

bridge museum

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INTRODUCTION

I got to know the city of Dujiangyan during my semester in Sustainable Urban Dynamics. I was fascinated by it because it stood out from the image of China I had in my head.

Dujiangyan is one of the greenest cities in China, pollution level is much lower than the average, people are living longer and they are known to be laid-back and relaxed.

During my site visit I found Dujiangyan to be a city of amazing historical and green landscape but with the city center that offers very little for the people that live there and that visit.

After a lot of research about the past and the future that the city aspires to, I decided to ask in this thesis what role can a function, in my case museum, have in/on the city. My goal was to design a building that would become an active, public part of the downtown that reflects on what kind of city Dujiangyan should be.

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都江堰 /DUJIANGYAN/

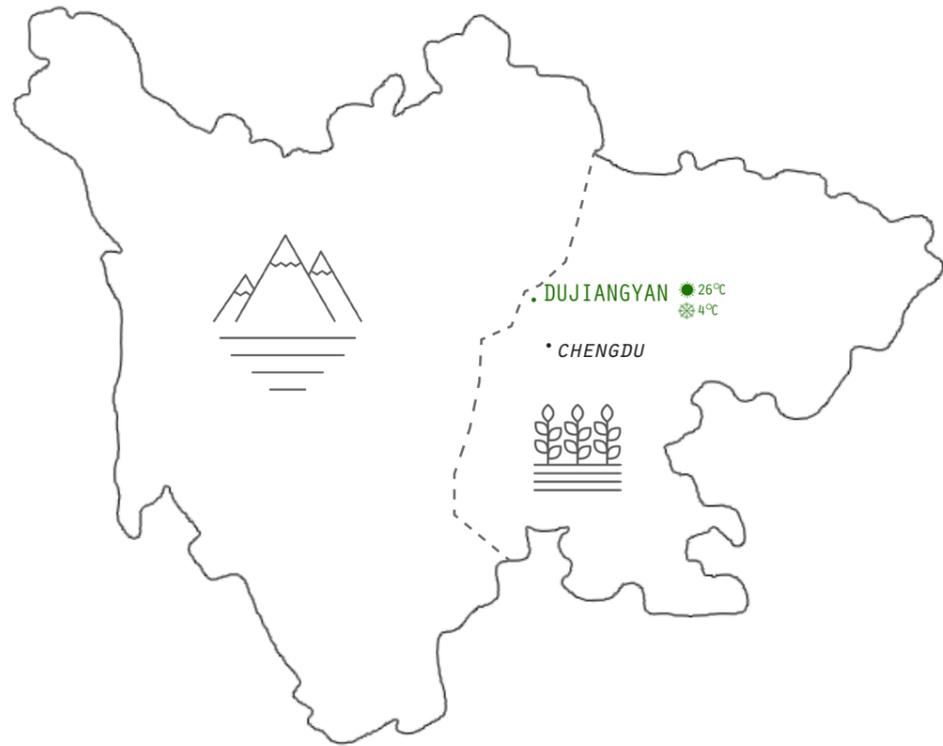
Dujiangyan is a satellite city of Chengdu, the capital of Sichuan province, People's Republic of China. The city was formerly known as Guanxian or Guan County („irrigation). The county became in 1988 a county-level city and was named Dujiangyan, after its most famous Irrigation System.

The history of the city has begun in 250 BC when Li Bing, the governor of present Sichuan Province, gave up traditional ways of dam building and created a new method of channeling and dividing the waters of the Min River.

Irrigation system has functioned now for 2,000 years. It has prevented floods, provided substantial irrigation and allowed for shipping and wood drifting. It has helped greatly with the richness of Chengdu Plain that has a reputation of „The Land of Abundance”.



• sichuan province



Dujiangyan City is in subtropical, monsoon, humid climate zone, with an average annual temperature of 15.2°C and the average annual rainfall of nearly 1200 mm. There are four seasons, the hottest, July and August with the average temperature of about 26 ° C. Winter is relatively not cold. The coldest month is January with the average temperature of 4 ° C.

WEST SIDE

Eastern part of Qinghai Tibet plateau Hengduan mountains formed by collision of Tibetan & Yangtze plate

Subarctic climate

☀ Mild, colder at higher elevation

❄ Cool to very cold

EAST SIDE

Fertile Sichuan Basin Drained by Yangtze and tributaries

Humid subtropical climate

☀ Long, hot and humid

❄ Mild to cool, dry and cloudy

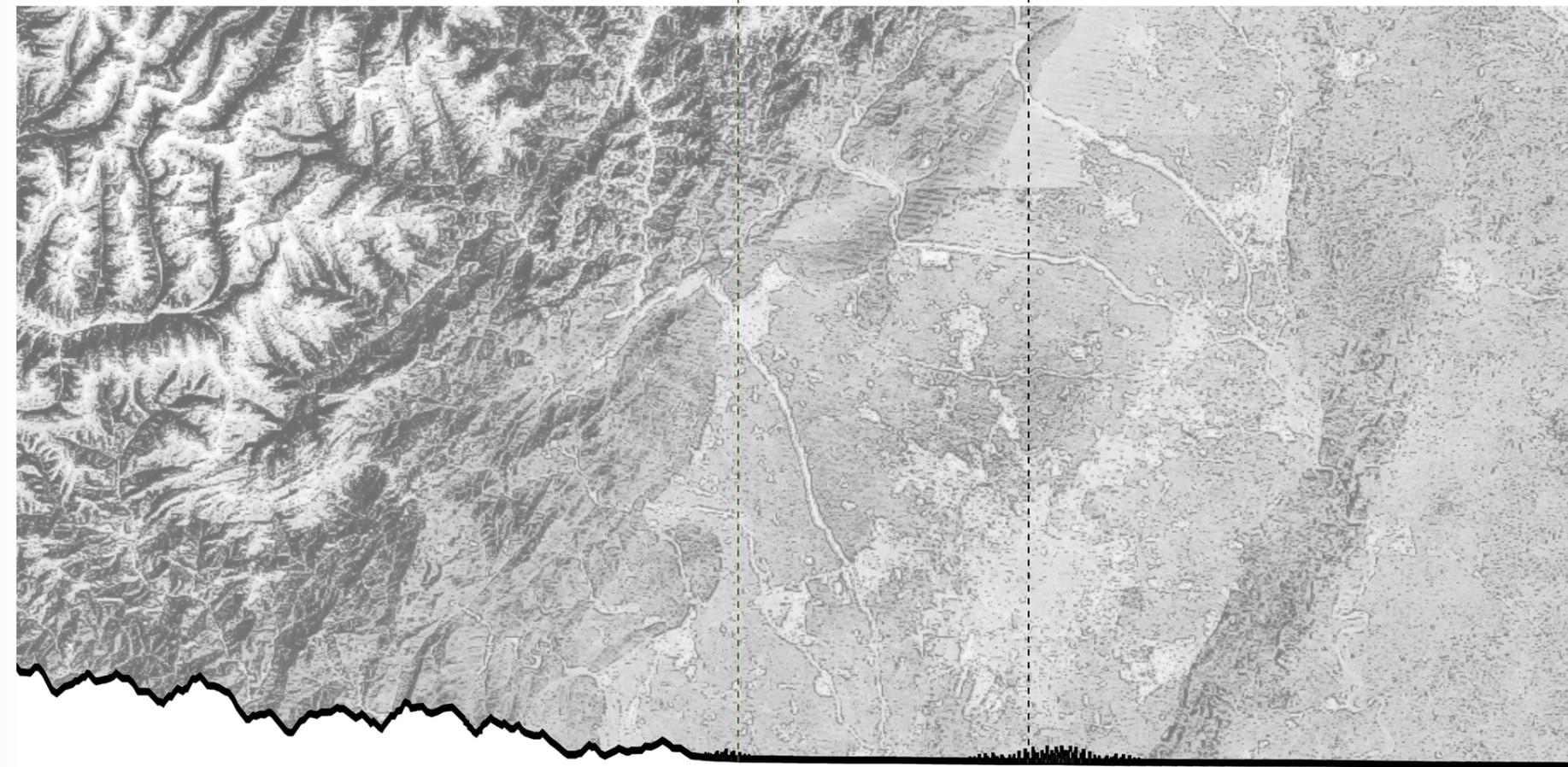
• chengdu district

DUJIANGYAN

area: 1 208 km²
 population: 657 996
 density: 545 people/km²

CHENGDU

area: 14 378 km²
 population: 14 427 500
 density: 1003 people/km²



LONGMEN MOUNTAINS

CHENGDU PLAIN

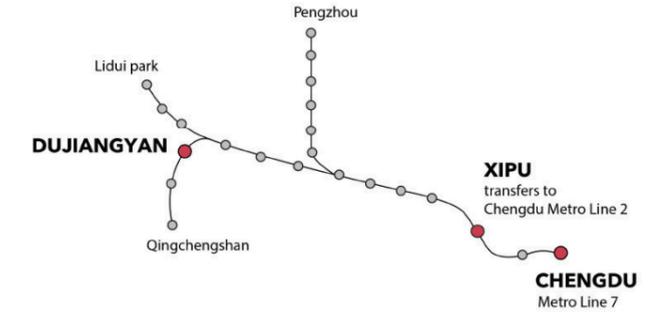
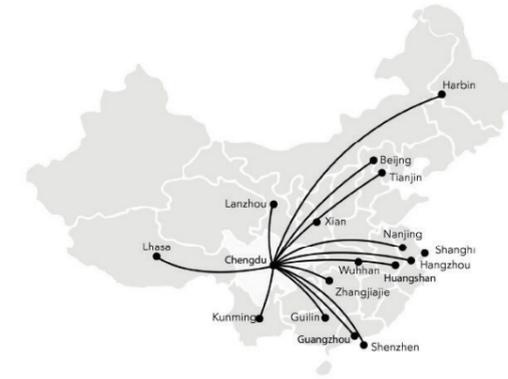
• the growth of the city



Dujiangyan has been growing faster and faster over the past years both in population and the boundaries of the city. The number of residents in 2010 was 657,996 and has risen 4.39% from 2000. With the rapid migration from rural to urban, cities like Chengdu see potential in investing into satellite cities, like Dujiangyan, to ease the issue of overpopulation in the „mother” city.

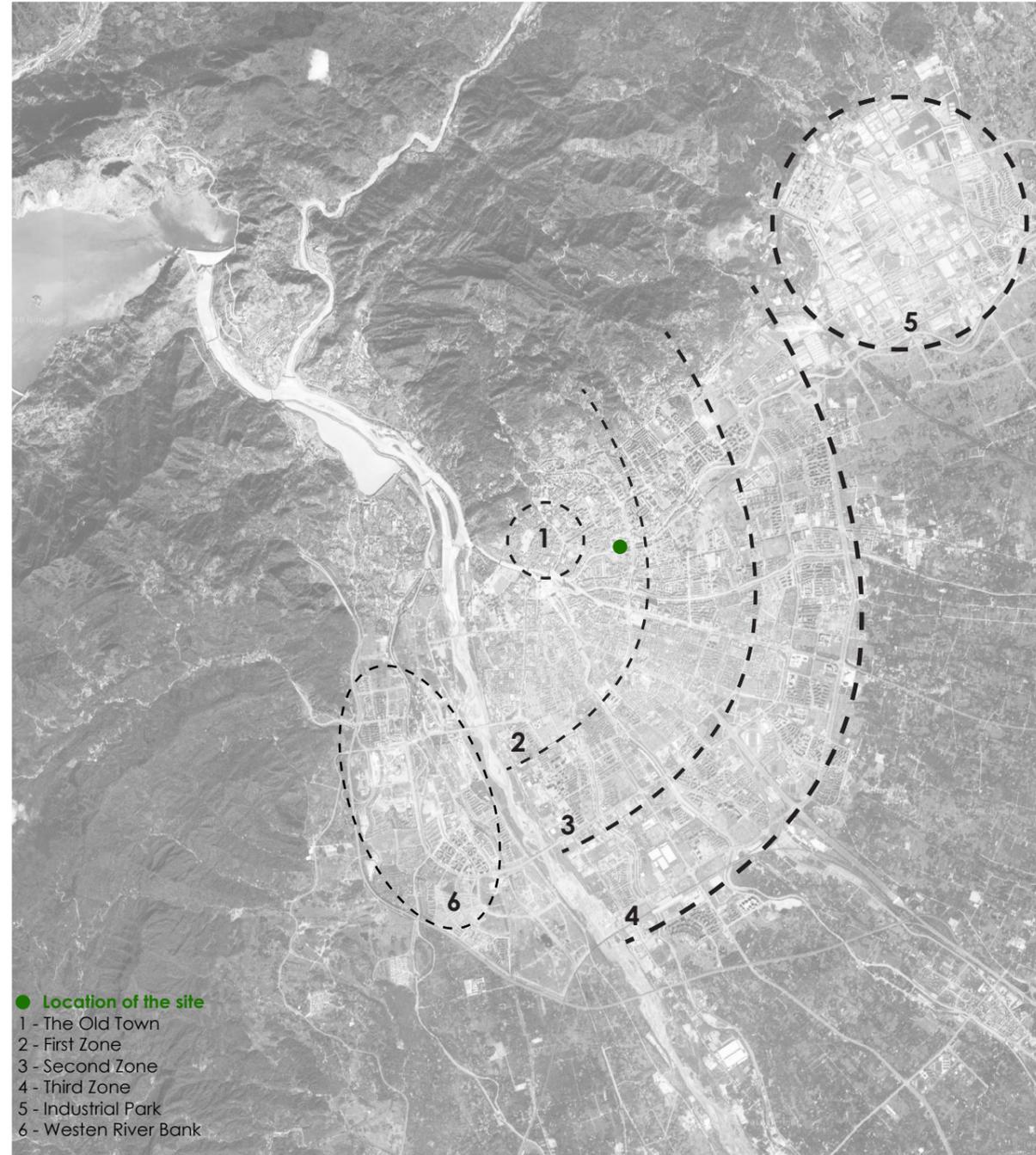
Dujiangyan has been expanding its build-up area mainly along the newly build fast-train tracks and developed a plan for a west side of the town. The city center however, remains neglected. Buildings are kept in very poor condition, of low density and without urban planning.

• transportation



Reaching the city became much easier since in 2015 a fast-train connection was opened between Chengdu and Dujiangyan. There are more than 20 stations build but not all of them are yet in use. This connection is highly important in allowing the city to attract more visitors, also the international tourists. Chengdu Shuangliu International Airport can be also reached in approx. 1h by car.

•dujiangyan now



- Location of the site
- 1 - The Old Town
- 2 - First Zone
- 3 - Second Zone
- 4 - Third Zone
- 5 - Industrial Park
- 6 - Western River Bank

Like most of the cities in China, Dujiangyan was expanding the city lines by adding ring roads. Based on them, city can be divided into 6 districts, each with a different character, building condition or function.

•the Old Town

After the construction of the Irrigation System it was necessary to establish the 'passageway' which grew to be Guanxian county, now oldest part of Dujiangyan. It is considered a starting point of 'Royal Way', leading up in the mountains, through temple complex, to the Irrigation System.



Gate to the Old Town, Dujiangyan



The Old Town, Dujiangyan

- first zone

1. Mostly low-rise and multi-storey buildings
2. Buildings have been in use for a long time and are in bad condition
3. Mixed-use functions



12 First Zone, Dujiangyan

- second zone

1. Mostly multi-storey buildings
2. The quality of the buildings has been improved, compared to the Old City
3. Both old and new communities



13 Second Zone, Dujiangyan

- third zone

1. The high-rise residential area
2. Mostly new constructions in recent years, housing of higher quality



Third Zone, Dujiangyan

- Industrial Zone

Dujiangyan's development-zone was founded in 1990. Trains for transportation of goods and materials are located close to the development zone. The main industries in the area are production of machinery, car parts, software, food, pharmaceuticals and production of new materials. The ambition is in the future to move more towards environmental-friendly industries with more of a focus on tourism, cultural and creative industries.



Industrial Zone, Dujiangyan

• West River Bank

One way that Dujiangyan plans to draw in tourists is through a riverside development. This development will include an amusement park, water sports and entertainment center. The area will become the new tourist center with a tram line going through the area connecting all of the other main tourist sites in Dujiangyan.

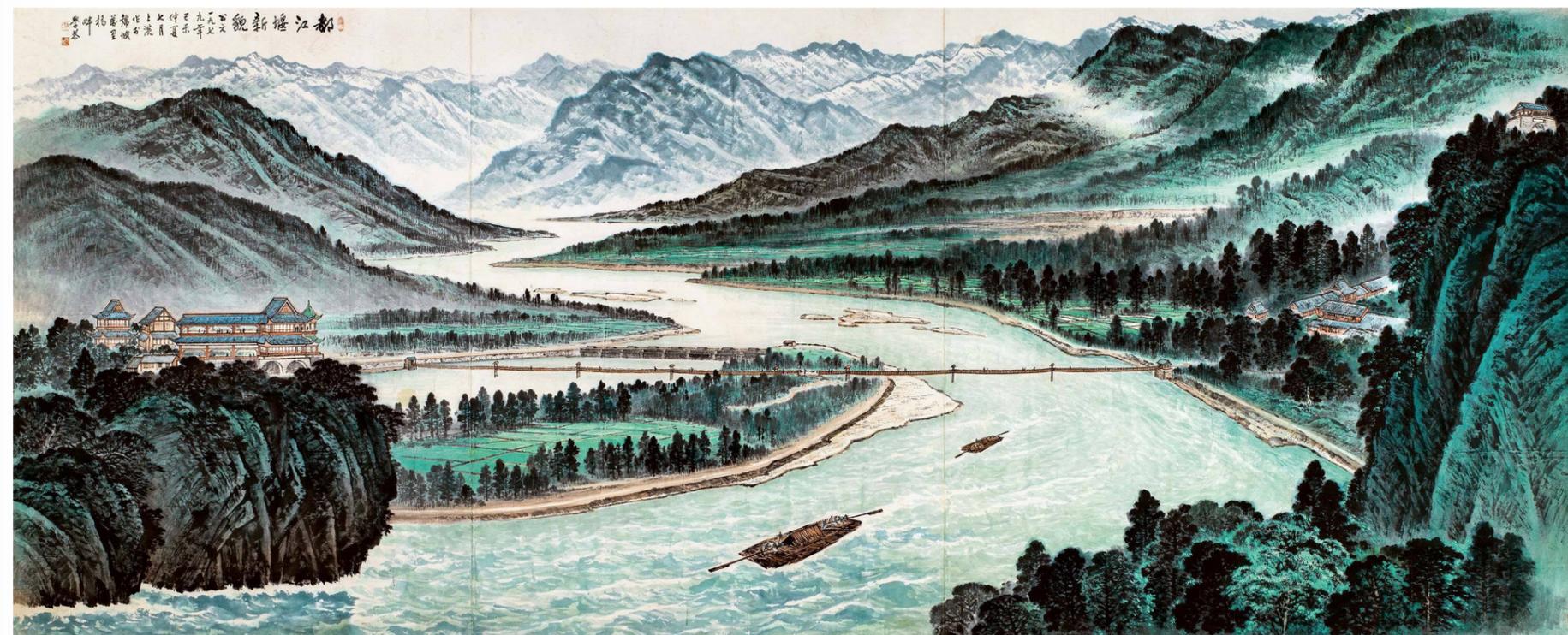


West River Bank View, Dujiangyan



West River Bank Urban Plan, Dujiangyan

WATER IDENTITY



Irrigation System, Dujiangyan

• Dujiangyan Irrigation System

Over 2,200 years ago Chengdu city was frequently flooded by the Minjiang River (a tributary of the Yangtze River). A decision was made, by a local official- Li Bing, to construct an irrigation system, which made the Chengdu Plain free from flooding until these days.

Dujiangyan Irrigation System is the oldest no-dam irrigation system in the world.

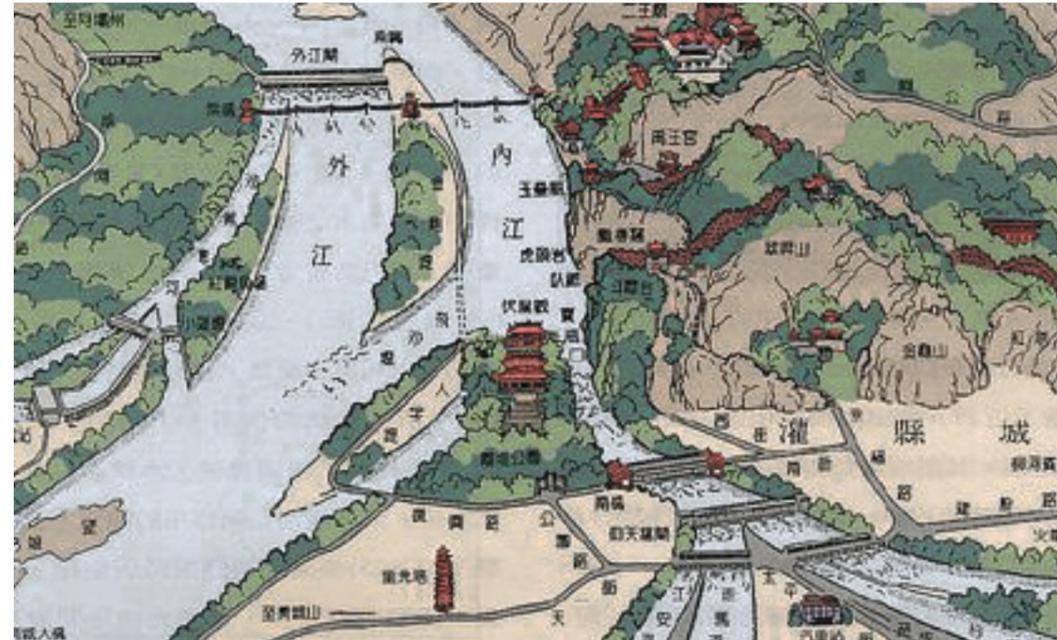
Currently, the irrigation system serves over 30 counties and cities, stretching over an area of 1,000 hectares. The original project of Dujiangyan Irrigation System survived even the massive earthquake in 2008.

The irrigation system of Dujiangyan consists of three water projects: Yuzui, Feishayan and Baopingkou.

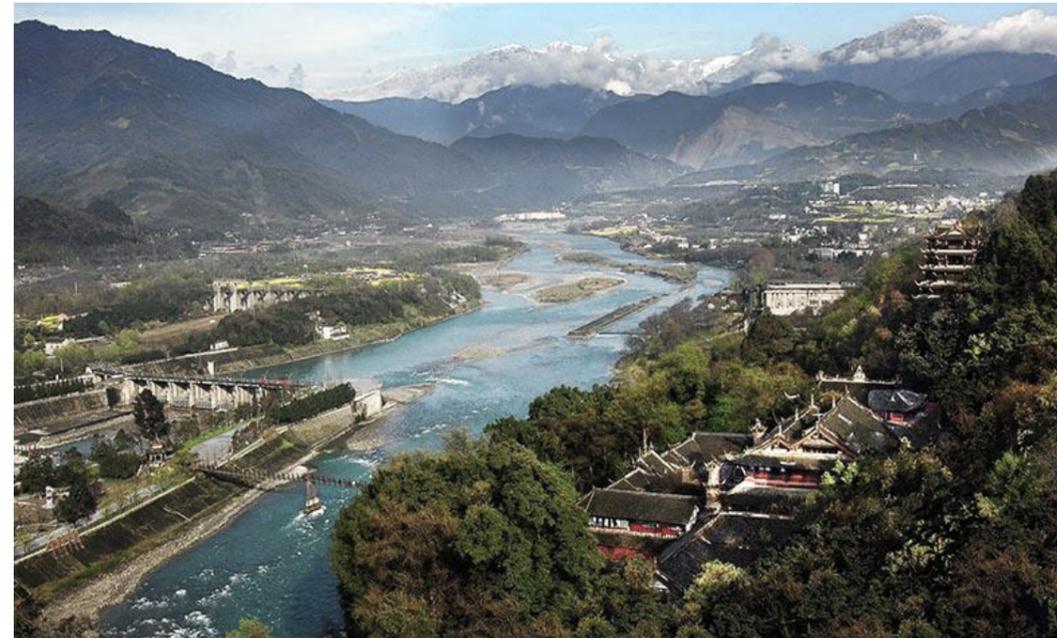
Yuzui: Yuzui is a water-dividing dike, which was used to divide the Ming River into two parts. The part on the east is called Inner River and is used in irrigation. The part on the west is called Outer River and is used to drain off the floodwaters.

Feishyan: Feishayan is a flood discharge project, and it is essential in protecting Chengdu Plain from flooding. It works as flood discharge, regulating water flow.

Baopingkou: Baopingkou is a diversion project and it works as a control valve. It can manipulate the flow of the Inner River automatically.



Scenic Area, Dujiangyan



Irrigation System, Dujiangyan

Dujiangyan has an undeniable bond with water. The city was created and shaped by the Minjiang River and until now plays an important role in controlling the flow and diver distribution.

To celebrate the anniversary of the construction of the famous Dujiangyan Irrigation System and mark the beginning of spring, once a year a Dujiangyan Water-releasing Festival is held.

Water is present also in public spaces, some of the river banks are used for recreational activities and during the night, in the city center, water becomes illuminated.



Water-releasing Festival, Dujiangyan

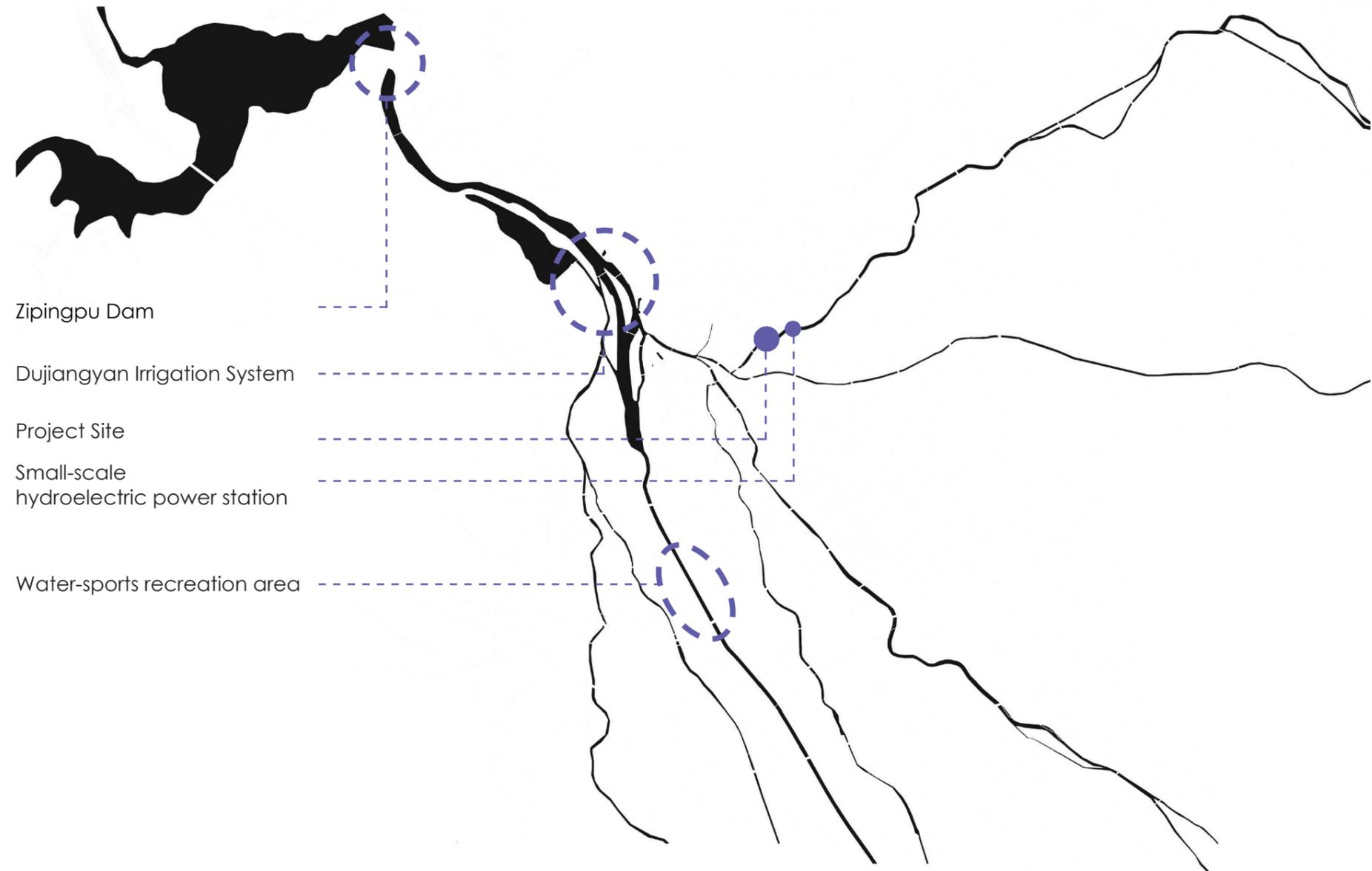


The South Bridge, Dujiangyan



Min River, Dujiangyan

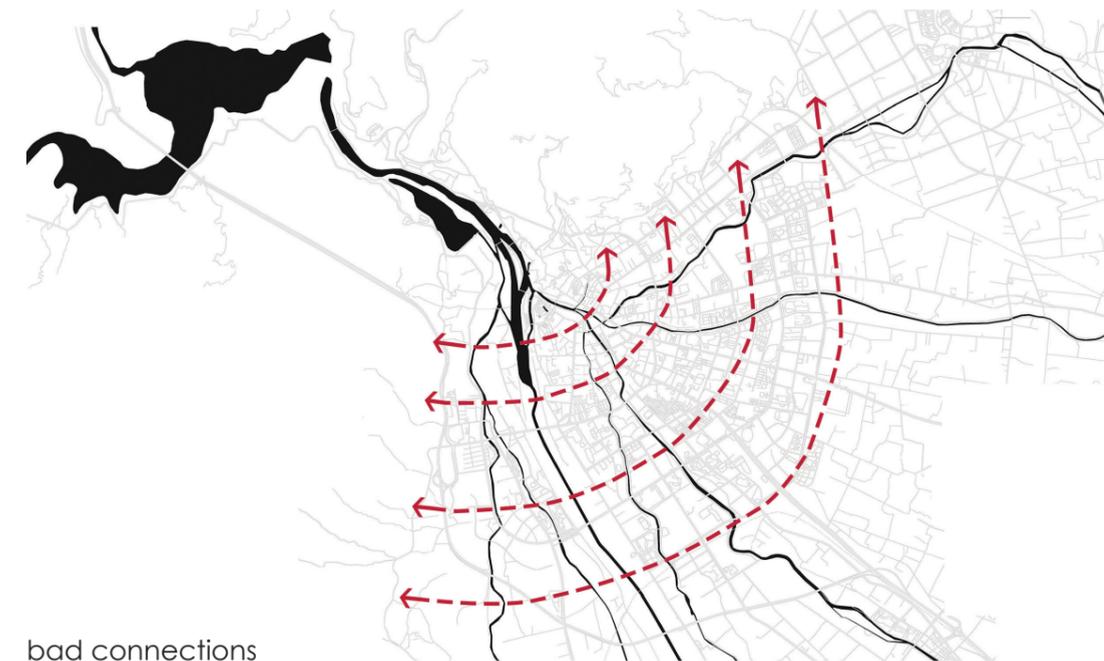
• the flow of the water



• connections



good connections



bad connections

As any city that has been shaped by the water the connections along the river are well-established. Unfortunately, the ones across the water are missing. Well connected areas are especially important to create a welcoming and vibrant city center.

TOURIST CITY

• tourism in Dujiangyan

As the travel and leisure satellite city, the goal is building an international tourist city. Dujiangyan follows the development strategy of implementing the plans of tourist promotion, improving the quality of the city, industrial transformation and opening-up and cooperation with other touristic cities. This effort is put into construction of an important travel and leisure functional zone of Chengdu and even Sichuan. Dujiangyan is relying on the radiance of Chengdu's economic circle with the population of 14 million and the primary location of western Sichuan tourist routes. Dujiangyan has vigorous tourist market with the total annual tourists of over 18 million person-time and outbound tourists of over 670 thousand person-time. The annual increase of tourists reaches 9% and the annual increase of touristic income reaches 8%.

World Heritage List

- Ancient Irrigation System system that is over 2000 years old and still functions today
- Mount Qingcheng

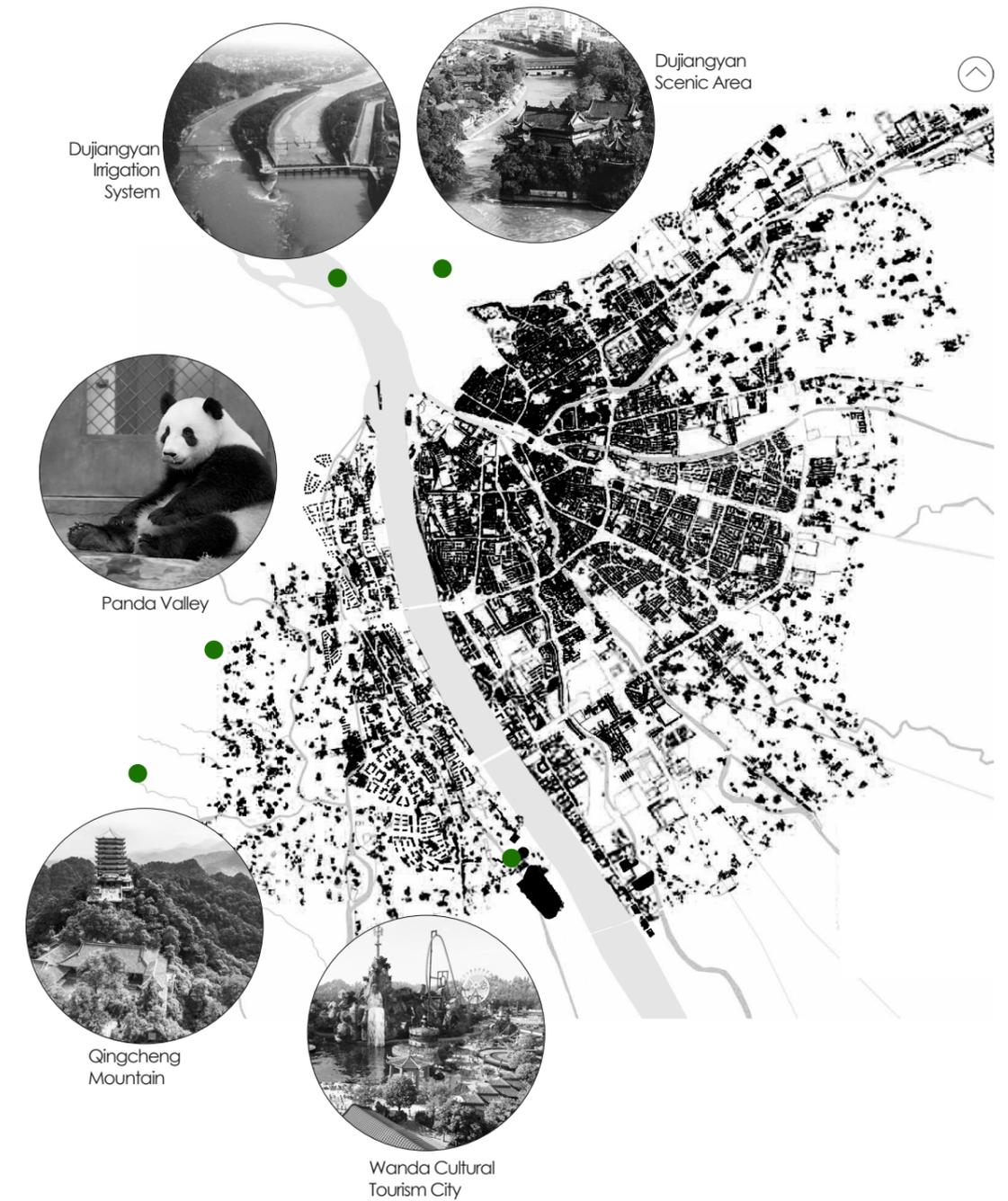


more than 14000 species of higher animals and plants including some rare and endangered species, such as giant panda, golden monkey, and dove tree

- National Award for Best Living Environment
- China's Top Tourist City
- National Hygienic City
- National Historic and Cultural City
- City with Advanced Culture
- National Landscape City
- The Most Glamorous City of China



• main tourist attractions



• Wanda City



Wanda Tourist City 1



Wanda Tourist City 2



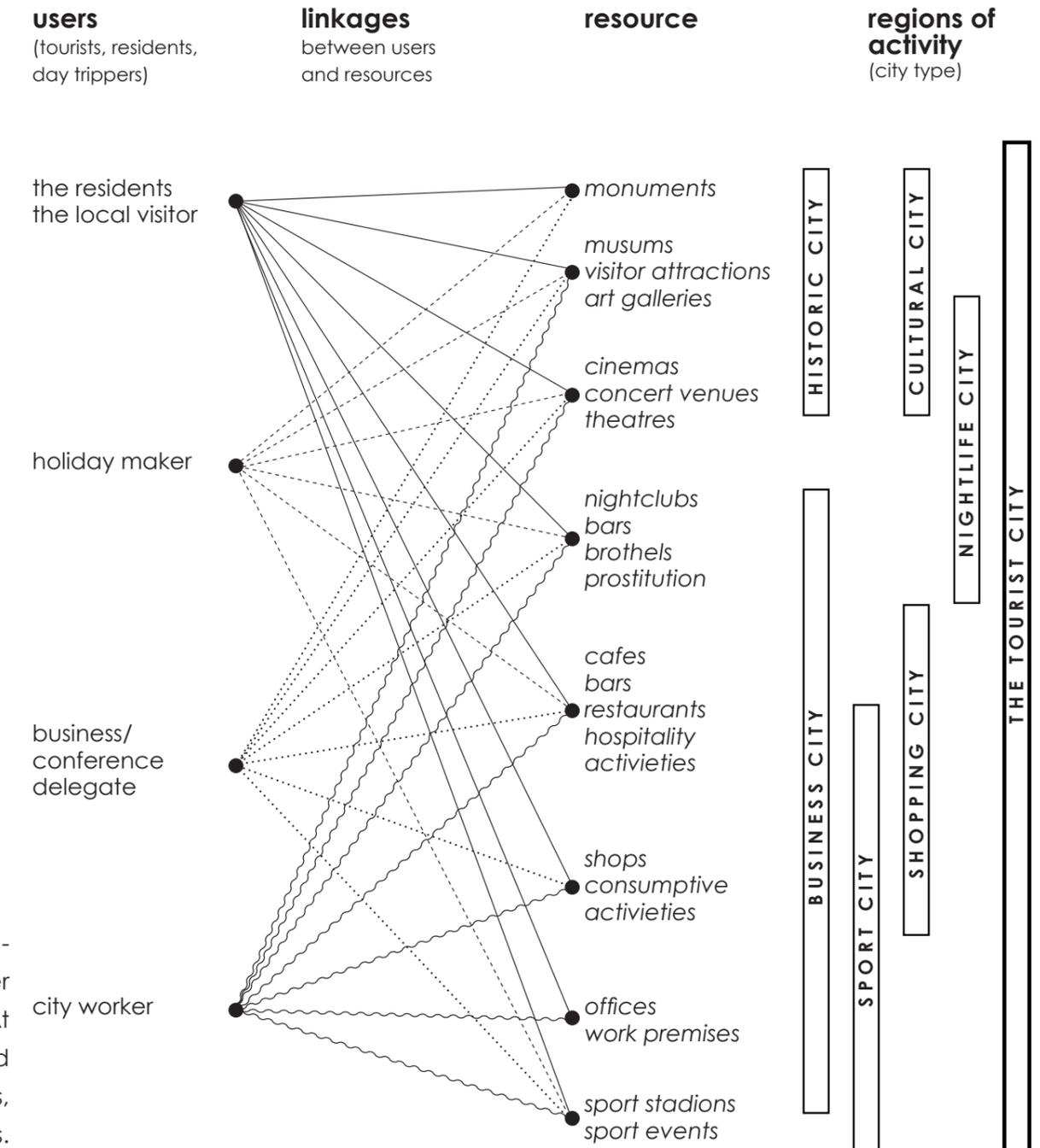
Wanda Tourist City 3

One of the big projects now being worked on is Wanda Cultural Tourism City, which is expected to cost 55 billion yuan (£6.47 billion). It will include an indoor ski resort, an outdoor theme park, a shopping mall, theatres, a cinema, hotels and a bar street. The project is expected to be operational by 2019.

It will be able to host 30 million visitors every year and generate revenue of 5 billion yuan a year. The project is also expected to create 30,000 jobs, Wanda Group says. Its chairman Wang Jianlin said building the complex in Dujiangyan reflects his confidence in Chengdu's future as a global tourist destination.

• tourist city links

As the city develops into a touristic destinations it will have to gradually expands its offer in the direction that the city see most fit. At the moment Dujiangyan can be considered historic city with rich resources in monuments, but even in this type it lacks cultural industries.



•museums in Dujiangyan

- Dinosaur Museum
- Dujiangyan Irrigation System
- Dujiangyan Corkscrew Museum
- Dujiangyan City Museum



Dujiangyan, right now, lacks cultural industries. Existing museums are limited, traditional and not engaging. Their offer doesn't attract people and the institutions are not playing a part in the development of the city.

THE ROLE OF THE MUSEUM IN THE CITY



Museums, as a place where aesthetic accomplishments of a country are gathered and displayed, has had consistently an important position in the urban space in a city. Dismissing the sort of collections that are exhibited (ancient, contemporary, modern), a museum is responsible for establishing and maintaining the identity.

Investment like this influences the urban context in a physical way. When a museum is placed into a particular urban design, it deals with a given building, yet in addition it effects on its environment (access roads, green spaces, art pieces in public areas) and it has an impacts on social conduct (new public spaces created by the museum for the local dwellers and visitors).

The institution has an impact on the image of the city and has a potential to become a trademark of the city, strengthening its identity. The most dramatic change that the city

experienced after building a museum was a case of Bilbao in northern Spain. The „Bilbao effect” or the „Guggenheim effect” transformed a little known city into a touristic destination. Guggenheim Museum, designed by Frank O. Gehry, was opened in 1997 and located in the post harbor district, became a symbol for cultural activity in the urban area. However in this case, the fame of the museum is mostly owed to the famous name of the architect and the shape of the building.

The next case of influence on the surrounding is the museum of contemporary art Tate Museum in London. An old brick building- power station from 1963 was adapted by an architectural team Herzog & de Meuron for the need of the new function. It was opened to the public in 2000 and since then became one of the most frequently visited museum of contemporary art in the world. As London has a well-established cultural indu-

stries, the aim of the project was to activate the southern bank of Thames. The district, even though located in the center of London, had a small power of attracting people and was in need of revival.

Success stories like of Guggenheim Museum or Tate Museum encouraged a lot of cities across the world to invest in cultural sector. Their hope was to a new investment as a catalysis for economic development. However, many of them failed in thinking that the cultural capital will be imported on site with the project rather than exploring the existing assets of the city like it's identity or local communities. It shows how important the regional context is, as not only a good-looking architecture can make the investment successful.

- Roles of the museum in the community

1. Visitor attraction

The museum is inviting guests and giving them an outline of what's exceptional and one of the kind about the place.

2. Catalyst for change

The museum exists to convey a message that will inspire people to think about their relationship to others or to the surrounding differently.

3. Center of creativity

The visitors are engaging in activities where they get to make and experience things. It's not the museum but rather visitors that determine the outcomes.

4. Memory bank

The museum showcases aspects of the history, cultural tradition, of a place, person, etc.

5. Storyteller

The museum translates for the visitor the history of a place, cultural tradition, person, cultural tradition, etc. in ways that connects the past to the present--and sometimes to the future.

6. Attic

The museum stores pieces, that might otherwise have been rejected.

7. Treasure trove

The museum preserves important, meaningful, and/or unique pieces.

8. Shrine/hall of fame

The museum respects a particular group or individual and understands that the guests share an interest in a topic.

9. Exclusive club

Even though it is open to all, the museum is primarily intended for people with certain passion and interest in the topic.

- 'museum boom' in China

China has been experiencing a 'museum boom' with a rush to build cultural buildings. Since 1978, over 3,500 new facilities have been open. Even though public museums have not been a traditional part of Chinese culture, the interest rises as the China's growing middle class becomes more involved with art and design. Chinese officials are taking inspiration from big Western cities like New York or London- all that have important museums, and want to show off Chinese ancient culture to locals and foreigners.



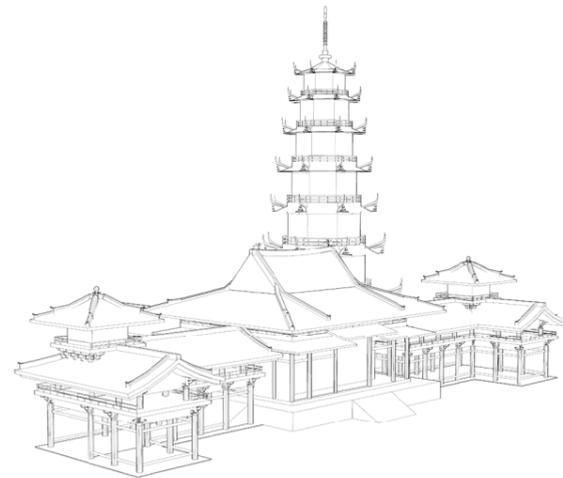
This sector is now also being invested privately what upped the number of buildings even more in the last years. However, many of those buildings are just a whim of private investors with a big ego and a desire to 'buy culture'. It led to the creation of many poor-quality buildings, sometimes in the middle of nowhere without proper exhibits. Little consideration goes into the actual need for the building or what will be displayed there. This makes 'museum boom', still, just partially successful.

FINDING FUNCTION

Dujiangyan is a city that exists because of water and that identity has been maintained for a long time. With the strong touristic direction that the city has taken that identity should be protected and even amplified.

However, with the upcoming Wanda Cultural City project Dujiangyan is in danger of becoming just another 'Disneyland' city.

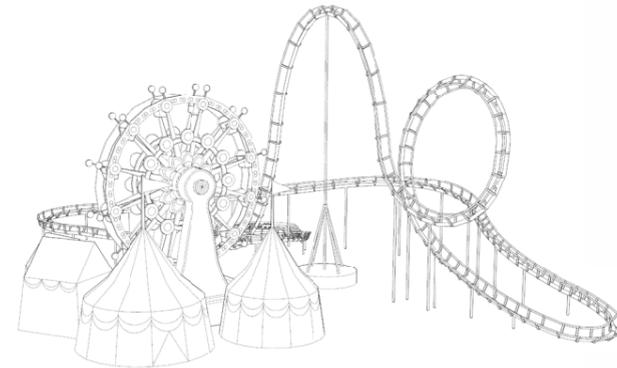
Placing a big and flashy amusement park in the green city of 2000-year-old history, creates a big contrast in the character of the city and it should be balanced with the function that bridges those two images.



historical attractions



identity of the city



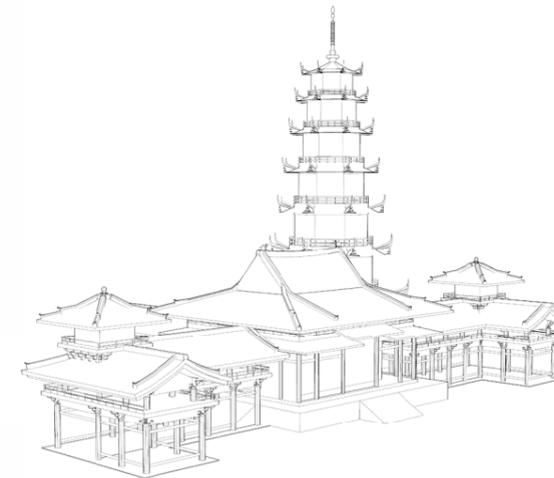
amusement park



fun

water science center - a bridge between entertainment and science

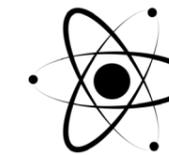
I see the Science Center with water theme as a connection between the past and future character of the city that would accentuate the identity of Dujiangyan even more. Working with the context of the city and the context of the project site this investment can stimulate the development of the districts where it is designed. Water Science Center is a museum that engages with the local communities, works with schools and is actively involved in advertising itself.



historical attractions



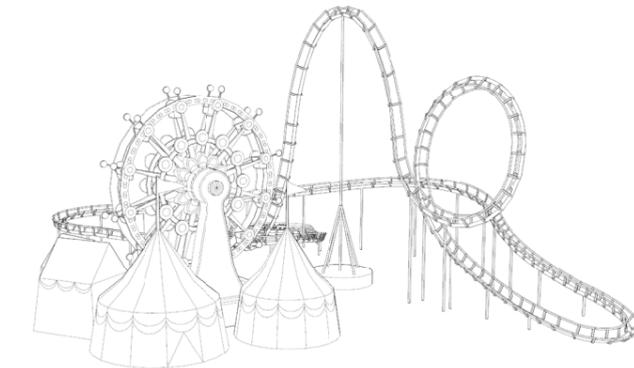
identity of the city



Water Science Center



knowledge + fun

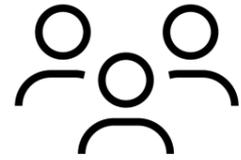


amusement park



fun

- why science center?



Science centers provide learning opportunities to the communities and offer people of different backgrounds and ages. They give an opportunity to ask questions, discuss and discover. Visit to the science center will make you come across practical exhibits. Being there, you can go to a demonstration, watch performances, take part in workshops, and even take part in a debate about current problems. During this process you will experience the pleasure of learning, whether with family, friends or on your own initiative. In science centers, everyone is welcome to participate.



Science centers give a firsthand experience and the opportunity to develop an instinct about the natural world. In science centers, people can feel or experience things in conditions they are more likely to understand. That is why schools can depend on science centers to provide unforgettable field trips and auditorium plans, practical, educational program, scientific sets and even coaching for teachers.



Science centers strengthen curiosity. Exhibits that are appealing or unexpected and even entertaining can inspire visitors to discover new concepts and ideas. For some of those visitors, the interests encouraged by science centers have turned into a passion for learning and the beginning of a career in teaching or scientific research.

PROJECT SITE

- project site location



Project site is located in the city center of Dujiangyan. It can be easily reached within 15 minutes walking from the main train station and within 10 minutes from the Old Town. The majority of buildings are 4-5 stories high housing blocks with mixed functions in the ground floor.

•water in the city center







•earthquake



A powerful earthquake of 7.9 magnitude has killed approx. 87,150 people in 2008. It became second costliest earthquake in history with estimated loss of 191,913m\$ and 4,800,000 people forced to leave their homes. With the epicenter only 32km of Duijiangyan the city has suffered greatly. The site for the project until now reminds of the tragedy. Buildings by the river have been destroyed and replaced with unorganized green spaces. In the high grass, there are still remains of buildings that have not been cleaned up.

As the city was growing in population, new dwellings were developed on the outskirts of town and the city center was left with no plan for revitalization. Currently, as the city is eager to attract tourists, there is a movement to take care of the city center with buildings in proper condition and high quality public spaces.



project site area, 2005



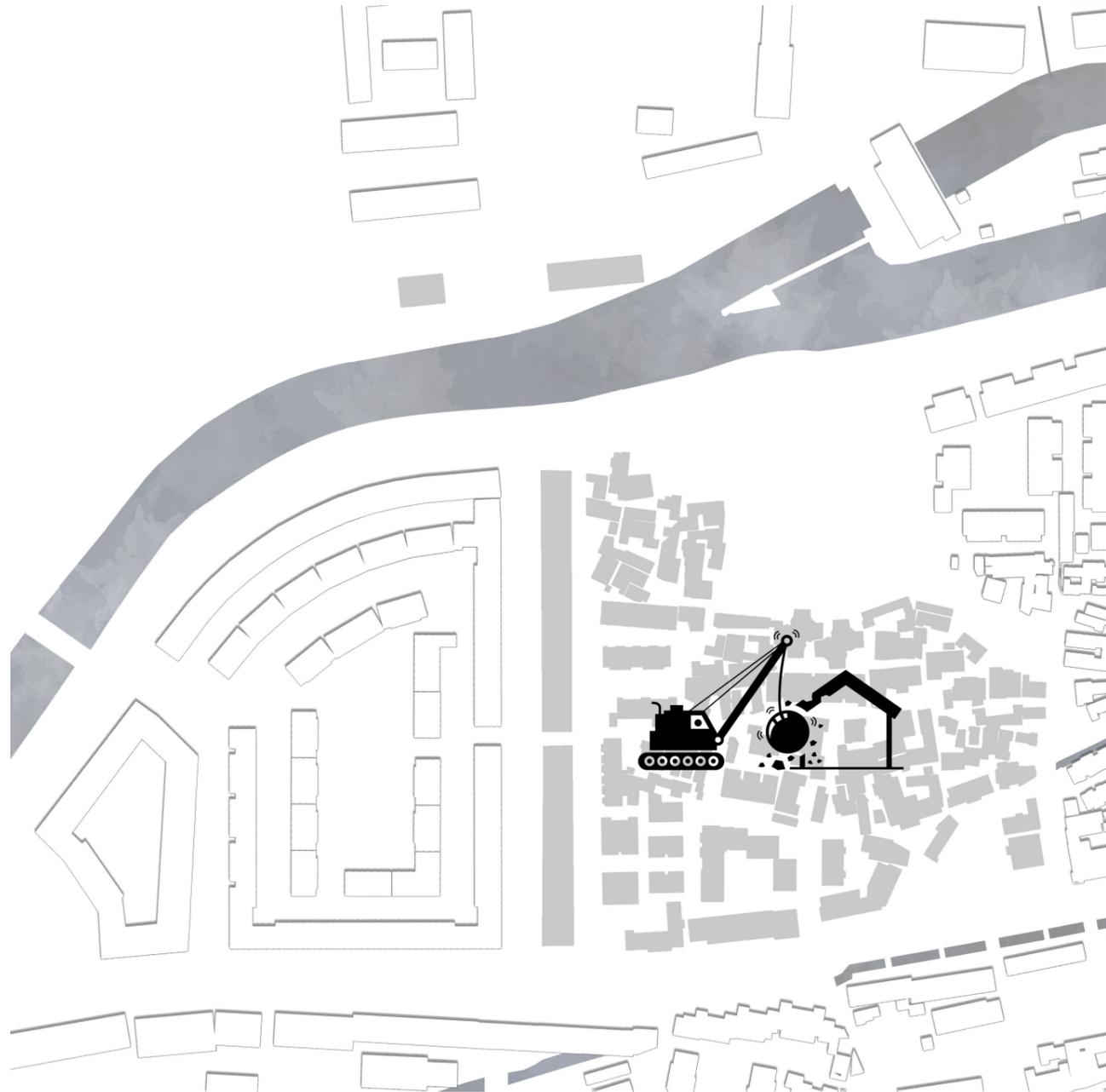
project site area, 2017

•demolition

In order to proceed with the design a large area has to go through demolition. Most of the buildings are 1-2 stories high, wooden and clay cottages or 4-5 stories high, concrete buildings in poor condition and with damaged construction frame. The buildings on the site are not worth preserving.

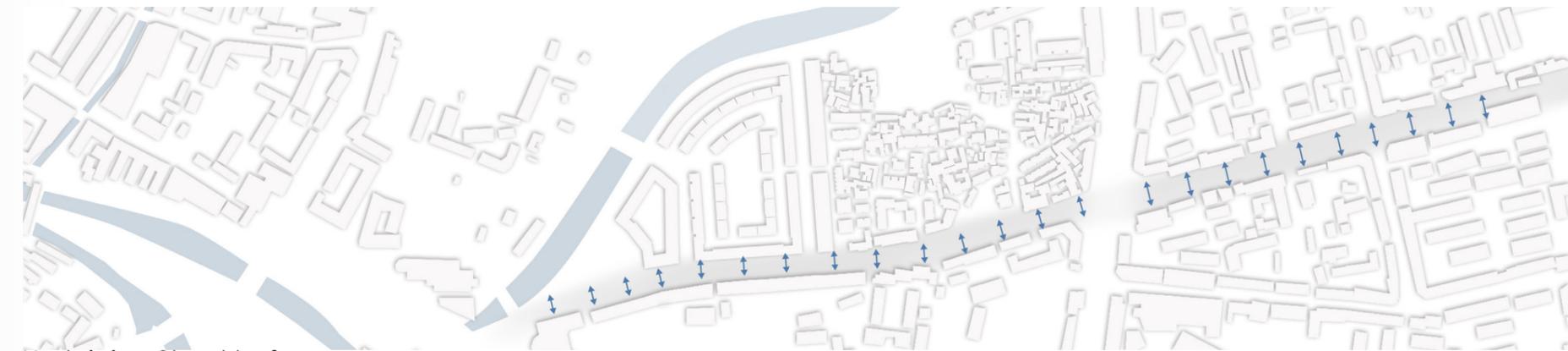
The city plans to rebuild the area and most of the people from the surrounding buildings were already given eviction notice.

What can be expected is a district of much higher densification and that is why in my proposal the cleaned area will be designed as a green-park space for the dwellers of the new Dujan-gyan city center.

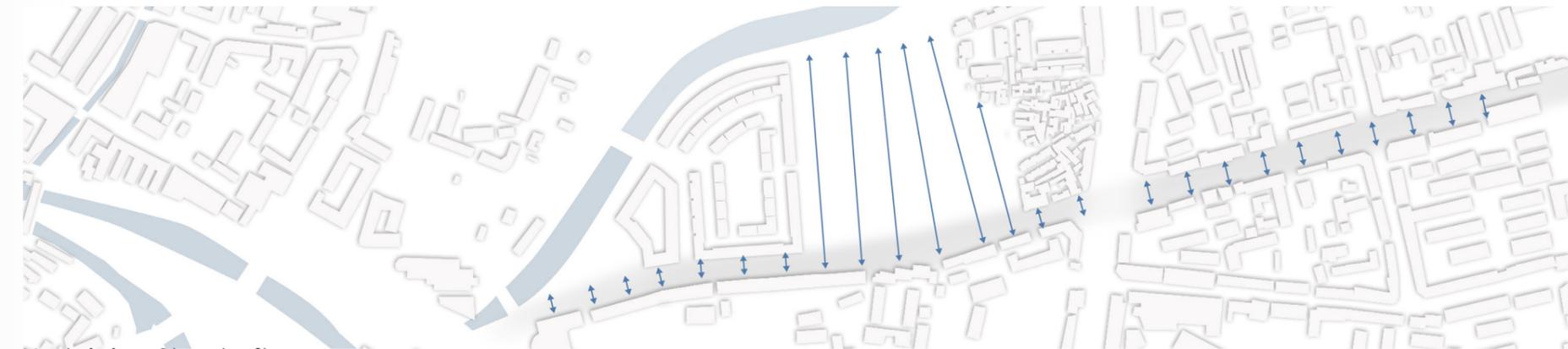


•Yudaiqiao Street

The south border of the site is set by the Yudaiqiao Street. It is a busy connection with commercial ground floors. The decision to demolish buildings on the site will influence the streetscape by making an opening in the close street frame. It will make the Water Science Center visible for the people passing Yudaiqiao St.

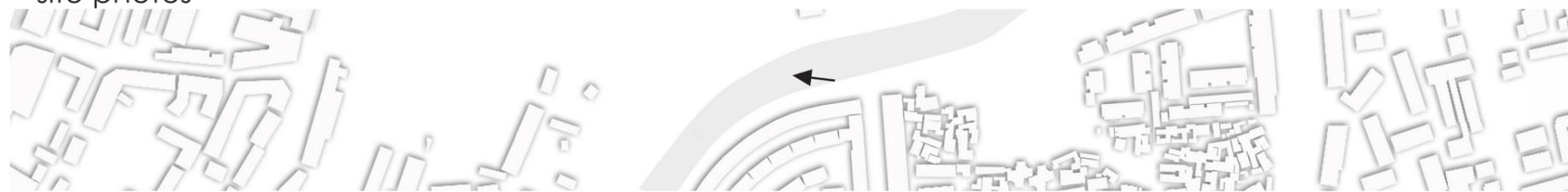


Yudaiqiao Street before

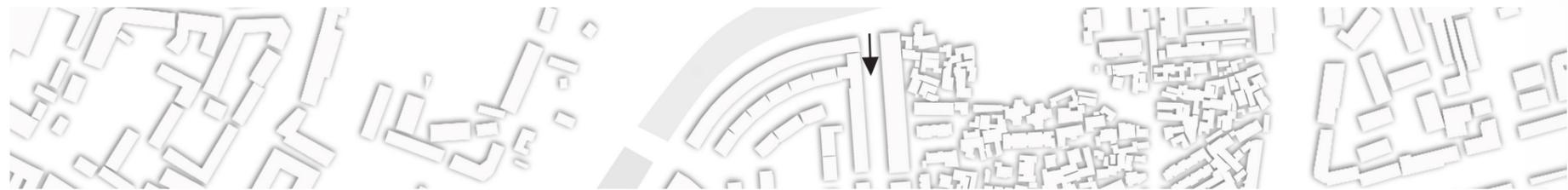


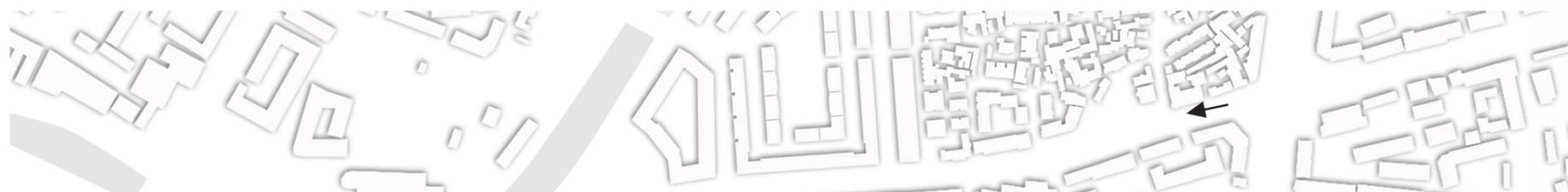
Yudaiqiao Street after

•site photos



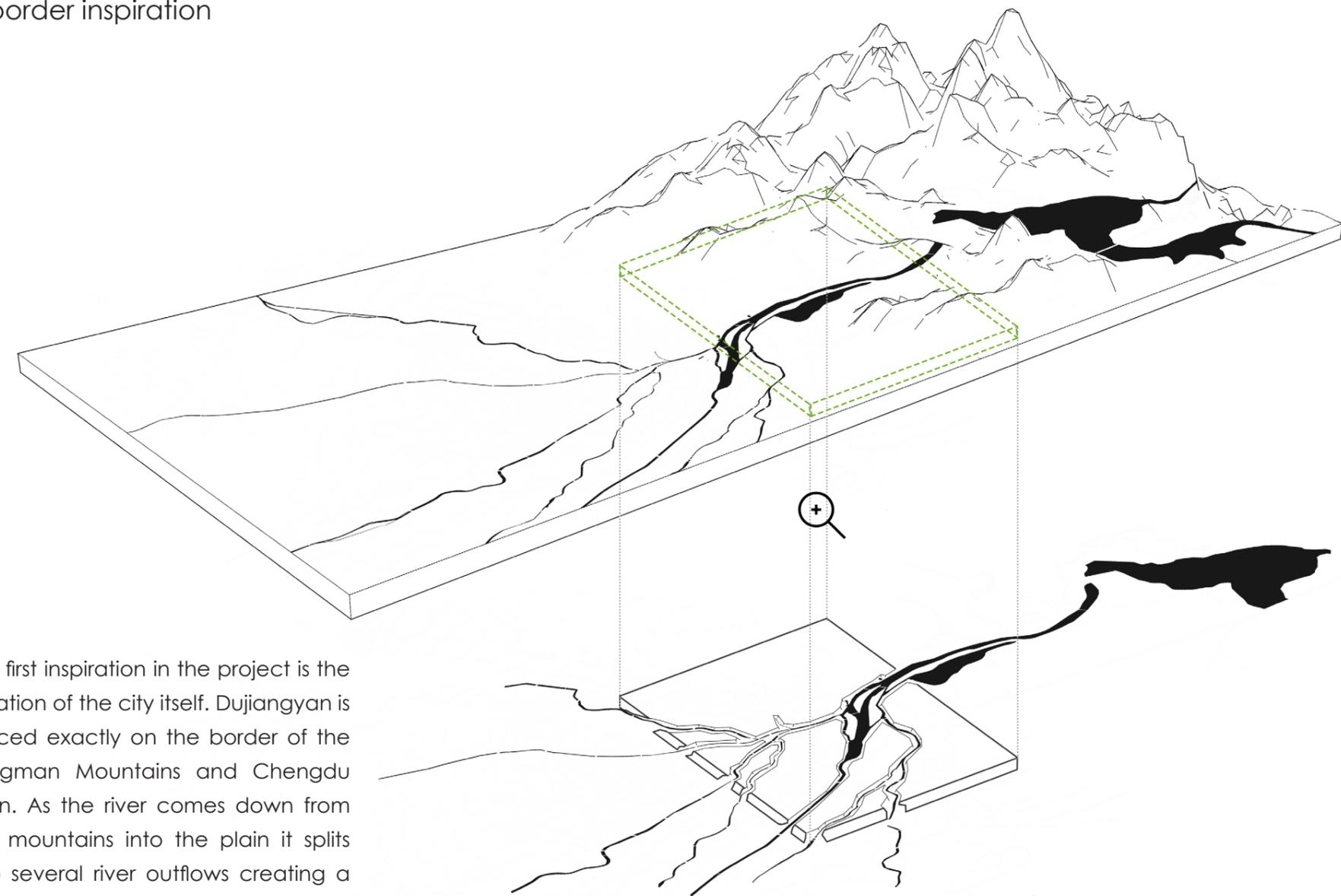






DESIGN PROCESS

- border inspiration



The first inspiration in the project is the location of the city itself. Dujiangyan is placed exactly on the border of the Longman Mountains and Chengdu Plain. As the river comes down from the mountains into the plain it splits into several river outflows creating a delta land. This delta shapes the city of Dujiangyan.

•bridge inspiration - Dujiangyan

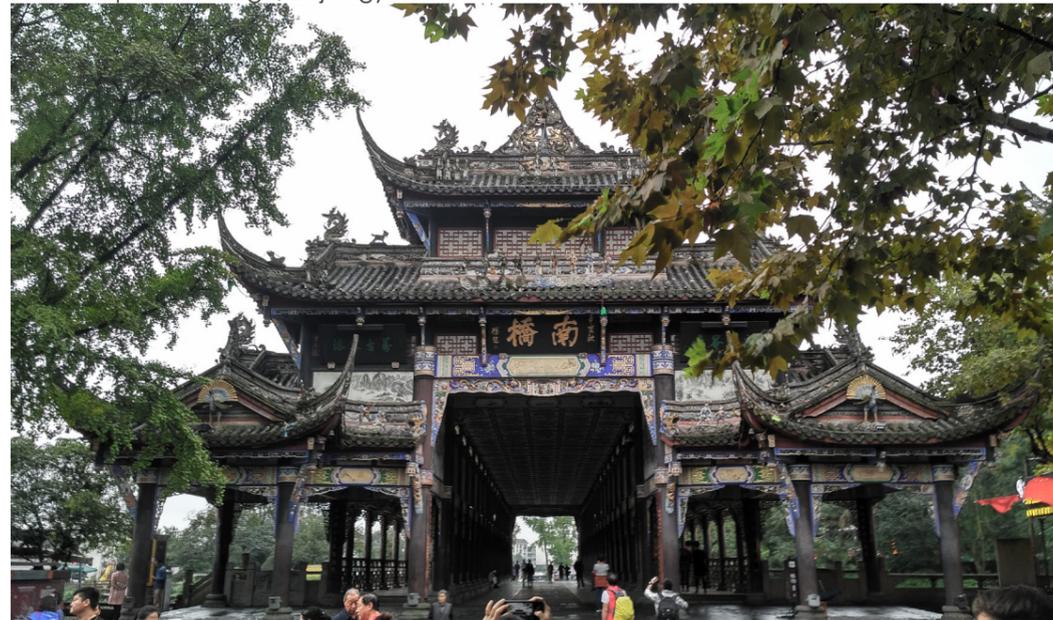
Old Town of Dujiangyan is a home for some breathtaking examples of bridges. Anlan Suspension Bridge is located in Dujiangyan Scenic Area and is known as one of the Five Ancient Bridges of China. It was constructed with bamboo strips and it is stretched through the whole Min River. Historians consider it to be one of the engineering marvels of the ancient world.

The South Bridge crosses the river in the heart of the Old Town of Dujiangyan. This gallery bridge is used now only by pedestrians. It became a street-like public space with streets stands and local performers.

Those examples made me realize that the way of crossing the river is important in the city of Dujiangyan and my bridge should provide a unique experience as well.



Anlan Suspension Bridge, Dujiangyan



South Bridge, Dujiangyan

•bridge inspiration - other

I expanded inspiration on to examples of bridges in other places as well. The gallery bridges, common in China, inspired the idea of a covered passage going over the river.

For an inspiration for multiple connections made by a bridge I looked into the Triple Bridge in Ljubljana, designed by Jože Plečnik. Three separate constructions, with different functions (two pedestrian links, one street), are considered as one bridge.

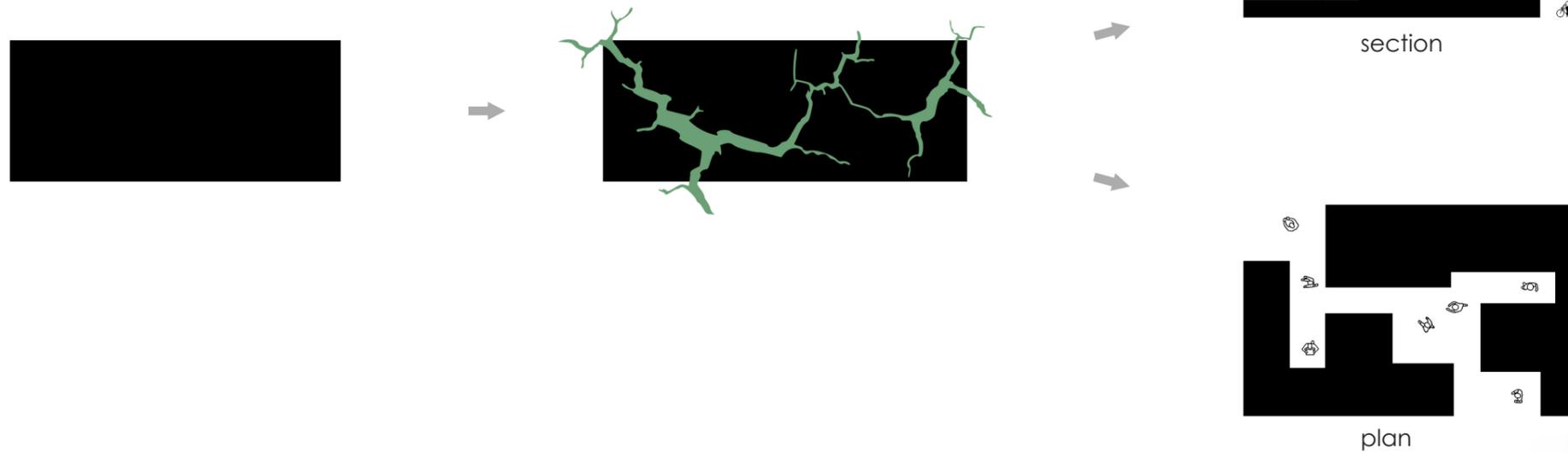


Ancient Wind-Rain Bridge, Xijiang Hmong village



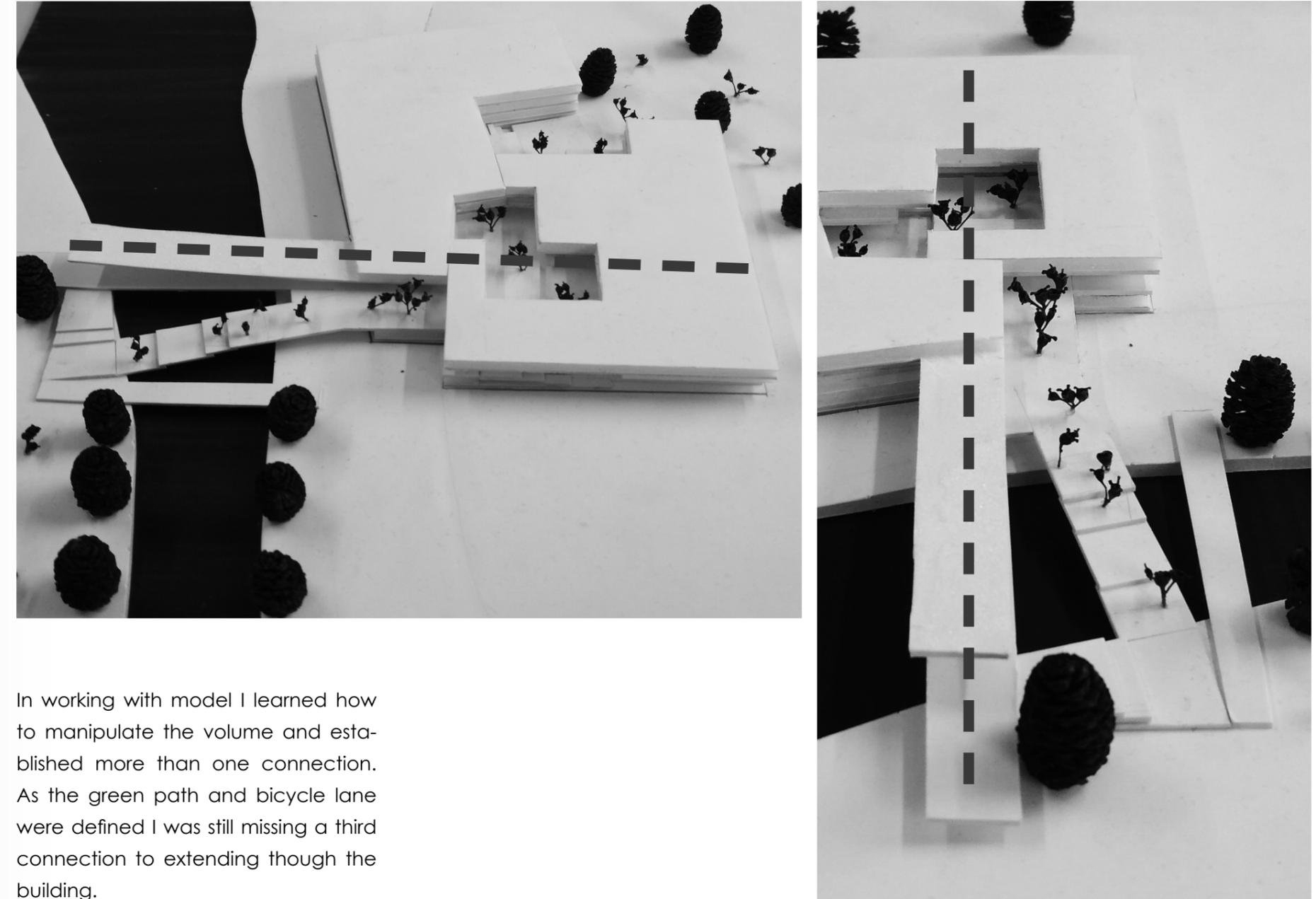
The Triple Bridge, Ljubljana

•volume concept



The concept for the building is to take a simple block and break it, like the water erodes the rock. In this case, a green link forms spaces in the volume.

•sketch model



In working with model I learned how to manipulate the volume and established more than one connection. As the green path and bicycle lane were defined I was still missing a third connection to extending through the building.

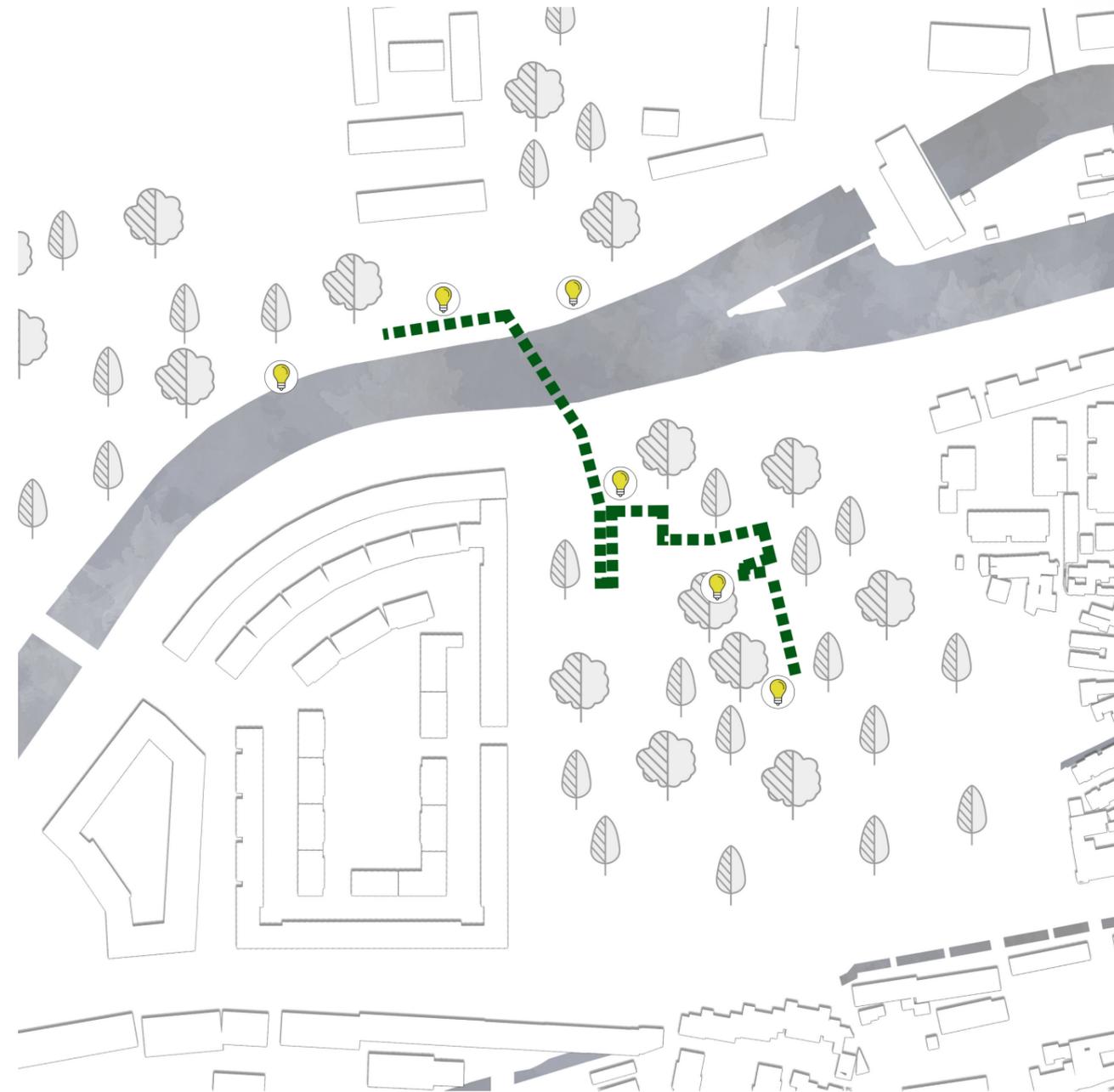
•green link



The main connection over the water is the extension of the outdoor, public space. It bridges two main green areas over the water, over the street and though the building.

It follows on different levels, making the passage possible during the heavy flow season.

In order to activate the public spaces and as a promotion of the museum, different hands-on exhibitions have been located along the path.



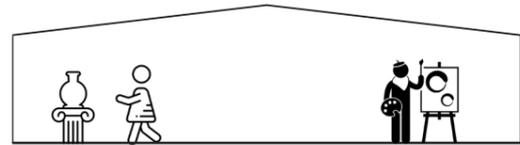
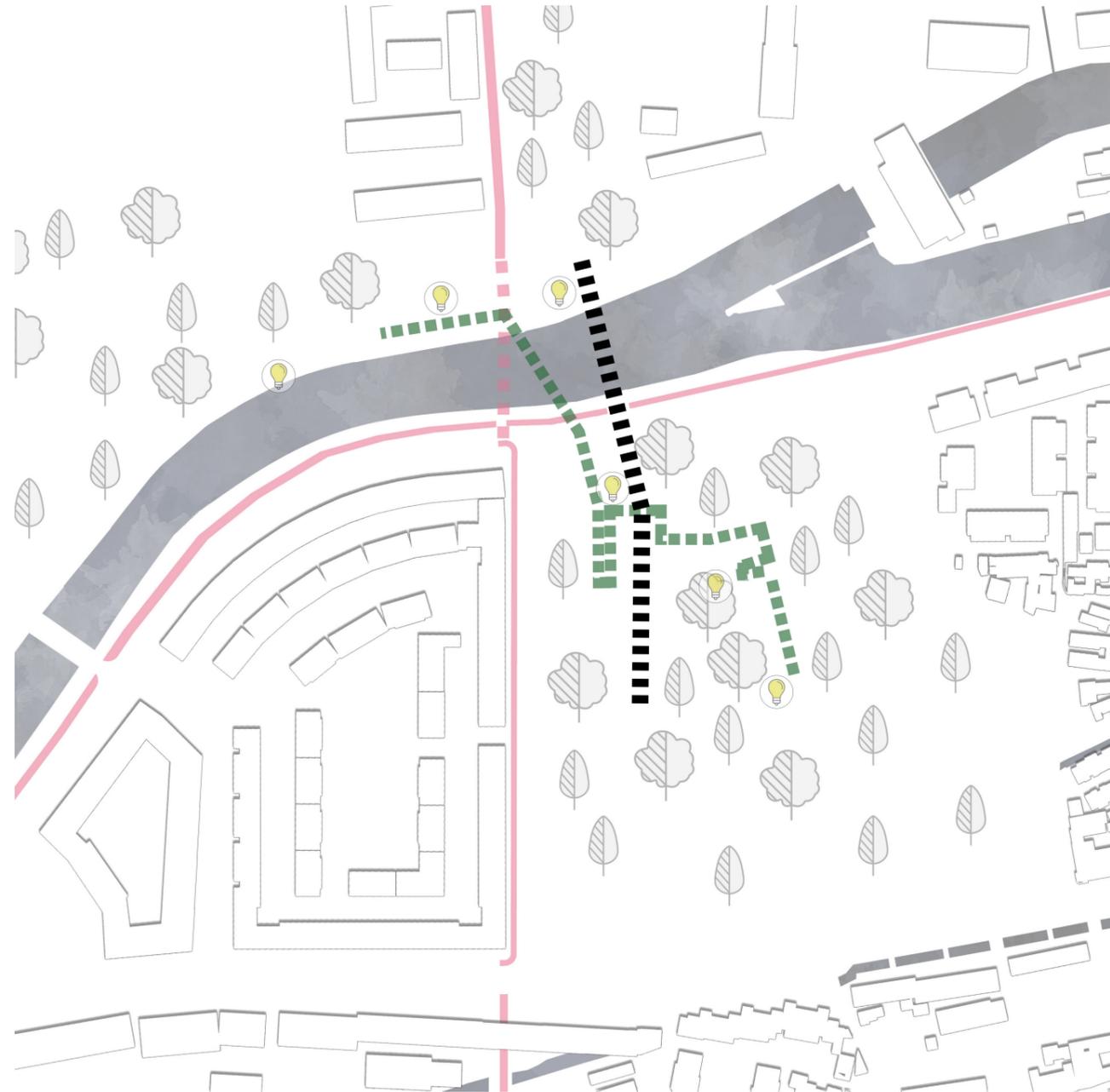
•bicycle path



The second connection over the water is the fast passage- bicycle path. It becomes a network connecting north-south and east-west. It is located on the street level and is in risk of seasonal flooding with fast river current and heavy rains.



•indoor passage



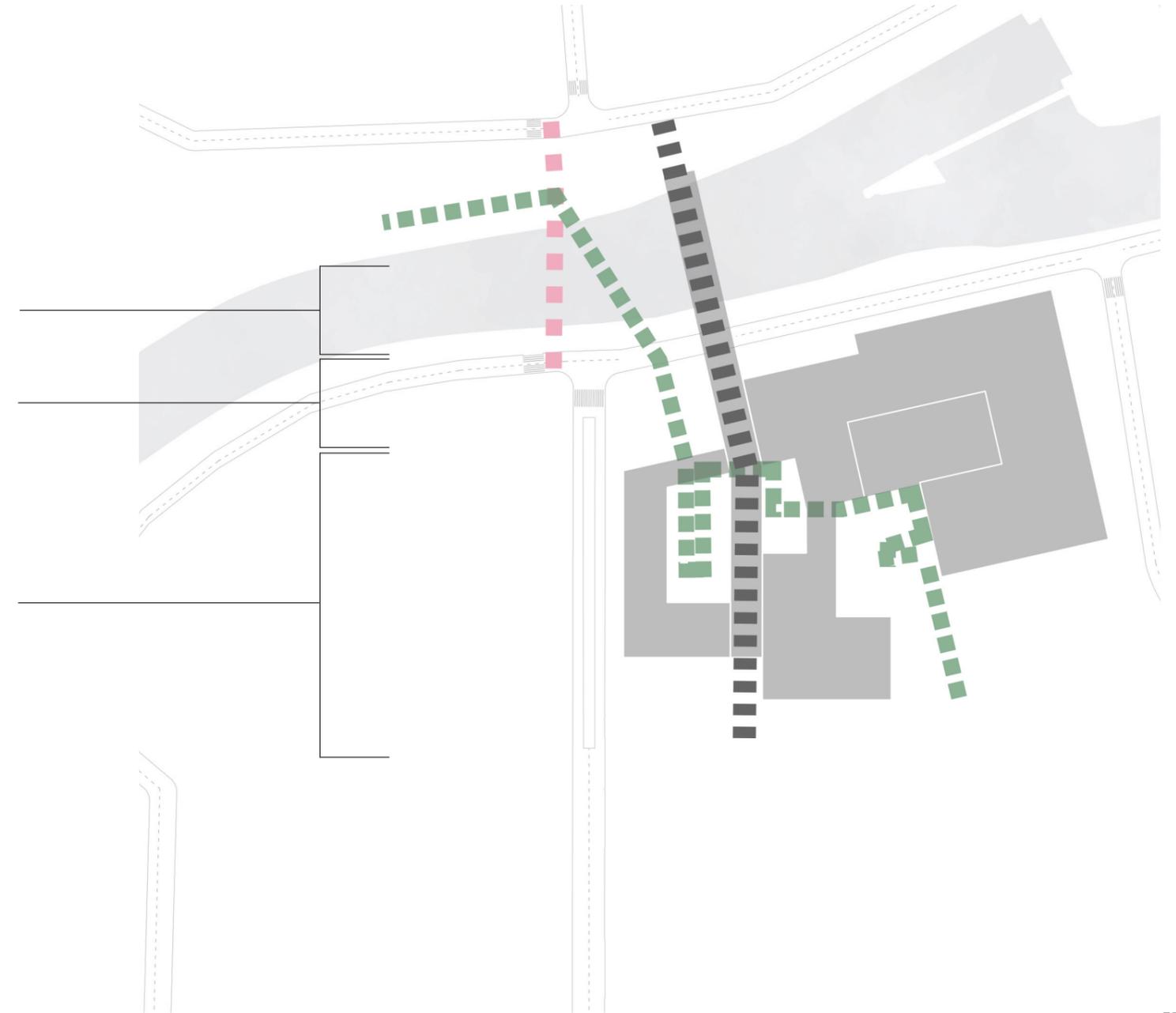
The third connection over the water is the build structure. This indoor passage is fully transparent with the surrounding and will be the main connector between functions in the building, like an indoor passage-street.

•the value in movement

going over the water

going over the street

going through the building



•the flow of people



the flow of people /before/

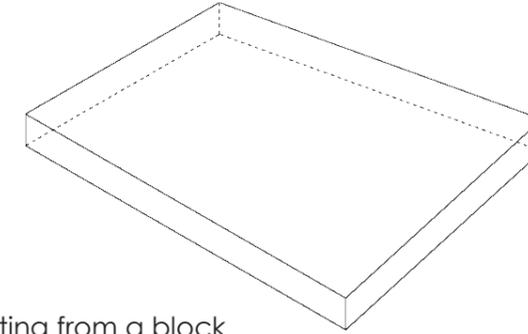


the flow of people /after/

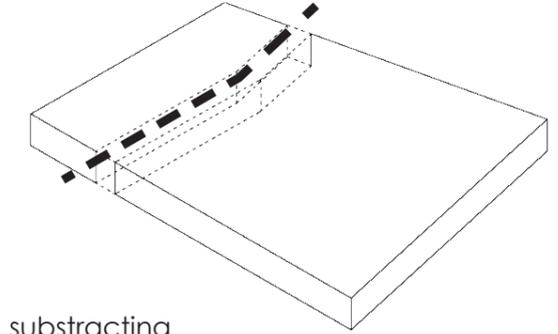
The main paths that people are taking currently follow the main roads in the city center.

The new connection though the water will influence that flow and open up new paths in the surroundings areas.

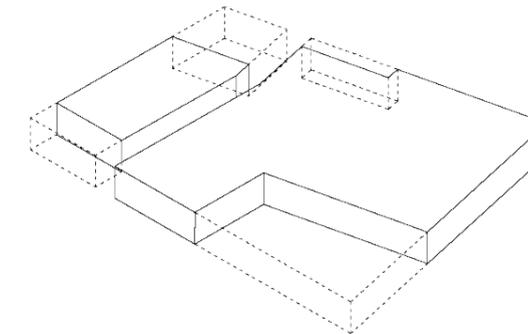
•eroding the block



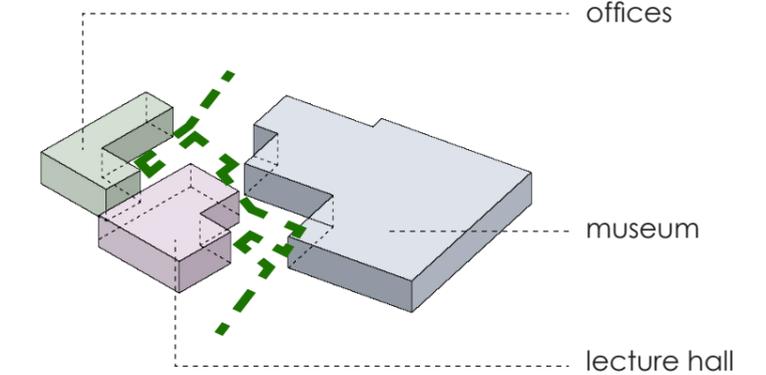
1. starting from a block



2. subtracting indoor passage



3. accentuating entrances



4. subtracting green path and adding function

offices

museum

lecture hall

•materials



stone facade

For the solid block from which I am creating my building I decided to use stone as a reflection of something firm and tough.



wooden panels

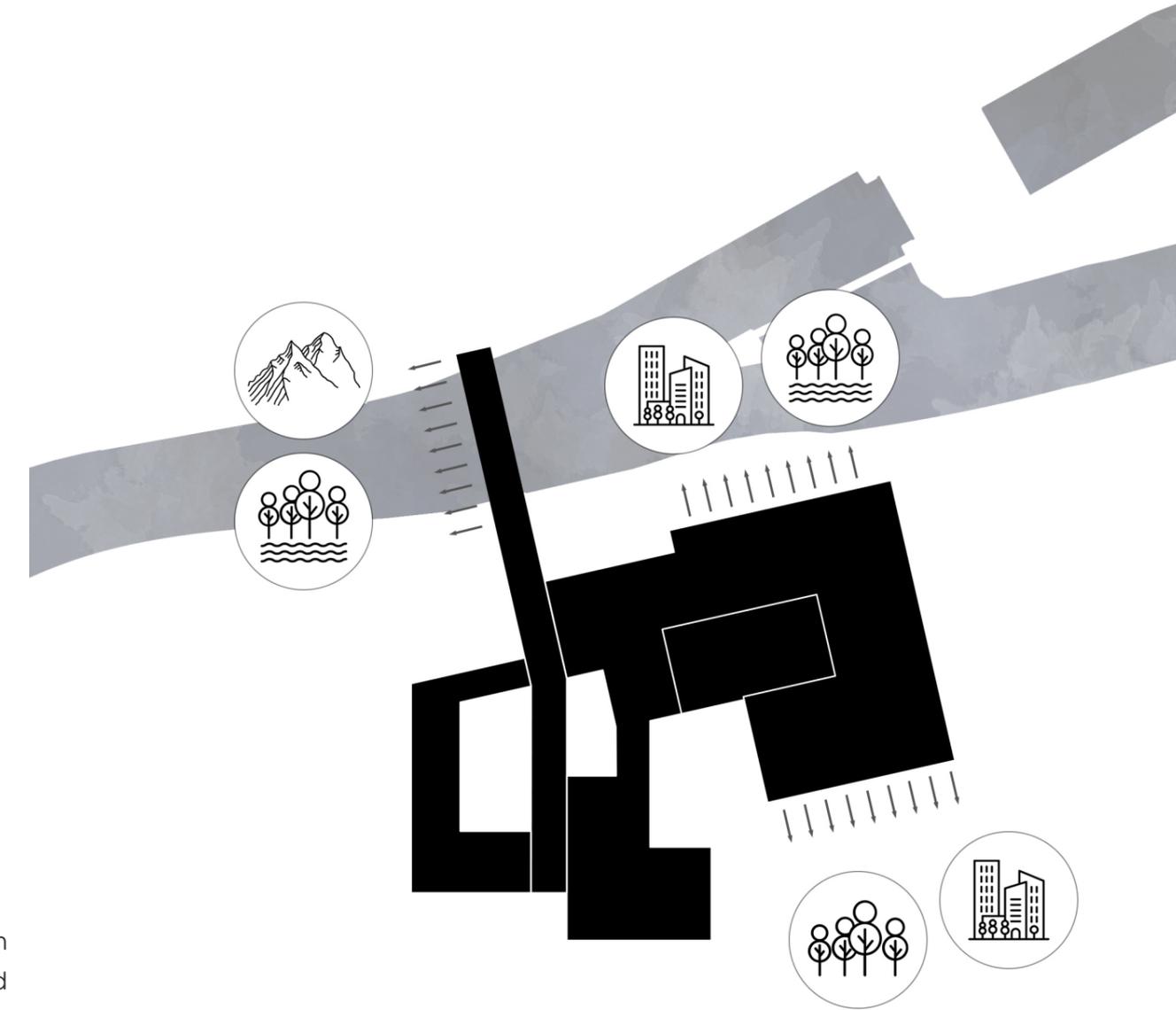
As all of the important bridges in Dujiangyan are made out of wood I am using it as a main material of the path that bridges green spaces.



glass facade

For the indoor passage I use only glass surfaces so that it becomes transparent with the surrounding and at the same time stands out as a use of a different material.

•viewing directions



The design takes into consideration the potentials of the surrounding and creates viewing points from the buildings. Glass facade with wooden panels is used to create a semi-transparent connection with the outside.

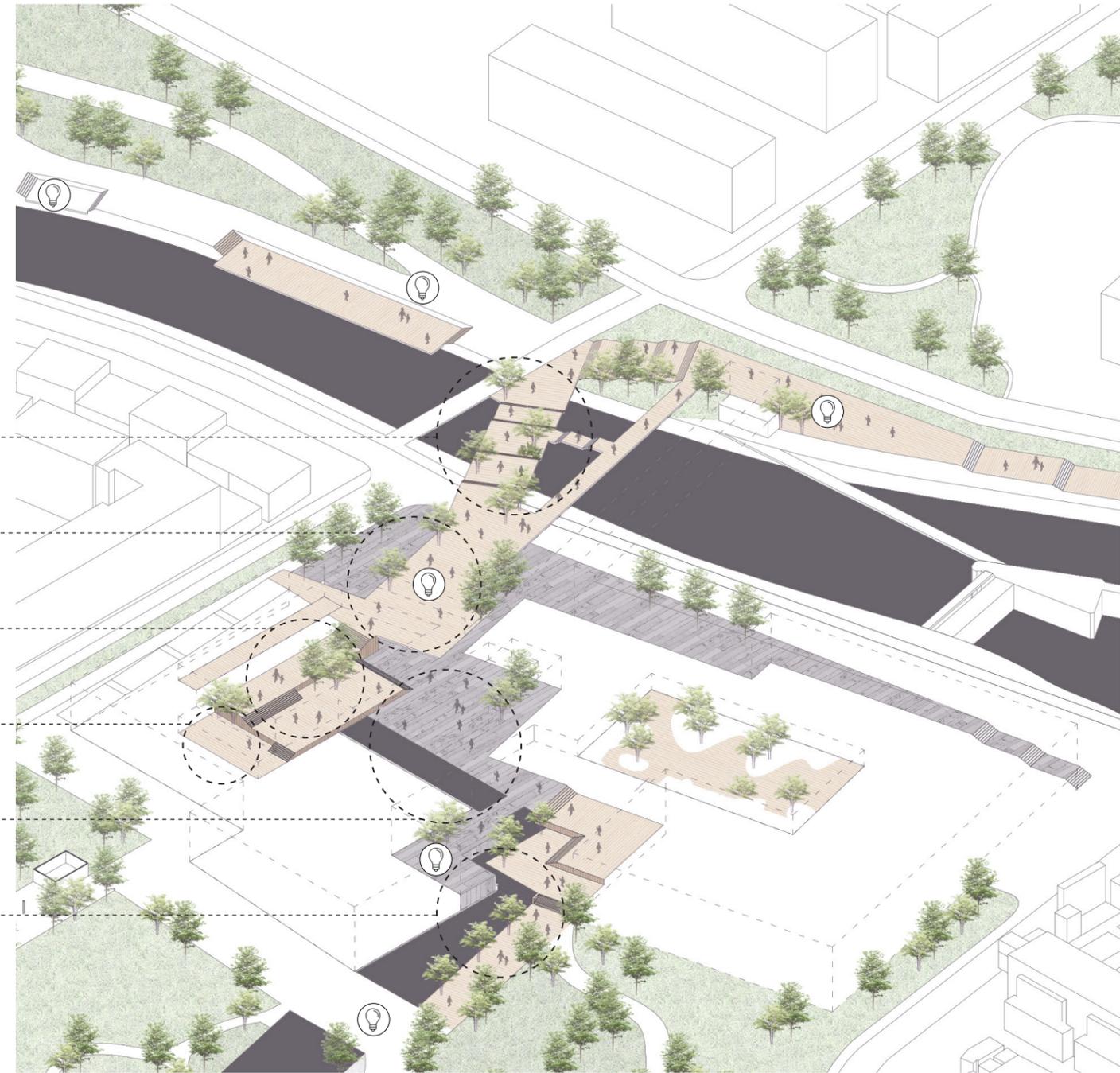
THE PROJECT

•site plan

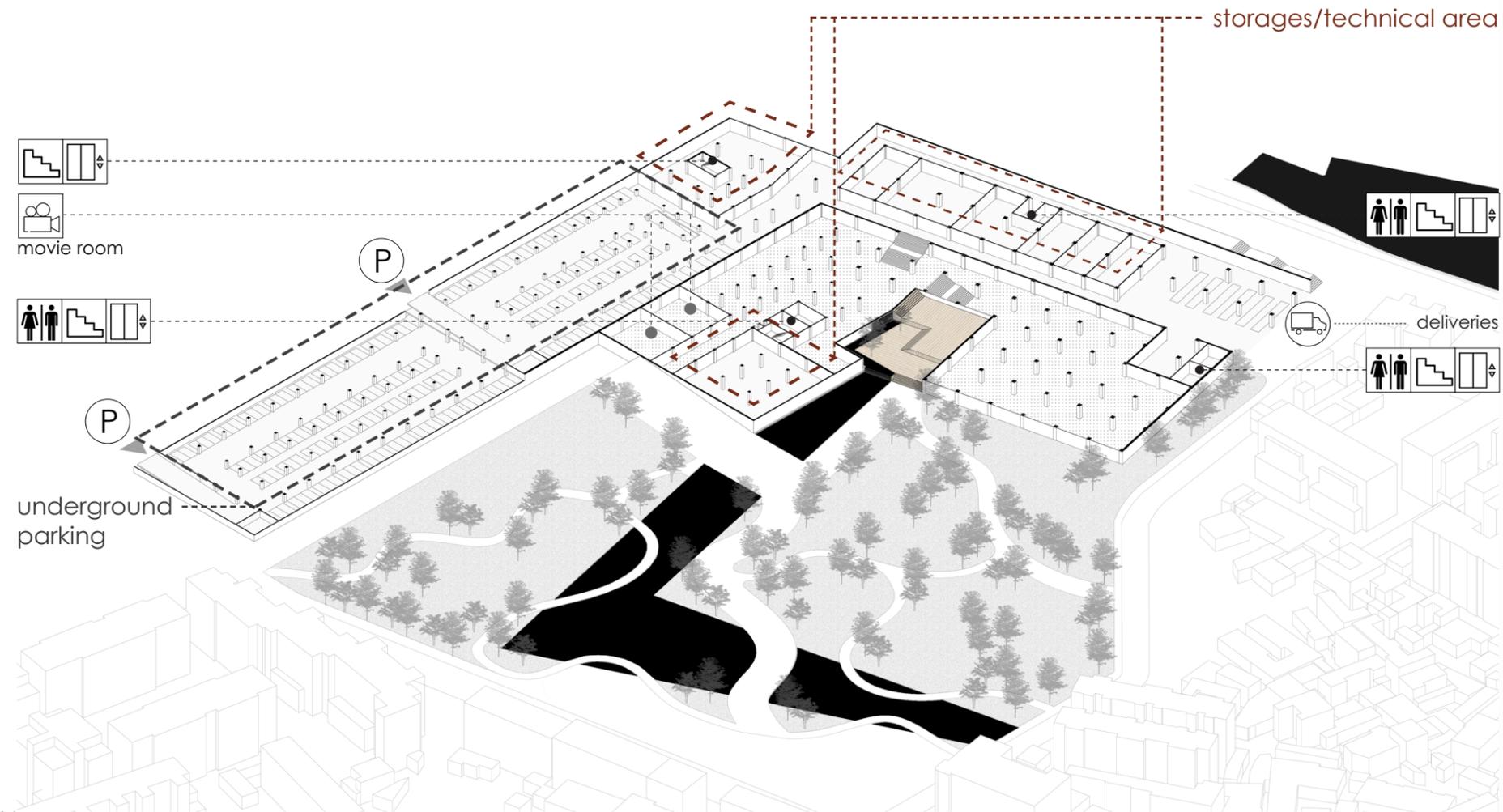


•the green path

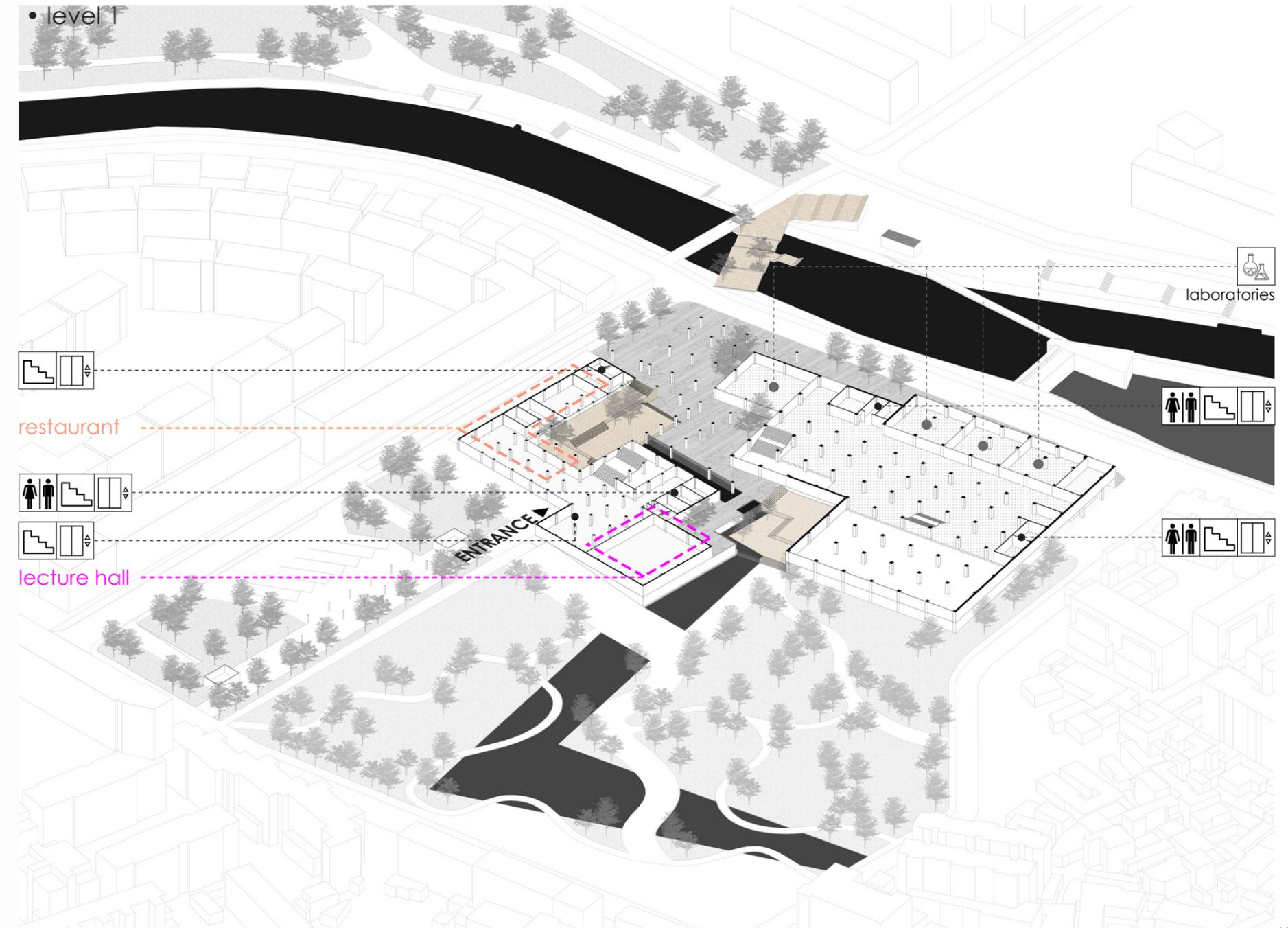
-  terraced bridge
-  'the cave'
-  the courtyard
-  outdoor restaurant space
-  water walls
-  'the strait'



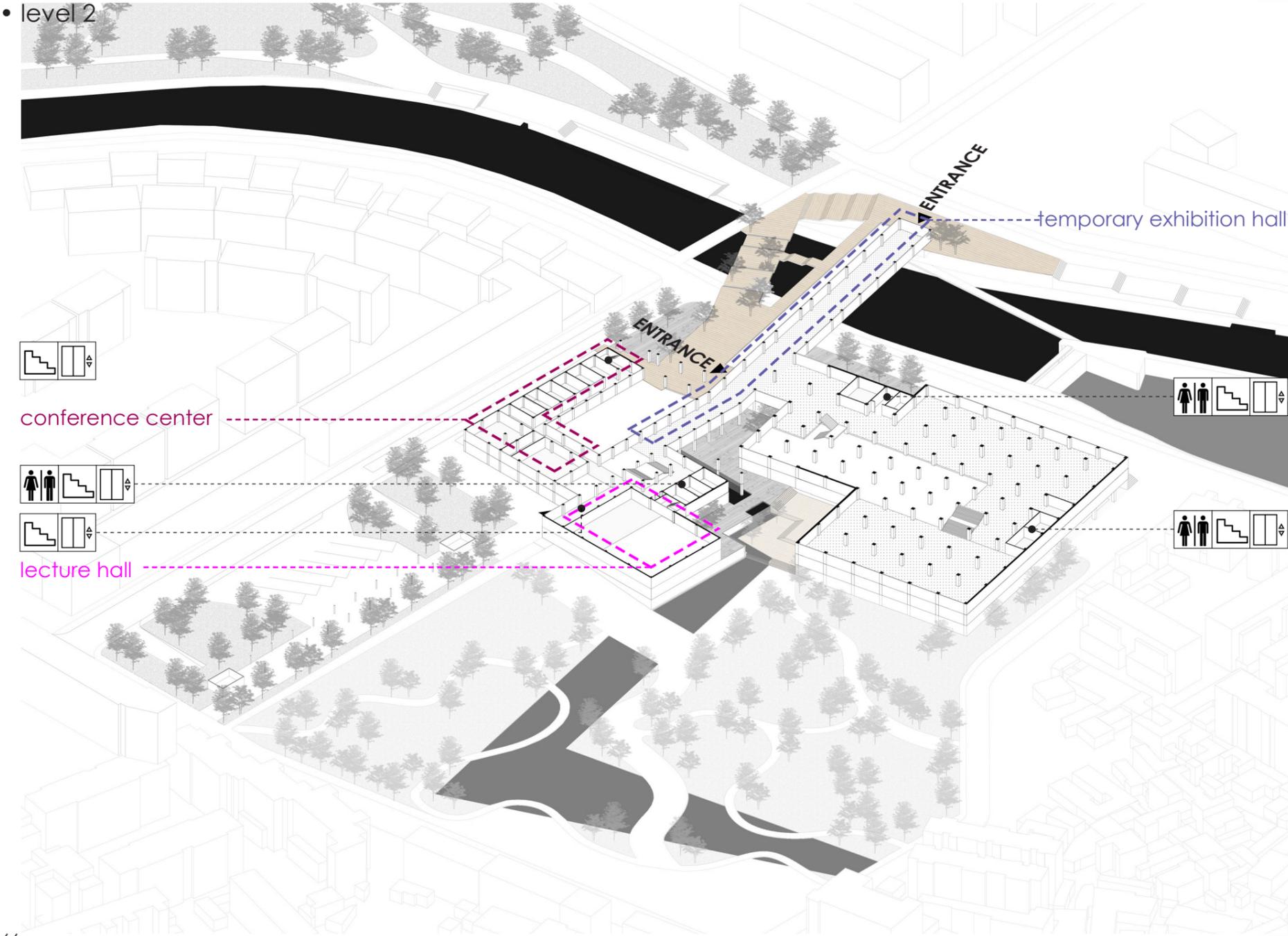
• level 0



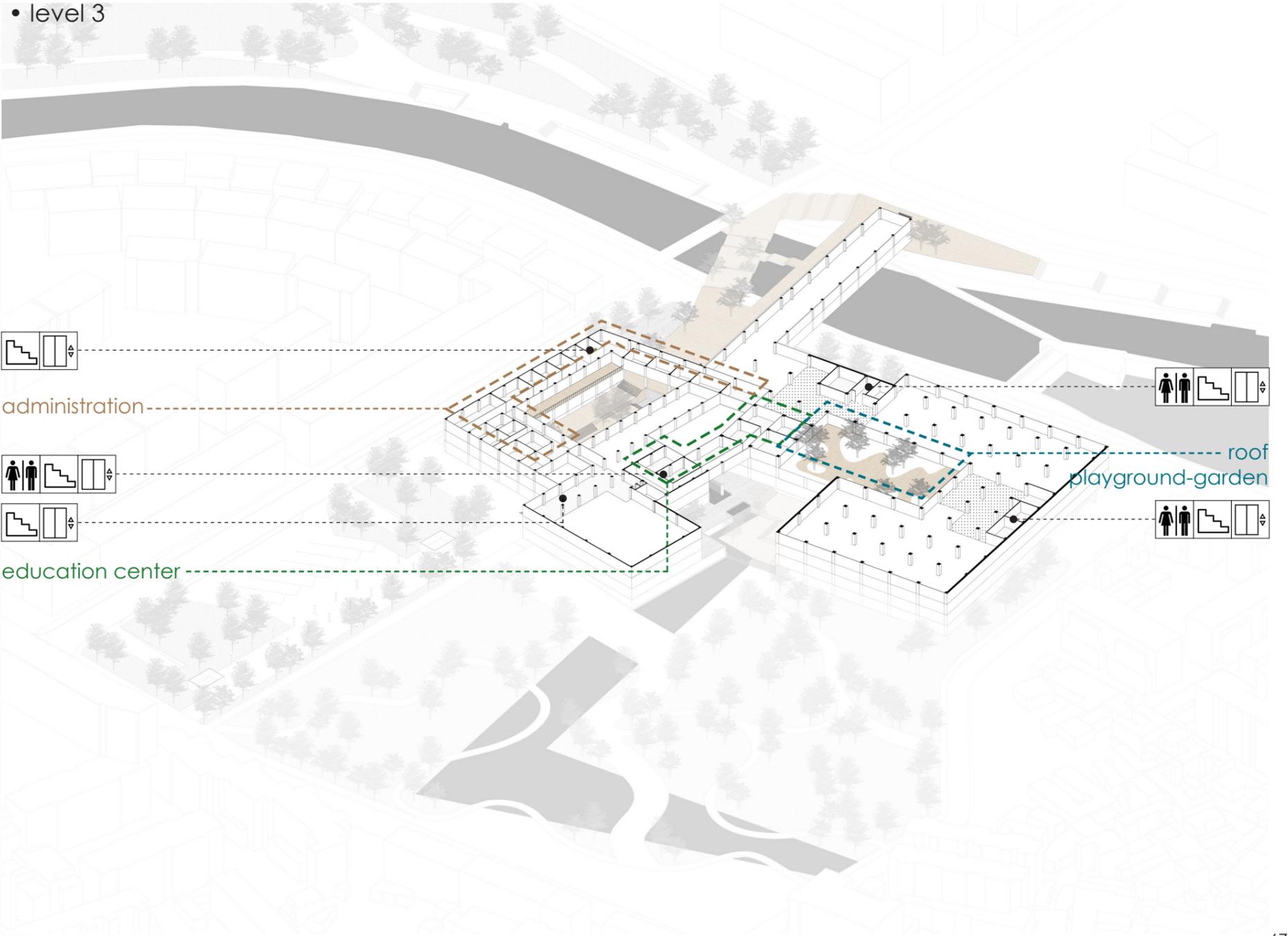
• level 1



• level 2



• level 3



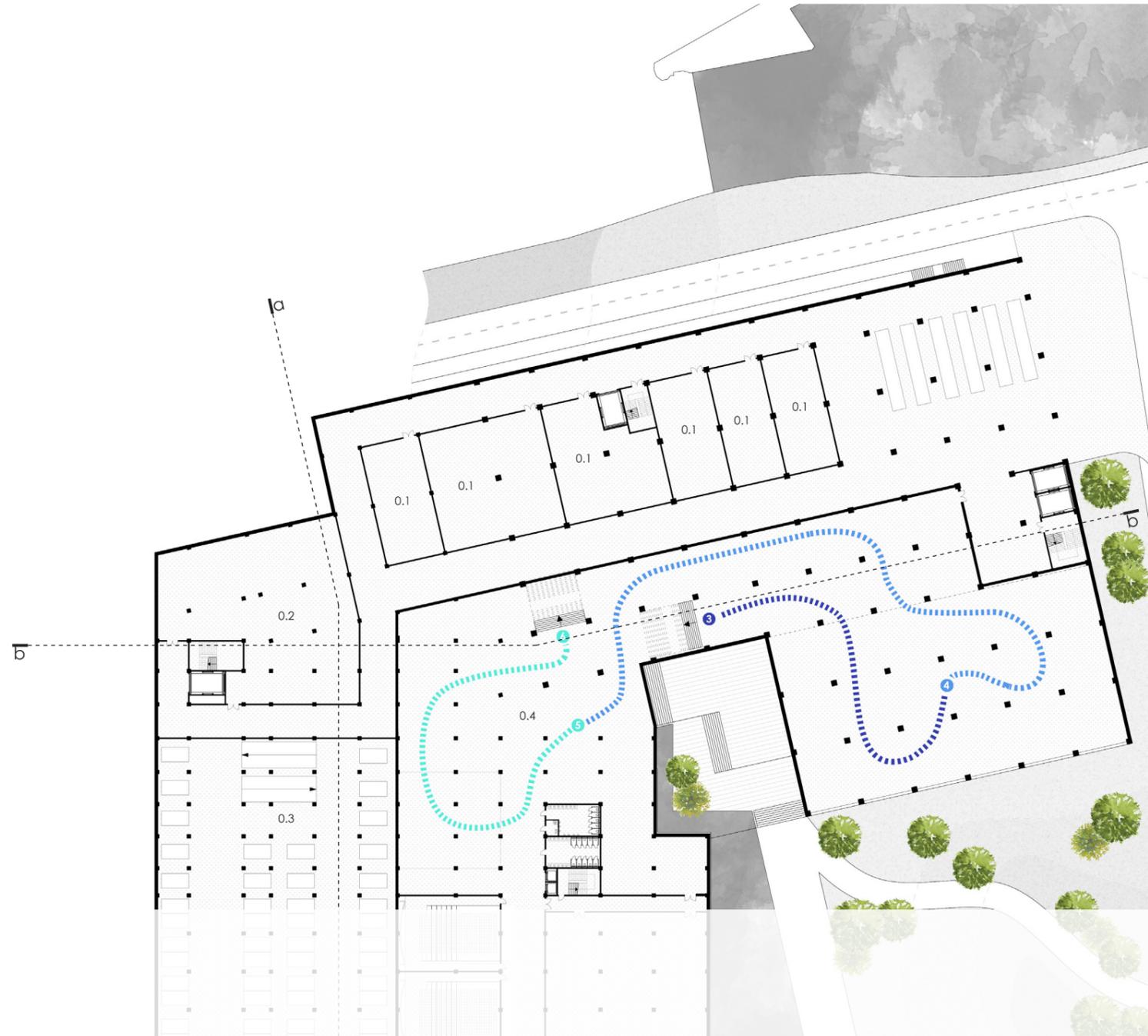
• the program

• science center exhibition area	level 0 approx.5,600m ² level 1 approx.5,200m ² level 2 approx.3,900m ² level 3 approx.1,300m ² (garden)
<hr/>	
	total science center area 16,000m ²
• restaurant zone area	approx. 900m ²
• lecture hall	for 900 people
• temporary exhibition zone area	approx.1,500m ²
• conference center zone area	approx.1,000m ²
• administration zone area	approx.1,300m ²
• educational center zone area	approx.900m ²
• storages/technical spaces area	approx.6,000m ²
<hr/>	
	total usable floor area approx.30,000m ²
• underground parking area	approx.10,000m ²

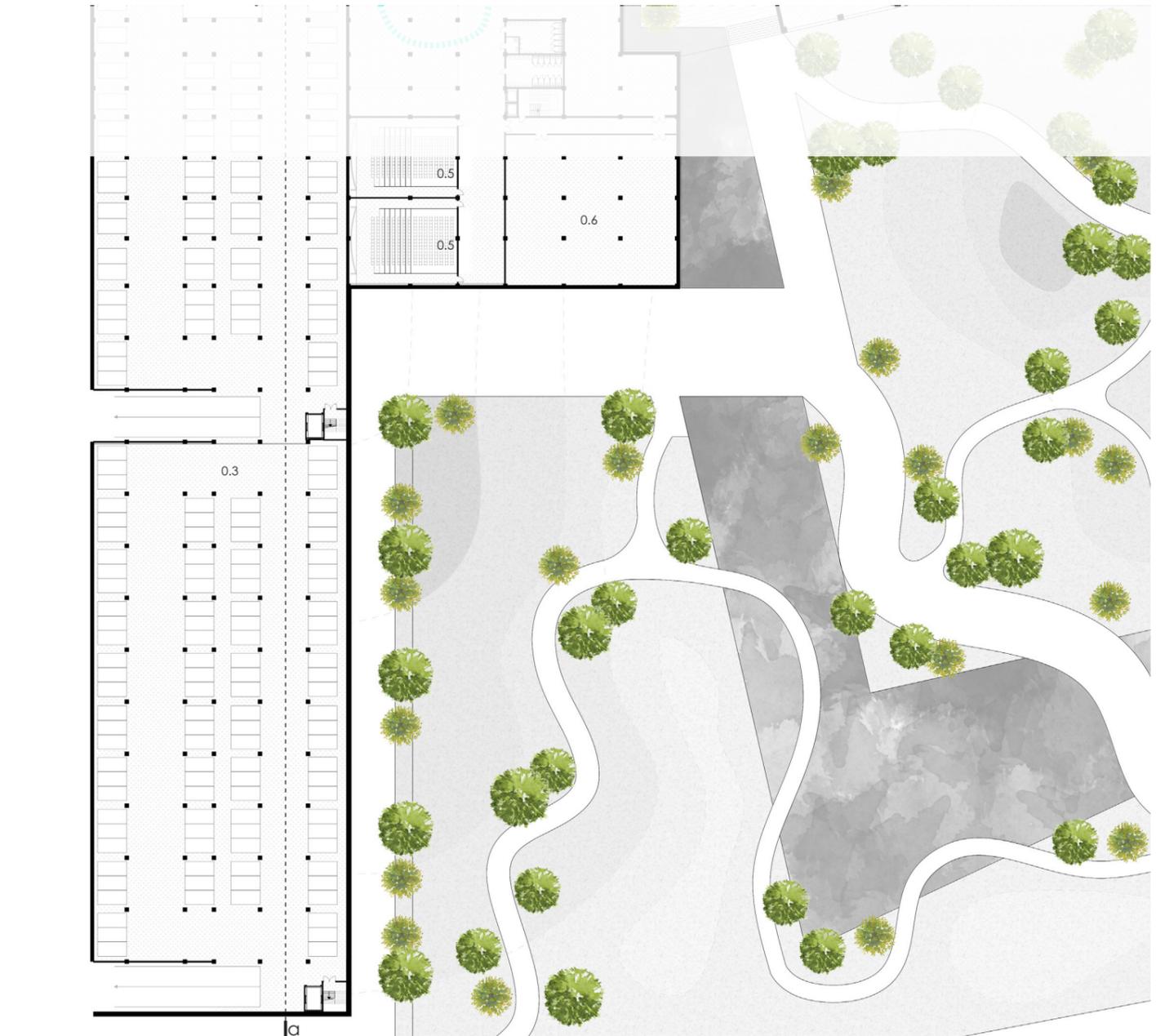
• ,the strait'



• level 0 plan [1]



• level 0 plan [2]



- 0.1 - storage space
- 0.2 - technical space
- 0.3 - parking
- 0.4 - exhibition space
- 0.5 - movie room
- 0.6 - storage space

• level 1 plan

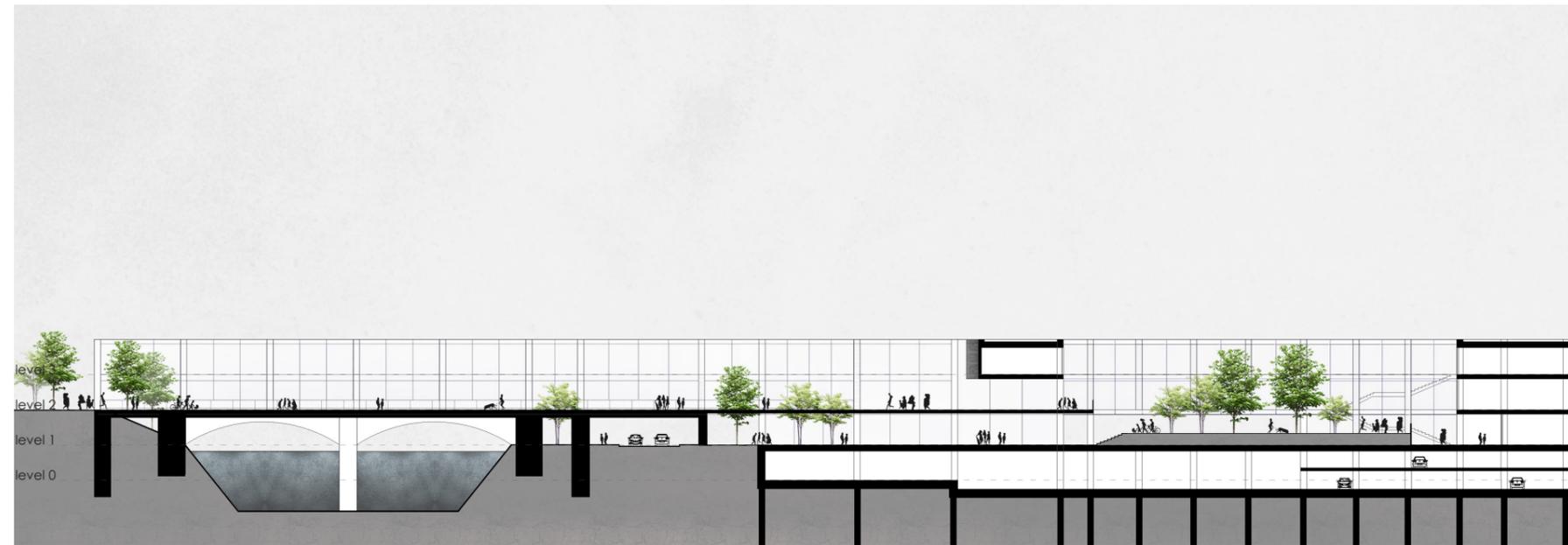


- 1.1 - entrance/foyer
- 1.2 - reception
- 1.3 - lecture hall
- 1.4 - restaurant
- 1.5 - kitchen
- 1.6 - experiment rooms
- 1.7 - exhibition space

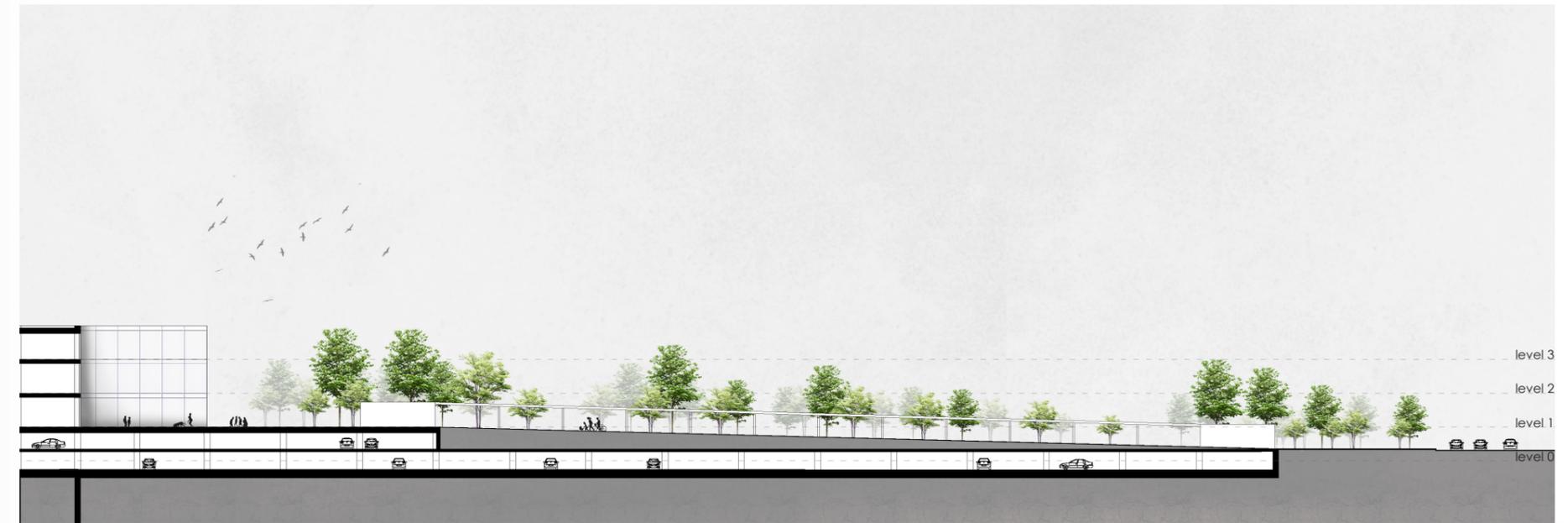
• the courtyard



• section a-a [1]



• section a-a [2]



• level 2 plan



- 2.1 - temporary exhibition
- 2.2 - ticket office
- 2.3 - exhibition space
- 2.4 - lecture hall
- 2.5 - seminar room
- 2.6 - meeting room

• waterfalls



• level 3 plan

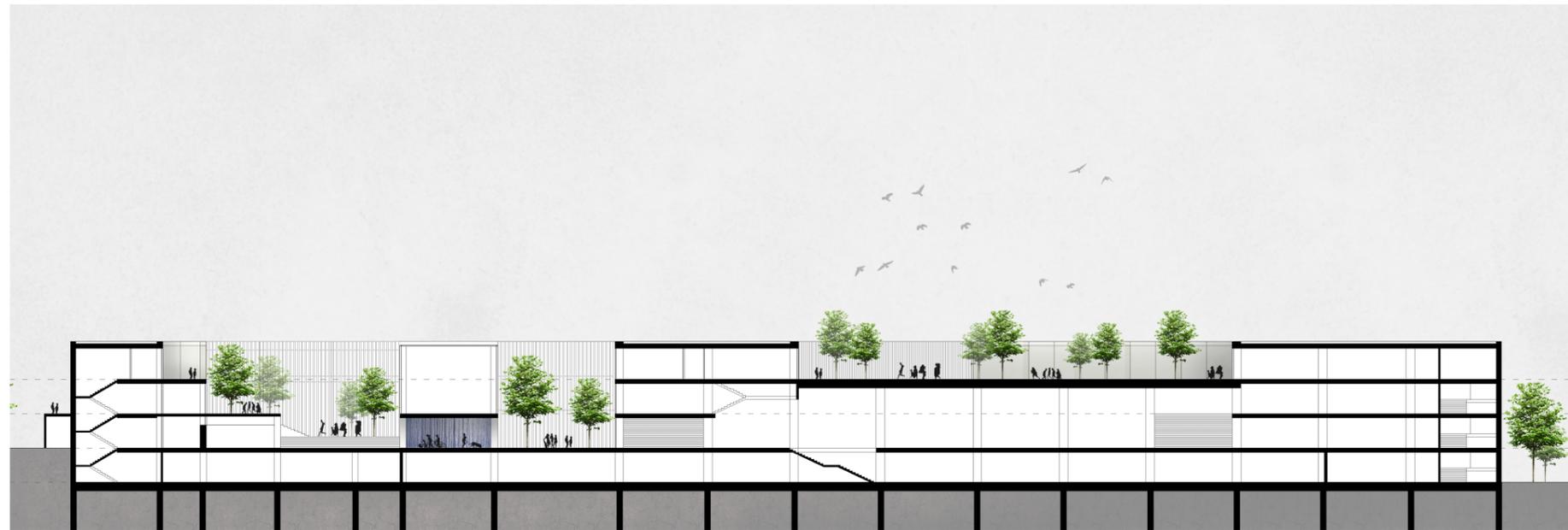


- 3.1 - secretary's office
- 3.2 - manager's office
- 3.3 - joined office
- 3.4 - meeting room
- 3.5 - social room
- 3.6 - teacher's office
- 3.7 - group classroom
- 3.8 - roof playground

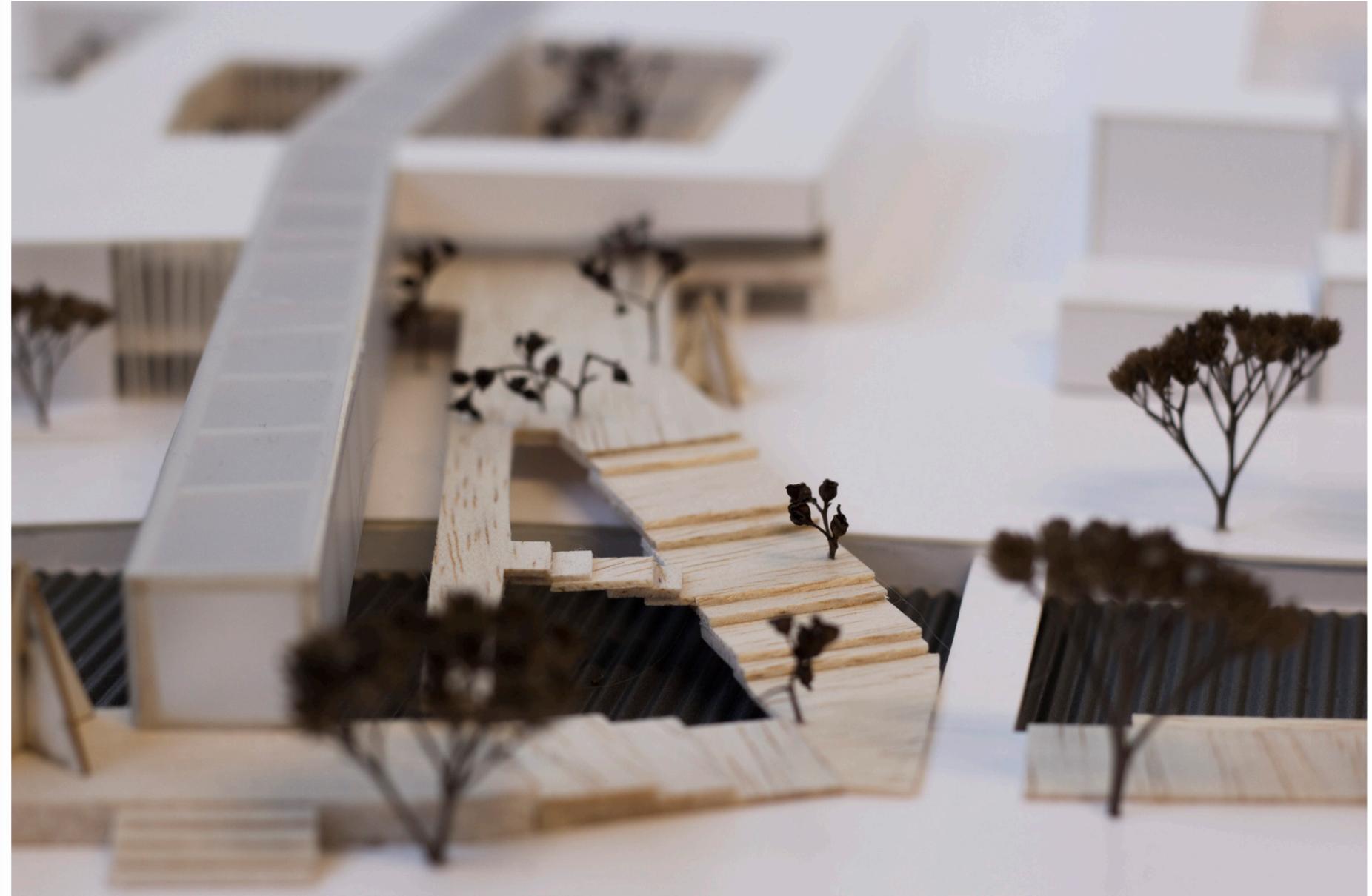
• terraced bridges



• section b-b



• photos of the model







CONCLUSIONS

I started this thesis asking about the impact of a museum on/in the city and moved on to the role of the architect on the project site. By working with the identity of Dujiangyan and with local context of the project site I presented a design proposal that is strongly connected with and in the city.

The main advantage of the design is a unique example of how to move in the city. The public space stretches over the water, over the street and is making the building not an obstacle in the way but a frame for a more interesting path.

By taking the best aspects of the local bridge typologies it applies a certain familiarity for the local people.

Finally, the project takes a private part of land and gives it back to the people, turning it into a collective for dwellers and visitors.

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[p.10] Map, Dujiangyan

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[p.11] Gate to the Old Town, Dujiangyan

<http://www.sc.gov.cn/10462/10464/11716/11718/2012/9/7/10225220.shtml>

[p.11] The Old Town, Dujiangyan

<http://www.sc.gov.cn/10462/10464/11716/11718/2012/9/7/10225220.shtml>

[p.12] First Zone, Dujiangyan

<http://pp.163.com/jcd422548/pp/10087062.html>

[p.13] Second Zone, Dujiangyan

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[p.14] Third Zone, Dujiangyan

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[p.15] Industrial Zone, Dujiangyan

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[p.16] West River Bank Urban Plan, Dujiangyan

<http://www.cdudc.com/design/special/75/>

[p.16] West River Bank View, Dujiangyan

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[p.17] Irrigation System, Dujiangyan

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[p.23] Wanda Tourist City 2

<http://wonderworldweb.over-blog.com/2017/12/un-nouveau-mega-complexe-commercial-et-de-loisirs-wanda-a-chengdu-en-2020-la-croissance-economique-de-la-chine-a-accelere-a-6-9-au-p>

[p.23] Wanda Tourist City 3

<http://wonderworldweb.over-blog.com/2017/12/un-nouveau-mega-complexe-commercial-et-de-loisirs-wanda-a-chengdu-en-2020-la-croissance-economique-de-la-chine-a-accelere-a-6-9-au-p>

[p.23] project site area, 2005

Google Earth, Historical Imagery

[p.23] project site area, 2017

Google Earth, Historical Imagery