

Liget Budapest
New National Gallery and Ludwig Museum

Technical Description

2015 March 3

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1 Architect's Vision

Our proposal for the New National Gallery and Ludwig Museum is an open extension of the City Park. The relationship between building, park and urban environment is constantly shifting as people move through a network of galleries, terraces and activity spaces.

City Park itself changes dramatically from one season to another, with its ice rinks transforming into boat lakes. Our design looks to accentuate this effect: it is not a building within a park but a place where they are one and the same. It is a museum that fluctuates with seasonal shifts.

The open ground floor and gently sloped terraces that characterize the building allow the museums to be accessible from all sides, activating the spaces around

the entire museum. Ours is a contemporary form of public space – one where city, gardens and exhibition rooms become part of an experiential whole.

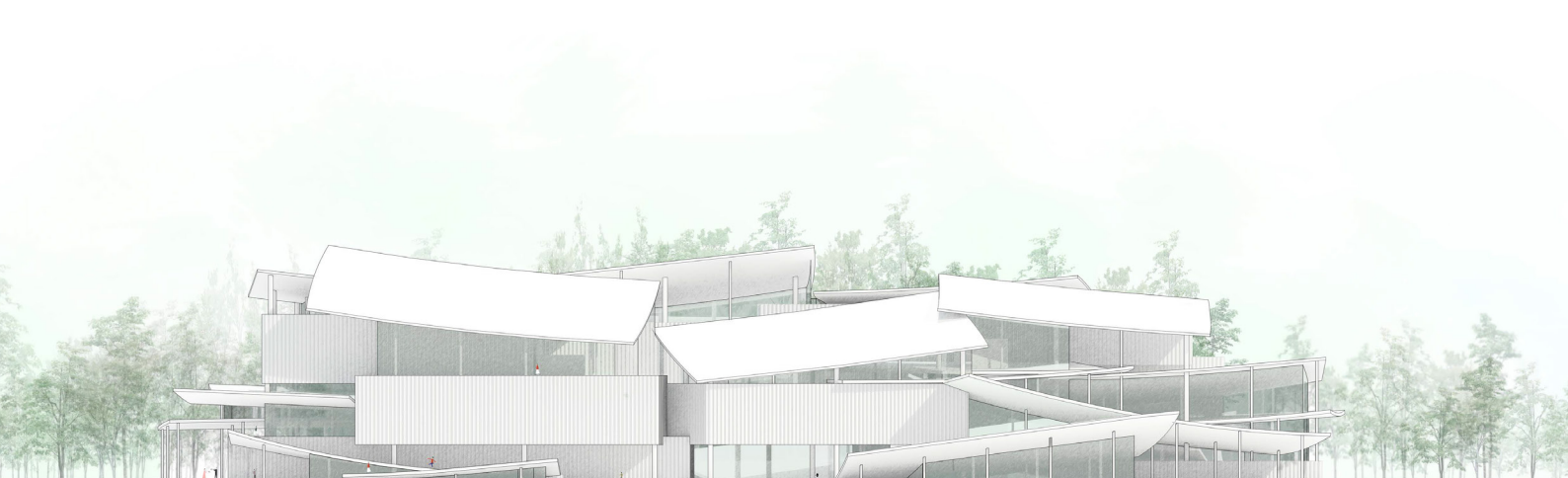
The chronological sequence of the Permanent Collection connects the two museums and extends through the height of the building. There are two main circulation routes through these exhibition spaces: the first is through the galleries themselves providing temporal continuity across the centuries; the second is composed of a sequence of social spaces and external terraces. This latter path allows visitors to rest, enjoy activities and views or learn more about the artworks on display. Like in a park, people are invited to determine their own routes and experiences.



2.1 Architectural Concept: Architectural Form

The architectural form extends horizontally, floating low above the ground. Approachable from all sides our proposal is a transparent building that highlights and reflects the beautiful surrounding trees. Formed from a network of terraces, the edge itself is blurred and appears to dissolve into the landscape. The full height of the building is similar to that of the large surrounding trees and the museum sits among them like an inhabited canopy and extension of this tree-cape.

While the exhibition volumes are distributed in a grid, the slopes and roofs are distributed playfully, creating spaces between slabs and volumes that let natural light penetrate the center of the building. The proposal is defined less by architectural facades than by activities that unfold within. Like the park itself it is not constant - it changes across the course of each day and every season.



Southwest Elevation



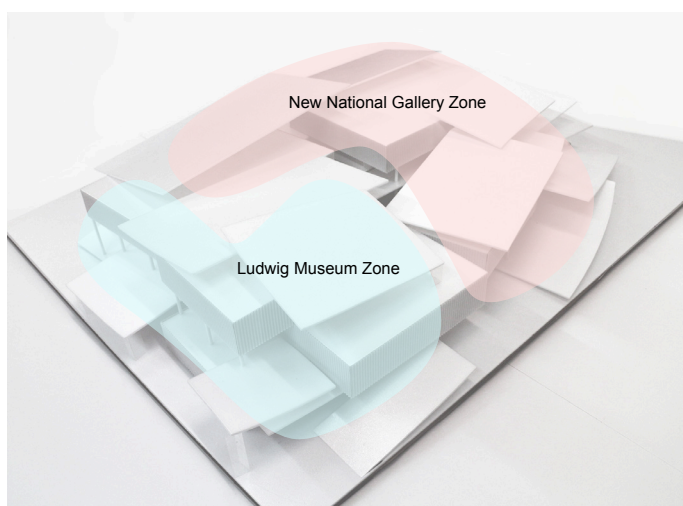
View from Southwest

2.2 Architectural Concept: Zoning and Outdoor spaces

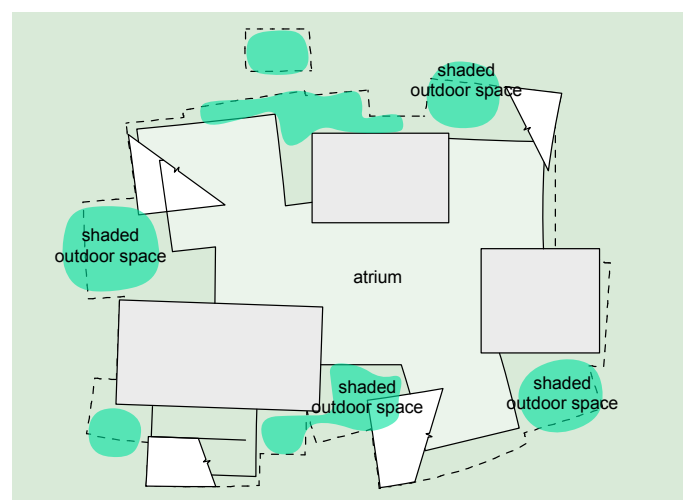
Sited along the principal axis that stretches from the Square of '56, we feel it is important that the new building has a single identity and architectural clarity as a visitor attraction. Therefore we have chosen to draw both museums into one design strategy, drawing the line between the two museums softly. The public area of the building is divided lightly into two zones: one for the New National Gallery towards the Southeast and the other for the Ludwig Museum to the Northwest. They can function

both autonomously and as an interdependent whole.

The museum lobby is located at the center, attracting visitors from all parts of the park and sitting like a pivot in the landscape. We hope this can be an active and lively public space that can also thrive independently of the museums themselves. Overhanging roofs provide shade, protection from rain and framed views of the landscape.



Two softly divided zones; the New National Gallery towards the Southeast and the other for the Ludwig Museum to the Northwest

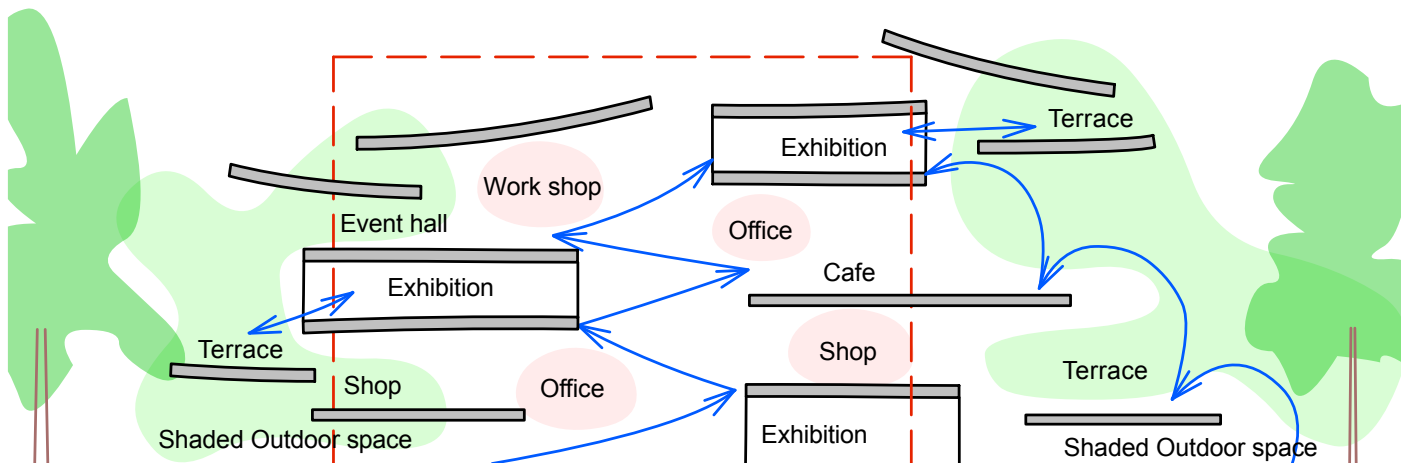


Shaded outdoor spaces underneath many slopes which visitors of the city park could also enjoy even when the museum is closed.

Exterior

Interior

Exterior



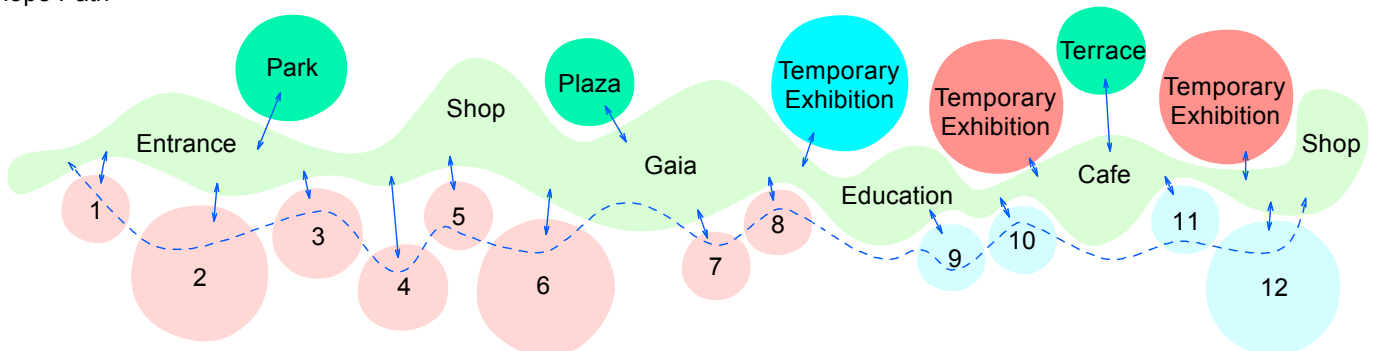
View from Southwest

2.3 Architectural Concept: Circulation

The large Permanent Exhibition spaces (12,300m²) are dispersed into twelve volumes that are distributed across the site. All of these galleries are connected internally to allow visitors to experience continuity across the collection and sense its chronological course. During their journey through the exhibition spaces visitors are invited to

emerge into public spaces, each with its own relationship to the park, city and sky. Some of these spaces are interior activity zones that house additional museum program such as classrooms, lecture rooms, shops and cafes. Others are outdoor terraces that encourage people to step outside and enjoy a shifting view of City Park.

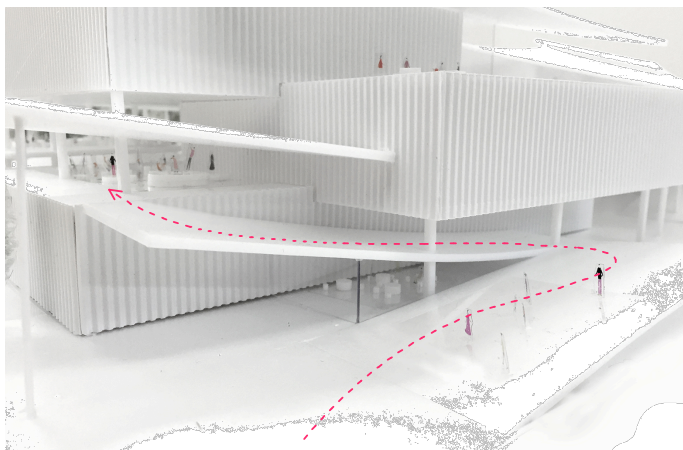
Slope Path



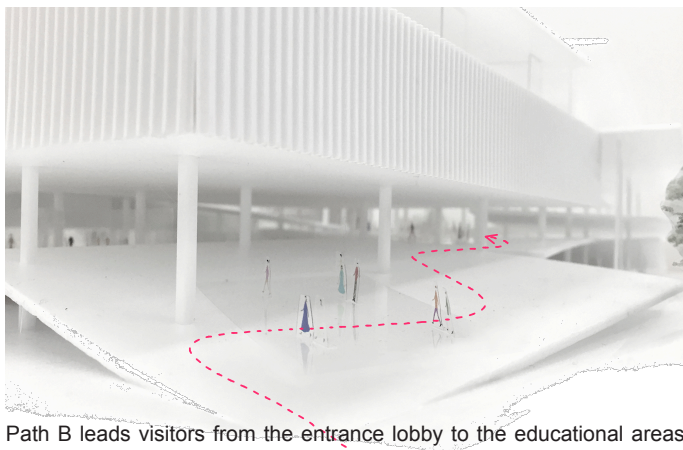
Permanent Exhibition

The slopes which holds the public programs of the museum connects 12 permanent exhibition volumes making a continuous sequence for the time gallery. Visitors are able to circulate through just the permanent

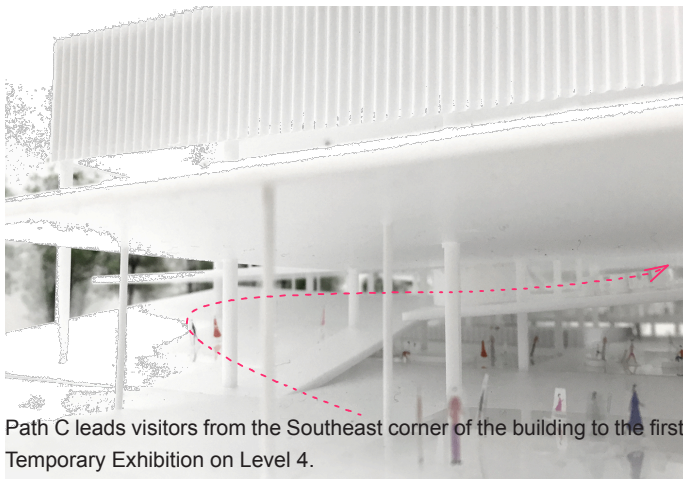
exhibition and also has the choice of exiting to the public programs in between to take a rest or see a temporary exhibition.



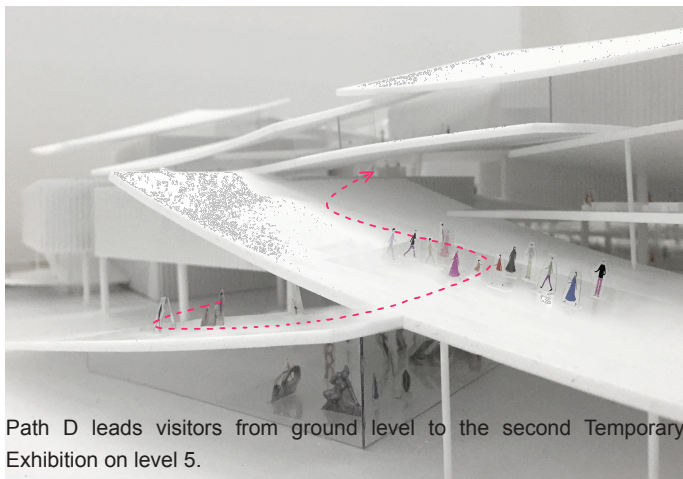
Path A leads visitors from the Northwest side of the site to the event hall.



Path B leads visitors from the entrance lobby to the educational areas and library.



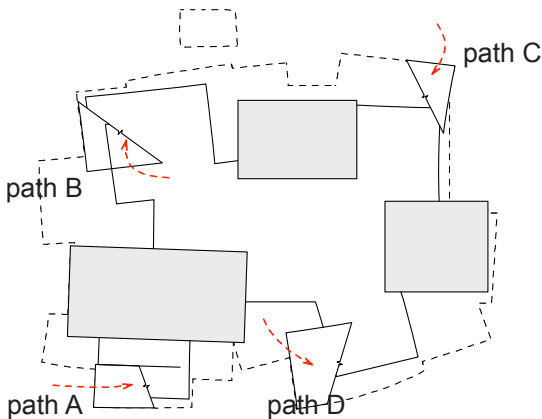
Path C leads visitors from the Southeast corner of the building to the first Temporary Exhibition on Level 4.



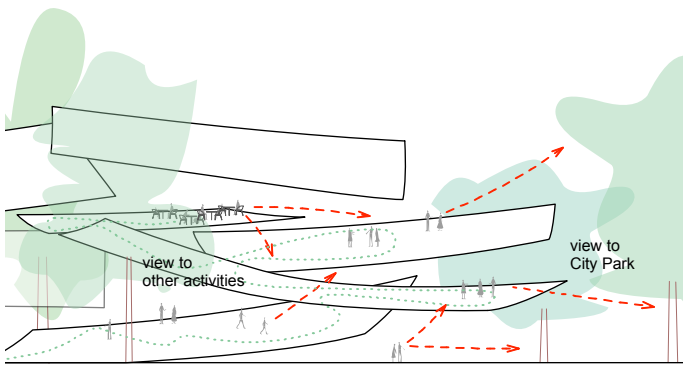
Path D leads visitors from ground level to the second Temporary Exhibition on level 5.

2.4 Architectural Concept: Visitor Experience

There are four gentle slopes that extend from ground level and lead visitors up to various parts of the museum. These paths intersect within the building giving visitors the opportunity to choose their own routes and the exhibitions they would like to see.

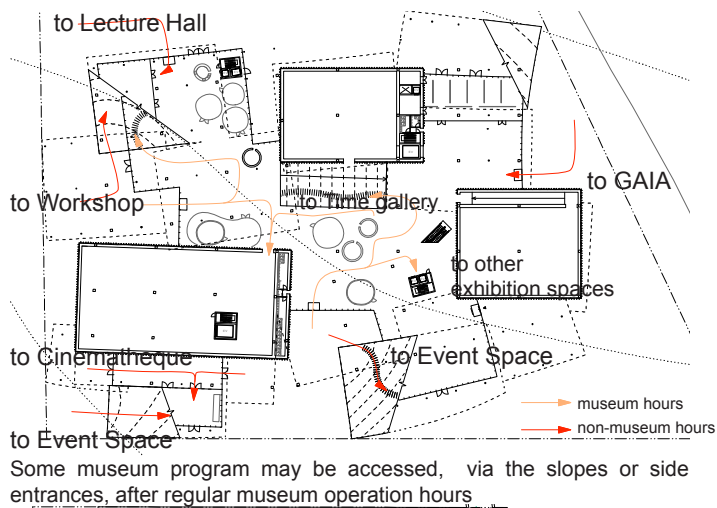


Path access from the ground level.



The view shifts as the visitors ascend the slopes around the building.



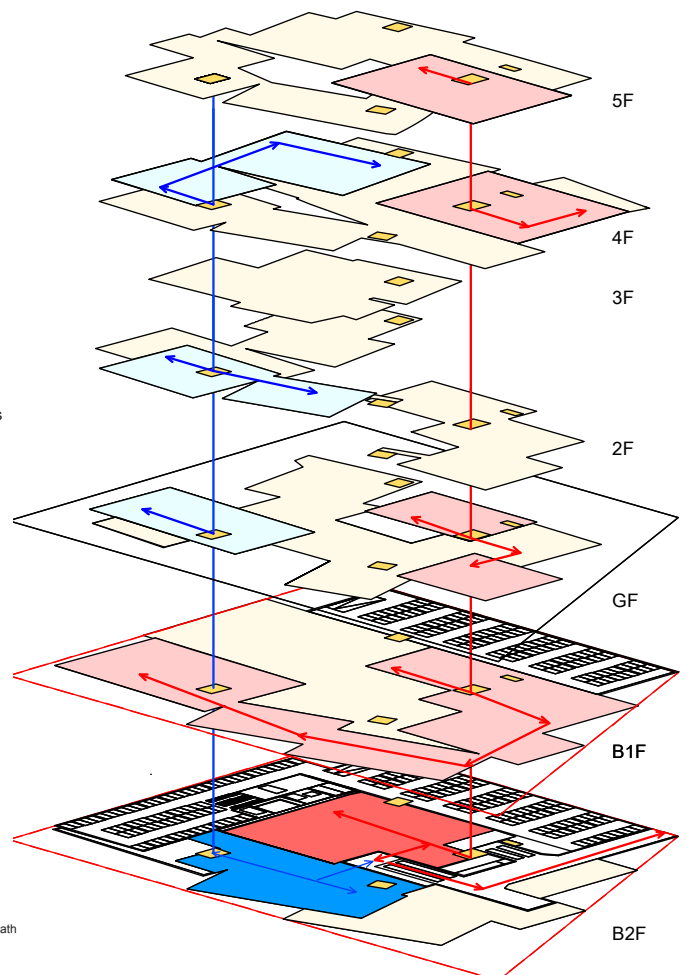


The art circuit for both museums are isolated from the regular staff, visitors, and goods and foods circulation.

2.5 Architectural Concept: Gallery Description

The Northwest side of the building houses the Ludwig Museum programs from Ground Level to Level 4. The New National Gallery is generally housed in the East side of the building from B1 Level to Level 5. Art handling programs and building services are placed at B2 Level and are closed to the public.

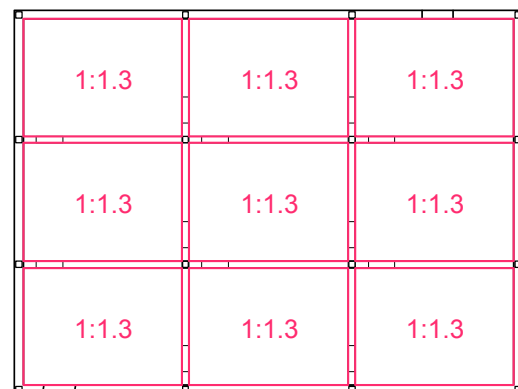
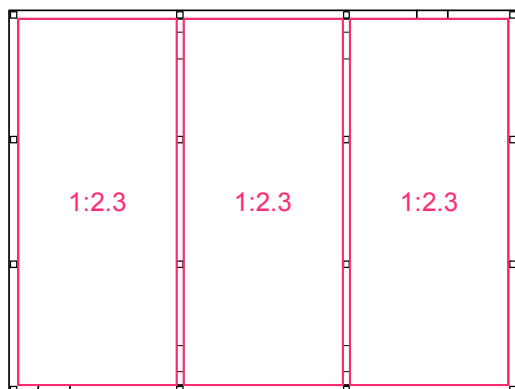
Each of the Permanent Exhibition spaces is between 700m² to 1700m², providing a range typical of world-class museums. The lighting, climate and humidity control meet the most stringent requirements for artworks. Each exhibition room has a regular 12m x 16m column grid, large



Art Handling Route - does not cross with goods and trash route nor visitor circulation.

spans that maximize curatorial flexibility. For example, in a 1700m² exhibition room partition walls can be introduced along the column grid in many different configurations, allowing for an array of small rooms or a fewer spaces of varied sizes.

There is an opportunity for the building to remain active past museum operating hours. There are three entry point on the ground level to the lobby area which will be open during normal operating hours. There are other entry points for special events or special shop hours taking place.



Example of different configurations of a 1700m² exhibition room.



Gathering Space in the Entry Lobby

2.5 Architectural Concept: Gallery Description

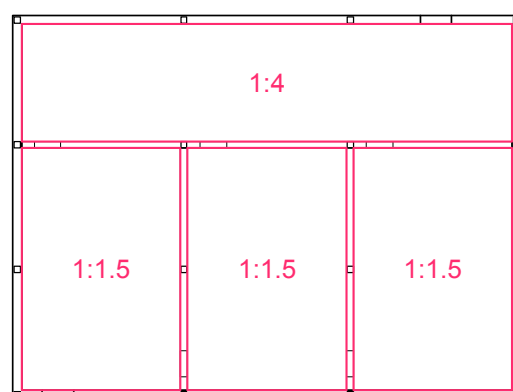
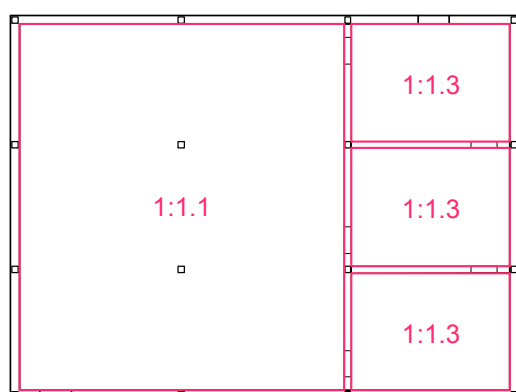
The art loading dock is a secure area shared by the New National Gallery and Ludwig Museum from which artwork will be transported through each museum's independent

art corridor to the galleries. These high-security art environments are completely isolated from goods and trash-handling routes.

Atrium as Gathering Space and new Art Environment

A large airy atrium space connects all of the galleries and social spaces. The terraces, slopes, and walkways wrap around the atrium affording views of activities across and beyond. This space is large enough for events and gatherings to be planned inside during the winter months

when it is too cold outside. The various angles and heights of the exhibition boxes create unconventional spaces where we hope artists will be inspired to create site specific and original art pieces that dissolve the line between gallery, circulation space and exterior terraces.



Example of different configurations of a 1700m2 exhibition room.



2.5 Architectural Concept: Gallery Description

New National Gallery

On entering the museum visitors will see the Sculpture Exhibition space, a large glass-enclosed space facing the Napozórét lawn to the south. From here visitors can descend to B1 level to begin their journey through the Permanent Time Gallery that winds its way up through the building.

There are six permanent exhibition spaces at B1 level that allow visitors to see all of the displays consecutively. There are also openings from each exhibition space to a central social space, giving people a chance to rest or meet friends. The Time Gallery of the Permanent Collection continues to ground level where there are a further two exhibition spaces, then onto Level 2 where it merges with the Permanent Exhibition space of the Ludwig Museum. The ceiling height for each of these spaces is either 5.5m or 9m.

The Temporary Exhibition spaces are located on the upper most levels (Levels 4 and 5) and can be accessed through both internal and external paths.

The GAIA space is located on the Southeast corner of the building at ground level. The activities of artists and researchers are visible from the street, while people within can feel nature at close proximity and enjoy a view of the sky. At times it can be a space for reflection that is directly accessible from the quieter side of the park, at other times it may host events that can spill outside and activate this side of the building.



Level 3 Exhibition Space - Ludwig Museum

2.5 Architectural Concept: Gallery Description

Ludwig Museum

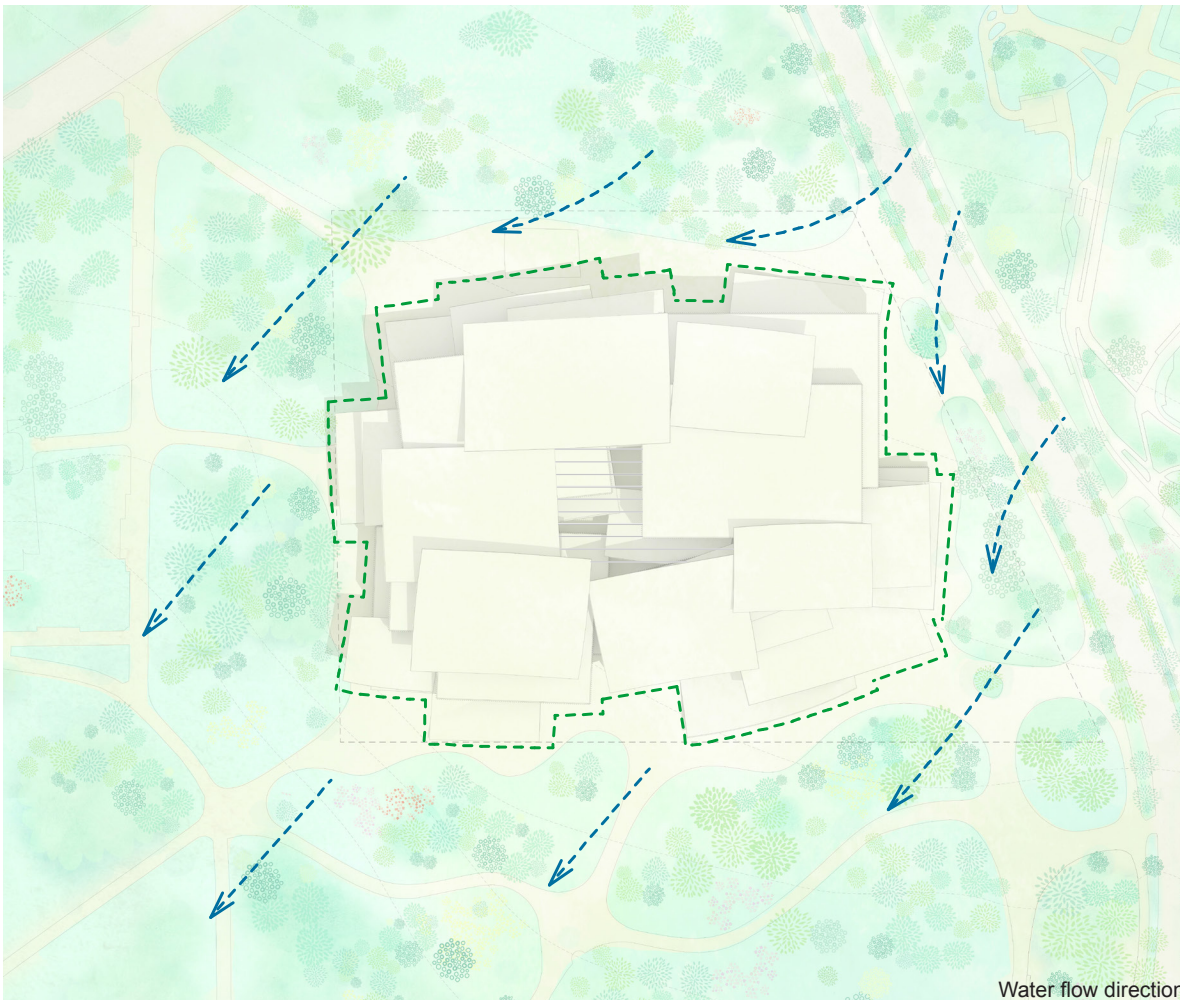
The Permanent Exhibition spaces are organized across two levels (Level 2 and Level 3), each with two connected display halls. On each level, there is one room with a ceiling height of 6.5m and another with 5.5m, providing spatial variation and curatorial range. When emerging from the last gallery visitors are invited to return to ground level by means of the series of ramps, providing a view into classrooms and event halls and creating an active

social space with interdisciplinary crossover. This also allows for an extension of the exhibition through the public areas, providing visitors with the opportunity to learn more about the shows they have seen.

The Temporary Exhibition space is located at ground level, next to the entrance lobby and along the main circulation path of the Permanent Exhibition spaces.



Ground Level Sculpture Exhibition Area



Rosa sancti andreae



Dolomite Flax



Sorbus bakonyensis



Hesperis vrbelyiana



Hungarian Vincetoxicum



Dianthus diutinus

Native Plants in Hungary

2.6 Architectural Concept: Landscape

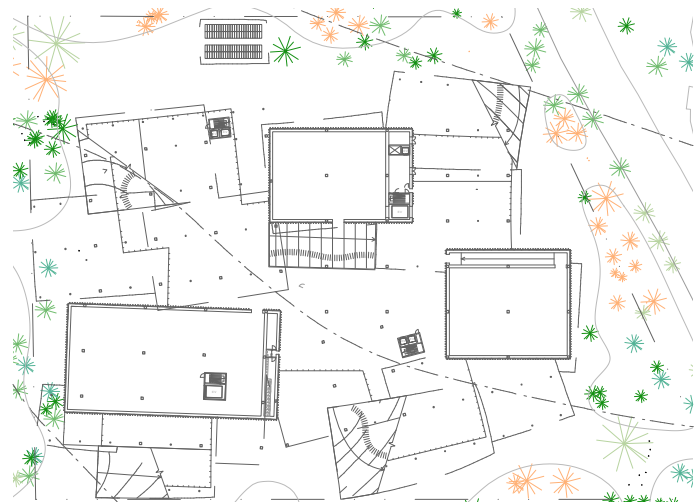
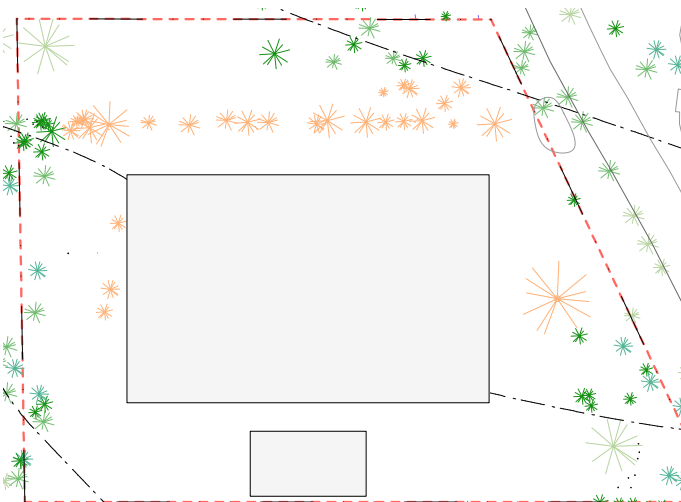
The landscape immediately surrounding the museum is designed in such a way as to offer a different impression of the park each time it is glimpsed or enjoyed between the gallery spaces: from both glazed activity areas and outdoor terraces. Our proposal follows four principles:

1. The significant trees on the site and areas around it are preserved. Where existing trees cannot be preserved, we propose to relocate them to the eastern and western corners of the site or to the immediate surroundings.
2. When planting new trees, a mixture of deciduous and

evergreen trees will allow for an impression of seasonal shifts while also ensuring some color and animation in the winter months as well as visual and noise protection from the nearby road.

3. As far as possible Native Hungarian vegetation is proposed.

4. The building follows the natural gradation of the site. The paved surface around the building is sloped to allow rainwater to quickly drain away from the building into dry wells to mitigate flood damage. This will also encourage development and recovery of trees.



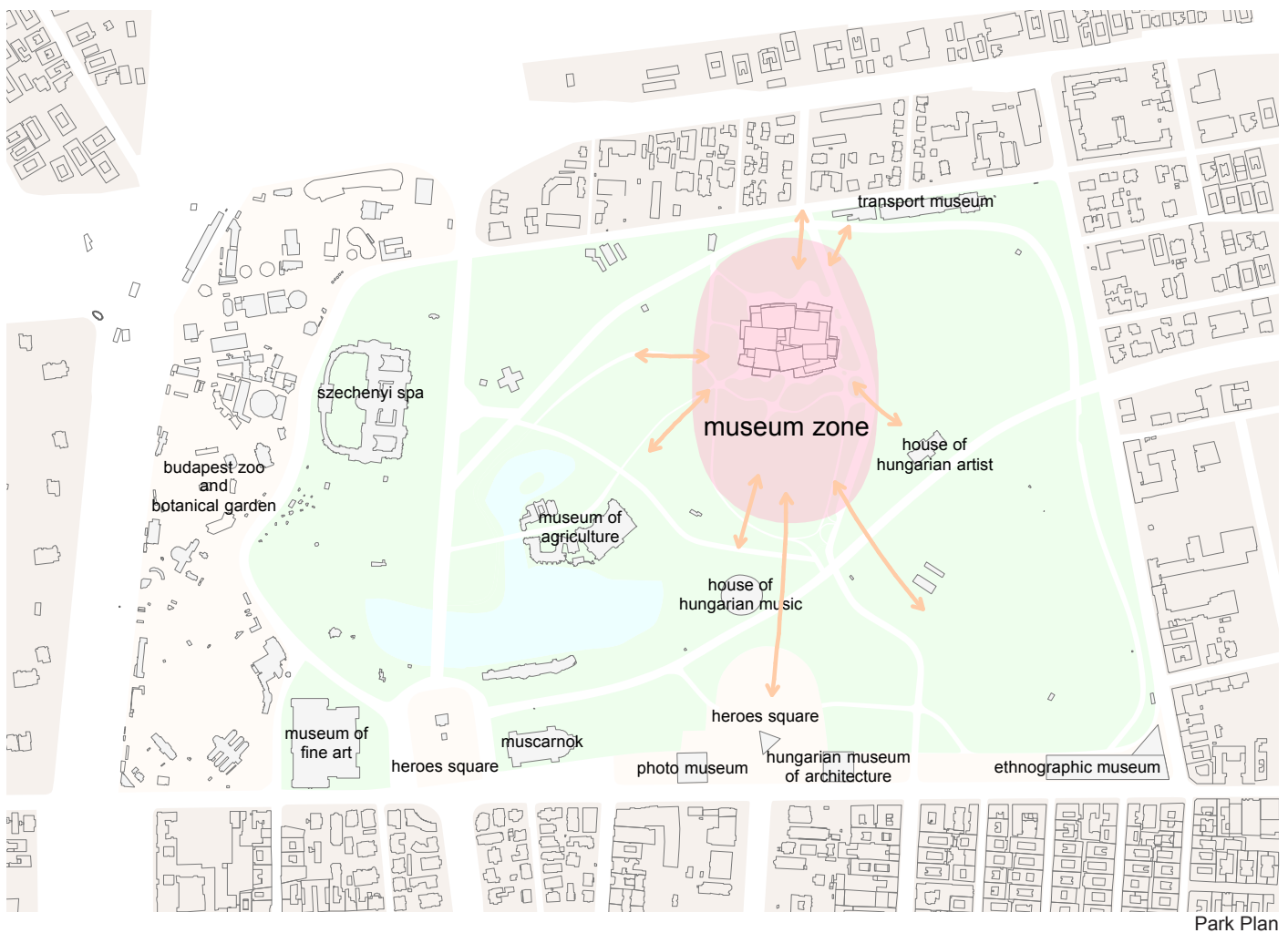
Trees on site will be relocated to areas surrounding the site. Evergreen trees will be relocated along the road to block noise from the street.



View to the Southwest main entrance.



View to the Northwest facade - many activities of Ludwig Museum.
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3. Site Relations

The building connects different parts of the park, opens horizontally to melt into the surrounding trees and provides visitors with a network of routes and terraces that change across the seasons. It is constructed to the height of surrounding trees that vary between 20m and 30m. Our design avoids an icon that emerges above the park: instead it sits subtly among the surrounding canopies. The building is designed as an environment from which

to enjoy the beautiful park that unfolds around it from a variety of heights and angles.

It is sited along the principal axis from the Square of 56', framed by the new photographic and architecture museum to the south. The soft edges of our proposal avoid too monumental an approach: people are instead enticed by glimpses of activity through the trees.

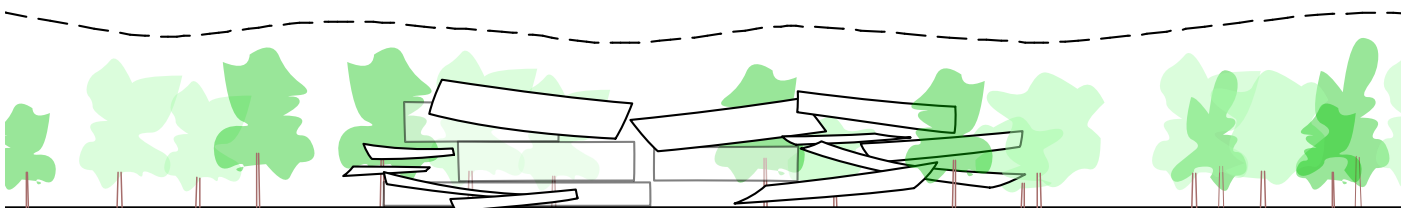
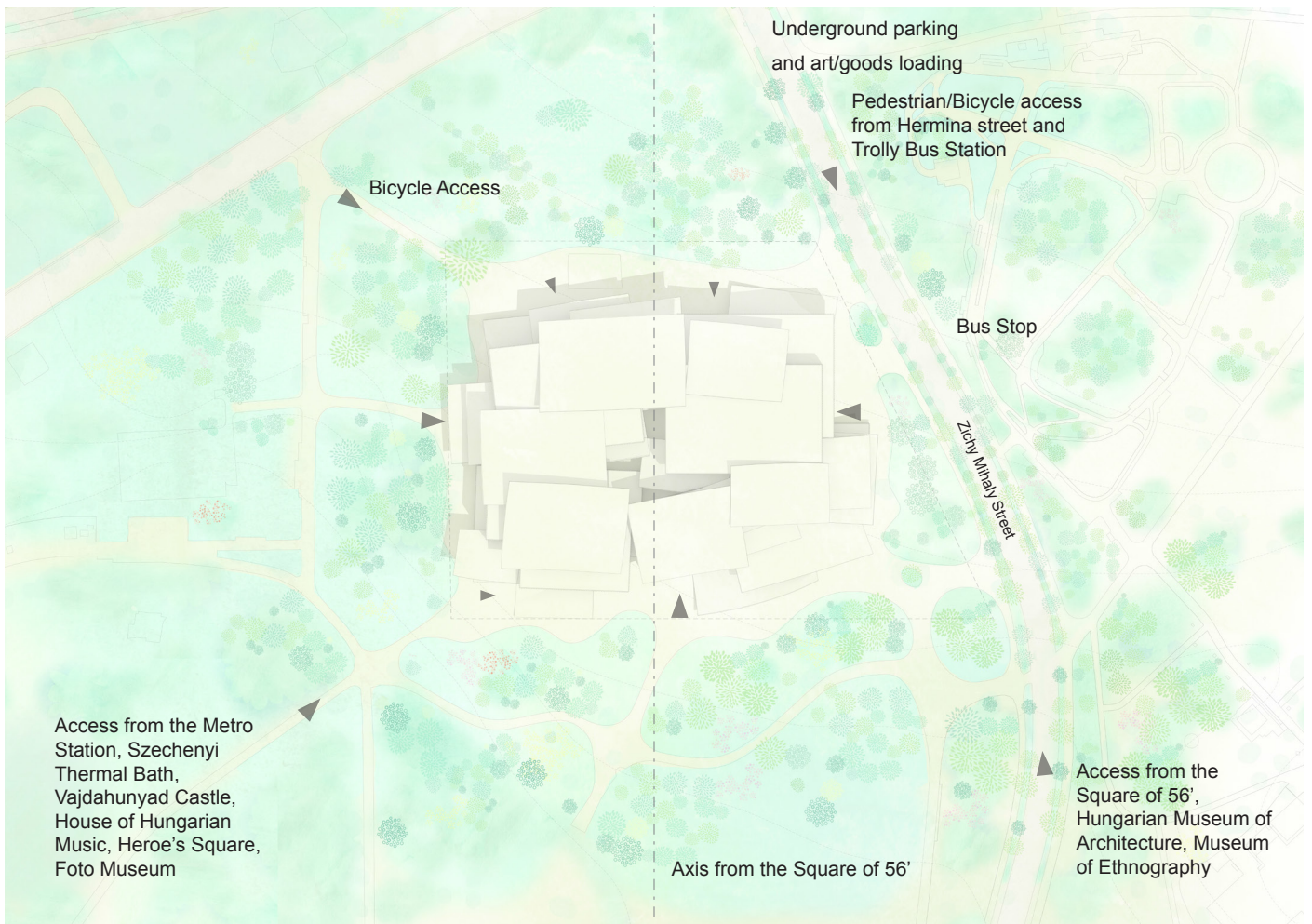


Diagram - The surround trees are approximately 20-30meters in height. The roof of the building is placed lightly and playfully to blend in with the surrounding undulating skyline.



Access Map

3. Site Relations

Access

Visitors are invited to leave their cars at the edge of City Park. It is to be a pedestrian environment and our design accentuates this by extending visitor routes through the new building and making them visible across the building façade.

The activities of the vast Napozórét lawn extend gently up along the slopes of the proposed building and emerge in the terraces that overlook the park. These outdoor spaces amongst the treetops establish both a visual and physical connection between visitors to the museum, the community enjoying the park and the neighborhood beyond.



The soft edges of our proposal avoid too monumental an approach: people are instead enticed by glimpses of activity through the trees.

Supporting Structure

Structural Diagram

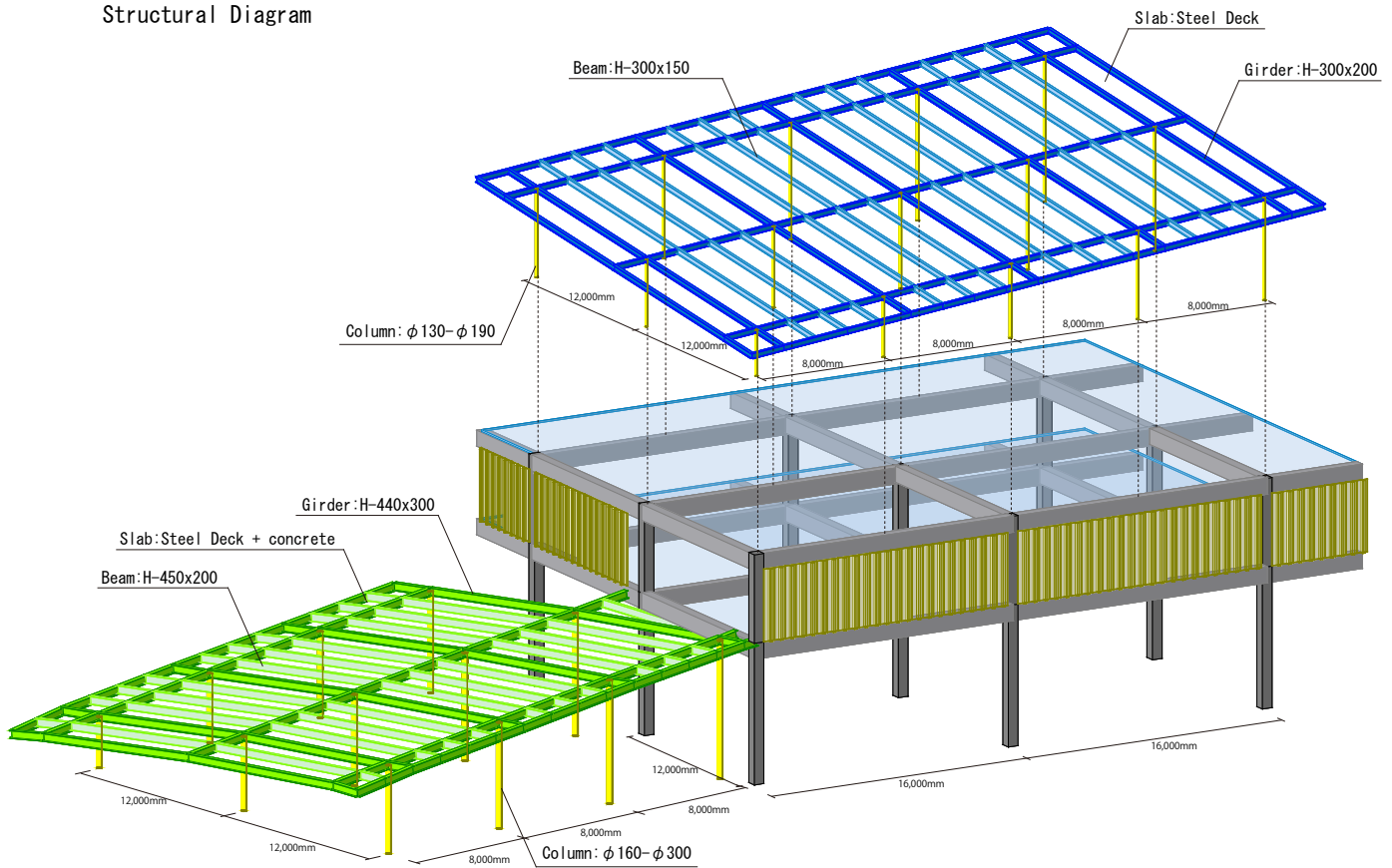


Diagram - structural composition of the exhibition volumes, slopes, and roofs.

Organization

This project is a building for two museums consisting of 2 stories basement and 6 stories above ground. It is composed of relatively large span, necessary for the

exhibition spaces and associated facilities, and slopes that connect them.

Structure

This project is a building for two museums consisting of 2 stories below and 6 stories above ground. It is a relatively large span structure as required for the exhibition spaces, associated facilities and slopes that connect them.

Galleries, event halls and program such as administration areas are systematically organized on a standard grid of 12m x 16m, maximizing spatial flexibility. The floor is composed of precast double T slabs ensuring large spans while eliminating joist beams and providing a simple and highly rational structure. Precast concrete is adopted in both columns and beams to shorten the construction cycle, ensure higher quality elements and proactively reduce the amount of construction material and fuel used. By employing ribbed precast slab for the external walls, the beams in the floor and the ceiling are joined. This improves sound insulation while ensuring fire resistance. The cores that hold the stairs and elevator are composed of RC wall through sliding formwork and will be built prior

to the other rooms. These core shafts will support floors as other columns and beams do and will also provide lateral strength for the entire building. They will also become a guide for further construction. Taking economic factors into consideration the span of the grid is reduced to 12m x 8m along the slopes that compose the circulation routes, terraces and non-exhibition basement areas. The structure utilizes steel composite beams that consist of steel beams and synthetic slab. The columns are also distinguished from those of the exhibition spaces and will be steel tubes.

Supporting Structure

Structure & Construction Diagram (of main structure)

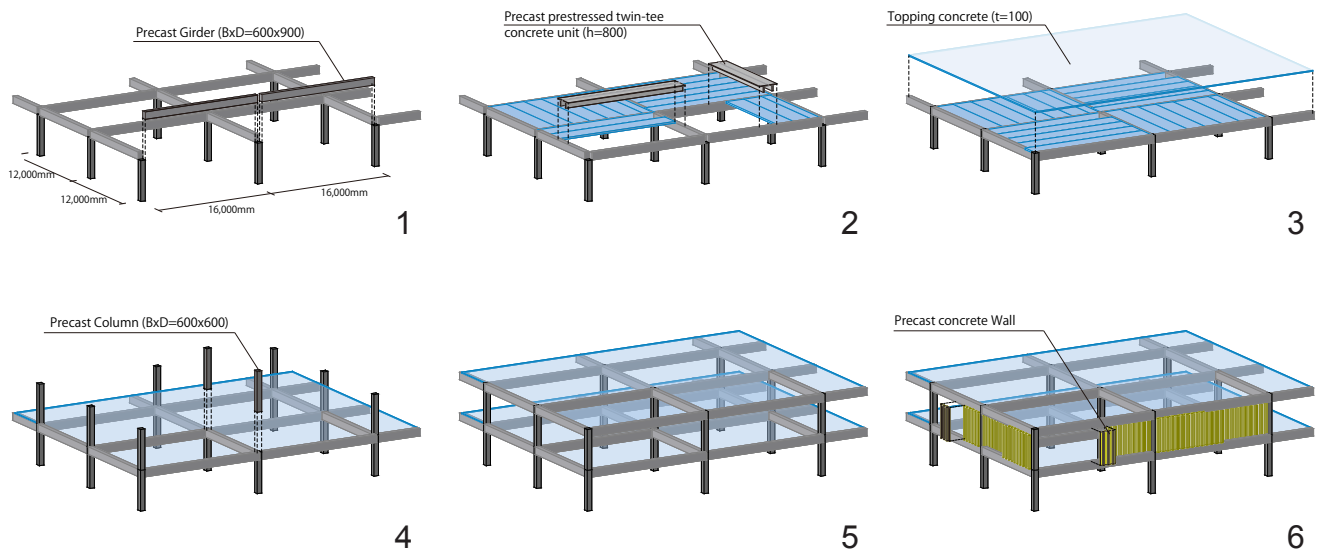


Diagram - Construction method of the precast exhibition volume

Structural Characteristics

- Standard span of 12m x 16m for columns and beams, balancing spatial flexibility and economic efficiency
- Precast concrete for primary structure, enabling faster and efficient construction
- Precast double-T slab for floor, enabling larger span without need for joist beams
- Ribbed PC slab for perimeter walls to ensure noise insulation and fire resistance

- Benefits of precast concrete construction
 - o Financial benefits on account of a faster construction cycle
 - o Efficient construction management with the reduction of formworks, scaffoldings, and labor.
 - o Fabrication in controlled environment yielding higher precision and quality.
 - o Reduced noise and CO2 emission compared to in-situ construction.

- Benefits of Precast Double-T slab
 - o It is possible to realize lightweight 12m x 16m spans
 - o Extra strength is provided from the pre-stress process, enabling longer spans
 - o It allows for the elimination of joist beams, providing efficient space below
 - o It is possible to stack the beams alternately benefiting the transportation and storage of the beams

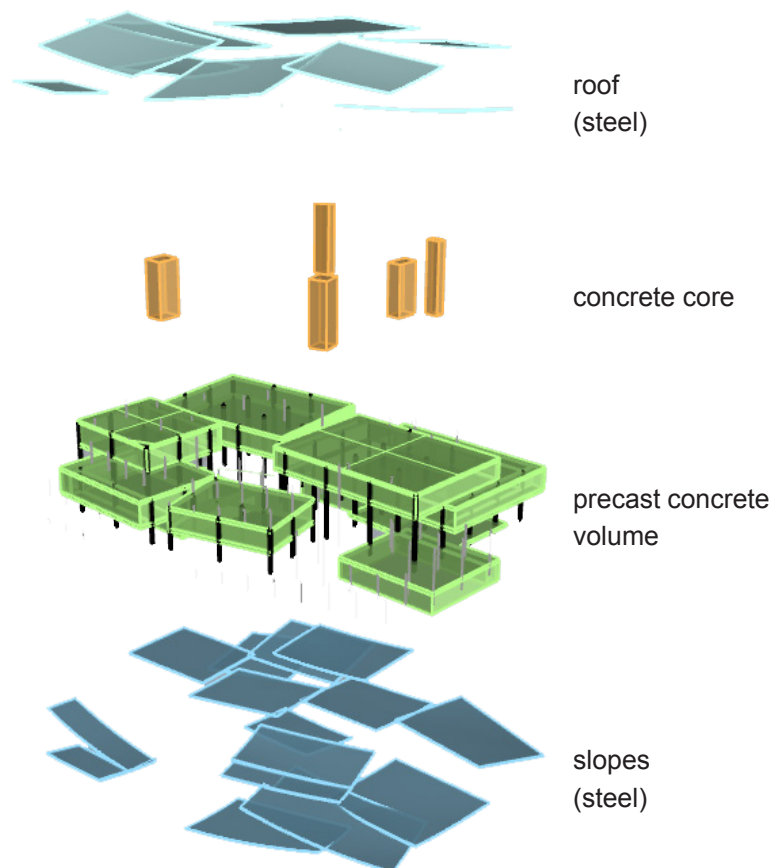


Diagram - overall composition of the building structure

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Introduction

This document presents the sustainability report for the competition Liget Budapest, New national Gallery and Ludwig Museum in Budapest.

To meet the best sustainability standards, the following strategy was performed:

1. Meet as much as possible building energy demands with passive means.
2. Meet remaining energy demands with high efficient energy systems.
3. Supply those energy systems with renewable energies.

1 Climate Analysis

Climate data used in this chapter are from IWEK 2.0 Budapest. IWEK means « International Weather for Energy Calculation », as it is currently used for dynamic thermal simulations (energy modeling).

1.1 Solar Irradiations and sun heights

Figures 1 to 6 show direct, diffuse and reflected solar irradiations on horizontal and vertical surfaces (North, South, East and West).

Yearly solar irradiation on a horizontal surface is 1226 kWh/m².yr, with 53% diffuse and 47% direct. Diffuse irradiation is therefore predominant but there is still a very interesting potential to use photovoltaic elements to generate electricity.

Glazings should be as well protected by solar protections to manage smartly the solar gains in winter and in summer as sun is free heat source in winter, but must be blocked in summer to avoid space overheating issue.

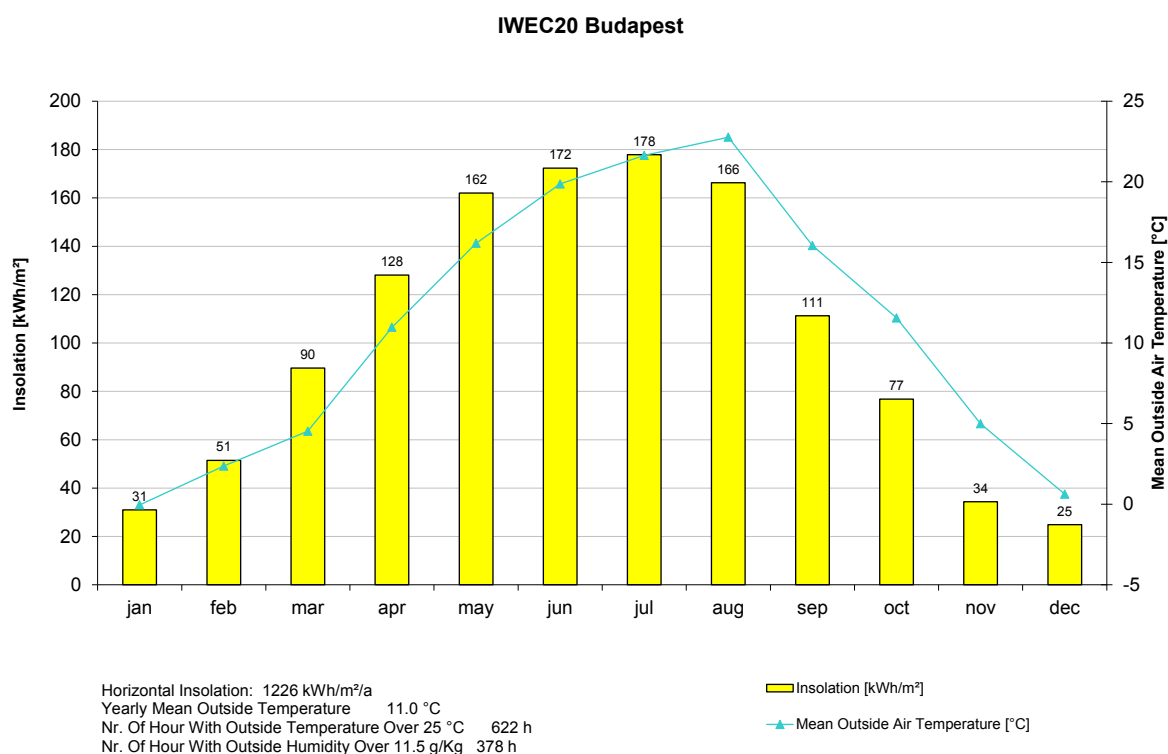


Figure 1 : Horizontal solar irradiation and outdoor air temperature

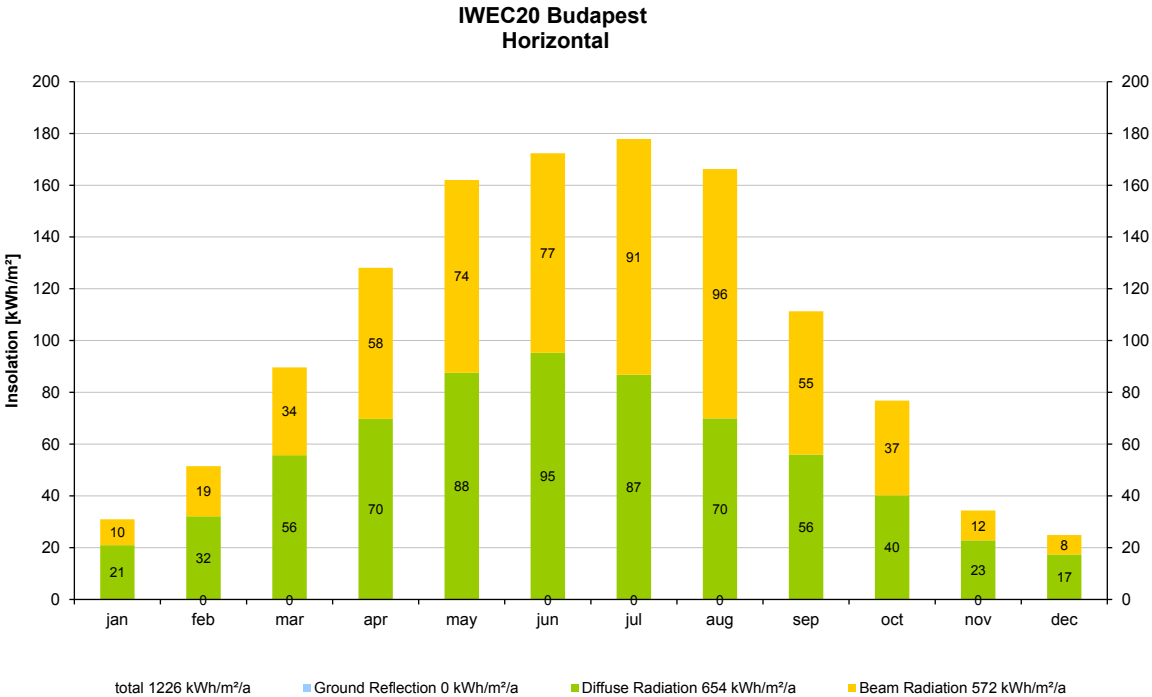


Figure 2 : Horizontal solar irradiation

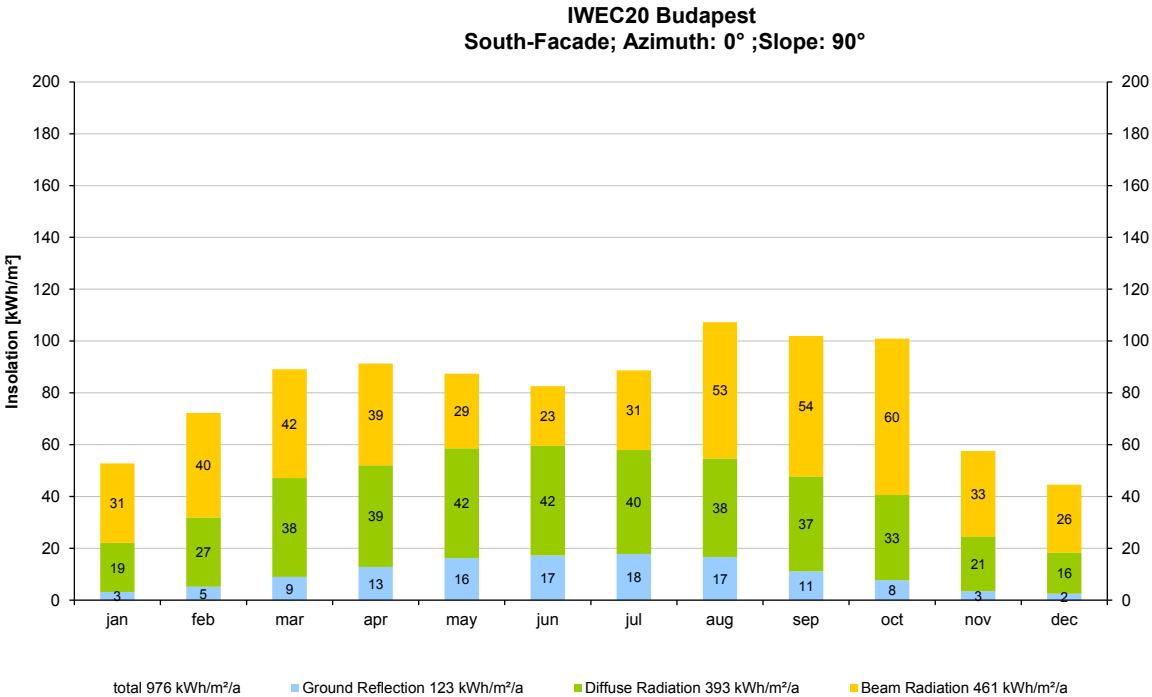


Figure 3 : Vertical (South) solar irradiation

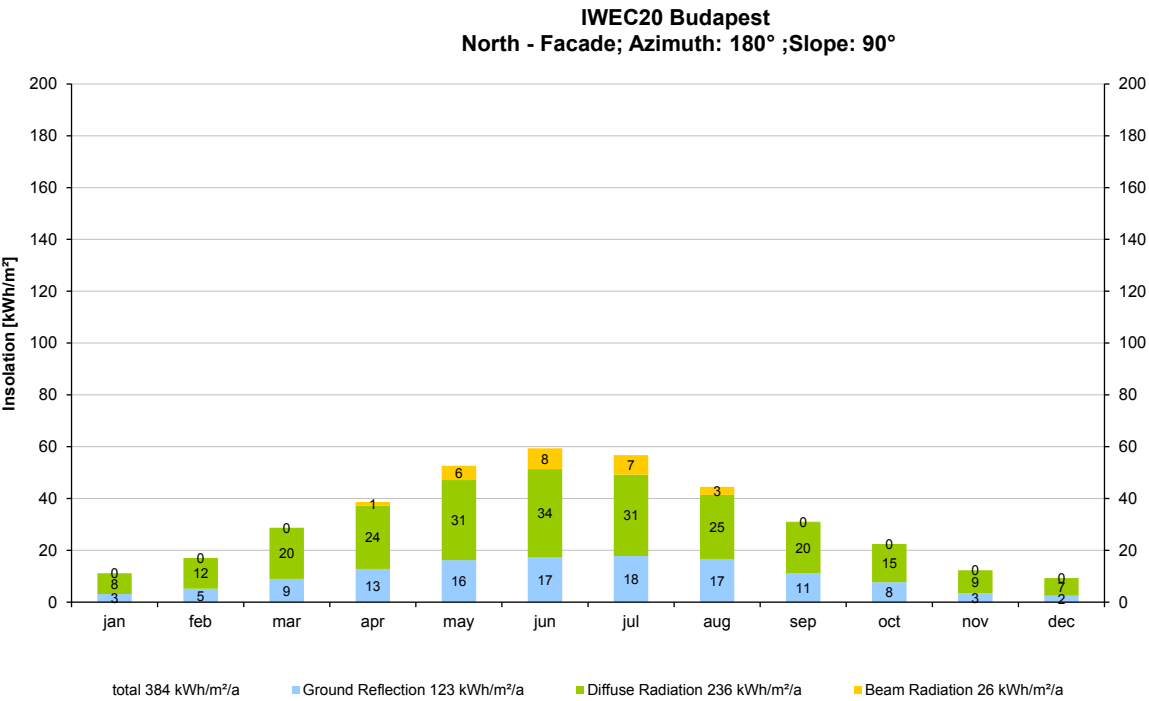


Figure 4 : Vertical (North) solar irradiation

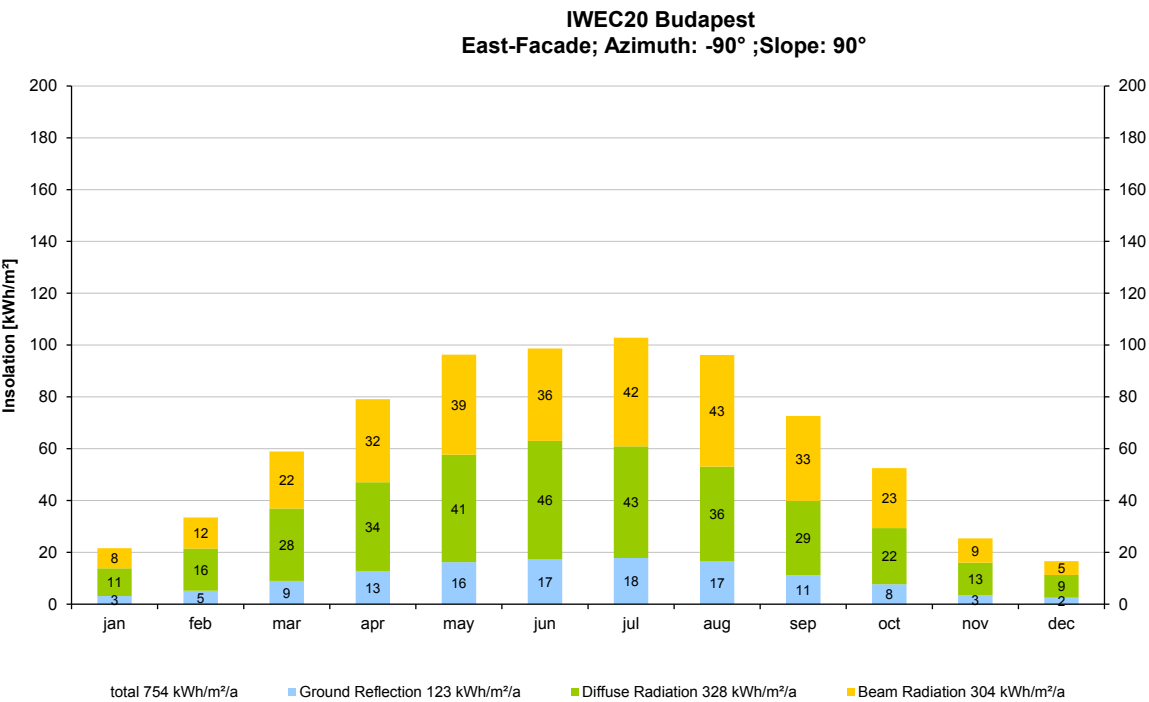


Figure 5 : Vertical (East) solar irradiation

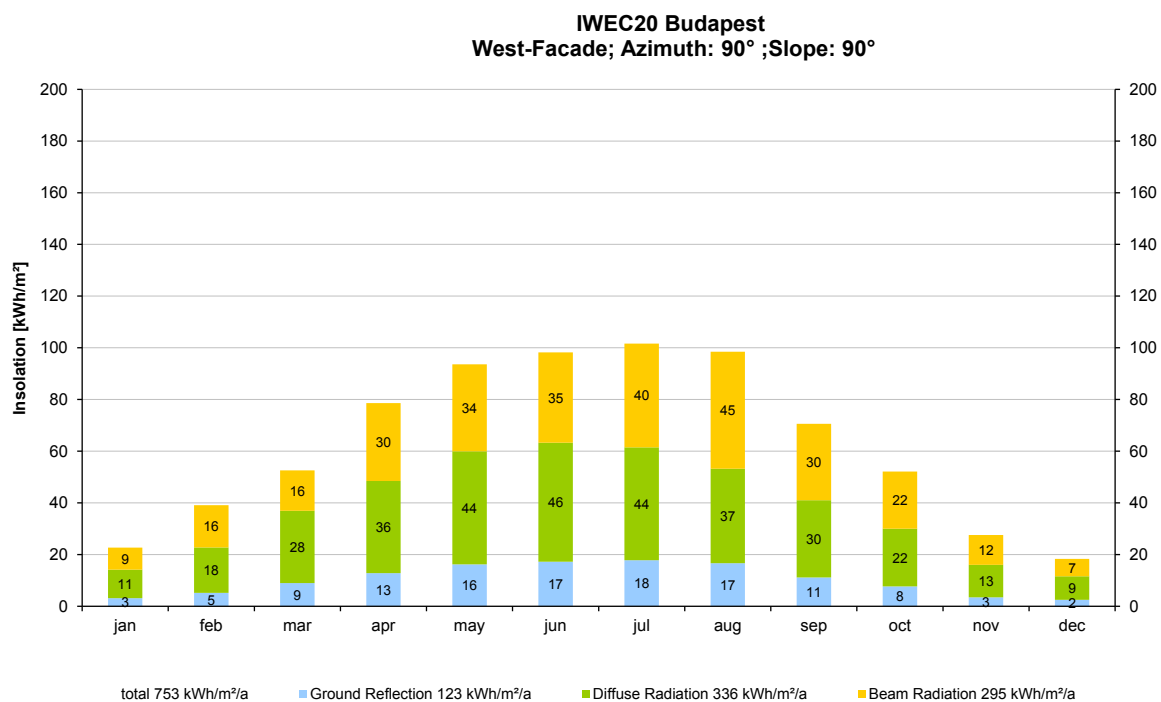


Figure 6 : Vertical (West) solar irradiation

Figures 7 to 9 presents the sun path over the project for 3 representative periods:

- December 21st (Winter solstice) sun path. Maximum sun height = 19.0°
- March 21st (Equinoxe) sun path. Maximum sun height = 42.2°
- June 21st (Summer solstice) sun path. Maximum sun height = 65.8°

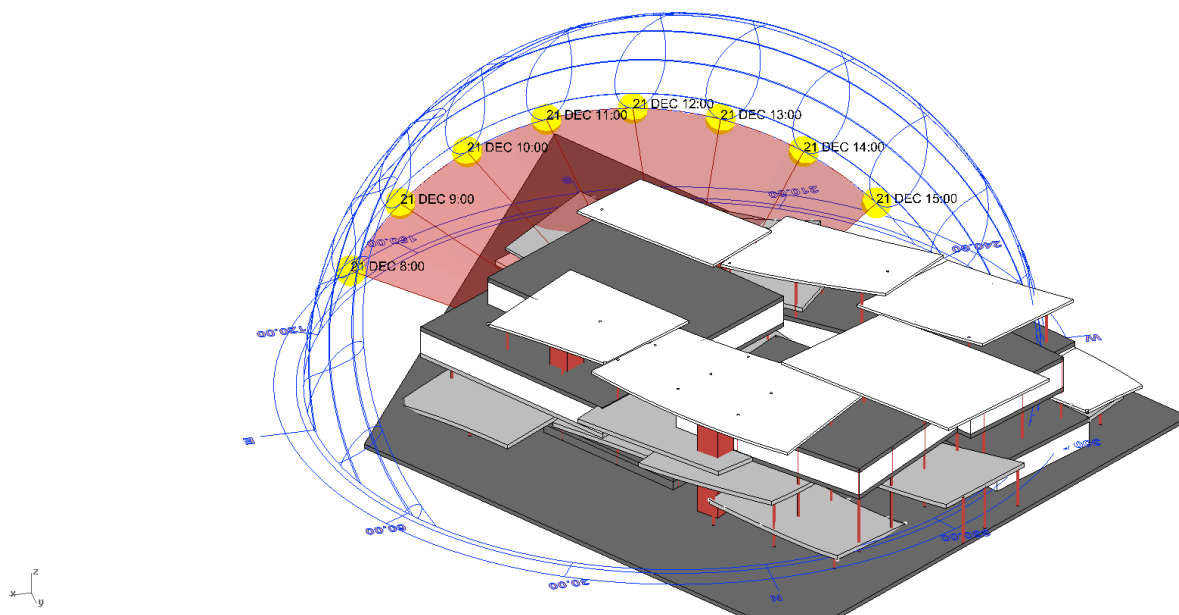


Figure 7 : December 21st sun path diagram

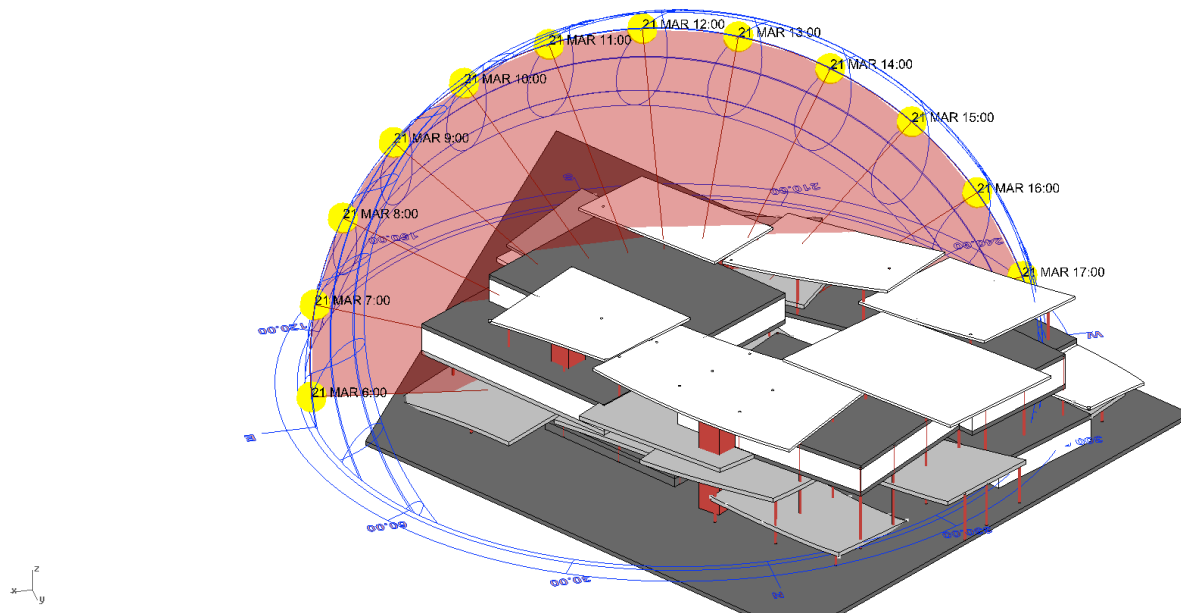


Figure 8 : March 21st sun path diagram

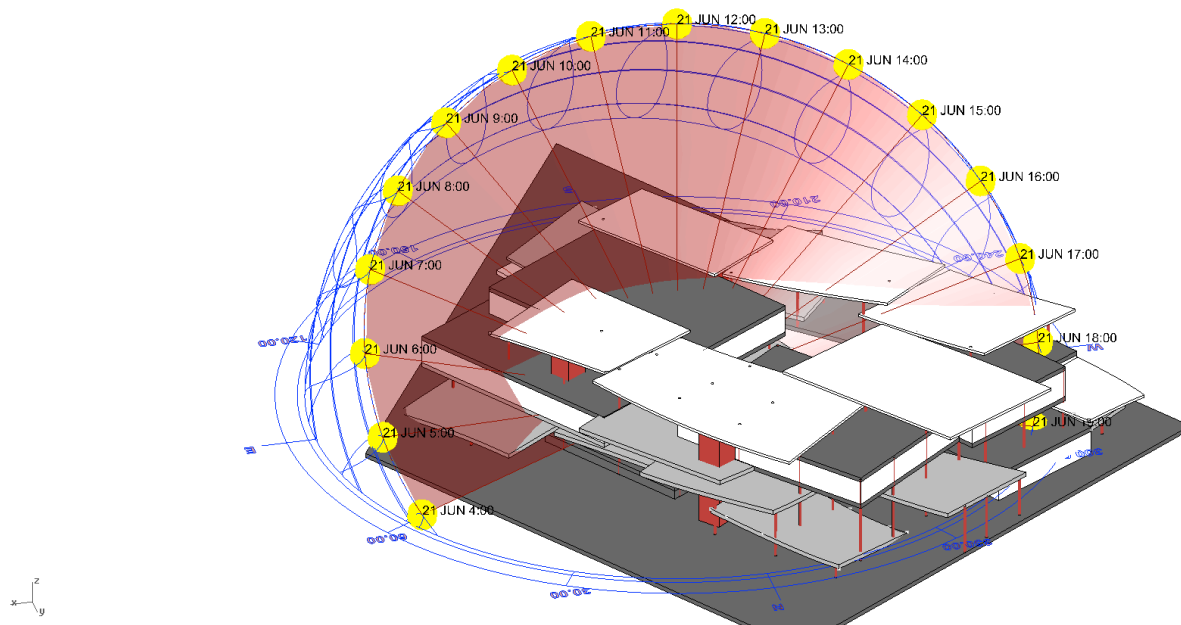


Figure 9 : June 21st sun path diagram

1.2 Air temperature and humidity

Figure 10 shows outdoor air temperature swing along the year. It swings from -12°C in winter to 36°C in summer. Building envelope (glazed and opaque) should be therefore very efficient to reduce building energy demand for heating and cooling.

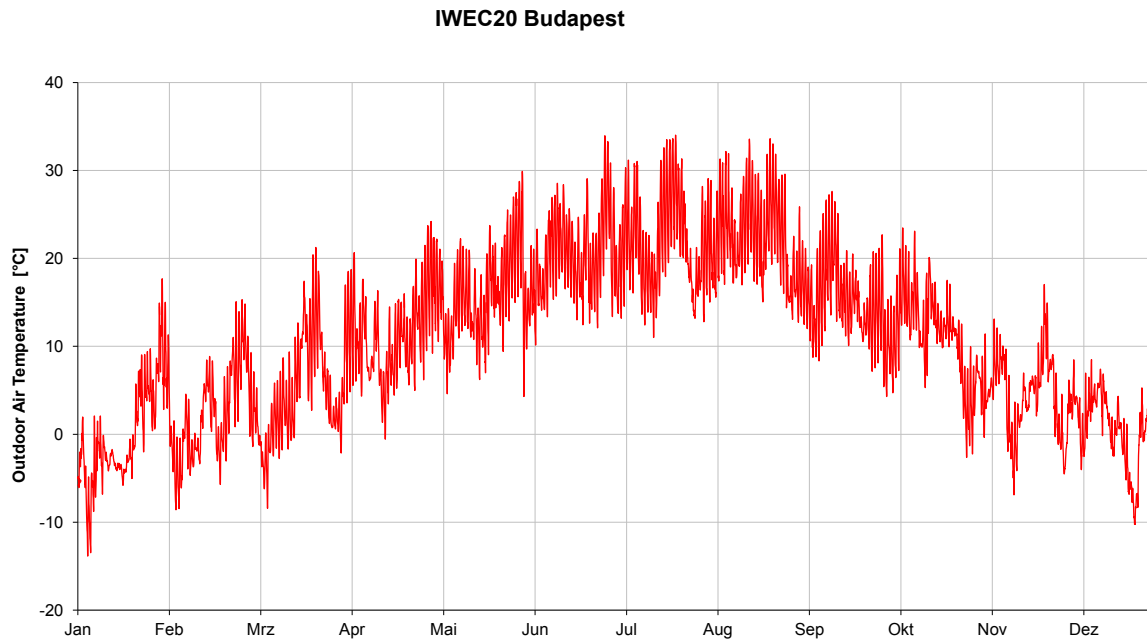


Figure 10 : Yearly outdoor air temperature

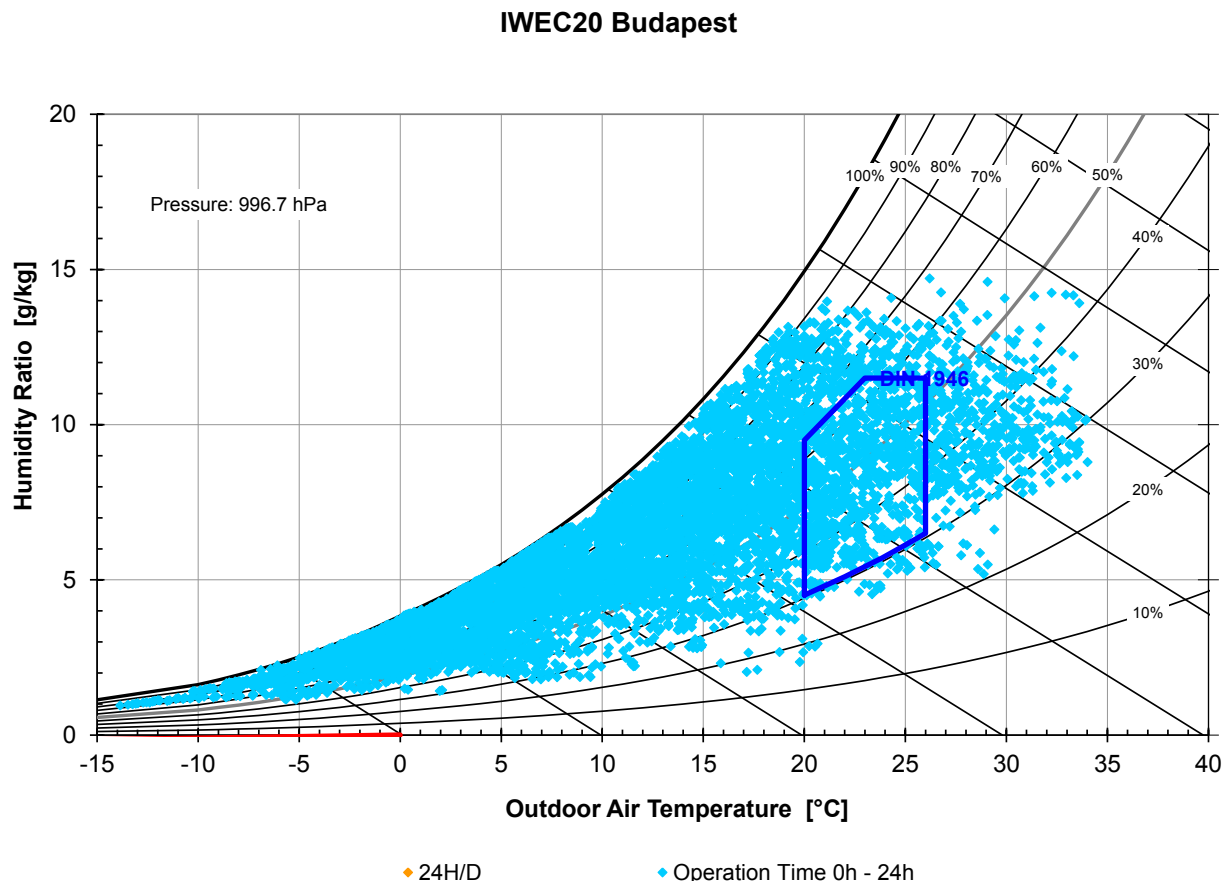


Figure 11 : Moist air diagram (air temperature and its associated humidity)

1.3 Wind

Mean wind velocity along the year is about 2 m/s, with wind gust to 10 m/s maximum. Therefore, there is no opportunity to generate electricity with wind turbines.

Furthermore, main wind directions are:

- Yearly wind : East (dominant) and North-North-West and South
- Winter winds : East (dominant) and North-North-West,
- Summer winds: North-West (dominant)

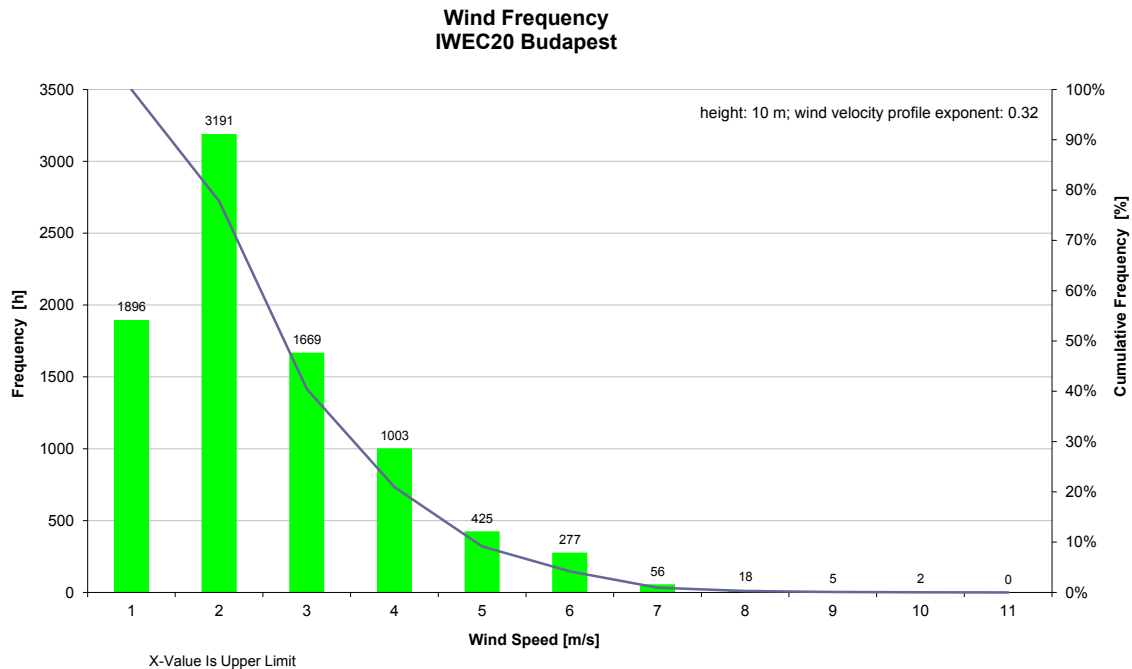


Figure 12 : Yearly wind statistics

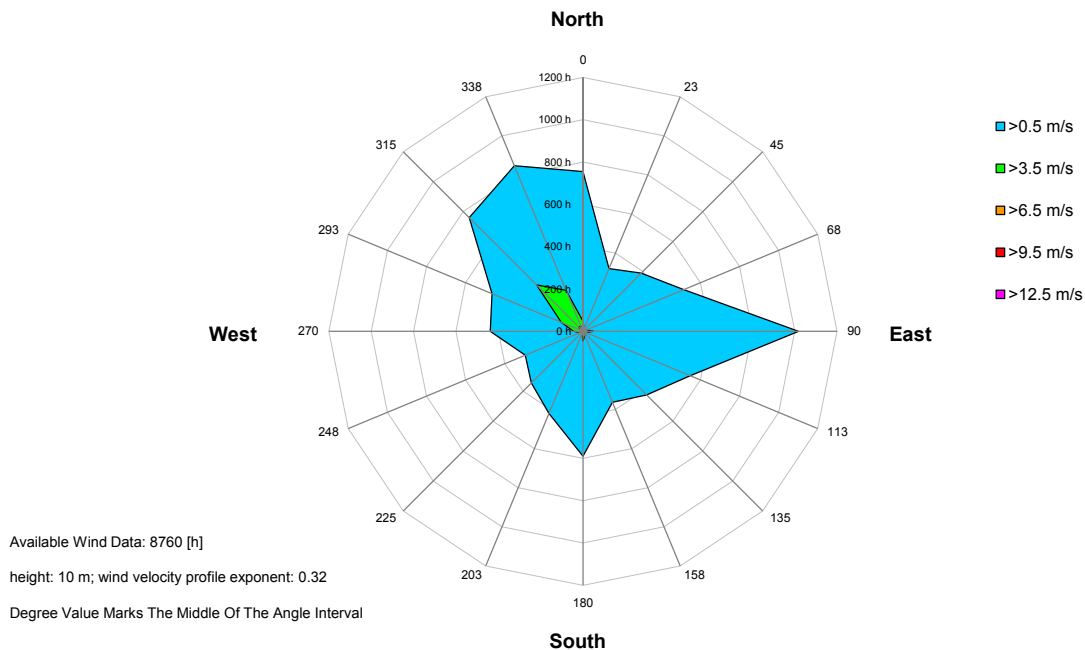


Figure 13 : Yearly wind rose

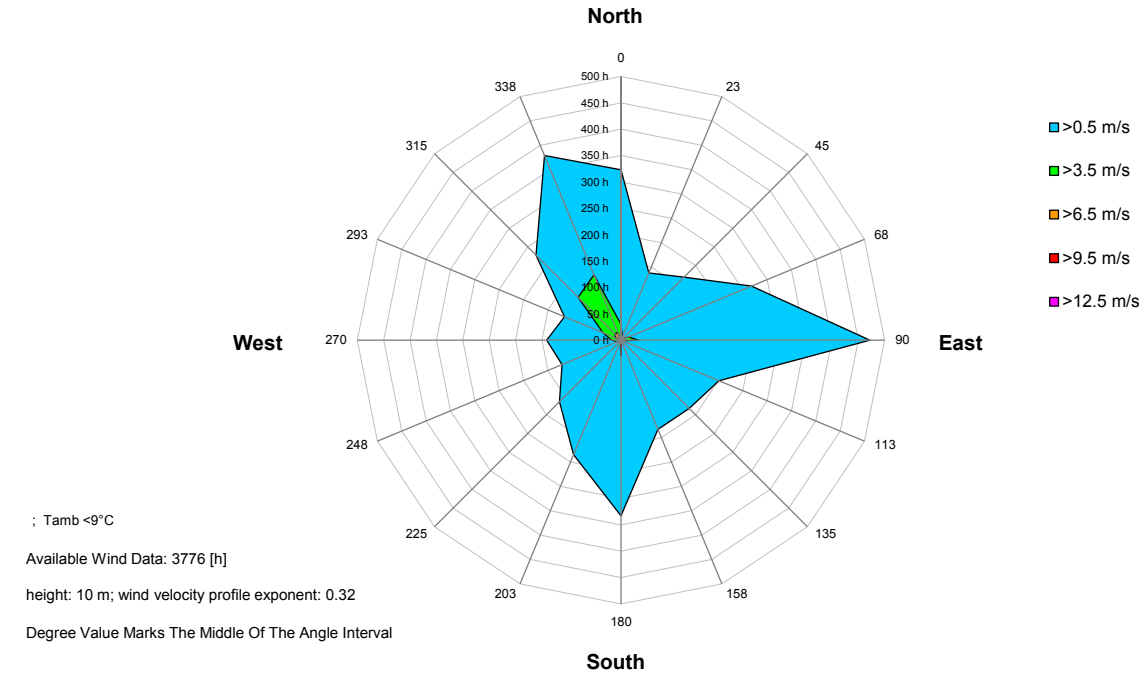


Figure 14 : Winter wind rose

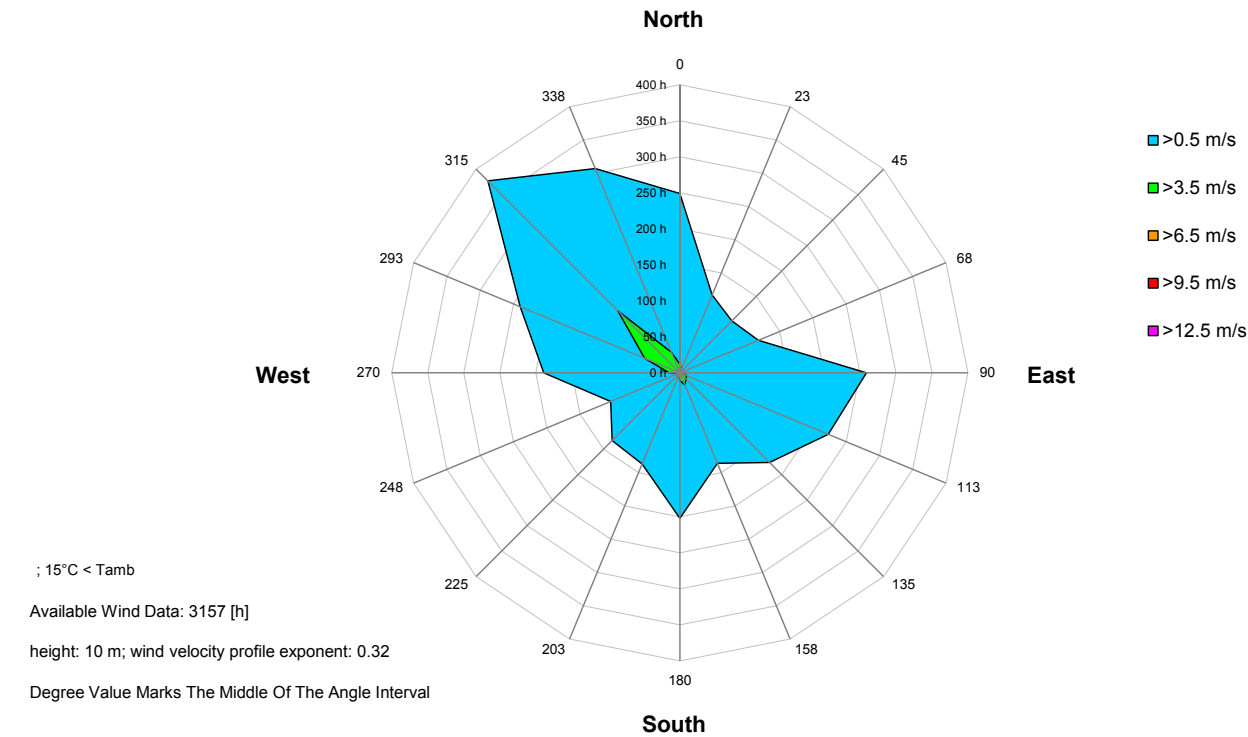


Figure 15 : Summer wind rose

1.4 Rainfall

Rainfall reaches their maximum in July and August and the yearly rainfall is 629 mm. It means that a surface of 1 m² collects in one year 629 liters of water.

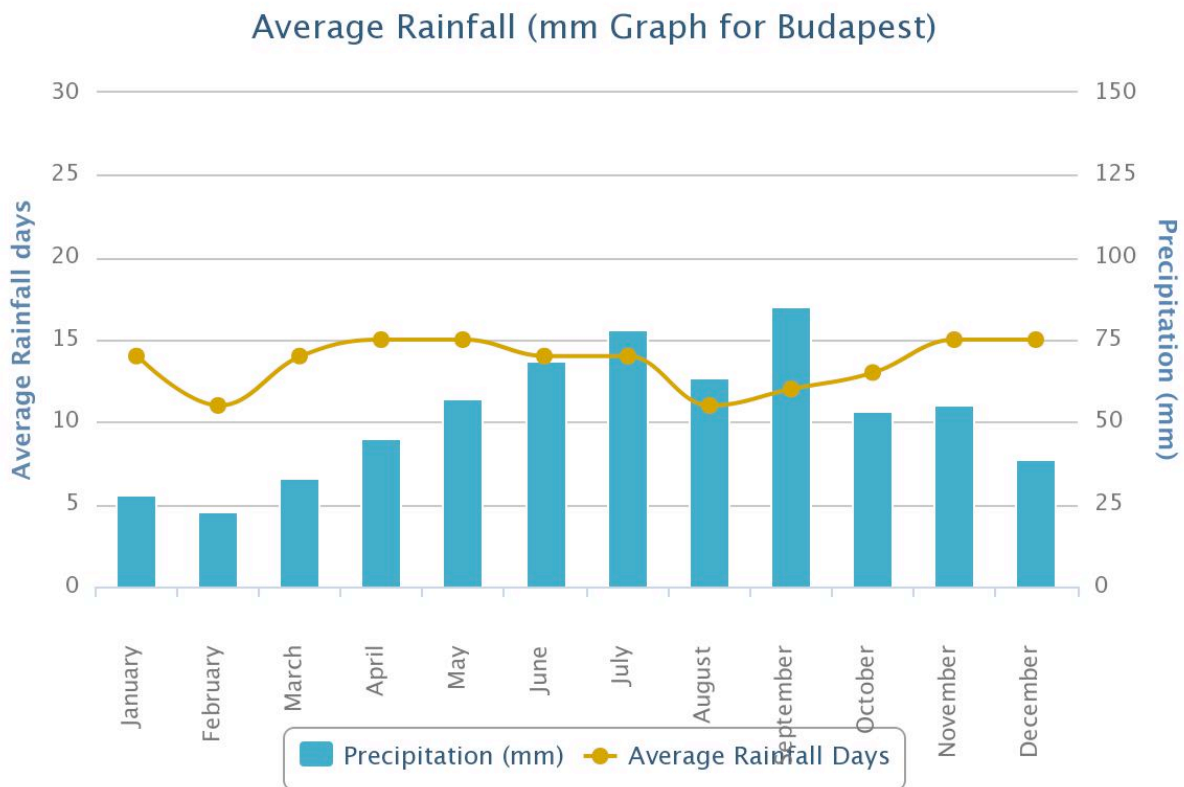


Figure 16 : Monthly rainfall

1.5 Ground temperature

At 12 m depth, ground temperature is constant along the year and 11°C. Hence, ground can be used as an energy source for heating and cooling (geothermal energy source).

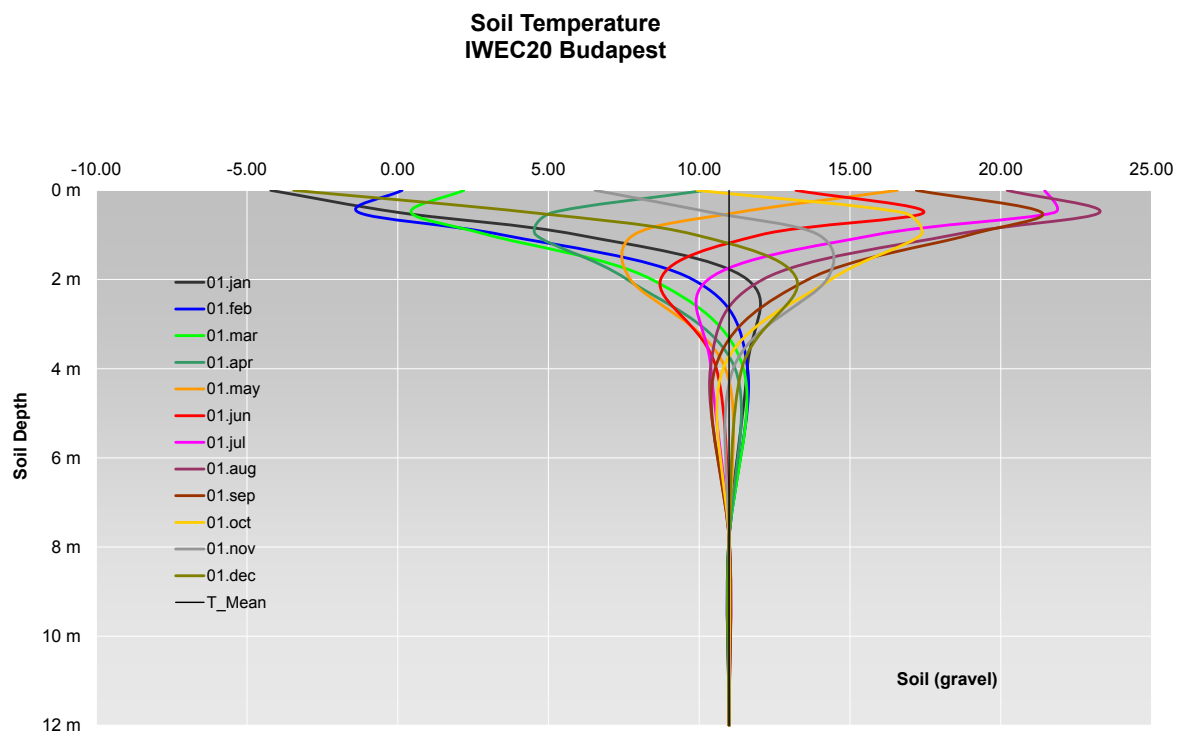


Figure 17 : Ground temperatures

1.6 Climate identities

Out of the climate analysis, Budapest's climate identities are the following:

Technological Operation and Sustainability

- Horizontal solar Irradiation = 1226 kWh/m²/a → Good potential for electricity production (photovoltaic on roof top)
- Max. air temperature = 36°C / Min. air temperature = -12°C
- Humidity is not so high in summer
- Wind velocity does not exceed 10 m/s (max. wind gust)
- Mean wind speed is about 2 m/s → Not sufficient for energy production via wind turbines
- Annual wind orientation East (dominant), North-North-West
- Soil temperature at 10 m depth ~ 11°C. Possibility to use ground energy (geothermy) for heating / cooling production
- Yearly rainfall = 629 mm → 630 liters/year on a 1 m² surface

1.7 **Conclusions**

- Highly performant external insulation and efficient triple glazing.
- Triple glazing with external solar protections in East, South, West orientations.
- Radiant heating / cooling system possible in combination with conditioned fresh air supply.
- Possibility to use the ground (geothermal energy) for energy supply system.
- Possibility to collect rainwater for use in the building (toilet flushes, building cleaning, garden watering...).

2 Climate Concept

Figure below presents the climate concepts for an exhibition space.

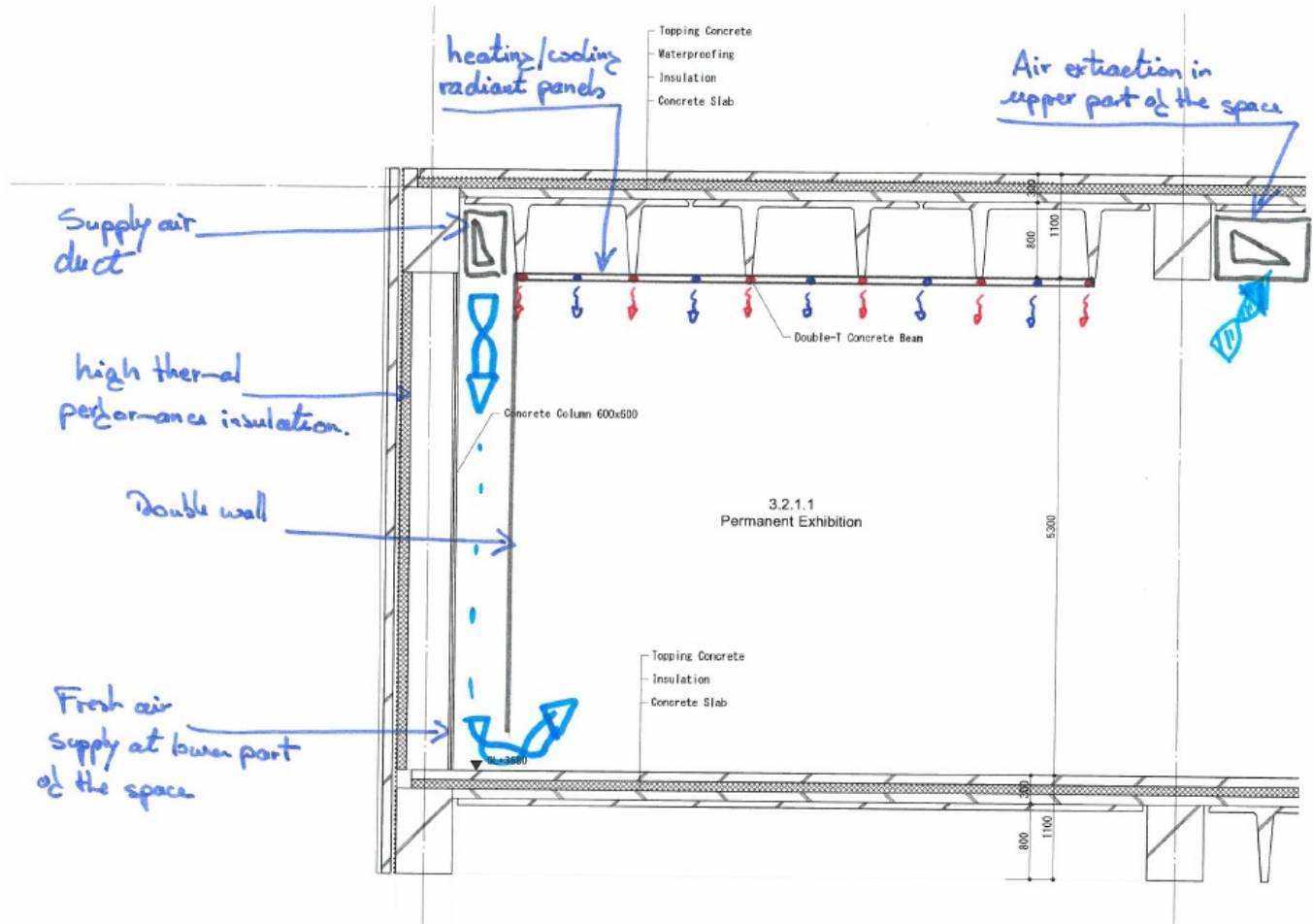


Figure 18 : Typical office climate concept

The building envelope is well insulated and equipped with triple glazing according to best practices and Hungarian regulations. Base space heating and cooling are achieved by radiant panels. Spaces are mechanically ventilated by displacement ventilation. Air is supplied at low air velocity in the lower part of the room. By absorbing the internal thermal gains in the room, air raises naturally (stratification effect) until it is extracted at the upper part of the room. This system has already proved its efficacy in terms of comfort, and air quality (pollution removal) without the need to increase the air change in the space.

3 Energy supply concept

The proposed energy supply concept is described in the figure below.

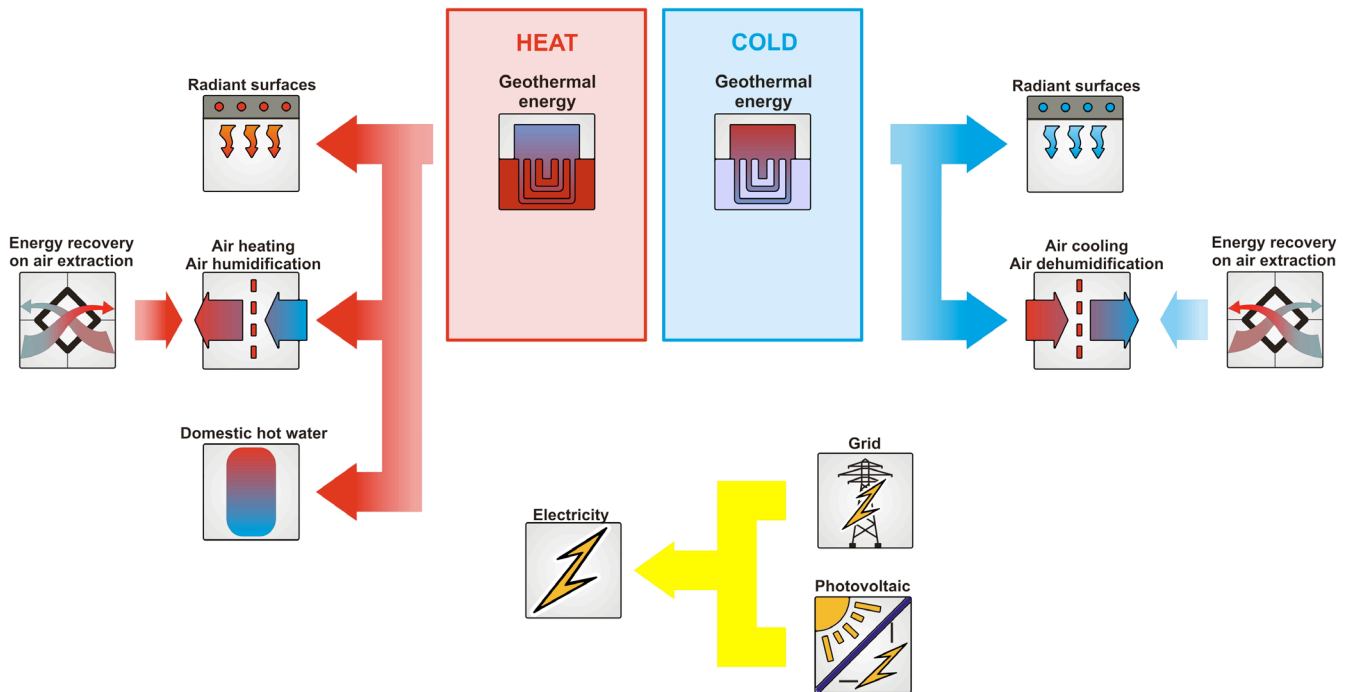


Figure 19 : Energy supply concept

Heating and cooling energy are supplied via geothermal source. Indeed, ground temperature is about 11°C along the year at a depth higher than 12 m. Hence, it is possible to use geothermal energy, by activating building's foundation piles and / or by using thermal boreholes, in combination with a reversible heat pump for heat and cold generation.

In order to reduce energy demands, air handlings units are all equipped with energy recovery (sensible and latent), transferring the energy from the extracted air to the supplied air.

Electricity is supplied by the photovoltaic cells on roofs and the remaining demand by the grid.

4 Outdoor thermal comfort

The project has been as well carefully designed to provide an excellent outdoor comfort for visitors on the terraces according to the season, thanks to their architectonic overhangs.

Indeed, in winter, improving outdoor comfort on the terraces can be passively (meaning without any energy) achieved by:

- Maximizing solar exposure on the terraces
- Protecting the visitors from the cold wind

In summer, improving outdoor comfort is done with the opposite strategy:

- Providing shade on the terraces
- Exposing terraces to the wind

4.1 Winter and Summer wind directions

As seen in the climate analysis, dominant wind directions are:

- Winter wind : East
- Summer wind: North-West

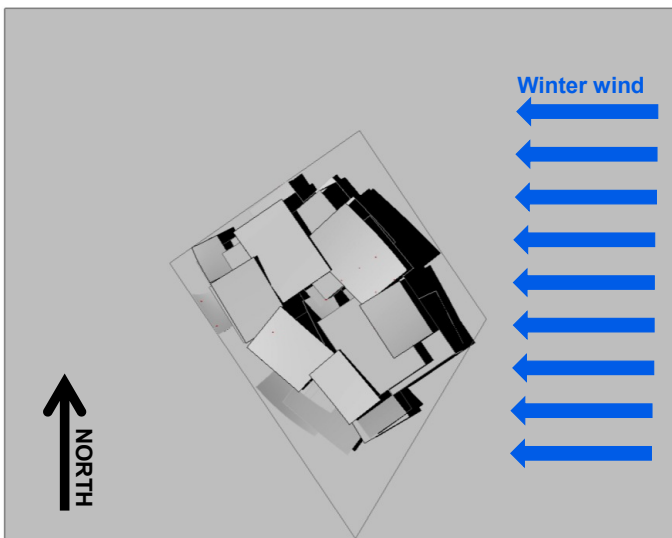


Figure 20 : Winter wind

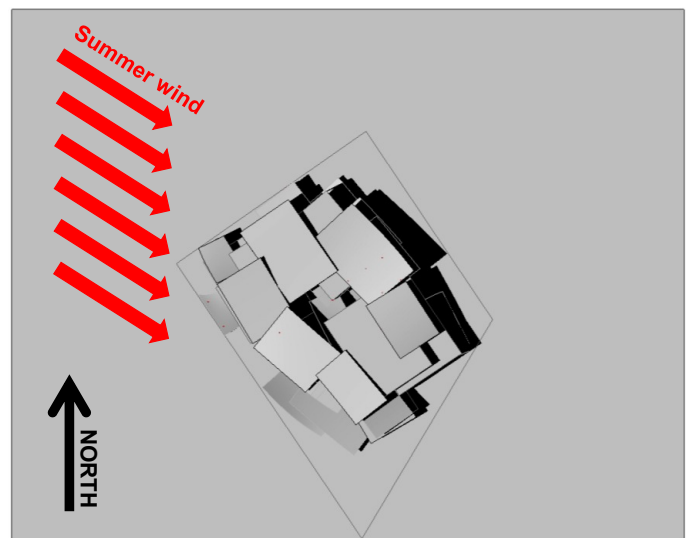


Figure 21 : Summer wind

x

4.2 Solar exposure

To determine solar exposure on terraces, solar simulations have been performed for two representative summer (June 21st) and winter (December 21st) days.

The images below show the solar irradiation for these two days and then allow to identify shaded and sunny terraces.

WINTER CASE

For winter case, green to yellow colours indicates surfaces that receive direct sun.

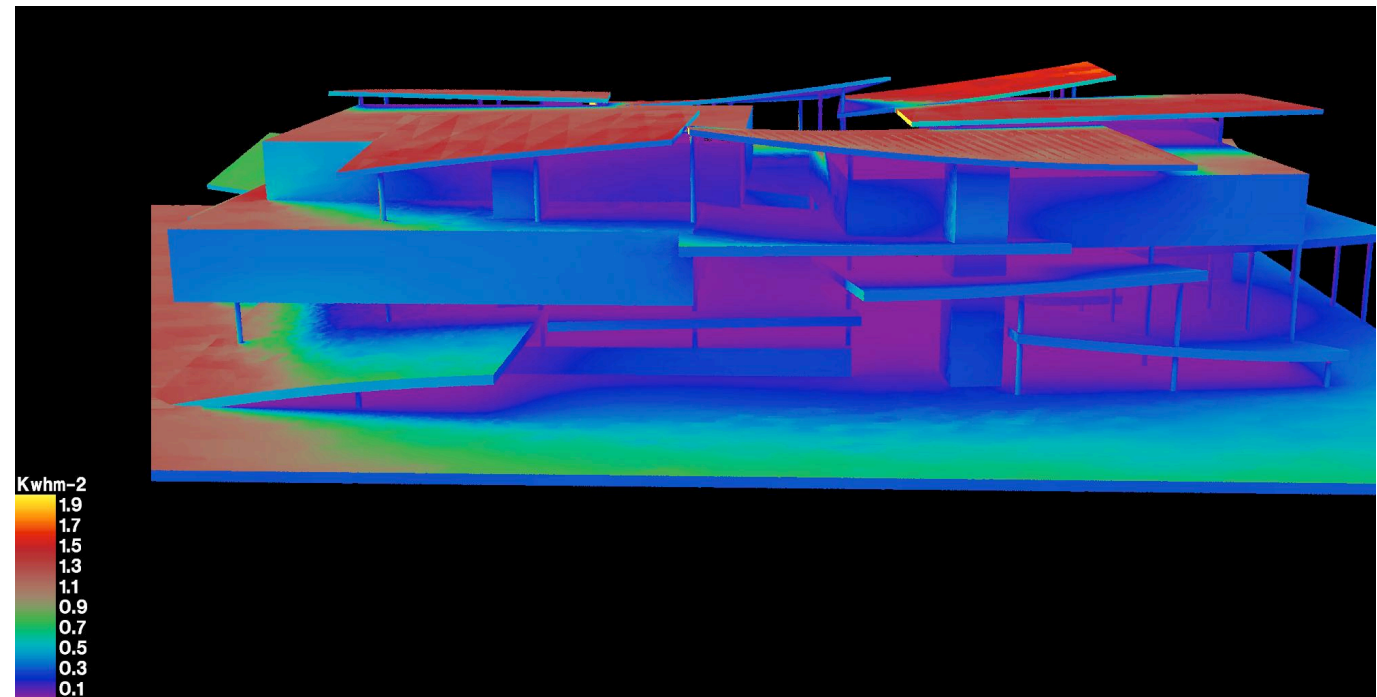


Figure 22 : view from North-East

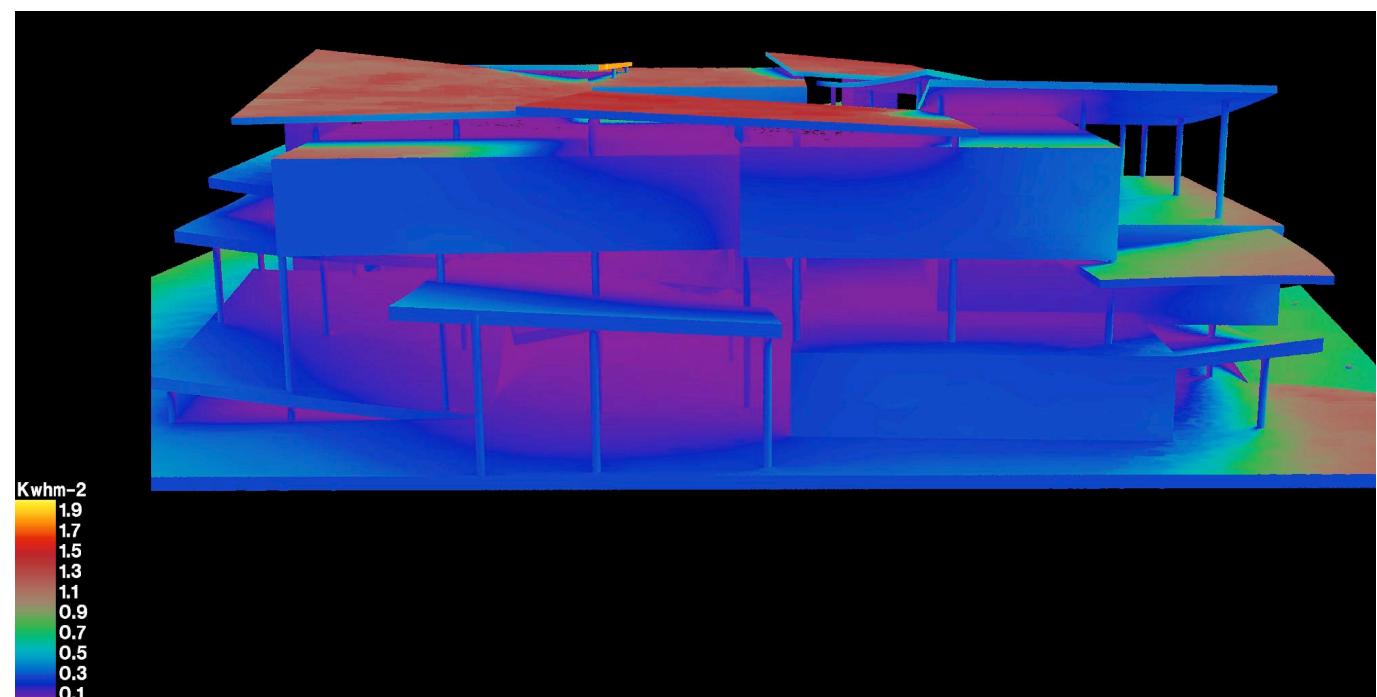


Figure 23 : view from North-West

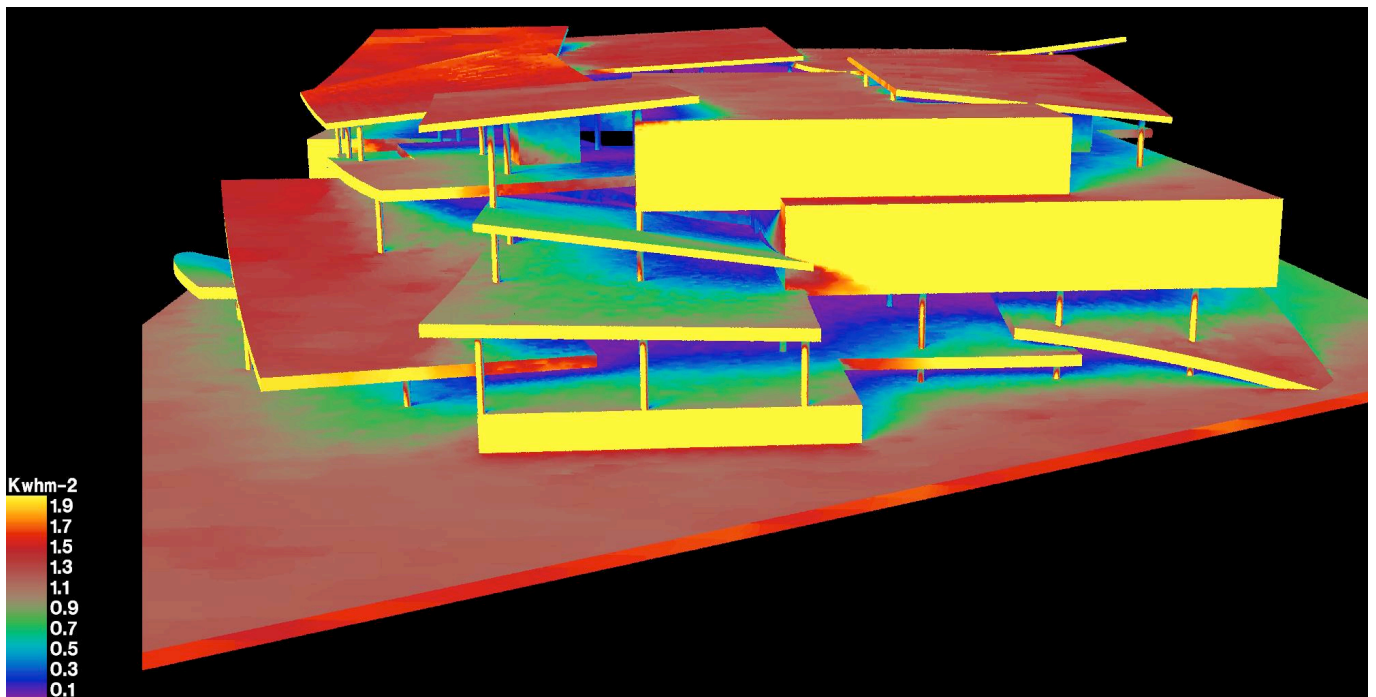


Figure 24 : view from South-East

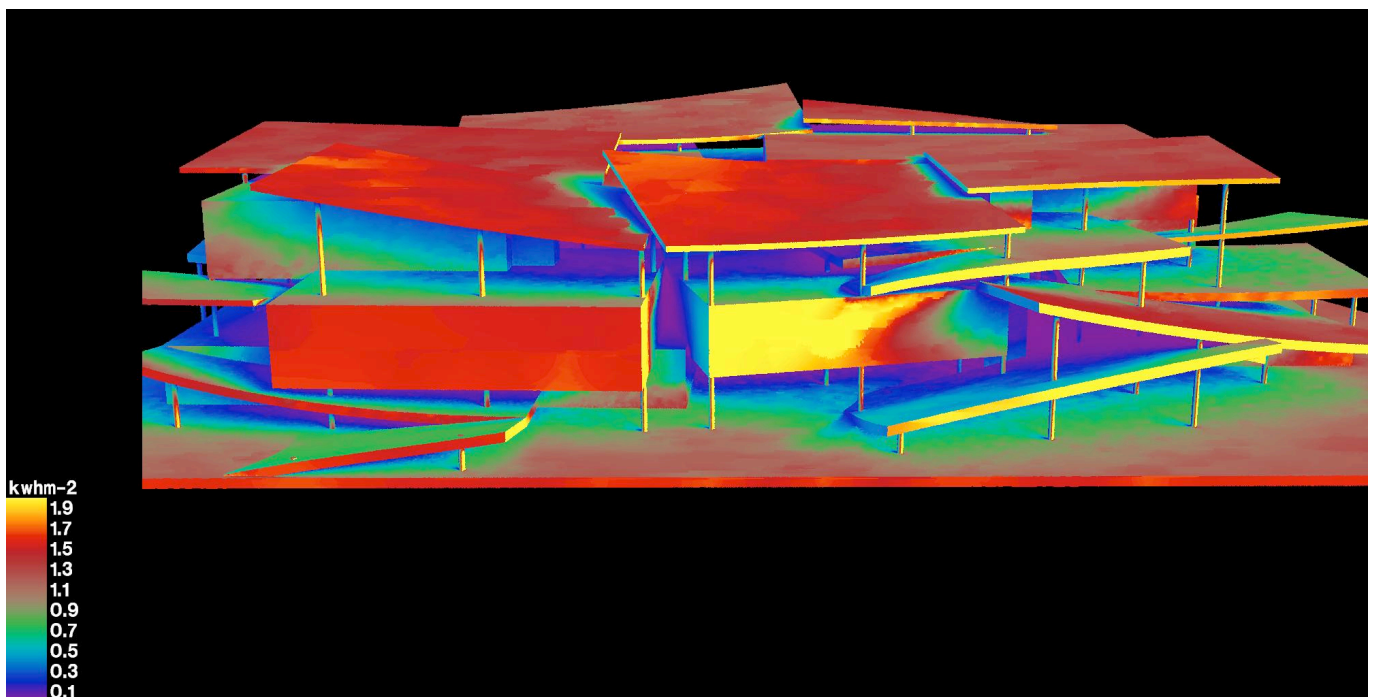


Figure 25 : view from South-West

SUMMER CASE

For summer case, blue and purple colours indicate surfaces that are in the shade.

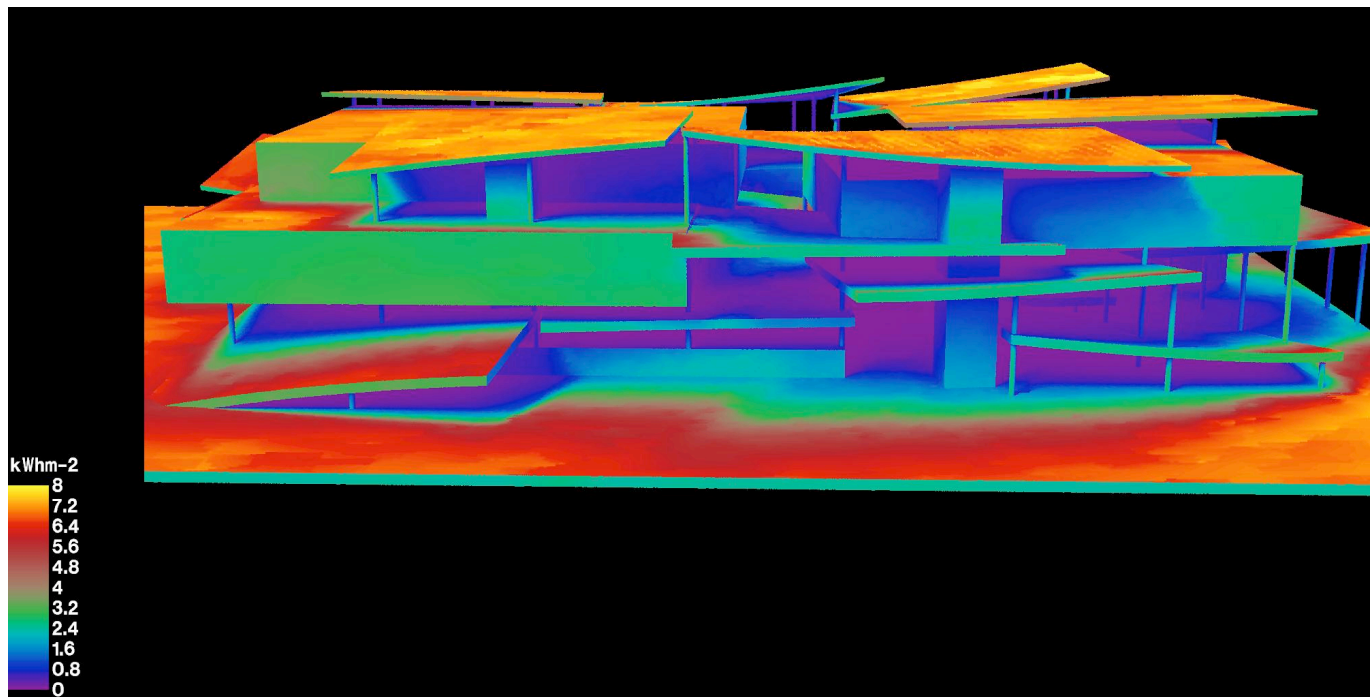


Figure 26 : view from North-East

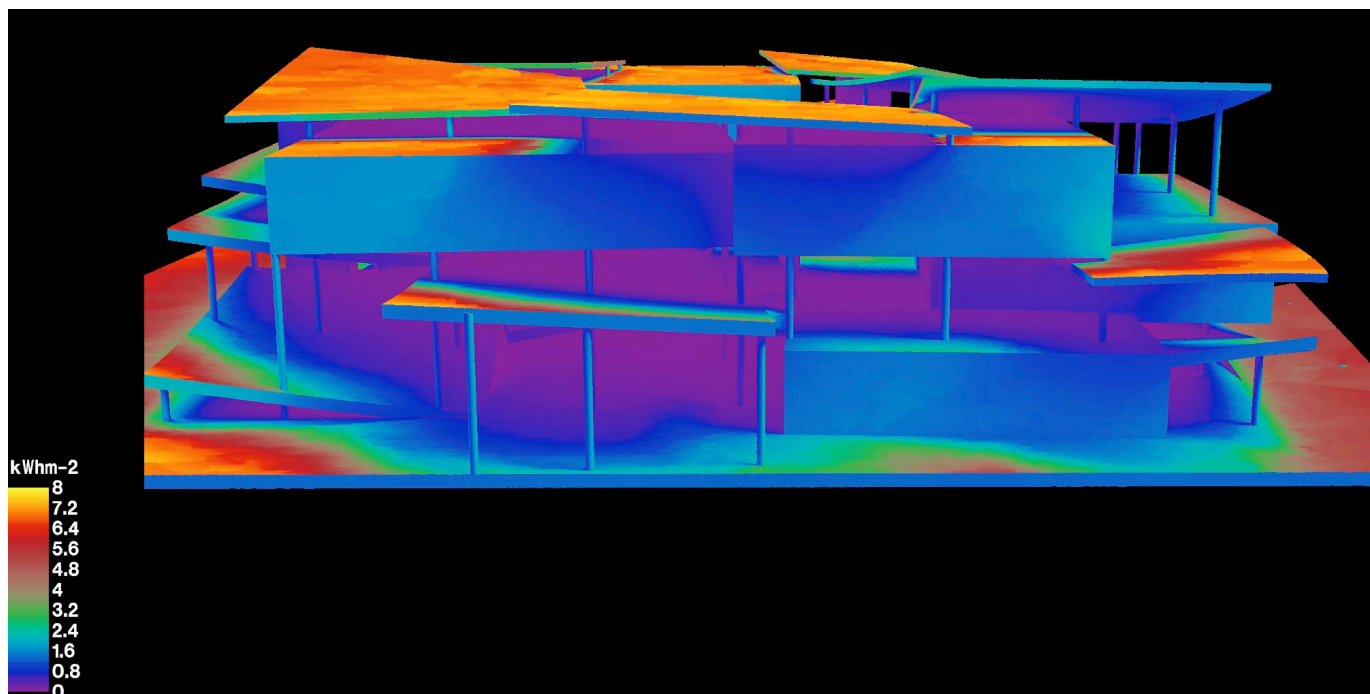


Figure 27 : view from North-West

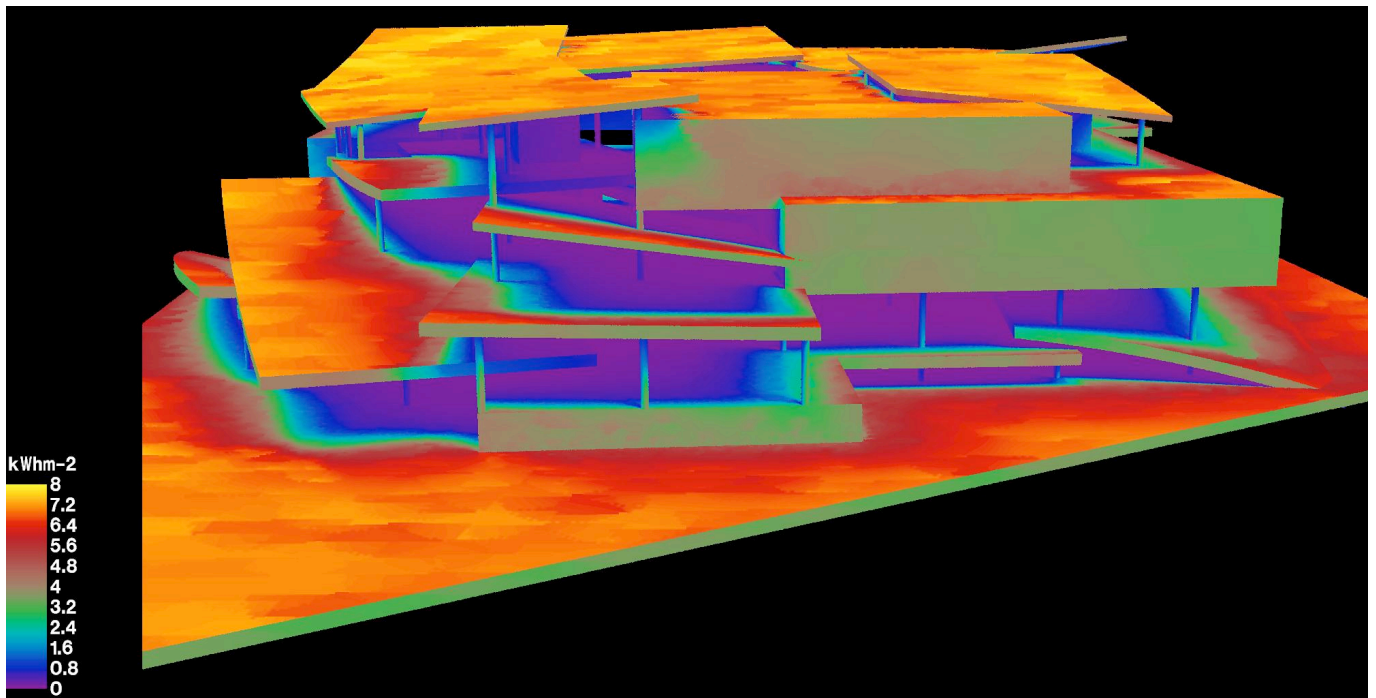


Figure 28 : view from South-East

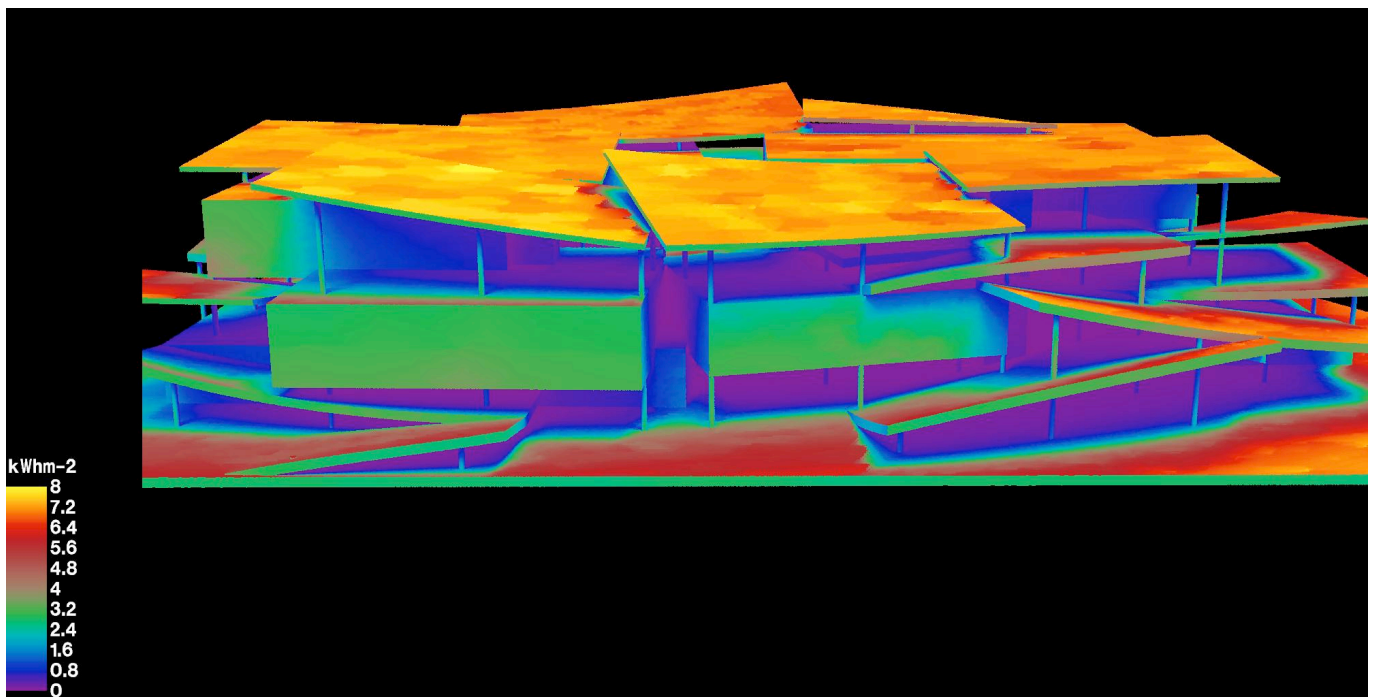


Figure 29 : view from South-West

4.3 Comfortable outdoor terraces

Knowing the winds direction and the solar exposure, according to the season, comfortable outdoor spots can be then easily identified. The images below present the comfortable spots (green colour).

WINTER CASE

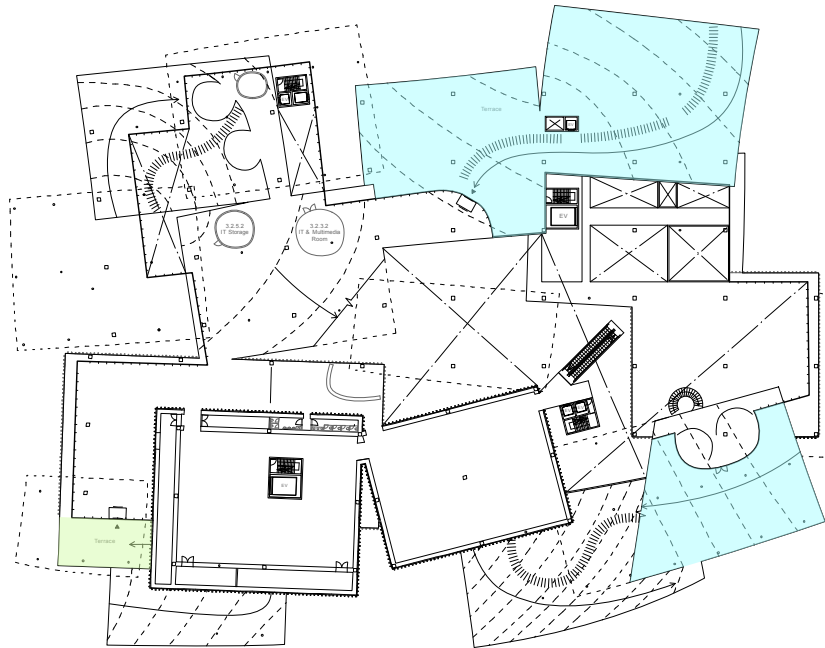


Figure 30 : Comfortable outdoor spots in winter (ground floor)

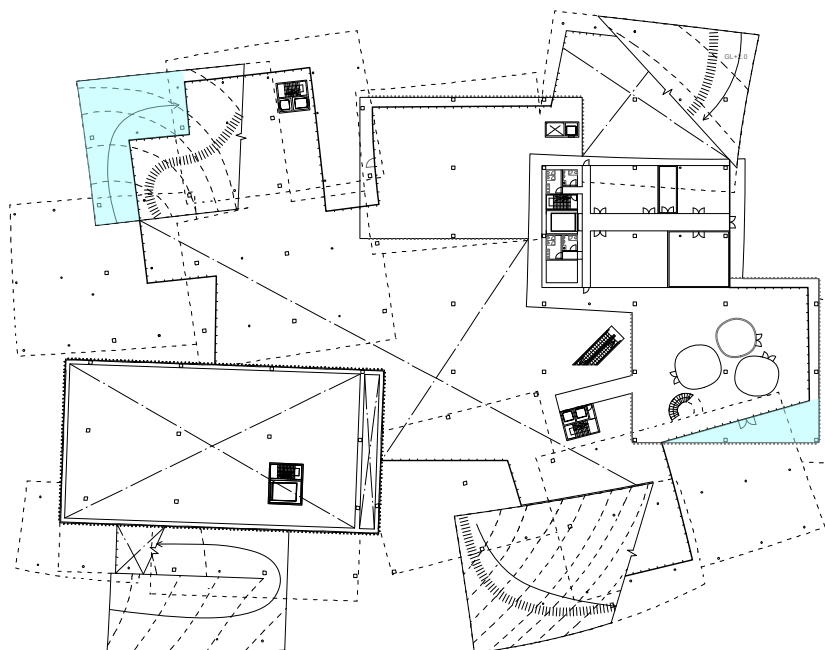


Figure 31 : Comfortable outdoor spots in winter (2nd floor)

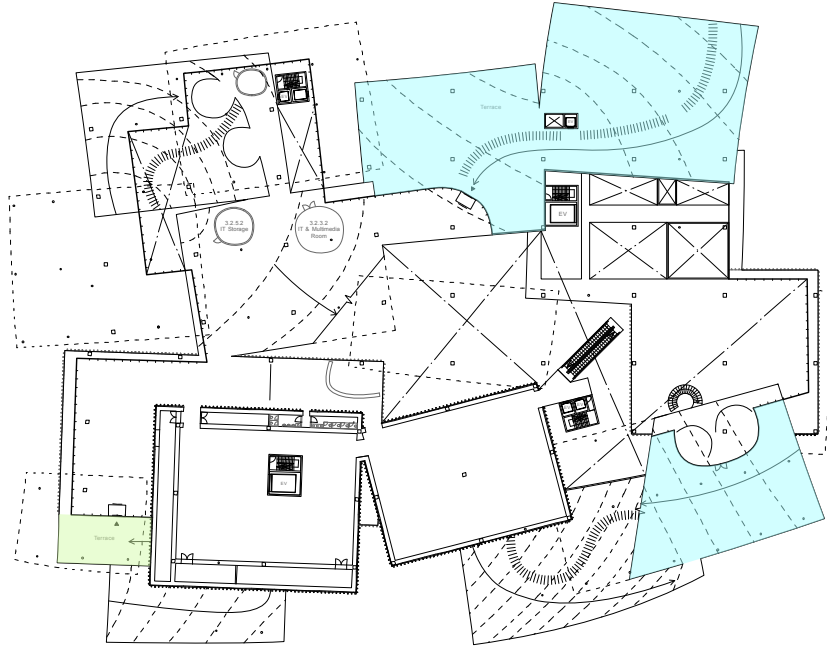


Figure 32 : Comfortable outdoor spots in winter (3rd floor)

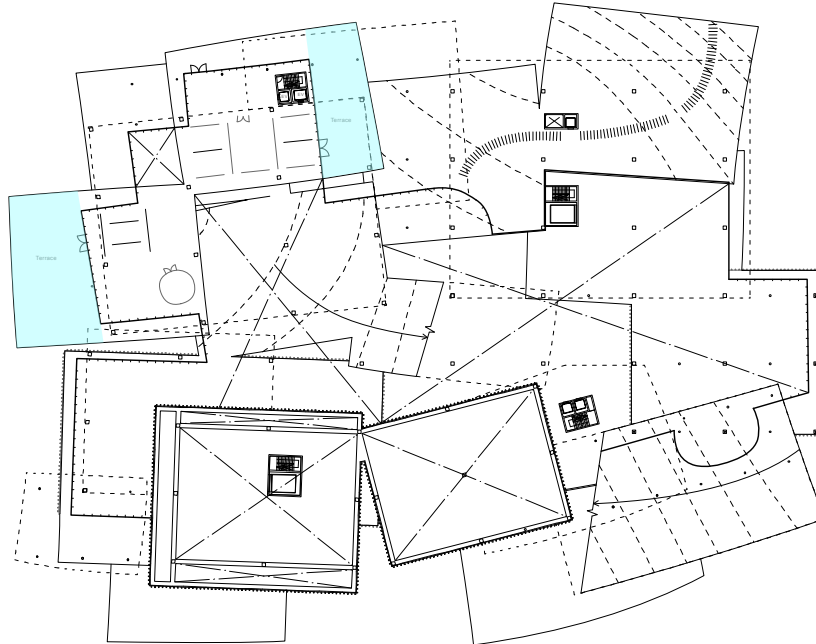


Figure 33 : Comfortable outdoor spots in winter (4th floor)

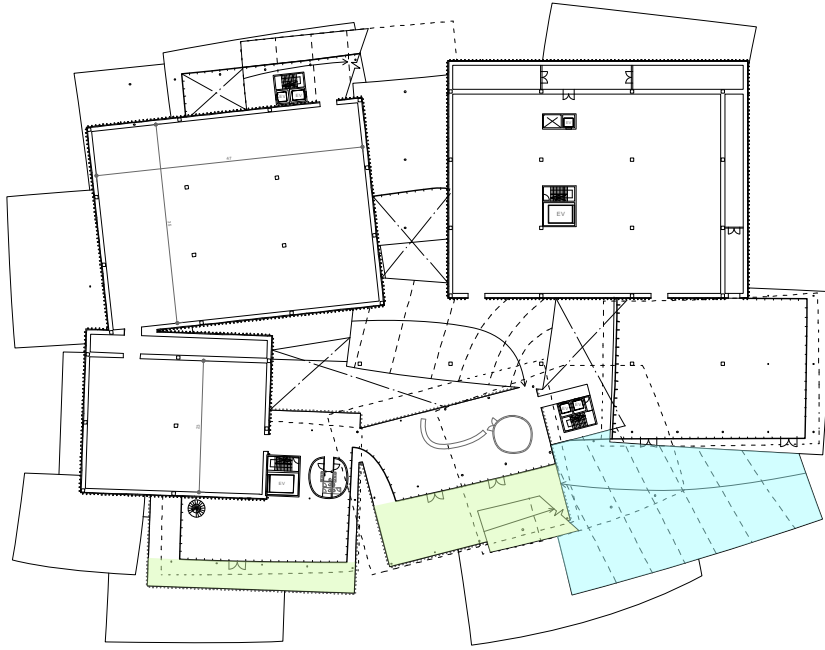


Figure 34 : Comfortable outdoor spots in winter (5th floor)

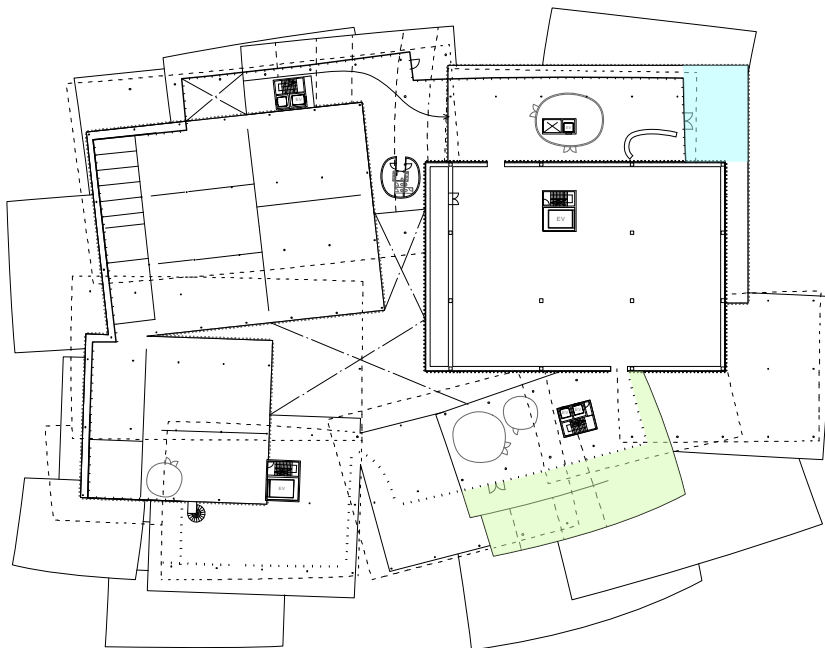


Figure 35 : Comfortable outdoor spots in winter (6th floor)

SUMMER CASE

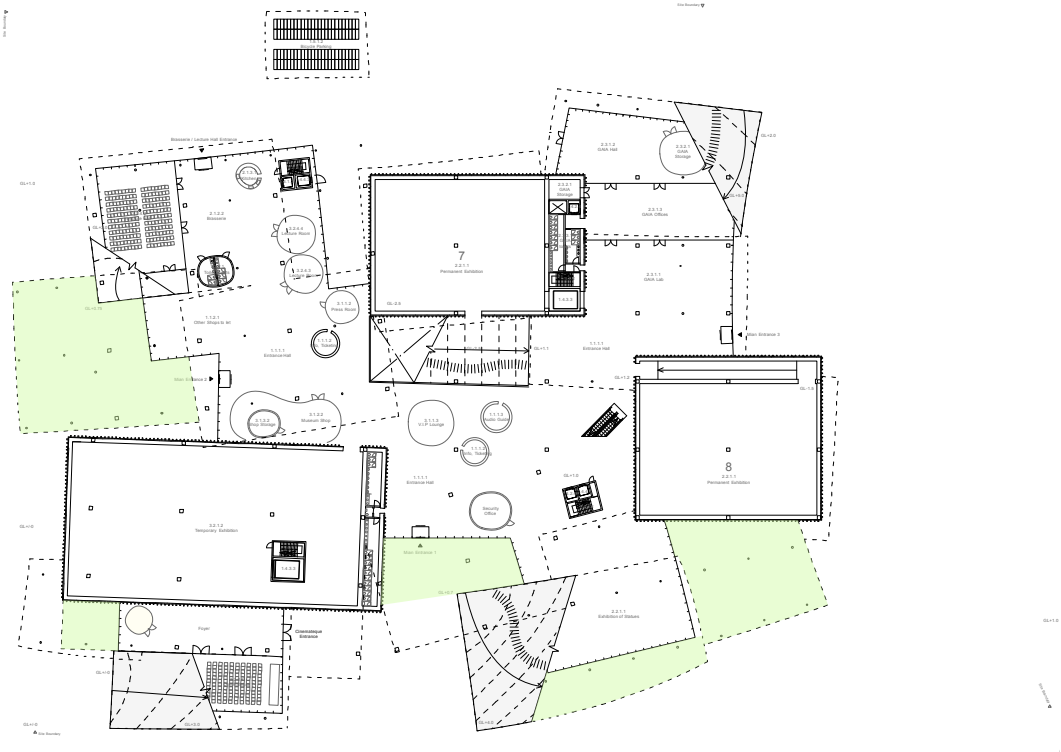


Figure 36 : Comfortable outdoor spots in summer (ground floor)

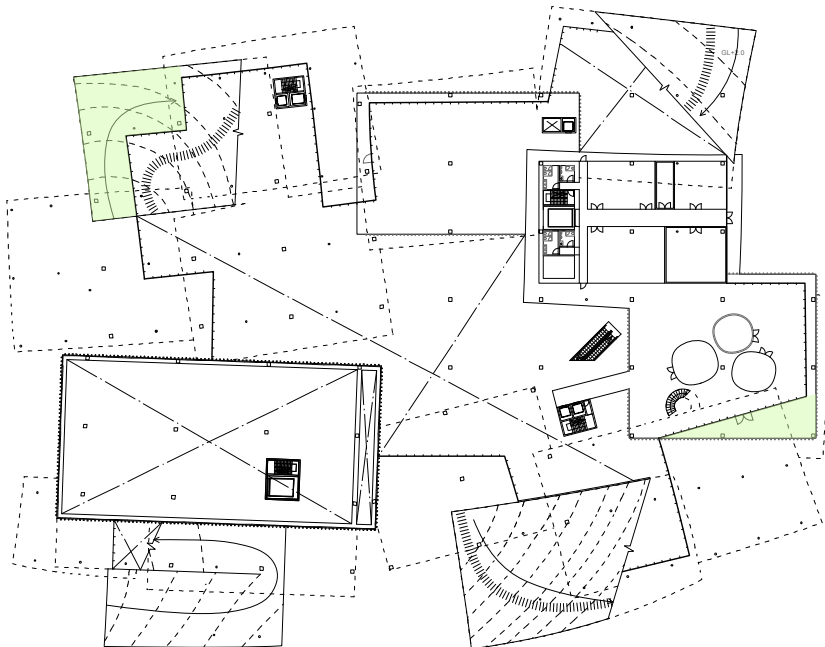


Figure 37 : Comfortable outdoor spots in summer (2nd floor)

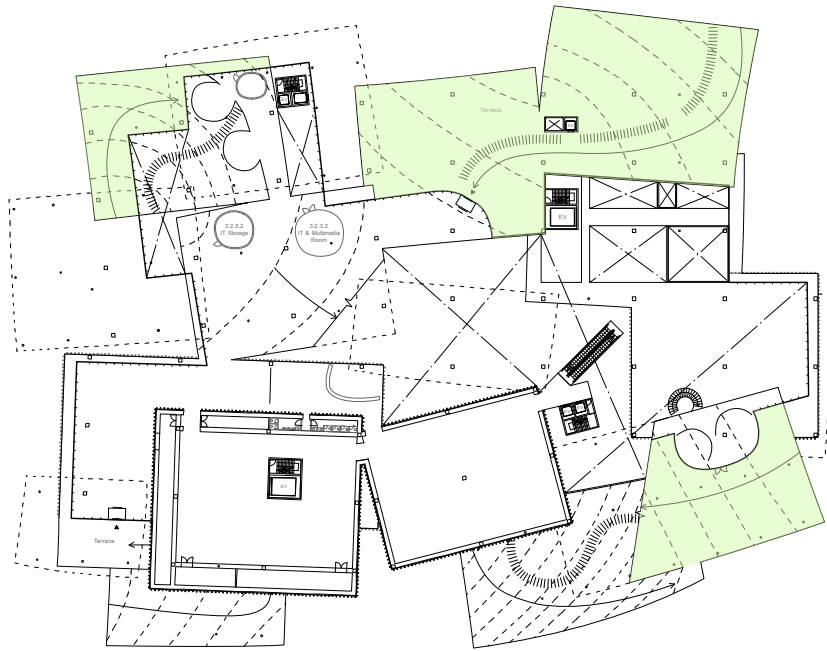


Figure 38 : Comfortable outdoor spots in summer (3rd floor)

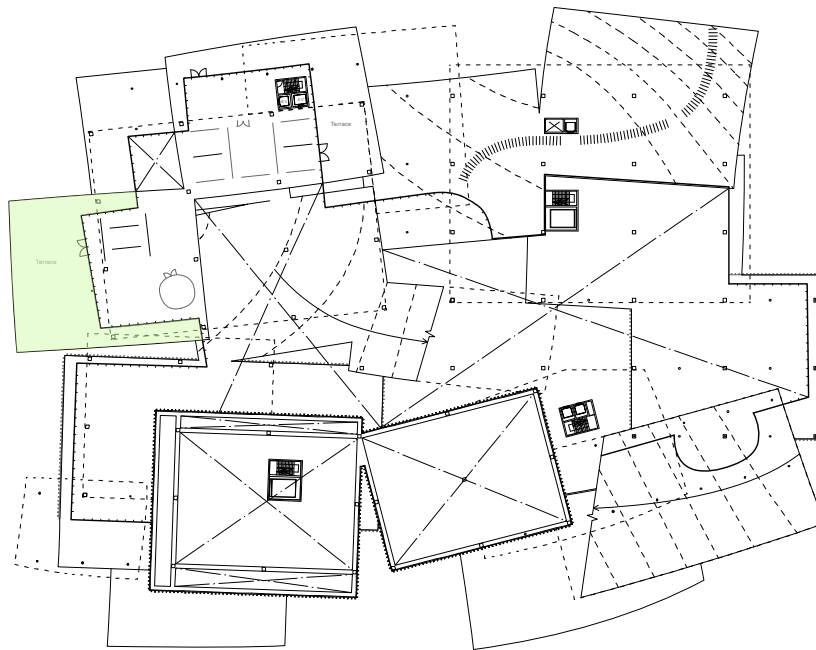


Figure 39 : Comfortable outdoor spots in summer (4th floor)

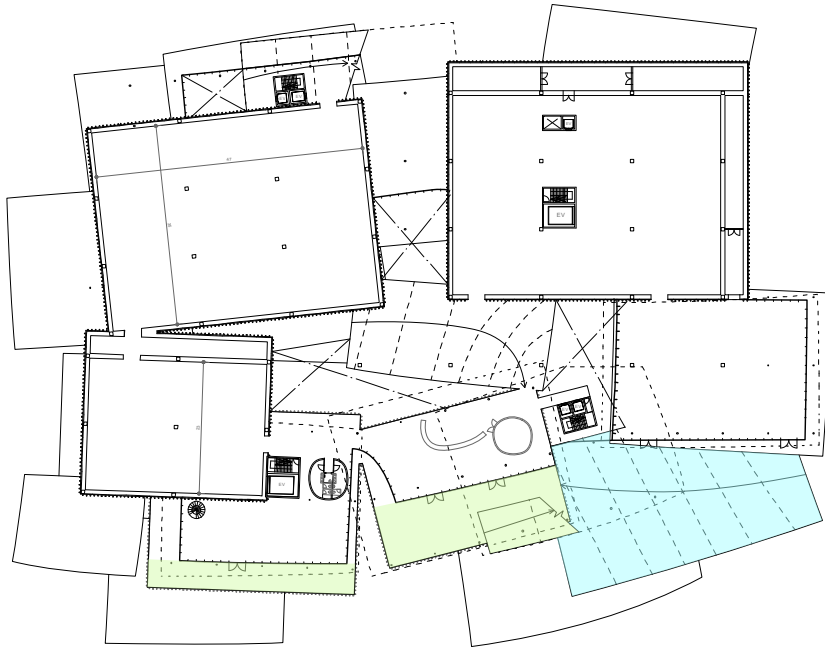


Figure 40 : Comfortable outdoor spots in summer (5th floor)

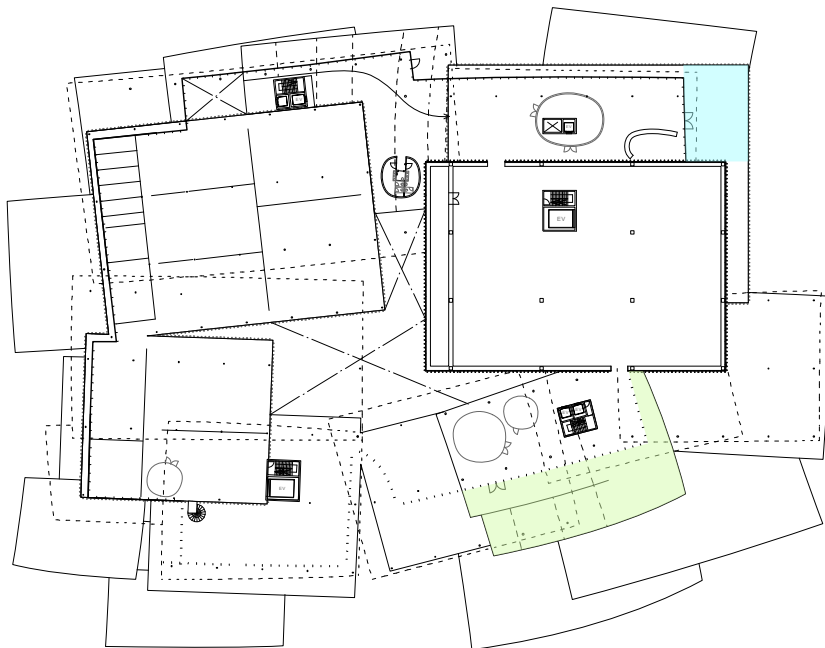


Figure 41 : Comfortable outdoor spots in summer (6th floor)

5 Sustainable general plan

The project integrates following sustainable features.

- Photovoltaic cells on roof for electricity production,
- Efficient and sustainable energy supply concept,
- Excellent comfort and air quality within the building,
- Use of geothermal energy for heating and cooling production,
- Efficient lighting to reduce drastically plugs loads and thermal internal gains,
- Comfortable outdoor spaces to drive the social sustainability in the park and in the museum,
- Water savings features (for instance infrared water taps),
- Rainwater harvesting to be reused within building (garden irrigation, building cleaning, toilets flushes,...).
- Use of recycled concrete,
- Choose of recyclable build materials with lowest impact on health and environment,
- Choose of low grey energy materials,
- Use of local materials.

- All components of the energy supply systems and climate control mechanisms are centrally operated by a smart building management system. These react to exterior climate conditions as well as operation modes and occupancy, ensuring maximum energy efficiency. For example, fresh air supply is controlled via air quality sensors and artificial lighting in areas with daylight adapts to levels of natural illumination.

- During operation hours when the museum itself is closed, the conditioning system can rely mainly on the radiant system with minimal air supply to control room humidity levels.

- The system has the capacity to “learn” during building operation and reduce control overshooting

- This integration of smart technology will maximize visitor and employee comfort, ensure curatorial conditions in galleries and depots and minimize operational energy costs.

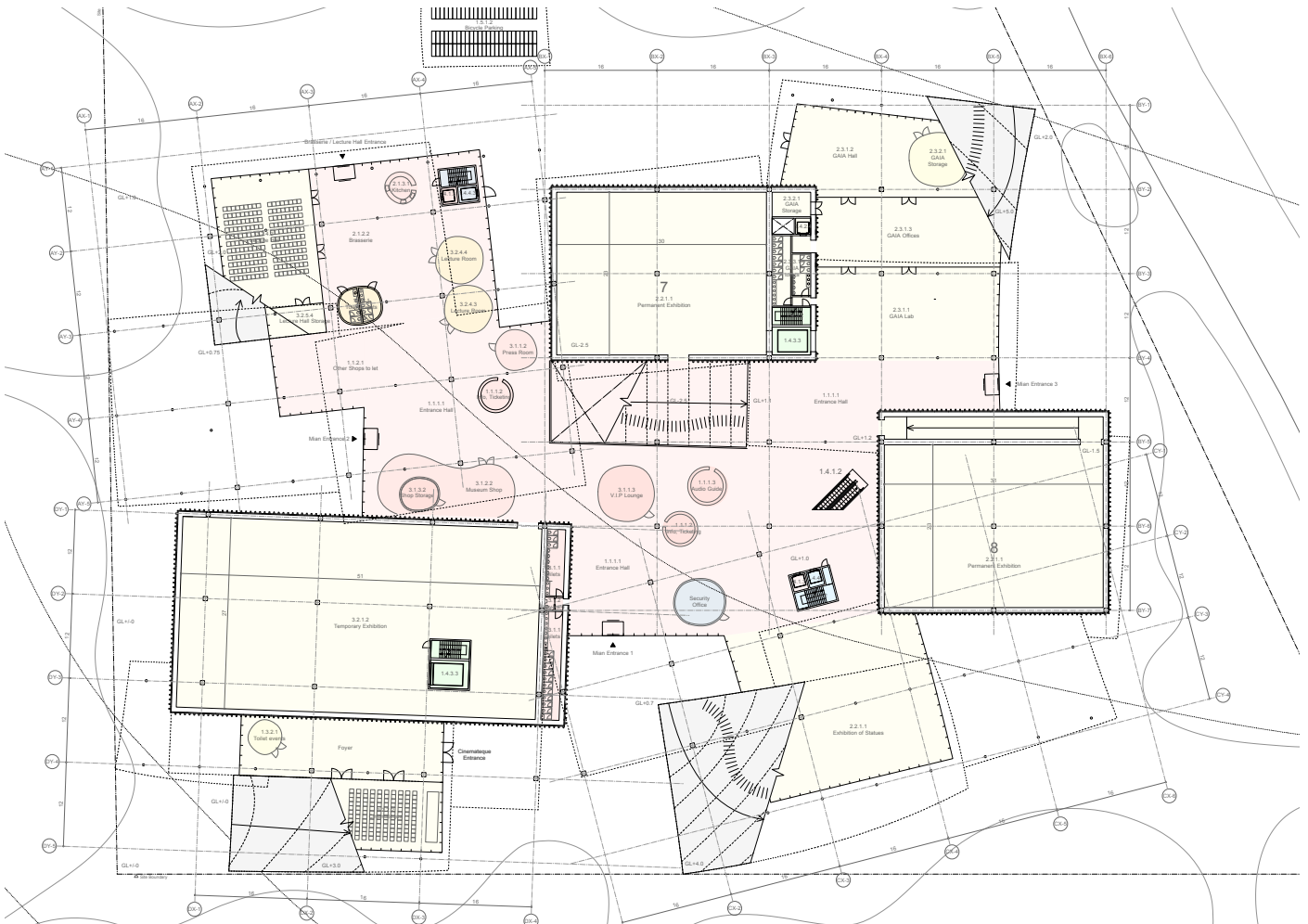
Appendix

Architectural Drawings
Economical Consideration
Space Chart

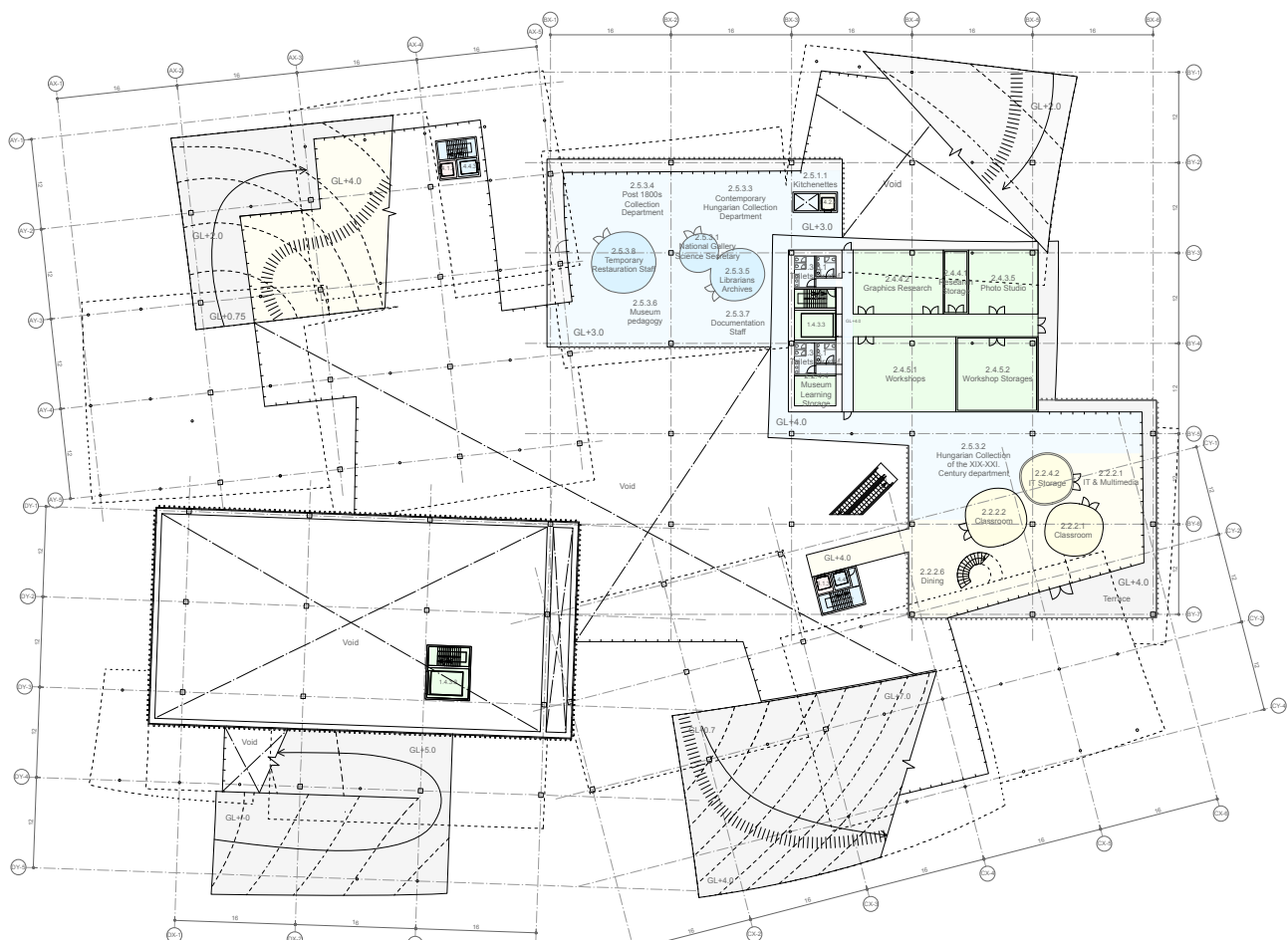
Architectural Drawings



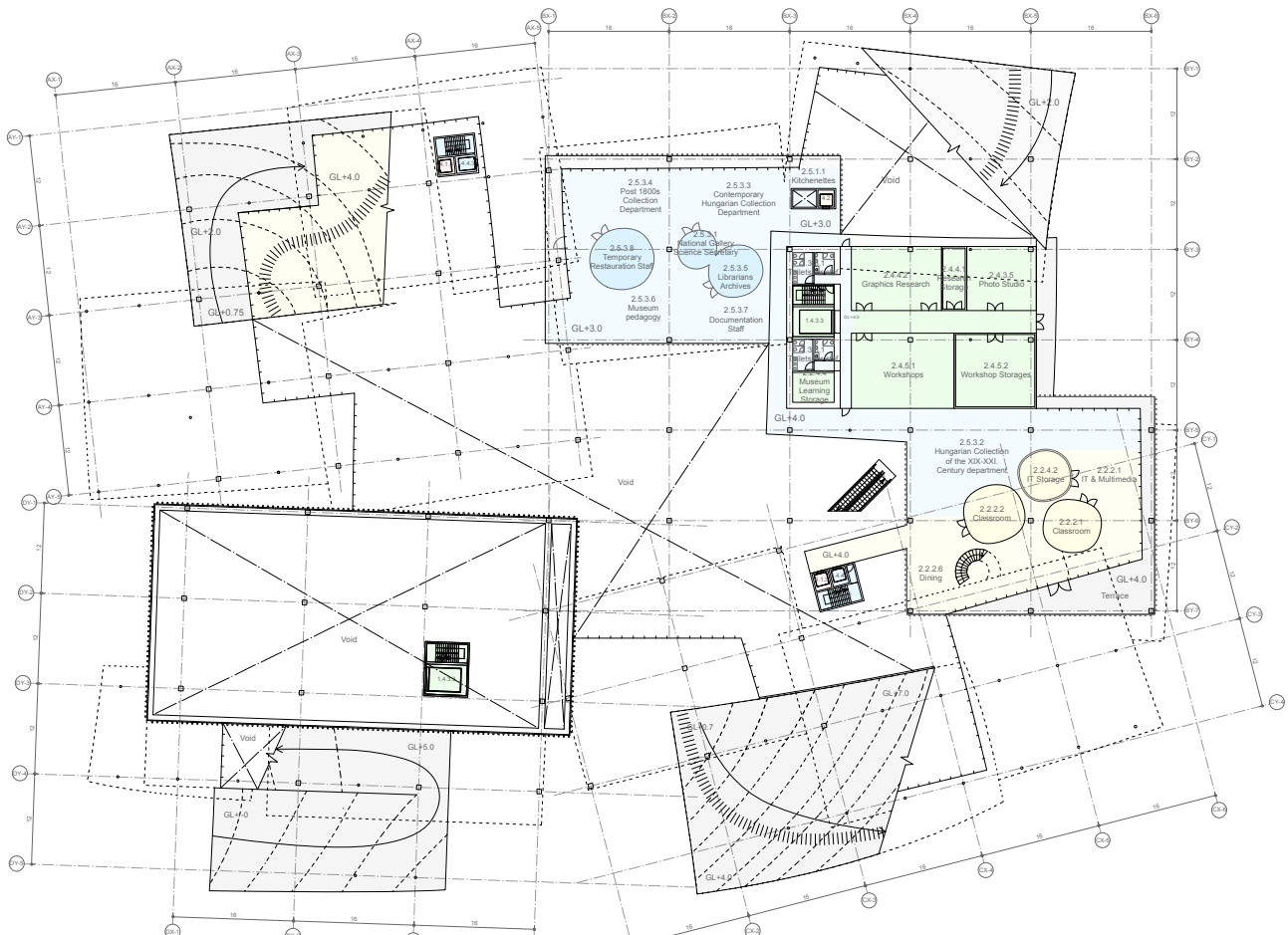
Site Plan



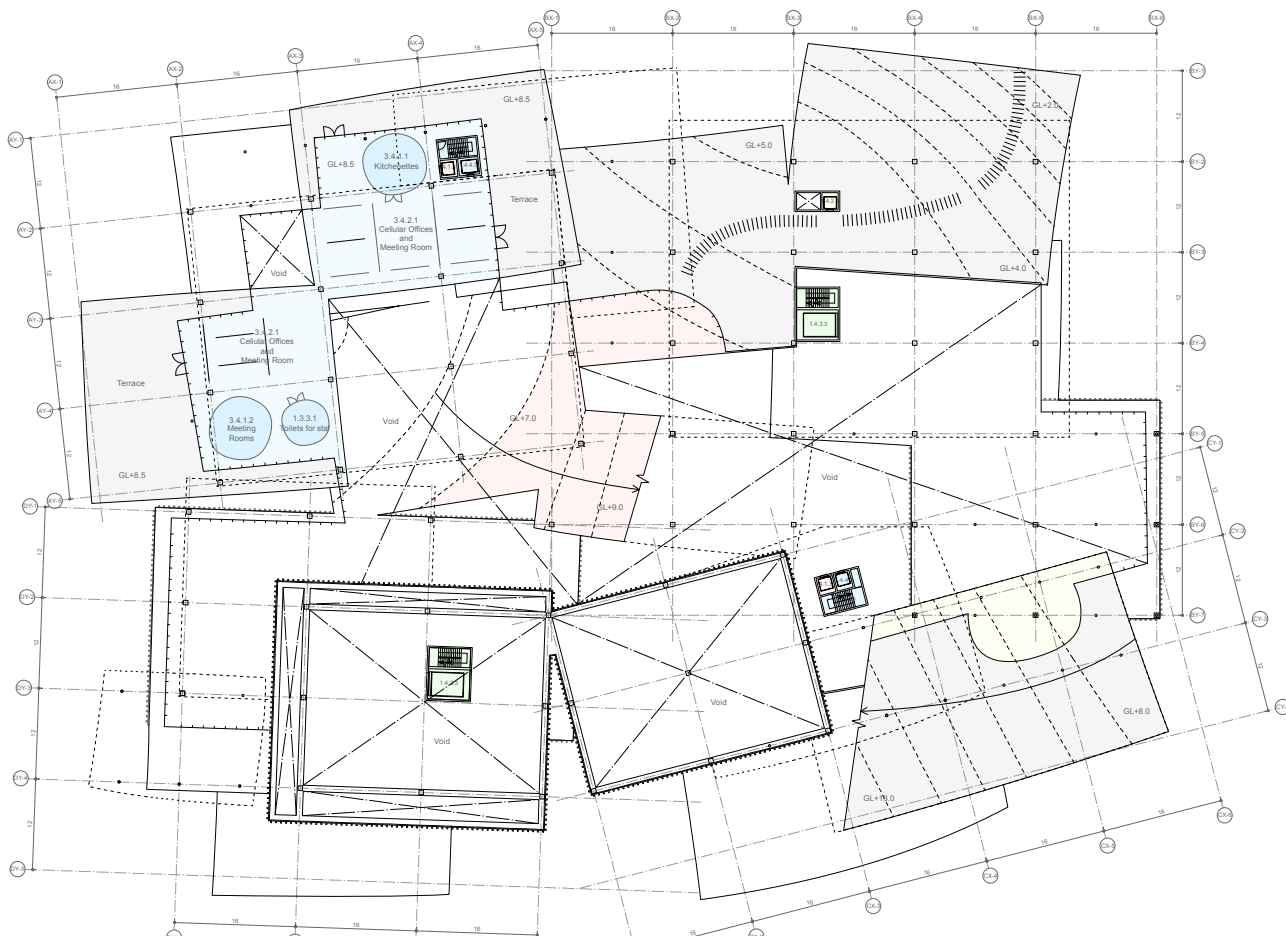
Floor Plan - Ground Level



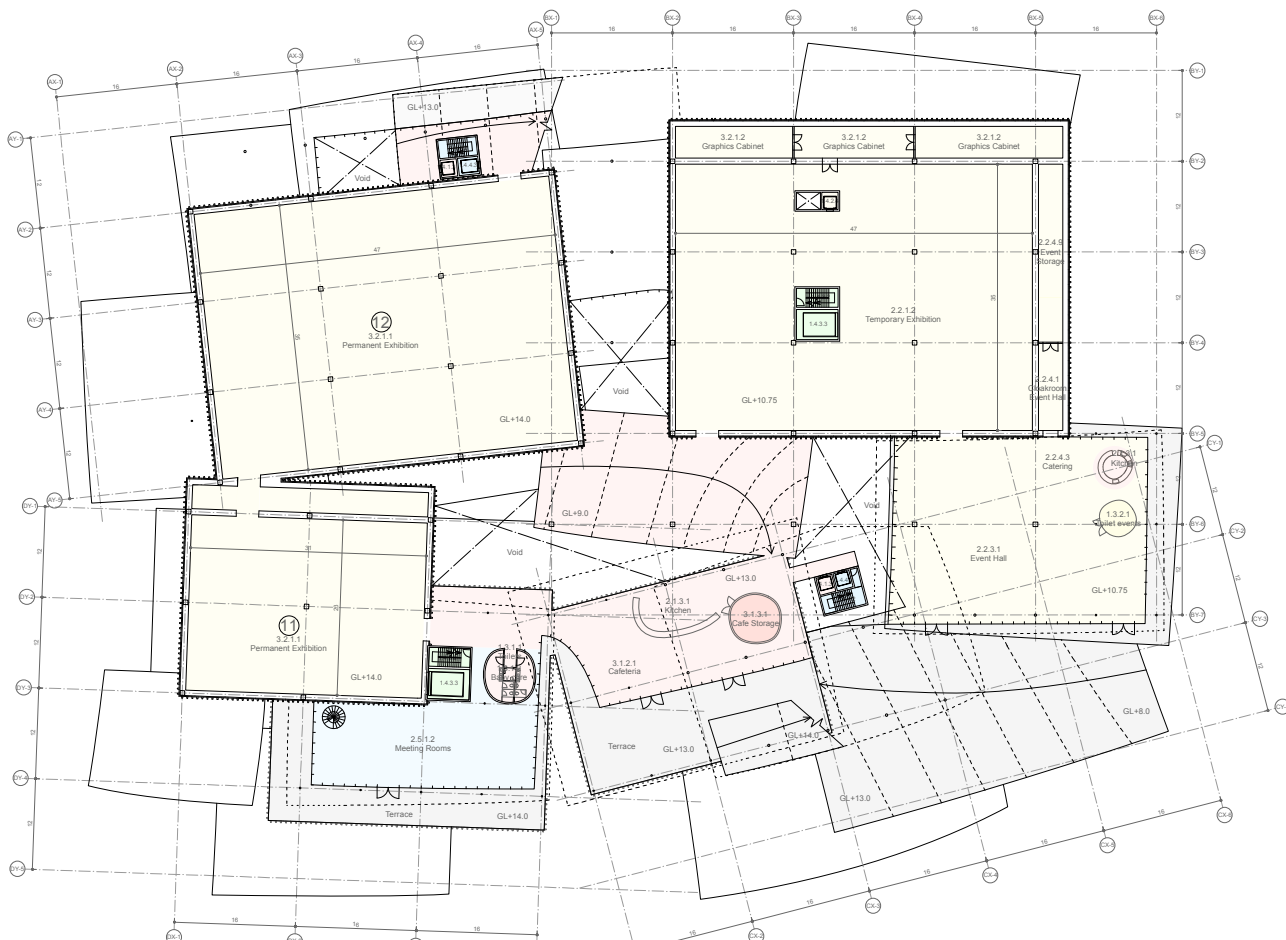
Floor Plan - 1F



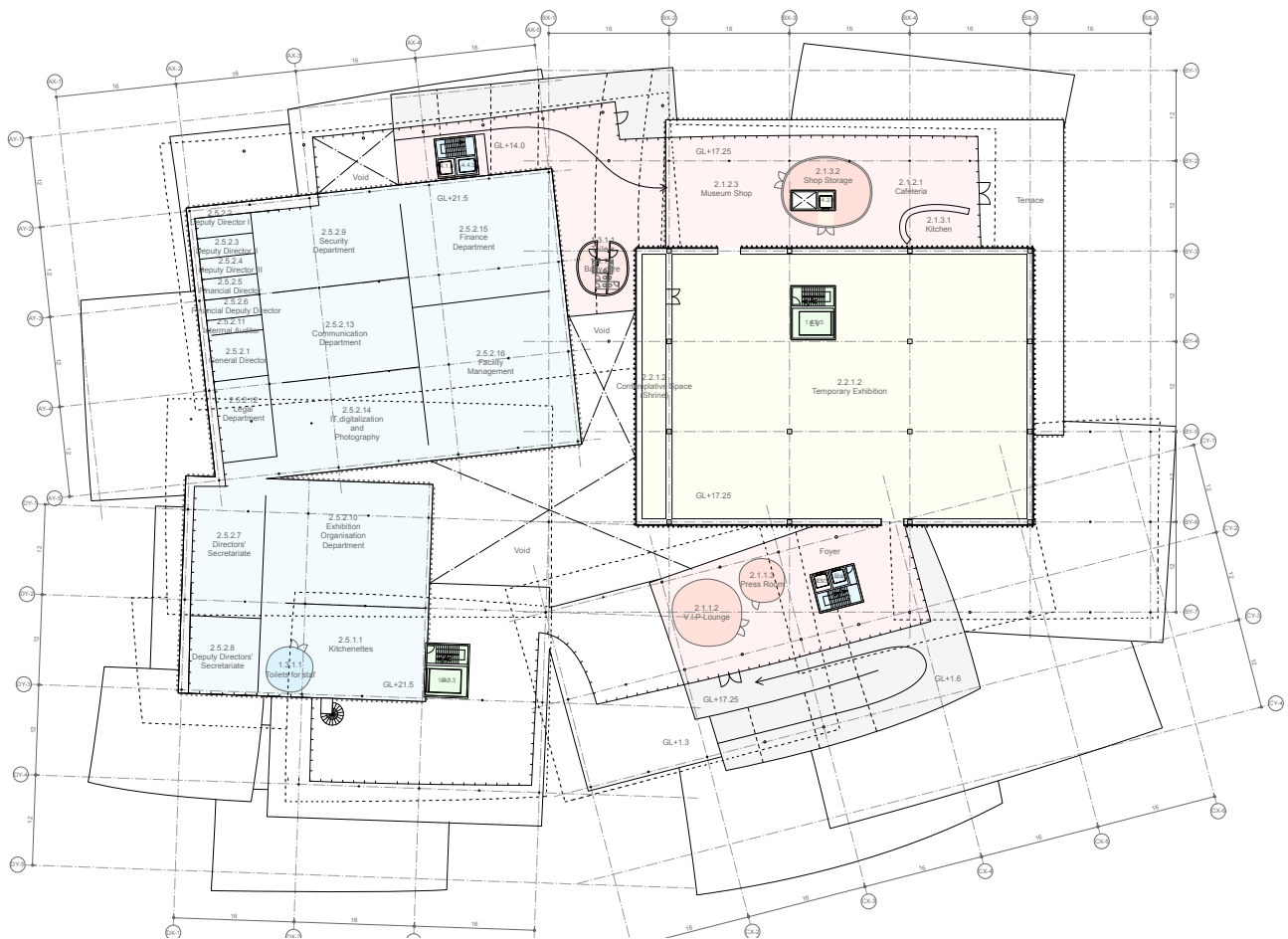
Floor Plan - 2F



Floor Plan - 3F

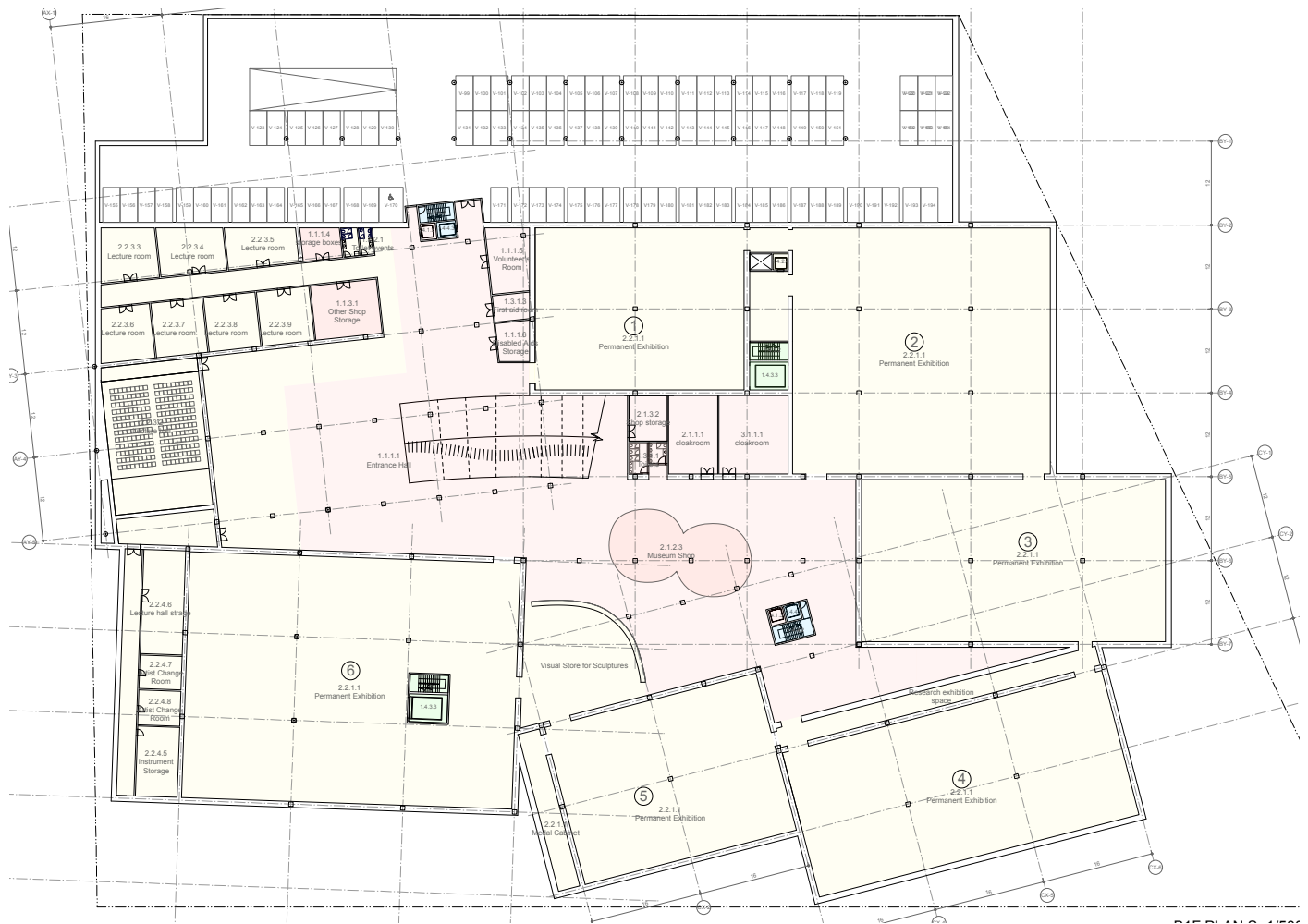


Floor Plan - 4F



Floor Plan - 5F

Architectural Drawings

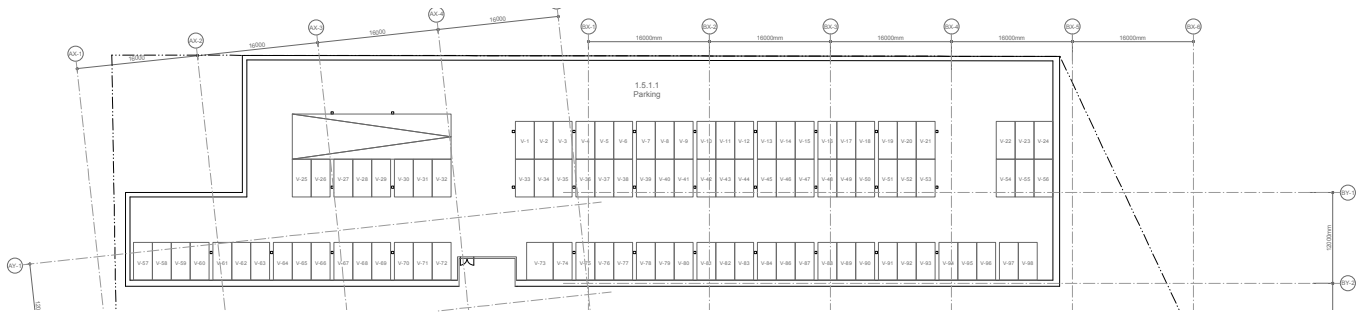


Floor Plan - B1

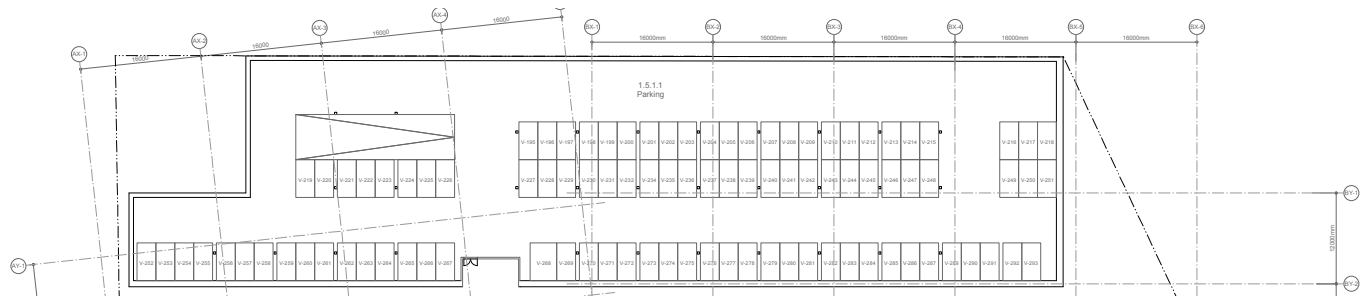


Floor Plan - RF

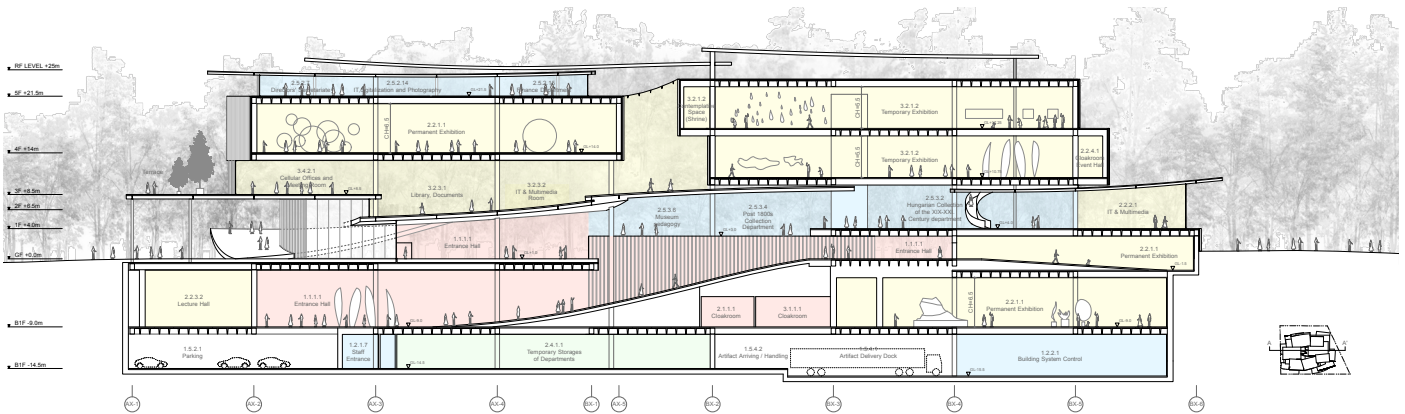
Architectural Drawings



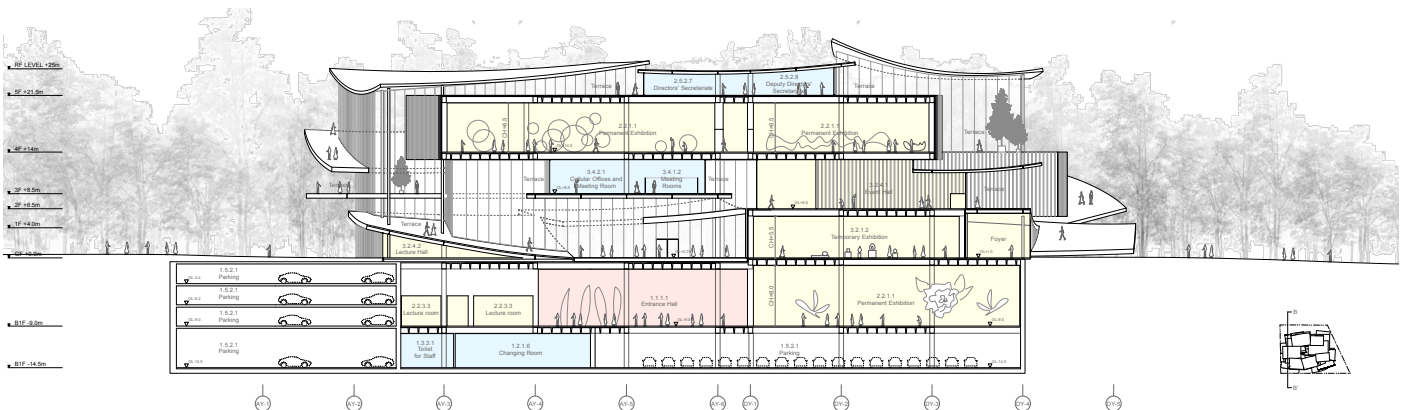
Floor Plan - B1 mezzanine



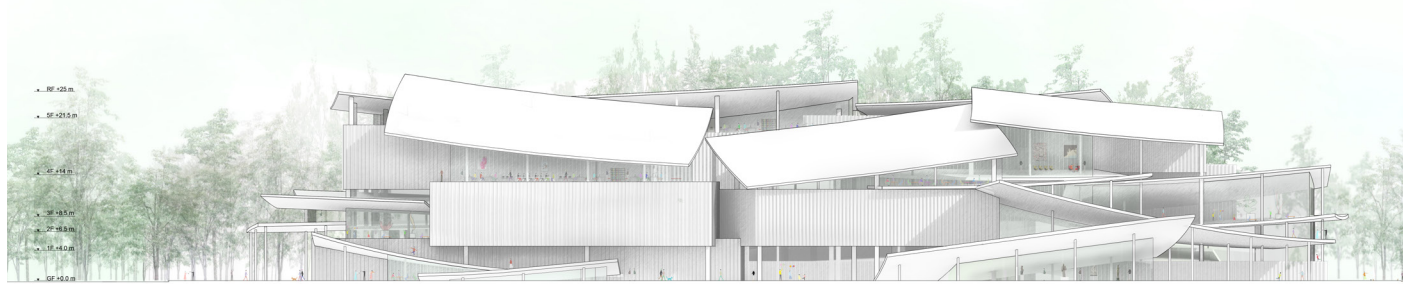
Floor Plan - B2 mezzanine



Section



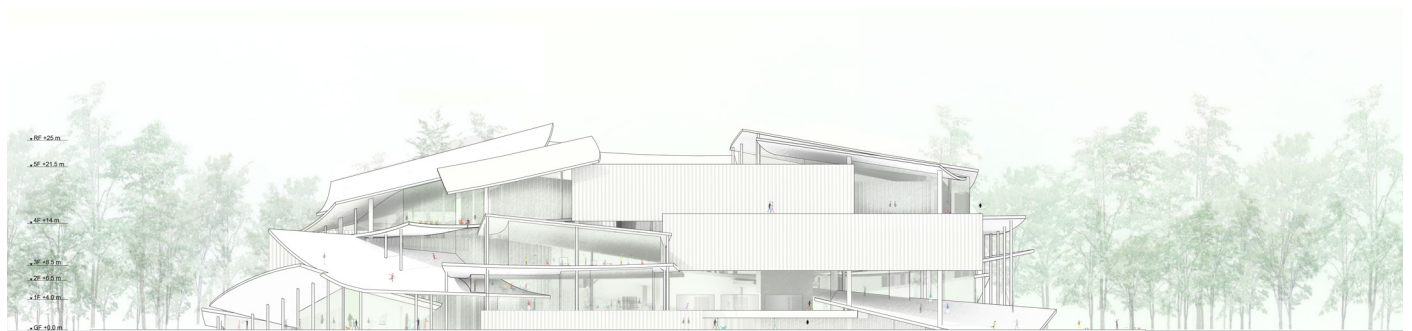
Section



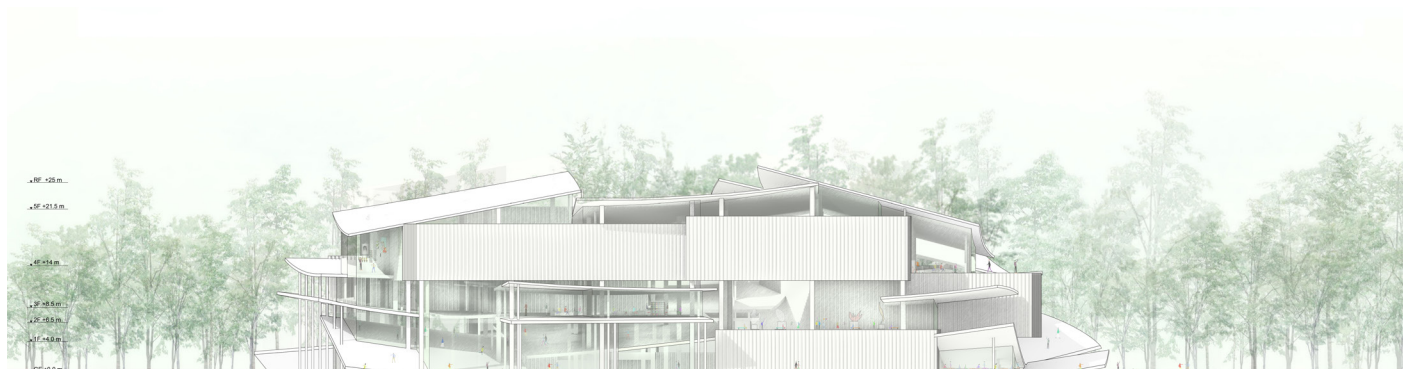
Elevation - Southwest



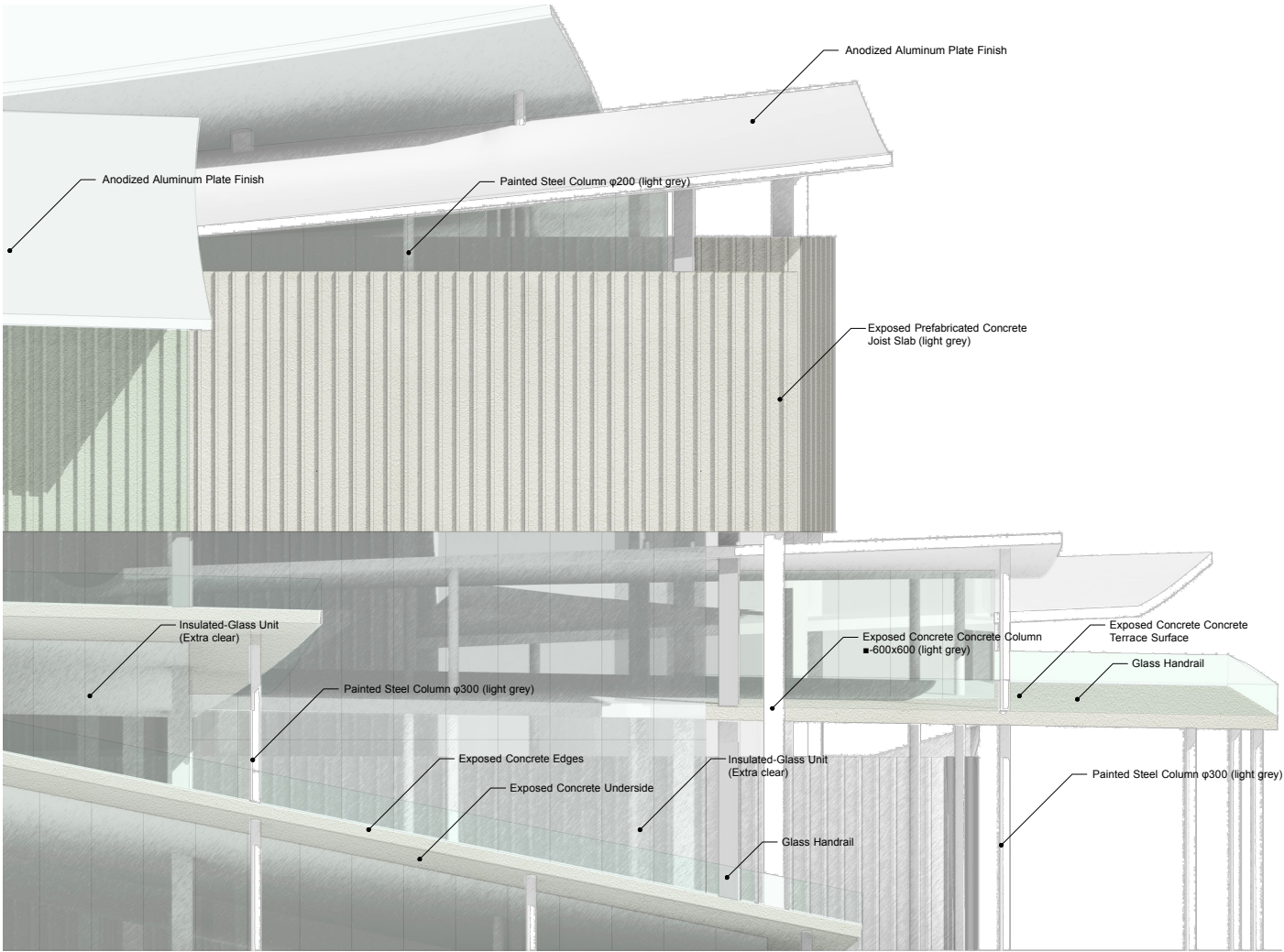
Elevation - Northeast

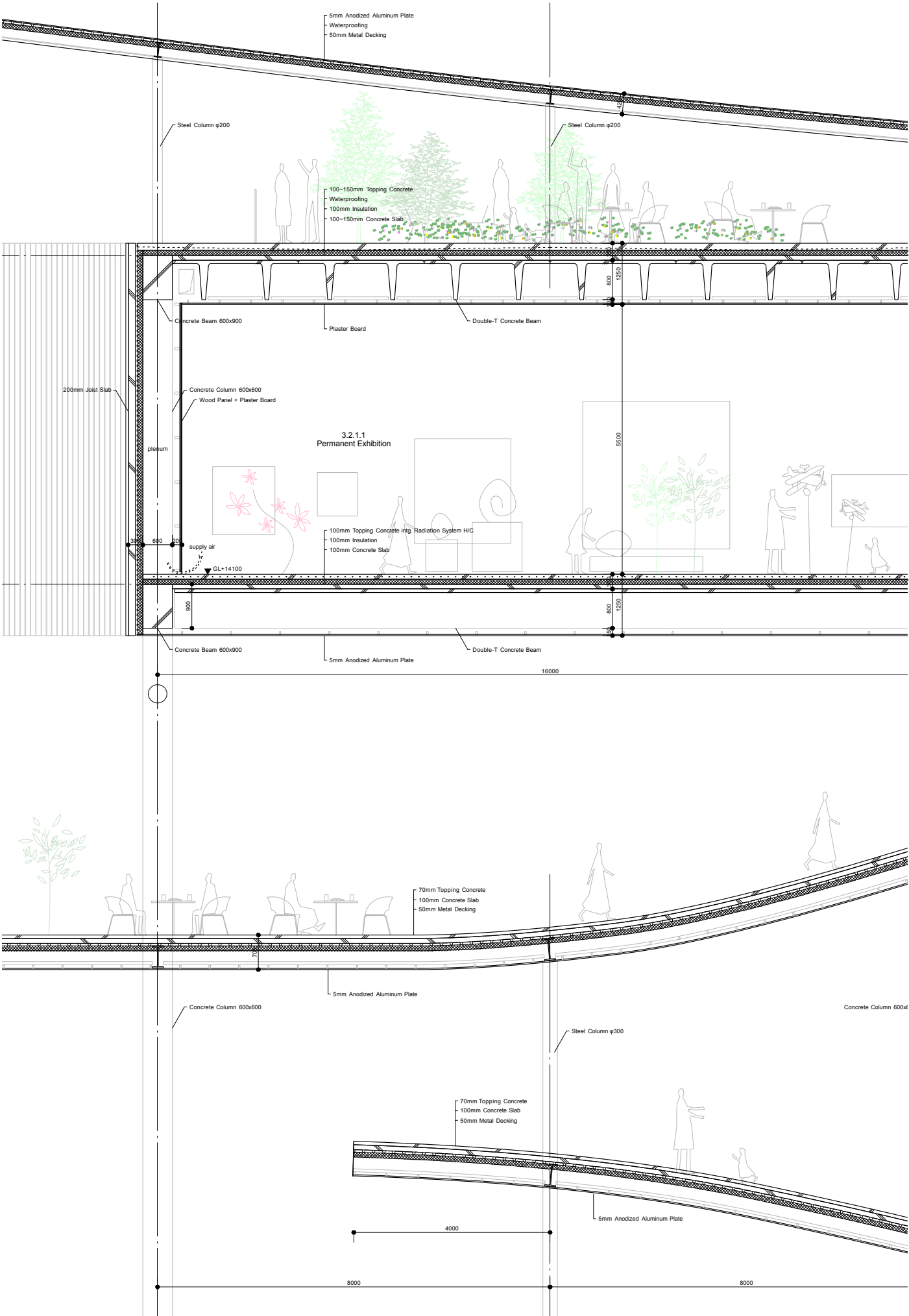


Elevation - Southeast



Elevation - Northwest





Perspective View



Aerial Bird's Eye View



View from Napozórét Lawn

Perspective View



South corner - View to the Sculpture Exhibition and the Main Entrance



Southeast side - the slope continues up to the first temporary exhibition space for the New National Gallery.

Perspective View



Interior View - View to the lobby from the Museum Professional's offices



Interior View - View from the 3F foyer space. Many layers of activities can be seen each time visitors exit the exhibition.

Perspective View



Interior View - View to the sculpture exhibition and the City Park



Interior View - Concept Image

Perspective View



Interior View - Exhibition space for the Ludwig Museum



Interior View - GAIA office



The materials, construction methods, and energy systems considered in this project have been reviewed based on functional appropriateness, cost effectiveness, and feasibility in the Hungarian building market. An economic calculation based on the current design was carried out by a qualified QS team in Budapest. The results show that the building cost is appropriate for its scale, prestige and use.

The public spaces in the project, notably the entrance hall in the B1 level and some exterior terraces are generously planned in the current proposal. This should be reviewed in terms of size and finishes should the costs prove to be too high.

We are looking forward to working together with the client and remain confident that the project can be within budget.