

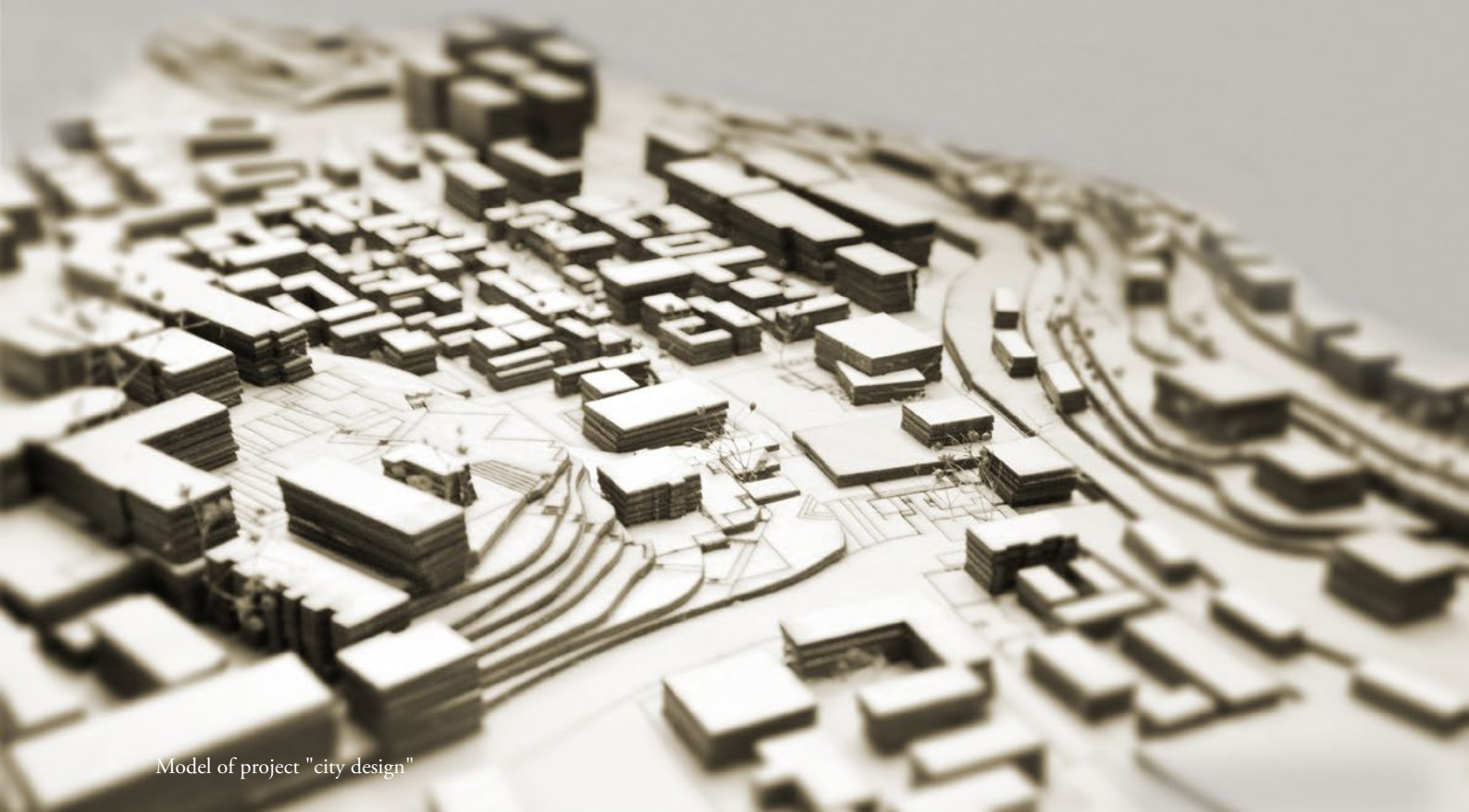
PORTFOLIO

Selected Works 2011-2016

Wuhan University, Hubei, P.R.China
B.A. Architecture 10 Semesters

Siyuan Peng

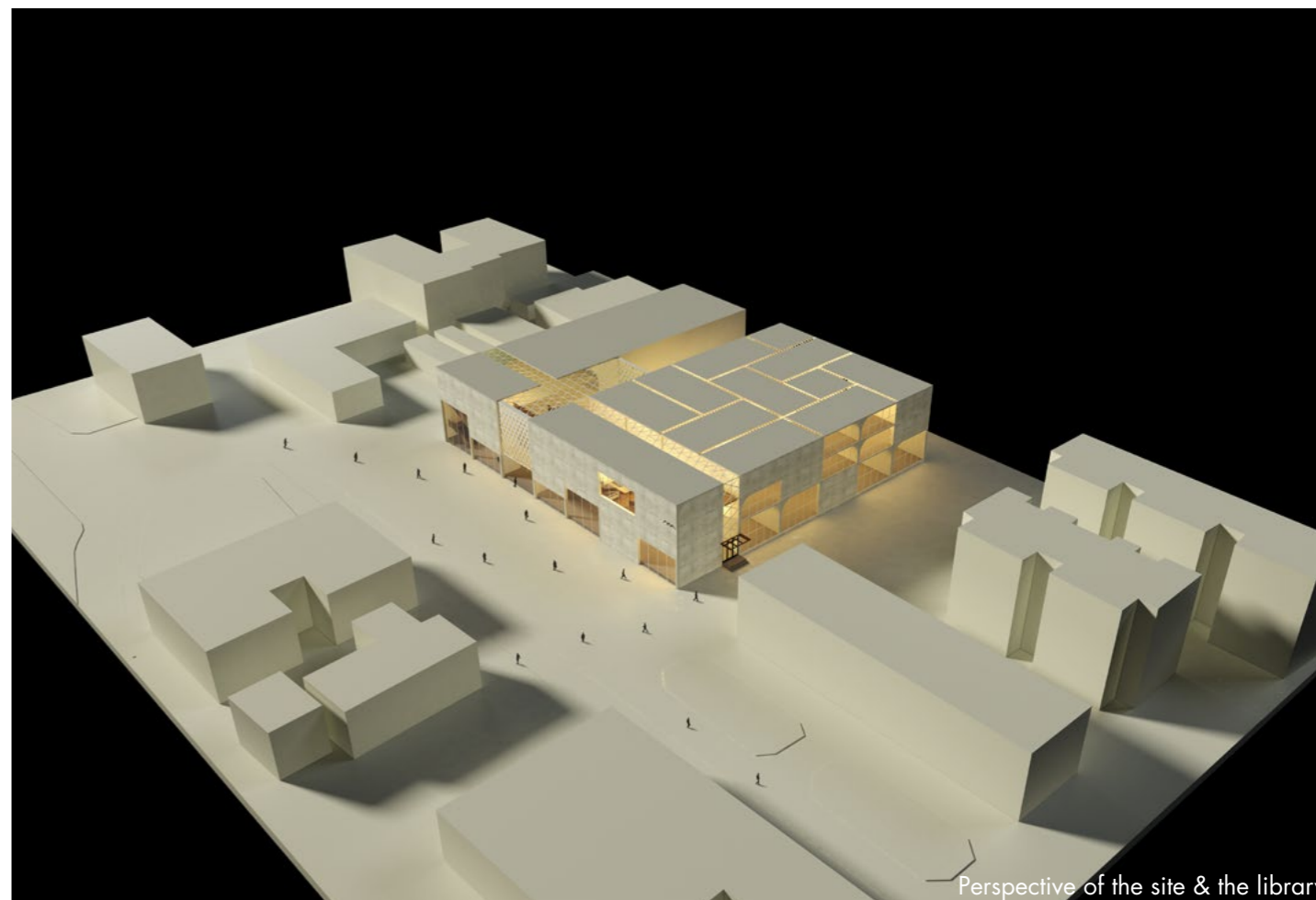
Address: c/o Yiwen Liao
Echterdinger Straße 10, 70771
Leinfelden-Echterdingen



Model of project "city design"



View from the first floor of the library



Type: Studio Project Tutor: Yuan Yan Spring 2014

01 THE FLOWING CENTRE

Library for University and Community

The design starts from a series of questions:
Why it is easier for people to work at a coffee shop? Why do people tend to gather at a busy place? Why do people like to go to shopping mall?

Actually, it is talking about the psychological needs of people in public space. They need to contact with others, even without a direct conversation or contact. People may get inspired by the behavior of others and feeling involved in activities can make people more dynamic.

We can find that libraries are becoming more open and shared space for people to communication is getting more.

The Library is located in Chinese Medicine University in *Tanhualin Neighborhoods* in Wuhan, Hubei Province. And close to the south side of the site is residential area of an old community. The library will serve as a shared public library for both university and community.

Tanhualin Neighborhoods is now basically consist of high-density residential areas, and it is lack of large-scale public facilities. Therefore, a shared, open public space has become the need of the local residents. I hope that there is no 'room' in the flowing library, which is just as exiting as the fenceless university.

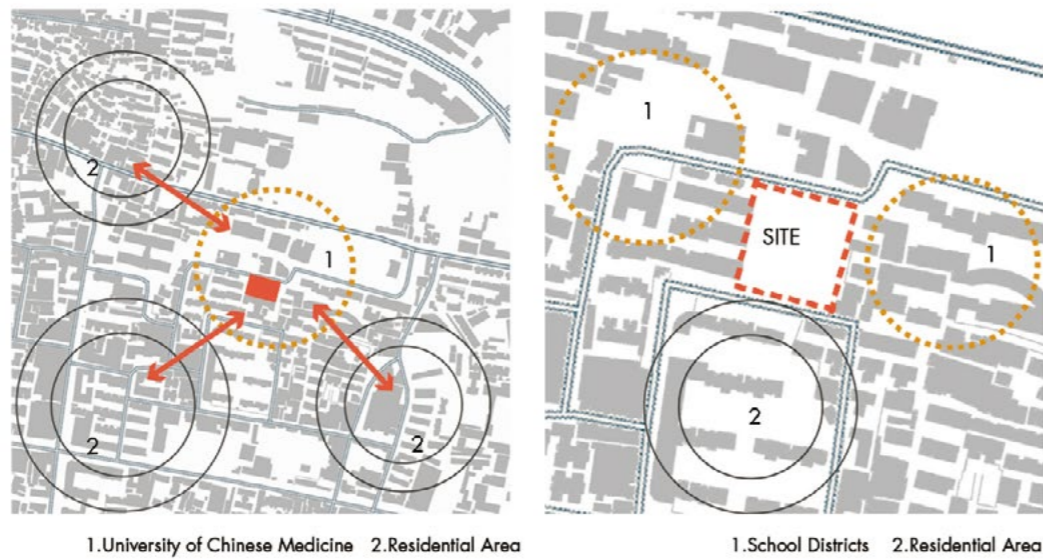
In this design, I decide to put more focus on the space experience. In order to satisfy the psychological needs of people in public space that they need to have direct or indirect interaction and communication with others, I plan to create an open, shared space and I try to provide more space where people can see each other.

So, how to create more potential eye contact? The answer here is DOUBLE HEIGHT SPACE. When there is a continuous double height space, people from different floors will have chance to see others in every floor. That can maximize the potential eye contact in a building.

I choose a particular structure form to generate the space - a kind of arch cantilever structure. The arch form respond to the continuous arch&colonnade of neighbor building. It makes wall and floor an unity, leading people's sight. It's consist of two shearing wall and also can be supported by columns. The cavity can contain pipeline. This kind of structure can create an interesting outline in interior space and break the enclosure of wall. The flat can be flexible and flowing.

SITE OVERVIEW

The site is located in a historical and cultural blocks – *Tanhualin Neighborhoods* in Wuhan, Hubei Province. Tanhualin originated from an about 1.2 km long street of the Qing Dynasty. After 1987, the block became one of the *Hankow Concession District*. Church, hospital, school opened by foreigners and houses for celebrities gradually gathered in this district. So the architectural style here is multi-national and combines the characteristics of Chinese and Western. The library is located in Chinese Medicine University in Tanhualin and close to the south side of the site is residential area of the old community. The library will serve as a shared public library for both university and community. *Tanhualin Neighborhoods* is now basically consist of high-density residential areas, and it is lack of large-scale public facilities. Therefore, a shared, open public space has become the need of the local residents.



ARCHITECTURAL STYLE

The architectural style in campus combines the characteristics of Chinese and Western, like Western-style continuous arch&colonnade and Chinese traditional pitched roof.



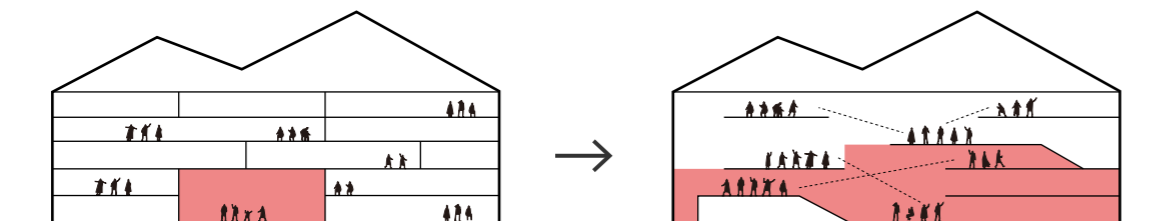
CONCEPT

The design starts from a series of questions:

Why it is easier for people to work at a coffee shop? Why do people tend to gather at a busy place? Why do people like to go to shopping mall?

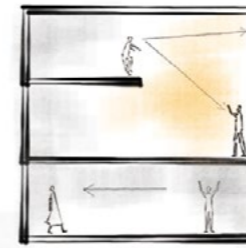
Actually, it is talking about the psychological needs of people in public space. They need to contact with others, even without a direct conversation or contact. People may get inspired by the behavior of others and feeling involved in activities can make people more dynamic.

We can find that libraries are becoming more open and shared space for people to communication is getting more.

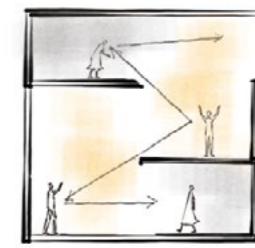


SPACE ATRATEGY AND SECTION DESIGN

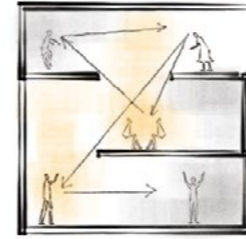
1. A Double Height Space



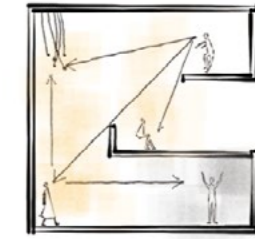
2. Two Adjacent Double Height Space



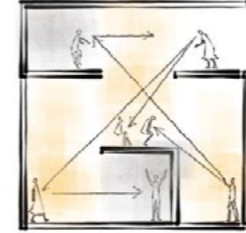
3. Two Adjacent Double Height Space



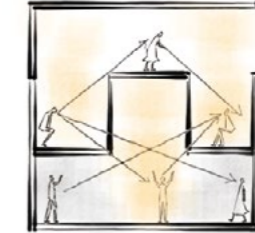
4. Double Height & Triple Height Space



5. Three Continuous Double Height Space



6. Three Continuous Double Height Space



In this design , I decide to put more focus on the space experience. In order to satisfy the psychological needs of people in public space that they need to have direct or indirect interaction and communication with others, I plan to create a open, shared space and I try to provide more space where people can see each other.

So, how to creat more potential eye contact? The answer here is DOUBLE HEIGHT SPACE.

When there is a continuous double height space, people from diferent floors will have chance to see others in every floor. That can maximize the potential eye cantact in a building. That space experience is what I persue.



DISSECTION

A 3D visualization of a complex, multi-layered network structure. It consists of numerous white, rectangular blocks arranged in a dense, interconnected grid-like pattern. The blocks are stacked and connected by thin, dark lines, creating a sense of depth and complexity. The entire structure is set against a dark gray background, with dashed white lines indicating the underlying grid or coordinate system. Small red and blue arrows are visible on some of the blocks, suggesting movement or flow within the network.

0 1 m

Students' Entrance

Staff's Entrance

Residents' Entrance

1 Archival Repository
2 Office
3 Service Hall
4 Exhibition
5 Audio & Video Room
6 Periodical Reading Room
7 Book Shop
8 Children's Reading Room
9 E-reading Room
10 Cafe

FIRST FLOOR

51000

6000 2000 8000 8000 8000 8000 8000

56000

8000 4000 4000 4000 4000 4000 4000

1

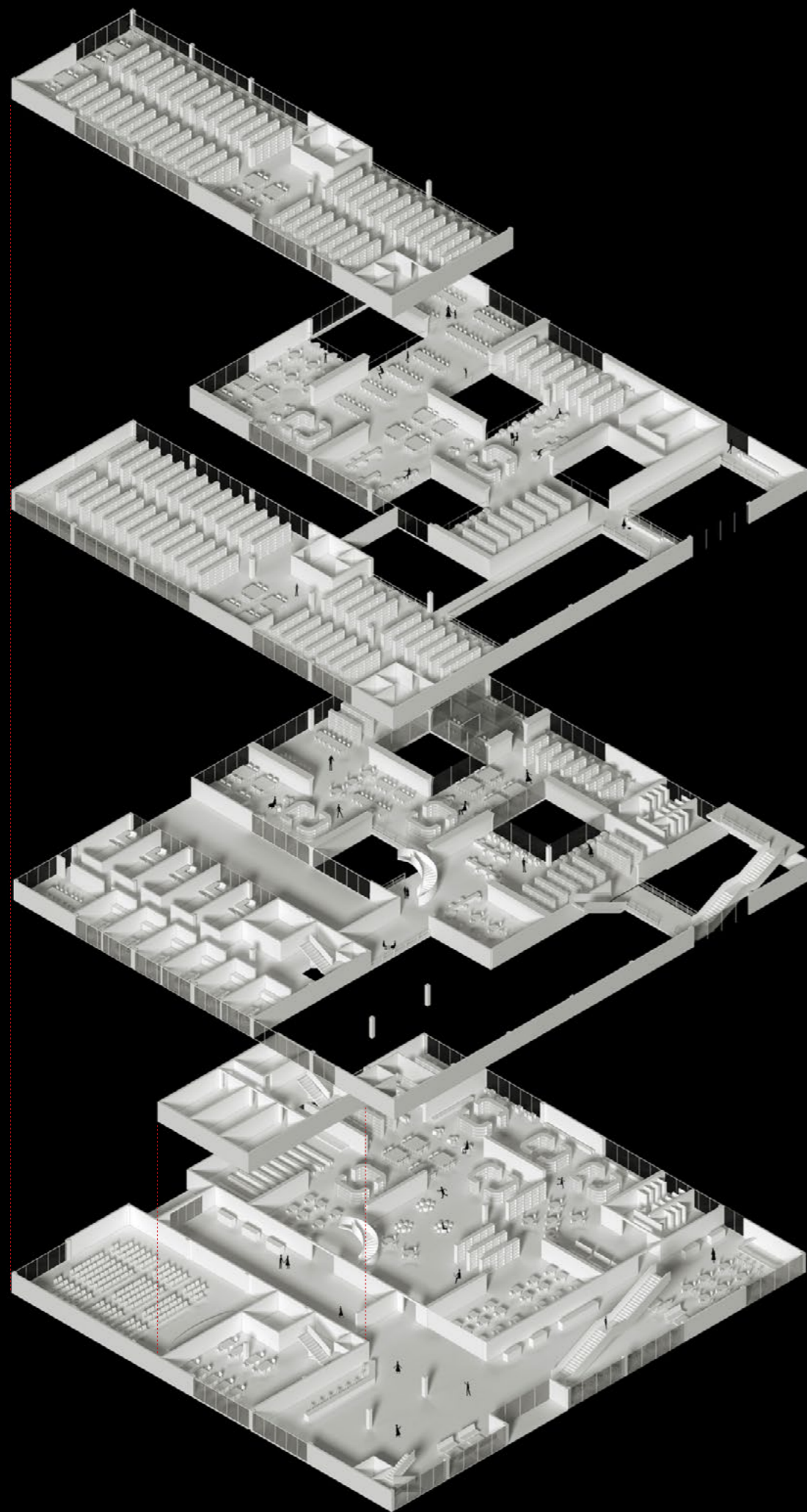
2

8000 3000 8000

1 Office 2 Reading Room

[illegible]

6



View of the interior space



Type: Studio Project

Tutor: Shidan Cheng

Autumn 2014

02 TWO-FAMILY HOUSE

Village Renewal Planning and Residential Design

This project is a village renewal planning. The village *Shanke Cun* is located in Jinnxi, Jiangxi Province. There are some historical houses date from the Ming Dynasty preserved in this village, that is of great cultural value. The village has also beautiful natural environment and landscape resource. But most of young people have moved out and only some children and the elderly live in the village now because the village is poor developed and they lack industry to make profit.

So, in order to develop the village, a renovation is necessary. We are supposed to rebuild or remove some original buildings and build some new buildings to complete a planning and residential design.

In this renewal planning, one of the most important aspects is to find a proper industry suitable for the local situation and economy. Economic, cultural and architectural aspects should be taken into consideration.

According to the characteristics of the village such as the historical buildings, beautiful landscape and different lifestyle compared to city, there is a good chance to develop the village to a scenic spot of Jiangxi Province.

There are two renovation strategies, the first one is TWO-FAMILY HOUSE and the second one is NEW ECOLOGICAL AND LANDSCAPE SYSTEM. Two-family house aims to create unique living experience, a relatively closer relationship with neighborhood.

I proposed a house with Chinese style outlook to fit naturally into the traditional environment. As for the interior, two families can share one house here but with their own independent space. They can share the dining room, kitchen, garden and activity room together. But the main space like living room, bedroom is separated. I made many studies to emphasize the boundary between two families. In the final plan the exterior buffer space (inner garden) is placed between two houses to set the boundary, just as buildings in residential area stand side by side with adequate sense of distance.

Tourists want to have a piece of land as a part of rural experience. I plan to give

every household a garden for planting. That is the second strategy. The overall system will form a green belt or ecological zone. Over time, the ecological zone gradually forms the ecological system on the whole village, showing the unique characteristics of *Shanke Cun*. In this process, visitors can feel unique ecological experience. The village can also gain a promotion point for further tourism development.



View from the site, the old village by the pond



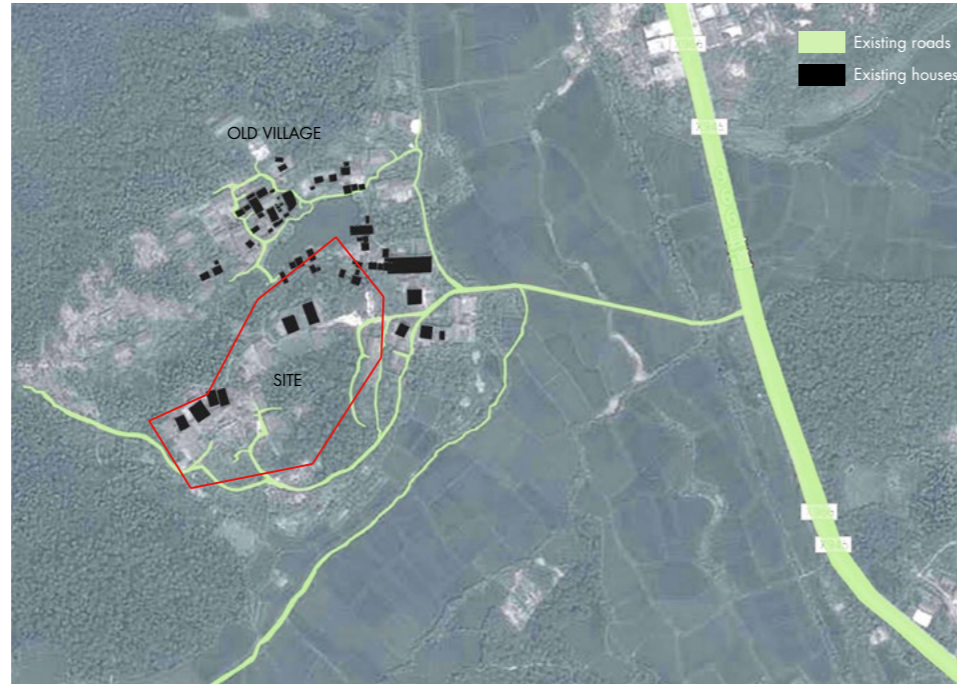
One of the important historical architecture



Primitive&beautiful natural environment

INTRODUCTIO OF THE VILLAGE

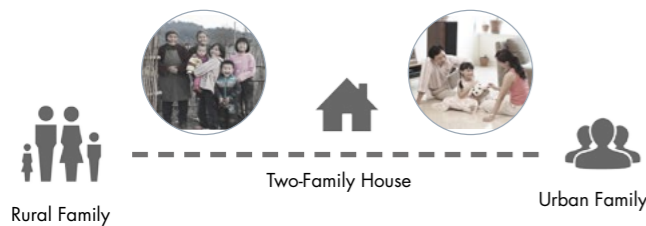
The village *Shanke Cun* is located in Jinnxi, Jiangxi Province. The whole district is about 40000 m², and the site of this design is about 8000 m². There are some historical houses date from the Ming Dynasty preserved in this village but most of young people have moved out and only some children and the elderly live here. The village has beautiful natural environment and landscape resource. There is a pond in the middle of the village, the site is opposite the old village both facing the pond. There is a bamboo forest in the site which is one of the common plants in that city.



Site Overview

RENEWAL STRATEGIES

STRATEGY 1: Families Combination between City & Country



The houses are designed into *TWO-FAMILY HOUSE*, half for the rural family and half for the urban family. The village can be a resort during vacations. People from city can choose a rural family in the village to form a combination. The two families will share a house and the rural family pay a certain amount of money as the expense of accommodation. People can experience unique lifestyle in the country like the fun of growing crops and closer interaction with neighbors. When the urban family go back to the city, the corresponding rural families can also rent the rooms for short to make profit.

STRATEGY 2: Development of Ecological & Landscape System



Single Garden in House Ecological Zone Ecological & Landscape System

Tourists want to have a piece of land as a part of rural experience. I plan to give every household a garden for planting. Taking the local climate, environment and characteristics in to consideration, I pick BAMBOO, LOTUS, ORANGE as the main three plants. Bamboo and lotus reflect the environment of the village - the bamboo forest and the pond, orange is a also a famous feature of the city. The overall system will form a green belt or ecological zone.

Over time, the ecological zone gradually form the ecological system on the whole village, showing the unique characteristics of *Shanke Cun*. In this process, visitors can feel unique ecological experience. The village can also gain a promotion point for further tourism development.

PLANNING ANALYSIS



Widen and repair the existing roads outside the village, seperate the pedestrian entrance and car entrance. Keep the original old gate at the village's entrance as pedestrian entrance and plan a new entrance for cars.



According the existing road outside the site arrange the main road, and the site is divided into four regions by the main road. Add a bridge on the water to strengthen the connection with the original village.



The site is divided into four regions, the larger three regions are set to be three major functional areas, the central block is set to be the central plaza area.



The site is opposite the original villages across the water, and the buildings on the other side of water is of great importance in the village, so the orientation, the layout and the elevation of new buildings should find some relationship with the old village.



According to functional requirements the new buildings are divided into three levels: residential buildings, public buildings for each residential area and a central public building. The layout of houses is arranged around the main center and the three sub-center.



Establish a sightseeing path across the site connecting these groups together. Every group has its own distinctive plant and landscape. According to the layout of the buildings set landscape nodes.

LAYOUT MODE IN THREE TYPES



LOTUS AREA

This area is located in the west side of the site, connecting pedestrian entrance and close to the water. The main plant is lotus. Each house has a little pool and the houses are around a central pond.



BAMBOO AREA

This area is located in the south of the site, since there originally exist a small piece of bamboo forest on the site, so bamboo become the main plant of this area. Each house has a garden with bamboo.



ORANGE AREA

This area is located in the west side. Mandarin orange is a feature of Jinxi so it is suitable to grow here. Each house has a open garden with orange trees.



RESIDENTIAL UNITS IN THREE TYPES

RESIDENTIAL UNITS IN THREE TYPES



LOTUS HOUSE



BAMBOO HOUSE



ORANGE HOUSE



View from lotus area



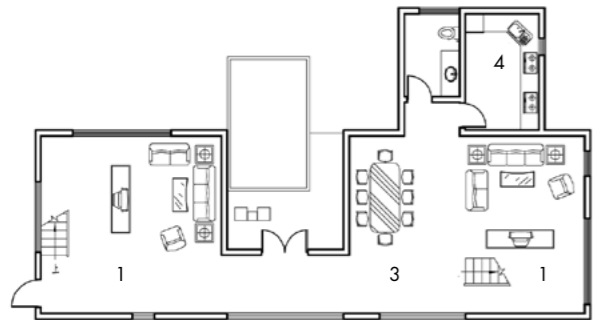
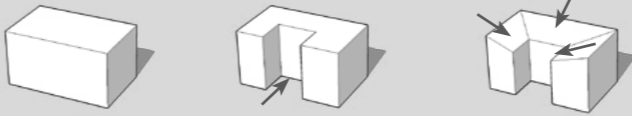
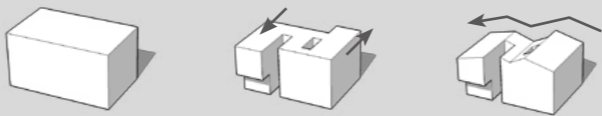
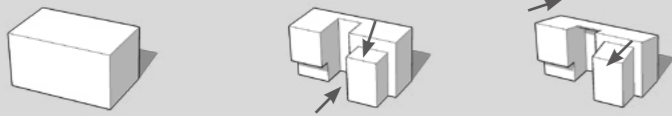
View from bamboo area



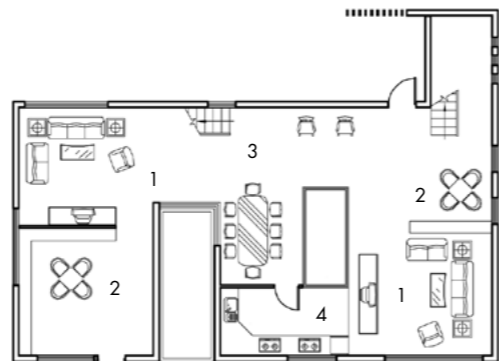
View from orange area



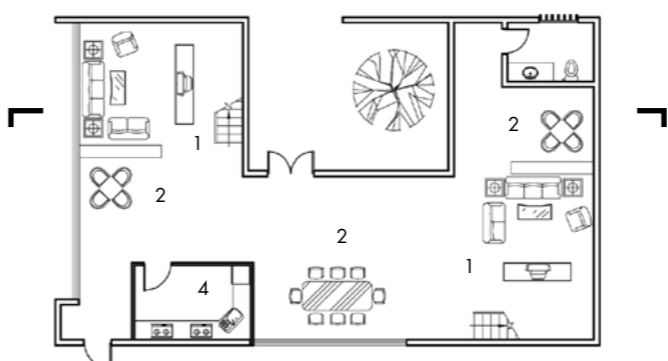
View from bamboo area



Family1 1F Family2



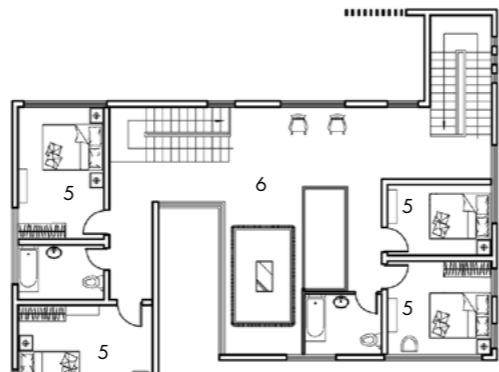
Family1 1F Family2



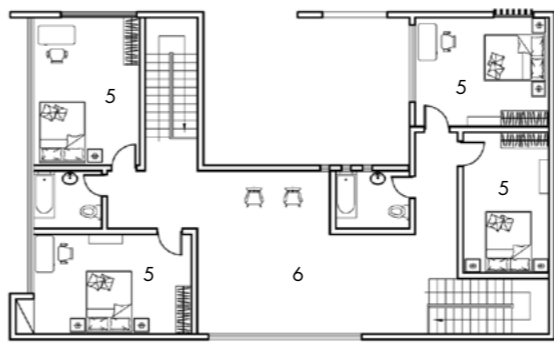
Family1 1F Family2



2F



2F



2F

- 1 Living Room
- 2 Dining Room
- 3 Shared Dining Room
- 4 Shared Kitchen
- 5 Bedroom
- 6 Activity Room



SECTION OF HOUSE 1



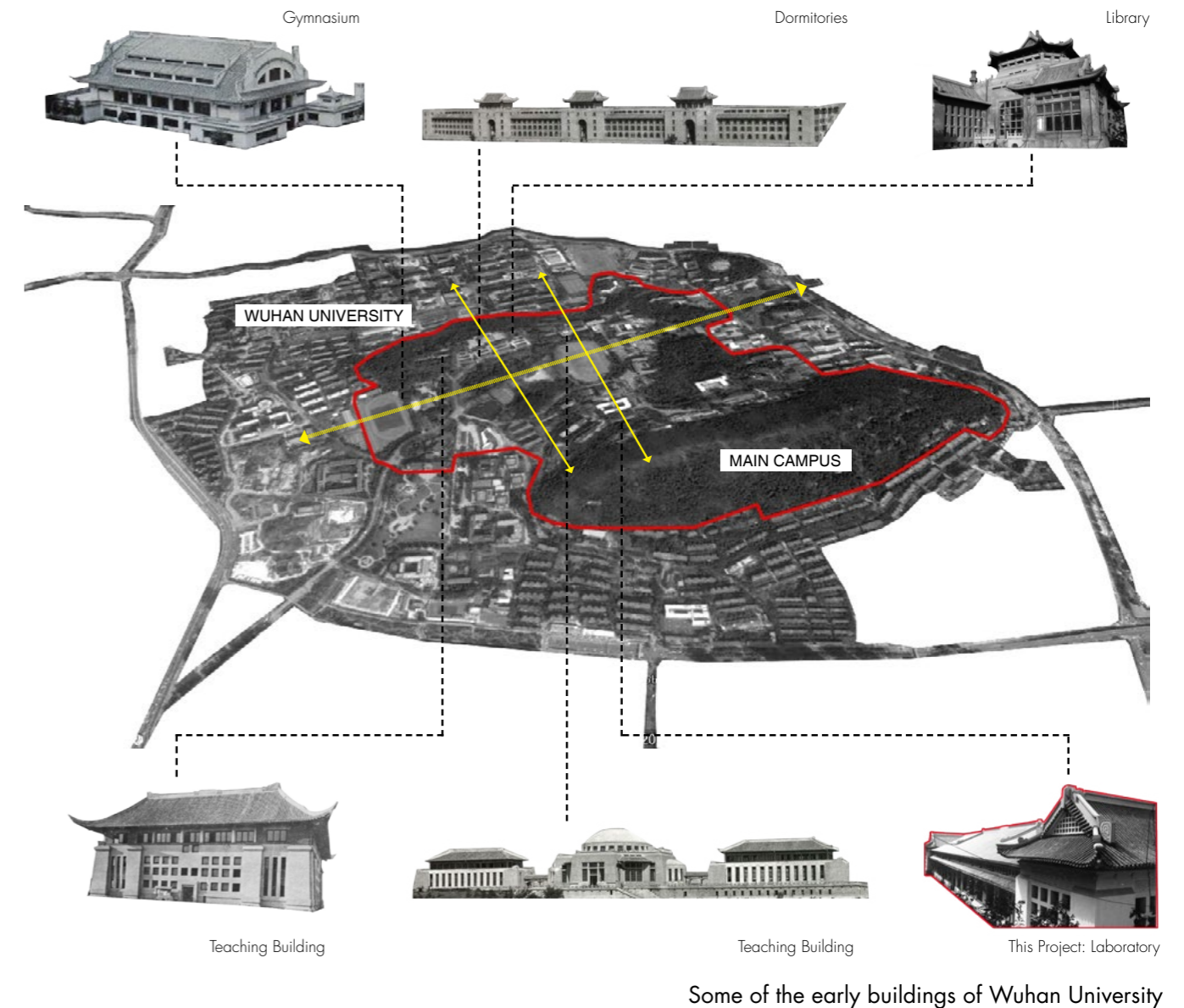
SECTION OF HOUSE 2



SECTION OF HOUSE 3



View of the exhibition hall



Type: Thesis Project Tutor: Qiaohui Tong Spring 2016

03 PRESERVED BUILDING RENOVATION

Wuhan University Archives - Original Hydraulic Laboratory

Early June 25, 2001, Wuhan university architecture was published by the state council as the fifth group of national key cultural relics protection units. There are in all 26 buildings and the construction area is of 54054.52 square meters. *National Wuhan University Hydraulic Laboratory* is an important part of the early buildings of Wuhan University. Based on the analysis of its heritage value, I try to put forward the idea and strategy of its protection, maintenance and renovation in order to keep the building with all historical information remained and continued truly and completely, also offer effective references of modification methods and design strategies for modern education buildings.

The original national hydraulic laboratory is a part of the early buildings of Wuhan University. It is located on the end of the sub-axis of the campus. The height of main building is 11.6 meters, the construction area is 2197 square meters. It was completed in 1936.

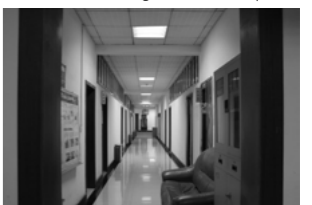
The common feature of these early buildings in Wuhan University is the combination of Chinese and Western. The designer is an American architect F. H. Kales. At that time, western new structure, new materials and new technology has been successfully used in the design and construction of early buildings in Wuhan University, and that deeply influenced later Chinese architecture.

The building was a double height hall before, during later renovation, a new concrete frame, floor and ceiling have been added. Today it is a two-floor building used by two institutions - archives and exam center.

My work consists of several parts: First, surveying and mapping. Second, restoration of facade. Recording the condition of the building's degradation and main diseases, find the cause and methods of intervention. Third, come up with some renovation strategies of the building's energy efficiency. Fourth, reorganize the interior space, improve the functional area and flow. Show the truss to visitors



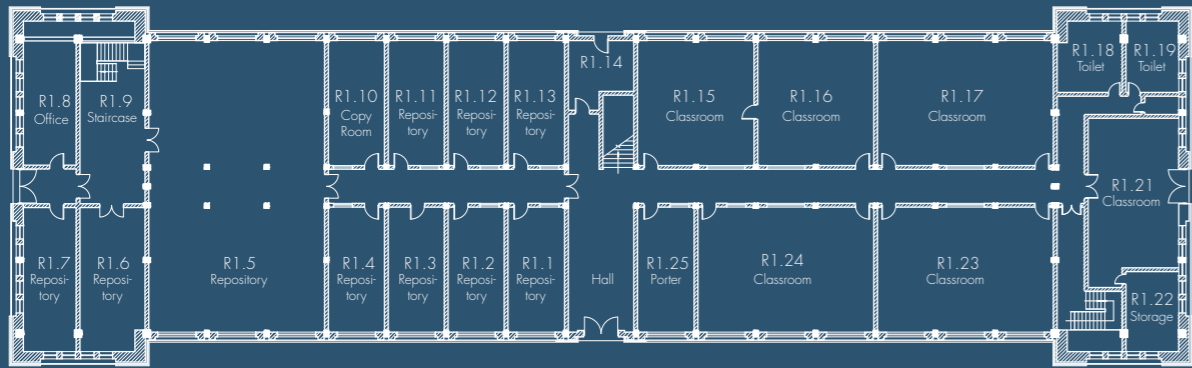
Original interior space



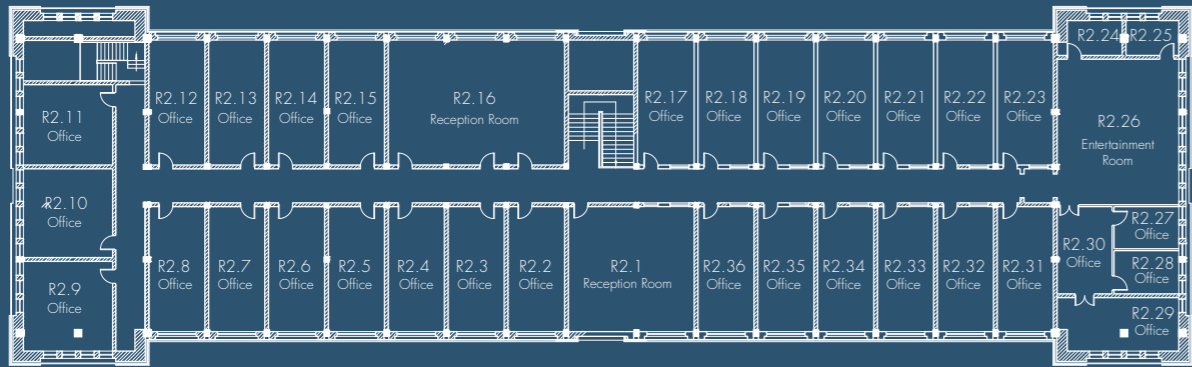
Today's interior space

NATIONAL WUHAN UNIVERSITY HYDRAULIC LABORATORY

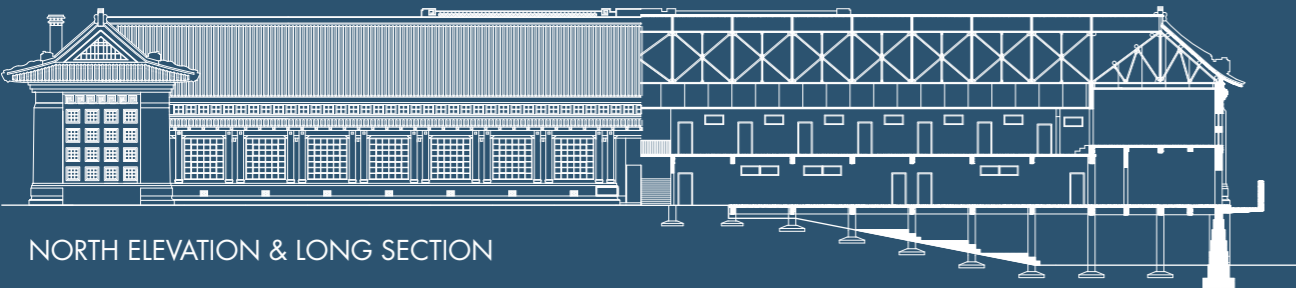
1 0 5 15m



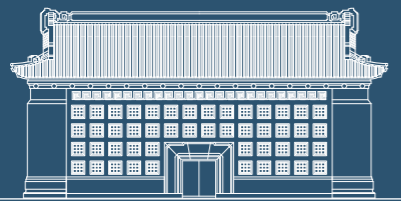
FIRST FLOOR



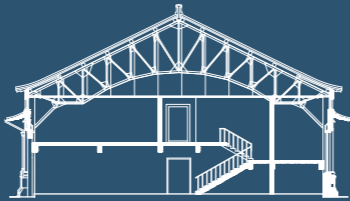
SECOND FLOOR



NORTH ELEVATION & LONG SECTION

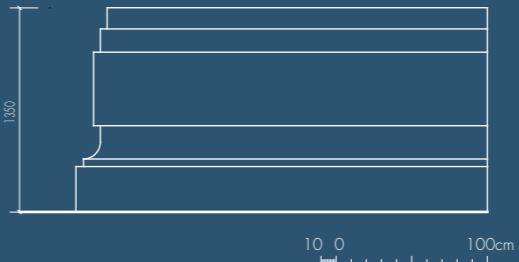


EAST ELEVATION

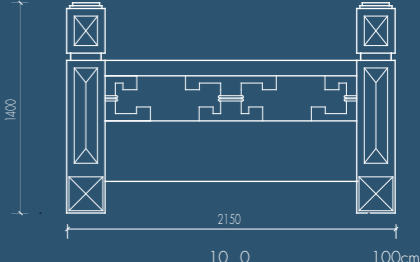


CROSS SECTION

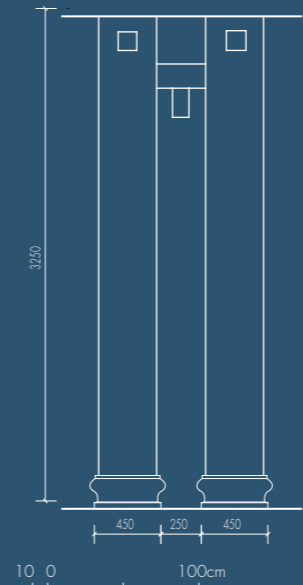
SOME ARCHITECTURAL DETAILS OF THE BUILDING



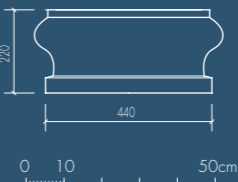
勒脚
PLINTH



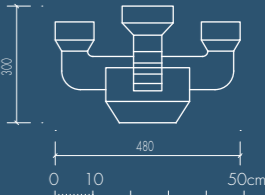
栏杆
OUTDOOR BALUSTRADE



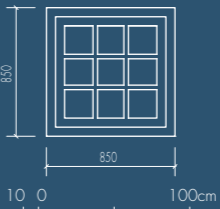
双壁柱
PILASTER



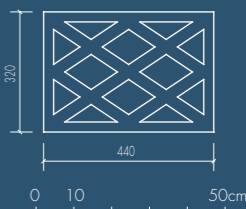
柱础
COLUMN BASE



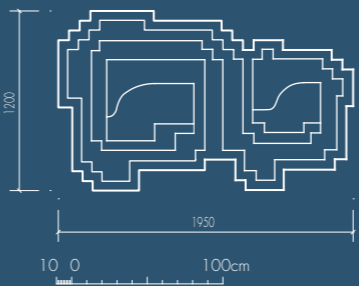
斗拱
CHINESE ORDER



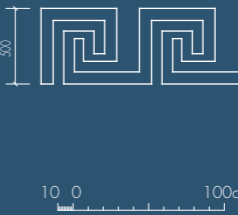
九格窗
WINDOW



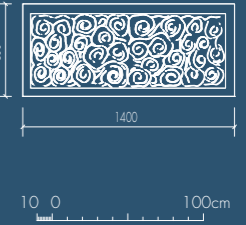
透气口
AIR-VENT



正吻
DECORATIVE PATTERN OF PARAPET



回形纹
DECORATIVE PATTERN

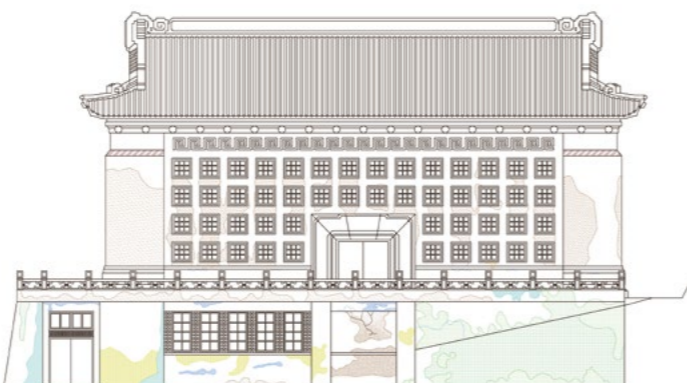


云板
DECORATIVE PATTERN

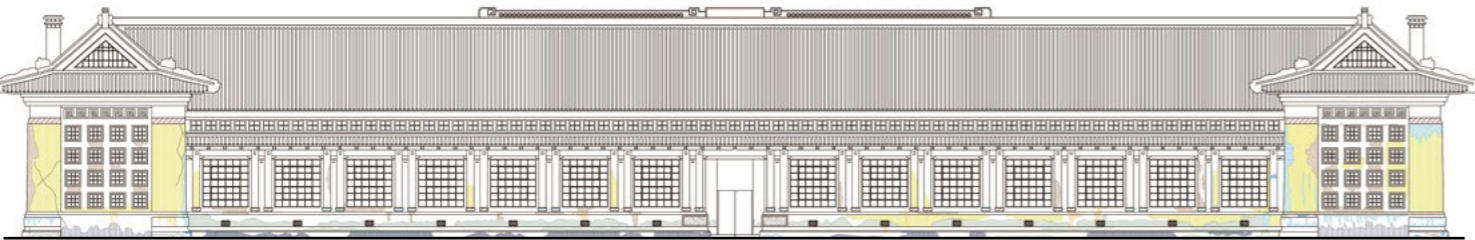
RESTORATION OF FASADE



COLLAGE OF PHOTOS ABOUT FASADE'S CONDITION



DISTRIBUTION OF MAIN DISEASES



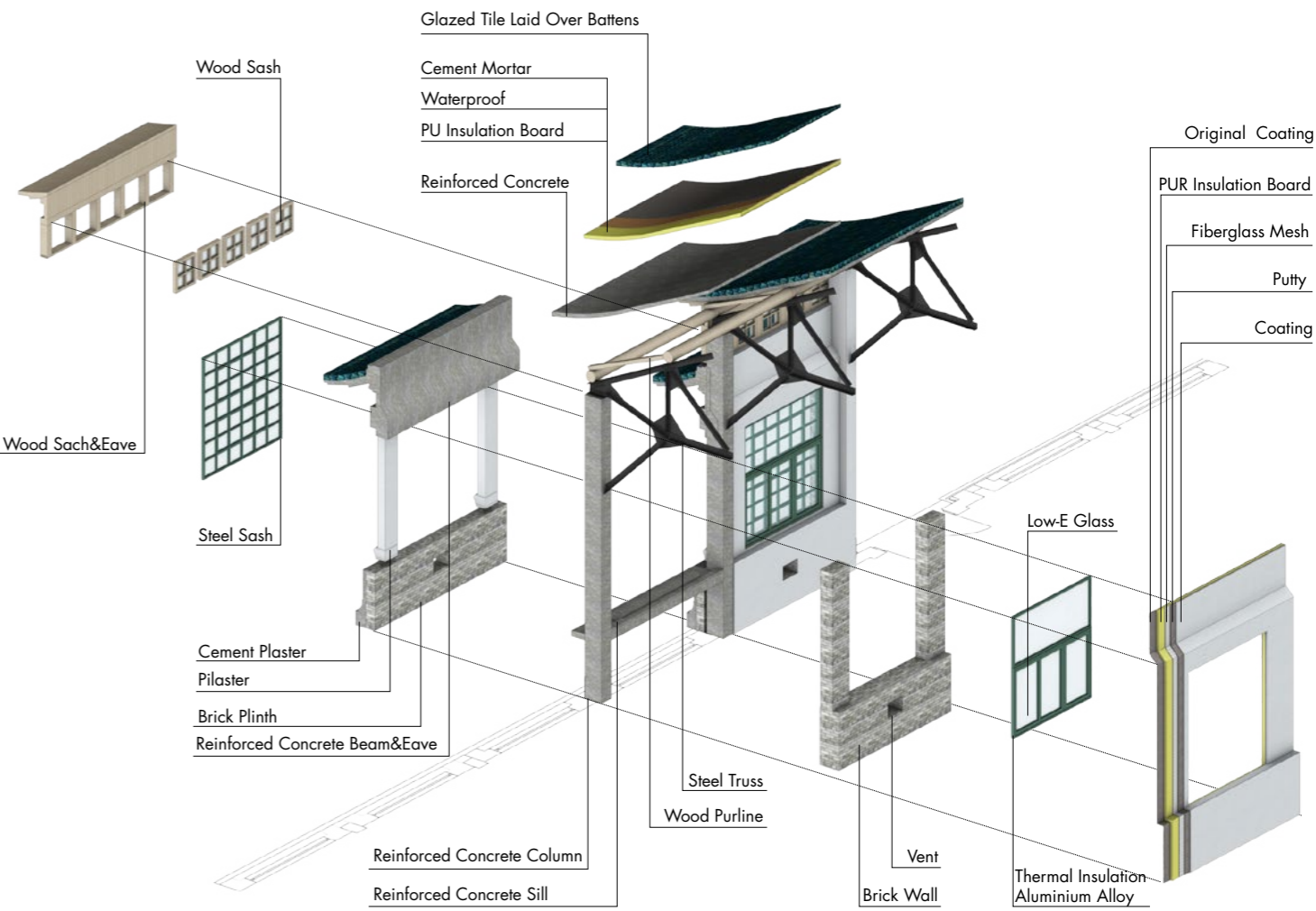
DISTRIBUTION OF MAIN DISEASES

LEGEND OF THE TYPES OF DISEASE

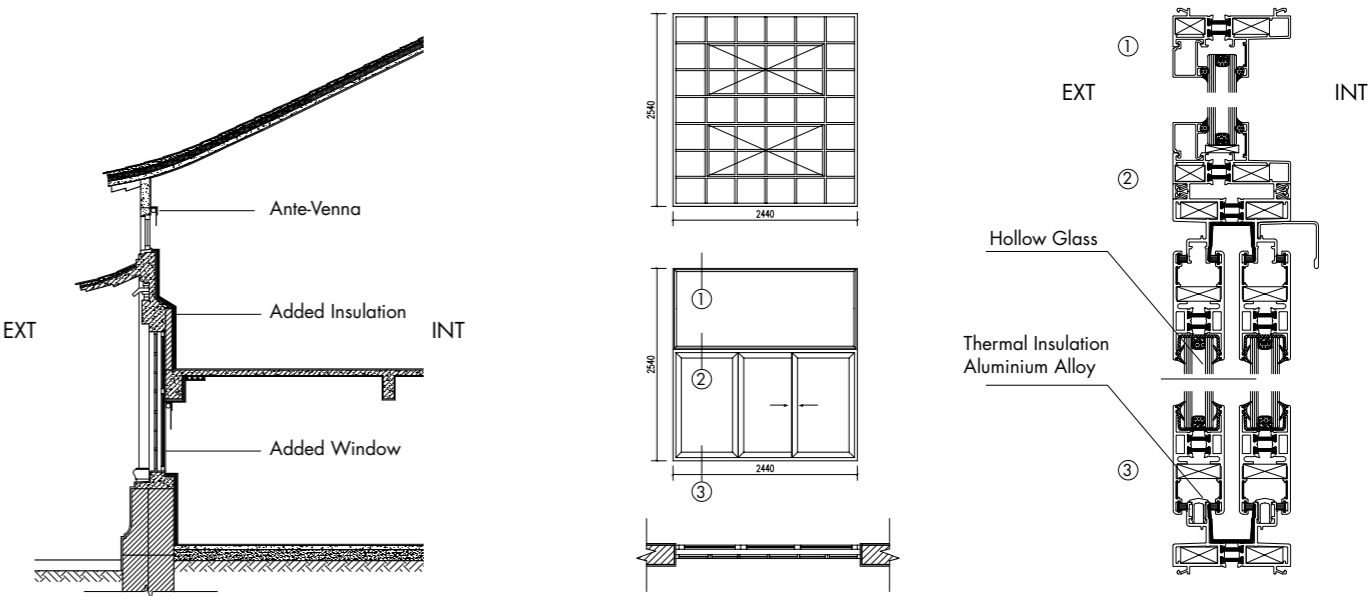
<div>Microbial Disease</div> <div></div> <div></div> <div>Cause<ul style="list-style-type: none">MicroorganismChemical Composition</div> <div>Intervention<ul style="list-style-type: none">CLEANREPAIR</div>	<div>Plant Disease</div> <div></div> <div></div> <div>Cause<ul style="list-style-type: none">PlantMicroorganism</div> <div>Intervention<ul style="list-style-type: none">CLEANREPAIR</div>	<div>Incrustation</div> <div></div> <div></div> <div>Cause<ul style="list-style-type: none">Chemical CompositionMan-made Damage</div> <div>Intervention<ul style="list-style-type: none">CLEAN</div>	<div>Discoloration</div> <div></div> <div></div> <div>Cause<ul style="list-style-type: none">UltravioletChemical Composition</div> <div>Intervention<ul style="list-style-type: none">CLEANREPAIR</div>	<div>Fracturation</div> <div></div> <div></div> <div>Cause<ul style="list-style-type: none">UltravioletTemperatureWindChemical CompositionMan-made Damage</div> <div>Intervention<ul style="list-style-type: none">CLEANREPAIR</div>
<div>Wind Erosion</div> <div></div> <div></div> <div>Cause<ul style="list-style-type: none">WindTemperatureUltravioletChemical Composition</div> <div>Intervention<ul style="list-style-type: none">CLEANREPAIR</div>	<div>Detachment</div> <div></div> <div></div> <div>Cause<ul style="list-style-type: none">TemperatureWindChemical Composition</div> <div>Intervention<ul style="list-style-type: none">CLEANREPAIR</div>	<div>Rain Erosion</div> <div></div> <div></div> <div>Cause<ul style="list-style-type: none">RainwaterTemperatureWindChemical Composition</div> <div>Intervention<ul style="list-style-type: none">CLEANREPAIR</div>	<div>Damp</div> <div></div> <div></div> <div>Cause<ul style="list-style-type: none">UltravioletChemical Composition</div> <div>Intervention<ul style="list-style-type: none">CLEANREPAIR</div>	<div>Improper Cables Installation</div> <div></div> <div></div> <div>Cause<ul style="list-style-type: none">Man-made Damage</div> <div>Intervention<ul style="list-style-type: none">REPAIR</div>

Rainwater Ultraviolet Temperature Wind Plant Microorganism Chemical Composition Mechanical Properties Pore Structure Man-made Damage

ENERGY EFFICIENCY OF ENVELOP RENOVATION

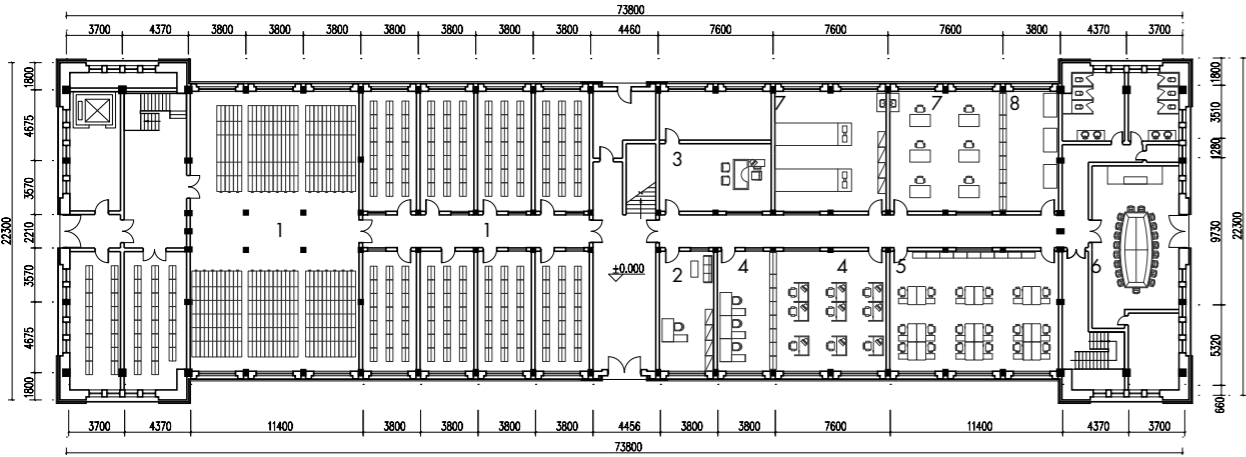


RENOVATION OF WALL AND WINDOW

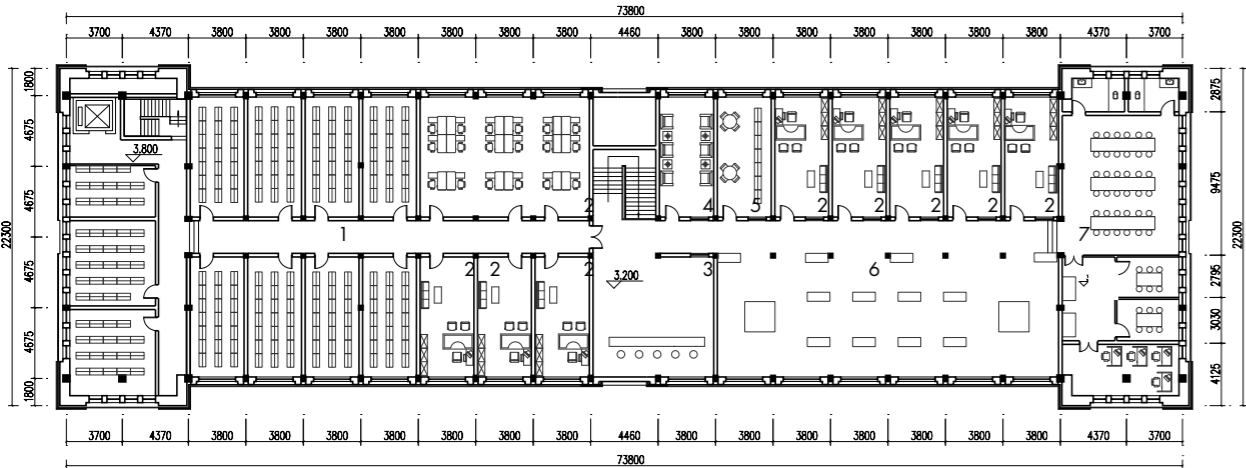


Because of the requirement for stable temperature and humidity in archives, the energy consumption of this building is a large amount. So I proposed renovation of the building's energy efficiency. According to the principle of authenticity and reversibility, I choose to add insulation material and energy-saving windows inside the external wall.

INTERIOR ORGANIZATION

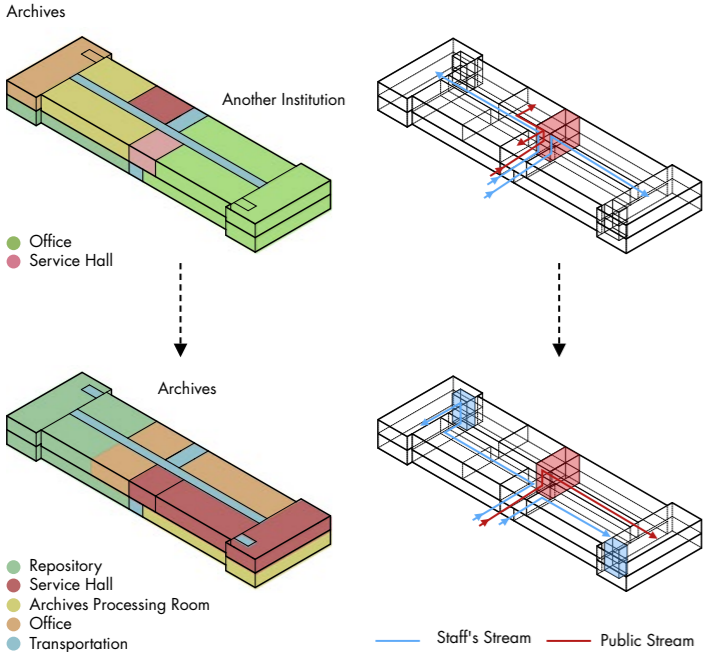


FIRST FLOOR



SECOND FLOOR

ADJUSMENT OF FUNCTION & FLOW



FUNCTION AND AREA DISTRIBUTION



The building is now being used by two institution - archives and examination centers. They both have a service hall on the second floor. Visitors' stream of the two institution and the staff's stream mix together and disturb each other. According to the investigate about the need of archives, the plan propose to use the entire building as a standalone archives.

According to the related regulation of archives, there are five main functional areas in archives. Refer to the regulation, get each functional area required area in this building.

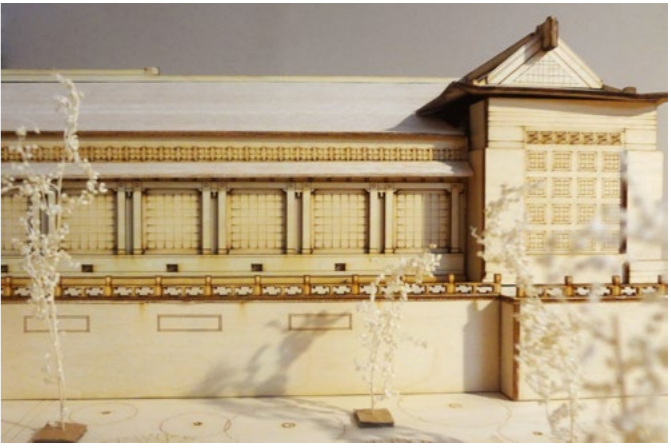
Through clear and reasonable function division, the staff's stream and public stream are divided. To protect this building, change to the internal structure should be minimized, so I only remove part of the wall on the second floor to be a exhibition space, at the same time the truss can be showed to public as a feature of this building.



Model of the building and structure



View of the exhibition hall



Perspective from outside



View of the reading room



View of the corridor



Perspective from outside



Perspective from outside

PENG SIYUAN'S PORTFOLIO

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