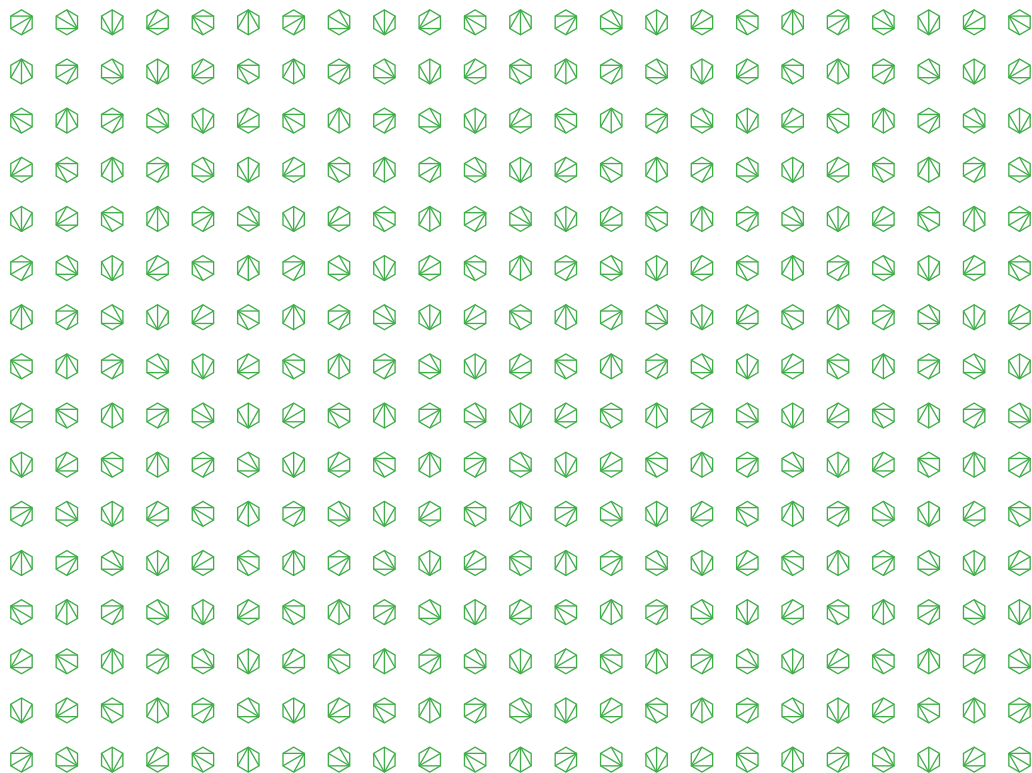


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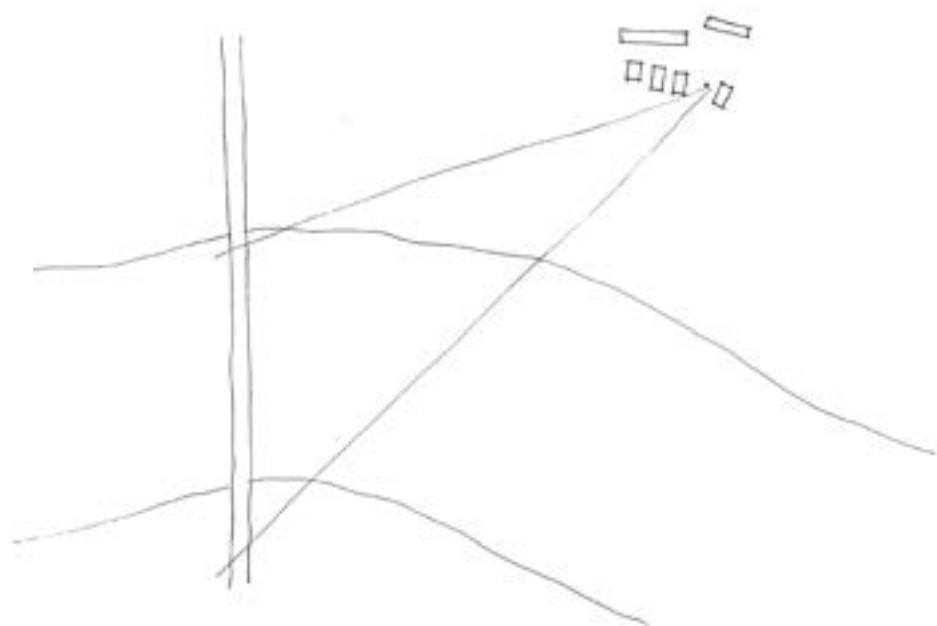
Luisa Lara Resende

Giovanna Moccia

Alaa Alhariri

2016

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Infrastructure for imagination

[Architecture and Engineer /
Alvaro Siza Vieira e Edgar Cardoso]

Context

The settlement of the Porto Architecture School, by Alvaro Siza Vieira, keeps voids in between buildings as windows towards the Douro river. Over there, the bridge by Edgar Cardoso crosses the valley connecting Porto and Vila Nova de Gaia.

Vertical and Horizontal links

The bridge was built fifty years ago. Nowadays 150.000 cars cross it every day. However, that bridge holds an idea that was not fully realized: the link proposed by two lifts in each bank vertically connecting 70 m between lower and upper levels of both cities.

Assumption

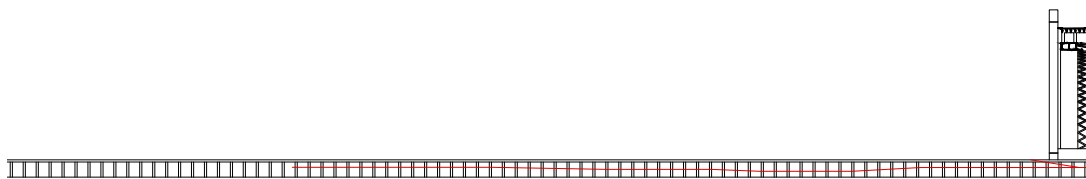
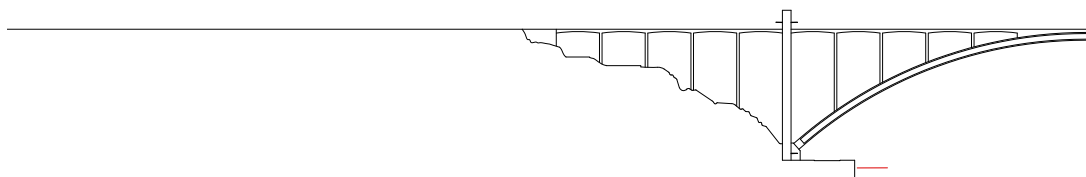
The assumption of this vertical connection is the main precedent for this studio.

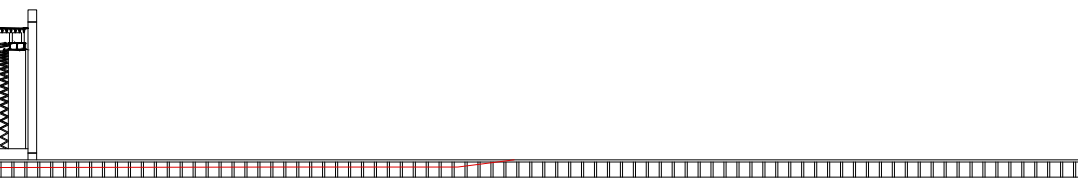
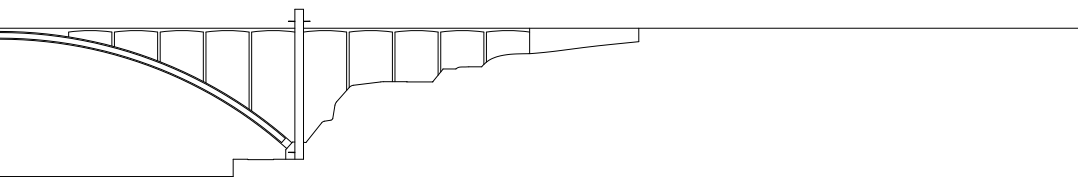
Scale

Besides, there is a suggestion from that same bridge, as infrastructure, which evokes quite a delicate issue of scale. It is the Casa Douro, a small building, whose existence is due to the construction of the bridge itself. Both, the enormous bridge and that small building, are closely related regarding scale and meaning. These topics are addressed by drawings made by this group during this intense Porto Academy week.



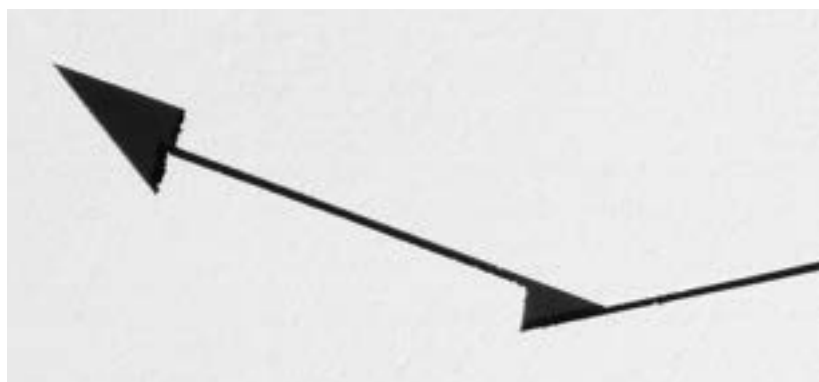
La passerella
Sofia Toffano
Júlia Marques
Mirella Guida
Laura Castany



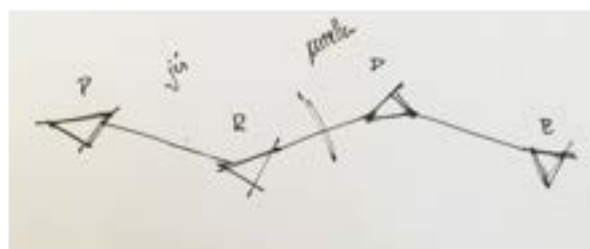


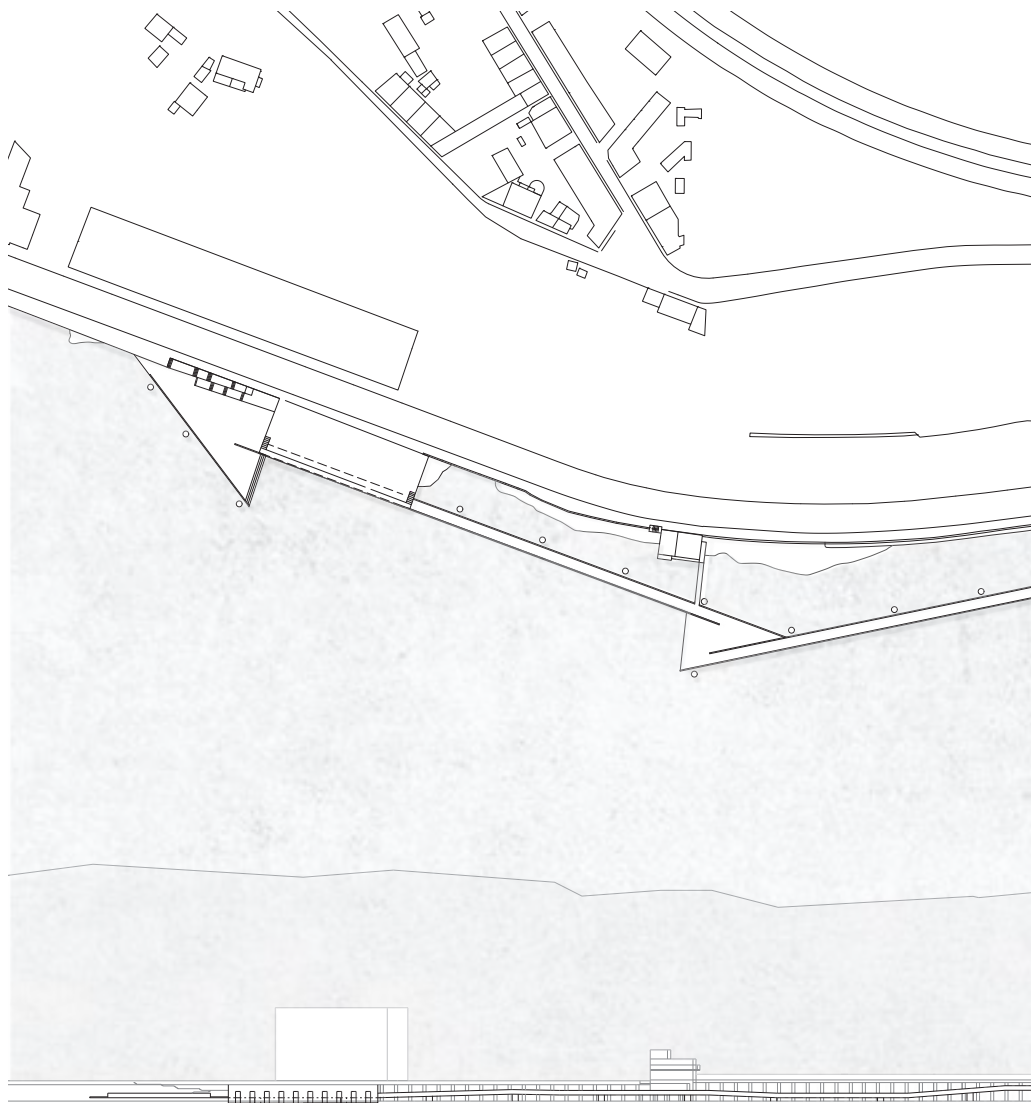
La passerella

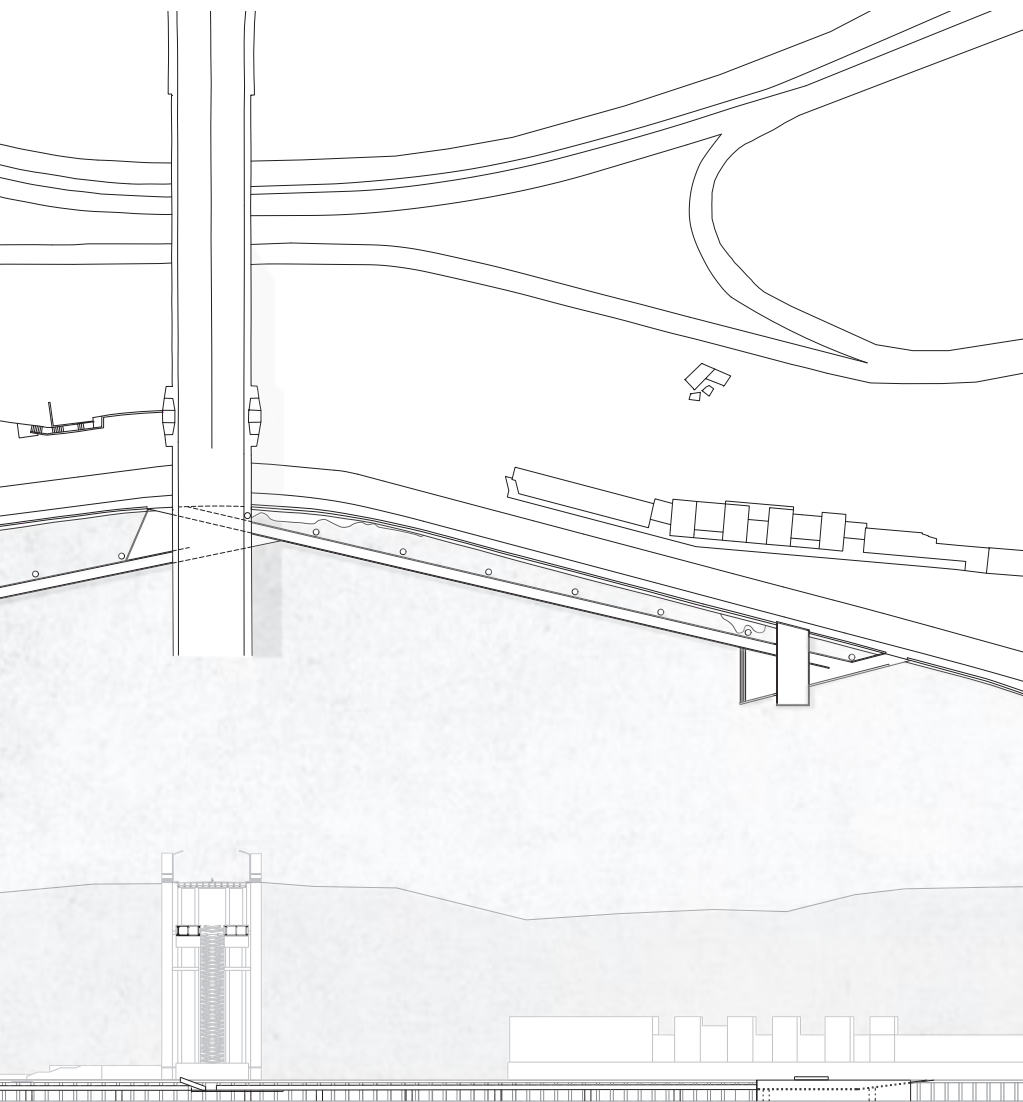
The aim of the project is to provide the possibility of experiencing the river. Walking over the Douro through different scenarios and powerful architectural events.

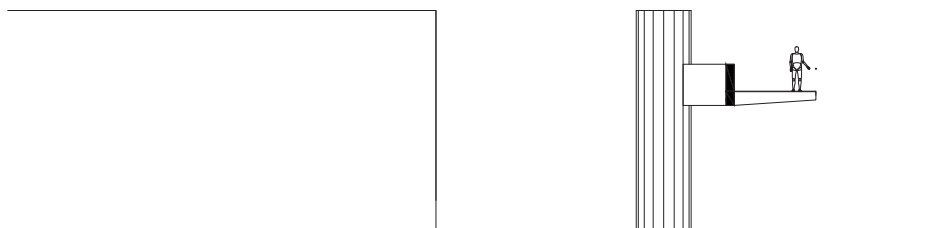














0 m
Arrábida bridge



180 m

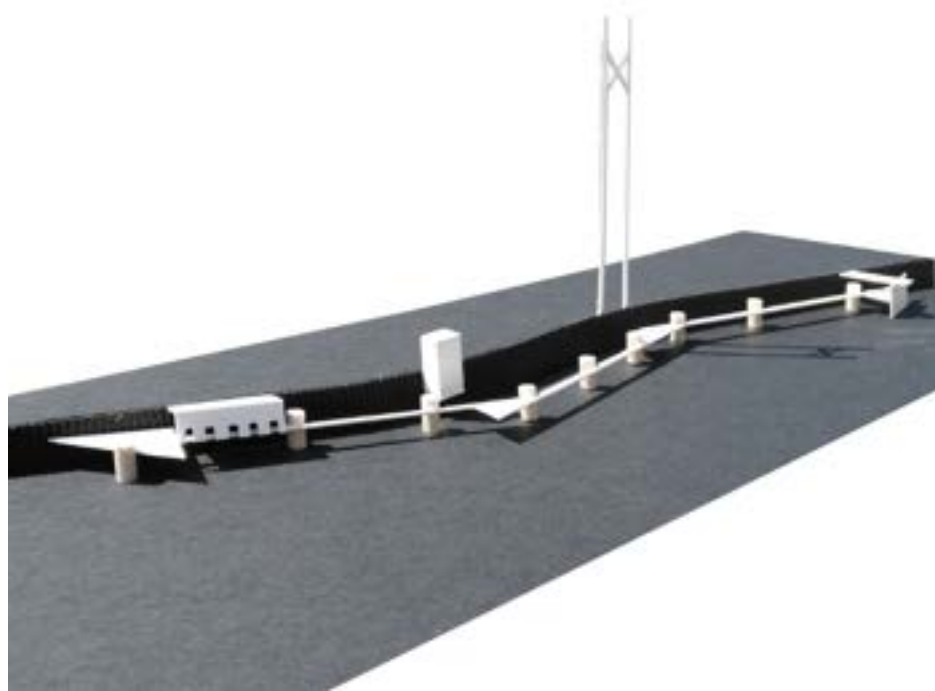
Vila Nova de Gaia



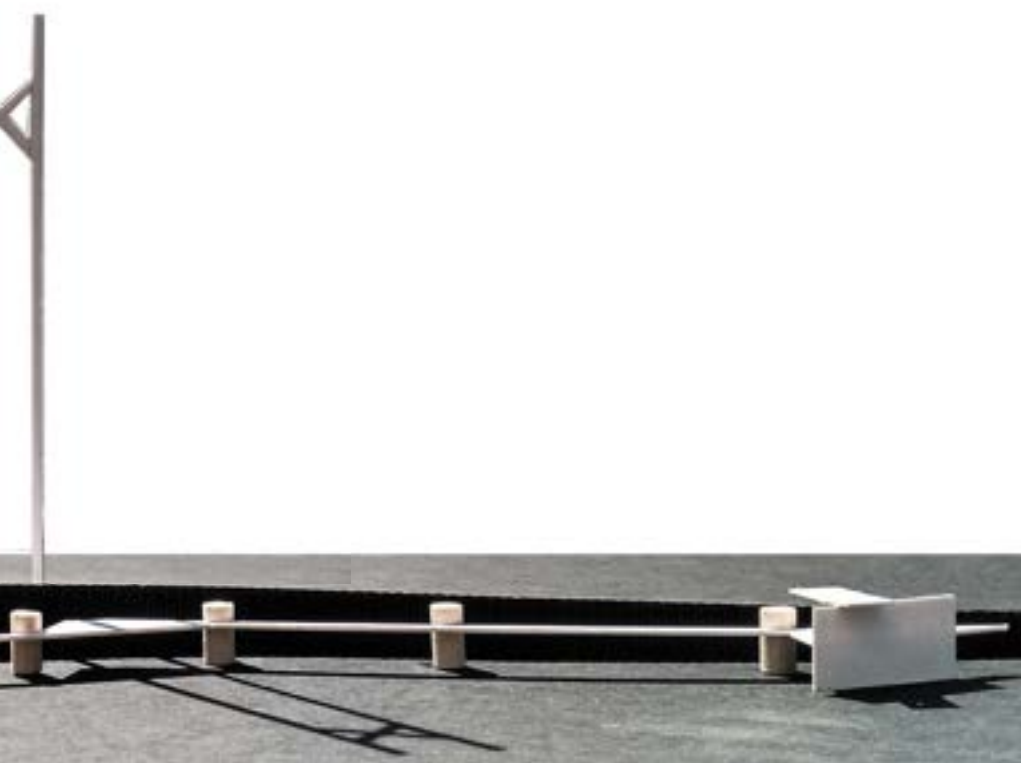
360 m
Casa Douro

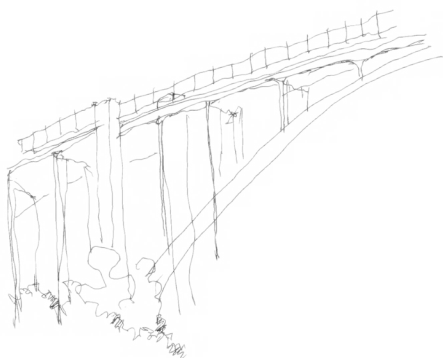


545 m
The ruin









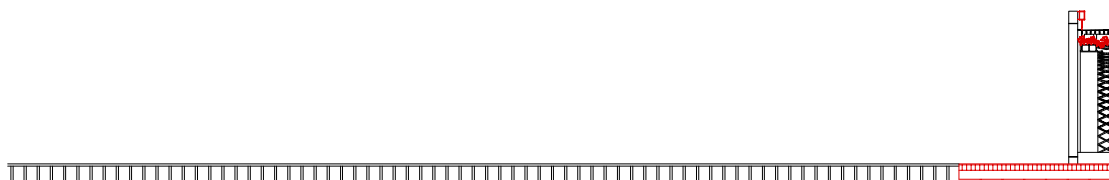
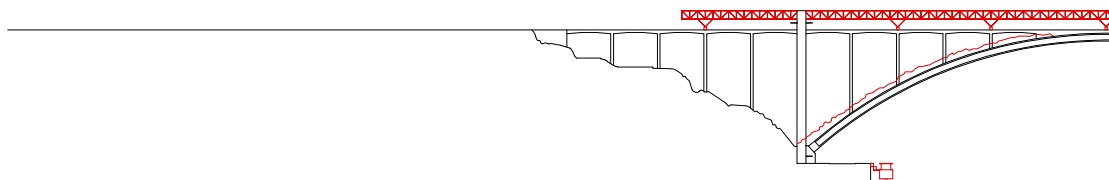
Pathway and Memorial

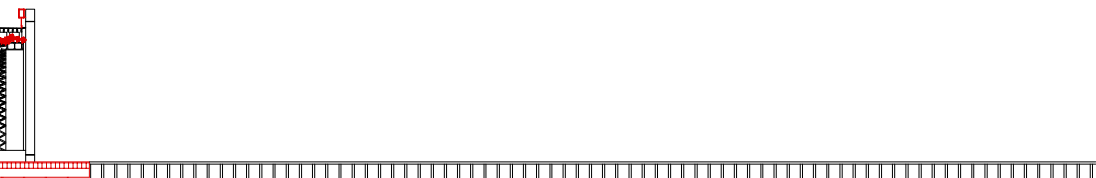
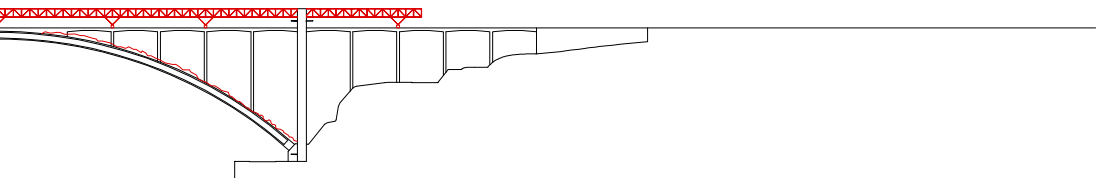
Aline Nascimento

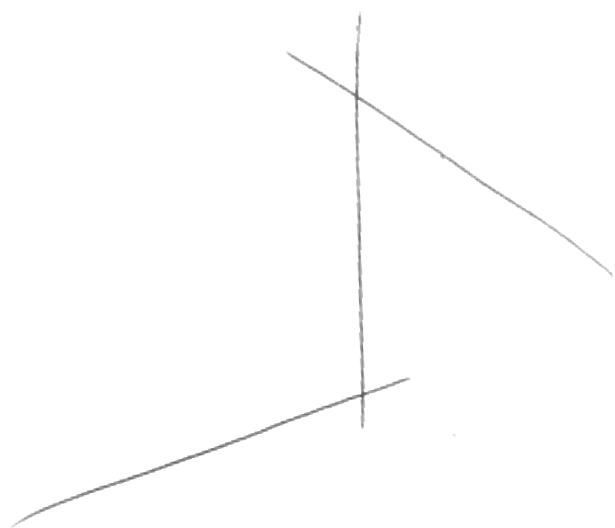
Alcindo Dedavid

Carolina Quintanilha

Mariana Mascarenhas







Pathway and Edgar Cardoso Memorial

Edgar António de Mesquita Cardoso was a 20th century portuguese bridge engineer who left us an extraordinary legacy.

Being learned in electrical engineering, he invented a 360 degrees photographic camera, which enabled him both to make the necessary measures and to photograph every detail of the bridges he created (imagined?).

Bearing this idea of the need for a 360 degrees view in mind, our main goal, within the context of this exercise, was to create ways to facilitate and contribute to the future revitalisation of the Arrábida bridge elevators project, by tackling the problems such revitalisation necessarily brings along.

We found two main problems we needed to solve: the frail pedestrian connection between Porto and Gaia, which basically doesn't exist and is swallowed by all the traffic; the discontinuity between the city and the river.

Therefore, our proposal consists on implementing two three-dimensional axes, which communicate with the vertical elevators' one ("y"): an horizontal axis, parallel to the bridge ("x"); an axis at the riverside level ("z").

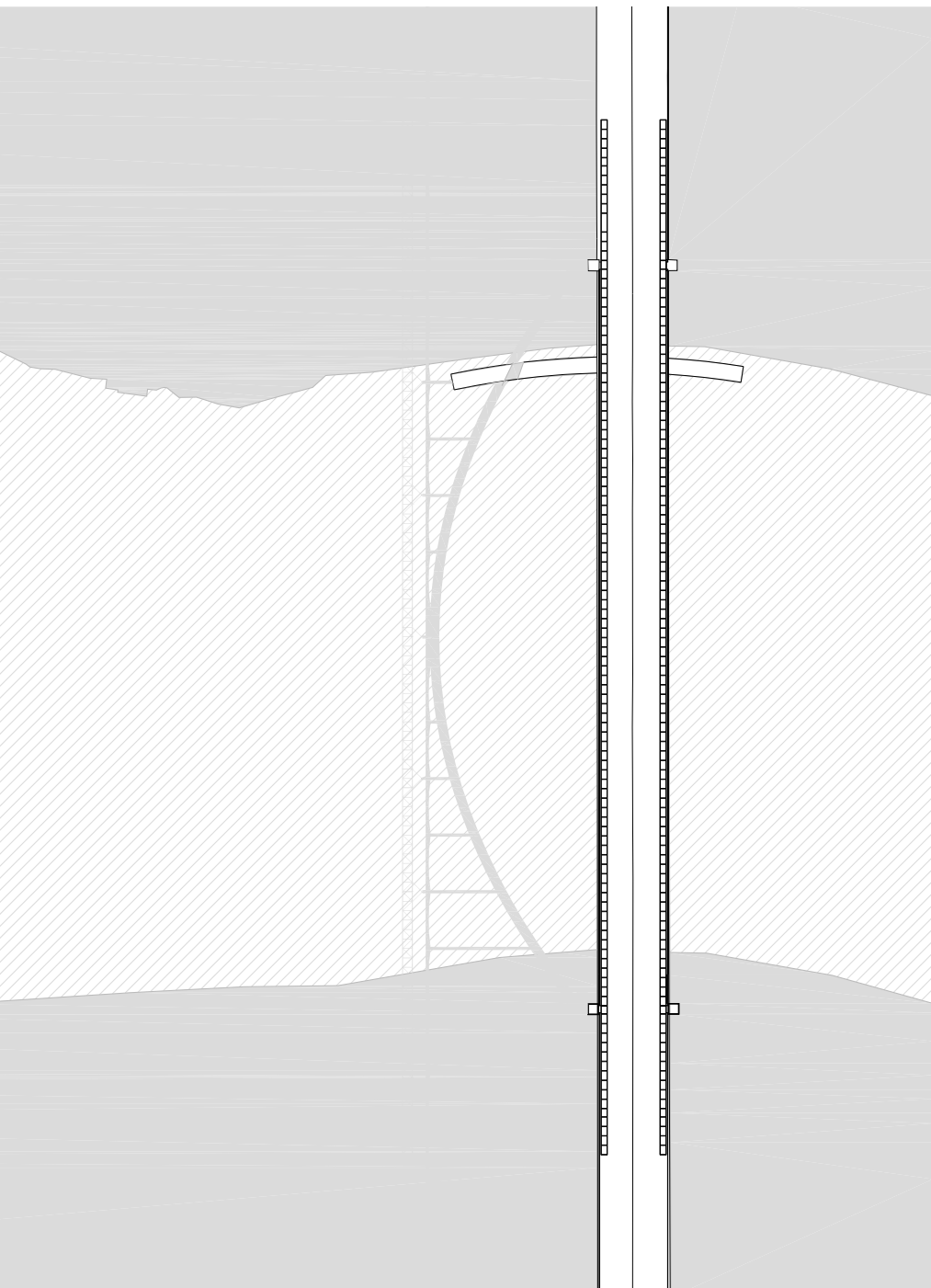
Thus, we envisioned the construction of a 5 meters high footbridge that ensured the automobile traffic would merely have a visual connection with the footpath and would at the same time be a pedestrian connection between Porto and Gaia. The people, crossing the Arrábida bridge, would no longer feel strangled by all the traffic and could fully enjoy the breathtaking view over the Douro river and its two shores.

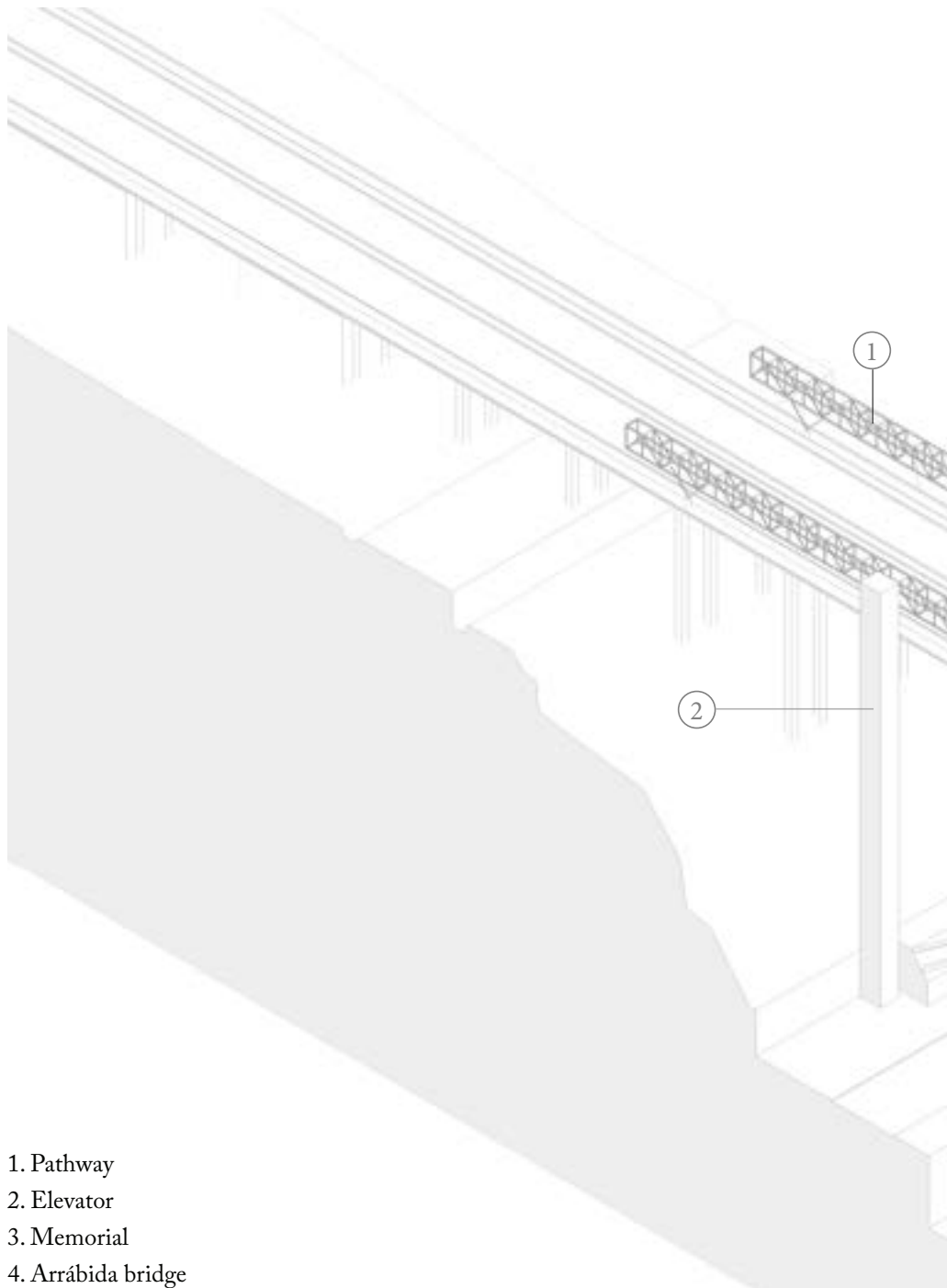
This footbridge would be on a parallel horizontal axis to the bridge, with a direct connection to the vertical elevators' axis, allowing the people both to ascend to the bridge level and descend to the road that leads to the river.

Along with this footpath, we also intended to build a riverside level memorial (axis "z").

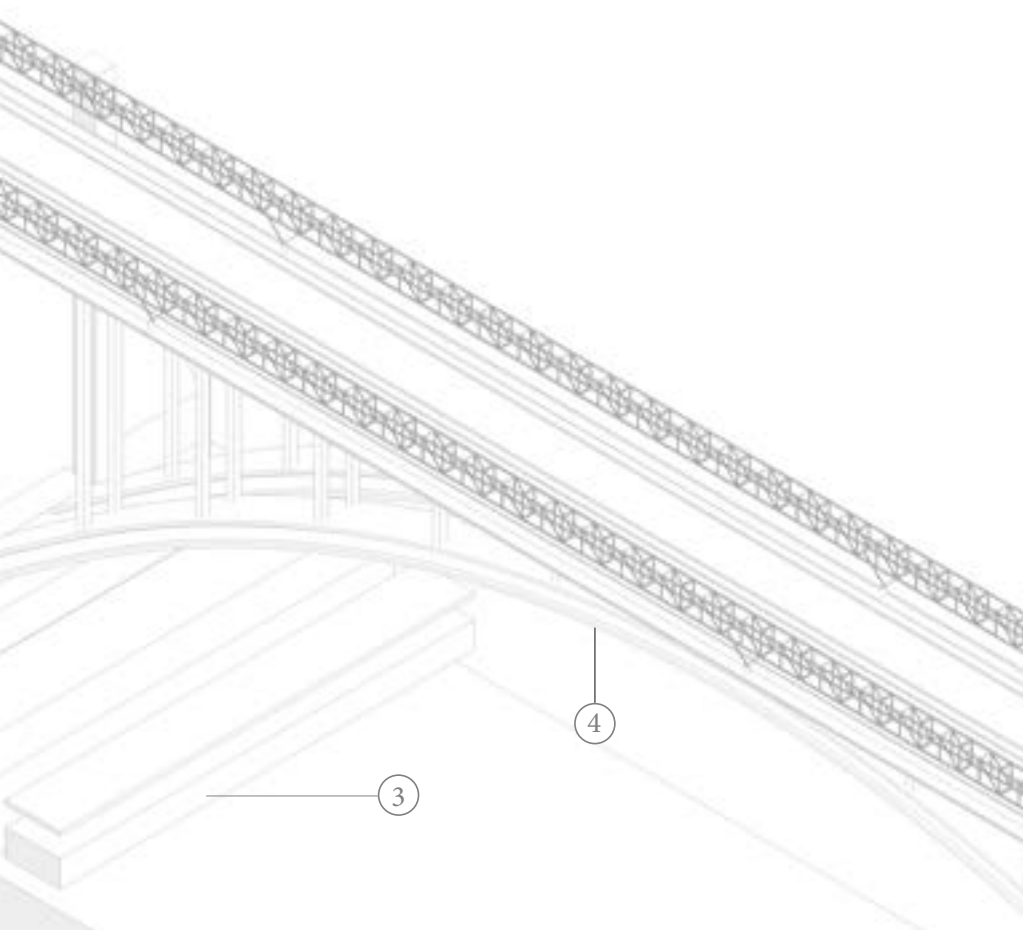
This would be a leisure area that would offer the city some continuity on the boardwalk between the Ribeira and the Foz. This memorial would have permanent exhibition rooms about Edgar Cardoso's work, temporary exhibition rooms and restaurant areas.







- 1. Pathway
- 2. Elevator
- 3. Memorial
- 4. Arrábida bridge











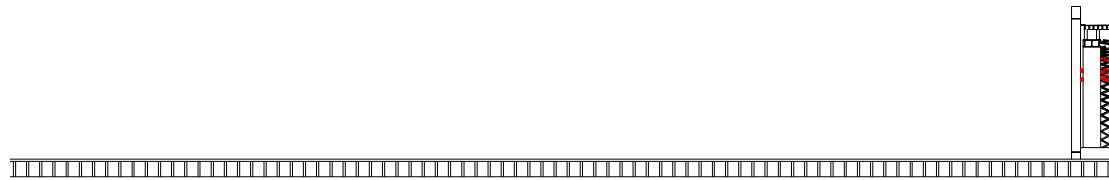
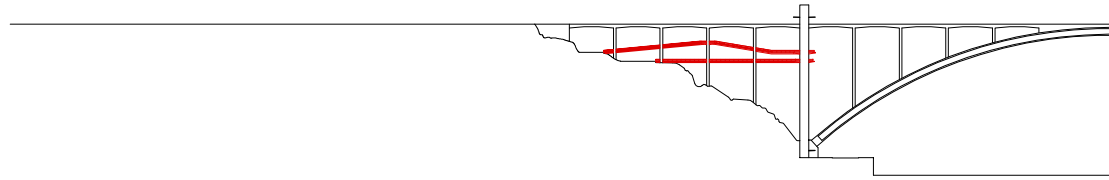


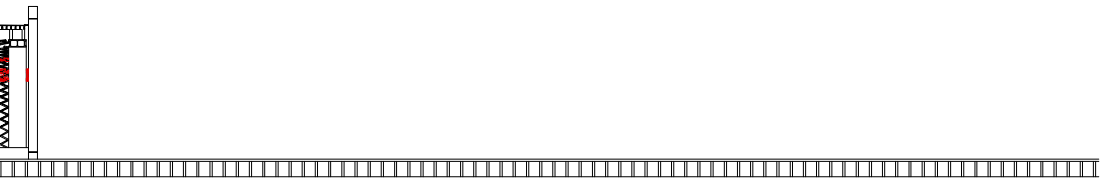
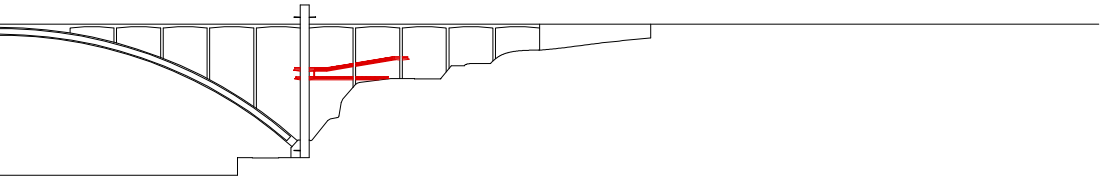
Promenade

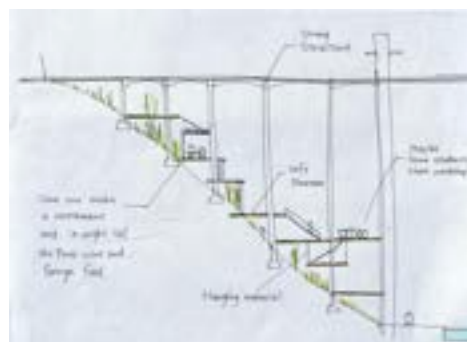
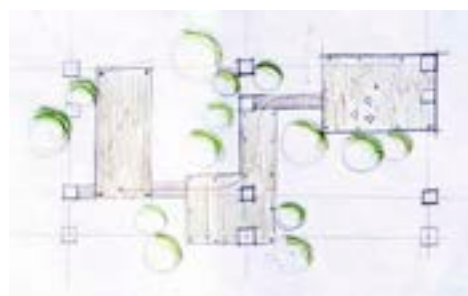
Nathalia Ferreira

Hanako Morishima

Manoela Oliveira





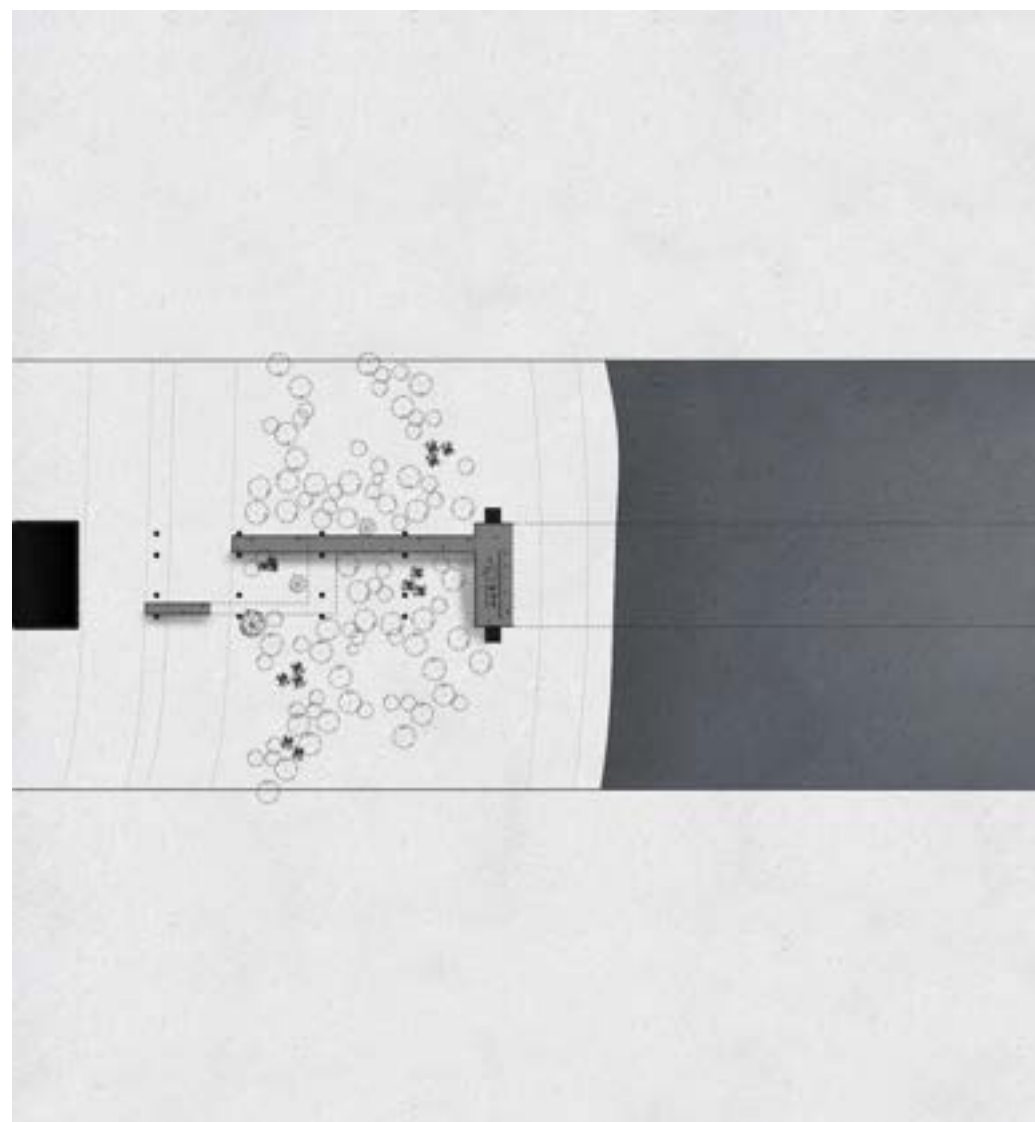


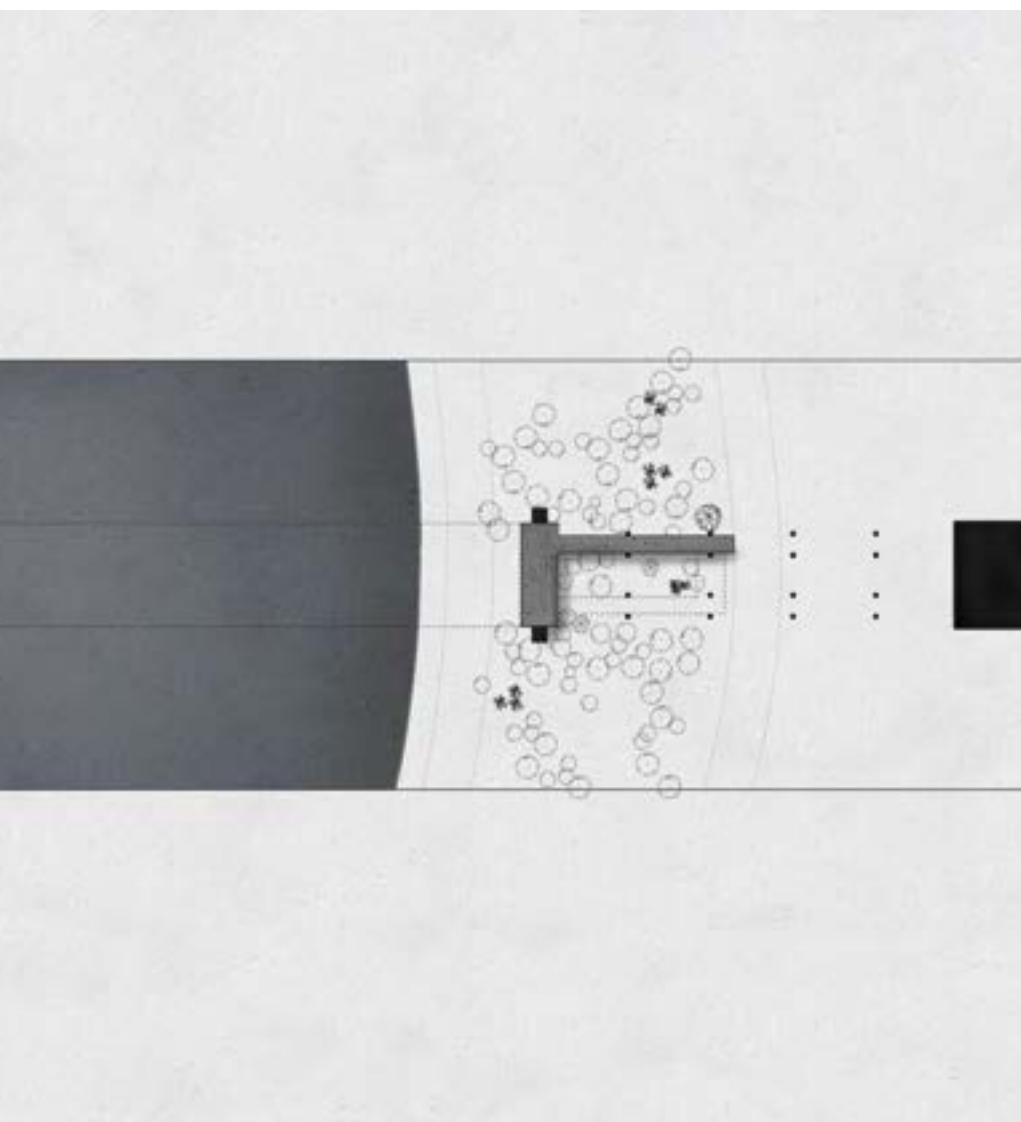
Promenade

The proposal is a promenade to a terrace of the Arrábida bridge, linking the existing roads on the intermediate level on both sides of the river banks.







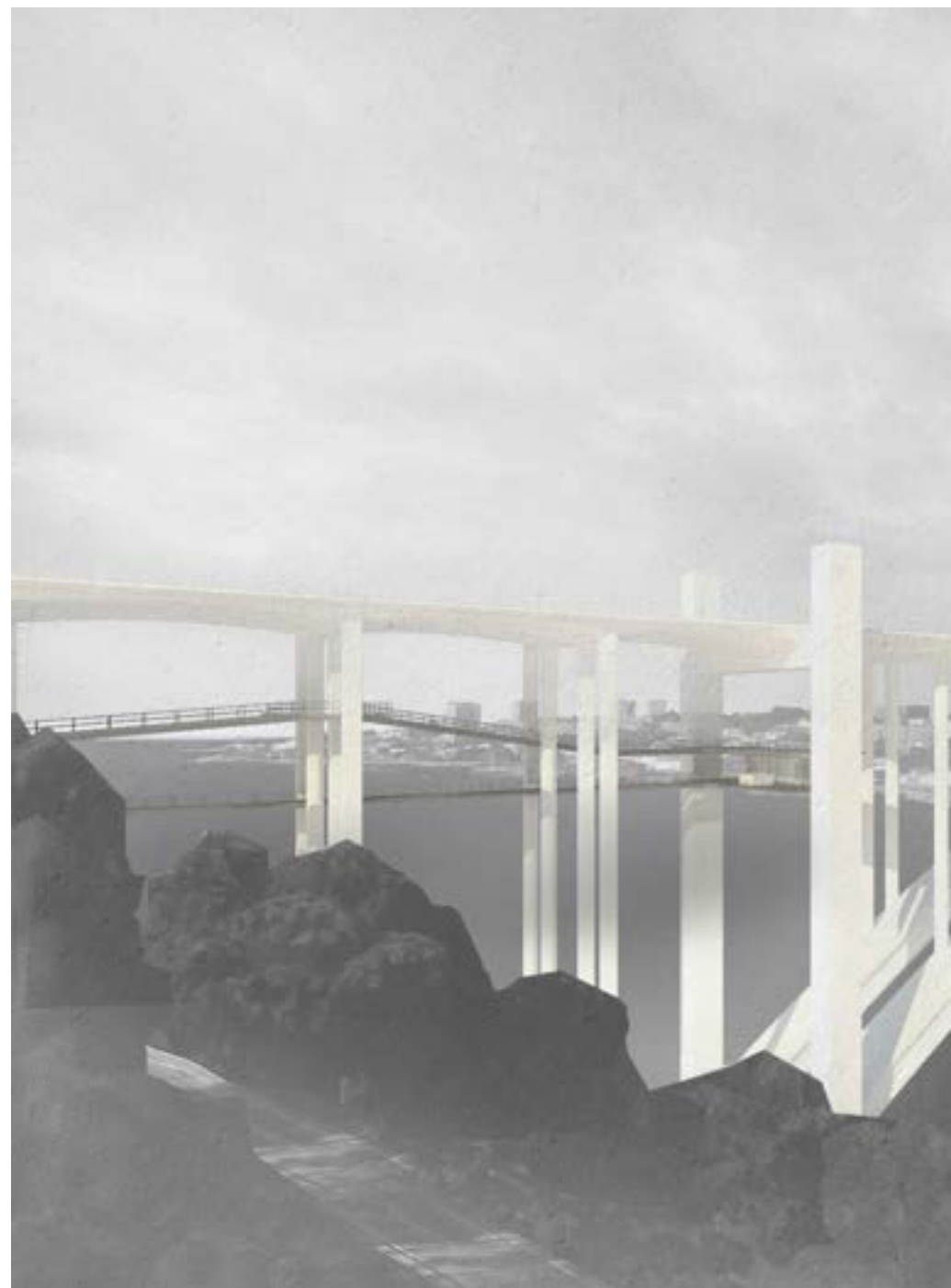




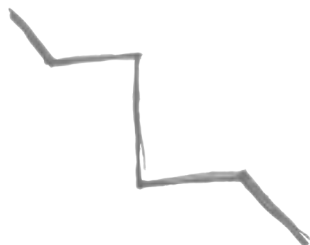










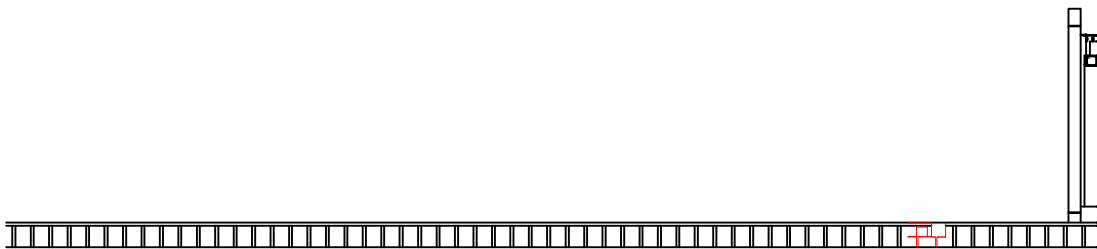
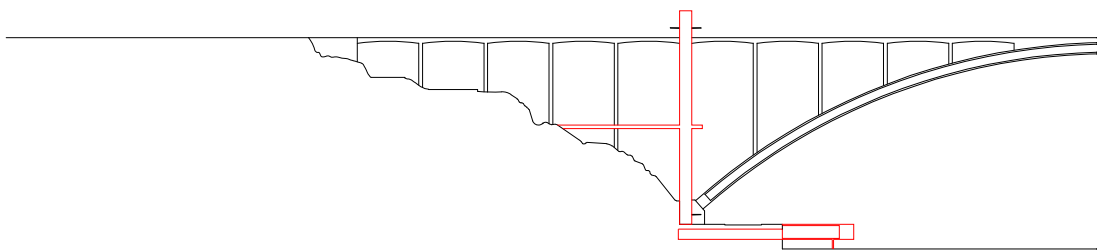


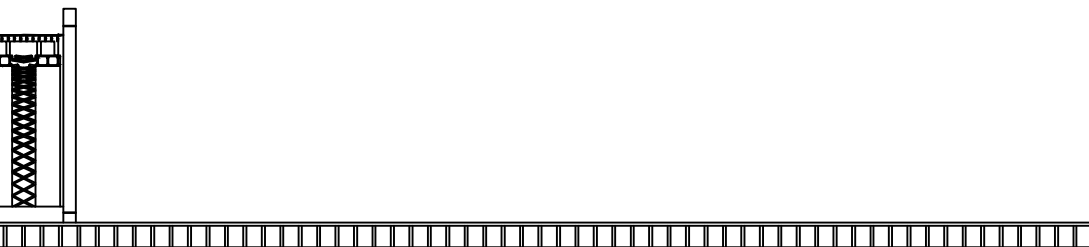
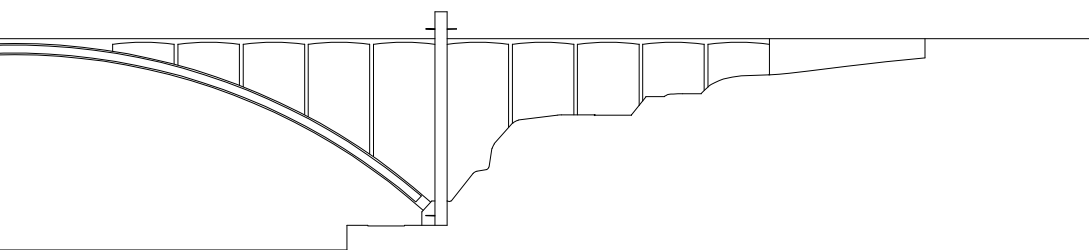
The bridge and the tunnel

Cecilia Sgammini

Giovanna Moccia

Alaa Alhariri

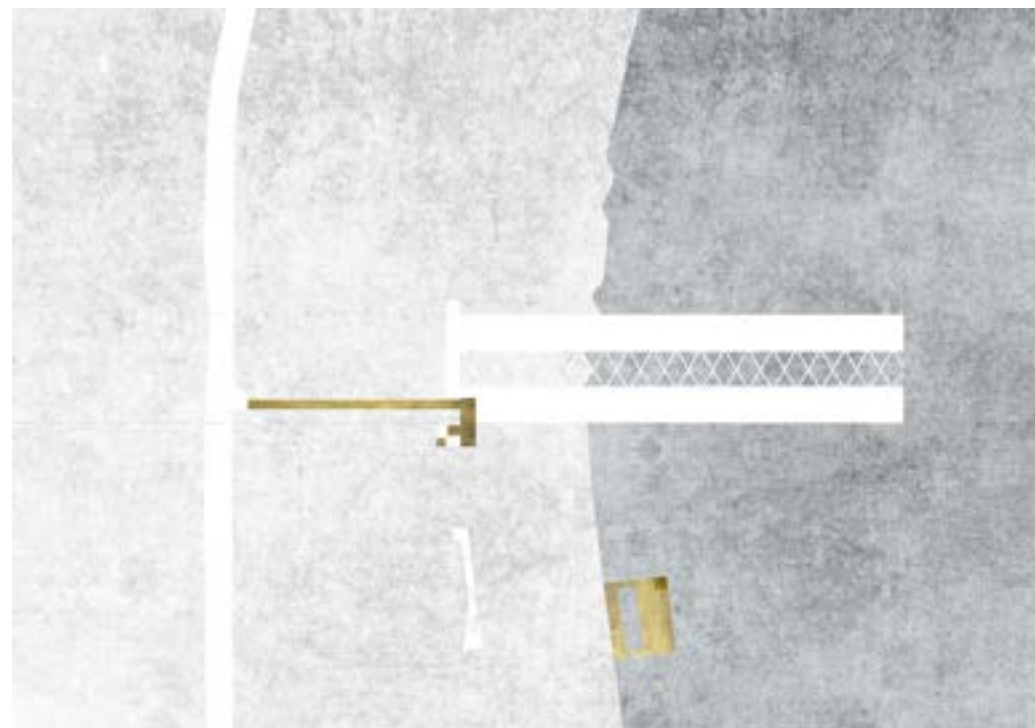


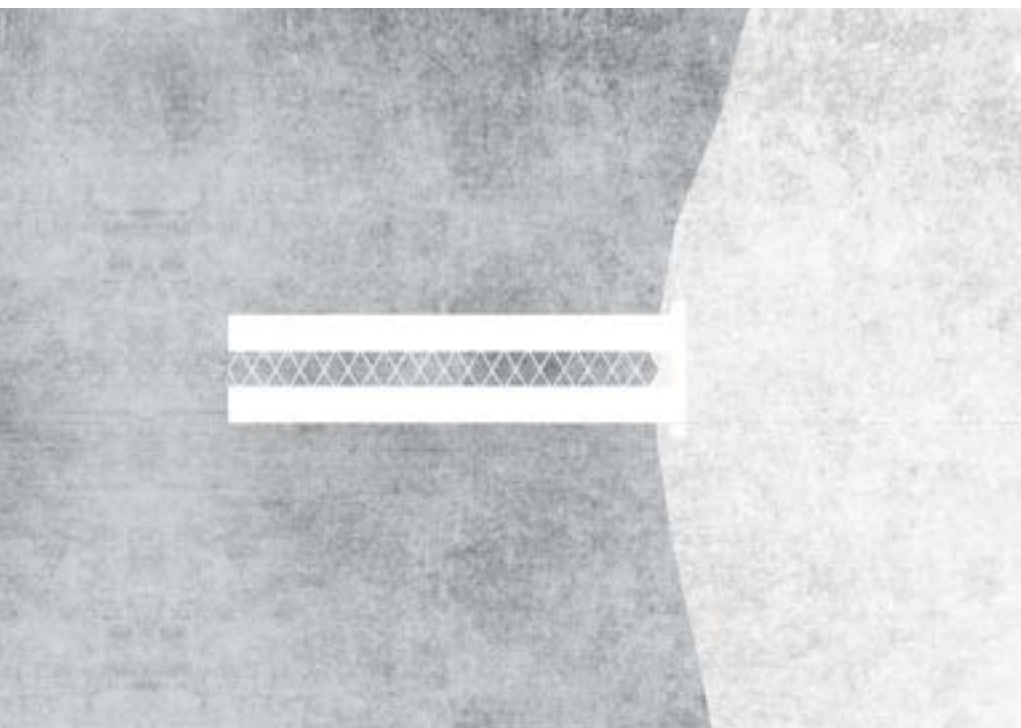


Our purpose was to create an interaction between the different levels of the city: the bridge, the intermediate level, the river bank and the tunnel.

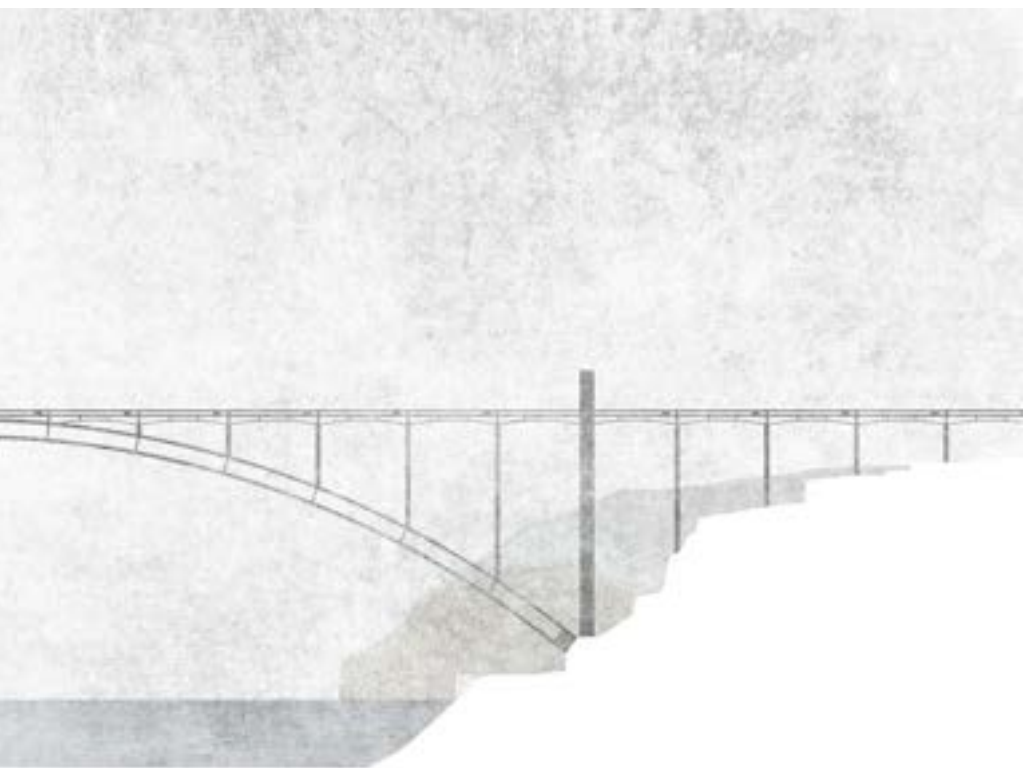


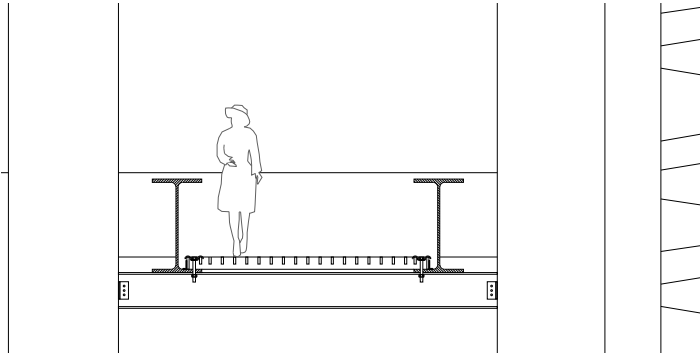


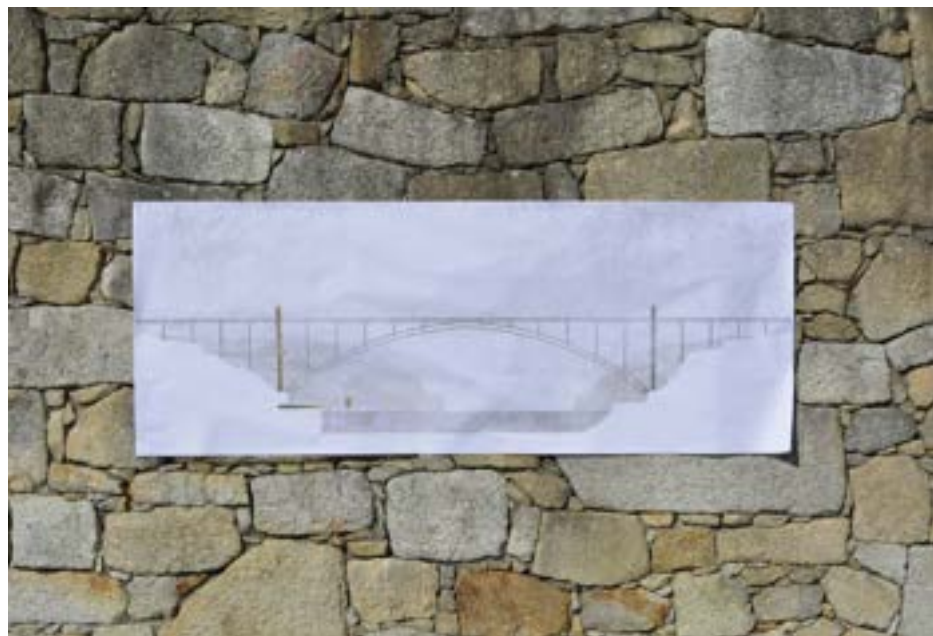




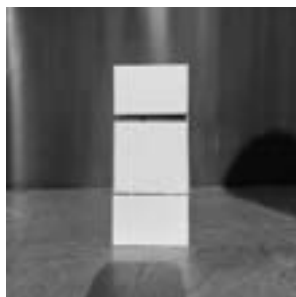








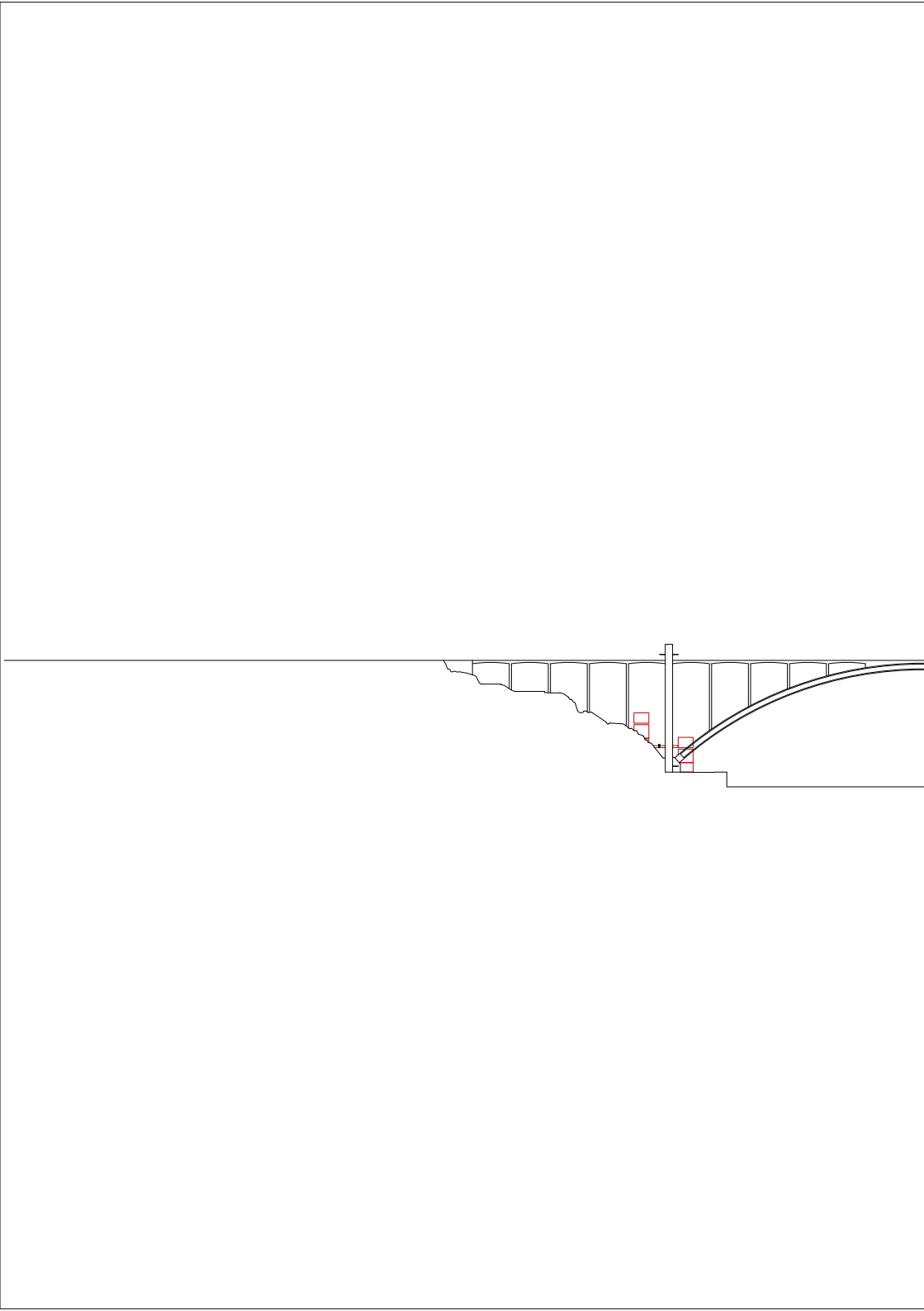


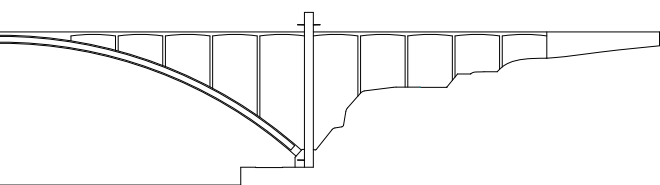


Two towers

Luisa Lara Resende

André Porto







Site plan

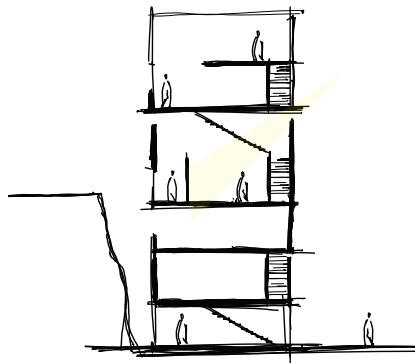
41°08'55.8"N 8°38'22.6"W

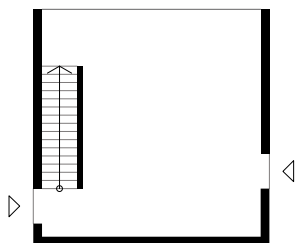




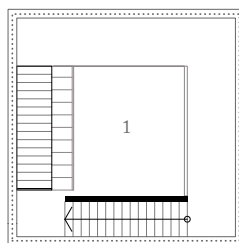
As an infrastructure, the bridge Edgar Cardoso has never completed its desired performance. While at the end of the construction it became one of the most important connections within the area of Porto and Vila Nova de Gaia - and also marking the exit to Lisbon - the connection between the different levels of the city remained fragile, and will remain that way until its lifts work again.

For this project, another layer of infrastructure is proposed. To an existing set of walls that used to overcome the steep topography of Porto, two towers are set to connect the street of FAUP and the river bank, adding programs to this way down and engaging the use of the river near the Edgar Cardoso bridge. Besides the pragmatic way of seeing this new infrastructure pieces, the program brings life through a path of light and views over the Douro.

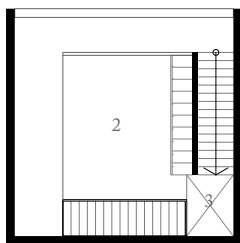




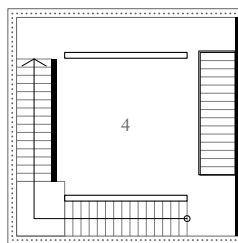
Ground floor



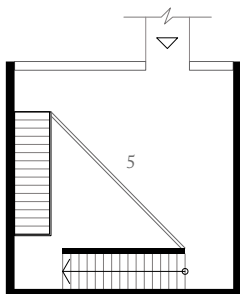
1st floor



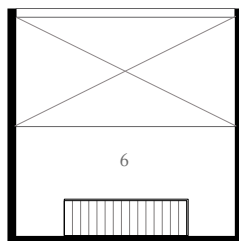
2nd floor



3rd floor



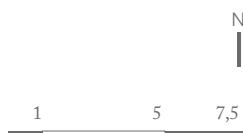
4th floor

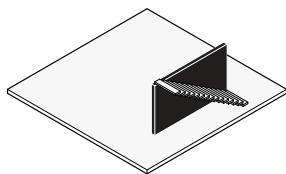


Mezzanine

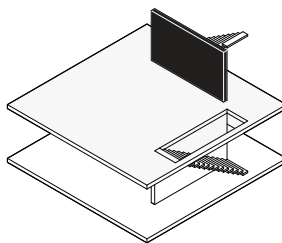
Plans

- 1 Locker rooms / WC
- 2 Locker rooms / WC
- 3 Warehouse
- 4 Multipurpose room
- 5 Café
- 6 Mezzanine

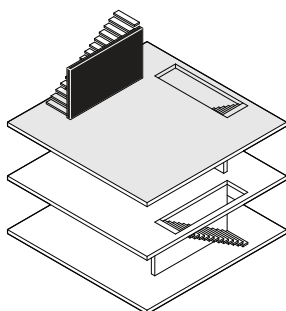




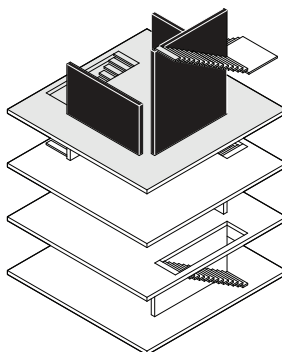
Ground floor



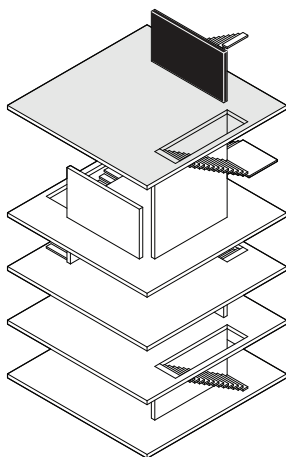
1st floor



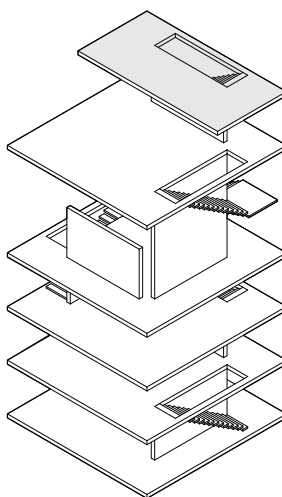
2nd floor



3rd floor



4th floor

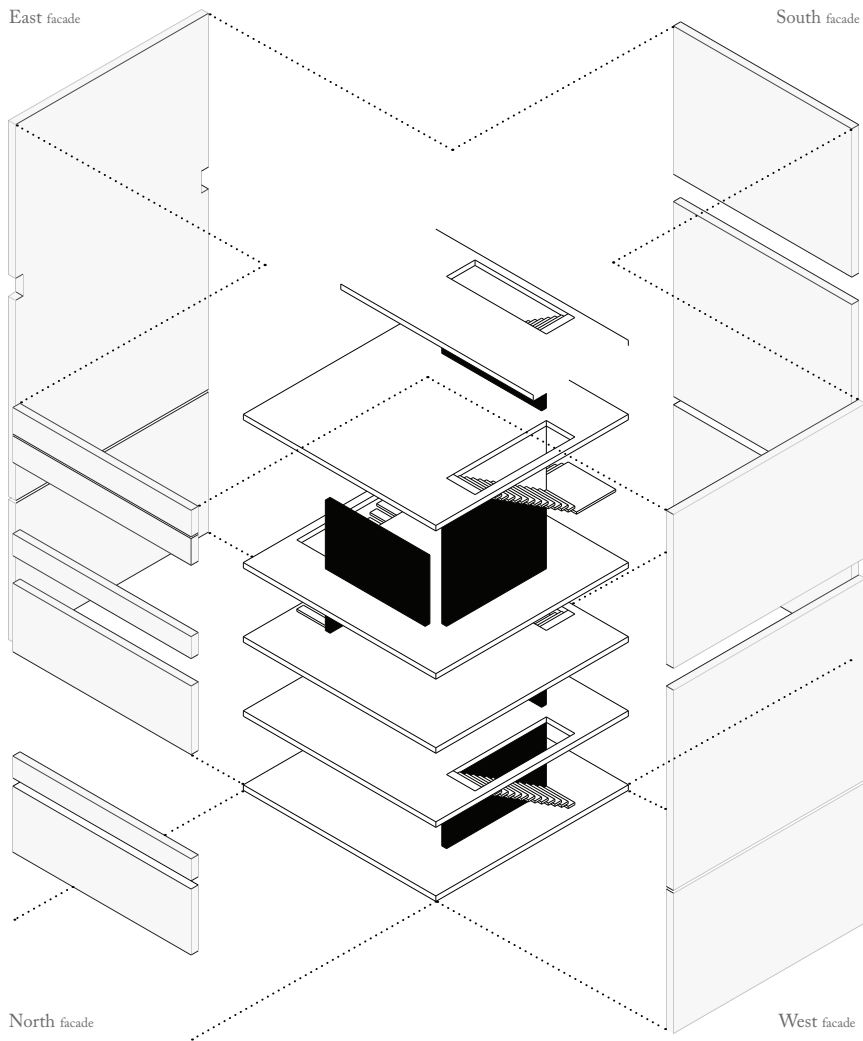


Mezzanine

Floor perspectives

East facade

South facade



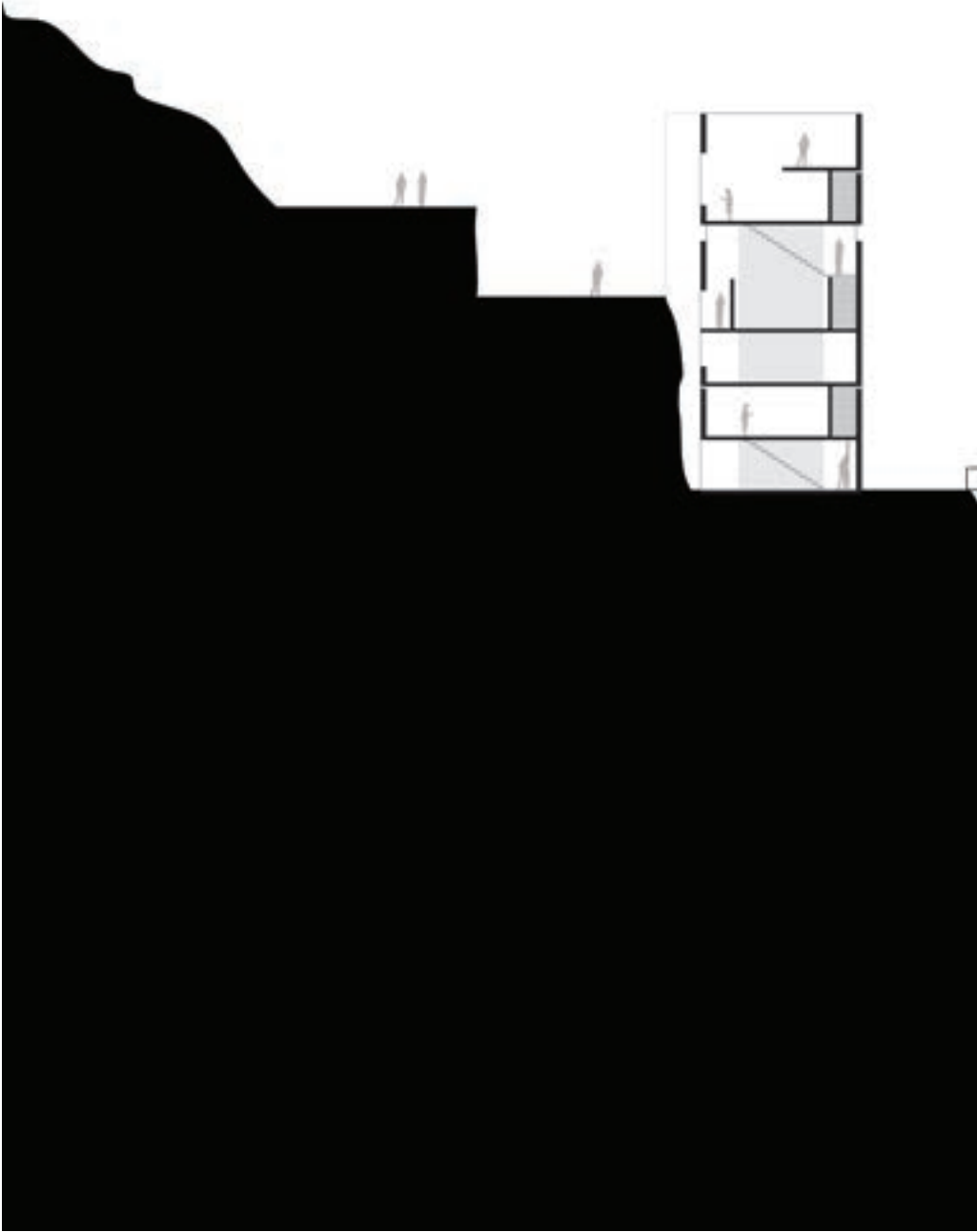
North facade

West facade

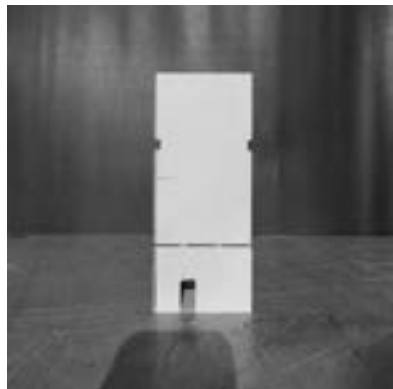
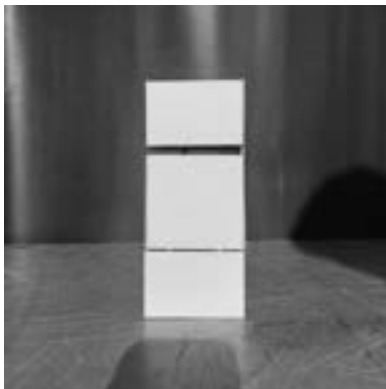
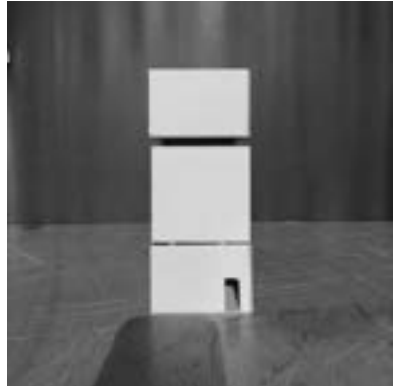
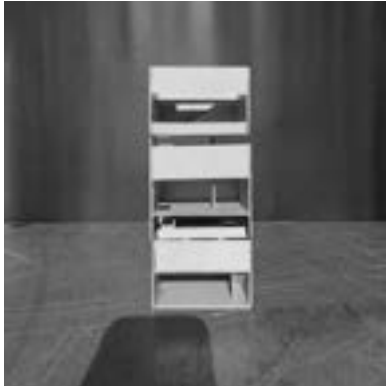
Exploded perspective

Axonometric

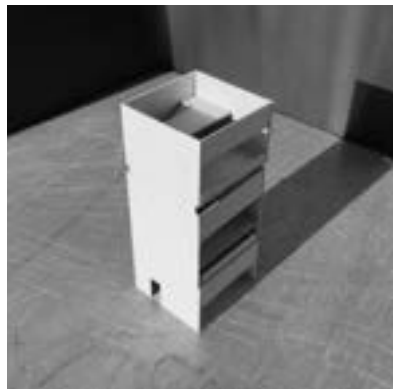
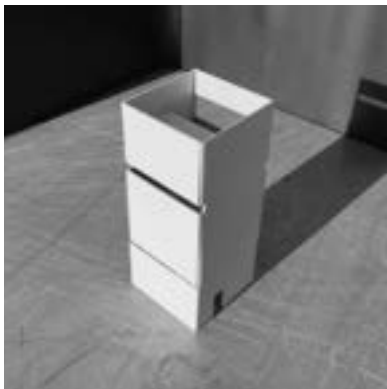
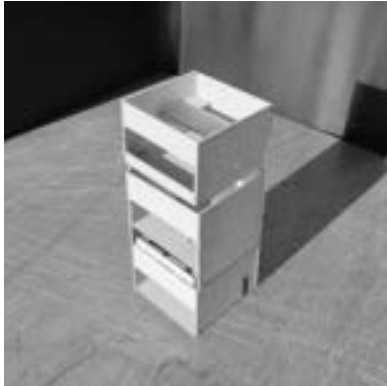
Cross section / west facade



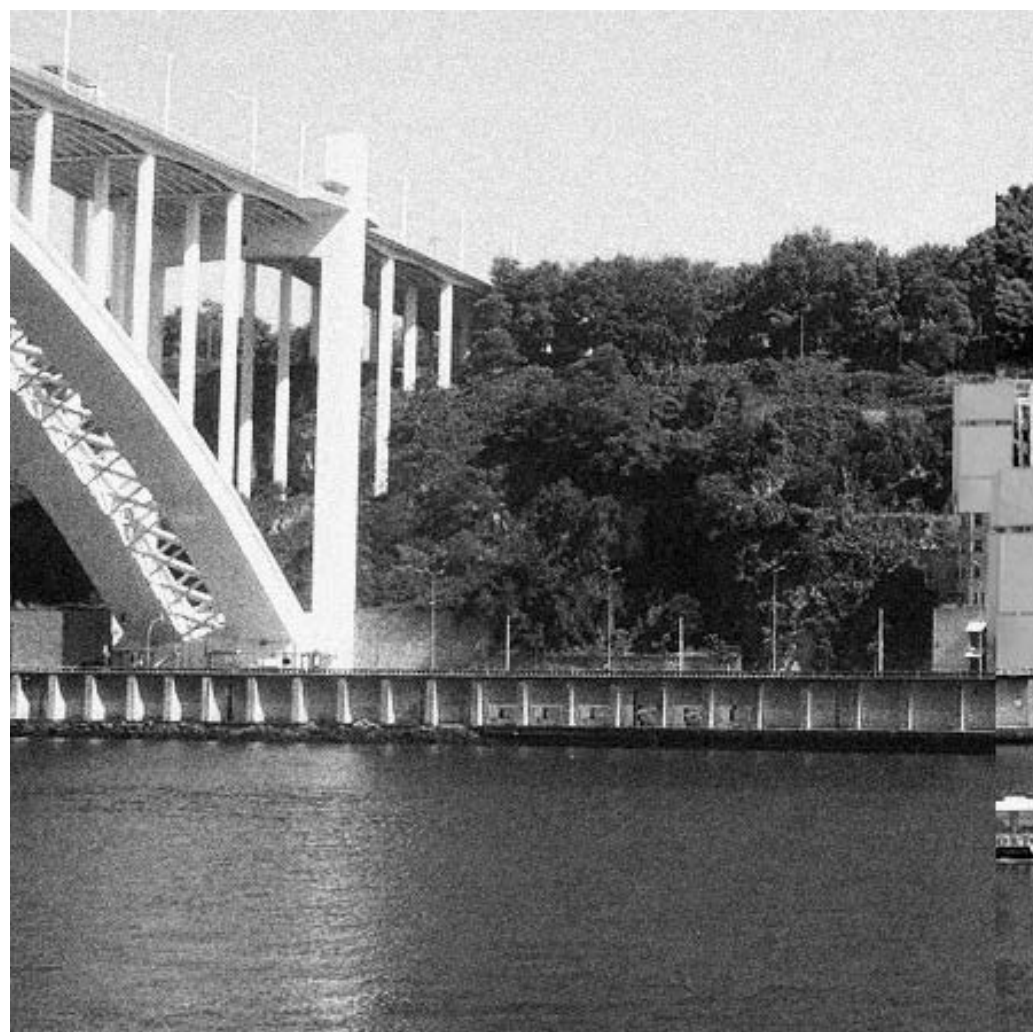


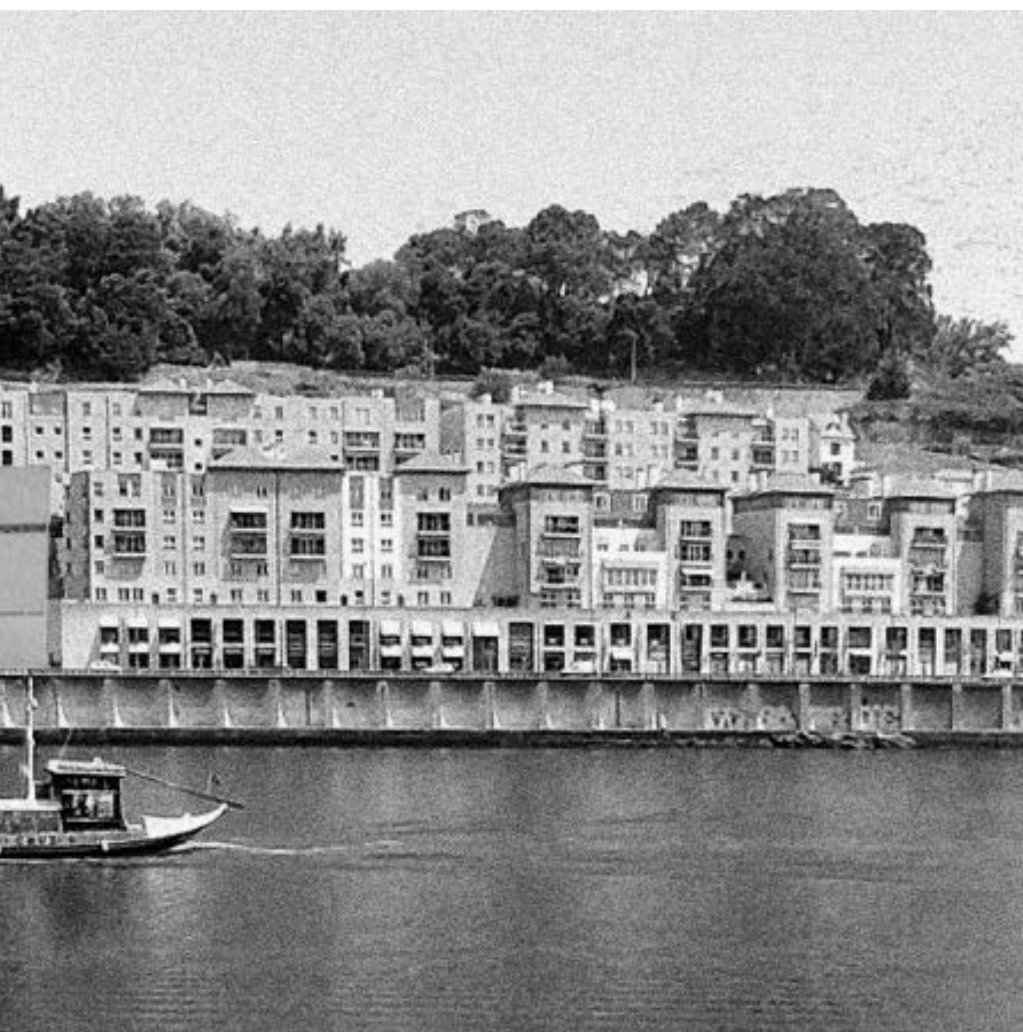


Model / facades



Model / Perspectives





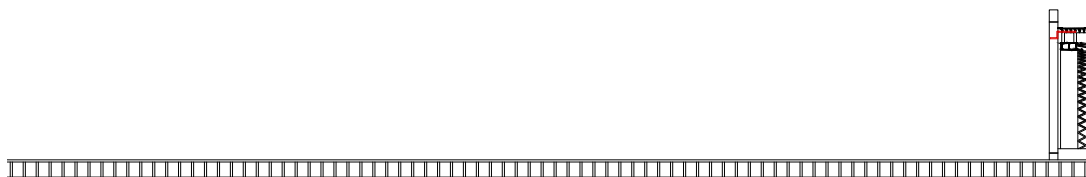
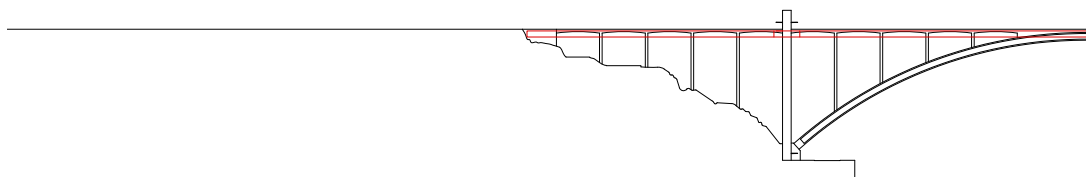
Arrábida Lower Pathway

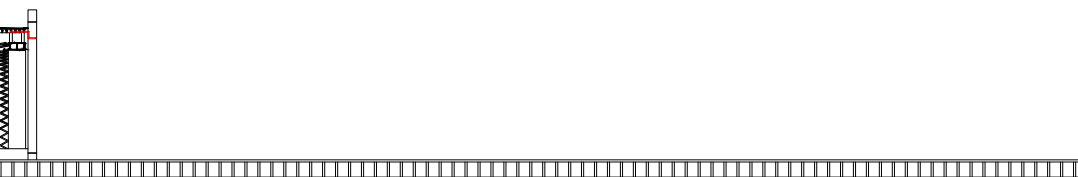
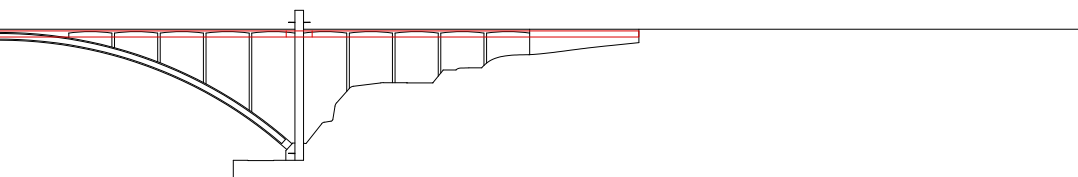
Angelika Bocian

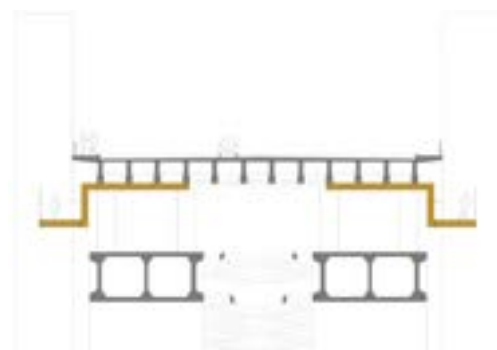
Renan Rolim

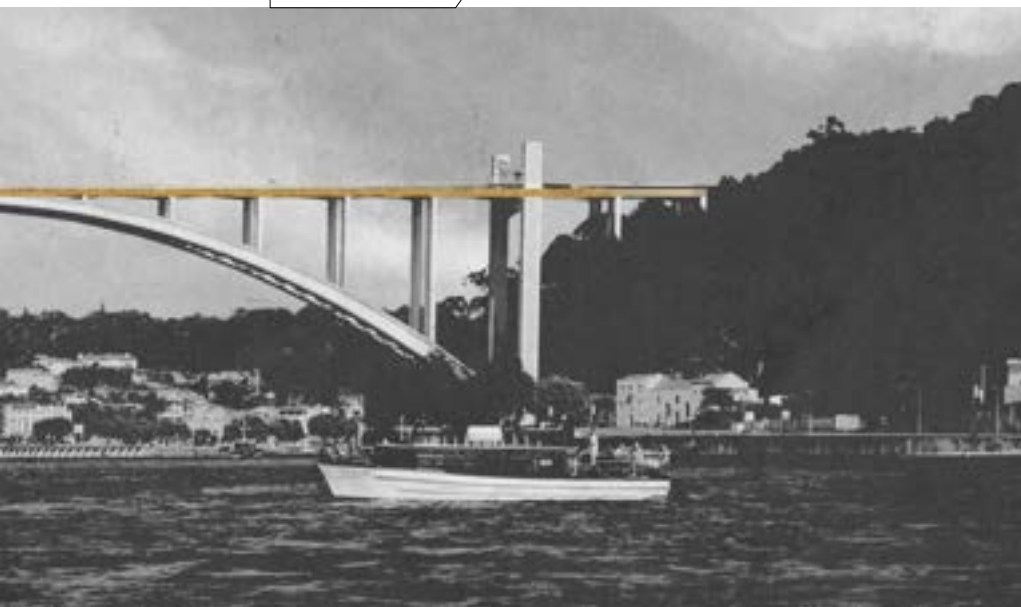
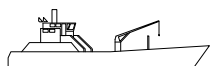
Marina Penso da Silveira

Alejandro Guerrero Neira









The project proposes a structure for pedestrians on the Arrábida Bridge, which is located underneath the original bridge deck. The walk celebrates the structure of Edgar Cardoso and offers panoramic views of the city through the perforated steel panels.

