



# POLITECNICO MILANO 1863

SCUOLA DI  
ARCHITETTURA URBANISTICA  
INGEGNERIA DELLE COSTRUZIONI

ARCHITETTURA PROGETTAZIONE ARCHITETTONICA

*A Narrative Strategy of The Informal*

*To Improve The Quality of The Living in Urban Village, Jakarta*

Supervisor: Camillo Magni

*Hanif Adi  
Ramadhan  
882797*

*A.A 2019/2020*

# CONTENTS

## *01. Macro Analysis*

### **Table 1. :Urban Village Mapping in Jakarta**

*Contents: Definition and general mapping*

### **Table 2. :Urban Village Mapping in Jakarta**

*Contents: The Context Through Potentialities and Threats: Disaster, Social, and Economy*

### **Table 3. : In Focus of North Part of Jakarta**

*Contents: The Context Reading of Urban Characteristics*

## *03. Strategy : Urban Approach*

### **Table 6. :Urban Strategy of Infrastructure**

*Contents: A Framework of Improvement Tools*

### **Table 7. :Urban Strategy of Building and Open space**

*Contents: The Approach of The Quality of Urban Through Architecture*

### **Table 8. : Masterplan**

*Contents: A Framework of Architecture and Urban Design*

### **Table 9. : Typological Mapping**

*Contents: To Distinguish a Characteristic of Building and Public Space*

## *02. Micro Analysis*

### **Table 4. : In Focus of The Surrounding of The Kampung Bandan**

*Contents: The Context Reading of Urban Characteristics and History of Local, Kampung Bandan*

### **Table 5. : In Focus of Kampung Bandan**

*Contents: Typological Research and The Abstraction of Living in The Community*

## *04. Project: Architecture*

### **Table 10/11. : Project 01**

*Improvement of Urban Connection*

### **Table 12/13. : Project 02**

*Improvement of Architectural Quality*

### **Table 14/15. : Project 03**

*Addition (To Increase The Density)*

### **Table 16/17. : Project 04**

*New Building (Public Function : Elementary School)*

### **Table 18/20. : Project 05**

*Reuse (Public Function : Market and Community)*



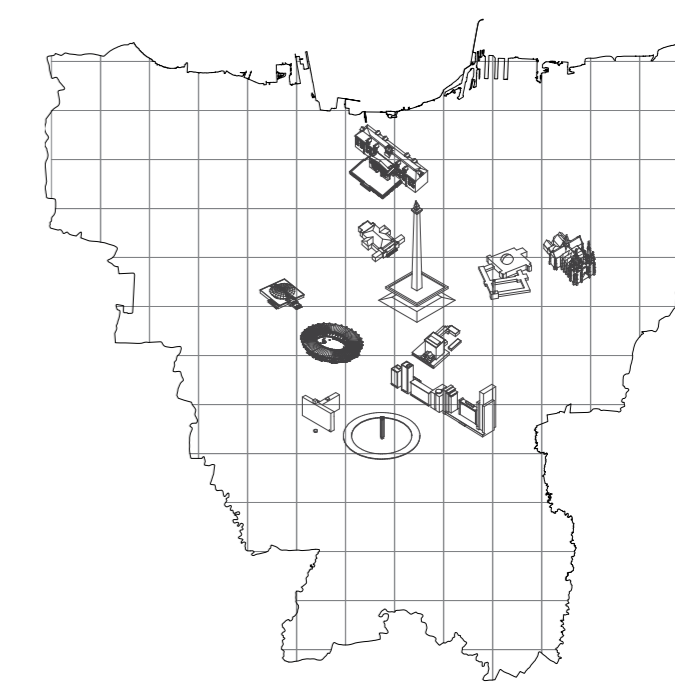
# abstract

*To eradicate the low quality of living of the previous and the negation to gentrificate the area. The project has to work in both ways: to search a wise approach on how to improve the quality. Architecture somehow has to correspond to what it's called the city. It is possible to define a city through its architecture as long as the architecture has a mature approach to solve a discrepancy. However, the informal settlement is a major issue in big cities like Jakarta. Since the city has more than 10 million inhabitants with a different background social, cultural and economic. We could say that Jakarta is overpopulated because it is not well managed in terms of urban regulation and environment, and it formed the quality of the architecture. Jakarta has a wide discrepancy among the visual image of the city, it is really hard to define and to recognize the quality of the urban form of the city since the building is scattered. This condition somehow gave an idea of a whole new identity, as O.M. Ungers did in Berlin with his Archipelago Cities. In every part has its own characteristic and personal scenery. The range of a horizontal urban landscape in Jakarta is a contrast from one to another. The existence of slums and the huge tower in the city center. Jakarta itself does not have the gentle approach to handle this contradictory of environment. This issue brings the research to the terms which are essential to read the context of the pre-existence of the building, according to what its need to be done. Urban rooms as a tool to eradicate the possibilities of a continuity. Urban room is an urban strategy to invoke the spaces in between across the border of their building. Urban rooms create continuity between public and private realms since the quality of urban living space in the area is misunderstood as a threat. The location was chosen in a place that has a contradictory in terms of function and identity. The local informal settlement has existed before the commercial and industrial building was built. The existence of the compound or kampung is emergence since it has a low quality of the environment, and also the quality of their building. Kampung Bandan located in such condition, with a high density without having a good quality of living. The compound doesn't have a breathing space and a space as continuity to enhance more the flow of movement, energy, and activity. Kampung Bandan itself is a living space with a low quality of sanitary, water, public roads and the architecture constructed by residual material. The Kampung consist of a dwelling space which most of them have 3 stories of the building. One major mosque and abandoned warehouse. The community that lived in Kampung Bandan is very strong since it has one of the oldest Muslim community lived in the city. Kampung Bandan also directly interacted with urban infrastructures such as railway and highway road. This condition makes Kampung Bandan become a residual space living and a negative space according to the condition of the surrounding. Therefore to enhance this protagonist and antagonist role in a city, Kampung Bandan needs more approach to interact with the other compound. Urban rooms here as a tool of a framework to emerge the urban design and architecture. Urban rooms created a possibility of urban design to indicate the problem as a benchmark and strategy as a manifestation. Urban design defines its architecture since the building has to compile the quality of both, inside and outside. Based on these criteria, the architecture of the project has a major 5 strategy to invoke and trigger the outside. As a narrative strategy, urban rooms is more than a framework to indicate quality, but also urban rooms is a project of a compound to define the architecture and urban design.*



The Urban Village Mapping

Summary



The early development of Jakarta, By the first president, Through the monument.

Context

General Development of Jakarta

By the year, jakarta developed through the monuments that built. The housing never came as the priority through its development. At the same time, population grow fast but the city doesnt trying to fit the urbanization boom.

"by critically understanding the essential difference between the concept of the city and the concept of urbanisation-how these concept overlap, as well as how they address two radically different interpretations of inhabited space-and second, by looking at how urbanisation has historically come to prevail over the city." - Pier Vittorio Arelti.

Definition

Urban Villages (Kampung)

Accotding to Academic Journal by Ewarwani Ellisa, University of Indonesia, Kampung means :

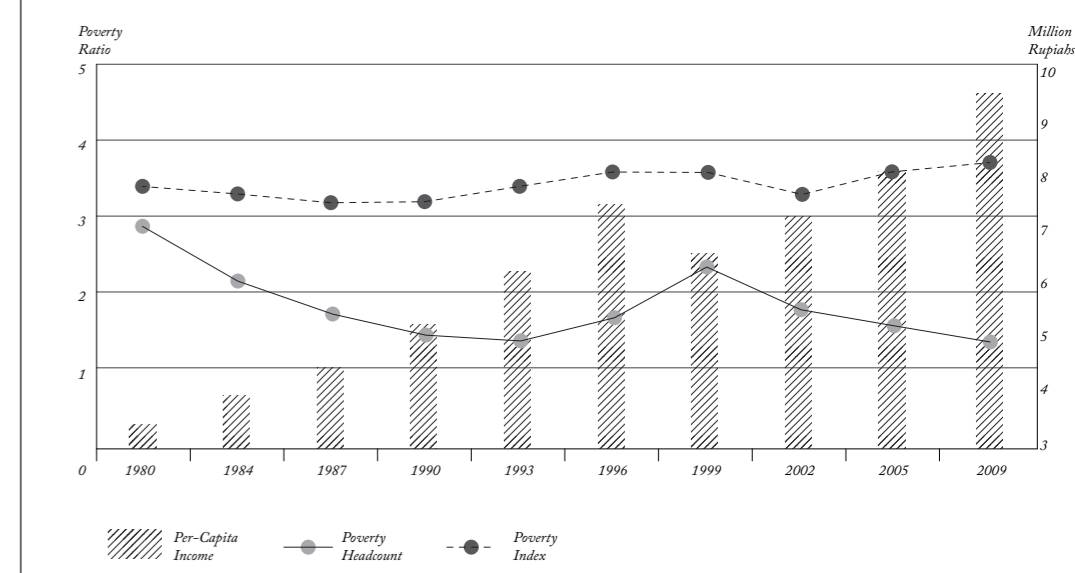
"Originally meaning "villages", the irregularly formed kampungs had already existed for a long time and constituted one of the typical features of towns and cities in Indonesia (Rutz, 1987). During the Dutch colonial era, the formal urban development plan bypassed the existing low density kampungs to integrate them into urban areas, but without ample provision for urban utilities and facilities. As a result, these settlements tend to be evenly scattered throughout the formally planned built-up areas. The kampungs provided dwelling places for the laborers at the wararves, warehouses; industries and public works as well supplied domestic helpers for middle class neighborhoods (Castels, 1967). By the middle of the 20th century, a massive numbers of migrants migrated to cities and found kampungs as attractive, easily accessible and cheap locations to live. New ad-hoc buildings soon infiltrated the vacant lands and transformed low density kampungs into high density, heterogeneous and sub-standard settlements. In 1969, almost 75% of the total population in Jakarta lived in kampungs (Kachman, 1995). They were the urban poor who had to face severe social and economic problems that forced the local government to declare Jakarta as closed to migration in 1970. In 1974, the government enacted Kampung Improvement Program (KIP) to improve the existing housing stock and allow for the provision of service. Nowadays, while it is very difficult to obtain the exact size of the population living in the kampungs due to the complexity of data, the Urban Poor Consortium (UPC) Jakarta reported that 20-25% of the total population in Jakarta lived in kampungs with an additional 4-5% living illegally along riverbanks, an empty lots and in flood plains (Urban Poor Consortium www.upc.org, 2010)."

Term

Urban Villages (Kampung) and It's Relation With Slums

Accotding to Academic Journal by Ewarwani Ellisa, University of Indonesia, The term in Jakarta :

As one of the most populated city in the world, Jakarta1 is experiencing rapid population growth. Its population reached around 9.7 million in 2012 and estimated will reach around 11.50 million in 2035. Consequently, the rapid population growth incites high population density which reached approximately 14,000 persons/ km2 in 20123). This immense urbanization provokes inadequate housing provisions to breed slum settlement as the reliable housing solution, especially for the underprivileged, who live in high-density neighborhood and deprived living quality4). In the context of Jakarta, the underprivileged is whose monthly expenditure per capita is less than US\$ 355). According to BPS (2011) there are 44 Districts, 267 Sub-districts, 2,702 Community Associations (RW)2 and 30,203 Neighborhood Associations (RT) in Jakarta while 392 RWs are classified as slum settlements. Based on their research in 2011, the number of slum settlements is decreasing as many 5.54% since 2008-2011. This fact proves the existing slum improvement programs was able to reduce the number of slum settlements in slow acceleration which require more effective approach to achieve the expected outcome. Slum settlement has several criteria such as: inadequate access to safe water; inadequate access to sanitation and other infrastructure; poor structural quality of housing; overcrowding; and, insecure residential status6). Due to limited physical standards, urban kampung in Indonesia shares some qualities with slum).



Condition

Kampung (Urban Village) as an Identity of Urban Living

With its relation between two different terms, Urban villages and slums, are not always the same. Yet the government still acknowledge urban villages as slums. As mentioned before, urban villages existed even before the development of the city of Jakarta. Urban Villages is the basic survival of living that exists because of the inequality and the capitalist system. At the same time, urban villages act as a city, inside a city. A basic system that it's not chaotic, but as an opportunity to enhance the communal living, also the identity.

Needs

The Indicator of Quality of Life in Urban Villages :

	From Local People	From Government
1. Education	Obtaining skills to enable immediate employment (training in handicrafts after B.E).	Formal education necessary : Basic Education, Junior and Senior High School, Higher Education.
2. Employment	Job opportunities needed in accordance with education / skills of the people.	Job opportunities automatically present themselves after improvement of physical environment.
3. Physical	Needed: Provision of clean water Good Sanitation Regular waste disposal services	Improvement needed of: Roads Bridges Pipes
4. Dwelling	Extension needed (Squaremetre per person)	Improvement Building Material Quality
5. Health	Babies fairly healthy Only to Health post when sick Only join health services when free milk distributed	Babies not healthy enough Priority health services through Health post No need for regular free milk

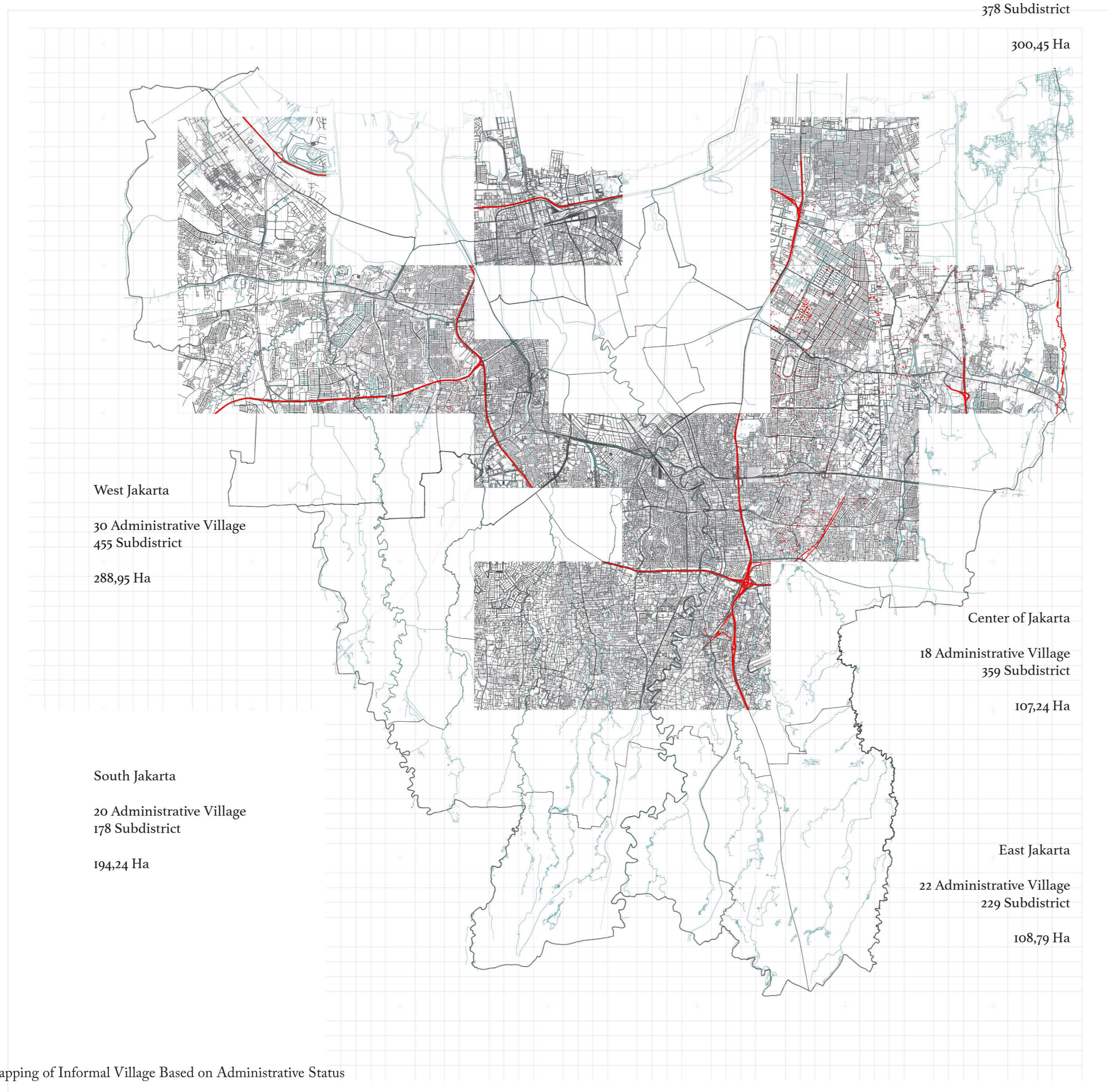
Indonesia

Jakarta

North Jakarta

22 Administrative Village  
378 Subdistrict

300,45 Ha



West Jakarta  
30 Administrative Village  
455 Subdistrict  
288,95 Ha

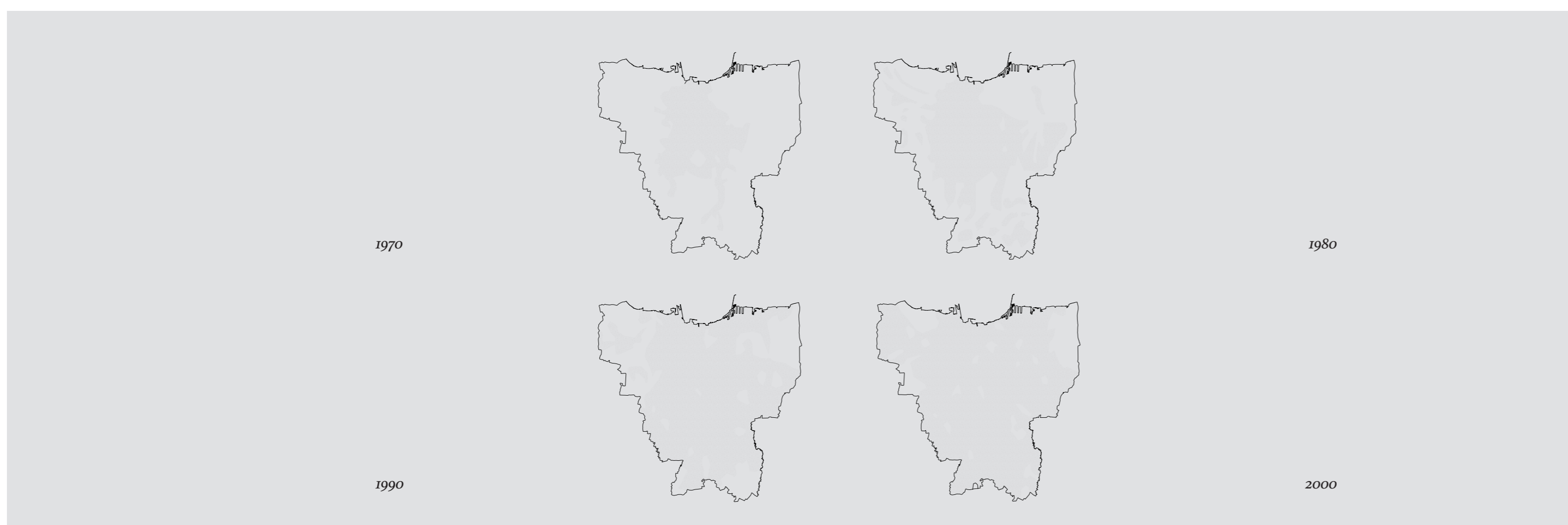
Center of Jakarta  
18 Administrative Village  
359 Subdistrict  
107,24 Ha

South Jakarta  
20 Administrative Village  
178 Subdistrict  
194,24 Ha

East Jakarta  
22 Administrative Village  
229 Subdistrict  
108,79 Ha

A Mapping of Informal Village Based on Administrative Status

The Spreading Map of Informal and Urban Villages in Jakarta

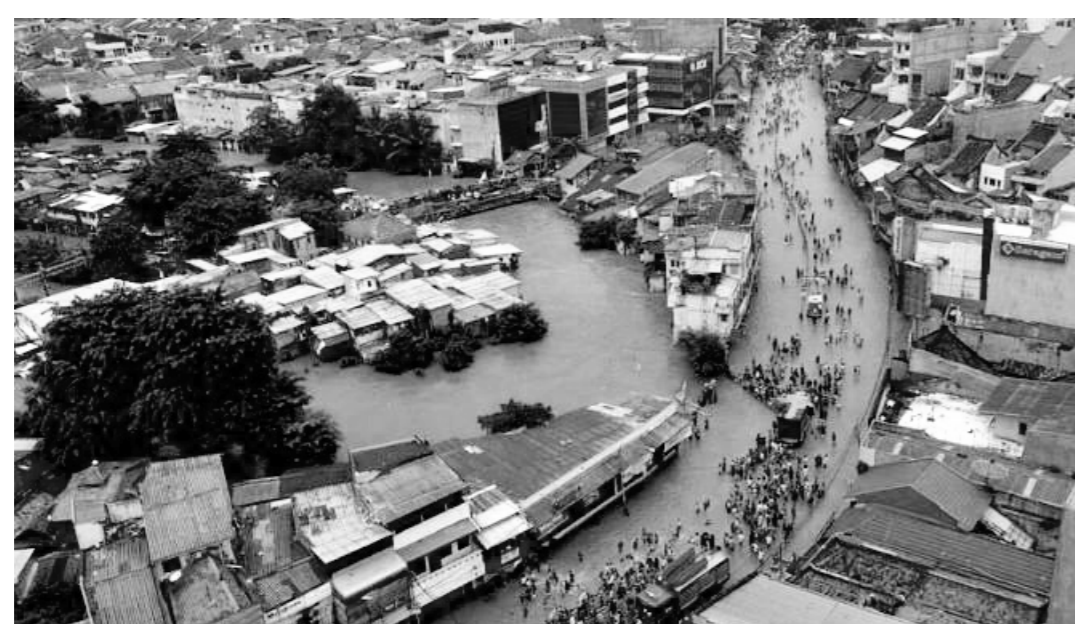
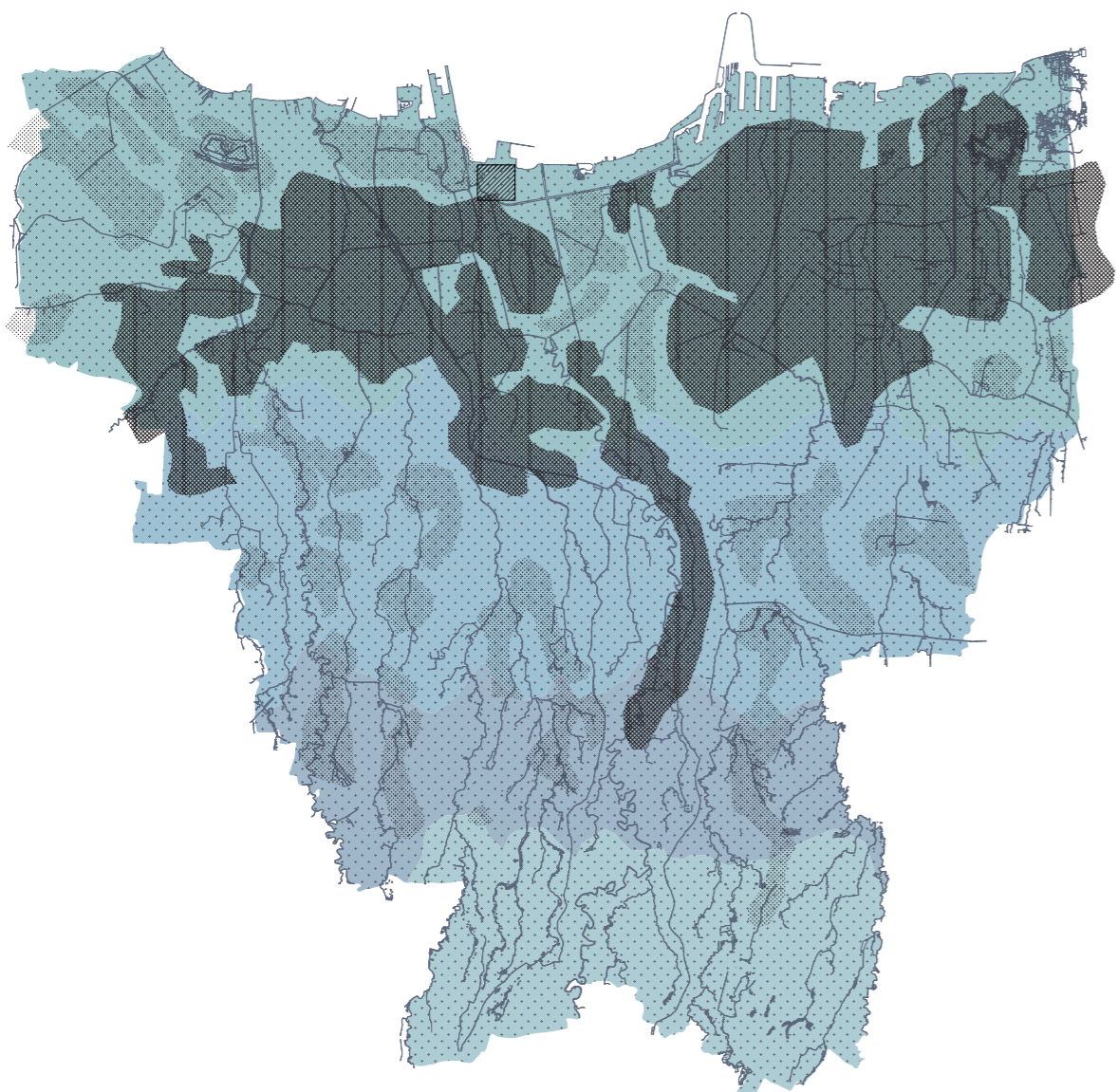


The Mapping of Land-Use in Jakarta Through Time

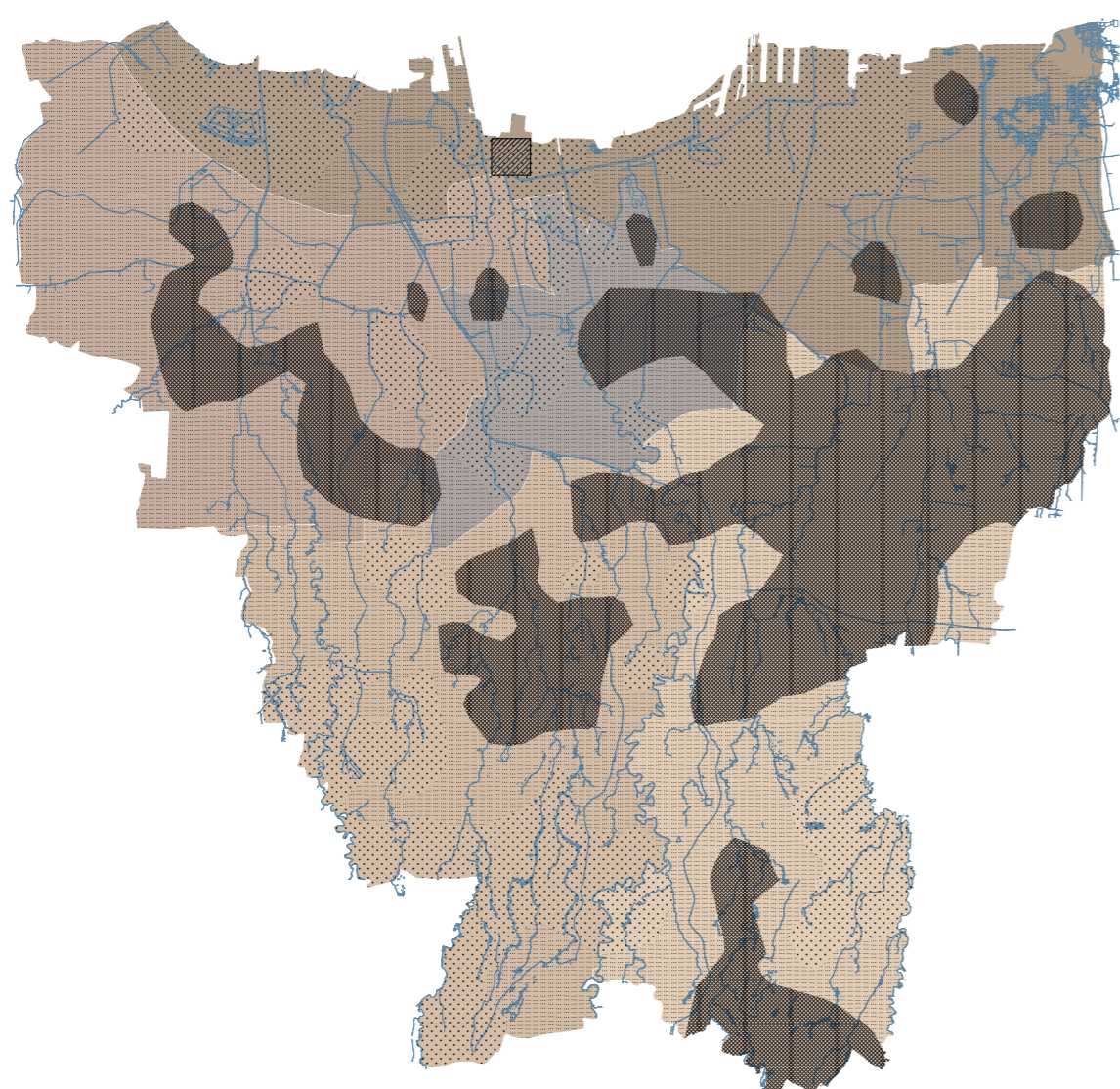


The Urban Village Mapping  
In Context: Disaster, Social and Economy

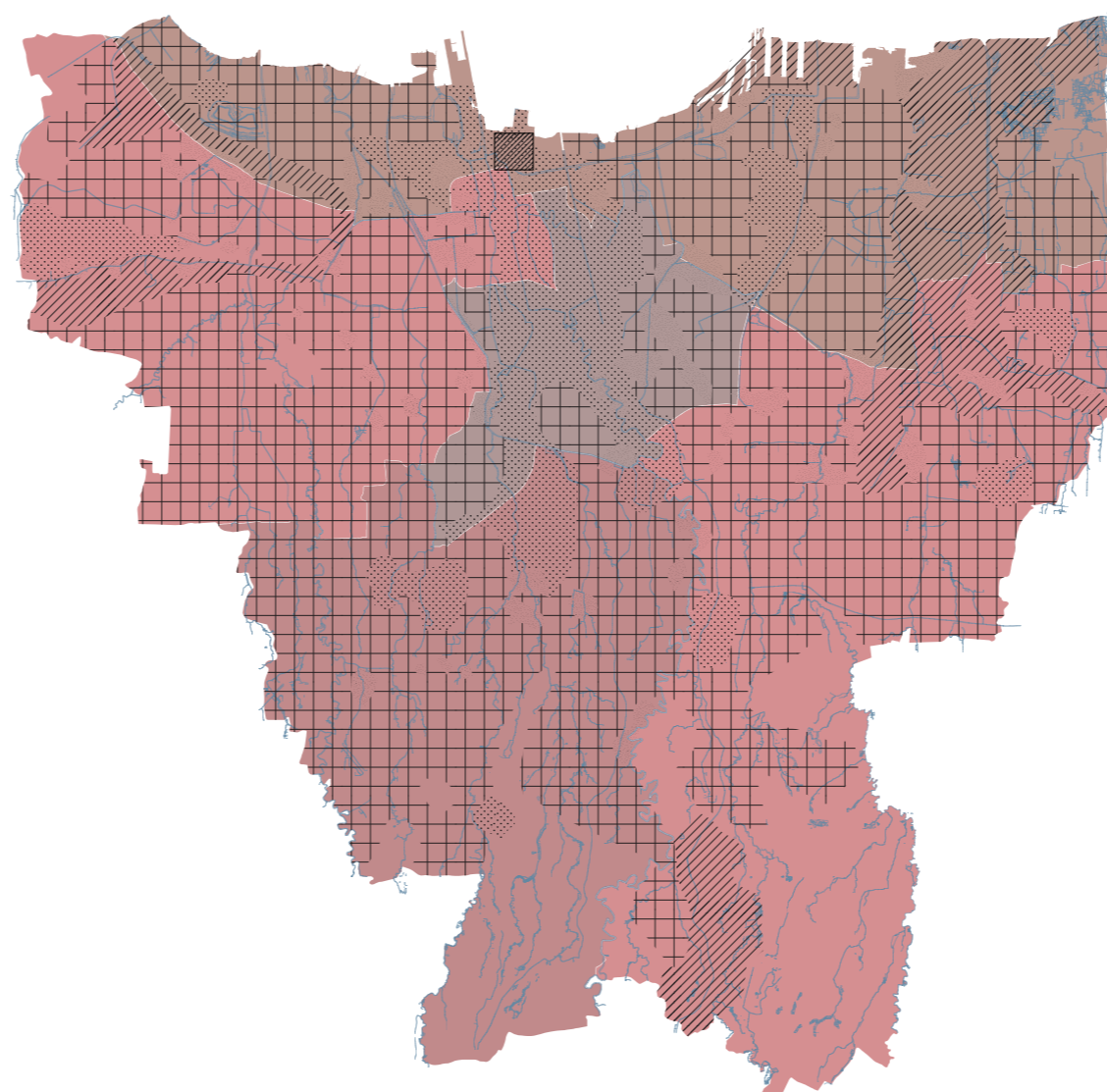
Flood Mapping



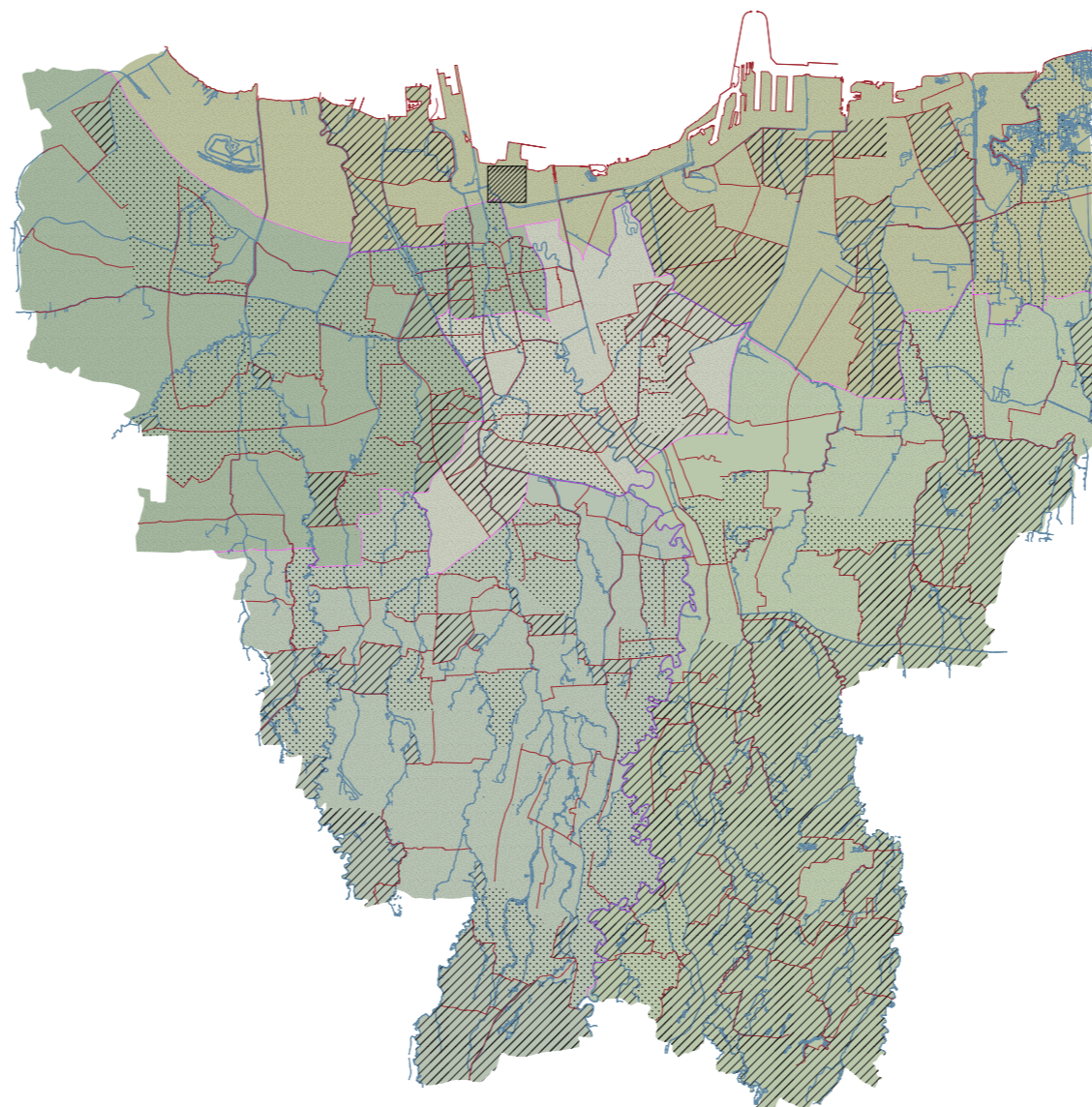
Earthquake Mapping



Wild Fire Mapping



Inequality (Poverty) Mapping



Summary

Disaster Mapping

"As noted in the module on disasters, a key reason for the increase in vulnerability to disasters is there are more people living in harms' way. One driver is urbanization. These four maps show the significant change in urbanization in Jakarta (shown in red) and the growing area in Jakarta (in hectares) affected by flooding over time as the city has spread. Urbanization is rapidly increasing in all low- and middle-income countries, often without regard to flood risks. This is especially true for unplanned urbanization."

Flood

The flood that occurred in Jakarta defined as a national disaster. Since Jakarta has a high ratio of rainfall, at the same time, Jakarta has poor infrastructure system including drainage system, since the surface of Jakarta is getting low year by year. Every high rise building in Jakarta, took the water from the soil, and massively, because generally, the city has no a coherent system, it took the mass of the water and makes the surface going down. Almost every 2-meter year by year. At the same time, Jakarta has many rivers across the city. The main river is called Ciliwung, and also Jakarta has two big Canal that divides the city. The canal is established since the dutch colonization. The informal settlement took the place where the water is. That makes the environment unhealthy, especially since the inhabitants mostly are the poor, the won't be able to bear the worst thing that could happen, the disease. The mapping shows that the hazardous part of Jakarta is on the north part since close to the sea. Also, the river branch starts from the north part to the south. Mostly, the soil consists of swampland. Eventually, the surface could go down easily, especially when there is massive building construction.

Wild Fire

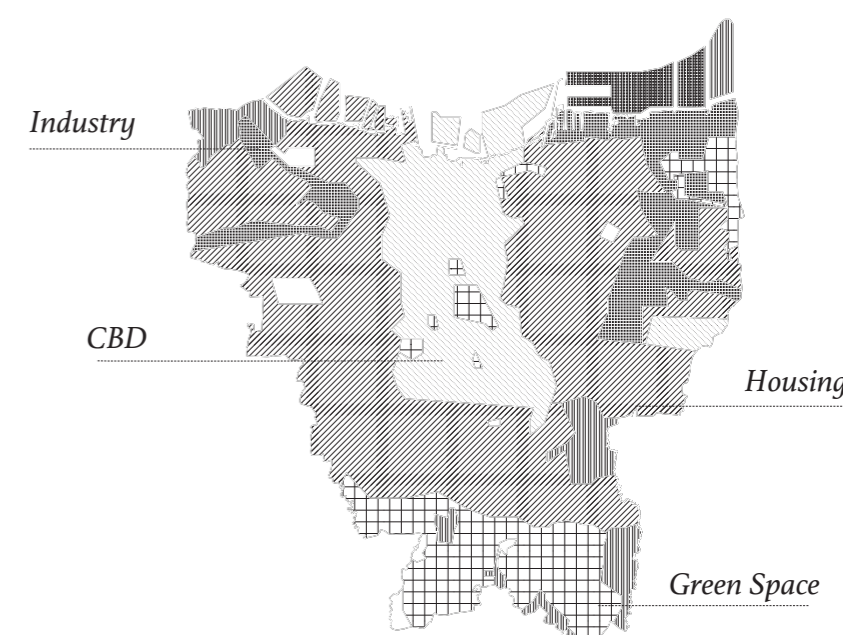
The wildfire from the unhealthy environment and the unstabilized of the use of the material from the building, and also the high density of the building. The fire could spread fastly, especially among the urban villages and the slums. Mostly, the building is constructed by woods and zinc, some of them are constructed by bricks. The unorganized living space also the cause of the fire. For some cases, the house doesn't have the organized kitchen, and if there is an accident that could happen, the fire easily emerged. According to the map of the fire, the accident happens mostly in the north part of Jakarta, since there are so many urban villages and informal housing.

Earthquake

First of all, Indonesia has a great potential for the earthquake, both seismic and volcanic. Since Jakarta has no volcanic mountain, the risk is only from the seismic movement. Indonesia crossed the seismic ring along from Sumatra island to Java island, across Jakarta. According to the data, the seismic movement also happened in the north part of Jakarta and also the rest showed a lower risk. Jakarta also threatened by a huge earthquake along with the city and the risk is getting bigger since Tsunami also could occur after the earthquake.

Inequality : Poor

Spatial development in Jakarta grows horribly from time to time. Poor city planning in Jakarta affected in every sector in the city. The economic growth, traffic, and transportation, A decision making for make city better are obstructed by a scattered spatial development. It mentioned before that, Kampung or urban village existed before the other public services such as a mall, university, etc exist. Such development that never considering the pre-existence of the inhabitants, made the inequality worse. The poor could live in the center of the city, which even they didn't have a chance to improve their life first because the government couldn't make any decision that supports the poor. Nowadays, the north part of Jakarta filled with many functions that not related to each other. There is a historical museum, which is very important for the history of Indonesia itself, the industry and its warehouse, the public mall which is very huge that's out of scale, the university, and the urban villas that related for the rich people. In the middle of them, there is an urban village that still persists and struggling for their existence itself, and at the same time, they are also fighting about their bad condition and the risk that could occur.



The Plan of Development of Jakarta by 2030 by The Government

According to the Poor map, 4.5% percent of Jakarta live in very bad condition, and it scattered along with the city. A very bad condition related to environmental quality and disease. Most of them are TBC and the disease from the mosquitos such as Aedes and Malaria.

Criteria :

1. Bad physical conditions
2. High population density
3. Areas with potential dynamics of the residents to continue the improvement programs
4. Areas of historically older growth among existing slum settlement
5. Areas which improvement and betterment will support the realization of Jakarta Master Plan
6. Areas which are able to schedule the improvements so that their benefit will be spread to other areas of the city, subject to the above criteria

In Focus: Kampung Bandan





The Urban Mapping

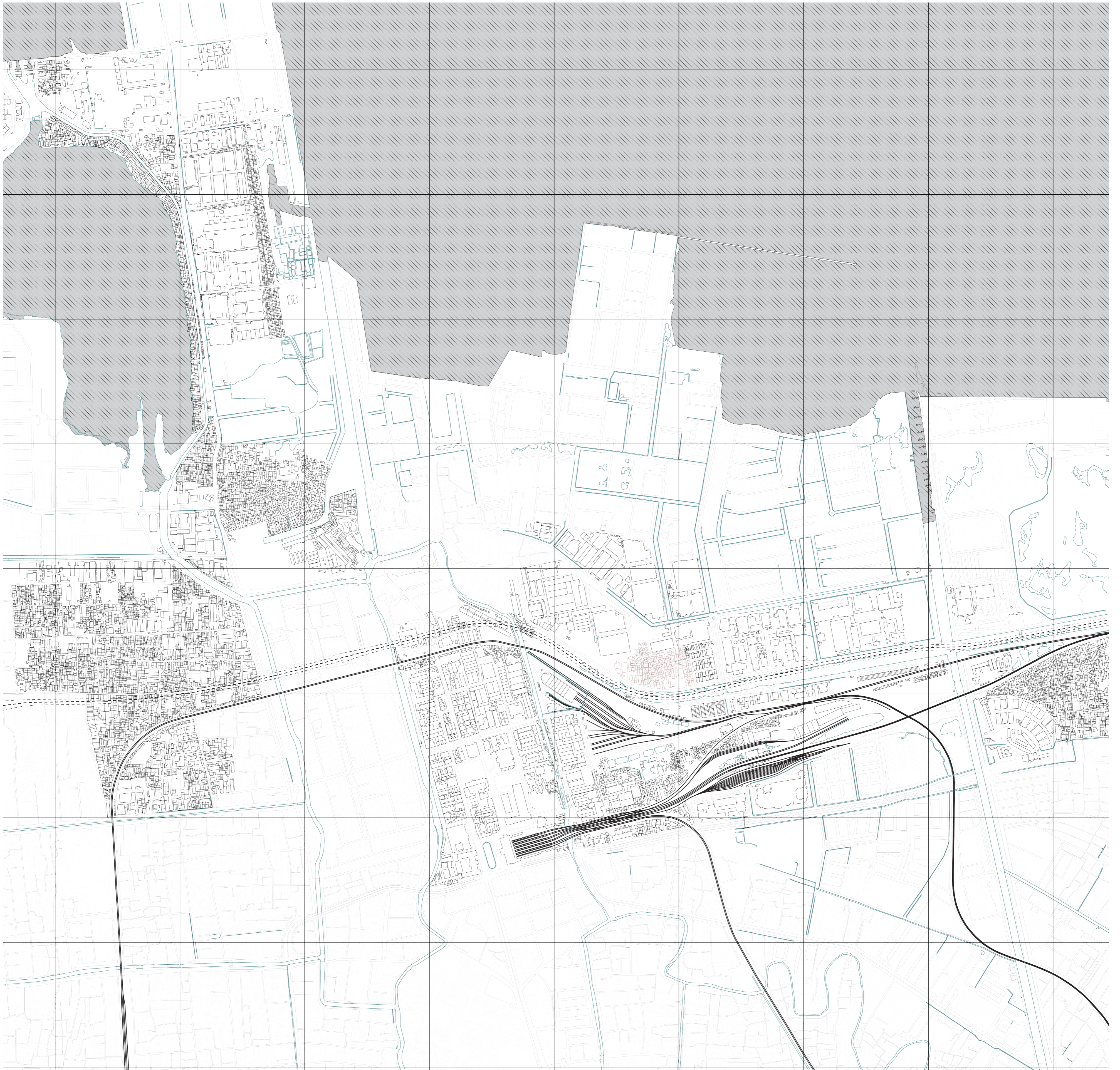
In Focus: Functional Context North Jakarta

Urban Villages / Informal Settlement

Education / University

Factory / Warehouse

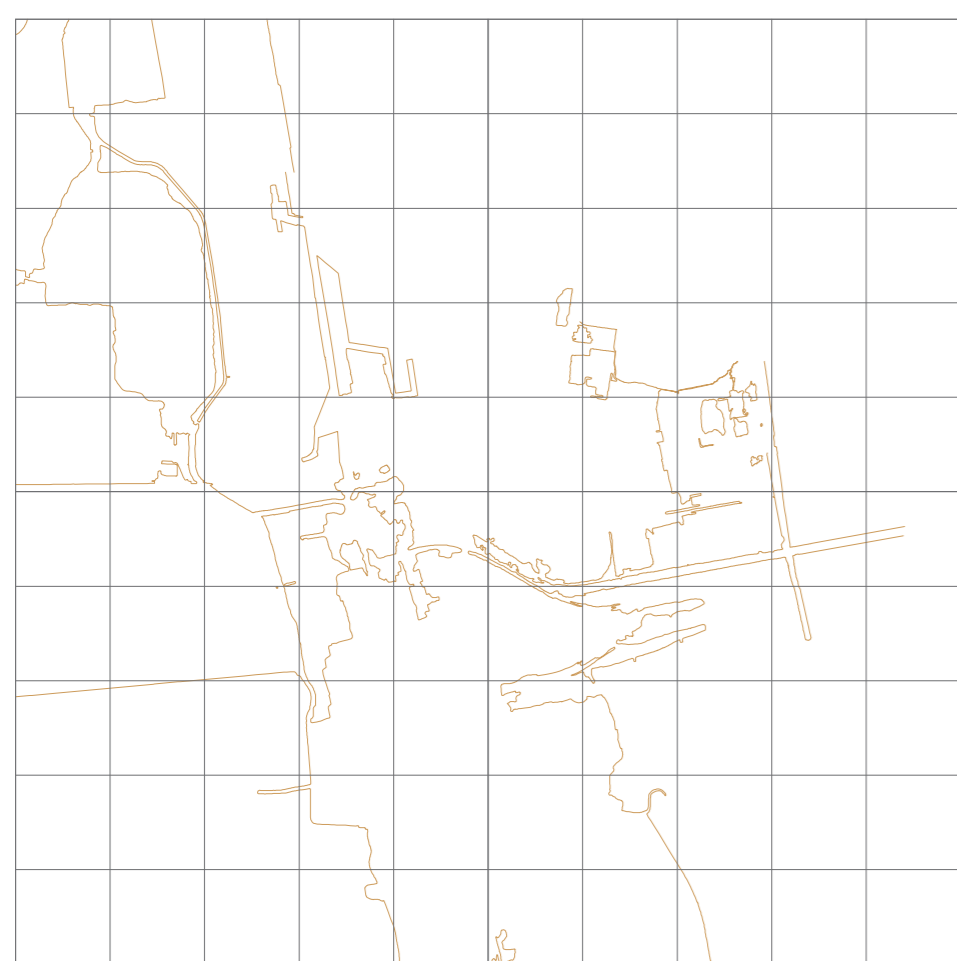
Commercial



Scale 1:1000

Museum Island

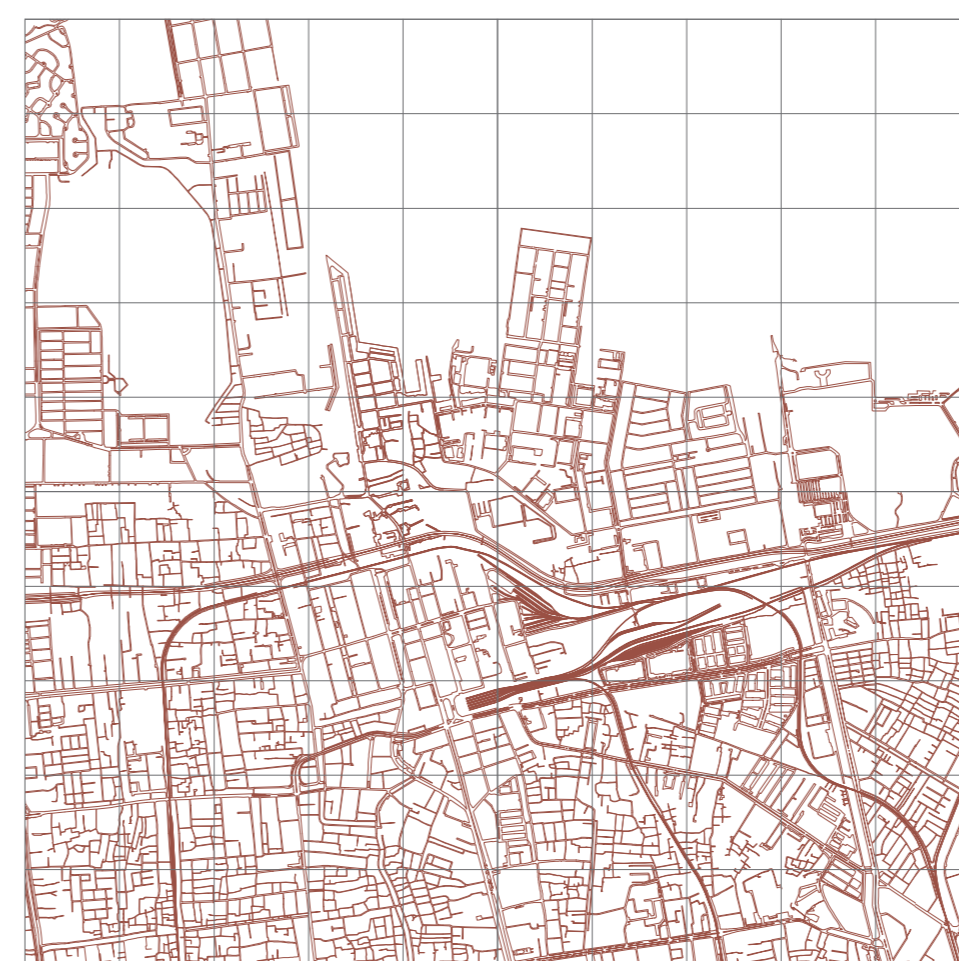
Commercial



Topography



Density



Infrastructure System



Hydrological Map



Urban Mapping  
In Focus: Kampung Bandan

History

Kampung Bandan As Community

According to the Kompas (National Newspaper), it describes that Kampung Bandan is one of the historical settlement from the Dutch colonization. It's written that Kampung Bandan used to be a village for the slave that lived during the occupation. There was a rebellion by local people of Batavia, before Jakarta, that colonized by the dutch. The slave that occurred after the war placed in Kampung bandan and they have to work in a place that next to the village, it was a very big fish market. They live for years, until the Independence day of Indonesia, and until the local government makes a local railway station near to the place. Besides its place history of Kampung Bandan, the community grows strong since they have lived for decades. There is a historical Mosque in the place, Al Mukaromah, the mosque is very valuable in a sense of historical view because it stands since the 19th century and has an important part in development and a spread of Islam in Indonesia. This mosque is one of the Moslem-tourist attraction in the city. Recently, the poor development in the city makes Kampung Bandan has a very low quality of living. The organization of the spatial issue in Jakarta makes Kampung Bandan grows poorer, but at the same time, the building in the most Kampung Bandan it has 3 storeys. Because there is no limitation according to the law that regulated the environment, and they have to survive in the middle of an economic boom that occurred in the place.



Architecture - Function Related

Urban Corridor



1. Sport Hall - Warehouse



2. Office



5. View From Highway



6. Under Bridge



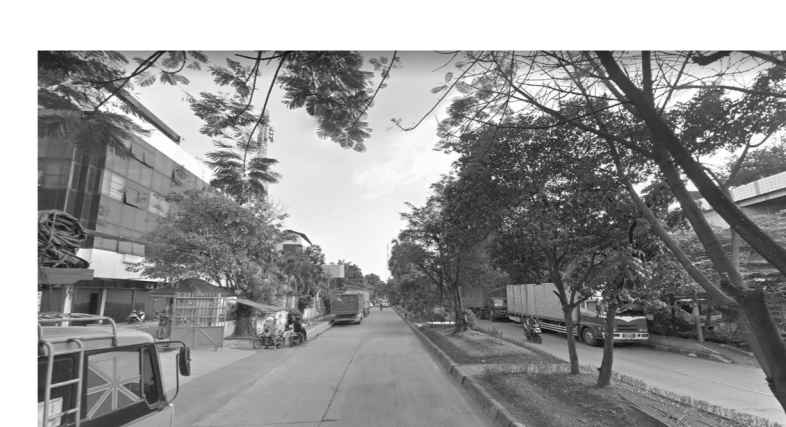
3. Private University



4. Mosque



7. River



8. Boulevard



Urban Mapping

In Focus: Kampung Bandan / Typological Research

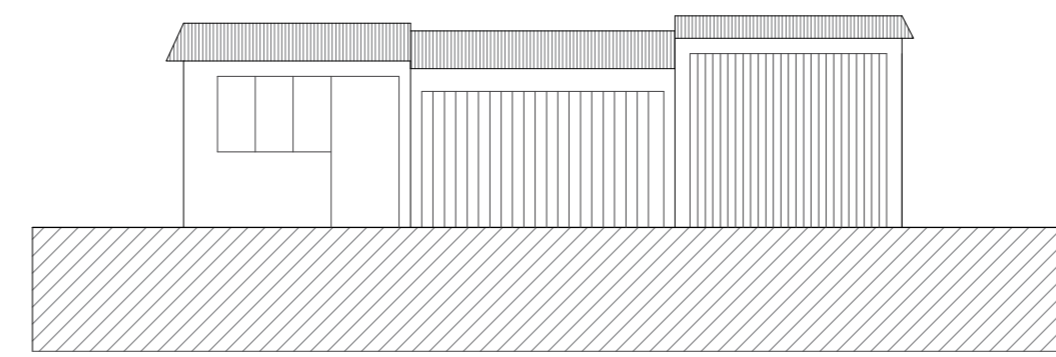
Physical status	Respondents																								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Deteriorating housing																									
Shortage of housing spaces																									
Lack of housing services																									
Temporary construction materials																									
Lighting and ventilation																									
Structural problems																									
Abandoned buildings																									
Higb-density construction																									



1. Multiple Family House with Shop



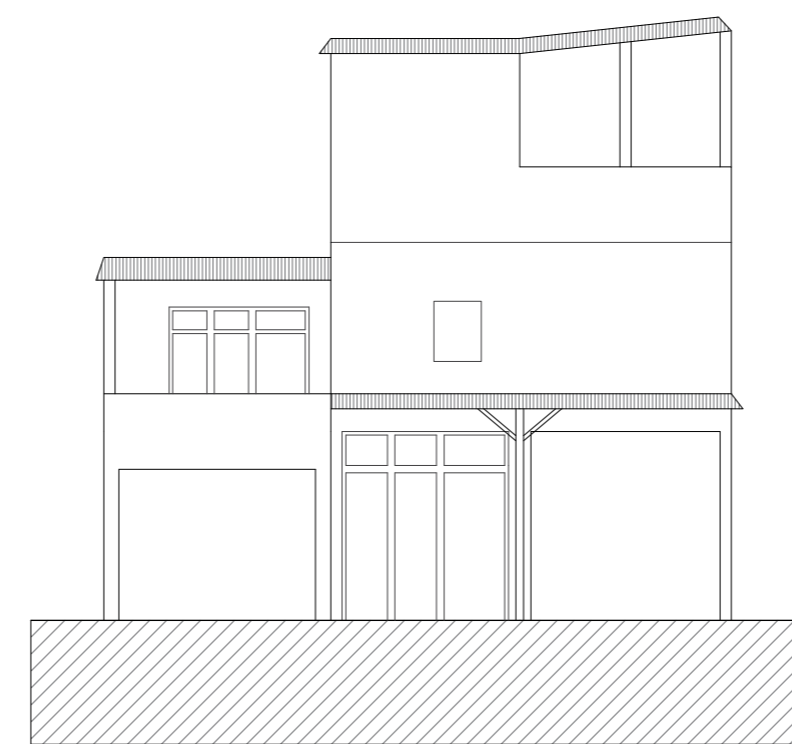
2. Single Family House



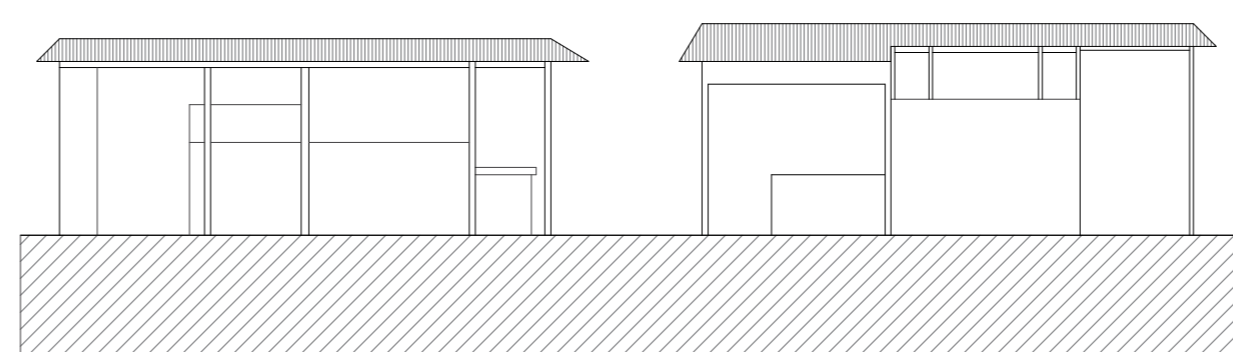
3. Shared Family House



4. Single Family House with Shop



5. Restaurant



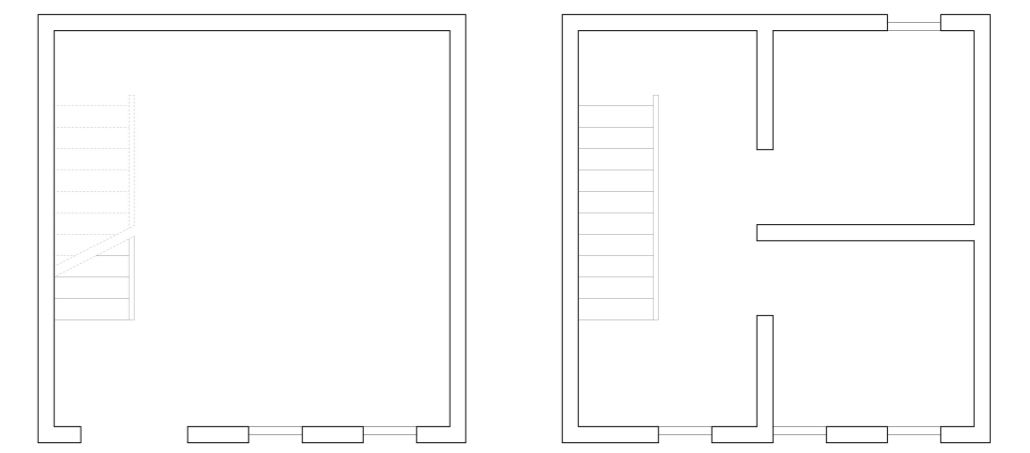
Abstraction among the informal



Living Scheme

Abstraction Inside the House

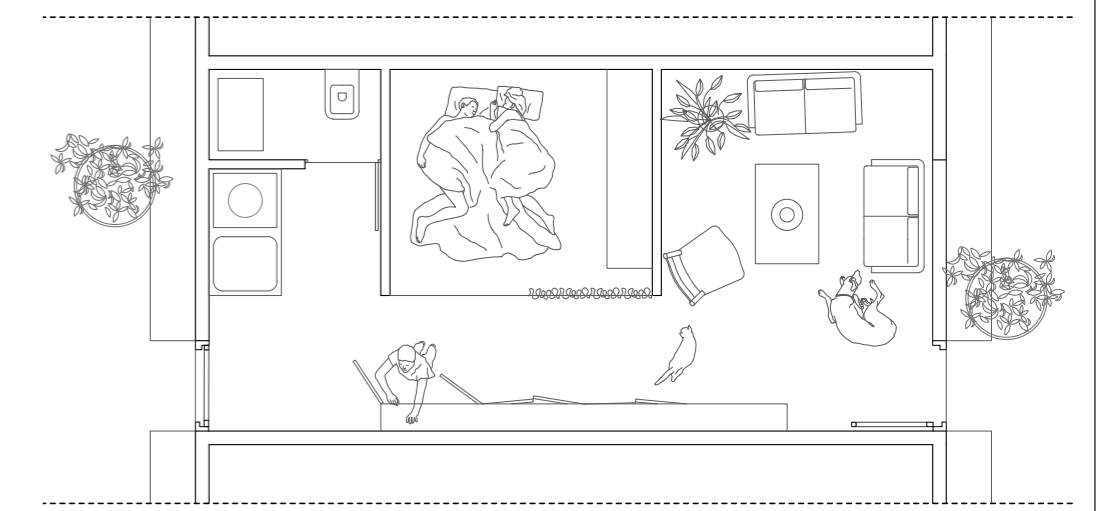
There is no specificity inside the house of the informal. On average, the house is in between 35 sqm to 60 sqm. The house can consist only living room, kitchen, and bedroom in the same space, only separated by curtains. The bathroom could be in the kitchen or separated from the house, which means in every compound, there are some shared bathrooms. The organization of thing in space is free and flexible. For example, the living room could be a living room or a guest room since according to the culture of local, the guest should be welcome in a proper place. So the living room could turn into many functions.



Type 01

2 Storey House with multiple families

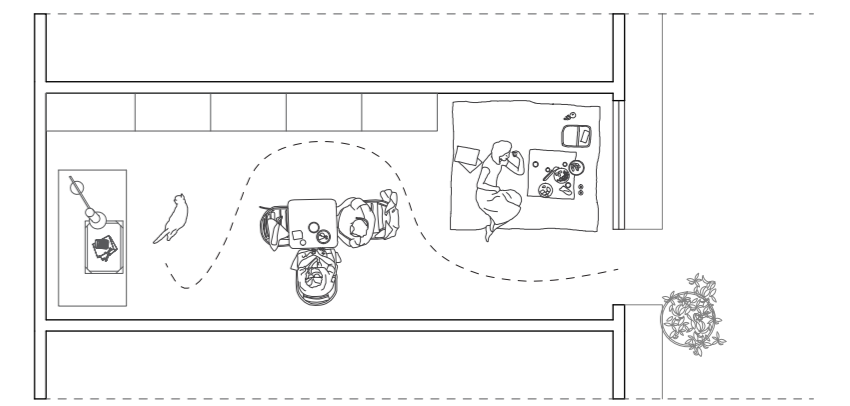
16 sq meter house that lived with two or more families. The division is, the ground floor is the shared space, an interior public space that could use as living and guest room. It could be also for kitchen and bathroom. The upper floor consists of two bedrooms, each for a different family. Usually, they are still one big family, since the culture of local people that lived in the village, they are living in one house. With 1 or 2 children each family.



Type 02

House with 1 family

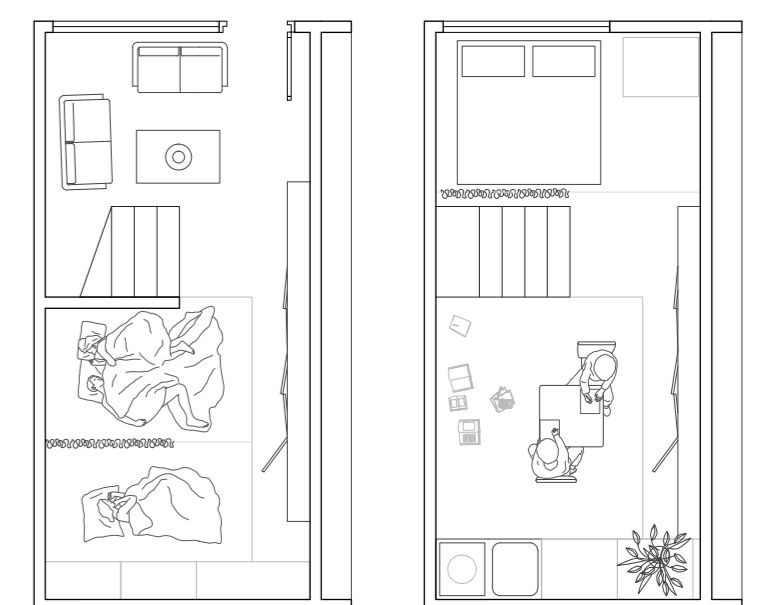
The 32 sq meter consists of 3 main rooms. The sequence is the guest room, bedroom, and kitchen with bathroom. This typical house is common since only one story. Usually, the house faces two sides of the street with drainage in the front of the house. The separation in between rooms using the curtain in between and there is no flexible space.



Type 03

House with 1 family

This type of house is poorer than type 02. Because the house doesn't have division each room, and the room is not defined. The inhabitant could place a kitchen, table, bedroom according to which they prefer. For this type, it only has 1 side of the house, which very common in the village



Type 04

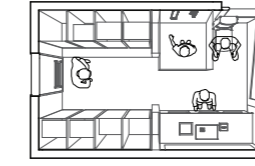
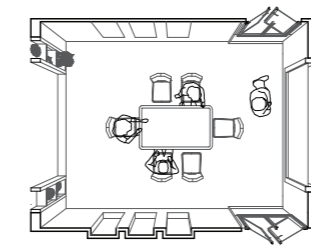
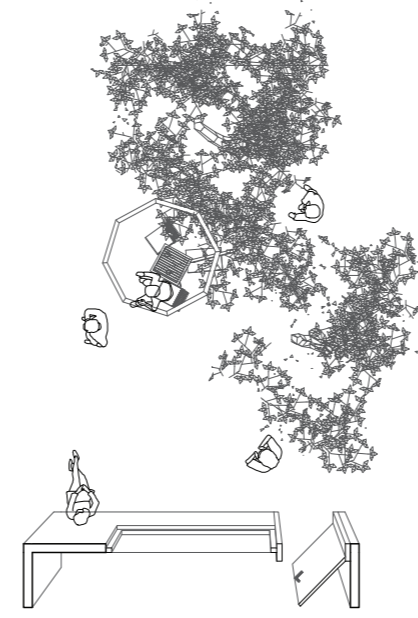
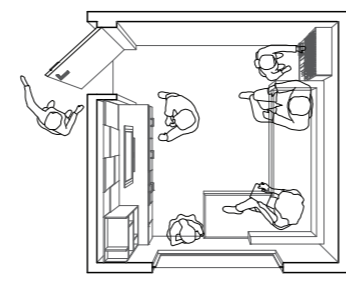
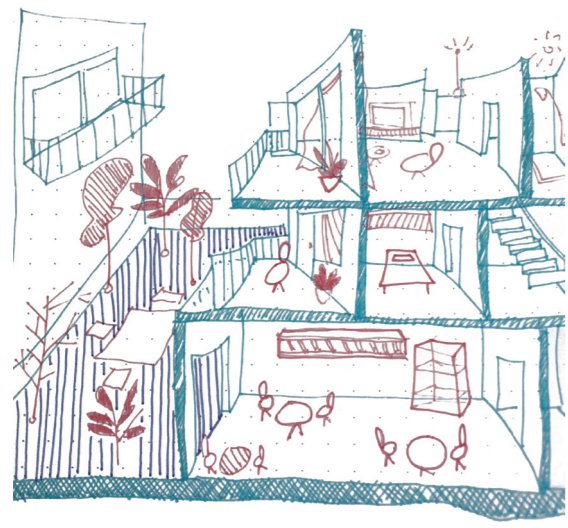
Two storey house with one big Family

The house consisted of many division of rooms. Although the division is similar to the other type, the kitchen is on the second floor and there is no bathroom. For this type, they are using the bathroom outside of the house (sharing bathroom). The stair located in the middle of the house, and since they don't have a space to have a regular stair, the stair looks like a ladder rather than a stair. Usually, one big family live in this type, since they have basically 3 bedrooms and one shared the living room.

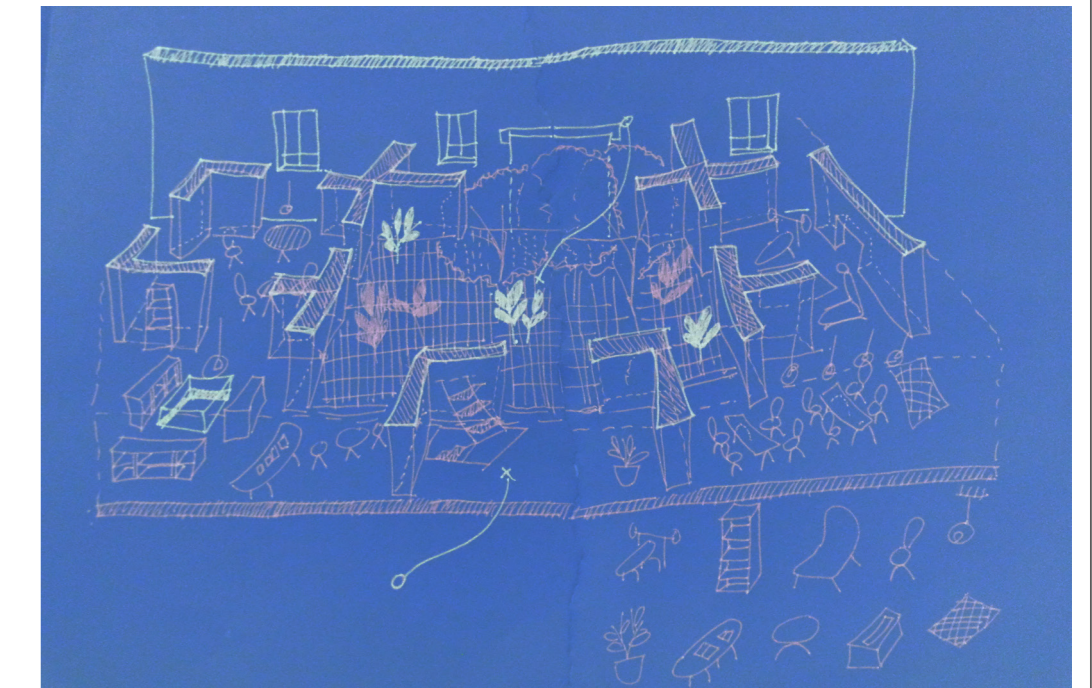


Urban Strategy

In Focus: Kampung Bandan



General Vision and Manifestation



Sharing Open Space as A Tool

Urban Rooms

"The more it denies architecture, the better it performs its task of sheltering and the more it increases the value of its surface by blatantly exposing life in all its complexity and leaving its inhabitants free to produce, exchange, circulate, proliferate.

A continuous scheme of the binarical world, 1 and 0. Urban rooms as a concept of making and defining a private and public life. A definition of autonomy and defined criteria. Autonomy for creating possibilities of activity, a space that at the same time can solve the issue of fluxes. A vision of how to live in-between spaces.

Urban rooms redefine the locality among the others. To life in between, private-public and a continuous living scheme which also to identify the quality of the domestic living. At the same time, urban rooms decrease the architecture into more human virtue, since it has the priority to make a new possibilities in between spaces, private-public. Urban rooms identify the outdoor as the common living room and the indoor as the common niches. At this stances, people could live each other, people could define theirself according to their movement in the area which invokes the activity further on. Urban rooms as a media to define its architecture.

Design Strategy

Improvement Benchmark

1. Higher incomes and more job opportunities
2. Training and improvement of skills and education
3. Improvement health and nutrition diets
4. Provision of public services, such as water, sewage, and drainage systems
5. Security land tenure
6. Improvement the quality of shelter.

Harmonious City Development

1. Nature
2. Waste
3. Consumption
4. Production
5. Back to nature

Indication Benchmark

1. The amount inhabitants
2. Technology
3. Culture
4. Social
5. Individual factor

Urban Structure



Project Item	The Project	Summary
New Public Space	New public space as a tool to decreasing the density of the building	Material Description 
Road	Provision new connection to reach new public space and improving the quality	Material Description 
Footpaths	To improve the quality of the footpaths in between building	Material Description 
Drainage	Enhance more the drainage System	Diagram 
Water	Establish the clean water system through the city or the use of rainfall	
Human Waste Disposal	Public toilet and bathroom with pit preveis	
Solid Waste Disposal	Provision one garbage box for 65 dwellings	
Public Services	Provision one Elementary School	Explanation An Elementary School with 6 classroms (according to standard).
Schools	Provision 1 Health Clinic	
Health Clinics	Provision 2 Public Building	Diagram 
Community Space		A Public Building (Multi - Use Space) to accomodate the needs of the occupants.

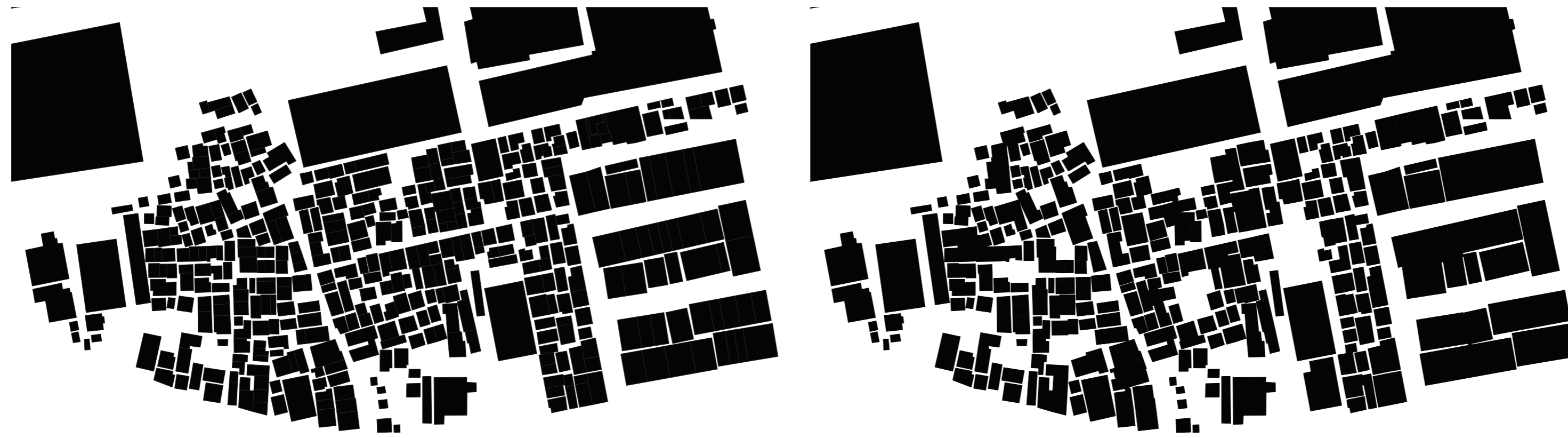


Architecture Strategy  
In Focus: Kampung Bandan  
The Approach

The Building

Current

Proposal



Strategy

Urban Rooms - Reconstruction of Pivotal Points

The building will be improved by the provision of the sharing space on the ground floor. The hierarchy will be the dwelling always located on the 2nd floor and further on. The sharing space is the tool. Also, the function of the house will be both co-housing and private housing with shared living multiple families. Apart from that, the building will also be improved in terms of material quality.

Criteria

Sharing Space

Sharing space as a criterion to create the identity of living in kampung bandan. They shared the living space on the ground floor mostly. Shared space including the urban space and domestic space inside the house such as a living room. Shared space as a beginning of the hierarchy of the space toward the private space. A tool to describe more about the sharing space is a space dedicated to the community that can be used inherently. Sharing space in this stage is focused on a space that inhabited inside the building. Criteria that have to fulfill in the most every building that aims to be improved. A decent public toilet, living room, dining room, kitchen, also the relationship between the room and the public sphere. All the criteria are according to its behavior of the previous reading about the context of the movement inside the actual house in the village

5 Strategy of Reconstruction



Strategy	Abstraction	Description
Project 01 : Improve The Urban Connection		The quality of urban space has to improve with the connection to the public space. Since the first step to emerge the public space, the building (House) has to give a passage towards the open space. The ground floor is free, and the house is located on the 1st floor.
Project 02 : Improve The Quality of The Building		The quality of the architecture has to improve according to its context. The actual condition of the building and also the risk that could occur in the area. The consideration consists of the change of the previous constructed material, such as brick, zinc alum and metal sheet. Also, the improvement of the organization of space, door, window, and stair. The intervention is to minimize the risk and improving the urban design at the same time, yet the identity still remains.
Project 03 : Increase The Density		To exchange the density upon the removed building in terms of the procurement of the public space. There is 18 House that removed and 24 House that placed to exchange. The location is on the building that only has one floor, and makes them into 2 and 3 story building.
Project 04 : Provision of Public Service : Elementary School		In order to improve the quality of the environment, to provide a basic education is also a framework and strategy to improve the quality of the people. In these terms, according to the size of the village, the stage of elementary school is one of the strategies to support the quality of the children education.
Project 05 : Provision of Public Service : Market and Communal space		Provision for a job is also important in terms of to improve the economy. Market and communal space could be the center of the economy beside to enhance the community of the inhabitants. This space could provide new possibilities that make the environment improved not only the physical but also the people itself.

Building Removal > Public Space







Typological Mapping  
Architecture and Open Space Classification

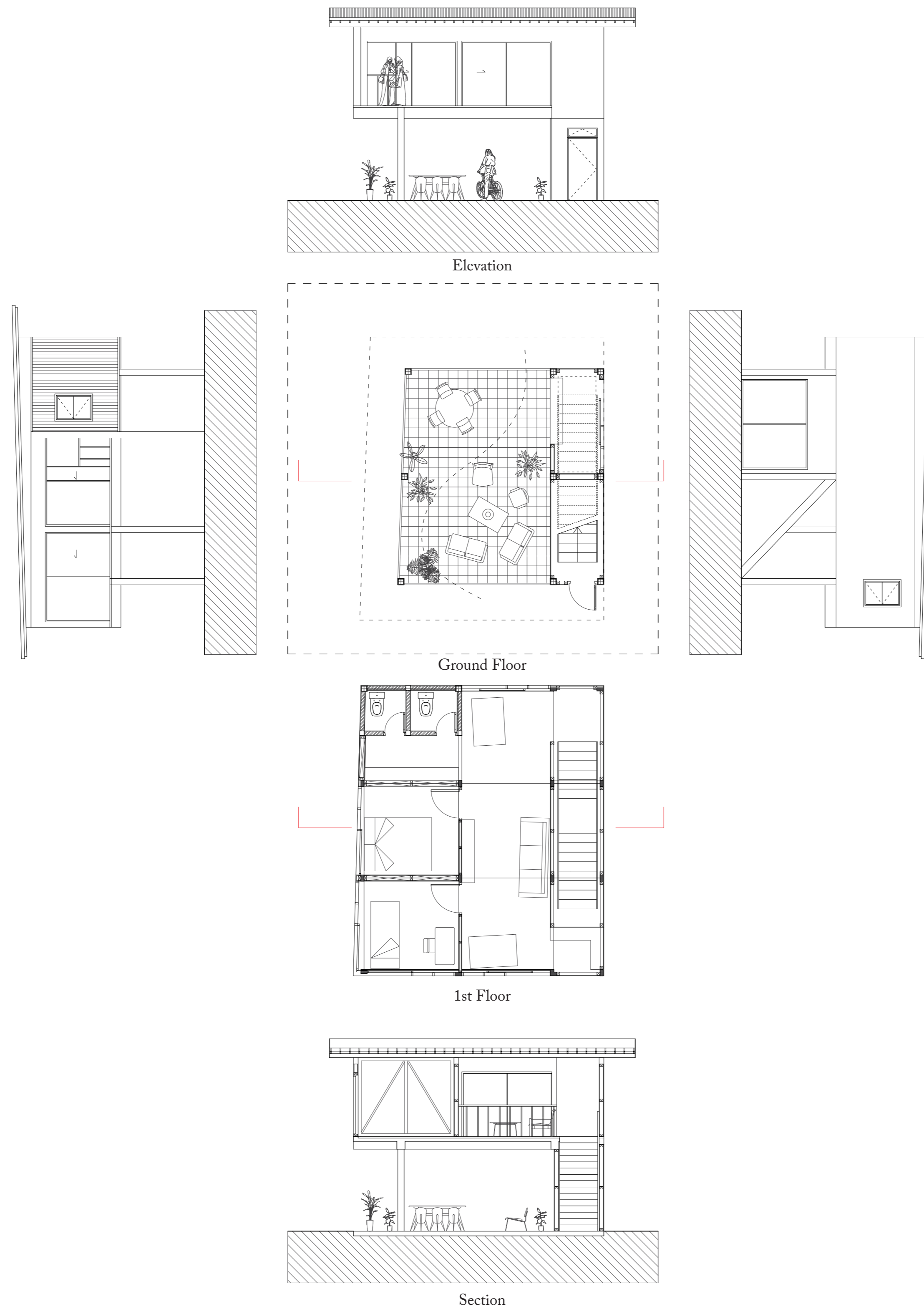
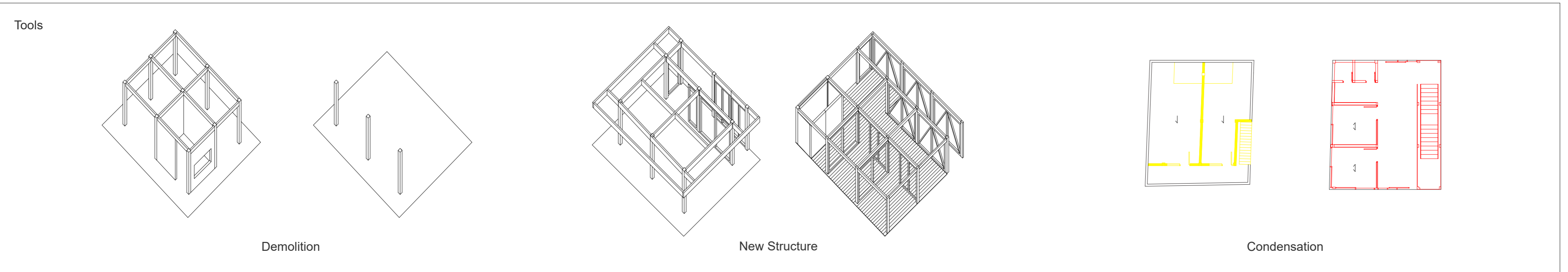
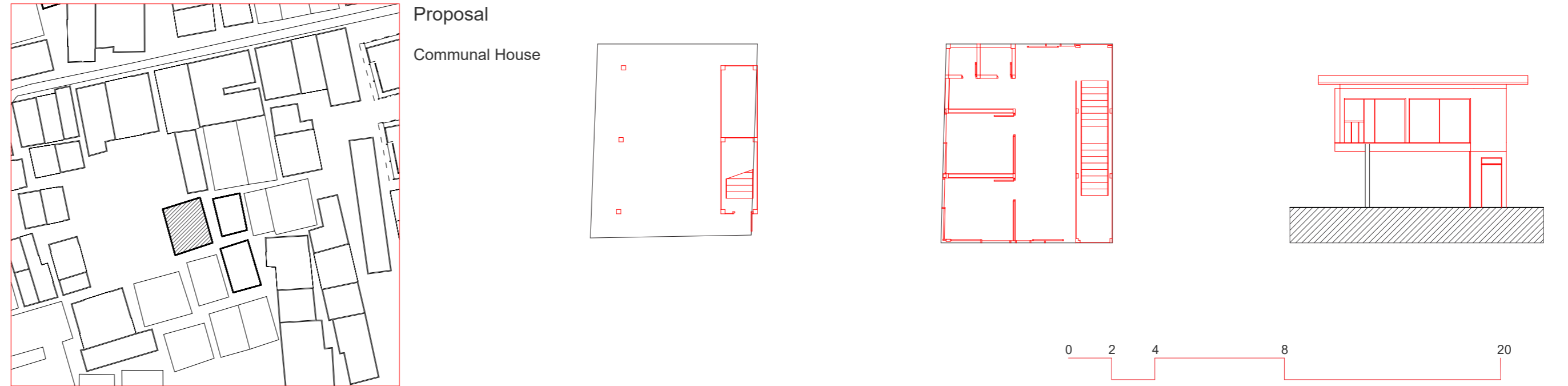
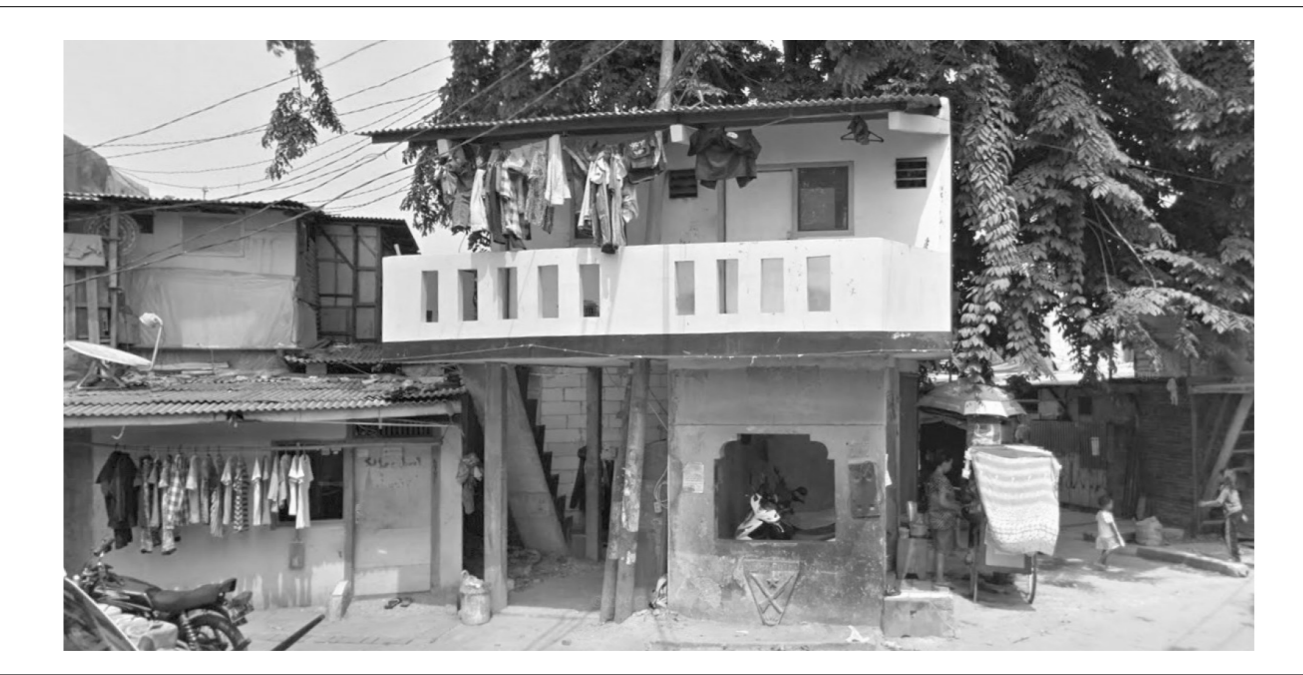
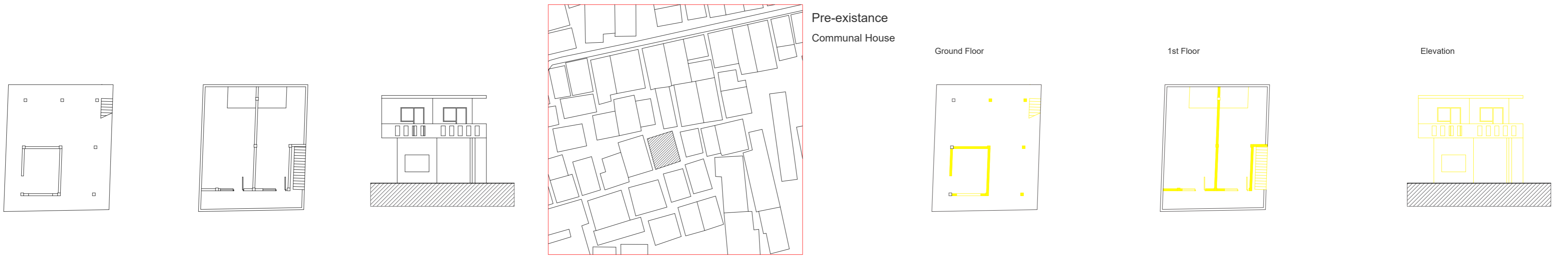




Design Strategy

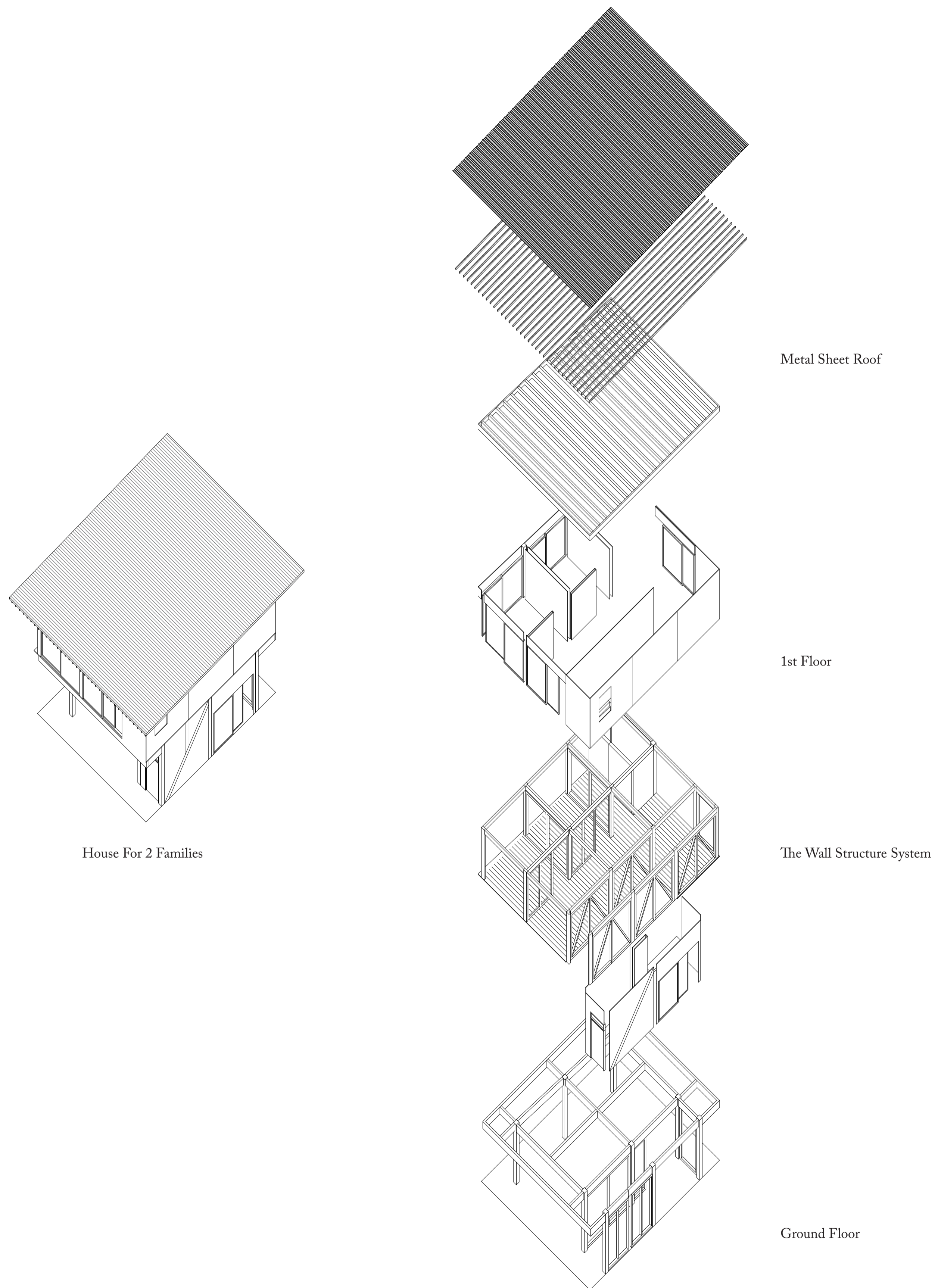
Project 01: Improvement (Urban Connection)

House for 2 Families

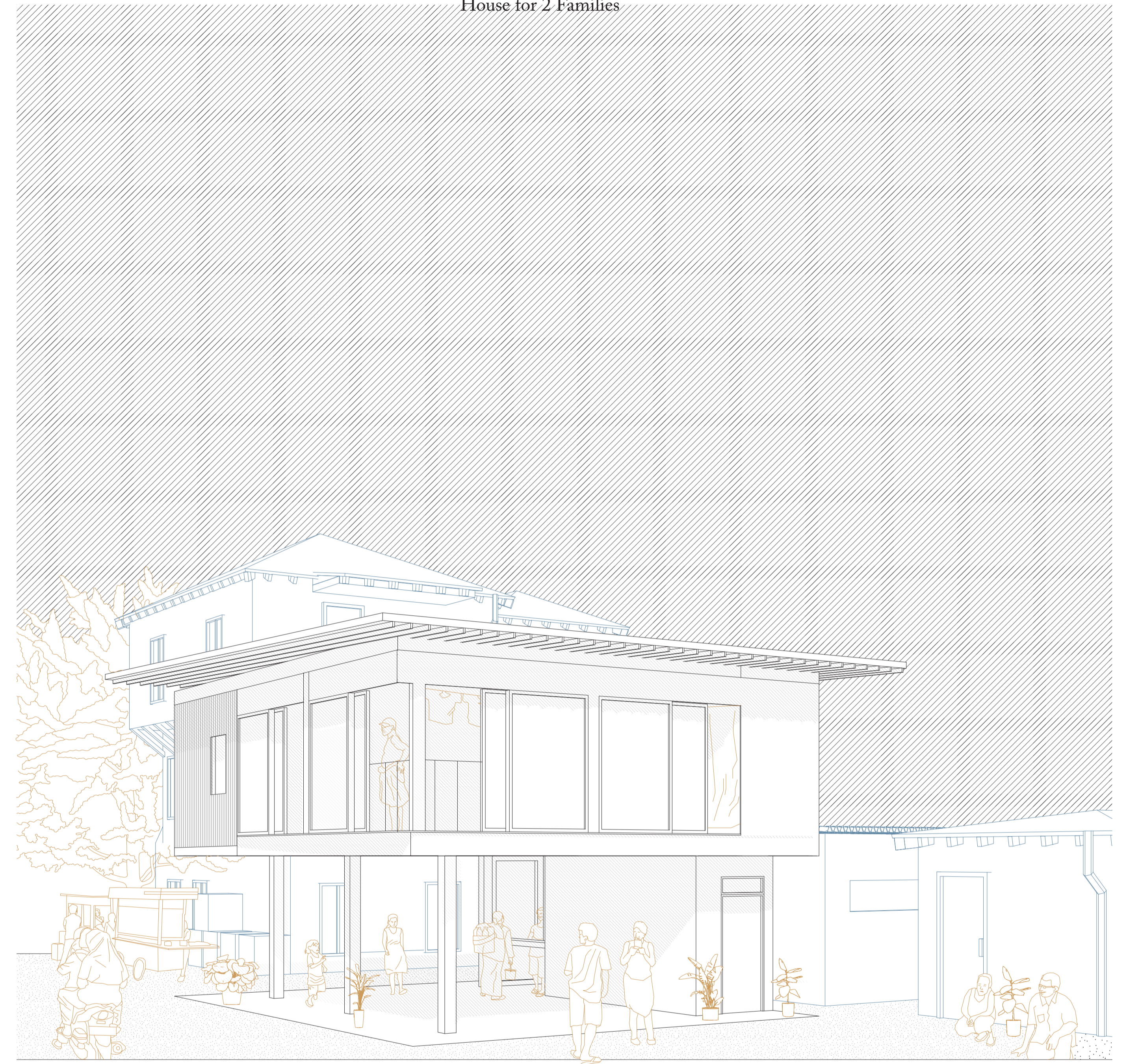




Structural Scheme



House for 2 Families

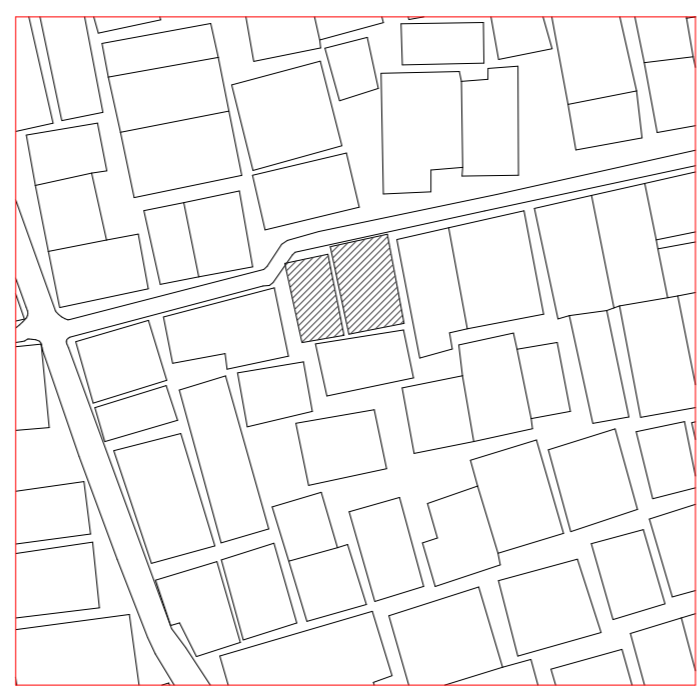




Design Strategy

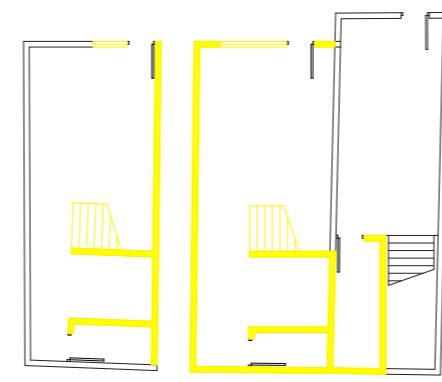
Project 02: Improvement (Architectural Quality)

House for 2/3 Families

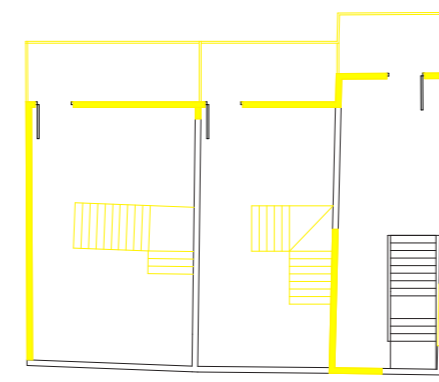


Pre-existence  
Communal House

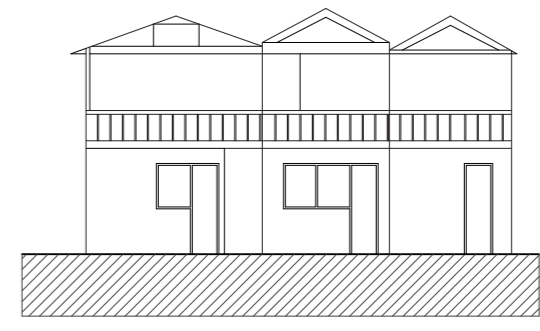
Ground Floor



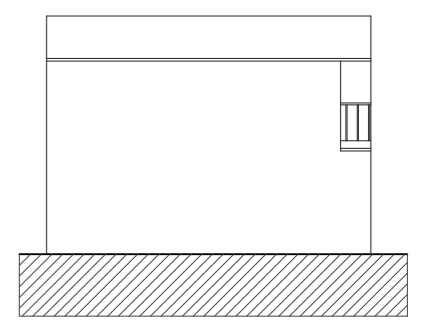
1st Floor



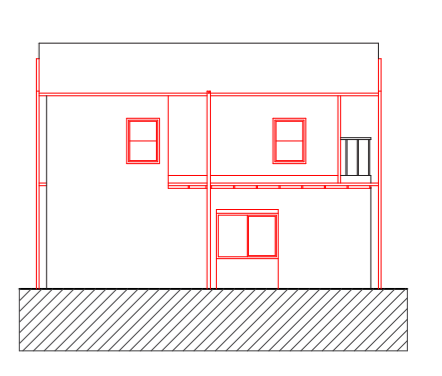
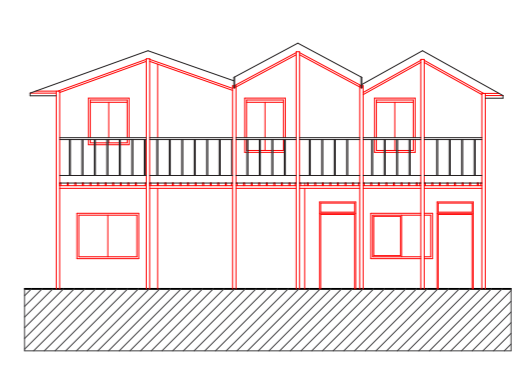
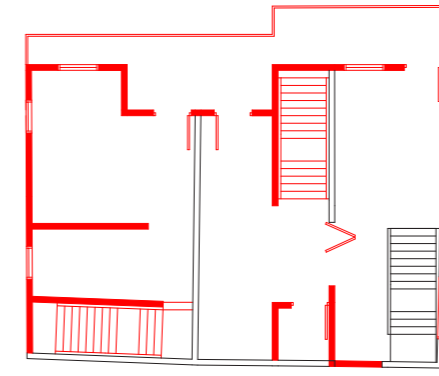
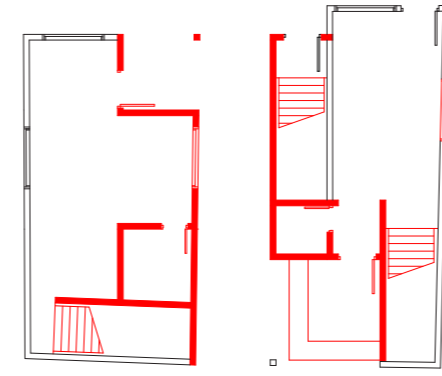
Elevation



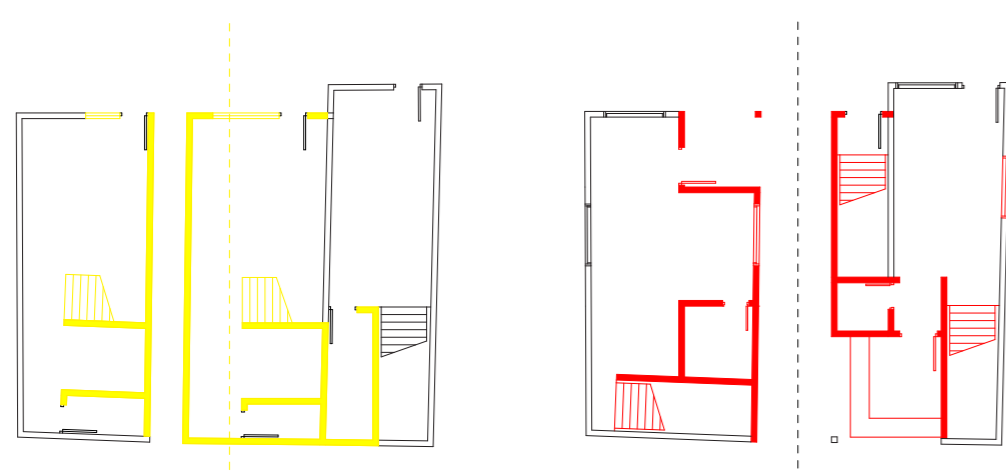
Elevation



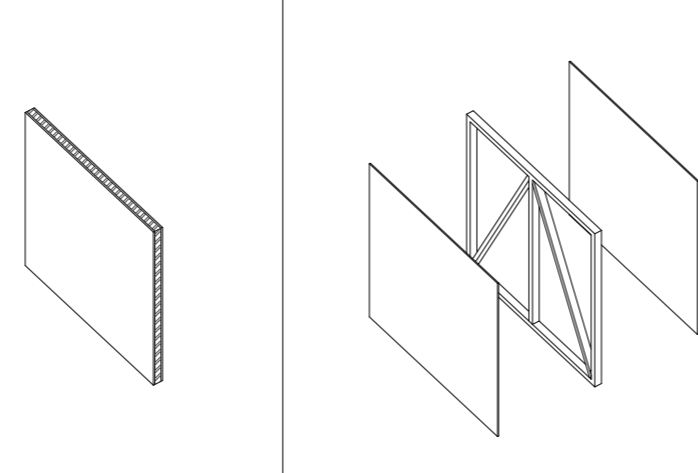
Proposal  
Communal House



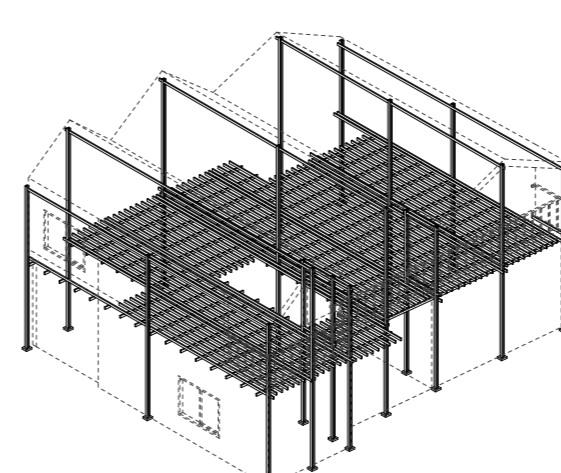
Tools



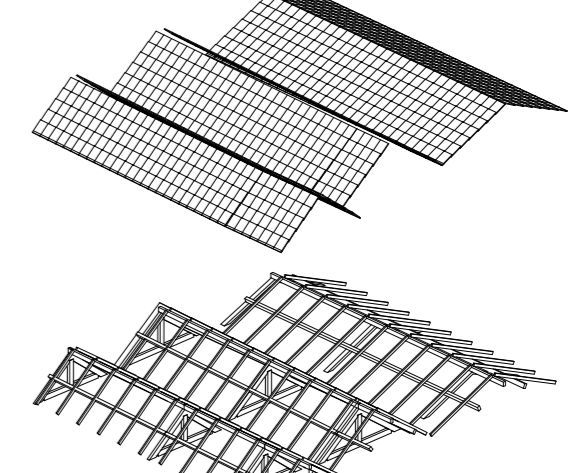
Reorganization of Space



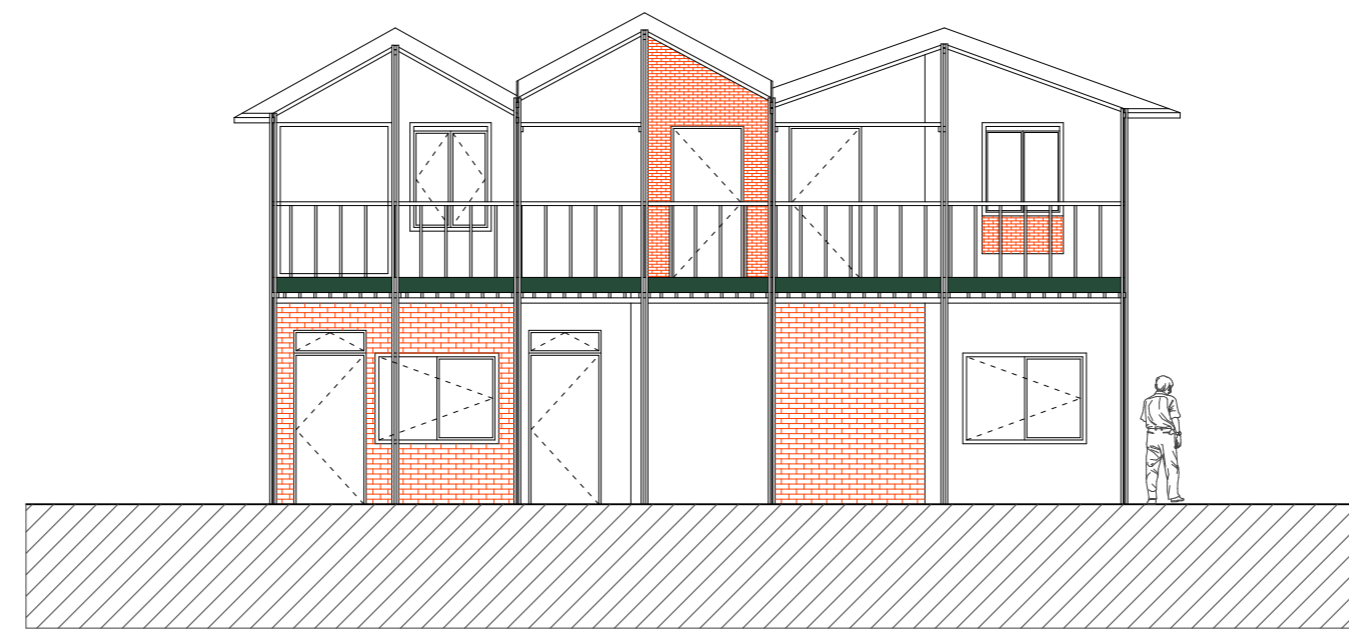
Infill The Wall



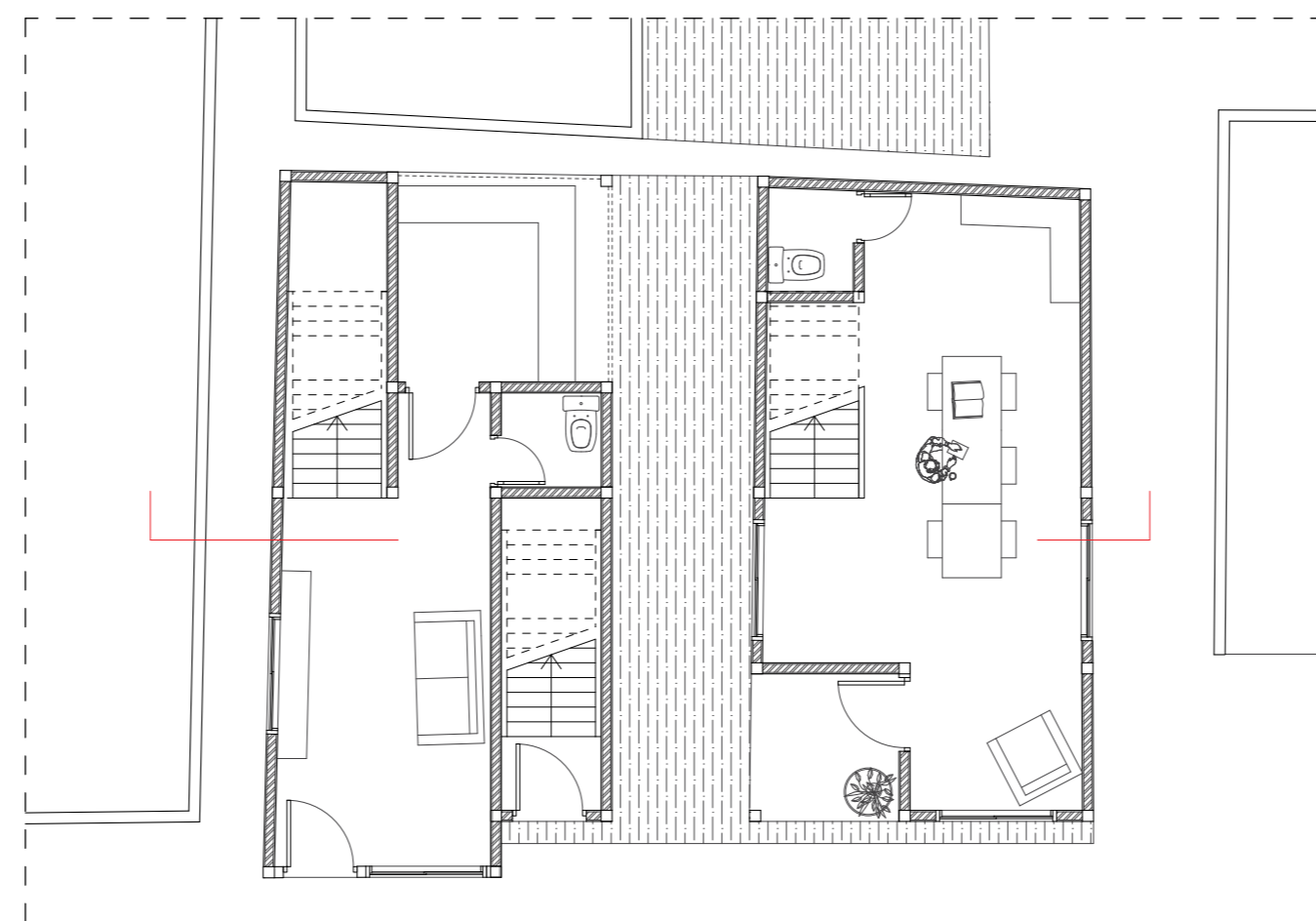
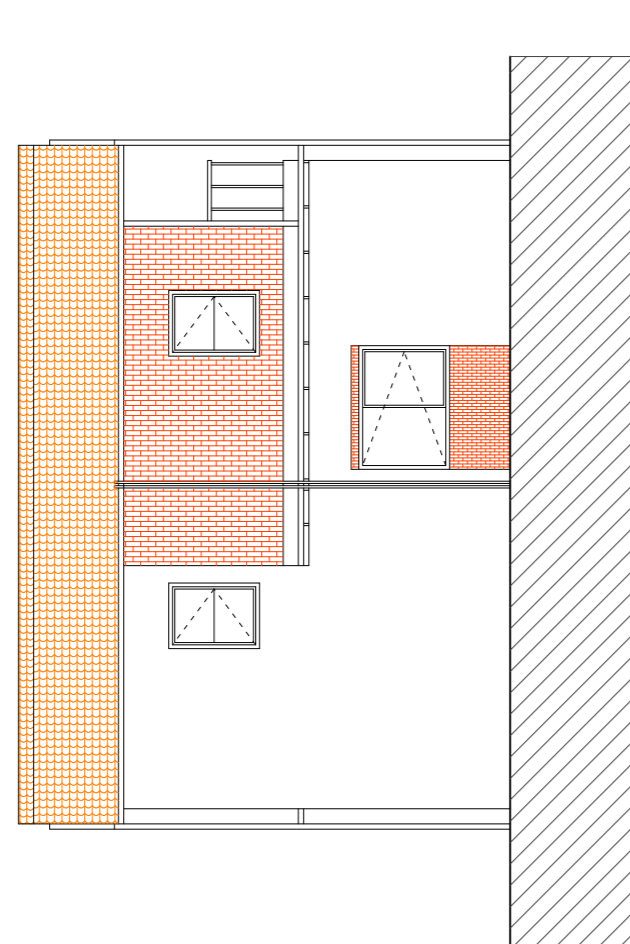
Infill The Structure



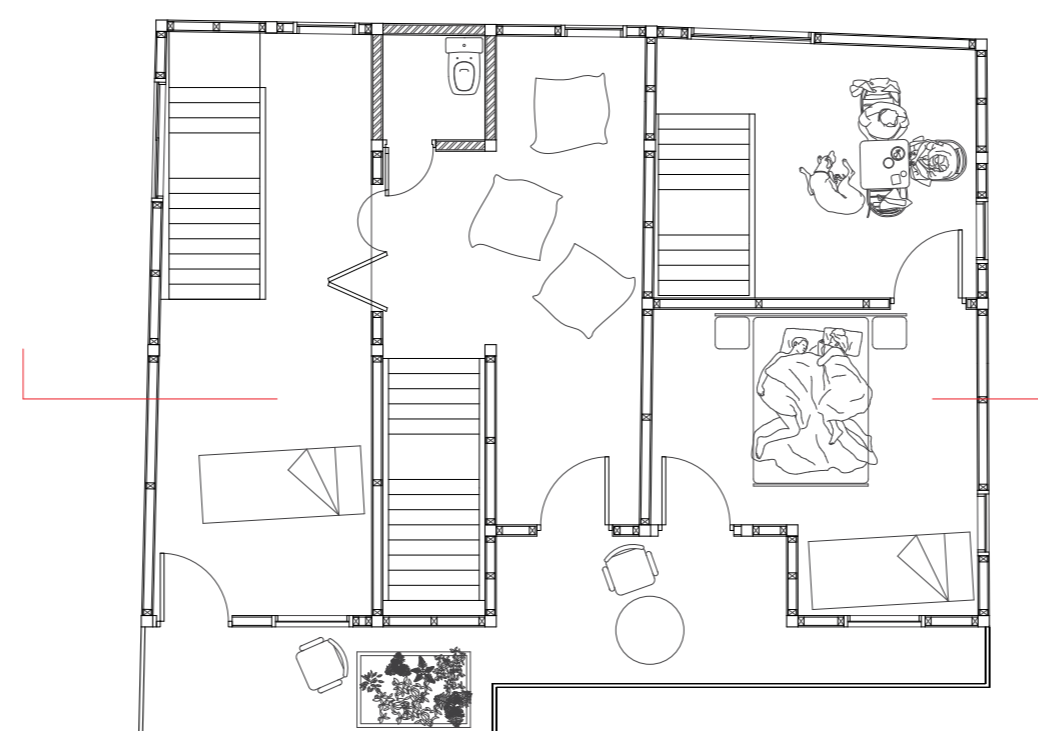
Rebuild The Roof



Elevation



Ground Floor



1st Floor

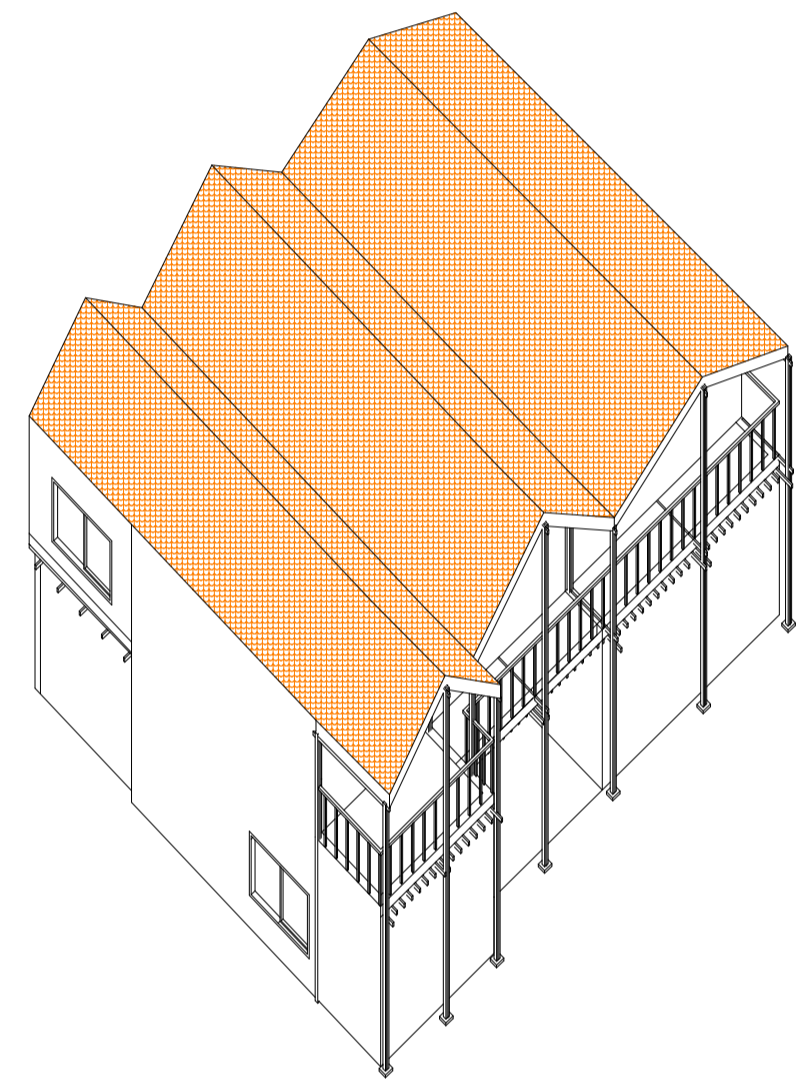


Section

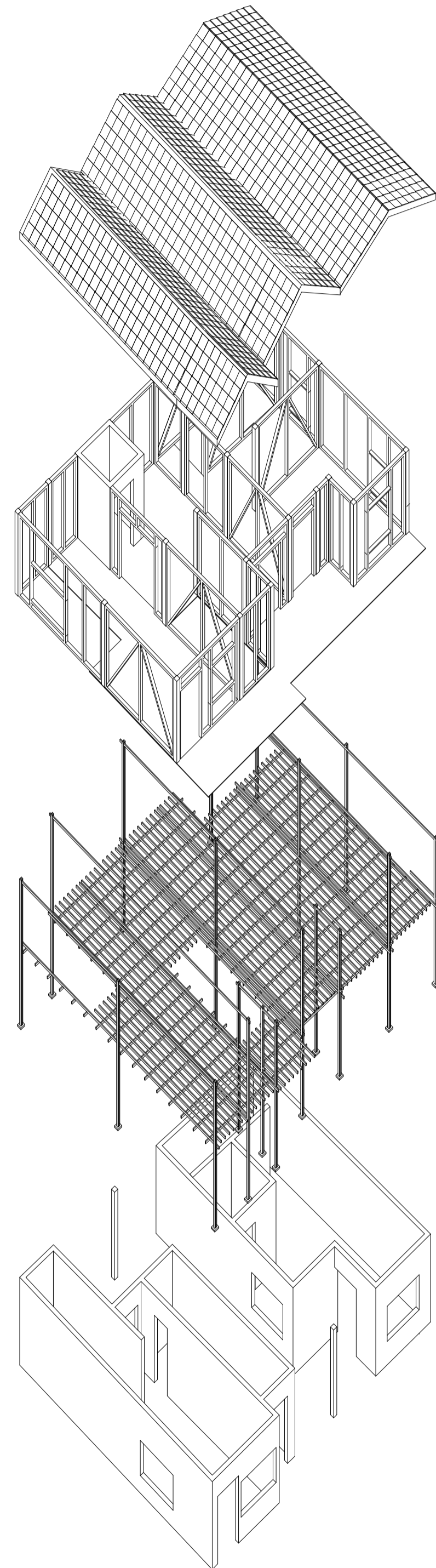




Structural Scheme



House For 2/3 Families



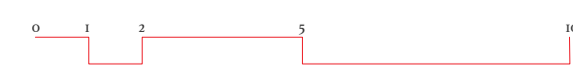
1st Floor

Infilling Structure

Ground Floor



Narrative Visualization

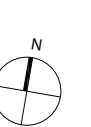
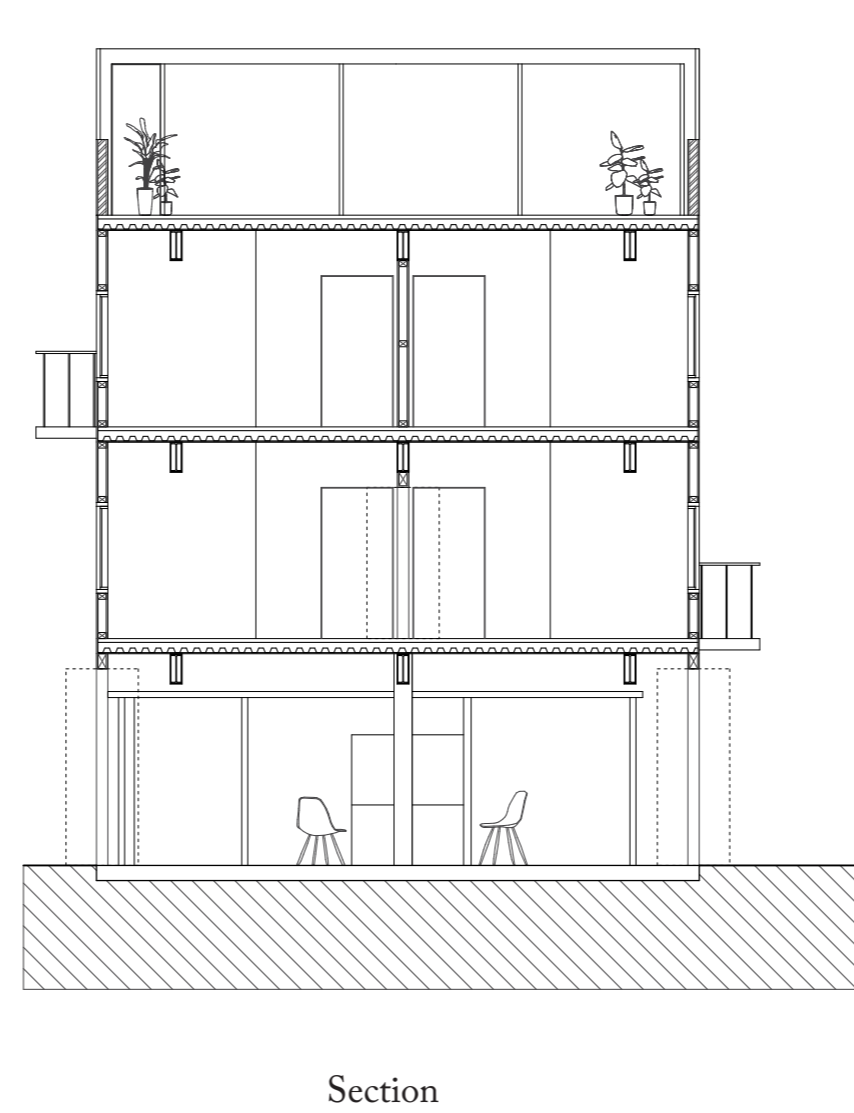
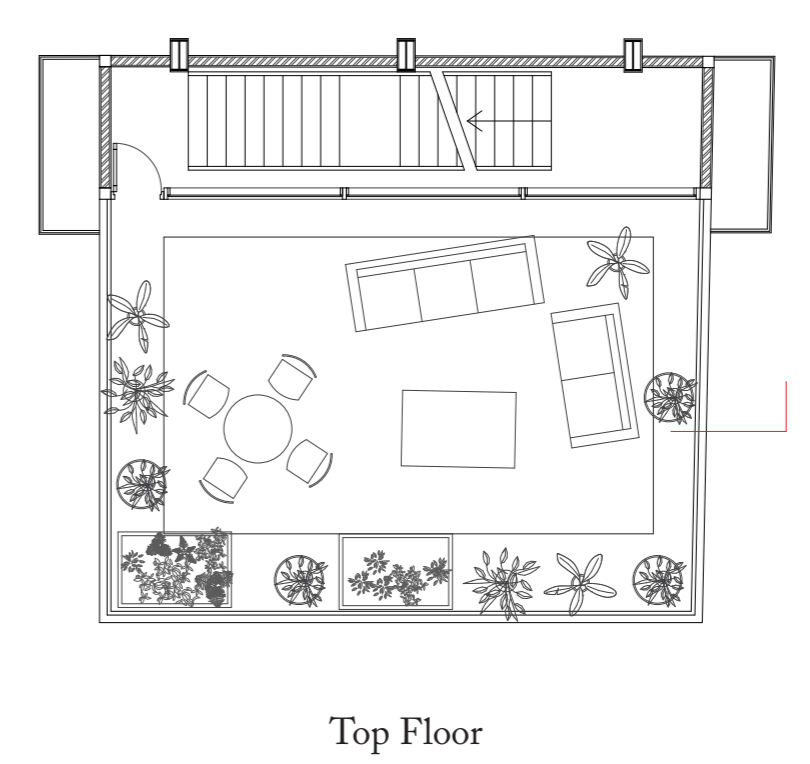
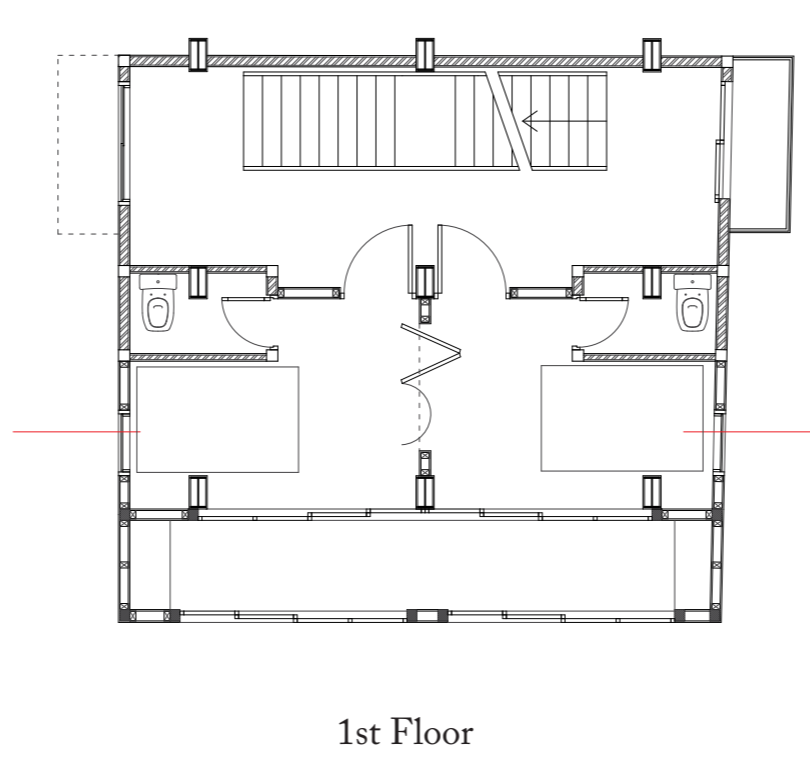
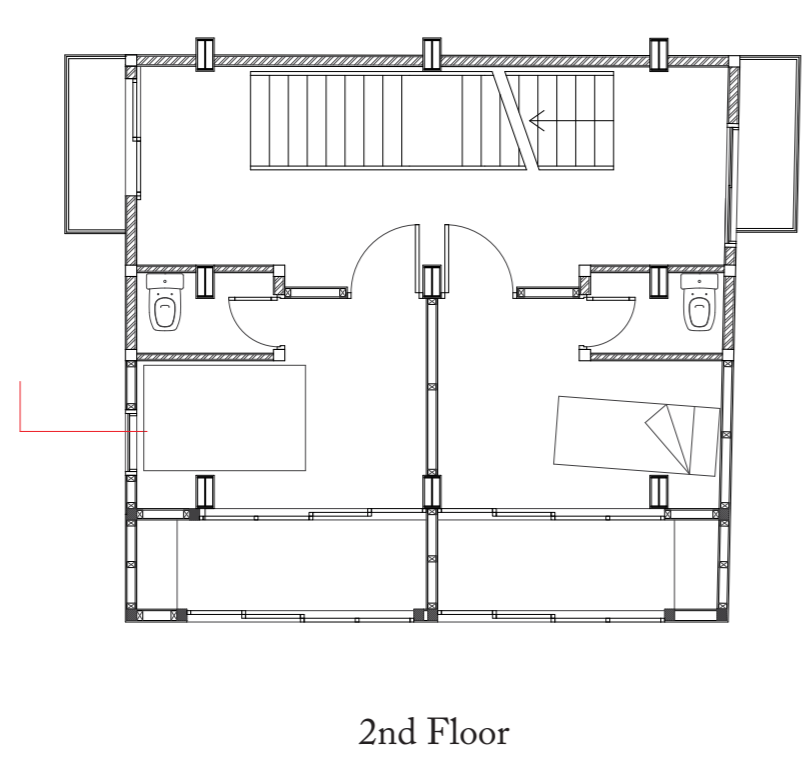
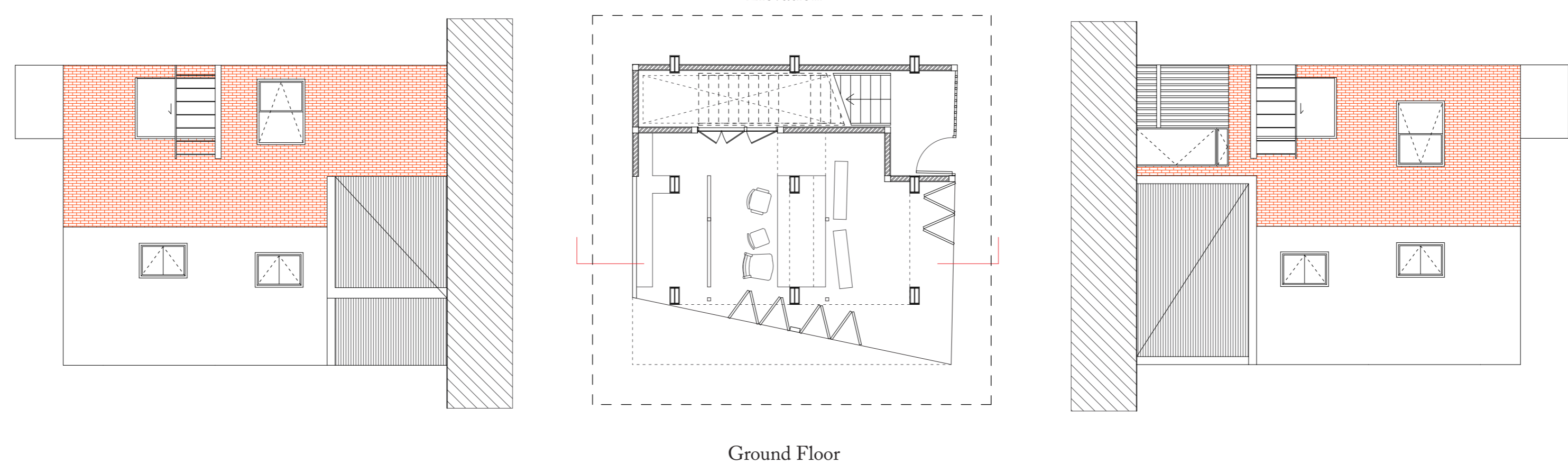
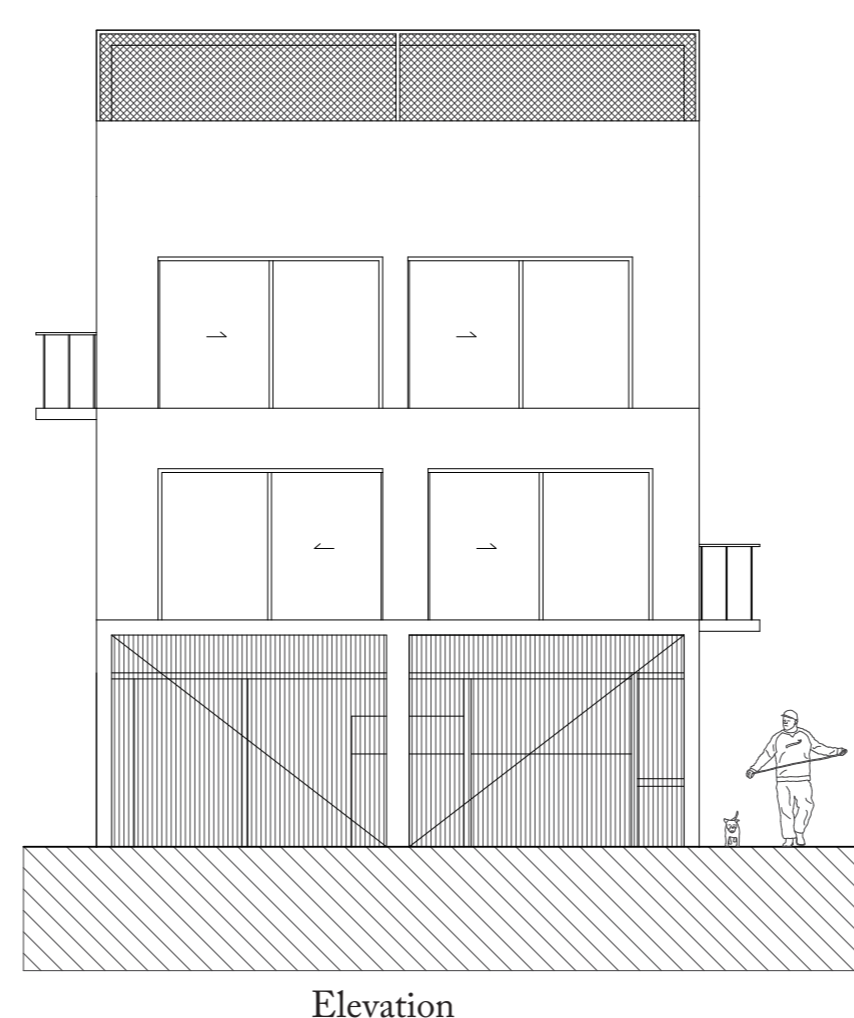
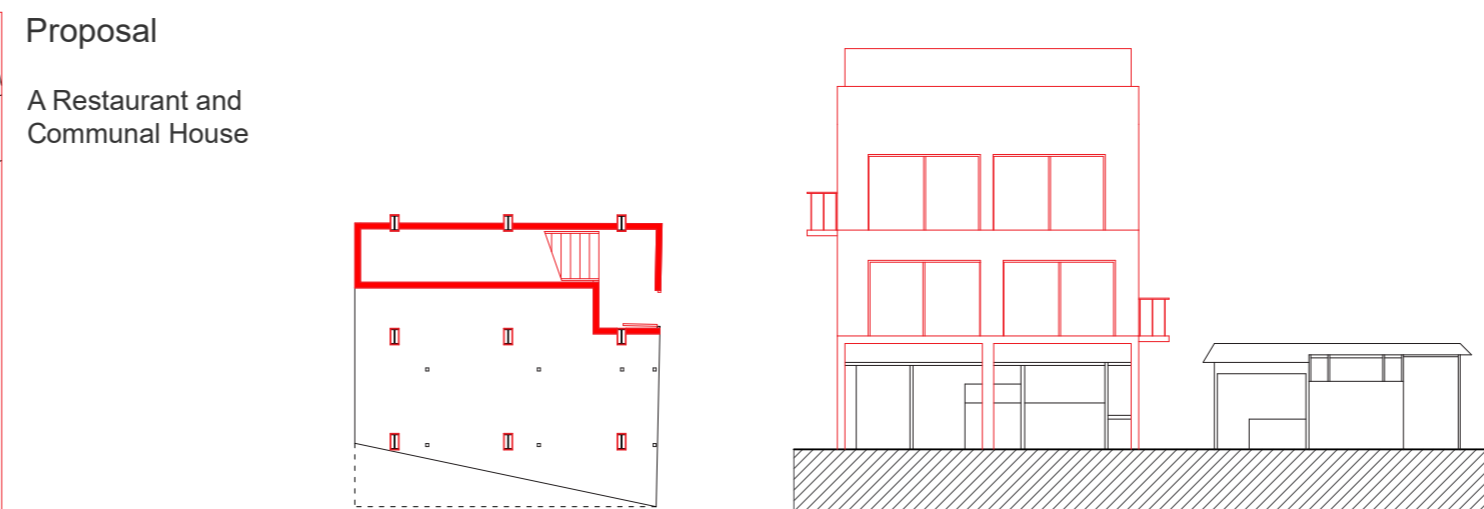
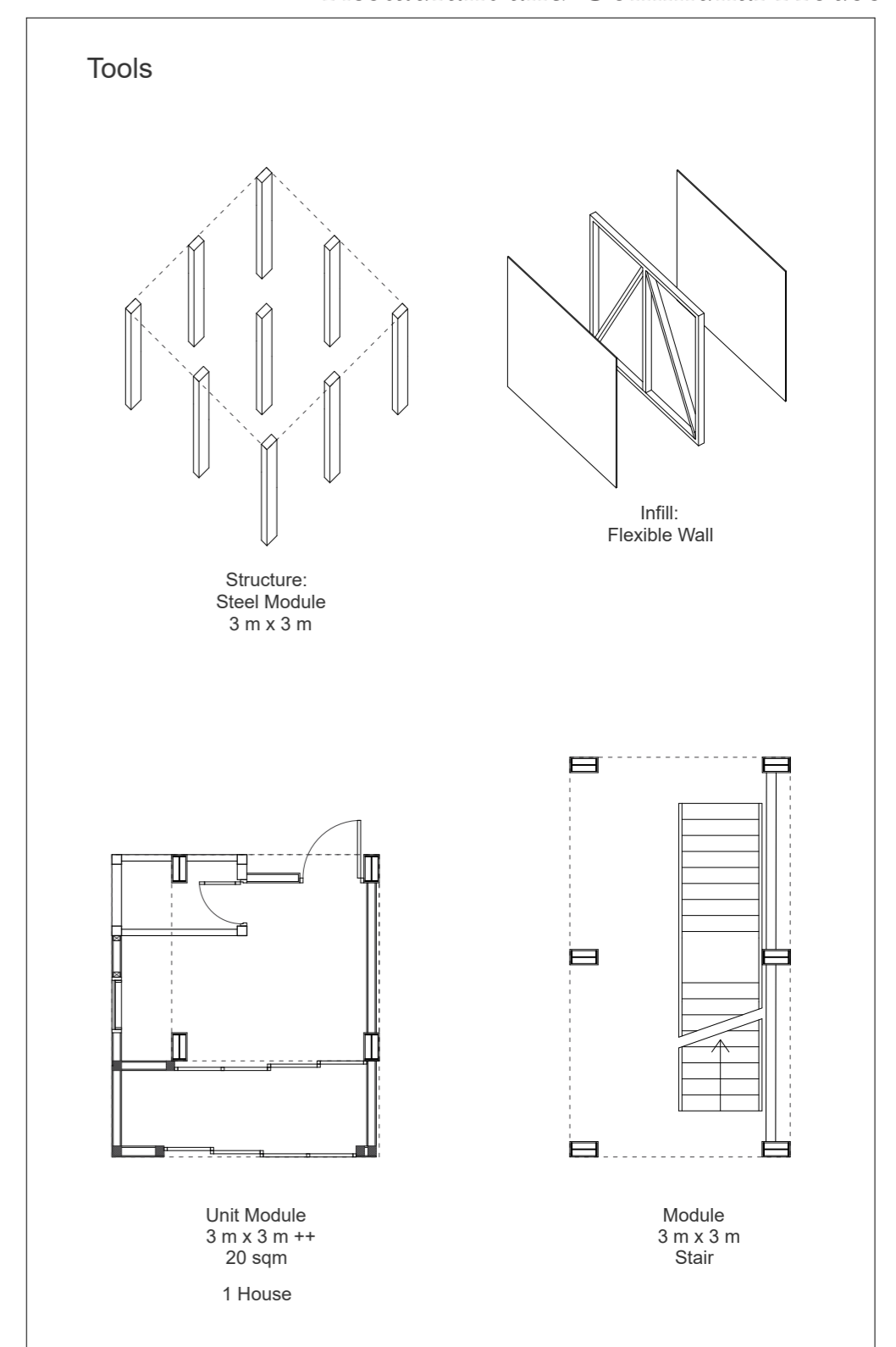
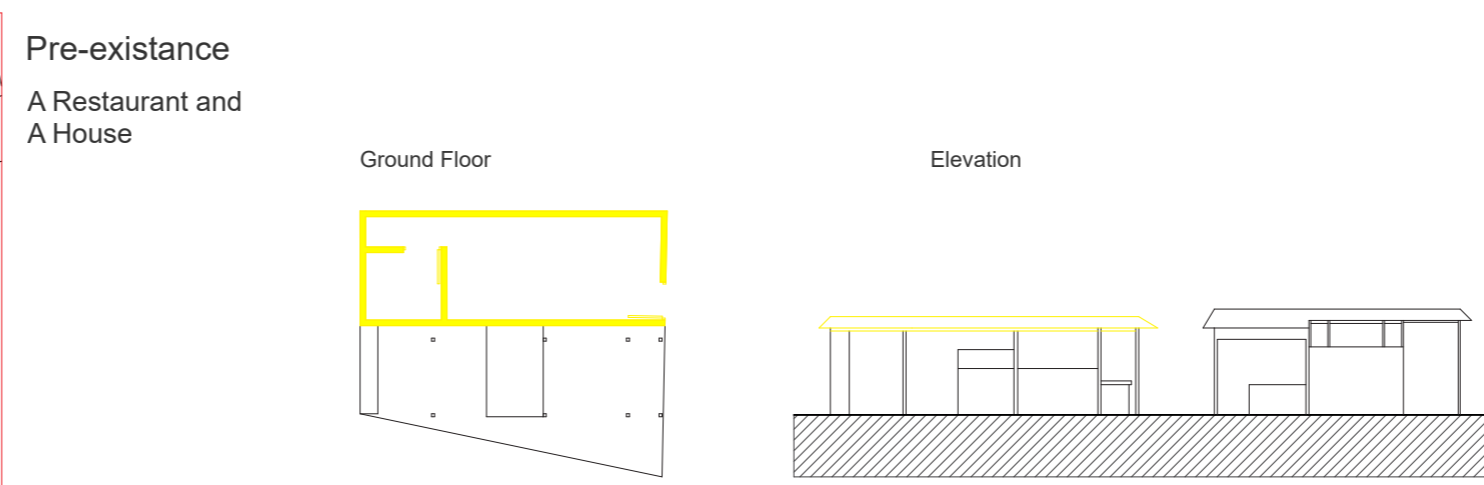
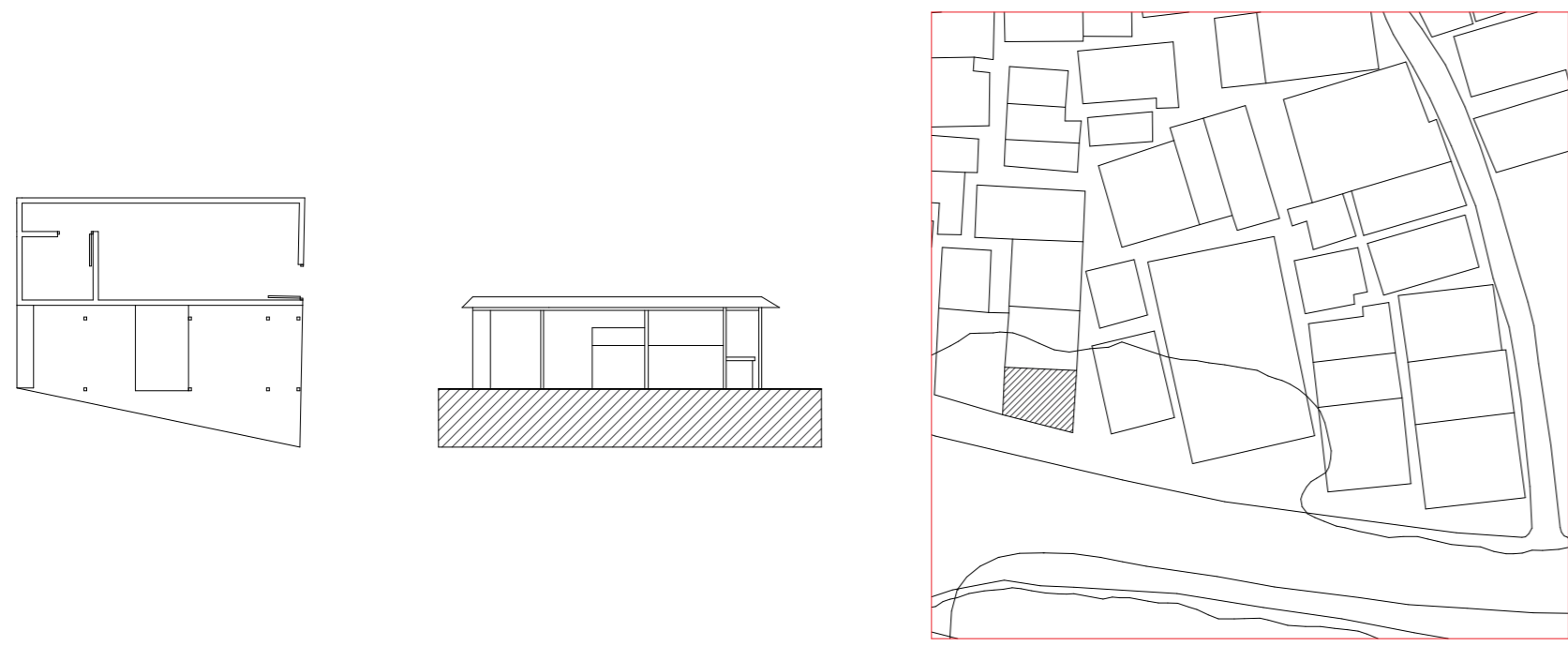




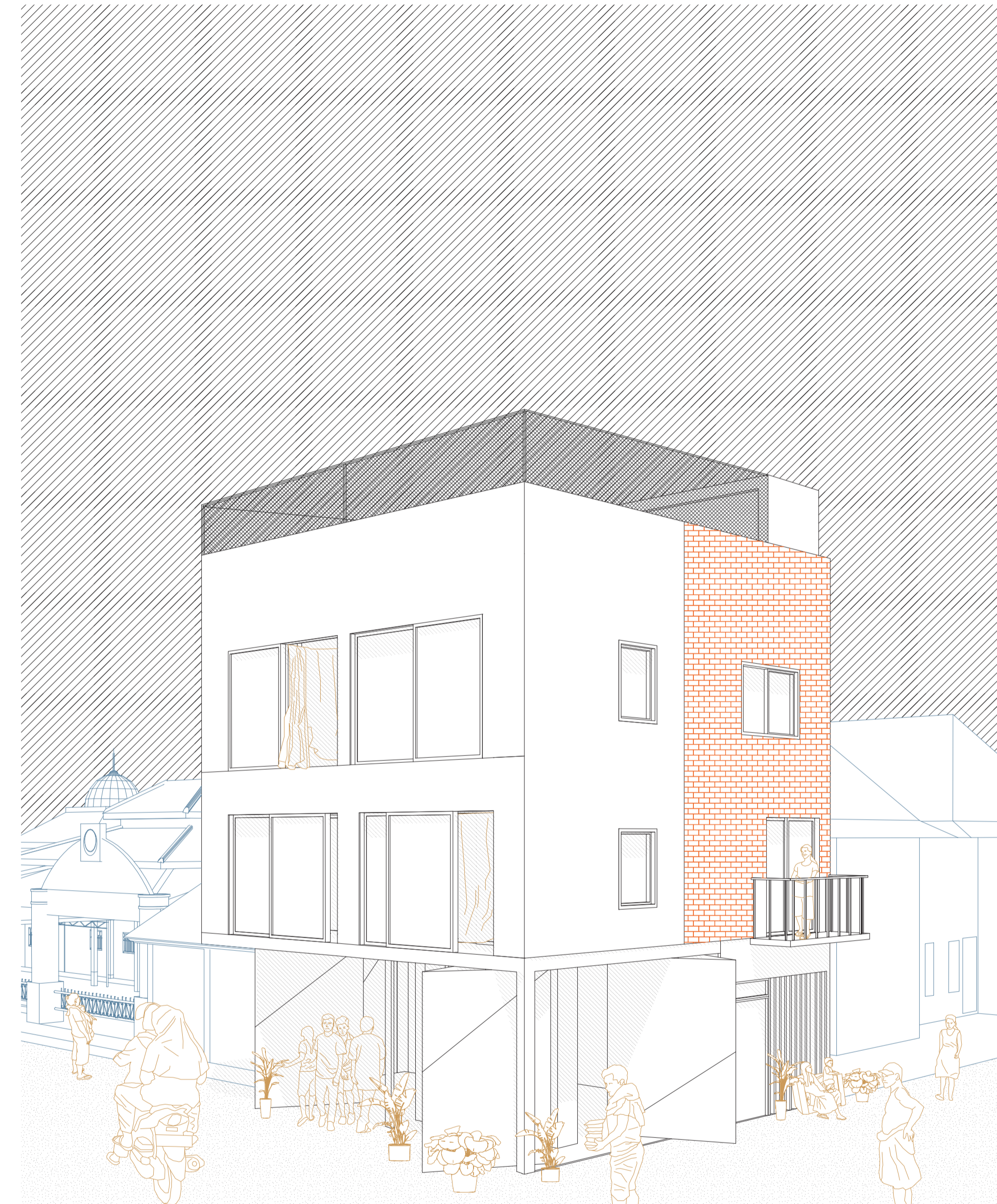
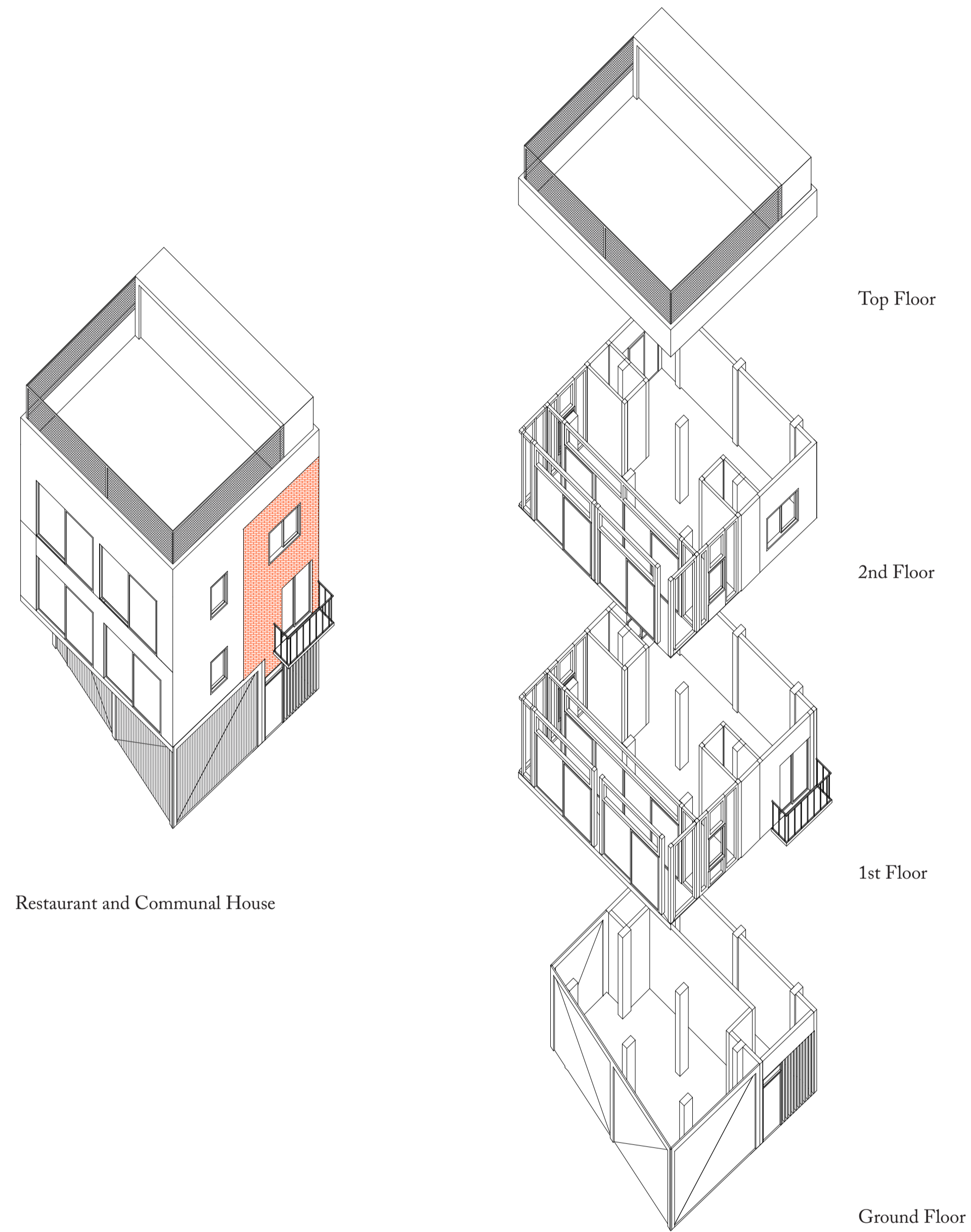
Design Strategy

Project 03: Addition (To Increase Density)

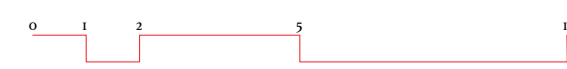
Restaurant and Communal House



Structural Scheme



Narrative Visualization





Design Strategy  
 Project 04: New Building



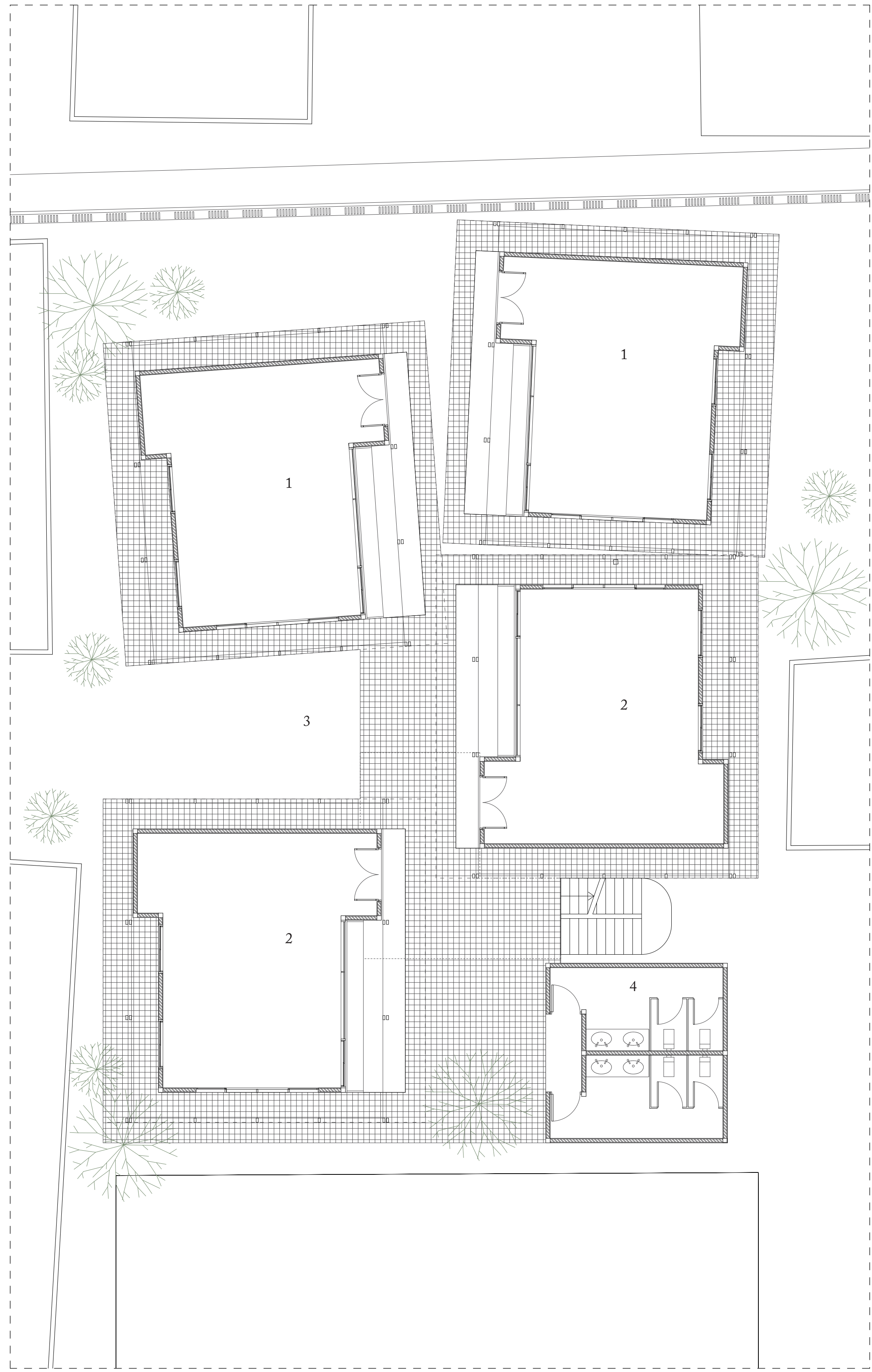
Elementary School

School Complex

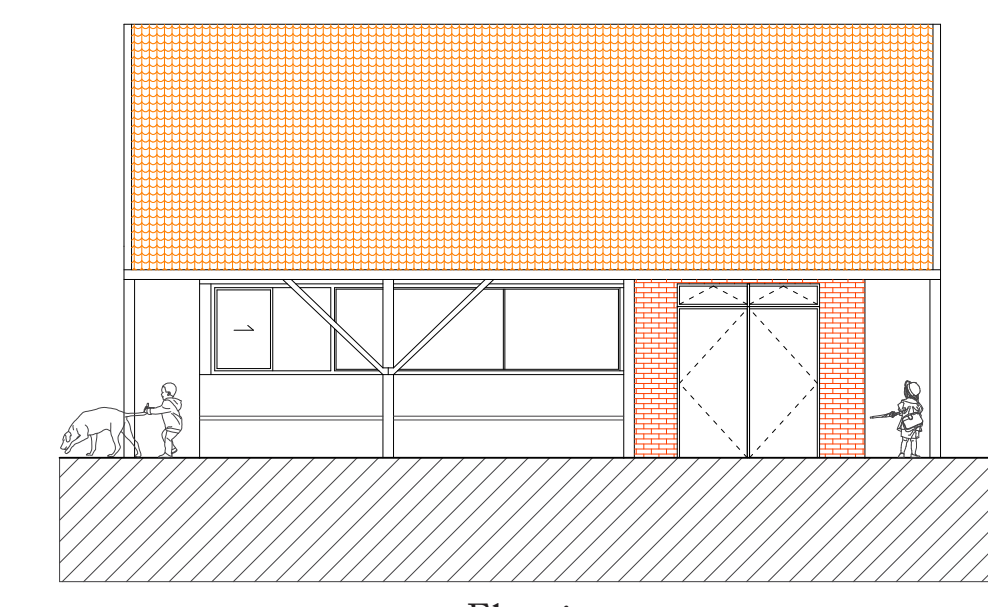
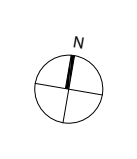


Site Elevation

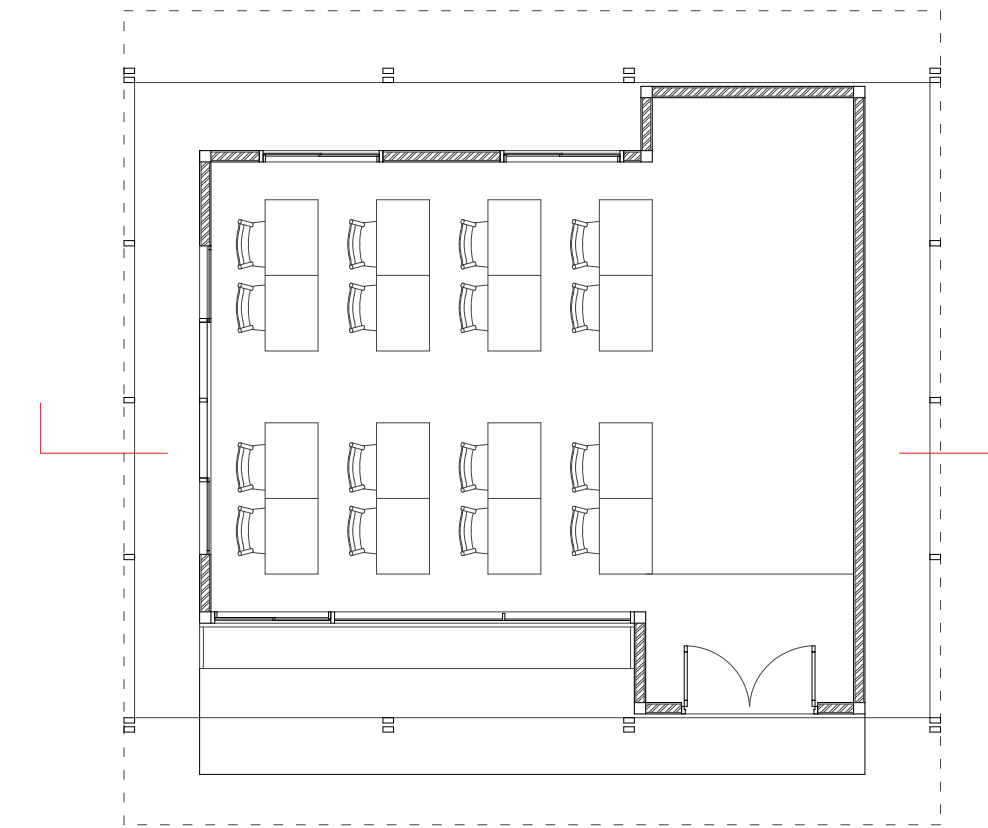
Site Plan



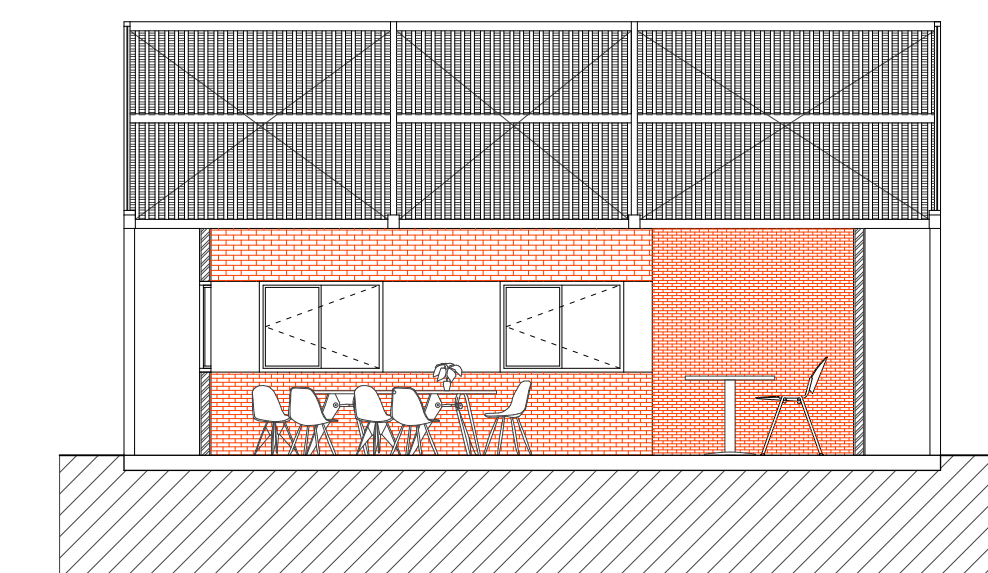
- 1. Classroom
- 2. Classroom (2 Storeys)
- 3. Courtyard.
- 4. Toilet



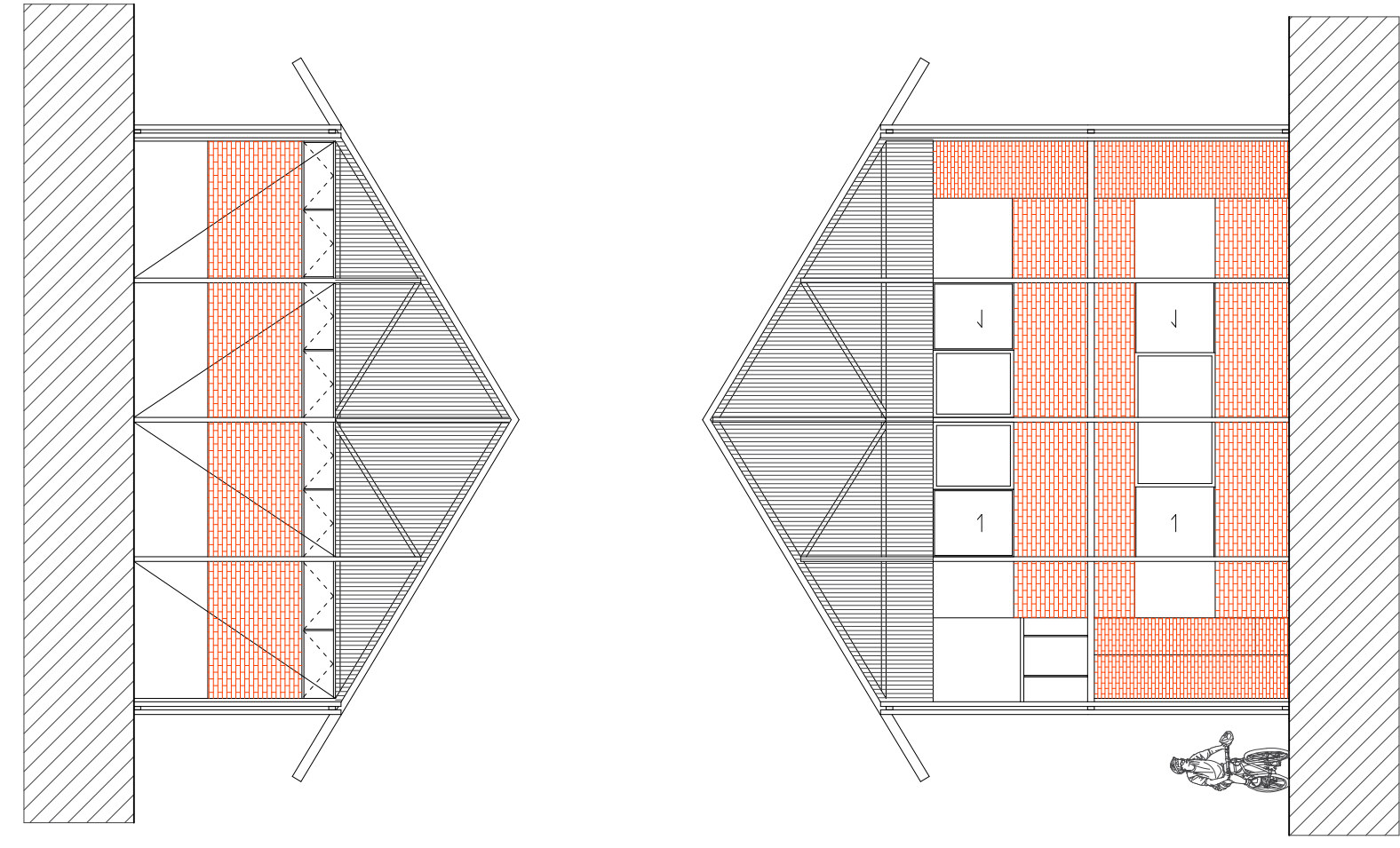
Elevation



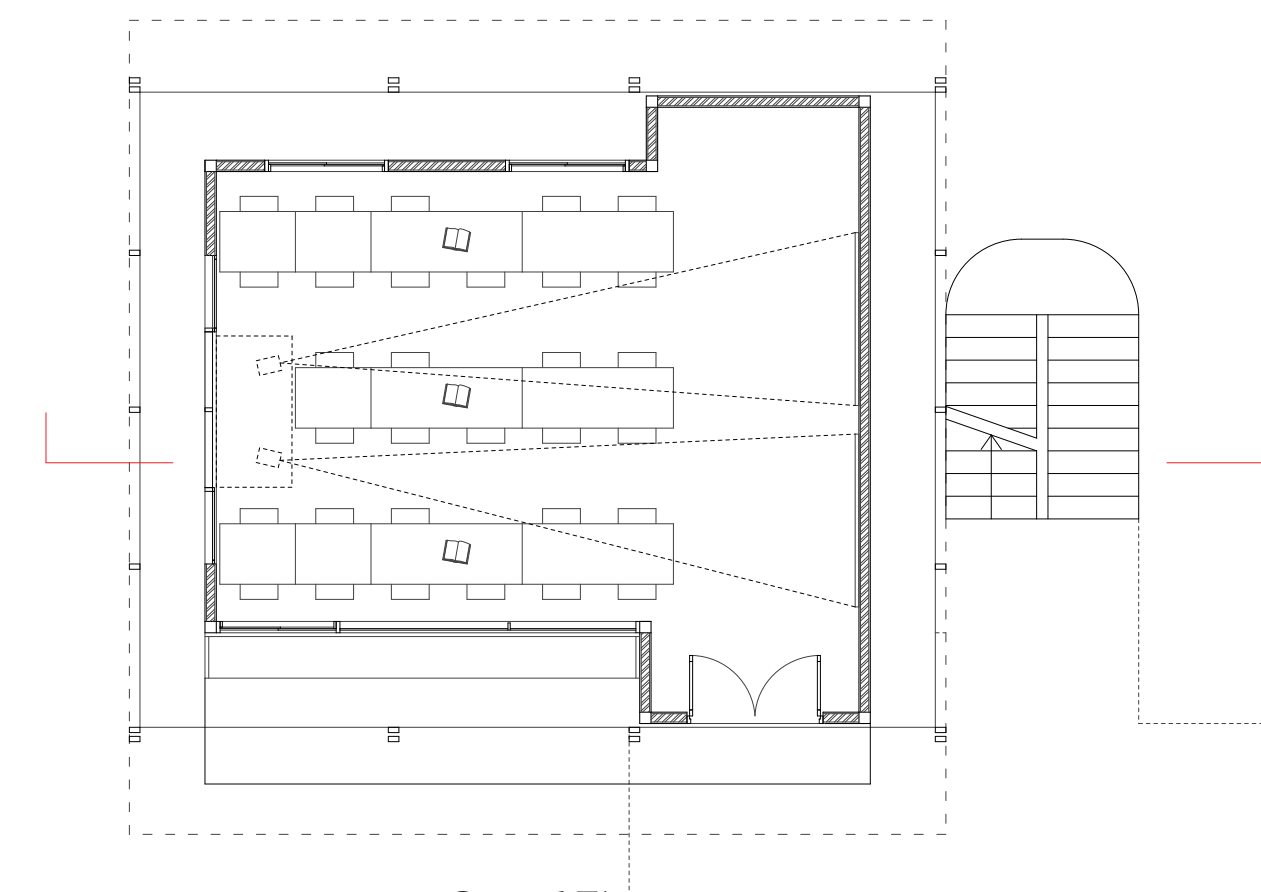
Ground Floor



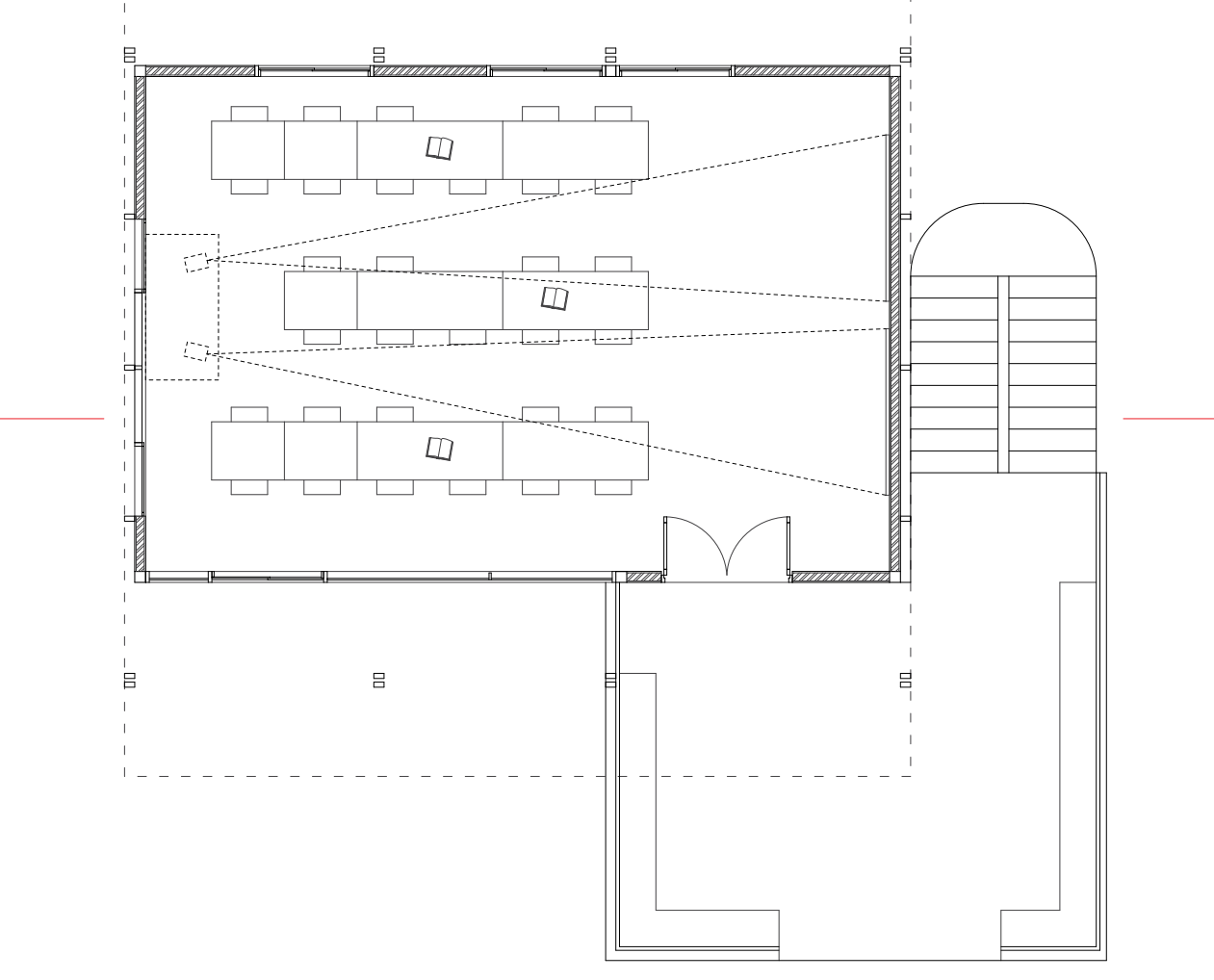
Section



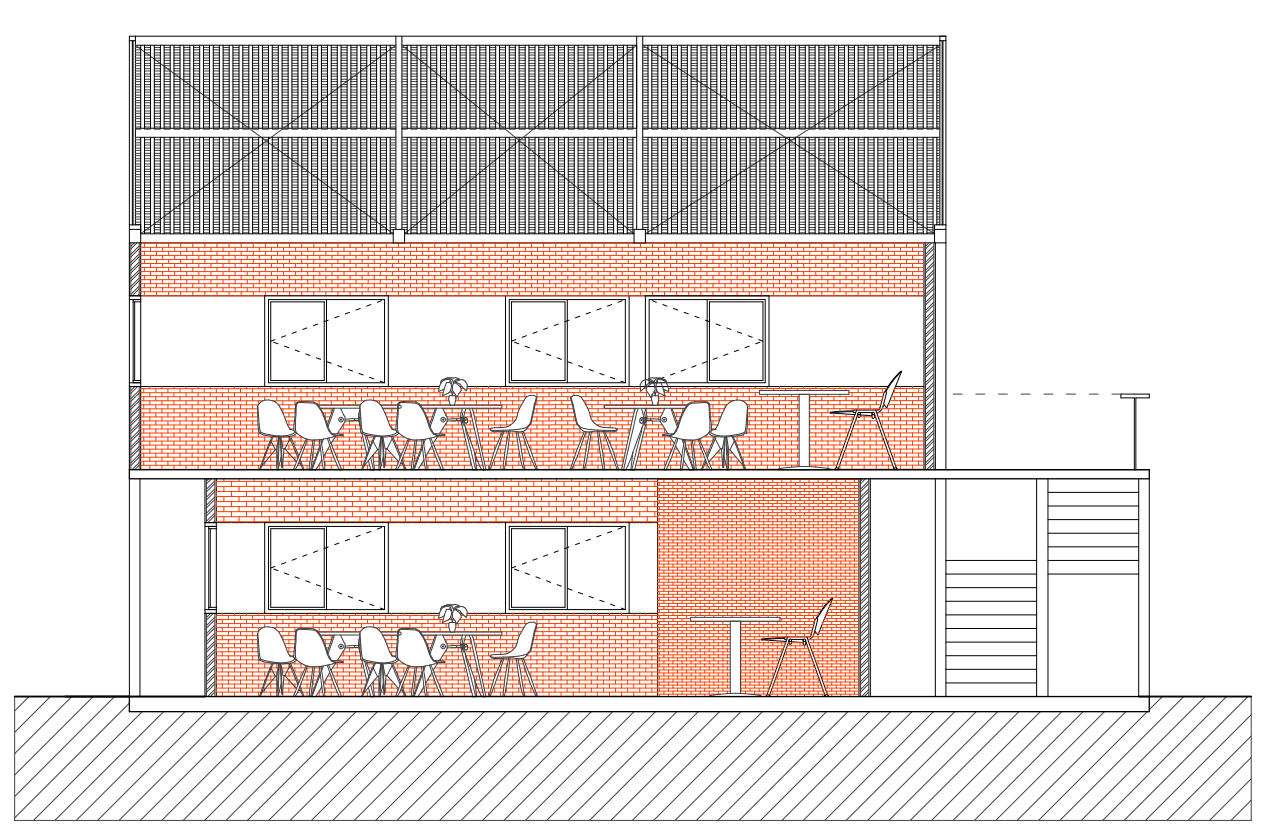
Elevation



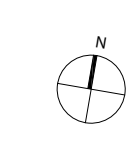
Ground Floor



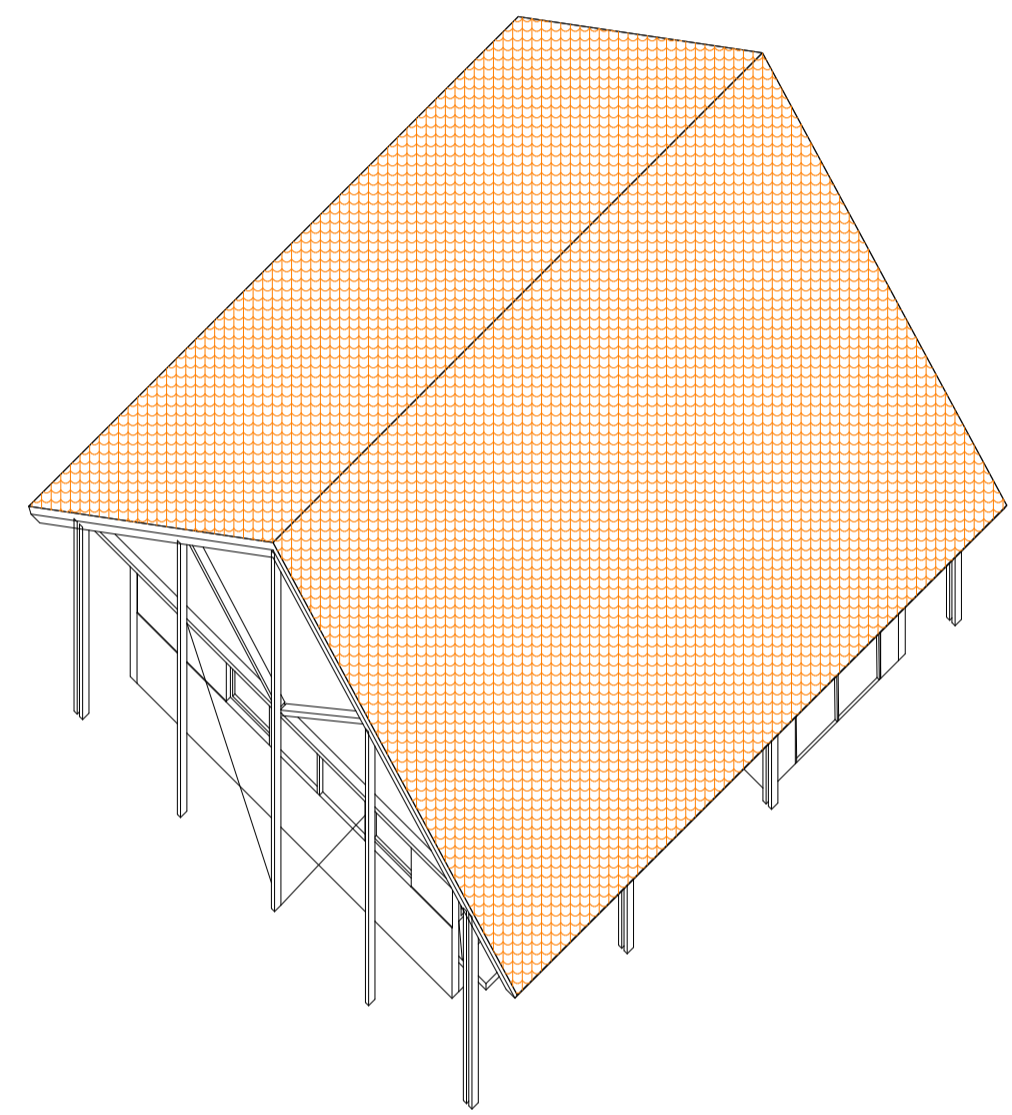
1st Floor



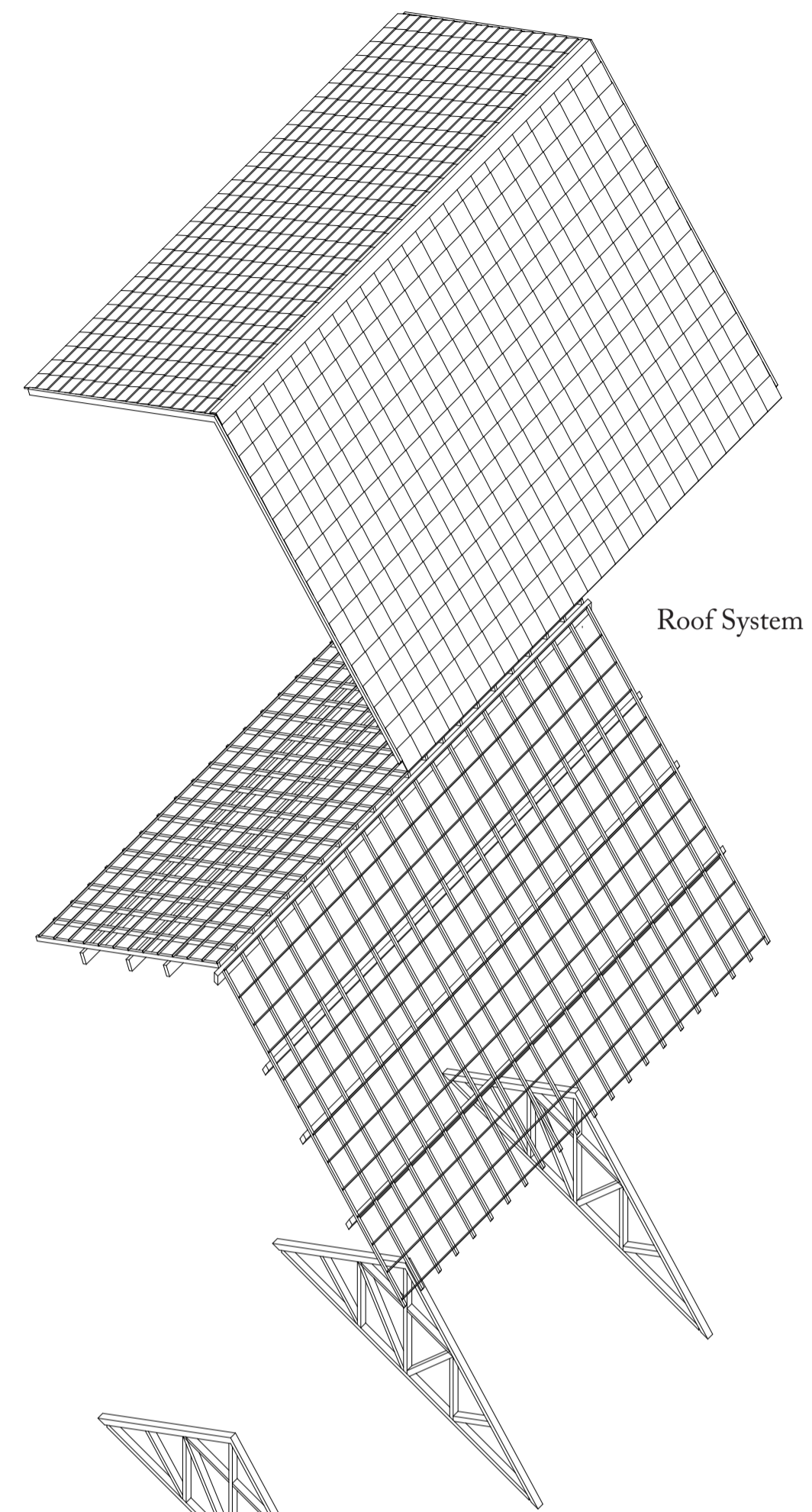
Section



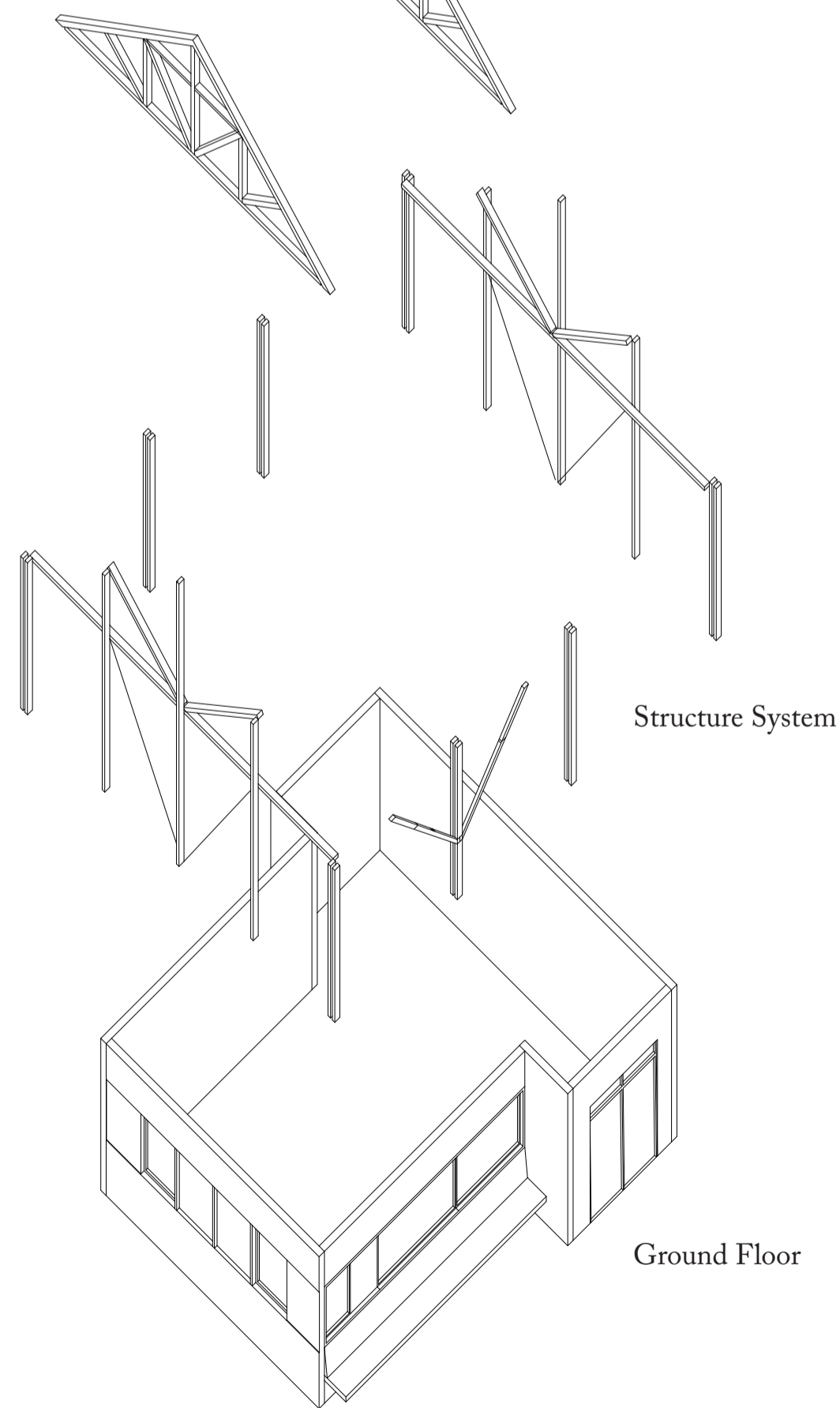




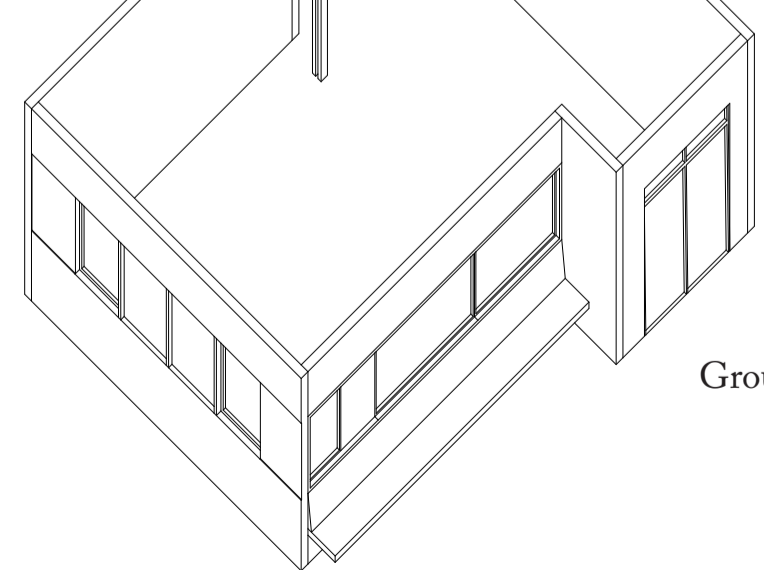
Elementary School



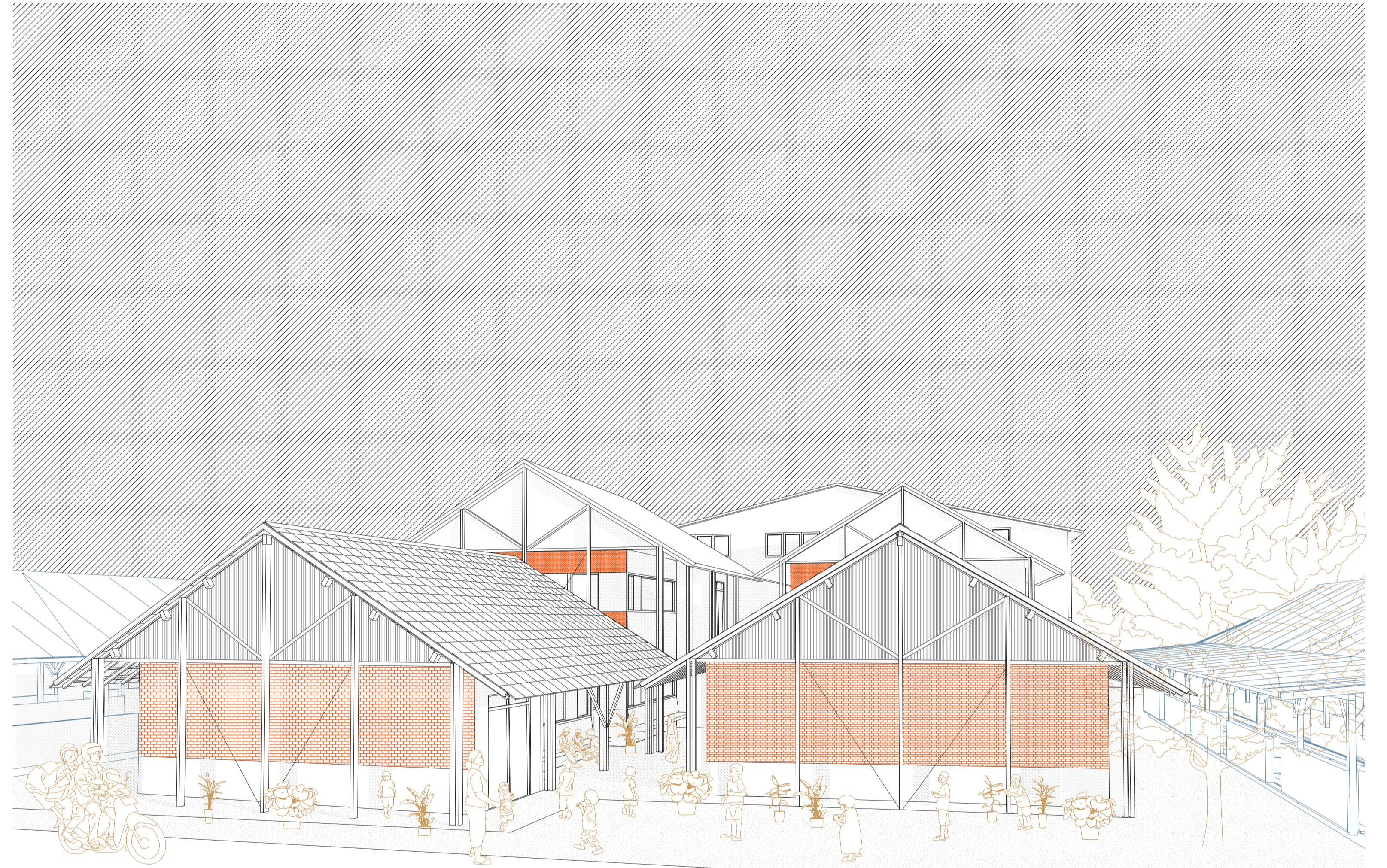
Roof System



Structure System



Ground Floor

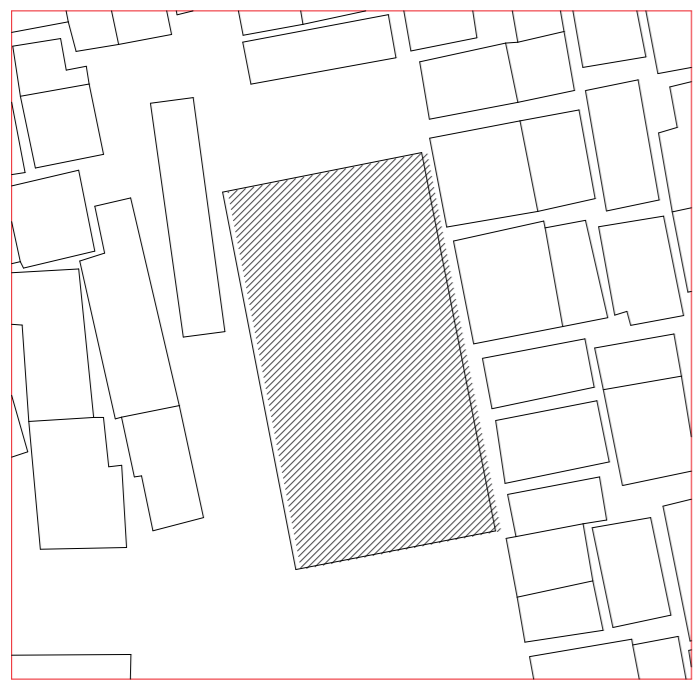


Narrative Visualization

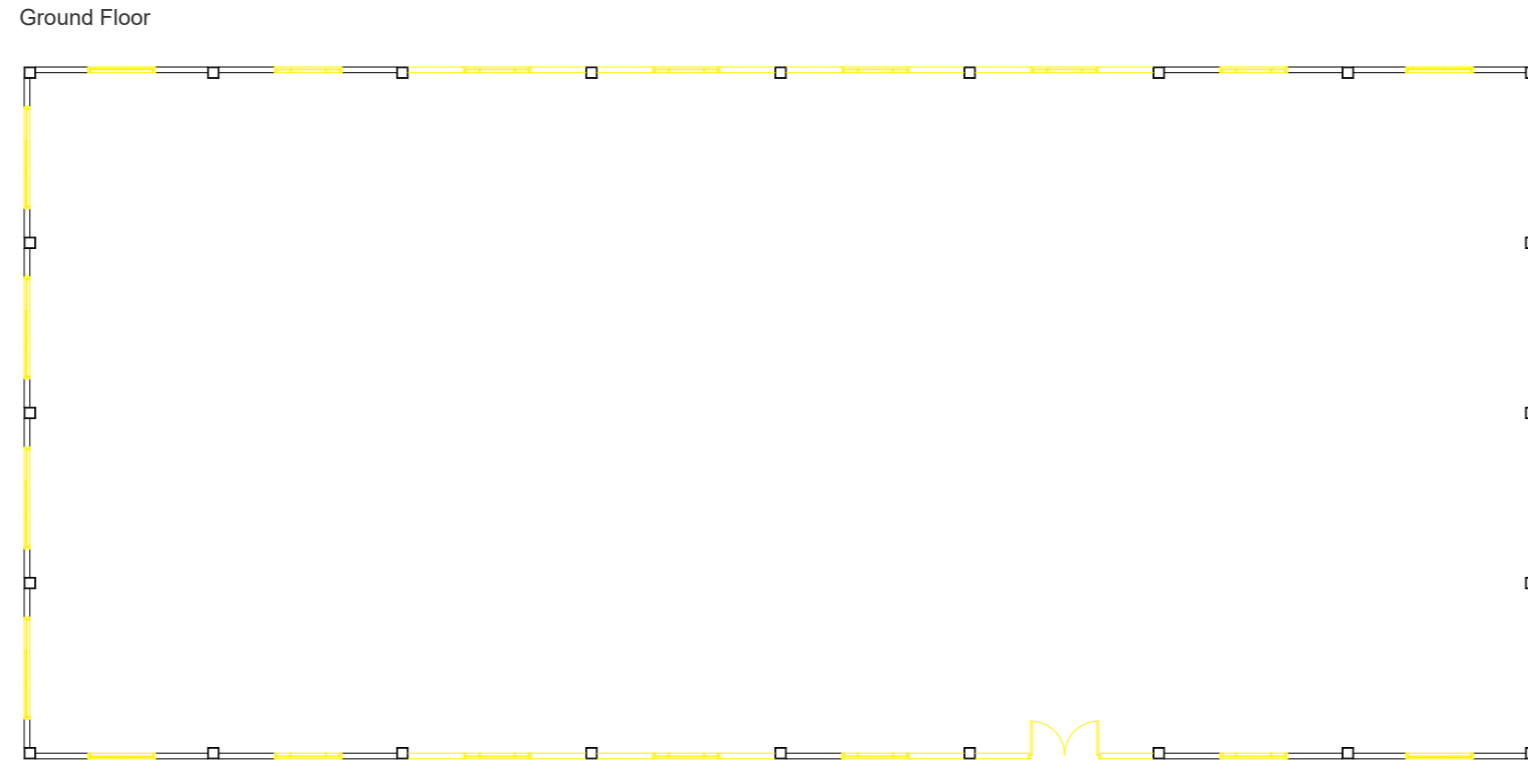




Design Strategy  
Project 05: Reuse

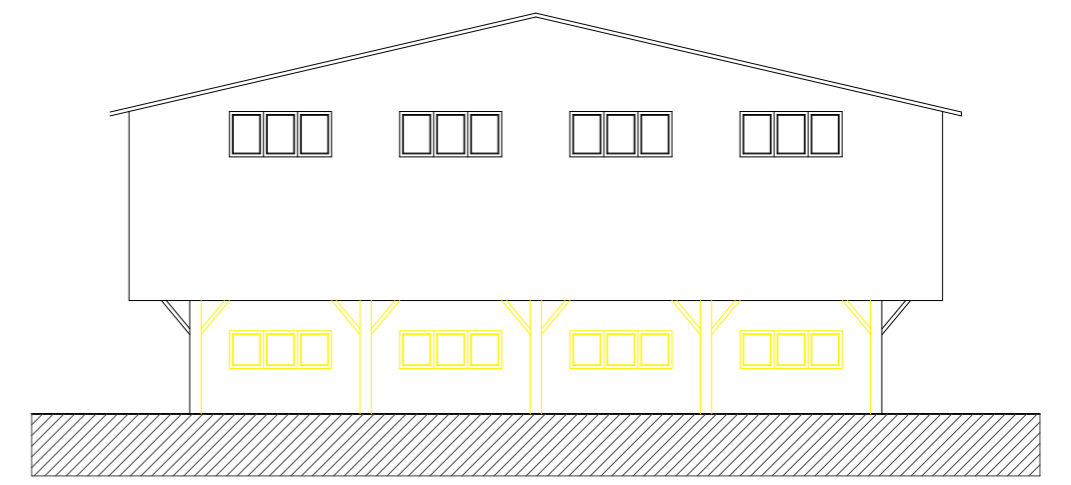


Pre-existence  
Abandoned Warehouse

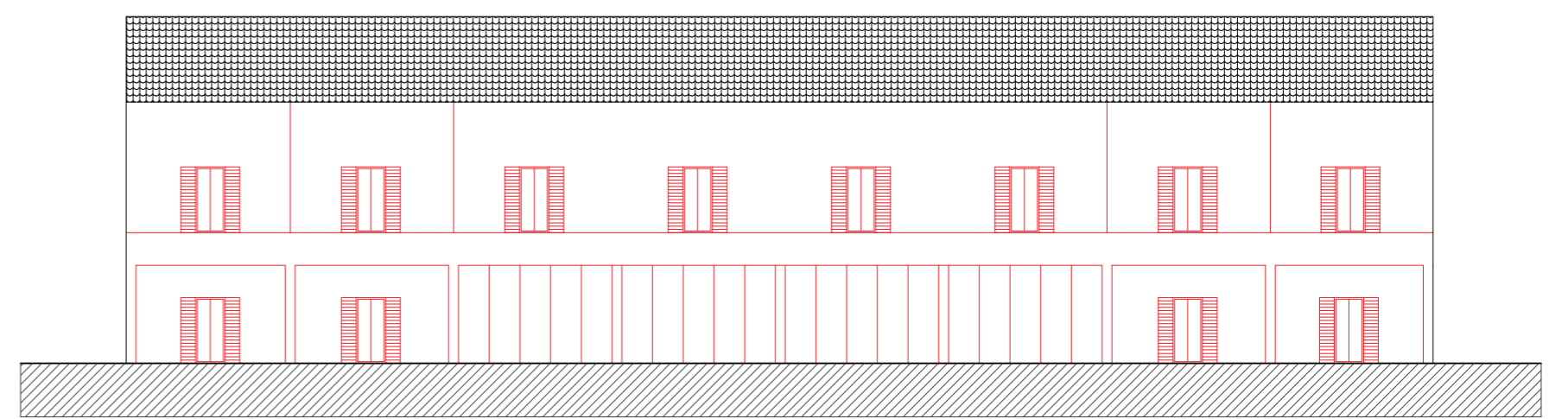
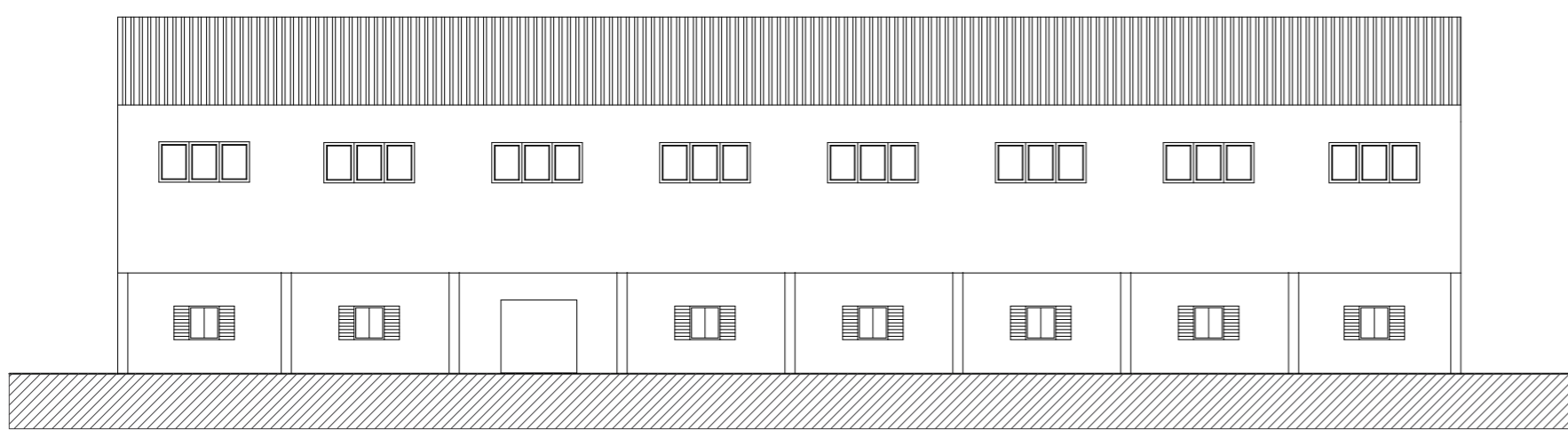
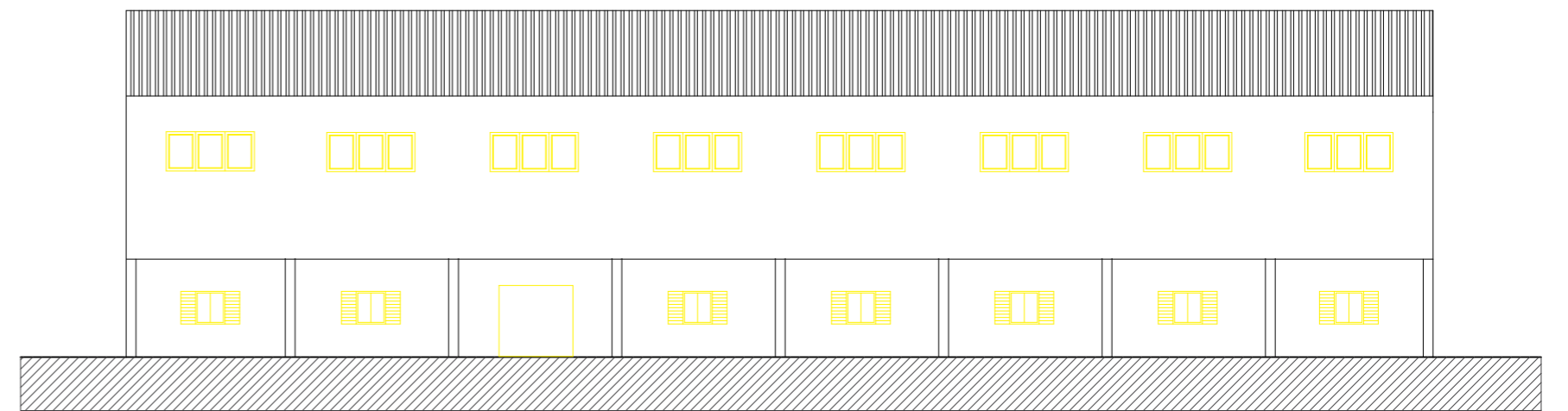
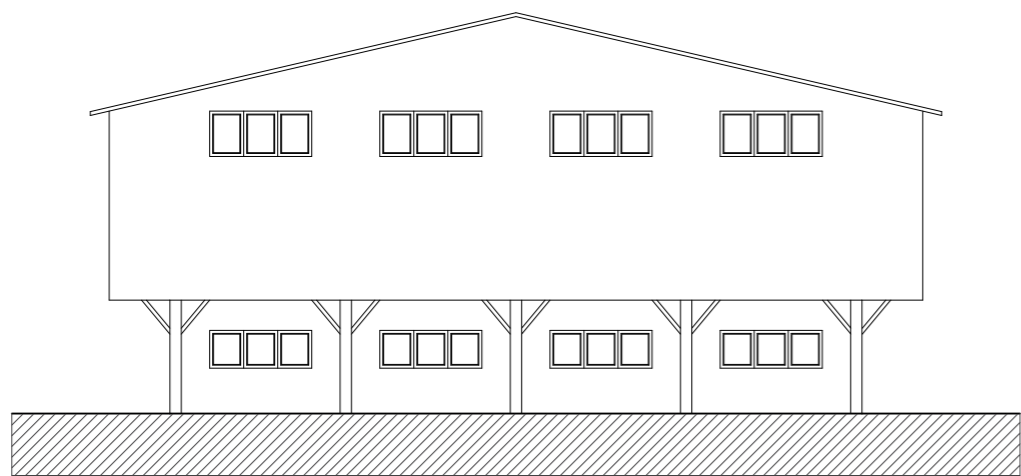
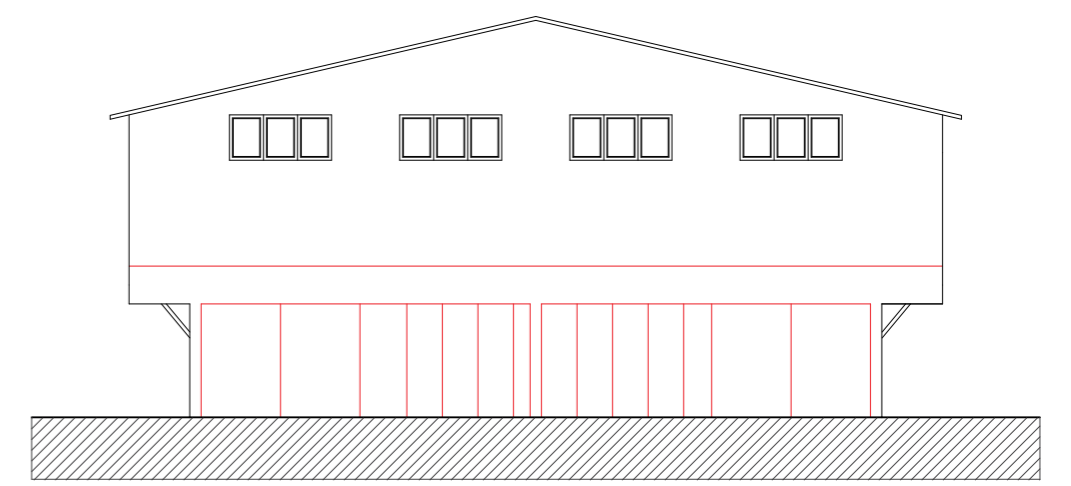
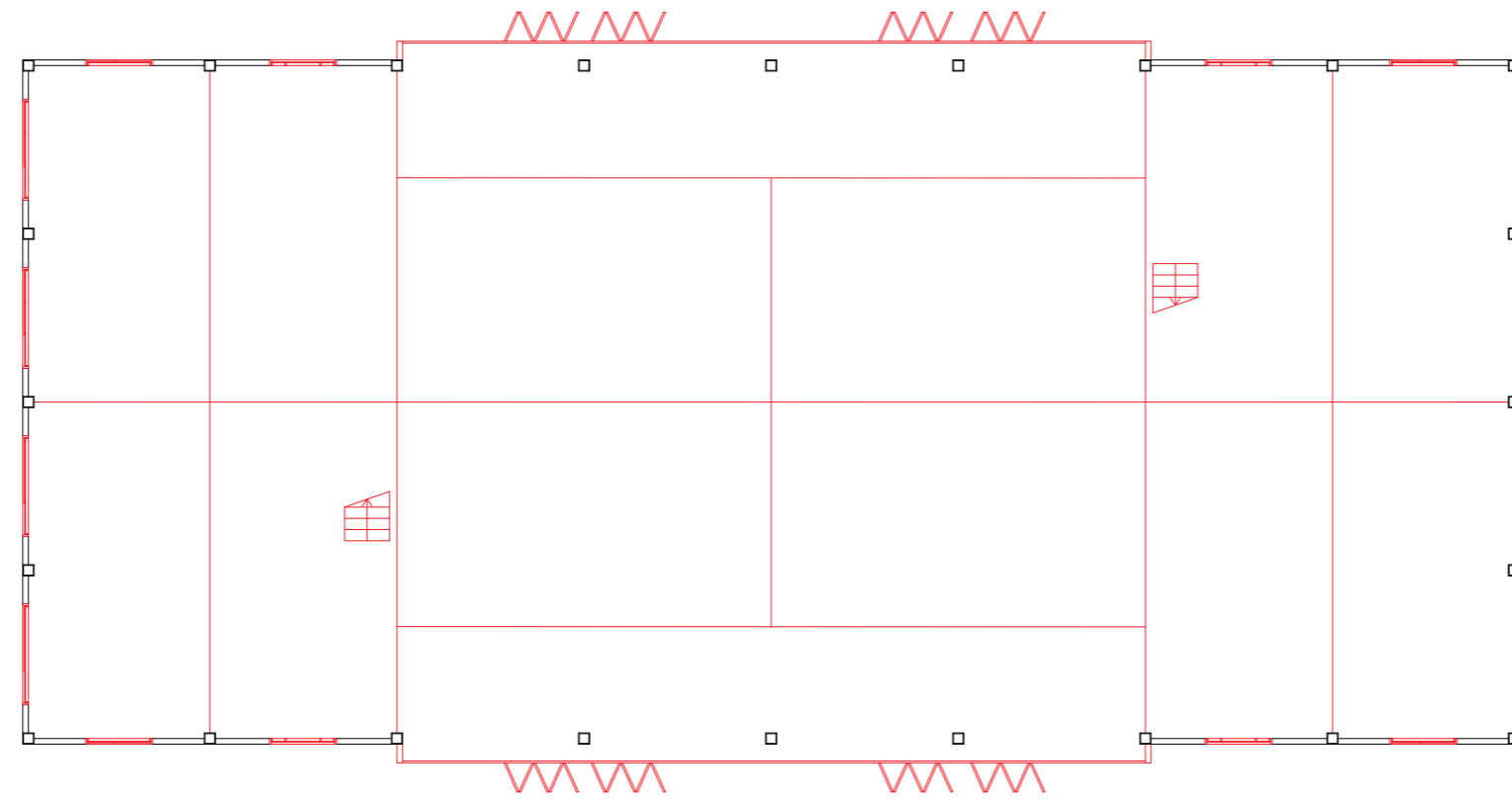


Elevation

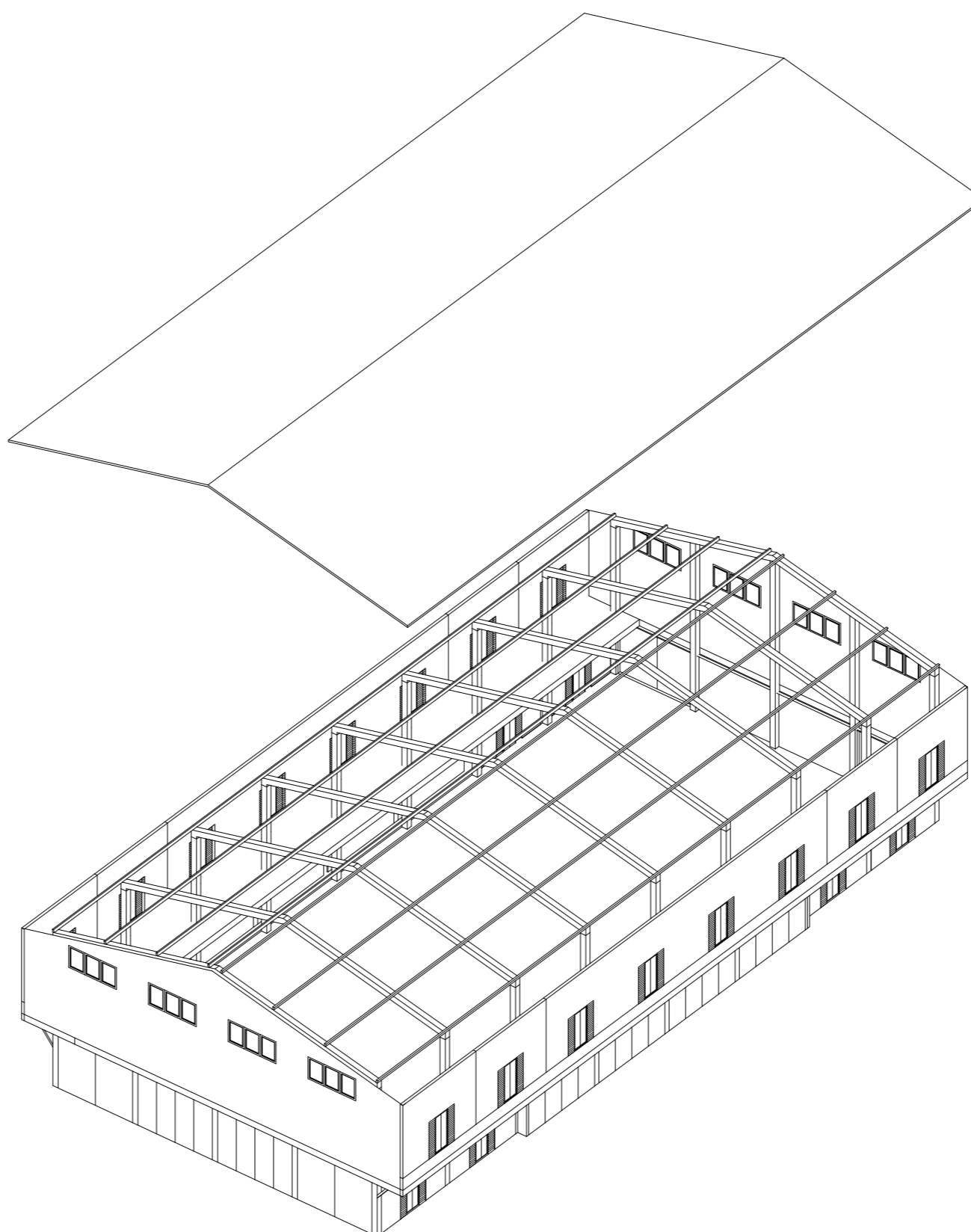
Market and Communal Space



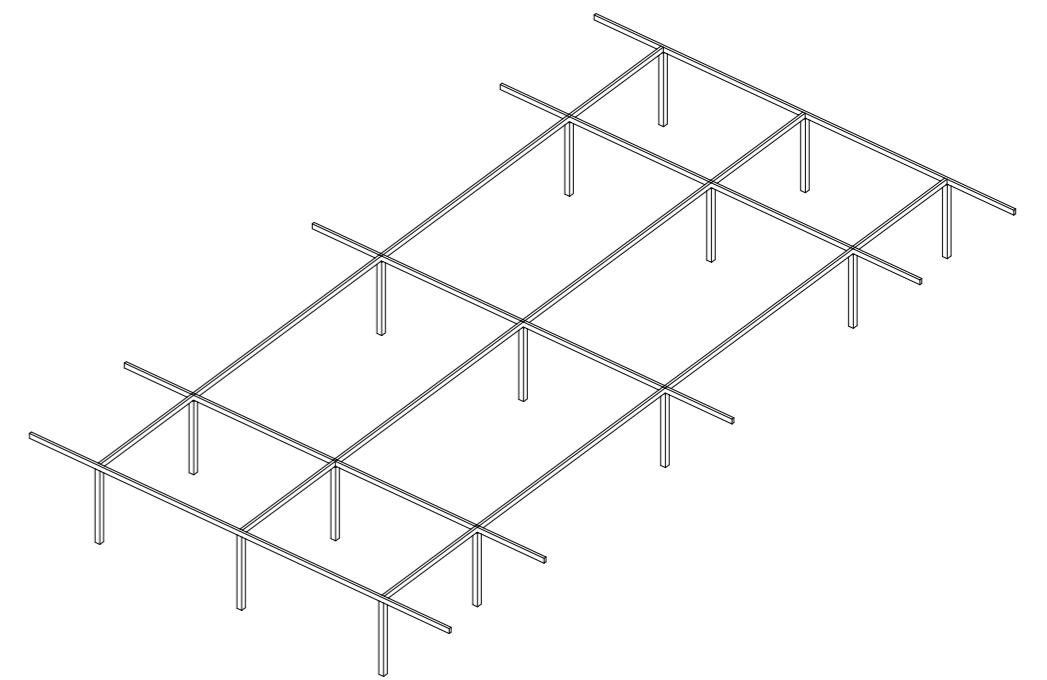
Proposal



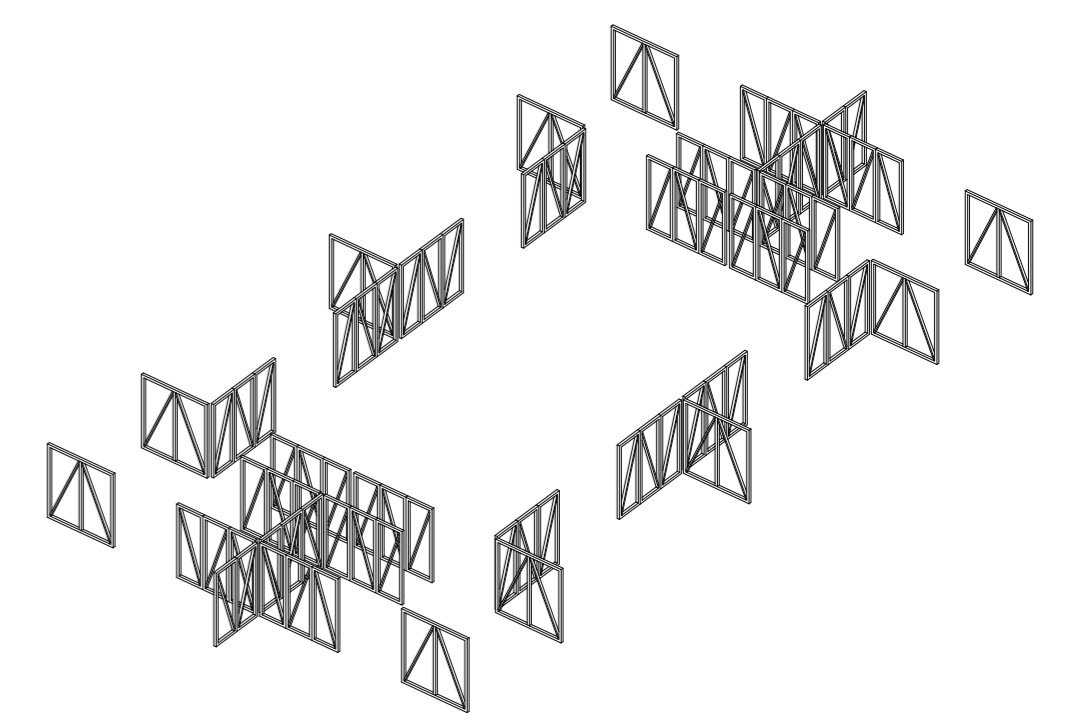
Tools



Refurbishment

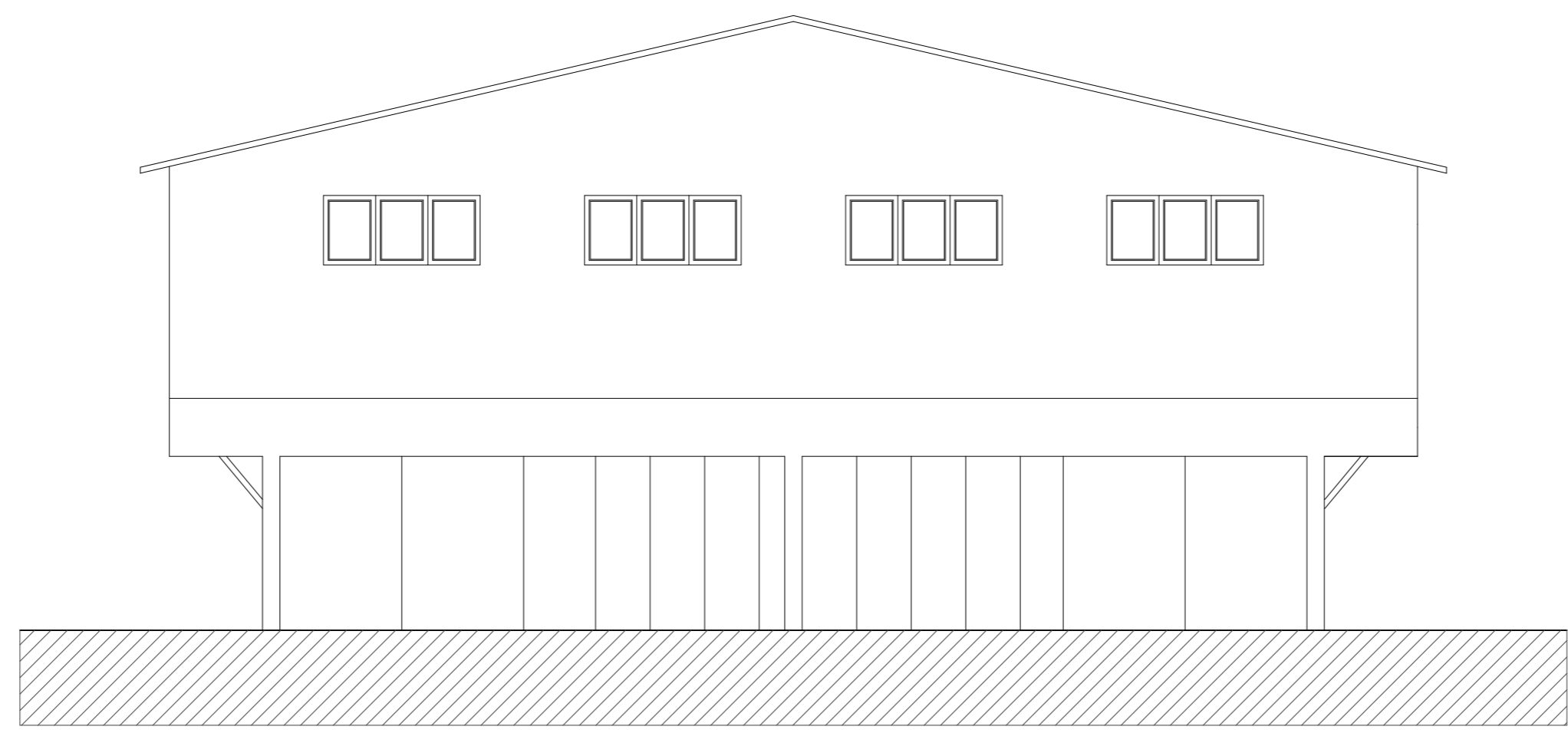


Interior Addition

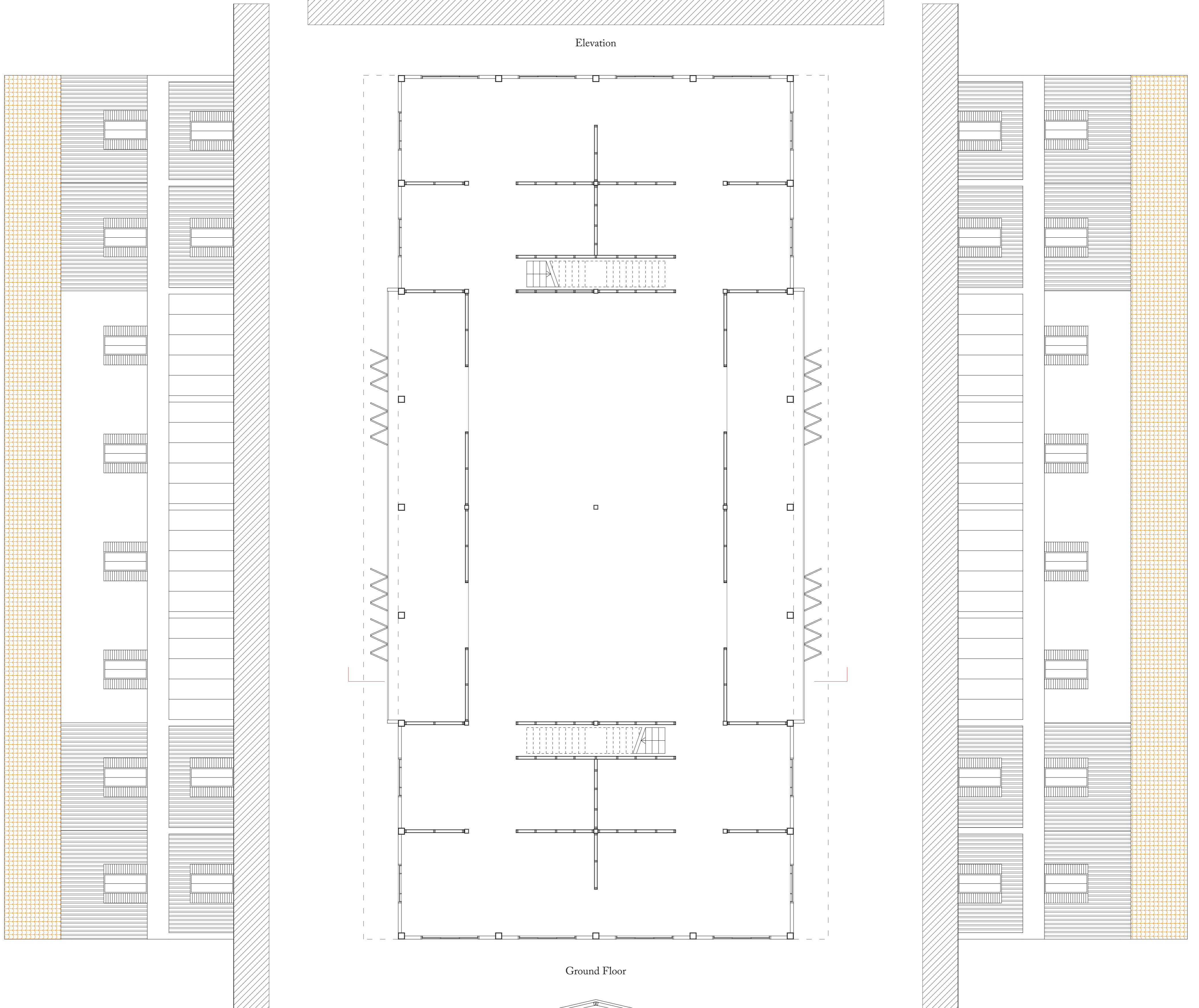


Interior Division

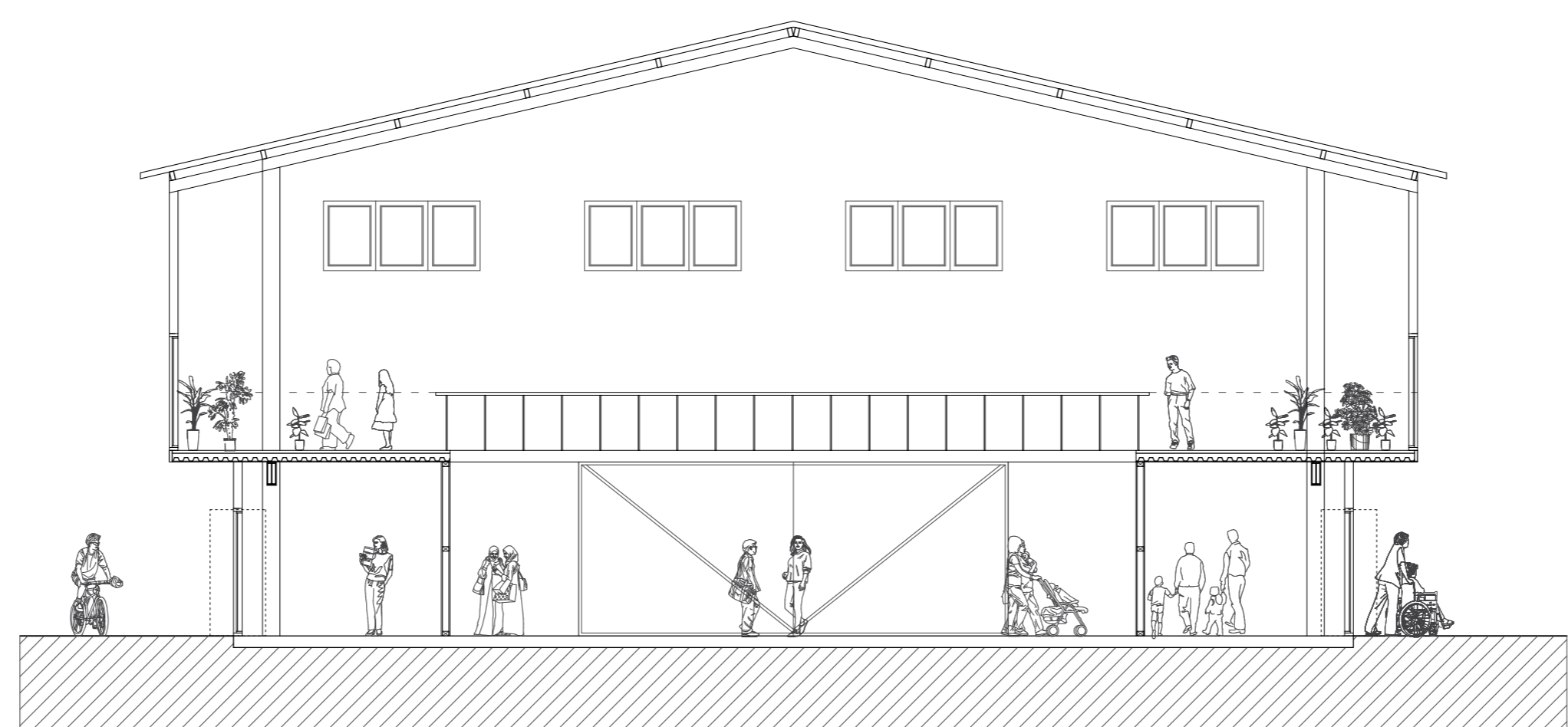




Elevation

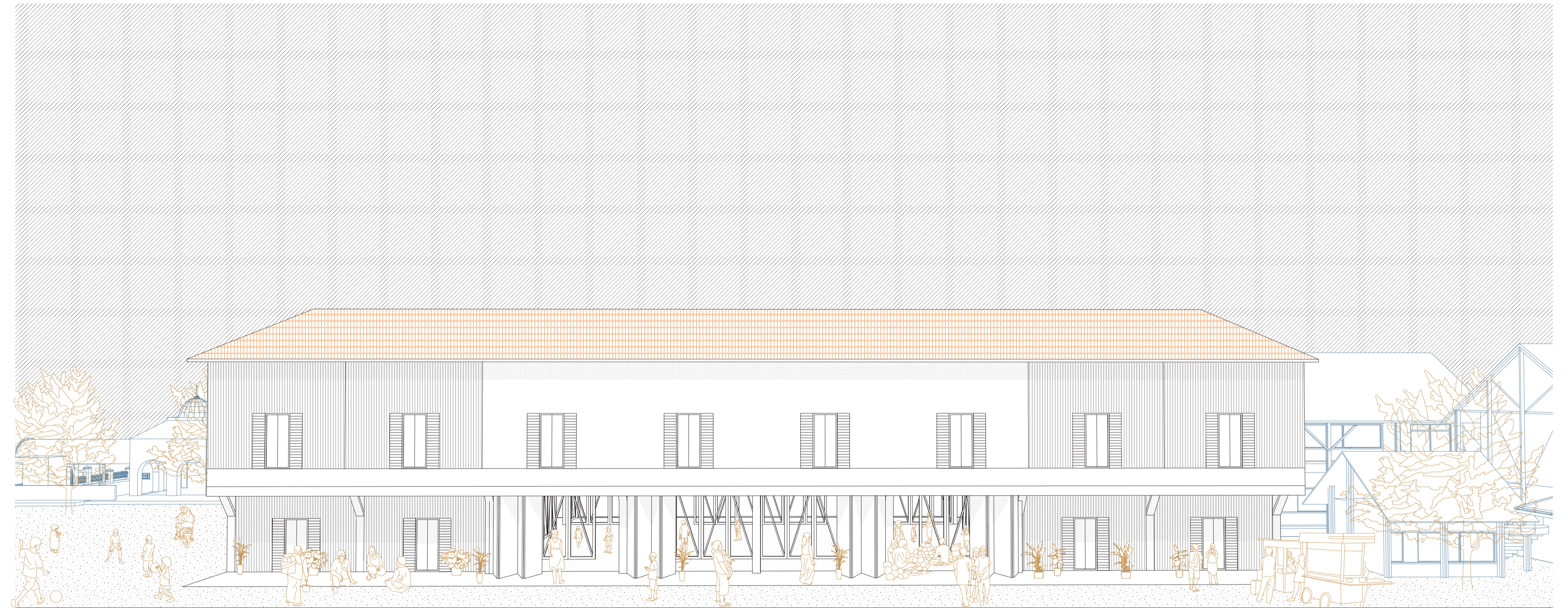
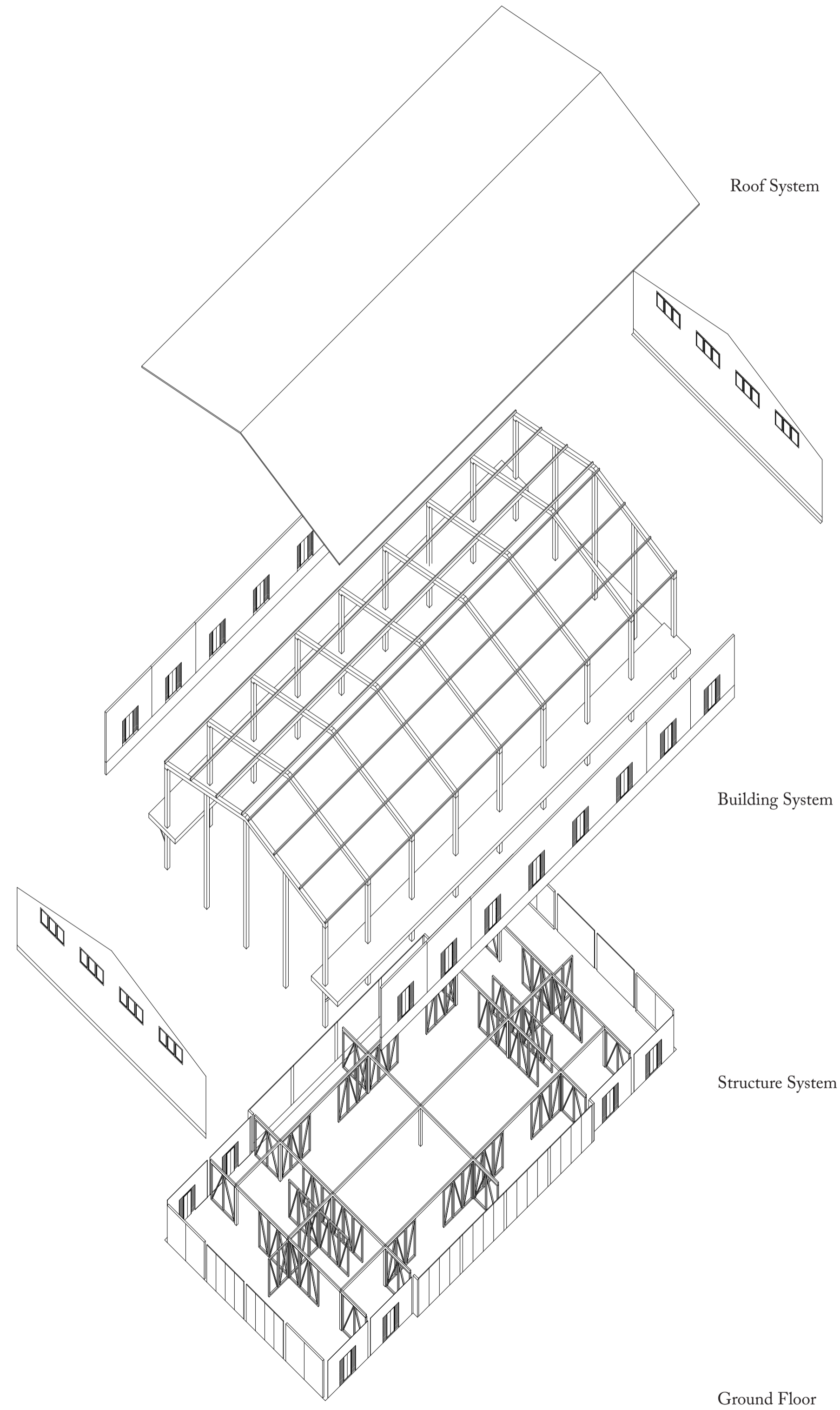


Ground Floor



Section





Narrative Visualization