Center of Innovation in Bratislava
Transformation of the courtyard

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atelier: Jiří TROJAN / Vojtěch DVOŘÁK
semester: LS2020/2021

IDENTIFICATION DATA

name:	**Center of Innovation in Bratislava** **Transformation of the courtyard**
level of documentation:	architectural design
use and function:	new innovation center with follow-on function
construction charakteristic:	permanent construction
author:	Tomáš Jurica + 420 728 476 368 tomasjurica5@gmail.com
investor:	STU in Bratislava Vazovova 5 812 43, Bratislava
place:	Bratislava I, Staré Mesto, Slovakia

AUTHOR'S REPORT

The assignment was to transform the courtyard of the STU campus in Bratislava. The area is located in Bratislava´s (SK) wider center between Radlinského Street and Slobody Square. There was a building of heavy laboratories, which I preserved in my design. The architectural design can be divided into three separate buildings. **Object A** - Innovation center building, **Object B** - New bistro building, **Object C** - entrance to the underground automated parking system.

Object A:

The existing building of the already mentioned heavy laboratories, which is located on an elongated rectangular plan, according to my proposal a 3-storey extension should be built. The existing building is strictly rectangular in shape and the mass of the extension follows this. The basic mass of the extension is placed on the heavy laboratory building, partly as a pedestal, and further extends over the courtyard, where it is placed on pilasters in a V-shape. The initial idea that survives was to connect the extension to the surrounding buildings using connecting bridges. An open atrium runs through the superstructure, allowing light into the middle of the disposition.

The building is divided into five main functional zones. The first is the study zone, which is partially preserved in the existing building and then in 3rd and 4th floors - as study rooms and media room. Next is the research zone, which is located on the 4th and 5th floors - as offices, laboratories, etc. This zone also includes a science and technology presentation center on the 3rd floor. The third is the catering zone, which is located on the 1st floor and 2nd floor of the existing building of the former heavy laboratories and in the new bistro building. Another zone is the zone for startups, located in 5th floor. The last and no less important is the zone for relaxation in the form of relaxation zones (marked in the floor plans). The main part of the relaxation zones is located in the open corners of the building over two floors.

The existing building has a main load-bearing structure made of a reinforced concrete frame. The extension is structurally designed as a steel truss structure, which is supported by the existing building and 2 V-shaped steel-concrete pilasters. A steel frame in the form of vierendeel beams is inserted into the truss structure, on which the slabs are then tensioned in one direction (see Construction Isometrics).

The whole building is designed in raw materials with high durability. The facade of the existing building is to be clad with prefabricated concrete panels. The facade of the extension should be fully glazed with pre-set aluminum slats, which partly function as sunshade. Doors and windows will be made of aluminum profiles.

Object B:

A new bistro building should also be created in the courtyard, which is recessed into the ground and staircases with seating and greenery run around this building. It is also a strictly rectangular building with a simple facade. The 2nd floor has all glass surfaces covered with aluminum lamella blinds.

It consists of two floors - 1st floor (main entrance, toilet, bistro preparation room, lounge) and 2nd floor (bistro area, bar, outdoor seating). This building is structurally designed as a reinforced concrete wall with a facade of monolithic reinforced concrete, and the insulation of the building is intended as internal. The doors and windows will be made of aluminum profiles.

Object C:

The existing courtyard is partially used as a parking lot for employees. Even though this function is practical for the employees aesthetically is no satisfactory. The new parking solution is an underground automated parking system with a capacity of 330 spaces. The parking system is accessed via a solitary entrance building. Materially, it is a simple block with one facade articulated to evoke a gate. This object is located next to the FCHPT building.

SITE PLAN

architectural design

"Juraj Hronec" university dormitory

STU rectorate

Slovak Radio Tower

Ministry of transport and
construction of the SR

National Bank of Slovakia

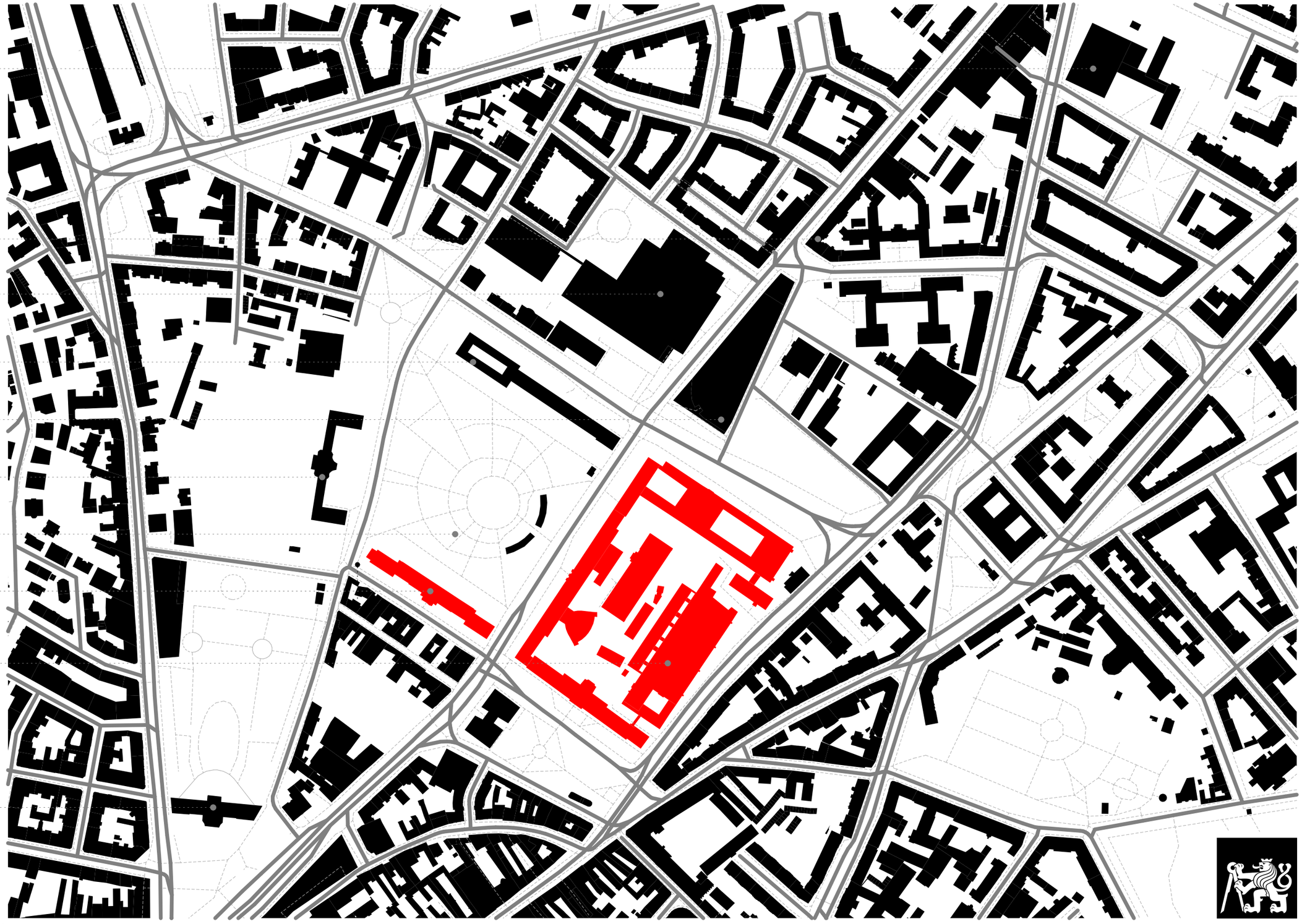
Government office
of the Slovak Republic

Sloboda sq.

faculty of architecture STU

STU campus

residence of the President of Slovakia



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Facade of Object of heavy laboratories and Faculty of civil engineering

existing campus:

The "Innovation Center of STU" land lies between Sloboda square, Kollar square, Starohoská and Radlinská streets. It is located in the proximity of important public urban spaces (Squares) and the central development axis connecting the city's center with its other parts. In the current city development plan of the capital of the Slovak Republic, Bratislava, it is functionally defined as civic amenities of a city-wide and beyond significance.

The potential for the development of an innovative university is the inner courtyard area between the Slobody square, Kollar square, Starohoská and Radlinská streets. The courtyard includes an object of heavy laboratories and several temporary buildings.

The area consists of buildings of individual faculties, which were built since 1940s to 1980s. The oldest object is the "Old'' building of the Faculty of chemical and food technology, after which were built the buildings of the Faculty of Mechanical Engineering (realization 1960-1963, architect - Martin Kusý) with "Aula maxima". And the Faculty of Civil engineering with a dominant 23-storey building (realization 1964-1974, architect - Oldřich Černý and team). These buildings were built in the aesthetic connection to the Faculty of Chemical and Food technology building. In the end, the campus block was closed by the building of the "New" Faculty of Chemical and Food technology, which in its appearance is synonymous with ordinary socialist architecture in the late 70s (realization 1977-1980, architects - I. Dikliš, J. Liščák, J. Lupták).

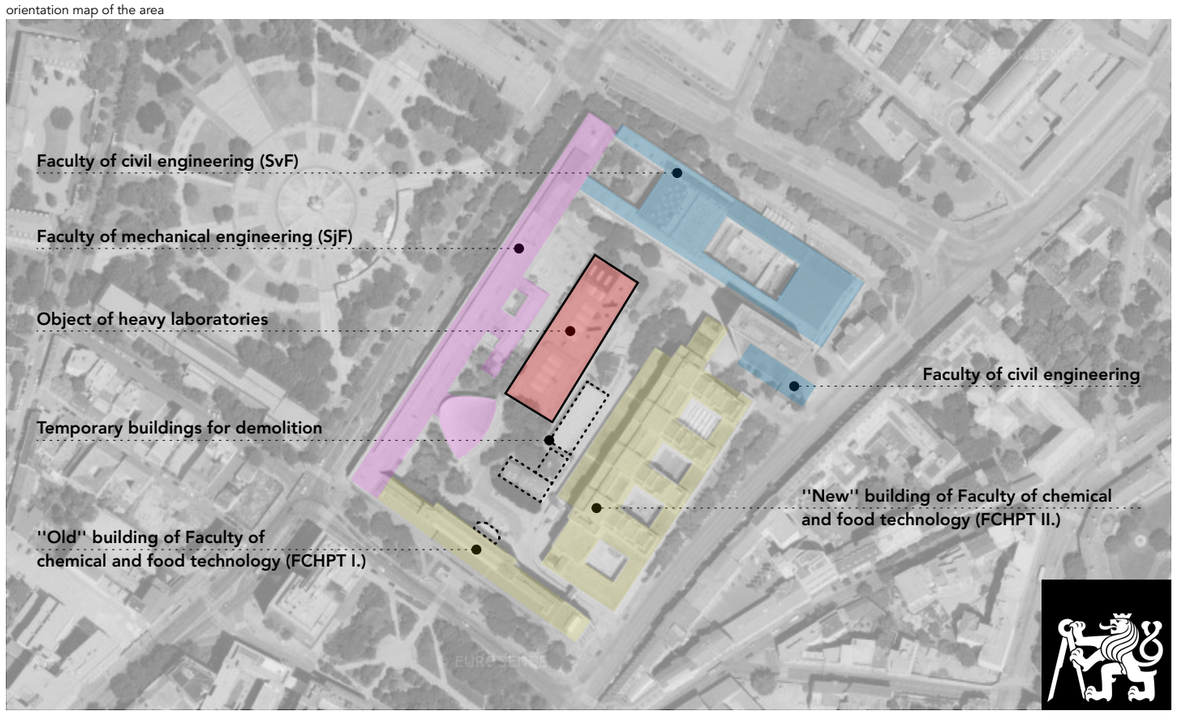
The object intended for reconstruction is an object of heavy laboratories situated in the courtyard. It is currently partly used by the Faculty of Mechanical Engineering and partly as a boiler room. The courtyard of the campus is presently untidy and primarily serves as a parking lot for employees. There are also buildings of a temporary nature, which are planned for demolition.

However, the courtyard, which is the center of the faculties mentioned above, has excellent potential as a development area for the STU campus. And it is easily accessible by foot, public transport, and car.

facade of Faculty of mechanical engineering

facade of Faculty of chemical and food technology

orientation map of the area



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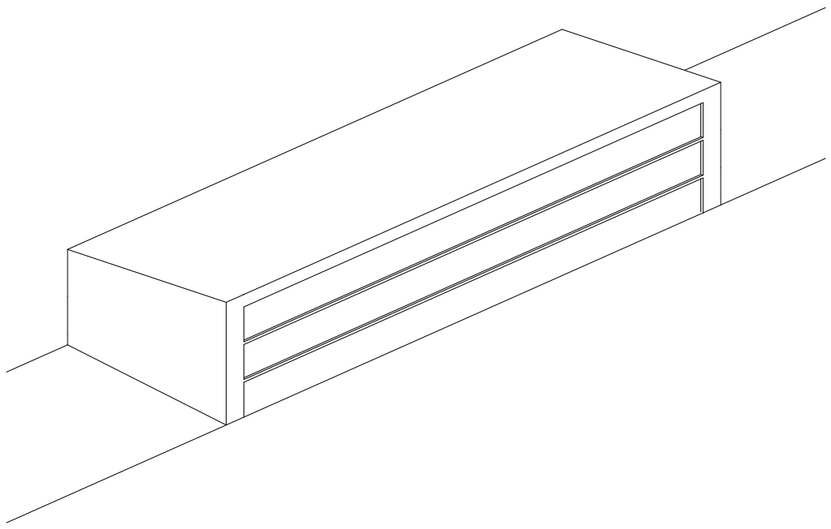
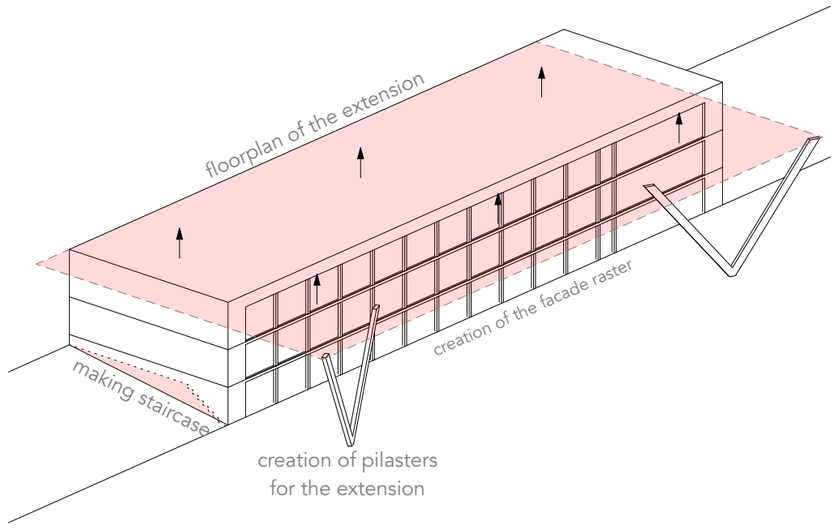
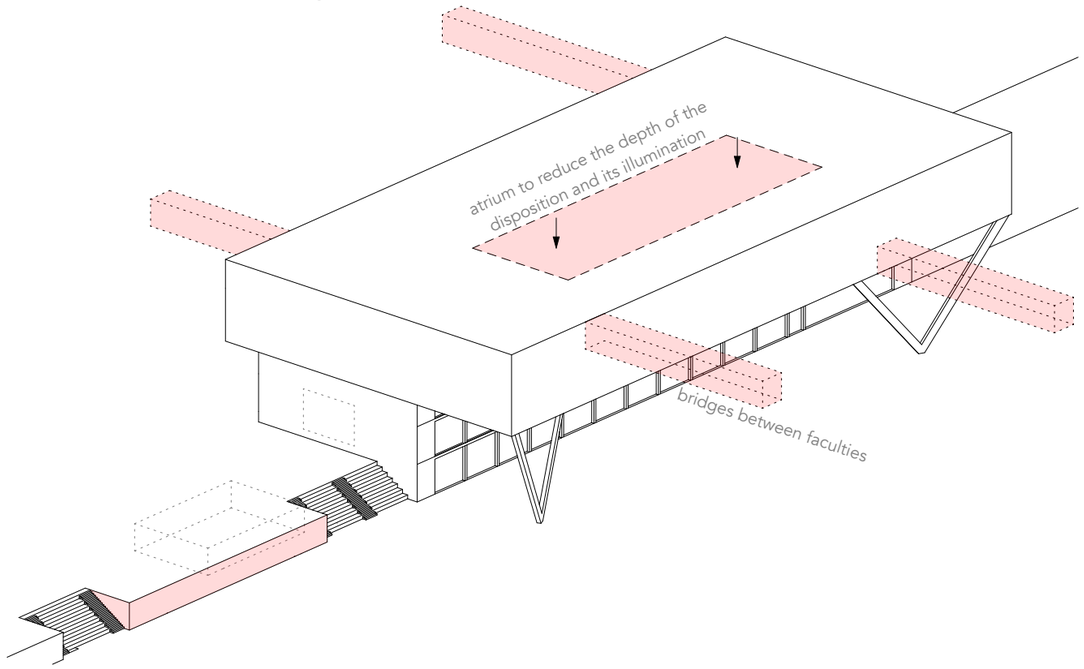
existing object of heavy laboratories

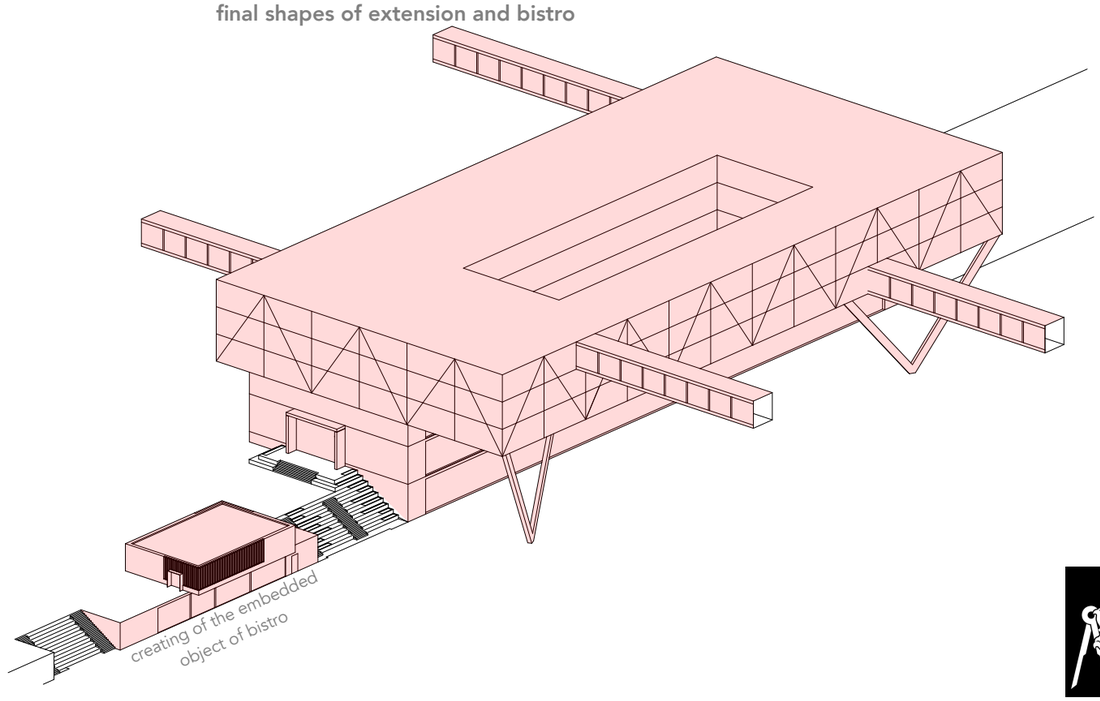




basic shapes of extension



final shapes of extension and bistro



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SITUATION PLAN

existing passage to the area through the SjF

big planter with green vegetation and tree

community garden

new object of bistro

staircase element with seating and integrated green vegetation

green vegetation in a grid of concrete tiles with seating

water feature

concrete tiles 0,6 x 1,5 m

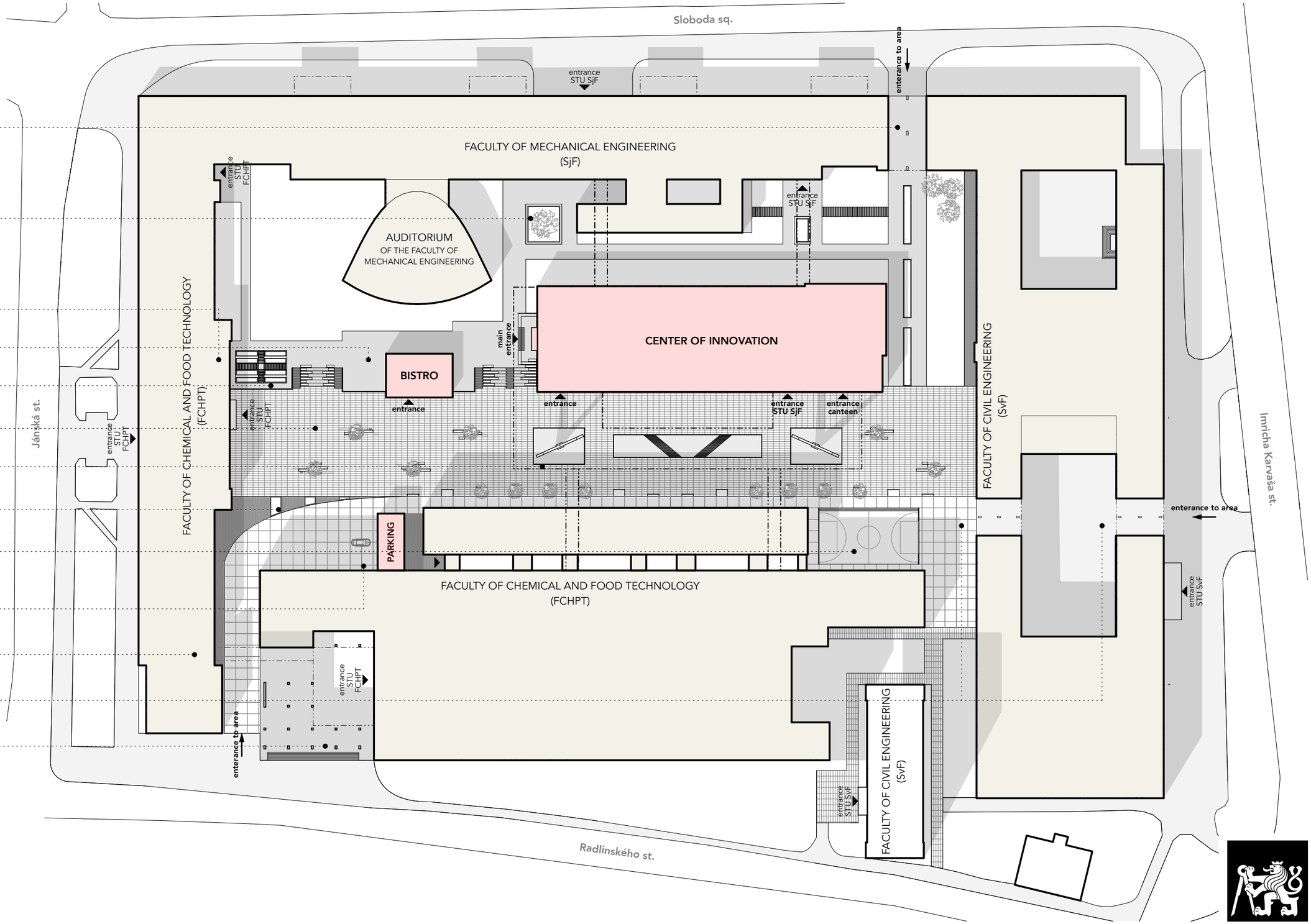
multipurpose field

parking solved by parking system WÖHR Multiparker capacity - 330 parking spaces

monolithic concrete surface dilated in grid 3x3 m

new passage to the area through the SvF

entrance area to FCHPT



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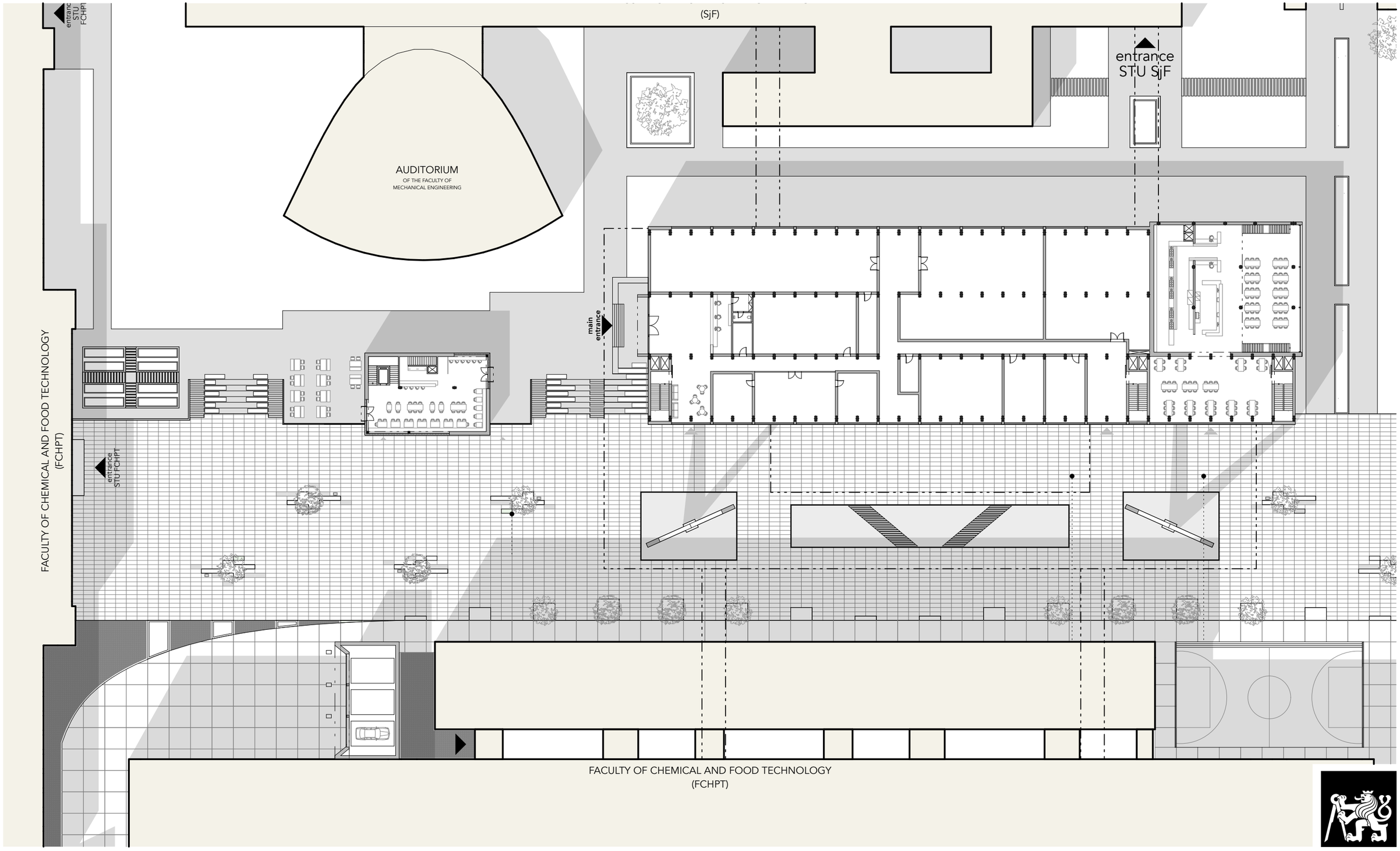

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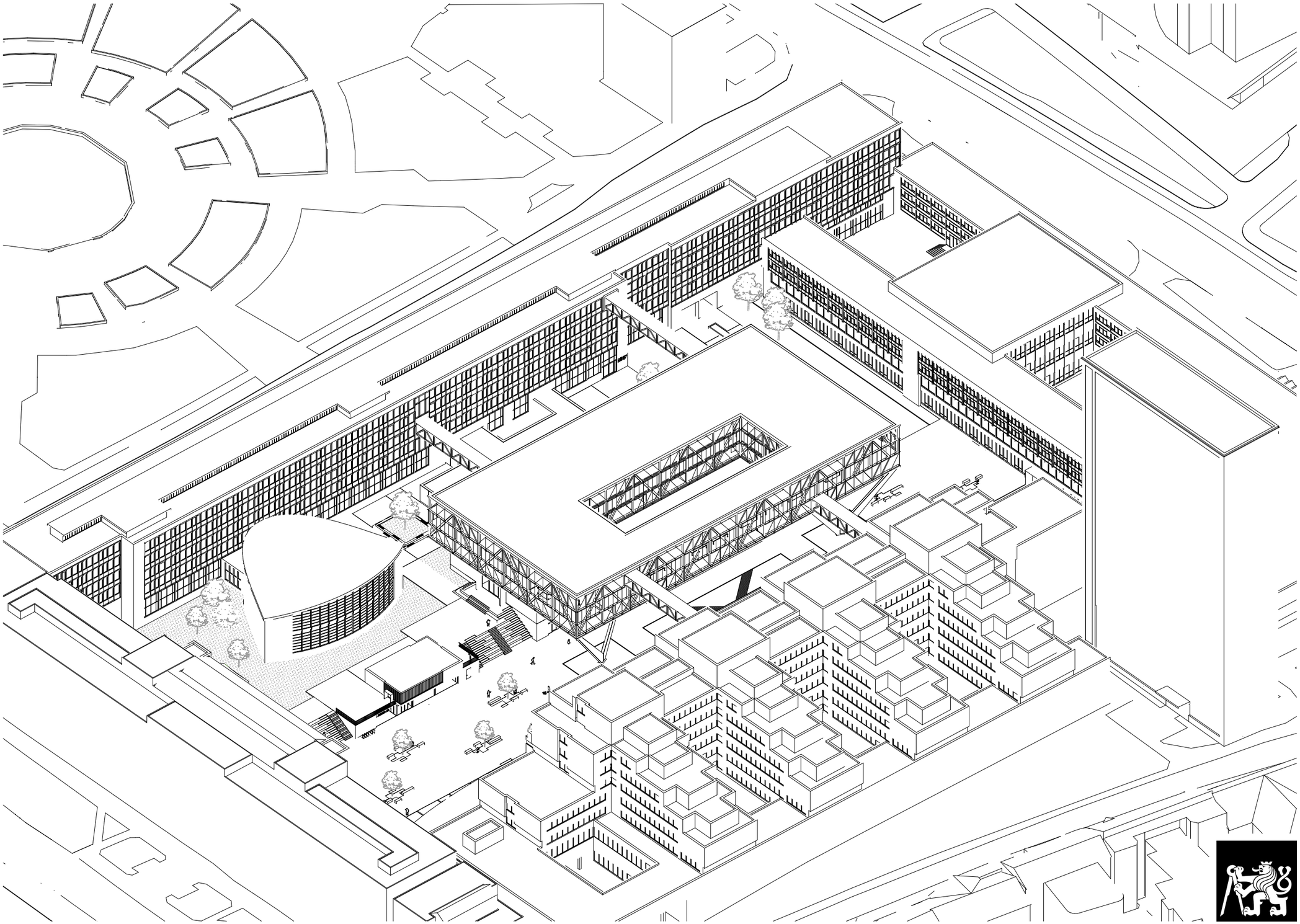

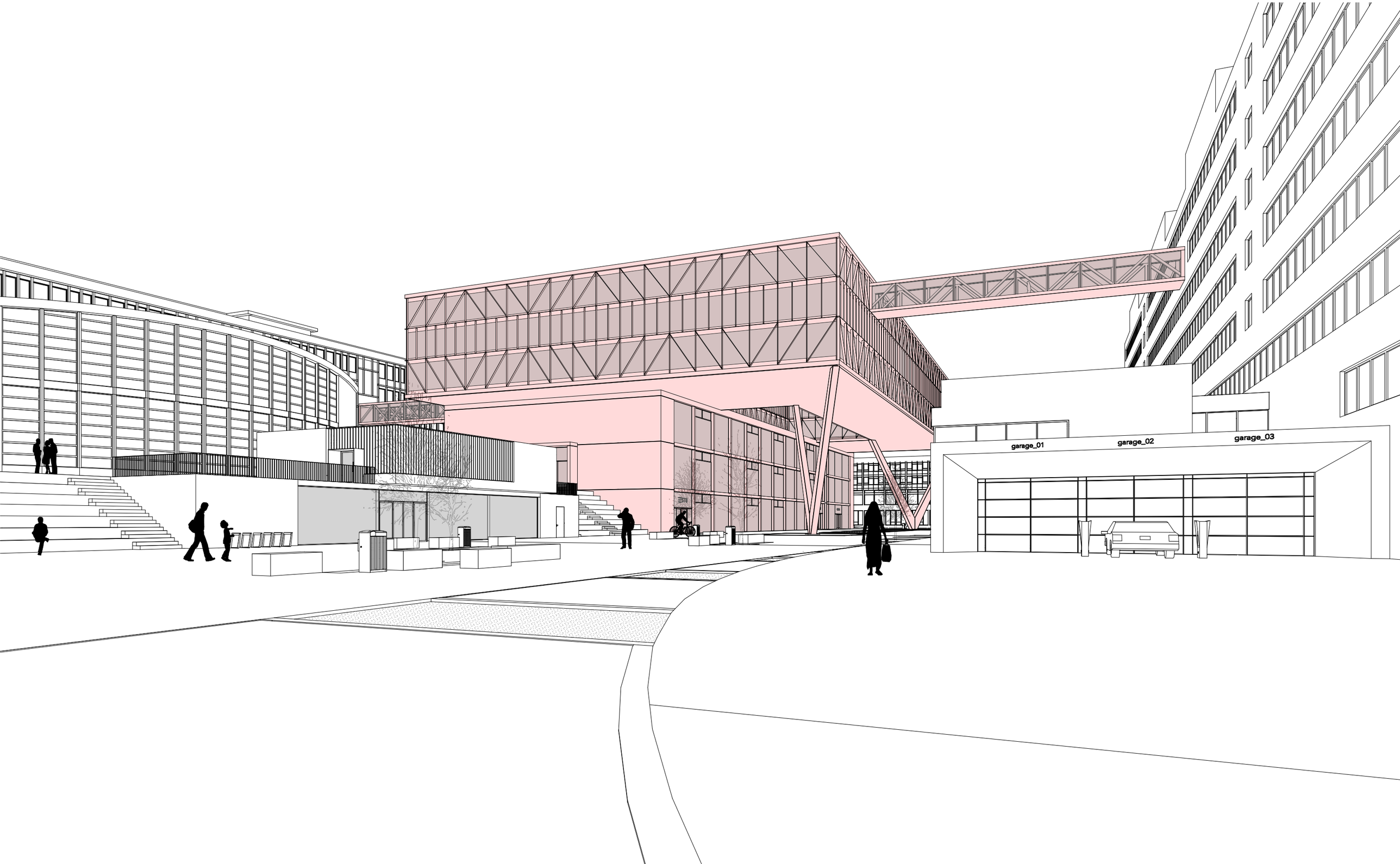
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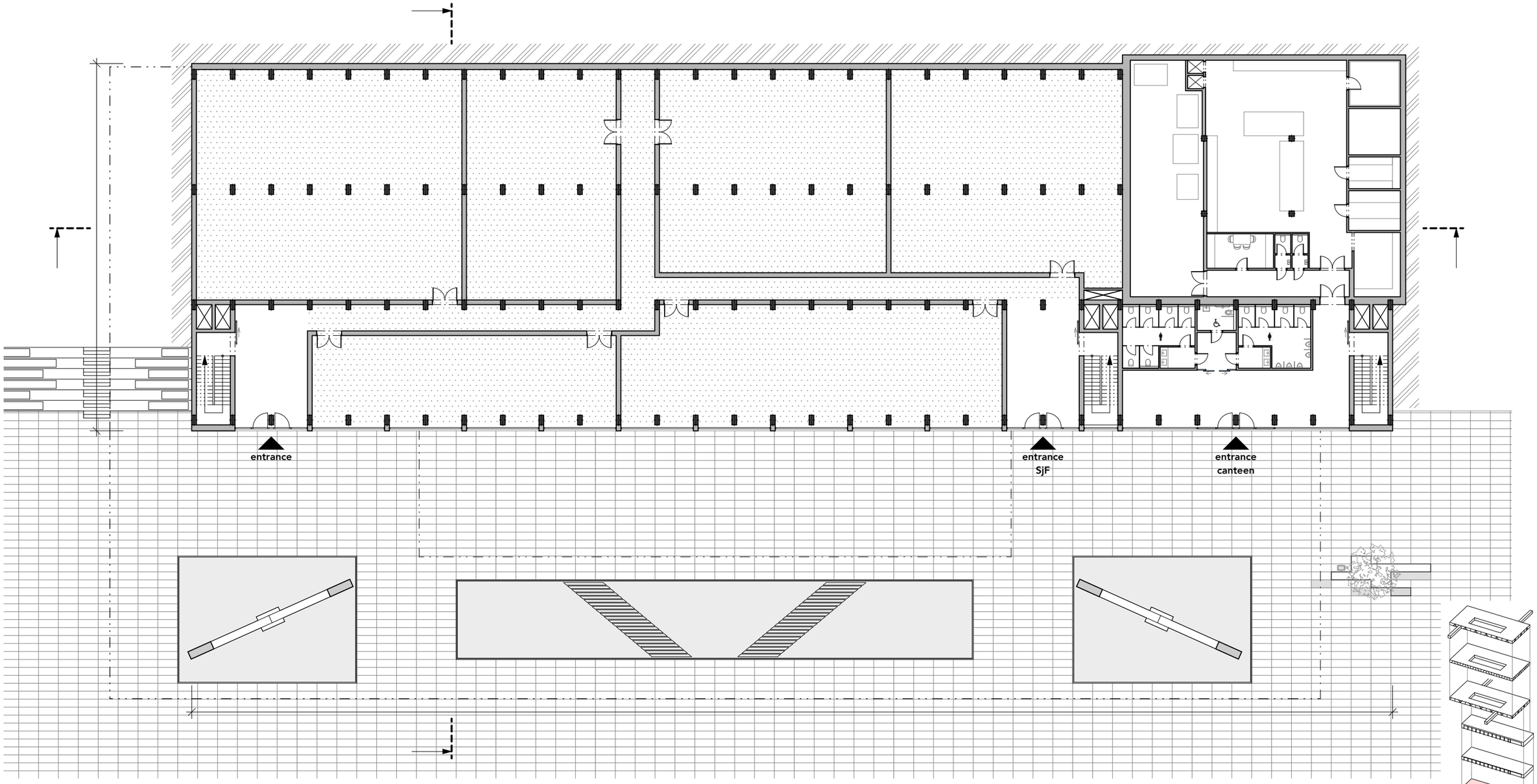

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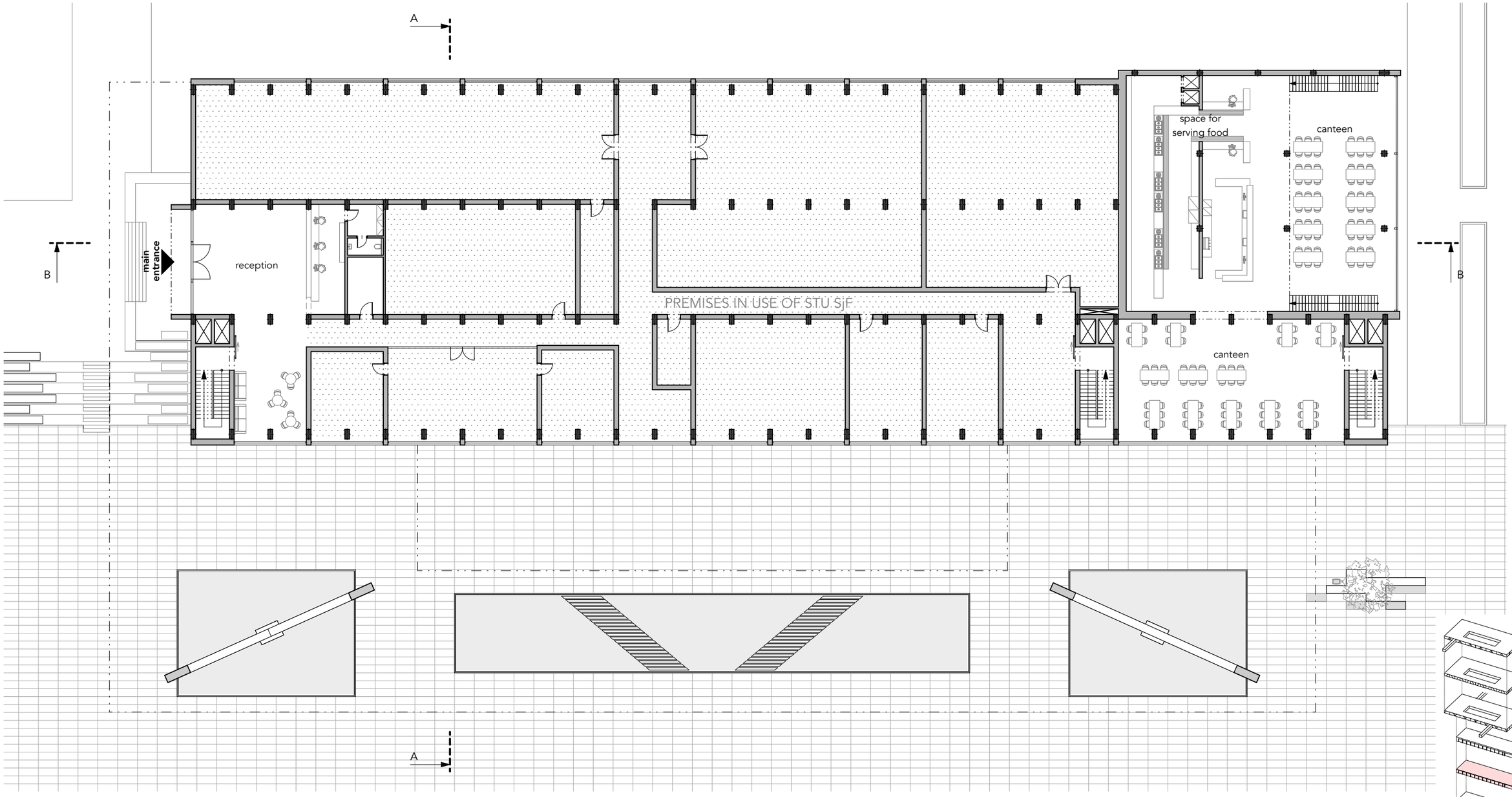
1st FLOOR

architectural design



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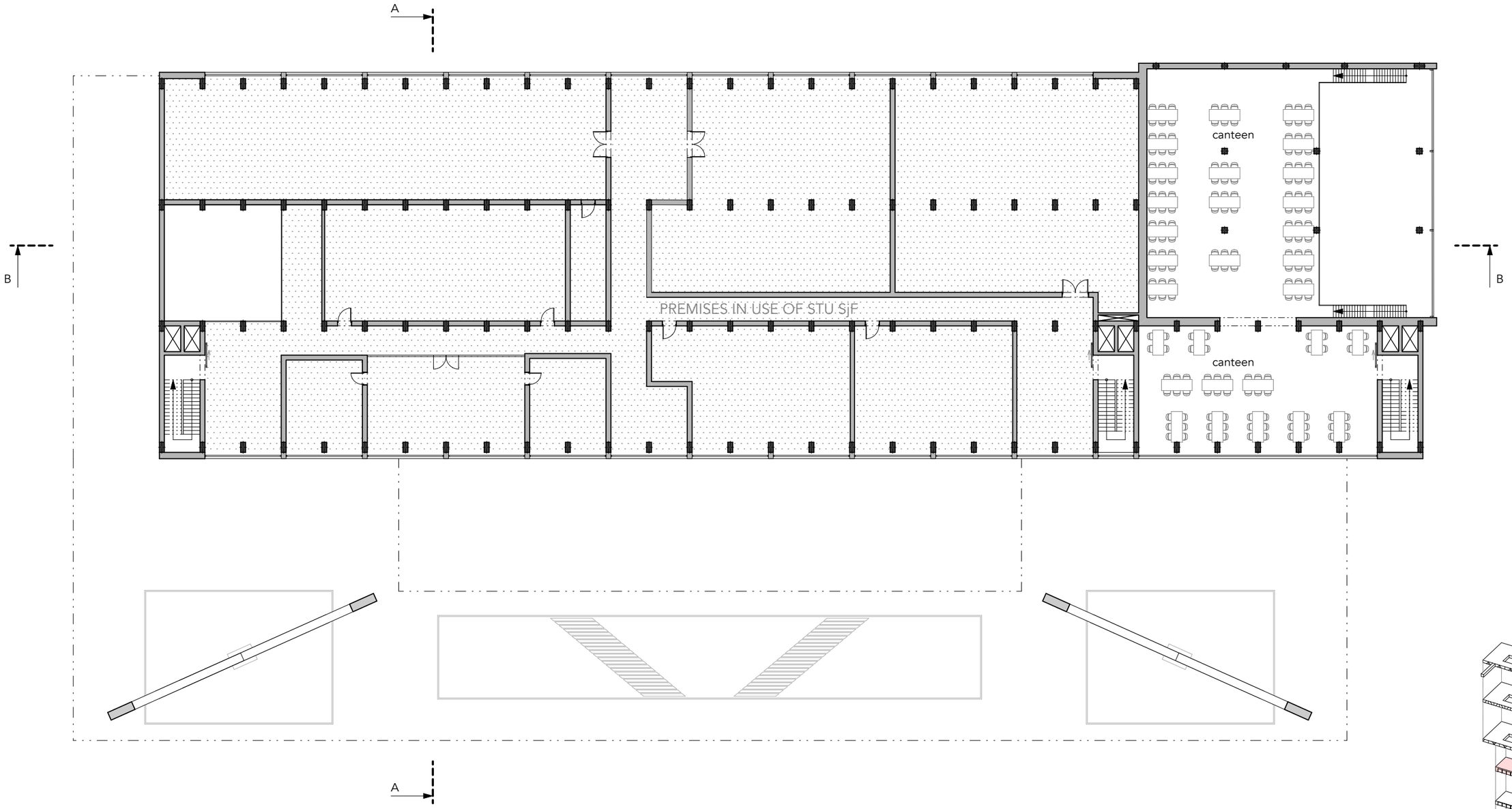
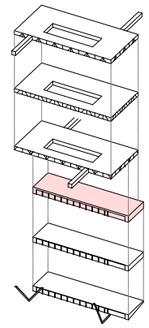
2nd FLOOR

architectural design





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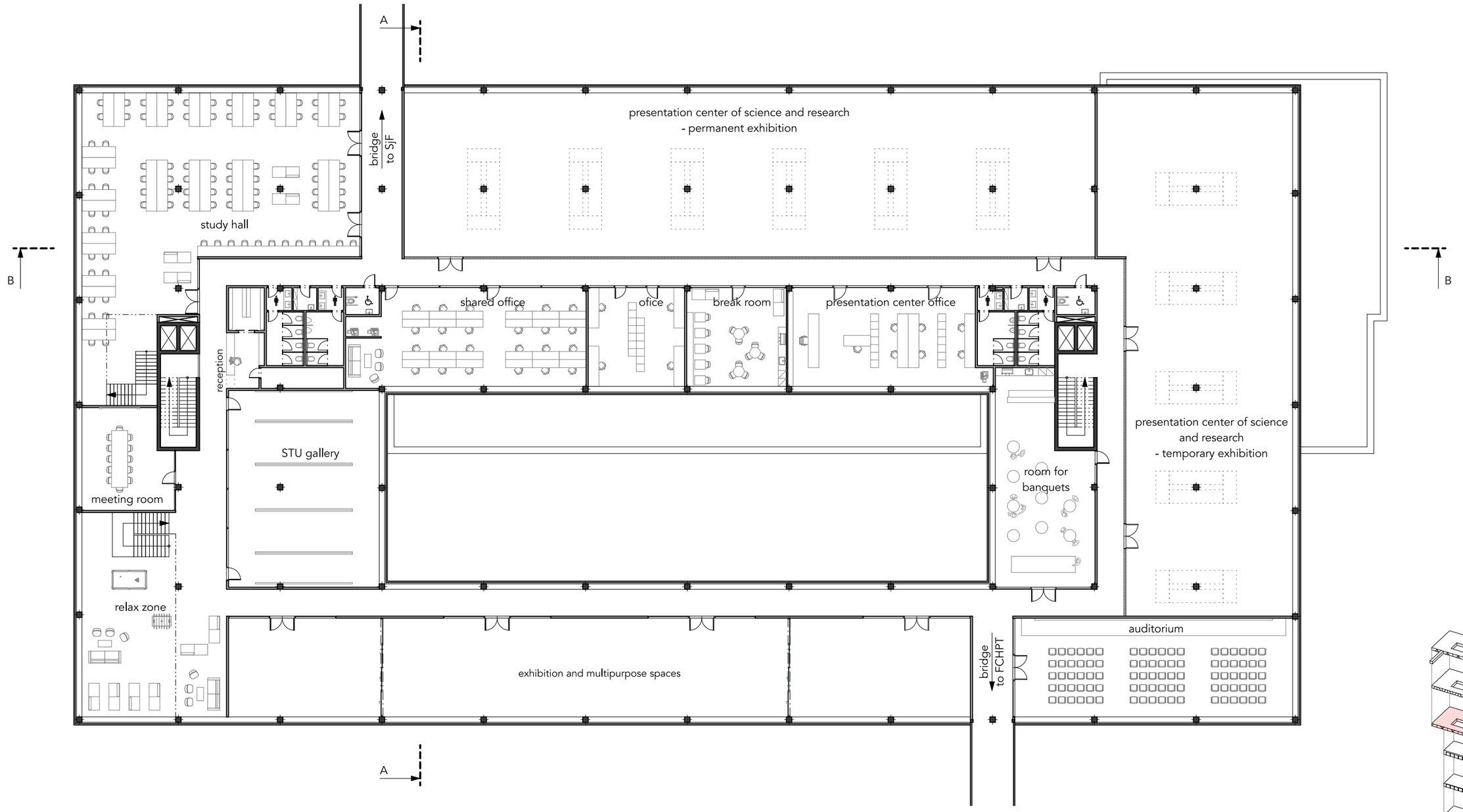

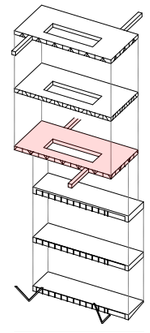

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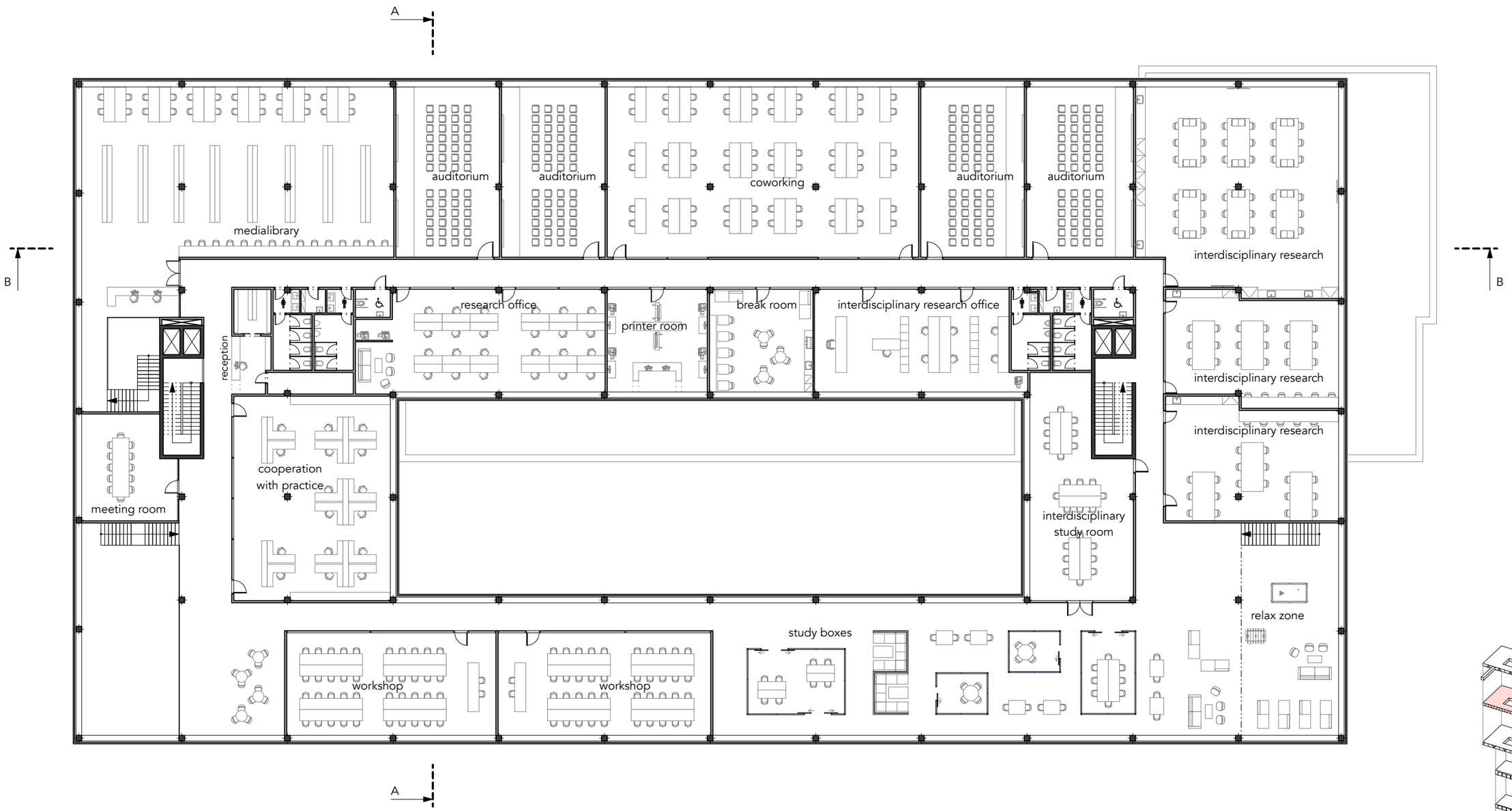

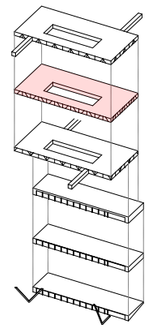

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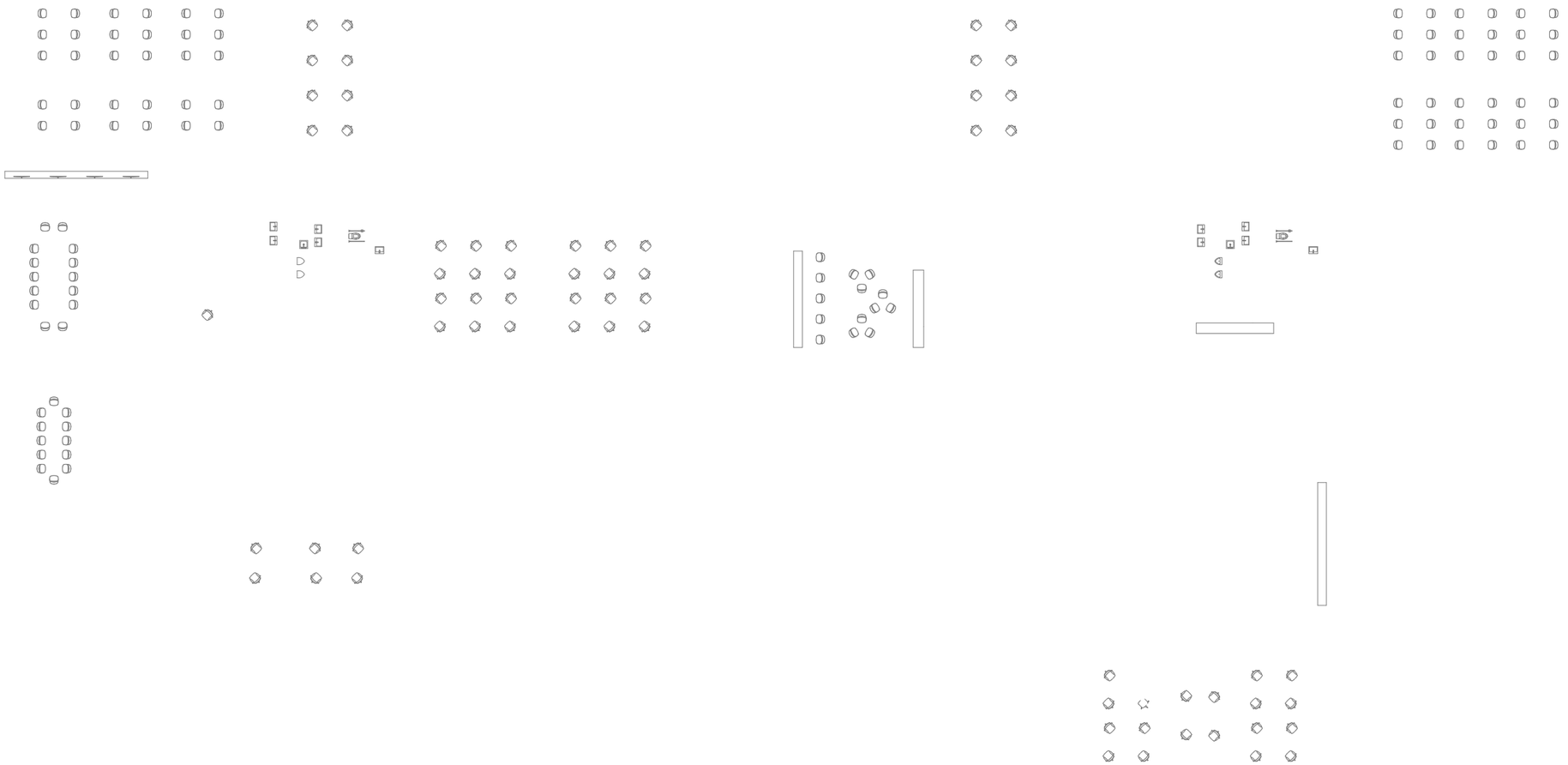
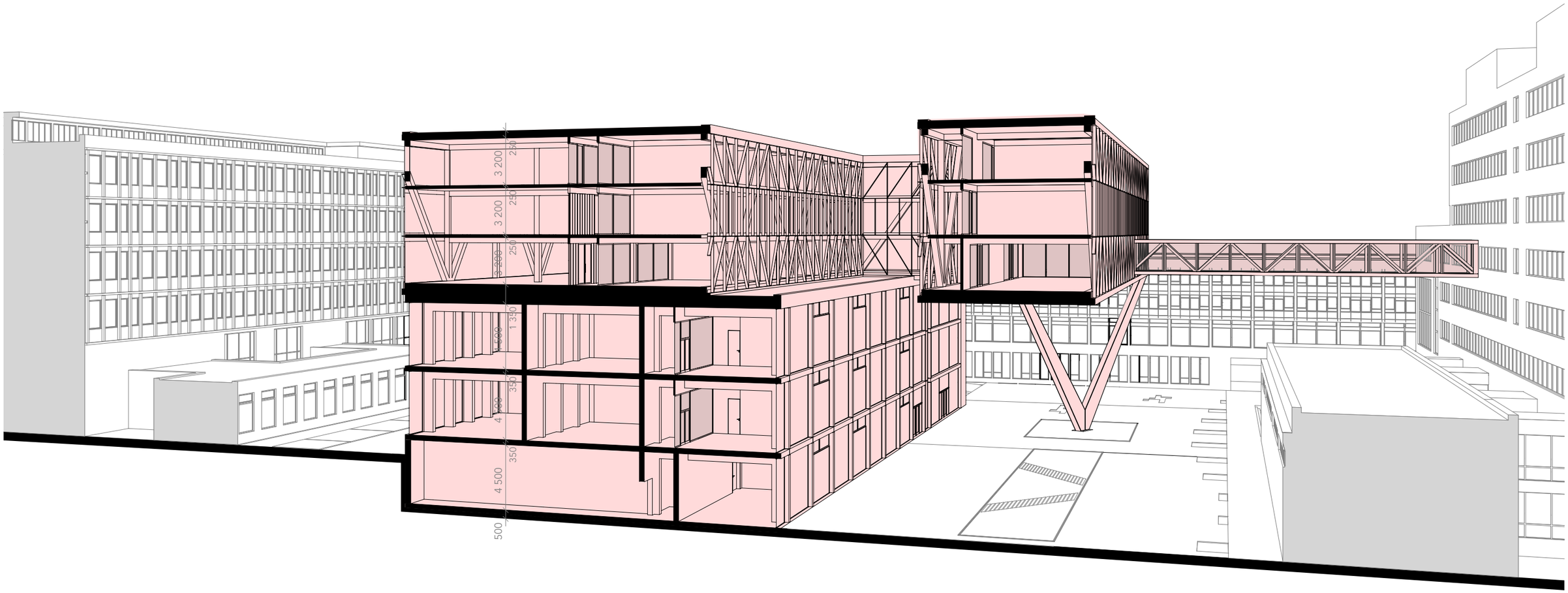


3D SECTION CUT A-A

architectural design



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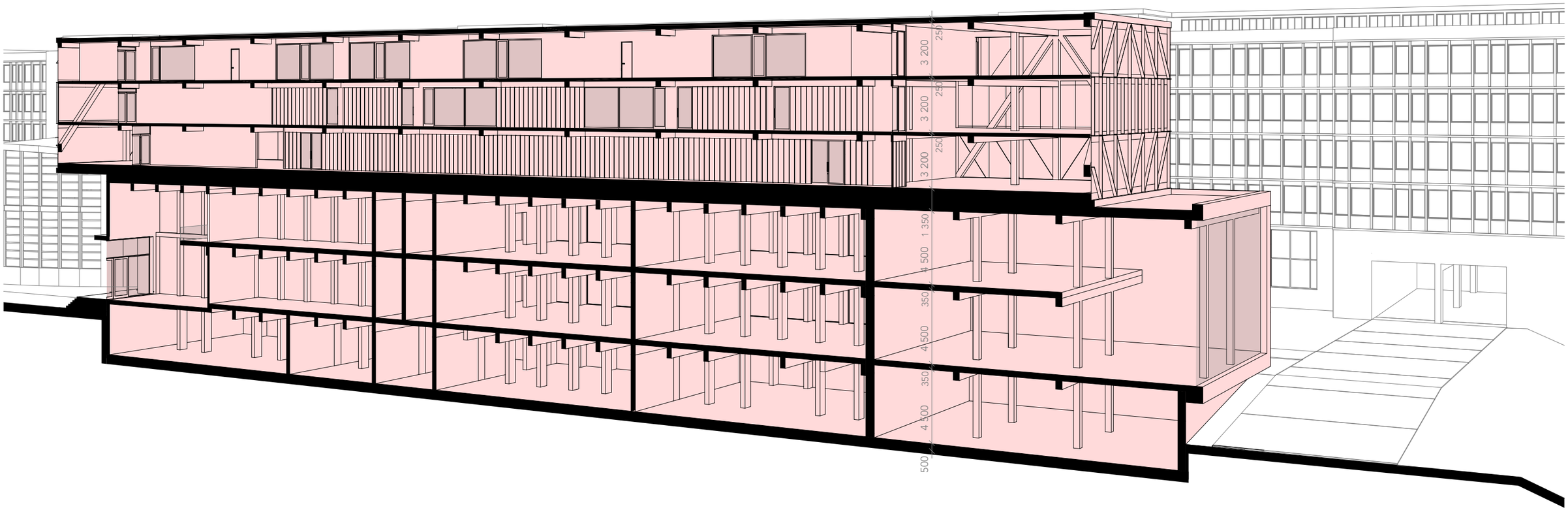
3D SECTION CUT B-B

architectural design



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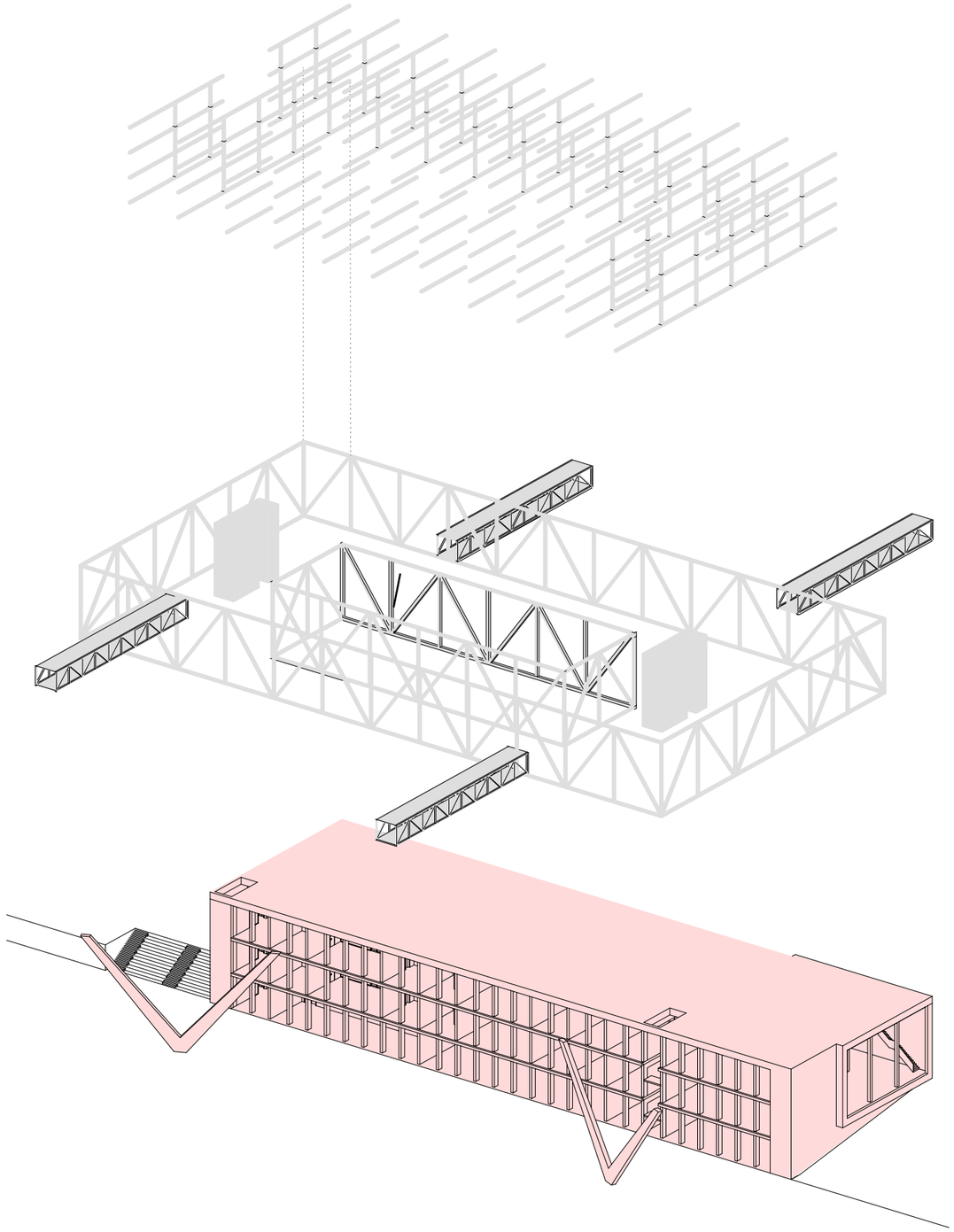
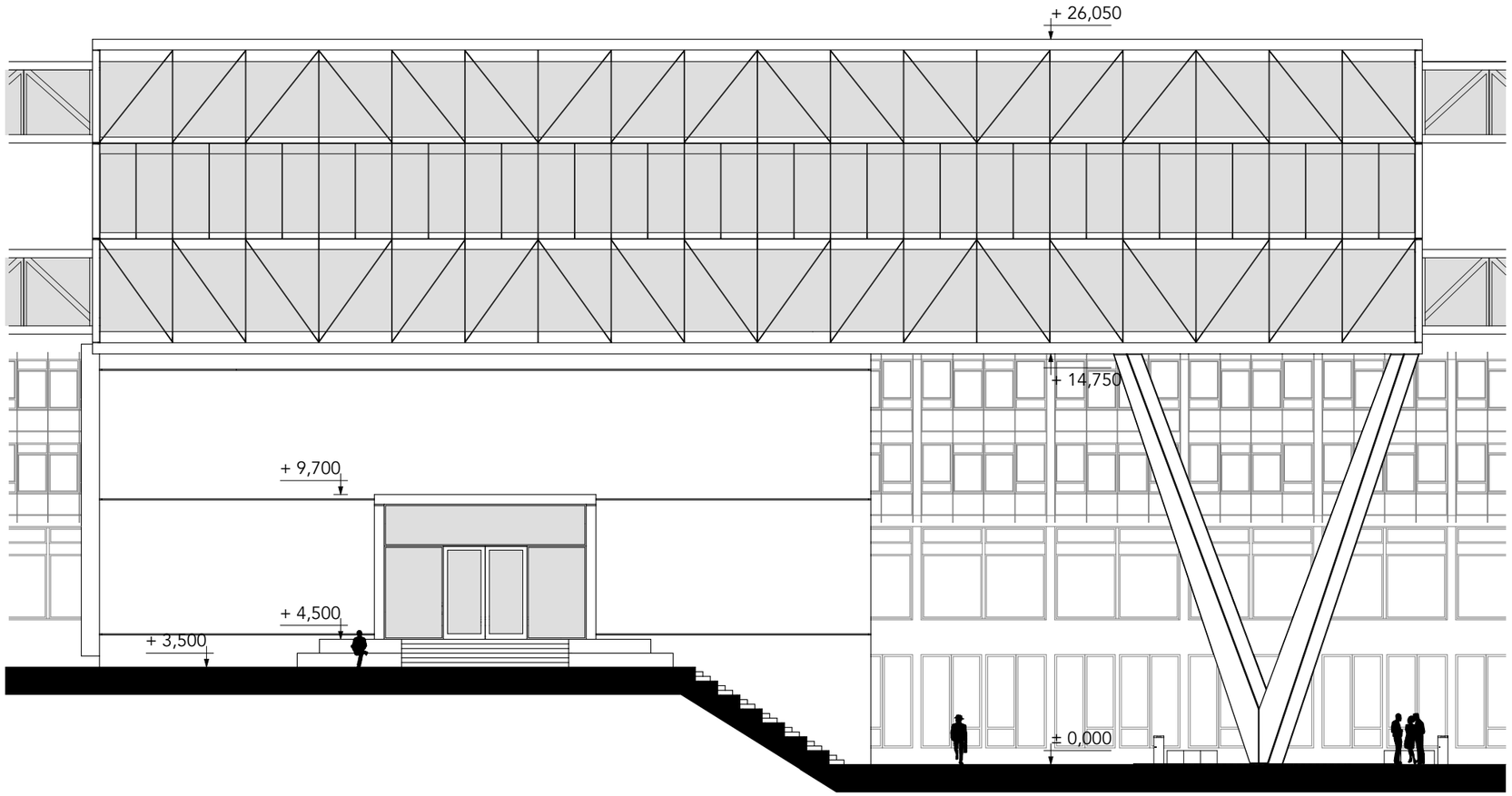


SOUTHWEST ELEVATION

architectural design



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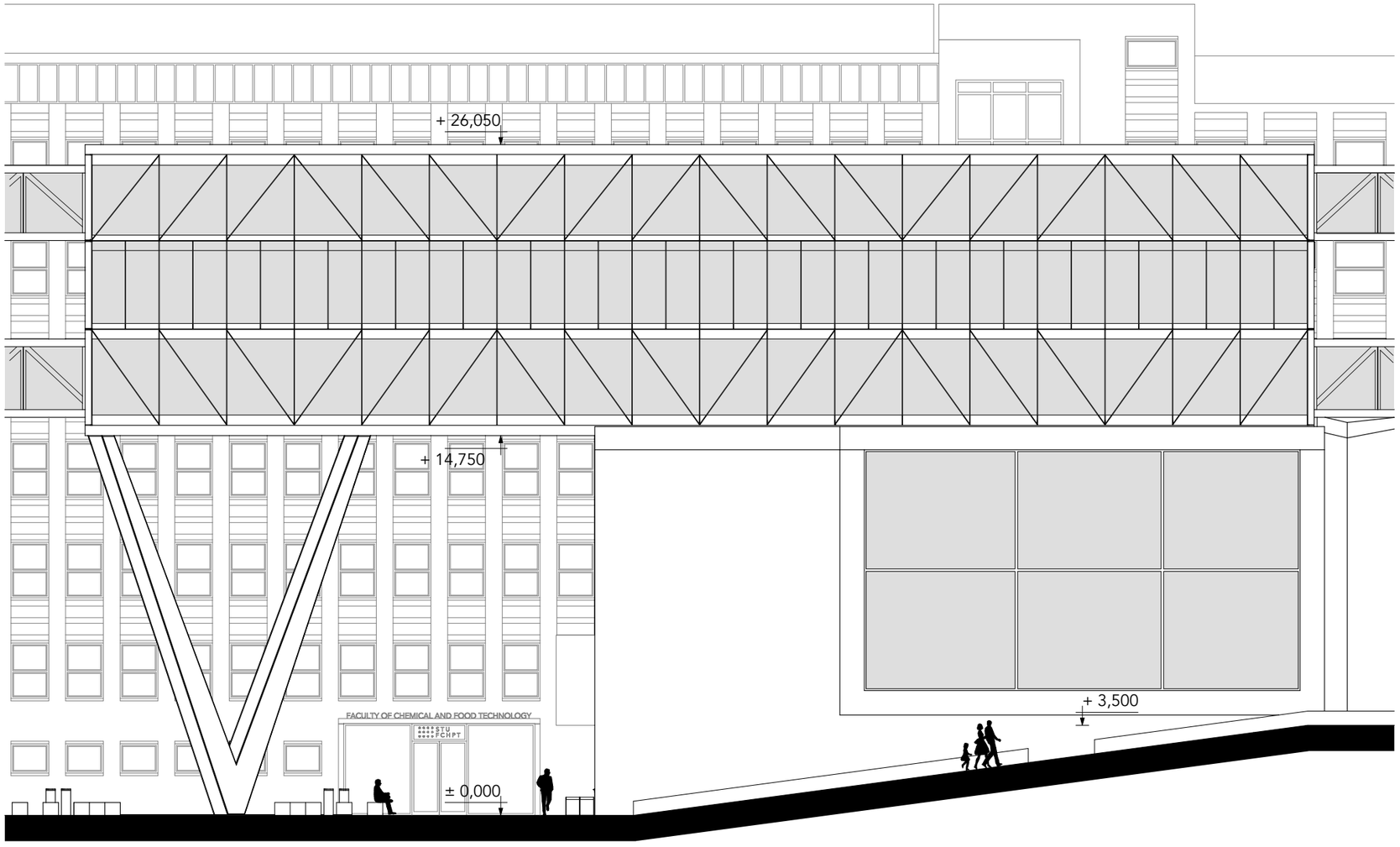
NORTHWEST ELEVATION

architectural design



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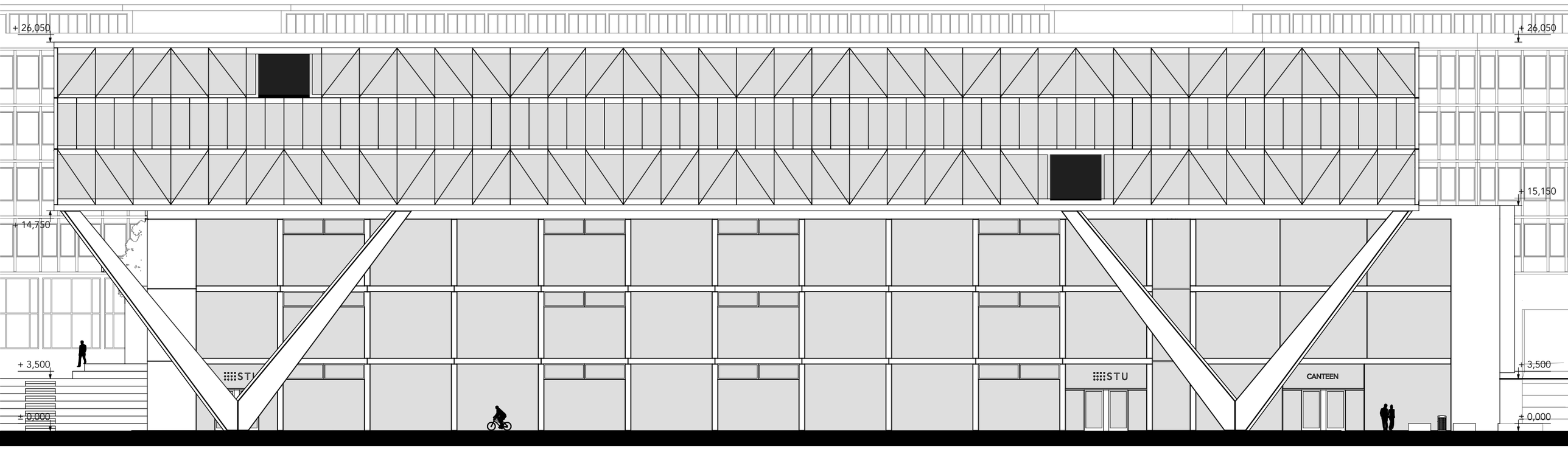
SOUTHEAST ELEVATION

architectural design



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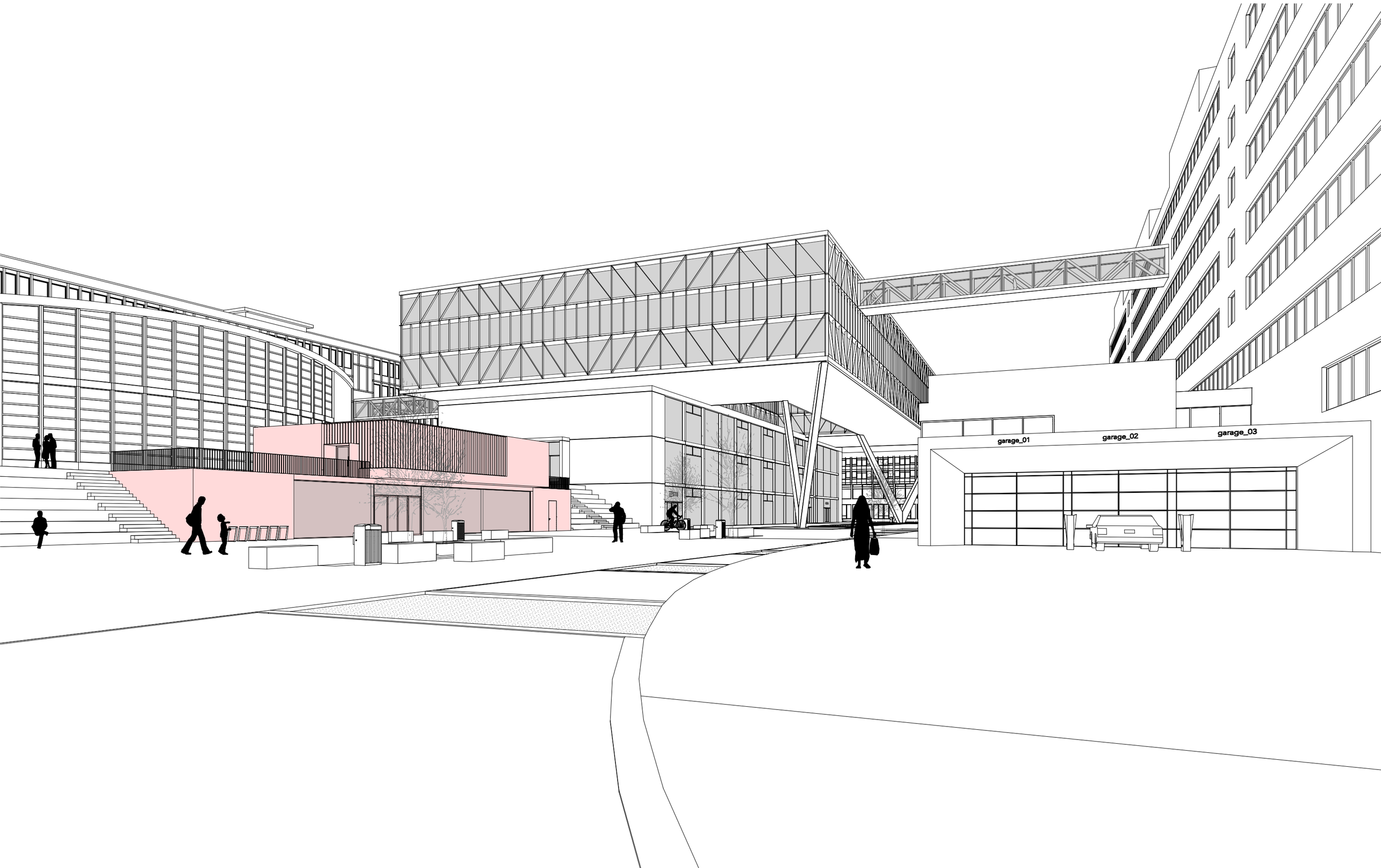
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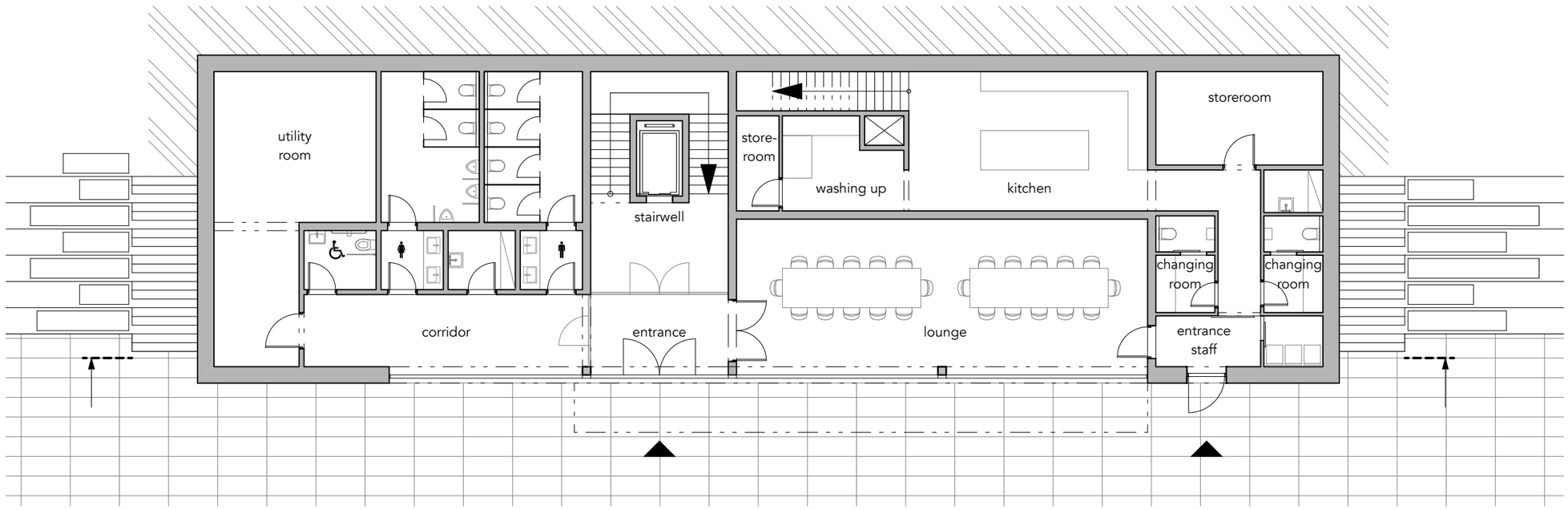
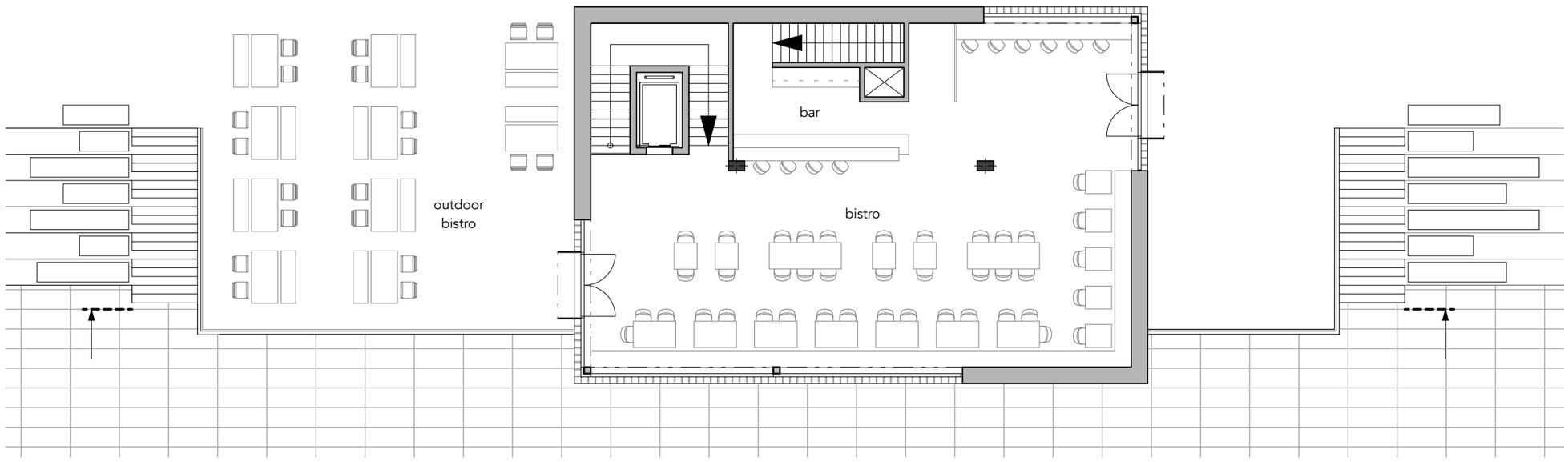
GROUND FLOOR



1st FLOOR



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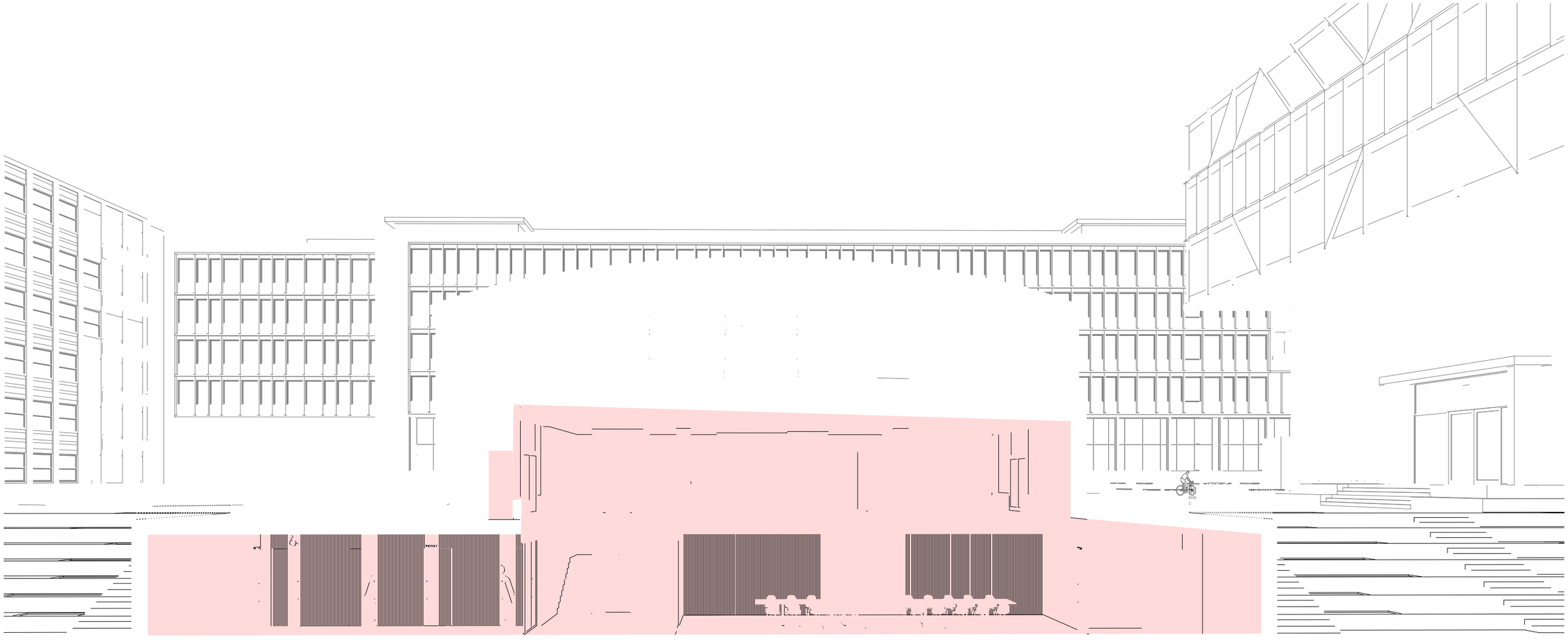

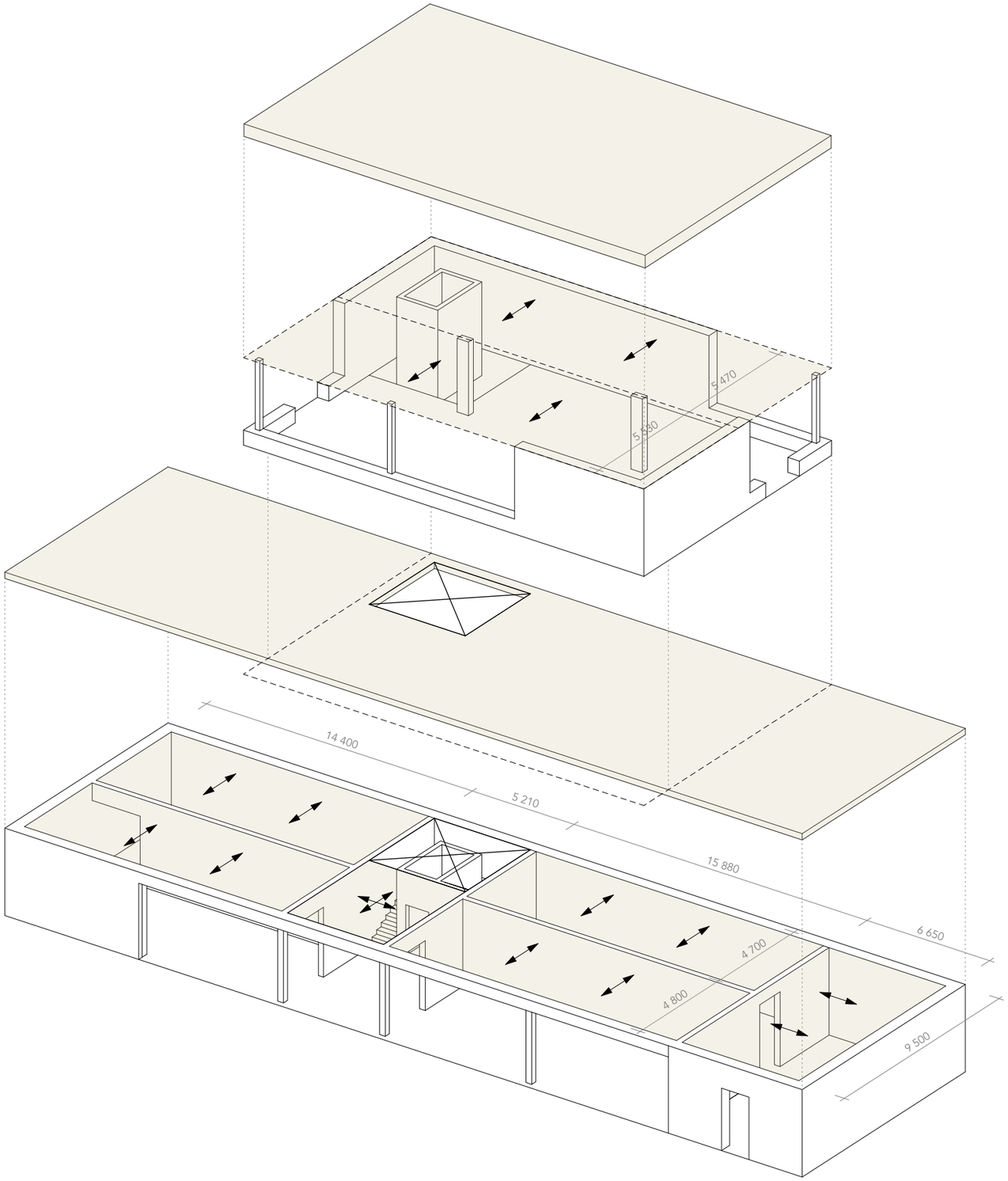

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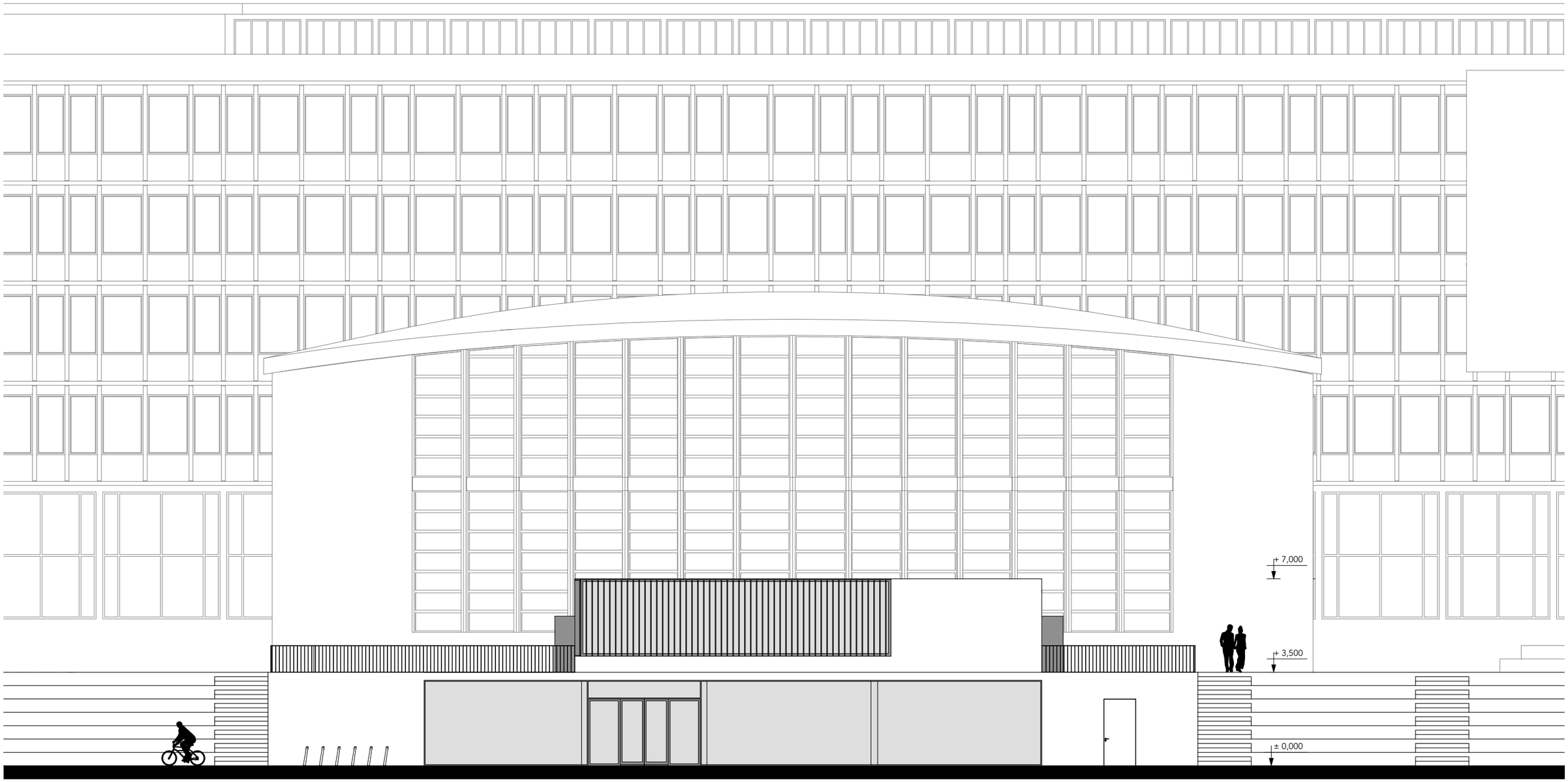
BISTRO_FRONT ELEVATION

architectural design



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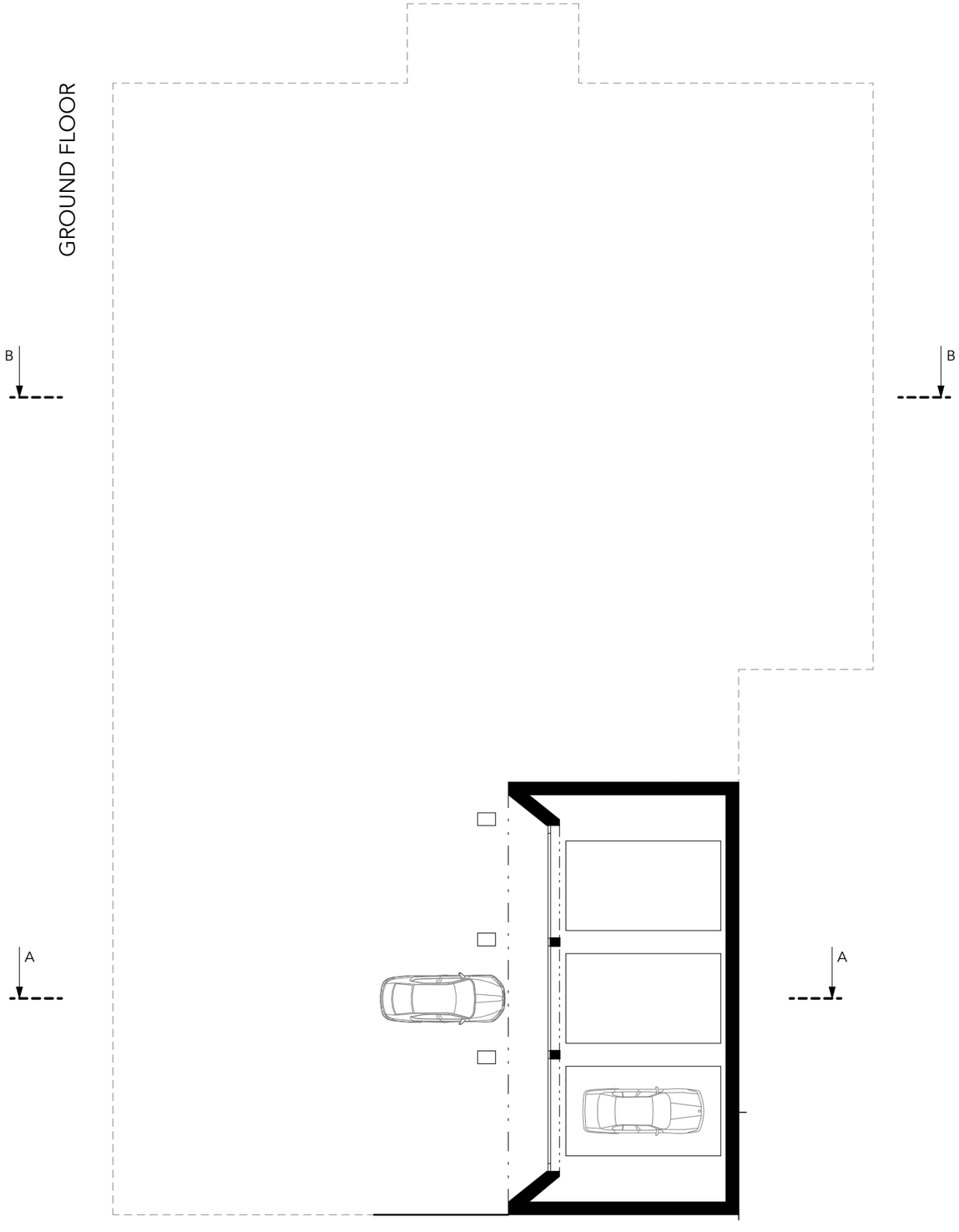
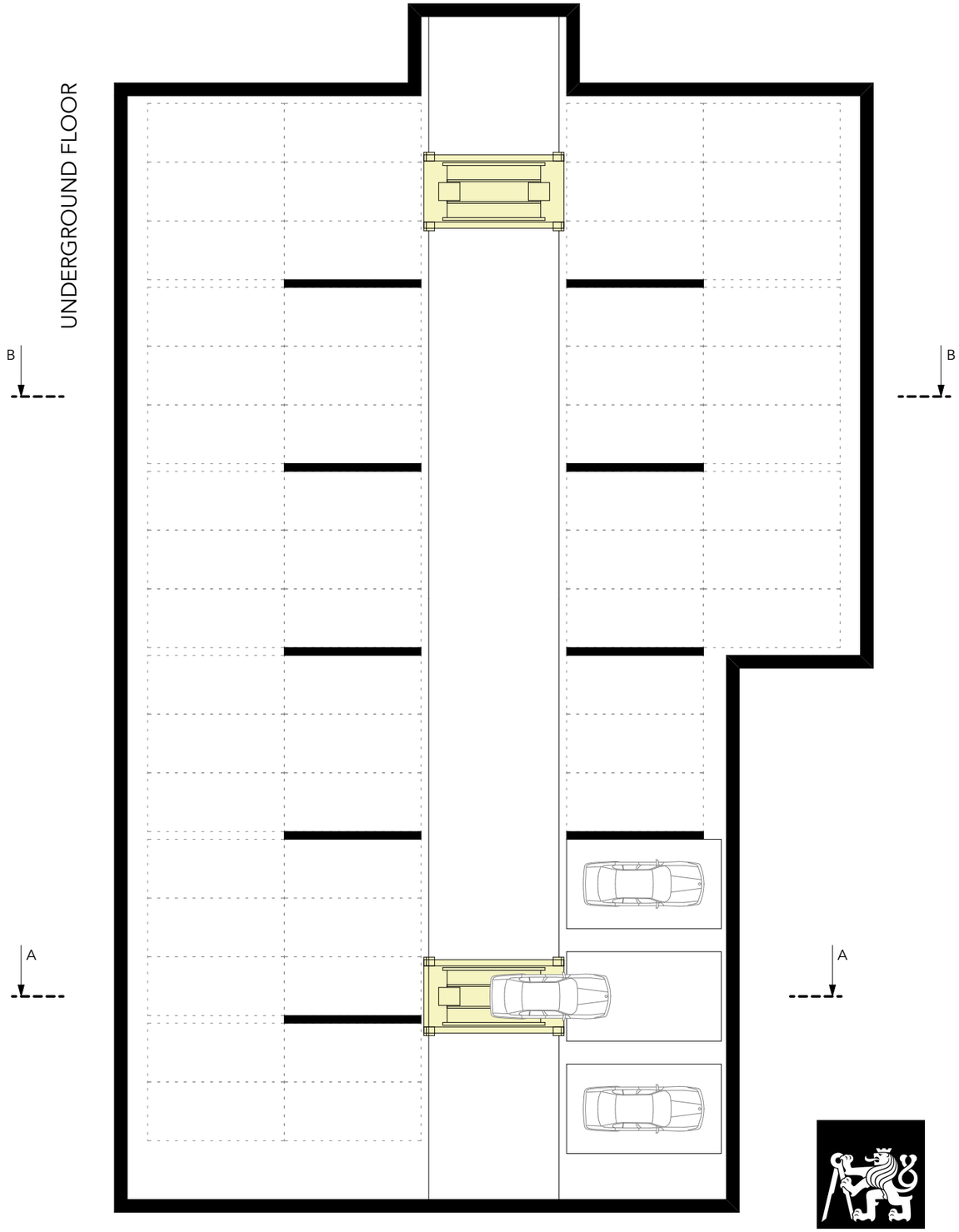
garage_02
garage_03

architectural design

GROUND FLOOR



UNDERGROUND FLOOR



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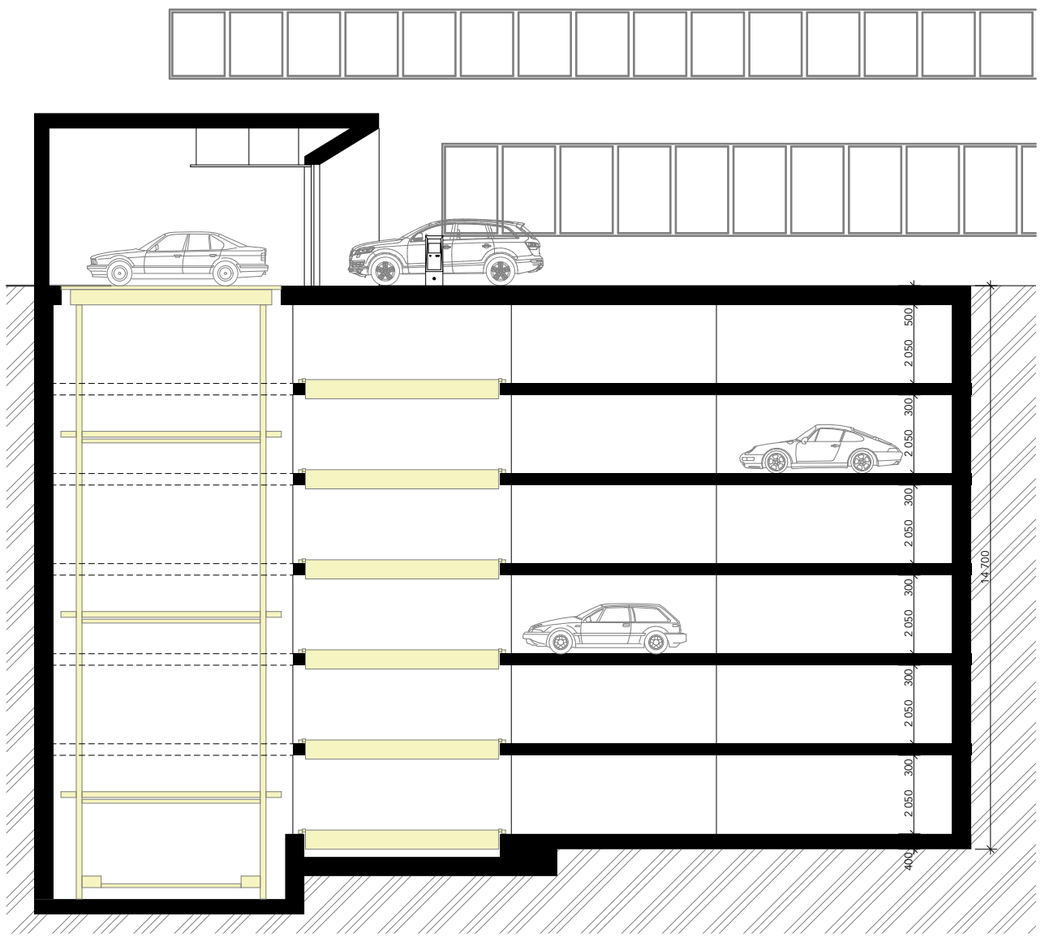
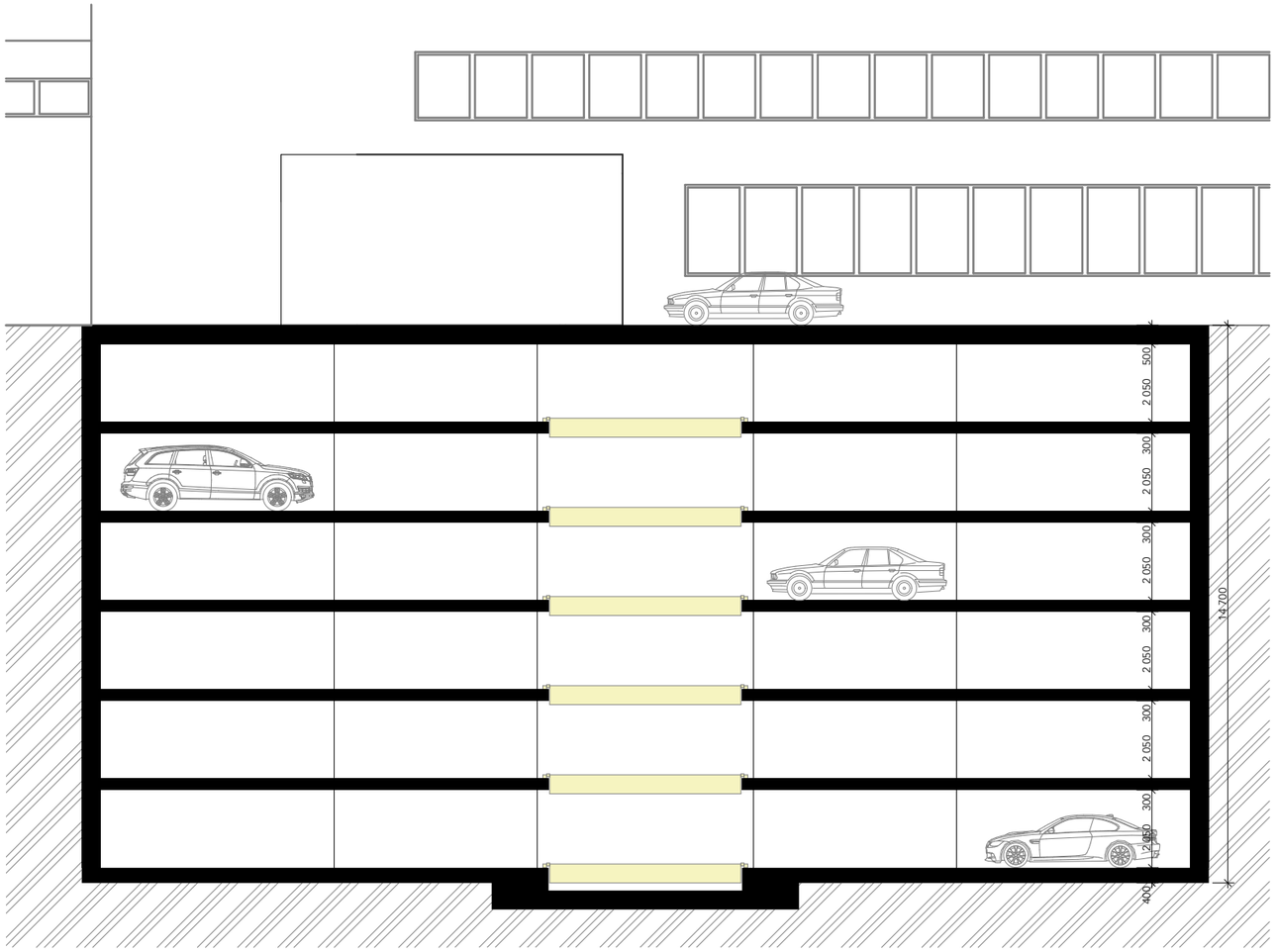
SECTION CUT A -A



SECTION CUTS B-B



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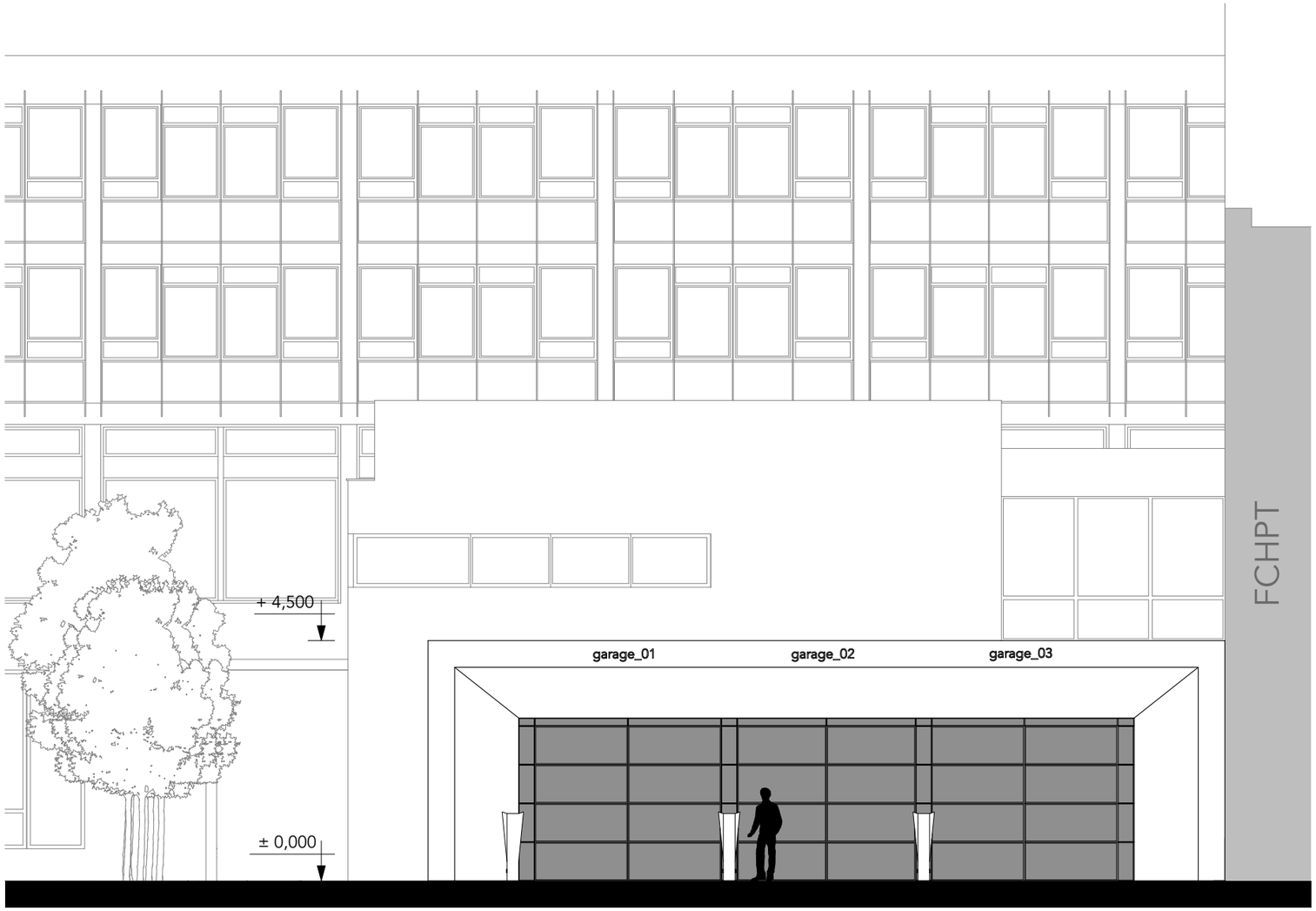

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WÖHR MULTIPARKER

! SCAN ME !

VIDEO DEMOSTRATION OF THE AUTOMATED PARKING SYSTEM

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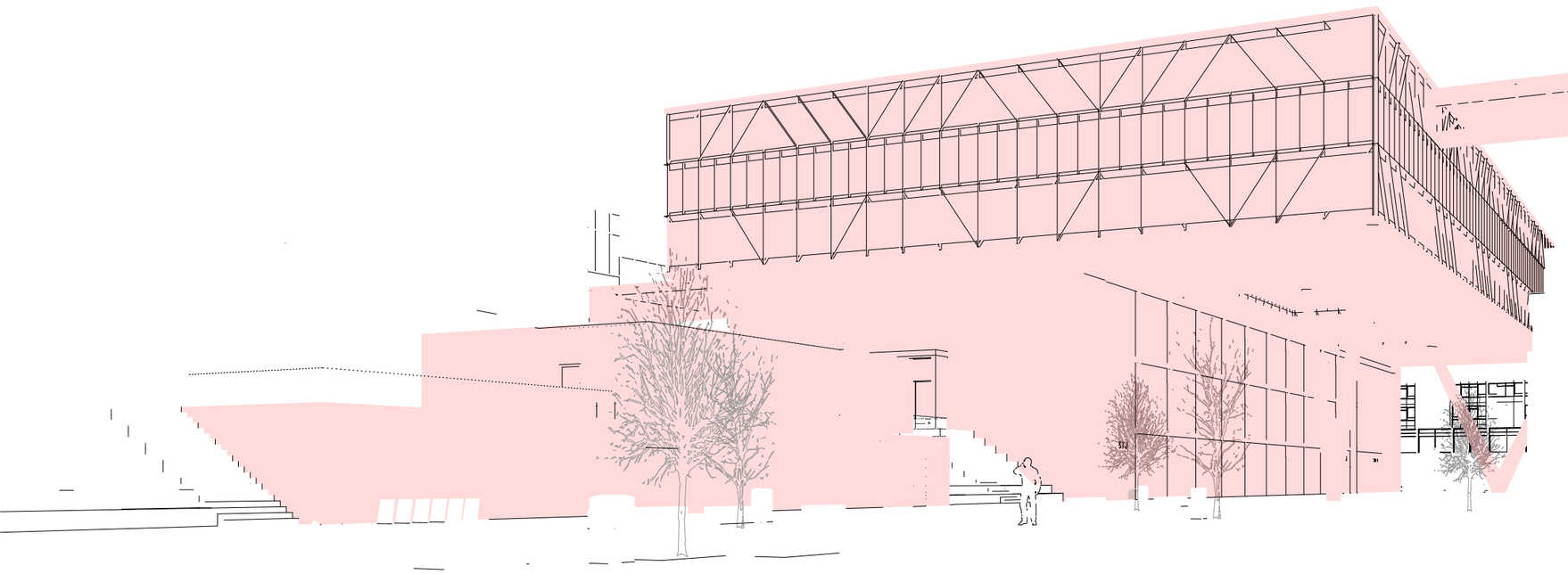
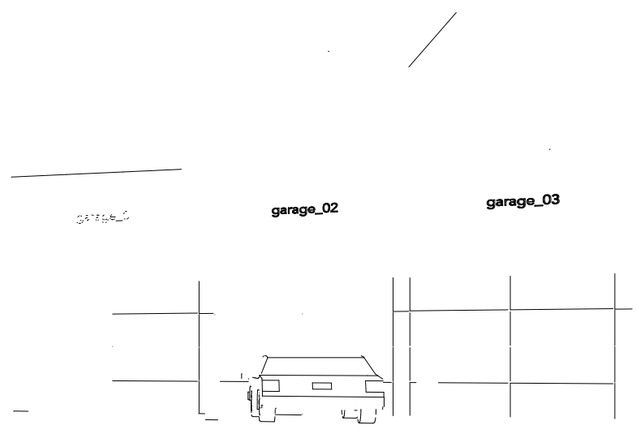
Tomáš Jurica




garage_02
garage_03