ALĖJA

Development of the site of the shopping and leisure centre ‘Panorama’ at Saltoniškių St. 9, Vilnius

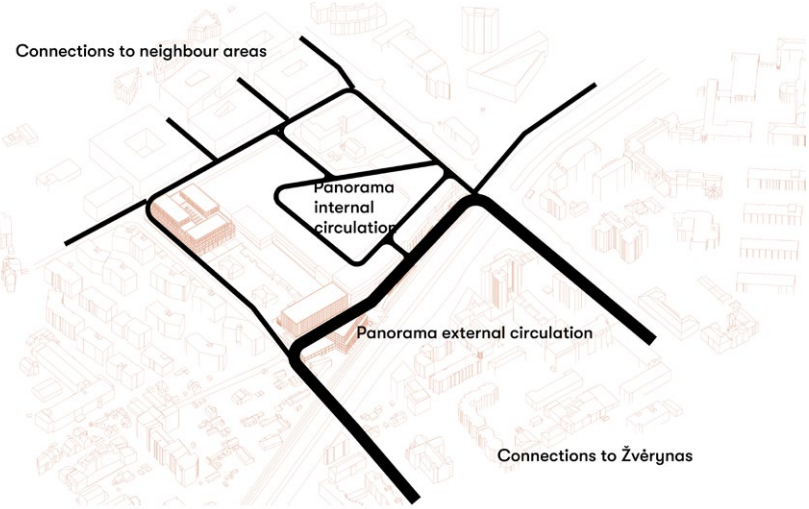
explanatory note

CONTENT

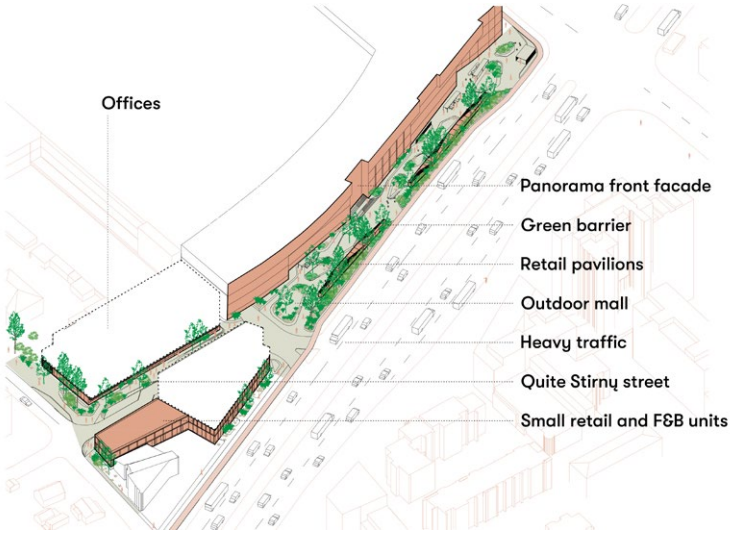
1. Urban concept

The urban concept is a crucial element of the project that seeks to integrate buildings seamlessly into the surrounding urban fabric. Integration with greenery, smooth circulation of pedestrians, vehicles, and public transportation systems are key aspects of urban design.

Another critical aspect of the urban concept is the smooth circulation of pedestrians and vehicles around the area. Through a detailed analysis of the plot, it was discovered where life is missing, and where the priority is given to vehicles. In the southern part of the plot, a new green axis is created. Plot D is turned into a park that is open to everyone. The street between buildings A and B, which is a continuation of the park, turns into an urbanized area with active ground floors and slow traffic. This connection would not only be beneficial for pedestrian transit, but it would also make the accessibility and the public space next to the shopping centre much better.



In this design concept we prioritize creating a pedestrian-friendly environment with ample sidewalks, bike lanes, and safe crossings. At the same time, the area will be designed to accommodate smooth vehicle circulation, including servicing trucks, without disrupting the surrounding streetscape. The loading and parking spaces for trucks and special transport is located on the south reachable from Pienines st., hidden away from the rest of the plot, in this way avoiding visually undesirable elements to be seen on more representative facades of the building. All entrances to the underground parking lots are designed to avoid intersections with pedestrians as much as possible.



2. Architectural concept

The project's main goal is to emphasize the intersection of spaces with different characters, creating a lively, cozy, people-oriented urban complex. Different volume, design, and material solutions are applied to buildings in order to increase diversity in the area. Every designed building is unique, but compatible with the existing and newly designed environment. Volumetric concept is based on the existing context, where residential buildings meets commercial strucures. The height of the buildings undulates from two to seven stories. All three buildings are made of separate volumes and the outside public spaces join them together. In order to create welcoming complex, special attention is given to the ground floor. In all of the buildings ground floor facades are set back from the streets. This design element provides terraces, recreational spaces and creates human scale ground floor experience.

The buildings' volumes are adjusted based on their specific functions. Building A is set back and a strip of greenery separates the building from the busy Narbutas street. The building slopes towards residential area and a 2-storied commercial part is being designed.

The building B follows the same height as the western edge of the Panorama and descends towards residential houses. To achieve maximum integrity, the roofs are greened.

The contour of building C is formed by the perimeter of the plot, similar to the surrounding areas. A spacious hall/atrium is designed inside the building. Volumes are divided into smaller volumes on the upper floors where co-living is planned. By doing this, the apartments are insulated and the quality of life is enhanced.

3. Proposed solutions for the tender site

3.1. functional layout of the spaces in the tendersite/plot

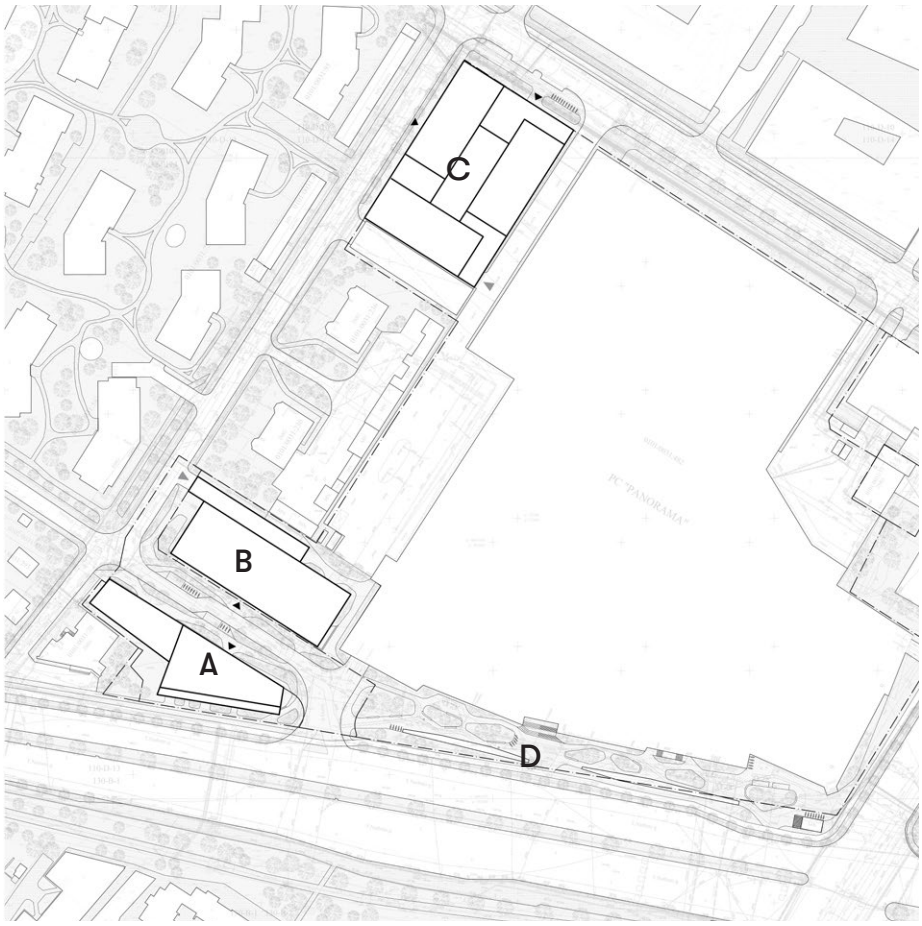
The plot is devided into 4 different sites (A, B, C, D). The southern part of the plot is the most active. It provides access to the shopping center and connections to neighboring areas. The newly designed axis of the southern part of the plot forms a new, active pedestrian zone. The green alley is formed by the long side of the site D and between buildings A and B. Stirnų street is designed as a slow street to reduce traffic volume and speed to a minimum so that people can walk, bike and run safety.

The functional zoning for the plot A, B, D is designed to optimize intersecting flows, functionality and enhance the visitor experience. Existing layout and function was carefully analysed to create a space that meets the needs of visitors and passersby. The main flow of people intersects in this part of the plot. The new planned axis and functions surrounding it are designed to turn the territory into a leisure area, not a transit link between plots.

The green buffer at the long edge of the plot have been created to block visual, noise and air pollution caused by Narbutus Street's traffic. The pavilions placed nearby, are intended for people's leisure time and activities as: second-hand market, farmer's market, public events. The goal is to make this area accessible and attractive for the community's use.

Access to the plot is formed by the existing infrastructure: an underpass and a public transportation stop. Since these zones are expected to have the largest flows of people, they are formed openly. Terrain changes and stairs are used to create recreation areas. The zone located near the shopping center's facade is designed to be a quieter place to spend time. Private areas are created through the strips of greenery, which include small arbors, tables, and integrated swings.

Zone C in the northern part is more private. Commerce and terraces are separated from the streets by greenery.



3.2. solutions for pedestrians, non-motorised transport, traffic circulation and parking

The perimeter streets are designated for car traffic movement. Stirnų street between A and B plots is designed to be a slow-moving street, which prioritizes non-motorized vehicles and pedestrians.

Underground parking lots are designed in buildings B and C. Access to the underground parking lot of building C is planned from Pieninės street, while access to the underground parking lot of building B is planned from Stumbrų street. Temporary stop locations for services and special transportation are planned near the entrances of all buildings.

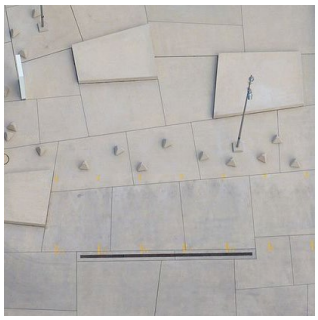
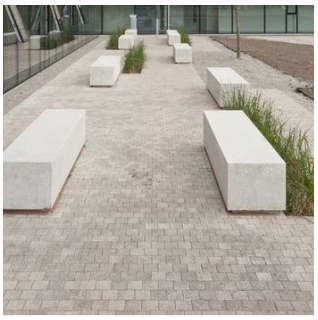
The territory is located in the central part of the city, and solutions are focused on pedestrians, non-motorized vehicles, and public transportation. A bicycle path is being designed along Narbutas street in the southern part of the A and D plots, which encompasses Saltoniškių and Pieninės streets. Non-motorized vehicles are given priority in the design of Stirnų street. Parking spaces for bicycles and scooters are planned at the entrances to the buildings A, B, C. In part D of the site, they are provided in several parts of the area. Convenient access from public transport stops and other connections with the city is ensured.

3.3. pavement concept

To activate the plot successfully, it is crucial to pay close attention to the selection of materials and dynamics between them. Different materials create cozy stopping places on the new axis. Paths and sidewalks are made of large-format concrete paving tiles as the primary material. Large tiles intersect with smaller tiles. Near the greenery, recreational islands are made of pink crushed stone.

Analogous materials were designed throughout the site and emphasised the integrity of the complex. Terraces of burned wood are planned for the buildings.

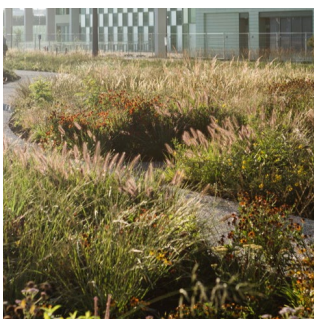
Strinų street is paved from Narbutas street so Stumbrų street. Different patterns of tiles are used to create temporary stopping places.

3.4. greenery solutions for the landscape

The aim of the project is to conserve all the trees on the site. Parts A and B will have their trees pruned, and a green zones of low-maintenance local plants will be planted around them.

Many green spaces are planned on the site. Local species of vegetation prevail, such as trees, shrubs, meadows, and herbs. The plants were chosen based on their flowering time and seasonality to ensure that biodiversity was present on the site.

3.5. lighting solutions

Urban street lighting plays a significant role in shaping the character and identity of a plot. It helps to create a sense of place, enhance safety and security, and improve the overall quality of life for residents and visitors. Five different layers of lighting fixtures are chosen:

1. Street light (placed by the streets)
2. Path light (column lighting installed along a path to illuminate a walkway)
3. Facade (used on the ground floor facades)
4. Spotlight (placed to highlight pavilions and bigger trees)
5. Landscaping (placed on the paths and plants)

3.6. furniture solutions for the landscape

Landscape architecture (benches, trash cans, bicycle racks, green fences, etc.) is designed in a minimalist style, simple forms, and is covered with greenery and landscape solutions where possible.

Benches are integrated near the plants to create a comfortable environment. Pavilions are designed to provide shade on sunny days and protect against rain or snow.

3.7. principles of universal design

The entire territory will be suitable for all groups of society, regardless their mobility or other disabilities.

In the subsequent stages of the project, specific and detailed solutions for compliance with the principles of universal design will be provided, following the requirements of the ISO 21542:2011 standard.

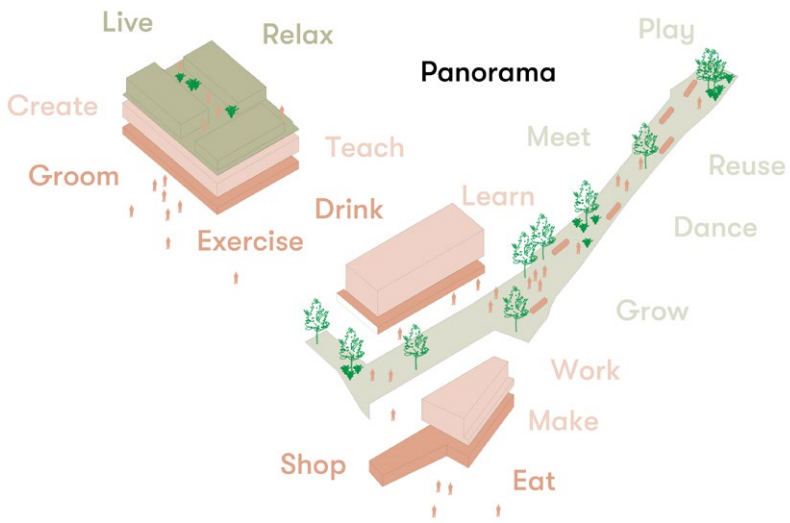
4. Buildings A, B, C

4.1. proposed functional layout

The first floor of building A is intended for various types of commerce: restaurants, shops, galleries, cafes. It is important that every unit creates a place to stay, grow, work, play, meet, dance, teach, shop, or eat. The upper floors are deigned for offices.

The same rule applies to the building B, so the area between buildings and Stirnų street becomes vibrant and open for perople.

The building C is divided into open, semi-open, and private spaces. The first floor is designed for all building visitors, where cafes, gyms, and co-working spaces are located. From the 1st to the 3rd floor, the offices are designed. The fourth floor is designed for co-living residents. There are apartments situated around the perimeter of the building and communal spaces around the courtyard. The rest of the apartments are designed on the 5th and 6th floors.



4.2. traffic flows for employees, visitors and residents

On the site, the first floors are open for visitors. They include a variety of commercial and entertainment activities. Non-motorized movement is encouraged, so bicycle storage facilities are provided. For those arriving by car, parking is provided in the underground parking lots of the Panorama shopping center and in buildings B and C. The lots are designed to meet the parking needs of both visitors and employees. For the convenience of employees, additional bike racks are provided in the underground parking lot.

Number of parking spaces in building C: 183 cars.
The number of parking spaces in building B is 61 cars.

Separate access to the co-living spaces from Stumbrų street is planned for residents of part C. The upper 3 floors of the building are allocated to them. Volumes are divided into smaller elements to ensure insolation and quality of life. Terraces are designed to be used for residents.

4.3. materiality

The design of buildings materials takes into account the architecture of the surroundings. New vo umes and selected materials aim to create soft transitions between contrasting environments.

Building A: The exterior is dominated by glass and vertical wooden panels. Surface materiality and natural color highlight the softness of the building and creates a reminder of the district near by – Žvėrynas. The vertical lines of the elements create solid rhythms that naturally blend into the surroundings. Greenery is used as a buffer and to soften the transition between Narbutas street and the plot.

The interior of the building is dominated by wood, glass and a slightly variegated floor covering of recycled concrete and stone (terrazzo). Glass is used for display windows, railings and interior partitions.

Building B: The building is tightly set into the existing situation. The facades are vertically divided. The second mesh façade is installed on the structure to provide privacy from inside the building. The north facade is intended to be open for the purpose of insulation. The ground floor facade is divided by wooden columns, creating privacy and comfort for the entrances. Textile canopies are designed over the entrances.

The division between outside an inside merges together. The interior of the building is dominated by wood, glass and a slightly variegated floor covering of recycled concrete and stone (terrazzo).

Building C is a transition building between the housing project on the west, the shopping center on the east, and the commercial buildings up north. Clinker brick is used as the main material for the building. The façade rhythm adapts to the building's volume and designed purpose, as the upper floors are designed for housing.

The building is tightly placed on the site, so the ground floor in the core of the building is designed as a courtyard – park in the building. Wood, tile, and stone are used as the main interior materials. Wood finish is used to finish the side surfaces of room partitions, structural elements and ceilings. To keep the interior area open, stairways are placed on the perimeter. Co-living spaces are designed in a minimalist style.

4.4. green/sustainable solutions

The building will meet the A++ energy efficiency class and the chosen international sustainability assessment system (LEED, BREEAM or another). The building is focused on the comfort and well-being of the people working and using it. For the construction of the building, it is planned to use reliable materials that have the least possible negative impact on the environment and people, have international sustainability ratings, calculated environmental impact (EPD) and will meet the regulatory requirements for volatile organic compounds (VOC) and formaldehyde. A green roof will reduce the cooling load of the building and compensate for the occupied area of the green zone. Great attention is paid to bicycle transport - convenient and sufficient bicycle parking facilities and all the necessary infrastructure will be created - showers, changing rooms and storage facilities will encourage the users of the building to choose a healthier travel alternative.

Architecture of the building B is adapted to the vegetation of the plot, so existing trees will be preserved during the construction of the building. Green roofs for all buildings are designed to reduce the building's rainwater flows from hard surfaces and allow the plot to absorb a larger amount of rainwater.

In order to reduce the impact of the building on environment, the infrastructure for parking and charging electric cars is planned. Separate parking spaces are allocated for electric cars and sufficient infrastructure is installed for fast and convenient charging of cars.

In order to contribute to the activity of the community surrounding the building and to encourage the users of the building to communicate, actively spend time and rest, open public spaces are planned outside – not only in area D, but also around buildings A, B and C. The open spaces are planned to be enriched with vegetation typical of the local ecosystem, adapted to all seasons. Appropriately selected vegetation will also reduce the need for water for irrigation, an efficient irrigation system and intelligent management will ensure the efficiency of water use. It is planned to use rainwater for watering the gardens, which will be collected from the roofs of the building, cleaned and stored.

It is planned to separate car, bicycle and pedestrian routes on the site so that users of the building can reach the building safely. Stirnų street is proposed as a slow traffic area for sustainable comfort of visitors.

It is expected that the lighting of the plot will have to be turned off or its intensity reduced at night, in order to make energy consumption more efficient and have less impact on the surrounding nature.

4.5. engineering solutions

All buildings are proposed as A++ energy efficiency class, so its operating costs for the building's heating, cooling, hot water preparation, lighting and other engineering systems will be relatively small. For the rational use of energy, it is planned to install renewable energy sources, energy saving measures (energy-efficient barriers, blinds, etc.), advanced engineering systems. Attention is drawn to the function of the building and some rooms with sufficient low temperature regime are classified as unheated (<10C), thus aiming to optimize construction and operation costs.

The construction of the building, interior and exterior decoration are expected to be durable, long-lasting and do not require constant maintenance or repair. The associated operating costs would be minimal. We suggest to implement as much as possible timber or recycled construction elements for reduced CO2 emission.

4.6. structural solutions

The structure of the building is planned in such a way that the architectural concept is maximally maintained and the high sustainability criteria set by the client are met. Structural solutions must be strong enough to withstand the loads acting on the building and be sufficiently fire resistant.

Volumes of the buildings are uncomplicated and therefore do not require special structural design solutions. The load-bearing structure is constructed of monolithic or prefabricated reinforced concrete framing (buildings B and C) that ensure the stability of the building and good sound insulation between rooms in building C co-living area. Building B structural framing is proposed partially with timber glulam columns and beams at ground floor level (facing Stirnių street).

The load-bearing structure of building A could be made of timber glulam elements or steel-concrete composite, depending on the results of the dynamic modeling performed at the technical design stage. The same glulam structural elements or steel beams made from recycled materials should be used for load-bearing floor beams to reduce the amount of embodied CO2. Glulam CLT panels can be used for overlay and deck panels.

Standard aluminum façade systems are used for the façade partitions in buildings A and B. Facade of building C – precast concrete three-layer walls with terracotta finish and aluminum windows.

Roofs of all three buildings are designed to have at least 400mm of soil for greenery, which should be taken into account in structural frame calculations during technical design stage.

4.7. engineering solutions

In order to ensure high sustainability, comfort and energy requirements, to ensure the microclimate of premises within the buildings, it is planned to use heat pumps that absorb energy from the ground with the freecooling option, which will allow the building to produce coolness with extremely high efficiency in the spring and autumn months.

The ventilation of all buildings will be ensured by mechanical ventilation systems with heat recovery. Separate air handling units will be designed for retail units and restaurants with extract system from kitchen hoods.

In order to reduce the damage caused to the environment due to freon entering the atmosphere, the cooling needs of the building will be ensured by water cooling systems. In the later stages of the project, after a more detailed analysis, it will be proposed to use solar collectors installed on the roof of the building to prepare hot water, and to meet the need for electricity by using renewable electricity produced in remote solar parks. After performing the dynamic energy modeling calculation at the building design stage, the operation of the microclimate systems will be adapted to achieve the highest human satisfaction index (PMV). The simulation results will also help to determine the optimal efficiency parameters of the engineering equipment, operation schedules, energy saving possibilities, future operating costs, and the properties of external enclosures. The building will have an advanced energy consumption monitoring system, all energy consumption will be accounted for each type of use.

Taking into account the layout and functionality of the rooms, separate room zones with individual control options for temperature, humidity and lighting are planned.

A significant percentage of the building's glazing will allow creating a sufficient amount of daylight inside the premises. To ensure acoustic comfort, it is planned to minimize the noise generated by engineering systems. The quiet rooms of the building are separated from other rooms of the building by constructions that ensure sound resistance.

4.8. safety solutions

Evacuation from the designed buildings is planned in compliance with all fire safety requirements. From premises, which are expected to accommodate more than 50 people, are equipped with two evacuation exits. Two escape routes are planned from each floor of buildings A, B & C. In upper levels of building C (co-living areas), additional external staircases, leading to escape stairs are designed to compensate for lack of two escape routes due to the shape of the building.

Approaches for fire fighting equipment and equipment for extinguishing external fires - according to the latest regulations.

It is planned to install fire detection and alarm systems. When designing extinguishing systems will be offered to consider suitable and safe solutions for this type of buildings according to room type and need (if needed - extinguishing with mist, gas, etc.).

The fire safety design will include detailed simulations of fire spread scenarios and select the most optimal and safest solutions. In the later stages of the project, precise solutions will be developed, following the principles of fire safety requirements and fire safety rules of public buildings.

4.9. universal design principles

The entire territory and accesses of the designed buildings will be suitable for all groups of society, regardless their mobility or other disabilities.

In the subsequent stages of the project, specific and detailed solutions for compliance with the principles of universal design will be provided, following the requirements of the ISO 21542:2011 standard.

4.10. phases of the construction

The construction of the entire complex can be carried out in 4 stages. All buildings A, B and C can be built separately. Also, public space project D can be implemented independently of building construction.

5. General characteristics

5.1. total area of the plot	53 038.0 m^2
5.2. intensity of development (UI)	2.5 (existing 1.2)
5.3. density of development (UI)	78 (existing 63)

5.4. gross floor area and functional areas, building volume, number of floors, building height

5.4.1. A

Gross floor area	4 909.5 m^2
Functional area	4 575.0 m^2
Building volume	21 657 m^3
Number of floors	6 floors
Building height	22.7 m

5.4.2. B

Gross floor area	11 283.5 m^2
Functional area	8 846.2 m^2
Building volume	49 780 m^3
Number of floors	6 floors
Building height	22.7 m

5.4.3. C

Gross floor area	22 798.5 m^2
Functional area	15 676 m^2
Building volume	100 582 m^3
Number of floors	7 floors
Building height	26.6 m

5.5. total area and functional areas (D)

Gross floor area	4 836.0 m^2
5.6. areas of plantations and green areas	10 734.0 m^2

6. estimated cost of the implementation/construction of the design concept

Preliminary building cost calculation is based on BIM GATES methodology and provided statistical information of construction industry

Building A

Volume, cbm	Price per cbm	Coef. 1 (higher standard of finishes and equipment)	Coef. 2 (A++ energy efficiency class requirements)	Coef. 3 (construction site constrains)	Coef. 4 (overall higher construction standards)	Total (in euros, incl. VAT)
21657	242.59	1.2	1.15	1.4	1.3	13,195,372.83 €

Building A landscaping
Please refer to Building D

TOTAL BUILDING A	**13,195,372.83 €**

Building B

Volume, cbm	Price per cbm	Coef. 1 (higher standard of finishes and equipment)	Coef. 2 (A++ energy efficiency class requirements)	Coef. 3 (construction site constrains)	Coef. 4 (overall higher construction standards)	Total (in euros, incl. VAT)
49780	242.59	1.2	1.15	1.4	1.3	30,330,408.61 €

Building B landscaping
Please refer to Building D

TOTAL BUILDING B	**30,330,408.61 €**

Building C

Volume, cbm	Price per cbm	Coef. 1 (higher standard of finishes and equipment)	Coef. 2 (A++ energy efficiency class requirements)	Coef. 3 (construction site constrains)	Coef. 4 (overall higher construction standards)	Total (in euros, incl. VAT)
100582	242.59	1.2	1.15	1.4	1.3	61,283,510.62 €

Building C landscaping

	Area, sqm	Price per sqm	Total (in euros, incl. VAT)
Softscape (greenery)	612	16.38	10,024.56 €
Hardscape	1096	108.63	119,058.48 €
Roads	901	82.11	73,981.11 €

	Total (in euros, incl. VAT)
Street furniture and other	50,000.00 €

	m (approx)	Price per m (average)	Total (in euros, incl. VAT)
External utilities (incl. relocation)	700	250	175,000.00 €

TOTAL BUILDING C	**61,711,574.77 €**

Building D (pavilions)

Volume, cbm	Price per cbm	Coef. 1 (higher standard of finishes and equipment)	Coef. 2 (A++ energy efficiency class requirements)	Coef. 3 (construction site constrains)	Coef. 4 (overall higher construction standards)	Total (in euros, incl. VAT)
1272	130.34	1.2	-	1.4	-	278,531.37 €

Building D landscaping

	Area, sqm	Price per sqm	Total (in euros, incl. VAT)
Softscape (greenery)	6555	16.38	107,370.90 €
Hardscape	4327	108.63	470,042.01 €
Roads	1206	82.11	99,024.66 €

	Total (in euros, incl. VAT)
Street furniture and other	200,000.00 €

	m (approx)	Price per m (average)	Total (in euros, incl. VAT)
External utilities (incl. relocation)	2100	250	525,000.00 €

TOTAL BUILDING D	**1,679,968.94 €**
GRAND TOTAL (incl. VAT):	**106,917,325.15 €**