

MASTER THESIS SPRING 2014
MATTER SPACE STRUCTURE
Javier Enrique Perez Sota

BUILDING EXTENSION FOR THE MUSIC ACADEMY OF TAMPERE



CHALMERS

MASTER THESIS SPRING 2014
MATTER SPACE STRUCTURE

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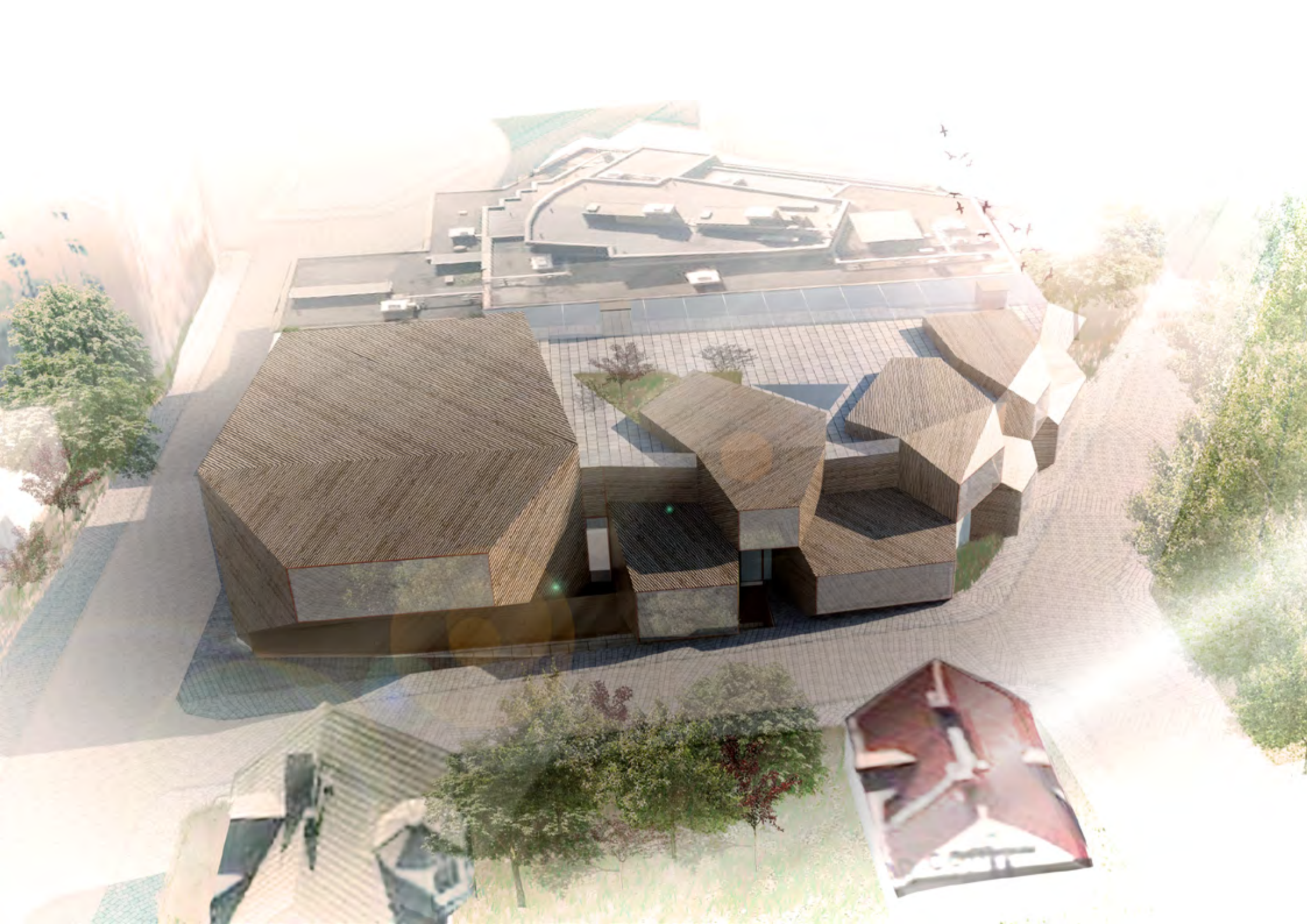
BUILDING EXTENSION FOR THE MUSIC ACADEMY OF TAMPERE

The music academy in Tampere, Finland lacks an extension that can accommodate an increase of activity in the form of dance, music and performances. However, this extension would not only satisfy that need of architecture in terms of spatial qualities but also understand the possibilities of how culture can be reflected in architecture and, furthermore, how this architecture can improve the conditions of how to experience this culture life.

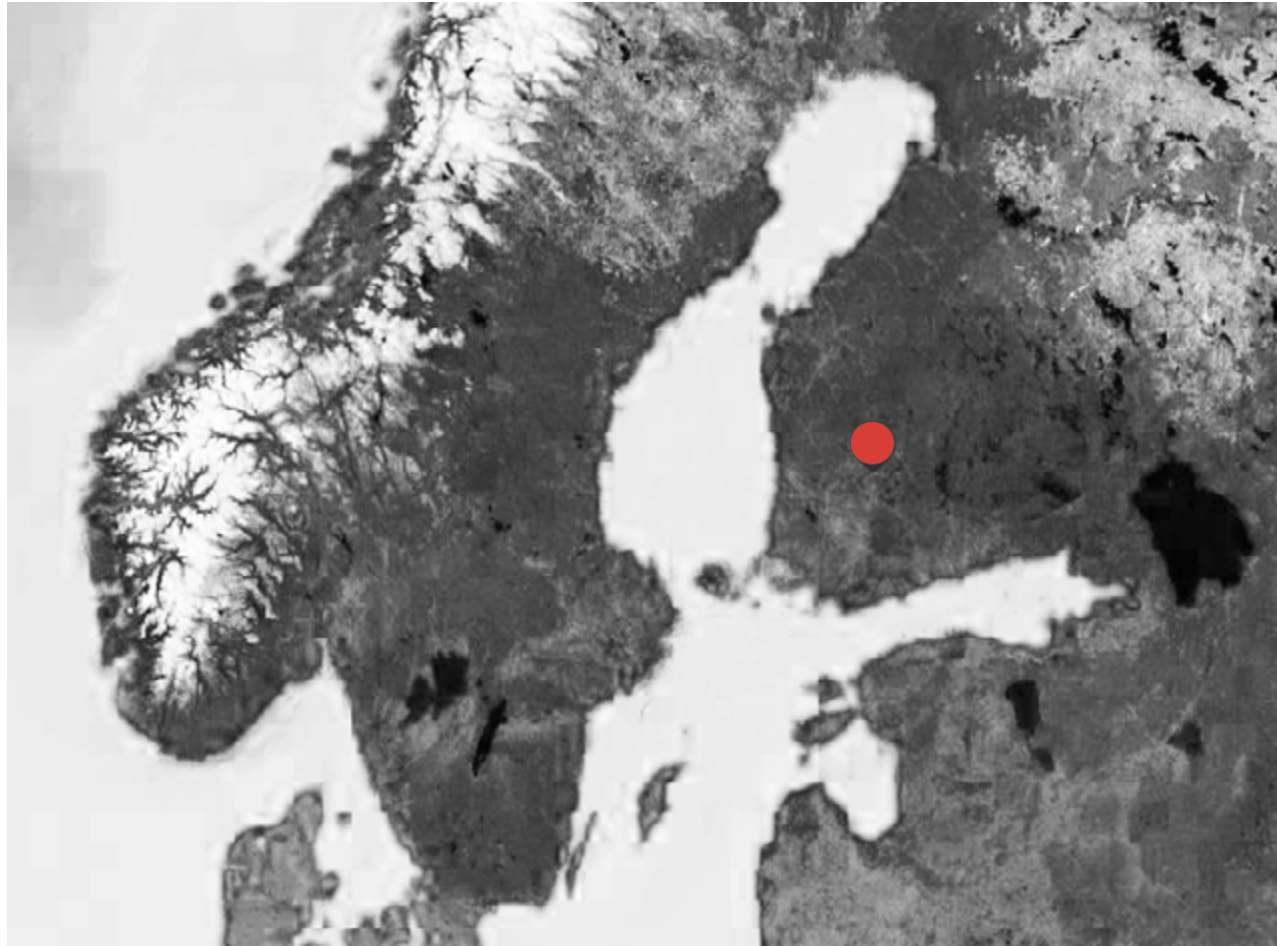
The extension will thereby activate its urban surroundings not only by the ongoing activities inside the building but also by how the building interacts with the outside.

This is achieved by the proximity of the building volumes to the street and emphasized by their large windows that face the street. These large windows work as screens where performances and even training sessions can be projected onto. In this way there is an interaction between the inside and the outside which even allows the extension to perform by its own rights.

The output is a design that is based on the stonewalls principal whereby each room becomes a stone in the whole. The roof of the volumes of the extension is contextualized with the pitched roofscapes in the surroundings because of the similar inclination towards the street. The inclination of it and proximity of these volumes with the street works positively to maintain the human scale in the area.



CONTEXT



The site is located in Tampere, Finland



The site is located in the proximity of the city centre



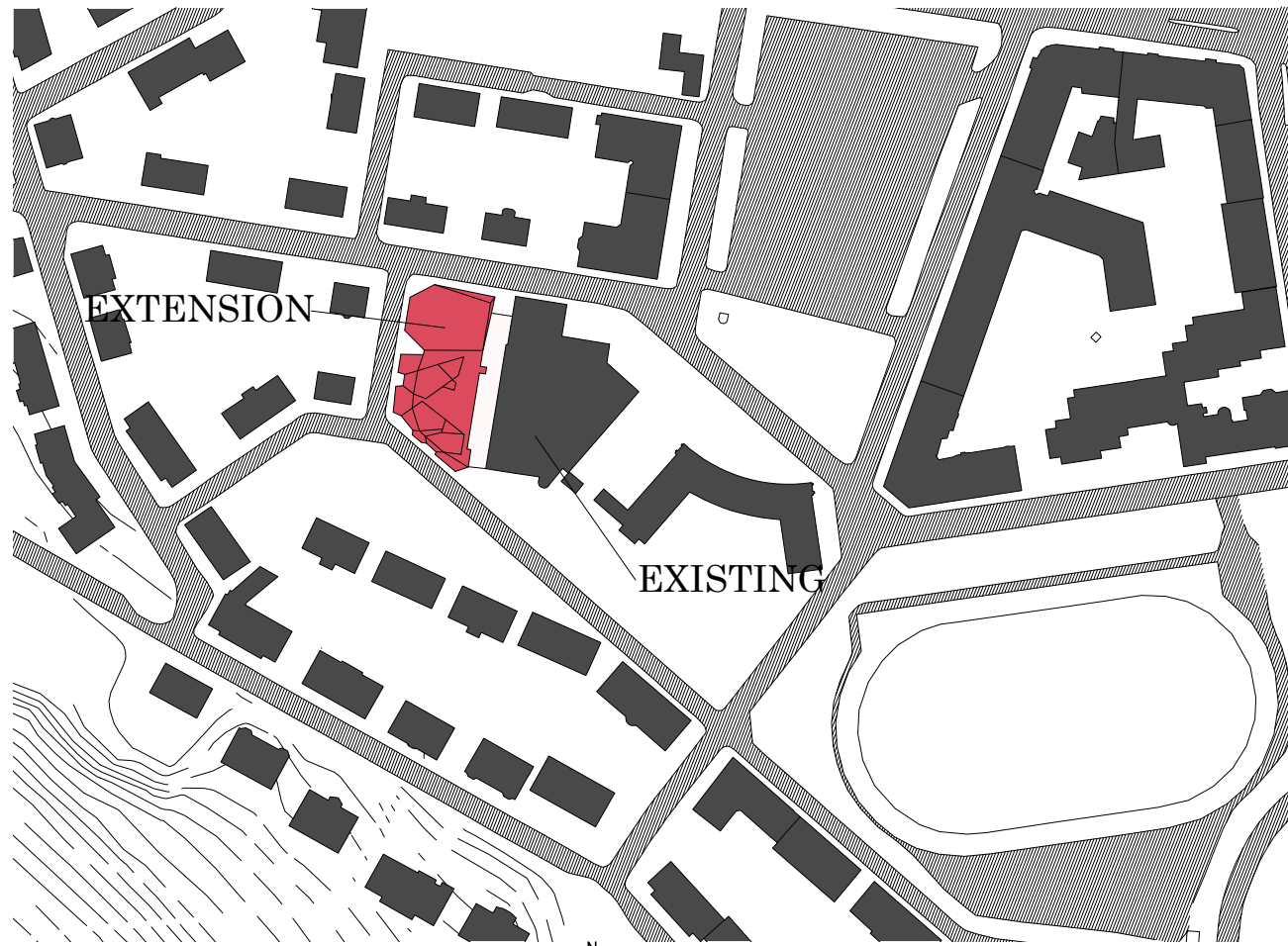
The topology of the buildings in the surroundings is diverse. The red marked area is the available area for extension.



Existing building in its surroundings



Available building plot for extension.



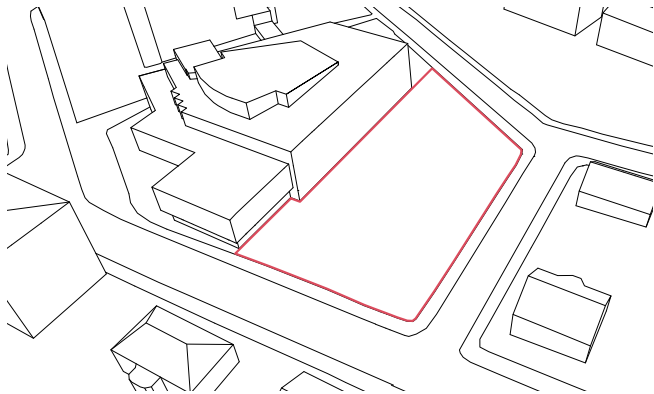
EXTENSION

EXISTING

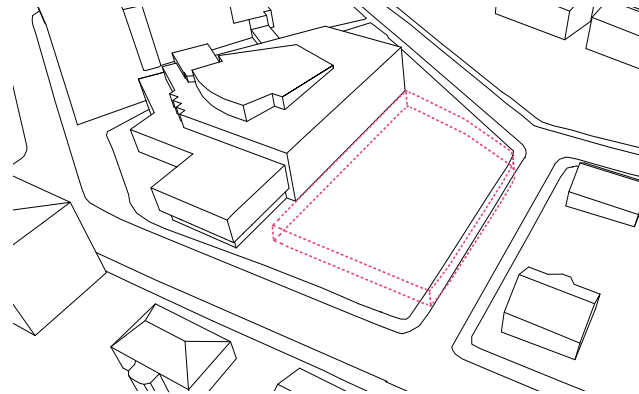
AREA AND FLOWS / 1:2500



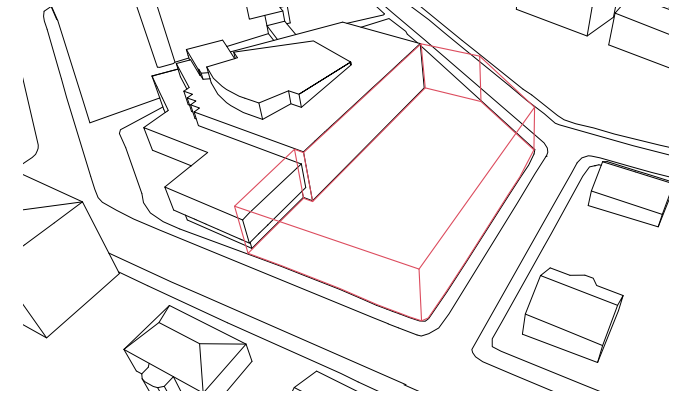
CONCEPT DEVELOPMENT



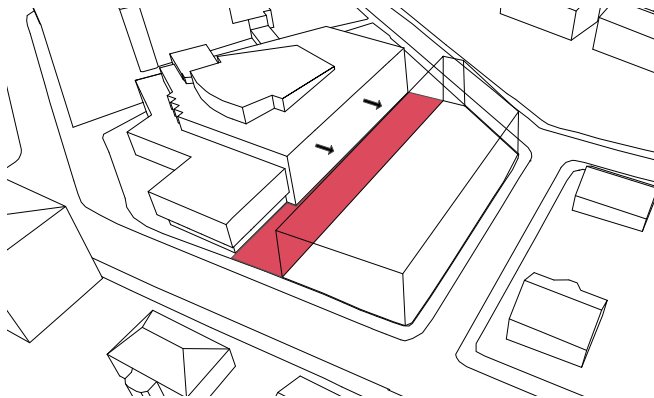
1. Available area for extension.



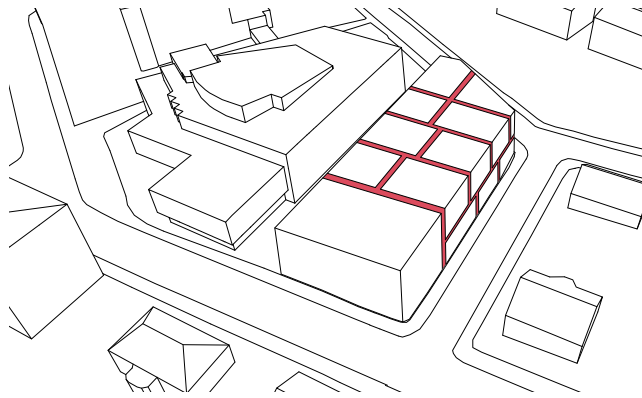
2. Parking need is solved by placing it underground.



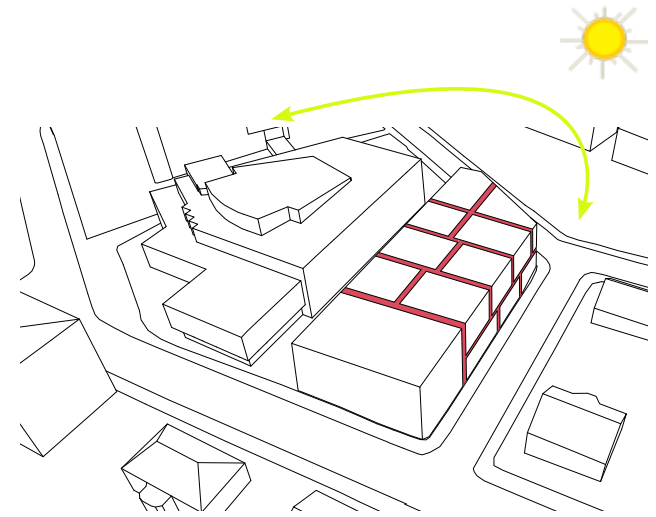
3. Total possible volume for extension.



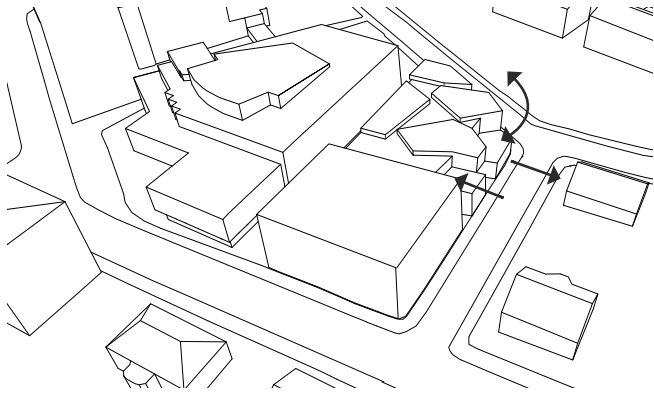
4. Volume is pushed aside to create internal street between buildings.



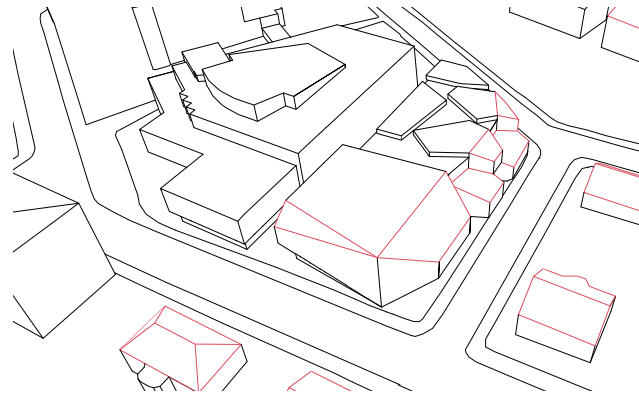
5. The program is placed in the volume and divided by its functions.



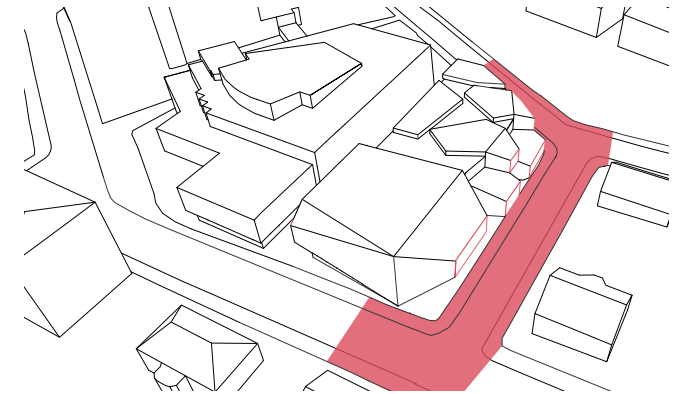
6. The sun situation is reanalysed.



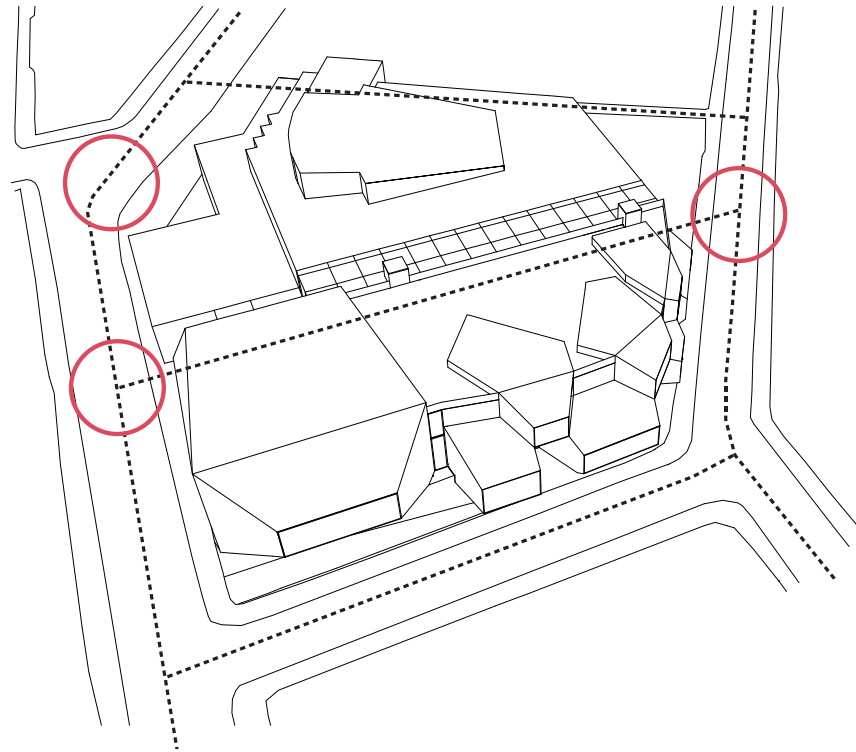
7. As result of “6” the volumes are reshaped and turned to gain the best solar situation.



8. The roofing of the volumes is reshaped to contextualize them with existing pitched roofscapes.



9. The screens are used to activate the existing surroundings.



The main entrances are shown above. The extension creates a natural flow in between the buildings in the form of an atrium which makes the navigation in the building easy.

CHARACTER

Right next to music academy of Tampere the new addition is raised. As the main building the extension is a building with integrity and with a strong design language. The extension is meant to celebrate and share the rich culture that Tampereen konservatoriotalon has to offer. By allowing the main rooms with their respective ongoing activities to be seen by the public, the extension not only creates an interaction between the academy and the public but also activates its urban surroundings. The sharing of the ongoing activities in the inside towards the outside is accomplished by the large windows that work as surfaces where the displays, shows or training sessions can be projected onto.

The extension respects the existing building and it is placed gently next to it. It creates an internal underroof street in which a natural movement flow connects both buildings and also creates a common lobby for the Pynikkisali, the new Pynikkisali and the black box. The placement of the extension also means that the functions and activities of the existing building are not interrupted but rather they interact positively with the extension both vertically and horizontally.

The extension maintains the human scale in its surroundings by its stair-like design towards the low rise buildings, and thereby a welcoming feeling is achieved. This will invite the public to come and see the different activities and encourage them to be a part of them.



AMMATTIKOULUNKATU

KISAKENTÄNKATU

PYYNIKINTORI

KISAKENTÄNKATU

+112.4

+110.6

+108.9

+114.8

+114.4

3

4

2

1

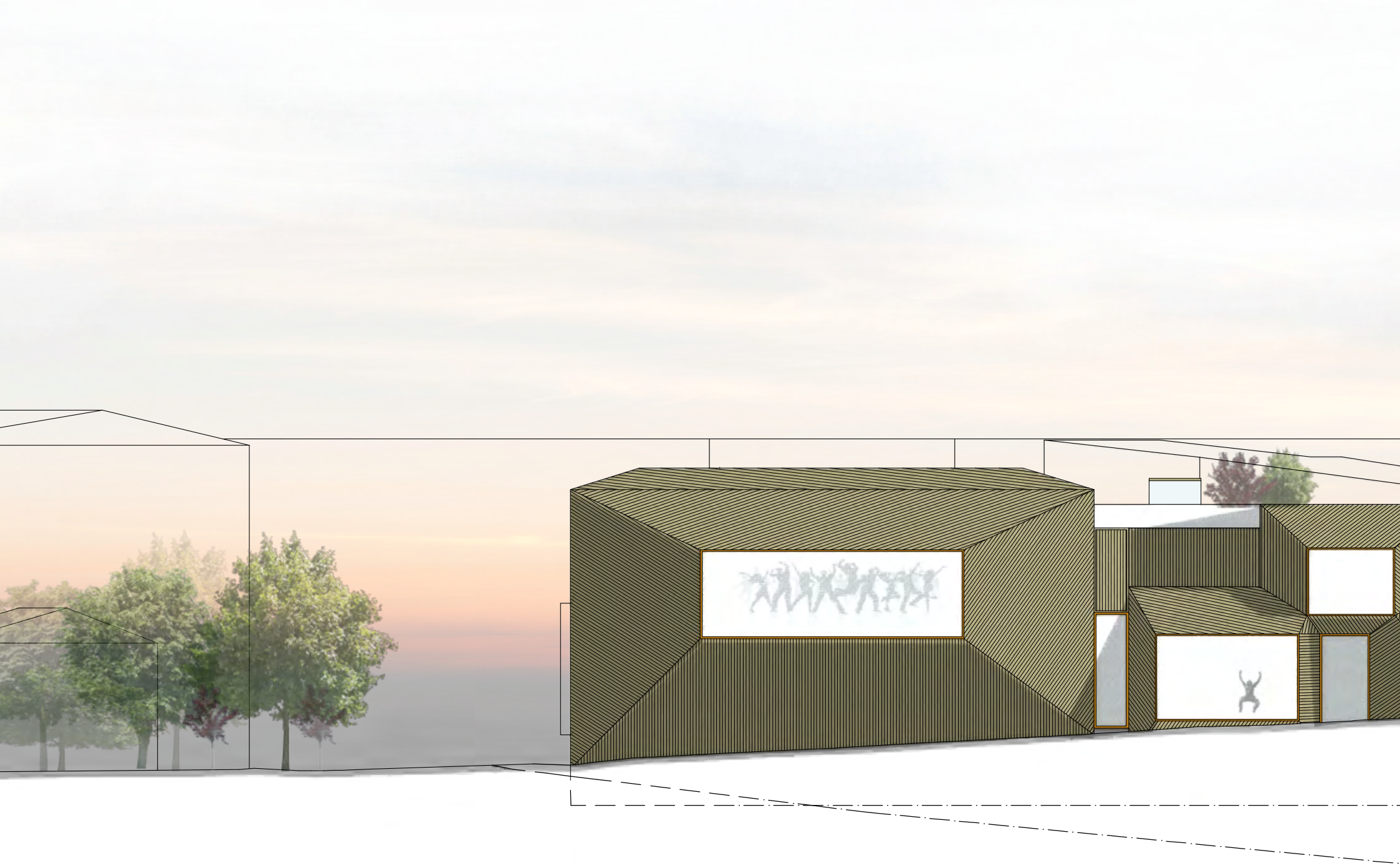
5

6

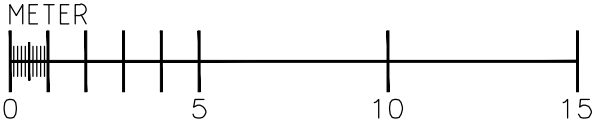
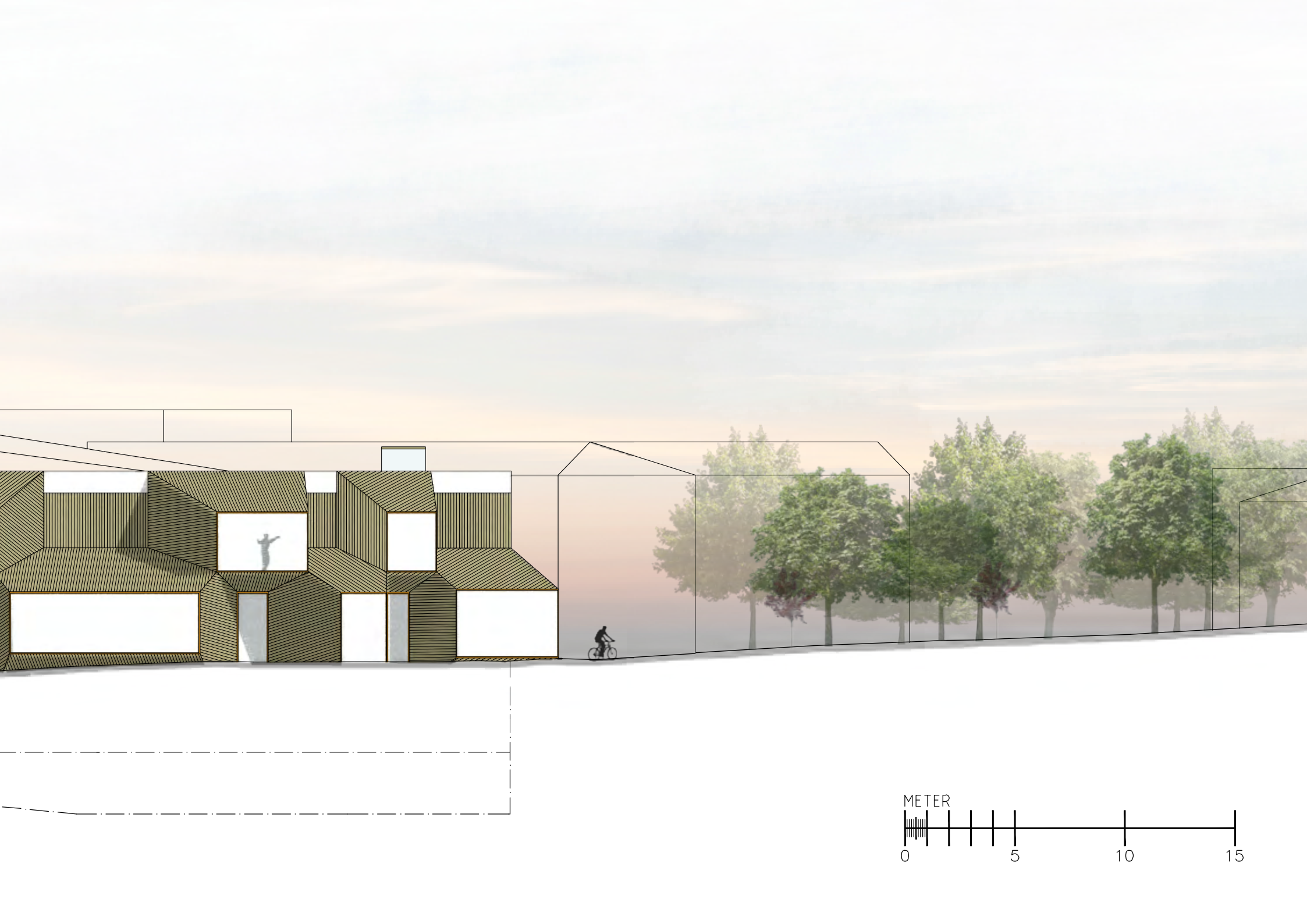
SITE PLAN / 1:500



1. Main entrance 2. Entrance to extension and Restaurant 3. Vehicle entrance
4. Staff entrance 5. Secondary entrance 6. Back entrance



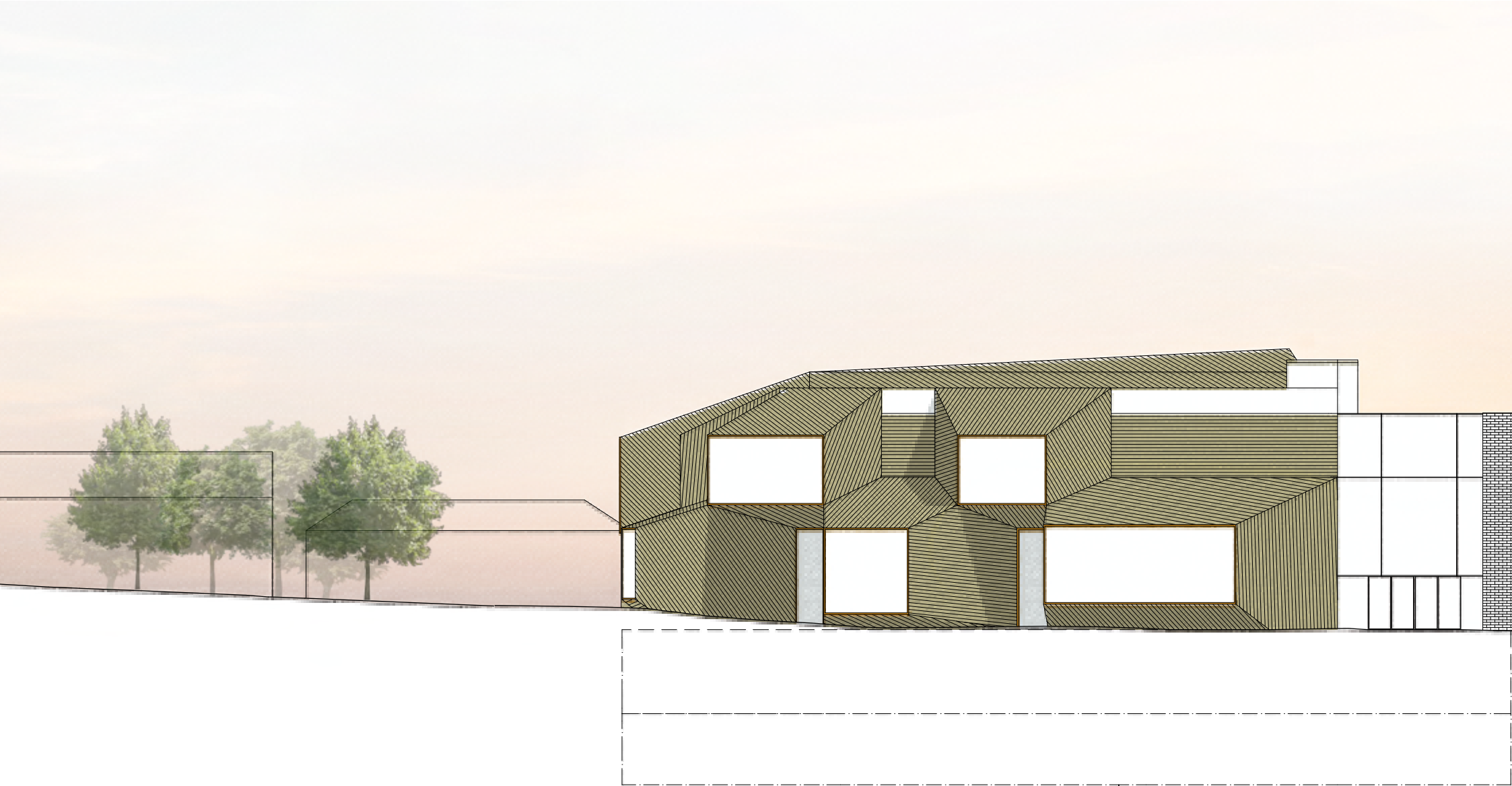
WEST ELEVATION / 1:200



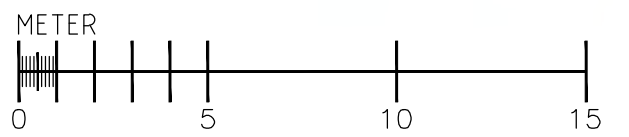
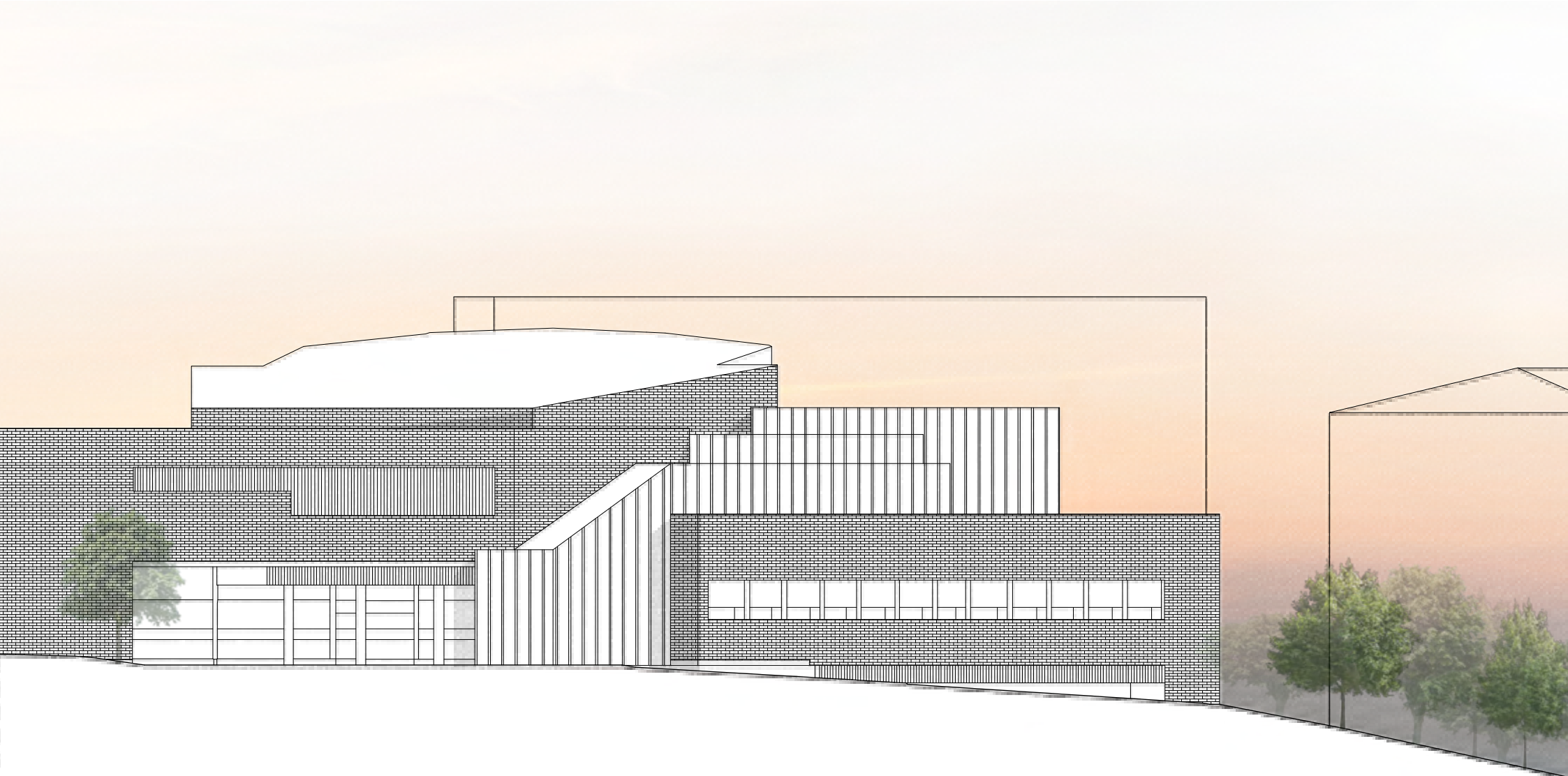
The image to the right shows the extension when coming down from Ammattikoulunkatu street. Activities such as performances and training sessions can be projected onto the screens and through them the building can bring activity into the existing surroundings.







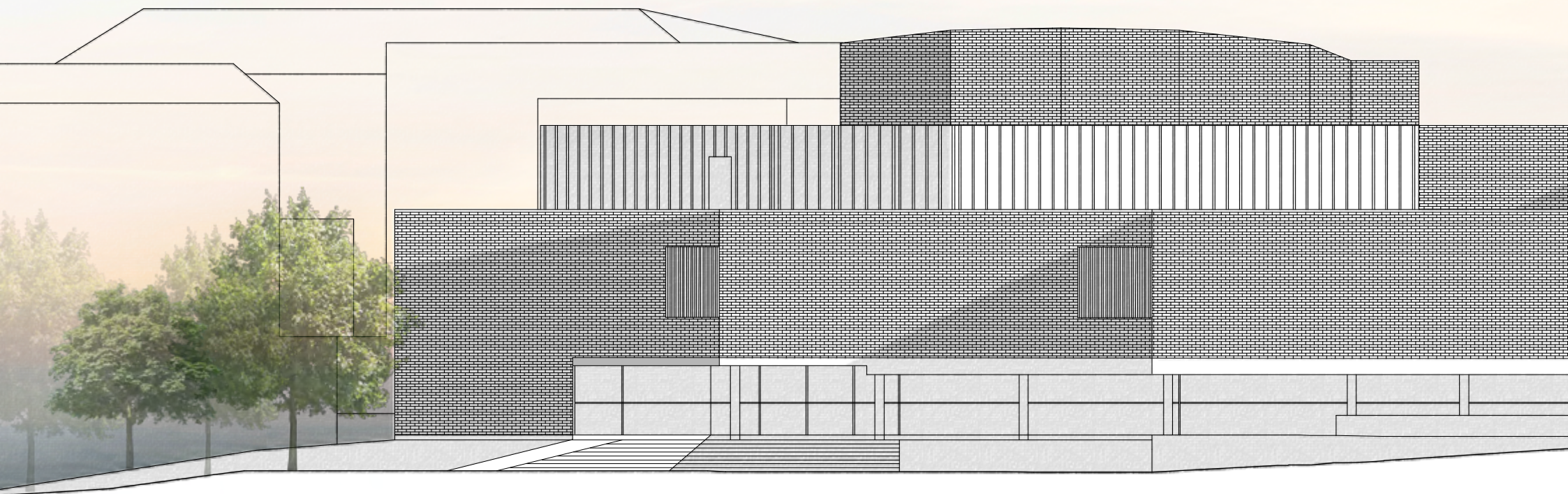
SOUTH ELEVATION



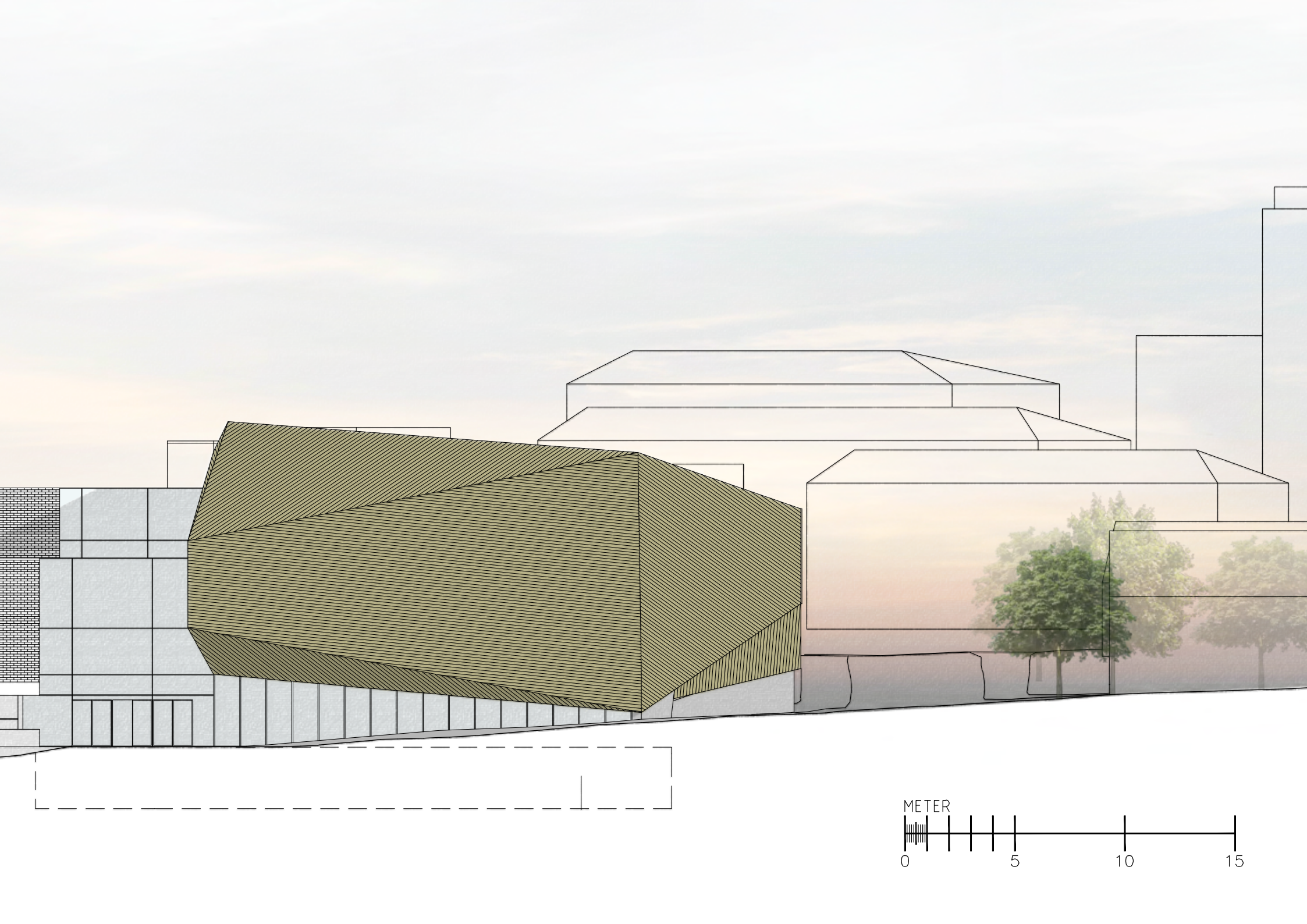
The image to the right shows the back entrance of the building which is at other end of the internal street between the extension and the existing building. It permits a more natural flow of people between the buildings. The design of the building towards the street maintains the human scale of the surroundings.







NORTH ELEVATION / 1:200



The extension respects the existing building by allowing it to maintain its dignity and its strong design format. The meeting between the new and the existing creates an urban meeting point where the different flows of movement come across each other in a common space.





ROOMS AND MOVEMENTS

The extension will enhance a large number of rooms that are in need of a good sound environment. The design solves this issue by not only preventing them from interfering with each other but also by avoiding having parallel walls which will decrease the flutter echo and will create a good sound environment.

Sound locks which prevent disturbing noise from corridors and the lobby during practice will be implemented if needed.

The internal street in form of a lobby that is created in between the buildings does not only show respect to the existing building but also assists the navigation in the building. The internal street allows a natural flow through the buildings that facilitates social activities and gives an urban feeling to the buildings. The visitors will enter the building and will be met by the common lobby with the restaurant by that gives a welcoming atmosphere. From the atrium the visitor can easily find his/her way in the buildings which connect in a good way both horizontally and vertically the extension with the existing building and therefore the extension not only improves that connection and navigation in the buildings but adds some accessibility qualities to the existing.

In the basement there is place for parking and some rooms that do not have a need for sun light, such as storage for instruments and cleaning rooms. These rooms are implemented with good vertical connections to the rest of the building.

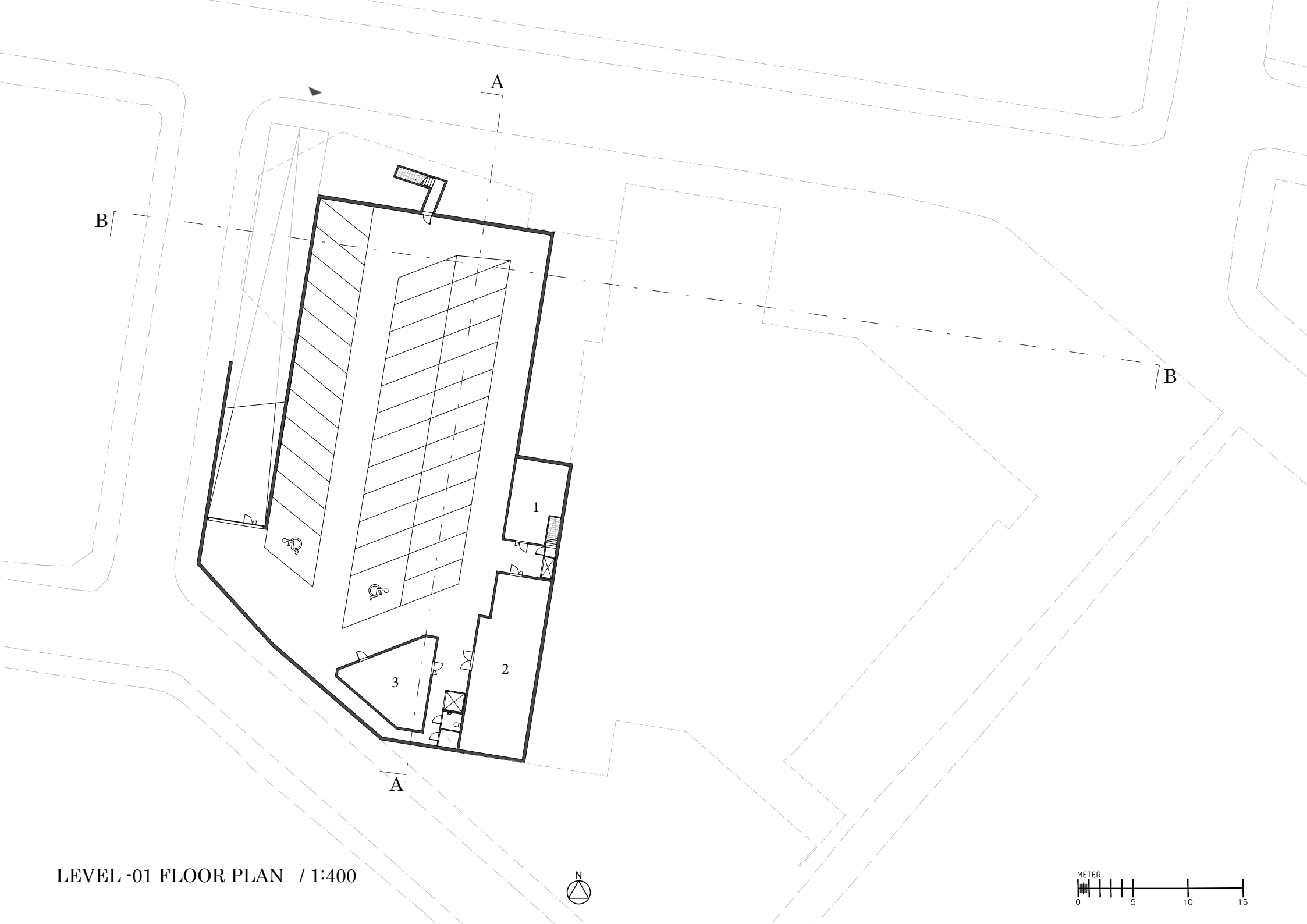
The corridor feel in the extension is not only decreased by adding views and light, but also by adding meeting points that create a natural place for students and visitors to meet.

AREA CALCULATION, BTA

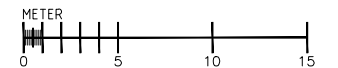
FLOOR PLAN	TOTAL
LEVEL -01 Parking, storage	1358 m ²
LEVEL 00 Blackbox, lecture rooms, changing rooms, atrium	1544 m ²
LEVEL 01 new Pynikkisali, dance and music rooms	1324 m ²
LEVEL 02 Theory rooms, computer rooms, music and dance facilities	748 m ²
BTA	4974 m ²

LEVEL -01 FLOOR PLAN

1. CLEANING ROOM 43 m²
2. BAND STORAGE 57 m²
3. INSTRUMENT STORAGE 118 m²

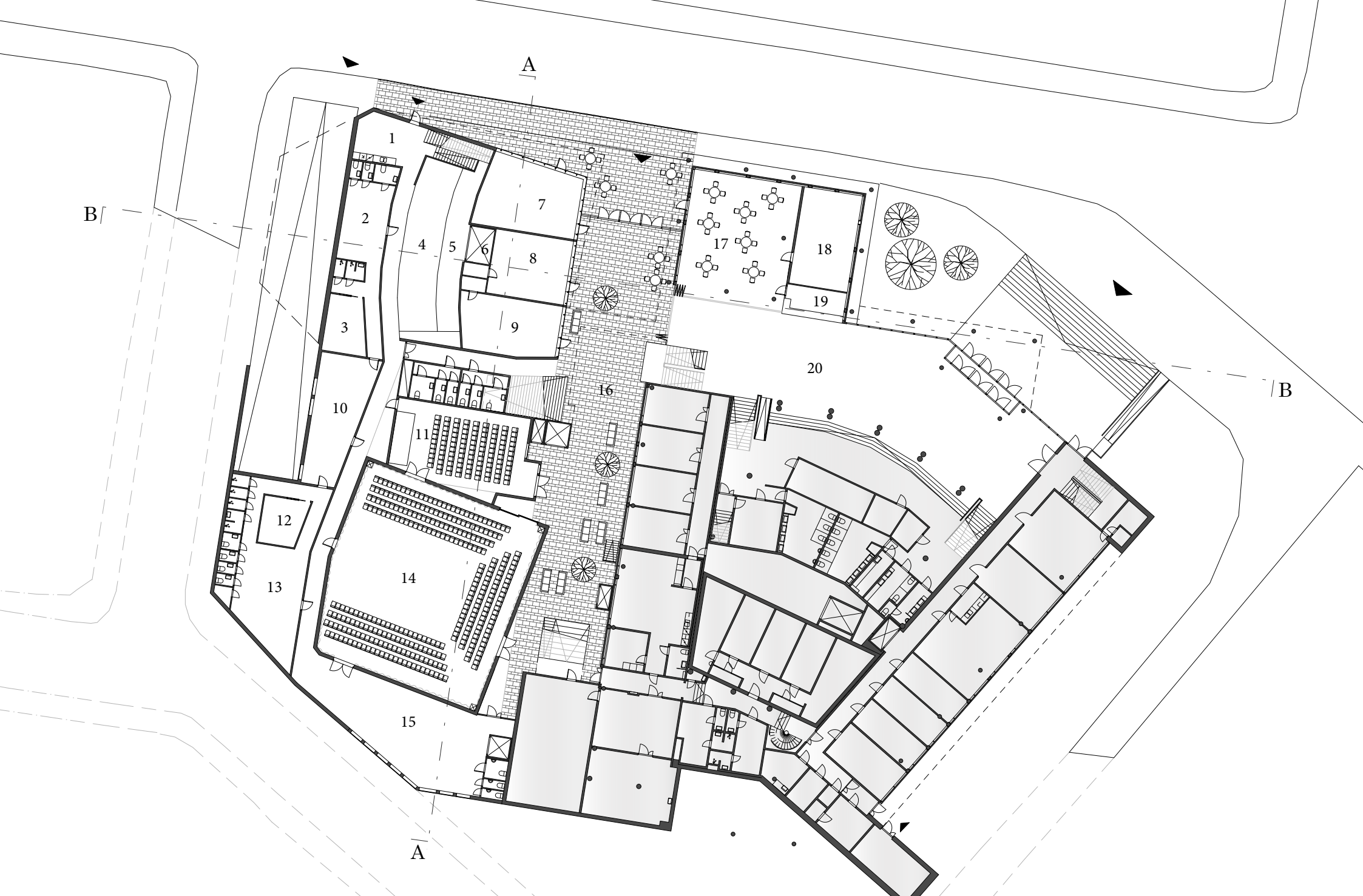


LEVEL -01 FLOOR PLAN / 1:400

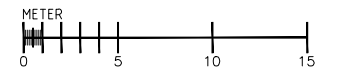


LEVEL 00 FLOOR PLAN

1. KITCHEN 29 m²
2. CHANGING ROOM 32 m²
3. SAUNA 16 m²
4. ORCHESTRA PIT
5. STAGE LIFT
6. PIANO LIFT
7. LECTURE ROOM 57 m²
8. LECTURE ROOM 45 m²
9. LECTURE ROOM 49 m²
10. GYM 49 m²
11. LECTURE ROOM 91 m²
12. SAUNA 30 m²
13. CHANGING ROOM 35 m²
14. BLACK BOX 296 m²
15. PAUS ROOM/ BACK STAGE 112 m²
16. LOBBY
17. RESTAURANT/ CAFÉ 109 m²
18. KITCHEN 49 m²
19. RECEPTION
20. LOBBY

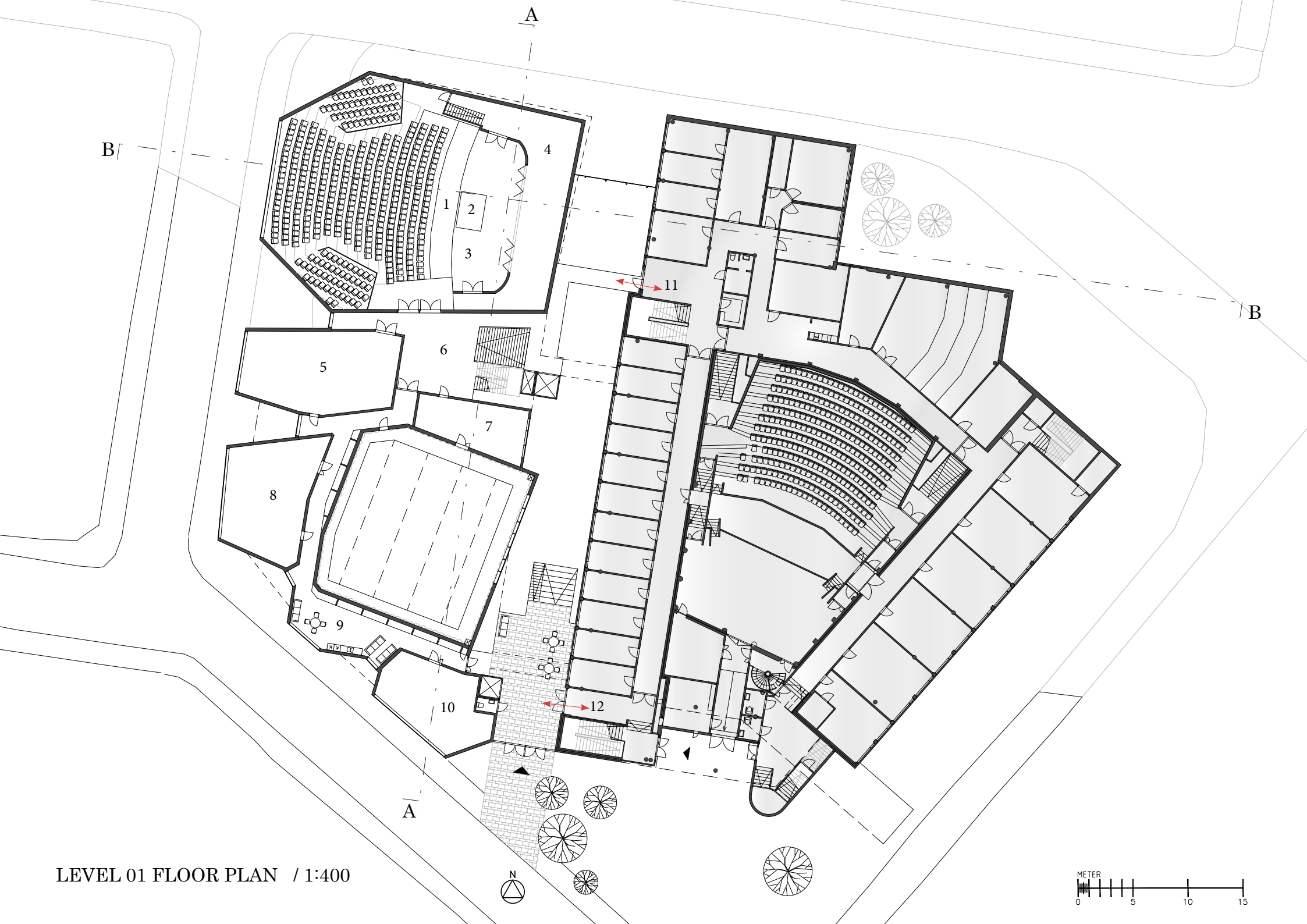


LEVEL 00 FLOOR PLAN / 1:400



LEVEL 01 FLOOR PLAN

1. FRONT STAGE
2. PIANO LIFT
3. NEW CONCERTHALL 506 m²
4. BACK STAGE
5. DANCE ROOM 102 m²
6. PAUS ROOM
7. TRAINING ROOM 44 m²
8. MUSIC ROOM 84 m²
9. PAUS ROOM
10. MUSIC ROOM 64 m²
11. CONNECTION
12. CONNECTION



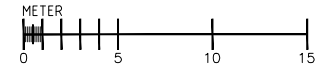
B

A

B

A

LEVEL 01 FLOOR PLAN / 1:400

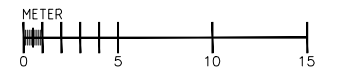


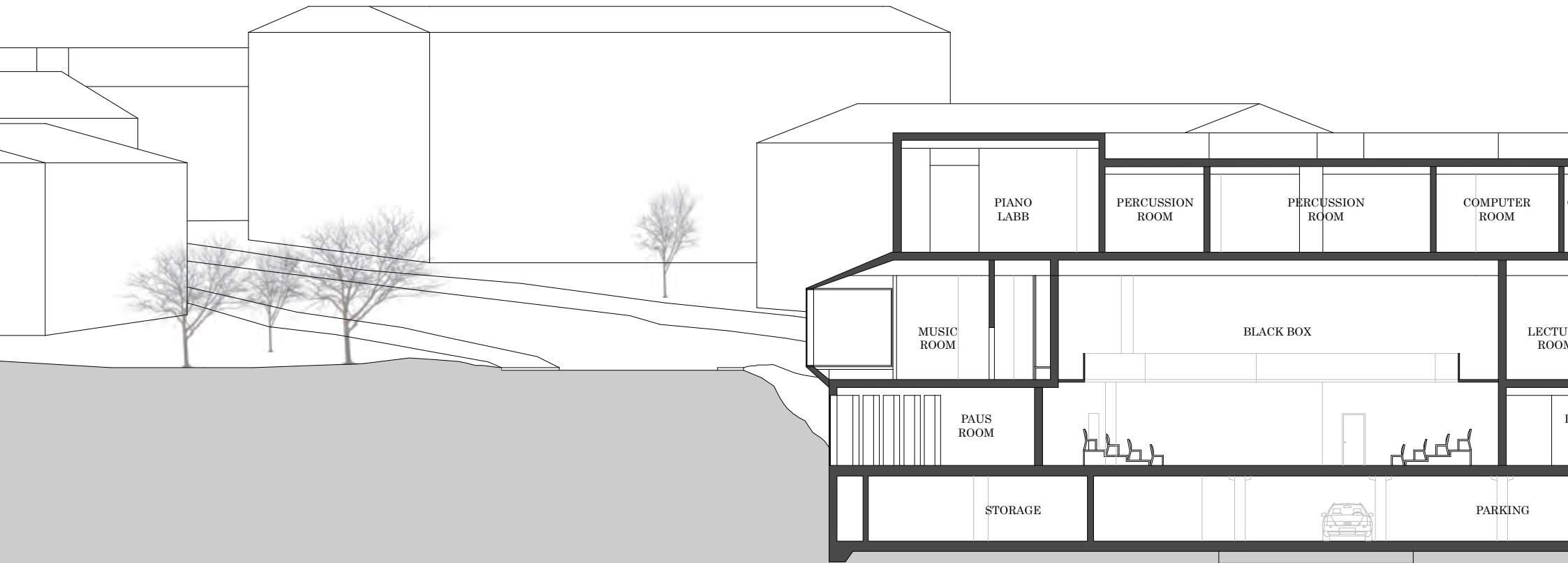
LEVEL 02 FLOOR PLAN / 1:400

1. TRAINING ROOM 53 m²
2. PIANO ROOM 40 m²
3. DANCE ROOM 97 m²
4. COMPUTER ROOM 25 m²
5. PERCUSSION ROOM 43 m²
6. DANCE ROOM 97 m²
7. PERCUSSION ROOM 42 m²
8. PERCUSSION ROOM 44 m²
9. PIANO LABB 80 m²
10. CONNECTION
11. CONNECTION

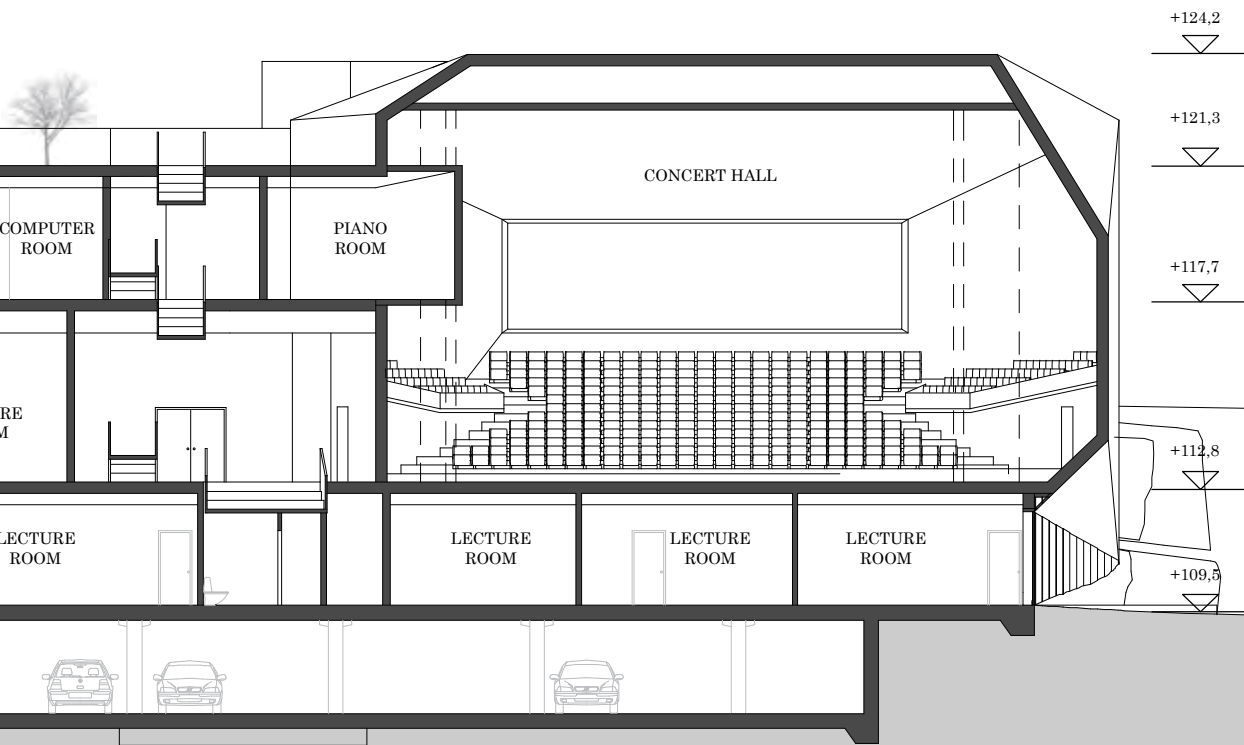


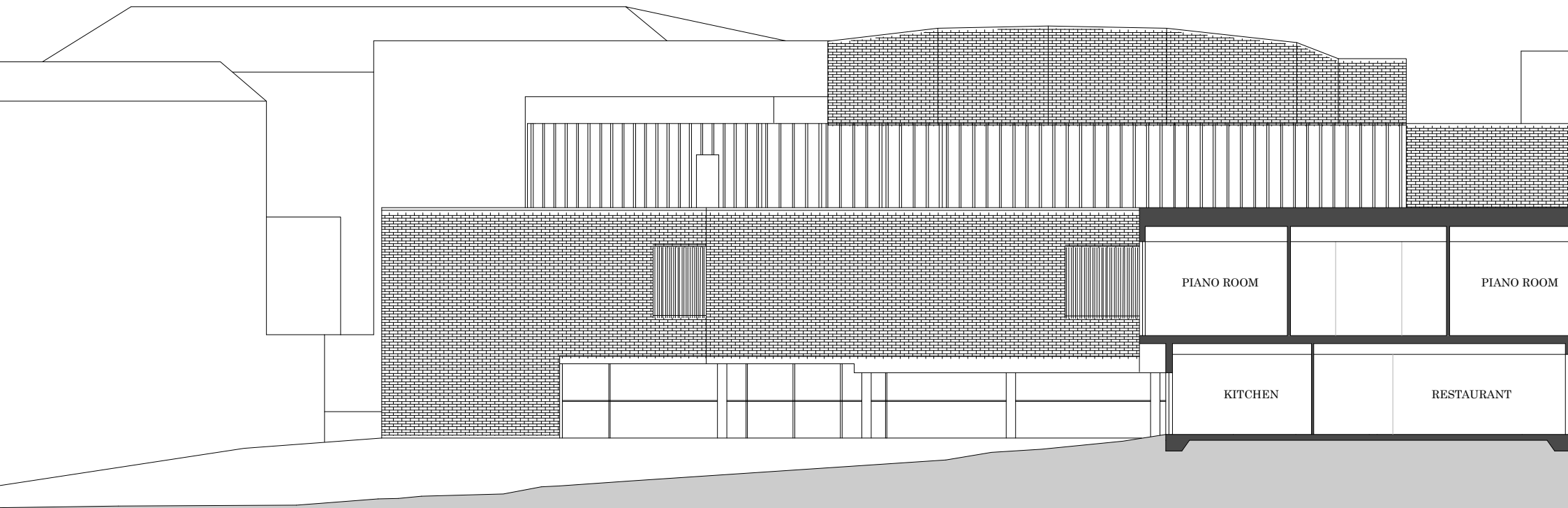
LEVEL 02 FLOOR PLAN / 1:400



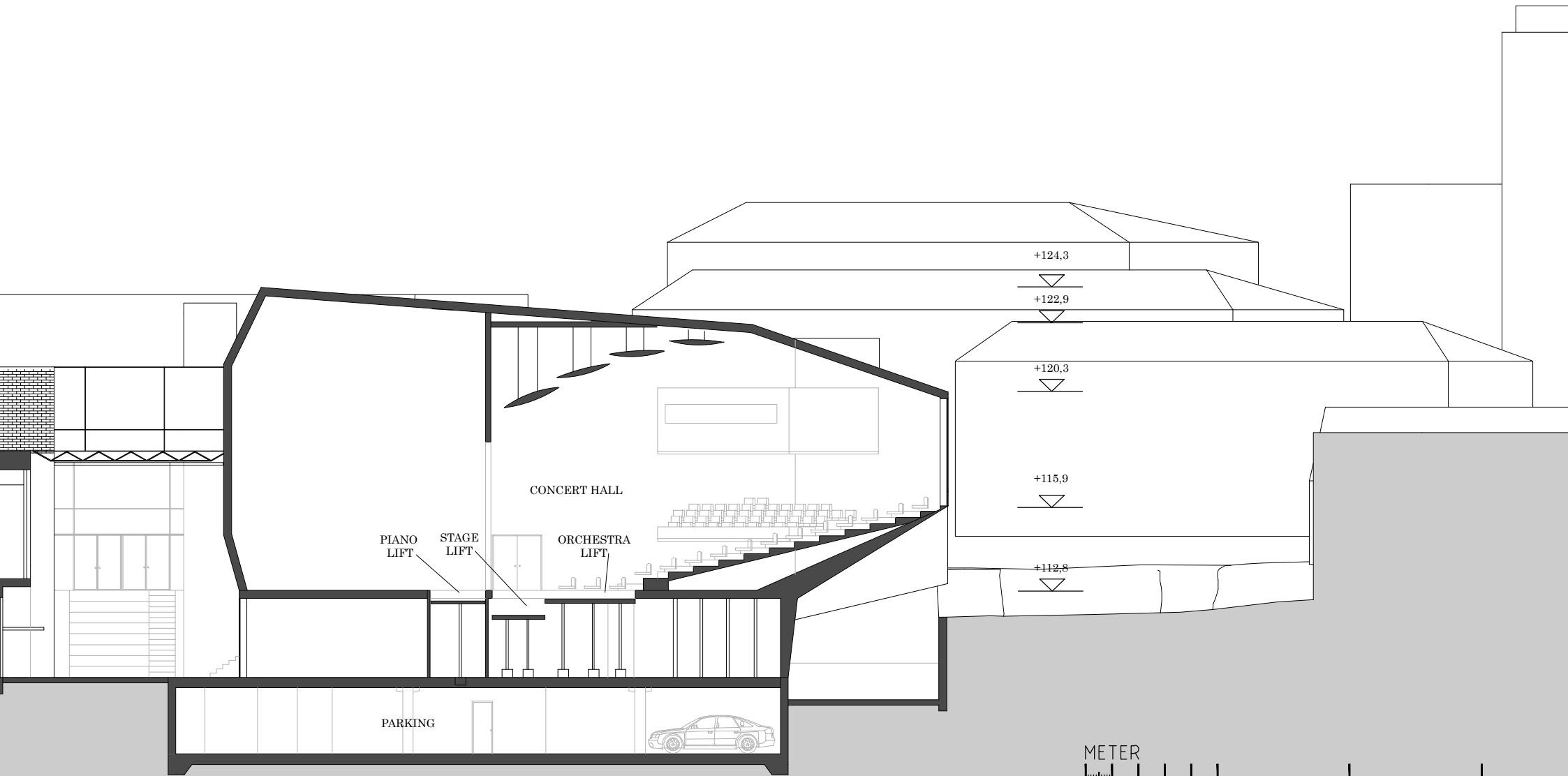


SECTION A - A / 1:200



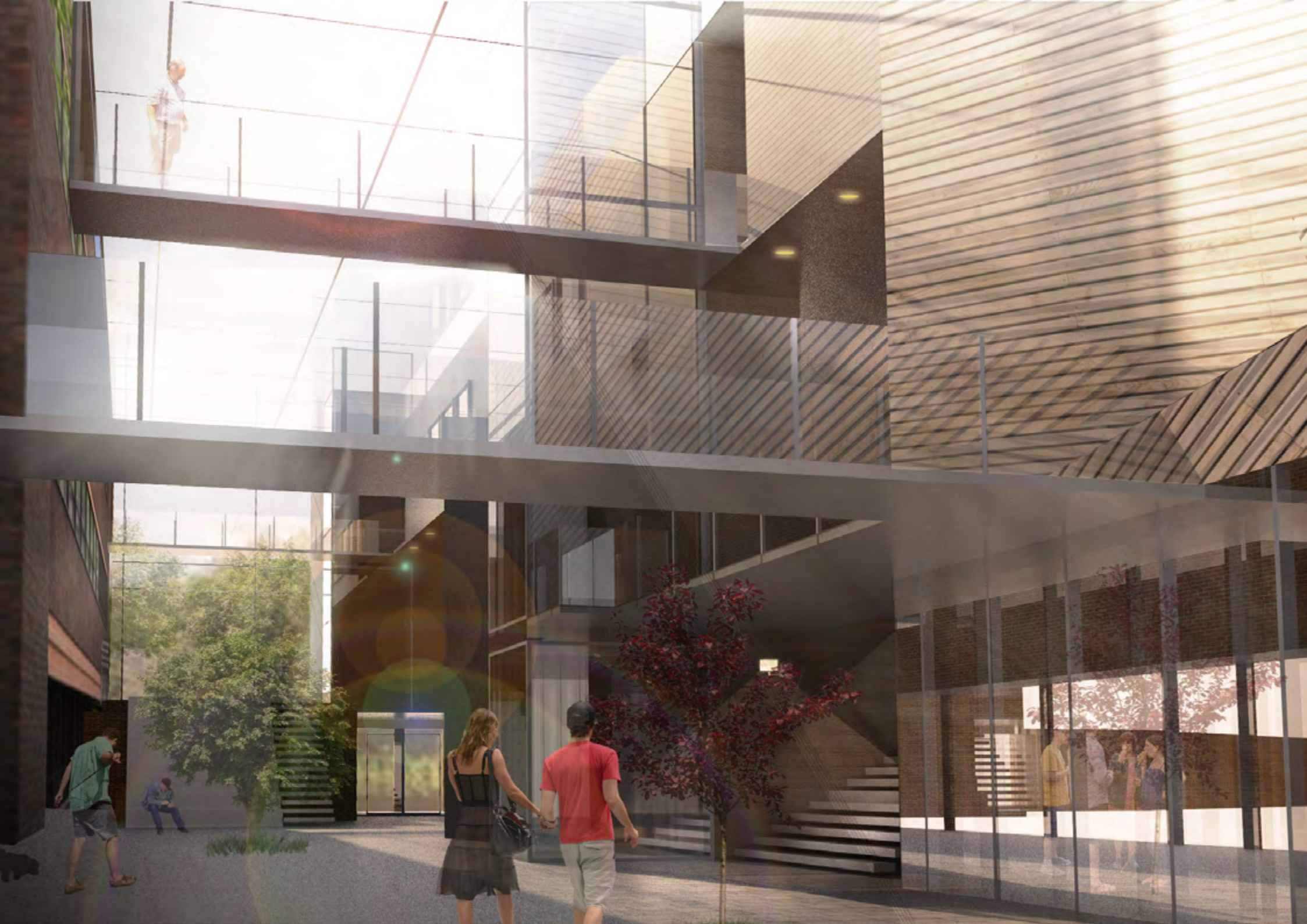


SECTION B - B / 1:200



The image above shows the internal street in the form of a lobby that is created in between the existing building and its extension. The internal street makes it easy for the visitors to find their way in the building.

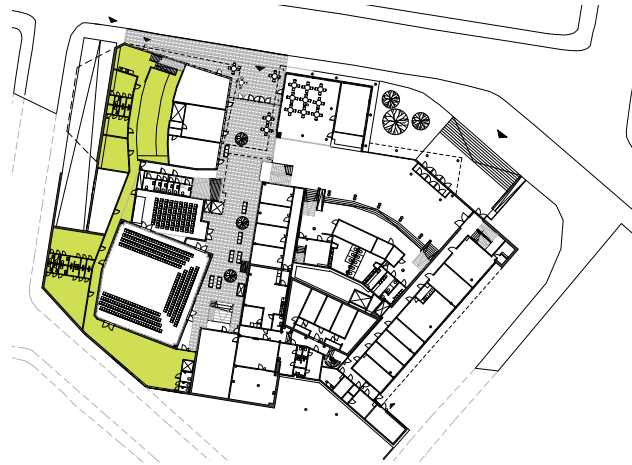




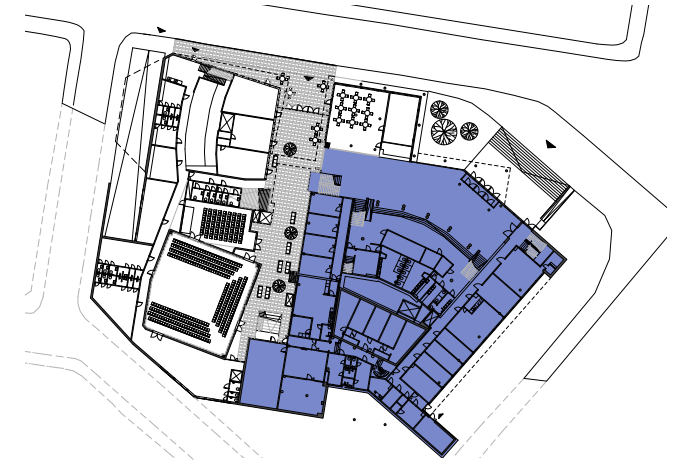
ENTRANCE SITUATION





The rooms are independent from each other which means that the building, its extension and the restaurant can be used separately in different time schedules. The diversity of entrances to the building makes it possible that the building and its extension can differ in their opening hours. It means that they can be used separately or at the same time. It also means that there is the possibility to rent single rooms or larger parts of the building for special events. Coming from any of the entrances the visitor or student will enter the common lobby with a restaurant nearby which gives a welcoming effect. From the lobby, which is in a way an internal street through and in between the buildings, the visitor can easily find his way in the building.

SCENARIO 1
Everything closed but the private areas

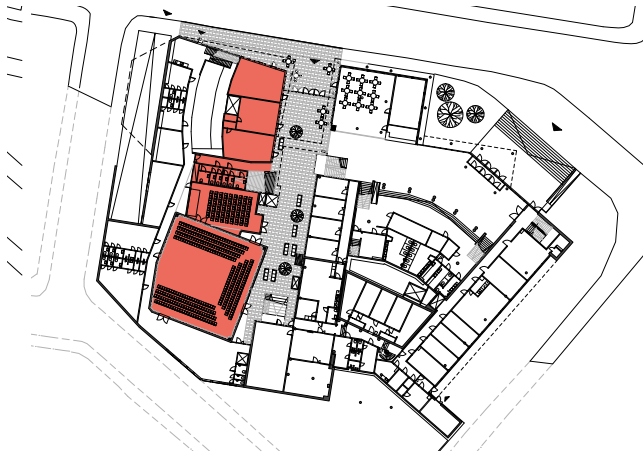


SCENARIO 2
Existing building open

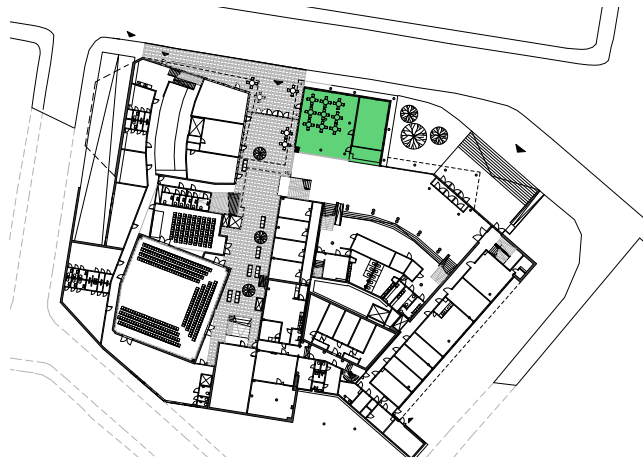


-  Private areas/ can be accessed by staff and students throughout the day
-  Rooms that can be rented and used anytime of the day
-  Café and Restaurant with own entrance
-  The main building with its own opening hours

SCENARIO 3
Rentable rooms are open

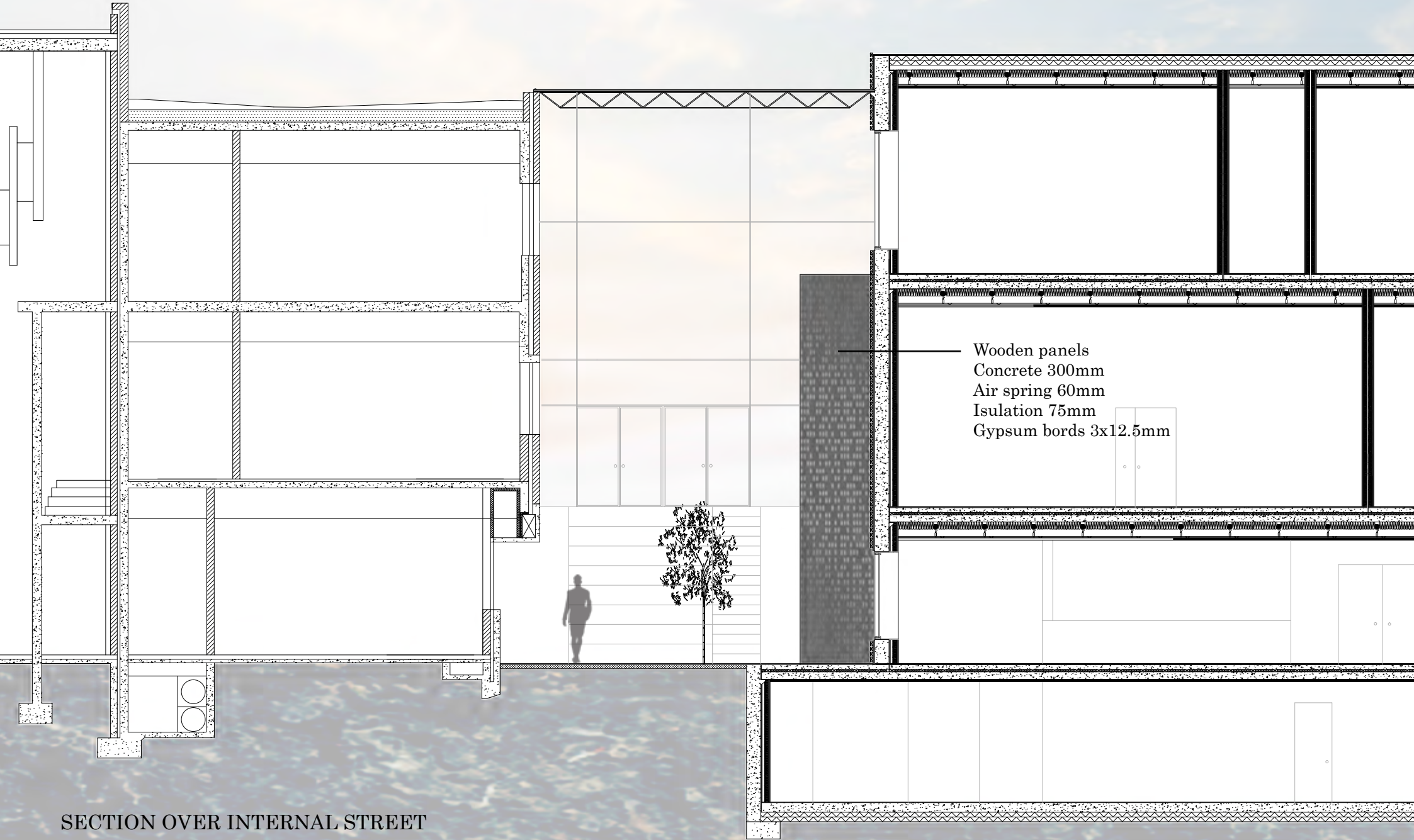


SCENARIO 4
Cafeteria open



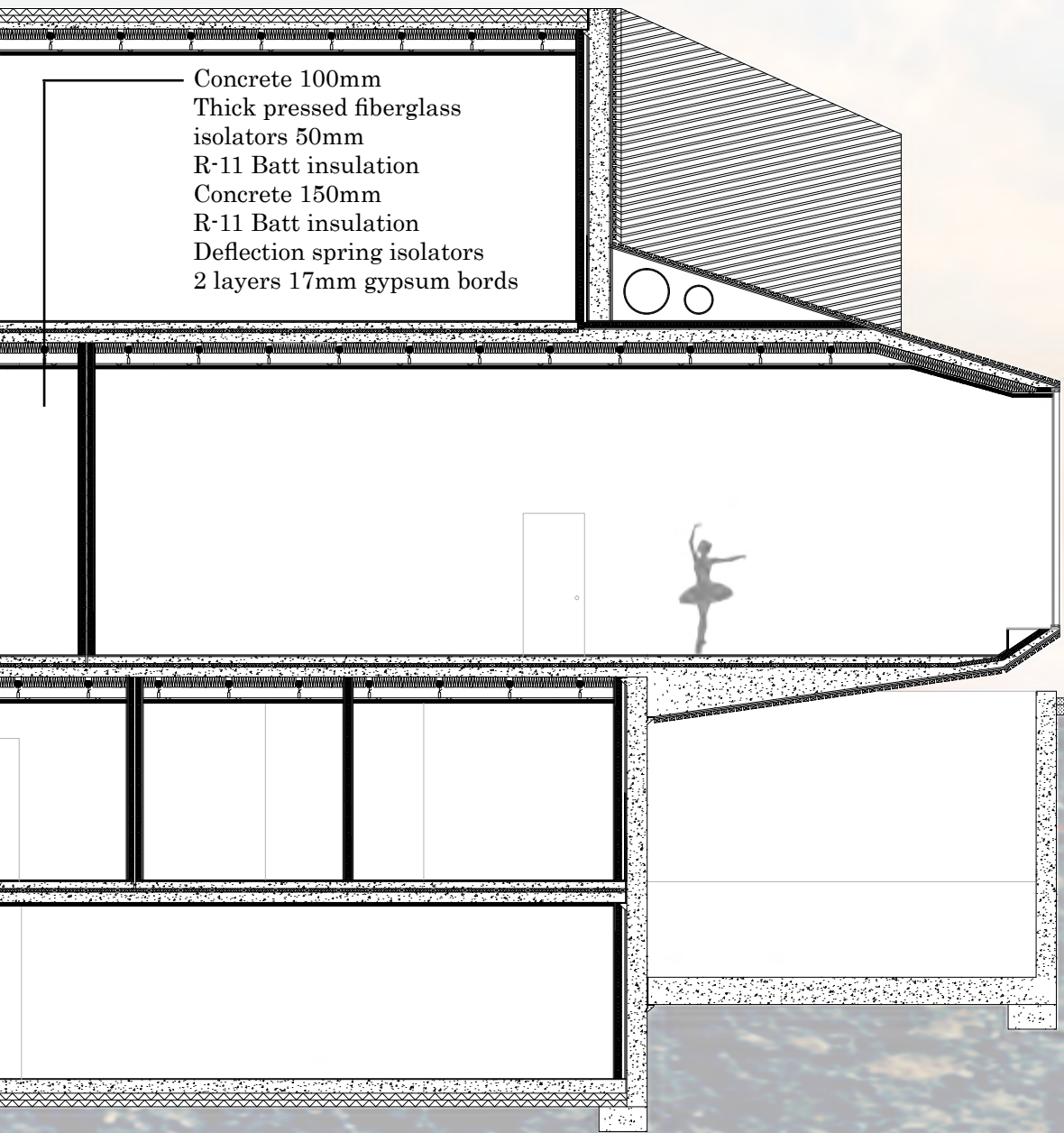
SCENARIO 5
Everything open





Wooden panels
Concrete 300mm
Air spring 60mm
Isulation 75mm
Gypsum bords 3x12.5mm

SECTION OVER INTERNAL STREET

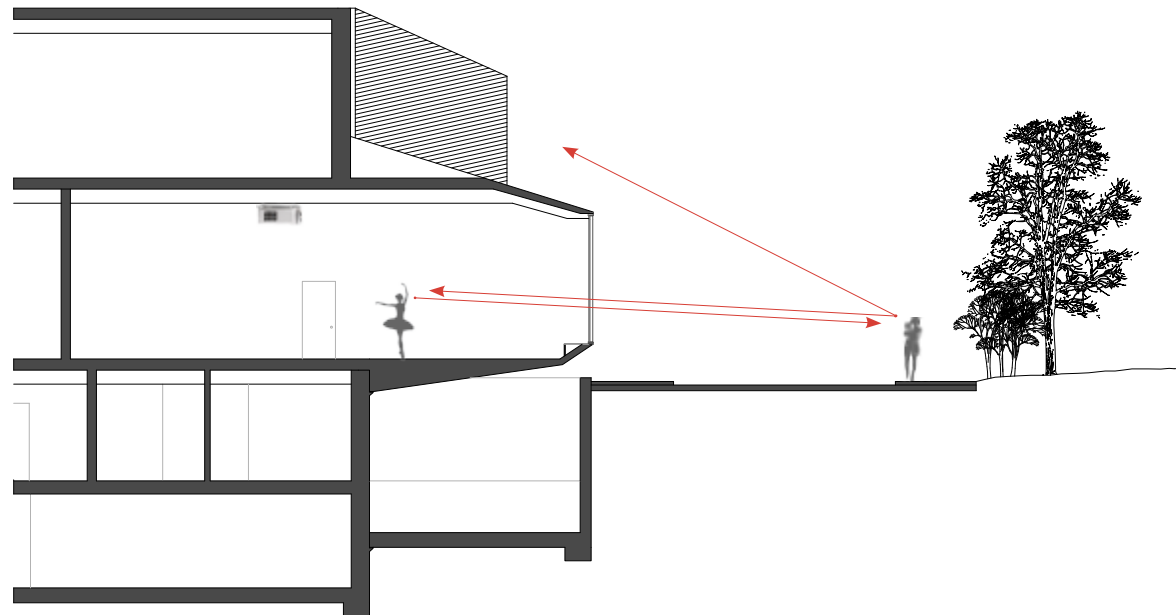


SECTION OVER DANCE ROOM

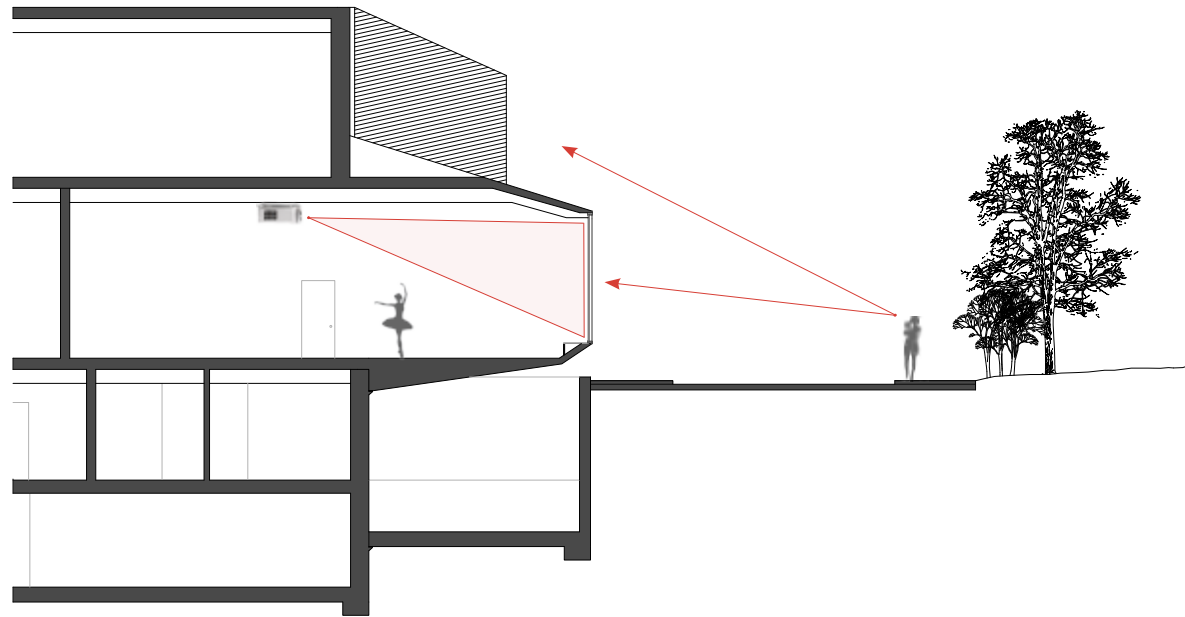
The image to the right shows one of the three main dance halls. This dance hall faces Kisakentänkatu Street. The design of the hall enables an interaction between the ongoing activities inside and the public area outside.







The proximity of the extension to the street facilitates an interaction between the inside and the outside. People walking by can have a direct view of the ongoing activities inside.



Activities such as performances and training sessions can be projected onto the screen. The screen can be covered when privacy is wanted. The projections and the interaction will activate the urban surroundings.

SHARING CULTURE

The building will embrace music and dance rooms which mean that acoustics are crucial. The extension manages the acoustics by its design. The rooms are placed in a way that do not interfere with each other and, if needed, are implemented with sound locks that prevent disturbing noise from corridors and the lobby during practice. Another way in which the building deals with the acoustics is through the non-parallel walls of the music rooms which prevent flutter echo and improves the sound environment within them.

The extension is connected to the existing building by at least two connections on each floor. Therefore, the existing building can make use of the good vertical connections in the form of staircases and two elevator shafts that are incorporated into the extension, thereby adding some accessibility qualities to the existing structure.

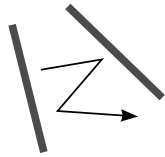
DANCE ROOM

Window towards street for natural lightening.
It even works as screen where activities can be projected on

The heavy drapery is meant to absorb sound and permit covering of mirrors and windows

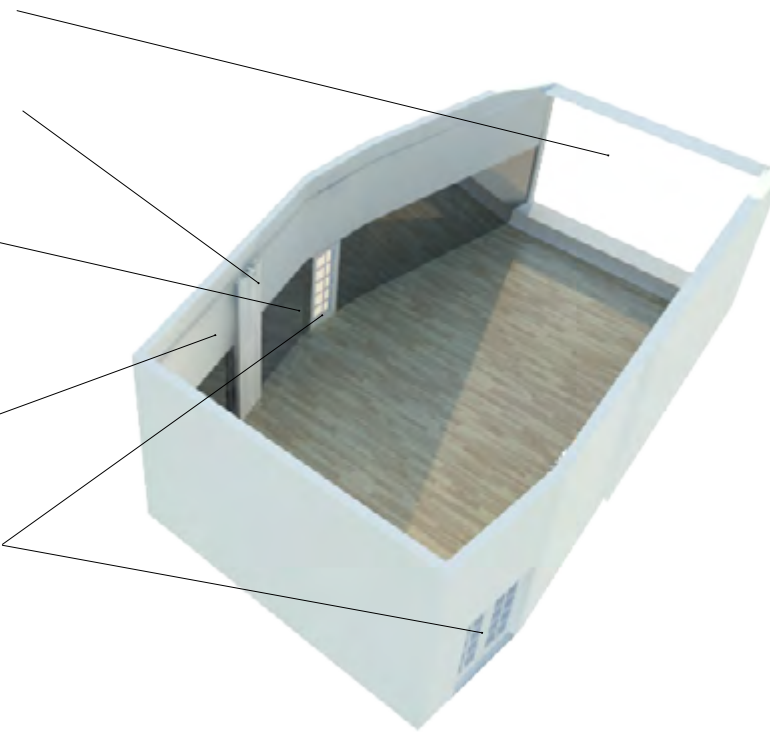
Mirrors for dance practice

Non parallel walls are used in most of rooms of the extension in order prevent flutter echo.



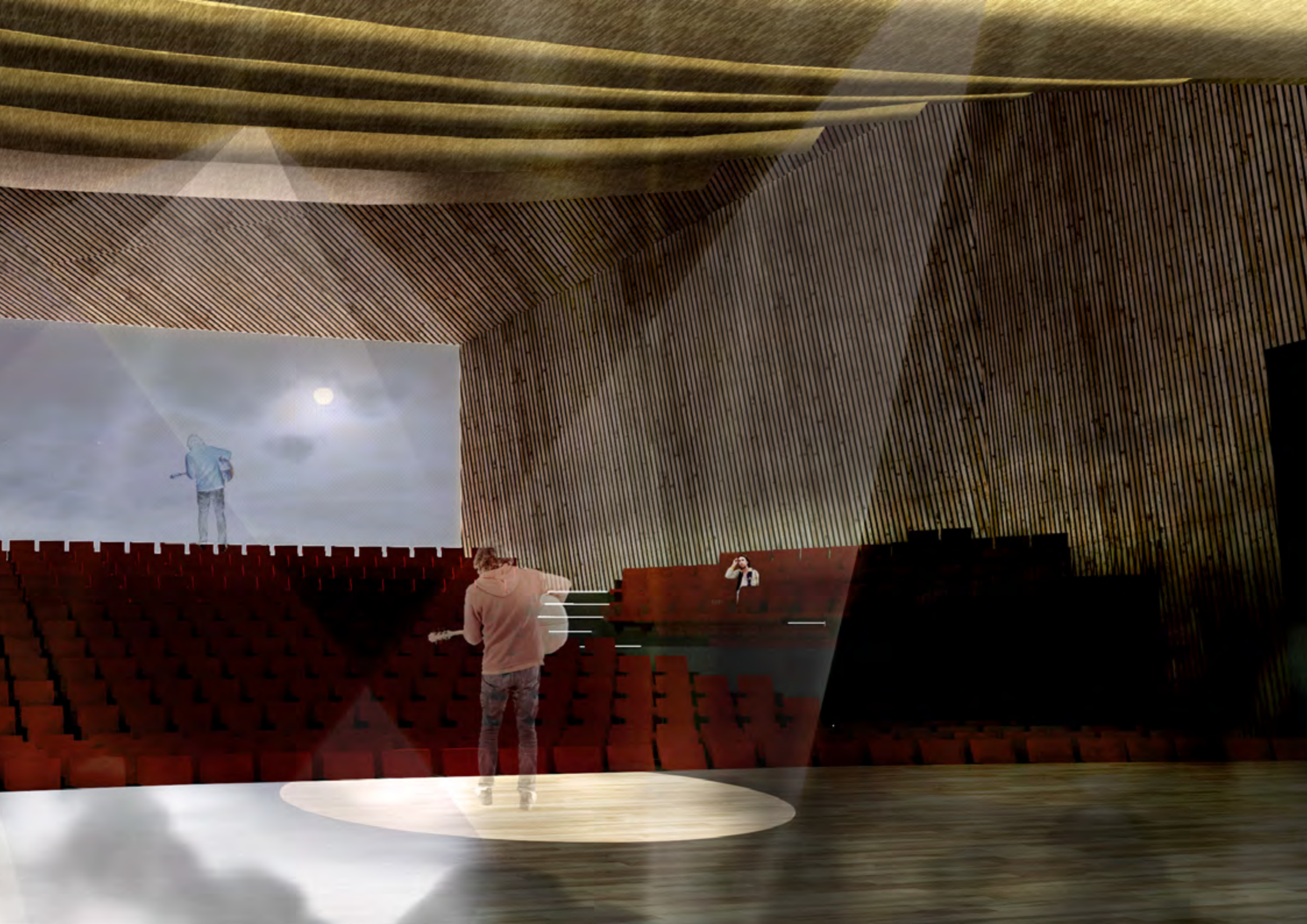
Diffusive walls and ceiling panels

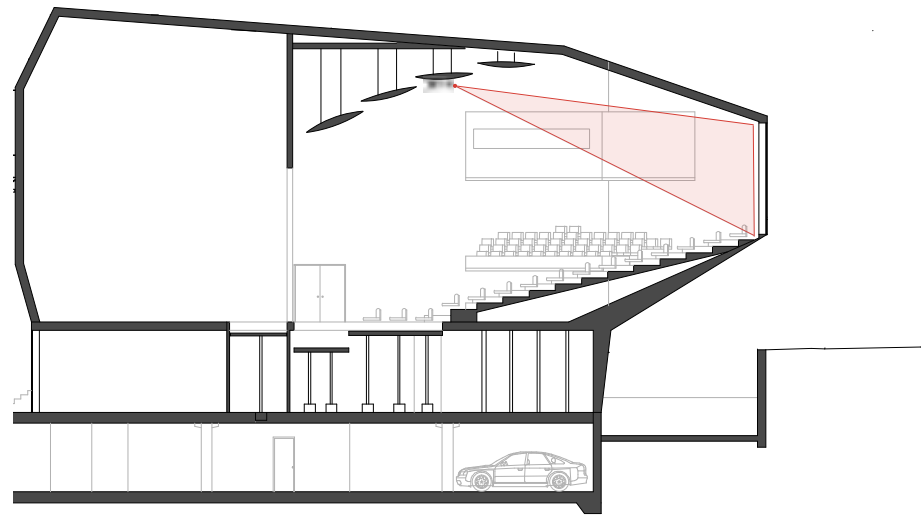
Doors are covered by mirrors and are implemented with sound locks that will prevent disturbing noises from other rooms during practise.



The image to the right shows the main concert hall. It has space for 300 spectators. The stage and the orchestra pit can be adapted to satisfy a diverse type of uses. Performances can be projected onto a screen and be seen by people outside.

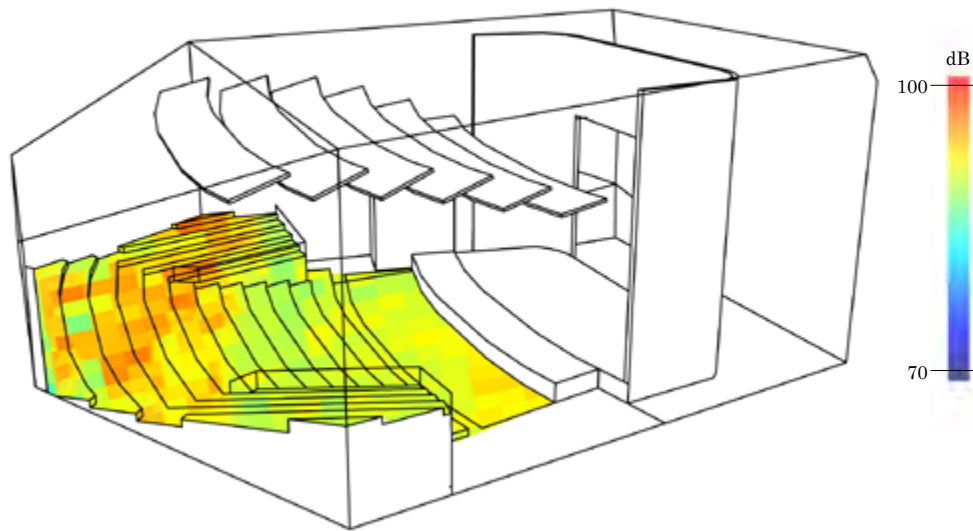




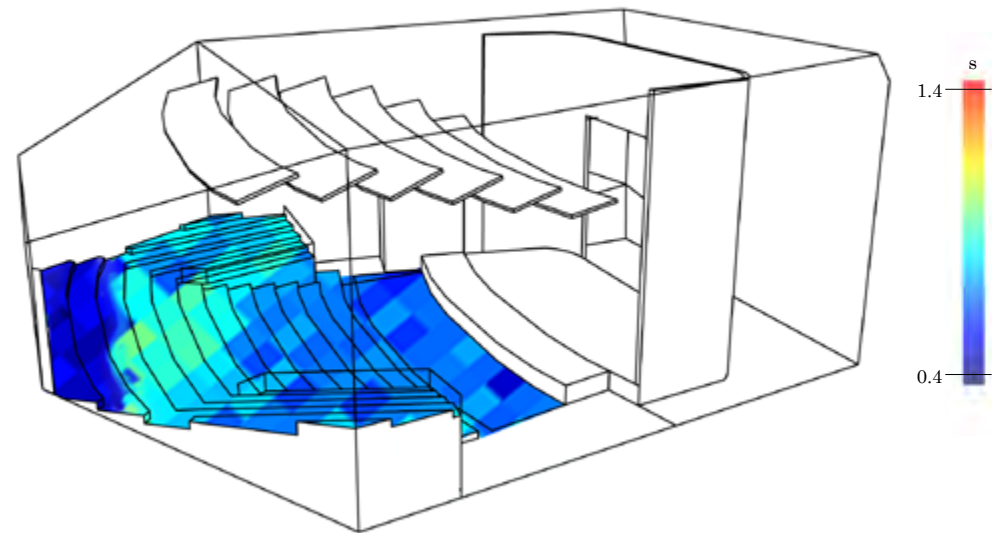


The image above shows the extension when coming down from Ammatikoulunkatu street. Activities such as performances, training sessions can be projected on the screens and in way can the building activate its surroundings.

CLARITY C80



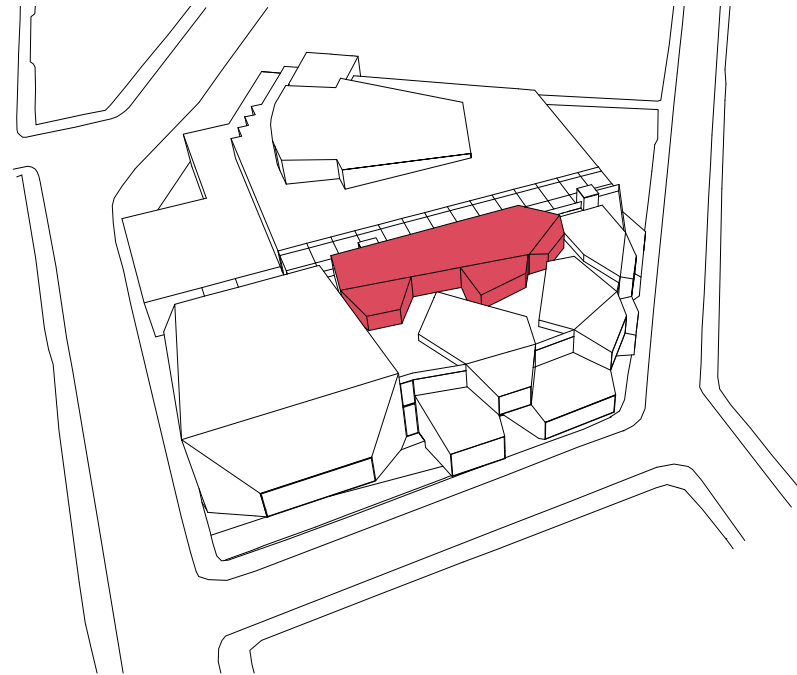
REVERBRATION



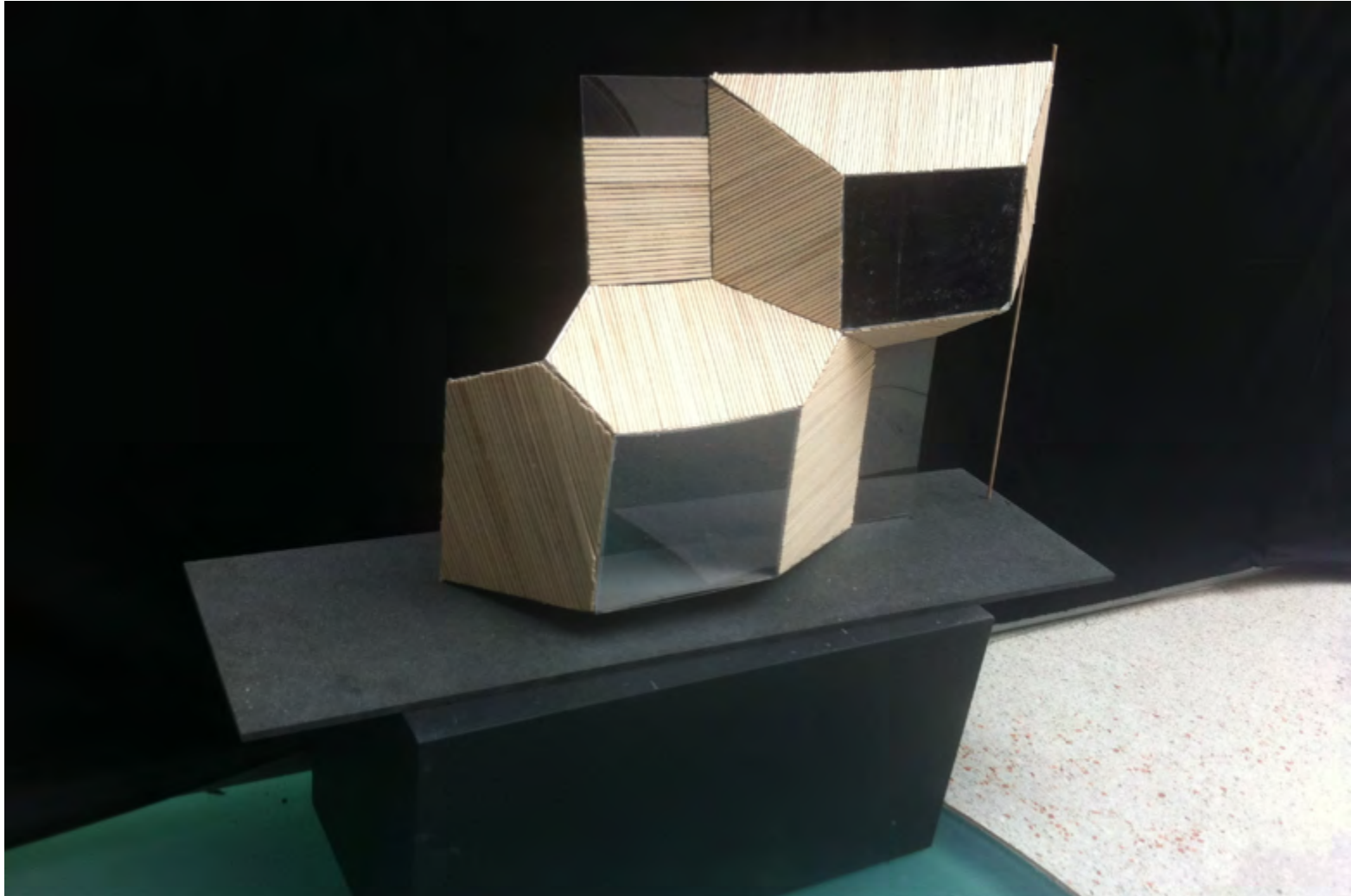
MATERIALITY

The structure and construction of the extension is built with concrete. In some rooms, such as the black box and the main auditorium, this construction is based on the principal of a double shelled construction with isolation in between the shells to improve the sound environment. The construction is covered by wooden boards in which the direction of the wooden planks differs for each surface.

ADDITION TO PROGRAM



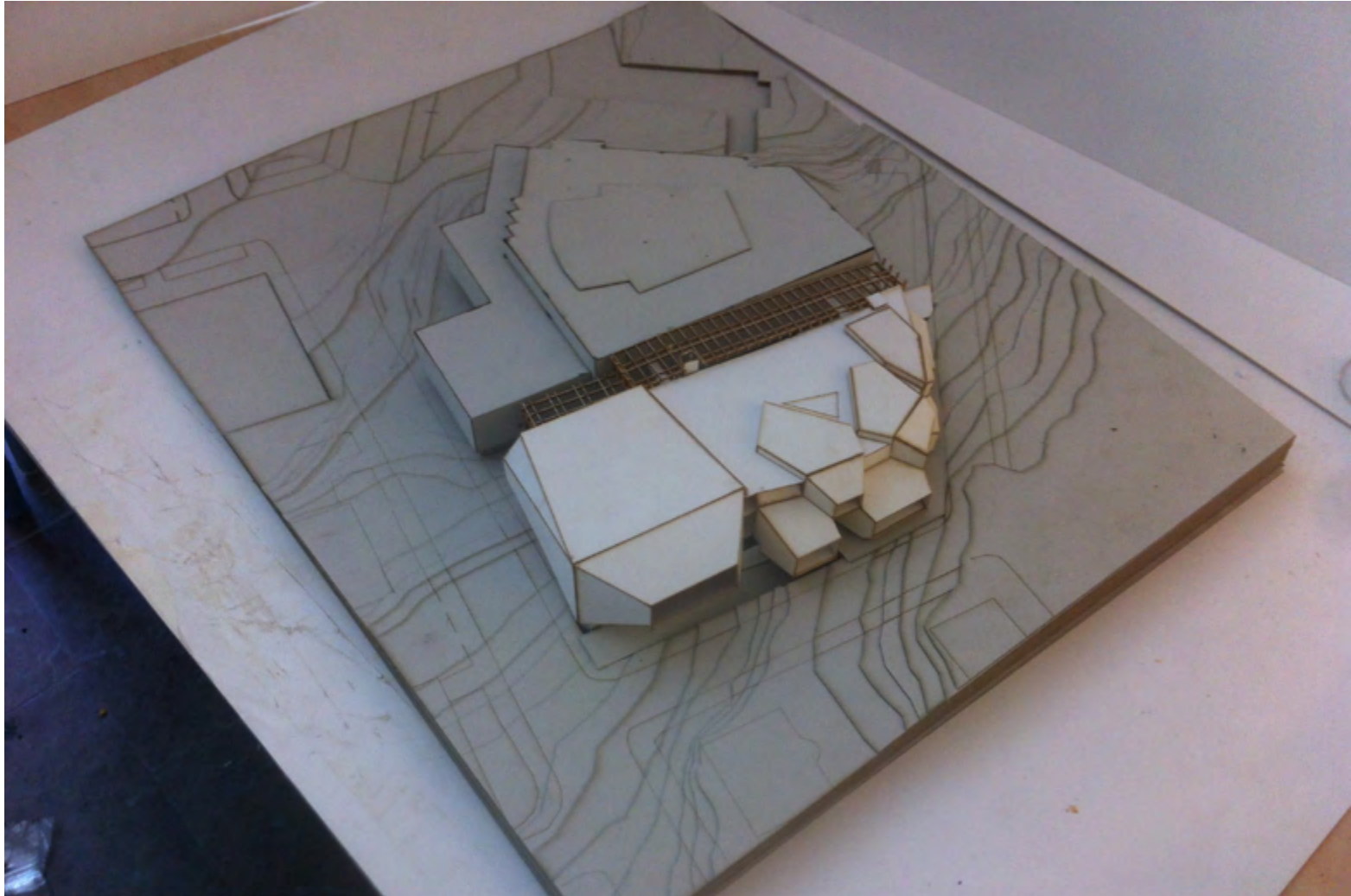
The program of the extension can be increased by an addition on the roof. This addition can include offices and extra space allocated to learning purposes. The addition would allow an increase of 250 square meters and it would also be a way to establish the roof as a meeting point.



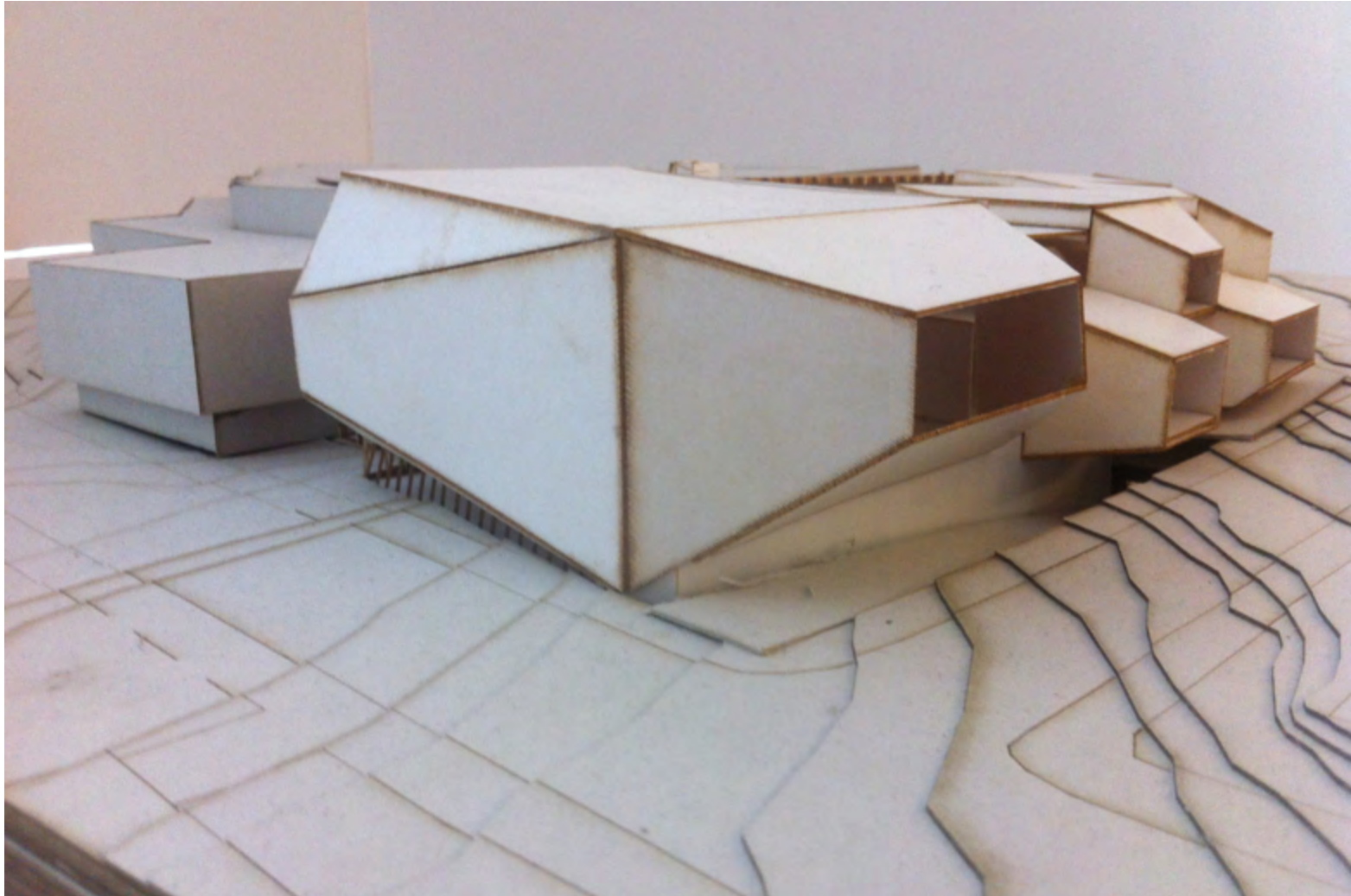
Model showing the a part of the facade .



Detail of the meeting between the surfaces of the facade. The wood panels have different directions on each surface.



Model showing the proposal of the extension for the music academy of Tampere



The output of the Master Thesis is an extension with character that celebrates the meeting between people and culture through architecture.

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