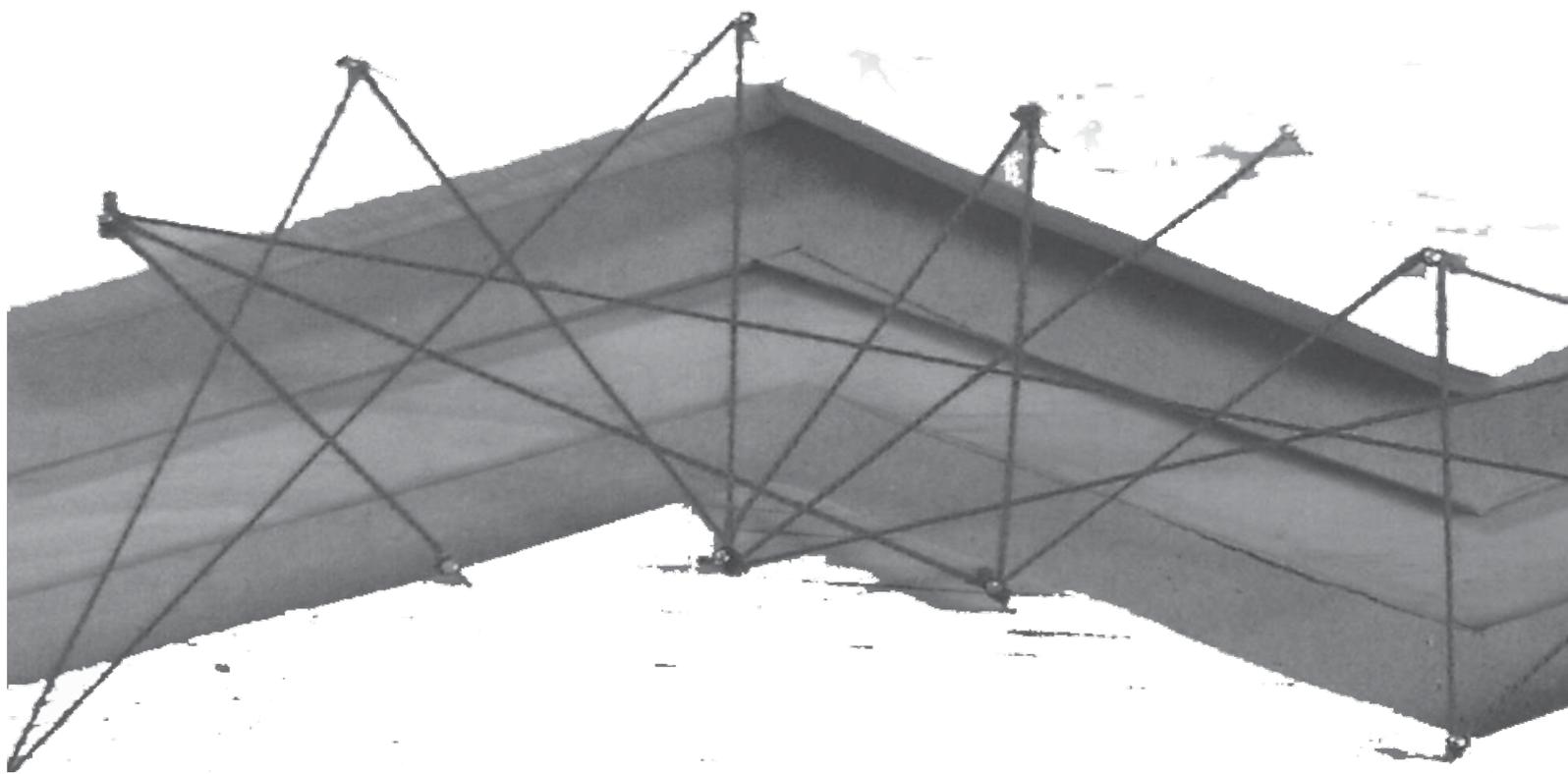


urban stitch
raymond zogaib



urban stitch
raymond zogaib

thesis submitted to the faculty of
virginia polytechnic institute and state university
in partial fulfillment of the requirements for the degree of

master of architecture

thesis committee

heinrich schoedt - committee chairman

donna dunay - committee member

steven thompson - committee member

blacksburg, virginia
aug 26, 2010

keywords: stitch, bridges, river, souk, urban, pilotis, movement, direction



abstract
urban stitch

raymond zogaib

since the beginning of civilization rivers are strongly linked to the identity and vitality of cities. they provide water, means of transportation, spaces for urban expansion, and a defined boundary which contributes to the identity of a city. rivers are often the raison d'être of cities, and their inhabitants have an intricate relationship with it.

such sites are often a target for impulsive and premature development. in the case of zahle, a city established on the banks of the berdawni river, the area has seen part of its precious asset disappear under an underground parking, forming an artificial barrier, between two urban parts, and a void in the identity of the city.

this thesis proposes that urban stitching based on architectural elements can reconnect different parts of the city. how architectural measures can fabricate reminders of a former presence of elements and artifacts, while defining an iconic public architecture, and a modern riverfront with a new urban identity, thus raising the quality of the city.

*“We shall not cease from exploration, and the end of all our exploring will be to arrive
where we started and know the place for the first time.”*

T S Eliot

urban scale

+ introduction / page 6
-site location

+ urban study / page 12
- what makes the city of zahle
-site location
-site characteristics

+ concept / page 22
-the break
-the stitch

human scale

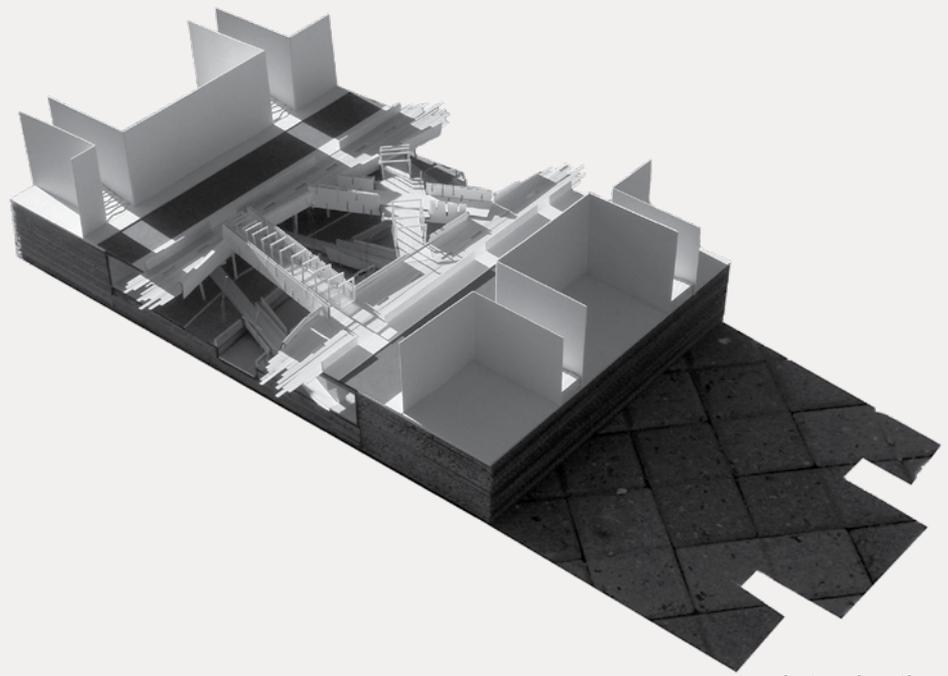
+web of paths / page 30
-idea behind orientation of bridges
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-promenade bridge

+the souk / page 50
- main concept
- drawings
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+ conclusion

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introduction

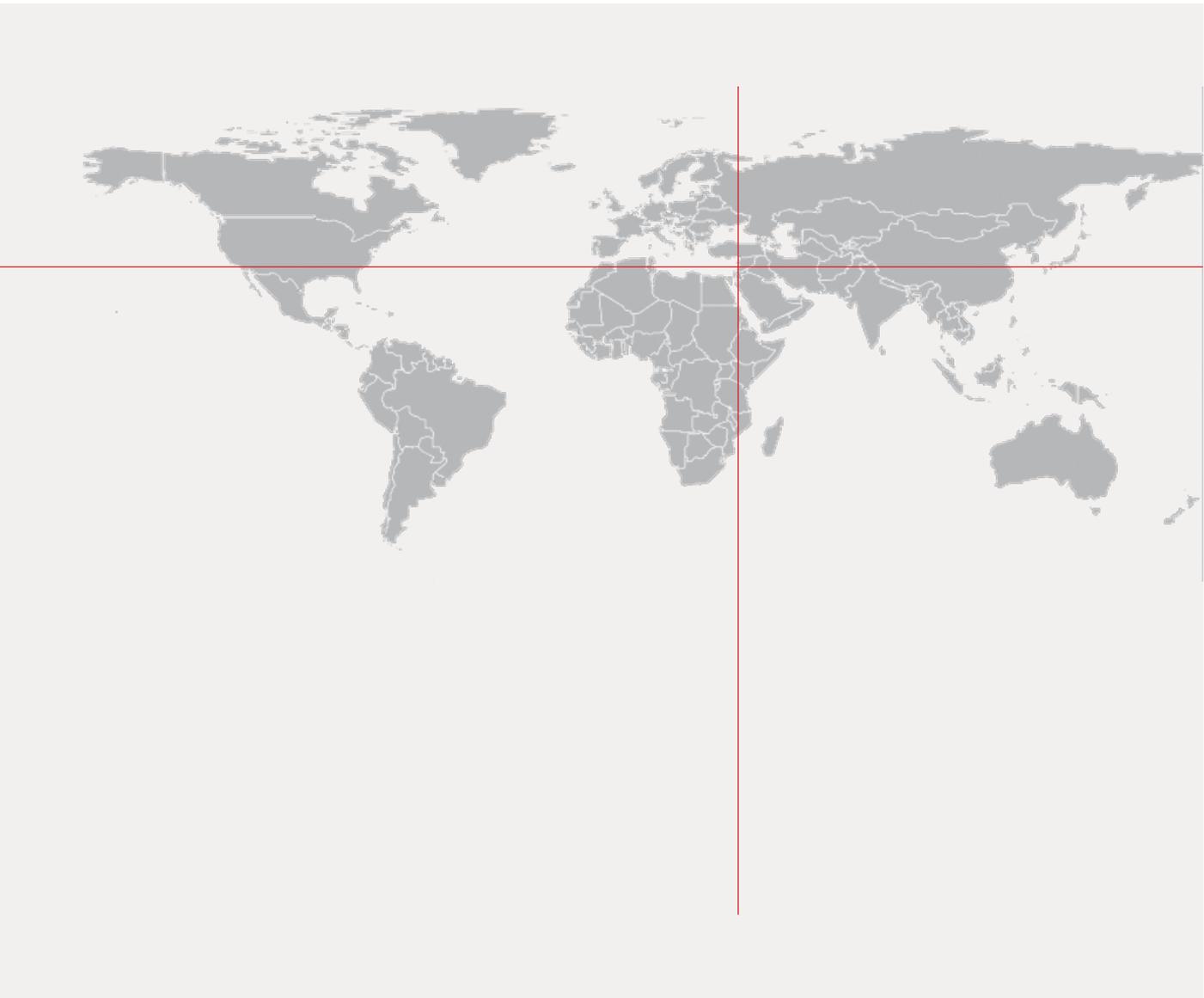
[zahle - lebanon]

[33° 50' 46.49"N 35° 54' 06.95"E]

facts

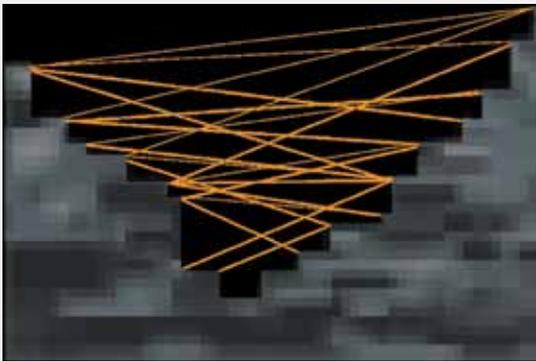
- + zahle was founded around 300 years ago
- + the name if zahle is derived from the word "slide" or "move", for the landslide that occurs in the city.
- + zahle is situated around 50km east of the capital beirut.
- + zahle is the third biggest city in lebanon, following beirut, and tripoli
- + zahle is the administrative and commercial capital of the Beqaa valley.
- + the city is built in a valley between two mountains, crossed by the river Berdawni traversing its neighborhoods to divide it in almost two parallel zones:
- + the river berdawni is the main vein of the city, it is the raison d'etre of the city.
- + zahle is known for its vineyards, as they produce the most wines and araks in the whole country.
- + famous for its poets, zahle claims that the river berdawni is the inspiration.
- +known for being the leader in lebanese mezze food, one of the main attraction is the traditional lebanese restaurants on the banks of the river.
- + typical architecture in zahle is a red roofed house with three arcades in the middle flanked by windows on both sides.







urban scale - [urban study]



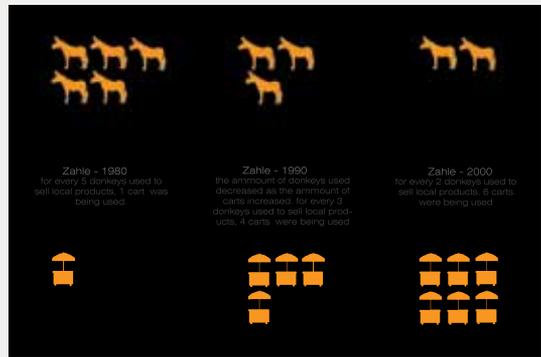
[daraj]

- [stairs] - the city is built on two opposite hills. stairs and steep slopes connects it together. stairs are a familiar element of the city. they are used as gathering places and considered public spaces.



[berdawni]

- [ber-daw-ni] - river - used as a noun - berdawni river is the main water vein of the city. it divides the city in two parts, the northern part and the southern part. along its banks, the Berdawni restaurant tradition began over a hundred years ago with a few simple riverside cafes. Today it is a bazaar of tree-shaded eating places known as "casinos".



[seha]

[souk]

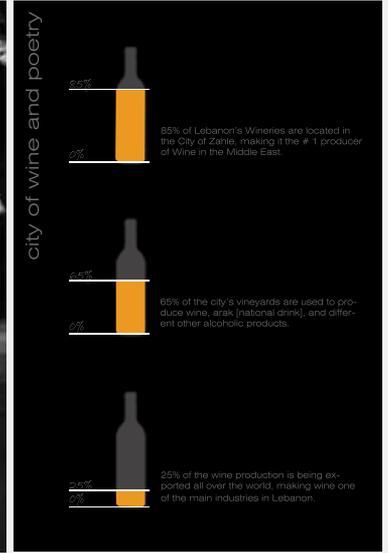
- [urban square] - the public squares of the city, are urban nodes. each neighbourhood has its own square, where the community meets and discusses the latest news and gossips. these squares are connected by winding small roads, where you find most of the local stores.

- [market] - for a long time zahle, was known for its ambulant market. sellers used to move from one place to another selling products on the back of donkeys. with time carts started to replace donkeys. today, some sellers with their donkeys are still roaming. but the ambulant market once known, is disappearing little by little.



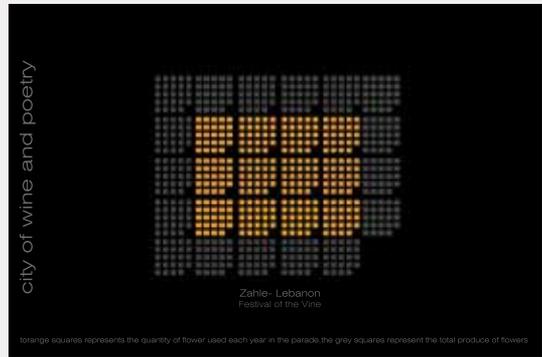
[sheaer]

- [poetry] - zahle is known for its famous poets. many claim to get inspiration from the berdawni river. most lebanese poets honor zahle in their poems.



[arak]

- [aa-rak] - local lebanese alcoholic drink. zahle is known as a major producer of wine and arak in the middle-east. they claim that they invented the arak. most of the residents of zahle own their own private distillery and make arak from the produce of their own land.



[kahraba]

- [electricity] - the electric cables in zahle, are part of the scenery. they extend in sometimes dense bundles from one building to the other.

[mahrajan]

- [festival of the vine] - each year, zahle has a week-long festival in the summer, which most of the residents attend. the most anticipated celebration is the "flowers festival", where cars are decorated with flowers representing different themes.



map from google earth

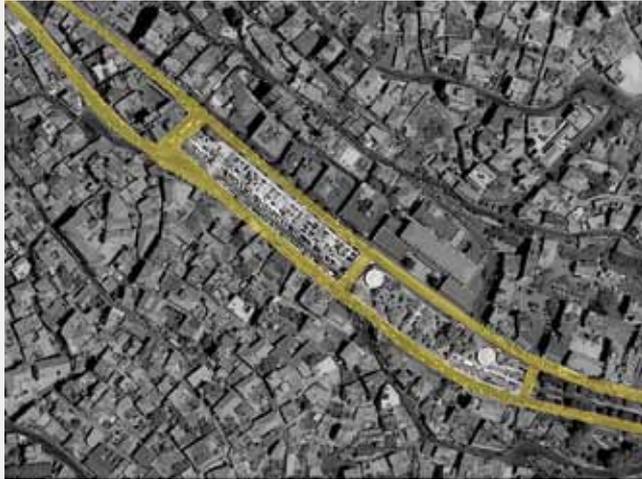
the site is located in downtown zahle, on the main boulevard of the city. around 20 years ago, the city officials decided to bury the river and build an underground parking garage to serve the government headquarters facing it. this created a physical barrier between the two parts of the city.the site is in one of the lowest points in the city, flanked by two hills from either sides, making it a stage that can be seen from different points in the city.



images courtesy of andre haddad



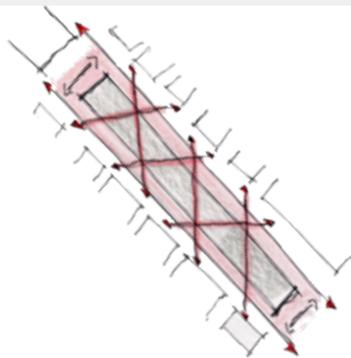
site 



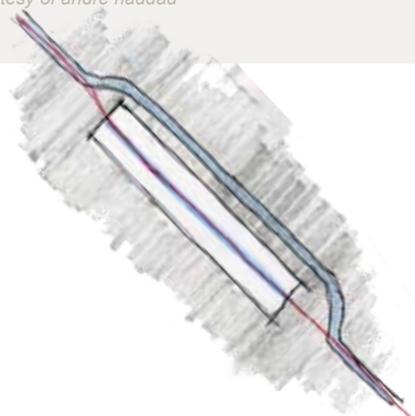
map from google earth



map from google earth
images courtesy of andre haddad



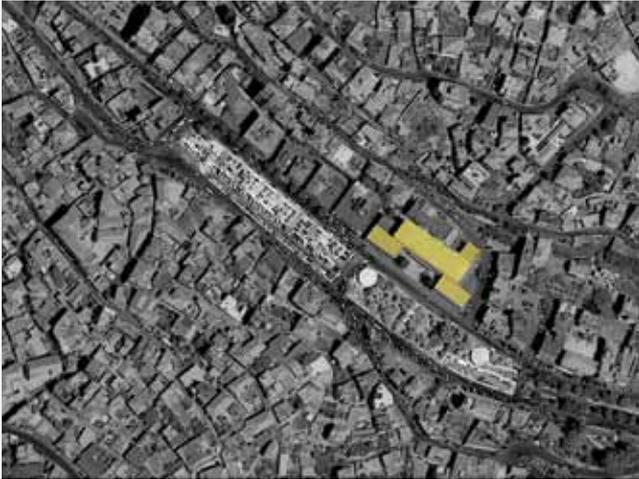
street culture



river

the site is flanked by the main boulevard on both sides of the covered river. buildings host commercial space on the ground floor and residential units on the upper floors. The idea of highly visible bridges arose from the need to connect both sides of the city.

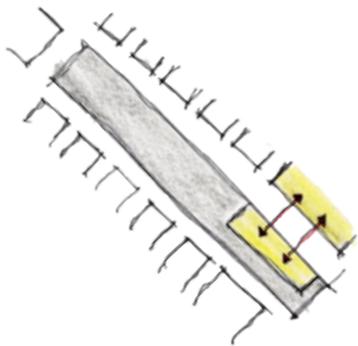
zahle was founded on the banks of the "Berdawni" river. it is the main vein of the city, formerly the main economic driver. its commerce and recreational activities formed a special identity of the city. the idea in this thesis is to bring back the river to the surface and reintroduce it as the major economical driver in the city.



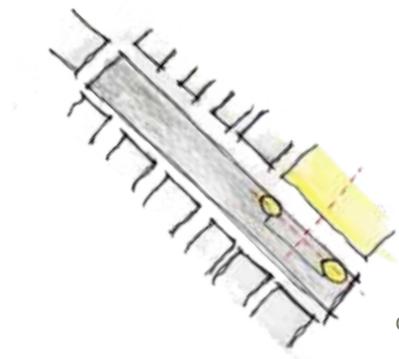
map from google earth
images courtesy of andre haddad

map from google earth

site characteristics



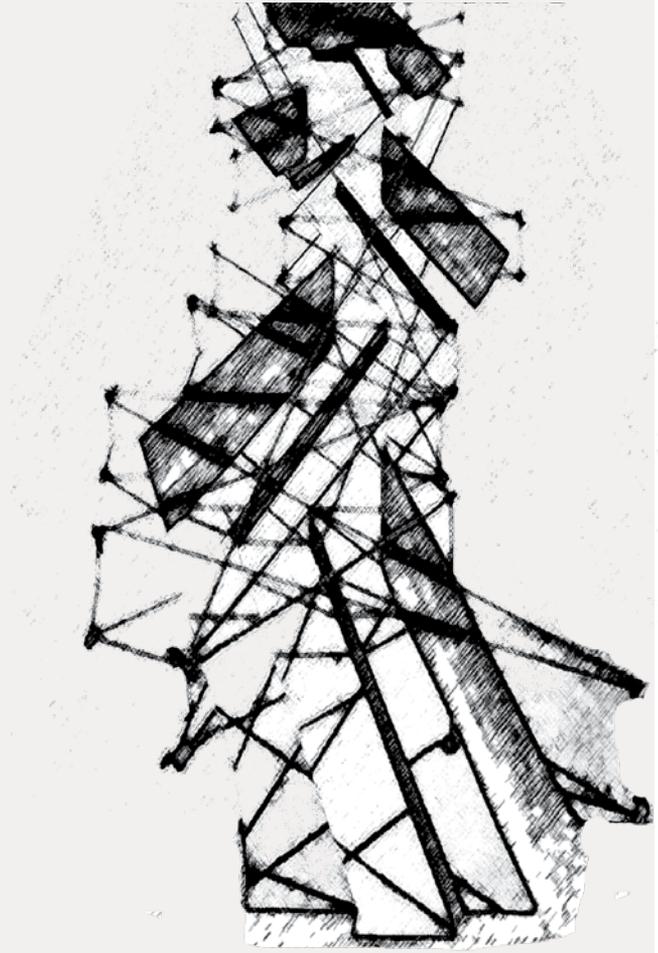
serail



car ramps

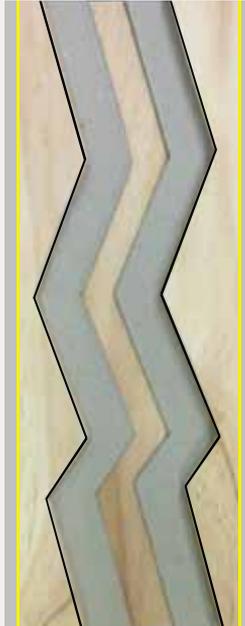
the government headquarters facing the river front is framed with a **symmetrical** plaza, to allow public gatherings in front of the highest authority of the region.

part of this proposal redirects the existing car ramps towards a new scheme. these existing architectural elements form an appropriate **symmetry** in front of the government house which should be maintained.



urban scale - [concept]





conceptual model

uncovering
the idea behind uncovering the riverbed in the ground is analogous to an open heart surgery. first the ground is opened, the parking deck that is suffocating the river is removed and redirected. the river bed is offered again to the surface. ultimately the ground is stitched back again, to fortify the river as the main artery of the city. the break is conceived as a natural crack in the ground.

the black line
the edge of the project is defined by a continuous black line that is concrete. it wraps around the whole project, from the river, the souk, all the way to create the parapet that defines the ground break.

the yellow line
the layer that belongs to the souk creates a continuity between the stores, the bridges that lead to them, and the sidewalk above defining the limit of the project.



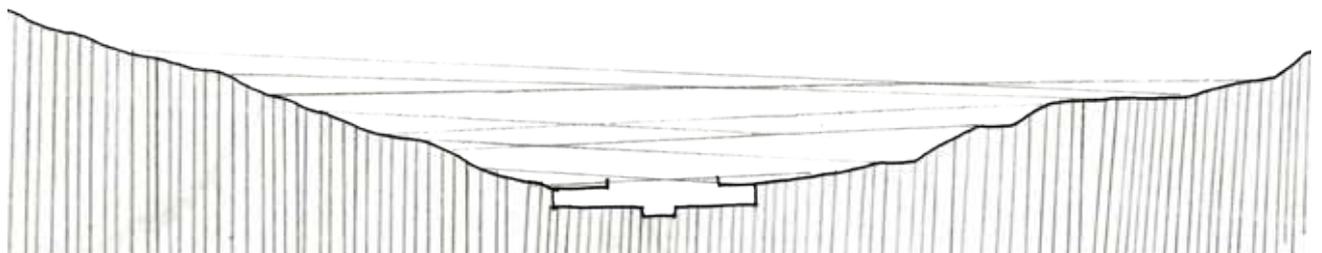
diagram of the break

the break





urban stitch



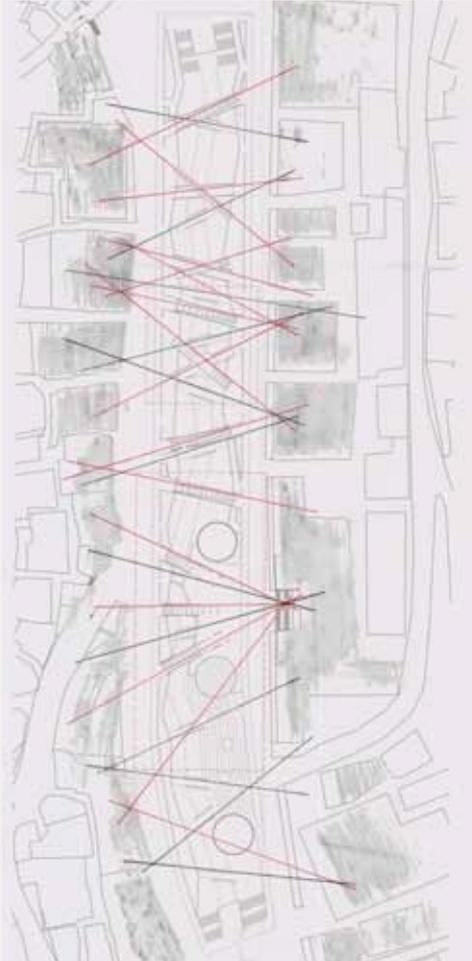
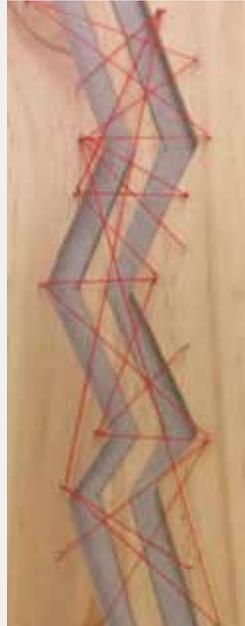


diagram of potential bridges



conceptual model

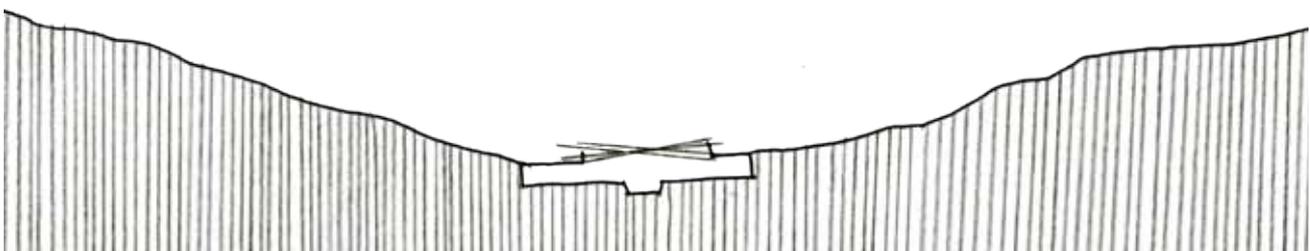
positioning of a stitch

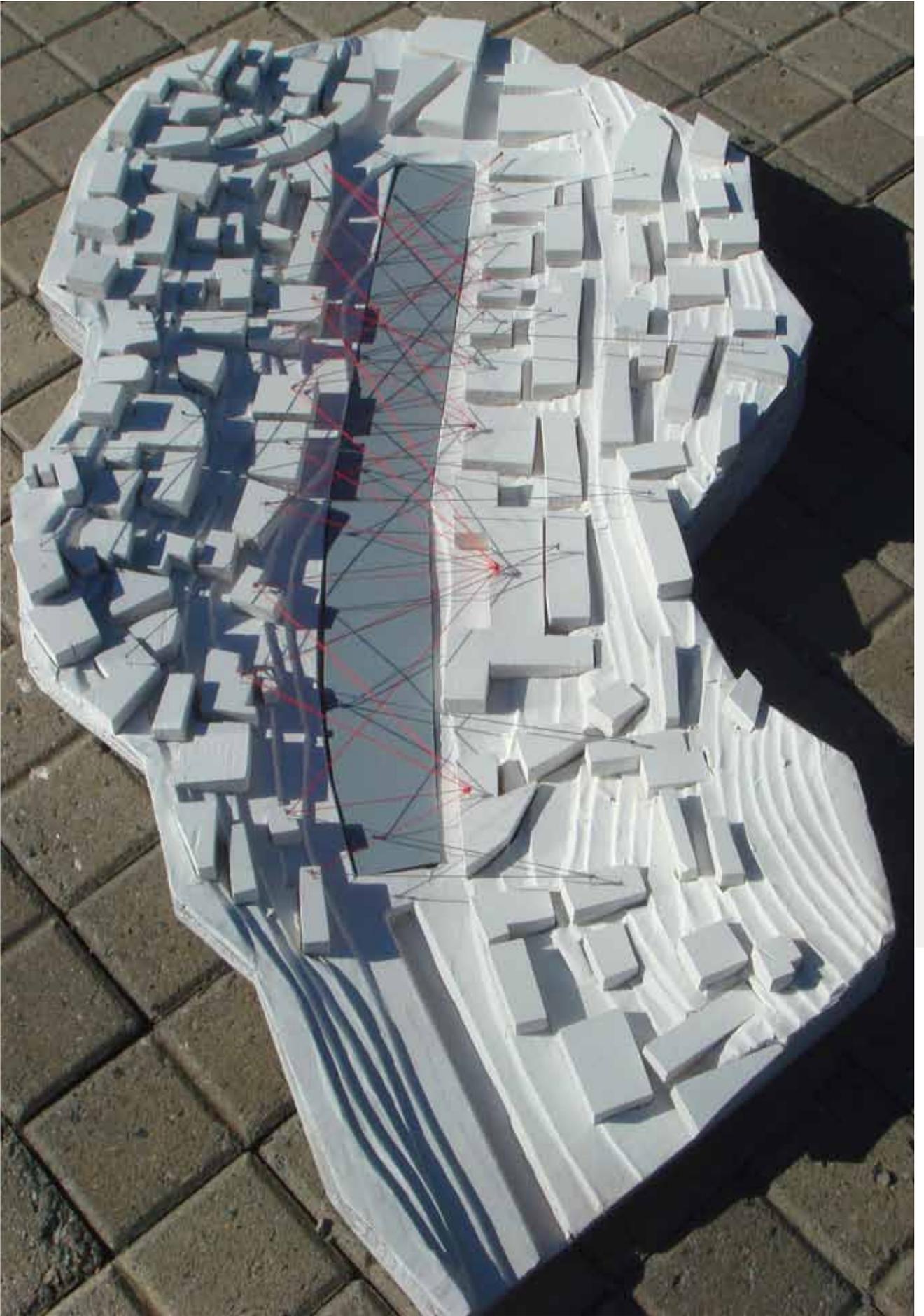
the idea behind the urban stitch is to connect the city back together based on the existing relation between both parts of the city. the direction of the bridges acknowledges a most probable pedestrian path between both sides. other studies can generate different networks of connection. this network of bridges is an initial assumption of preferred routes. the individual direction of a bridge is flexible and could be adjusted as needed. the contact of bridge and land denotes syntactically a constant.

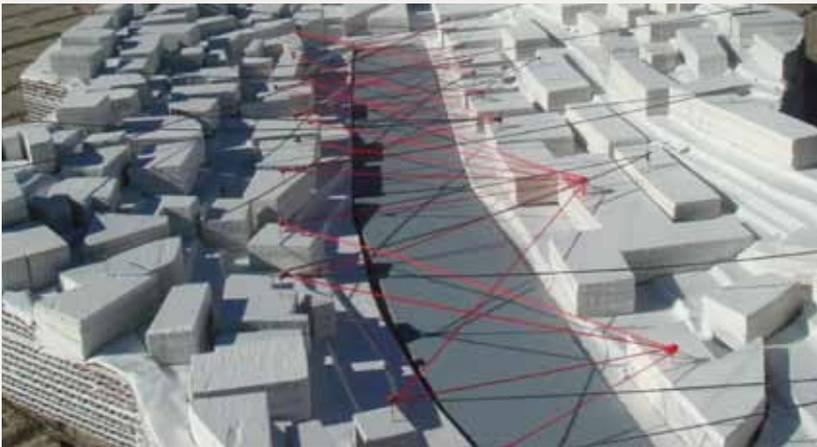
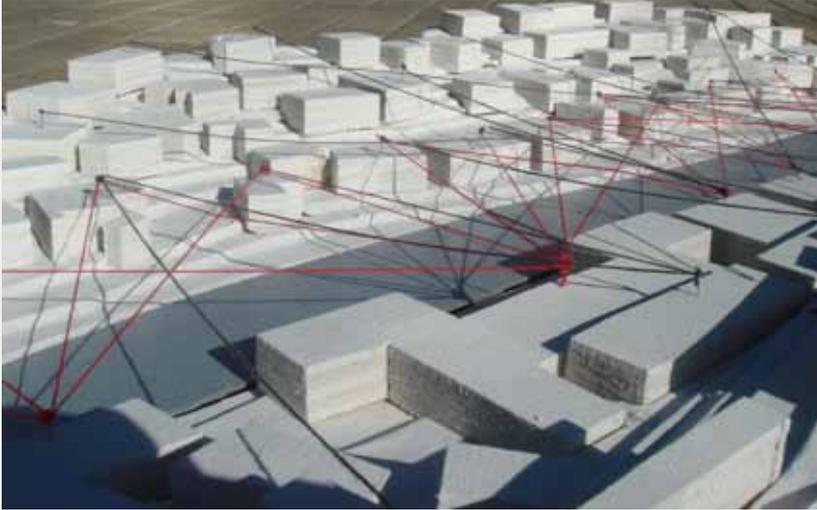
vertical inclination

the vertical inclination of the bridges, is based on the direction towards landmarks found on the hills of the city. each bridge is guided by a focal point that tries to frame it in one way or another. the stitching created different types of bridges, each with a different inclination and orientation.

the stitch







site model representing the concept behind stitching the city.



human scale - [web of paths]

view of the vineyards

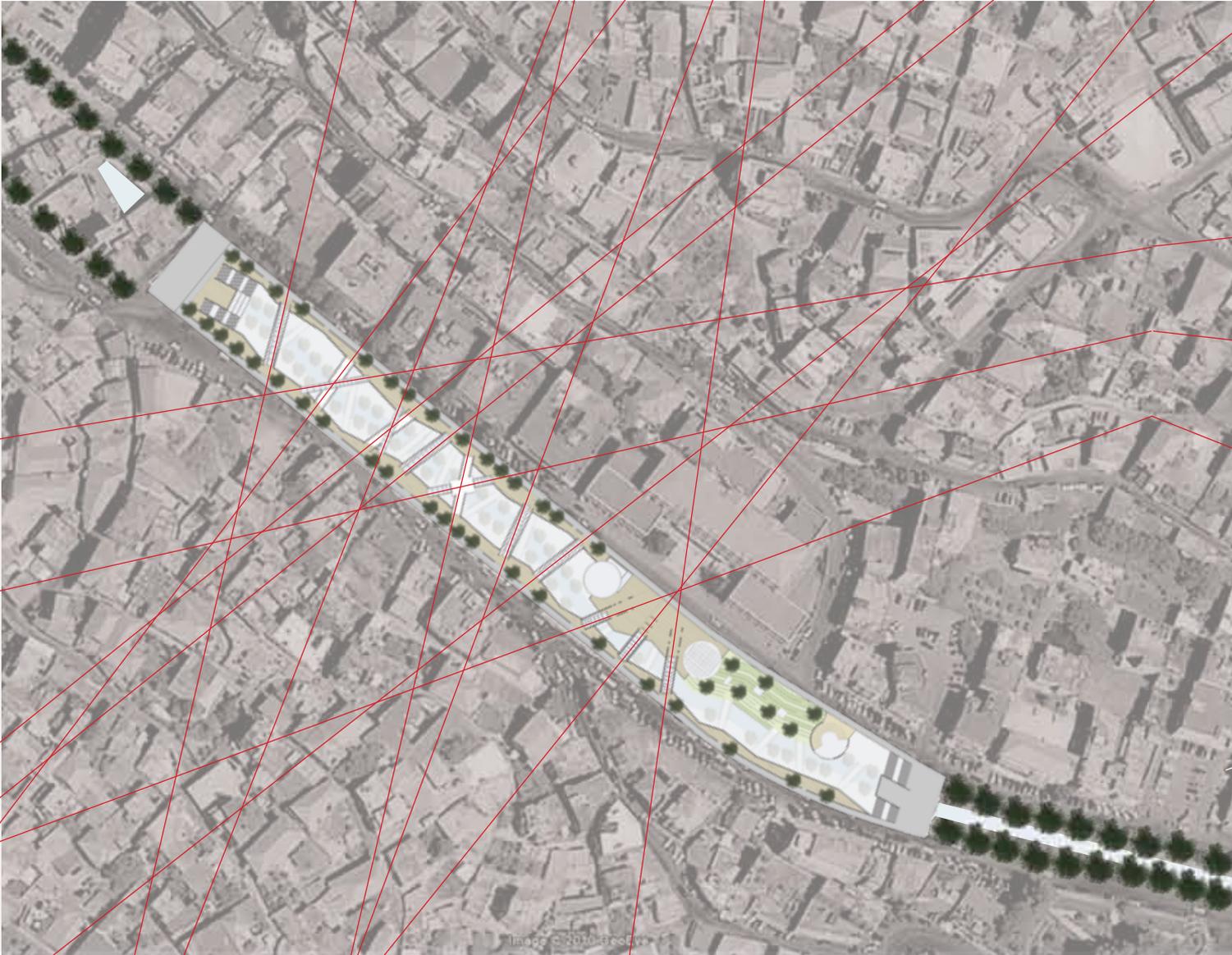


Image © 2010 deodor

site plan



view of the city

view of the mountain



lady of zahle



old serail

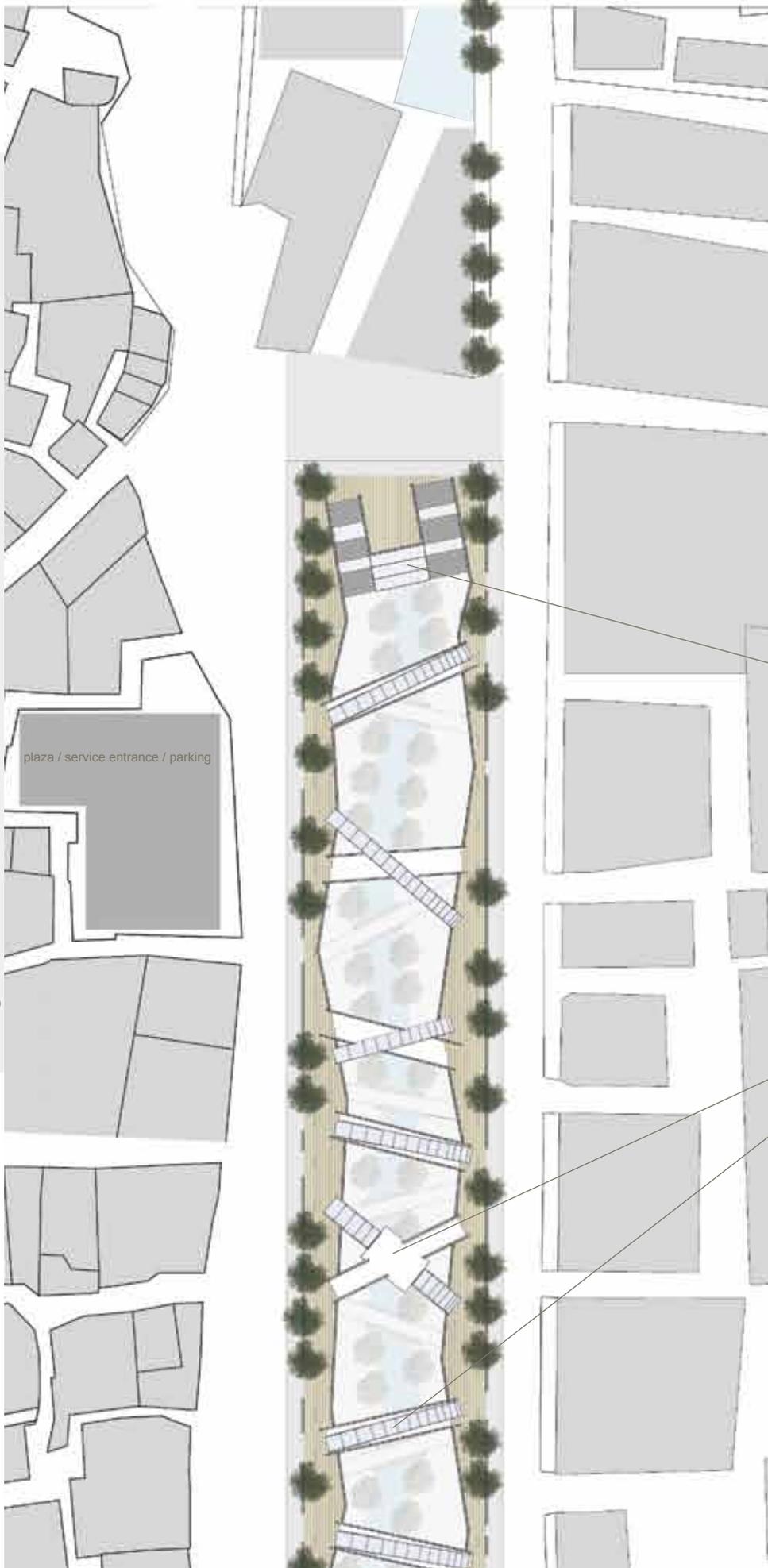


tel china



city landmarks

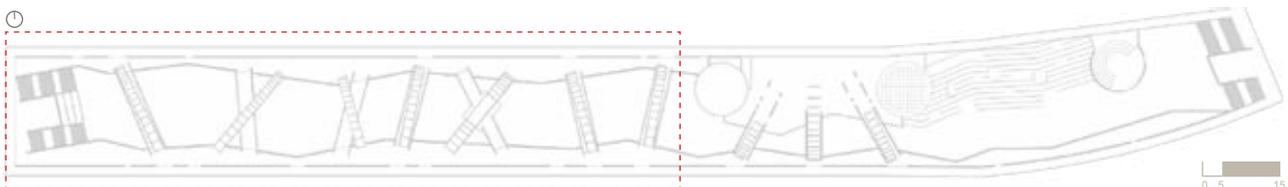
these are some of the landmarks and the different views of the city that the bridges try to frame .



plaza / service entrance / parking

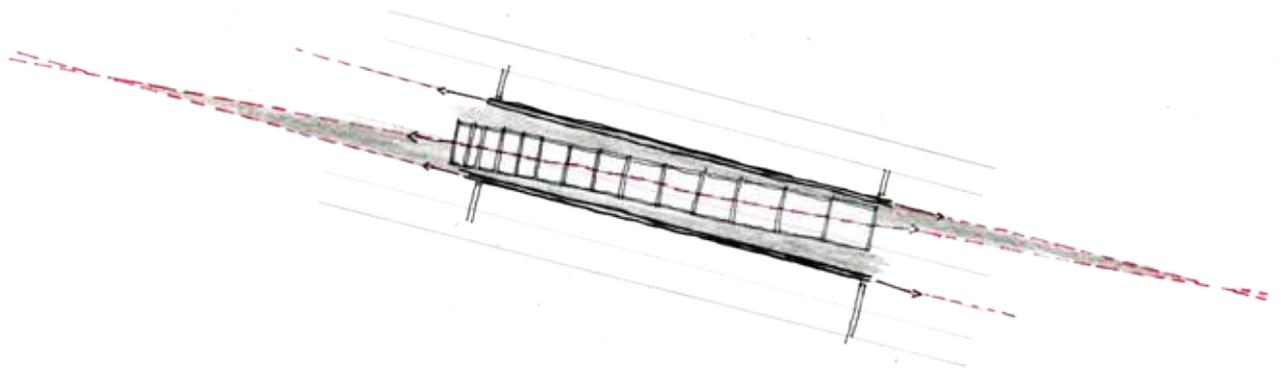
ground floor plan







interior view of the bridge



the express bridge is a reconfiguration of the various components of a regular bridge: structure, walkway, and enclosure.

the structure

the promenade on the street level offers the departure and arrival point of the bridge. once you get on the bridge the walkway has a different direction, guiding your vision towards different landmarks in the city. The structure is a truss system that spans the gap between both sides of the city, while the walkway is suspended from it.

the walkway

the walkway is a separate component within the main structure of the bridge, and is oriented differently. Its arcades do not parallel the structural truss, but within the spatial confines of the truss boundary. it reorients itself slightly differently than the principal bridge structure to direct your vision to a specific point in the city.

the enclosure

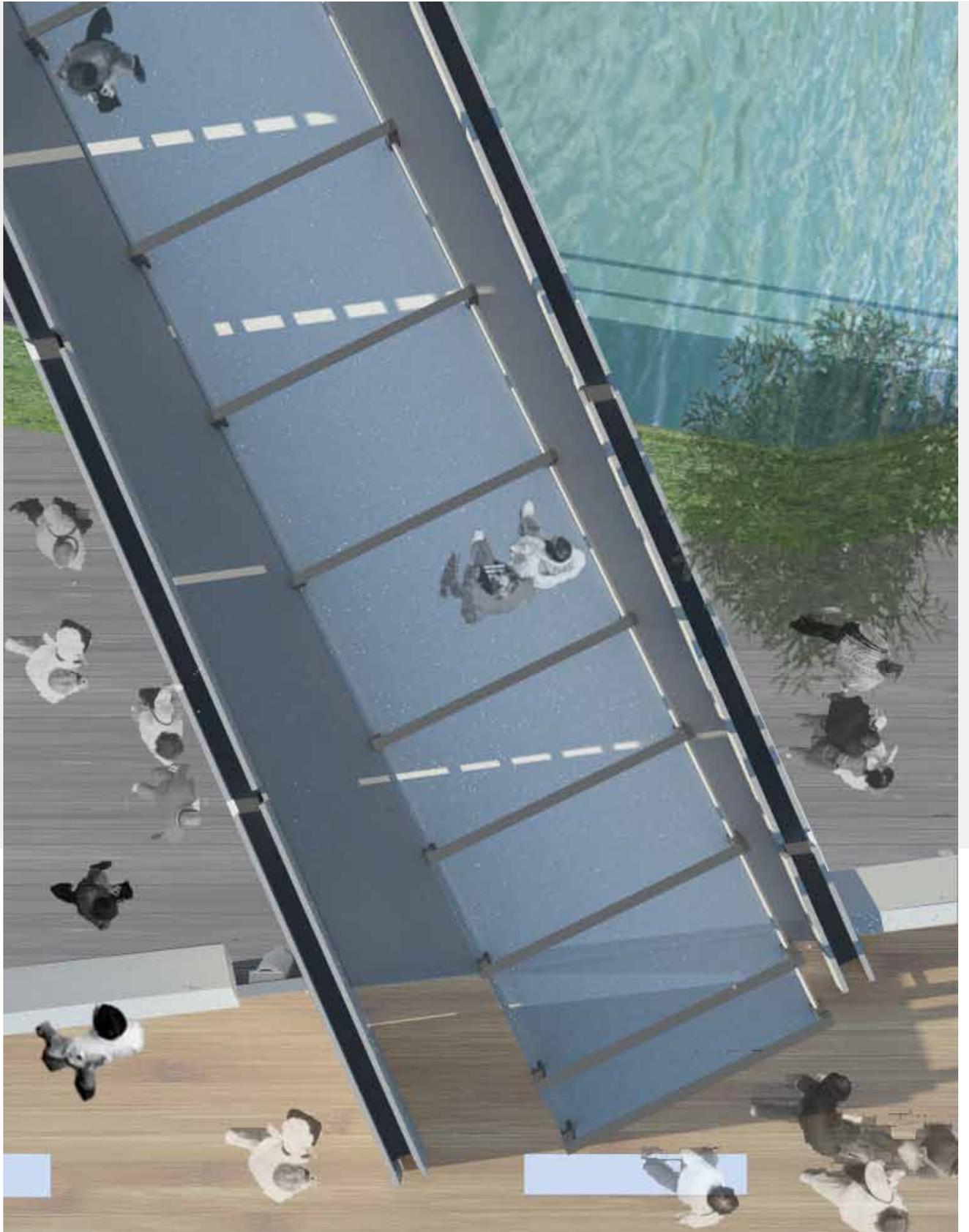
the enclosure is made of metal sheets that are clipped to the main structure. the openings in the enclosure allow glimpses of the city and the river below.

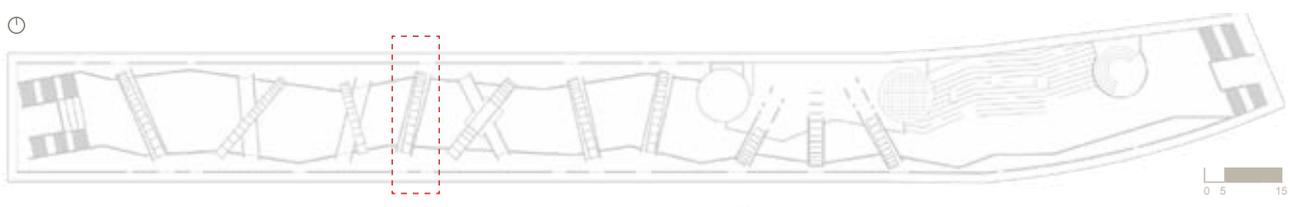
express bridge



axonometric

- a- walkway - structure glass
- b- structure - metal truss
- c- enclosure - metal sheets

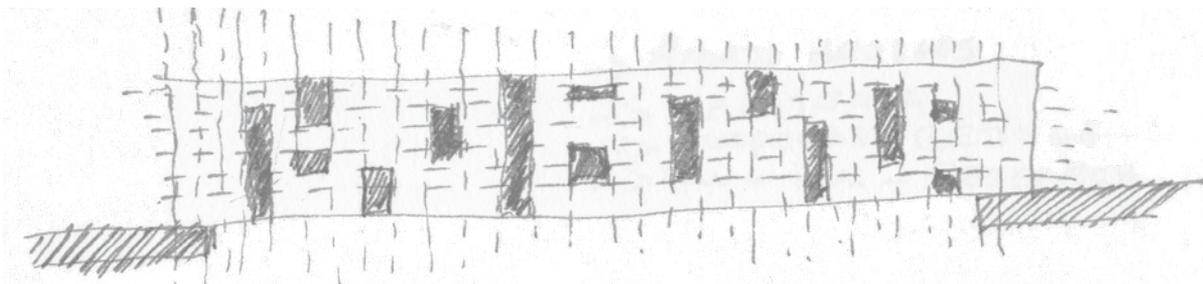
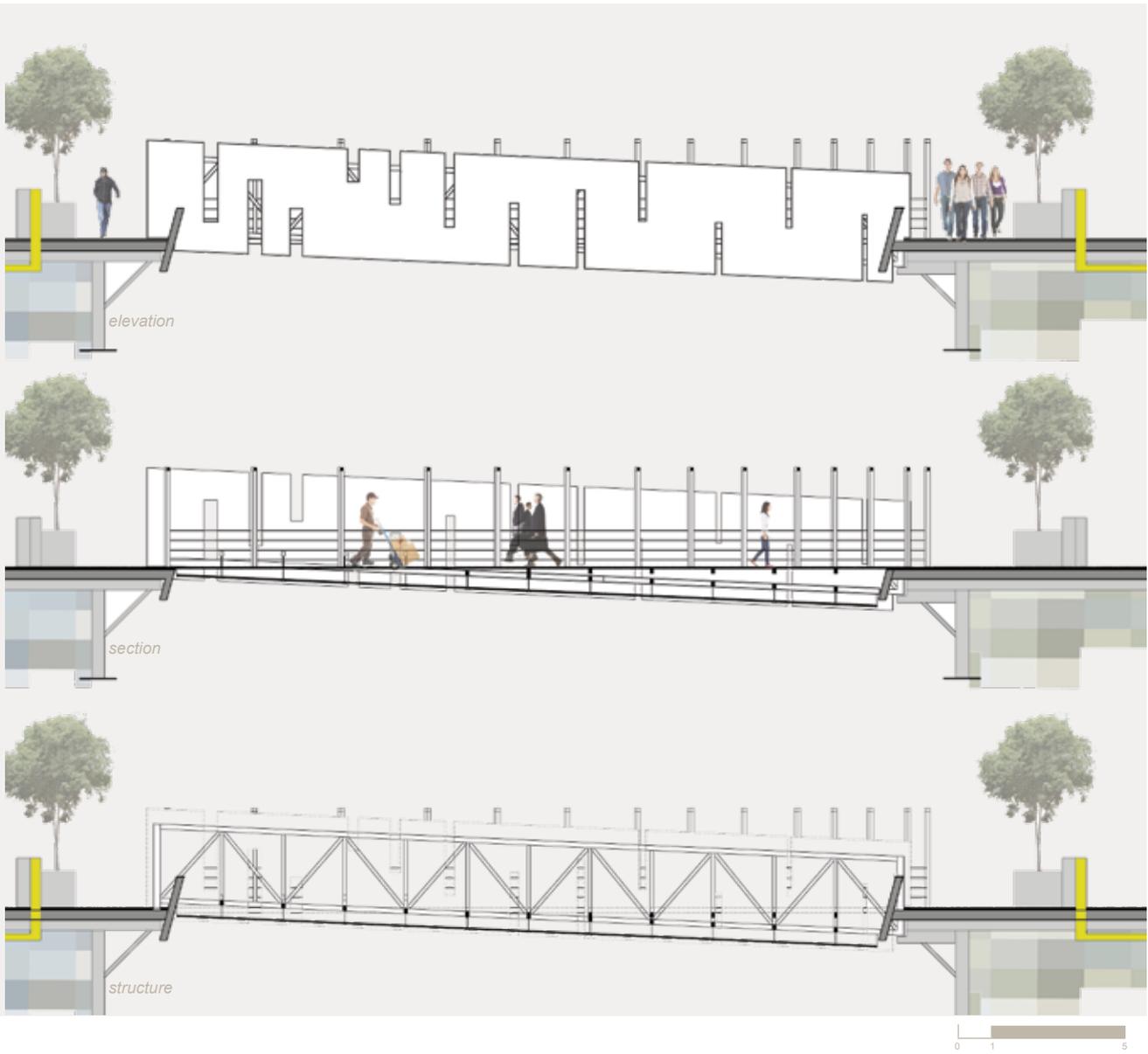


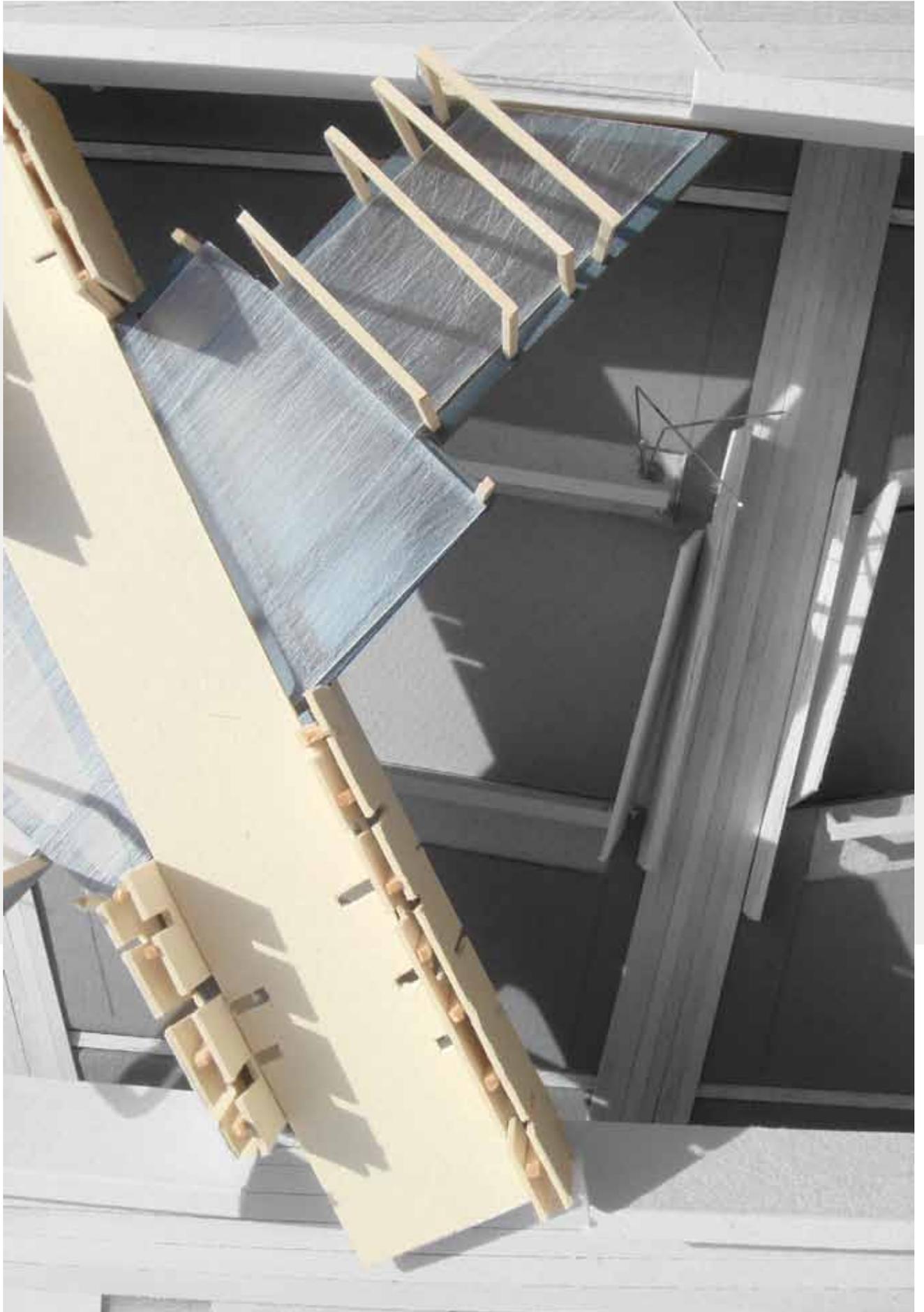




night view of the bridge









the promenade bridge is an intersection of two bridges at some point above the river. the intersection offers a pause for the pedestrian. this is made of major beams that span from one side to the other. their deflection at the complex intersection is counteracted by a cluster of compression posts which are suspended by cables reaching the tall length of the beams.

the walkways

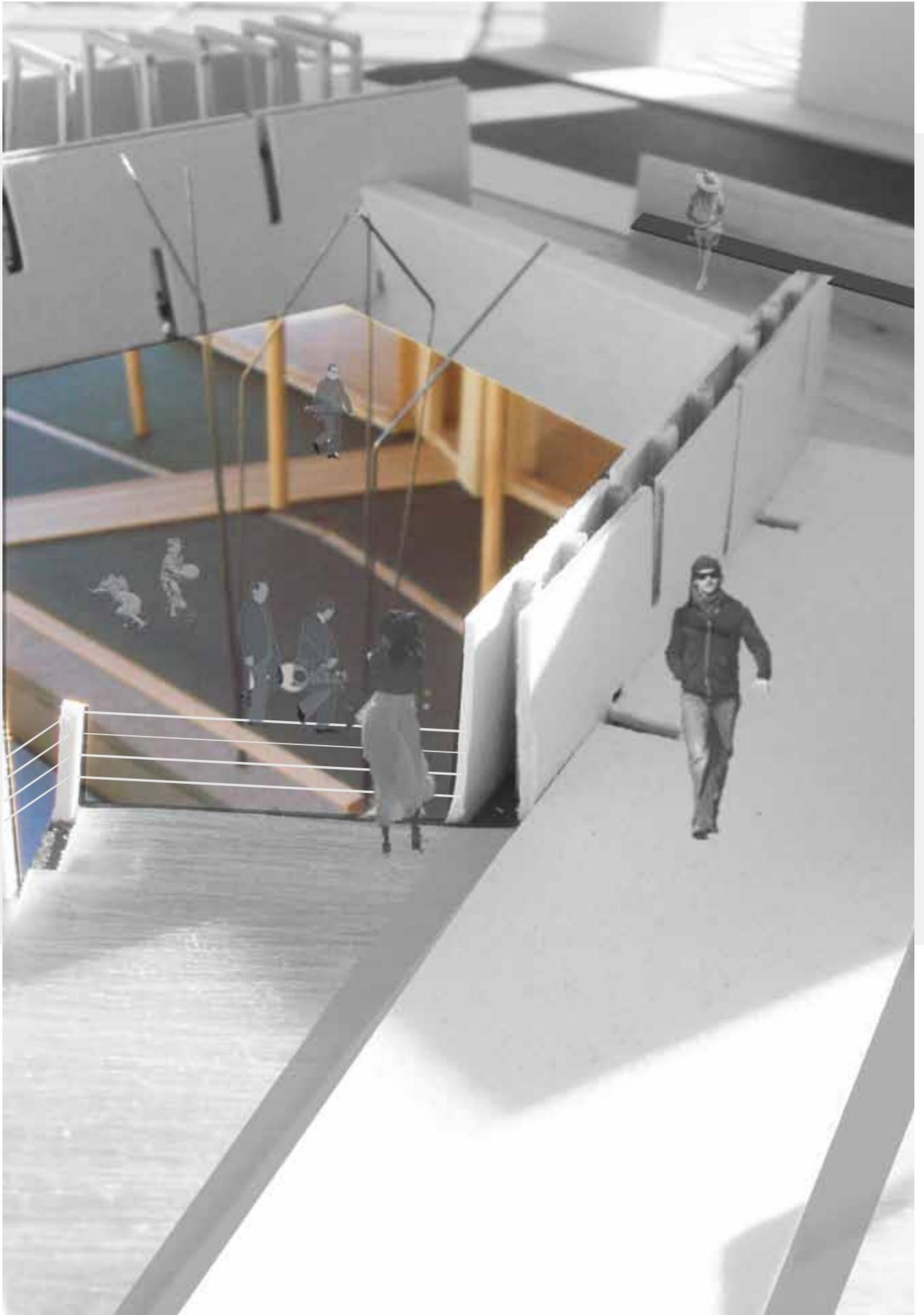
the glass walkway is elevated above the concrete walkway, both trying to reach the platform that is created at their intersection.

the pause

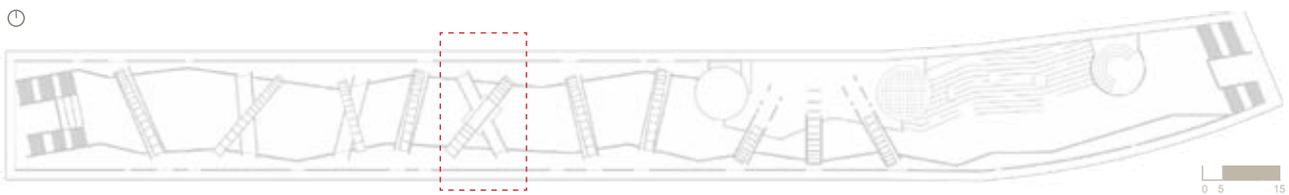
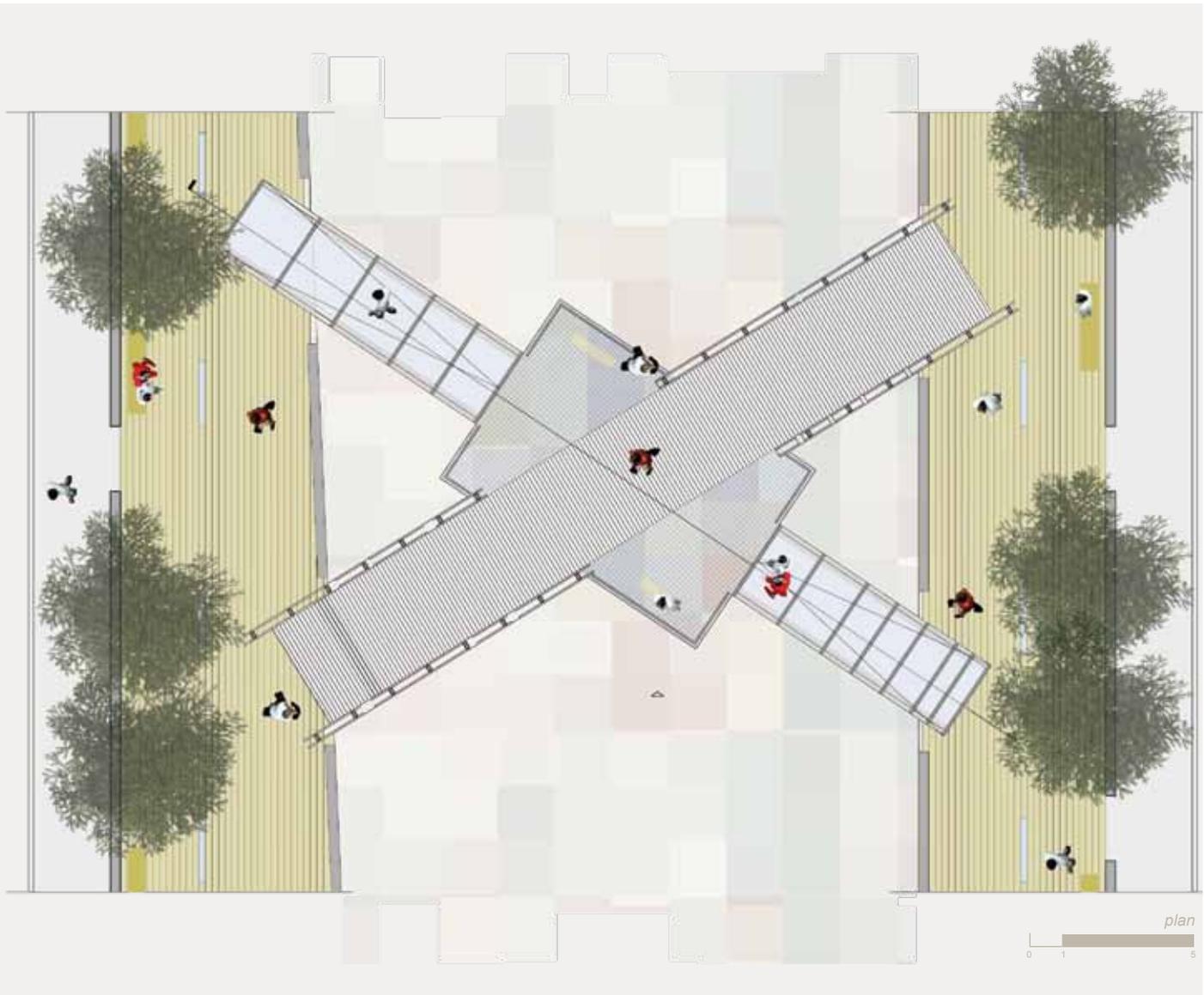
the intersection offers benches on both sides to enjoy the scenery of the city and the river below. unlike the express bridge it allows you to be surrounded by the city's landmarks.

promenade bridge



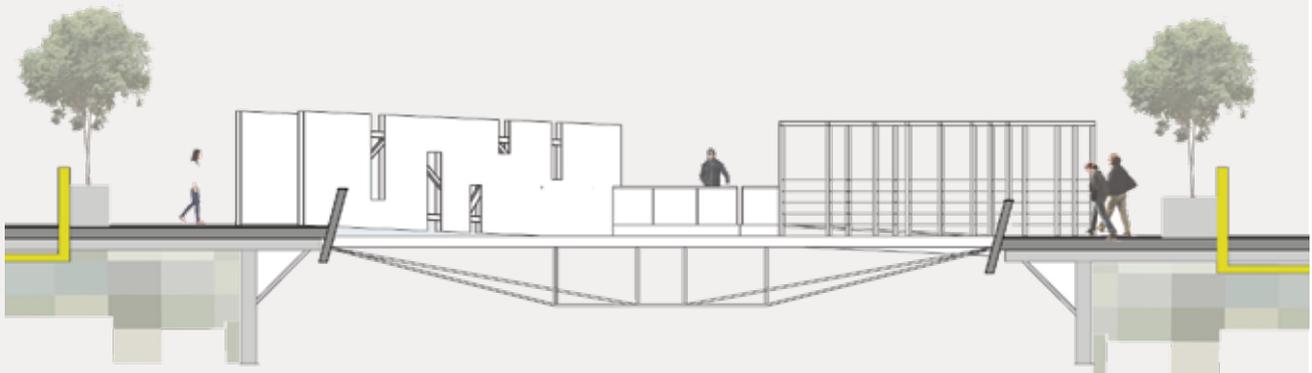


view to below

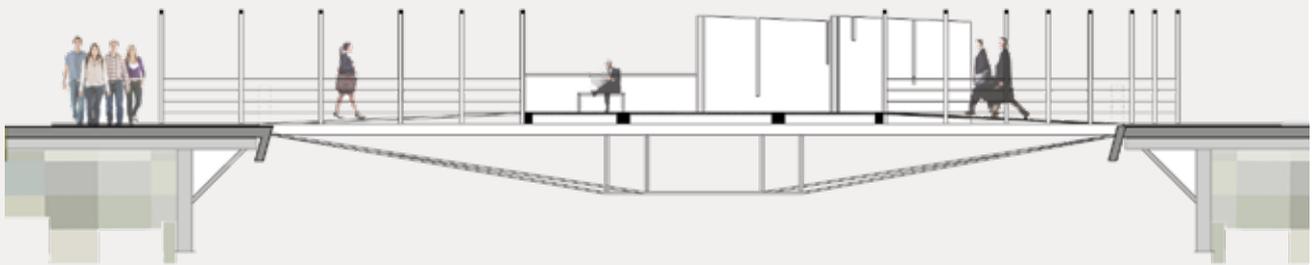




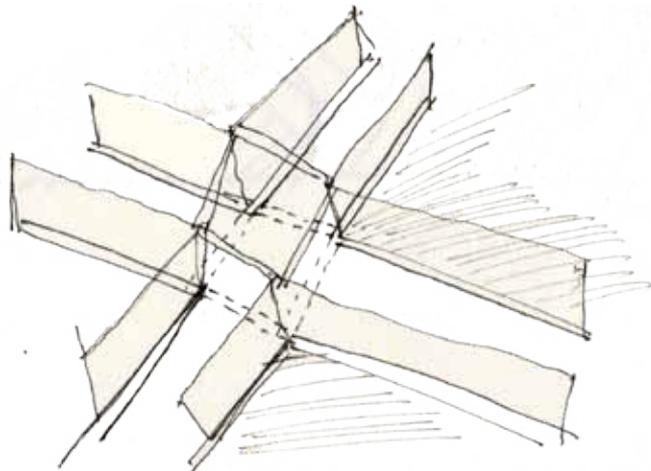
view of bridge connecting with the ground

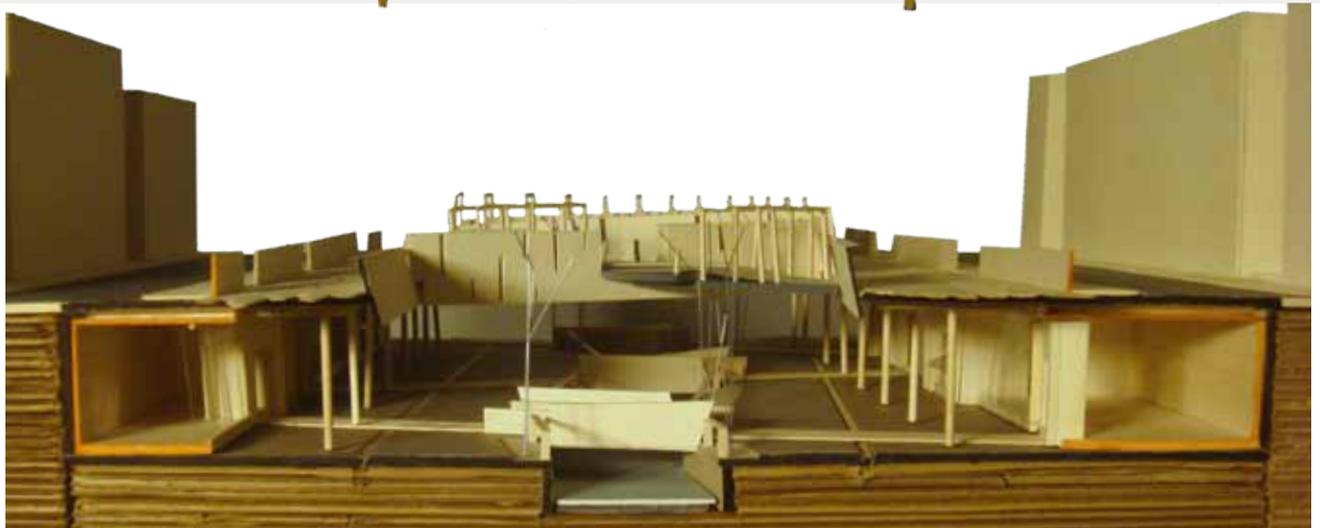


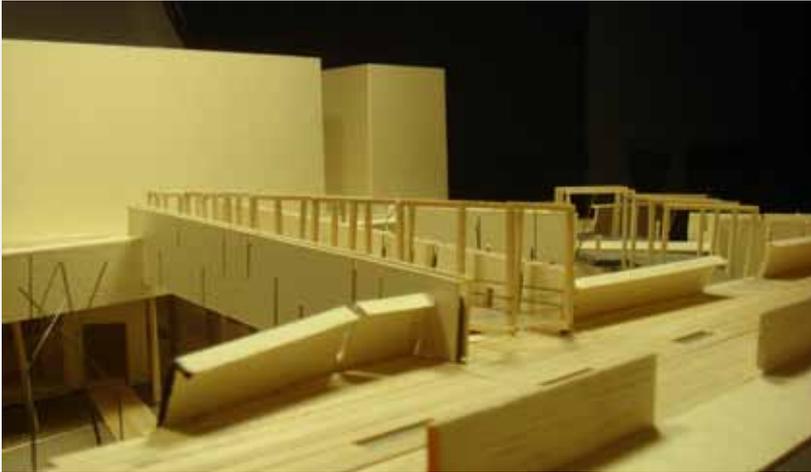
elevation



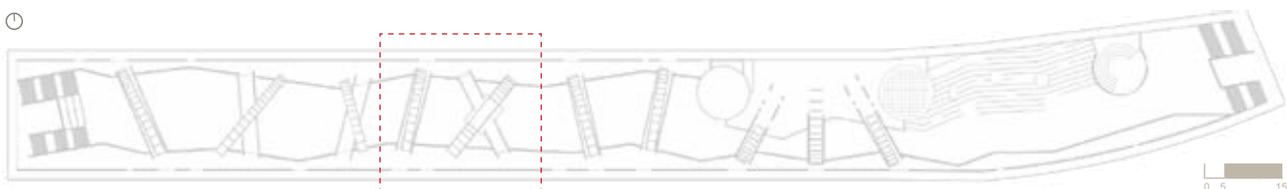
section







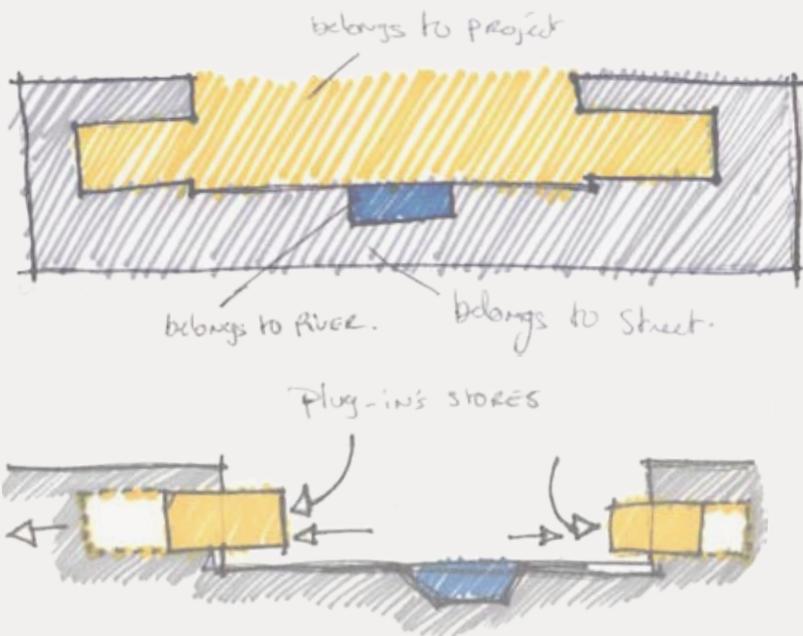
different views of the sectional model





human scale - [souk]





the souk is a major economical driver in most Middle Eastern cities, with a specific architecture that suits each site's or city's needs. it is usually a gathering place for all classes of the society. both parts of the city, now connect physically and socially the souk, along the banks of the river can be reached through two main stair-cases on both ends of the site, defined by the following three main elements.

pilotis

order is established by an element that connects the whole project. in this case pilotis define the spaces, and direct the movement. on one side of the pilotis is the pedestrian walkway; on the other side, the space belongs to the stores, where a shopkeeper or patron could step out into a defined outdoor seating area.

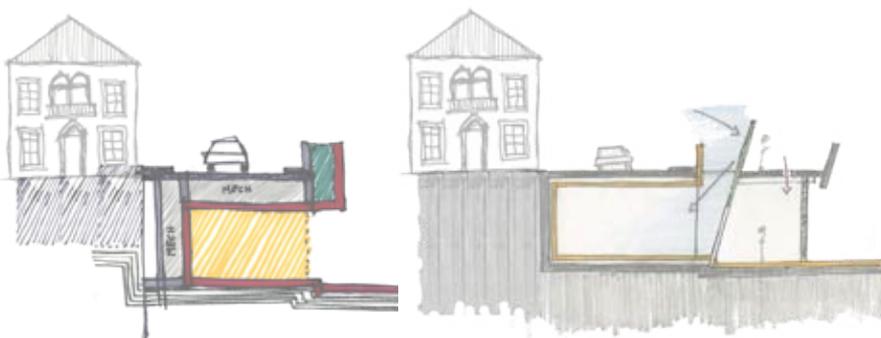
light wells

the light wells direct movement at the souk level and on the ground floor. they bring natural light to the covered area during the day and they illuminate the path at night with light fixtures from within.

the portal

each store has a main entrance, designed as a portal, these portals are connected by the lower bridges to have a visual, and physical connection between both sides of the souk.

the souk



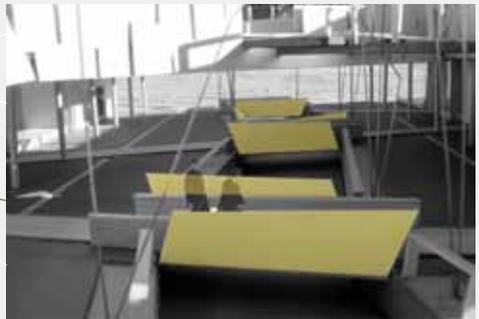
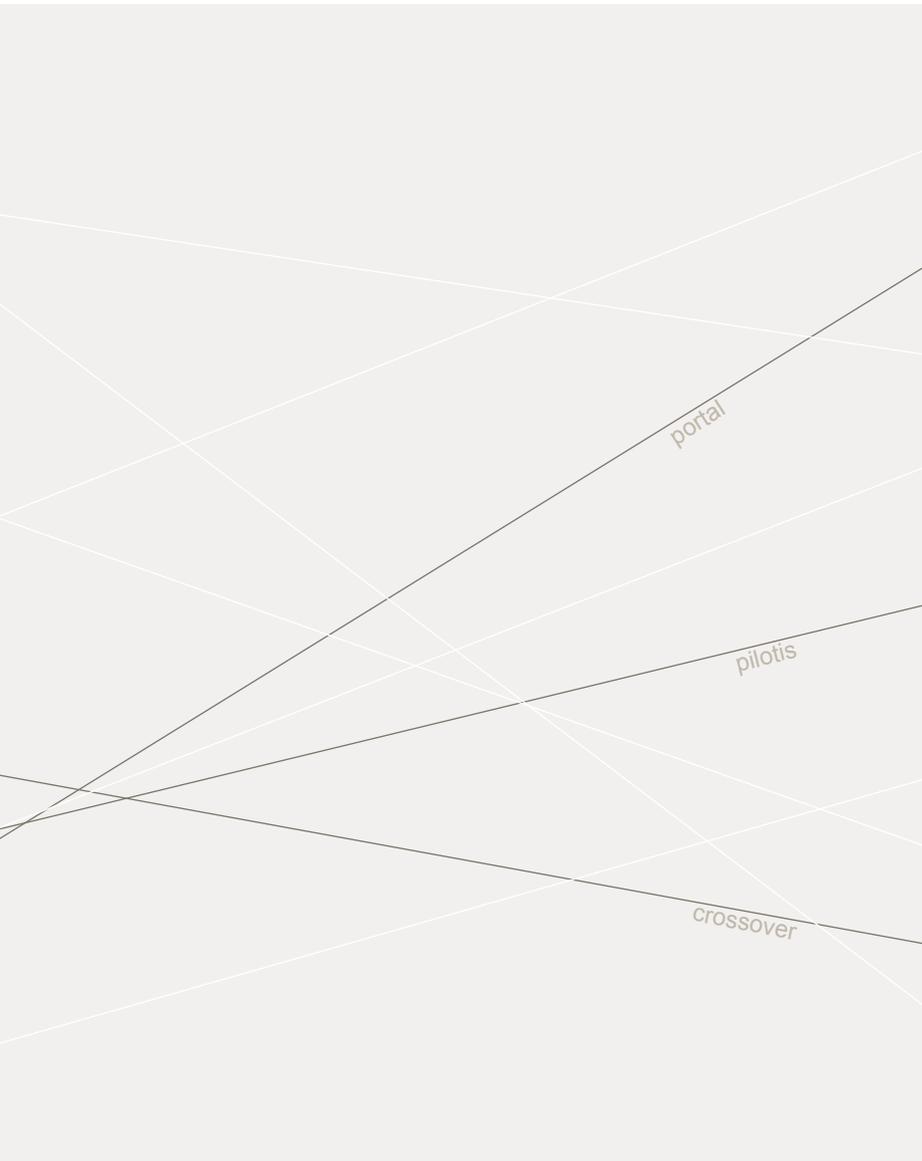


plaza / service entrance / parking

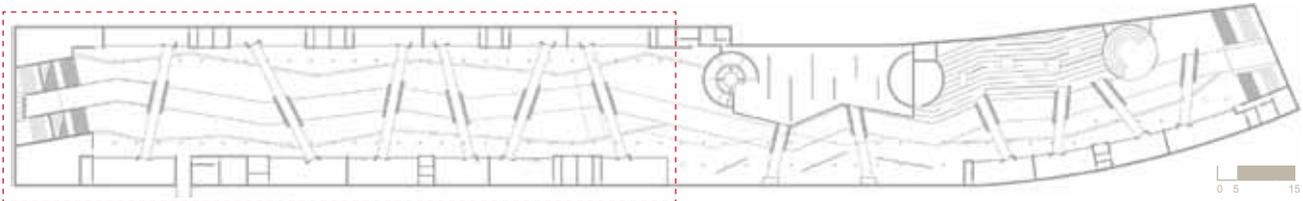
existing river path

underground floor plan

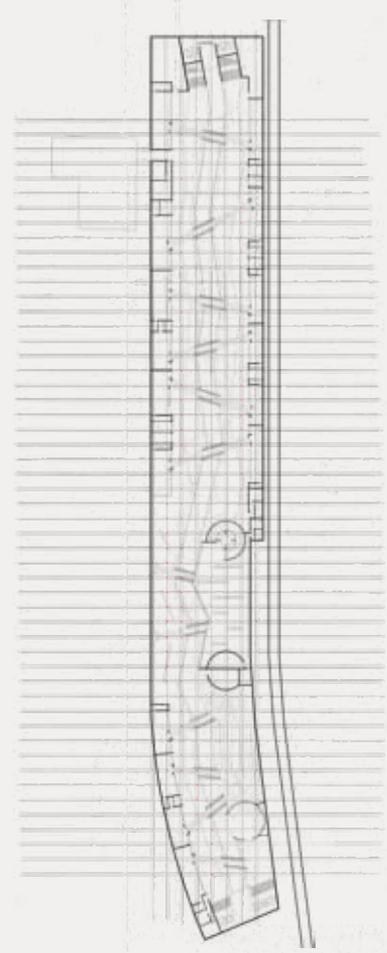




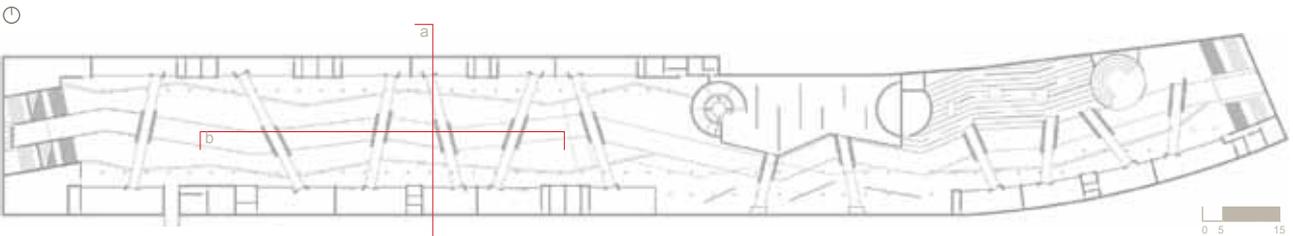
©

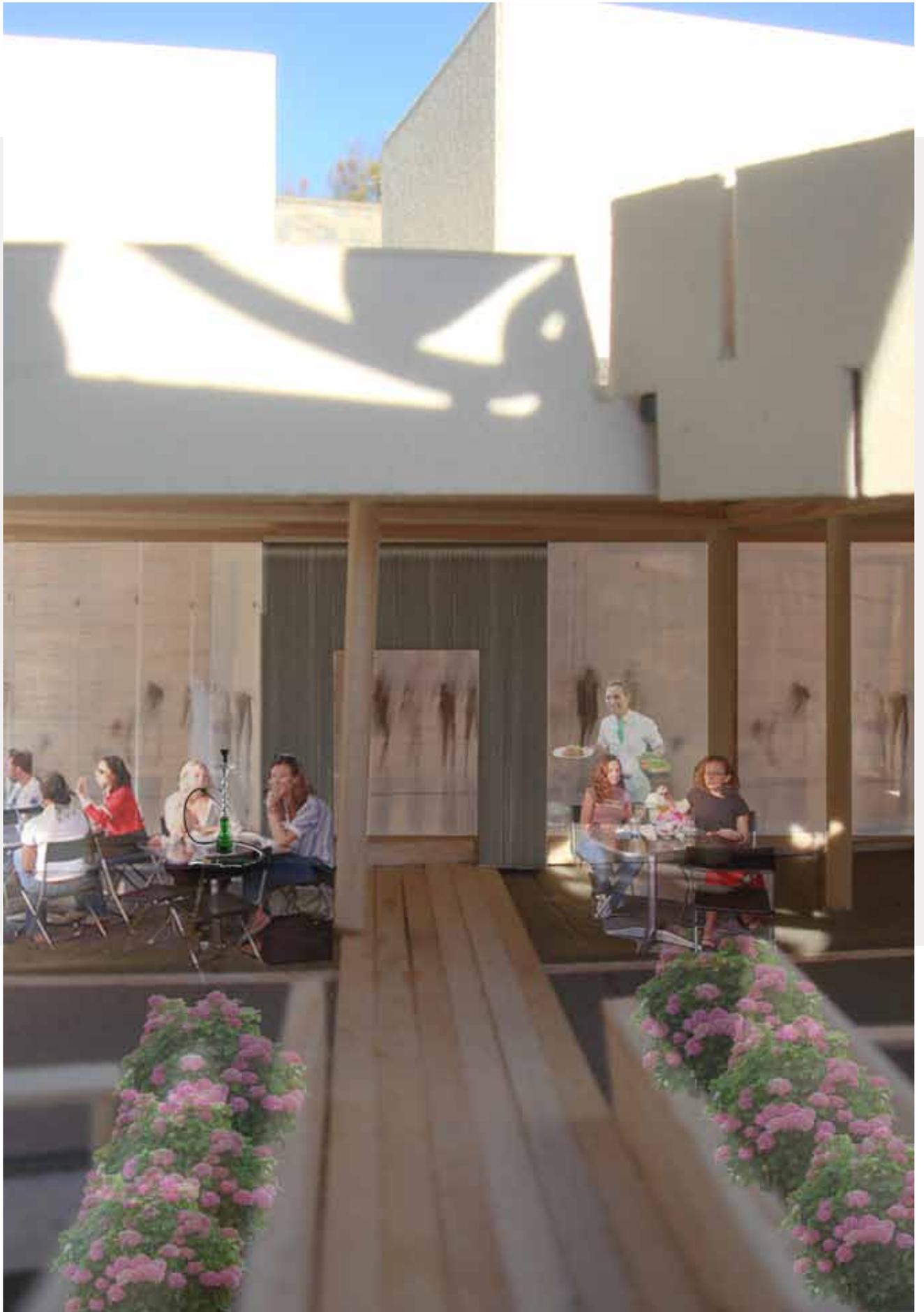


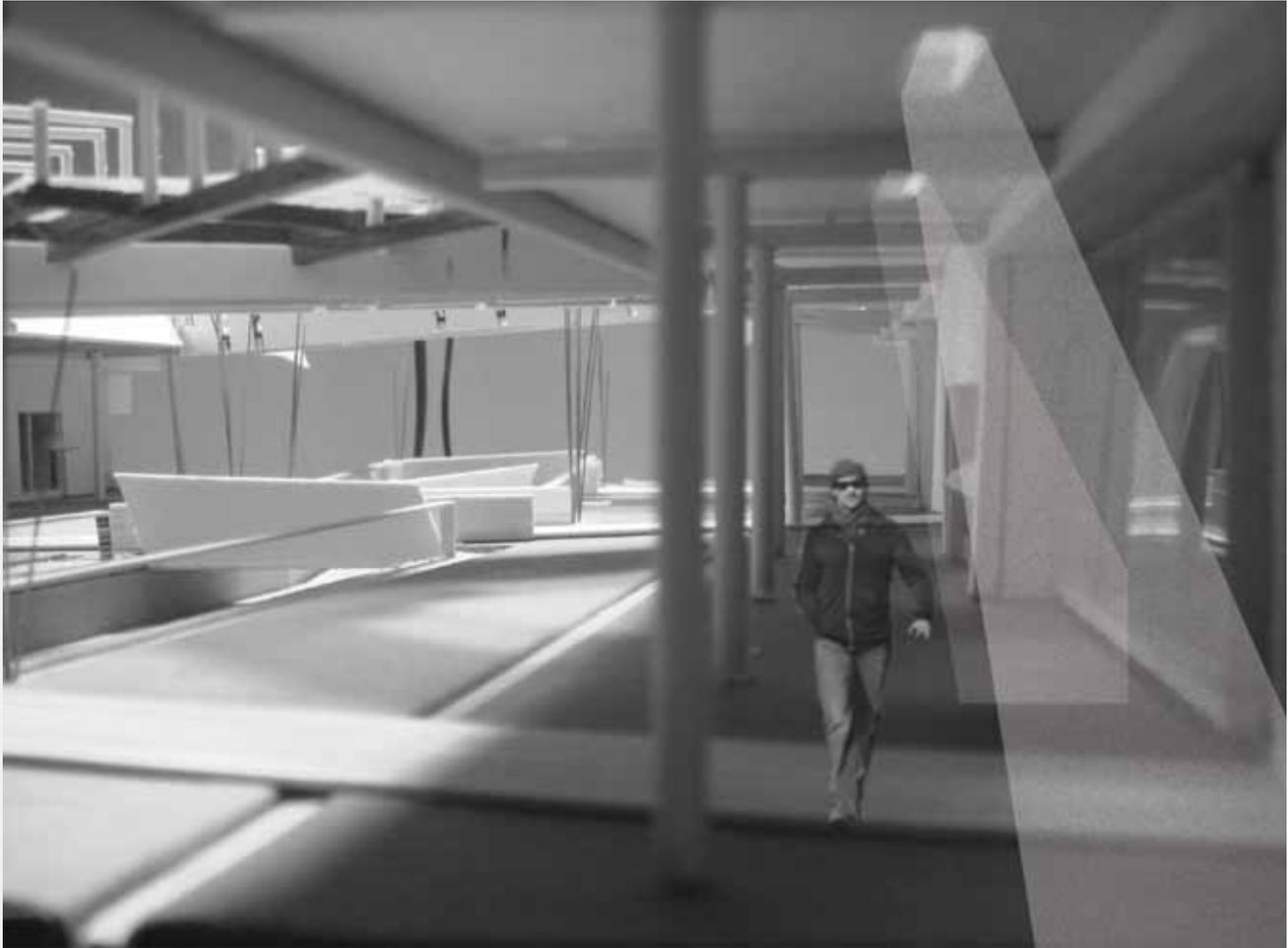




column grid of 6mx6m to bring order to the site.

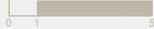


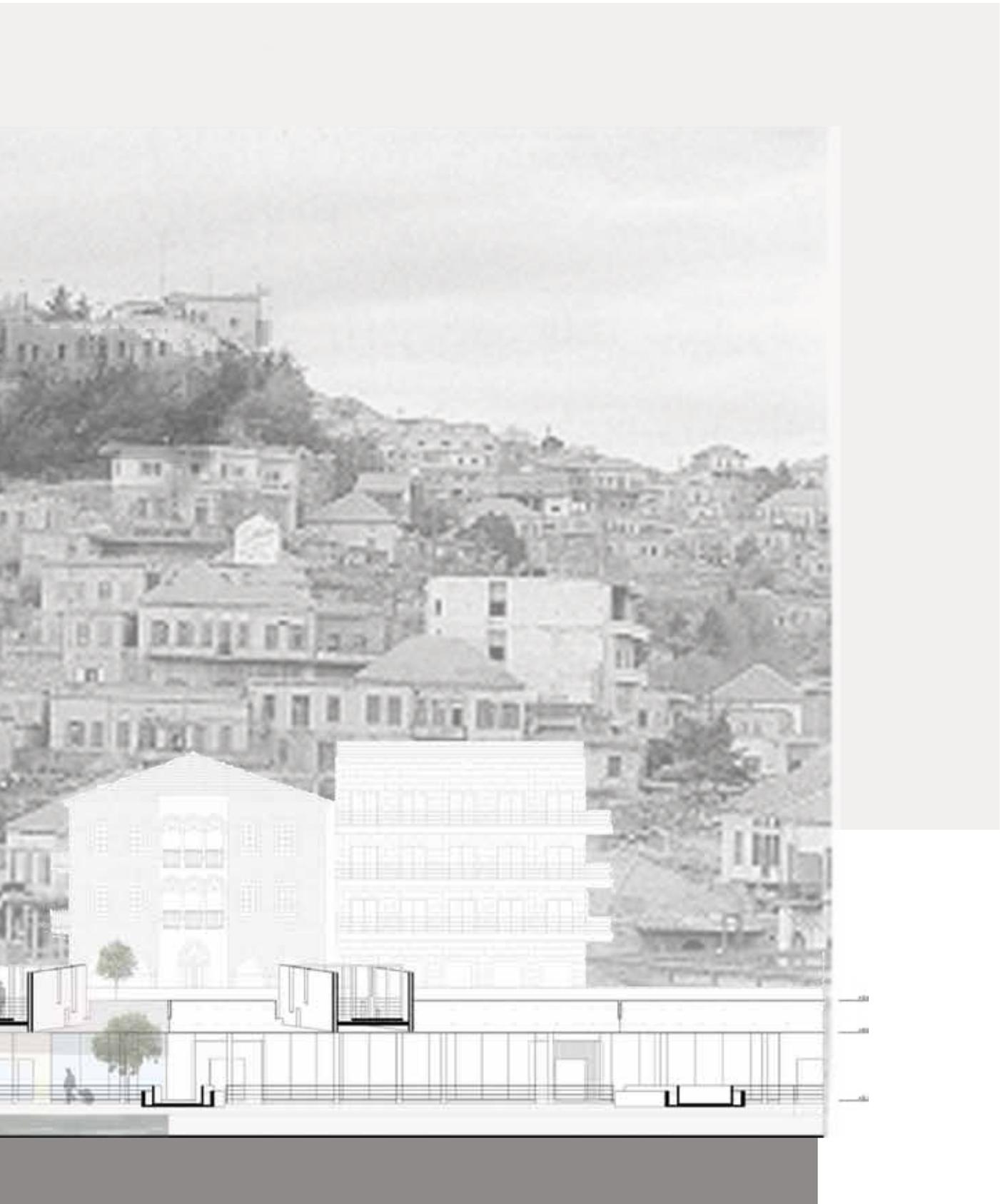






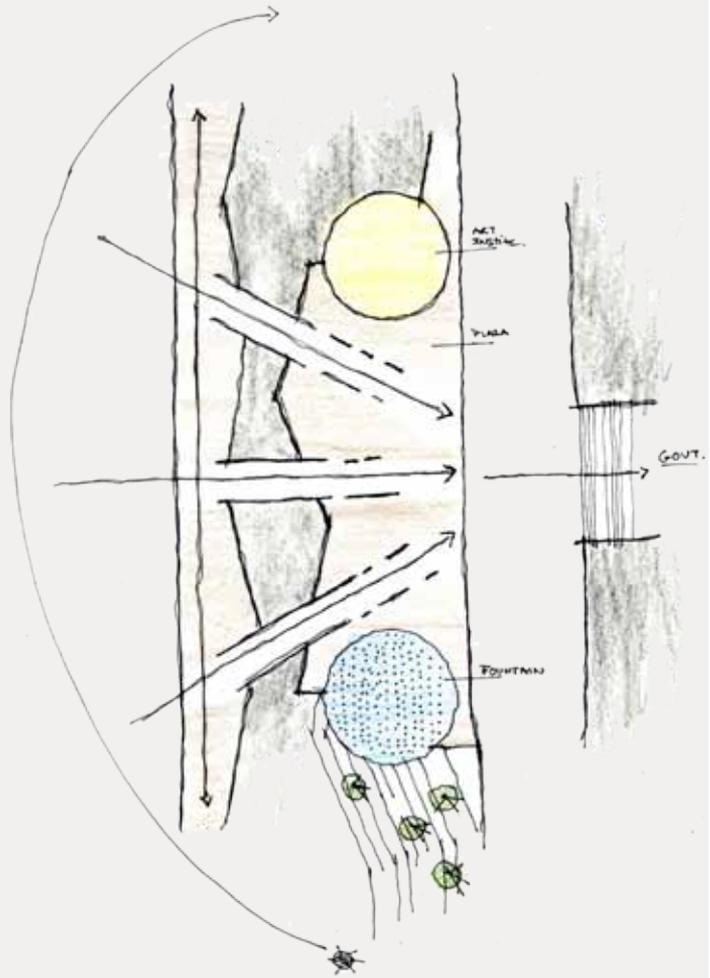
partial souk elevation-b









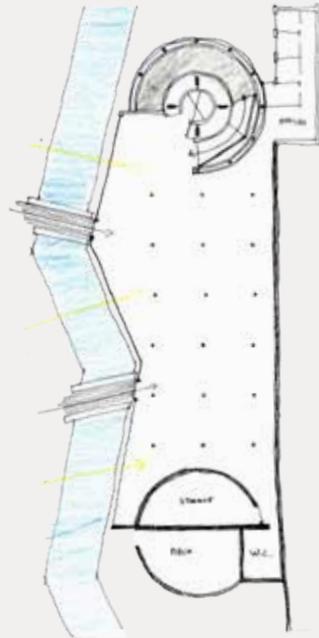
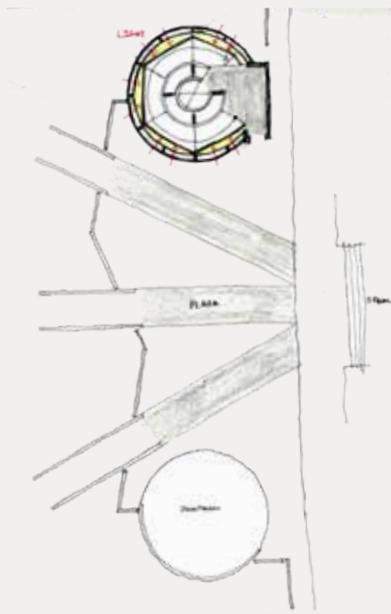


human scale - [art institute and plaza]



ground floor plan





the area of the site adjacent to the government headquarters is complemented with a plaza on the street level, and an art institute at the level of the river.

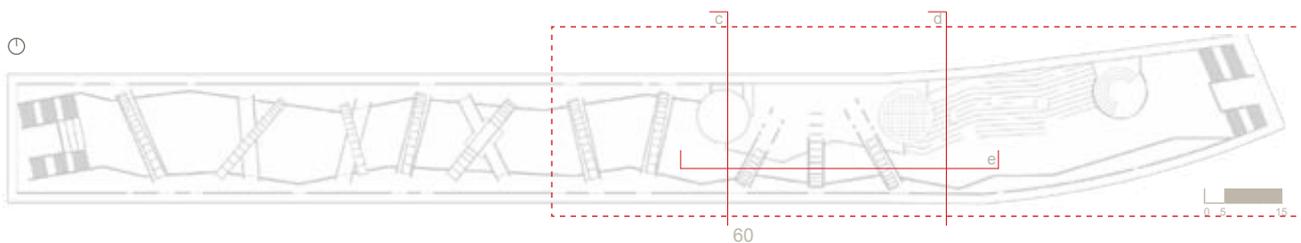
art institute

the art institute employs an existing car ramp as exhibition space, leading to the lower level. the slope turns into a promenade using big steps that wrap around the curved wall of the existing structure thus straightening the floor, and the walls.

plaza

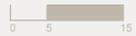
on the plaza level, three bridges reach out from the opposite side, and start to deconstruct into walls toward the government headquarters. this new public space adds symmetry to the plaza. a circular water fountain on the axis of the car ramp follows the same principles.

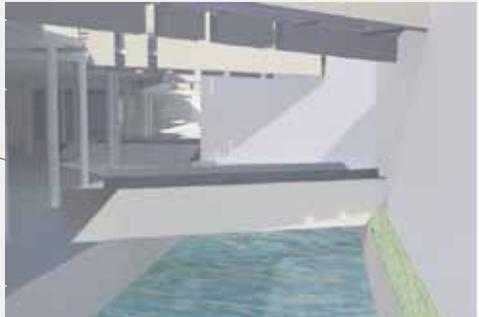
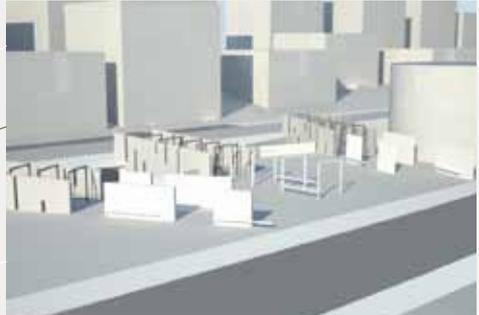
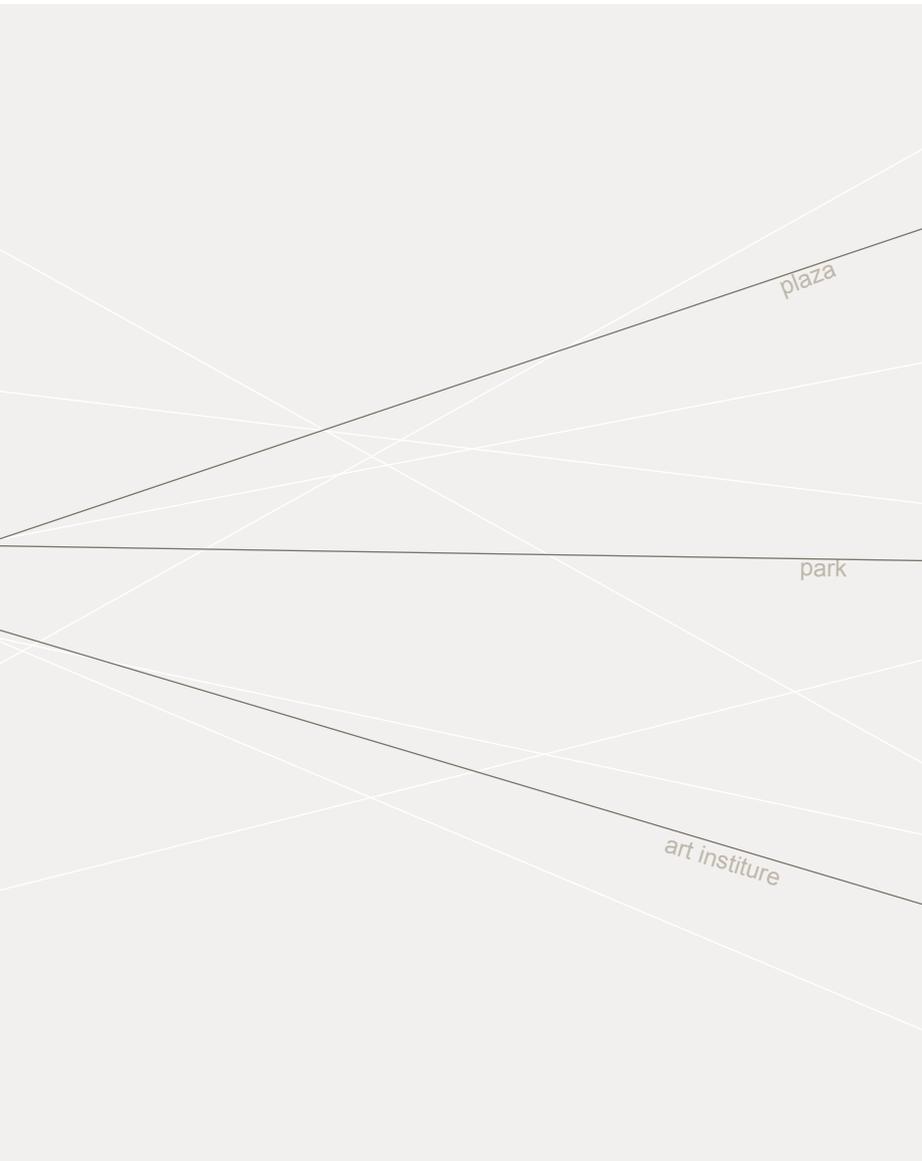
art institute/plaza





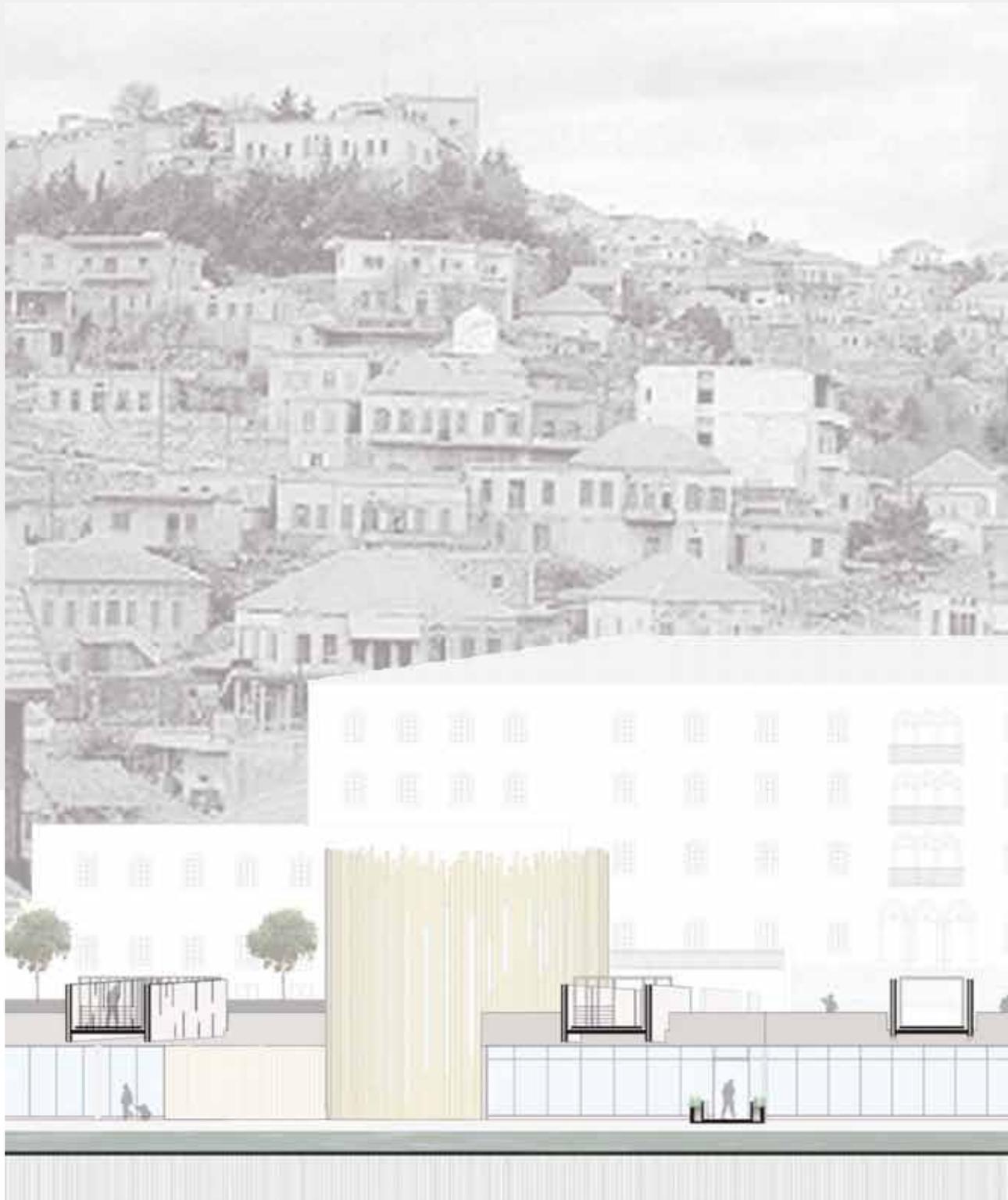
underground floor plan











partial art institute elevation - e







conclusion

this project aims to assist the city of zahle in an effort to reinvigorate its former downtown. the architectural approach primarily reclaims the riverfront to assert its identity. the typology of the area and the different constituents that surrounds it, natural or man-made, serves as a formal basis for the architecture. Hovering between former traditions and a contemporary urban needs and desires, the architectural stitching intends to generate a spatially interesting civic place and which can contribute to the quality of life of a city and its inhabitants.

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all drawings and photographs by the author, unless otherwise noted

