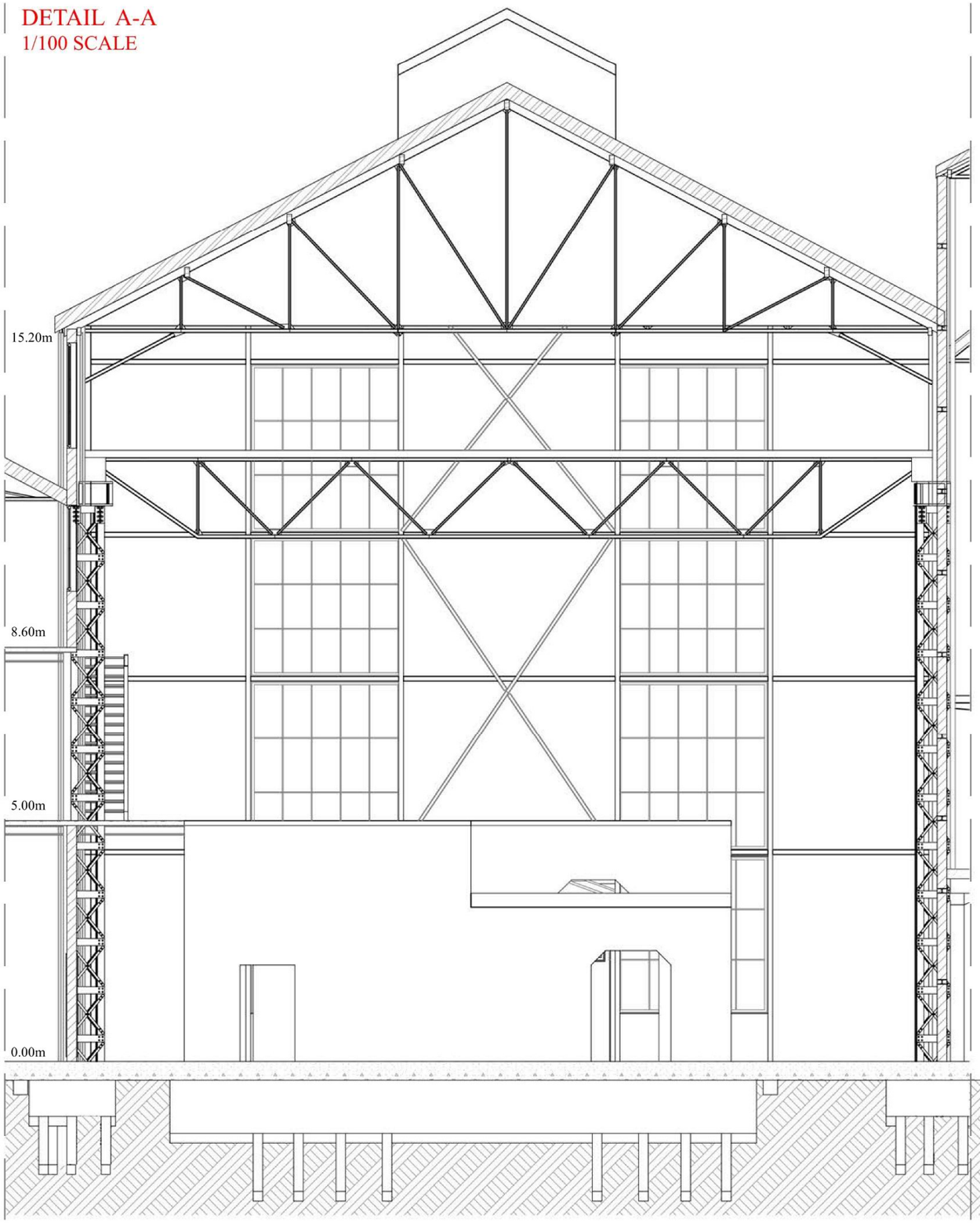
105



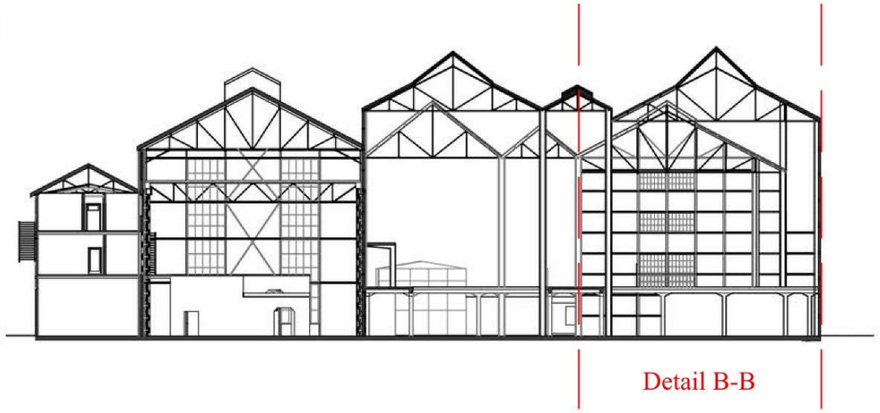
Detail A-A



DETAIL A-A
1/100 SCALE



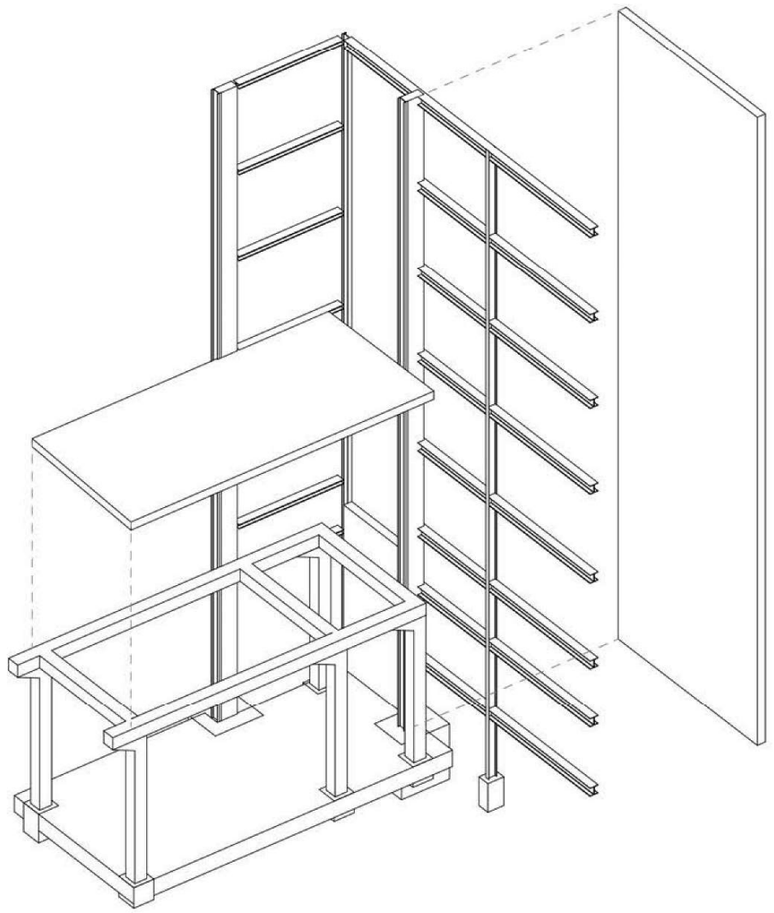
B-B DETAILS



Detail B-B

The concrete part was added and

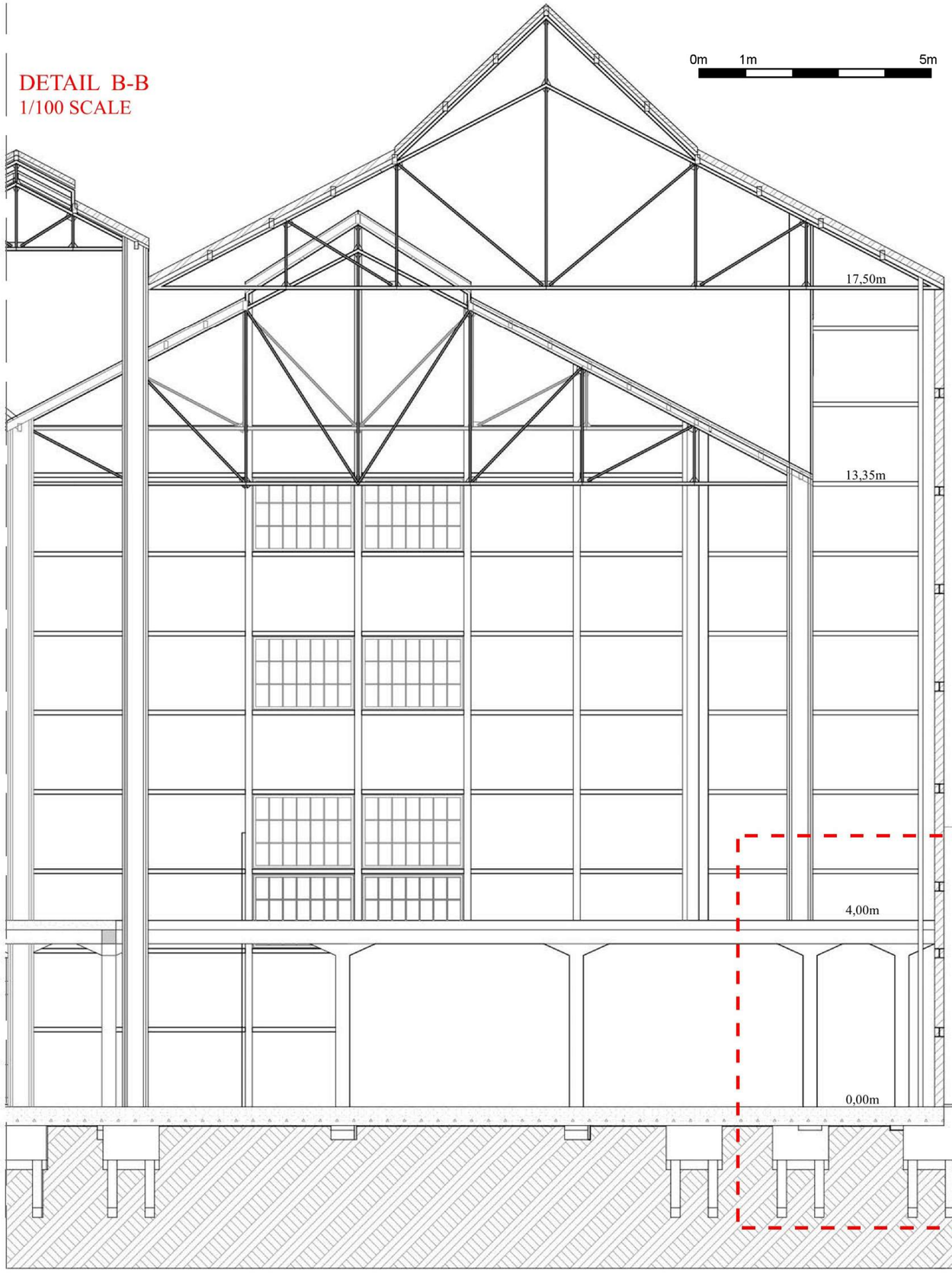
The concrete part was added and built next to the main steel frame structure,concrete pillars only touching the steel columns.



These show that bricks were placed

Photos show that bricks were placed between the steel frames.The brick walls don't have a structural role.

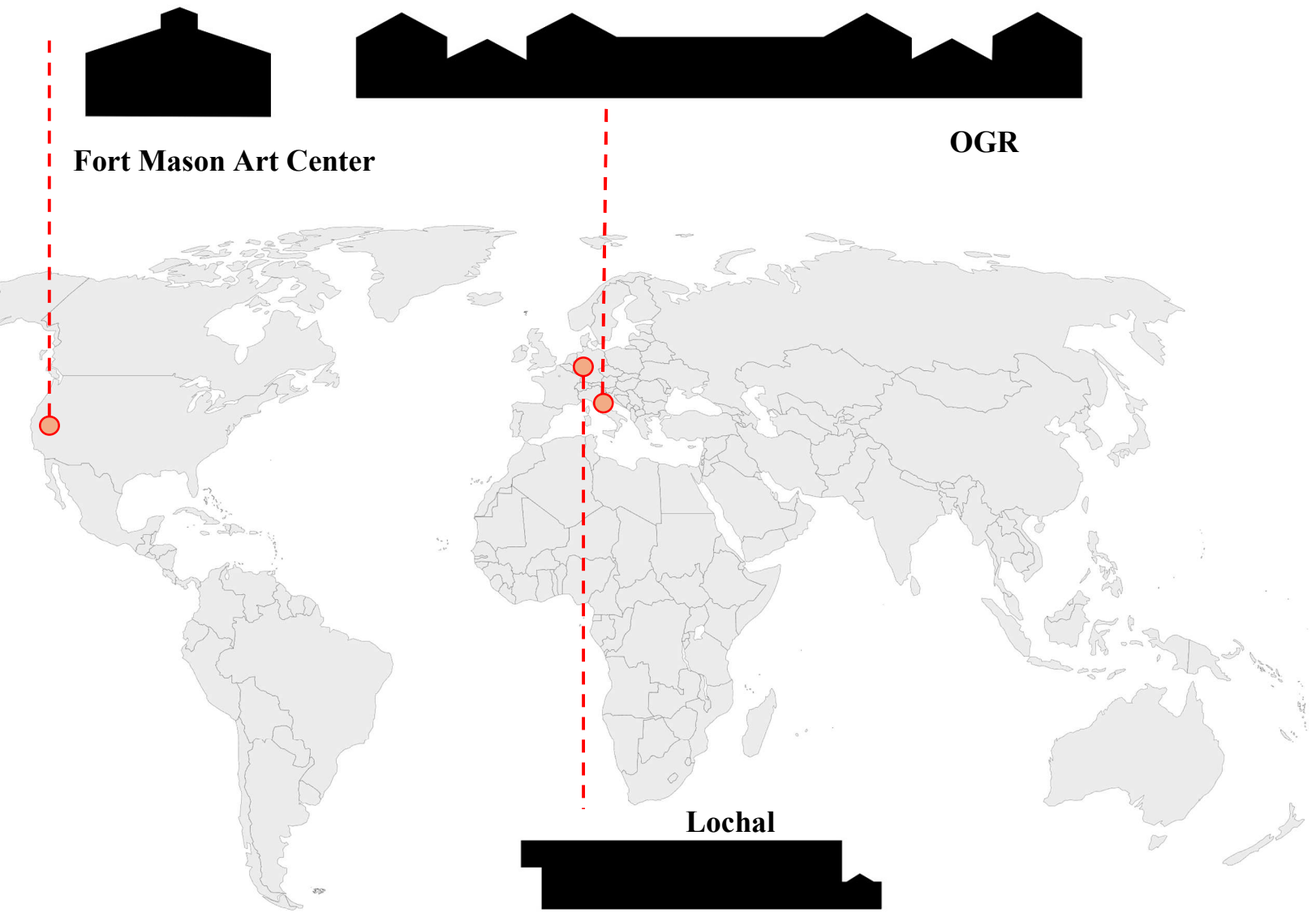
DETAIL B-B
1/100 SCALE



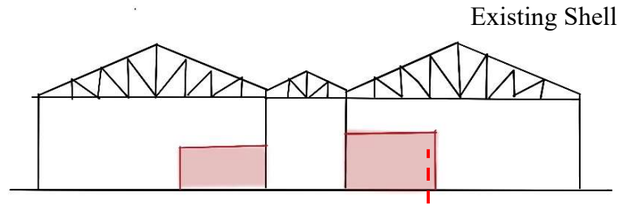
CASE STUDIES AND INSPIRATIONS

4.3.1

Case studies are chosen to demonstrate and define reuse strategies regarding the power plant proposal. In this section, different approaches will be considered for creating an art and cultural hub in buildings of similar typology—characterized by large volumes and steel structural composition. Based on these inspirations, possible intervention strategies will be investigated and used as a reference for the final proposal. As a result, three main case studies are presented as references: OGR in Torino, Fort Mason Arts Center in the USA, and LOCHAL in the Netherlands.



OGR Torino



Location:Torino,Italy

Former use: Train Repair Workshop(1895)

New use:Cultural and Innovation Hub (2017)

Architect: Atelier Alfonso Femia, Boffa, Petrone & Partners, Garibaldi Architects

The building was originally located between Torino Porta Susa and Porta Nuova train stations and was established as a train repair workshop in 1895. It was one of the largest industrial sites in Torino and was bombed during the Second World War starting in 1942. After being decommissioned, the renovation process began in 2013 by CRT Company and was transformed into a multifunctional hub consisting of performing arts, a cultural center, and a creativity space in 2017. Later, in 2019, an innovation hub was integrated to foster technological and scientific research.

Figure 4.3.1

Ogr Exterior facades Photo with Torino city view.

OGR Torino - Politecnico di Torino e OGR Torino per una Comunità Energetica Rinnovabile urbana

The building has two main blocks: one represents the Cultural Art Center that hosts exhibitions and concerts (Part A), and the second zone was designed by inserting new glass-framed boxes for innovation activities and technological purposes (Part B). Between these, the Gastronomy Art Zone includes restaurants and a top lounge area (Part C). During the transformation process, authenticity and the existing structure were preserved, and new blocks were added inside the existing shell to create new spaces.

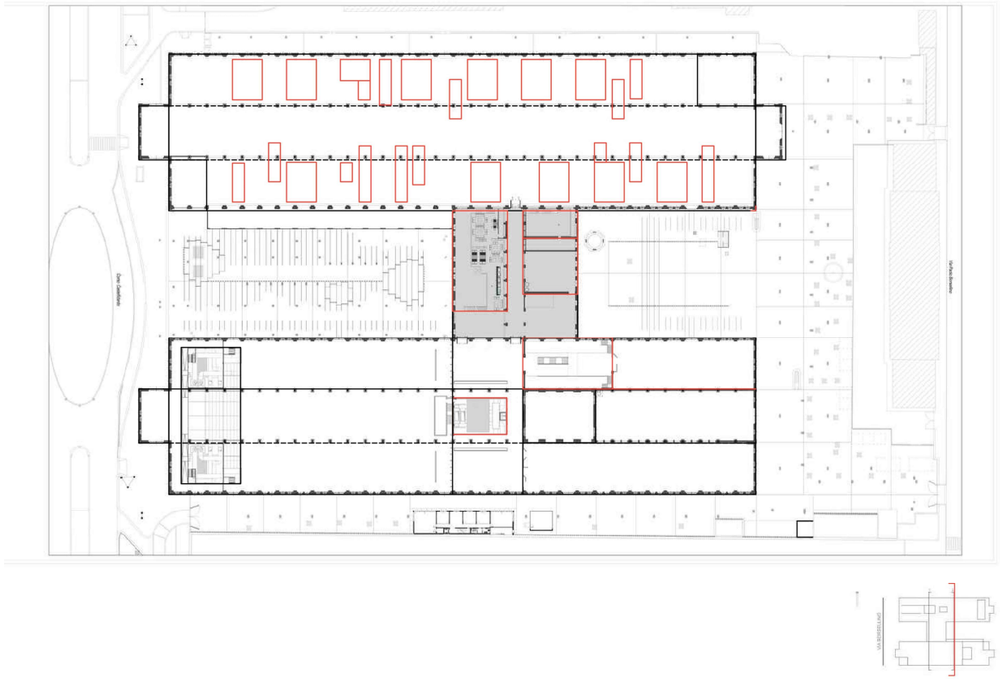


Figure 4.3.2

Ogr ground floor plan,red parts show the additions,redrawn by Ebru Emirbayer

https://www.theplan.it/award-2019-Renovation/rifunzionalizzazione-officine-grandi-riparazioni-ogr-torino

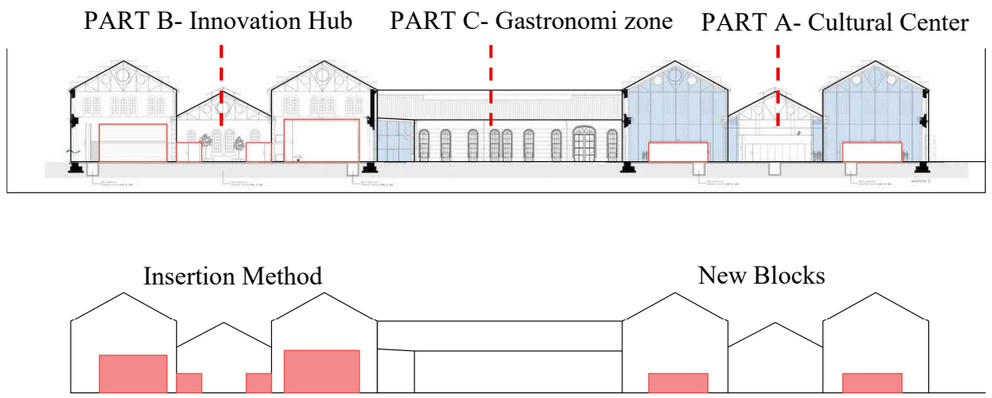


Figure 4.3.3-4

From top to down;

Ogr section ,shows additions in red and functions on the top.Modified by Ebru Emirbayer

Concept Diagram was made by Ebru Emirbayer

https://www.theplan.it/award-2019-Renovation/rifunzionalizzazione-officine-grandi-riparazioni-ogr-torino

Figure 4.3.5

Ogr Techno-hub part interior photograph.

OGR Tech – Garibaldi Architects

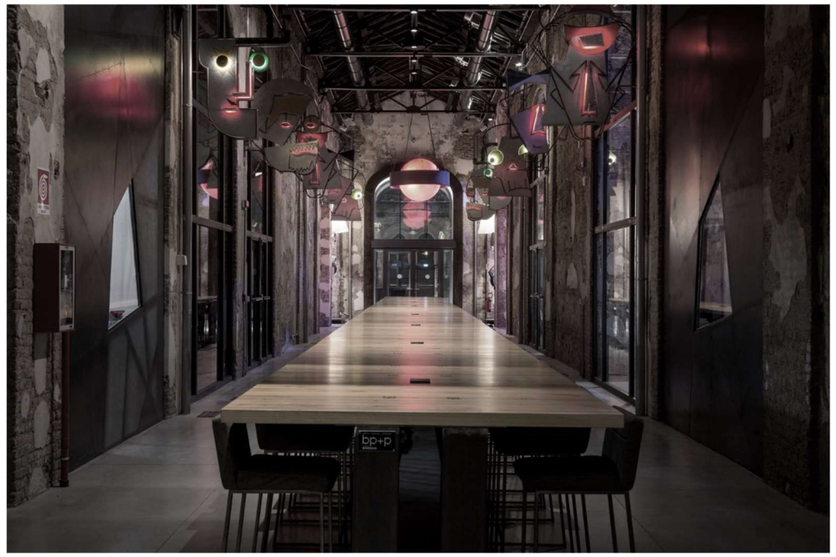


Figure 4.3.6

Ogr Gastronomi-Restaurant part interior photograph.

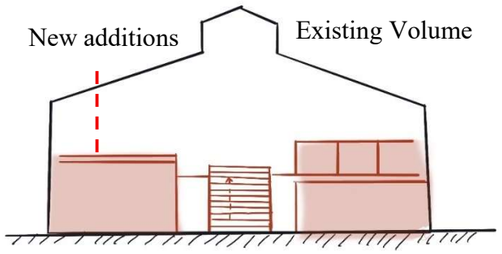
Gallery of SNODO / Gruppo Building + Boffa Petrone & Partners - 8

Figure 4.3.6

Ogr Cultural Hub part interior photograph during the Concert.

OGR Torino - Prince | One night in the 90 & 2000s

Fort Mason Art Center



Location: San Francisco,Us

Former use: Military Port(1912)

New use:Art Institute(2017)

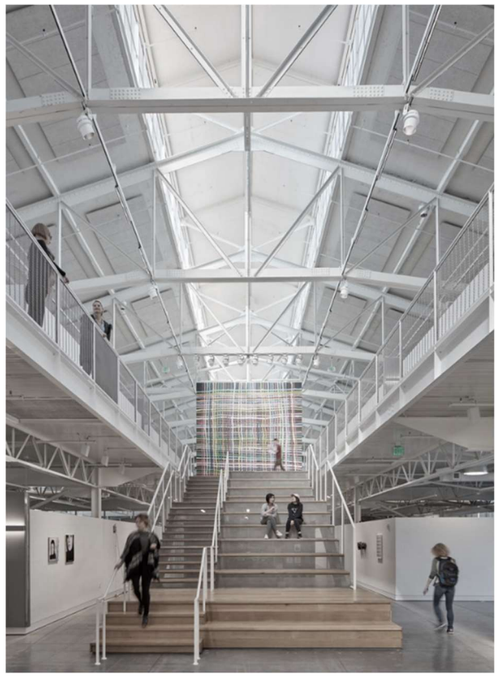
Architect: Leddy Maytum Stacy Architects

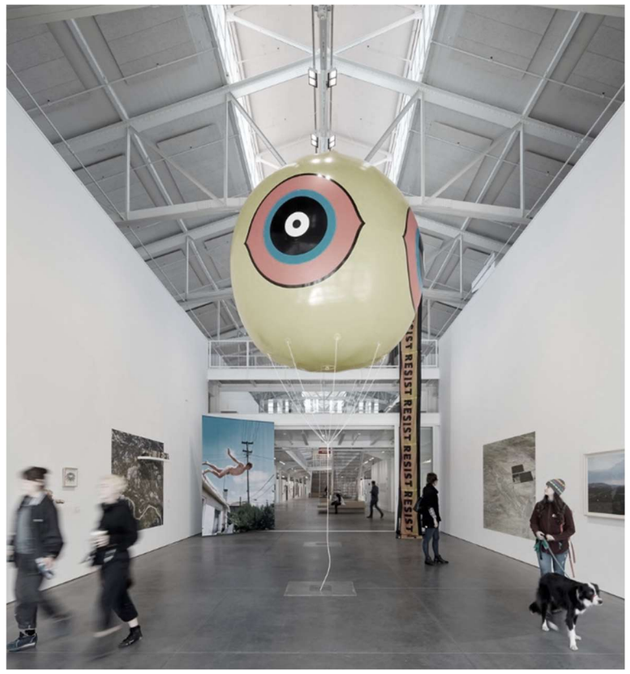
For The former military port zone was abandoned in 1972, and the building known as Pier 2 was transformed into an art institute that hosts artists and activities in 2017. Two different phases were carried out during the adaptive reuse process. In the first phase, the existing shed was restored, with sustainability considered by adding a photovoltaic solar system on the rooftop. In the second phase, the interior volume was developed into exhibition zones, art galleries, art studios for productivity, workshops, and theater performance stages.

Figure 4.3.7-8

Fort Mason Art Center Interior photos, Main Staircase and Enterance area.

Fort Mason Center for Arts & Culture / LMS Architects | ArchDaily





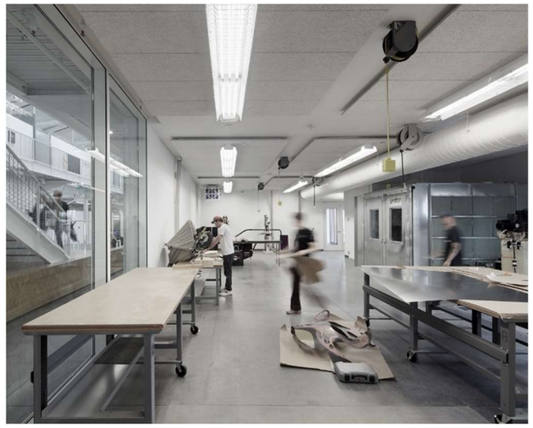


Figure 4.3.9-10

Left to Right;

Fort Mason Art Center workshop and Artist studios

Fort Mason Center for Arts & Culture / LMS Architects | ArchDaily

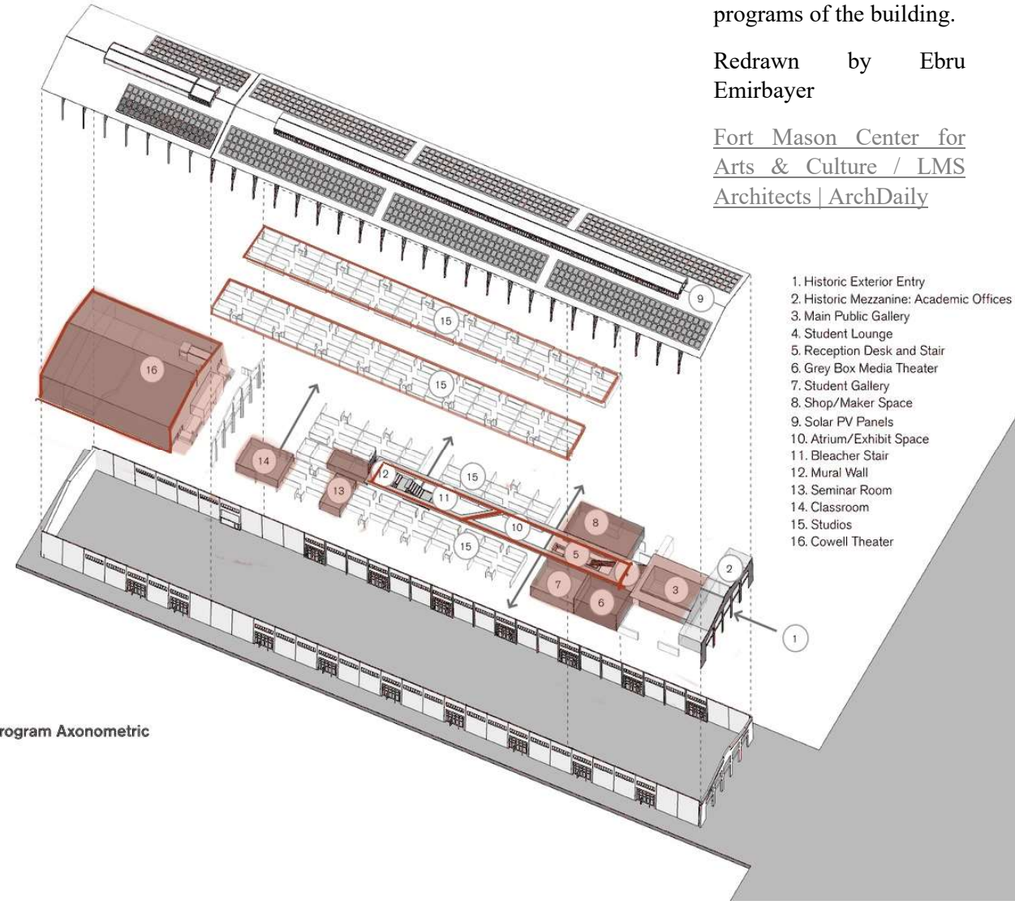


Figure 4.3.11

Fort Mason Art Center Axonometry shows the programs of the building.

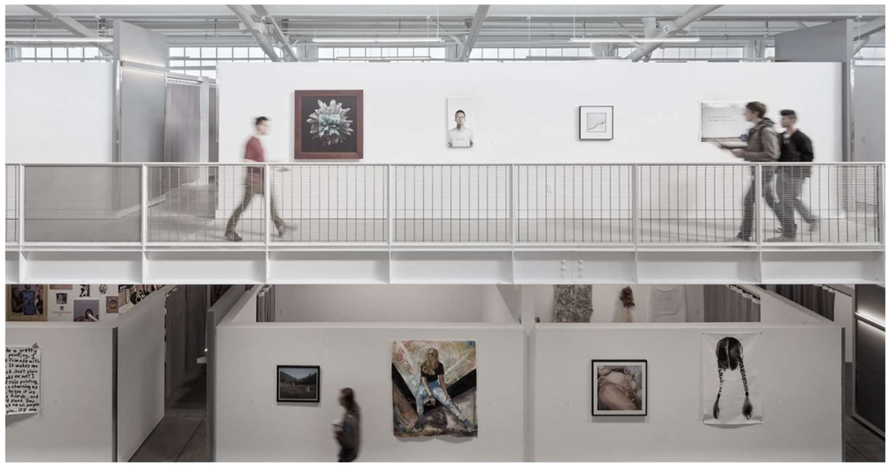
Redrawn by Ebru Emirbayer

Fort Mason Center for Arts & Culture / LMS Architects | ArchDaily

Figure 4.3.12

Fort Mason Art Center Artist Studios and Labs.

Fort Mason Center for Arts & Culture / LMS Architects | ArchDaily



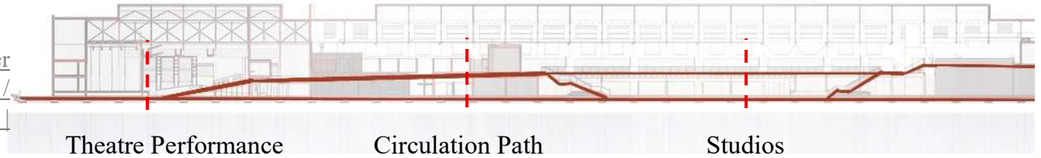
As seen in the above section, the adaptive reuse strategy was introduced by creating th main circulation system, shown by red lines. Due to the large capacity of the existin volume, the design was based on circulation flows and dialogues between floors. Studio and art galleries are placed and integrated along the circulation paths. This project's reuse approach was considered as the initial starting point for the proposal of Izmir Power Plant.

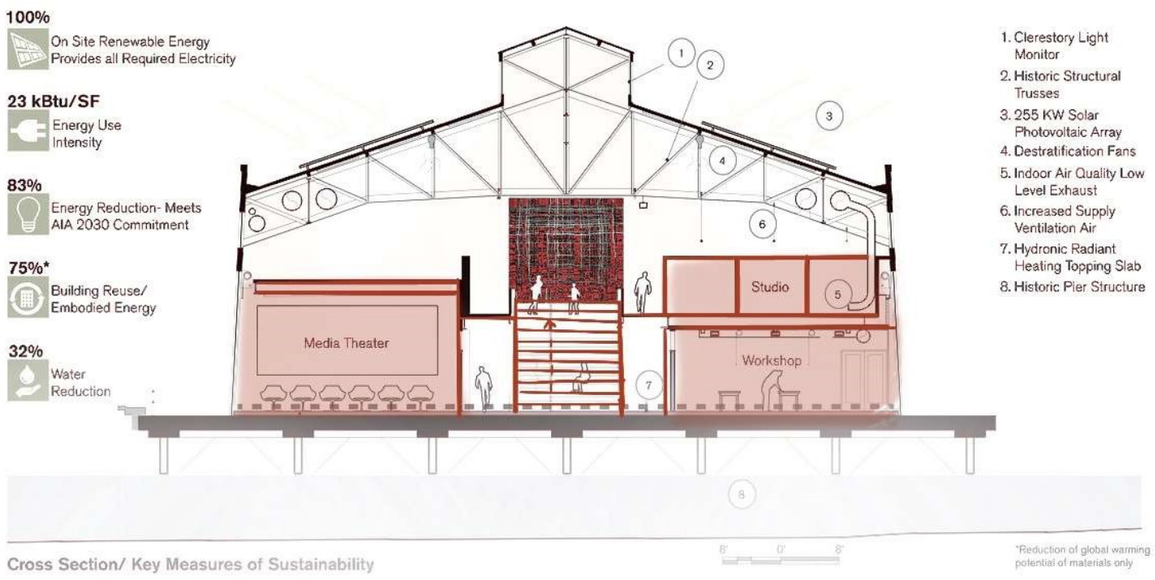
Figure 4.3.12-13

Fort Mason Art Center sections.

Redrawn by Ebru Emirbayer

Fort Mason Center for Arts & Culture / LMS Architects | ArchDaily





Lochal Library

Location:Tilburg,Netherlands

Former use: Locomotive Hangar(1932)

New use:Public Library(2019)

Architect: Braaksma & Roos architectenbureau, CIVIC architects

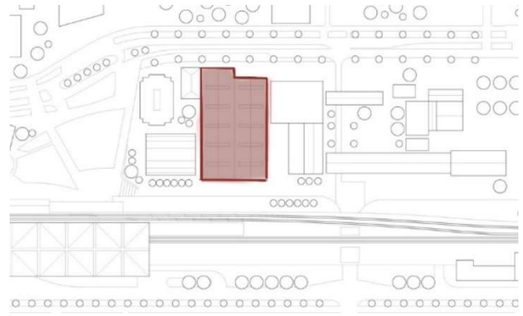
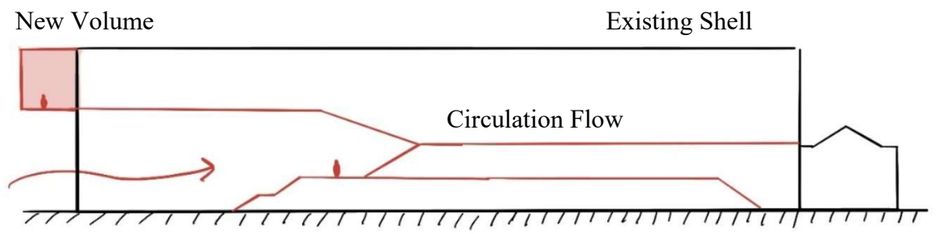


Figure 4.3.14-15

Top to Down;

Lochal Library Site Plan and Concept diagram.Made by Ebru Emirbayer

LocHal Library / CIVIC architects + Braaksma & Roos architectenbureau + Inside Outside + Mecanoo | ArchDaily



A locomotive hangar was transformed into a public library zone in 2019. The library is categorized differently from the classical library concept, consisting of activities, co-working spaces, auditoriums, and a variety of labs for learning. During the adaptive reuse process, the old structure was well preserved and consolidated with new steel columns to support the volume and floors. As seen in the diagram, a new volume was added to the exterior façade to create an attractive entrance to the former train station. The main intervention approach utilized the sheer size of the existing building, and instead of dividing it into zones by inserting boxes, the volume was left as large as it is to preserve the atmosphere..

Figure 4.3.16-17

Left to Right:Exterior Facade of Lochal.

LocHal Library / CIVIC architects + Braaksma & Roos architectenbureau + Inside Outside + Mecanoo | ArchDaily

The main intervention approach is, instead of dividing the building into zones by inserting boxes, to use the sheer size of the existing building to preserve the atmosphere. Hybrid circulation paths create the zones within the library. Stairs and floors, as part of the circulation elements, provide walking routes and allow users to experience the huge volume of the former building, which is 15 meters high. As seen above, existing structural traces are preserved and used in the creation of halls. The halls are divided into zones by movable textiles, which are visible in the third axonometric drawing.

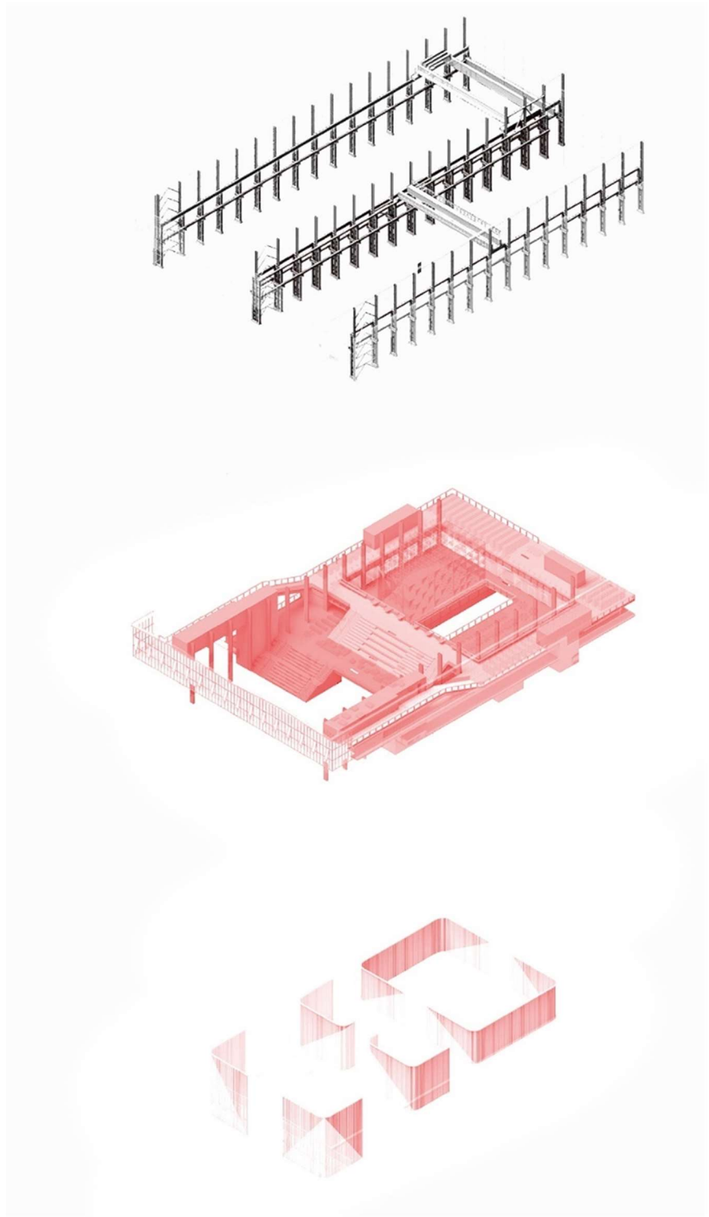


Figure 4.3.18

Top to Down :

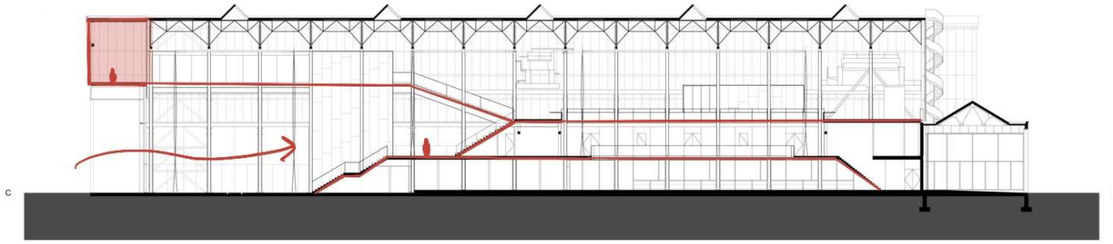
Intervention concept axonometry of Lochal.

-Existing Structure

-New Constructions

-Addition of Textile separators

LocHal Library / CIVIC architects + Braaksma & Roos architectenbureau + Inside Outside + Mecanoo | ArchDaily



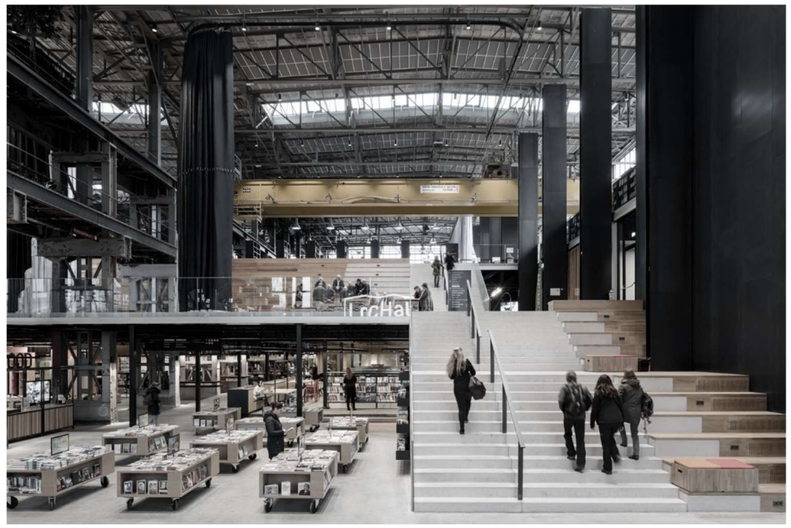


Figure 4.3.19-20-21

Top to Down :

Lochal longtitude Section,modified by Ebru Emirbayer

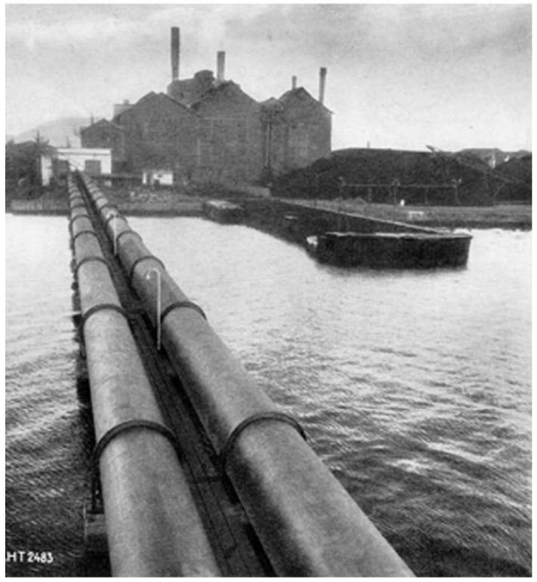
Interior Photographs

Gallery of LocHal Library / CIVIC architects + Braaksma & Roos architectenbureau + Inside Outside + Mecanoo - 9

PROPOSAL OF RE-USE PROJECT

CONCEPT

4.4.1

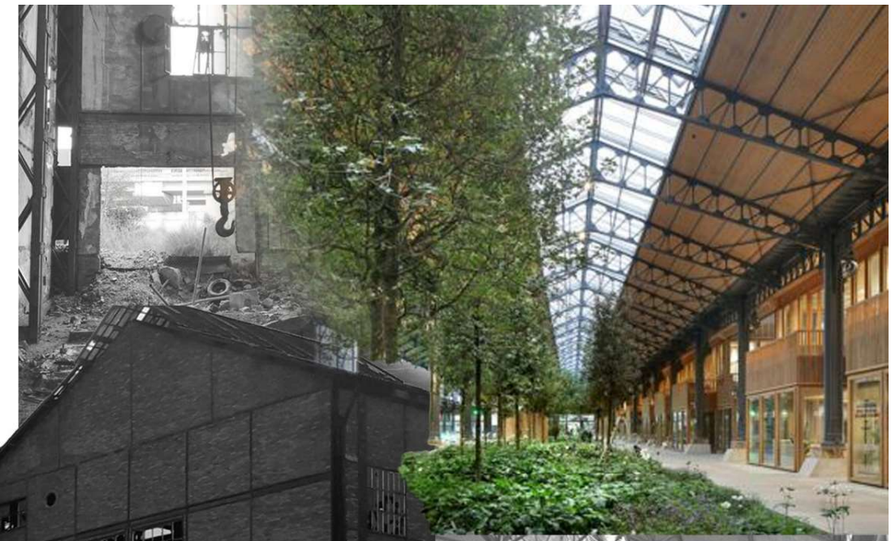


SELF-COMMUNITY HUB

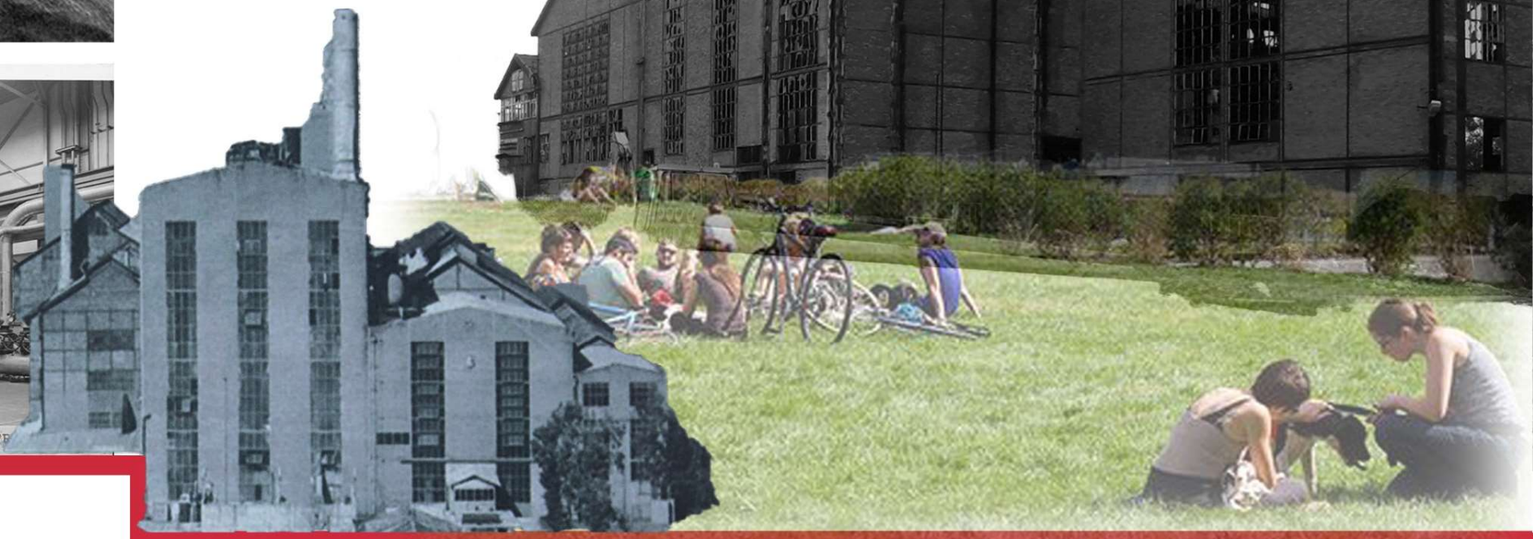
ELF LANDMARK

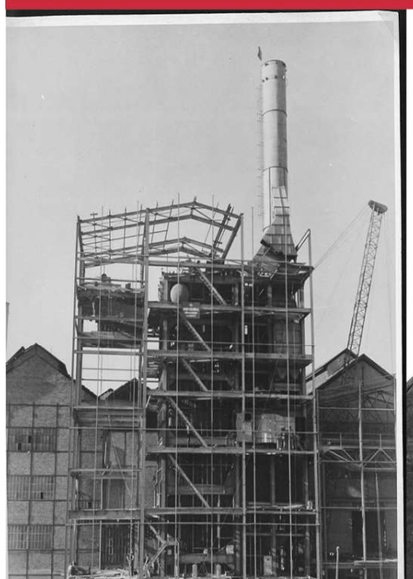
F HALL

ART



INTERACTIVE





HIDDEN

ACTIVITIES IN IZMIR

ALSANCAK KORDON PUBLIC SEAT

KIBRIS SEHITLERI COMMERCIAL STREET

CYCLING-SPORT ACTIVITIES

CAFE-SOCIAL WORKSHOP ACTIVITIES

DARAGACI COMMUNITY - OUTDOOR PAINTING

OPEN AIR CINEMA-CONCERT

NIGHT PUBS-BAR

DARAGACI ART COMMUNITY

On the left page, the ongoing activities have been investigated by considering Izmir's social networks. For the concept development process, attention was paid to common activities among the youth generation. Recently observed activities include coffee workshops, night pubs with concerts, open-air cinema, and outdoor arts.

Daragaci Art Community has organized activities, art events, street art, and meetings in the Umurbey Neighborhood (Daragaci district). It is a non-profit organization that arranges artistic activities to encourage young artists to participate, realize their creativity, and continue producing. It is similar to Paratissima in Torino, which hosts variety of exhibitions and galleries..

Photographs were taken from

Darağaç - İzmir Art

This collective has the potential to spread throughout the entire district, a process which has already begun. Being located in the same area as the Power Plant and organizing art works with both national and international approaches provides the opportunity to host this community in the factory by transforming the Power Plant into a Cultural Art Hub.

DESIGN STRATEGY

This section illustrates the evolution from its current condition to its intended purpose through the Power Plant Site behind the Izmir Port area.The Power Plant site currently contains storage areas, abandoned buildings, and physical barriers, which make it invisible and insecure within the district. In order to integrate the power plant into its neighborhood, the project considers starting from the outer ring of the factory zone.As the first approach to the Power Plant site and its surroundings, the project is divided into three parts, as seen on the right and in the first axonometric drawing.

First Part: Factory Neighborhood

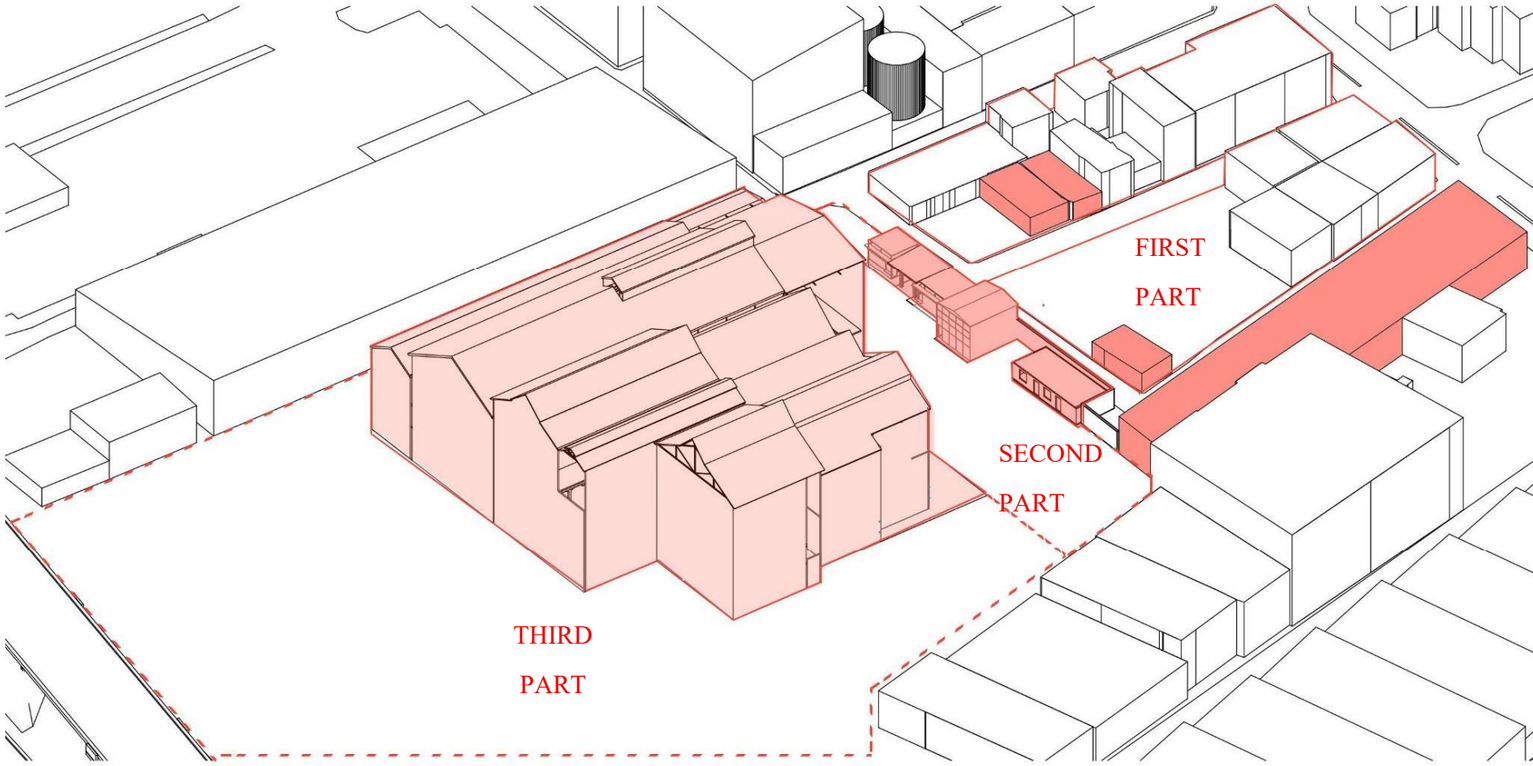
This part emphasizes the transformation of the first meeting point with the factory. Existing abandoned structures are repurposed to host artists with social and artist housing, fostering community and creativity. Public spaces will be created to provide common green meeting points, addressing the lack of public greenery in the district.

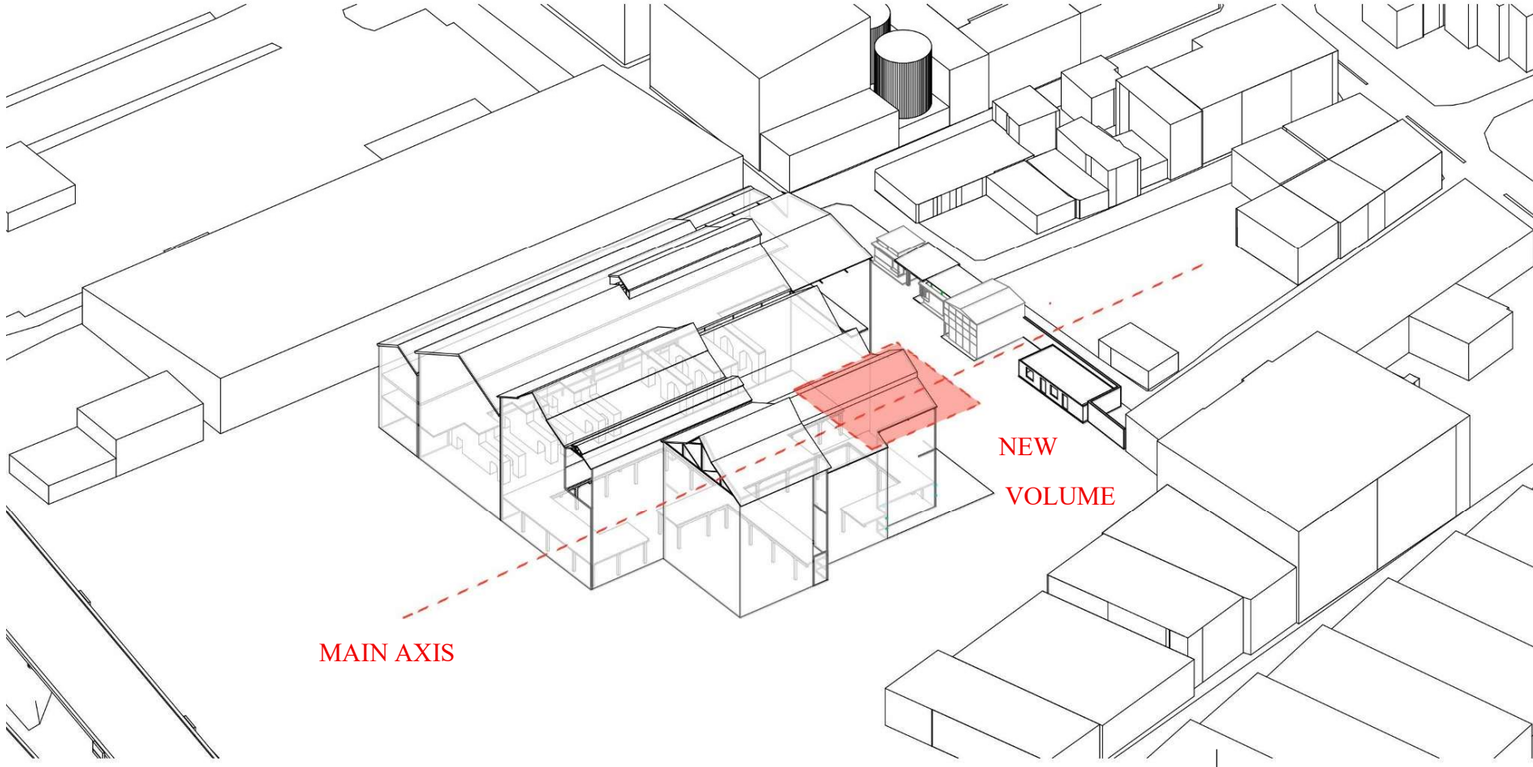
Second Part: Welcoming Units

This part focuses on the entrance to the factory and its surroundings. The welcoming buildings in front of the factory are converted into facilities such as ticket offices, an information center, and event organization offices, creating a functional and organized approach to the factory entrance.

Third Part: Factory

The final part aligns with the factory's borders, highlighting large spaces for public and creative use as grand halls. These halls are designed to accommodate performance stages, exhibitions, artistic self-expression, and a library zone. Instead of keeping the existing entrance, a new entrance is defined according to the main axis of the other block of the factory, creating a new volume to increase visibility and attract attention to the site, as seen in the second axonometric drawing on the upper right.





DESIGN NARRATIVE

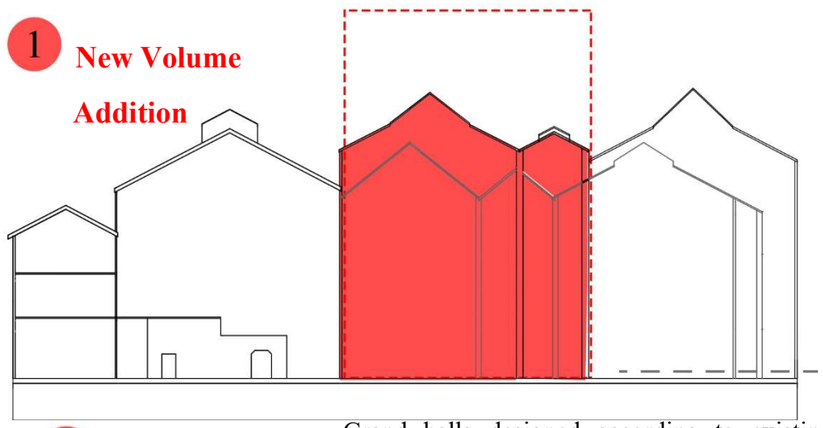
D|a|ragacı
a|rt
H|a|ll

Reinterpretation of existing volume on the entrance (collapsed by the fire in 1998)

.

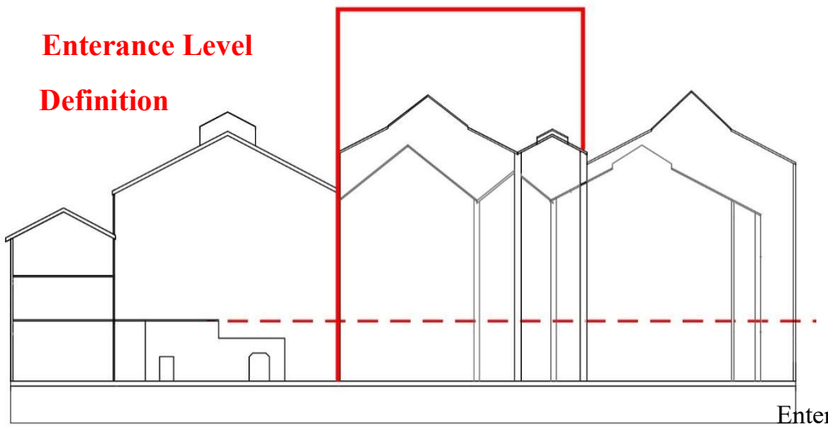
Creation of Ciculation Box

1 New Volume Addition



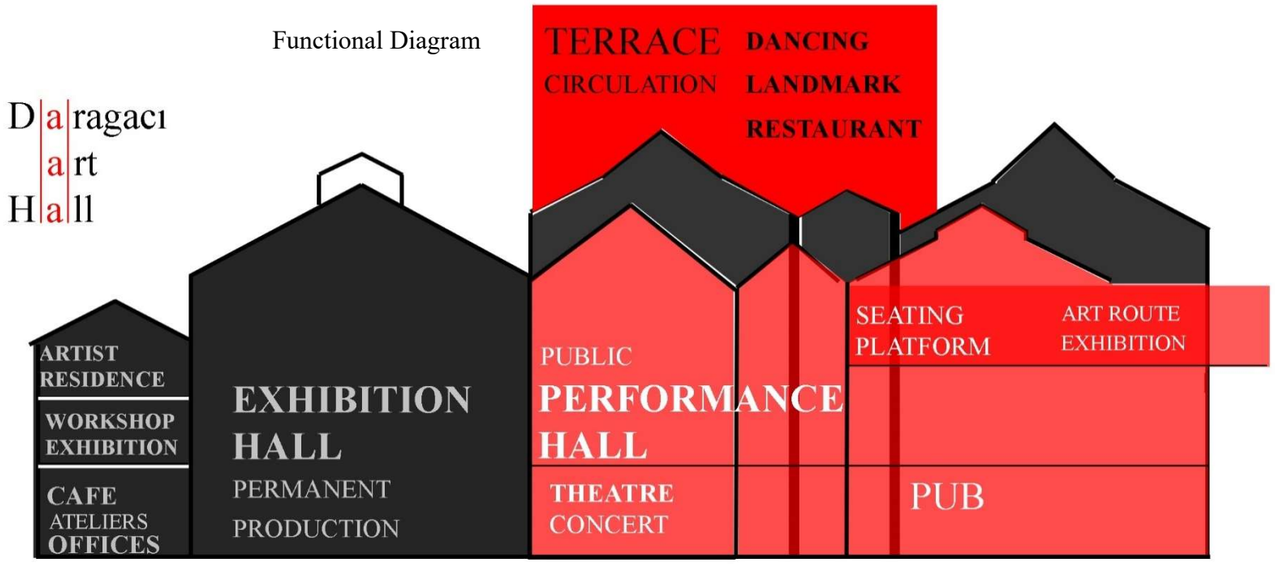
2 Grand halls designed according to existing Slabs,structure level

Enterance Level Definition

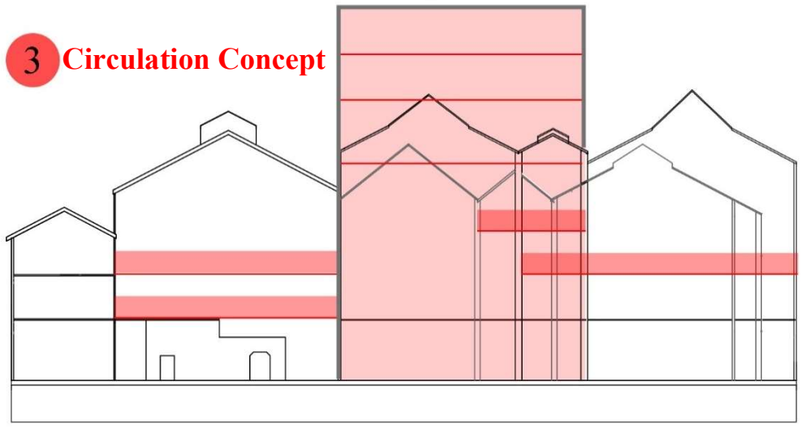


Enterance Level

Functional Diagram

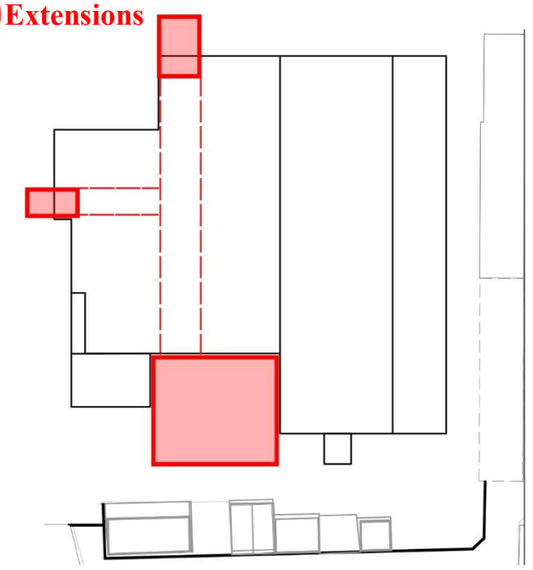


3 Circulation Concept



Circulation spreads from the box to the all Factory interior.

4 Extensions



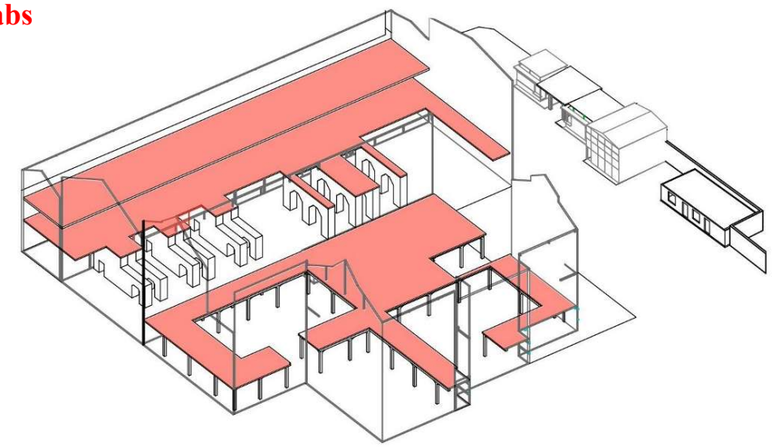
Other boxes added to the facade which was already

Opened(steel plate wasn't exist)

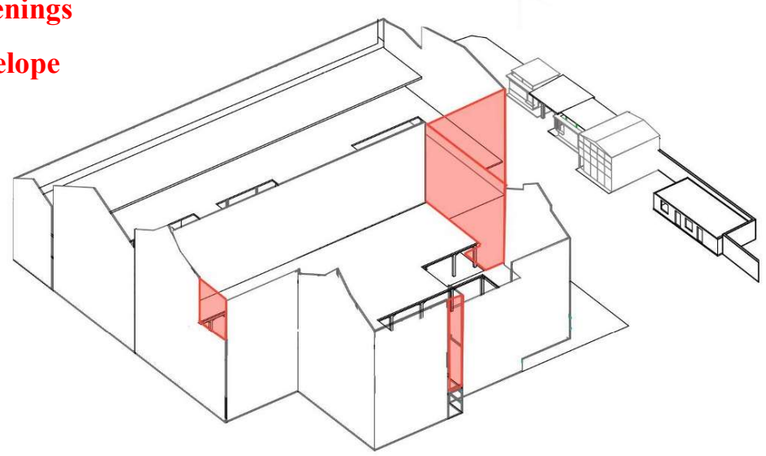
View points are connected with circulation box.

TRANSFORMATION

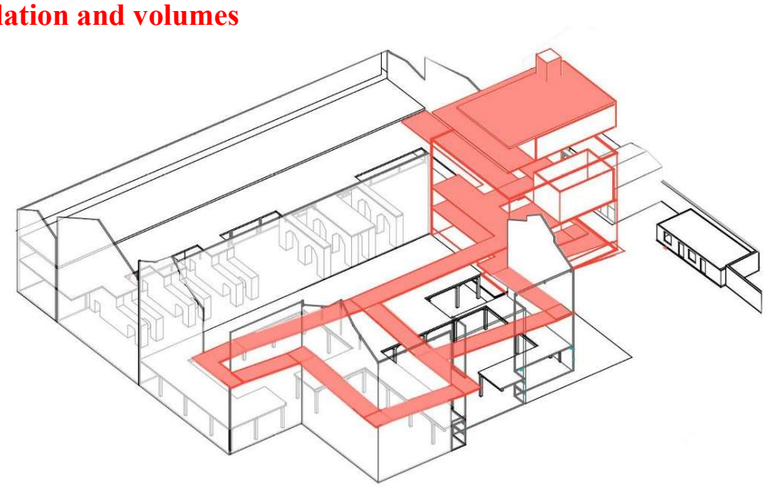
Existing Slabs



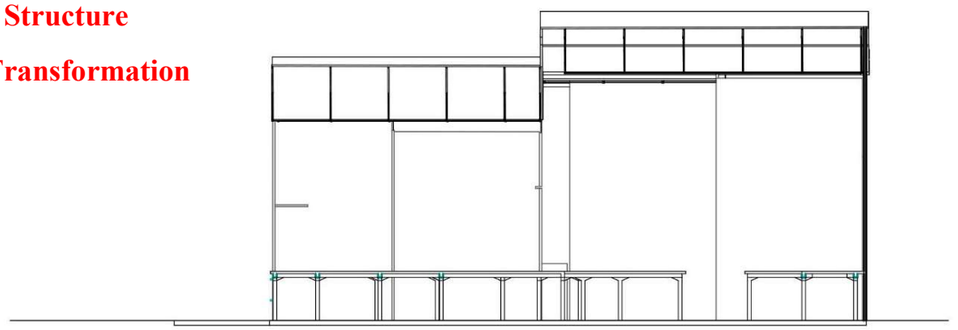
Existing openings On the Envelope



New Circulation and volumes



Existing Structure Before Transformation

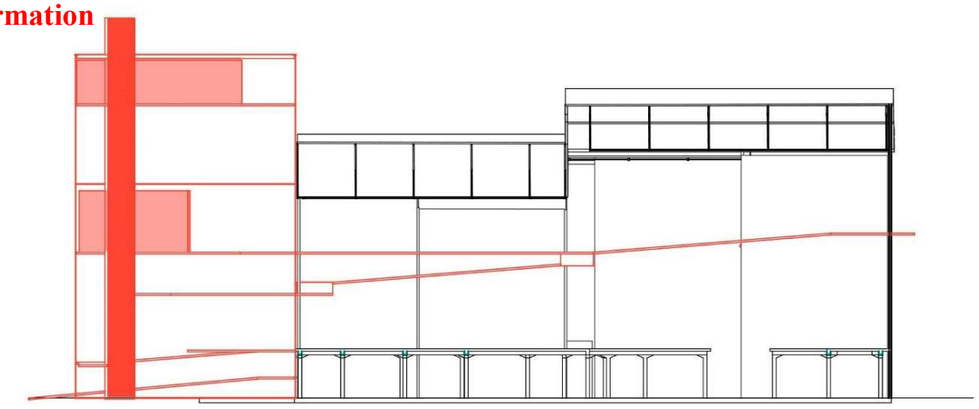


The existing structure and envelope of the factory have been preserved during the design proposal. In order to maintain the existing slabs, the entrance was organized through the first floor using ramps instead of the ground floor.

Existing openings on the façade were utilized to create viewpoints toward the city from the factory. In particularly, the large opening on the southern side was used to accommodate a circulation box at the entrance.

The enormous volume of the factory created a necessity to connect different parts within it. Experiencing the wide spans and massive volume through ramps as circulation elements became the main design intervention in the transformation of the power plant. This approach provides an opportunity to walk and experience the factory both horizontally and vertically.Instead of inserting separate blocks to create functions within the factory, the intervention is based on using the factory as a singular envelope. Along the circulation path, viewpoints and art galleries are integrated, enhancing the spatial experience.

After Transformation



4.4.2

DESIGN

SITE PLAN AND URBAN SECTION

0m 10m 20m 50m

LEGAND

1-Public Park

2-Social- Artist Housing

3-Welcoming Units

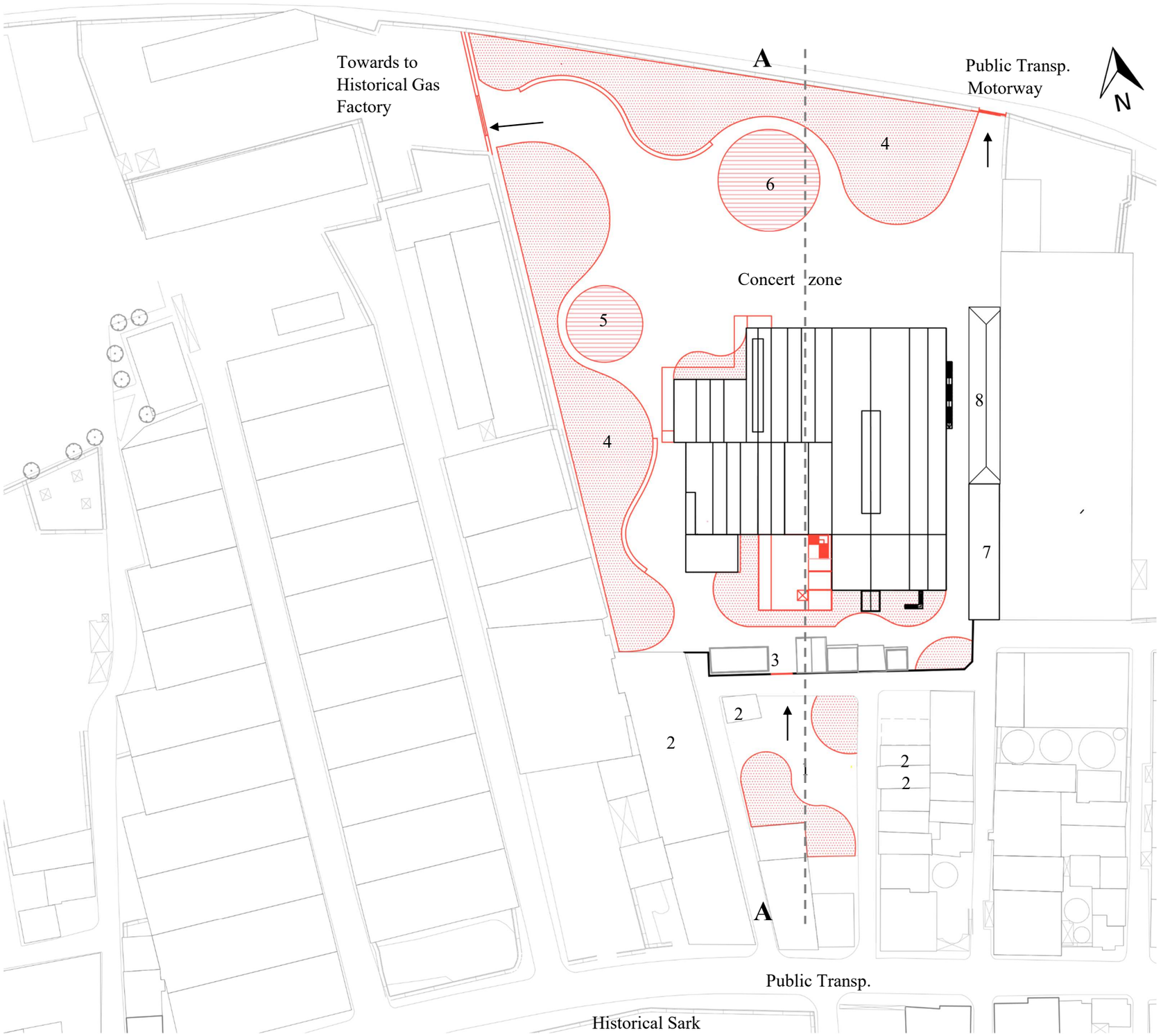
4-Green Park

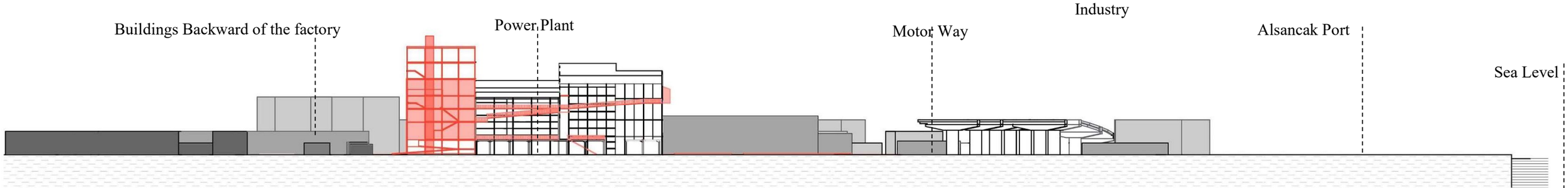
5-Outdoor Exhibits

6-Stage/outdoor music

7-Private property

8-Workshop-Open Gallery

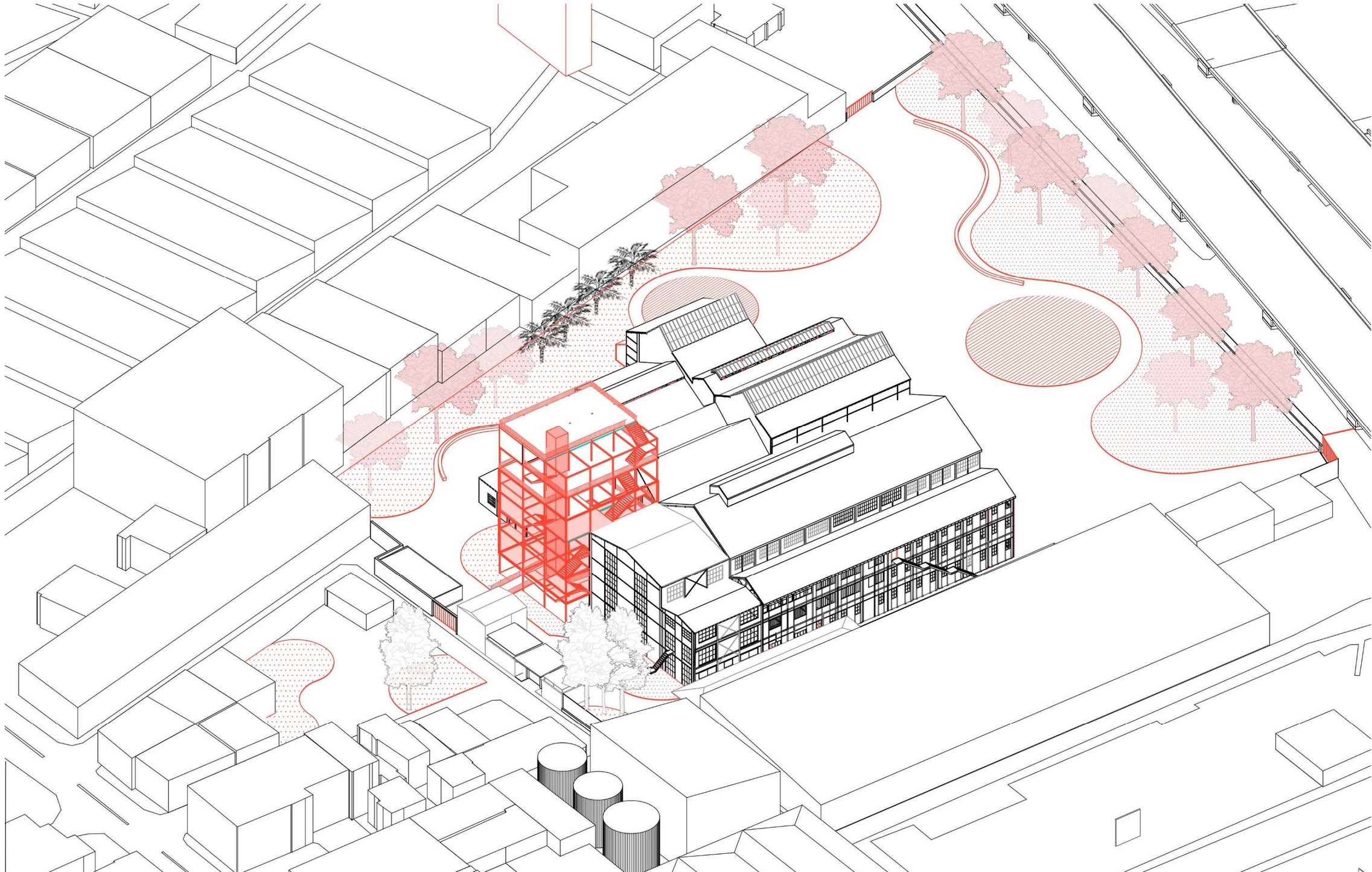




DESIGN

SOUTH-WEST AXONOMETRY

0m 15m 30m

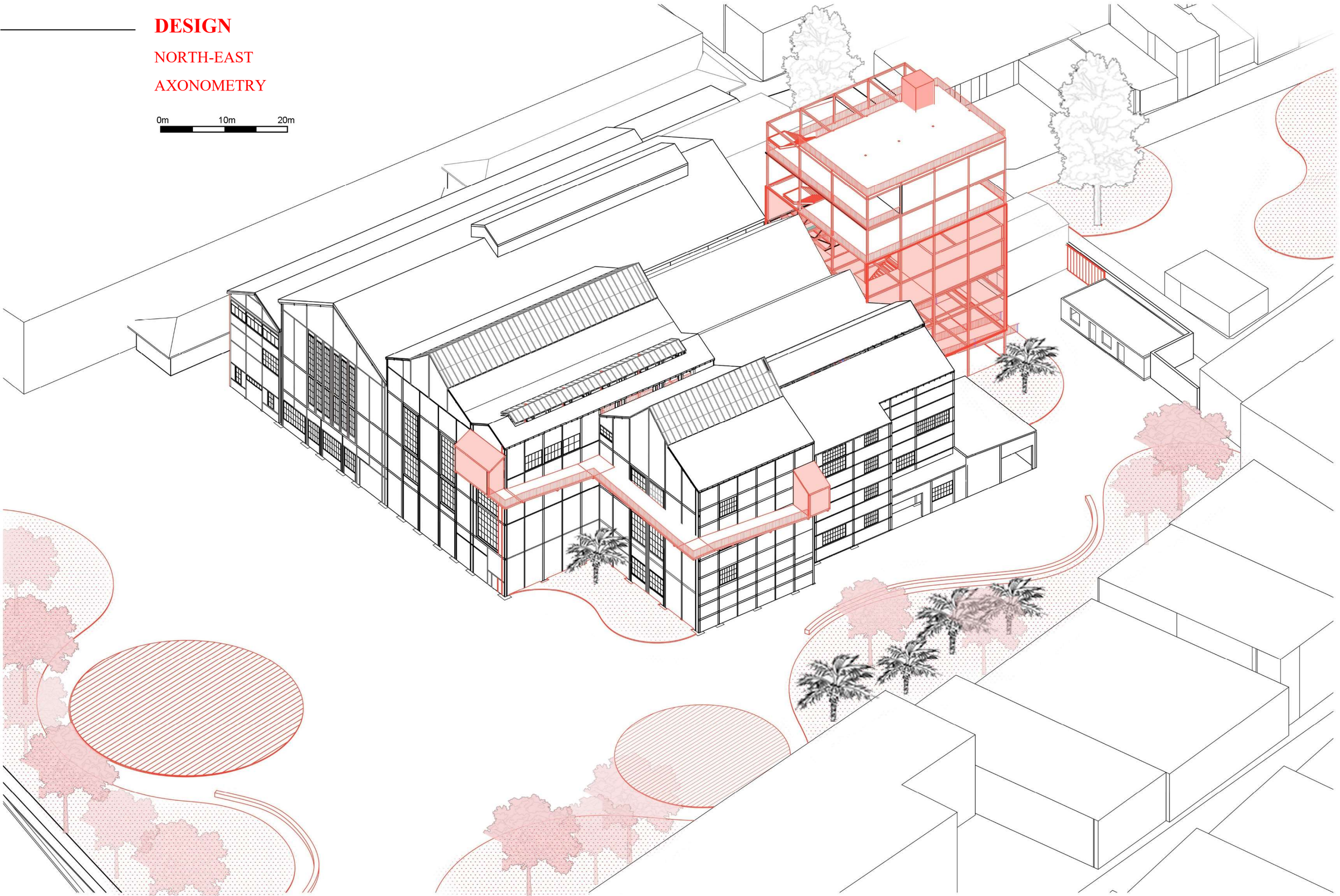


DESIGN

NORTH-EAST

AXONOMETRY

0m 10m 20m



DESIGN

SCHEME

FIRST FLOOR

GROUND FLOOR

DESIGN

GROUND

FLOOR +0.00

0m 5 10 20m

N

Ticket office

Factory

Info gallery

Community

Security

WELCOMING UNITS

Backstage

media

Stage

Dressing

Pub

Restaurant

wc

wc

Media room

Storage

Performance

Area

Black room

Media Room

cafe

Dressing

Guest

lounge

workshops

workshops

Permanent

exhibition

Atelier

Atelier

Atelier

Atelier

Kitchen

Cafe

wc

Technical Room

wc

Offices

Art production

Workshop

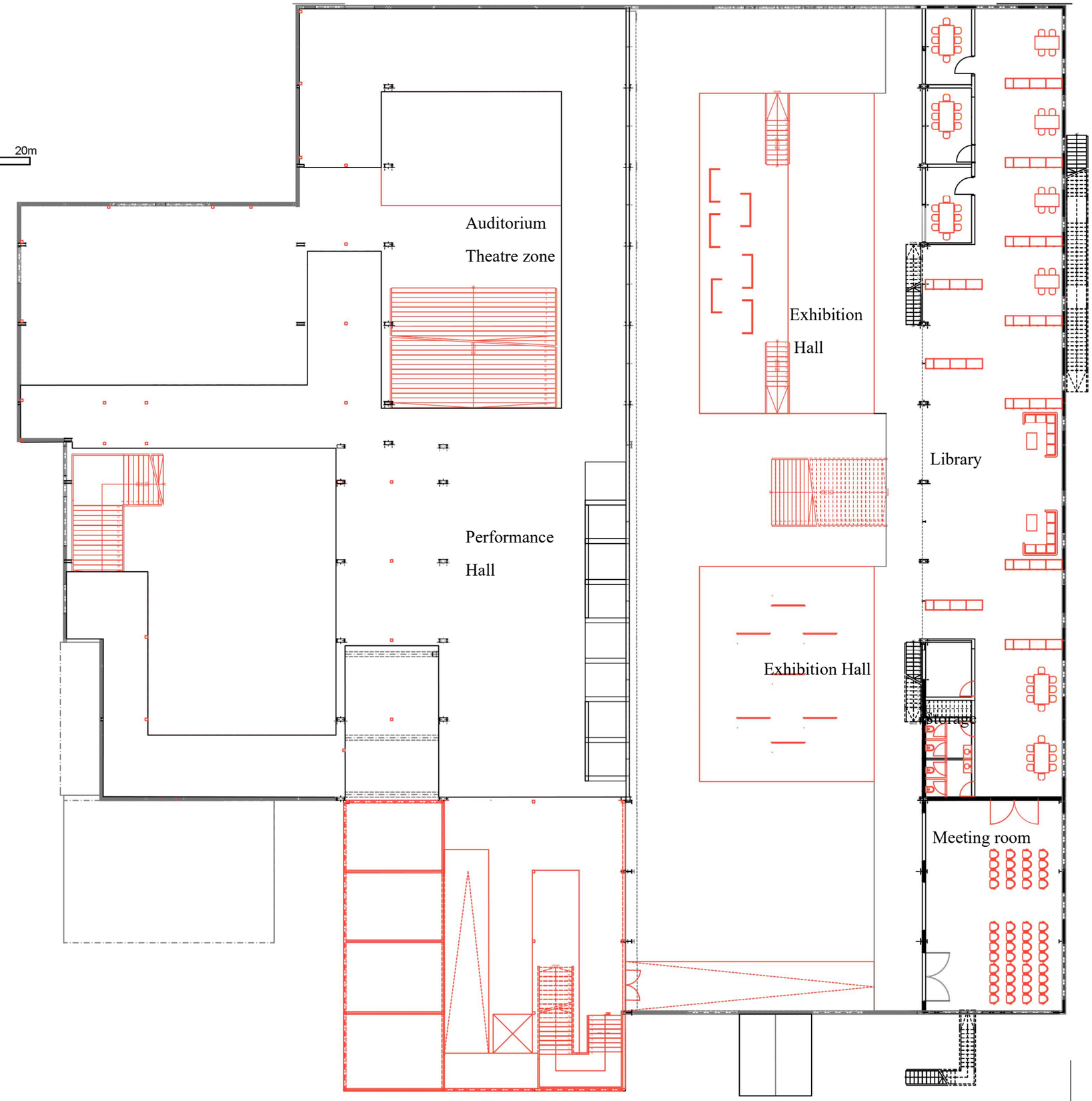
Gallery

DESIGN

FIRST FLOOR +5.00

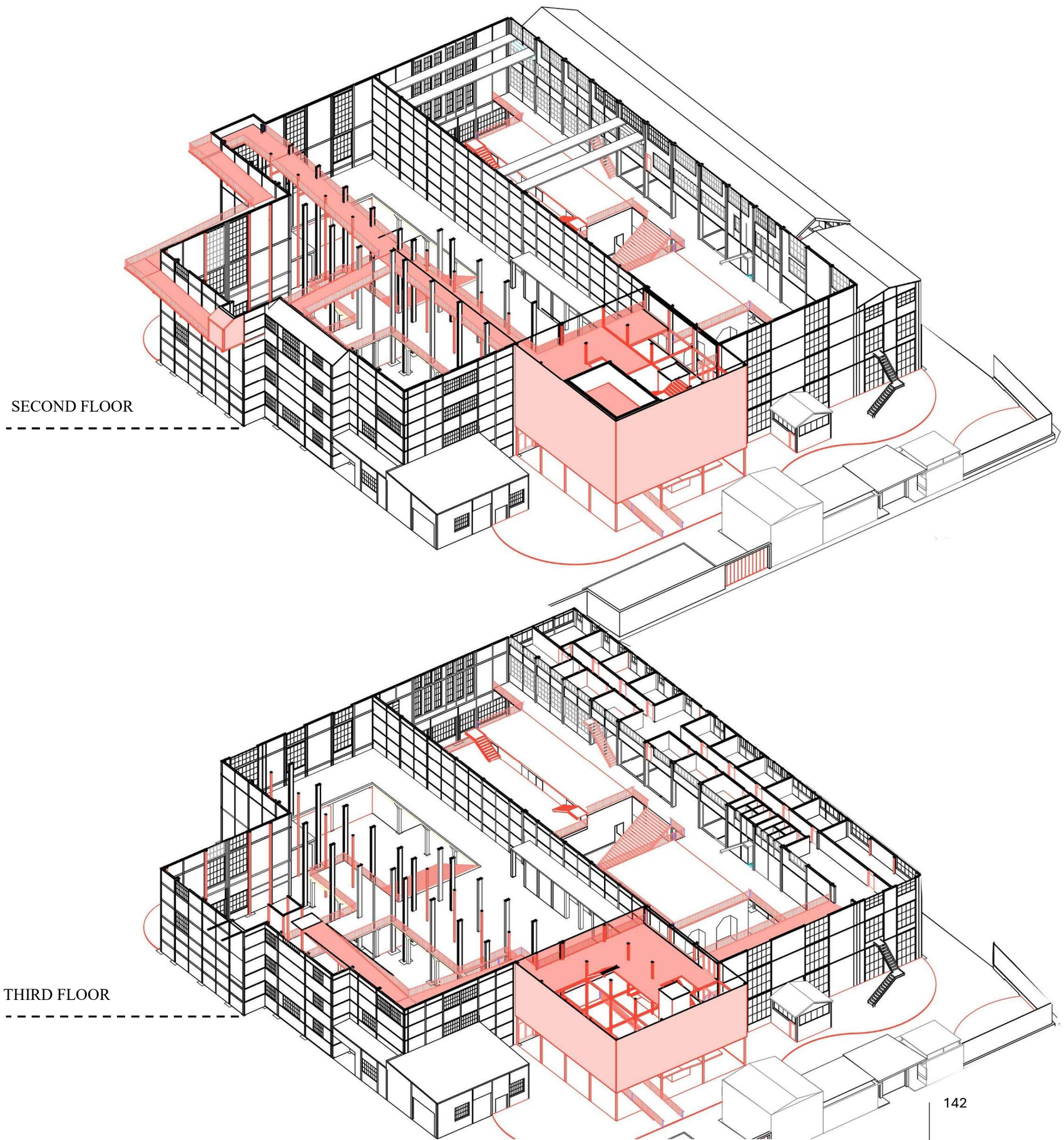
0m 5 10 20m

N



DESIGN

SCHEME



DESIGN

SECOND FLOOR +8.60

0m 5 10 20m

N

1-Artist working zone

2--Residemce(guests and Artists)

3-Common Kitchen

4-Wc

5-Showers

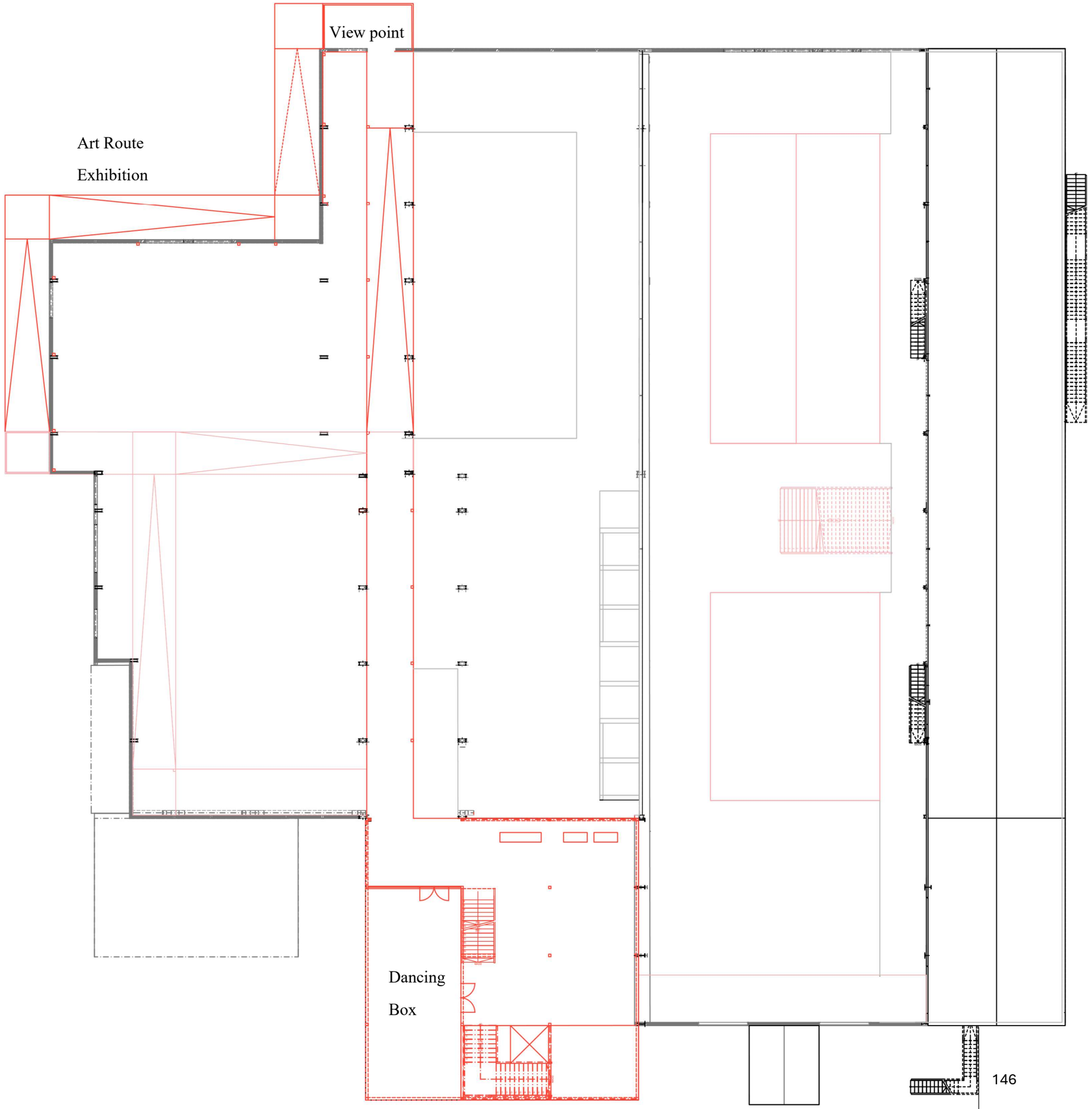
6-Laundry

DESIGN

THIRD FLOOR +12.00

0m 5 10 20m

N

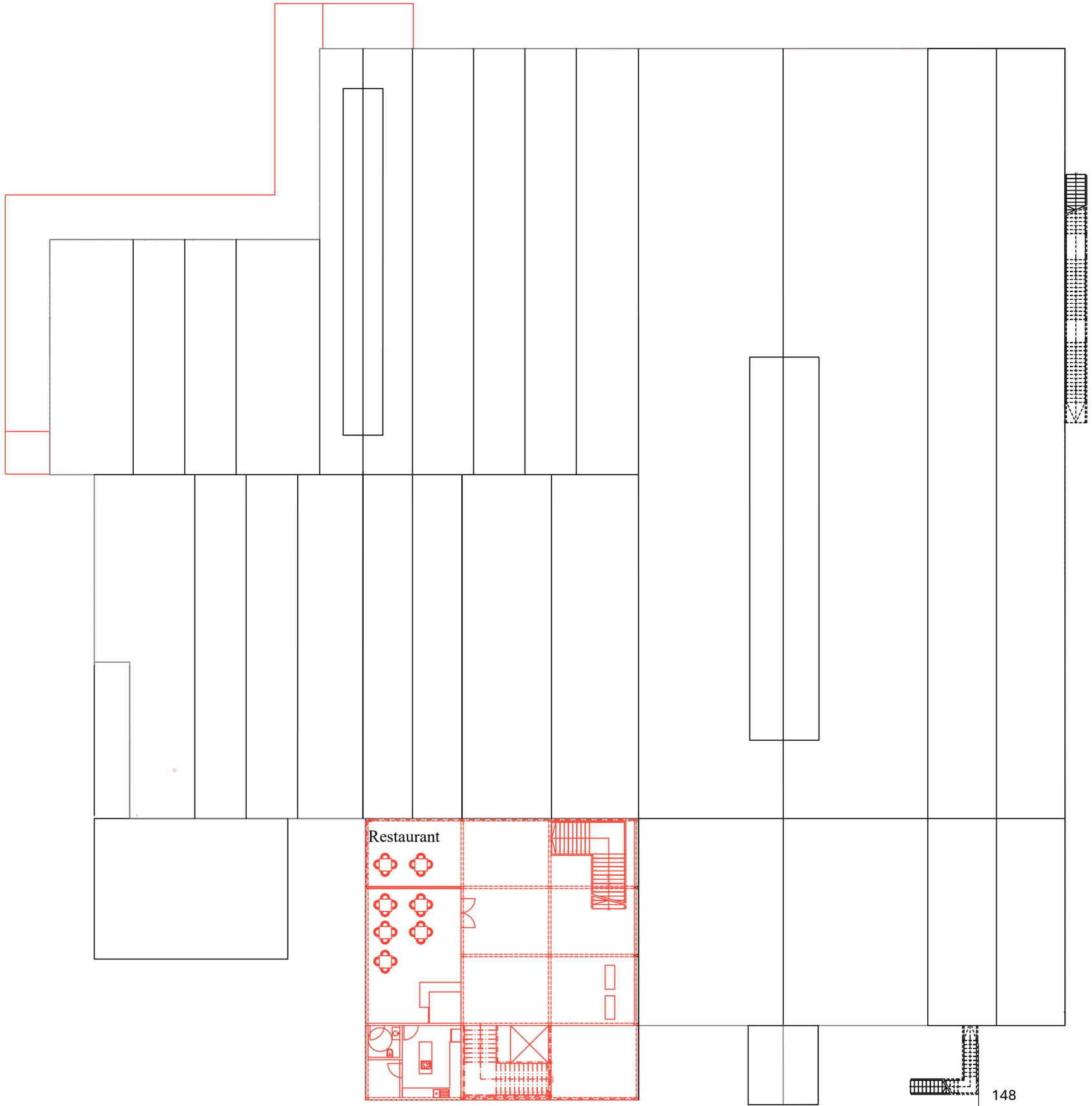


DESIGN

FOURTH FLOOR +12.00

0m 5 10 20m

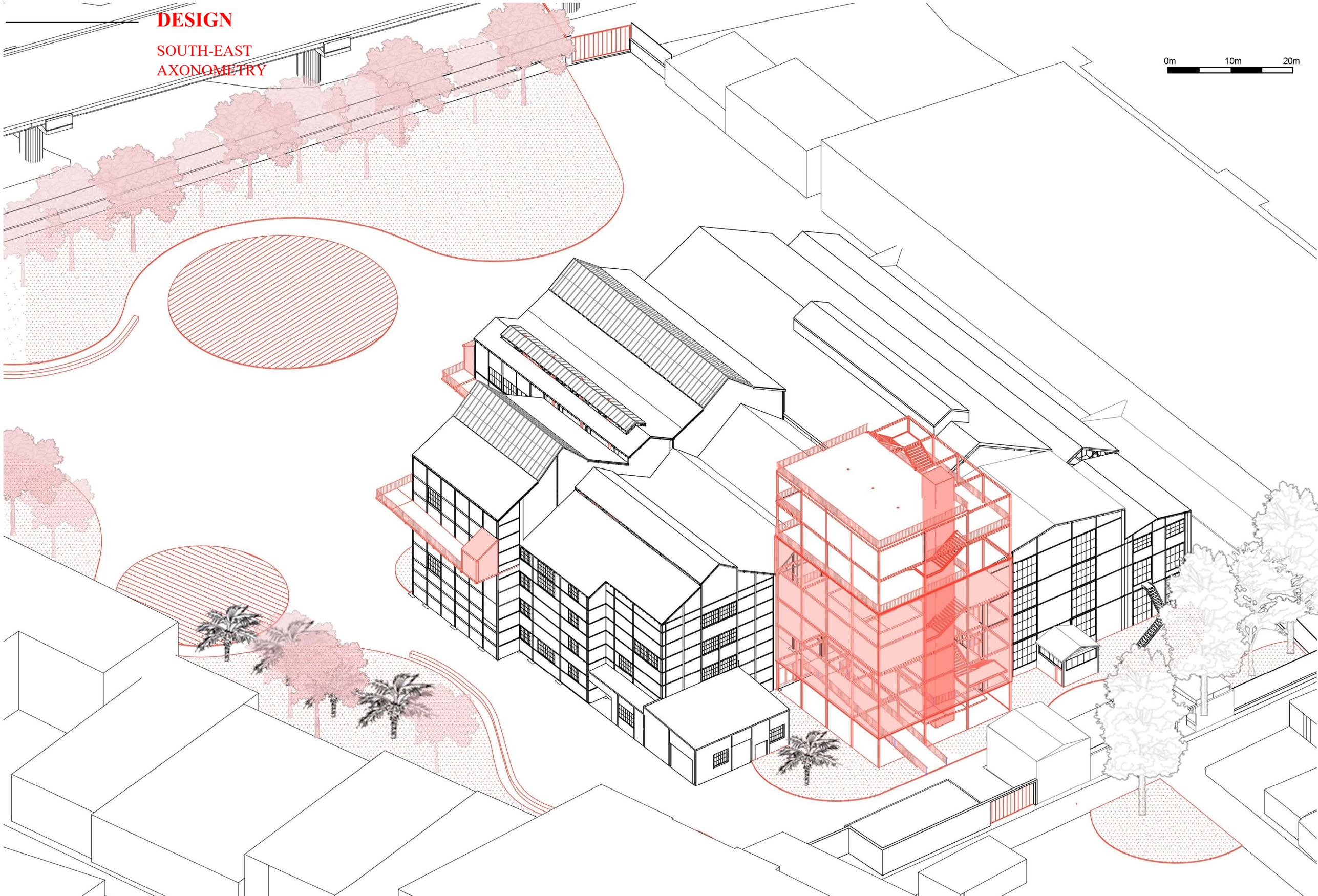
N



DESIGN

SOUTH-EAST
AXONOMETRY

0m 10m 20m



DESIGN

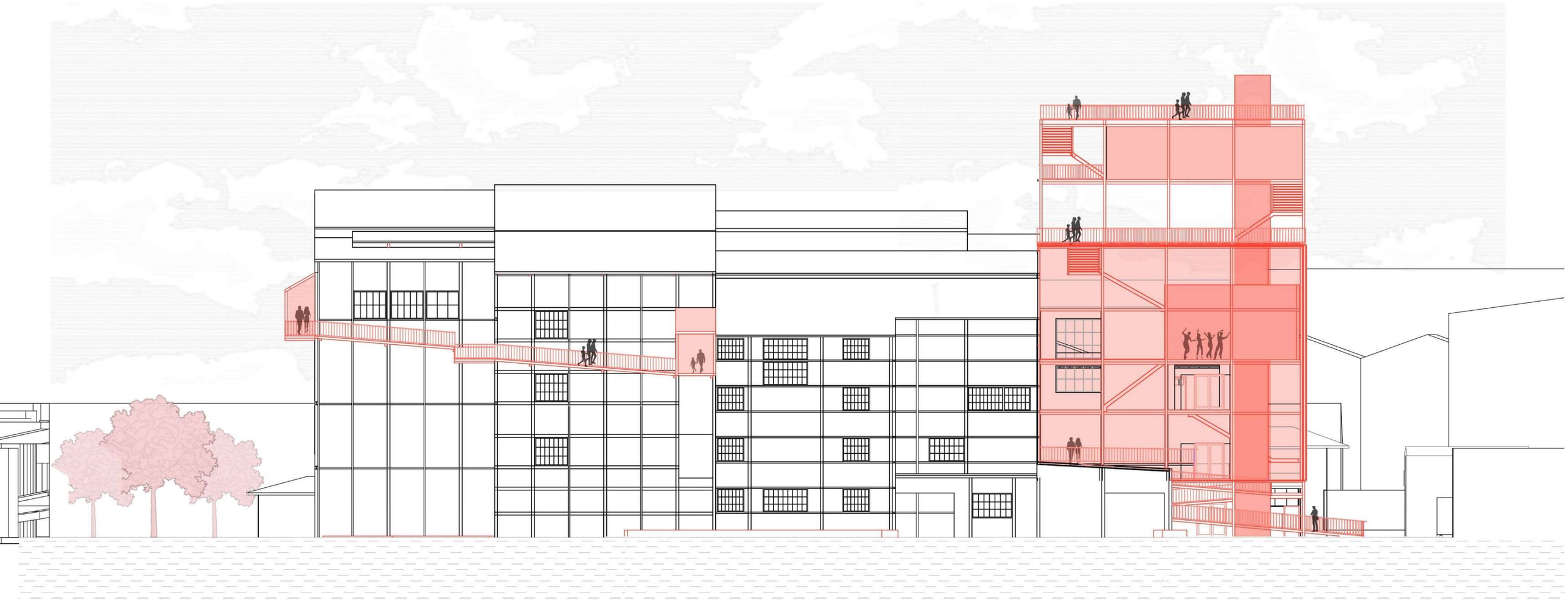
SOUTH -ELEVATION

0m 5 10 20m

DESIGN

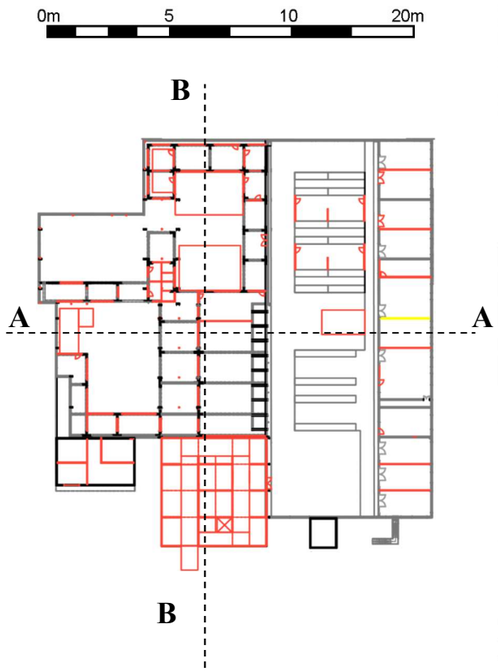
EAST -ELEVATION

0m 5 10 20m

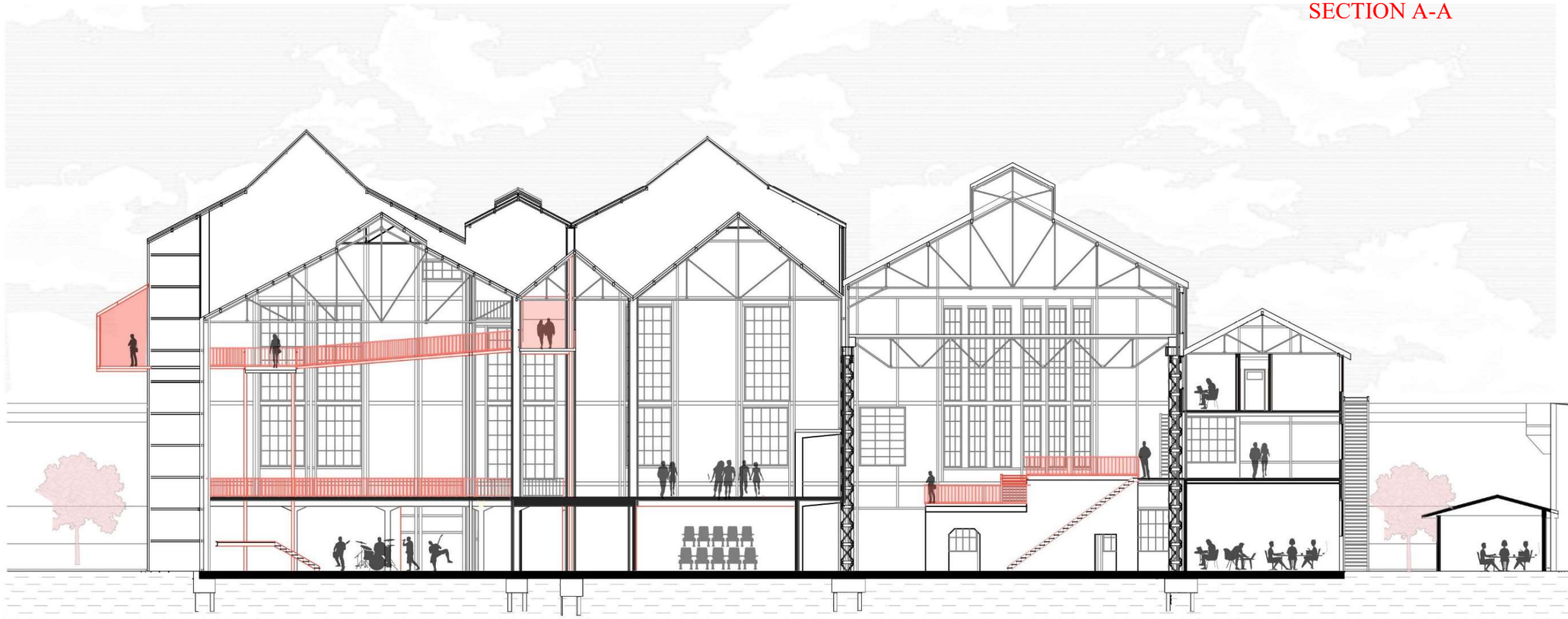


DESIGN

SECTIONS



SECTION A-A



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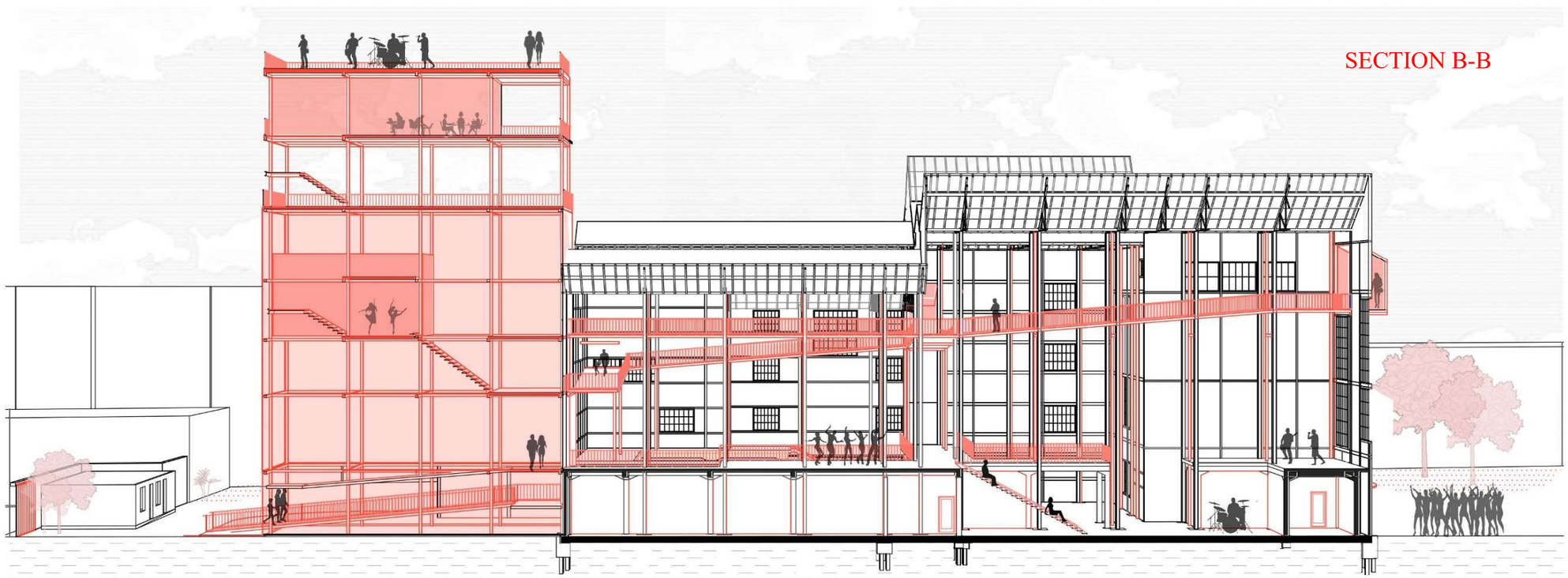
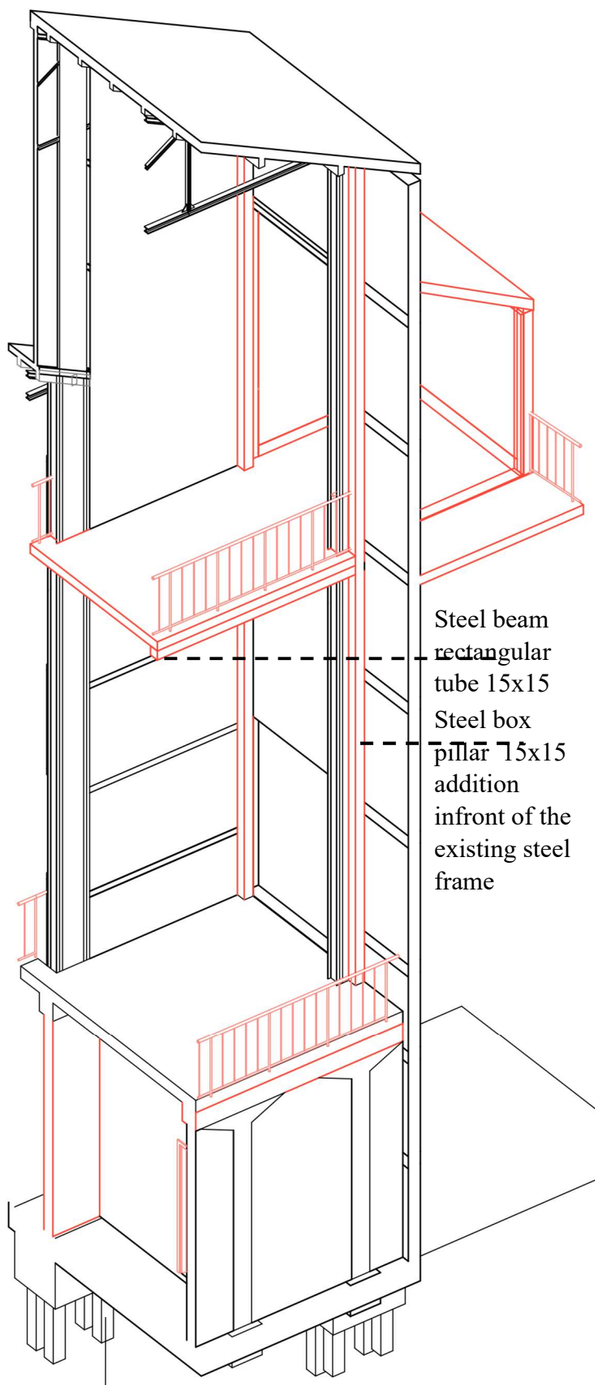


DESIGN

DETAIL

0m 1m 5m



Steel beam rectangular tube 15x15

Steel box pillar 15x15 addition infront of the existing steel frame

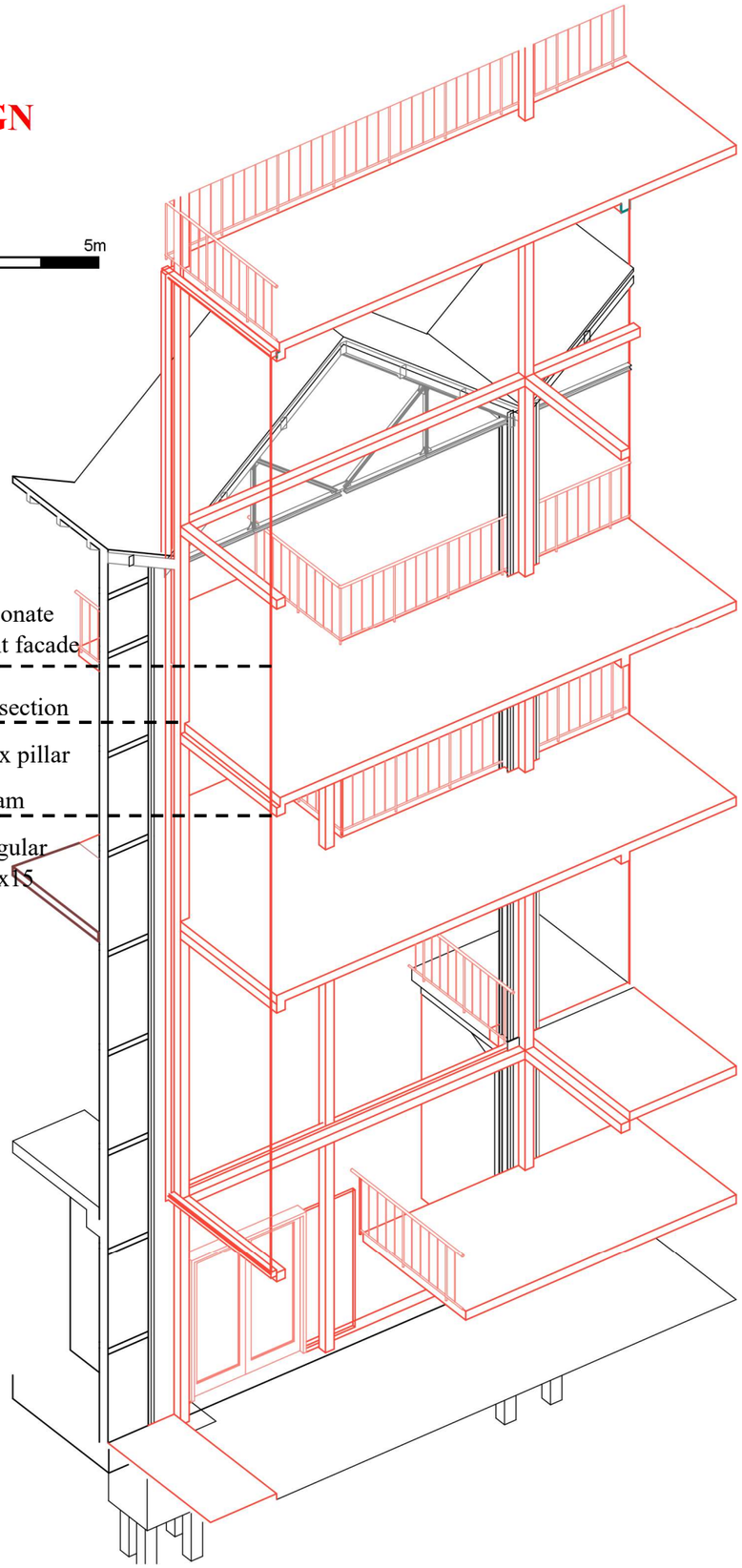
157

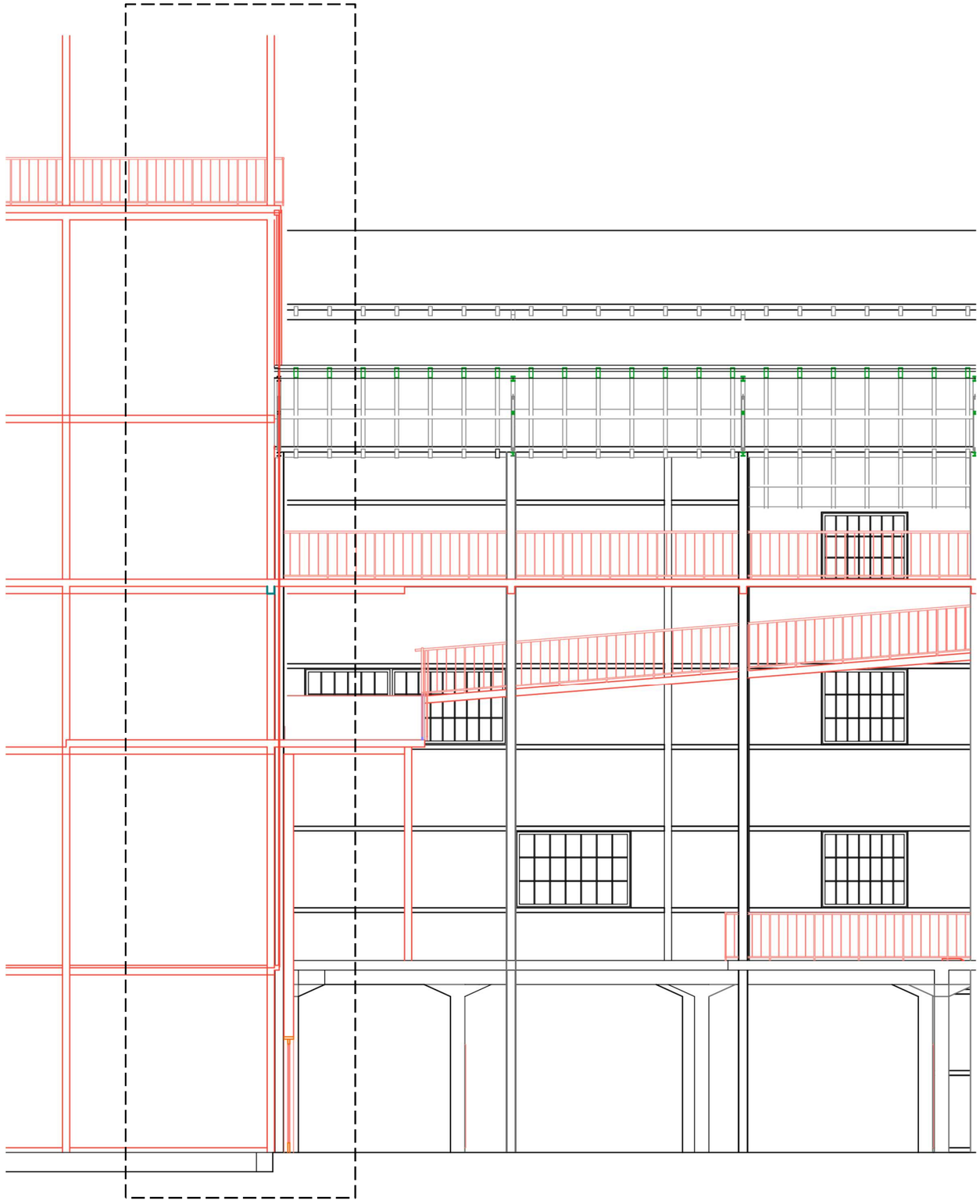
158

DESIGN

DETAIL

0m 1m 5m





DESIGN

VIEWS

DARAGACI ART COMMUNITY

MEETING REPORT

4.4.3

During the design process, on-site inspections were carried out, and cartographic maps and archival research were obtained from the archive in İzmir. At this stage, one of the main objectives—explained in other chapters—was to organize ongoing activities and participate in events taking place on the site in order to initiate the reuse process.Through this methodology, contact was established with the Darağacı Art Community, a non-profit association focused on producing art and exhibitions in the Darağacı district behind the İzmir port. A meeting was organized in the same district as the Power Plant project site. Before the meeting, an initial concept was defined and presented using a 1/200 scale physical model.The meeting took place on January 10, 2025, and was attended by the Darağacı Community, representatives from the Municipality of İzmir (including an assistant in charge and attendees from the urban department), and citizens interested in participating. During the meeting, parts of the thesis and project ideas were shared with the community to brainstorm about requirements, program needs, and plans for active participation.

The meeting began with a discussion about the preservation of the factory. Since the factory had been abandoned and in poor condition for over 20 years—partly collapsed—and the municipality had not carried out any restoration or consolidation efforts, preventing the demolition of this cultural asset and transforming it for the benefit of future generations and the city was seen as critical. In this context, the importance of on-site actions and events to raise awareness about the cultural value of the site was discussed, along with the need to develop new forms of organization and engagement on the site.Secondly, program needs for transforming the site into a Cultural Art Hub were emphasized as essential to the improvement of the project. The greenery and building zone in front of the factory entrance will be assessed as welcoming units and serve as the first point of contact between the neighborhood, art production, and the factory. Spaces are needed for events, gallery halls, and workshop areas such as glazing or manufacturing labs to host both national and international activities and participants.Art events and activity participation will be designed for all age groups, especially focusing on art programs for children and younger generations to explore creativity. The separation between private and public zones was another important topic,especially for artist and guest residences.

Artist studios may be blended with galleries and labs, but residences will be included as private zones.Another expectation was the integration of a new library culture (in a hybrid format) into the art halls. One additional future goal is to use the green area for agricultural activities; therefore, the creation of green space has been considered a key part of the project's landscape development approach.Following these discussions, sustainability and budget management were highlighted. For future possibilities, the integration of photovoltaic panels on the rooftop will be considered in alignment with the sustainability strategy.

Figure 4.4.1-2

Top to Down:

Photos are taken during the meeting with Daragaci Art Community.Shows the digital presentation and active physical model representation moments.

In order to extend the life cycle of the factory and control the budget, active on-site organizations and events were considered essential before initiating reuse operations. These activities were necessary to evaluate the program’s compatibility with both the site and the surrounding neighborhood. As a result, the project's initial concept was accepted and supported by the community for further development.The project will continue with the initiation of reuse actions, including arranging meetings with architecture associations and involving potential partners to follow a sustainable reuse path and turn the project into reality. This seminar provided me with valuable input to further develop my proposal according to the expectations and needs of the site.Following this meeting, in April, another meeting was held with the İzmir Association of Architects, organized by the Darağacı Community. During this meeting, presented the potantial of the site to demonstrate to take action for the next steps.

Figure 4.4.3-4

Top to Down:

Photos are taken during the meeting with Daragaci Art Community.Shows the digital presentation and active physical model representation moments.

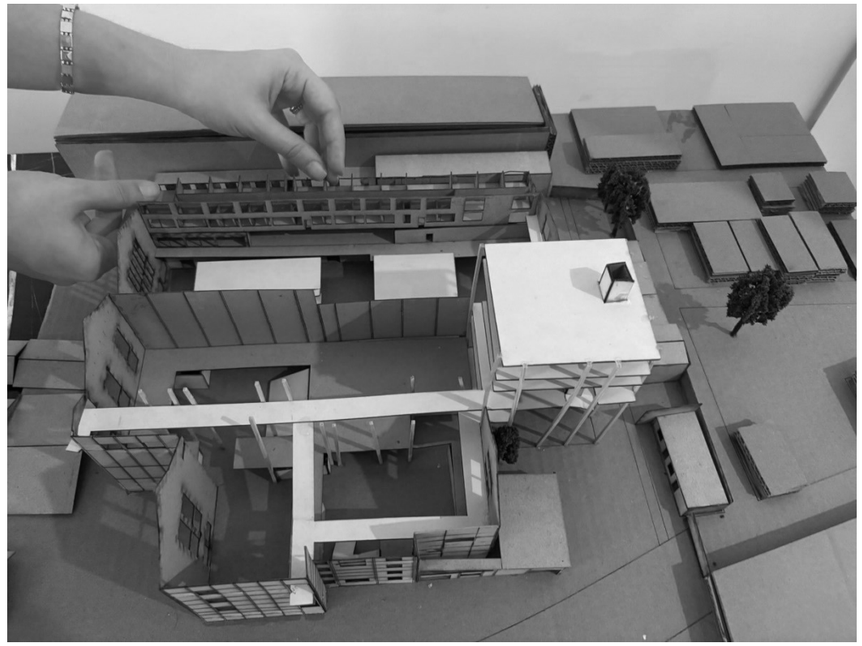


Figure 4.4.5

Shows physical model representtion fort he interior concept .White colour for the new additions and craft material fort he existing property.

Made and Pictured by Ebru Emirbayer

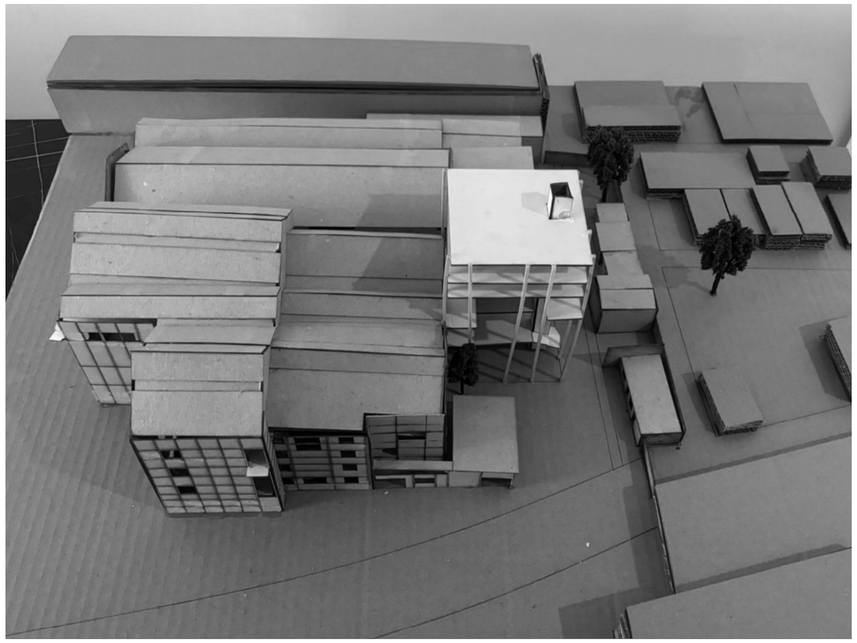


Figure 4.4.6

Shows physical model representtion for the external concept with completed roof.

White colour for the new additions and craft material for the existing property.

Made and Pictured by Ebru Emirbayer

Figure 4.4.6-7-8

Top to Down:

Shows physical model representtion according to floors based on the interior concept.

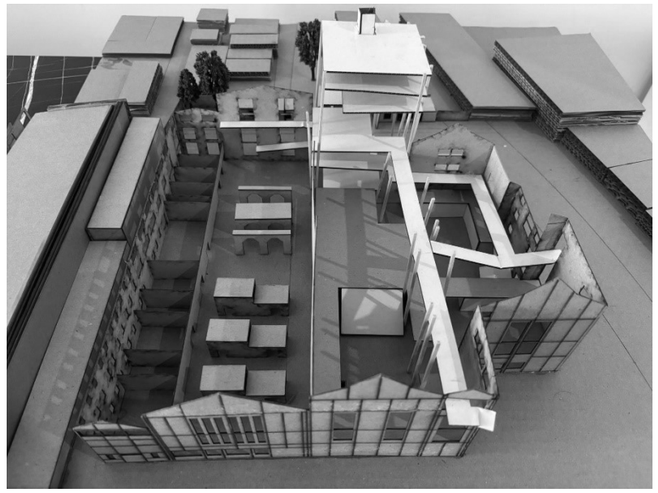
First one-Ground Floor with the existing machinery structure.

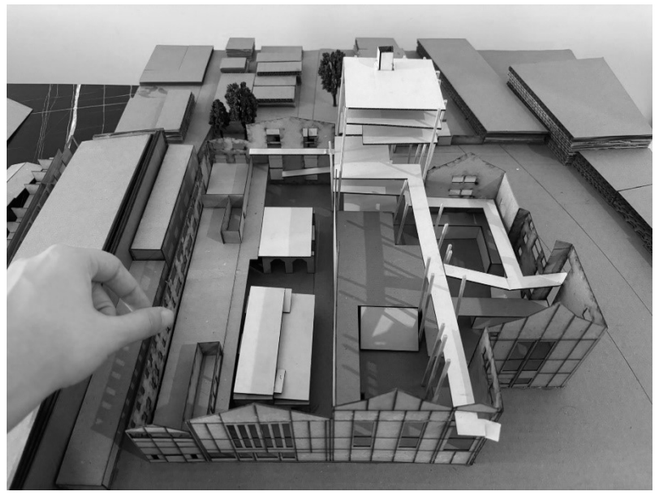
Second one-First floor with galleries and grand halls installations.

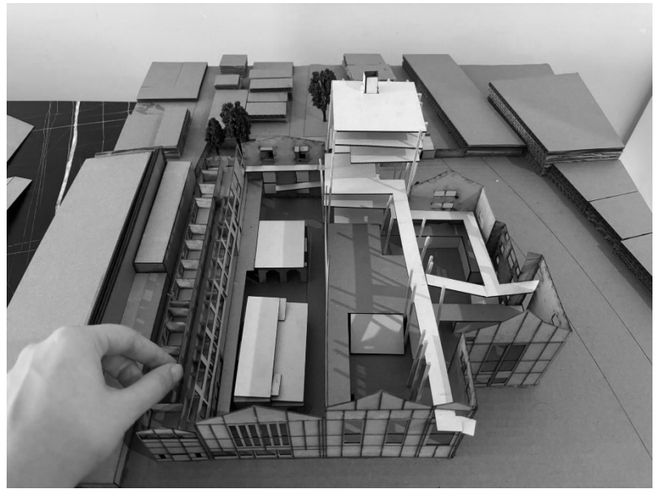
Third one-Last floor belongs to Artist or guest residences and studios.

White colour for the new additions and craft material for the existing property.

Made and Pictured by Ebru Emirbayer







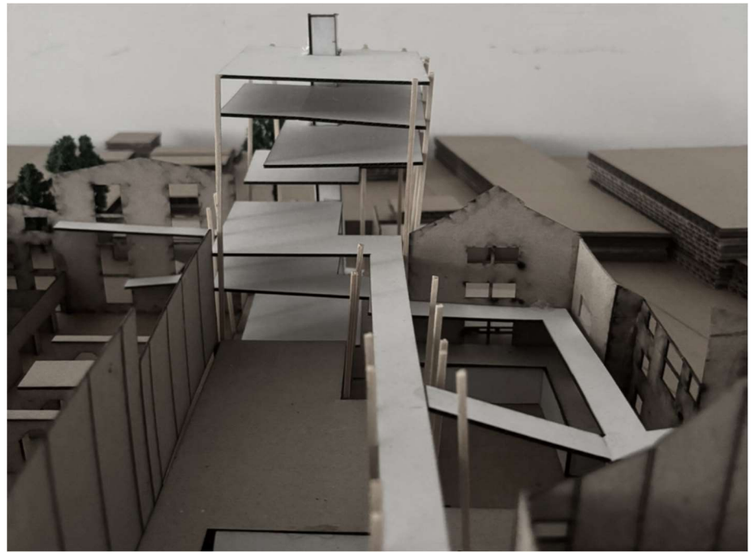


Figure 4.4.6-7-8

Top to Down:

Shows the details of the design concept.

First one-South Enterance

Second one-Closer look to the factory interior.

Third one- Ramps with Circulation Box design

White colour for the new additions and craft material for the existing property.Existing greenery was preserved.

Made and Pictured by Ebru Emirbayer

4.5 REFERENCES

PART 4.1-2

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FINAL THOUGHTS AND OUTCOMES

As an outcome, the industrialisation and deindustrialisation processes gave a perspective as a starting point of the story to compare the main cases of Turkiye and Britain,how industrialisation started and evolved in the cities. Through the deindustrialisation process, with the emergence of the term Industrial Archaeology and the Nizhny Tagil Charter, demonstrated that industrial buildings belong to our past and are industrial heritage resources that consist of architectural, technological, and cultural value, which should be protected for future generationsAs understood, those abandoned sites are examples of terrain vagues and aresignificant for , even if the site is not currently active, in order to reintagrate theminto the urban fabric again, significant to carrying out activities on site. In this way, the strategy of adaptive reuse refers to activating terrain vagues by start-up operations. Addition to that, citizens and local authorities should be involved to organise events and participate actively. This method initiates the transformation before any intervention carried out and demonstrates how the new function can fit into the site.

Research through Turkiye shows how industrialisation started later compared to Europe, and due to this fact, the processes of deindustrialisation and the recognition of industrial heritage sites only began to emerge towards the end of the 20th century. The concept of industrial heritage and the importance of these sites as cultural assets were understood relatively late in Turkiye. This delay explains the early demolitions caused by a lack of awareness regarding the value of such sites.In this way, the thesis supports the sharing of knowledge related to these sites and promotes adaptive strategies for transforming the potential of these buildings. According to this outcome, the case of Hasanpasa Gasworks in Istanbul illustrates how a non-profit local organisation carried out the entire process,from recognition to intervention, by sharing knowledge and being actively involved on-site. This example provides a significant reference for the Power Plant in Izmir, showing how a project can be turned into reality by promoting ongoing site activities and encouraging people to participate in on-site events.Furthermore, research on the area behind the Izmir Port (known as Daragacı) demonstrates how it was affected by the transition from industrialisation to deindustrialisation. Before proposing the reuse project, it is important to understand why this zone was dedicated to industrial facilities, its relationship with the city centre and how it has evolved over time.

The result of the analysis provides information about the lack of public green spaces, the current condition of industrial heritage sites, their accessibility and the significant number of warehouses and abandoned buildings on the site, which were highlighting important aspects to consider in reuse projects. These results are based on the surroundings of the Power Plant, design was developed within Its context.The meeting held with the Daragacı Art Community offered an opportunity to understand the needs and opinions related to the site. During the meeting, the Power Plant was proposed to become an art and cultural hub, hosting events, workshops, hybrid self-led activities, and artist studios. As an outcome, this meeting served as a starting point for reuse initiatives, by connecting other communities to the site and raising awareness about the potential of the Power Plant.Interaction with the local community encouraged progress, supported the design process, and expanded knowledge through collective brainstorming. Representing the proposal with a physical model increased understanding and allowed people to experience the project in a more active way. This method enabled the development of the project based on site-specific needs, analysis, and participation.In this way, even before the final project proposal was completed, reuse initiatives had already begun actively on-site. This thesis demonstrates that the process will continue by organising events and transforming the site to enhance collective memory in İzmir.

The project has respected the authenticity and original components of the factory. The intervention is distinguishable from the original structure while preserving its historical integrity.Due to the huge volume of the Power Plant, the transformation was achieved through the addition of circulation elements, using the existing factory as a large envelope to host galleries, laboratories, and events. The project aimed to encourage public participation in reuse activities within terrain vagues, to show the potential of industrial heritage sites as valuable resources, and to raise awareness of the Power Plant in İzmir. By introducing start-up events, the approach focuses on practical engagement rather than a purely theoretical framework,organising meetings and developing a project proposal that envisions the site’s transformation while preserving its collective memory and repurposing it for future generations.