



# DIPLOMARBEIT

WELLNESS AND SAUNA GARDEN  
in Iași, Romania

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

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Wien, am .....

## A. ABSTRACT

The proposed project develops, renovates and reinstates the former Turkish Bath in Iași, Romania. It is one of the city's most interesting buildings, with an exceptional history and evolution behind it. However, after the fall of the communist regime in Romania, the building has been left to decay. With its outstanding location, the distinctive architecture and the urban surroundings it has the potential of bringing back wellness, spa and sauna culture to the city of Iași.

The project is justified due to the monument value of the building combined with the continuous raise of tourism in the city and the surrounding areas. With proper restoration and marketing, the building has the potential to become one of the main attraction sites in the city.

The city spans over seven hills and the site of the old Turkish Bath allows to discover these perspectives. The new building expands along three dimensions: Building extension, landscape and garden. To merge with the city's landscape and the sauna garden, the new extension will provide the impression of a light, floating, transparent structure, where sauna pavilions disappear in the landscape.

The whole spa experience is not limited to the diversity of pools and saunas, but also offers the experience of discovering the architecture, indoors and outdoors, from the new building to the foundations of the old Turkish bath.

Das vorgestellte Projekt entwickelt und renoviert das ehemalige türkische Bad in Iași, Rumänien. Es ist eines der interessantesten Gebäude der Stadt, mit einer außergewöhnlichen Geschichte und Evolution. Nach dem Niedergang des kommunistischen Regimes in Rumänien wurde das Gebäude aufgegeben und ist vom Verfall bedroht. Die außergewöhnliche Lage, die markante Architektur und die umgebende Stadtgebiet bieten das Potential, Wellness, Spa und Sauna Kultur in Iași neu zu etablieren.

Die Berechtigung dieses Projekts liegt sowohl im Wert des Gebäudedenkmal als auch im laufenden Ansteigen des Tourismus in der Stadt und der Umgebung. Richtige Restauration und passendes Marketing vorausgesetzt, hat das Gebäude das Potential, eine der Hauptattraktionen der Stadt zu werden.

Die Stadt erstreckt sich über sieben Hügel und die Lage des alten türkischen Bades bietet die Möglichkeit, diese verschiedenen Perspektiven zu entdecken. Der neue Komplex entwickelt sich in drei Dimensionen: Erweiterung, Landschaft und Garten. Die neue Erweiterung vermittelt den Eindruck einer leichten, fließenden und transparenten Struktur, die mit dem städtischen Raum und den Sauna Gärten verschmilzt, sodass die Sauna Pavillons im Landschaftsbild verschwinden.

Das Spa-Erlebnis ist nicht nur auf vielfältige Pools und Saunas beschränkt, sondern ermöglicht auch das Entdecken der Architektur, innen wie außen, vom neuen Gebäude bis hin zu den Fundamenten des alten türkischen Bades.



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# A. INTRODUCTION

The city of Iași in North-Eastern Romania knows a sustainable growth in the last couple of years, that is also reflected by the changing living-style and by the social and cultural activities.

The proposed restoration and extension of the old Turkish Bath of the city, is supposed to bring back to live an old activity, very common during the Inter-War years: the bathing and the sauna as a social life as sport and as leisure and to make it available for the entire community.

The scenario that I propose it is a complex experience, dedicated to different groups of the community, starting from people that look just for after work relaxation, to the ones that like to do some exercise by swimming, to tourists and even organized groups. Nevertheless, the new place can also be divided, for the use school groups, exclusive woman or man day, or for elderly.

# B. ANALYSE





3 Fig. B.1

# I. S I T E

## 1. MAP

The site is located in the centre of the Iași city, north-eastern Romania. It is one of the biggest cities of the country, with a population of 290.422 inhabitants and a city area of 93.9 km<sup>2</sup>. It has many UNESCO World Heritage Sites and buildings that stay proof of its rich history.

One of them is the Turkish Bath - also known as Communal Bath, an old building dating most probably from the end of the VXII Century, located between Arch. G.M. Cantacuzino Street and St. Petru Movila Street. The building itself has three floors - underground level, ground level and one upper level - summing a total surface of 2700 m<sup>2</sup> on a 5200 m<sup>2</sup> site.

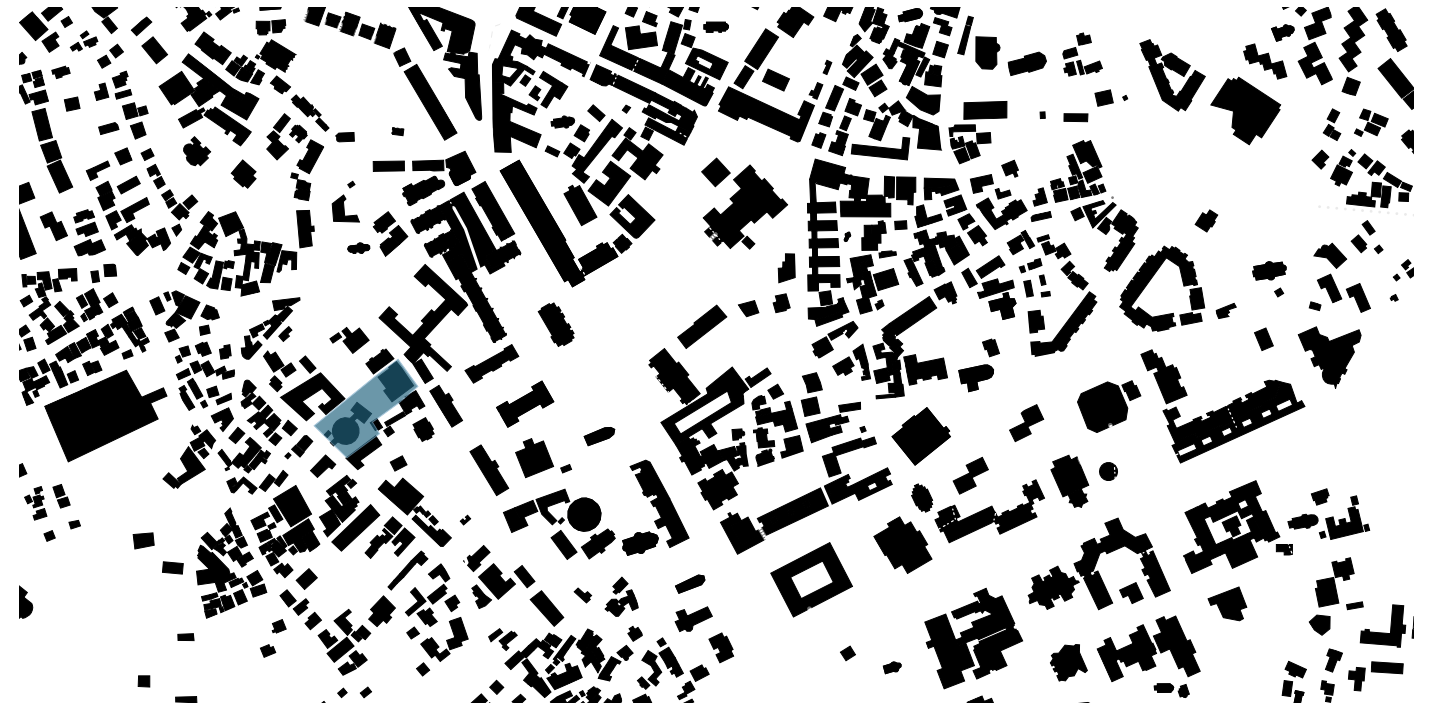


Fig. B.2



## 2. SURROUNDINGS

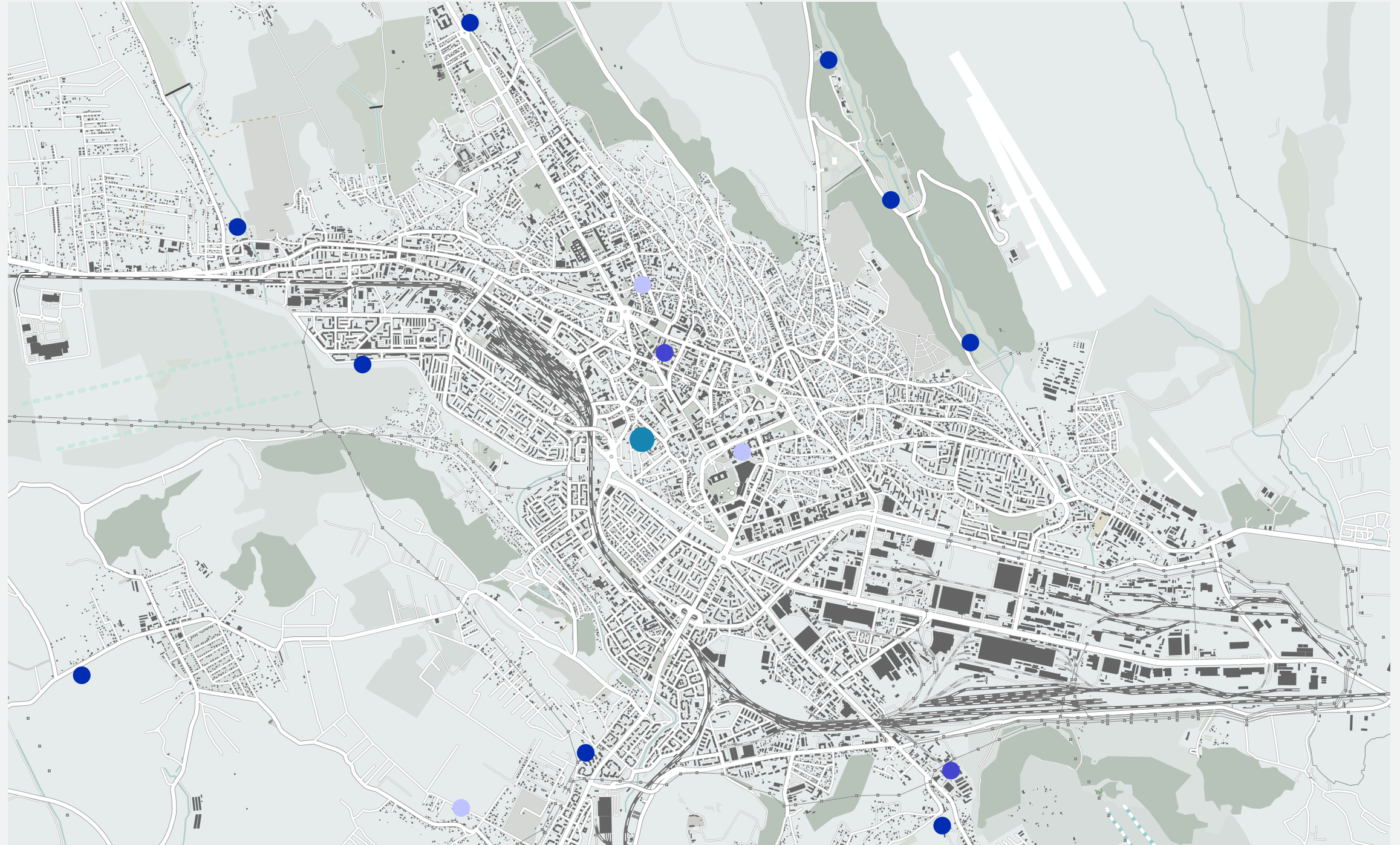
In the nearby area there are several bathing places, most of them being opened just during the summer time. Most of them, like the Union Pool, Le-GaGa Pool, Capitol, Bucium Spa are not reachable with the public transportation system.

There are some that also offer swimming lessons, like the public pool or the Moldova Pool,

There are few sauna or steaming bath facilities located in hotels being dedicated mostly to the guests of the place, like in the case of Union Spa, Pensiunea Villa Verde, or Oxygen Sport Center.

Seeing this situation, the discussion develops around the absence of a complex bathing and sauna resort, where one can enjoy sunbathing, sauna, working out, or relaxing at the same time.

- Open-Air Pool
- Indoor Pool
- Spa - Pool
- Old Turkish Bath





## II. THE TURKISH BATH



Fig. B.4

### 1. PRESENT SITUATION

The old Turkish Bath is located in the city centre of Iași. During the last decades it hasn't been used at all, nor any restoration works have been done on it. Today it looks almost like a ruin, but most of its original architecture and design it is still noticeable. The small changing rooms with sculpted wooden structure and walls, the treatment and massage rooms, the main hamam and hot sauna rooms are easily recognizable, and stay as a relic to the old social life. The three levels edifice has a separation between men and women section.



Fig. B.5-8







## 2. HISTORY

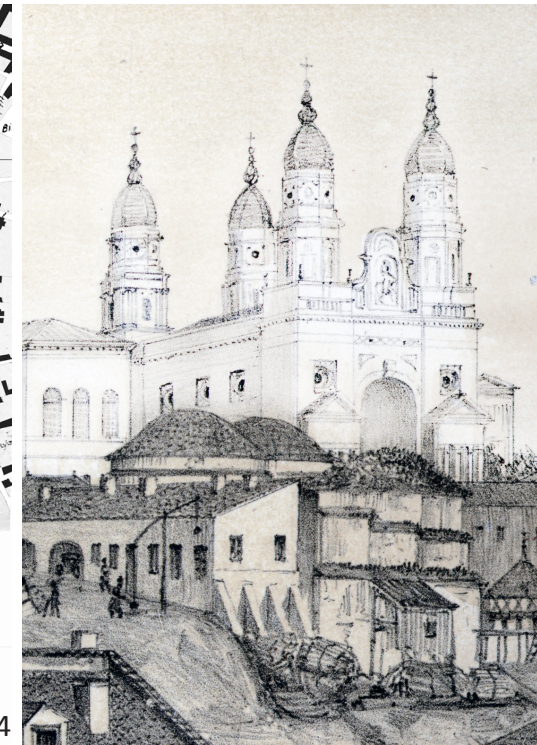
One of the first documentation of the old bath can be found in the chronicle “Voyage du Patriarche Macaire d’Antioche - texte arabe et traduction française de Paul de Alep” from 1653. During their stay in Iași the travellers noticed the baths of the city, most of them build by the Ruler Vasile Lupu, following the model of the Turkish ones, with large domes, and beautiful marble rooms.

The whole city and surrounding area was under the strong influence of the Orthodox Church, who administrated not only the schools and hospitals, but also the local baths. The inscription on the entrance wall of the bath reminds that the construction of the place took place under the abbot Ezekii, of the “Trisfetitele” (Monastery of the Three Hierarchs) in June 1746.

Giuseppe Bayardi Plan 1819



Joseph Rascheck Plan 1844





## 2. HISTORY

The first bath was demolished in the year of 1894. The new construction rose on the foundation of the old one, and a large part of the remaining materials were reused in the new structure. It can easily be noticed on the walls masonry, where the old limestones alternate with the brickwork.

The new building has an underground level, ground level and one upper floor. A part of the building consists of an apartment, for the family that used to take care of the place. It was considered a luxury bathing place, dedicated to the upper class society. Nearby was build the *popular bath*, for the rest of the citizens, a smaller building, with just one floor, containing one swimming pool and showers. No sauna or other facilities were here.

Plan 1977



## 2. HISTORY

Several renovation took place between 1923 and 1934 and a general one ended in 1949. New consolidation and restoration work started in 1996, but shortly after the beginning have been stopped. Nowadays it can be still seen the structure of the walls, the old foundations, and part of the decorations.

The Façades still keep the initial decorations, and most of the original woodwork.

The parcel is easily reachable from most of the city neighborhoods, being situated close to the city centre with openings on two important streets - Arch. G. M. Cantacuzino Street and St. Petru Movila Street.

Plan 2017



3. PLANS



Fig. B.14

3. PLANS

Basement Floor

0 1 2 5



••• Men Area

••• Women Area

● Changing Area

● Turkish Bath / Sauna

● Pool / Bath-tube Area / Treatment Area

● Technical Area / Furnace / Personal Area

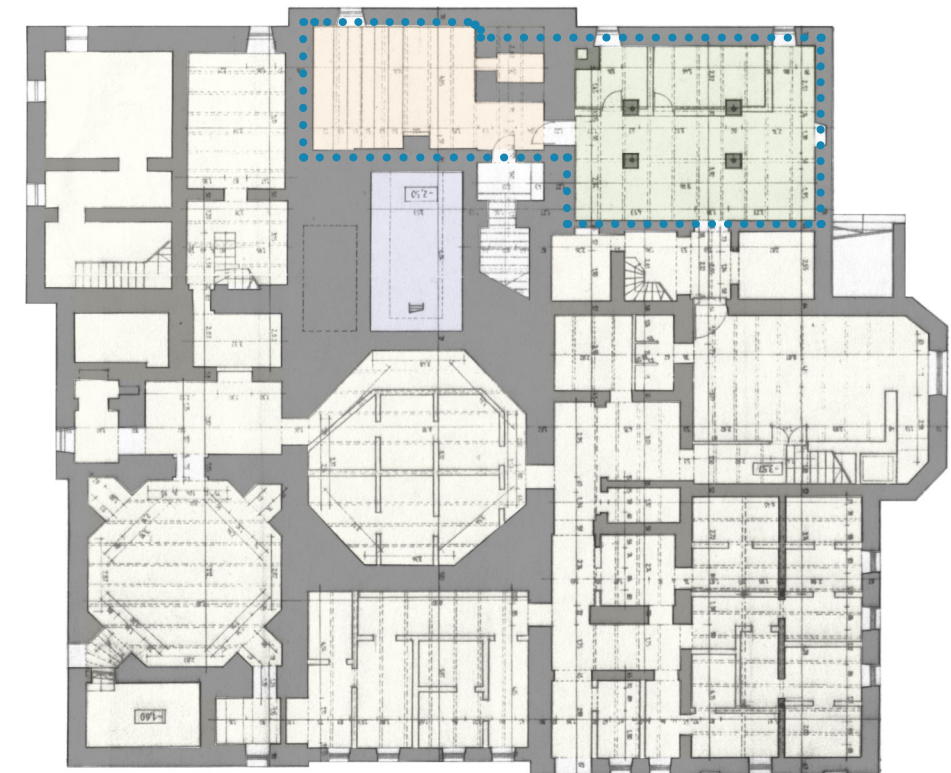


Fig. B.15



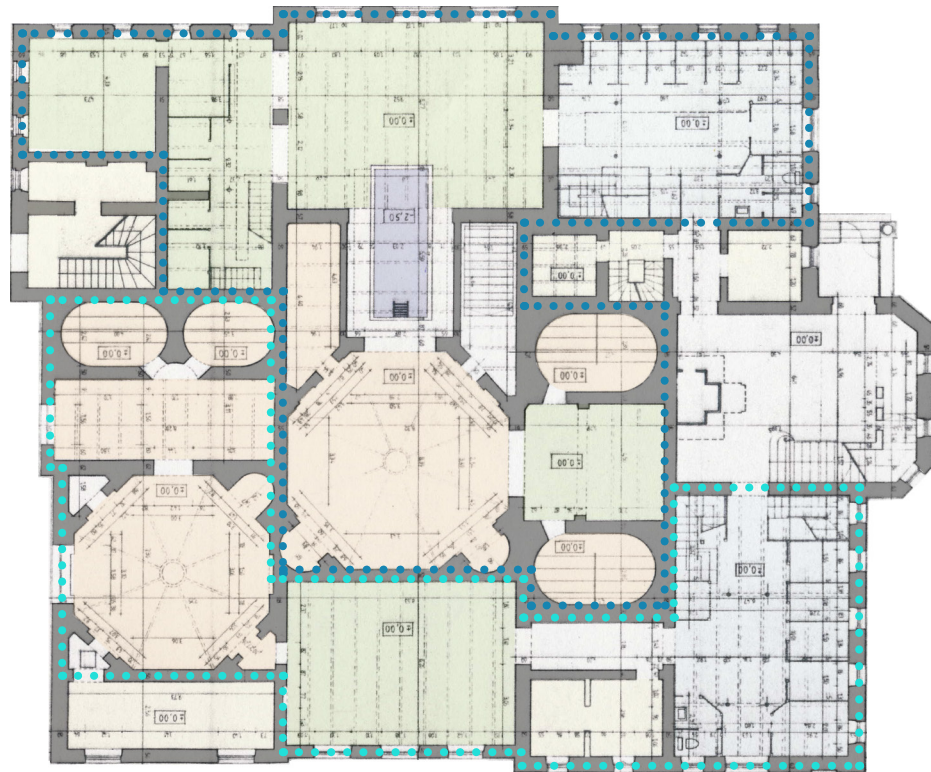
### 3. PLANS

Ground Floor

0 1 2 5



- Men Area
- Women Area
- Changing Area
- Turkish Bath / Sauna
- Pool / Bath-tube Area / Treatment Area
- Technical Area / Furnace / Personal Area



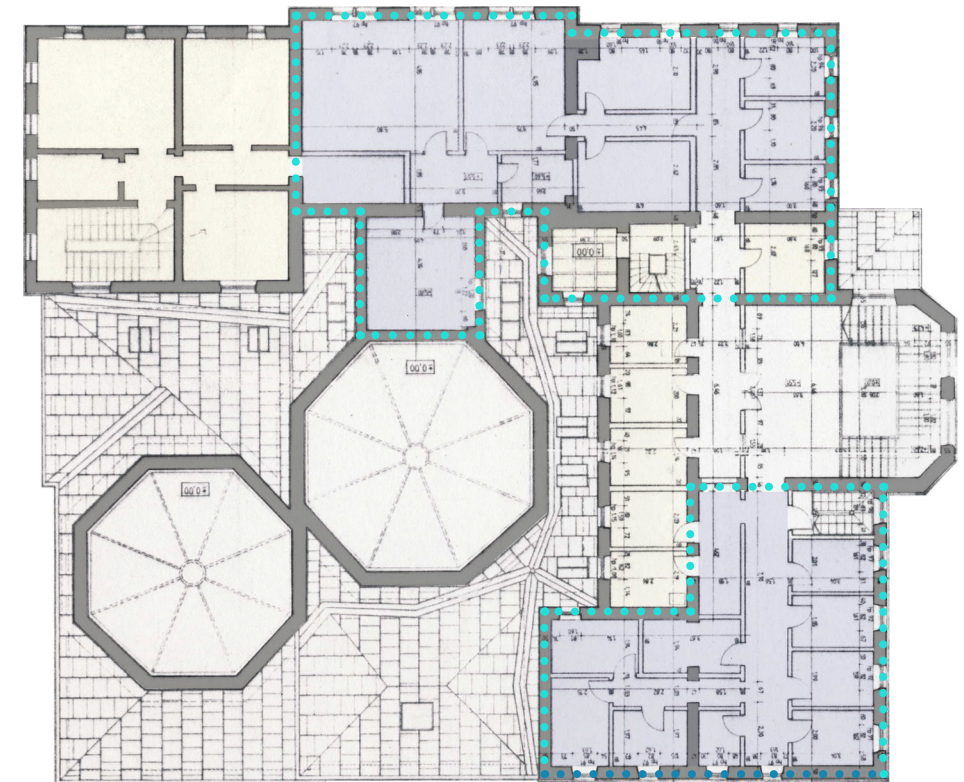
### 3. PLANS

First Floor

0 1 2 5



- Men Area
- Women Area
- Changing Area
- Turkish Bath / Sauna
- Pool / Bath-tube Area / Treatment Area
- Technical Area / Furnace / Personal Area







4. CONSTRUCTION DETAILS



Fig. B.20-22





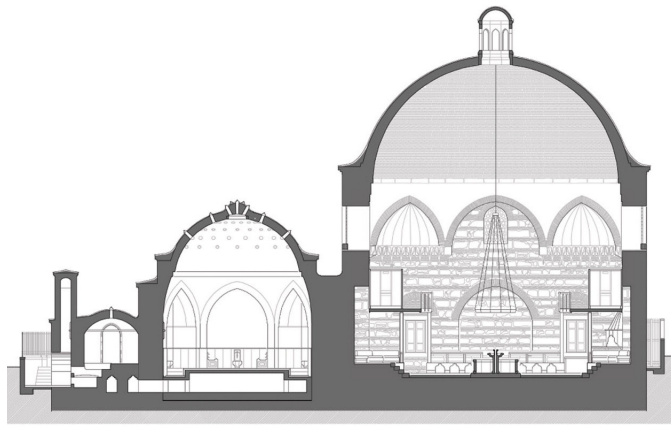
### III. STUDY CASES



## 1. TURKISH BATHS

The Turkish Bath, also known as Hamam is a variation of sauna focusing on water as cleansing and relaxing therapy.

The bath starts with a first bathing session in the *warm room*, followed by the *hot room* where the perspiration procedure is completed. After the *cold water shower* and the *full body wash*, a *massage* will complete the process. Afterwards comes a longer relaxation period in the *cooling room*.<sup>1</sup>



## 2. ROMAN BATHS

In the Roman culture bathing was one of the most common activities, being available to all social classes. The bathing process involves the bathers exposing themselves gradually to increasing temperatures. The first room was the *apodyterium* where one would leave his things. The starting point was then the *frigidarium* (cold room) than the *tepidarium* (warm room) and finally the *caldarium* (hot room). The last room used to have cold water basins as well, for the visitors to cool. The relaxing and cooling process would take place then in a cooler *tepidarium*, a room for massages with oils and scraping with metal instruments.<sup>2</sup>

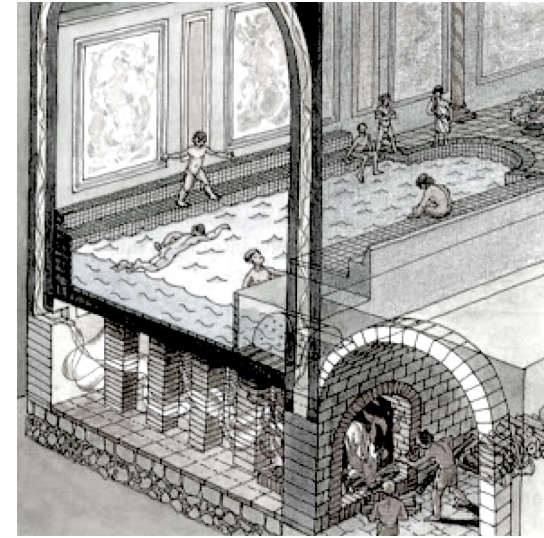


Fig. B.24-25



Fig. B.26-27

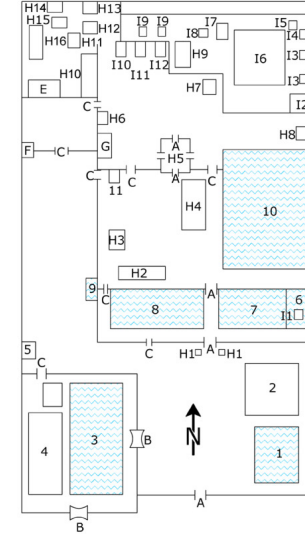




### 3. ONSEN

The Japanese hot spring have always been used as public bathing and it is considered a tourist attraction. Even it doesn't have a specific bathing procedure, the legal definition of an onsen is that its water must contain at least one of 19 designated chemical elements, including such minerals as iron, sulfur, and metabolic acid, and have an average temperature of 25 °C (77 °F) or warmer at the point of release.

As normally the onsen use naturally hot water from geothermally heated springs, a particular onsen may feature several different baths, each with water of a different mineral composition. Due to its mineral content, onsen is believed to have healing power.<sup>3</sup>



### 4. PURA TIRTA EMPUL

Tirta = holy water; Empul = great source

There are a couple of myths and legends around this temple with holy water built around the image of the god Indra that was a benefactor that lived at this temple. The water is thought to be a healing water.

The temple has various basins. In the first courtyard there are several basins, which are fed by the sacred spring. These basins are of decreasing importance from east to west. To the east is the most sacred basin, filled with five gargoyles symbolizing the five sacred waters. In the middle of this small basin stands a shrine. To the left of the hotel are the men's and women's swimming pools. Outside the wall is another pool for public cleaning.<sup>4</sup>



Fig. B.28-29



Fig. B.30-31





#### IV. THE IDEA

The situation analyse and the observation of the study cases defined the parameters of the project developed in this specific situation.

The new *Wellness and Sauna Garden* has to outline the necessities of the local culture, being attractive to various groups, from children to elders. The variety of the functional program and its organisation in pavilions, permits to be used not only as a whole, but also separately with naked area, women sauna area, or closed group area. The formal composition follows the topography of the site, opening itself to various perspectives, from the surrounding neighbourhood with small houses to the hills and woods defined skyline.

The restaurant at the top level of the old building offers the largest perspective over the bath and over the city. Due to its location, and access facilities, the restaurant can also work separately when the bath is closed.

## C. AIM OF THE PRESENT WORK

The project is in the first place feasible seeing the cultural and historical value of the old Turkish Bath in the context of the city of Iași: it is one of the most representative buildings, standing as proof of one of the most important pages of the history of the region: the development of the local culture under the Byzantine Empire.

On the other side, this proposal justifies itself also in the nowadays context of the city: the increasing tourism rate, the strong expansion of the infrastructure - extension of the local airport - and the investments, especially in informatics companies, that extended here during the last couple of years.

Seeing all these aspects I decided for my work to stand as a connection between a page of history and the present development of the region, evolving from the traditional culture of the Turkish steaming baths to the latest sauna types and the aromatherapy.

The new leisure facility opens for the visitors of the city, adding another stop on the tourist map of Iași, but also to the locals, that would have a centre location for after work recreation or for work-out groups - schools or kindergarten. The project covers from large swimming pools and sauna variation, as well as massage and treatment therapy and as eating facilities - bistro and restaurant.

## I. MATERIAL AND METHODOLOGY

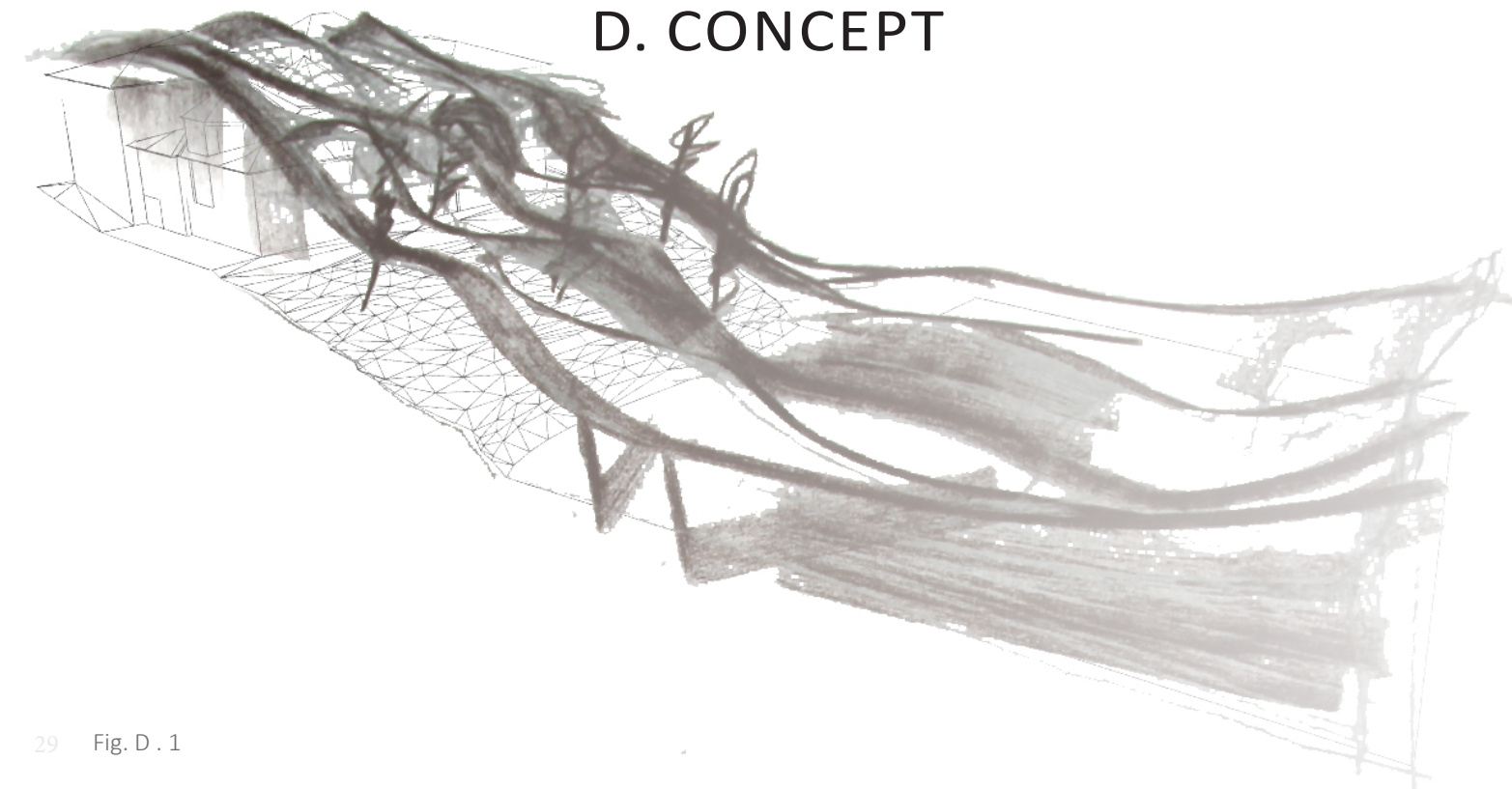
The first step in the design process was documentation and analyses. Obtaining information about the existing Turkish Bath and about its surrounding was very important for defining the parameters of the present work.

The historical documentation with its plans and a short summary about the history of the bath was possible by taking contact with the architect Ion Daniel Visan from the city of Iași, who, a long time ago, made a study about the existing bath. Some general historical notes about this place I also found in books that talk about the past of the city, like “Iașii de odinioara” written by Rudolf Suțu. All these information were completed by the information found on internet. After the documentation part, the work started to make sense by organizing all the gained information and searching for a concept.

The design process followed a series of aspects that were important for this project. The clear definition of these concepts follows in the pages below, and illustrate mainly the relation with the site, with the surroundings, the idea of water and aromatherapy plants, and the cohabitation between old and new.

Since the site itself was a challenging one, having a ten meters altitude difference from one end to the other, all the designing process took place from beginning with building a 3D model where I could see better the volumetry, and organize every idea.

## D. CONCEPT





## II. SITUATION PLAN

### 1. DENSITY

The city is characterized through a medium density and a high fragmentation, as seen in the black-white plan.

In the centre of the city urban islands can still be identified, with parcels delimited by streets; however, further away, the parcels vary to individual houses on properties, and the urban aspect becomes more divided.

The variety goes further on, to the other side of the Bahlui River, where the communistic blocks rise - rectangular, floating between streets and green spaces.

The traditional urban aspect is one of the important aspects of the project evolution, standing as a connection point for the cohabitation issue between the existing building and the new one.





## 2. TOPOGRAPHY

Located in the North-East of Romania, the city of Iași stays on seven hills and it is surrounded by woods and vineyards, gardens and monasteries. The Bahlui River crosses the city.

The building site is located on a hill, with a ten meters difference between the highest point to the lowest. The Old Turkish Bath is situated on the top of the place, opening to different perspectives of the area.

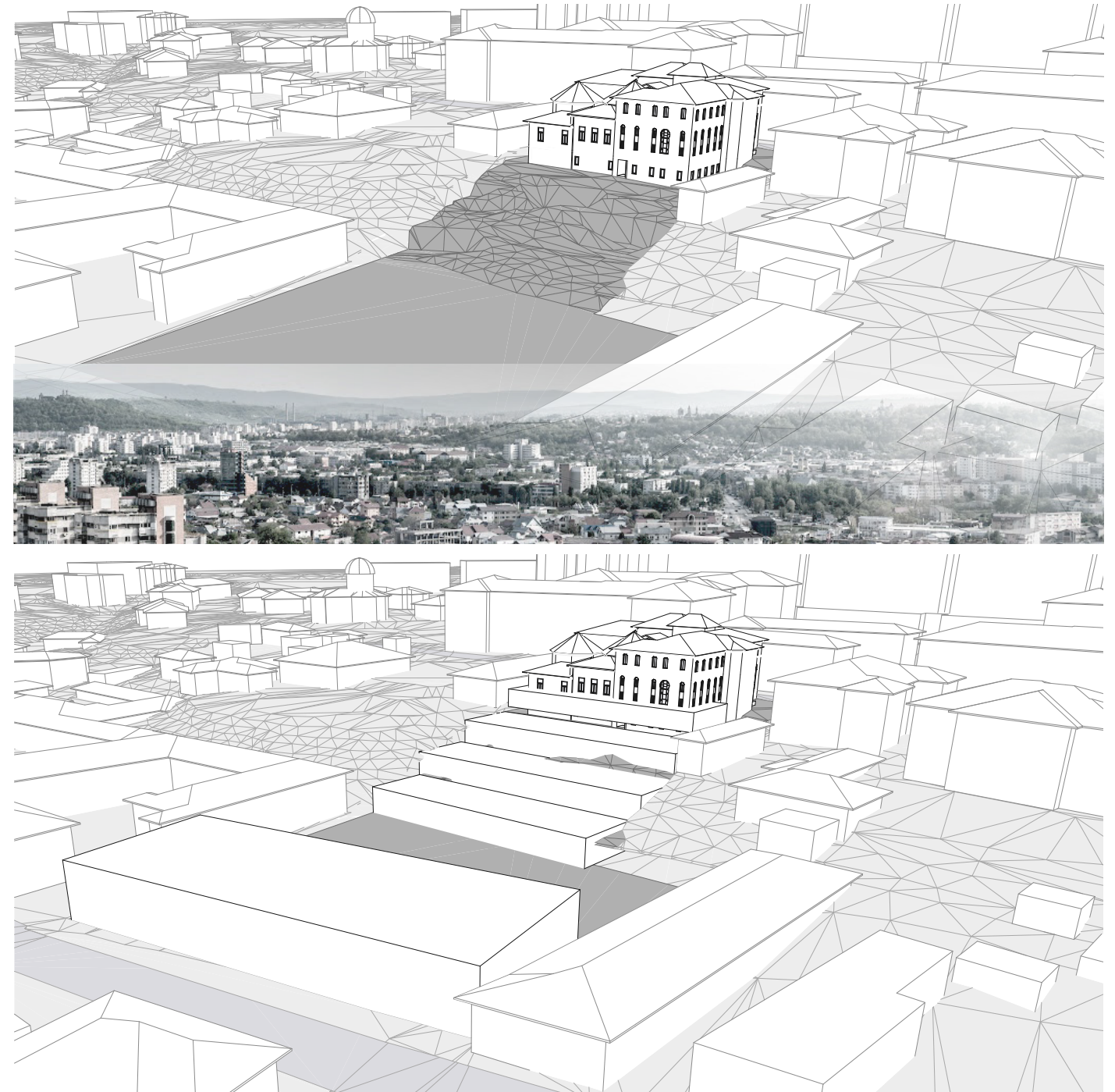




### 3. FINDING THE FORM

The parcel consists of two plateau parts, connected by a steep section. Since the Turkish Bath Monument covers most of the upper area, the optimal answer in this case lead to a stairway volumetry, with extended terraces for views and relaxation where one could just lay in the sun or enjoy a bath.

This scenario also fit in the surrounding area, leading to individual buildings, and following the density of the centre of the city.

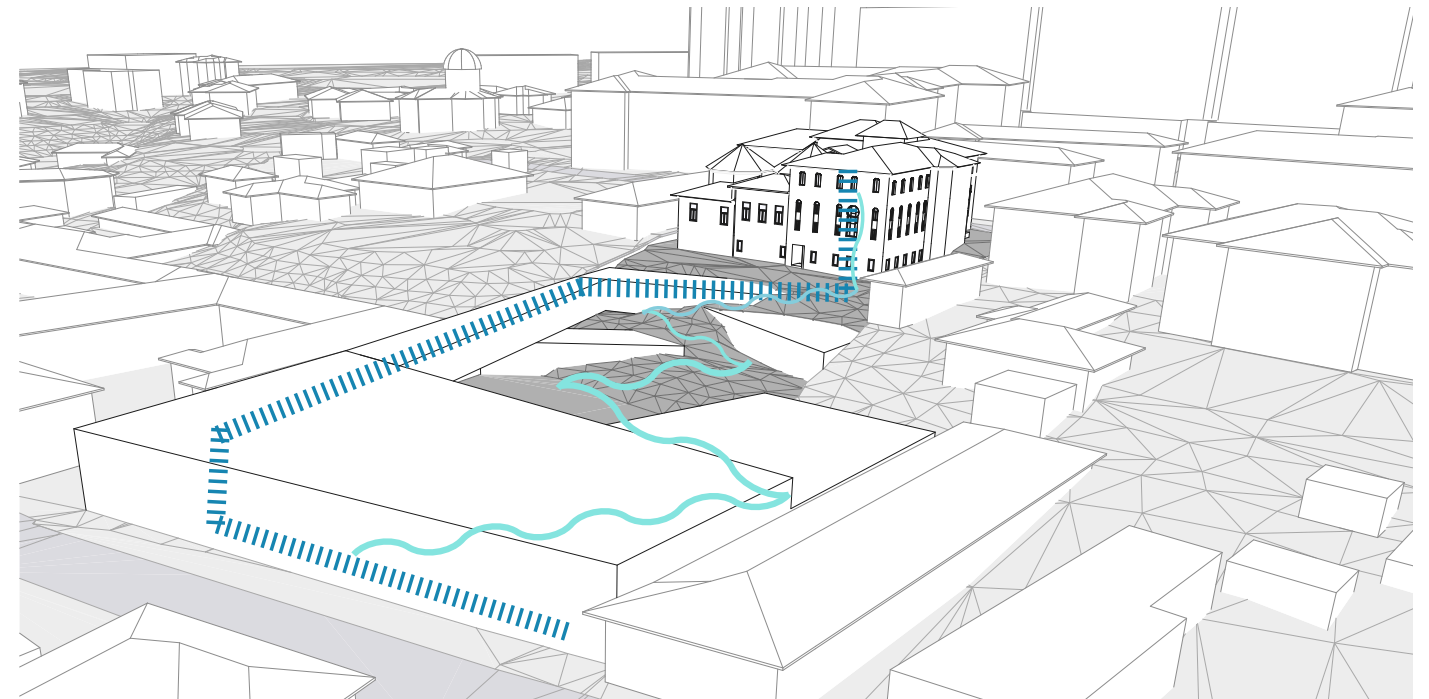
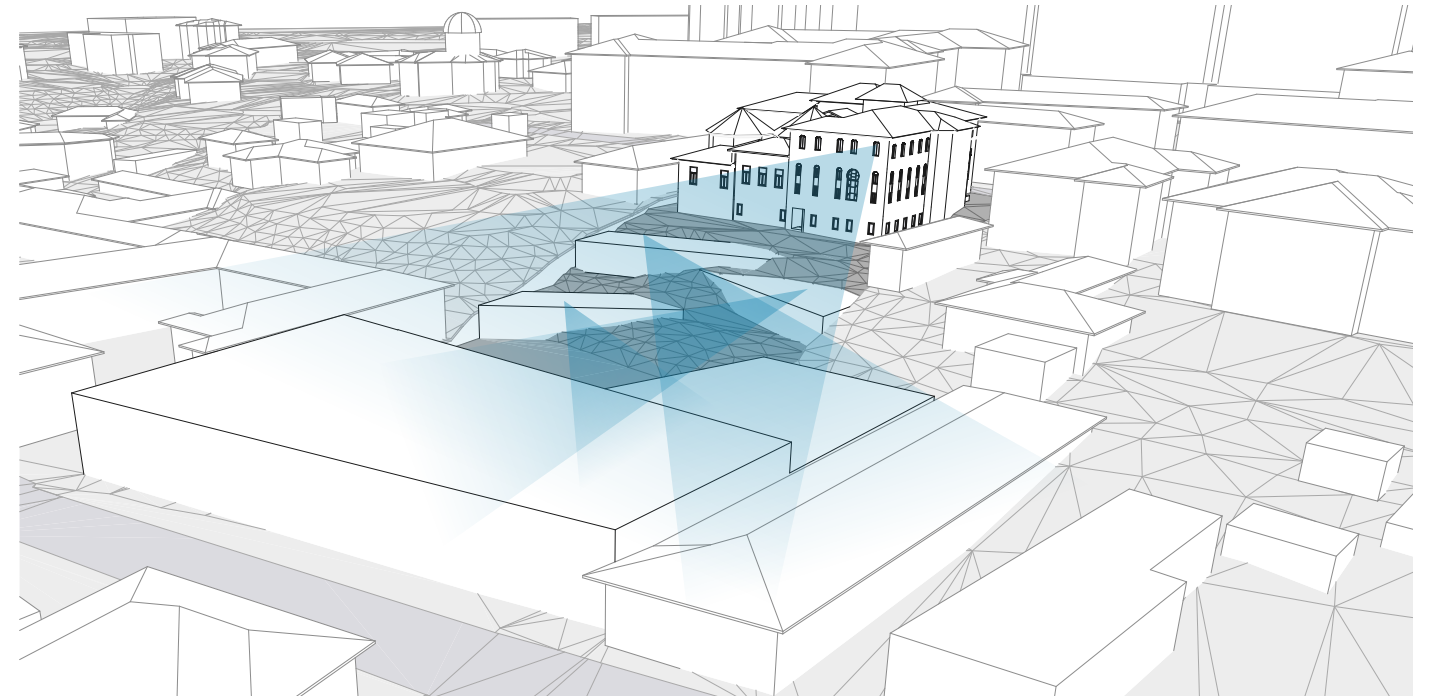


### 3. FINDING THE FORM

Opening the terraces creates a rather dynamic composition, where the labyrinth garden is the mediator between new and old. This foot path follows the discovery of the sauna pavilions.

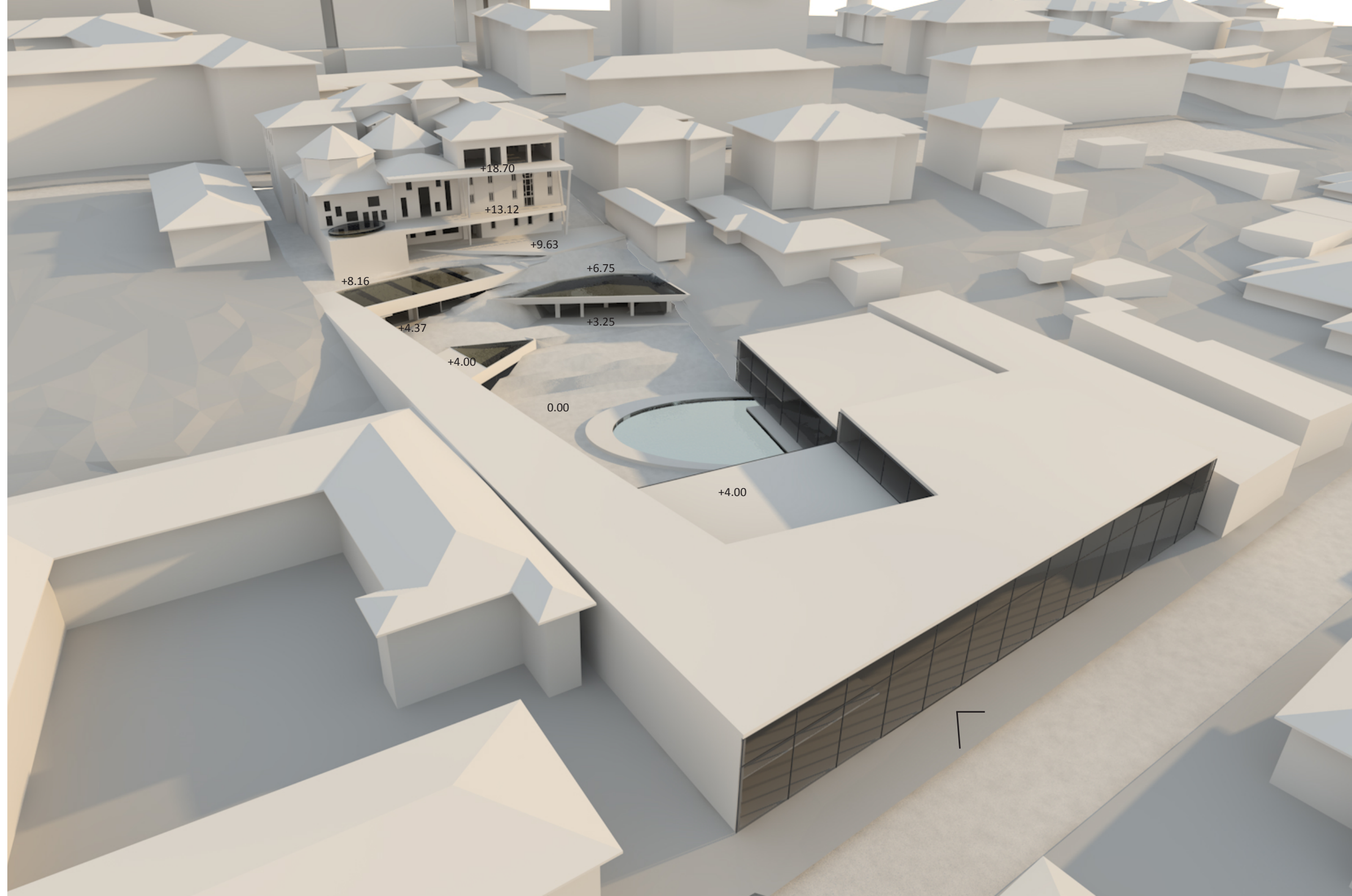
On the other side, the connection between the entrance and the old building can be made avoiding the garden way, for example in case of bad weather or also for people with disabilities, through the first floor of the new construction, that leads, directly to the underground floor of the old bath.

The functions will also follow this path, from the rather innovative and modern ones, in the new part, to the traditional ones.



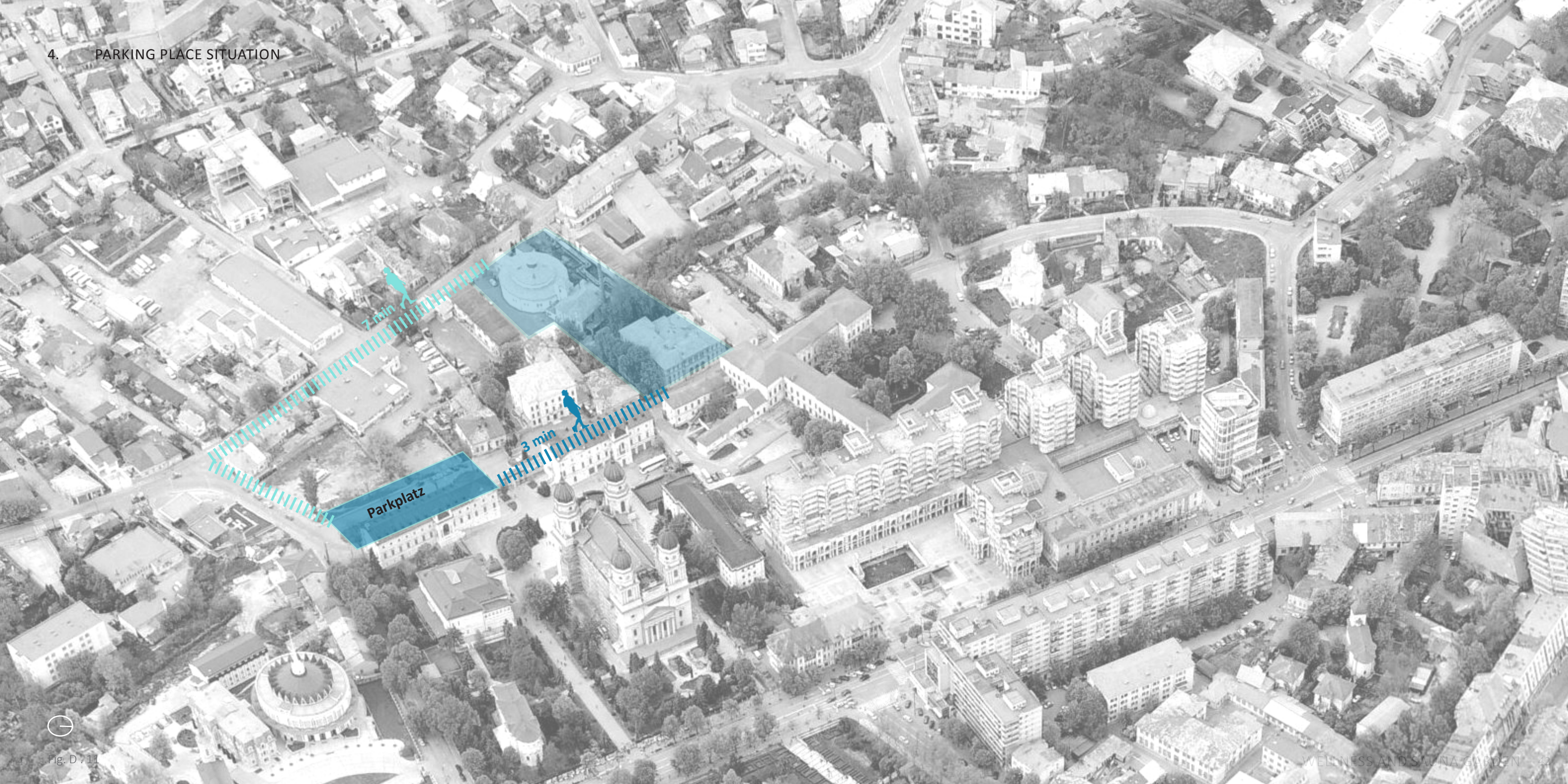


3. FINDING THE FORM - HEIGHTS

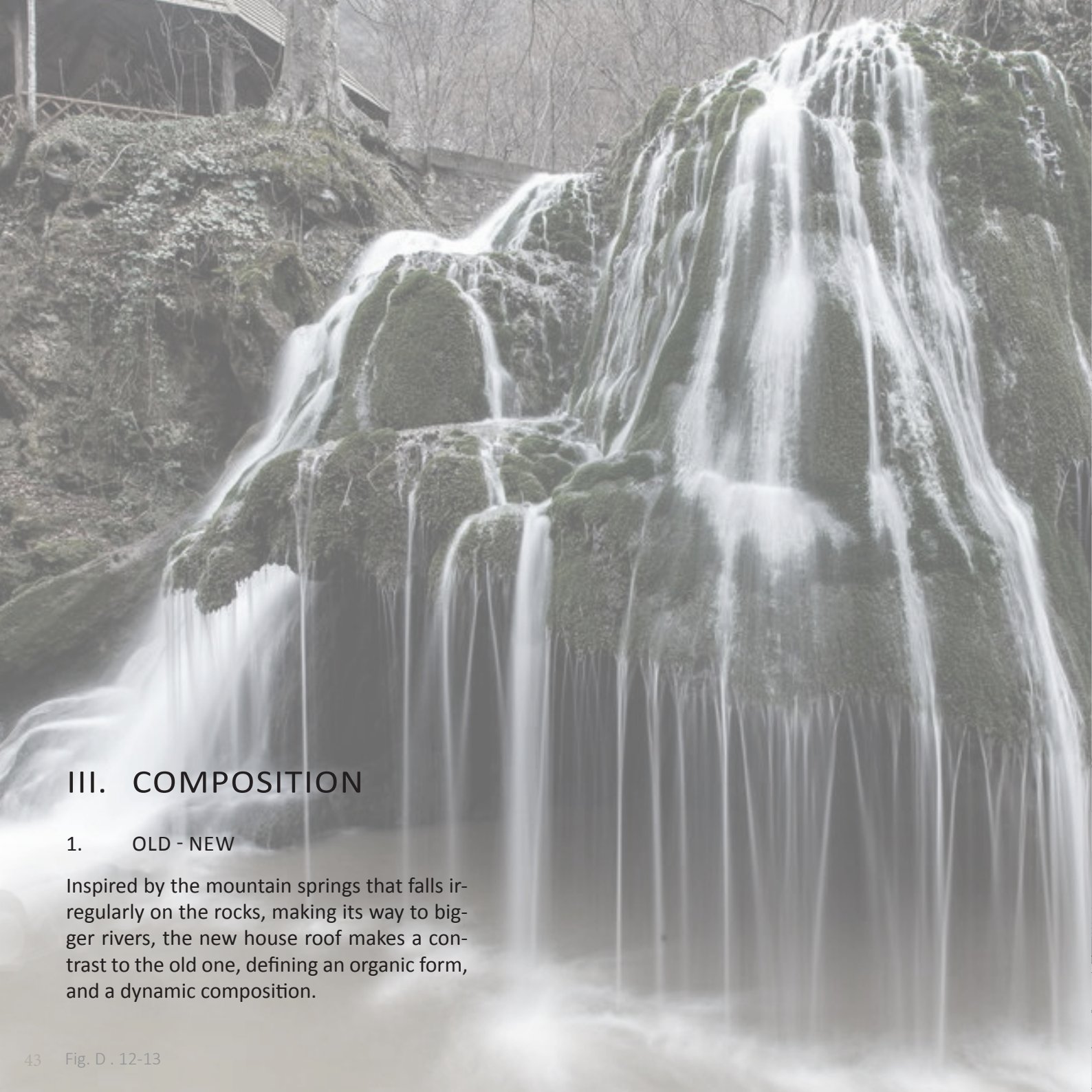




4. PARKING PLACE SITUATION



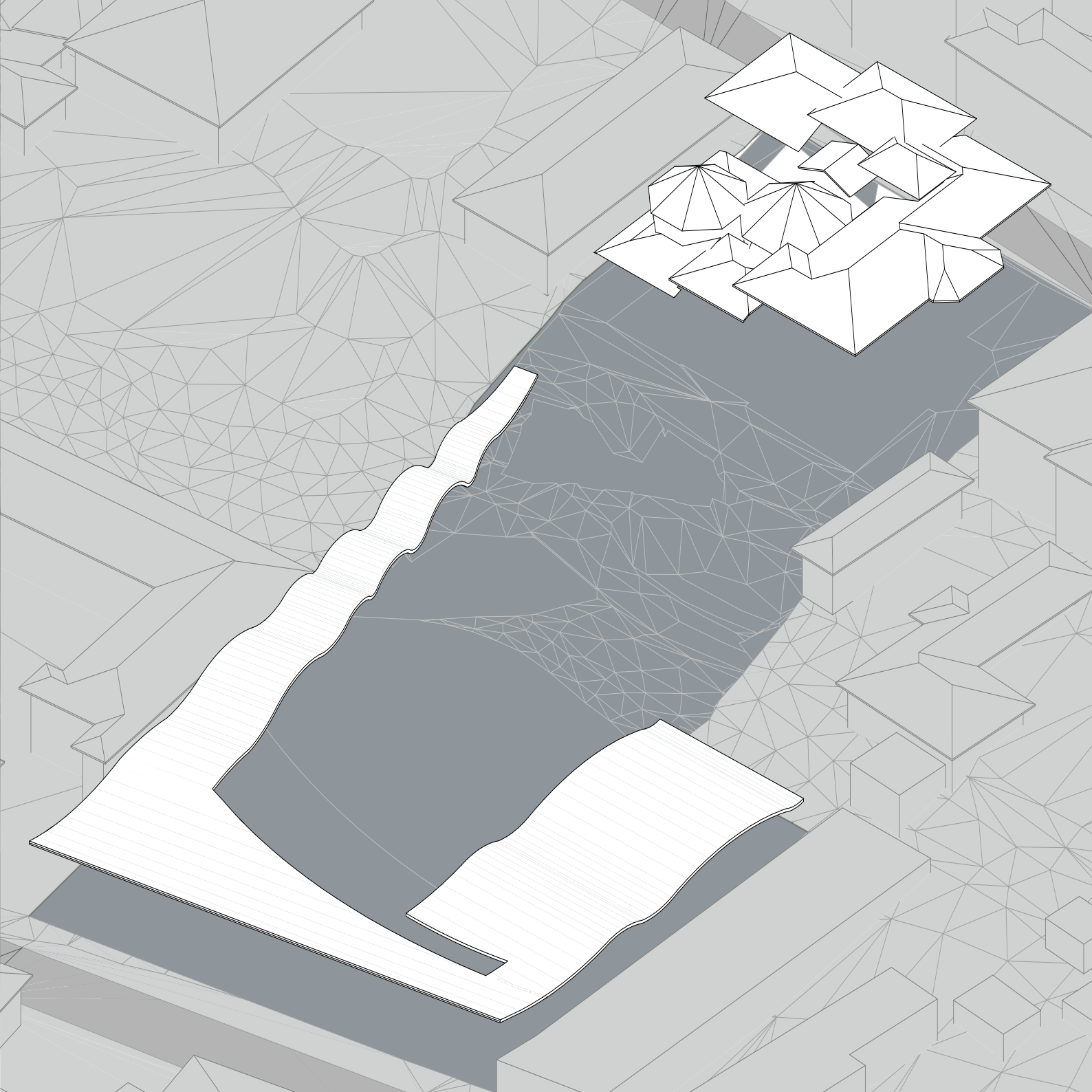




### III. COMPOSITION

#### 1. OLD - NEW

Inspired by the mountain springs that falls irregularly on the rocks, making its way to bigger rivers, the new house roof makes a contrast to the old one, defining an organic form, and a dynamic composition.



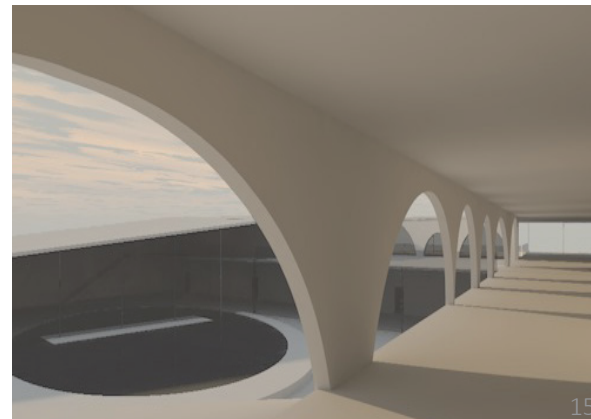
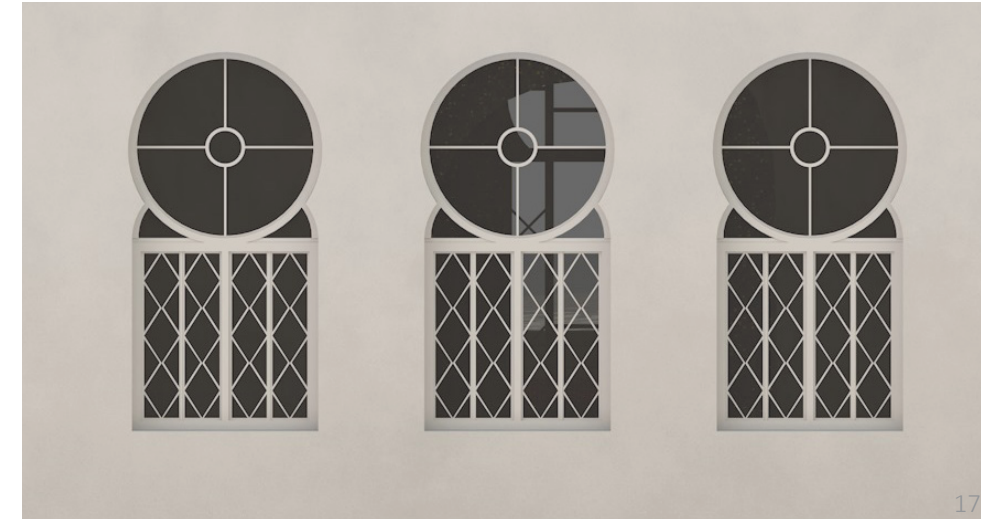


## 2. ARCADES

The interpretation of the arcades is another expression form brought in the design process as a contrast with the existing Byzantine arcades, windows, doors and openings.

The option followed the arcade developed from an ellipse, rotating it in dynamic ways, and repeating it in the new construction but also partially in the old building's back façade. That was possible since the existing windows there, were all not the original ones, but simple, rectangular, and damaged ones.

In the view from the garden the impression is of a portico, often used in the traditional Roman baths and Roman architecture in general.



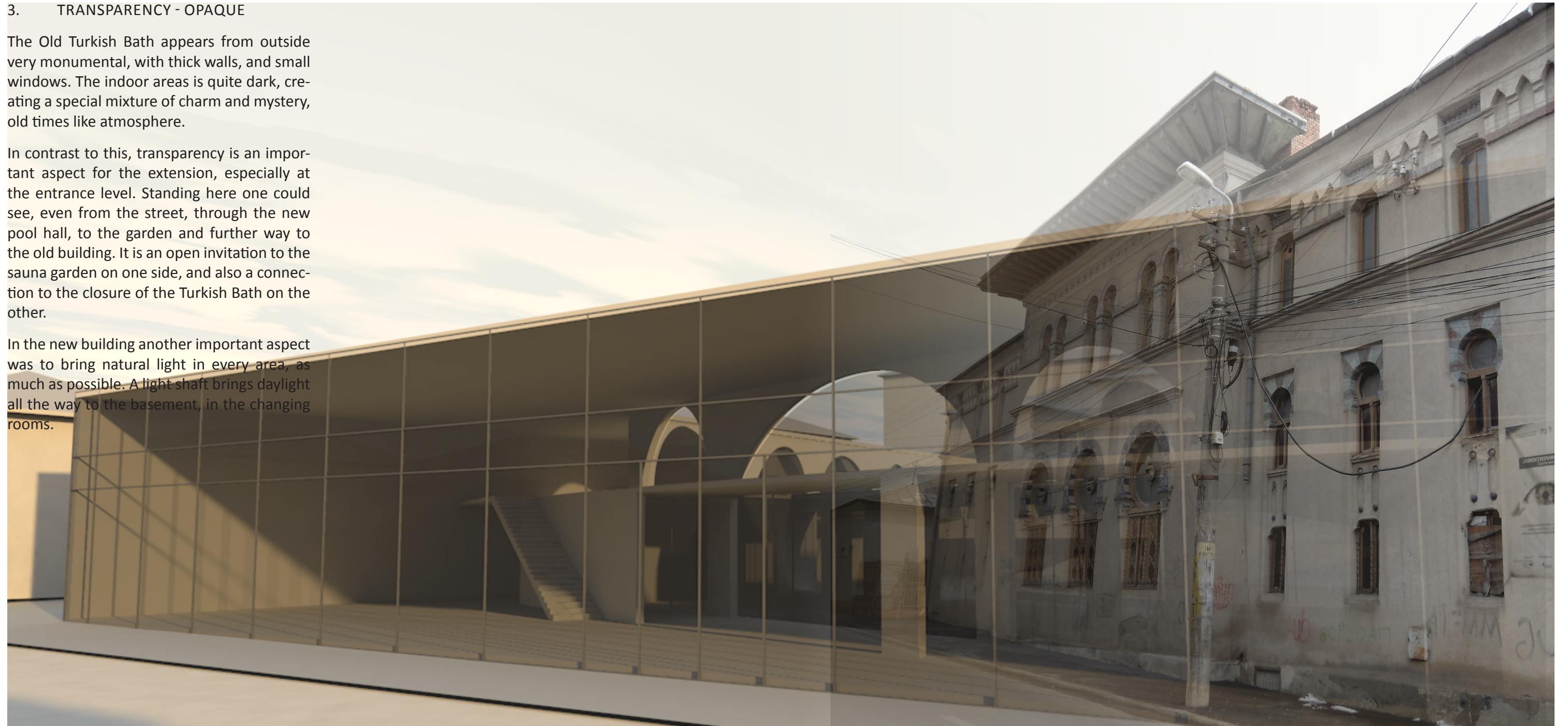


### 3. TRANSPARENCY - OPAQUE

The Old Turkish Bath appears from outside very monumental, with thick walls, and small windows. The indoor areas is quite dark, creating a special mixture of charm and mystery, old times like atmosphere.

In contrast to this, transparency is an important aspect for the extension, especially at the entrance level. Standing here one could see, even from the street, through the new pool hall, to the garden and further way to the old building. It is an open invitation to the sauna garden on one side, and also a connection to the closure of the Turkish Bath on the other.

In the new building another important aspect was to bring natural light in every area, as much as possible. A light shaft brings daylight all the way to the basement, in the changing rooms.



#### 4. POOLS - FORM

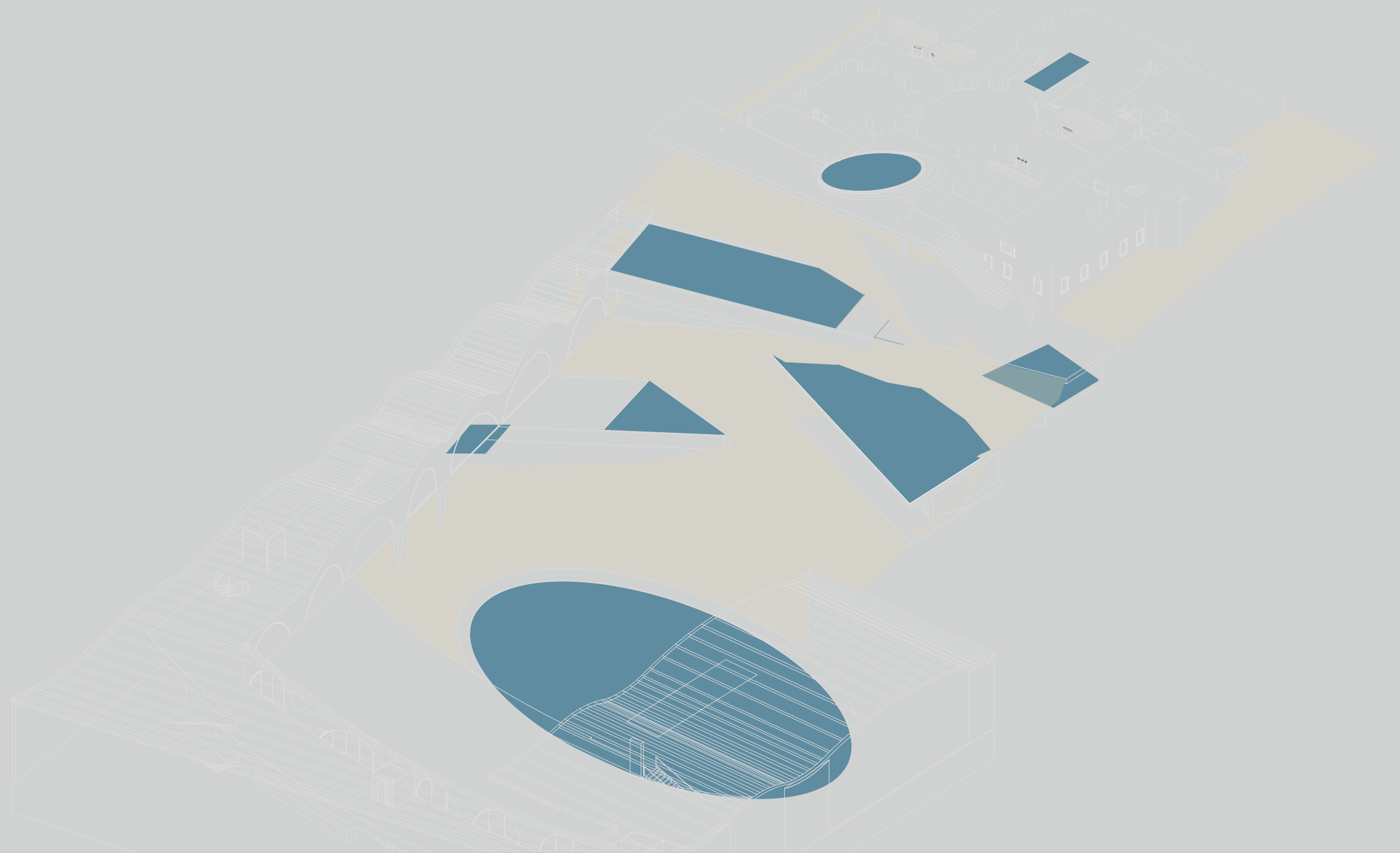
Each pool is different regarding form, dimension and type of water.

The main pool, that is located near the entrance hall in the new building has an elliptical shape, one of the main conceptual shapes used in the project. As the garden goes up to the old building, the pools vary from triangular and rectangular ones, and to other more organic shapes. It is an alternation of rigorous shapes to more organic ones, that follows the discovery of the garden and of the place.

The main inspiration in this sense are the natural elements, for example the water drops that form different shapes when they fall on the ground.



Fig. D . 23 - 24



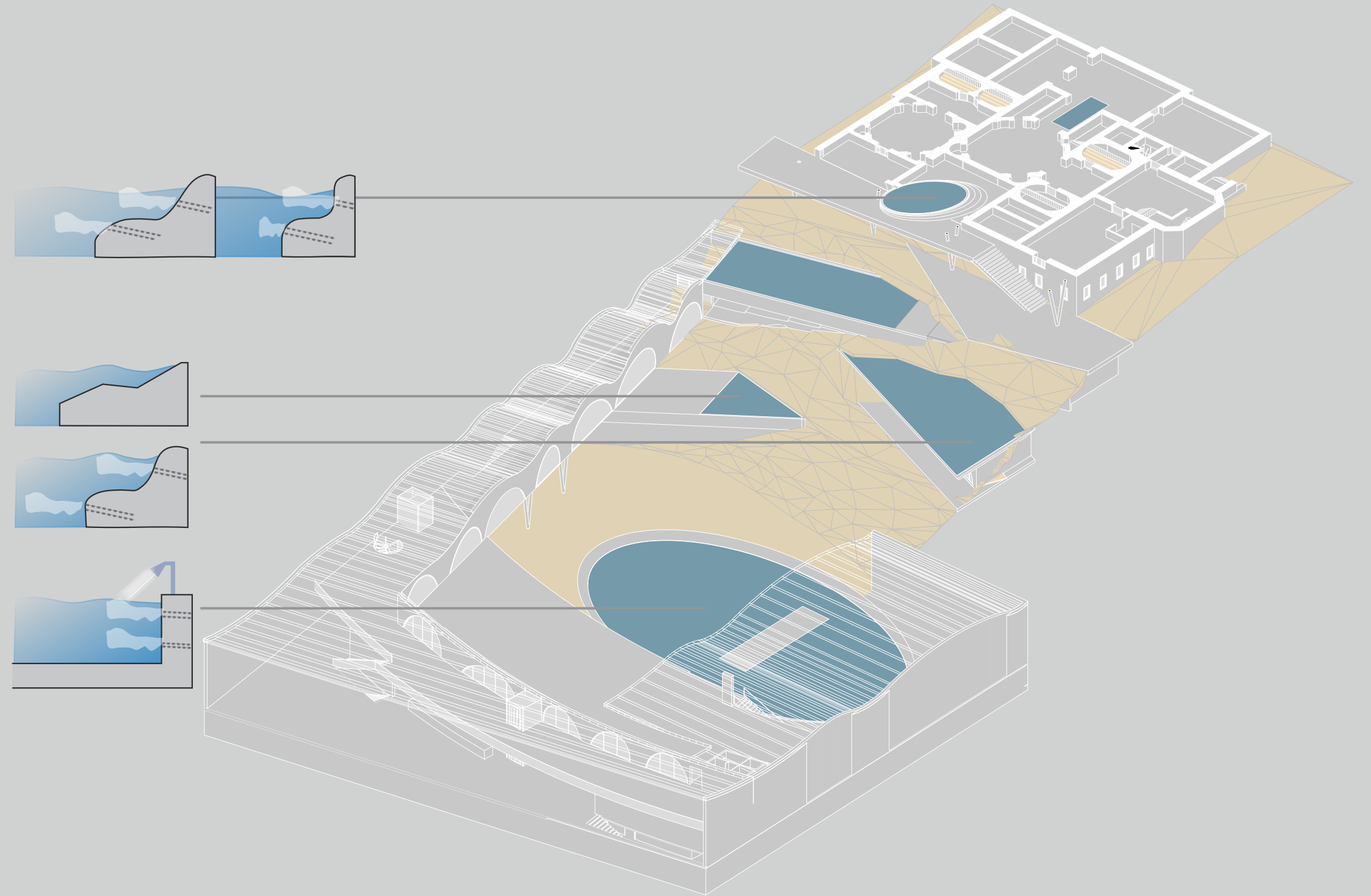


#### 4. POOLS - MARGINS

The margins of the pools complete the wellness experience, with air treatment and massage, sitting or lying places and water fountains, different from pool to pool.

Aside these, close to the sauna Pavilions are situated the warm water whirlpools, with classical air-treatment and massage.

The old pool located at the ground-floor of the Turkish Bath is a cold - salted water basin, designated for cooling after the sauna rounds.



4.

### POOLS - DIMENSIONS

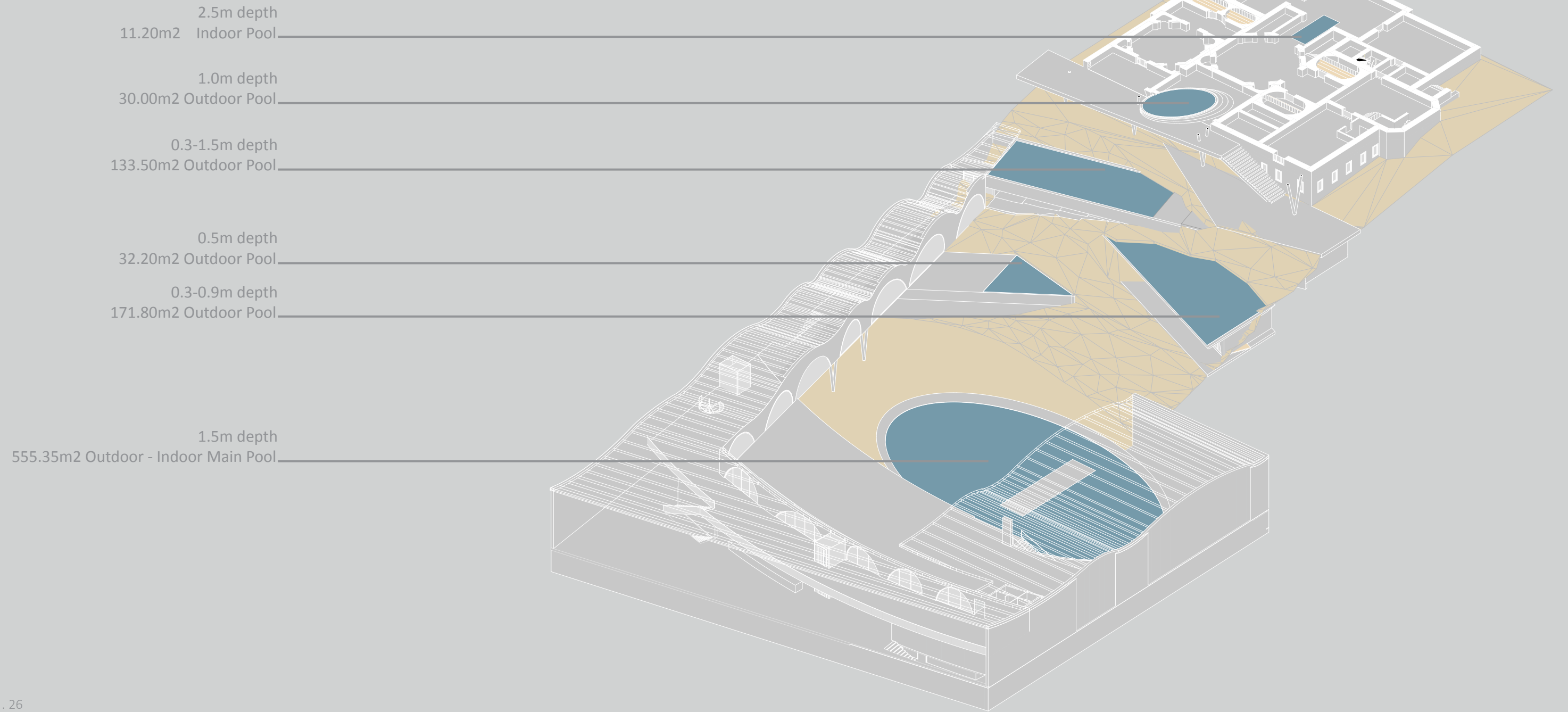
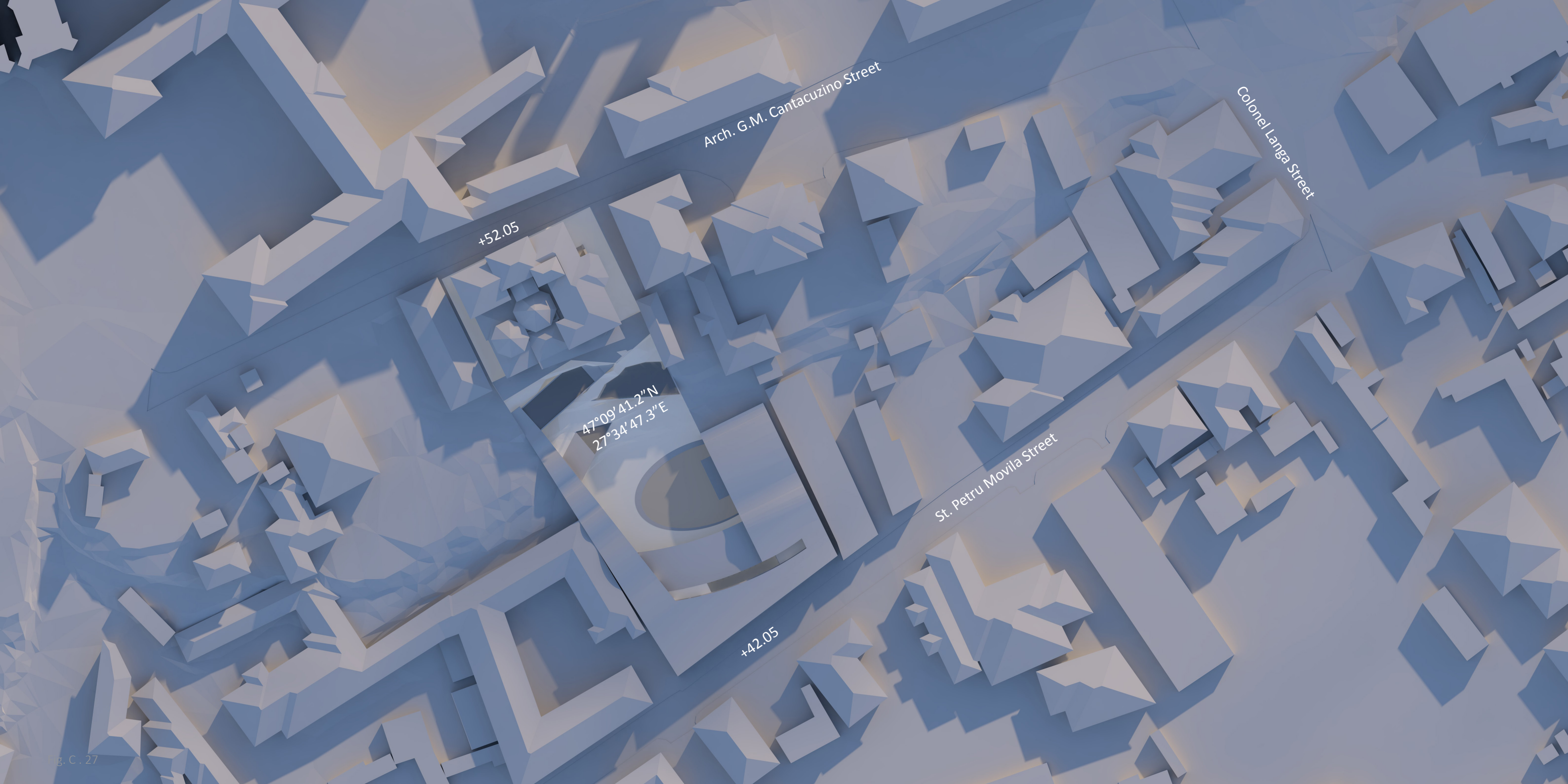


Fig. D . 26



Arch. G.M. Cantacuzino Street

Colonel Langa Street

+52.05

47°09'41.2"N  
27°34'47.3"E

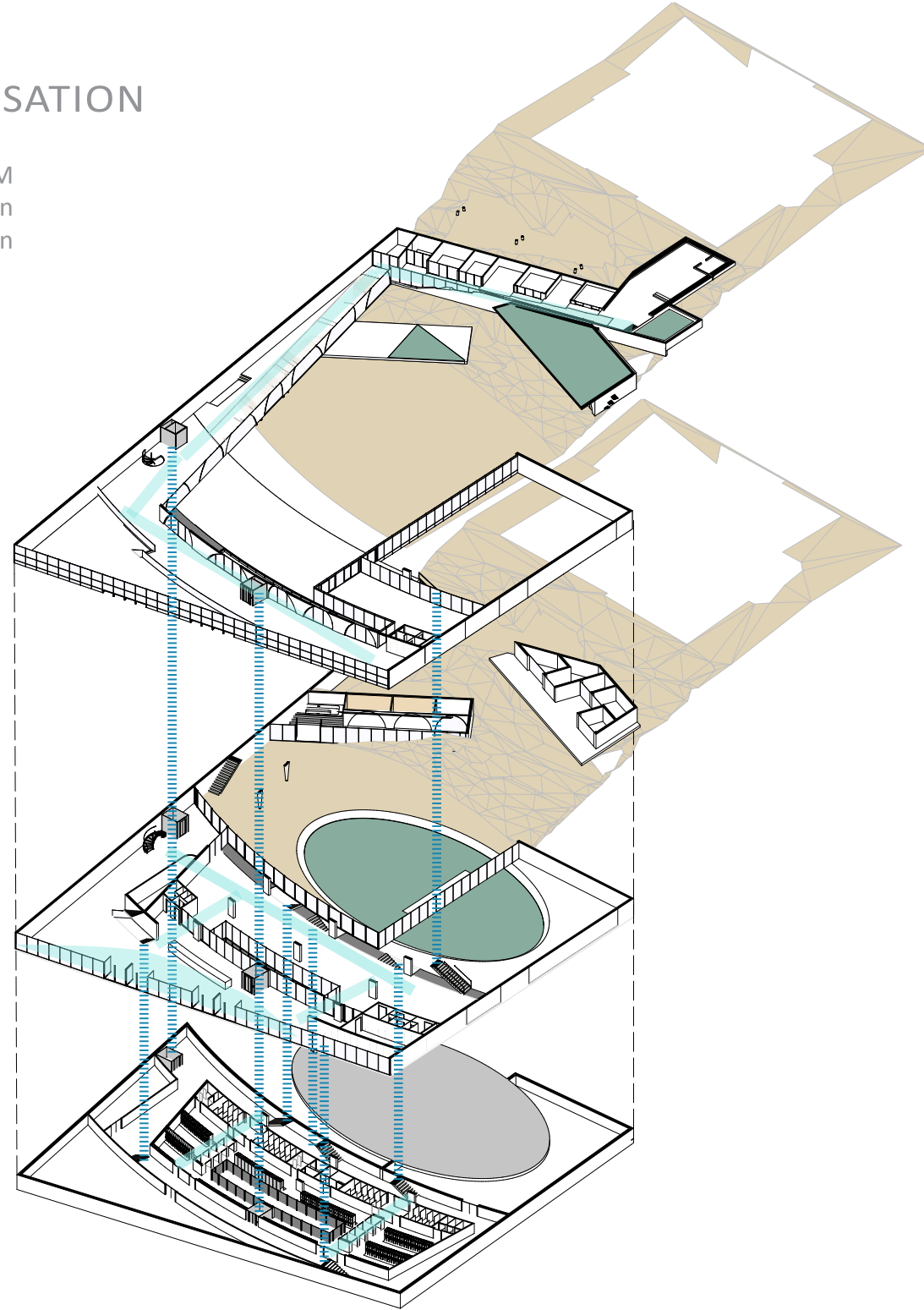
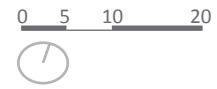
St. Petru Movila Street

+42.05



# IV. ORGANISATION

1. CIRCULATION DIAGRAM  
vertical connection  
public circulation



57 Fig. D . 28

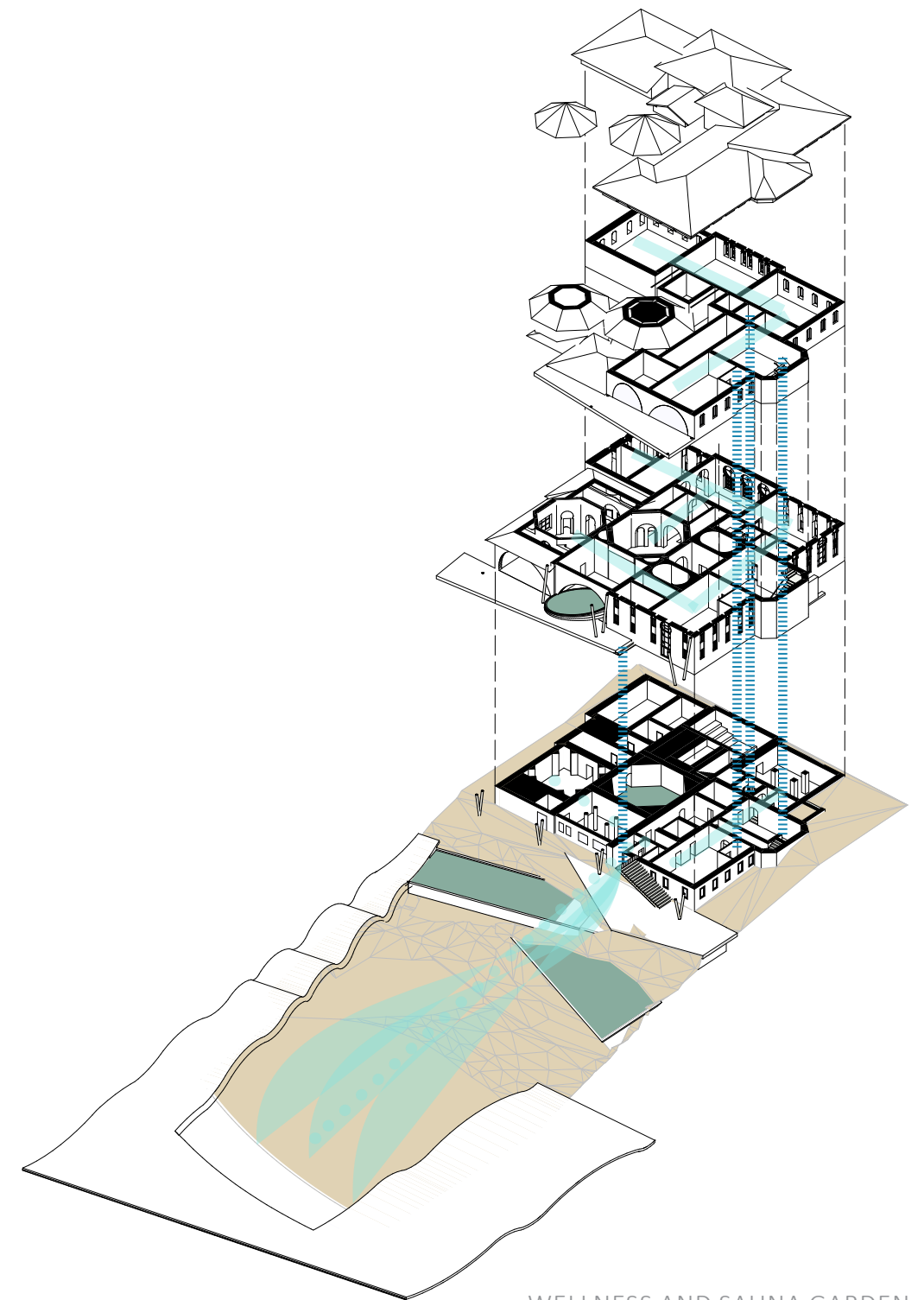


Fig. D . 29

ENTRANCE HALL

LOBBY

INFO

CHANGING ROOMS

POOLS

SWIMMING AND RELAXING POOL  
COLD WATER POOL  
THERMAL WATER POOL  
SALTED WATER POOL  
PANORAMA POOL  
SELENIUM POOL  
WHIRLPOOL

BISTRO

HOT SAUNAS

FINISH SAUNA  
BIO SAUNA  
SALT-THERAPY SAUNA  
HERBAL SAUNA  
INFRA-RED SAUNA

PERSONAL AREA

STORAGE ROOMS

TECHNICAL ROOMS

STEAM BATHS

TURKISH BATH  
AROMATHERAPY STEAM BATH

RELAXING AREA

LAYING ROOMS  
QUIET ROOMS  
MASSAGE ROOMS

SUN-BATHING AREA

GARDEN  
TERRACES

SECOND ENTRANCE

RESTAURANT

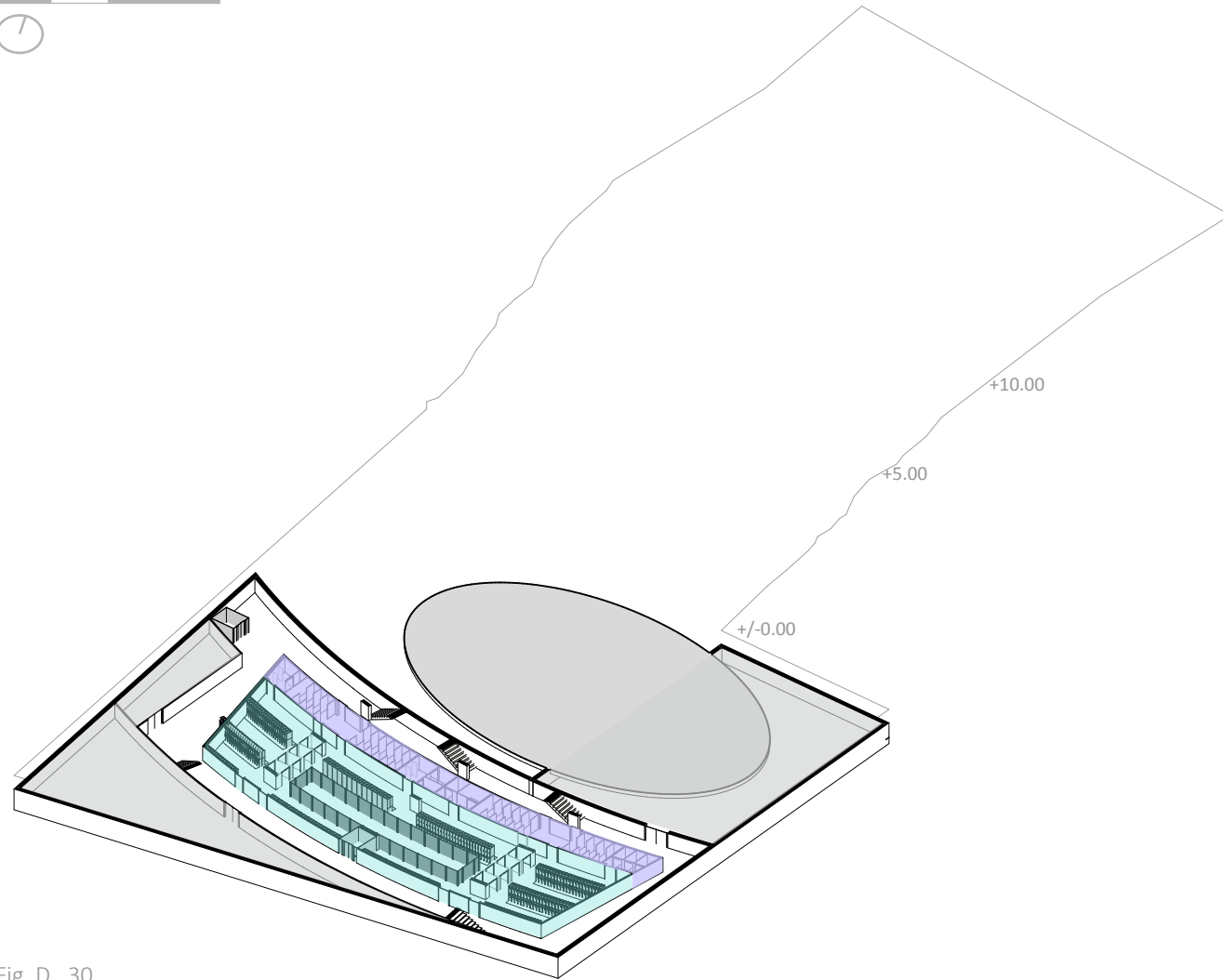
PAMORAMA VIEW

2. PLANNING PROGRAM

BASEMENT

- Changing Rooms
- Showers and Toilets
- Technical rooms

0 5 10 20

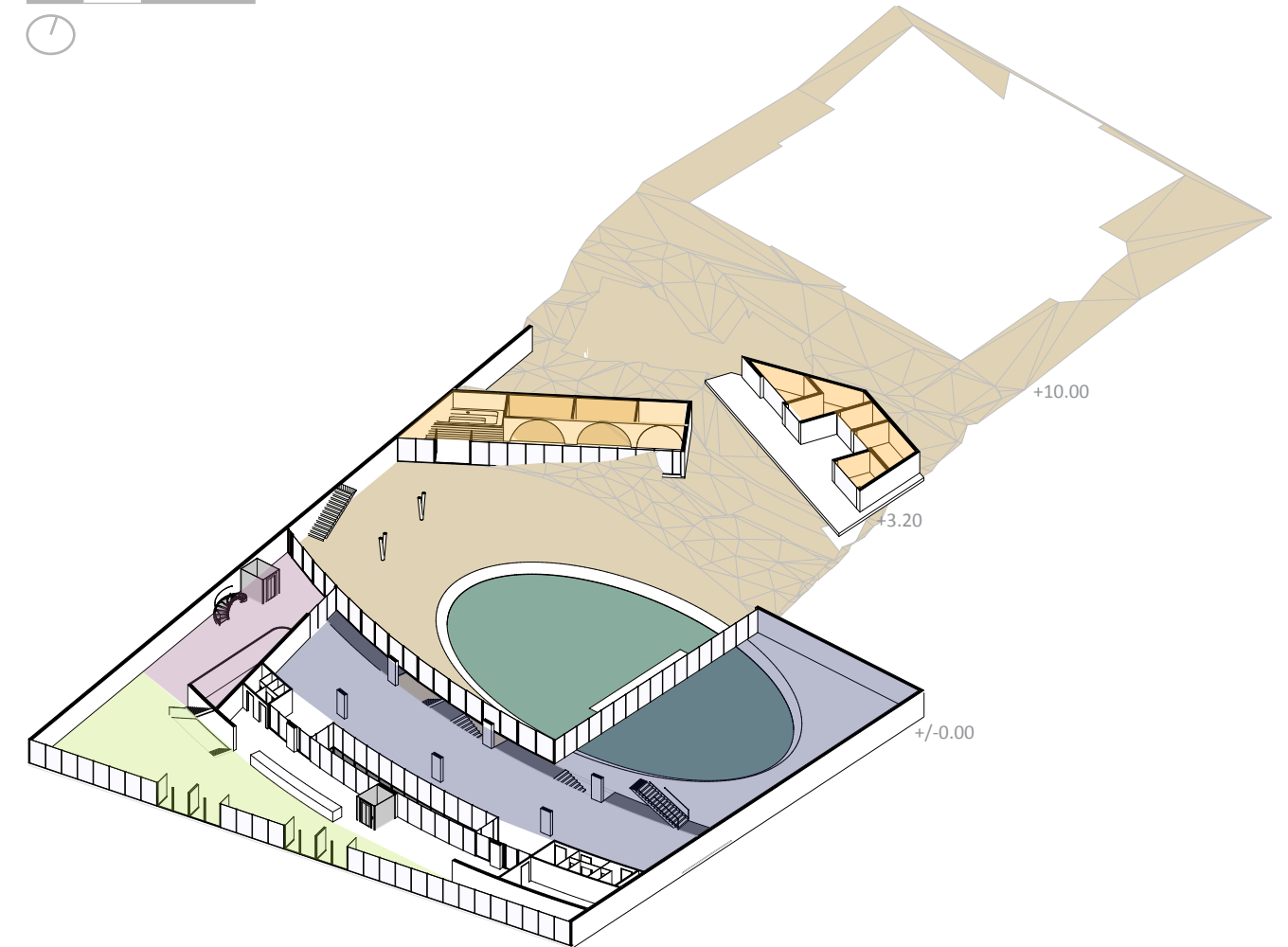


2. PLANNING PROGRAM

GROUND-FLOOR

- Foyer
- Main Pool Area
- Bistro
- Sauna Section
- Pool

0 5 10 20



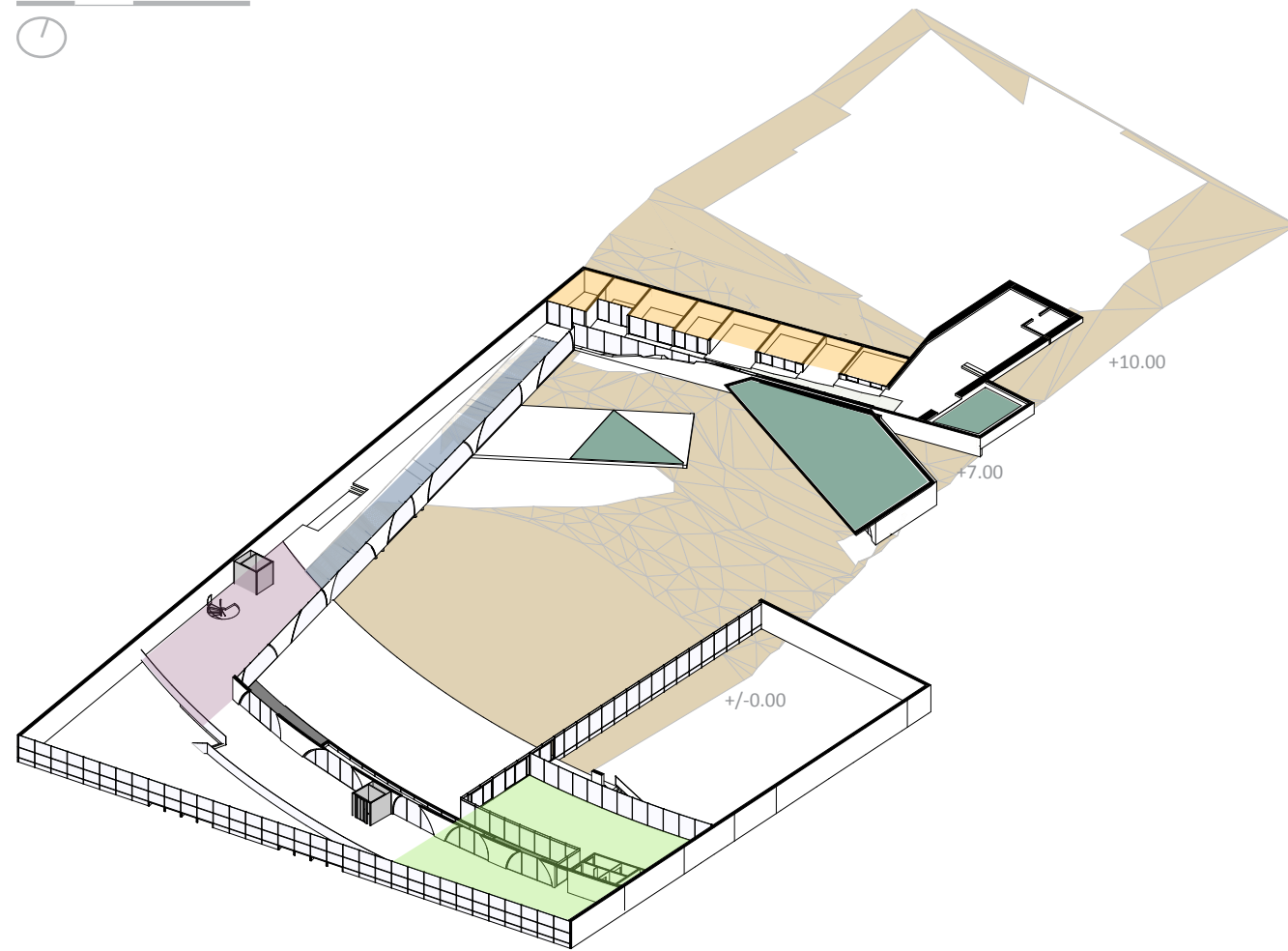


2. PLANNING PROGRAM

FIRST FLOOR

- Personnel Area
- Bistro
- Resting Space
- Sauna Section
- Pools

0 5 10 20

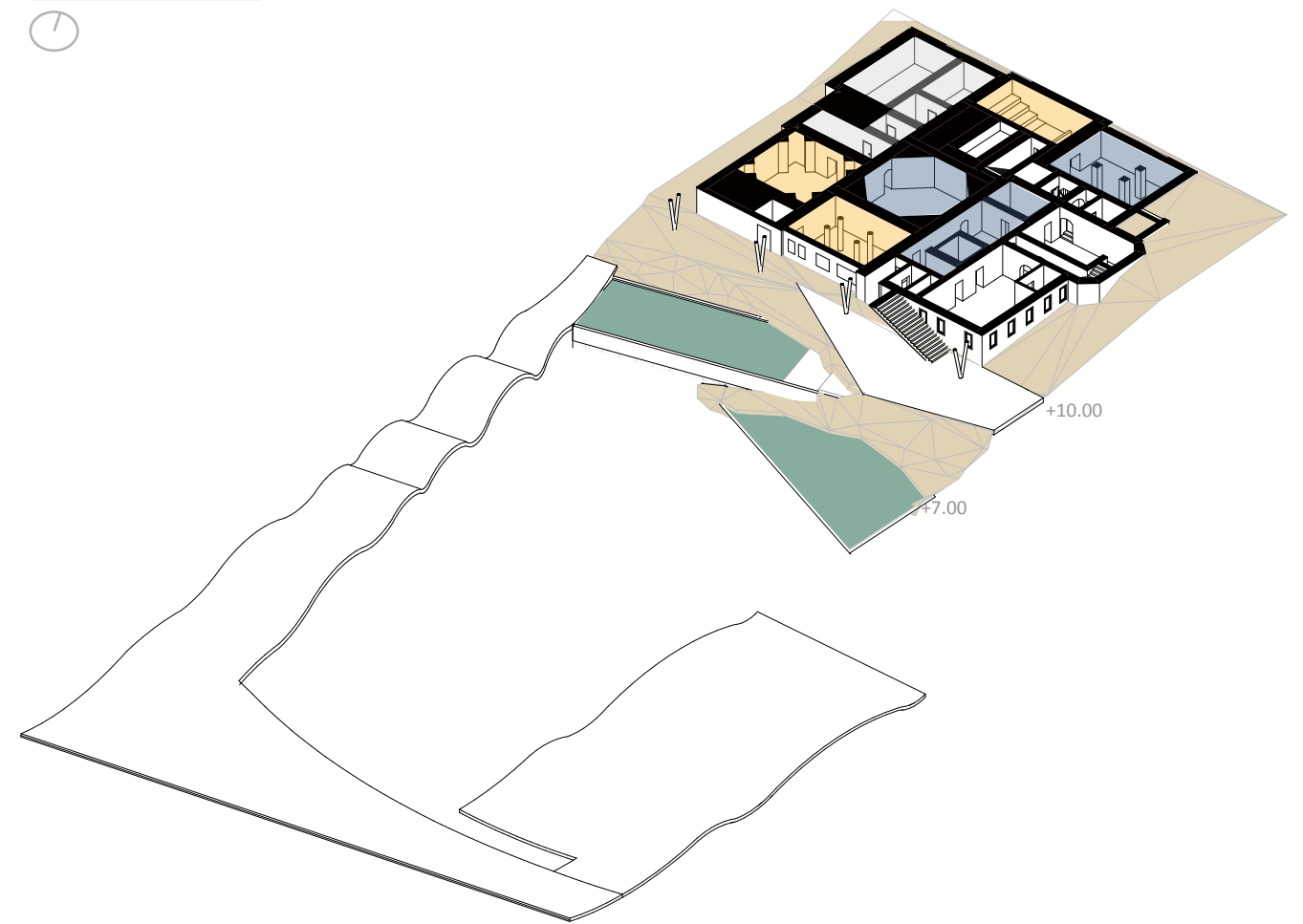


2. PLANNING PROGRAM

BASEMENT - EXISTING BUILDING

- Sauna Section
- Resting Space
- Technical Rooms
- Pools

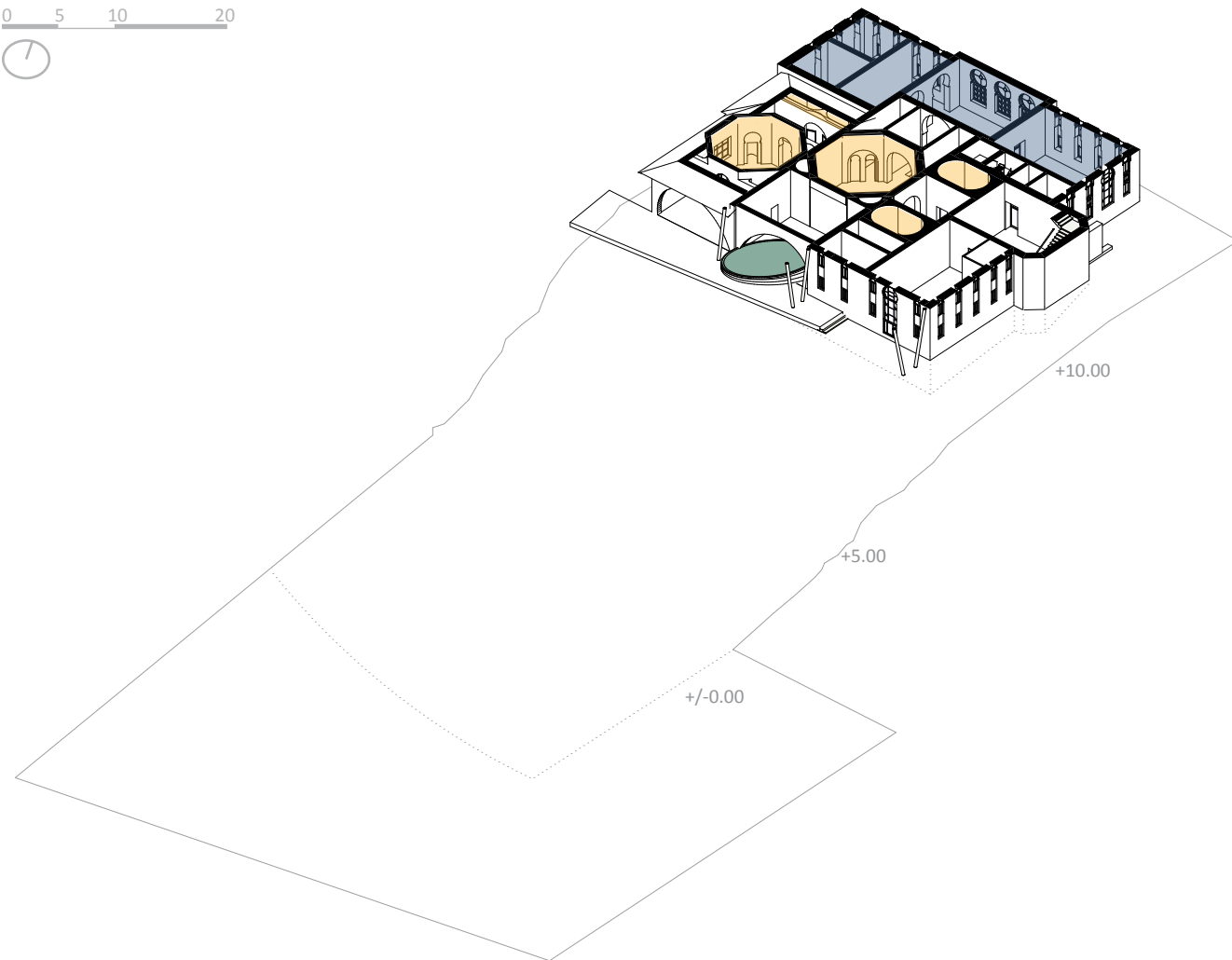
0 5 10 20



2. PLANNING PROGRAM

GROUND FLOOR - EXISTING BUILDING

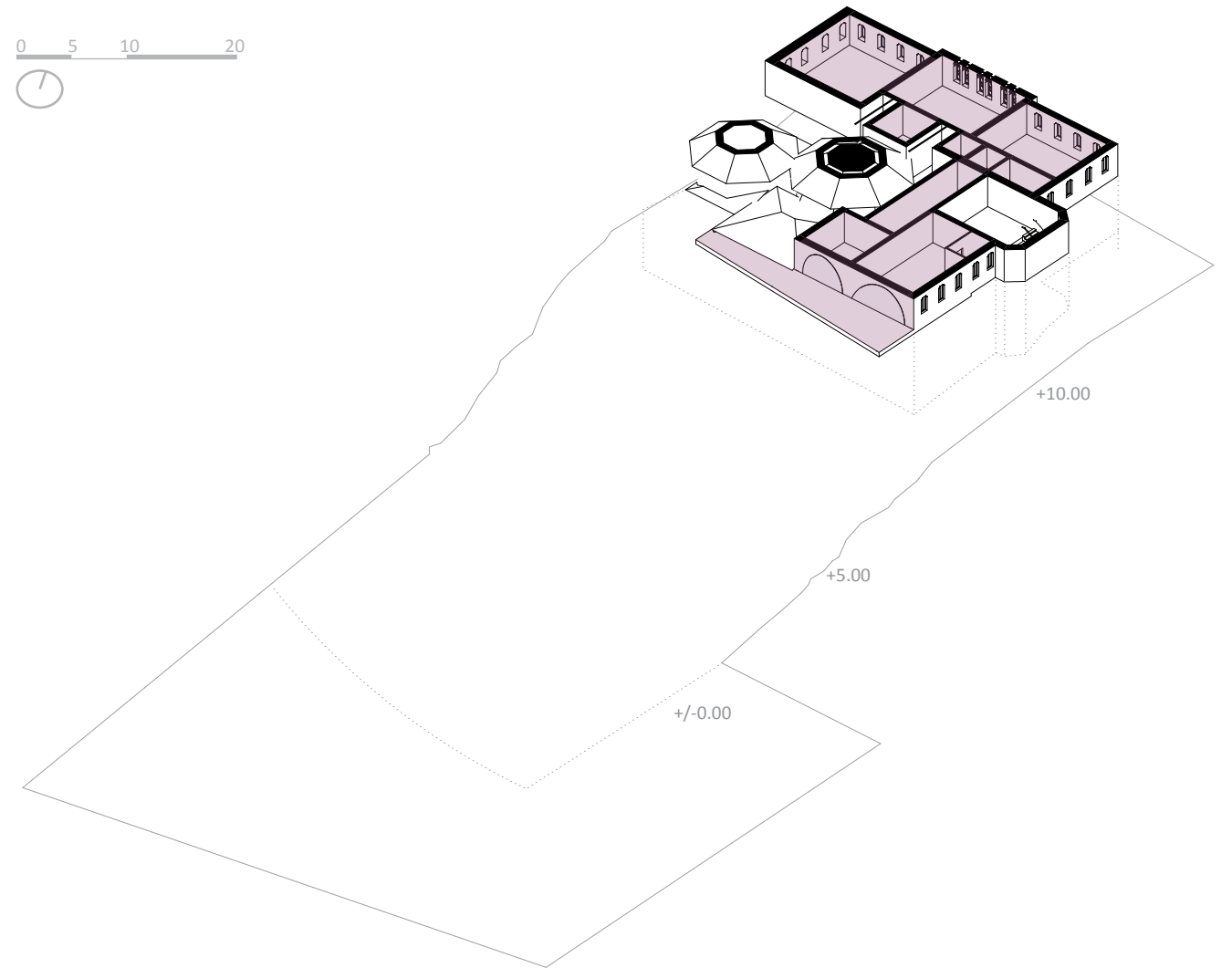
- Sauna Section
- Resting Space
- Pools



2. PLANNING PROGRAM

FIRST FLOOR - EXISTING BUILDING

- Restaurant





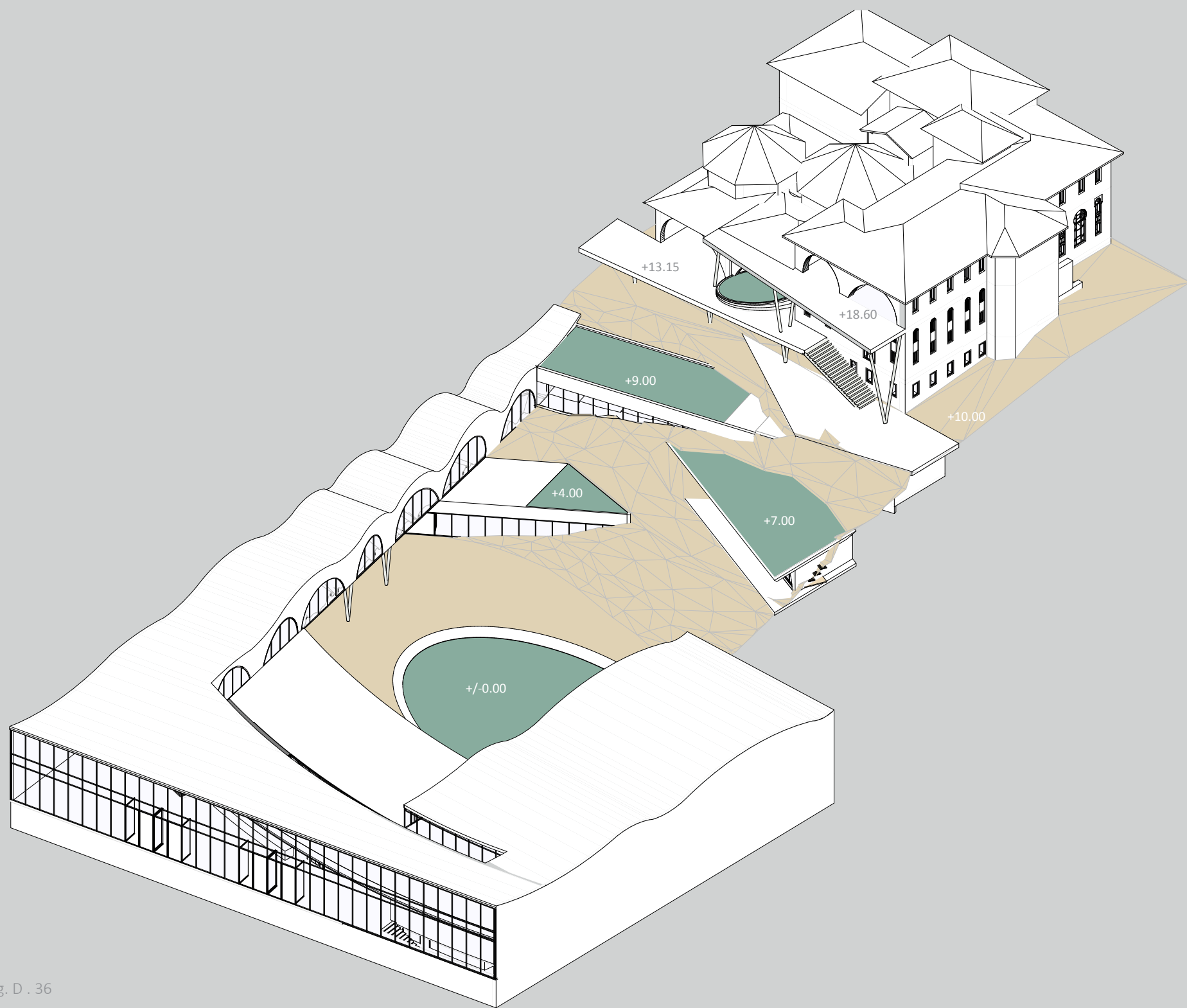


Fig. D . 36



# V. SAUNA PAVILIONS

## MAIN TYPES AND FACILITIES

- Hot Sauna
- Steam Bath
- Resting Space
- Whirlpool
- Showers

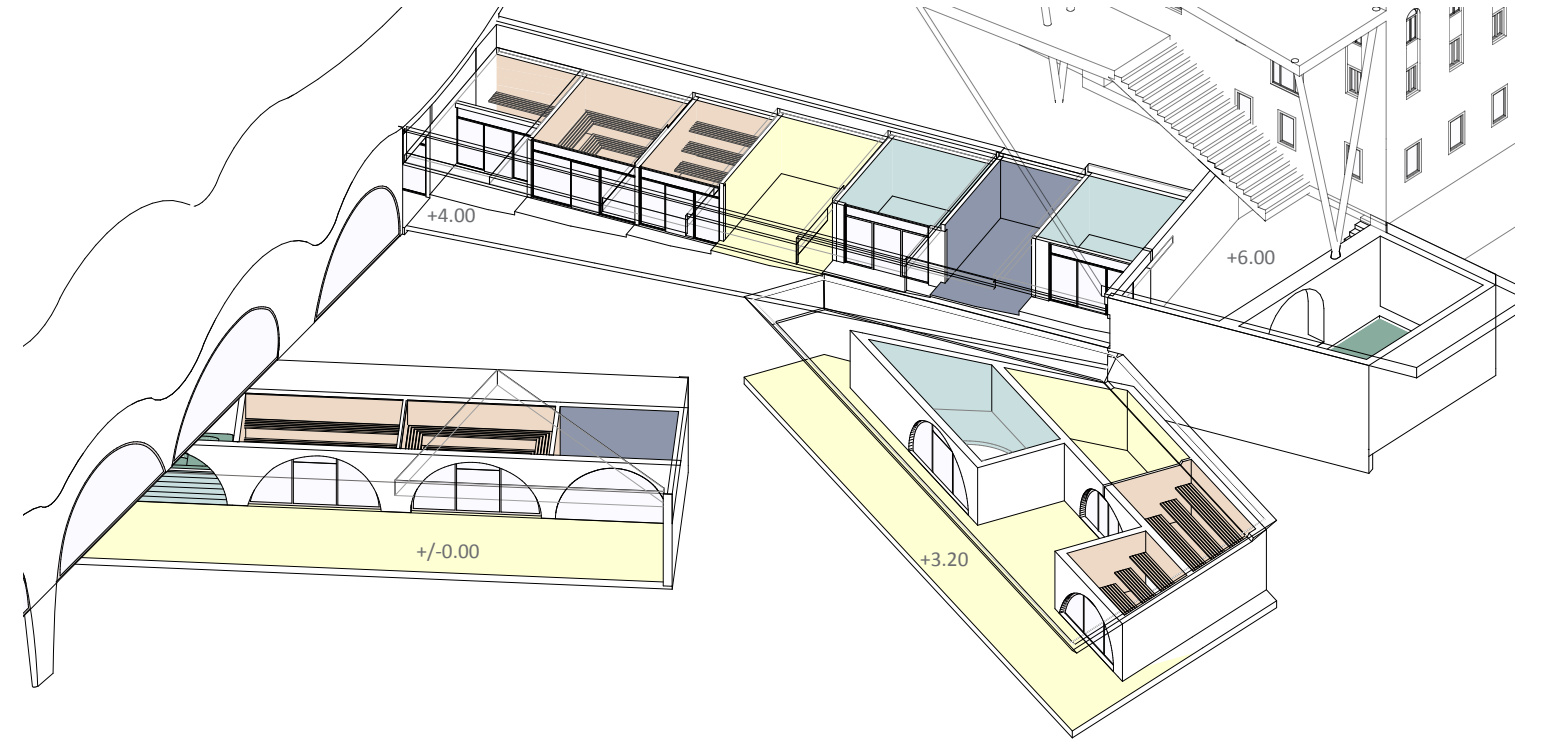


Fig. D . 37

Fig. D . 38





Fig. D . 39

## VI. AROMATHERAPY GARDEN

MAIN PLANTS  
NATURAL MATERIALS



Fig. D . 40- 45



## VII. DISCUSSION

The theme of wellness and sauna in general is a very wide one, with the possibility to experiment a lot, and to make many interpretations.

The documentation field in this category is very large. A great part of this research is concentrated on antique and traditional examples, and the most impressive thing is that these baths, in many aspects, like construction, details, techniques, or rituals, are still very actual.

Most recent, there are many interesting approaches in designing a bath, the most well-known probably the "Therme in Wels" from the architect Peter Zumthor, or the "Le Bains des Docks" from Jean Nouvel, baths that combine the SPA experience with a sculptural very carefully detailed architecture, creating a intense adventure in discovering and enjoying the place itself.

Looking all over the evolution the Wellness theme, its complexity is notable, and all the discovered and used sources had to be all over again ranked, analysed and discussed for an optimal designing result.

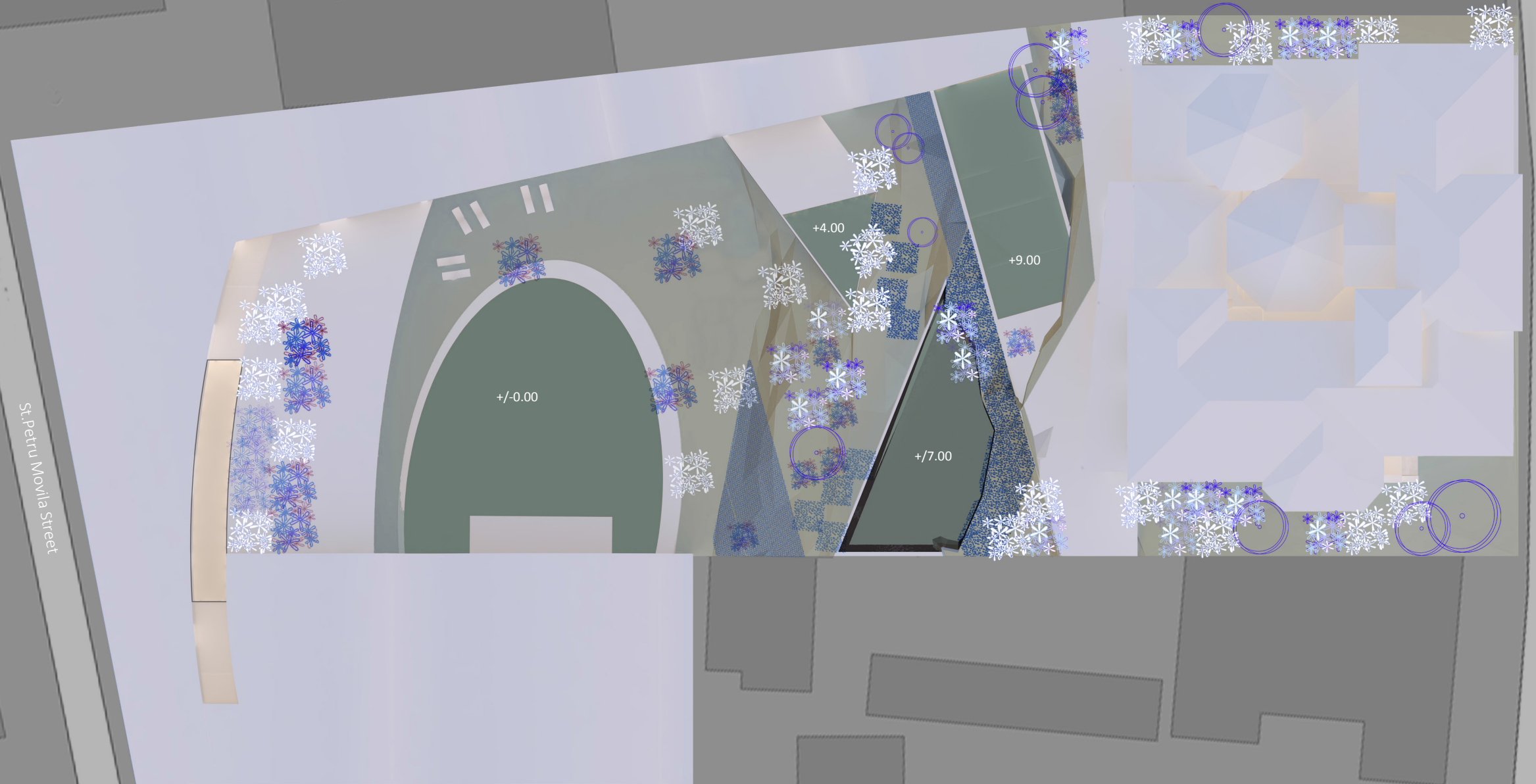


Fig. D . 46



## E. DESIGN

## I. OUTCOME

The *Wellness and Sauna Garden* goes further in details, with the accurate illustration of the plans, sections and façades, based on the hypothesis presented in the *Concept* chapter.

This is a project about the relation between historical buildings and new ones, objectified, in a SPA resort. The integration is made through reinterpretation of specific elements, and alternation of traditional functions with new, innovative ones.

In a similar manner, the functional scheme is completed through different relations between spaces. The interior communicates with the exterior, through transparency, openings and large terraces as seen in the following sections and façades.

The complexity of the project raised also some technical questions and solutions. The Old Turkish Bath had to be optimized not only through restoration, but also through technical details - e.g. Ca-Si-Insulation at the interior side. Also, for the sauna pavilions the option was for the insulation at the interior side, because these don't have to be used regularly. Their designed also considered the fixture of the hill they are lying in.



## II. PLANS

### 1. SITUATION PLAN



0 10 20 50



Fig. E . 1

## 2. UNDERGROUND FLOOR

- 1. Changing Rooms 337.00m<sup>2</sup>
- 2. Showers/Toilets 123.00m<sup>2</sup>
- 3. Water Surface 35.70m<sup>2</sup>
- 4. Technical Rooms 212.02m<sup>2</sup>  
57.26m<sup>2</sup>  
405.73m<sup>2</sup>

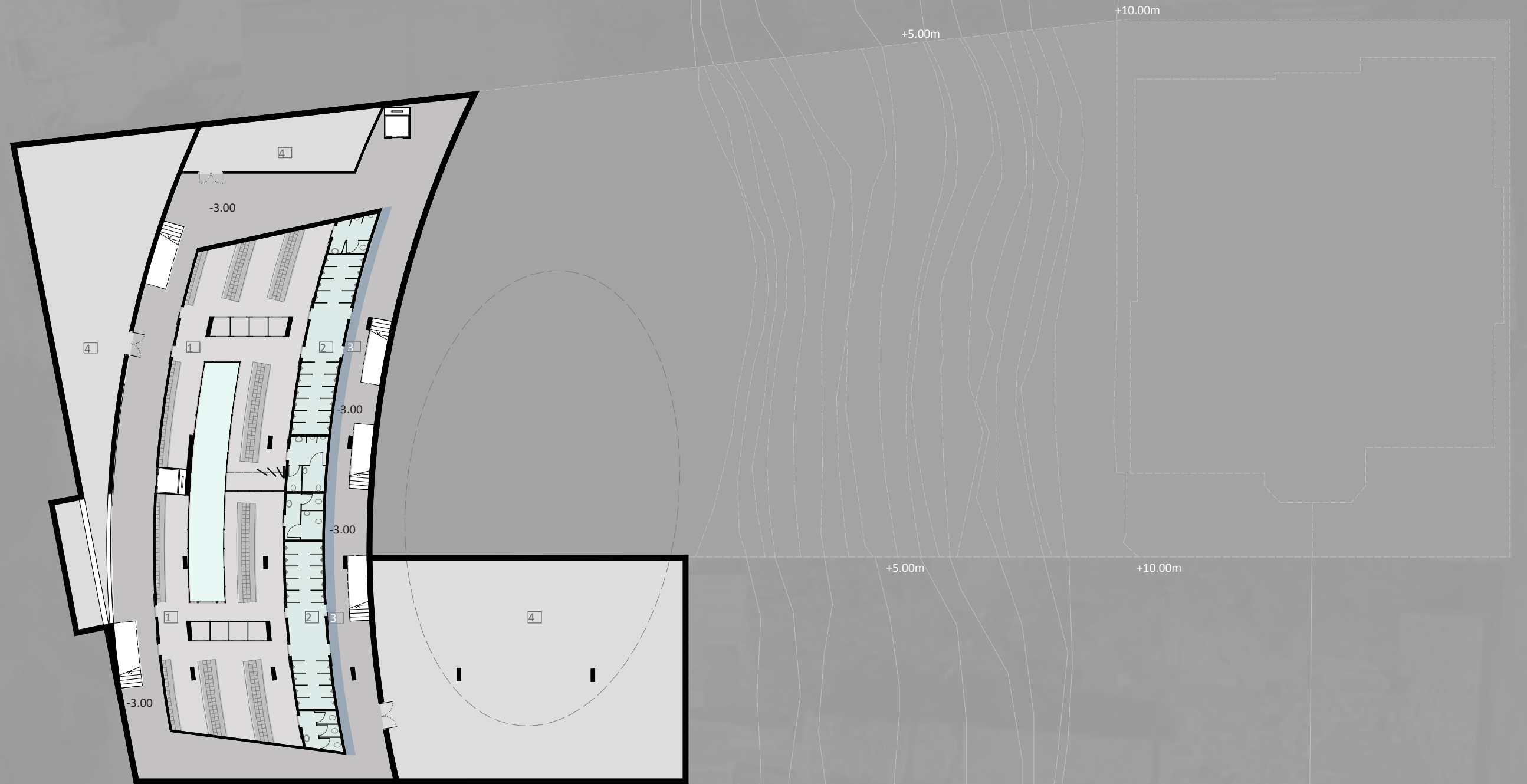


Fig. E . 2



3. GROUND FLOOR

- 5. Entrance Hall 370.30m<sup>2</sup>
- 6. Ticket Shop 50.00m<sup>2</sup>
- 7. Lying Area 707.90m<sup>2</sup>
- 8. Indoor Pool 192.50m<sup>2</sup>
- 9. Outdoor Pool 326.20m<sup>2</sup>
- 10. Outdoor Area 539.00m<sup>2</sup>
- 11. Bistro 166.20m<sup>2</sup>
- 12. Dis. WC 9.00m<sup>2</sup>
- 13. WC Man 6.80m<sup>2</sup>
- 14. WC Women 7.20m<sup>2</sup>
- 15. First Aid Room 6.50m<sup>2</sup>
- 16. Storage Room 31.70m<sup>2</sup>
- 17. Sauna Relaxing Area 78.45m<sup>2</sup>
- 18. Whirlpool 10.00m<sup>2</sup>
- 19. Finnish Sauna 16.00m<sup>2</sup>
- 20. Bio Sauna 16.00m<sup>2</sup>
- 21. Showers 12.00m<sup>2</sup>

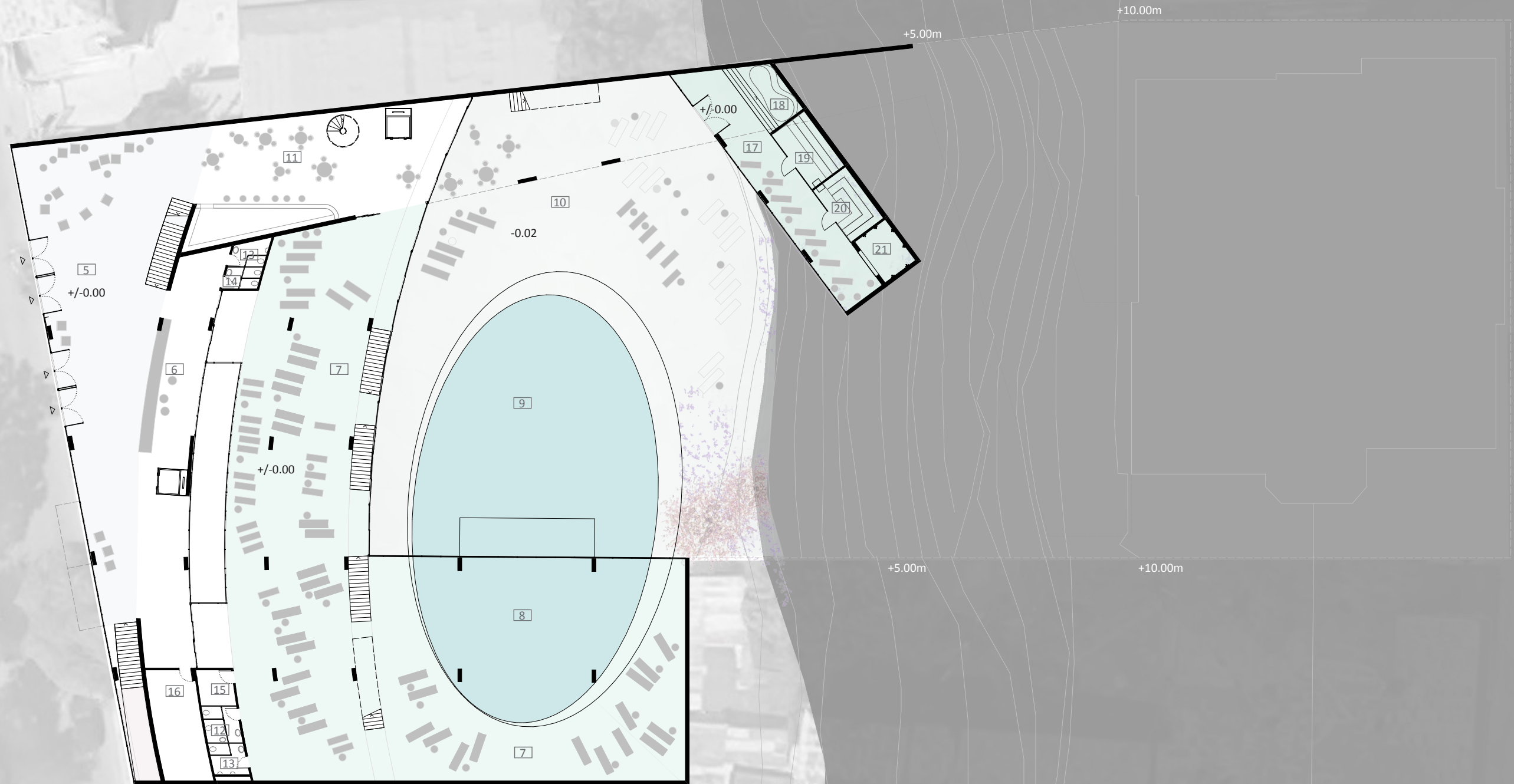


Fig. E . 3

4. FIRST FLOOR

- 11. Bistro 166.20m<sup>2</sup>
- 18. Whirlpool XXm<sup>2</sup>
- 19. Finnish Sauna 20.00m<sup>2</sup>
- 20. Bio Sauna 18.00m<sup>2</sup>
- 21. Showers 12.00m<sup>2</sup>
- 22. Terrace 53.85m<sup>2</sup>
- 23. Personal Area 276.60m<sup>2</sup>
- 24. Lying/Sitting Area 108.70m<sup>2</sup>
- 25. Salted Water Pool 32.00m<sup>2</sup>
- 26. Quiet Room 20.00m<sup>2</sup>
- 27. Relaxing Room 22.00m<sup>2</sup>
- 28. Herbal Sauna 16.50m<sup>2</sup>
- 29. Infra-red Sauna 14.00m<sup>2</sup>
- 30. Turkish Bath 20.00m<sup>2</sup>
- 31. Aroma-SteamRoom 16.00m<sup>2</sup>

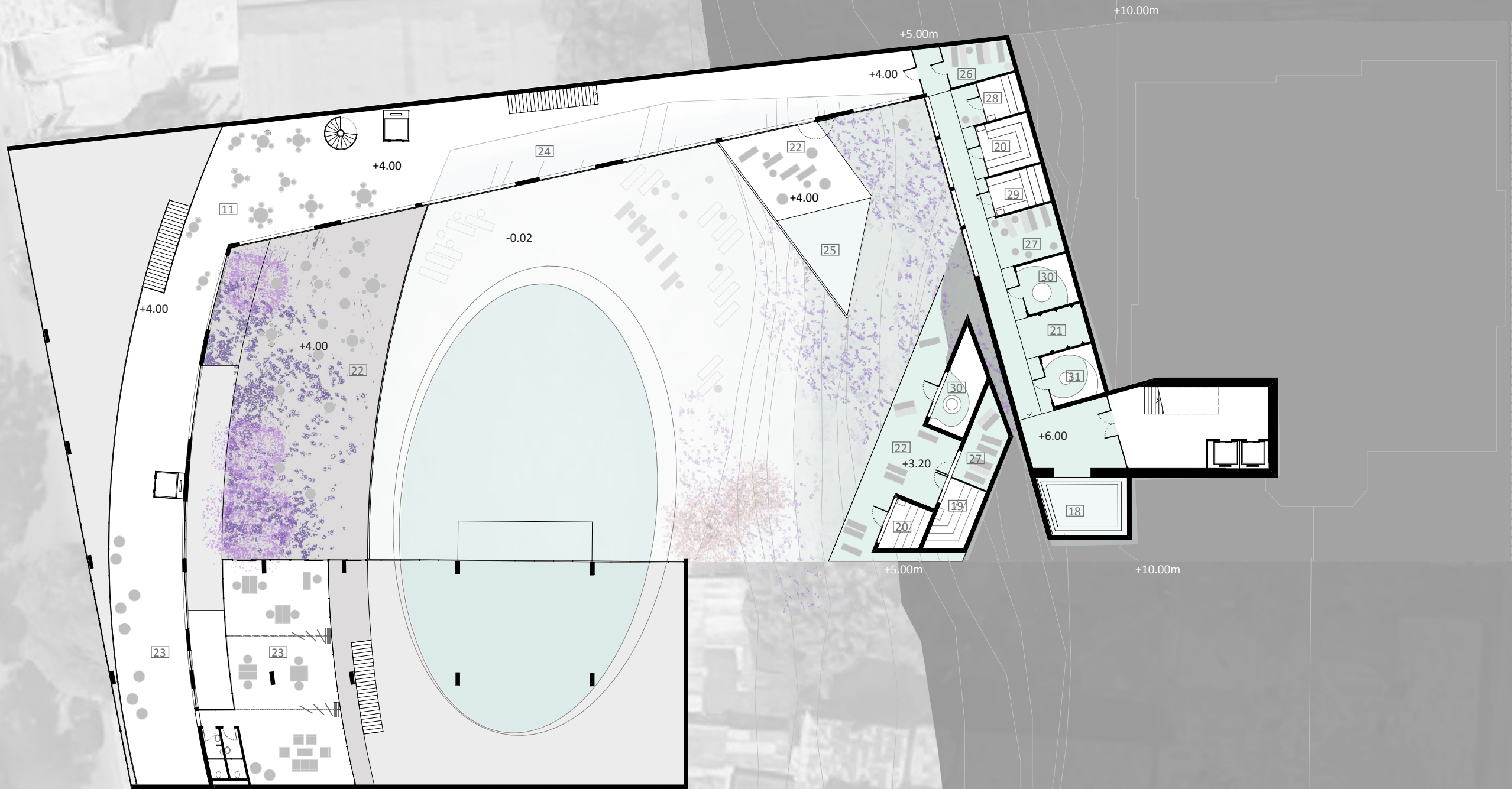


Fig. E . 4



5. GARDEN FLOOR  
EXISTING BUILDING

- 4. Technical Room 99.50m<sup>2</sup>
- 12. Dis. WC 7.00m<sup>2</sup>
- 13. WC Man 13.30m<sup>2</sup>
- 14. WC Woman 13.50m<sup>2</sup>
- 16. Storage Room 20.50m<sup>2</sup>
- 19. Finnish Sauna 33.50m<sup>2</sup>
- 20. Bio Sauna 57.60m<sup>2</sup>
- 21. Showers 20.00m<sup>2</sup>
- 22. Terrace 165.00m<sup>2</sup>
- 25. Salted Water Pool 32.00m<sup>2</sup>
- 26. Quiet Room 59.00m<sup>2</sup>
- 27. Relaxing Room 50.00m<sup>2</sup>
- 31. Steaming Room 51.00m<sup>2</sup>
- 32. Selenium Pool 133.00m<sup>2</sup>
- 33. Therapy Pool 172.00m<sup>2</sup>

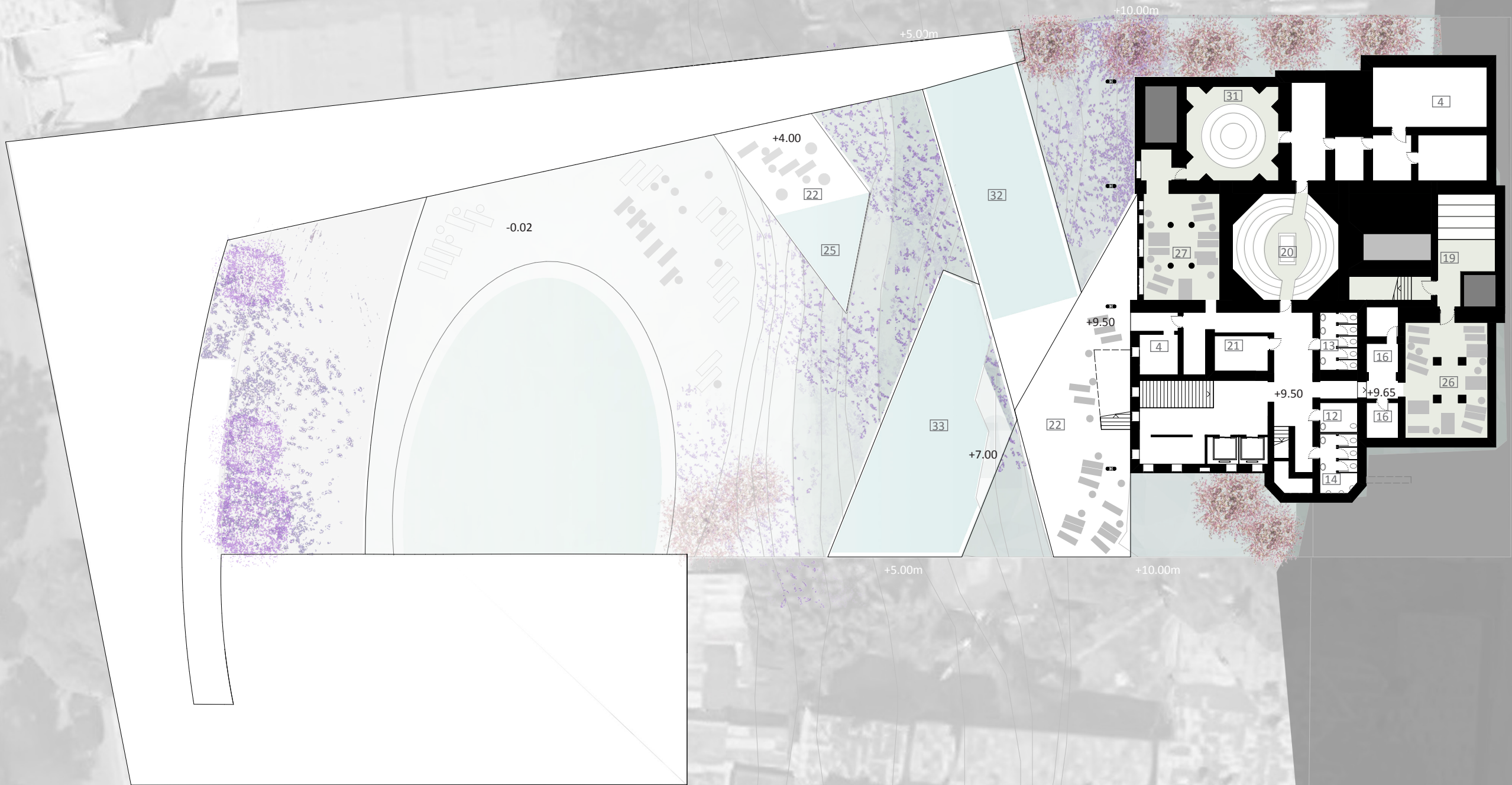


Fig. E . 5

6. GROUND FLOOR  
EXISTING BUILDING

- 13. WC Man 7.00m<sup>2</sup>
- 14. WC Woman 10.00m<sup>2</sup>
- 19. Finnish Sauna 13.00m<sup>2</sup>
- 20. Bio Sauna 9.00m<sup>2</sup>
- 22. Terrace 165.00 m<sup>2</sup>
- 25. Salted Water Pool 32.00m<sup>2</sup>
- 26. Quiet Room 60.00m<sup>2</sup>
- 27. Relaxing Room 62.00m<sup>2</sup>
- 30. Turkish Bath 60.00m<sup>2</sup>
- 34. Aromatherapy Bath 57.00m<sup>2</sup>
- 35. Provence Sauna 7.00m<sup>2</sup>
- 36. Salt Therapy Sauna 13.00m<sup>2</sup>
- 37. Thermal Water Pool 11.00m<sup>2</sup>
- 38. Massage Room 40.00m<sup>2</sup>



Fig. E . 6



7. TOP FLOOR  
EXISTING BUILDING

- 13. WC Man 7.00m<sup>2</sup>
- 14. WC Woman 10.00m<sup>2</sup>
- 22. Terrace 73.00m<sup>2</sup>
- 39. Kitchen 50.00m<sup>2</sup>
- 40. Restaurant 256.00m<sup>2</sup>

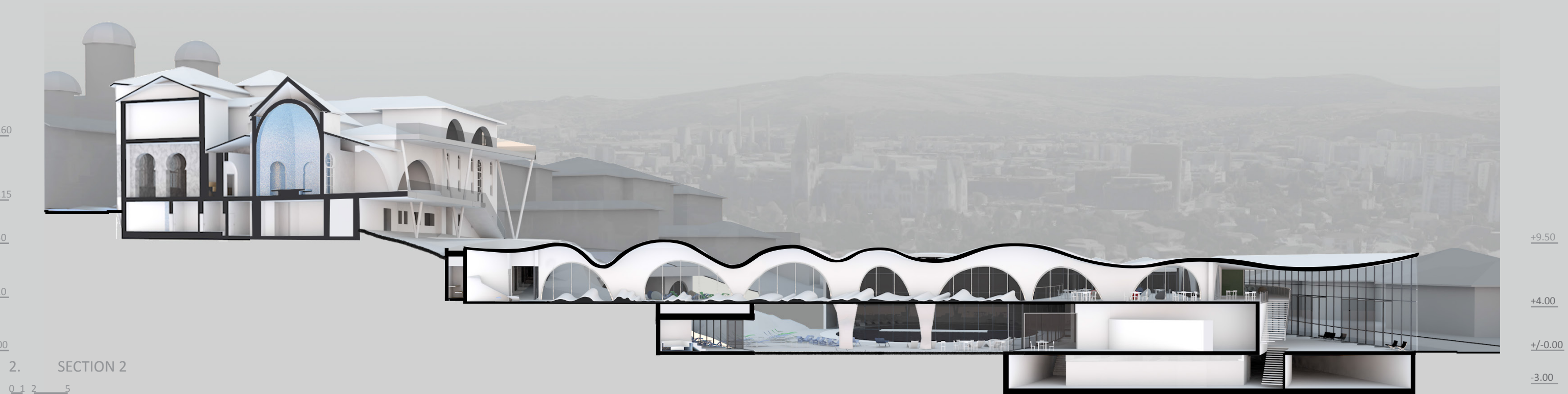


Fig. E . 7

### III. SECTIONS

#### 1. SECTION 1

0 1 2 5



#### 2. SECTION 2

0 1 2 5

Fig. E . 8-9



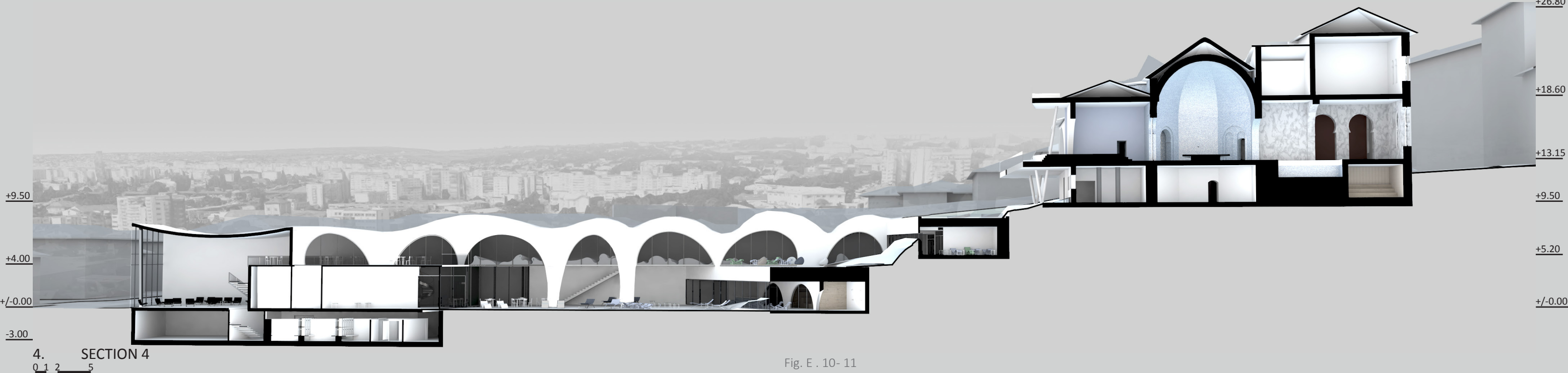
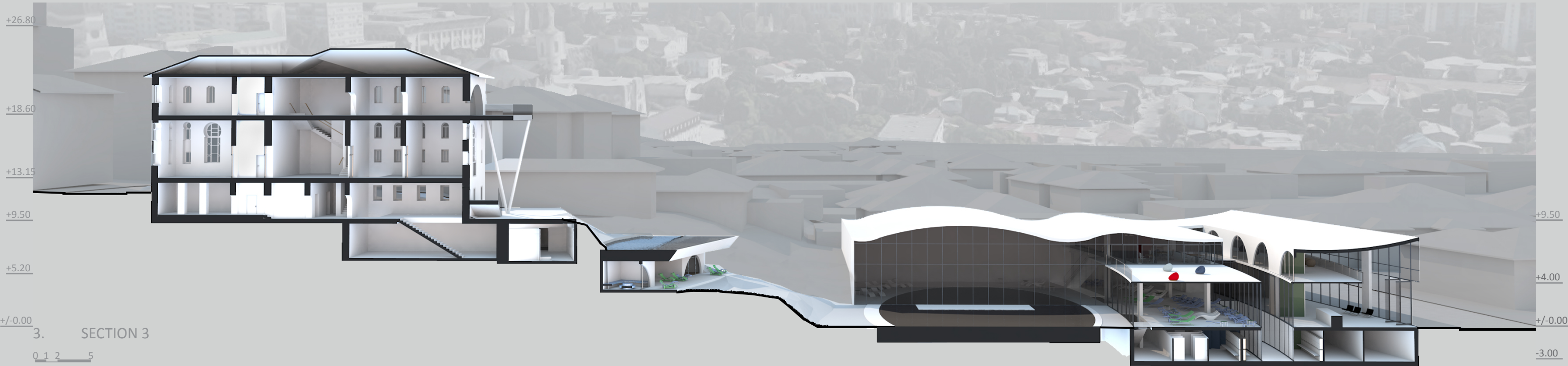


Fig. E . 10- 11

## IV. FACADES

IV. FACADE MAIN ENTRANCE

0 1 2 5

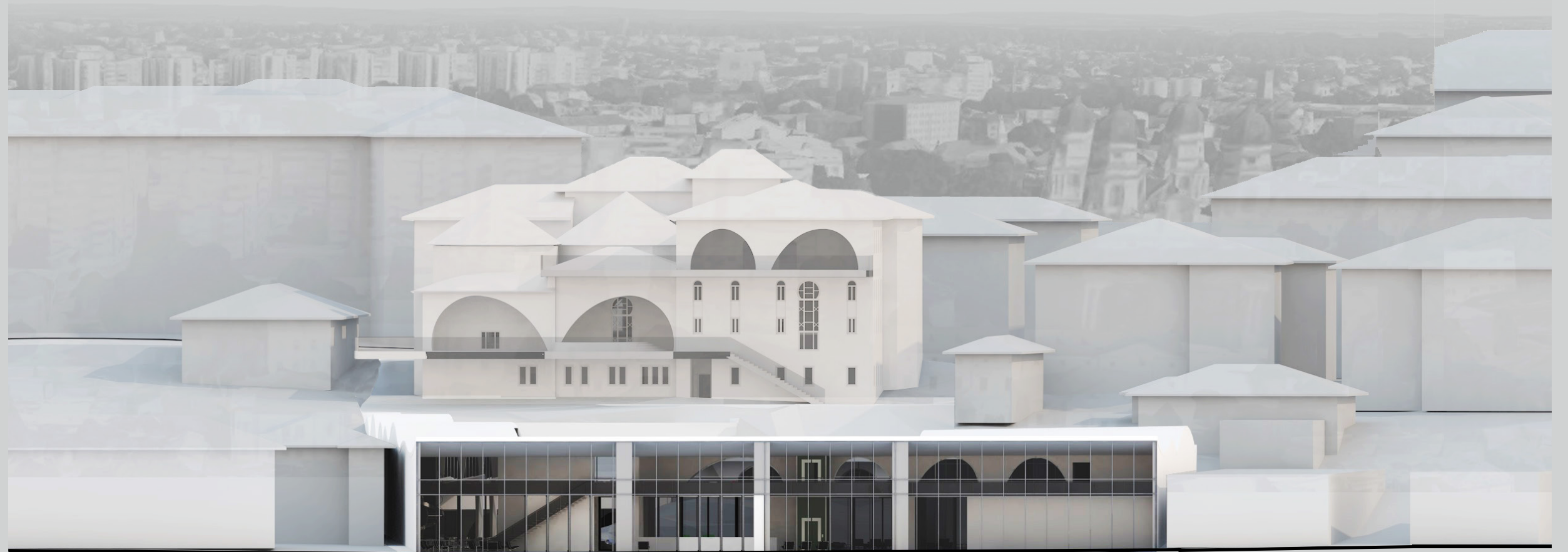


Fig. E . 12



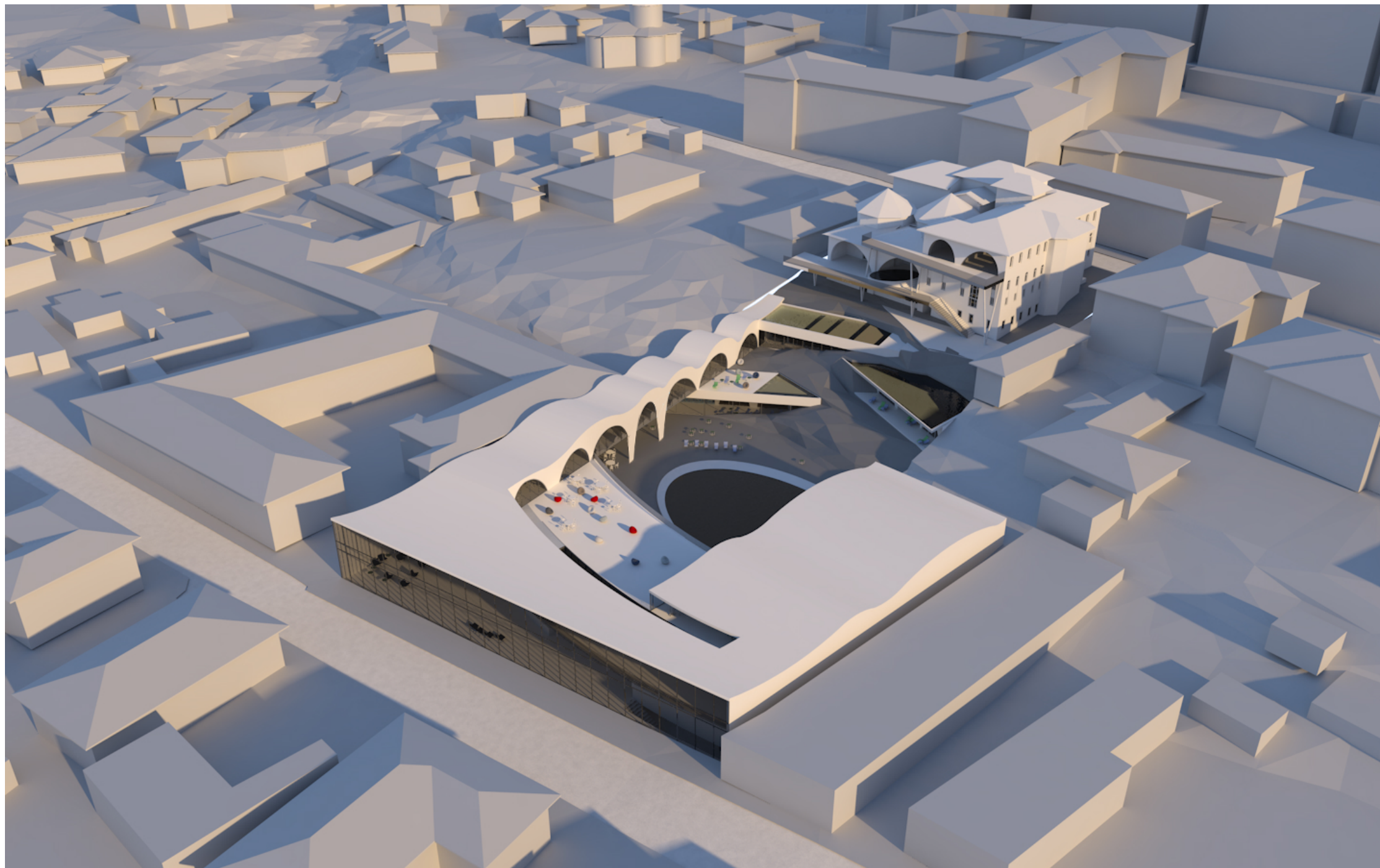
IV. FACADE OLD TURKISH BATH

0 1 2 5



Fig. E . 13

## IV. CONCLUSION



The project *Wellness and Sauna Garden* comes as an answer to the urban aspect of the city of Iași, to the Old Turkish Bath and to the social life in the area.

It combines the understanding of discovering and rediscovering a place, the experience of a large SPA variety combined with an interesting architecture and large panorama views.

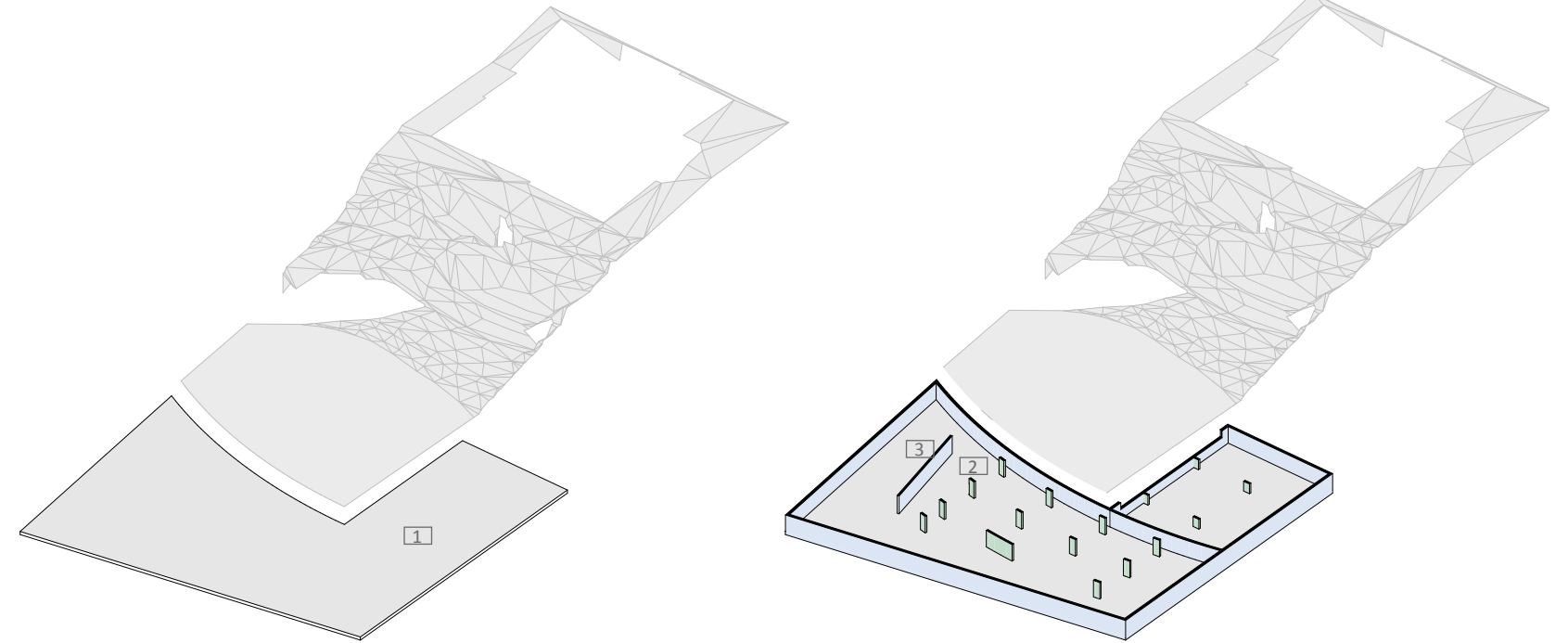


## F. CONSTRUCTION

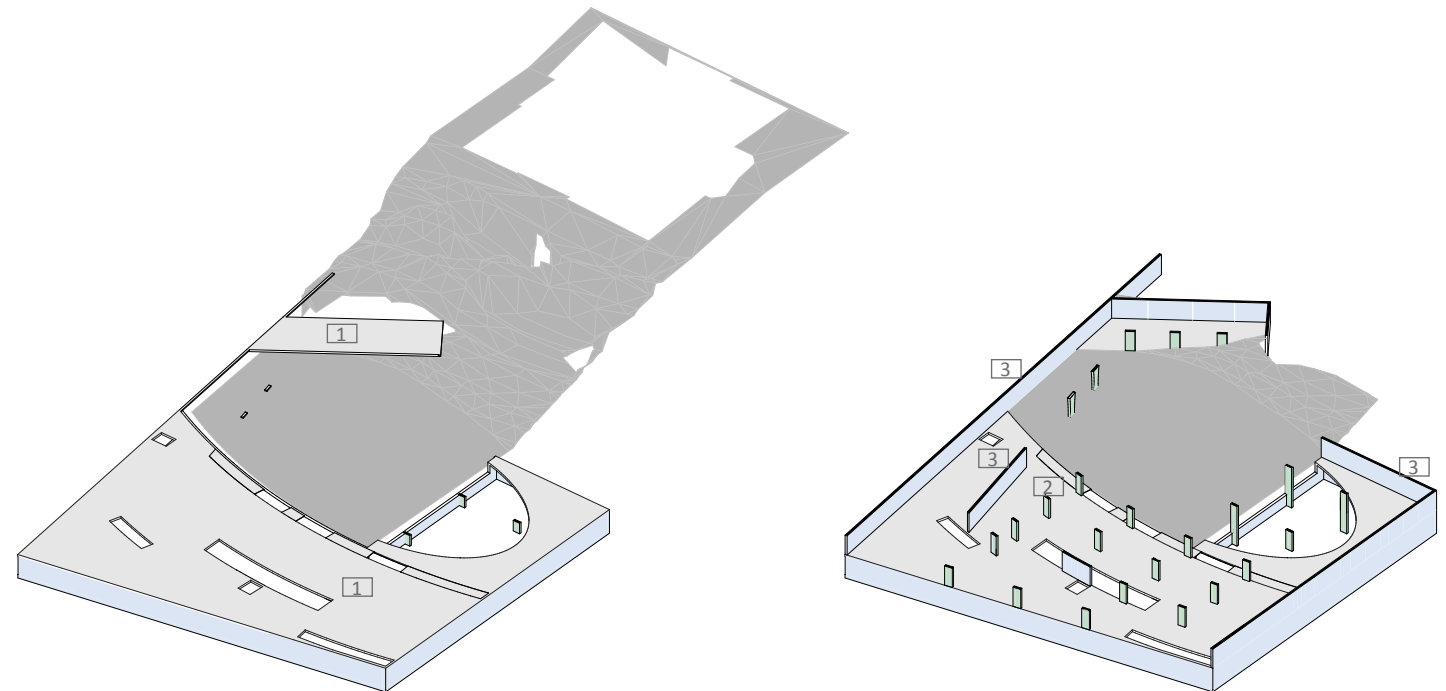
# I. STRUCTURE

- 1. STB Decke
- 2. STB Stützen
- 3. STB Wände

Underground Level



Entrance Level

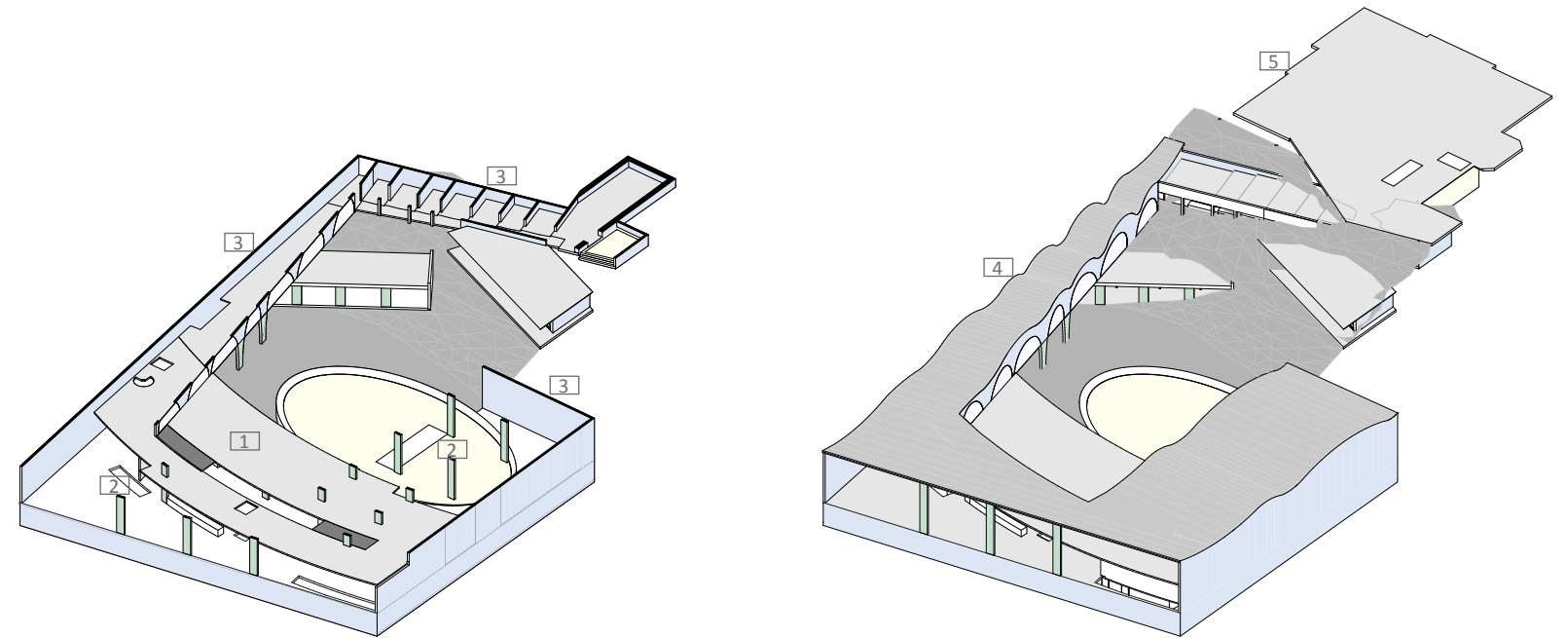




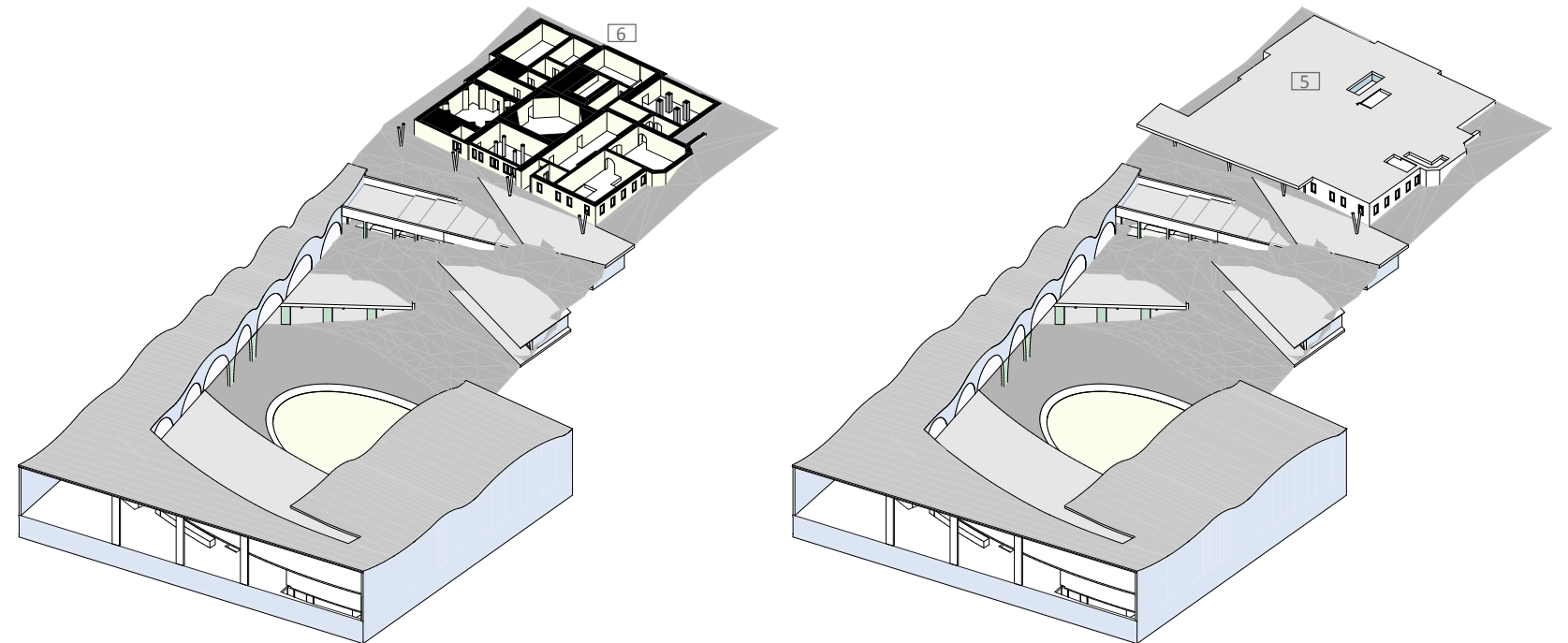
# I. STRUCTURE

- 1. STB Decke
- 2. STB Stützen
- 3. STB Wände
- 4. STB Dachschale
- 5. Ziegeldecke
- 6. Ziegel / Sandstein Wand

First Level

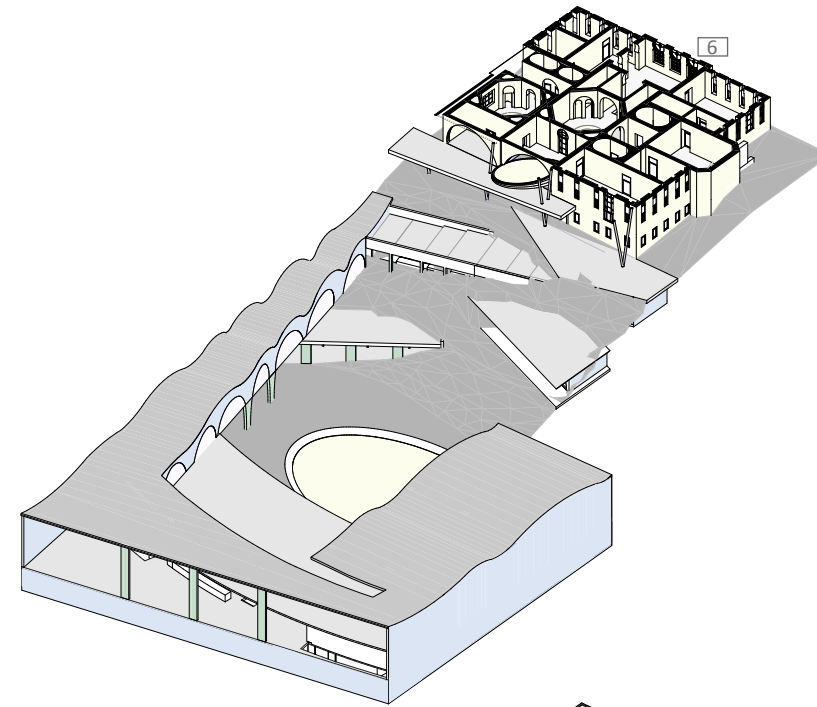


Gerden Level - Old Building

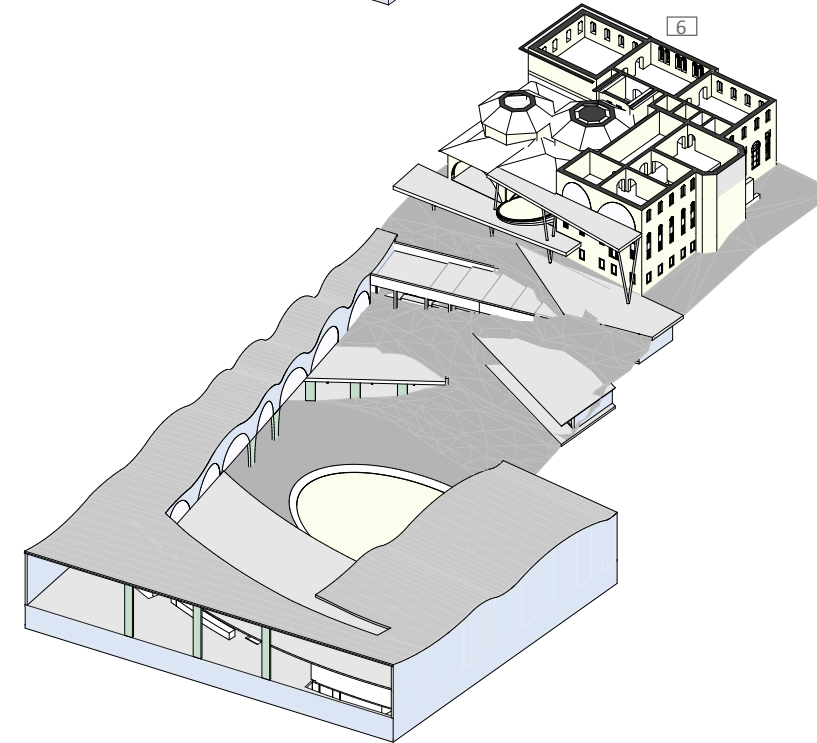
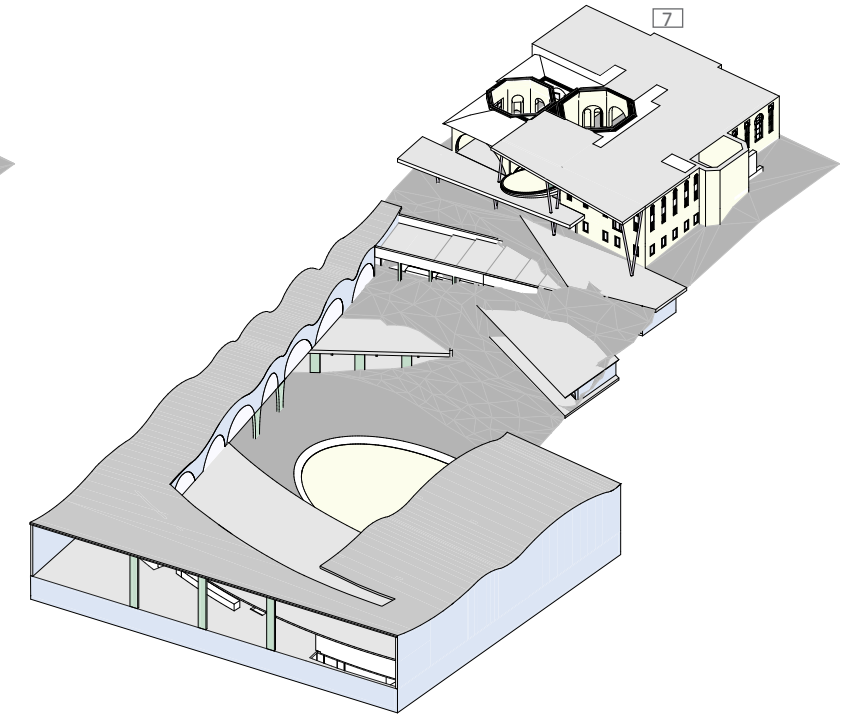


# I. STRUCTURE

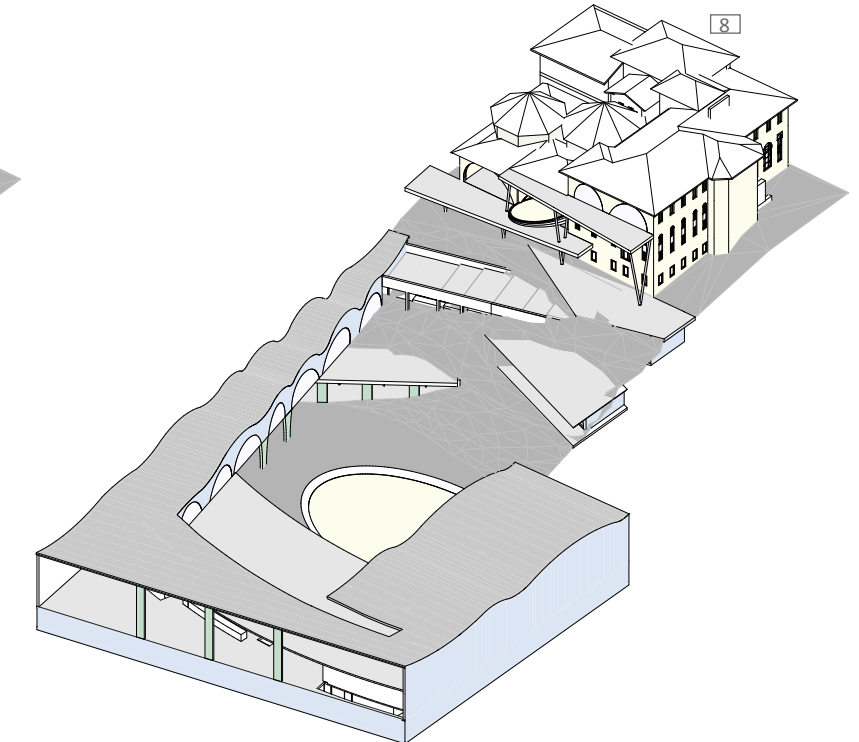
- 1. STB Decke
- 2. STB Stützen
- 3. STB Wände
- 4. STB Dachschale
- 5. Ziegeldecke
- 6. Ziegel / Sandstein Wand
- 7. STB Decke - Old Building
- 8. Metaldach-Holzstruktur



First Level - Old Building



Garden Level - Old Building





## II. ROOF SHELL CONSTRUCTION

The concrete shell lays direct on the structural walls. It is supposed to be constructed directly on the site, with the help of the wooden form-works.

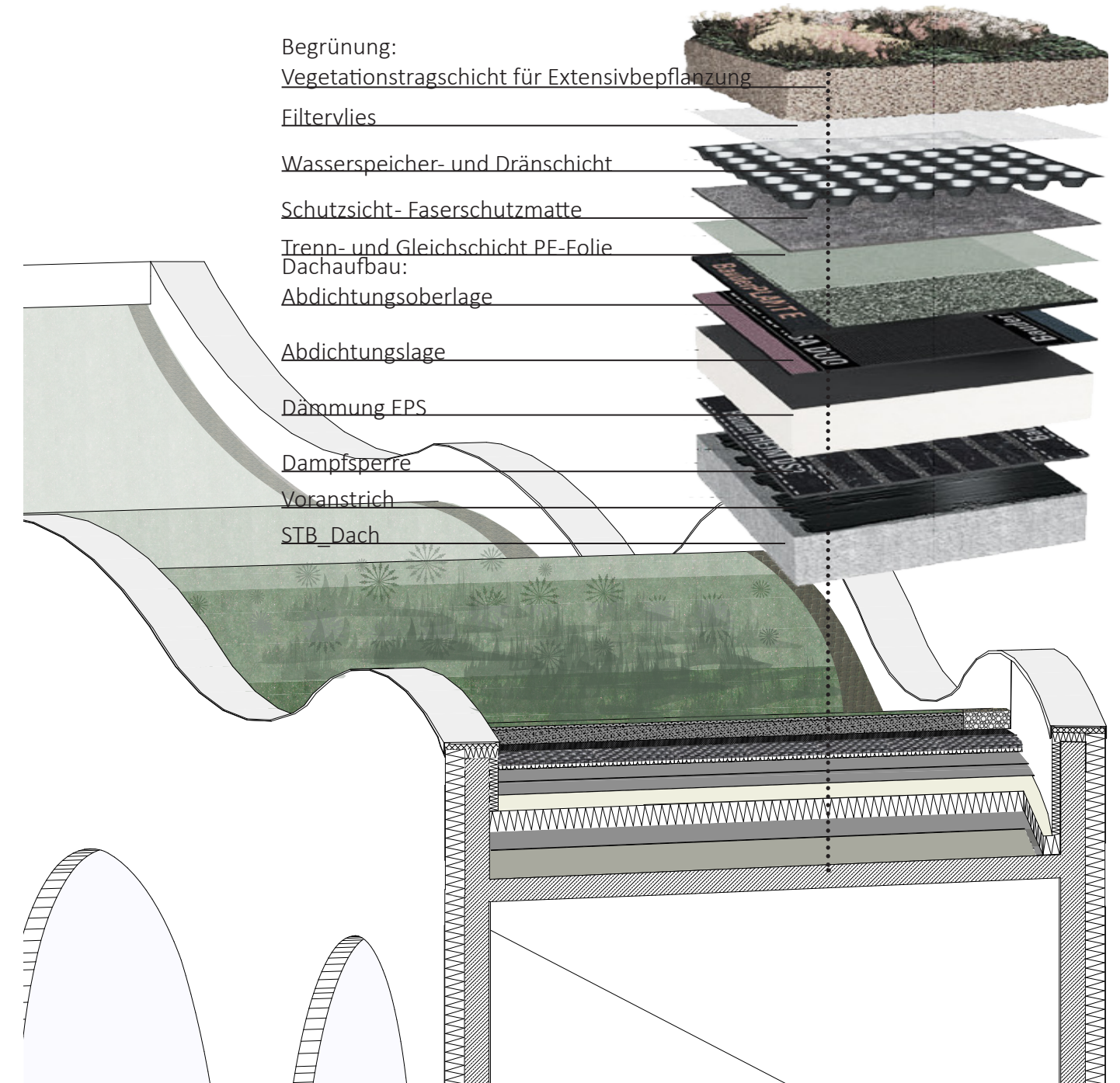
The maximal slope of the roof is less than 20° so that the drainage layer can lay directly on the roof, without any additional fixture. That makes the roof construction in the parameters of a simple one, with the specific layers, and without any extra support.

The drainage installation for the pluvial water is located at the lowest points of the roof construction, where two slopes meet.

The example of the studied green roof shell is the one from Vancouver, Canada, the Van Dusen Botanical Garden.



<http://www.baulinks.de/webplugin/2013/1010.php4>



III. DETAILS -  
MAIN SECTION

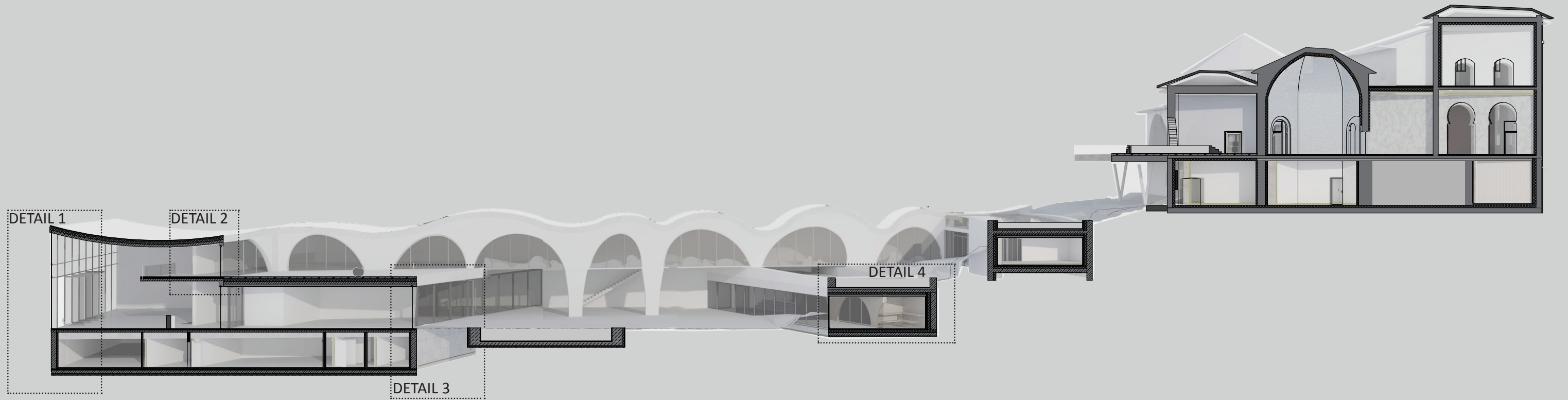


Fig. F . 3



1. ENTRANCE

1. DACHSCHALE

- Begrünung
- Vegetationstragschicht für extensivbepflanzung 100mm
- Filterschicht- Filtervlies
- Wasserspeicher- und Dränschicht 50mm
- Schutzschicht- Faserschutzmatte
- Trennfolie PE-Folie 5mm
- Abdichtung Bitumenbahn 2-lagig 3mm
- Dämmung EPS 200mm
- Dampfdruckausgleichschicht
- STB-Dach 200mm
- Innenputz

3. KG-FUNDAMENT

- Fliesen 15mm
- Heizestrich 20mm
- Systemplatten 20mm
- Trennlage PE-Folie
- Trittschalldämmung 30mm
- Dampfbremse PE-Folie
- Niveaueausgleich 50mm
- STB-Platte 250mm
- Dämmung XPS 100mm
- Sauberkeitschicht 50mm
- Erdreich

2. DECKE ZU BEHEIZTEM KELLER (UG-EG)

- Fliesen 15mm
- Heizestrich 20mm
- Systemplatten 20mm
- Trennlage PE-Folie
- Trittschalldämmung 20mm
- PE-Folie
- Niveaueausgleich Styropor Beton 50mm
- STB-Decke 160mm
- Innenputz 5mm

4. SOCKELBEREICH WAND ZU BEHEIZTEM KELLER

- Erdreich
- Drainagematte mit Filtervlies 25mm
- Dämmung XPS 100mm
- Abdichtung 2XPE-Folie 3mm
- Stahlbetonwand 400mm
- Innenputz 5mm

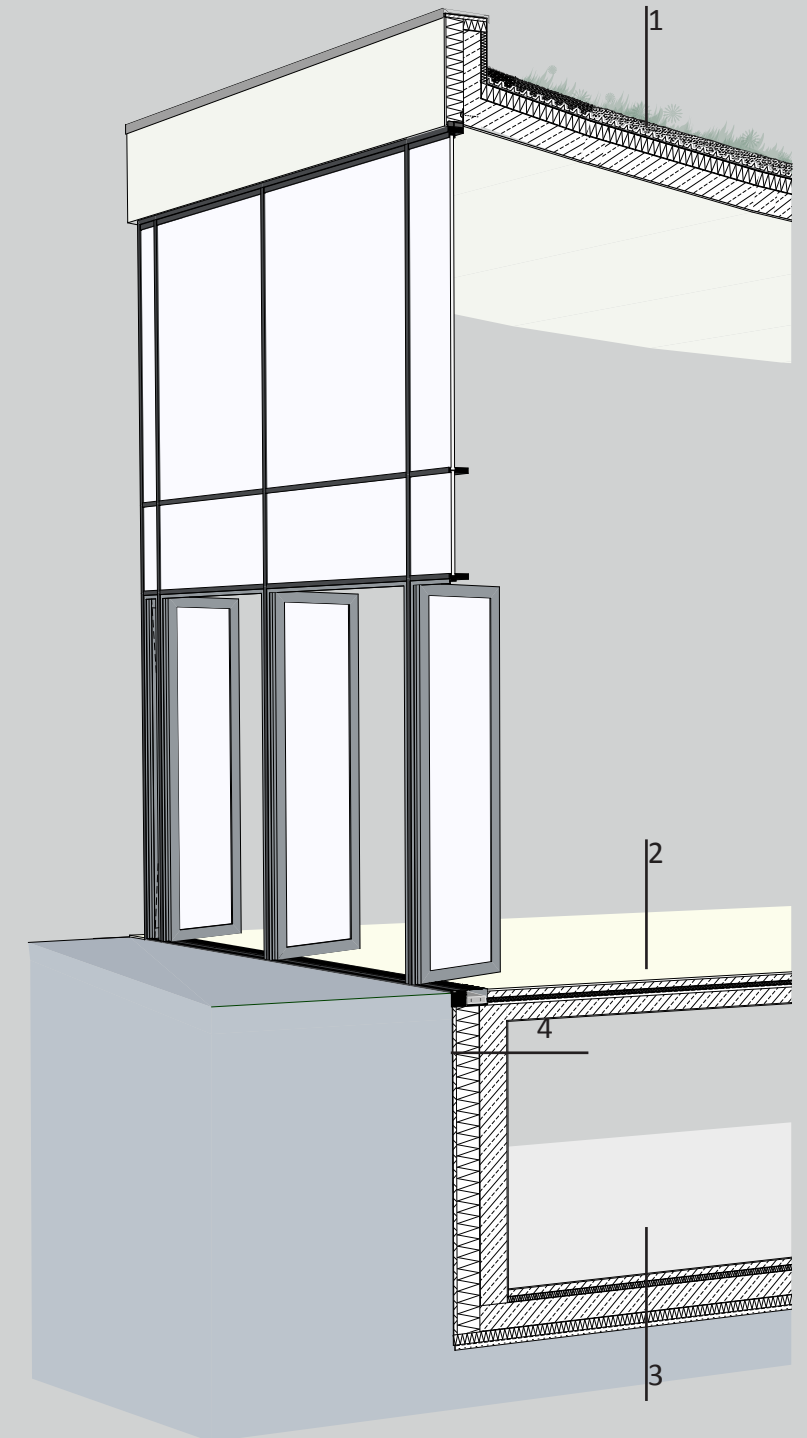


Fig. F . 4

2. TERRACE

1. DACHSCHALE

- Begrünung
- Vegetationstragschicht für extensivbepflanzung 100mm
- Filterschicht- Filtervlies
- Wasserspeicher- und Dränschicht 50mm
- Schutzschicht- Faserschutzmatte
- Trennfolie PE-Folie 5mm
- Abdichtung Bitumenbahn 2-lagig 3mm
- Dämmung EPS 200mm
- Dampfdruckausgleichschicht
- STB-Dach 200mm
- Innenputz 10mm

2. DECKE EG-OG

- Fliesen 15mm
- Heizestrich 20mm
- Systemplatten 20mm
- Trennlage PE-Folie
- Trittschalldämmung 40mm
- PE-Folie
- Niveauausgleichschicht
- STB-Decke 160mm
- Innenputz 5mm

1. TERRASSE ÜBER EG

- Bohlen 15mm
- Holzkonstruktion 120mm
- Vlies
- Dämmung XPS 200mm
- Abdichtung
- Dampfdruckausgleichschicht
- Gefällebeton 2%Neigung 20 m m
- STB-Platte 200mm
- Abgehängte Decke 180mm (inkl. Install. Ebene)

4. AUSSENWAND

- Außenputzsystem 15mm
- Wärmedämmung 150mm
- STB-Wand 150mm
- Innenputz 5mm

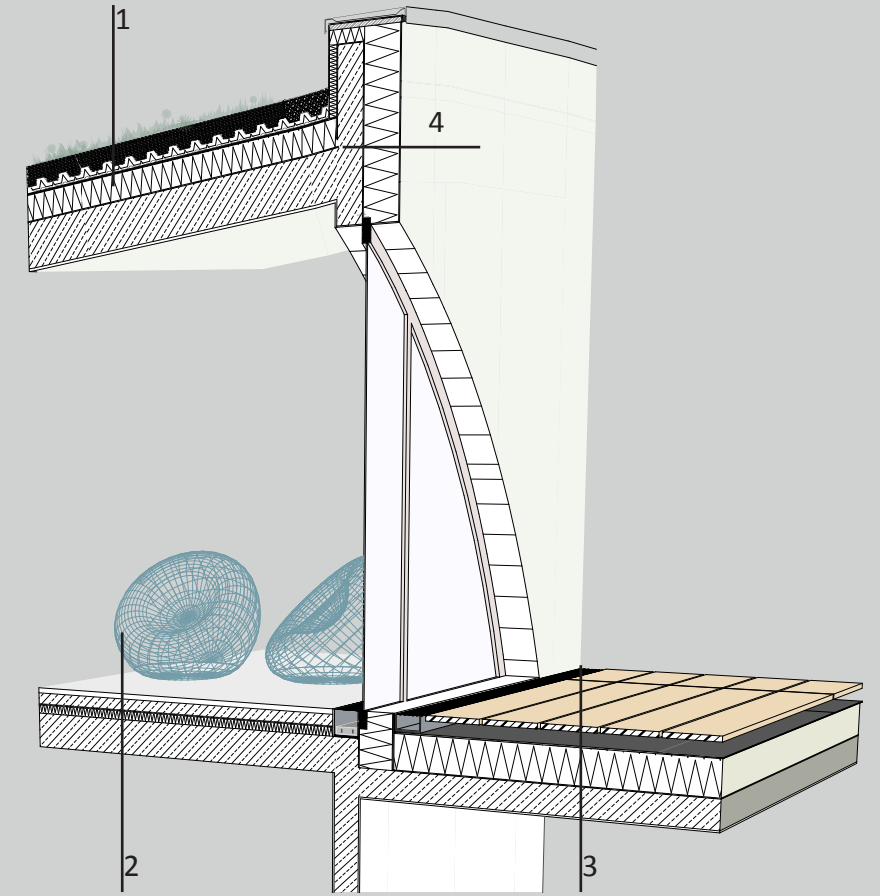
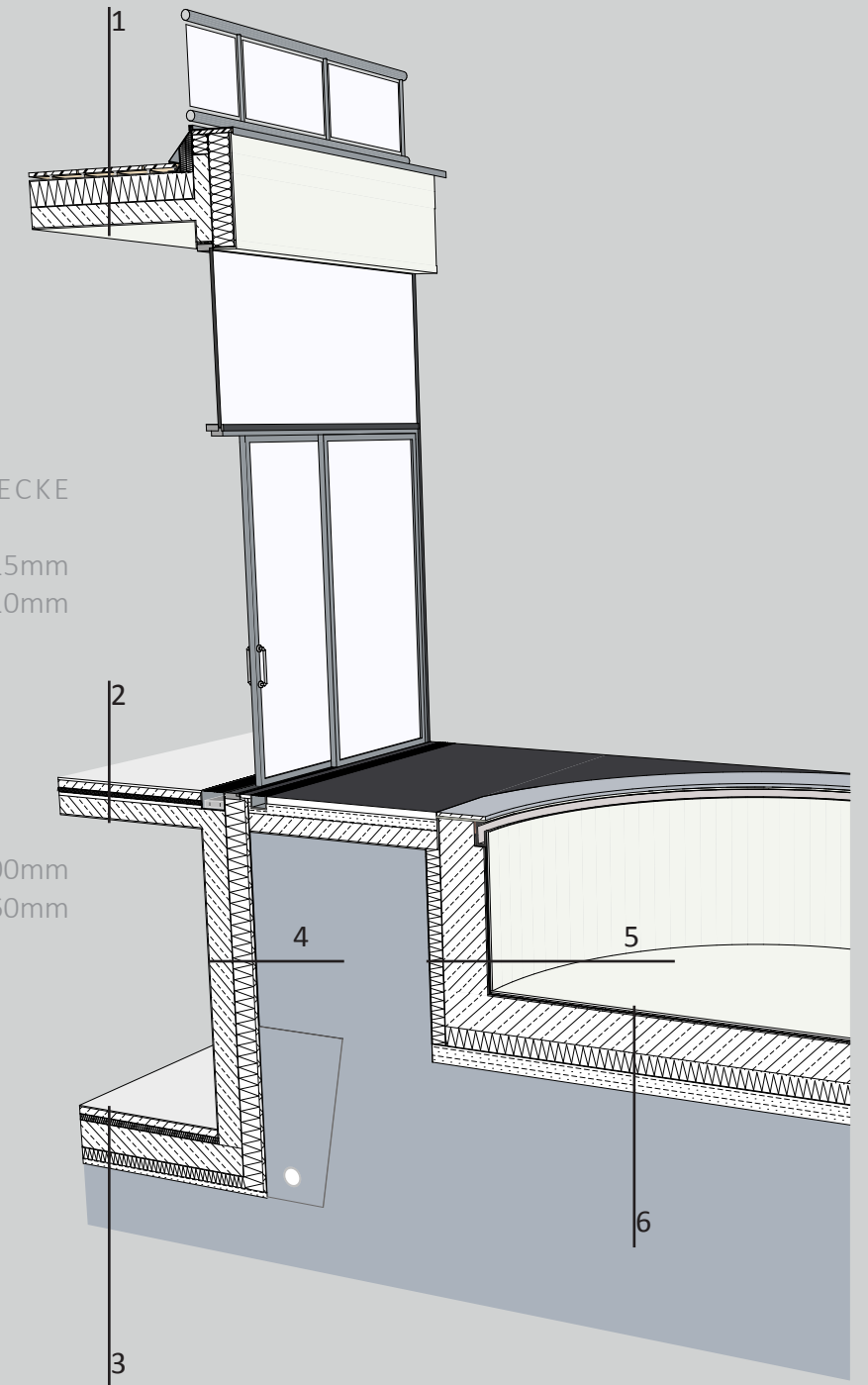


Fig. F . 5



1. TERRASSE ÜBER EG	3. KG-FUNDAMENT	5. POOL - WAND	6. POOL-DECKE
Bohlen 15mm	Fliesen 15mm	Erdreich	Fliesen 15mm
Holzkonstruktion 120mm	Heizestrich 20mm	Drainagematte 20mm	Epoxidharzmörtel 10mm
Filtervlies	Systemplatten 20mm	Abdichtung Bitumenbahn 2X15mm	Schutzspachtelung
Dämmung XPS 200mm	Trennlage PE-Folie	Wärmedämmung XPS 120mm	Folienabdichtung
Abdichtung	Trittschalldämmung 30mm	WU-Beton Wand 500mm	Untergrundspachtelung und Spezialgrundierung
Dampfdruckausgleichschicht	Dampfbremse PE-Folie	Ausgleichputz 20mm	Verbundabdichtung
Gefällebeton 2%Neigung 2 0 m m	Niveauausgleich 50mm	Untergrundspachtelung und Spezialgrundierung	Gefällebeton
STB-Platte 200mm	STB-Platte 250mm	Folienabdichtung	WU-Beton 300mm
Abgehängte Decke 180mm (inkl. Install. Ebene)	Dämmung XPS 100mm	Schutzspachtelung	Dämmung XPS 160mm
	Sauberkeitschicht 50mm	Epoxidharzmörtel 10mm	PE-Folie
	Erdreich	Fliesen 15mm	Magerbetonschicht
2. DECKE ZU BEHEIZTEM KELLER (UG-EG)	4. SOCKELBEREICH WAND ZU BEHEIZTEM KELLER		Schotter
Fliesen 15mm			Erdreich
Heizestrich 20mm			
Systemplatten 20mm			
Trennlage PE-Folie			
Trittschalldämmung 20mm			
PE-Folie			
Niveauausgleich Styropor Beton 50mm			
STB-Decke 160mm			
Innenputz 5mm			
	Erdreich		
	Drainagematte mit Filtervlies 25mm		
	Dämmung XPS 100mm		
	Abdichtung 2XPE-Folie 3mm		
	Stahlbetonwand 400mm		
	Innenputz 5mm		



4. SAUNA PAVILION

1. POOL - DACH - SAUNA

Marmor	20mm
Dünnbettmörtel	
Verbundabdichtung PE-Folie	
Verbundestrich gefälle	40mm
STB-Dach	200mm
Wärmedämmung XPS	200mm
Luftschicht	150mm
Abgehängte Decke	15mm

3. SAUNA ERDE DECKE

Holzbodenbelag	15mm
Heizestrich	20mm
Systemplatten	20mm
Trennlage PE-Folie	
Dämmung XPS	200mm
Abdichtung	
STB-Platte	200mm
Sauberkeitsschicht	50mm
Erdreich	

2.1 WAND - ERDE

Erdreich	
Filtervlies	
Abdichtung Bitumenbahn	2X15mm
STB-Wand	400mm
Abdichtung	2 X PE Folie
Dämmung XPS	200mm
Luftspalt	50mm

2.2 SAUNAWAND

OSB-Platten	10mm
PE-Folie	
Spannlatten	50mm
(mit Mineralwolle)	
Profilbretter	20mm

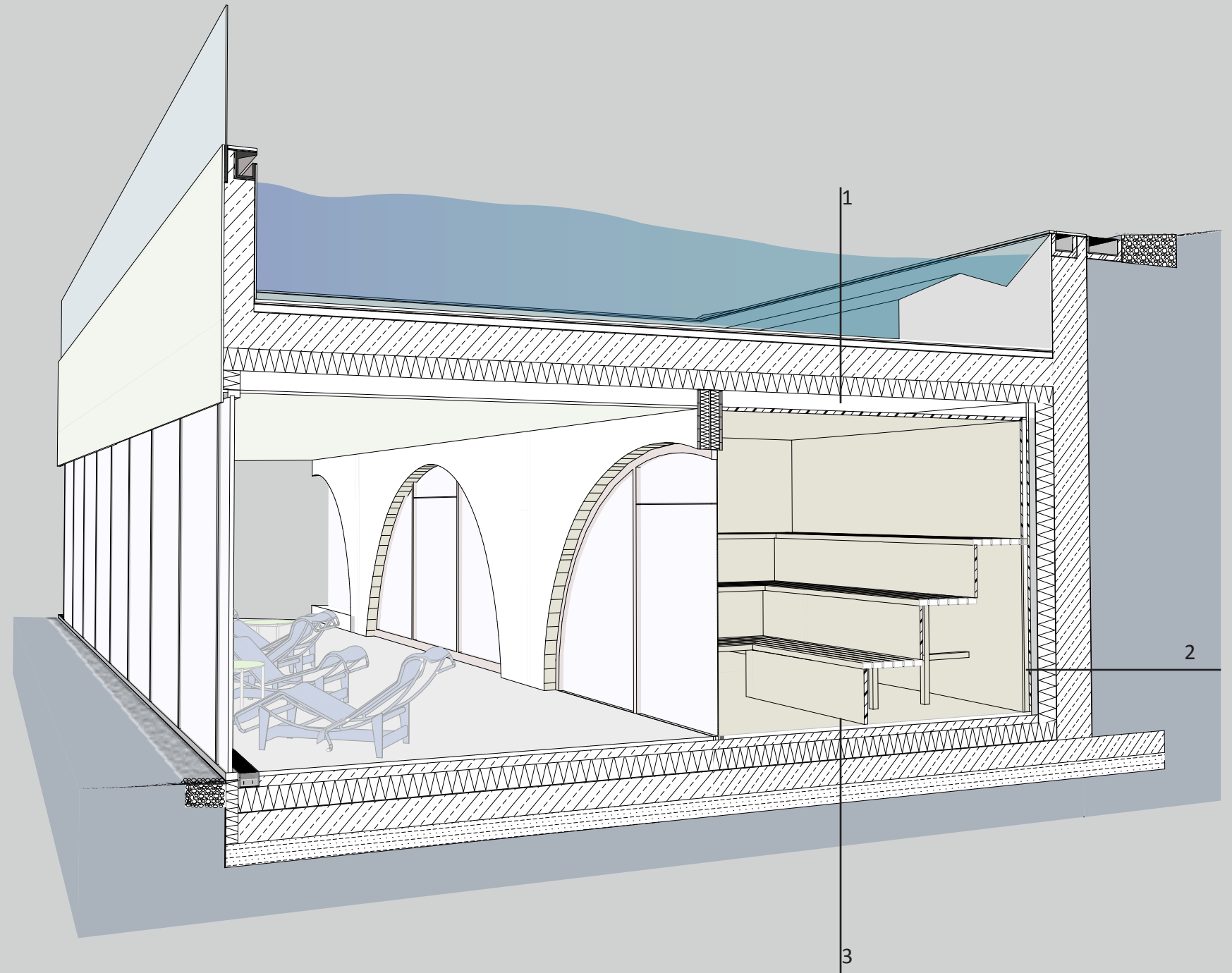
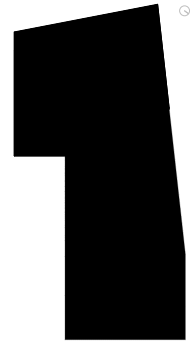


Fig. F . 7

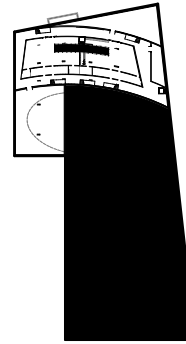


#### IV. FLOOR AREA

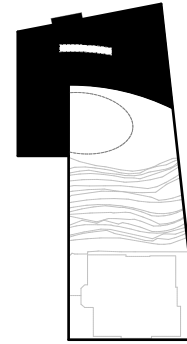
##### UNDERGROUND FLOOR



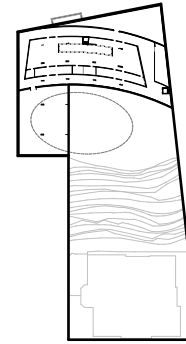
Plot :5245,50m<sup>2</sup>



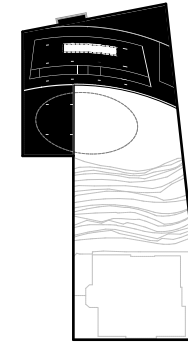
Open Space Area: 3527,30m<sup>2</sup>



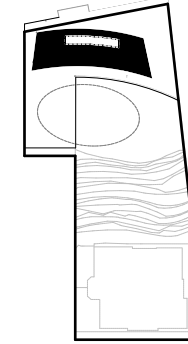
Gross Floor Area: 1741,53m<sup>2</sup>



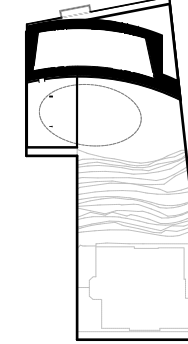
Structure Area: 130,52m<sup>2</sup>  
7,46% from GFA



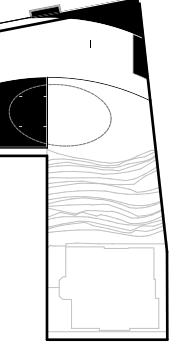
Net Floor Area: 1611,01m<sup>2</sup>  
92,53% from GFA



Usable Floor Area: 543,44m<sup>2</sup>  
31,18% from GFA

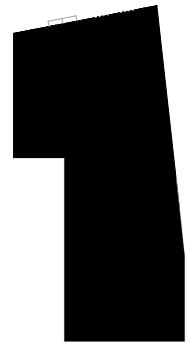


Circulation Area: 448,17m<sup>2</sup>  
25,73% from GFA

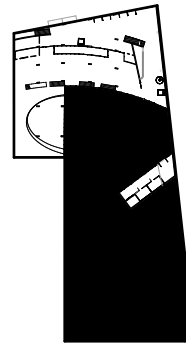


Technical Area: 619,40m<sup>2</sup>  
35,55% from GFA

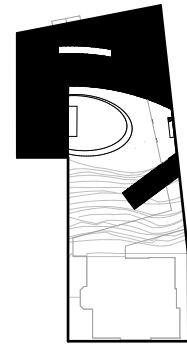
##### GROUND FLOOR



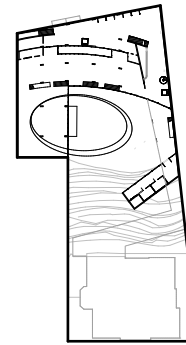
Plot :5245,50m<sup>2</sup>



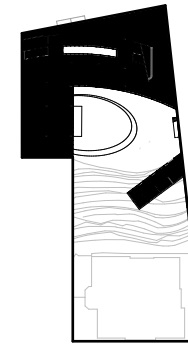
Open Space Area: 332,654m<sup>2</sup>



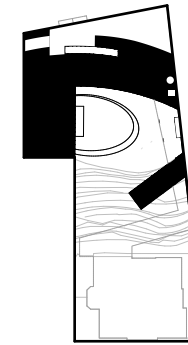
Gross Floor Area: 1866,57m<sup>2</sup>



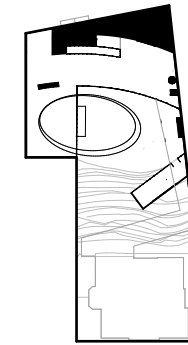
Structure Area: 61,69m<sup>2</sup>  
3,26% from GFA



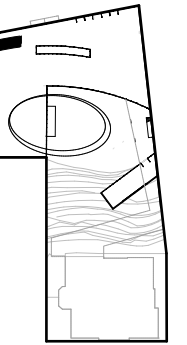
Net Floor Area: 1804,88m<sup>2</sup>  
96,67% from GFA



Usable Floor Area: 432,59m<sup>2</sup>  
23,15% from GFA

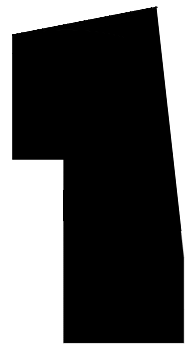


Circulation Area: 432,59m<sup>2</sup>  
23,15% from GFA

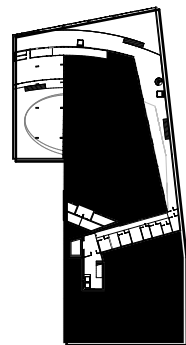


Technical Area:33,54m<sup>2</sup>  
1,76% from GFA

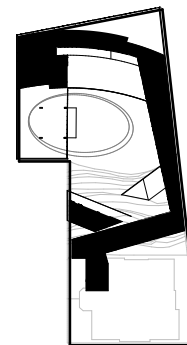
##### FIRST FLOOR



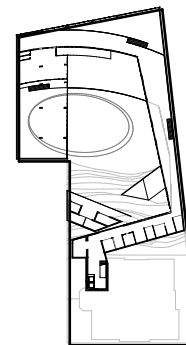
Plot :5245,50m<sup>2</sup>



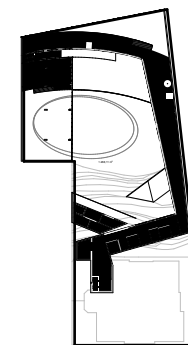
Open Space Area: 3087,64m<sup>2</sup>



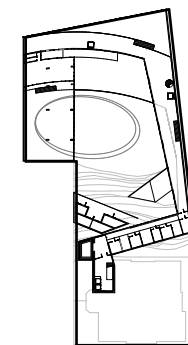
Gross Floor Area: 1328,43m<sup>2</sup>



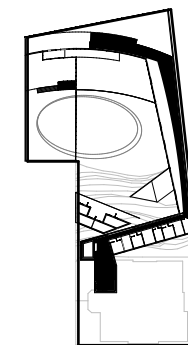
Structure Area: 144,59m<sup>2</sup>  
10,84% from GFA



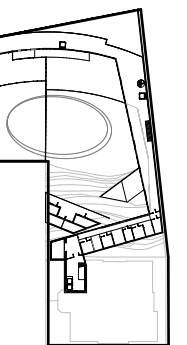
Net Floor Area: 1183,84m<sup>2</sup>  
89,15% from GFA



Usable Floor Area: 489,48m<sup>2</sup>  
36,82% from GFA



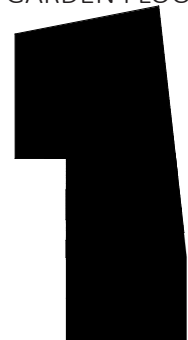
Circulation Area: 489,48m<sup>2</sup>  
36,82% from GFA



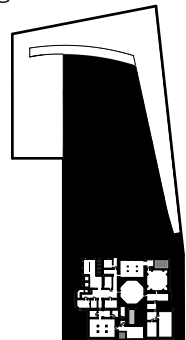
Technical Area: 0,00m<sup>2</sup>

## IV. FLOOR AREA

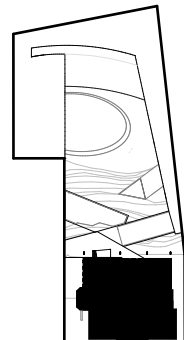
### GARDEN FLOOR- OLD BUILDING



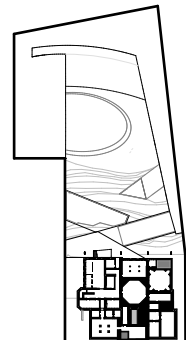
Plot :5245,50m<sup>2</sup>



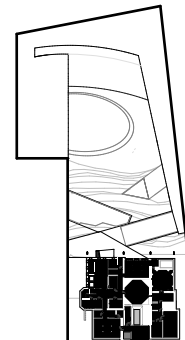
Open Space Area: 2628,24m<sup>2</sup>



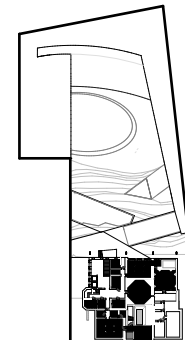
Gross Floor Area: 902,42m<sup>2</sup>



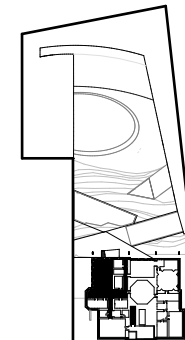
Structure Area: 267,30m<sup>2</sup>  
29.60% from GFA



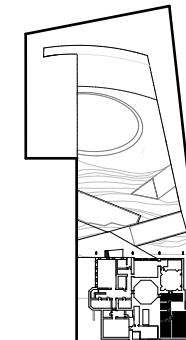
Net Floor Area: 635,12m<sup>2</sup>  
70.39% from GFA



Usable Floor Area: 389,02m<sup>2</sup>  
43.12% from GFA

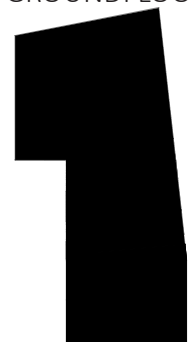


Circulation Area: 155,12m<sup>2</sup>  
16.07% from GFA

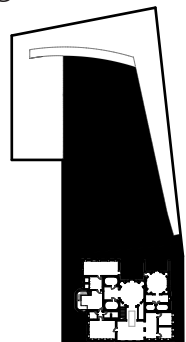


Technical Area: 100,98m<sup>2</sup>  
11.08% from GFA

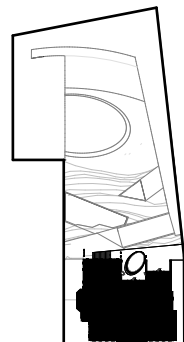
### GROUND FLOOR- OLD BUILDING



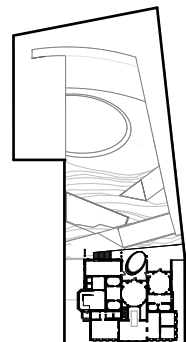
Plot :5245,50m<sup>2</sup>



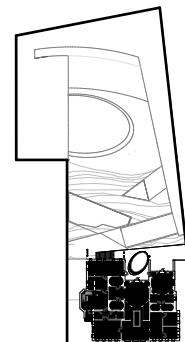
Open Space Area: 2714,33m<sup>2</sup>



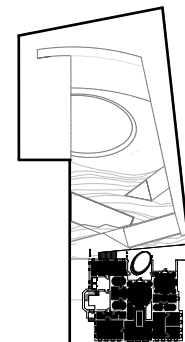
Gross Floor Area: 823,34m<sup>2</sup>



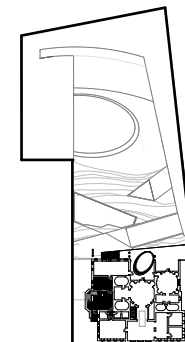
Structure Area: 184,13m<sup>2</sup>  
22.35% from GFA



Net Floor Area: 639,21m<sup>2</sup>  
77.64% from GFA



Usable Floor Area: 542,01m<sup>2</sup>  
65.85% from GFA

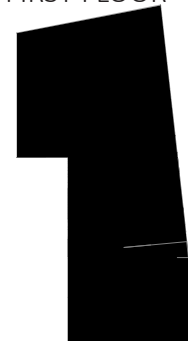


Circulation Area: 116,67m<sup>2</sup>  
14.09% from GFA

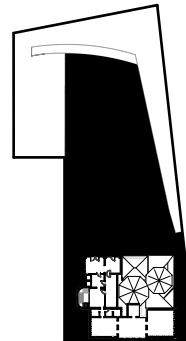


Technical Area: 10,52m<sup>2</sup>  
1.21% from GFA

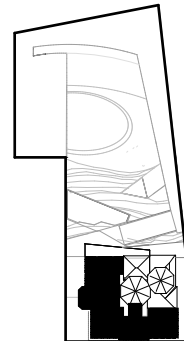
### FIRST FLOOR- OLD BUILDING



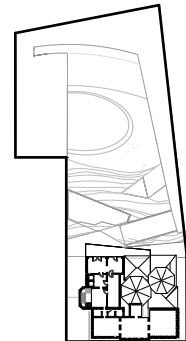
Plot :5245,50m<sup>2</sup>



Open Space Area: 2608,02m<sup>2</sup>



Gross Floor Area: 574,17m<sup>2</sup>



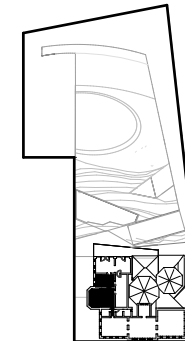
Structure Area: 106,52m<sup>2</sup>  
18.46% from GFA



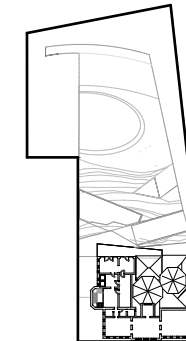
Net Floor Area: 467,65m<sup>2</sup>  
81.35% from GFA



Usable Floor Area: 376,65m<sup>2</sup>  
65.50% from GFA



Circulation Area: 91,00m<sup>2</sup>  
15.85% from GFA



Technical Area: 0,00m<sup>2</sup>

### TOTAL

Plot :5245,50m<sup>2</sup>

Open Space Area: 2608,02m<sup>2</sup>

Gross Floor Area: 7236,46m<sup>2</sup>  
137.95% from Plot

Structure Area: 894,75m<sup>2</sup>  
12.35% from GFA

Net Floor Area: 6341,71m<sup>2</sup>  
87.63% from GFA

Usable Floor Area: 3884,23m<sup>2</sup>  
53.67% from GFA

Circulation Area: 1723,03m<sup>2</sup>  
23.81% from GFA

Technical Area: 764,44m<sup>2</sup>  
10.55% from GFA



## G. PERSPECTIVE VIEWS



127 Fig. G.1



Fig. G.2





Fig. G.3





Fig. G.4



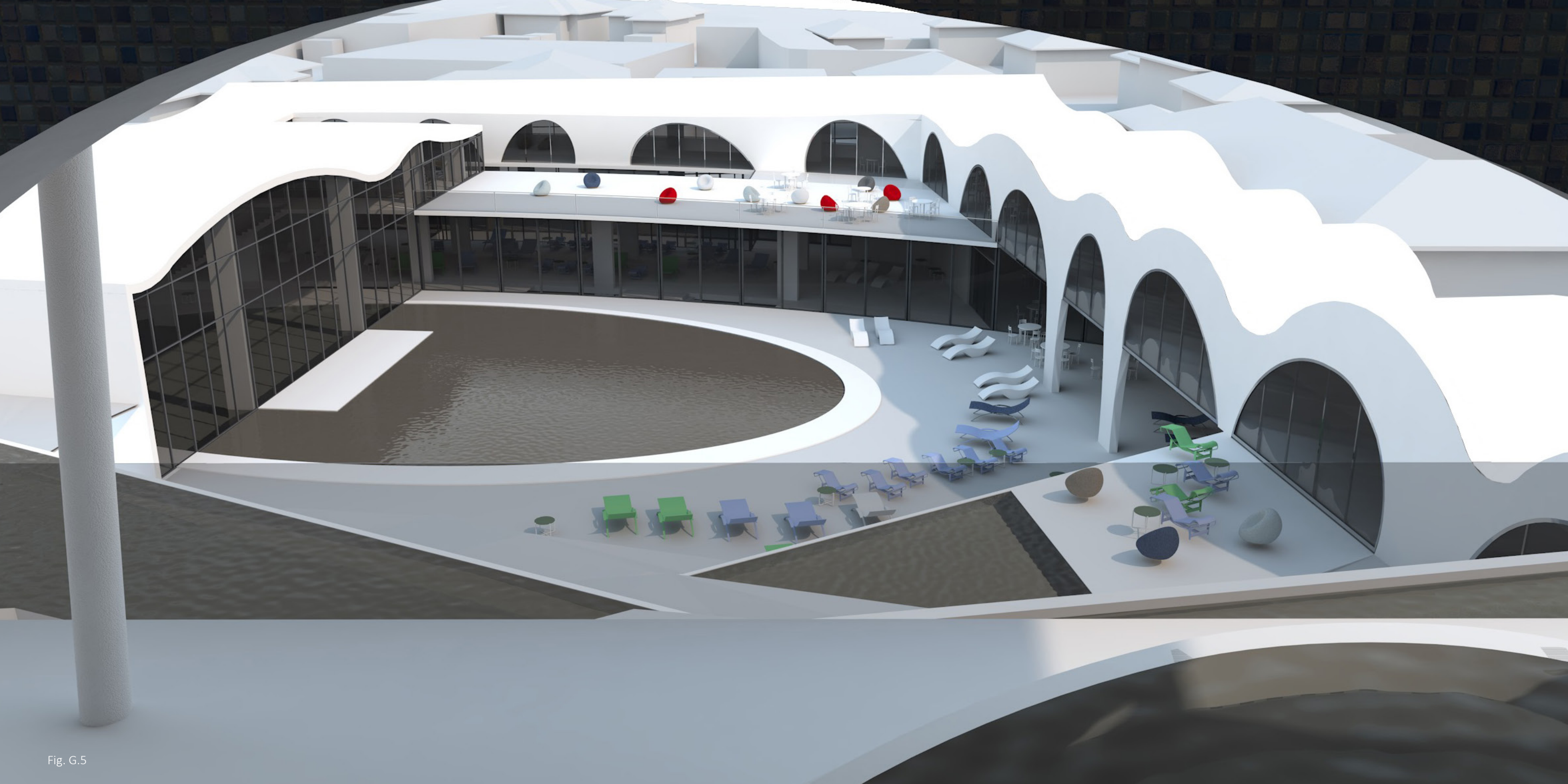
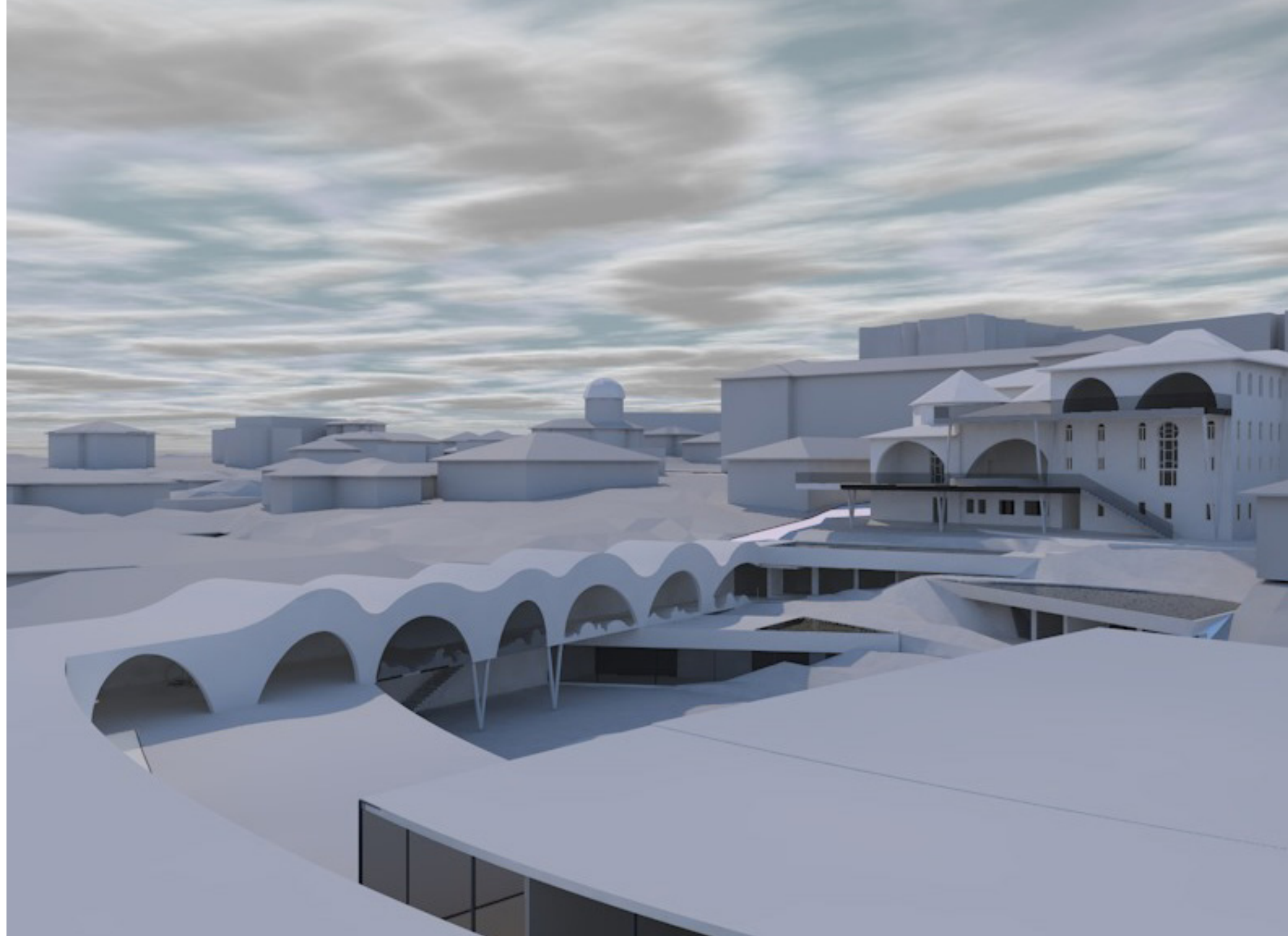
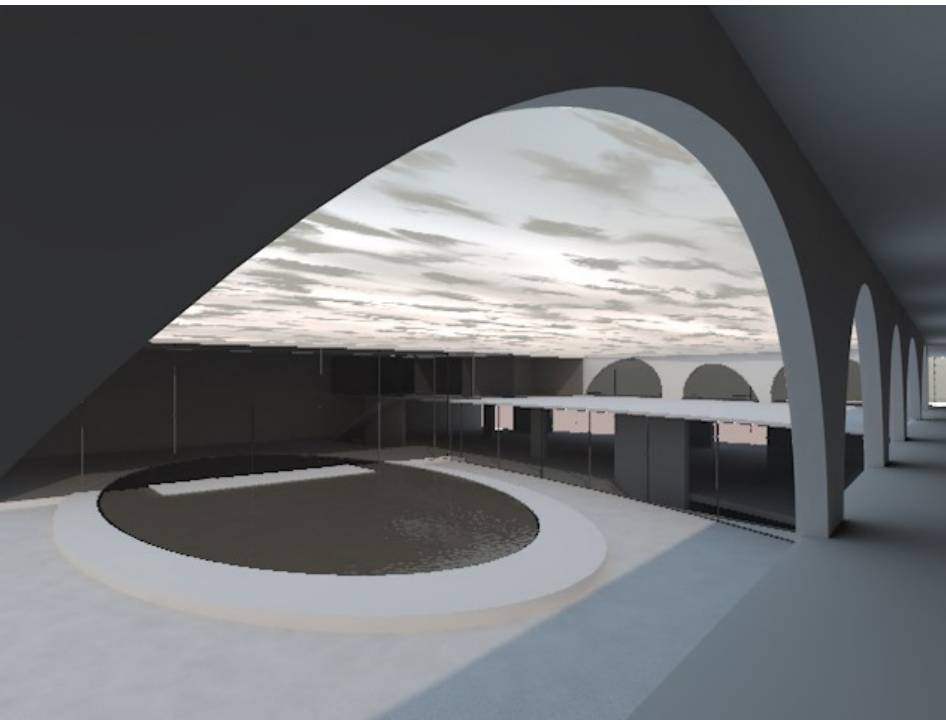
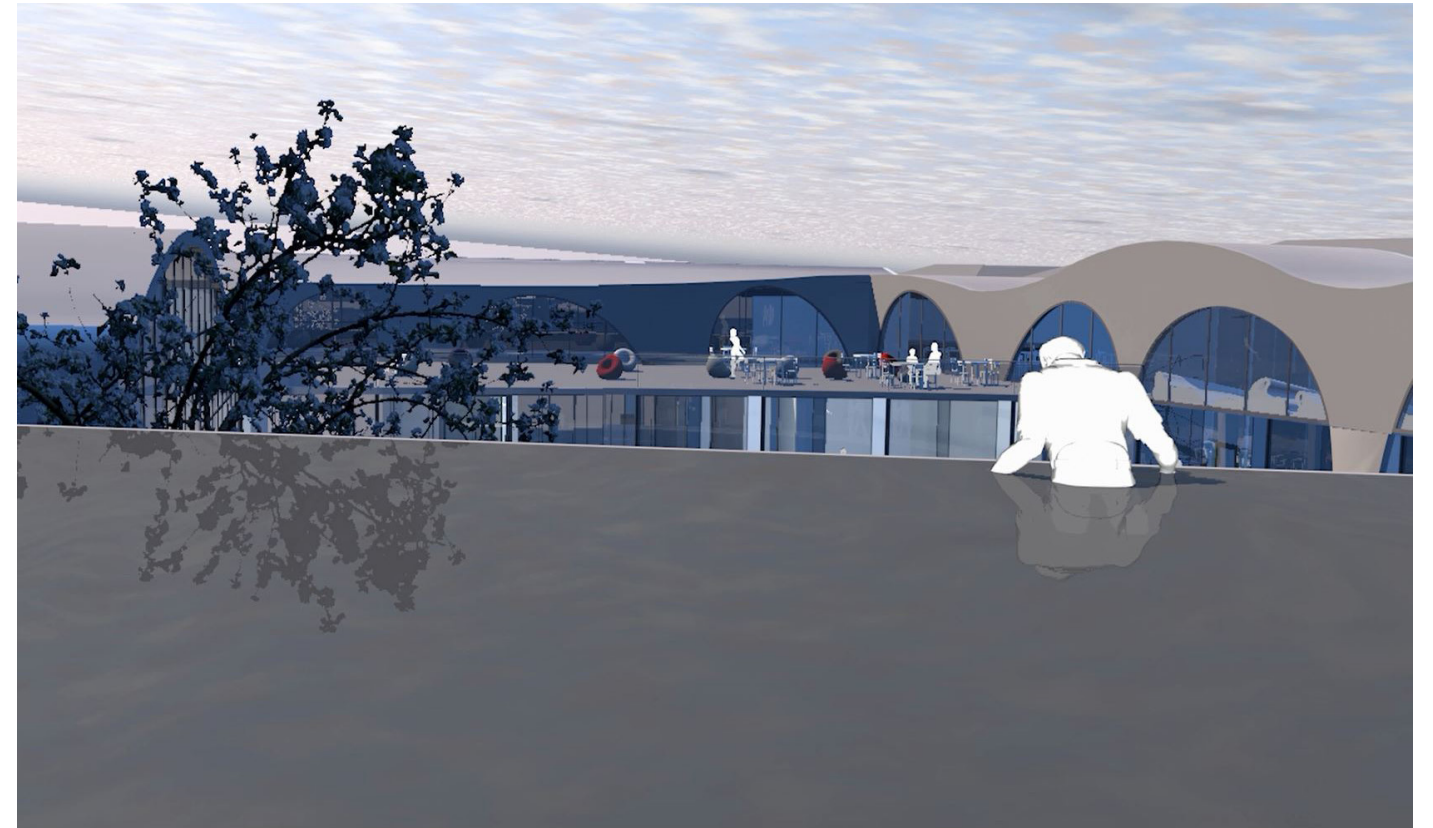
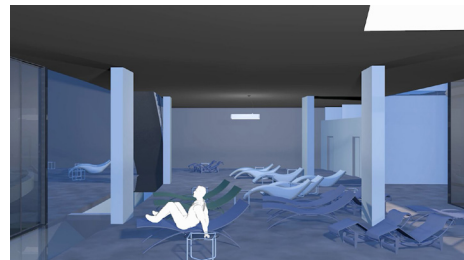
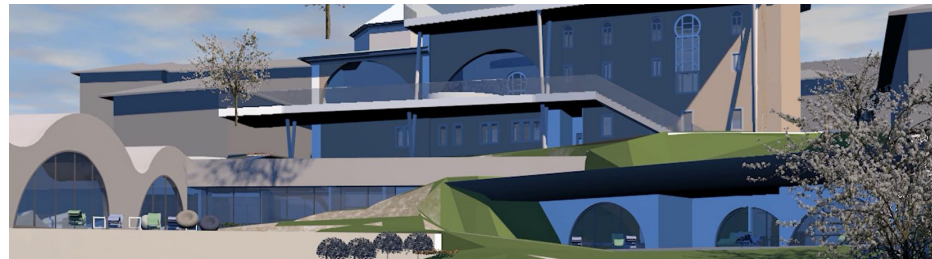
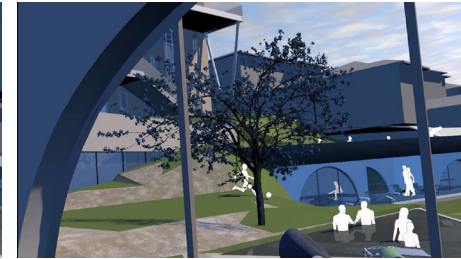
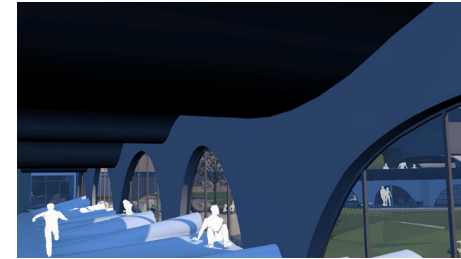
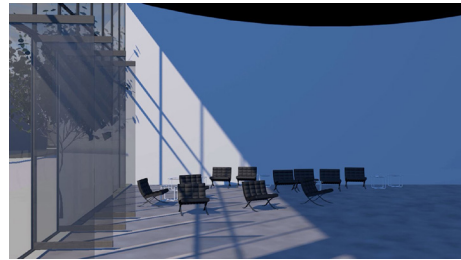
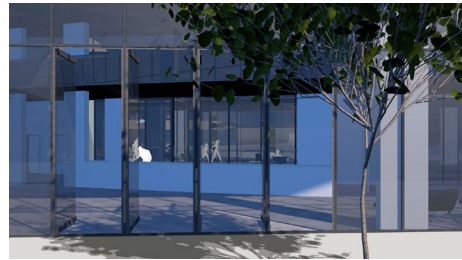
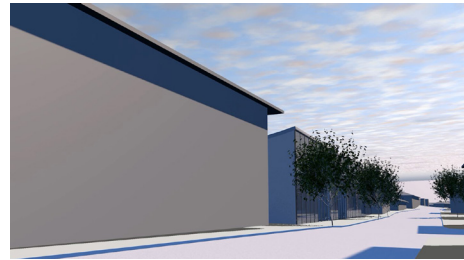
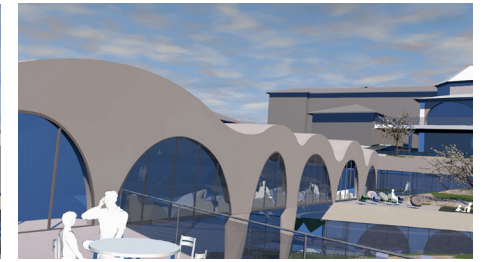
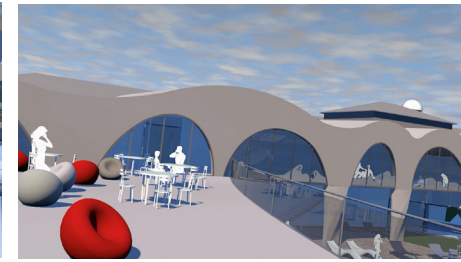
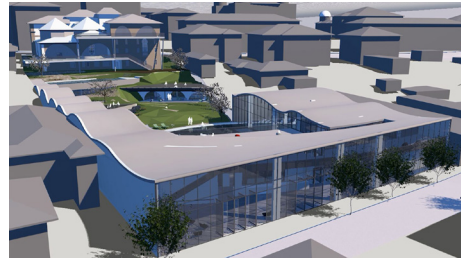
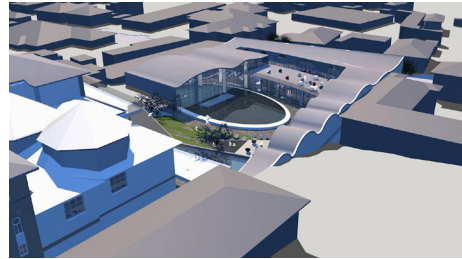
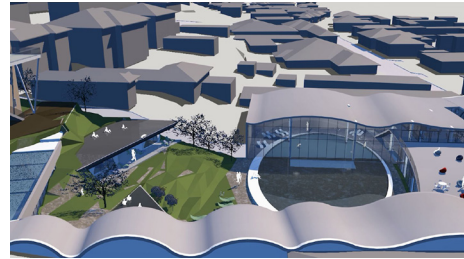
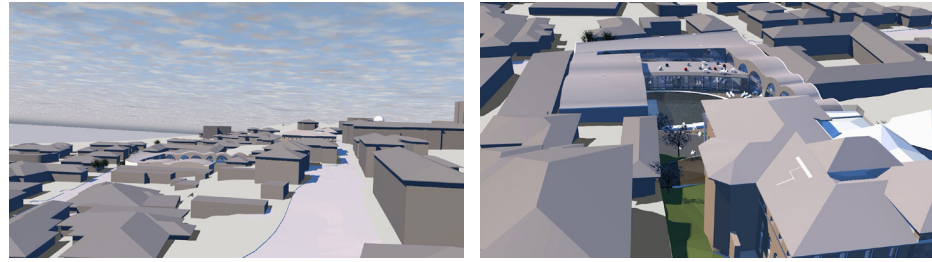


Fig. G.5

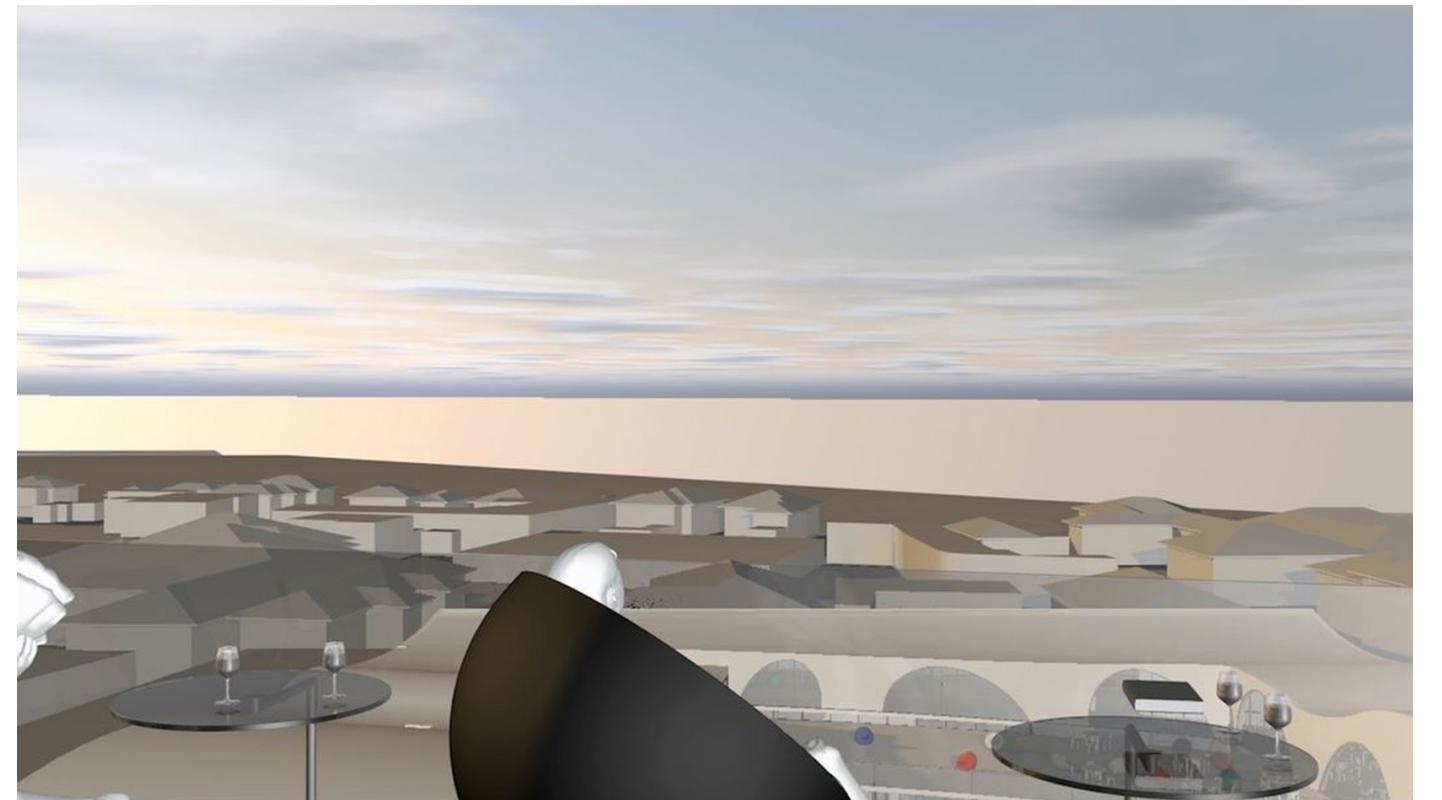
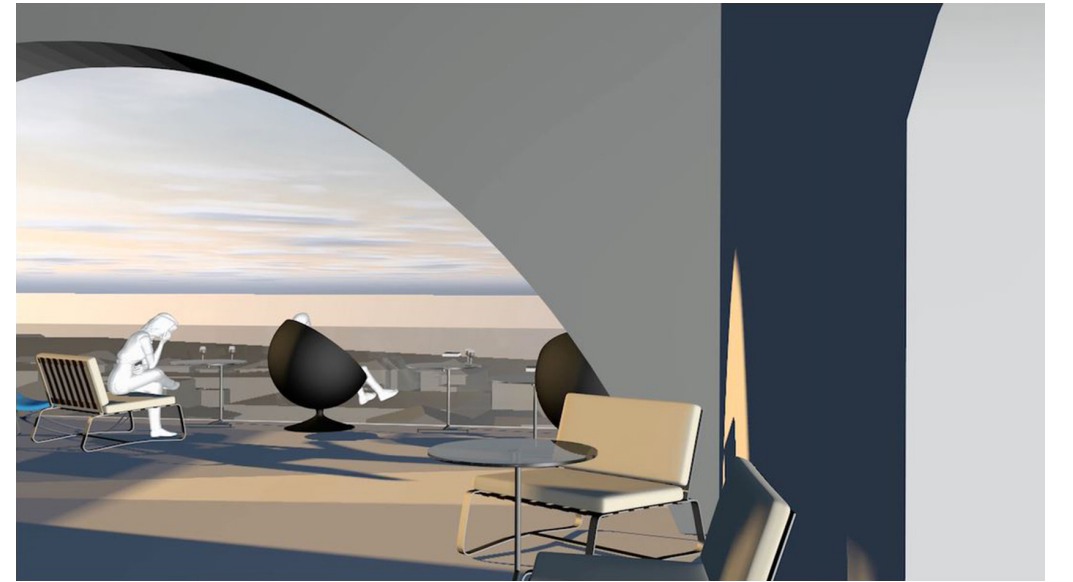
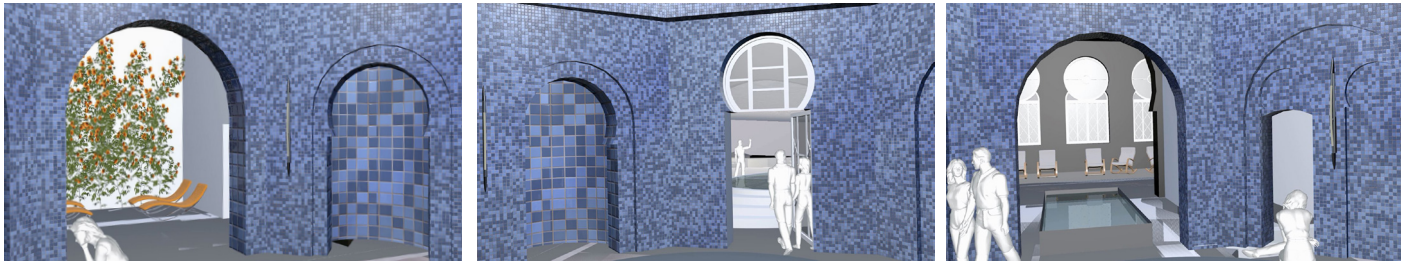
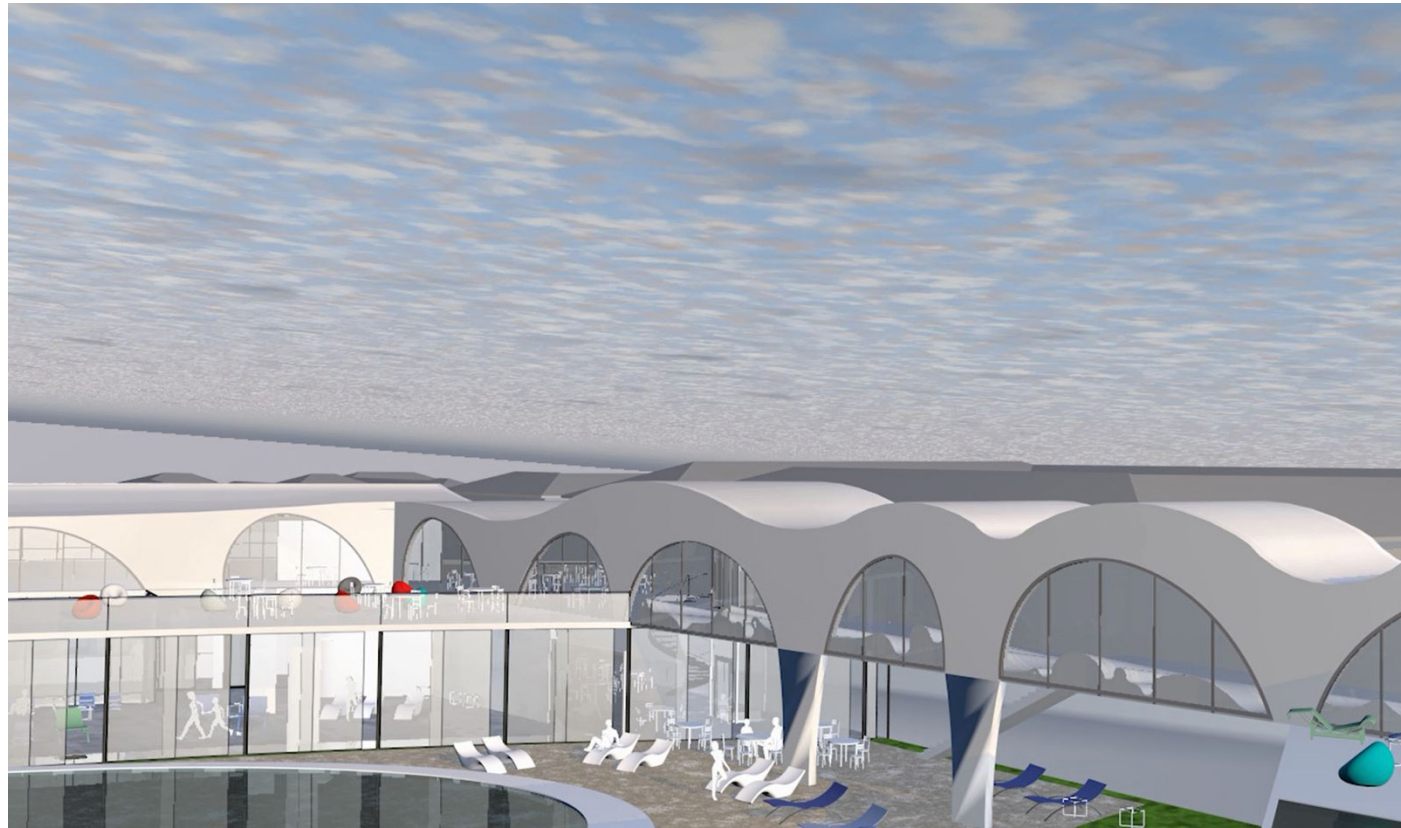




FILM SEQUENCES









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Thank you!

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