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TECHNISCHE
UNIVERSITÄT
WIEN

DIPLOMARBEIT

Das Studentenheim am Donaukanal

ausgeführt zum Zwecke der Erlangung des akademischen Grades
eines Diplom-Ingenieurs / Diplom-Ingenieurin unter der Leitung

Ines Nizic, E253, Institut für Architektur und Entwerfen

eingereicht an der Technischen Universität Wien

Fakultät für Architektur und Raumplanung

von

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eigenhändige Unterschrift

Project description (ENG)

Erasmus dormitory for students of TU Vienna is a project dedicated to the exchange students of Europe who like to explore new cities, cultures and languages. Project is located on the Danube Canal, in the 2nd district right in front of the underground station U4/U2 Schottenring which means it is directly connected to the Technical University of Vienna on Charles' Square. On foot TU Vienna can be reached within 30 minutes and by bike within 10 minutes. That is what makes this location perfect for a student dormitory. Danube Canal, with its public and private spaces and with its set of staircases had a big influence on the concept of Erasmus student dormitory. Building which played important role in the design process was Otto Wagners Schützenhaus which is located on the left side of the Danube Canal. Dark blue window details on the facade of the student dormitory were inspired with the dark blue tiles on Wagners Schützenhaus and bright blue window details were inspired by the blue color of the TU Vienna and Erasmus organization logo.

Shape of the student dormitory site plan is irregular quadrilateral with an area of approximately 1220 m². Site plan defines the student dormitory as a corner building in the block of buildings with its main facade oriented south-west to the

Danube Canal. Student dormitory building consists of basement, ground floor, eight stories and a rooftop with terrace. It has in total 85 rooms for up to 105 students, where most of the rooms are single bedrooms. Rooms in the apartments with shared living room are imagined as shared bedrooms. Most of the common spaces as well as shared living rooms are oriented to the Danube Canal.

Project description (GER)

Das Projekt Erasmus (Studenten)Wohnheim für Austauschstudenten an der Technischen Universität Wien richtet sich an Studenten aus ganz Europa, die Wien entdecken wollen, neue Kulturen kennen lernen möchten und neue Sprachen erlernen wollen. Das Projekt liegt am Donaukanal auf der östlichen Seite, die zum 2. Wiener Gemeindebezirk gehört. Das Studentenwohnheim ist durch die direkte Lage an der U-Bahn-Station U4/U2 Schottenring sehr gut angebunden und somit auf direktem Weg mit der TU Wien am Karlsplatz verbunden. Durch die direkte Anbindung und zentrale Lage in der Stadt bildet dieser Standort einen perfekten Ausgangspunkt für das Erasmus Studentenwohnheim. Die direkte Lage am Kanal sowie die Umgebung hatten einen direkten Einfluss auf den Entwurfsprozess. So auch das unmittelbar in der Nähe liegende Schützenhaus vom Architekten Otto Wagner. Von den dunkelblauen Fliesen an der Fassade des Schützenhauses wurden die dunkelblauen Fensterdetails für den Entwurf des Studentenwohnheimes abgeleitet. Die hellblauen Fensterdetails sind durch das Tu Wien Logo, sowie von den Farben des Logos der Erasmus Organisation inspiriert.

Die Grundrissform des Studentenwohnheims besteht aus einem Rechteck mit einer Fläche von ungefähr 1220 m². Es liegt an

einer Ecklage einer Blockbebauung mit der Hauptorientierung Richtung Südwesten zum Donaukanal hin. Das Gebäude selbst besteht aus einem Kellergeschoss, Erdgeschoss, 8 weiteren Obergeschossen und einem Dachgeschoss mit Dachterrasse. Insgesamt nimmt es 85 Zimmer für bis zu 105 Studenten auf, von denen die meisten Zimmer einzel Zimmer sind. Alle anderen Studentenzimmer bestehen aus privaten Schlafzimmern mit weiteren Neben- und Aufenthaltsräumen, die gemeinschaftlich geteilt werden. Die meisten Gemeinschaftflächen sowie die gemeinsamen Wohnzimmer sind zum Donaukanal ausgerichtet.

To my parents, for making this and much more possible.
Mojim roditeljima, jer su mi omogućili ovo i puno više.

ACKNOWLEDGMENT

First and foremost, I have to thank my parents, Mladen and Blaženka, and whole family for their encouragement, love and support. Thank you for making this journey easiest possible for me.

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You all made this project best possible. Thank you!

ERASMUS STUDENT DORMITORY
GRADUATION PROJECT

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STRAIGHT FLIGHT STAIRS

Movement: Straight Flight Stairs

In 2001 an exhibition on the theme “Requiem for the staircase” was opened and curated by an architect Oscar Tusquets in Barcelona. He presented thirteen types of stairs in the form of photographs, plans, models and real-size reproductions of staircases. According to him thirteen types of stairs are: straight-flight stairs, wall-mounted stair, curved stair, parallel stair, unprotected stair, multi branched stair, impossible stair, samba stair, floating stair, random stair, stairway to heaven or hell, imperial stair and illegal stair.

Straight-flight stairs is the oldest and most simplest type of all stairs which played a crucial role in the concept of the “Student dormitory project” and later through its development. Project was inspired by set of stairs arranged parallel to the Danube Canal and its promenade which act as an inseparable element of popular Viennese public area. Because of its importance to the project I decided to do a small research project on straight-flight stairs where fourteen project, famous for its stairs, are presented and explained.

Even though earliest presented example dates back to 13th century, stairs became a part of building components in pre-historic times and straight-flight stairs as the simplest form

of stairs were found “in excavations of buildings in Egypt and Mesopotamia⁰”.

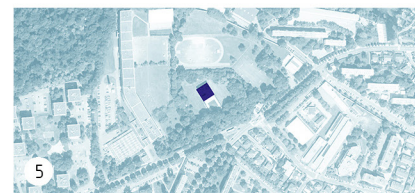
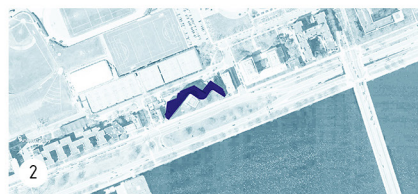
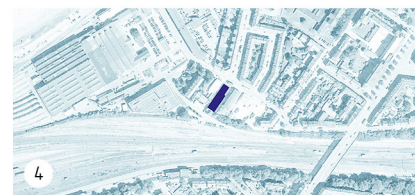
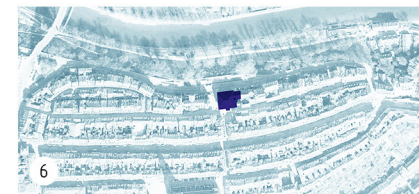
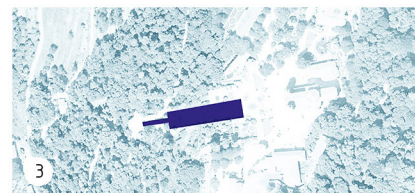
$2R+T = 63 \text{ cm}$ is a formula which represents a perfect ratio between height of the step (R-riser) and its depth (T-tread), however height of riser should never be more than 17 cm for safety reasons. As an element which represents movement stairs can engage user’s senses; stairs with deeper steps and lower risers allow slow rising and allow sensing the spatial qualities more than the other types of stairs. Stairs are playing an important role in experiencing the space and if a wall which encloses stairs is removed, sense of spatial connection is increased. Victor Horta’s staircase would never be as famous as they are if they would be enclosed.

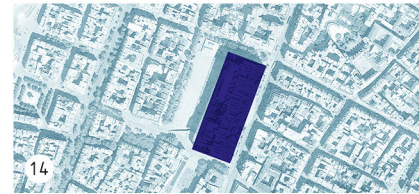
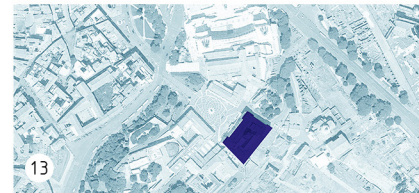
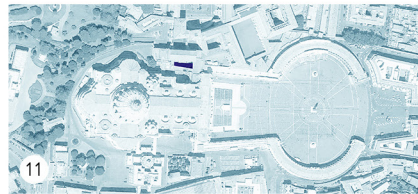
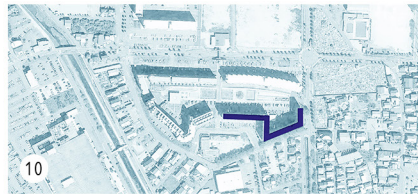
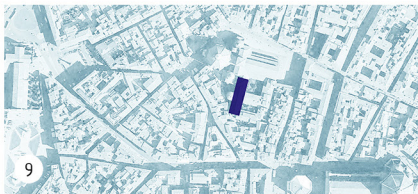
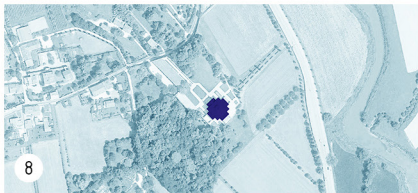
Charles Willard Moore, an American architect, writer and educator wrote in his research: “The main spaces of the house are stretched out in passages inhabited by people moving. If you see a corridor (and a stair) as non-room, as wasted space, then this house is wasteful. If you see it as a room stretched, an empty stage for moving as well as resting, then here are rich chances for improvisation”



▲ V. Horta Museum, Bruxelles ⁰

- 1 Schützenhaus, Vienna
Otto Wagner, 1908
- 2 Baker House, Cambridge, MA
Alvar Aalto, 1948
- 3 Bom Jesus do Monte, Portugal
Manuel Pinto Vilalobos, 1725
- 4 Sonnesgade 11, Denmark
SLETH architects, 2016
- 5 Villa Savoye, Poissy (France)
Le Corbusier, 1931
- 6 Rathaus, Bern (Switzerland)
Heinrich von Gengenbach, 1415
- 7 Palazzo del Bargello, Florence
Lapo Tedesco, 1255





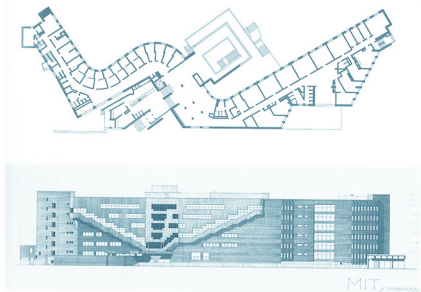
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▲ Schützenhaus, Vienna ¹

▼ Baker House, Cambridge ²



Schützenhaus, Austria

architect / year

Otto Wagner / 1904 – 1908

address

Obere Donaustraße 26, Vienna

Otto Wagner, Viennese born and most important Austrian architect on the turn of the century designed this building on the north side of the Danube Canal as a part of its revitalization in the beginning of the 20th century. Today the building houses restaurant “Otto Wagner Schützenhaus” famous for its traditional Austrian cuisine. Main entrance is located on the ground floor which is opened to the promenade of the Canal. This building is recognizable for its blue details which can be seen as a part of interior and exterior design. Upper part of the building is made out of dark blue tiles with white wavy ornament which remind of deep, blue and fast river Danube which inspired many artist like Johann Strauss II and his waltz.

Together with the building Otto Wagner designed two exterior straight flight stairs which connect first floor of the building with the promenade. These stairs are parallel to the Canal and its promenade – this pattern can be seen along the Danube Canal where dozens of stairs, different in size, are located parallel to it. Stairs which descend from the promenade level have more private effect and are smaller in size.

MIT Baker House Dormitory, MA, United States

architect / year

Alvar Aalto / 1948

address

362 Memorial Dr, Cambridge

Alvar Aalto is without any doubt one of the key figures of Modernism, famous for its nordic take on architecture and definitely most famous Finnish architect and designer. Some of his well known projects are: Finlandia Hall (1971), Finnish Pavilion at the World’s Fair (1939), Wolfsburg Cultural Center (1962), Villa Mairea (1939) and MIT Baker House Dormitory (1948). The latter one is one of the few projects he realized in the USA, where he got the teaching position at the Massachusetts Institute of Technology after WW2. This building, sinuous in plan, is located along the Charles River to “give each room a variety of diagonal views onto the river²”. All student rooms are south oriented with windows on the sinuous facade.

Apart for its brick facade MIT Baker House Dormitory is also known for its north-facing cantilevered stairs. Together with cantilevered floors above the stairs, treated differently in material than the rest of the building, this zig-zag volume is dominant feature of the north facade. Almost thirty years later Aalto used cantilevered stairs on facade once again, this time in Finlandia Hall which is located in Helsinki, Finland.

Bom Jesus do Monte, Portugal

architect / year Carlos Amarante / 1725
address 4715-261 Tenões, Braga

Bom Jesus do Monte, or “Good Jesus of the Mount” is a famous pilgrimage, located in Tenões, Braga on the top of the hill. First chapel built on this hill dates back to 14th century, however basilica which we can see today on this site was built in the early 18th century “by architect Carlos Amarante³”. Bom Jesus do Monte is one the earliest Neoclassic churches in Portugal and with its staircase it inspired many churches in Portugal and Brazil, like for example Sanctuary of Bom Jesus do Congonhas which was named a World Heritage Site by UNESCO in 1985. Pilgrimage steps resemble the steps which Jesus climbed on the day he was sentenced to death and many devoted pilgrims climb the stairs on their knees.

Bom Jesus do Monte is the most photographed church in Portugal, however not because of the church itself but rather because of its Baroque exterior staircase. Two parallel-flight staircases connected to the central landing made this pilgrimage world famous. Staircase which leads to the 18th century sanctuary of Bom Jesus is made out of “580⁴” steps and it depicts the life of Christ by various statues along the way.

Sonnesgade 11, Denmark

architect / year SLETH architects / 2016
address Sonnesgade 11, 8000 Aarhus C

This office building, located in the former industrial part of the Aarhus city in Denmark was built in 2016 and it is a good example of contemporary architecture. According to SLETH architects main idea behind this building was to “reuse and rethink spatial and material quality on the former industrial site⁵”. Facade is mostly made out of semi-translucent glass and steel however, north facade is made entirely out of concrete which is pierced with cracks – in this way building fits perfectly to its aged industrial site. In contrast to its cold exterior appearance, interior was made out of warm materials like wood. Office building was built on the top of already existing foundations and it occupies area of cca. 2800 m².

Main entrances for all three office building floors are via the staircase which is located on the north-west facade. Set of straight flight stairs which zig-zag from the bottom of the building all the way to the top seems like dividing the building in two parts. Staircase with main entrances has a facade made out of perforated metal sheets, which in the evening with lights on has an appealing transparent effect.



▲ Bom Jesus do Monte, Portugal ³

▼ Sonnesgade 11, Aarhus C, Denmark ⁴





▲ Villa Savoye, Poissy, Paris ⁵

▼ Town Hall, Bern ⁶



Villa Savoye, France

architect / year Le Corbusier, Pierre Jeanneret / 1931
address 82 Rue de Villiers, 78300 Poissy

Villa Savoye is a famous building designed by Le Corbusier and it is one of the first example of modern architecture. Villa was designed as a country house in the outskirts of Paris and with this building Le Corbusier addresses "The Five Points of a New Architecture⁶". The points are: 1. pilotis (substitution of supporting walls), 2. roof garden (bringing nature into the building), 3. free facade (separating facade and its structural function), 4. free plan and 5. horizontal windows. Centrally located in the meadow and surrounded by trees white building seems like it is floating above the U - shaped ground floor which is painted in green. Together with its thin columns ground floor seems almost like to dissolve among the trees.

Ramp which is located in the centre of the building can be seen from every place in the house and it connects ground-floor, first floor with the terrace and solarium on the top floor. Walls between the ramp and the rest of the building are pierced with windows which follow the line of the ramp. They let the light to the other side of the ramp and this is why this central space seems so light.

Town Hall (Rathaus), Switzerland

architect / year Heinrich von Gengenbach / 1415
address Rathausplatz 2, 3011 Bern

Bern Town hall is located on a hilly peninsula, in the middle of the Old Town, surrounded by the river Aare next to the St. Peter and Paul church. Today Town hall consist out several buildings and the most famous one is the building on address Rathausplatz 2 with the main entrance which is facing the Rathausplatz with the fountain (Vennerbrunnen) and it is south oriented. It was built more than 600 years ago in late gothic style by "Heinrich von Gengenbach und Hans Hetzel⁷". Town hall is a political centre of kanton, "a small territorial district⁸" and city of Bern where parliaments and city council hold their sessions. Main building is almost square in plan, and it consist out of basement, three floors and the roof.

Two straight flight stairs, located on the south facade lead up to the first floor (piano nobile) where is located the two storey meeting hall for the cantonal and city parliaments. When the building was reconstructed in 19th century in neo-gothic style two flights of the staircase were covered, however in the last reconstruction in the mid 20th century neo-gothic elements are removed.

Palazzo del Bargello, Italy

architect / year Lapo Tedesco / 1255
address Via del Proconsolo, 4, 50122 Florence

Palazzo del Bargello is located in Florence between the streets Via Ghibellina, Via del Proconsolo, Via della Vigna Vecchia and Via Grandi and it is one of the oldest buildings in Florence built in the mid-13th century for the "Podesta", the city's leading magistrate. Palazzo del Bargello is opened in 1856 as the first Italian national museum "Bargello National Museum" which is a house to sculptures of the most famous Renaissance artist such as Giambologna, Donatello and Michelangelo. The rooms on the ground floor, next to the staircase in the courtyard, exhibit some of the Michelangelo's masterpieces like : "Bacchus, Brutus, David-Apollo and the relief representing a Madonna with Child⁹".

Inner courtyard, the most photographed place in the palace together with its staircase was the place where prisoners were once executed. South and east walls of the courtyard, to which staircase is attached, are studded with carved stone coats of arms of Florentine families. Staircase are leading to first floor where marble sculptures by famous Flemish artist Giambologna are located.

Villa Capra (La Rotonda), Italy

architect / year Andrea Palladio / 1569
address Via della Rotonda, 45, 36100 Vicenza VI

Square in plan, with its central circular hall with dome, this building is one of the most recognizable buildings of the Renaissance and for centuries after it was completed it continued to inspire architects all around the world. Villa was built in the outskirts of Vicenza and before Venetian family Capri had bought it Villa Capra was called "Rotonda" because of its dome which however was inspired with the dome of the Pantheon in Rome. Villa is rotated 45 degrees to the south and in this way all rooms, which are located around the central space, can have some daylight during the day. Completely symmetrical in plan villa has four identical porticoes, each with six ionic columns, projecting from each of the facades.

Villa Capra, as axially symmetrical building has four external stairs as a formal approach for the piano nobile. Because all four facades and stairs are identical we can say that the villa "does not favor any facade or direction¹⁰" Villa Capra is famous for its external stairs however, there are four stairs located around the central circular hall with dome, which connect piano nobile and the upper floor.



▲ Palazzo del Bargello, Florence ⁷

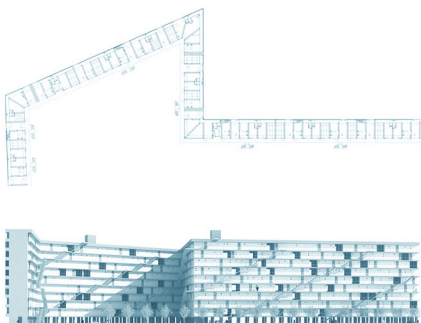
▼ Villa Capra (La Rotonda), Vicenza ⁸





▲ Laurentian Library, Florence ⁹

▼ Kitagata Housing, Gifu, Japan ¹⁰



Laurentian Library, Italy

architect / year Michelangelo Buonarroti / 1571
address Piazza San Lorenzo, 9, 50123 Florence

Laurentian library is one of the Michelangelo Buonarroti's masterpieces which incorporates reading room and vestibule. Vestibule is a smaller and higher in size (9.5 x 10.5 x 14.6 m¹¹) than the reading room (46.2 x 10.5 x 8.4 m¹¹) and it contains staircase. Library was built on the top of the already existing building so Michelangelo was quite limited in his design. Reading room is divided by a central aisle into a two sections of reading desks which are made out of the walnut wood. Reading room has a really warm effect thanks to the wooden ceiling, terracota floor, walnut furniture and evenly lit interior by the windows which are located in the bays. They are divided by pilasters which carry much of the weight of the ceiling beams

Vestibule incorporates one of the most famous and most discussed staircase in the history. This staircase was actually build by Ammannati according to Michelangelo's plans. Many art historians describe the staircase as "flow of lava spilling down onto the terracotta floor"¹². Staircase, which consist out of three flights, takes up almost half of the vestibule's floor area and it leads to the reading room.

Kitagata Housing, Japan

architect / year SANAA (Kazuyo Sejima) / 2000
address Kitagata Gifu 501-0436

This apartment building was a part of public housing reconstruction project. The main idea for the layout of the building was that the building runs around the border of the plot and that is exactly what the building does – it follows the street property line. Ground floor is made out of reinforced concrete piloti and it is open for a car parking. There are more than 100 housing units and more than 1/3 of them are two story apartments. Apartment building consist out of four basic type of rooms which are freely combined in section. All units include terrace, dining room, bedroom and a traditional Japanese room. All this rooms are south oriented so they receive a lot of sun during the day.

There are set of 6 stairs which zig-zag from the ground floor until the ninth floor. While all terraces are south oriented open corridor together with all staircases is north oriented. Set of straight flight staircases connect all corridors and in that way they provide access to ground floor for all building residents. As a really strong element of movement, this housing building is world famous thanks to its staircases.

Scala Regia, Italy

architect / year	Gian Lorenzo Bernini / 1666
address	Via del Governatorato, Vatican

Together with the Spanish Stairs, Royal Stairs built by Gian Lorenzo Bernini in Vatican are the most famous stairs in the city of Rome. Gian Lorenzo Bernini was a famous Italian sculptor and architect who designed St. Peter's Square and he also worked on the interior of the St. Peter's Basilica. Stairs are located between the St. Peter's Basilica and the Sistine Chapel and they connect the colonnade of the St. Peter's Square (north wing) and papal apartments. Scala Regia are known in the art history as one of the Bernini's masterpieces because of the problems he had to solve. The existing walls where he had to insert the stairs were not parallel, however he found a solution to the problem which has been helpful ever since.

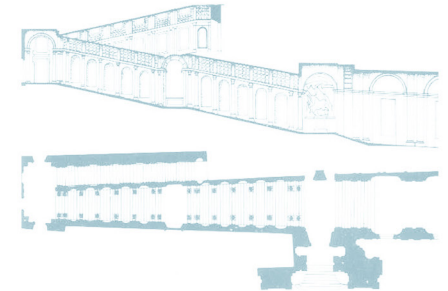
Place where he had to insert the stairs was also quite long and dark and despite all the problems he managed to built spectacular staircase with dramatic perspective effect. Bernini made the two rows of Ionic columns along the wall which diminish in height as the stairs are rising. Even though the steps are narrowest at the top they look as they have same width because the columns at the top are closer to the wall.

Palazzo del Capitano del Popolo, Italy

architect / year - / 1281 - 1308
address Piazza del Popolo, 05018 Orvieto

Orvieto is a small town in the central Italy, located in the Umbria province on the fortified hilltop. It has many famous medieval buildings, most of them from 13th century like: The Duomo, Papal residence, Underground tunneling system, Palazzo del Capitano del Popolo, The Albornoz fortress and other churches. Palazzo del Popolo is located in the centre of the city and it is the most important building on the square named "People's Square". Palazzo del Capitano del Popolo played important role in the history of Orvieto so it comes as no surprise that many buildings reflect some of its architectural elements (arches and "crown") like Palazzo dei Papi located close to the Duomo, 14th-century Roman Catholic cathedral.

External parallel stairs are located on the west facade of Palazzo del Popolo and they connect Piazza del Popolo with the first floor of the palace. Stairs are actually leading up to the terrace from where one can enter palace. Ground floor, staircase and terrace above look like an added part to the building, probably because the palace was enlarged over the years. "The original palace was a single ground floor loggia¹³".

▲ Scala Regia, Rome ¹¹

▼ Palazzo del Popolo, Orvieto, Italy ¹²



▲ Senatorial Palace, Rome ¹³

▼ Centre Georges Pompidou, Paris ¹⁴



Senatorial Palace, Italy

architect / year Michelangelo Buonarroti / 1571
address Piazza San Lorenzo, 9, 50123 Florence

Senatorial Palace in Rome is located on Piazza del Campidoglio, one of the most famous trapezoidal square in Rome and in the world. Campidoglio is surrounded by three buildings – to the left is Palazzo Nuovo, to the right Palazzo dei Conservatori and Senatorial building which is central located and the oldest one on the square. Campidoglio was designed by Michelangelo Buonarroti who “was commissioned by the Pope Paul III¹⁴”. Michelangelo also redesigned three buildings on the square including Senatorial Palace which held “seat of the Senate until 1870¹⁵” and today is serving as a Rome city hall. Senatorial Palace was first built in 12th century, however what we see today is a 16th. century project of Michelangelo.

Double set of straight flight stairs located in the front of the Senatorial Palace was also designed by Michelangelo as an inseparable part of the Campidoglio square. Stairs are beginning at the centre of the left and the right Senatorial Palace wing and they provide the access to the noble floor. This monumental entrance was finished by Giacomo della Porta after Michelangelo died, according to Michelangelo’s designs.

Georges Pompidou Centre, France

architect / year R. Piano, R. Rogers / 1971–1977
address 19 Rue Beaubourg 75004 Paris

Georges Pompidou Centre, named after the president of France (1969–1974), is a cultural centre and one of the most visited buildings in Paris. Besides being one of the most visited, Pompidou Centre is one of the most famous building of the 20th century. Because of its use of steel and glass, and because of exposing its load-bearing structure together with all the pipes of mechanical systems on the facade, Pompidou Centre was a pioneering building for its time. Thanks to exposed steel skeleton on the facade it was possible to organize interior space without any interruptions. Building facilities are colored in different “structural” colors and parts which are colored in red represent the role of movement (elevators and stairs)

However, Georges Pompidou Centre is most famous and instantly recognizable for its set of escalators which are covered in a transparent and circular tube. Escalators are part of the west facade and they zig-zag from the ground floor up to the top floor. They are facing the square which is always full of visitors and as a part which represent movement they are colored in red on the bottom.

ARCHITECTURAL ANALYSES



▲ City of Vienna and 2nd district

▼ Danube Canal and Tel Aviv Beach ¹⁵



Architectural Analyses

Student dormitory is located in Vienna, on the border of 1st, 2nd and 9th Viennese districts. Technically, building site is located in Leopoldstadt, which belongs to the 2nd district and it is named after Leopold I, Holy Roman Emperor. Building site is oriented to the Danube Canal which also makes the natural border between the Inner City and the second Viennese district. Danube Canal "is crossed by 15 road bridges and 5 train bridges¹⁶" and closest one to the building site are Rosauerbrücke and Salztorbrücke.

Location of the building site is also favorable regarding the distance of facilities which students use. Technical University of Vienna can be reached within half an hour on foot, by bike within 12 minutes and by car within 10 minutes. Austrian City Hall, Parliament and Imperial Court Theater can be reached within 25 minutes on foot, by bike within 7 minutes and by car within 9 minutes. Vienna General Hospital, Friedensbrücke, Augarten and Wien Mitte are all reachable within 30 minutes.

Building site location with regard to public transport is no less favorable. U-bahn station for the line 2 (Karl-splatz-Seestadt) and for the line 4 (Hütteldorf-Heiligenstadt) is located right in the front of the building site. Not far away

from it is located tram stop for the line 31 station which connects Schottenring and Floridsdorf. Tram stop for the line 1 is located on the other side of the Danube Canal and that line connects Prater and 10th district. (Favoriten). Bus stop for the line 5a, which connects Nestroyplatz (U1) with Heiligenstadt (U4) is located near Karmelitermarkt, and bus stop for the line 3a, which connects Stephansplatz (U1,U3) with Schottenring (U2/U4) is located on the other side of the Danube Canal.

Citybike parking racks are located near the building site and there are around 120 parking racks like this distributed around the city of Vienna. Prices for Citybikes are affordable and everyone who does the online registration can use them. Besides Citybike parking racks there are also two parking racks for personal bicycles and car parking can be found in the Floßgasse i Herminengasse street.

Building site where I designed student dormitory is nowadays empty and it also serves as a parking lot for cars. Student dormitory is a part of block of buildings which is located between 4 streets: Obere Donaustraße, Herminengasse, Franz-Hochedlinger-Gasse i Floßgasse. All of them are one way streets, and besides the Obere Donaustraße street, all of them are speed limited to 30 km/h. In general zoning plan is

visible that building site is referred as mixed-use area which is a "type of urban development that blends cultural, residential and many more uses where all functions are well integrated". In general zoning plan is foreseen the enclosure of the block of buildings, where building cannot be more than 15 meters in depth. Buildings on the address Floßgasse 11, Floßgasse 9 and Obere Donaustraße 63 were built after 1945 and the building on the address Franz-Hochedlinger-Gasse 26 was built before 1848. Rest of the buildings were built between 1848 and 1918. Buildings on the addresses Obere Donaustraße 63 and Herminengasse 4 are neighboring buildings to the building site where student dormitory project was designed.

Cornice height of the first building which is oriented to the Danube Canal is 21,5 m, and the height of the roof is cca. 27,6 meters. Cornice height of latter building is 18,6 meters and the height of the roof is cca. 24,3 meters. Rest of the buildings in the block of buildings, and its parts are high between 1,6 and 26 meters. If we look sections through the Danube Canal and its surroundings it is clear that student dormitory fits with its height to rest of the buildings, moreover student dormitory follows heights of its neighboring building which is oriented to the Danube Canal. Dominant buildings on the site, at least three times higher than the rest of the buildings are Ringturm which is 73 meters high and Raiffeisen-Holding office building

which is 78 meters high. Student dormitory is volumetrically separated from its neighboring building facing Herminengasse street, which is to say facade of student dormitory and facade of neighboring building in Herminengasse do not touch. Danube Canal, which can be seen as a spine of the whole area, inspired the idea and the concept for the student dormitory. Danube Canal shaped the whole area and also determines the movement of people, cars and public transport.

If you want to approach promenade along the Danube Canal you need to use stairs or ramps which are located near bridges which are crossing Canal and they are always parallel to it. Between the Rosauerbrücke and Salztorbrücke there are 8 stairs like this and three ramps one can use to approach the promenade and all of them are positioned parallel to the Danube Canal. Two more stairs which can be used to approach the promenade are part of famous "Schützenhaus" building which was designed by Otto Wagner between 1904. and 1908. Promenade along the Danube Canal is a public space which is a famous Viennese area for leisure activities, especially in the summer.

It is mostly used for jogging and for walking and in the summer promenade houses a lots of cafés with terraces where one of the most popular one is "Tel Aviv Beach" located right in front of the student dormitory.

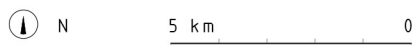


▲ City bikes Vienna ¹⁶

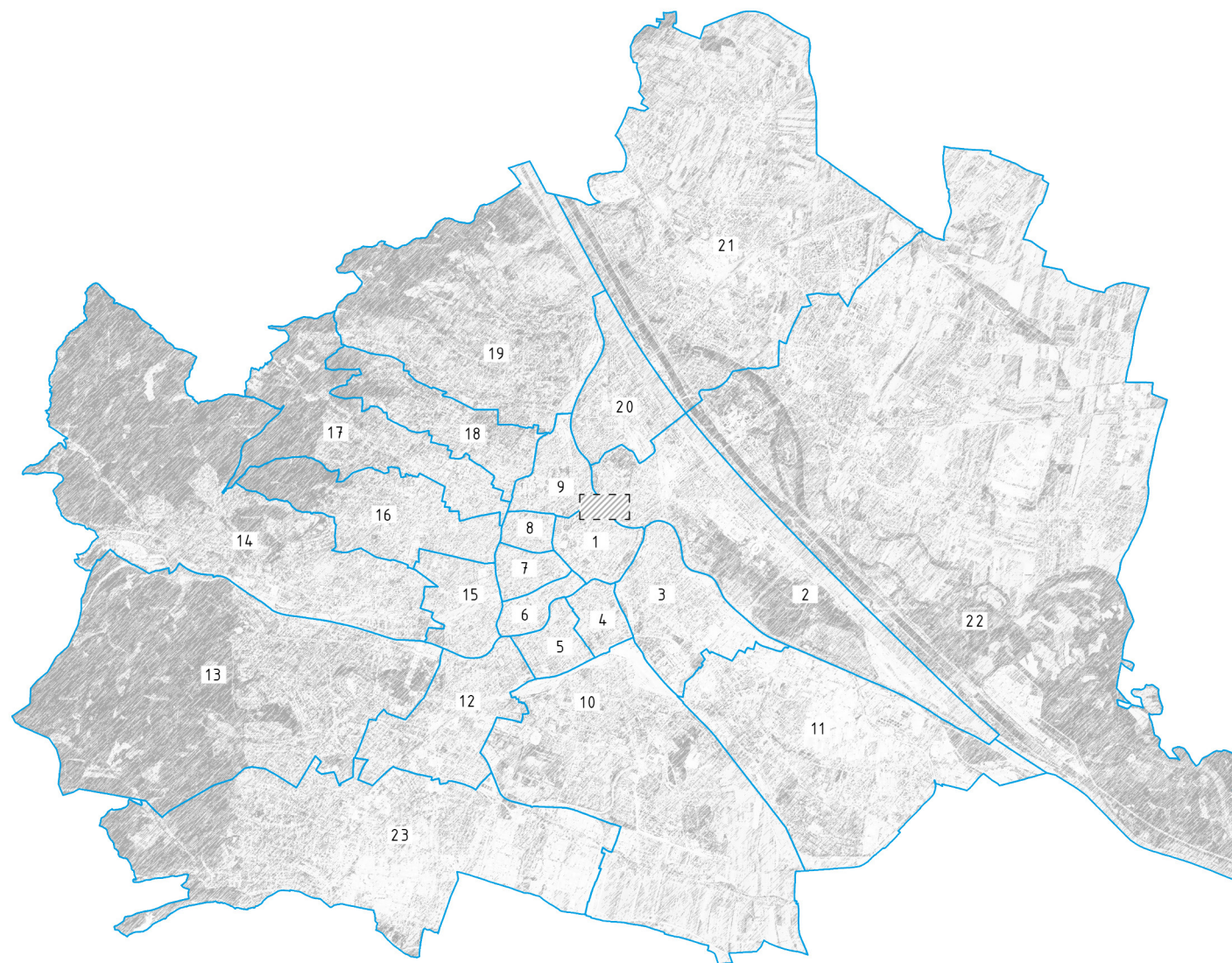
▼ Underground station Schottenring ¹⁷

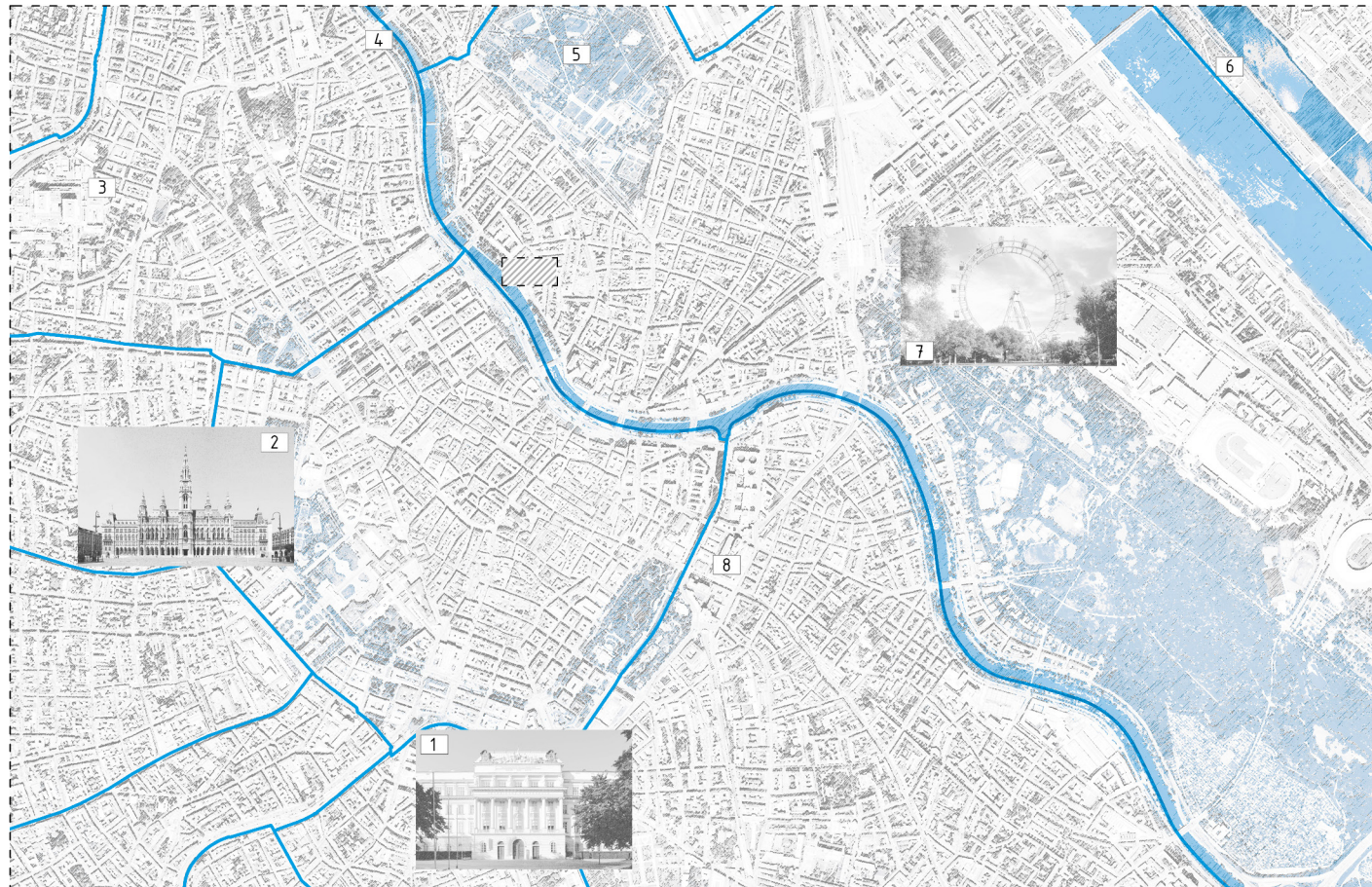


VIENNA AND DISTRICTS



- | | |
|----|------------------------------|
| 1 | Bezirk Innere Stadt |
| 2 | Bezirk Leopoldstadt |
| 3 | Bezirk Landstraße |
| 4 | Bezirk Wieden |
| 5 | Bezirk Margareten |
| 6 | Bezirk Mariahilf |
| 7 | Bezirk Neubau |
| 8 | Bezirk Josefstadt |
| 9 | Bezirk Alsergrund |
| 10 | Bezirk Favoriten |
| 11 | Bezirk Simmering |
| 12 | Bezirk Meidling |
| 13 | Bezirk Hietzing |
| 14 | Bezirk Penzing |
| 15 | Bezirk Rudolfsheim- Fünfhaus |
| 16 | Bezirk Ottakring |
| 17 | Bezirk Hernals |
| 18 | Bezirk Währing |
| 19 | Bezirk Döbling |
| 20 | Bezirk Brigittenau |
| 21 | Bezirk Floridsdorf |
| 22 | Bezirk Donaustadt |
| 23 | Bezirk Liesing |





DISTANCE ANALYSIS

0 0.5 1 km N



1. TU Wien	10 min	12 min	31 min
2 Rathaus	7 min	9 min	25 min
3. AKH der Stadt Wien	11 min	15 min	37 min
4. Friedensbrücke U4	5 min	7 min	19 min
5. Augarten	4 min	11 min	15 min
6. Donauinsel	10 min	22 min	56 min
7. Prater	8 min	7 min	24 min
8. Wien Mitte	7 min	8 min	24 min

building site



PUBLIC TRANSPORT



SCALE 1:5000



tramway



U4 underground



U2 underground



regional bus



building site



U2 / U4 station



tram 1 station



tram 31 station

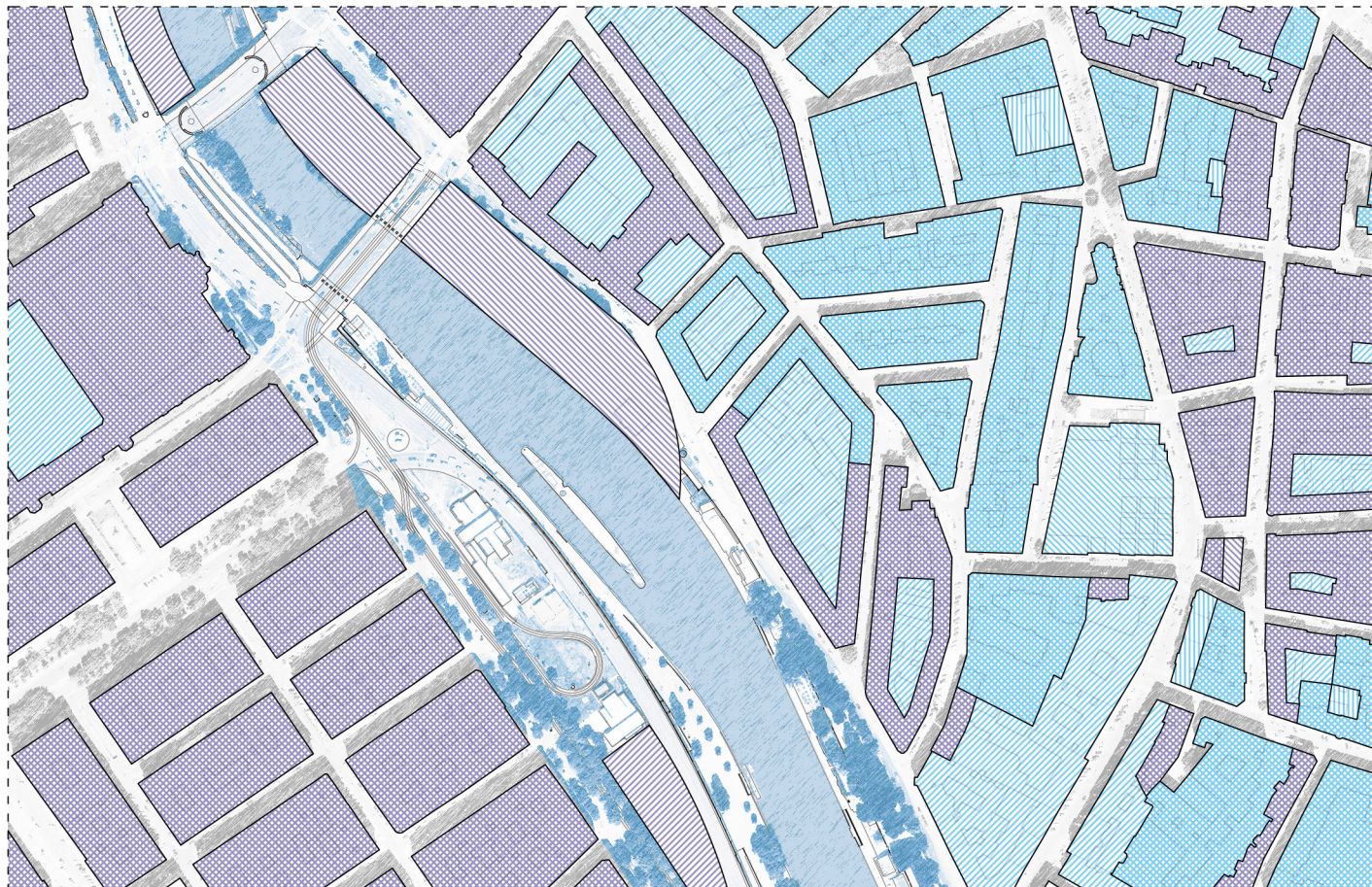


bus 3a station



bus 5a station





GENERAL ZONING PLAN

SCALE 1:5000



mixed residential area



protected area



recreation area



residential area



specific land-use area



special area



residential area - shop



CONSTRUCTION PERIOD



SCALE 1:5000



before 1848



1848 - 1918



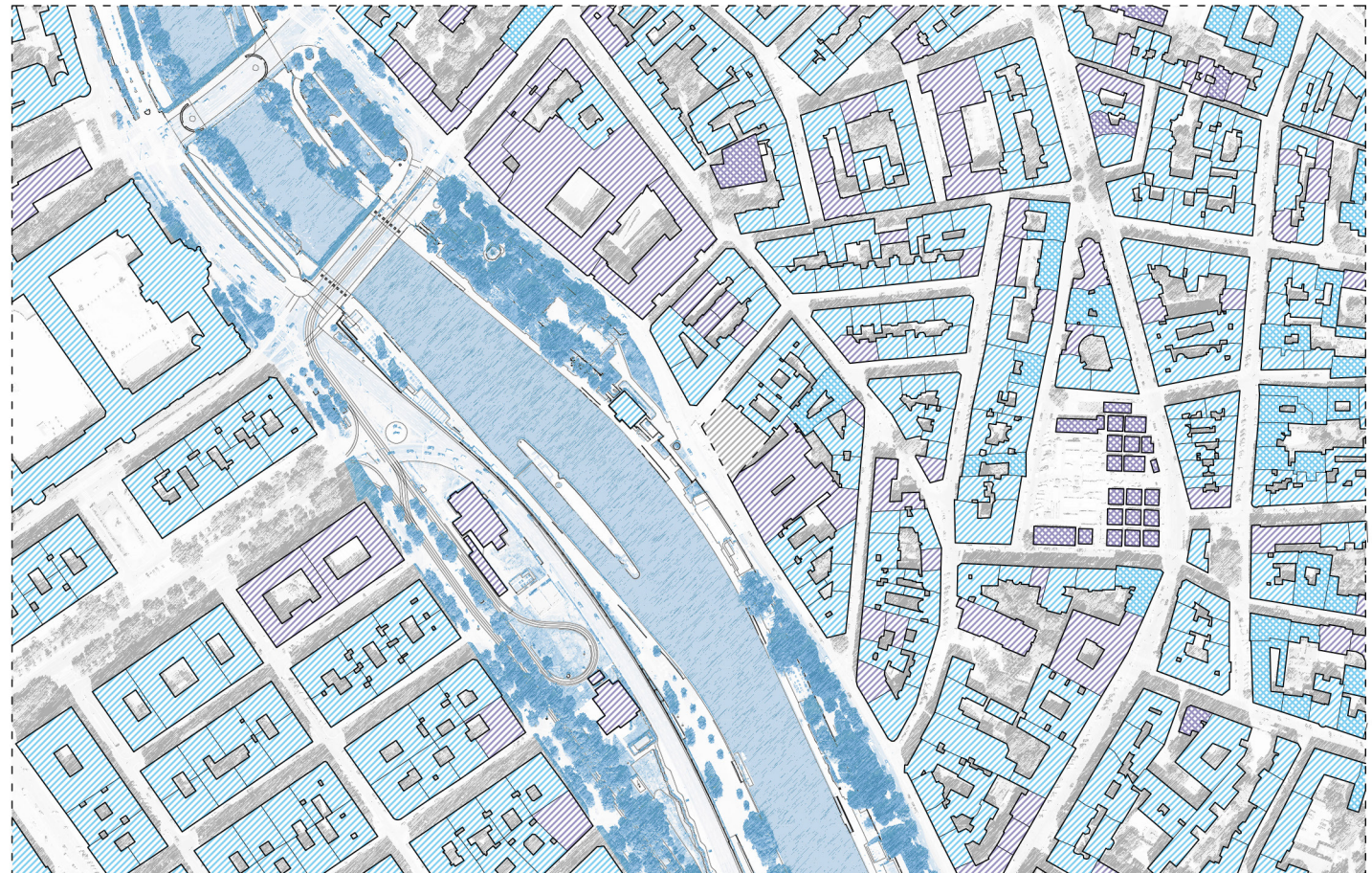
after 1945

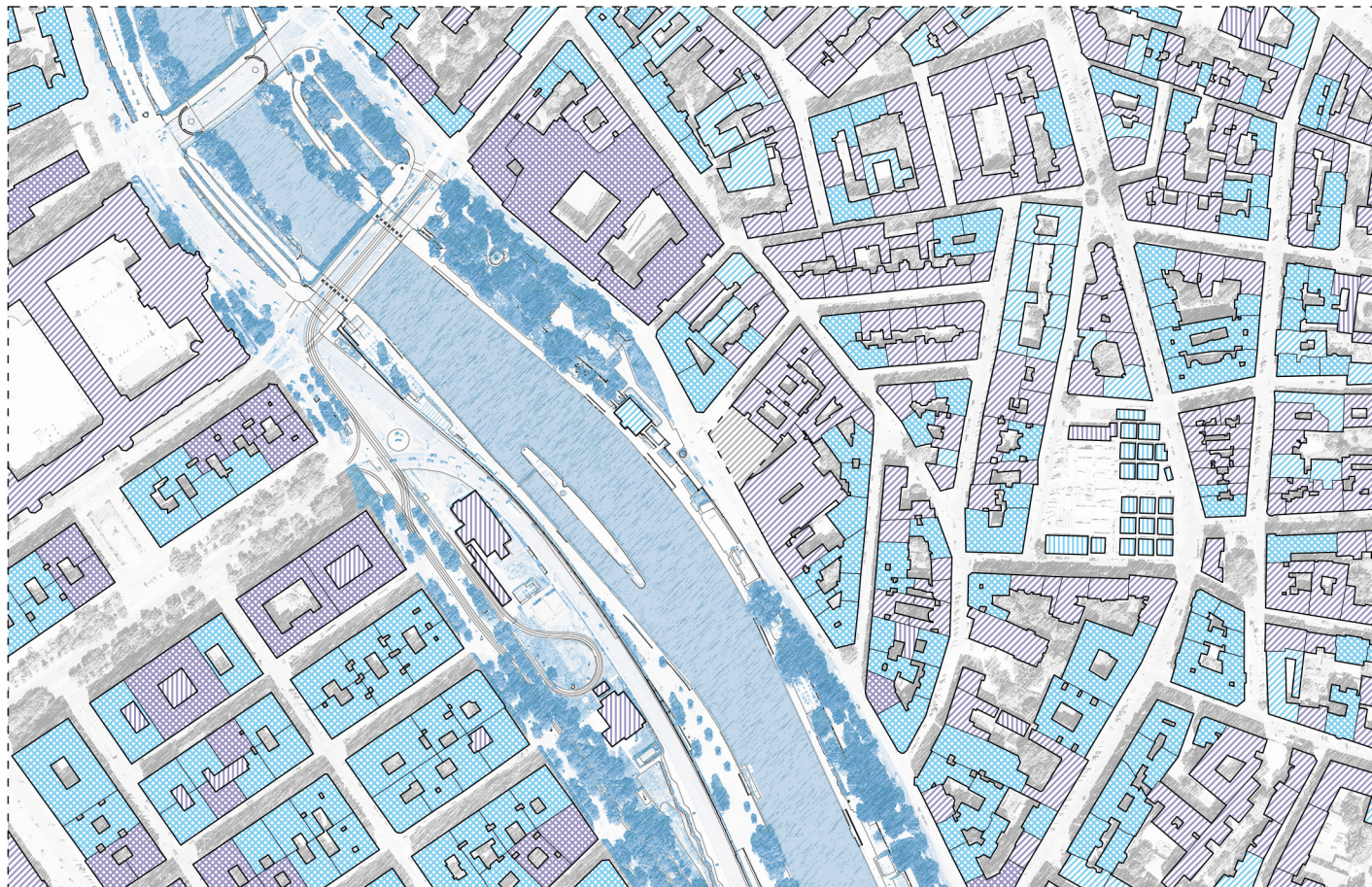


no data



building site





BUILDING HEIGHTS

SCALE 1:5000



more than 26 m



21,1 m - 26,0 m



16,1 m - 21,0 m



12,1 m - 16,0 m



9,1 m - 12,0 m



7,6 m - 9,0 m



4,6 m - 7,5 m



1,6 m - 4,5 m



building site



SITE PLAN ANALYSIS

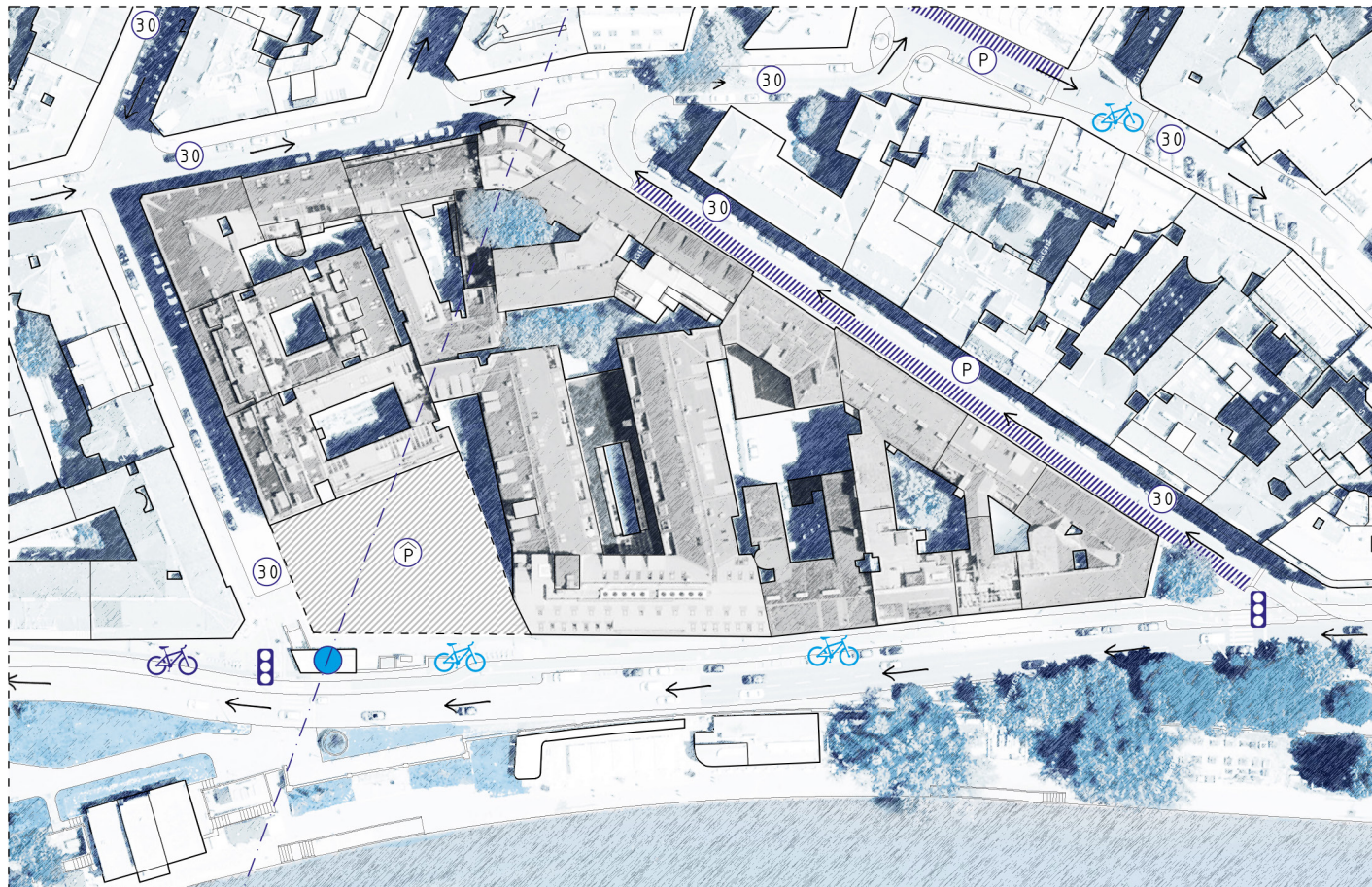


N

SCALE 1:1500

- ① Herminengasse 4
residential use, 4 storeys
- ② Herminengasse 6
residential use, 4 storeys
- ③ Herminengasse 8
residential use, 4 storeys
- ④ Franz-Hochedlinger-Gasse 24
residential use, 4 storeys
- ⑤ Franz-Hochedlinger-Gasse 26
residential use, 4 storeys
- ⑪ Floßgasse 1a
residential use, 5 storeys
- ⑫ Obere Donaustraße 69
residential use, 5 storeys
- ⑬ Obere Donaustraße 67a
residential use, 5 storeys
- ⑭ Obere Donaustraße 67
residential use, 5 storeys
- ⑮ Obere Donaustraße 65
residential use, 5 storeys
- ⑯ Obere Donaustraße 63,
residential use, 9 storeys
- ⑰ Obere Donaustraße 61 /
Herminengasse 4
residential use, 9 storeys





TRAFFIC

SCALE 1:1500



building site



one way street



underground U2



U2 / U4 station



restricted speed



parking garage



disabled parking



neighbor's parking



traffic lights



citybike position



bike parking

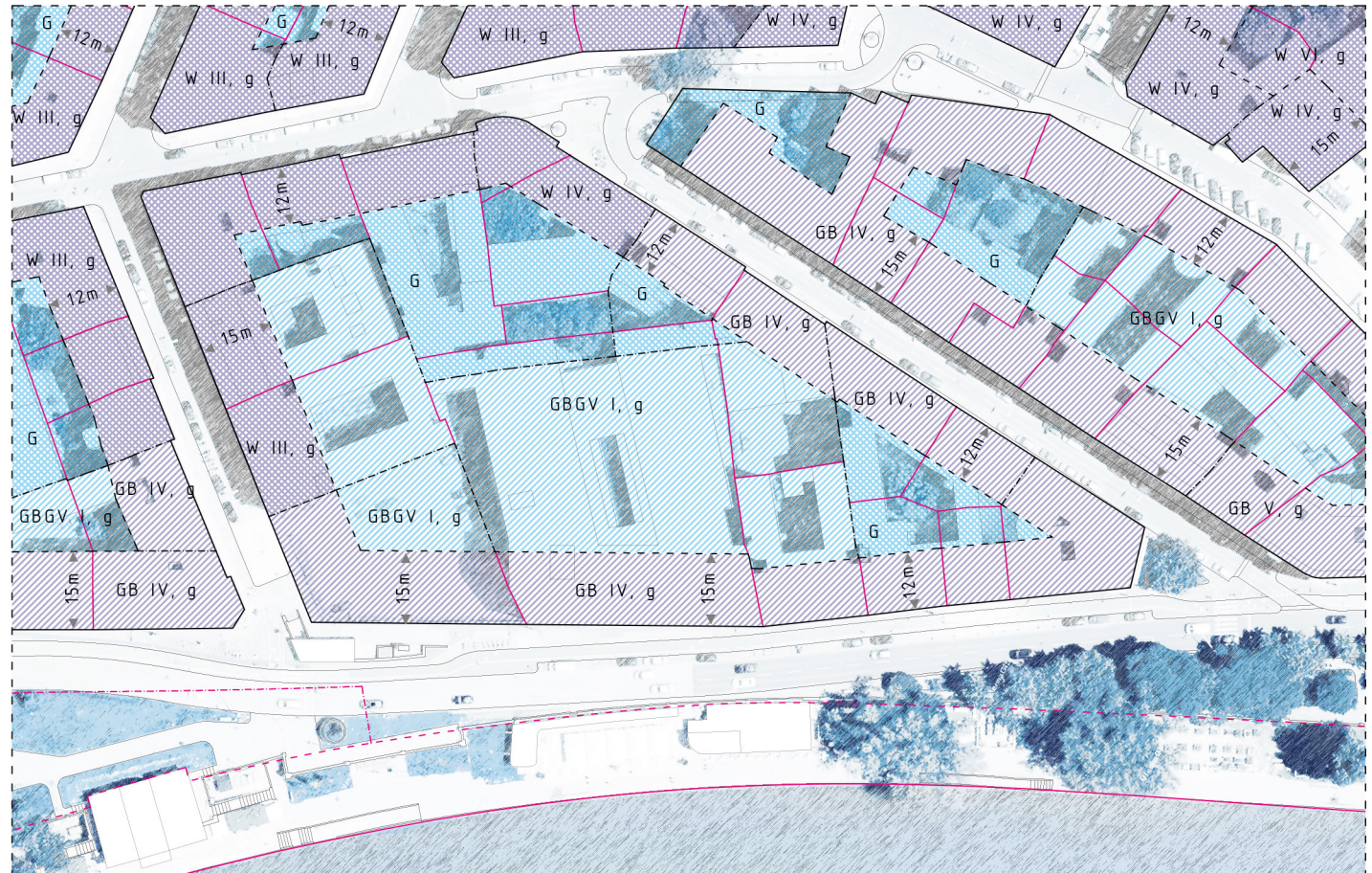


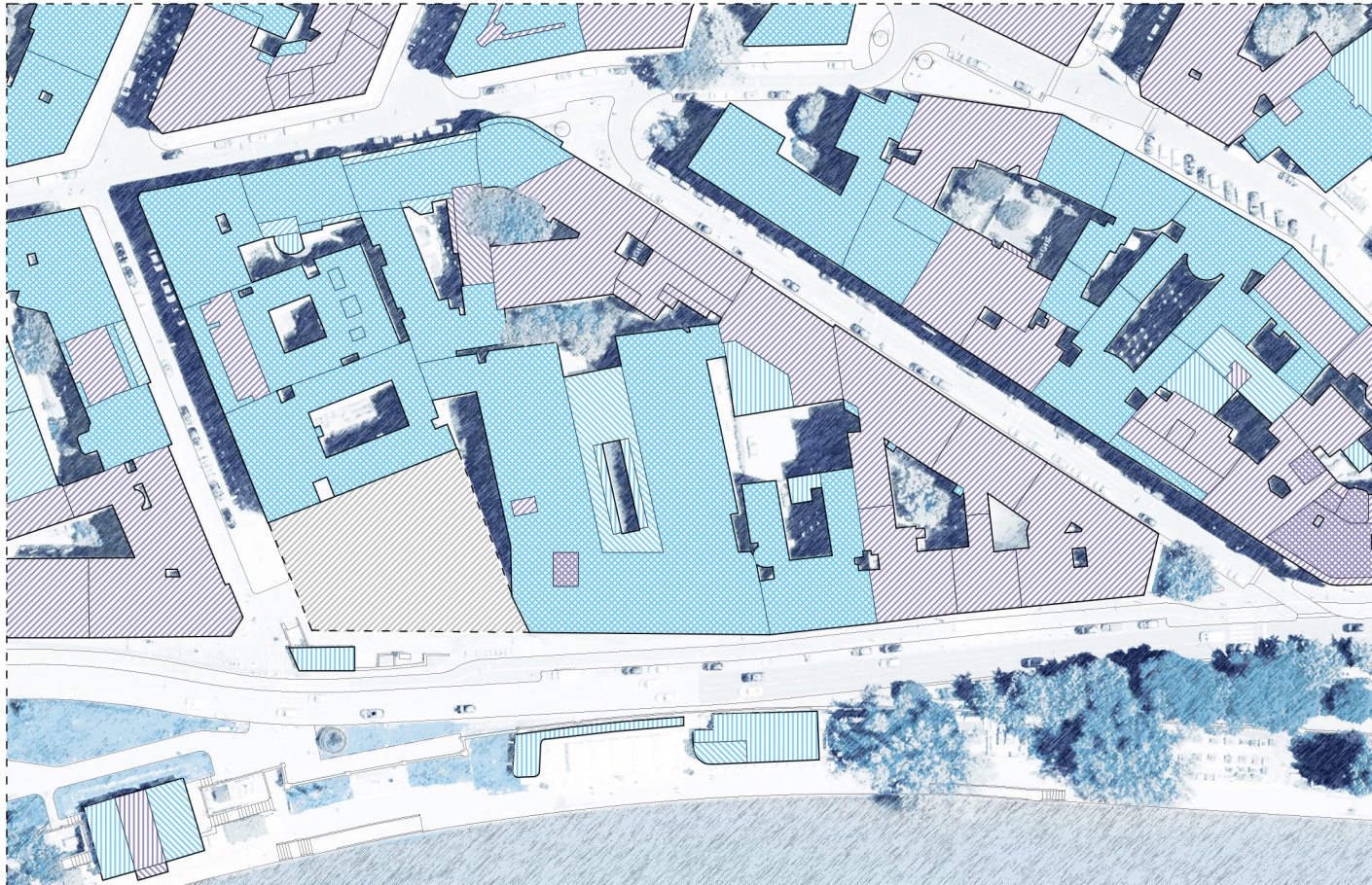
ZONING PLAN



SCALE 1:1500

-  construction line
-  building line
-  borderline
-  land register property line
-  traffic alignment line
-  street alignment line
-  W residential area
-  GB mixed residential area
-  GV shopping area
-  G horticultural area
- I - IV construction class
- g closed structure
- ◀ 15 ▶ construction line - restriction





BUILDING HEIGHTS

SCALE 1:1500



more than 26 m



21,1 m - 26,0 m



16,1 m - 21,0 m



12,1 m - 16,0 m



9,1 m - 12,0 m



7,6 m - 9,0 m



4,6 m - 7,5 m




1,6 m - 4,5 m





building site





CANAL SECTIONS


-  N

SCALE 1:5000
- 

cross section a - h
- 

canal facade 3 & 1
- 

longitudinal section 4 & 2
- 

building site
- 

facade view





CANAL AND STAIRS

SCALE 1:5000 / 1:1500



stairs type 1



stairs type 2



flow direction



building site

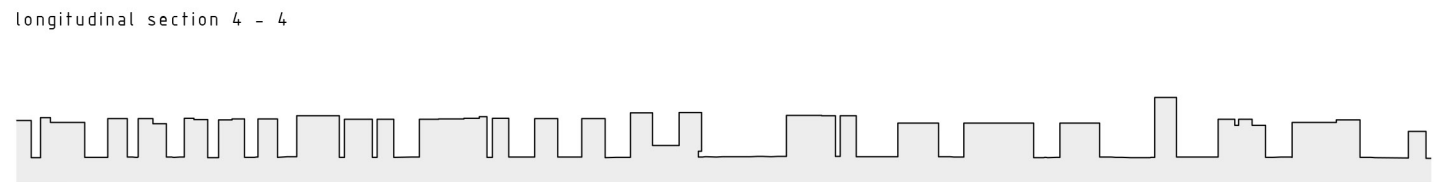
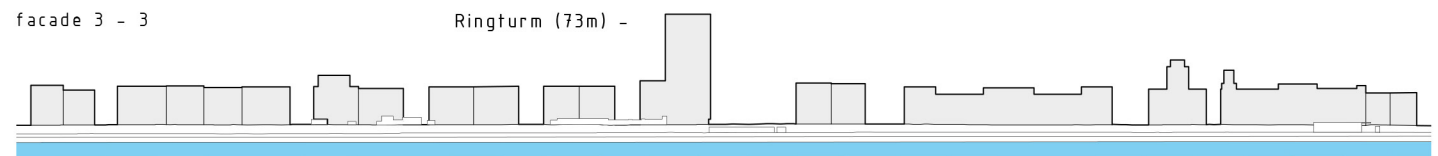
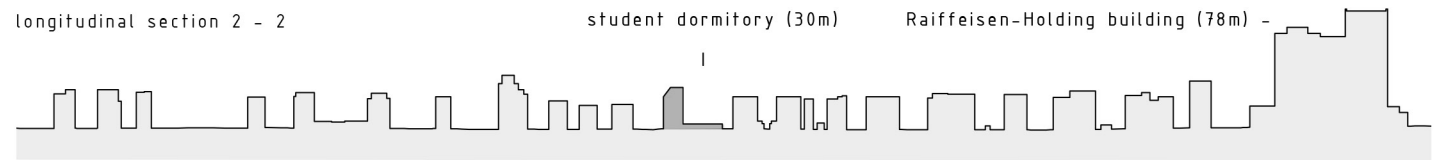
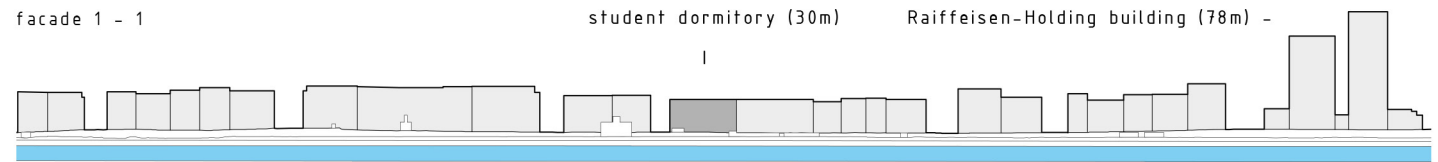


type 1 - connection between promenade
and public transport level

type 2 - connection between promenade
level and water level

CANAL SECTIONS

SCALE 1:5000



cross section a - a



cross section e - e

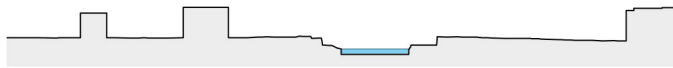


50 m

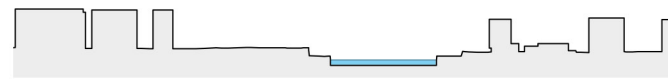
25 m

0 m

cross section b - b



cross section f - f



50 m

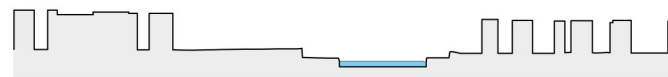
25 m

0 m

cross section c - c



cross section g - g

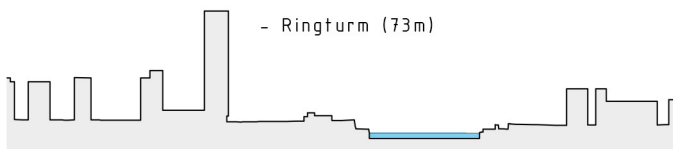


50 m

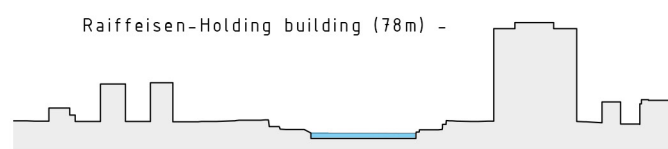
25 m

0 m

cross section d - d



cross section h - h



50 m

25 m

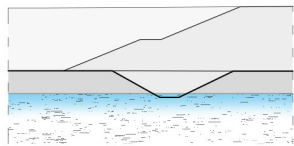
0 m

CANAL AND STAIRS

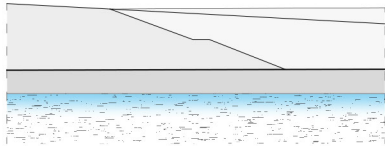
SCALE 1:750

8 m

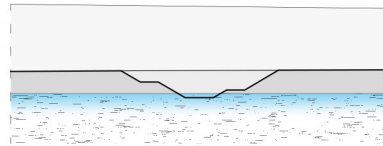
0 m



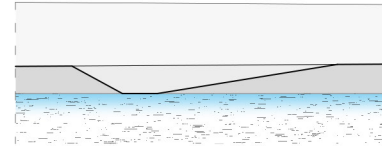
stairs nr. 1
type 1 & 2



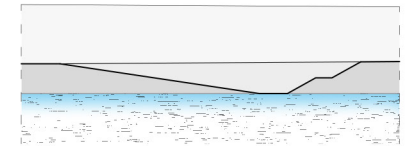
stairs & ramp nr. 2
type 1



stairs nr. 3
type 2



stairs & ramp nr. 4
type 2



stairs & ramp nr. 5
type 2

stairs nr. 11
type 1

stairs nr. 12
type 1

stairs & ramp nr. 13
type 2

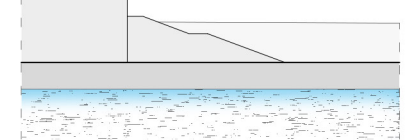
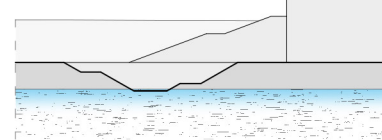
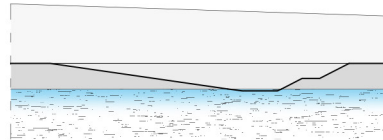
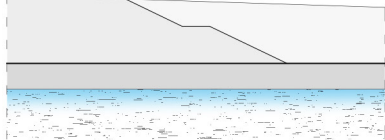
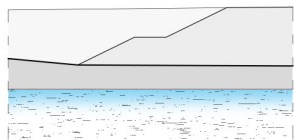
stairs nr. 14
type 1 & 2

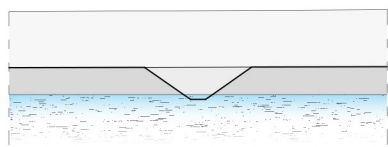
stairs nr. 15
type 1

8 m

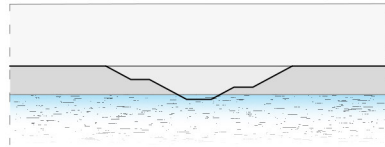
2 m

-3 m

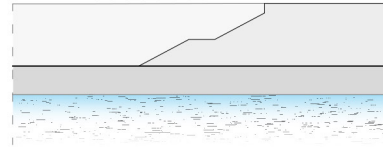




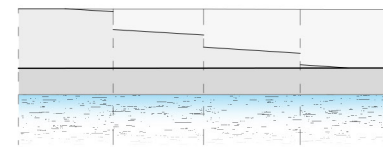
stairs nr. 6
type 2



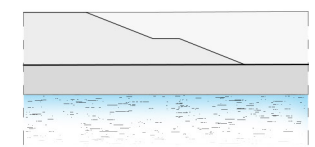
stairs nr. 7
type 2



stairs nr. 8
type 1



ramp nr. 9
type 1

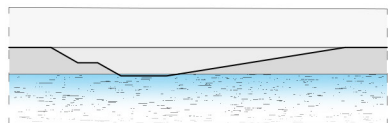


stairs nr. 10
type 1

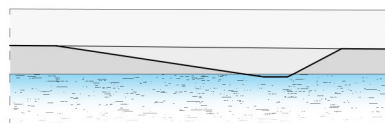
8 m

0 m

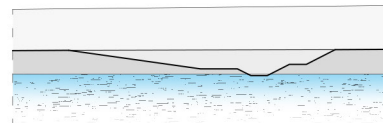
stairs & ramp nr. 16
type 2



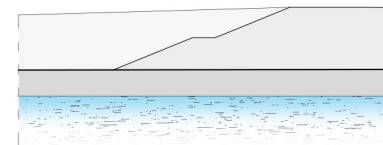
stairs & ramp nr. 17
type 2



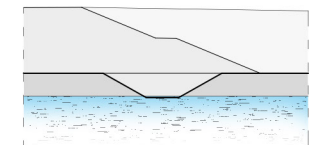
stairs & ramp nr. 18
type 2



stairs nr. 19
type 1



stairs nr. 20 - type
1 & 2



8 m

2 m

-3 m

CANAL PANORAMAS



SCALE 1:5000



viewpoint location



viewpoint direction



building site





DANUBE CANAL

VIEWPOINT A

AUGARTENBRÜCKE VIEW
VIEWPOINT B





SALZTORBRÜCKE VIEW
VIEWPOINT C

STUDENT DORMITORY PROJECT

VIEWPOINT a / SITE PLAN



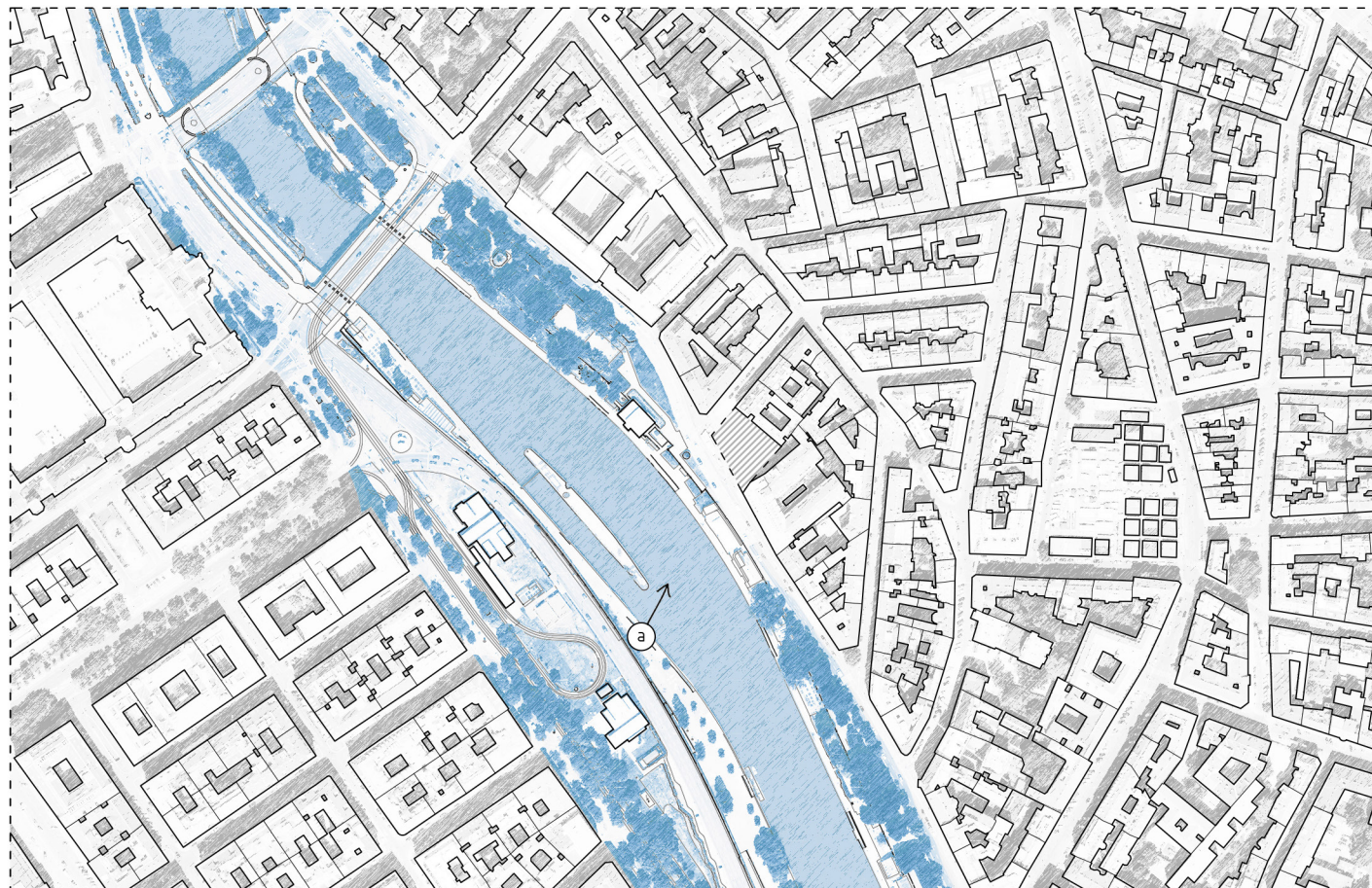
SCALE 1:1500



viewpoint location



viewpoint direction





VIEW FROM DANUBE CANAL

VIEWPOINT a

VIEWPOINT b / SITE PLAN



N

SCALE 1:1500



viewpoint location



viewpoint direction





STUDENT DORMITORY

VIEWPOINT B

VIEWPOINT c / SITE PLAN



N

SCALE 1:1500



viewpoint location



viewpoint direction





STUDENT DORMITORY

VIEWPOINT B

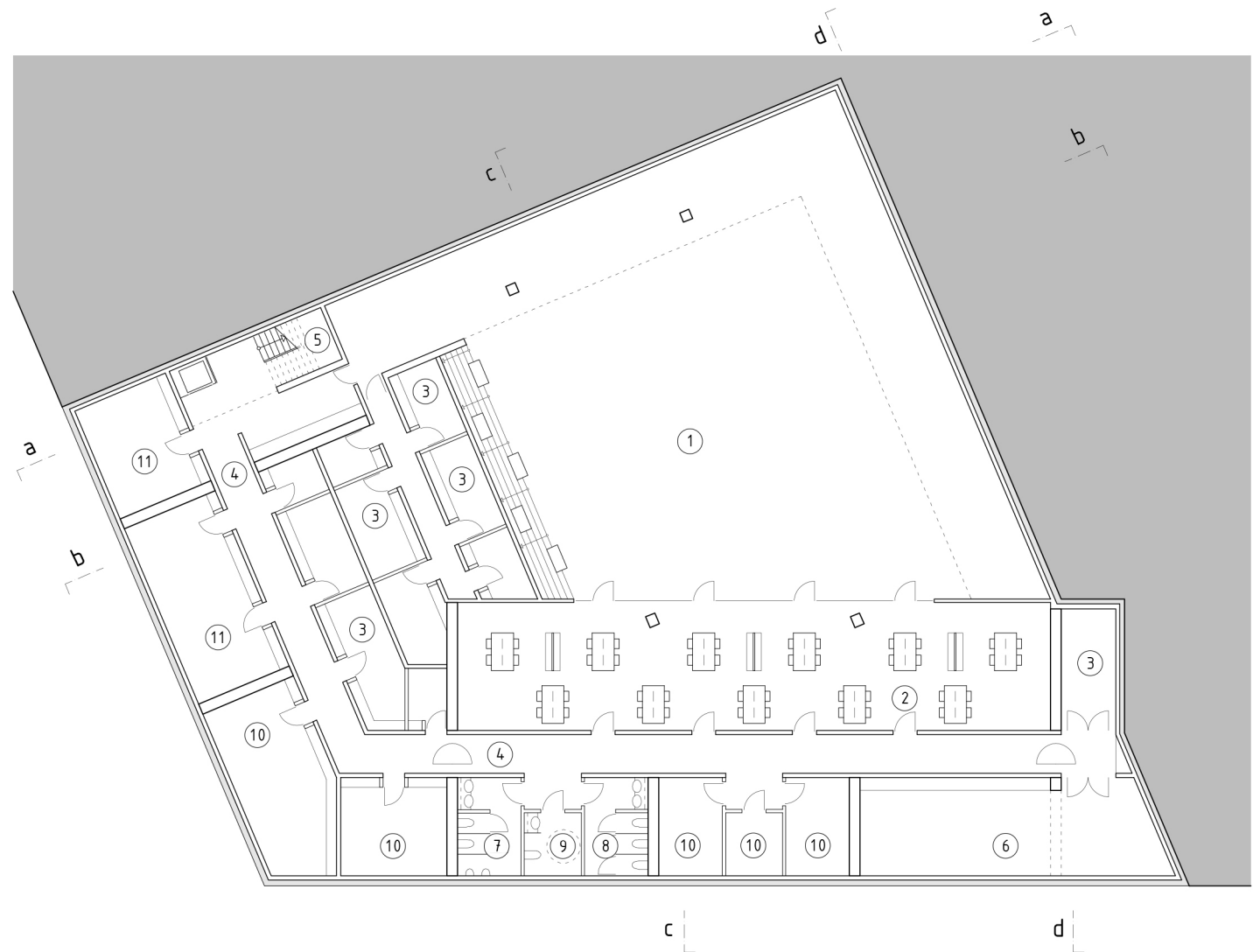
PLAN, BASEMENT

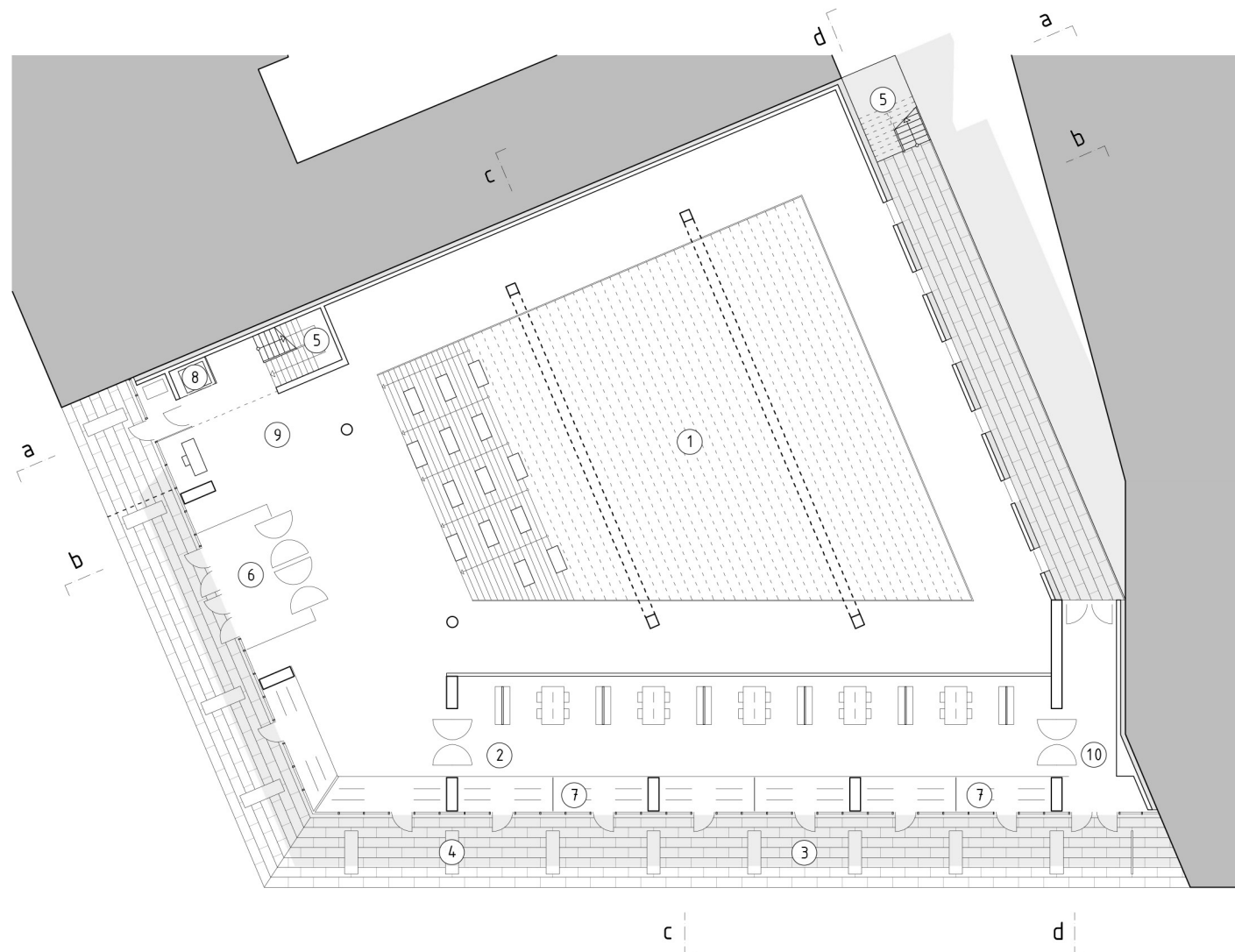


N

SCALE 1:300

- ① multifunctional hall
- ② modelmaking workshop
- ③ storage
- ④ hallway
- ⑤ fire escape
- ⑥ engine room
- ⑦ toilette / men
- ⑧ toilette / women
- ⑨ toilette / disabled
- ⑩ staff rooms
- ⑪ laundry





GROUND FLOOR, PLAN

SCALE 1:300



- multifunctional hall ①
- TU Wien 24/7 study place ②
- porch ③
- bench ④
- fire escape ⑤
- double entrance doors ⑥
- bicycle parking ⑦
- elevator ⑧
- lobby ⑨
- courtyard entrance ⑩

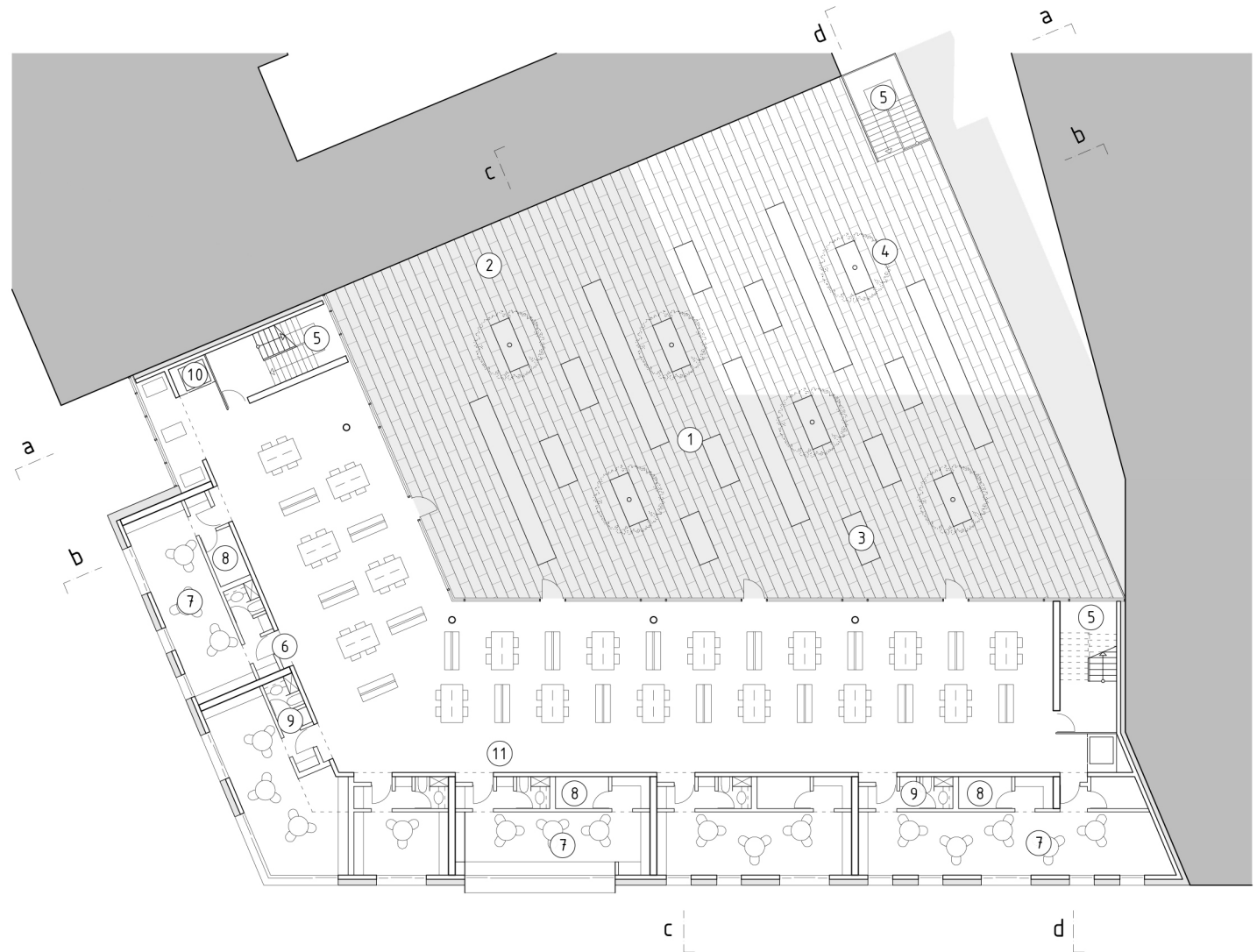
1st FLOOR, PLAN

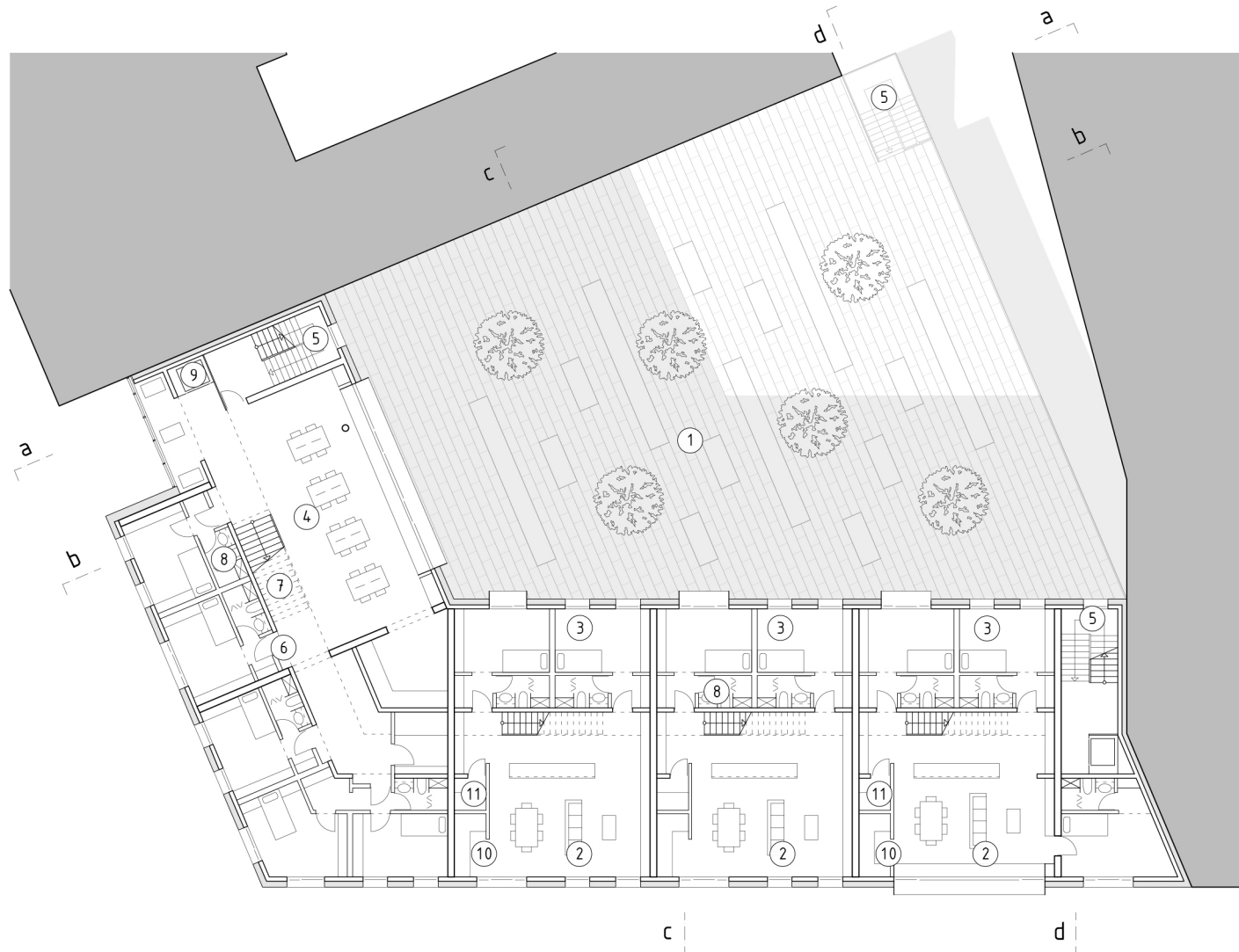


N

SCALE 1:300

- ① courtyard
- ② terrace
- ③ bench
- ④ tree
- ⑤ fire escape
- ⑥ office entrance
- ⑦ office
- ⑧ storage
- ⑨ toilette
- ⑩ elevator
- ⑪ study room





PLAN, 2nd FLOOR

SCALE 1:300



courtyard	①
living room	②
student room	③
common space / dining room	④
fire escape	⑤
room entrance	⑥
stairs	⑦
toilette	⑧
elevator	⑨
kitchen	⑩
storage	⑪

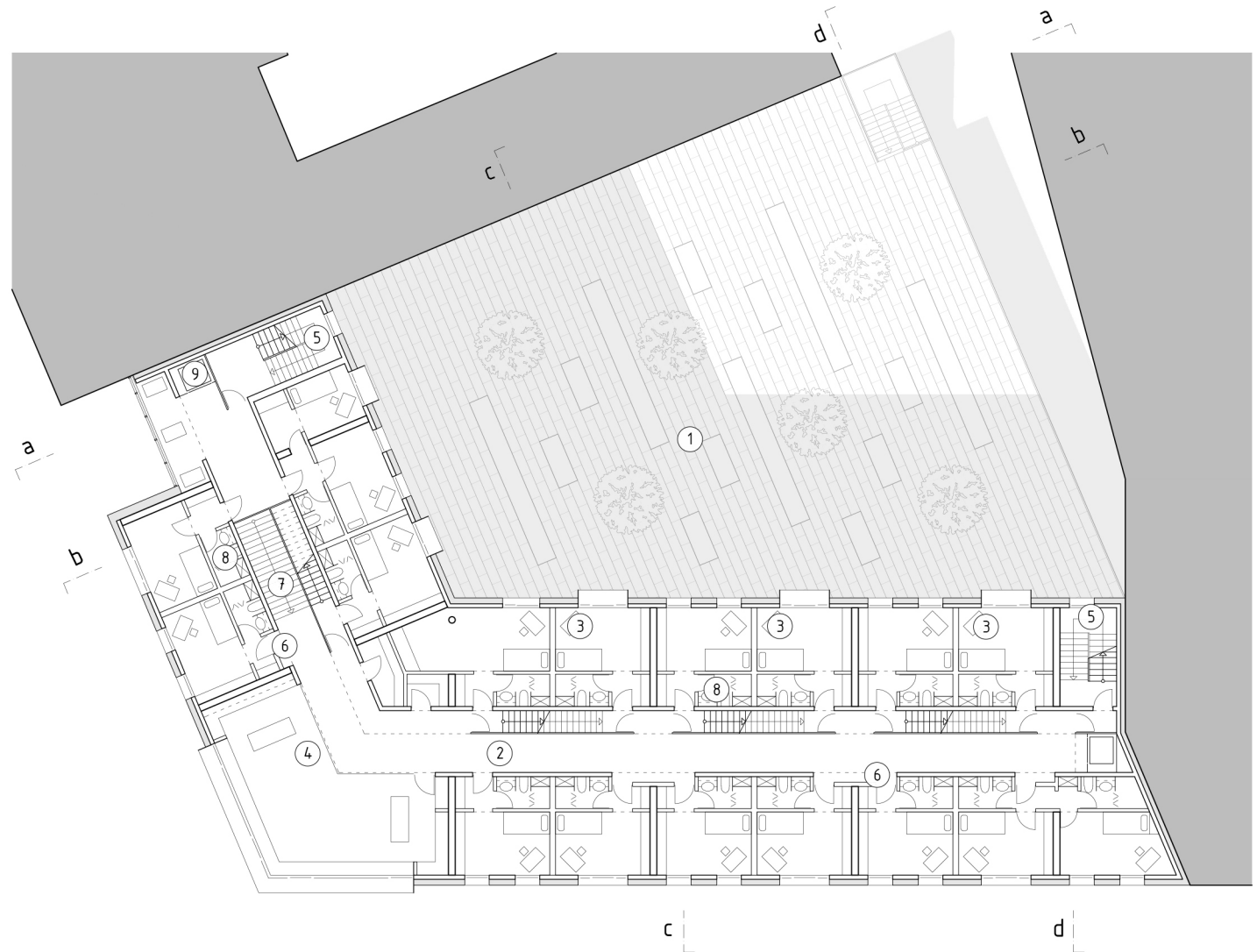
3rd FLOOR, PLAN

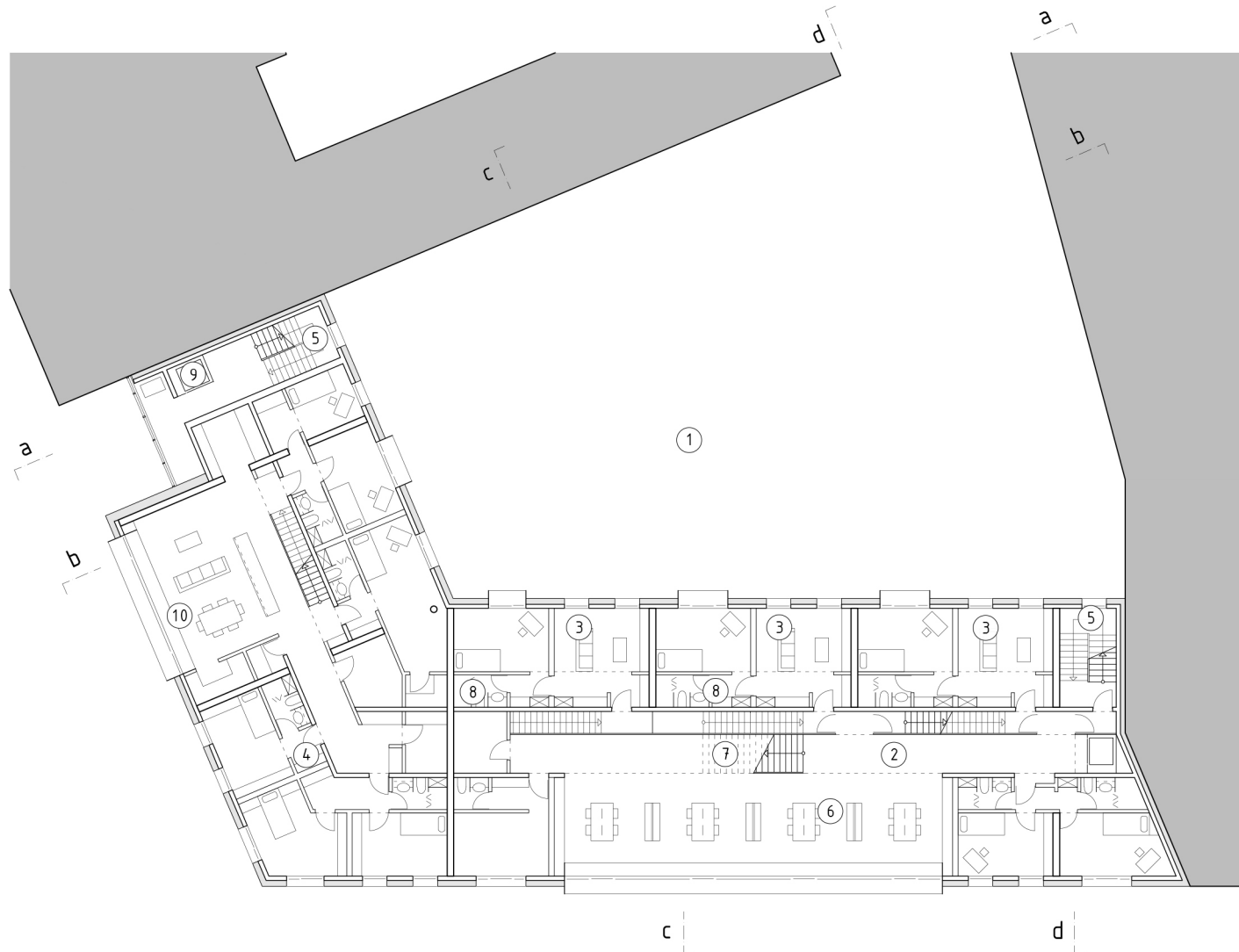


N

SCALE 1:300

- ① courtyard
- ② hallway
- ③ student room
- ④ common space / kitchen
- ⑤ fire escape
- ⑥ room entrance
- ⑦ stairs
- ⑧ toilette
- ⑨ elevator





PLAN, 4th FLOOR

SCALE 1:300



- courtyard ①
- hallway ②
- student room ③
- study room / library ④
- fire escape ⑤
- common room ⑥
- stairs ⑦
- toilette ⑧
- elevator ⑨
- living room ⑩

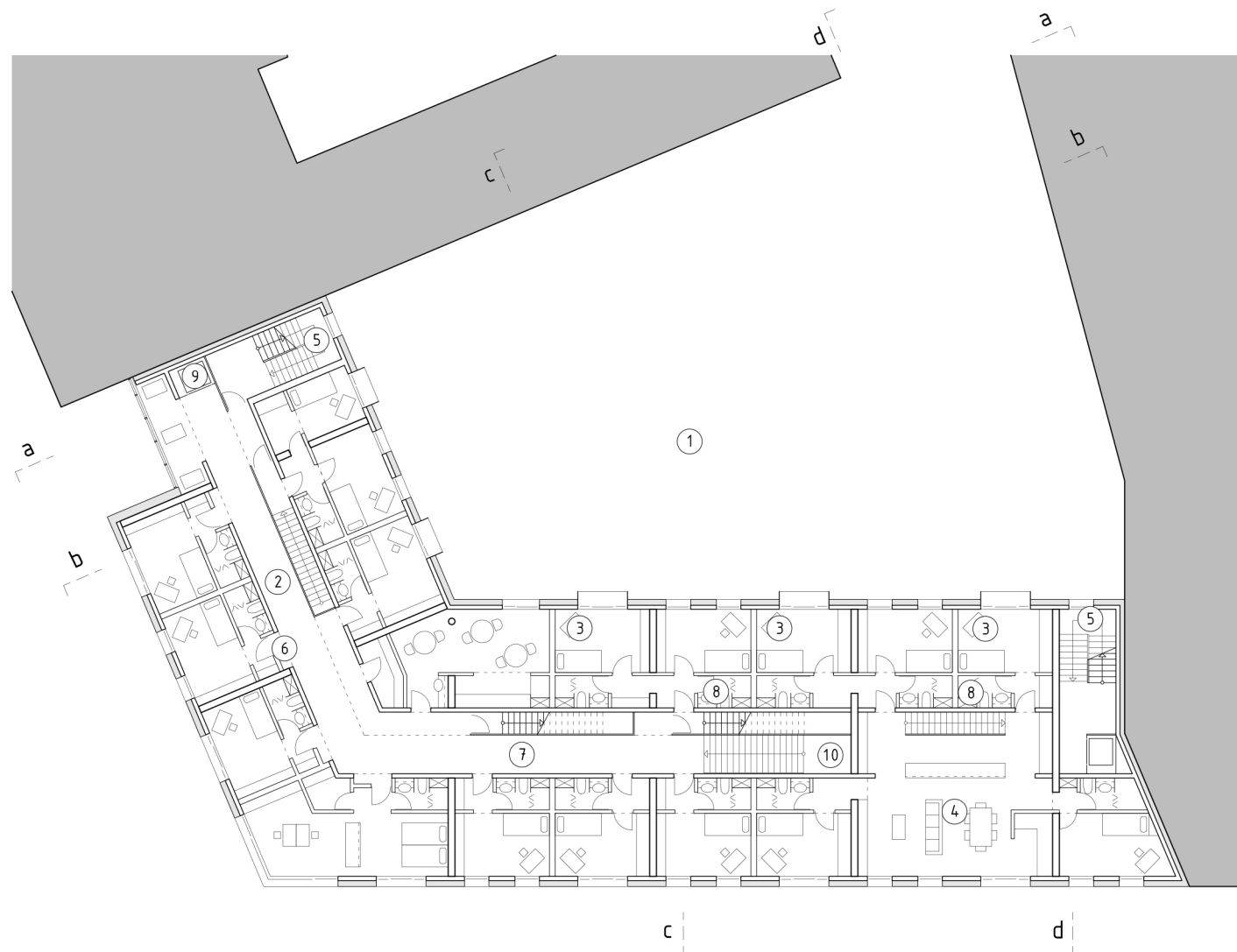
5th FLOOR, PLAN

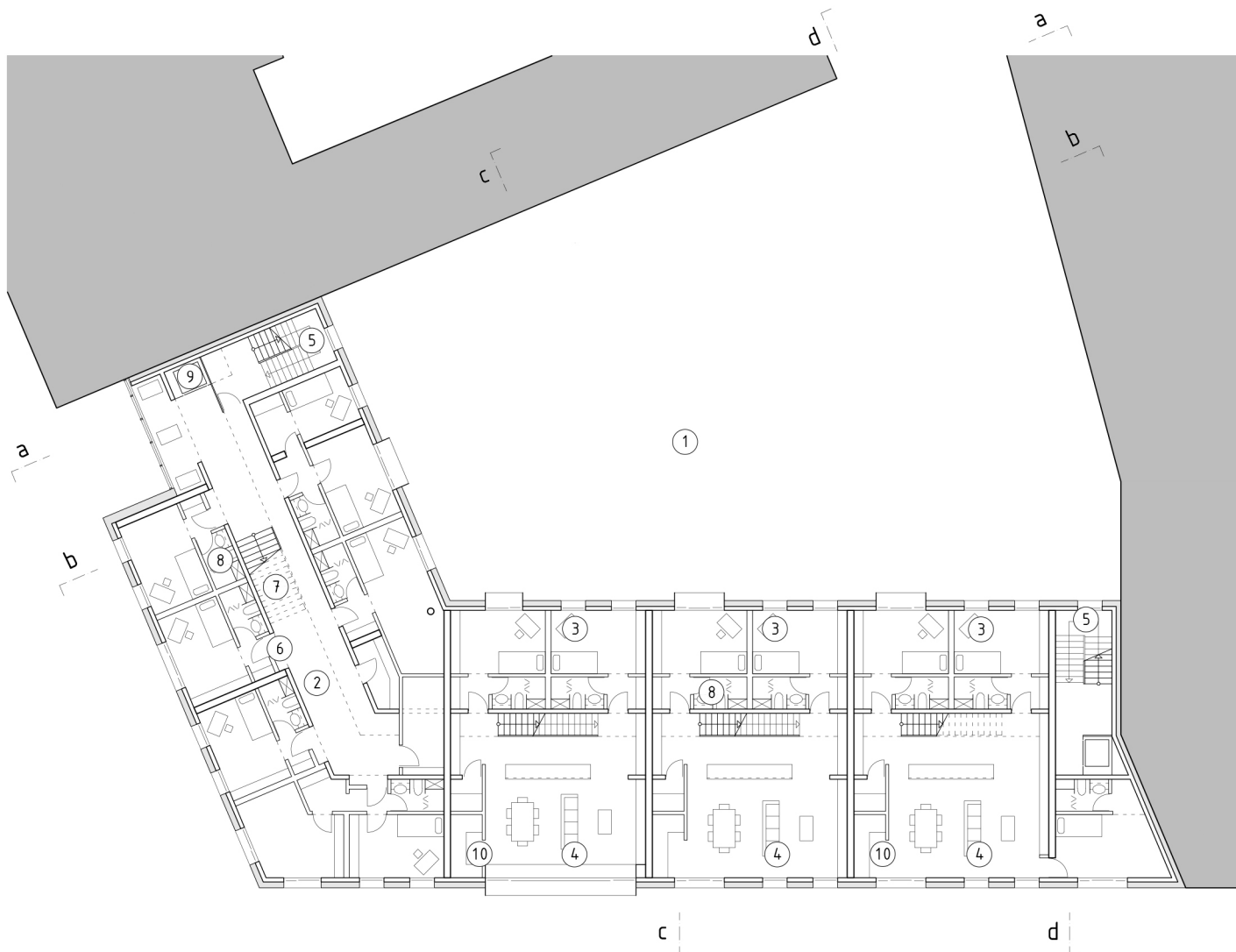


N

SCALE 1:300

- ① courtyard
- ② hallway
- ③ student room
- ④ living room
- ⑤ fire escape
- ⑥ room entrance
- ⑦ stairs
- ⑧ toilette
- ⑨ elevator





PLAN, 6th FLOOR

SCALE 1:300



courtyard

①

hallway

②

student room

③

living room

④

fire escape

⑤

room entrance

⑥

stairs

⑦

toilette

⑧

elevator

⑨

terrace

⑩

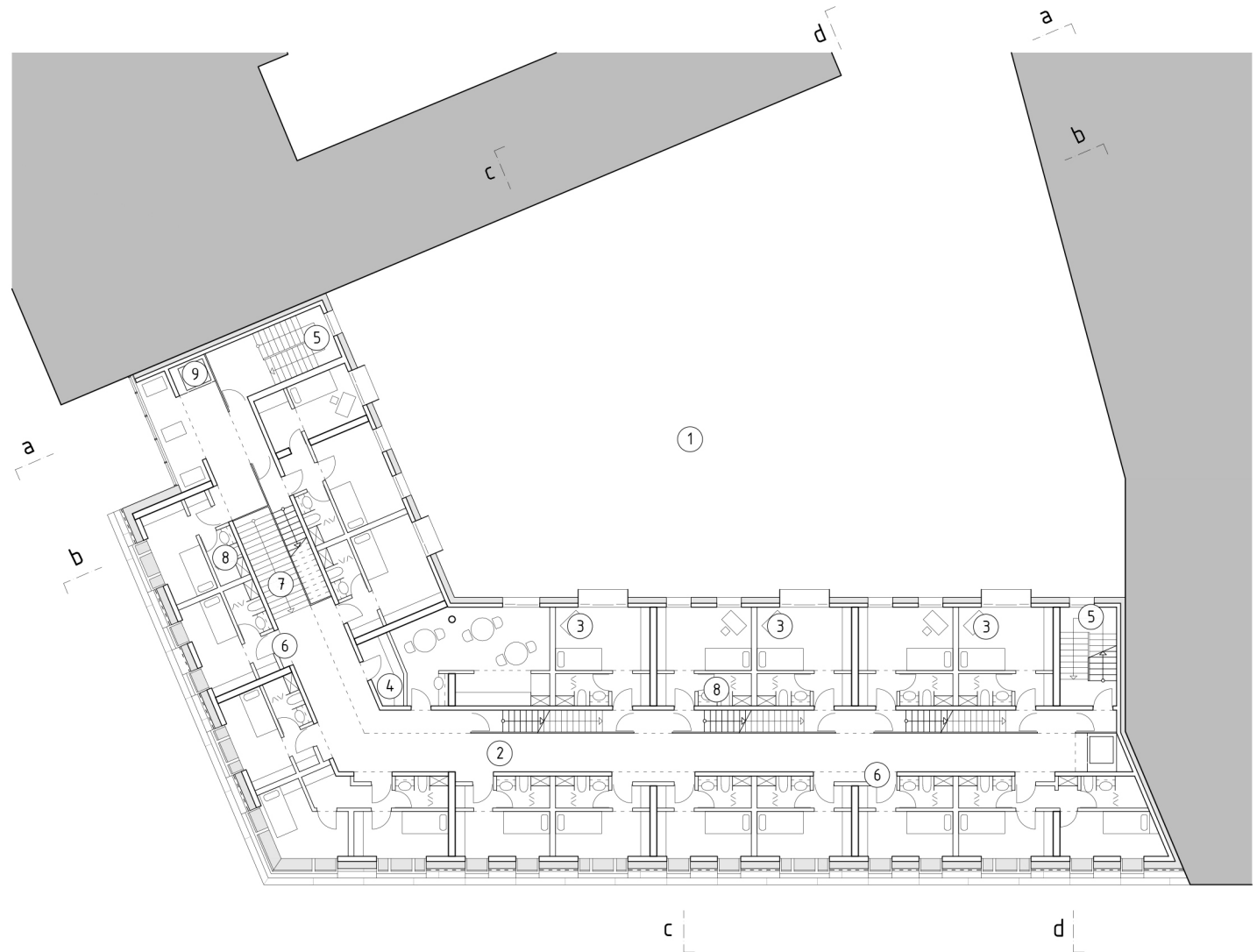
7th FLOOR, PLAN

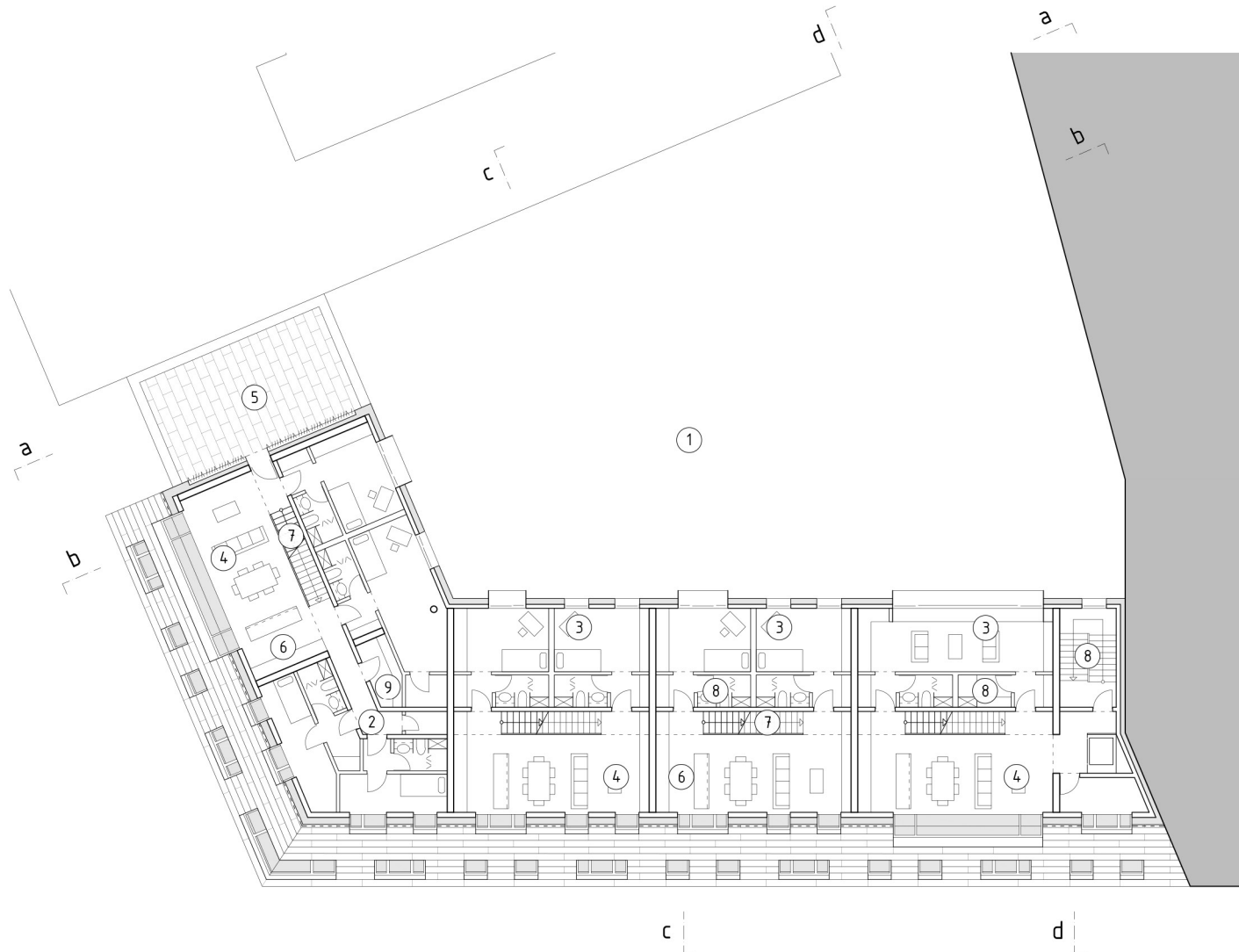


N

SCALE 1:300

- ① courtyard
- ② hallway
- ③ student room
- ④ storage
- ⑤ fire escape
- ⑥ stairs on terrace
- ⑦ stairs
- ⑧ toilette
- ⑨ elevator





PLAN, 8th FLOOR

SCALE 1:300



courtyard

①

hallway

②

student room

③

living room

④

teracce

⑤

kitchen / dining

⑥

stairs

⑦

toilette

⑧

storage

⑨

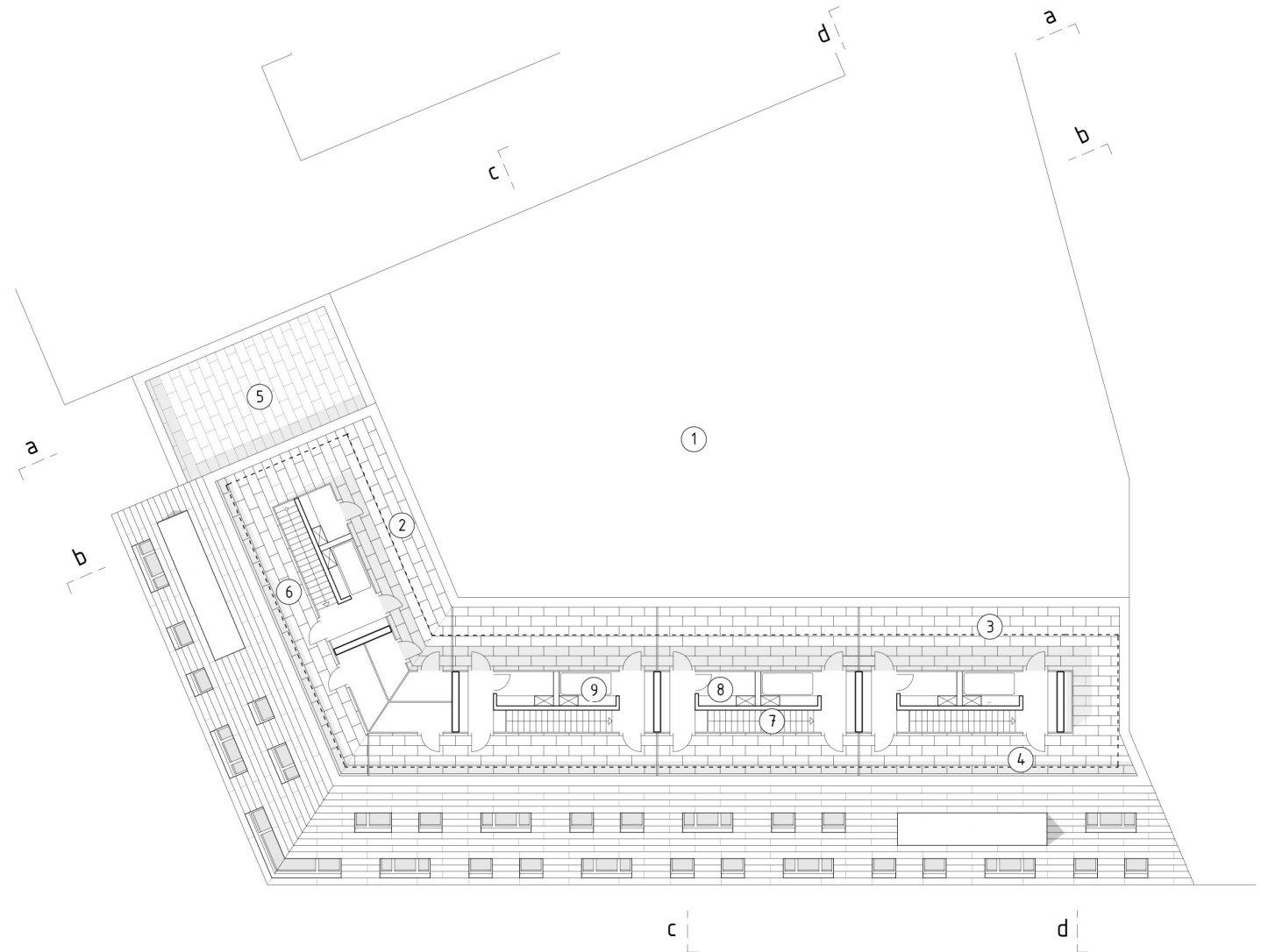
ROOFTOP, PLAN

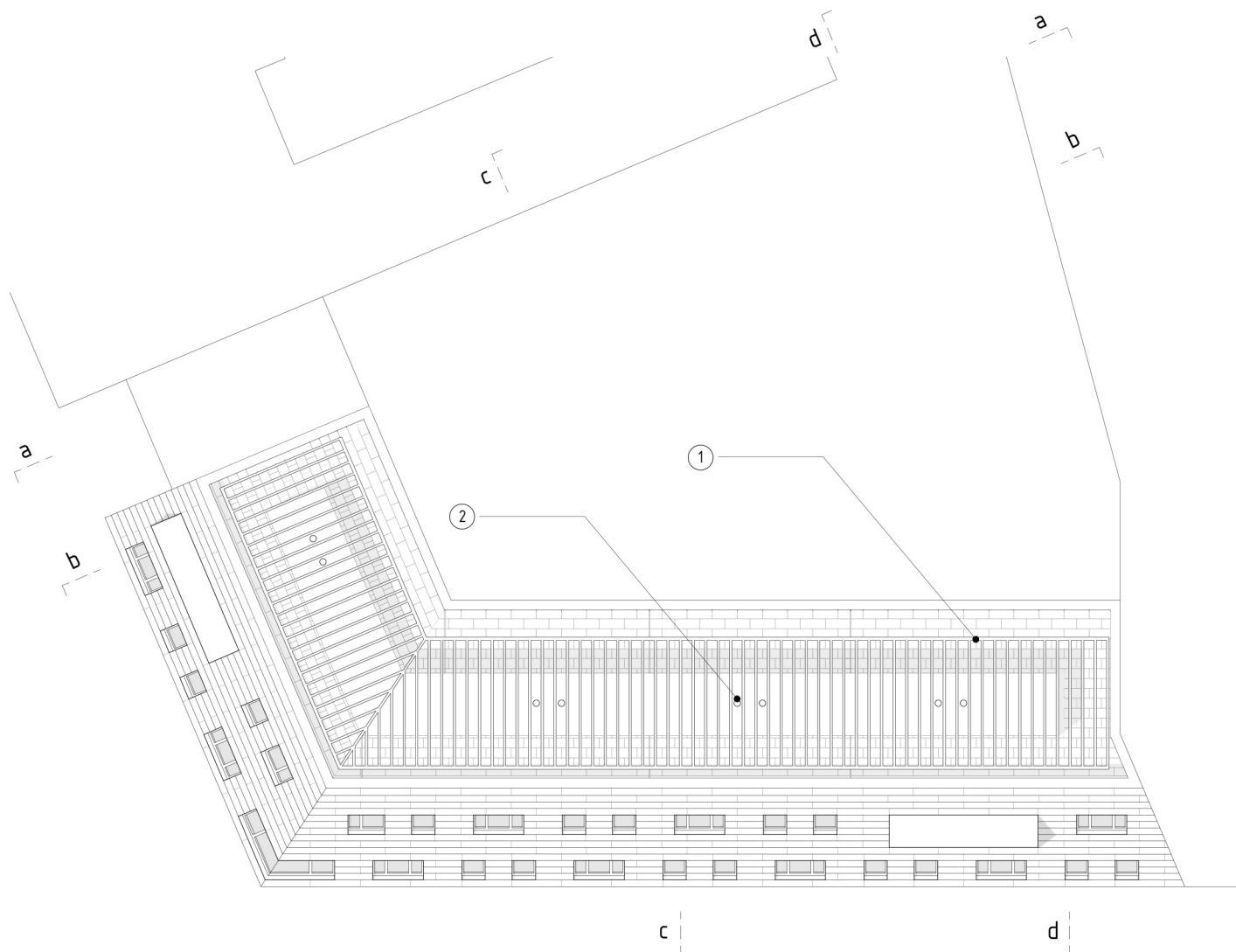


N

SCALE 1:300

- ① courtyard
- ② SE terrace
- ③ NE terrace
- ④ SW terrace
- ⑤ terrace (8th floor)
- ⑥ NW terrace
- ⑦ stairs
- ⑧ storage
- ⑨ jacuzzi





PLAN, ROOFTOP

SCALE 1:300



sunshade

①

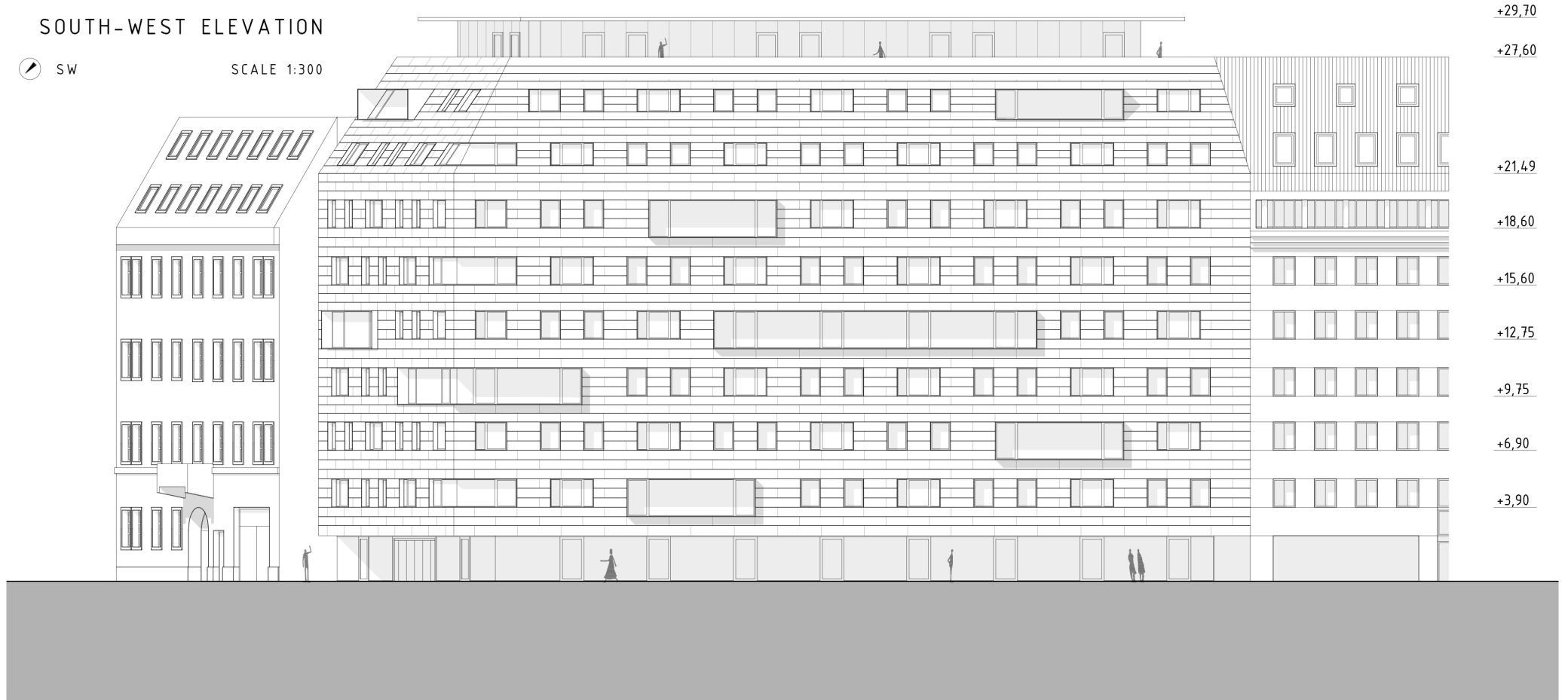
chimney

②

SOUTH-WEST ELEVATION

SW

SCALE 1:300



+29,70

+24,30

+21,73

+18,50

+17,10

+14,70

+12,75

+10,50

+8,40

+5,90

+3,90

+1,62

NORTH-WEST ELEVATION

SCALE 1:300

NW 



SOUTH-EAST ELEVATION



SE

SCALE 1:300



+29,70

+24,45

+21,49

+18,60

+15,60

+12,75

+9,75

+6,90

+3,90

+2,40

NORTH-EAST ELEVATION

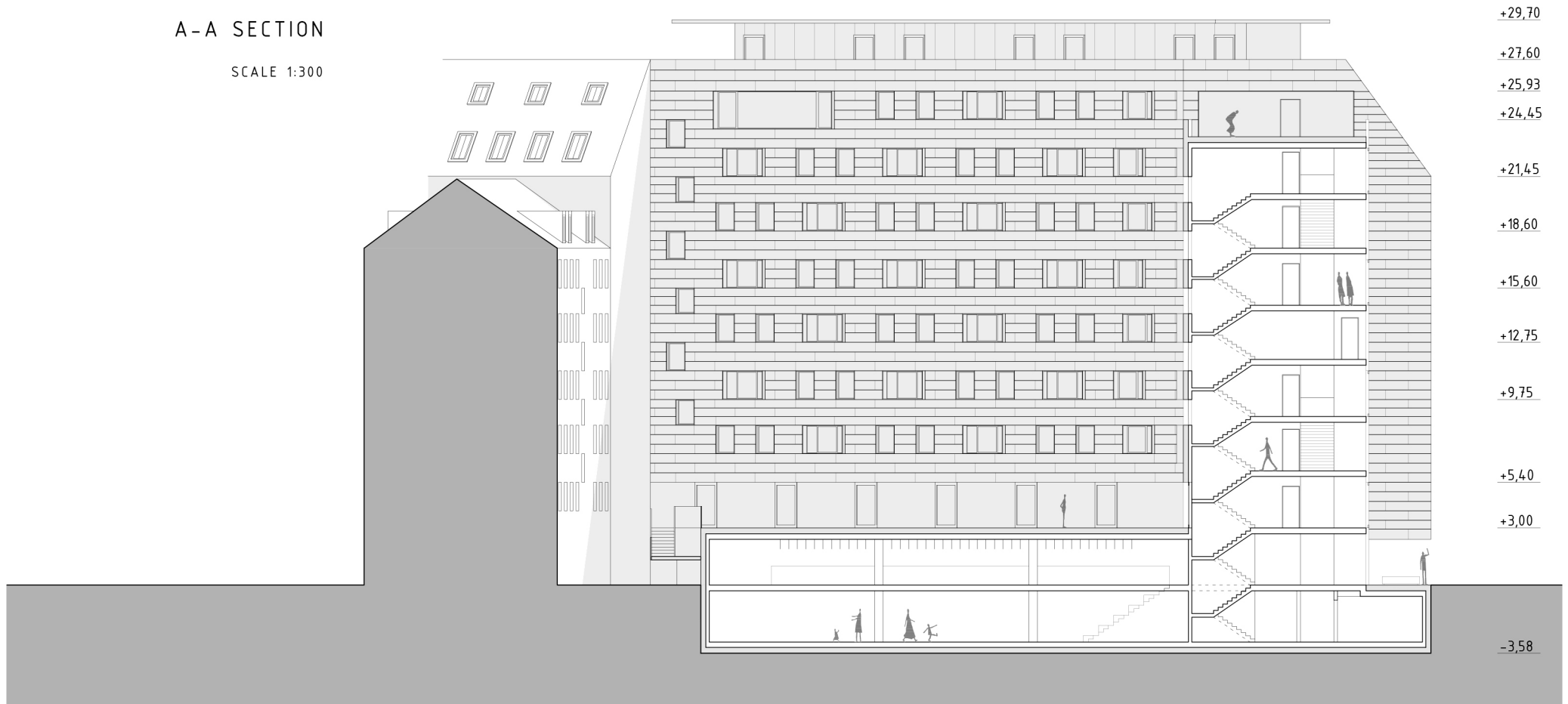
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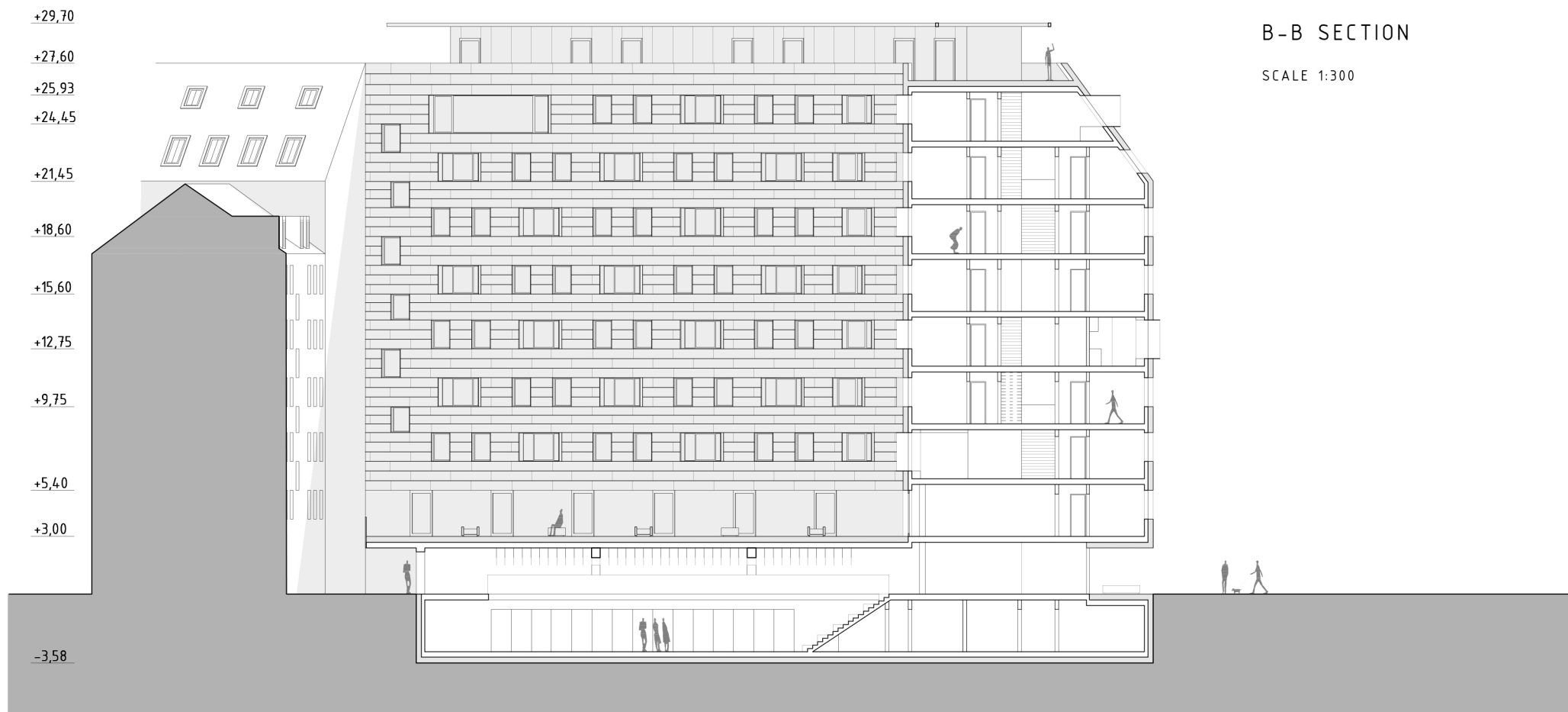
NE 



A-A SECTION

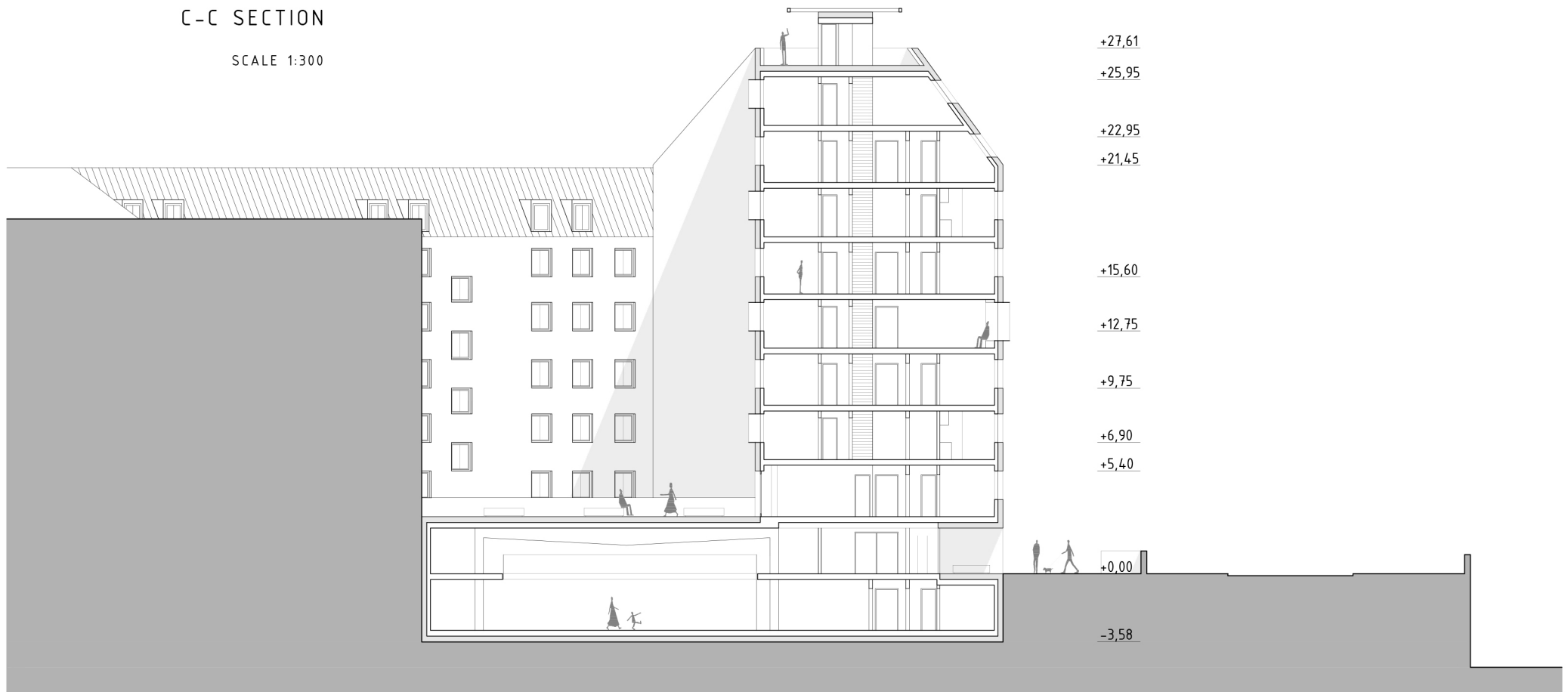
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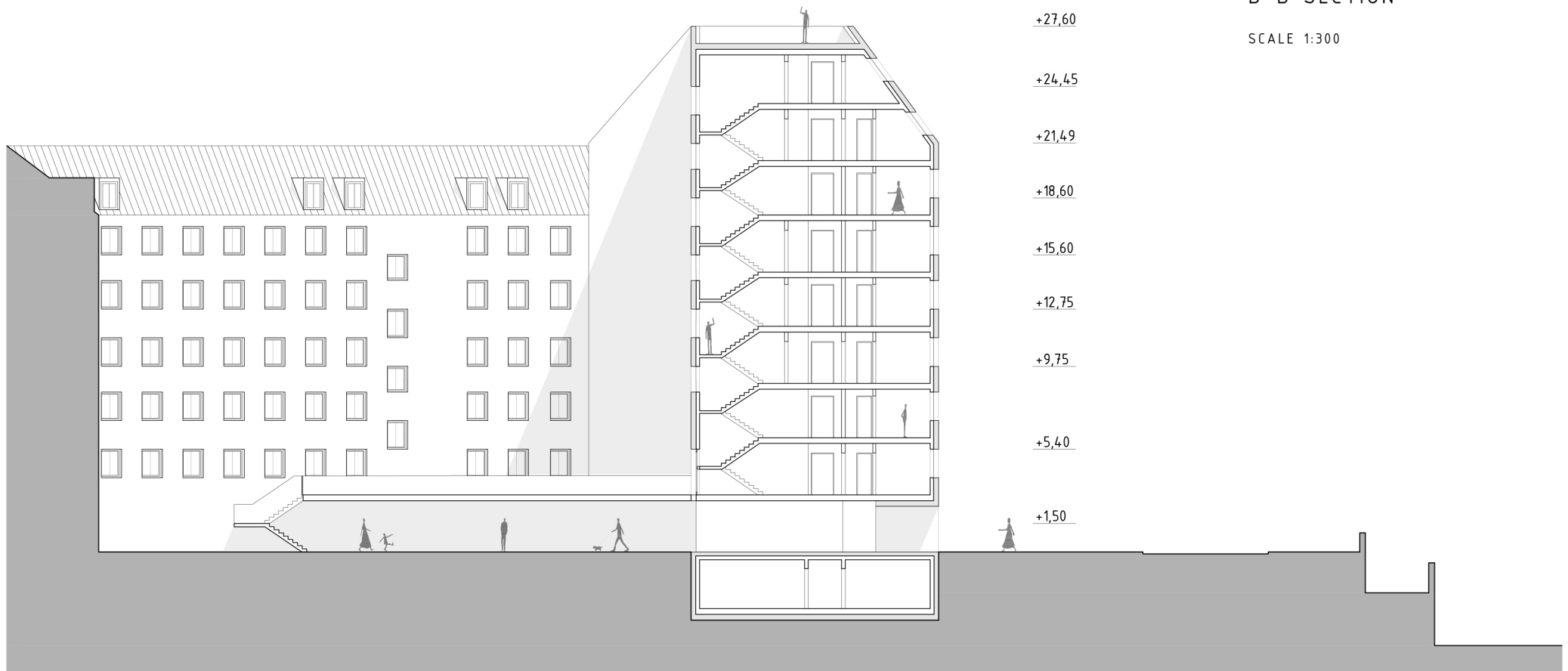




C-C SECTION

SCALE 1:300



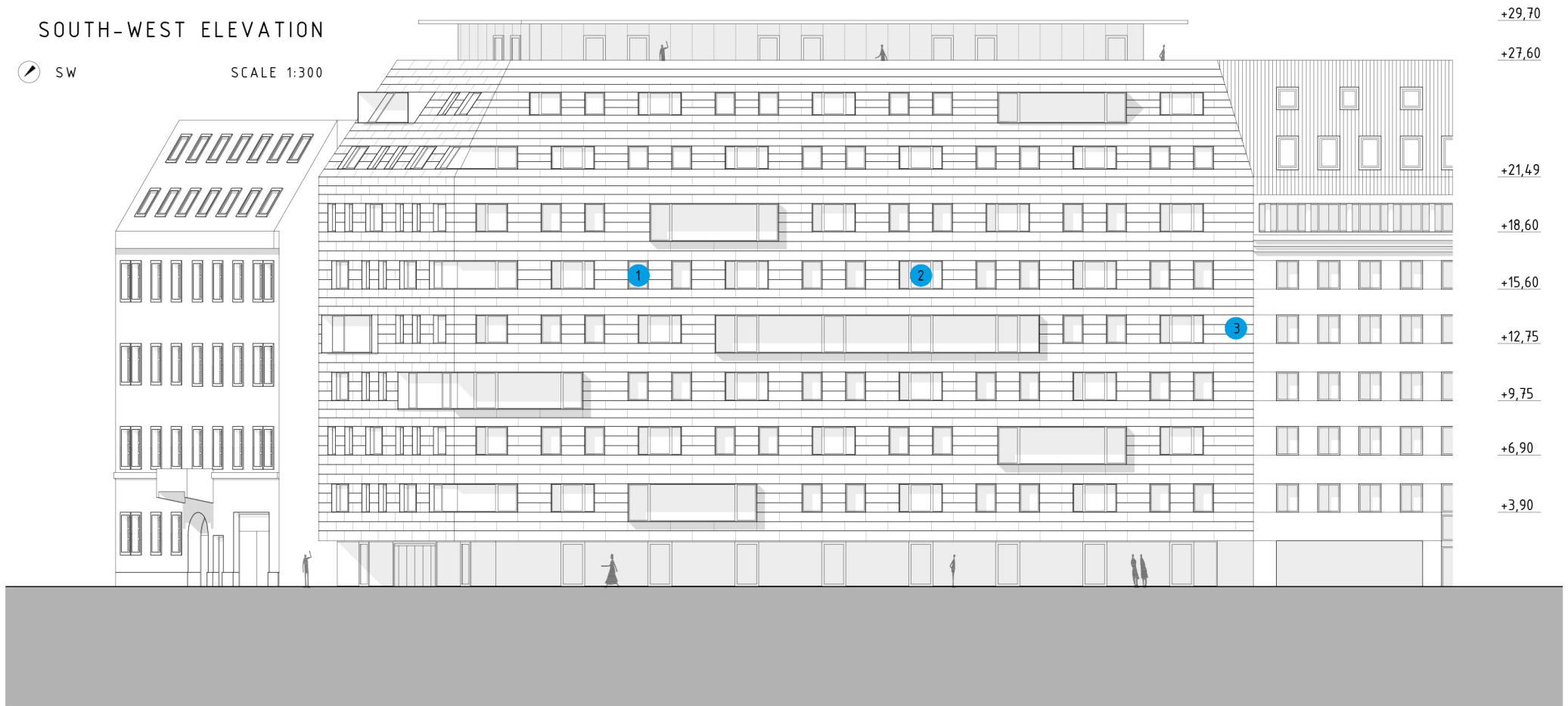


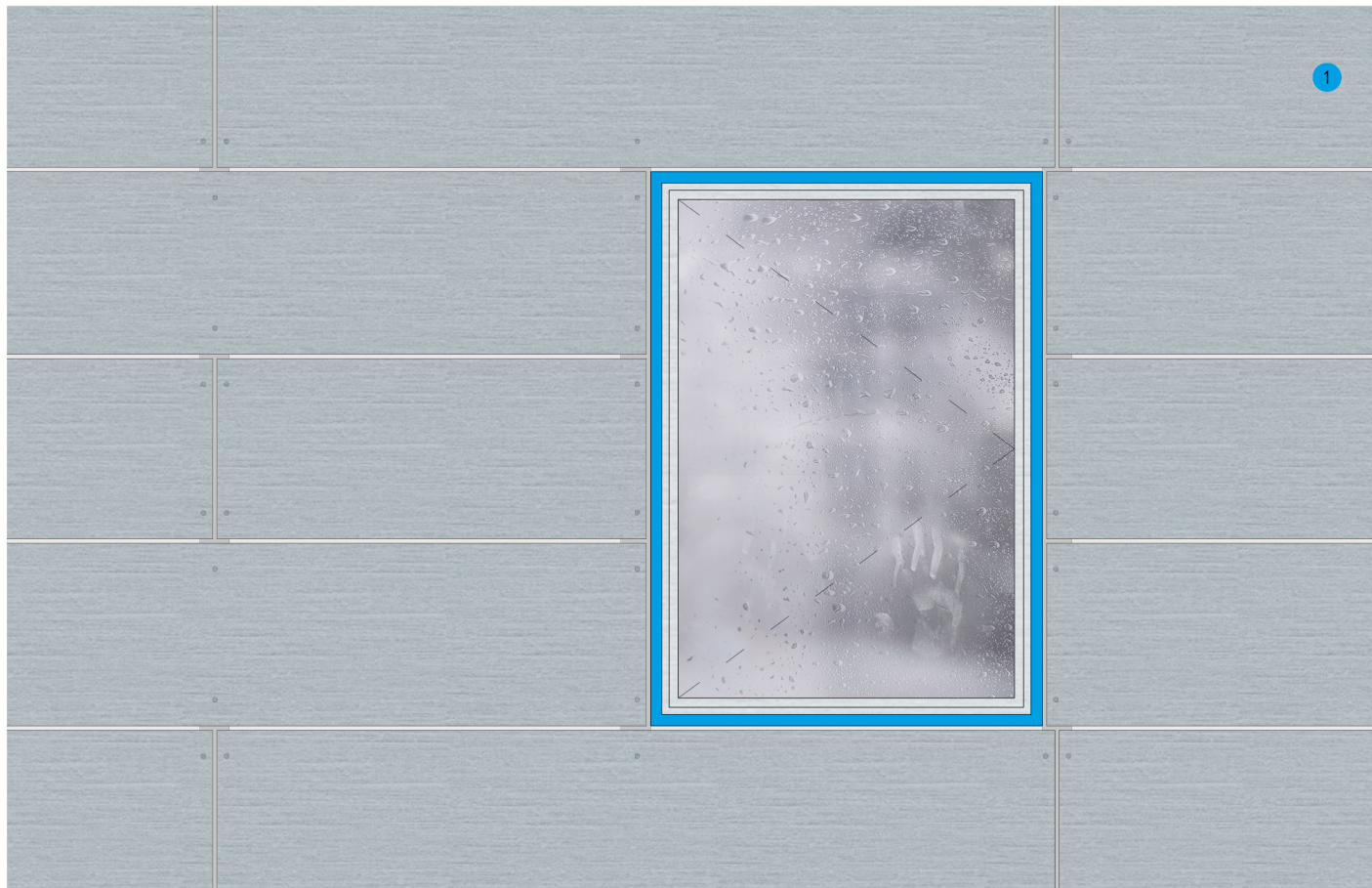
ARCHITECTURAL DETAILS

SOUTH-WEST ELEVATION



SCALE 1:300

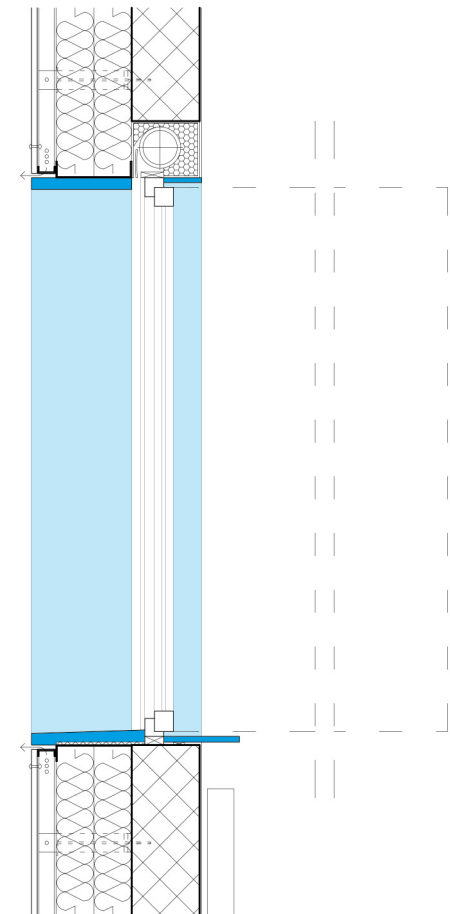




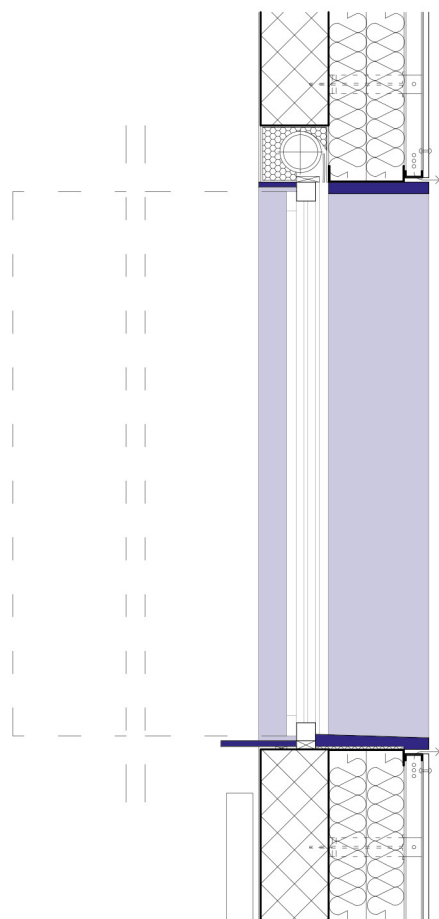
56,3

228

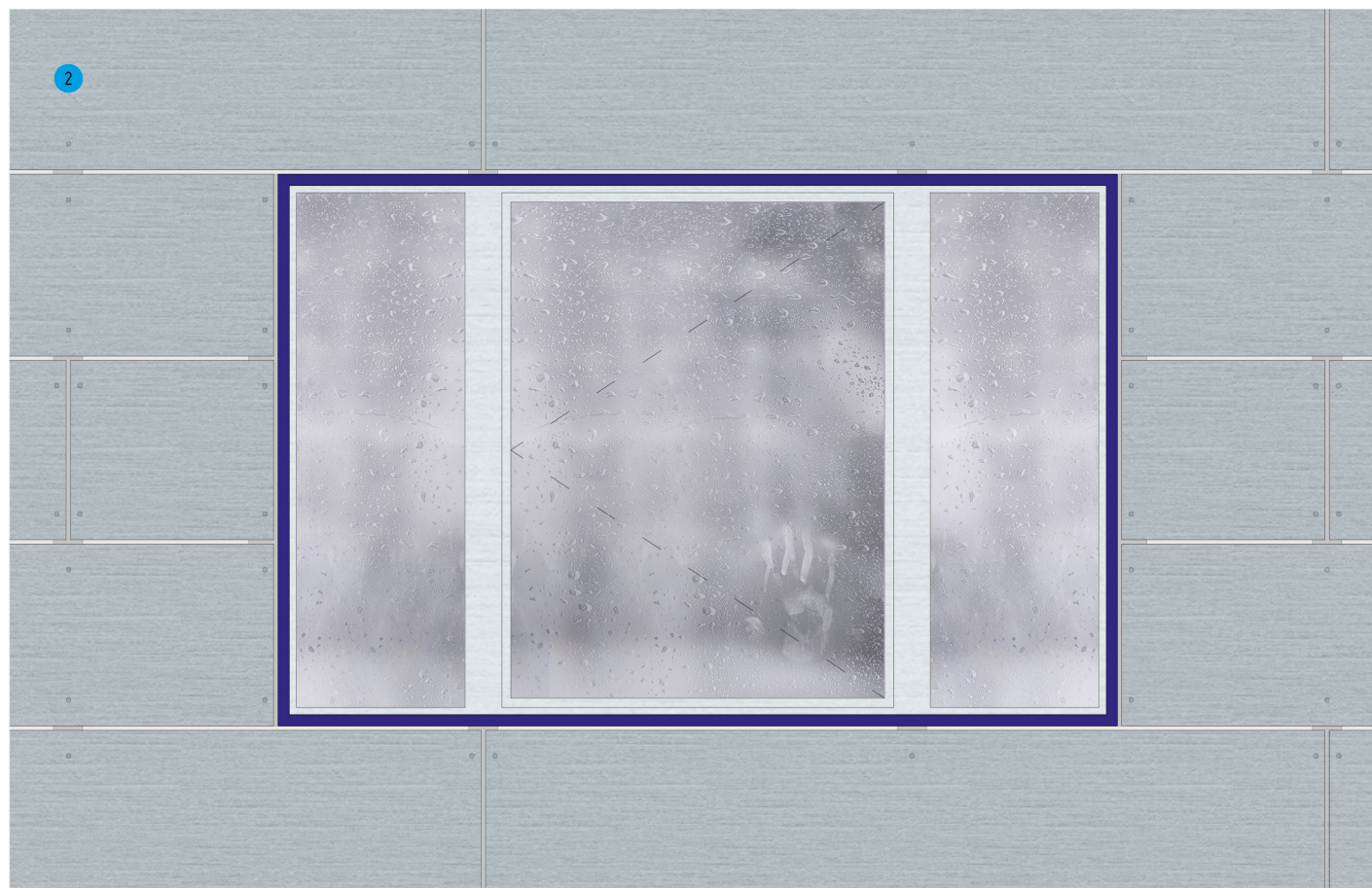
89,7



45



45

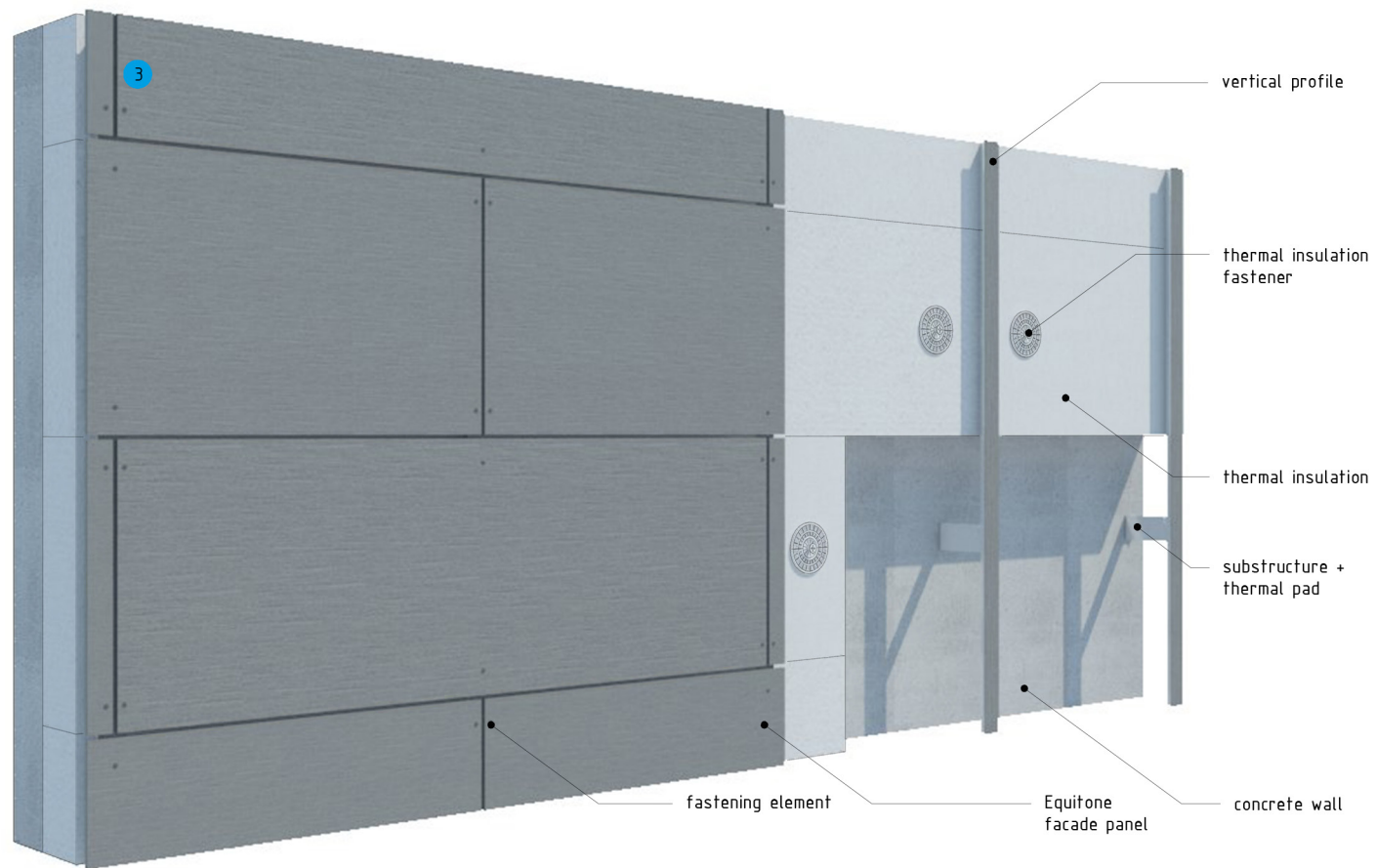


2

128,8

229,2

16,0

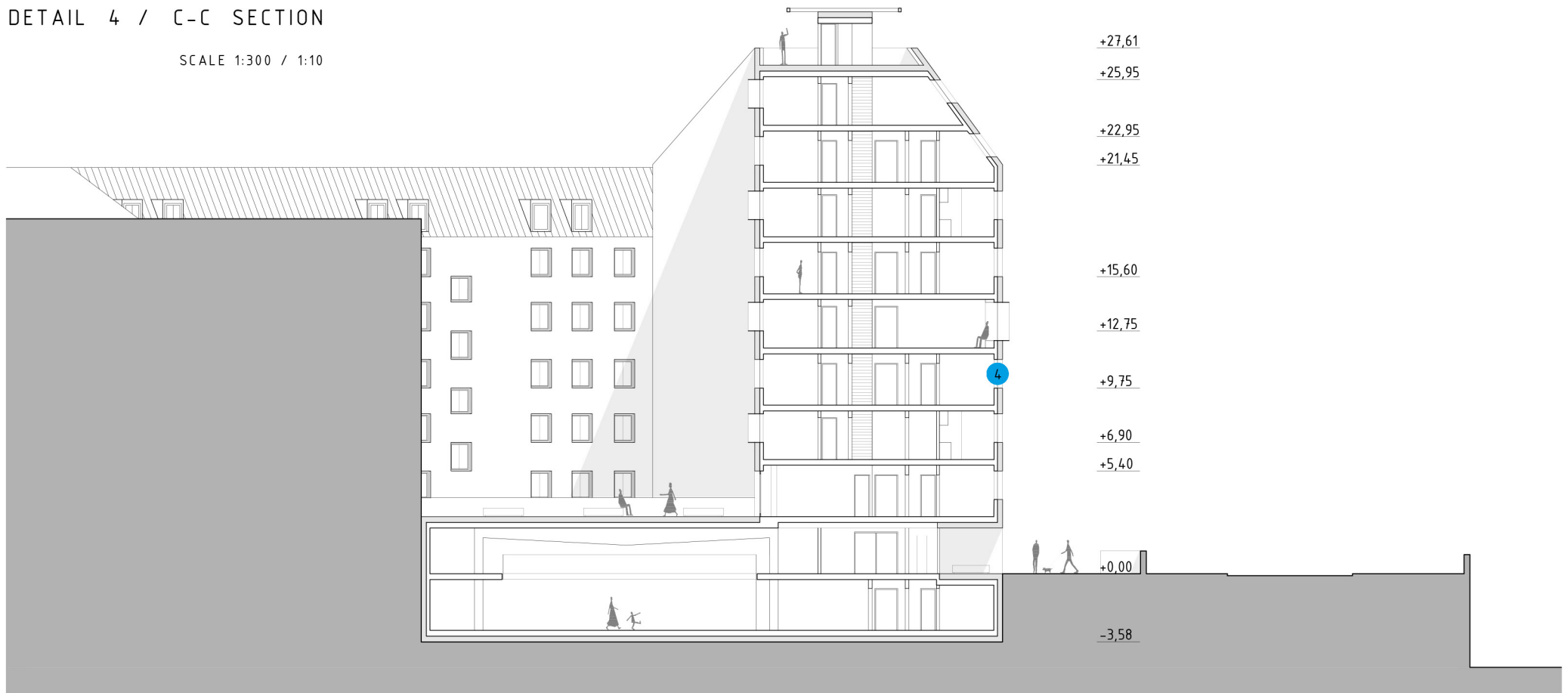


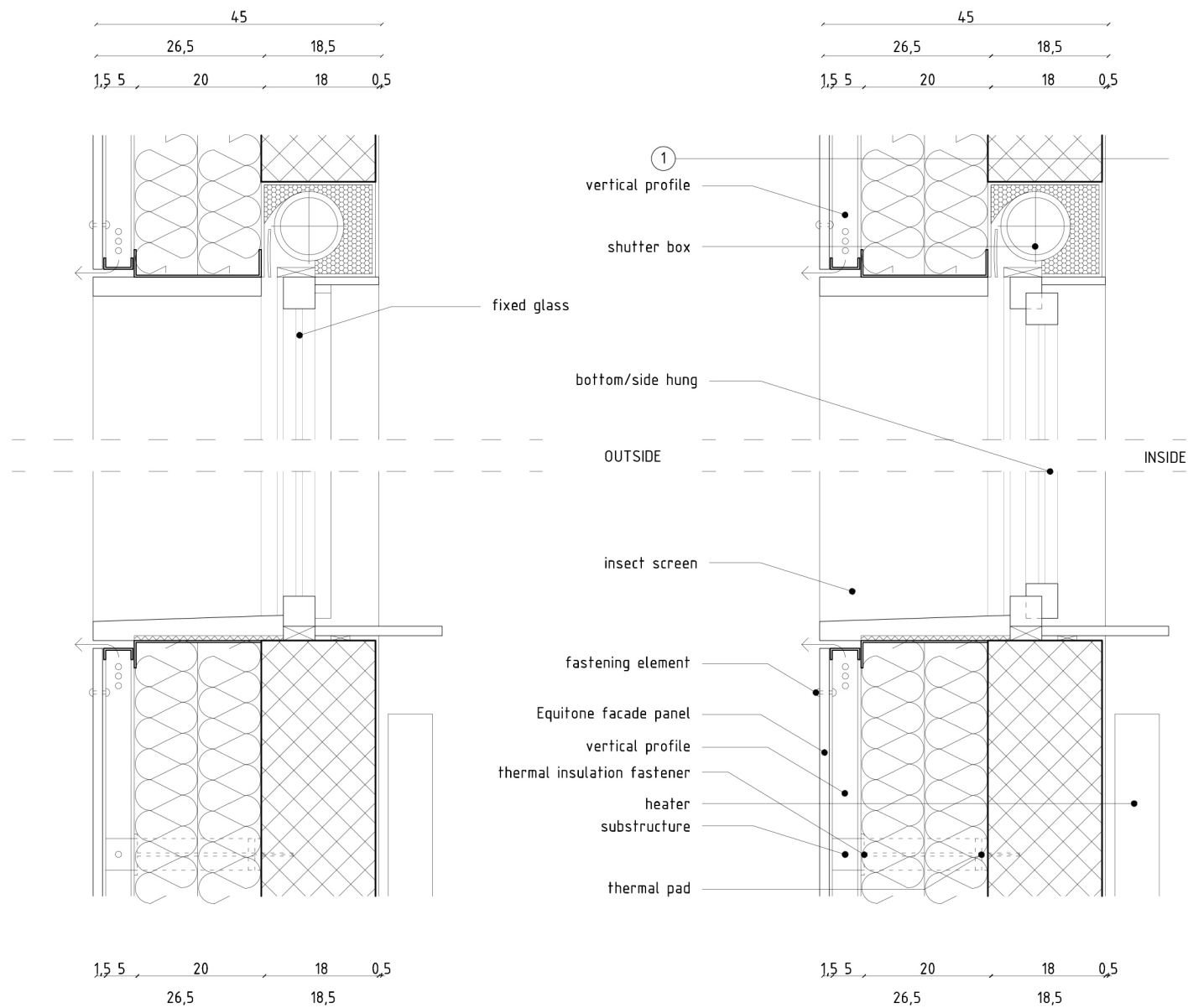
DETAIL 3 / FACADE 3D

SCALE 1:20

DETAIL 4 / C-C SECTION

SCALE 1:300 / 1:10



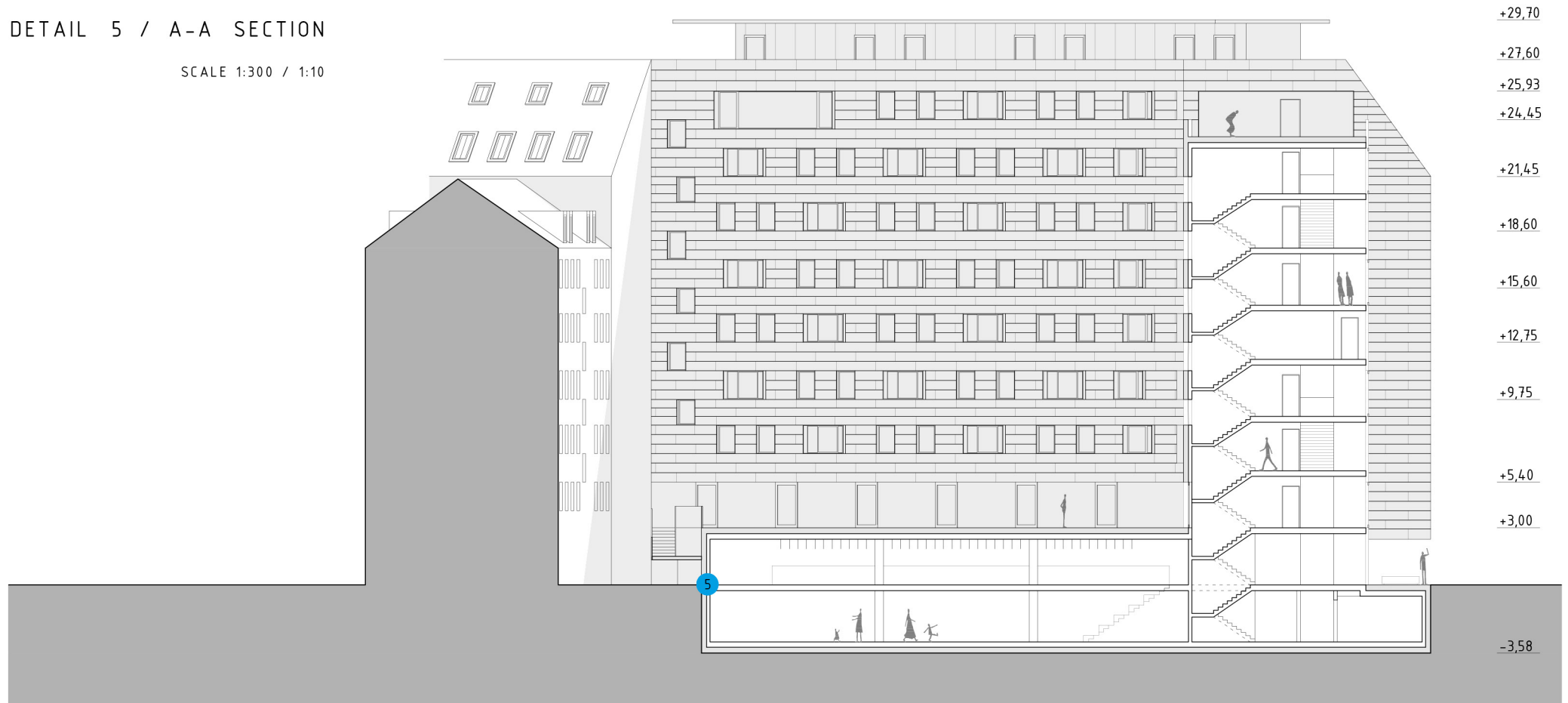


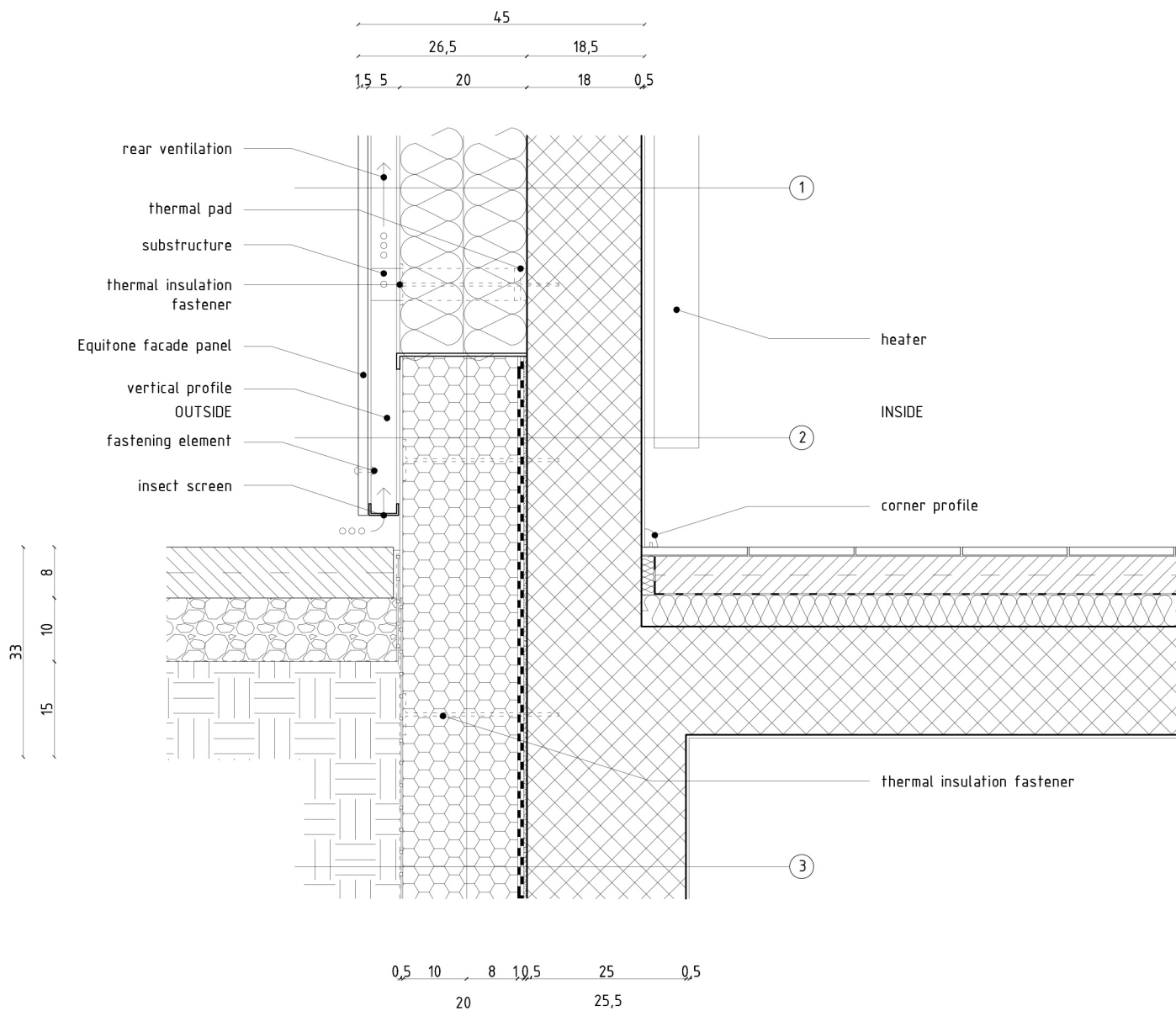
① WALL TO OUTSIDE = 45 cm

plastered wall surface
reinforced concrete wall
thermal insulation 10 + 10 (MW)
rear ventilation
Equitone facade panel

DETAIL 5 / A-A SECTION

SCALE 1:300 / 1:10





① WALL TO OUTSIDE = 45 cm

plastered wall surface
reinforced concrete wall
thermal insulation 10 + 10 (MW)
rear ventilation
Equitone facade panel

② WALL TO OUTSIDE - SOCLE = 45cm

plastered wall surface
reinforced concrete wall
layer for application of tanking slurry
2 coats of elasticized tanking slurry
thermal insulation 10 + 8 (XPS)
polymer - cement plaster
rear ventilation
Equitone facade panel

③ BASEMENT WALL = 38,5 cm

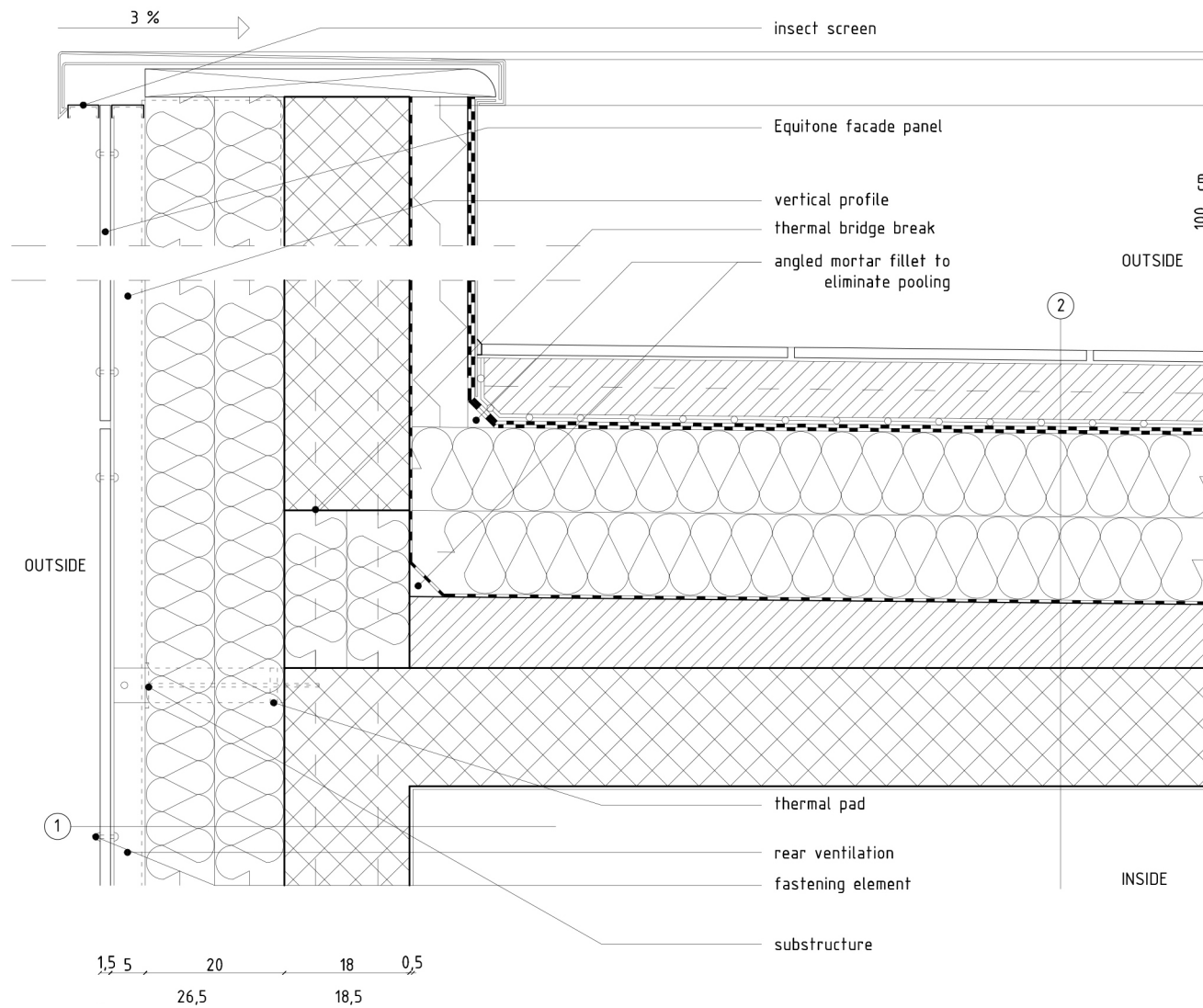
plastered wall surface
reinforced concrete wall
layer for application of tanking slurry
2 coats of elasticized tanking slurry
thermal insulation 10 + 8 (XPS)
studded membrane with geo textile
layer to prevent blockage
earth

0,5 17 5,1 5,9 1,5
17,5 12,5
30

DETAIL 6 / A-A SECTION

SCALE 1:300 / 1:10





① WALL TO OUTSIDE = 45 cm

plastered wall surface
reinforced concrete wall
thermal insulation 10 + 10 (MW)
rear ventilation
Equitone facade panel

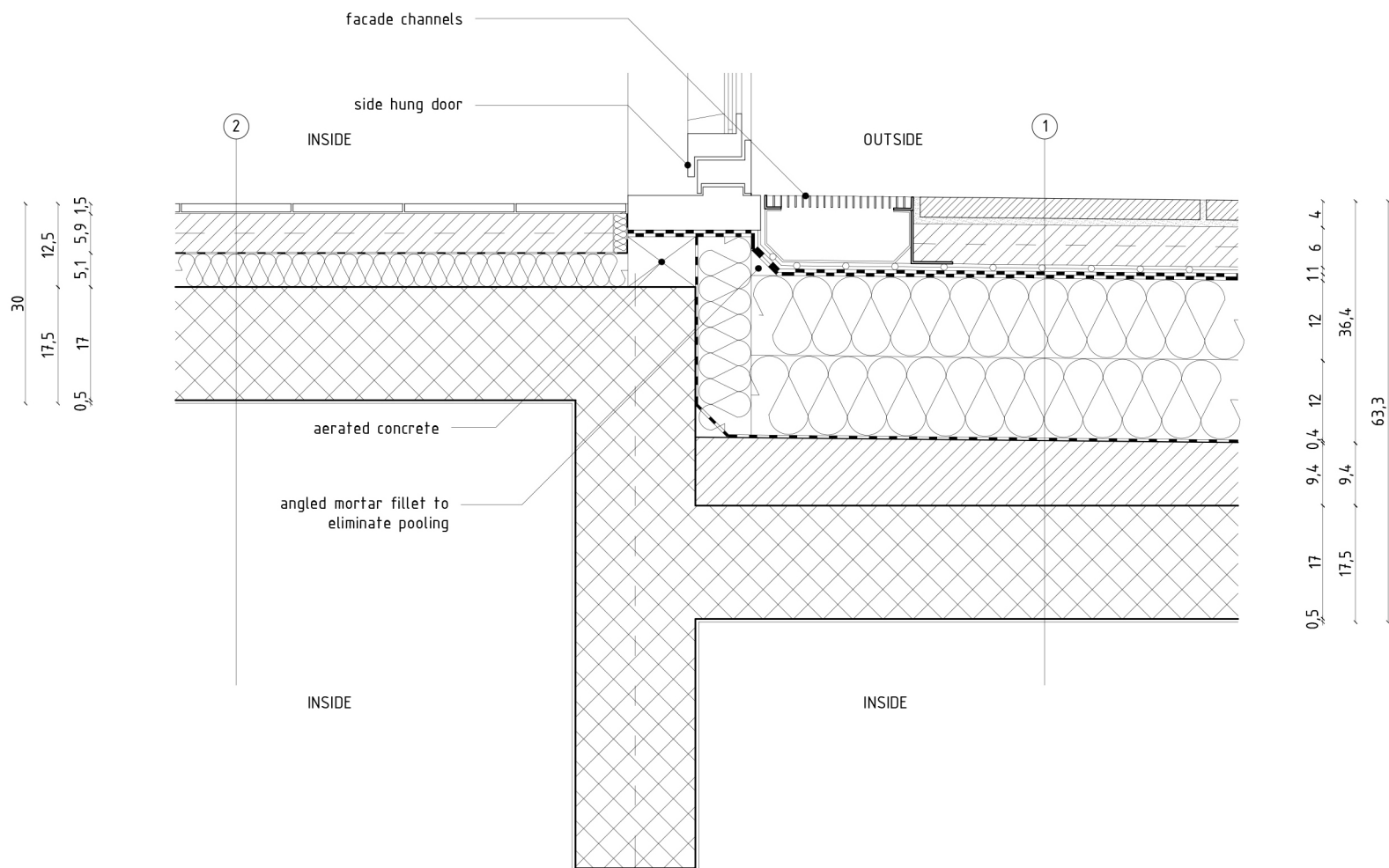
② ROOF = 62,8 cm

ceramic tiles + glue
reinforced screed
drainage layer
2 coats of bitumen
thermal insulation EPS 2 x 12
separating PE layer
incline layer 2 %
reinforced concrete slab
ceiling plaster

DETAIL 7 / A-A SECTION

SCALE 1:300 / 1:10





① TERRACE / PORCH = 61 cm

stone tiles + mortar
reinforced screed
drainage layer
2 coats of bitumen
thermal insulation EPS 2 x 12
separating PE layer
incline layer 2 %
reinforced concrete slab
ceiling plaster

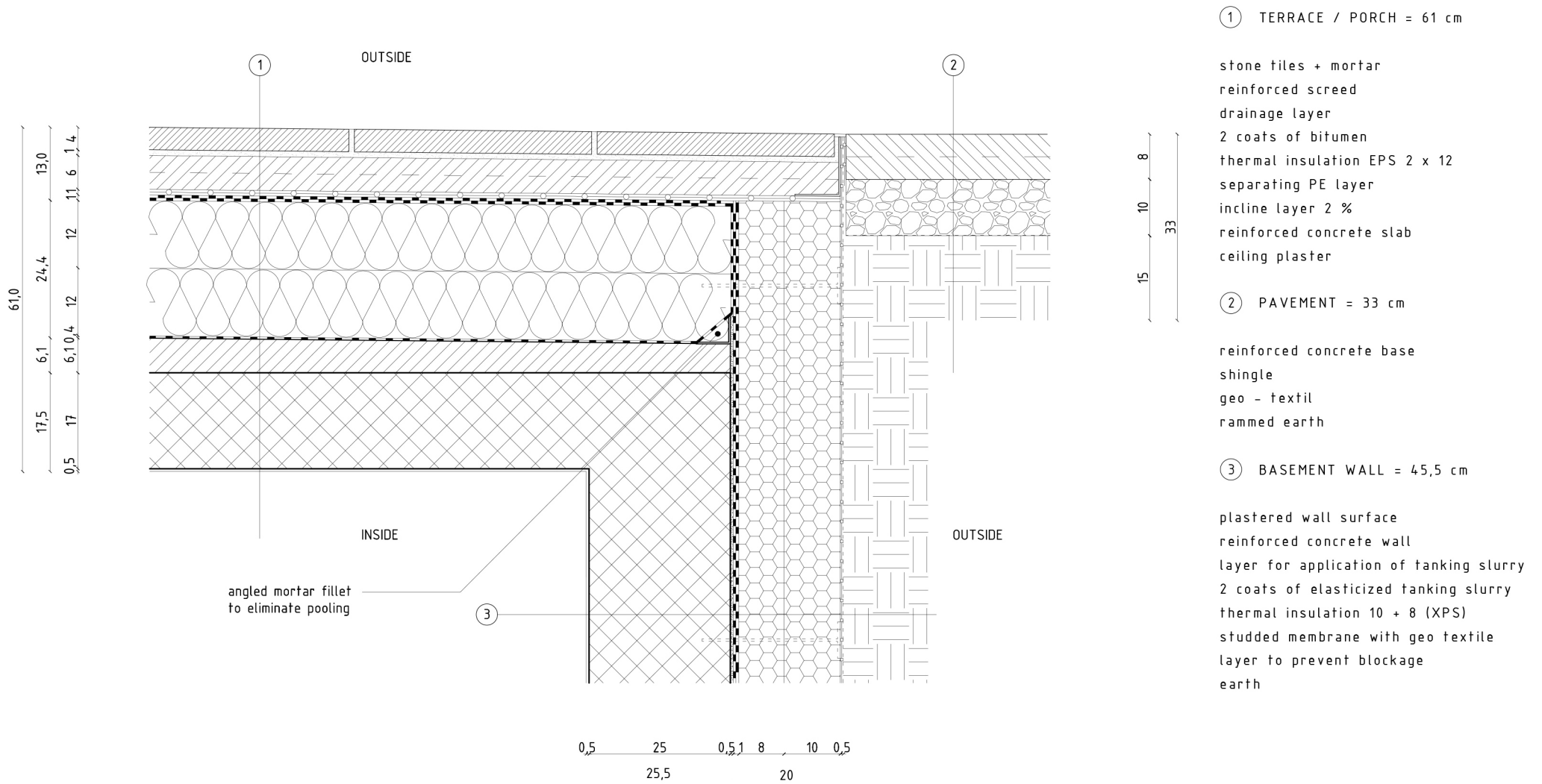
② INTERMEDIATE FLOOR = 30 cm

ceramic tiles
reinforced screed
separating PVC layer
thermal insulation
reinforced concrete slab
ceiling plaster

DETAIL 8 / A-A SECTION

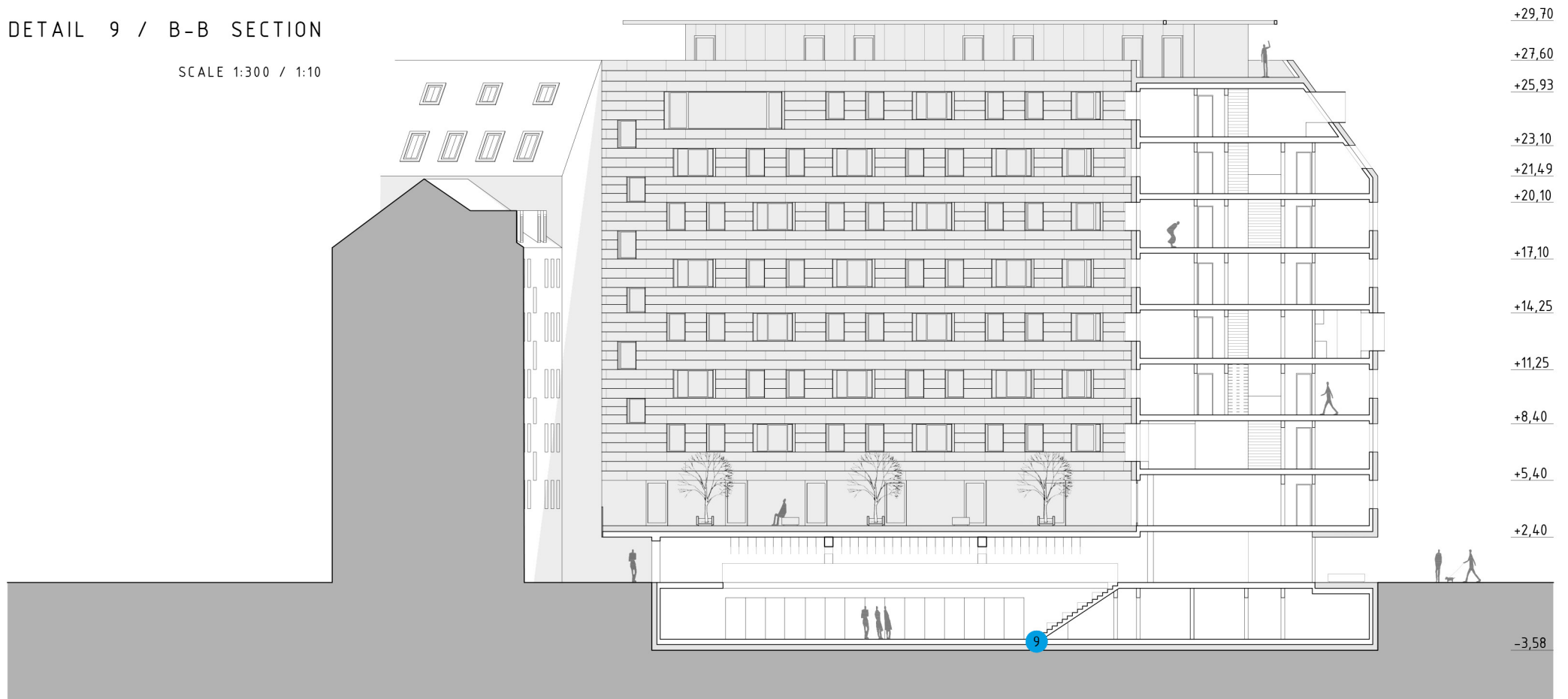
SCALE 1:300 / 1:10

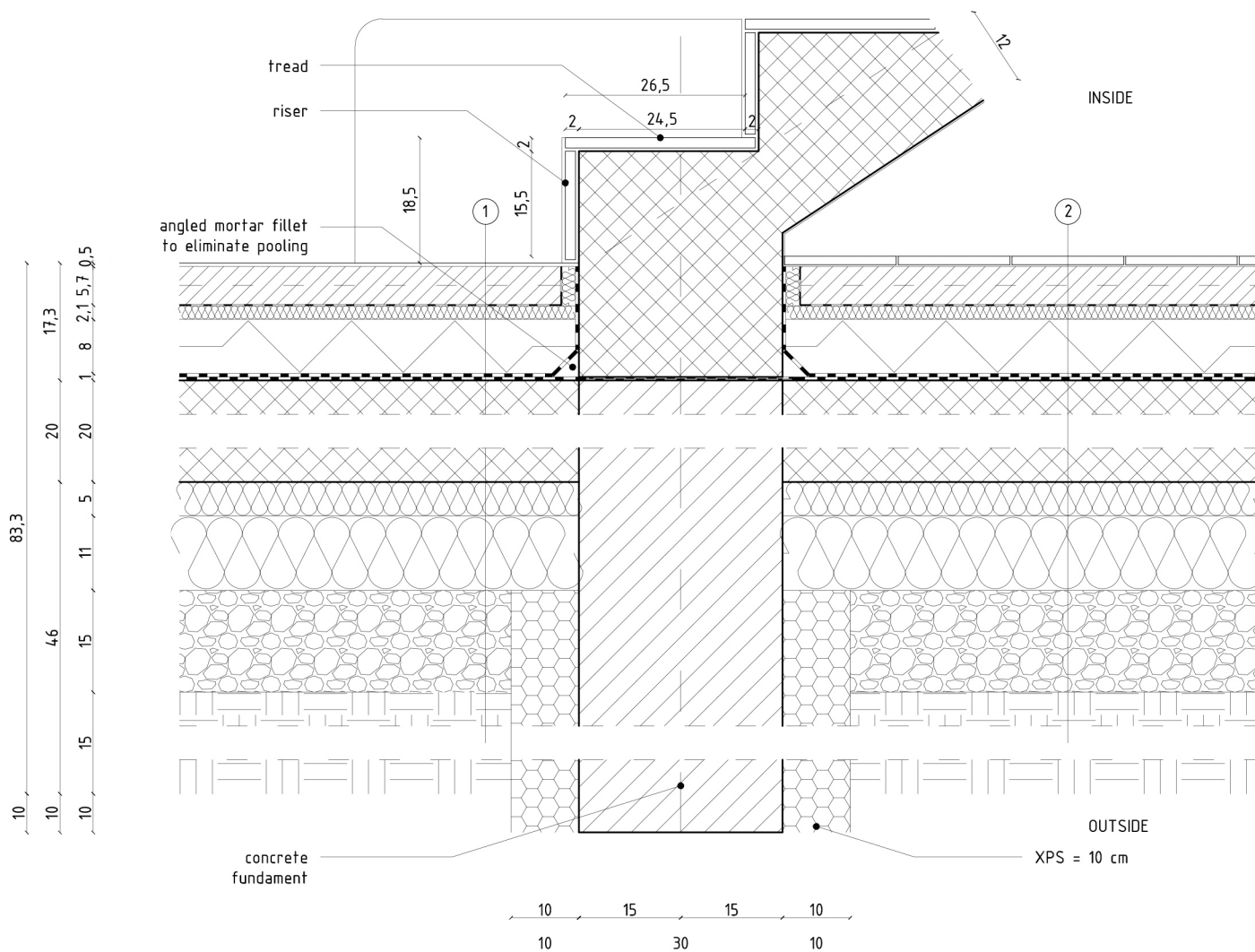




DETAIL 9 / B-B SECTION

SCALE 1:300 / 1:10





① BASEMENT FLOOR = 83,3 cm

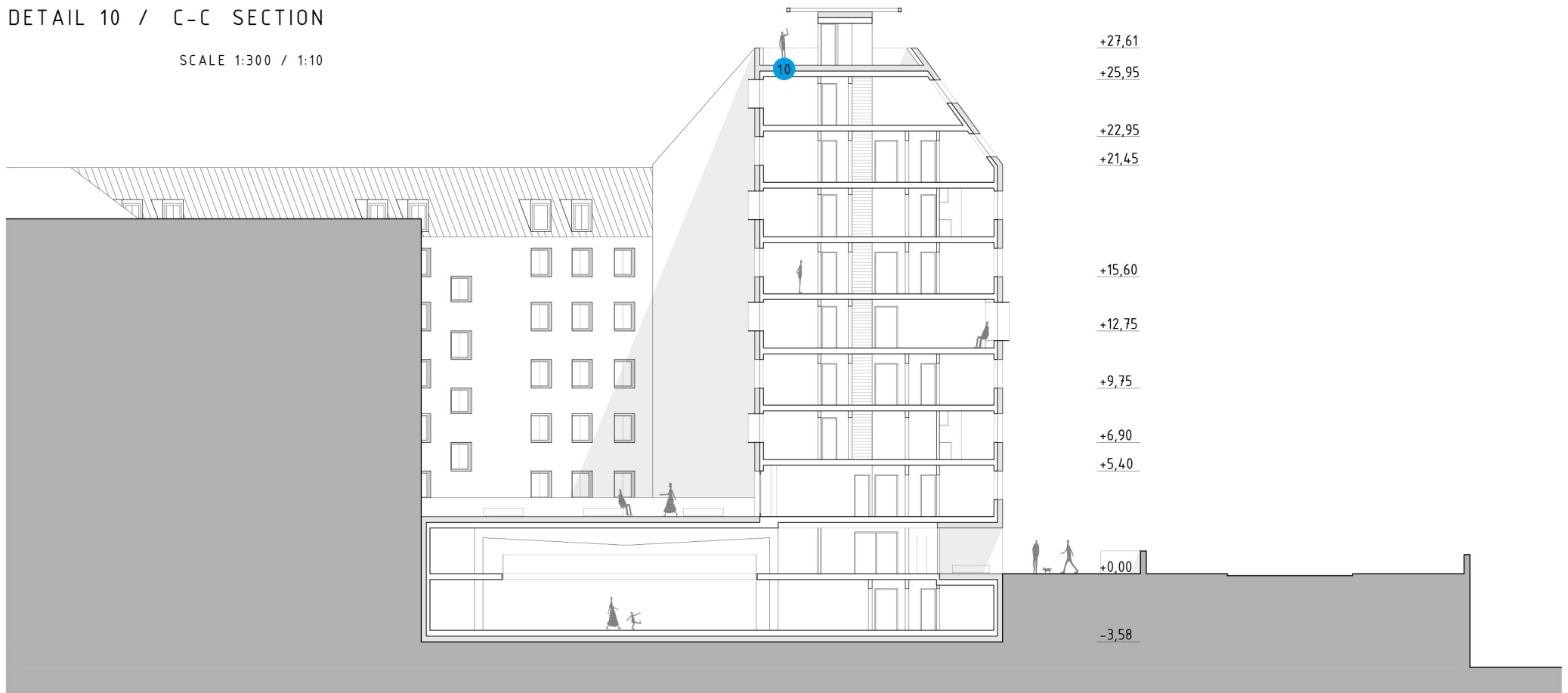
PUR
reinforced screed
separating PE layer
soundproof insulation
MW thermal insulation
2 coats of bitumen
reinforced concrete slab
thermal insulation XPS 5 + 11
rammed shingle
rammed earth

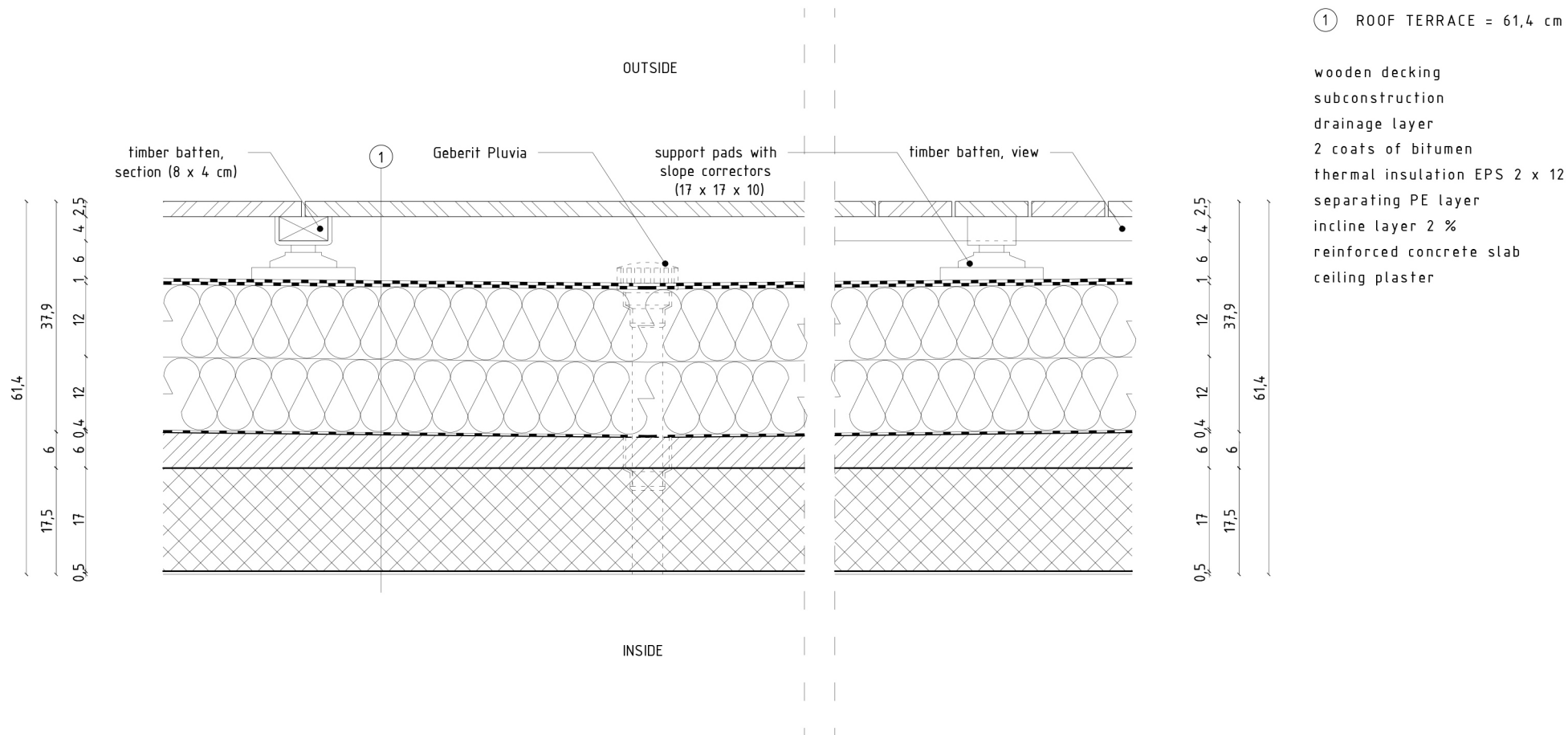
② BASEMENT FLOOR = 84,3 cm

ceramic tiles
reinforced screed
separating PE layer
soundproof insulation
MW thermal insulation
2 coats of bitumen
reinforced concrete slab
thermal insulation XPS 5 + 11
rammed shingle
rammed earth

DETAIL 10 / C-C SECTION

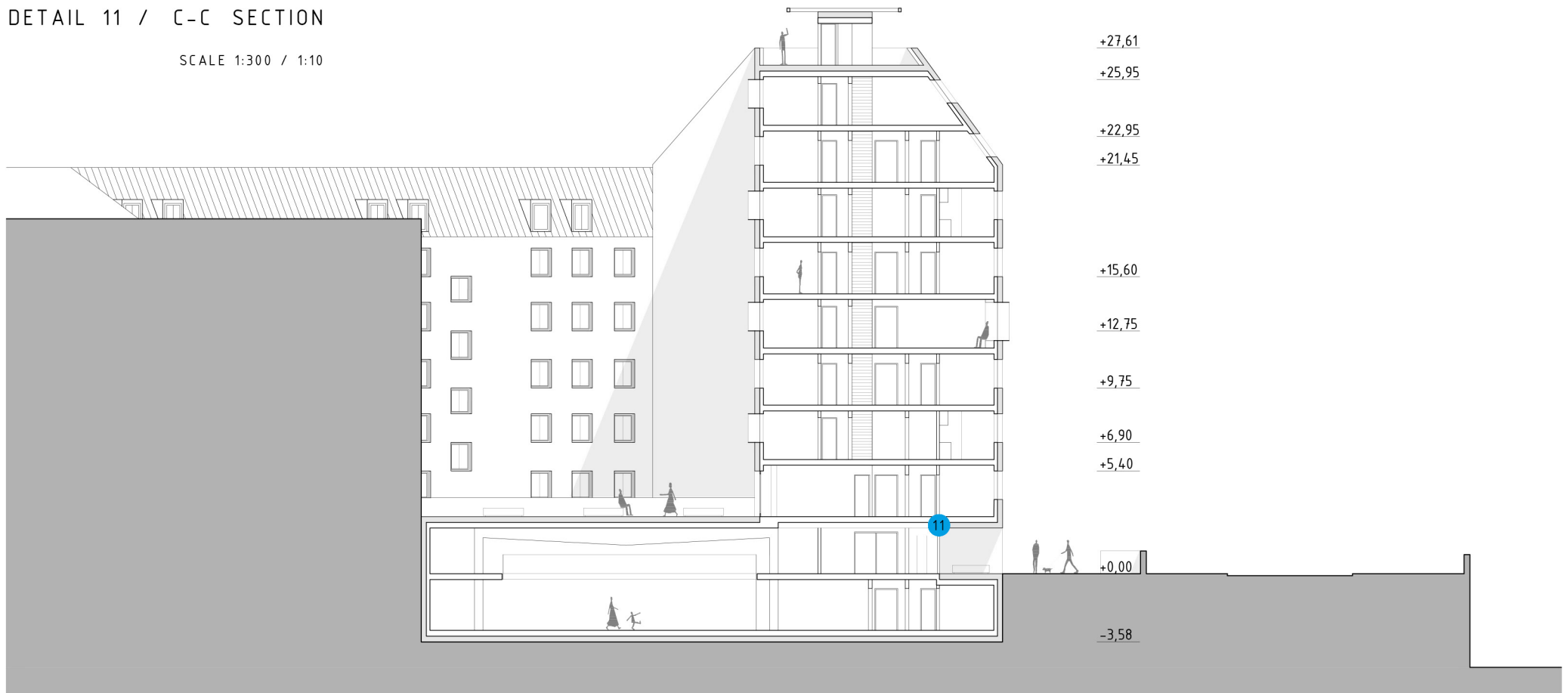
SCALE 1:300 / 1:10

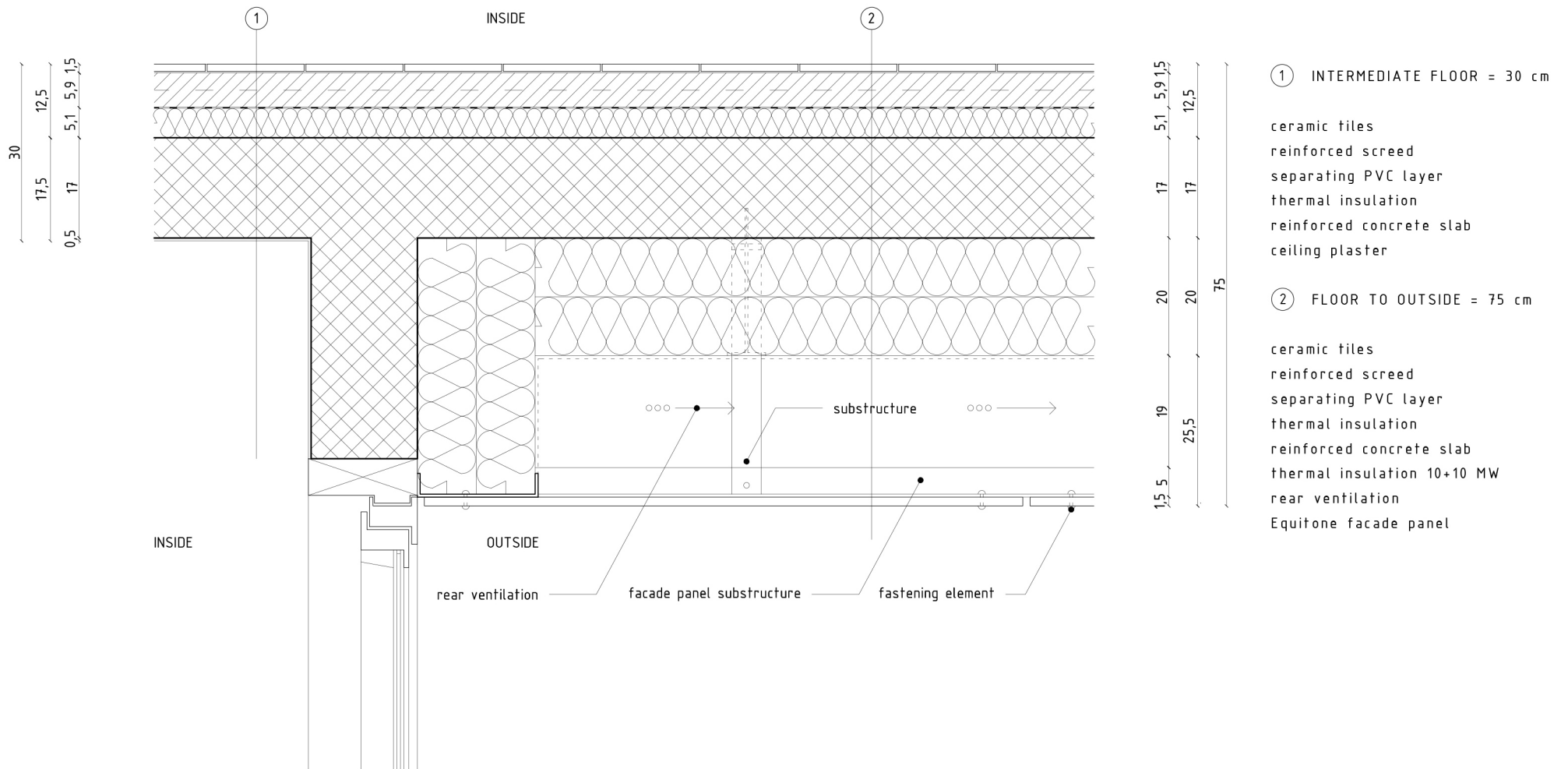




DETAIL 11 / C-C SECTION

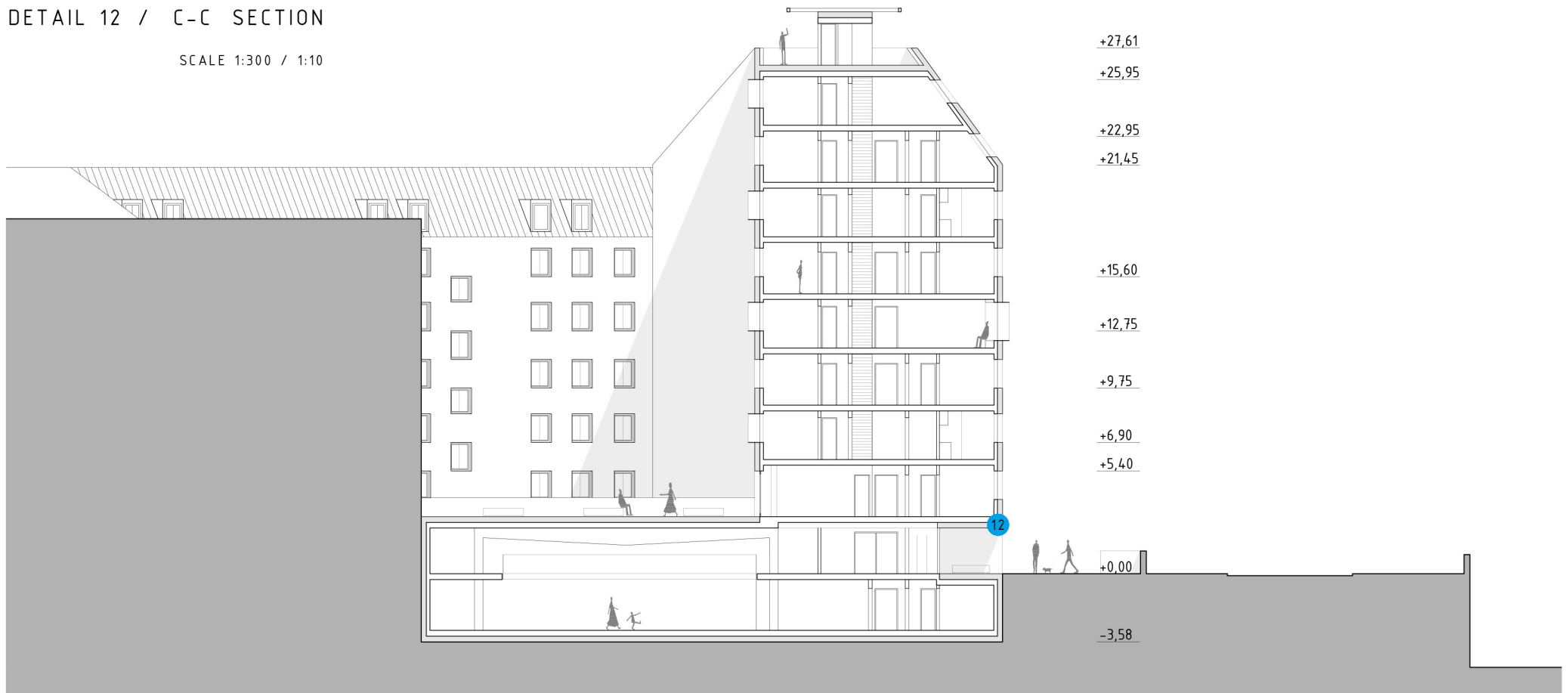
SCALE 1:300 / 1:10

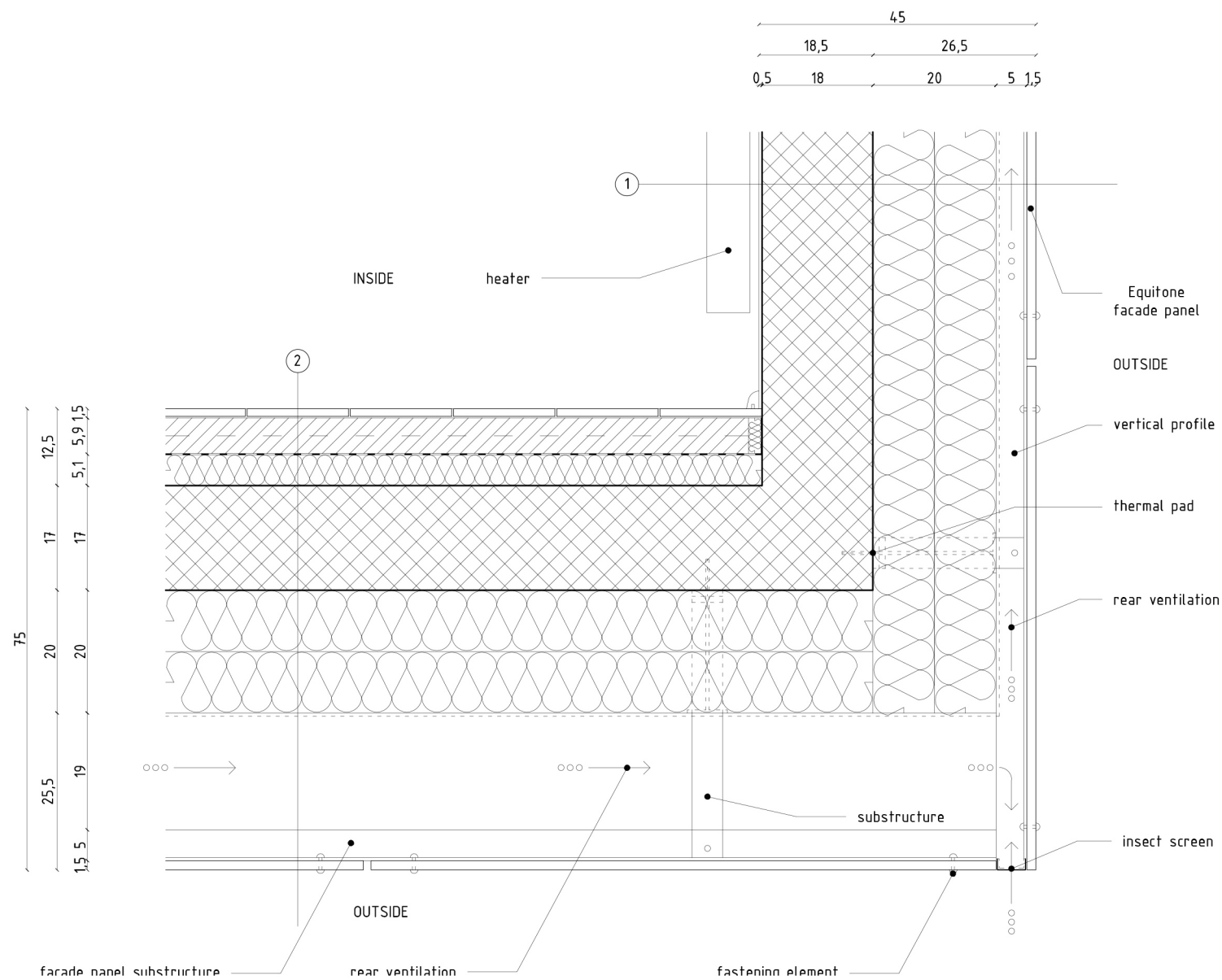




DETAIL 12 / C-C SECTION

SCALE 1:300 / 1:10





① WALL TO OUTSIDE = 45 cm

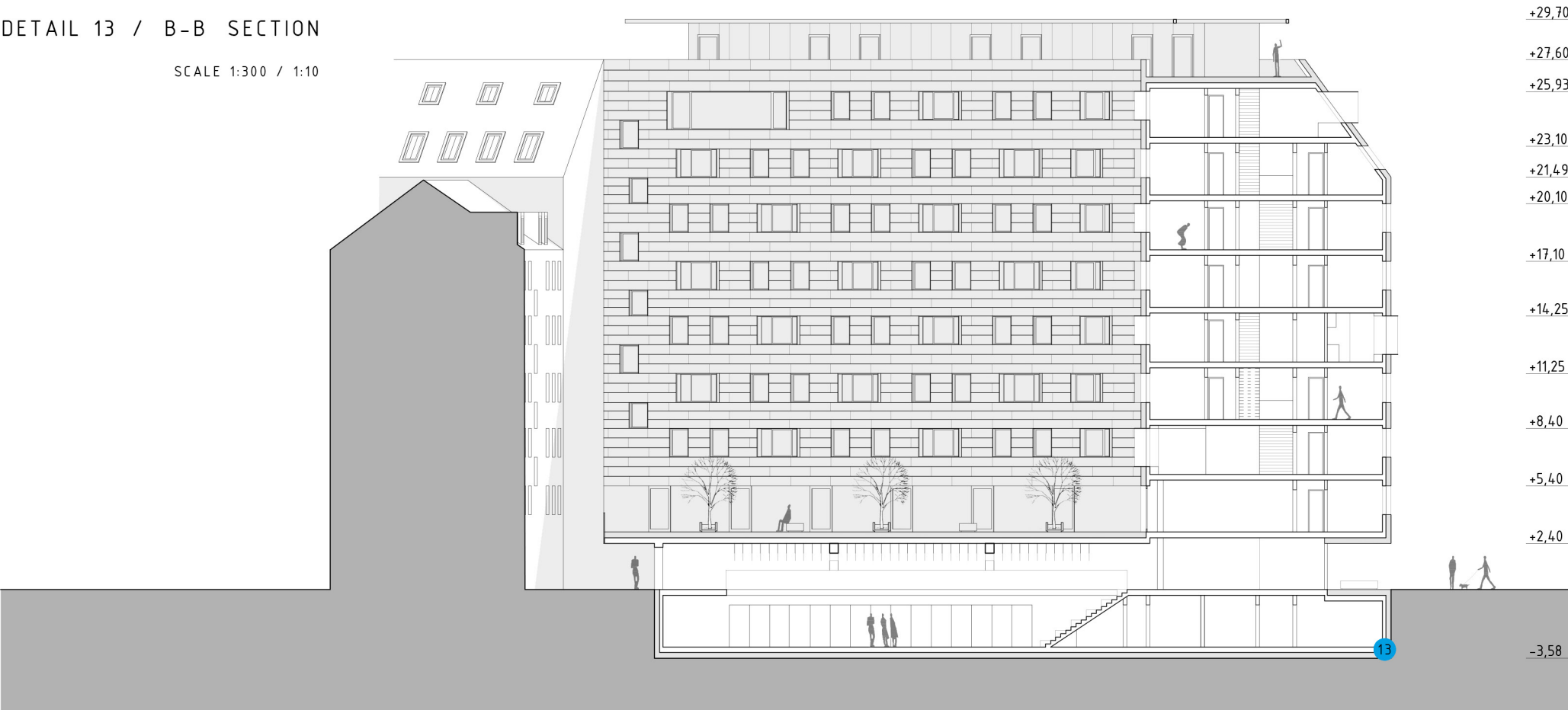
plastered wall surface
reinforced concrete wall
thermal insulation 10 + 10 (MW)
rear ventilation
Equitone facade panel

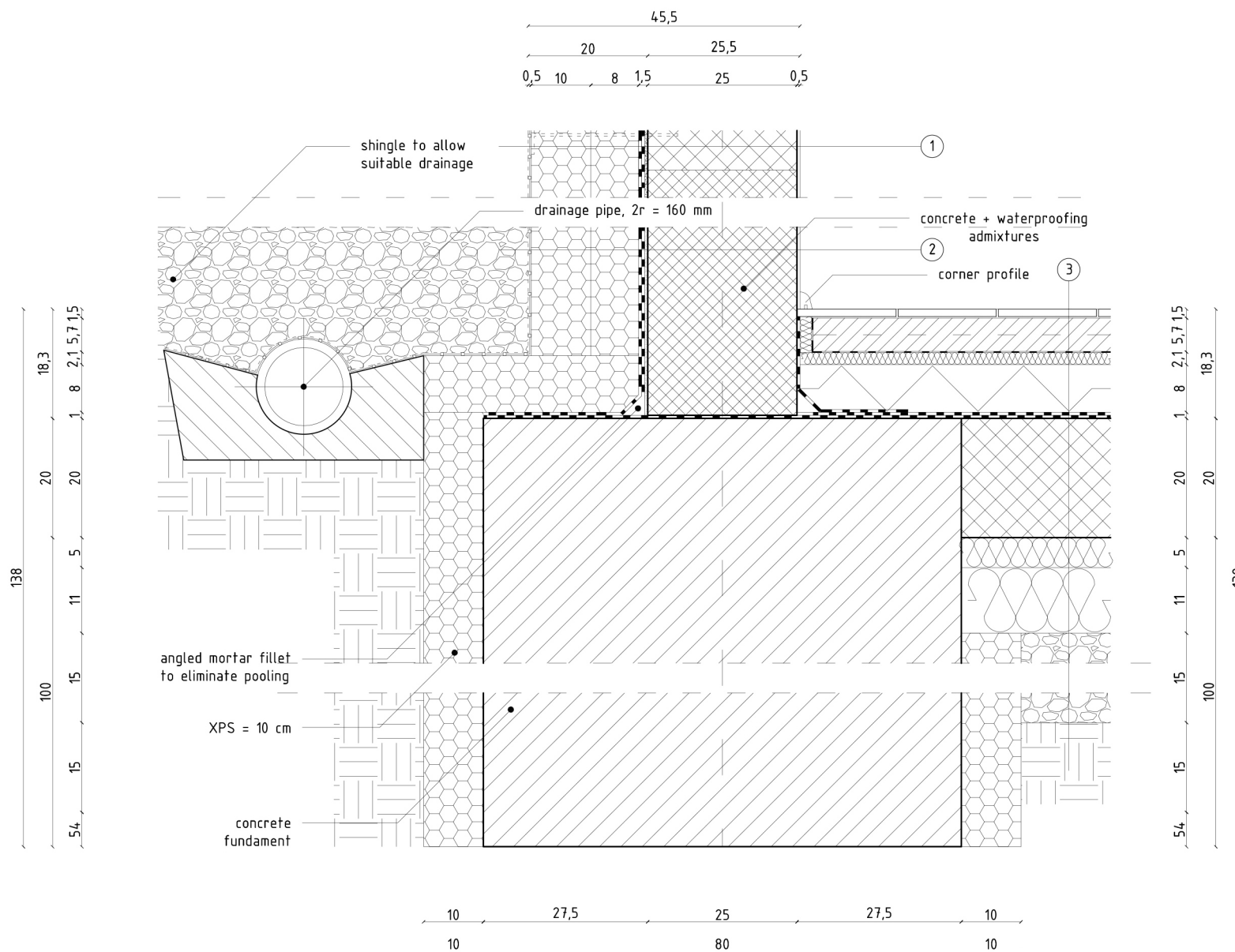
② FLOOR TO OUTSIDE = 75 cm

ceramic tiles
reinforced screed
separating PVC layer
thermal insulation
reinforced concrete slab
thermal insulation 10+10 MW
rear ventilation
Equitone facade panel

DETAIL 13 / B-B SECTION

SCALE 1:300 / 1:10





① BASEMENT WALL = 45,5 cm

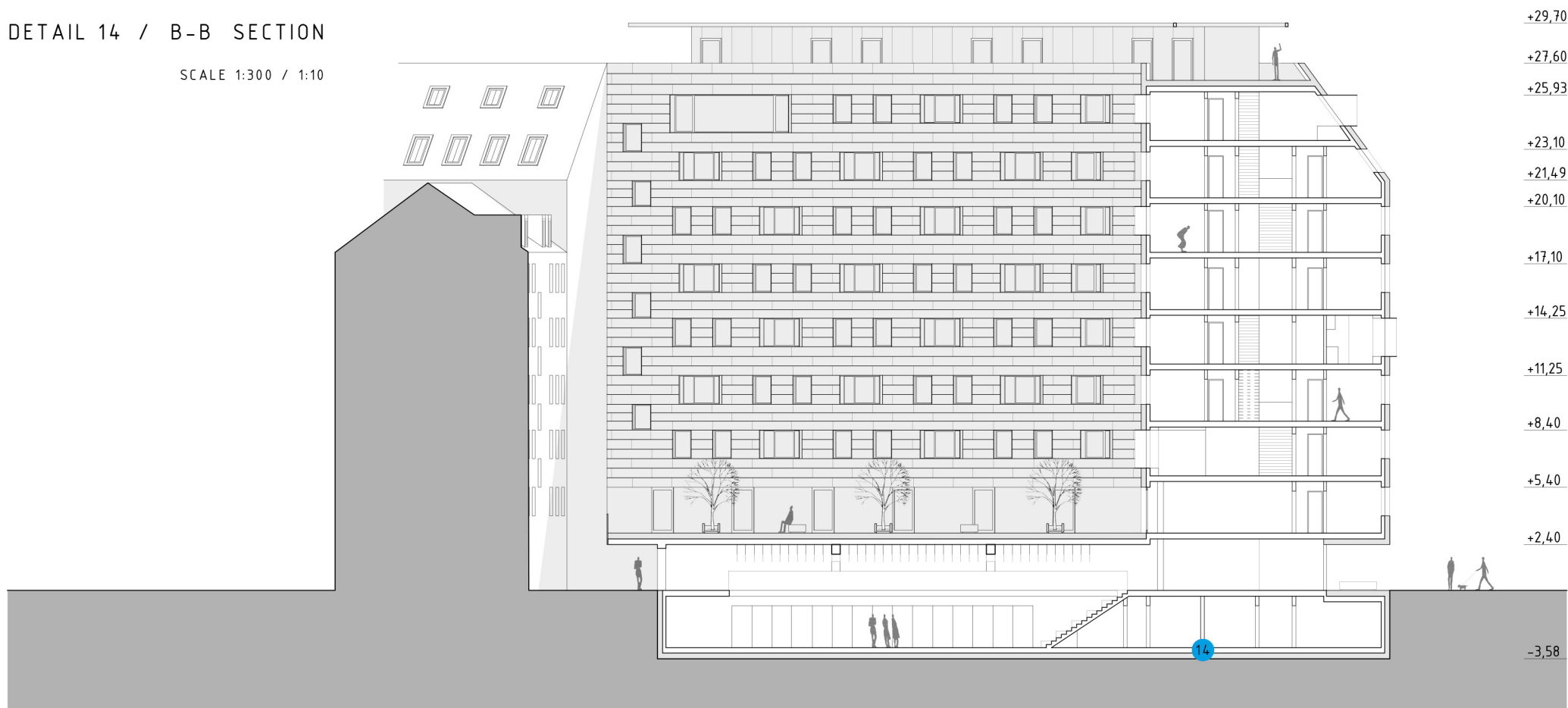
plastered wall surface
reinforced concrete wall +
w.p admixtures (2)
layer for application of tanking slurry
2 coats of elasticized tanking slurry
thermal insulation 10 + 8 (XPS)
studded membrane with geo textile
layer to prevent blockage
earth (1) / shingle (2)

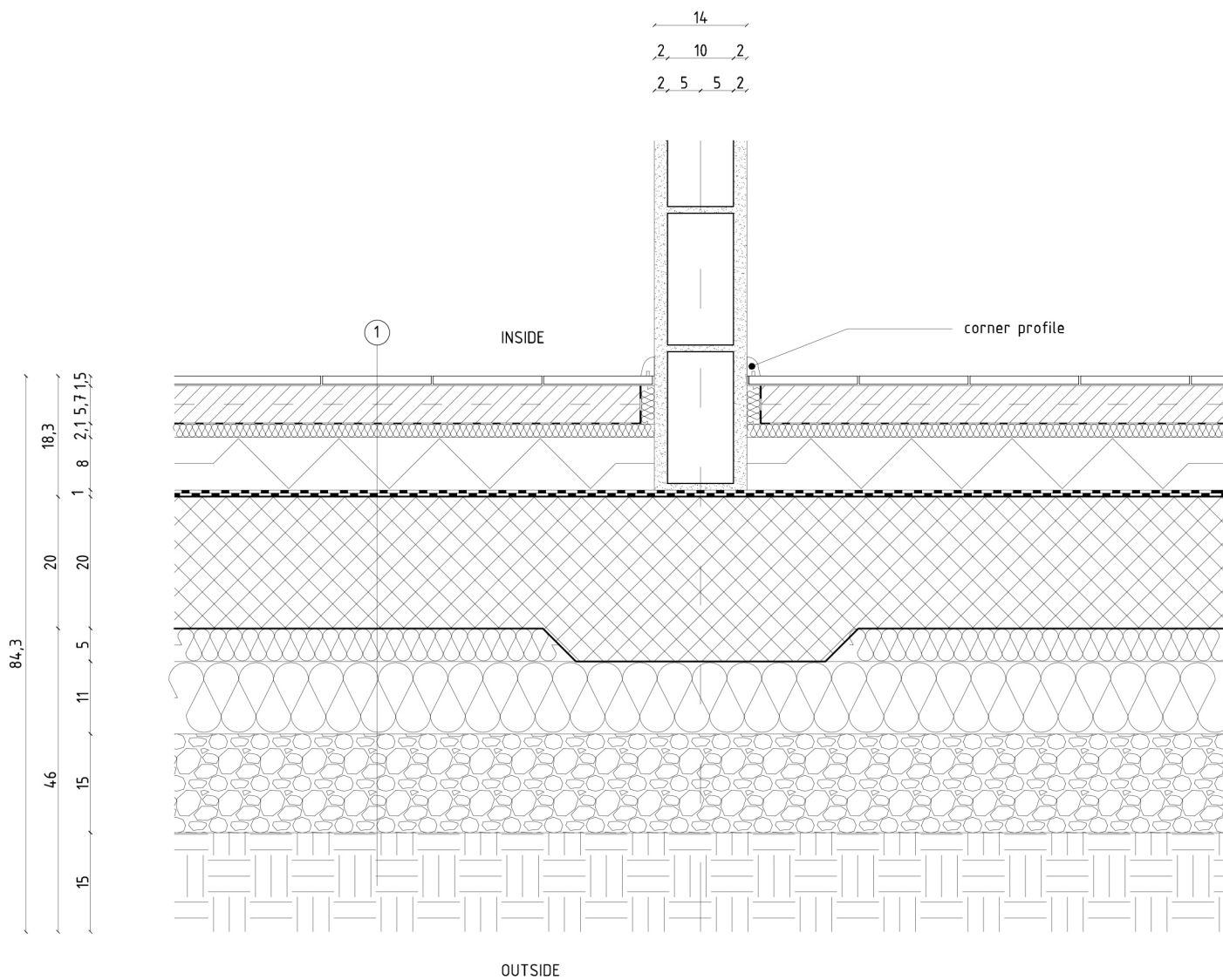
③ BASEMENT FLOOR = 84,3 cm

ceramic tiles
reinforced screed
separating PE layer
soundproof insulation
MW thermal insulation
2 coats of bitumen
reinforced concrete slab
thermal insulation XPS 5 + 11
rammed shingle
rammed earth

DETAIL 14 / B-B SECTION

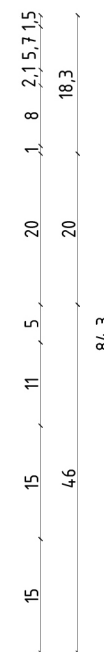
SCALE 1:300 / 1:10





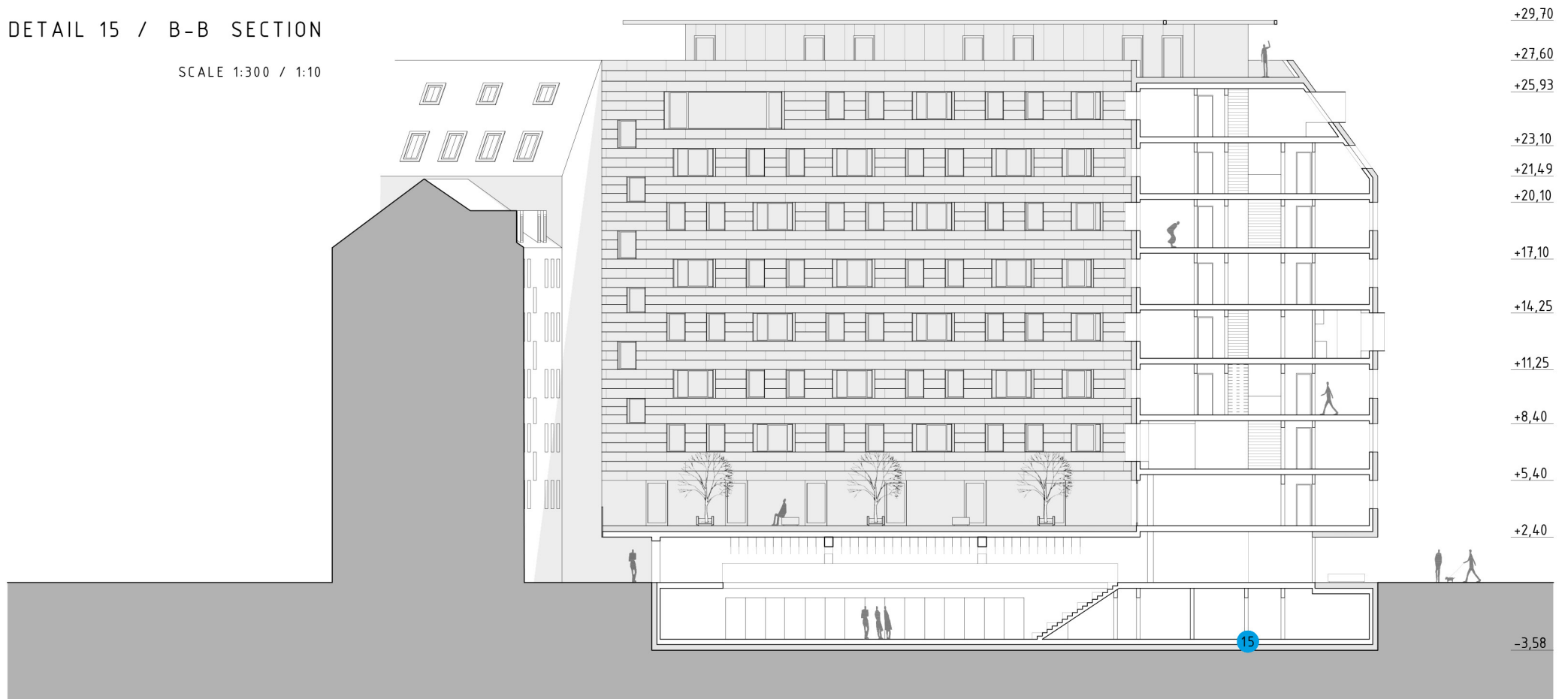
① BASEMENT FLOOR = 84,3 cm

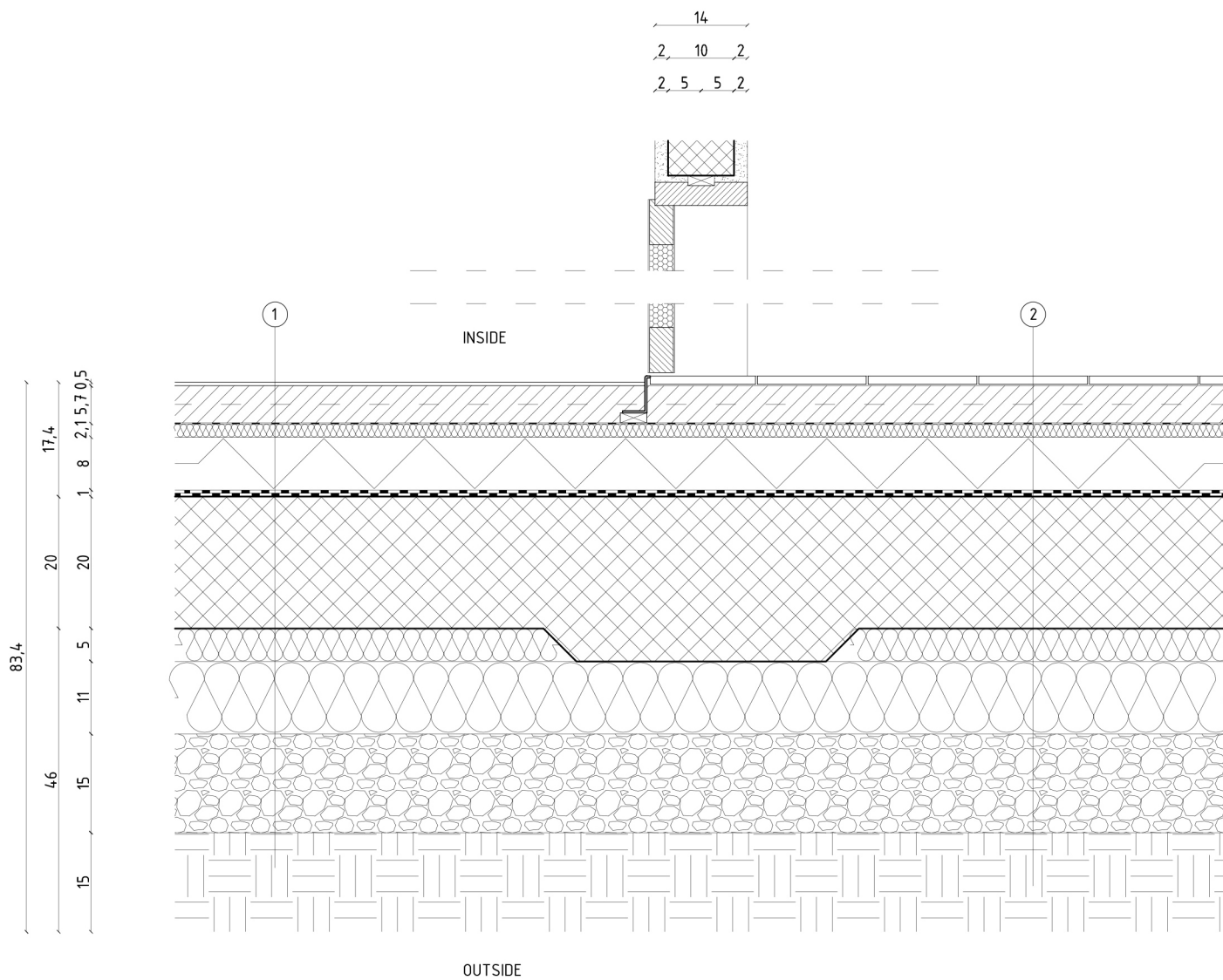
ceramic tiles
 reinforced screed
 separating PE layer
 soundproof insulation
 MW thermal insulation
 2 coats of bitumen
 reinforced concrete slab
 thermal insulation XPS 5 + 11
 rammed shingle
 rammed earth



DETAIL 15 / B-B SECTION

SCALE 1:300 / 1:10





① BASEMENT FLOOR = 83,3 cm

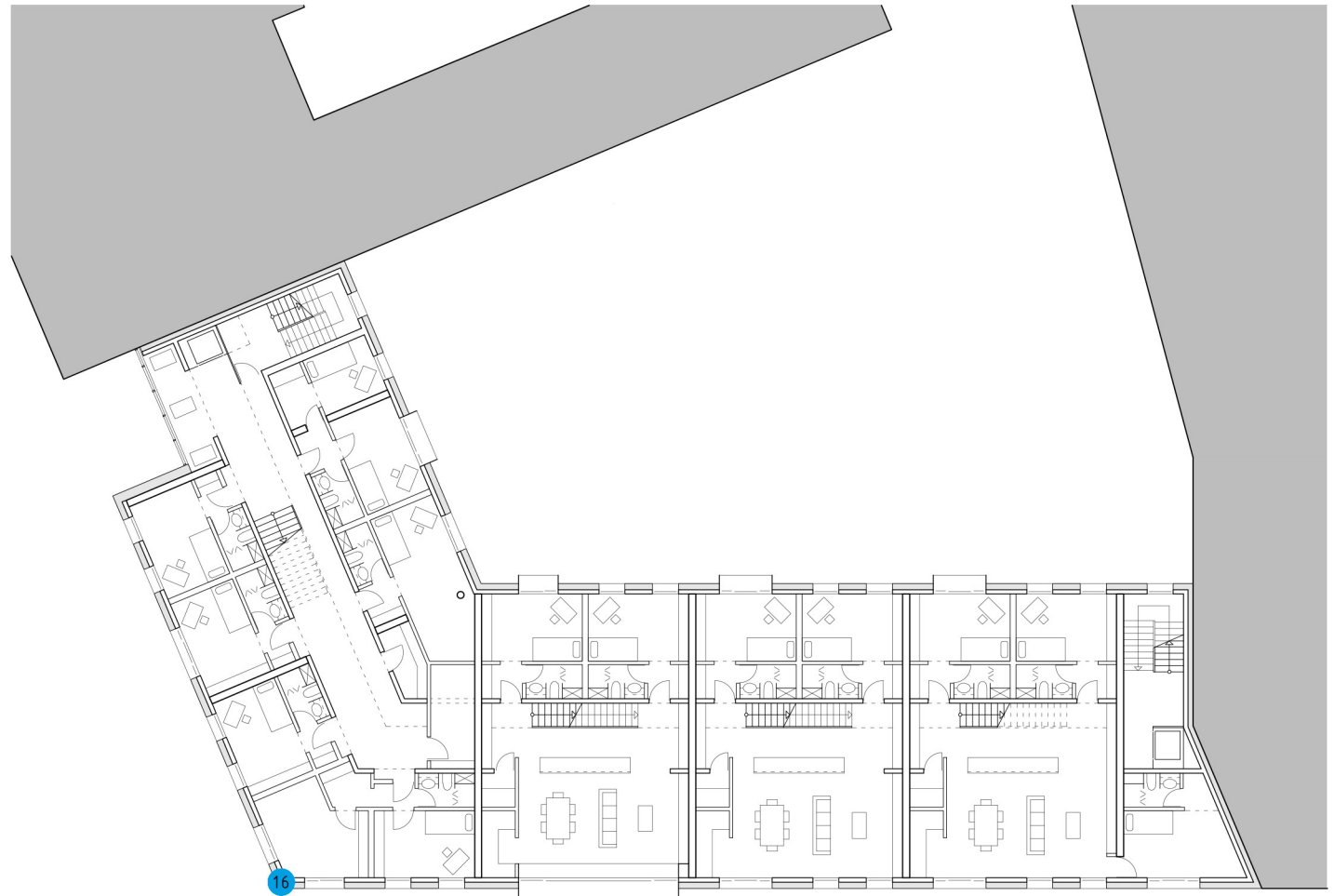
PUR
reinforced screed
separating PE layer
soundproof insulation
MW thermal insulation
2 coats of bitumen
reinforced concrete slab
thermal insulation XPS 5 + 11
rammed shingle
rammed earth

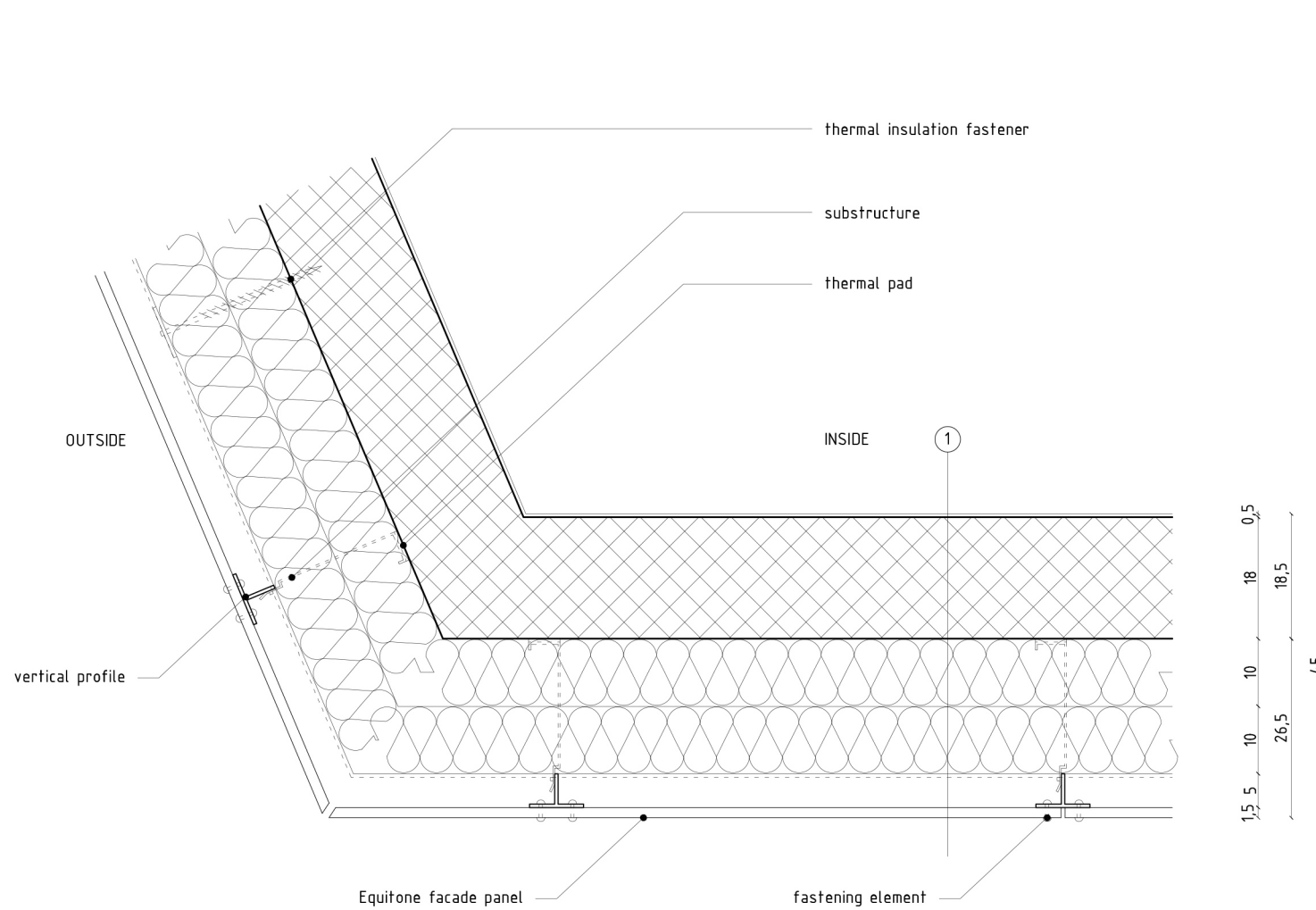
② BASEMENT FLOOR = 84,3 cm

ceramic tiles
reinforced screed
separating PE layer
soundproof insulation
MW thermal insulation
2 coats of bitumen
reinforced concrete slab
thermal insulation XPS 5 + 11
rammed shingle
rammed earth

DETAIL 16 / 6th FLOOR

SCALE 1:300 / 1:10



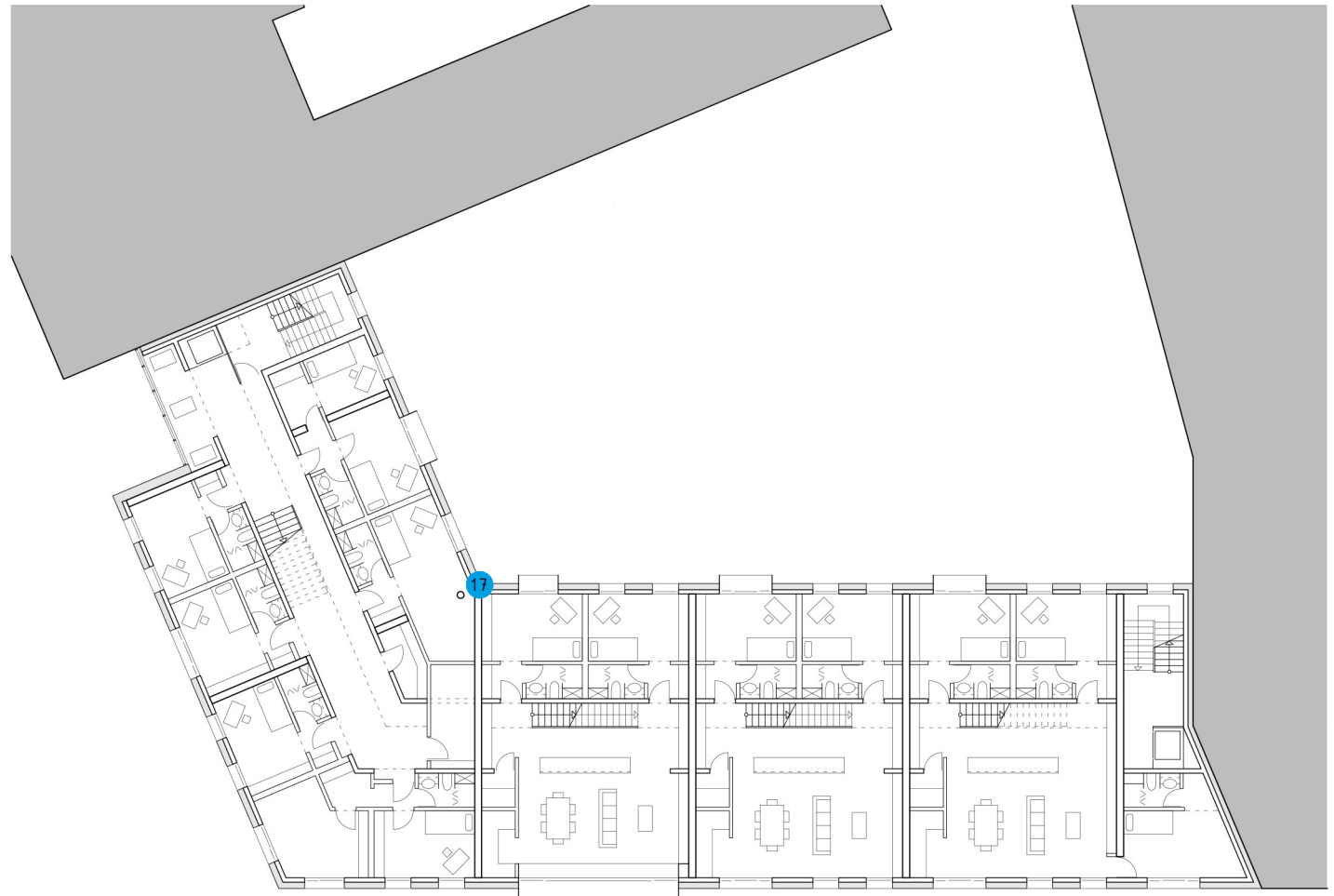


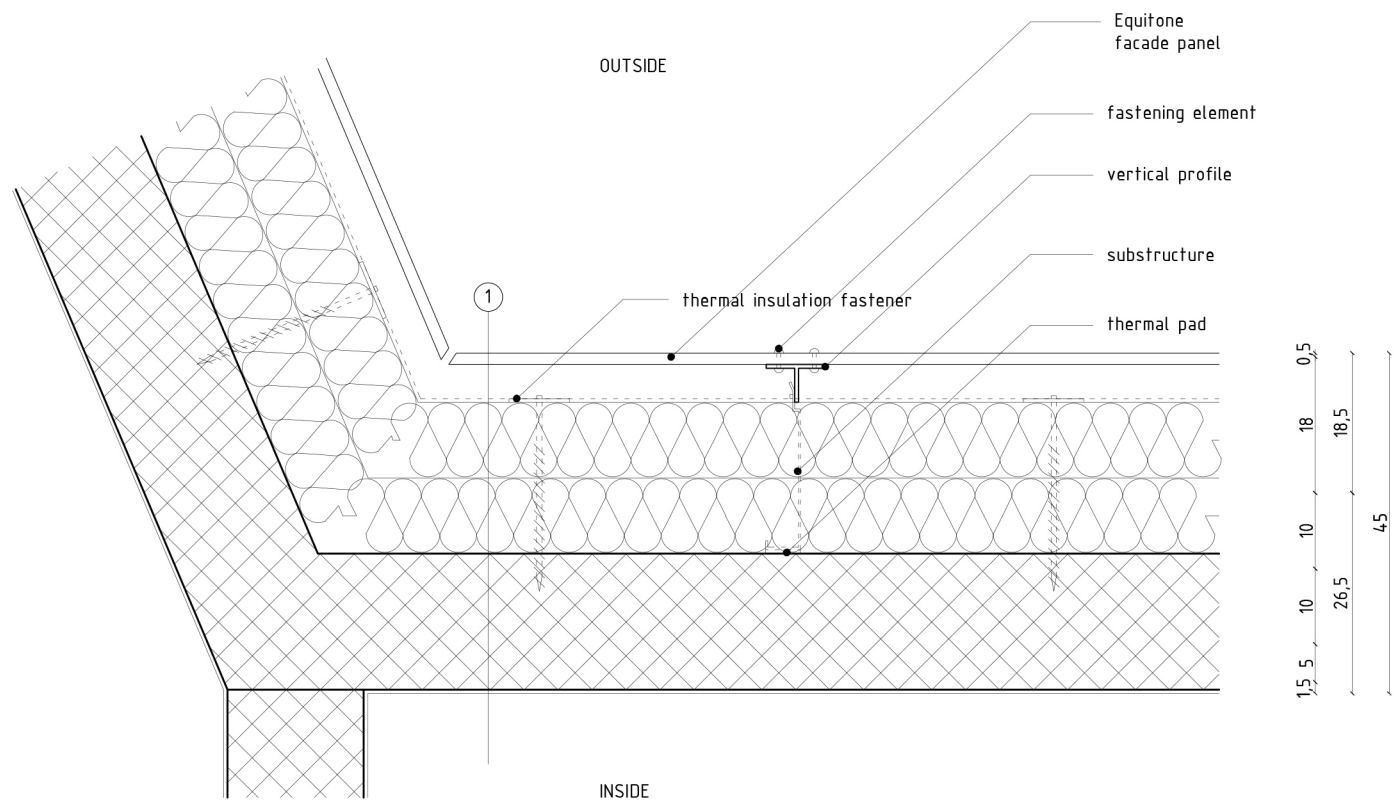
① WALL TO OUTSIDE = 45 cm

plastered wall surface
 reinforced concrete wall
 thermal insulation 10 + 10 (MW)
 rear ventilation
 Equitone facade panel

DETAIL 17 / 6th FLOOR

SCALE 1:300 / 1:10





① WALL TO OUTSIDE = 45 cm

plastered wall surface
 reinforced concrete wall
 thermal insulation 10 + 10 (MW)
 rear ventilation
 Equitone facade panel

QUOTE SOURCES

0 John Templer. 1992. History and Theories: The Staircase. MIT Press. p.19

1 John Templer. 1992. History and Theories: The Staircase. MIT Press. p.26

2 <http://www.galinsky.com/buildings/bakerhouse/>

3 https://en.wikipedia.org/wiki/Bom_Jesus_do_Monte

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5 <http://www.archdaily.com/800059/sonnesgade-11-sleth-architects>

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7 [https://de.wikipedia.org/wiki/Rathaus_\(Bern\)](https://de.wikipedia.org/wiki/Rathaus_(Bern))

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15 <http://tourhotspot.blogspot.co.at/2009/12/colosseum-colosseum-is-probably-most.html>

16 <https://en.wikipedia.org/wiki/Donaukanal>

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IMAGE SOURCES

0 <http://i212.photobucket.com/albums/cc102/19thcentury/victor-hortastaircase.jpg>

1 <http://www.la-belle-epoque.de/wien/wagner/wientl063.jpg>

2 <https://s-media-cache-ak0.pinimg.com/736x/c5/c5/05/c5c505a35e9baeb128c91f6cca2f8366.jpg>

3 <http://static.panoramio.com/photos/large/62085068.jpg>

4 http://images.adsttc.com/media/images/5836/0812/e58e/ce-5c/7400/004c/slideshow/Sonnesgade__SLETH-1.jpg?1479936011

5 http://4.bp.blogspot.com/-lgMbhlbLHQ/UCruuF98-vl/AAAAAAAAAB-w/M0lpyMsRXy0/s1600/100_0757.JPG

6 https://img0.etsystatic.com/101/0/10063841/il_570xN.843356820_er5g.jpg

7 <http://www.viaggiarteecucina.it/wordpress/wp-content/uploads/2015/05/Bargello2.jpg>

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8 <https://informedeldecano.fau.files.wordpress.com/2008/10/12villa-capra.jpg>

9 https://static.wixstatic.com/media/0d0522_ef9c17b-3368445b4aff64d5ad5642a7f~mv2.jpg_srz_1500_1013_85_22_0_50_1.20_0.00_jpg_srz

10 http://3.bp.blogspot.com/-vUT4s9UVLHE/UcxDhXng2bl/AAAAAAAAAEg/8Jg84olEb8I/s864/sanaa_gifu_16.jpg
http://payload205.cargocollective.com/1/13/428738/6411884/6674299519_e04f03c429_o_905.jpg

11 <http://i200.photobucket.com/albums/aa112/thecharioteer/Photography/bernini-stairs.jpg>

12 http://images.placesonline.com/photos/2672_orvieto_palazzo_del_capitano_del_popolo.jpg

13 <https://classconnection.s3.amazonaws.com/1737/flash-cards/683485/jpg/sentaori.jpg>

14 <https://s-media-cache-ak0.pinimg.com/564x/d4/ca/b8/d4cab87a2461f8923a5339a2c56ed4dd.jpg>

IMAGE SOURCES

15 http://gaycities-featured-images-production.s3.amazonaws.com/events/originals/fb_11015350_925022674208428_3162693060489583914_o.jpg

16 http://www.gewista.at/uploads/headerCB_11181_DE.jpg
2 <https://s-media-cache-ak0.pinimg.com/736x/c5/c5/05/c5c505a35e9baeb128c91f6cca2f8366.jpg>

17 https://farm1.static.flickr.com/444/32058835614_404dd6b6cc_b.jpg

