PANGEA

DEVELOPMENT OF THE AREA AT SLC PANORAMA SALTONIŠKIŲ STR. 9 VILNIUS

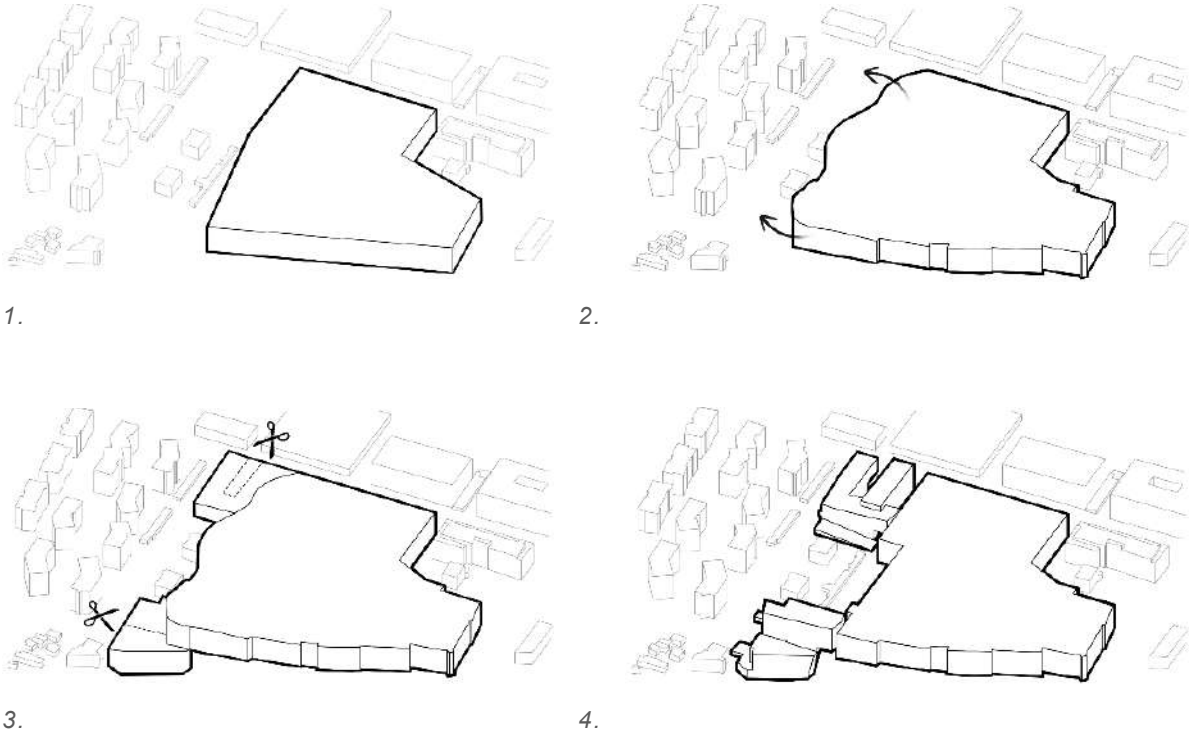
ARCHITECTURAL DESIGN COMPETITION

EXPLANATORY NOTES

April 2024

Contents

URBAN IDEA



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Urban concept development scheme

The urban idea can be described in one word - **PANgea**. Pangea is a supercontinent that existed during the Paleozoic and Mesozoic eras and later split into the continents we know today. Just as Gondwana and Laurasia separated from PANgea, so too did Office Buildings A, B and C separate from **PANorama**.

Buildings A and B, the first to greet visitors to the quarter from Narbuto Street, retain the most similarity in façade expression to their origins. Building C, located in the inner part of the block, has already taken on more of the aesthetics of the adjacent office buildings and blends harmoniously into the family of the Pieninės Street office blocks.

The fact that Building A and Building B once were part of the same 'continent' is also evident by the decorative elements that keep the two buildings visually connected.

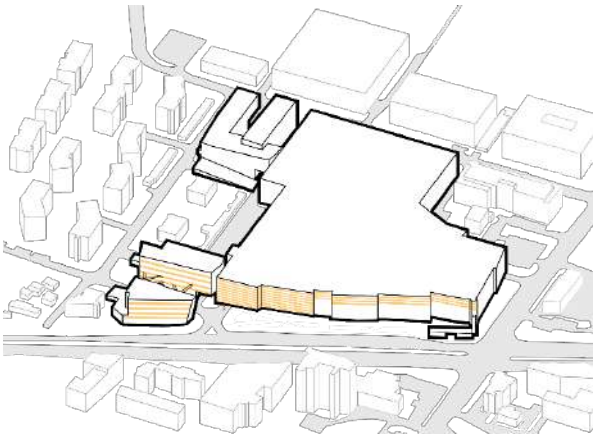
Before starting to design the buildings, it was essential to be realistic about the constraints imposed by the Detailed Plan, the root protection zones of protected trees and the sanitary protection zones of the heating networks, which dictated the contours of the development of buildings A and B.

The contour of Building C is dictated by the regulations of the Detailed Plan and the electricity substation building with its protection zone, which is harmoniously integrated into the overall composition.

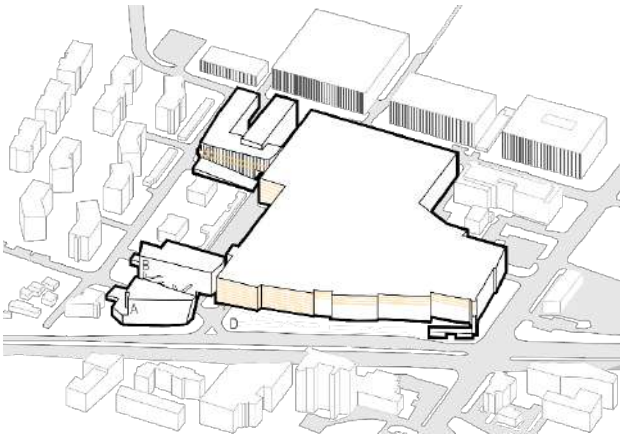
Building A and Building B are not twins, but it is clear that they are brothers. They share the same façade expression and the link is further strengthened by a decorative artistic installation of metal beam strips that connect the two buildings.

ARCHITECTURAL IDEA

Building A and Building B are two brothers, similar to each other but also distinctive in form. The volumes of both buildings are dictated by the constraints imposed by the Detailed Plan, the protection zones for the roots of the trees to be preserved, the sanitary protection zone for the heating network. The viewpoints along T. Narbutas Street also played a crucial role. The aim is to create solid and interesting volumes that invite people to come and explore the new neighborhood. The intrigue is created by the slanted façade of Building A and the impressive atrium, which is visible from a distance from T. Narbuto Street. And the artistic installation - the golden bands that break off the two facades and seem to hover over Stirnų Street - this is the intrigue that invites visitor to come and get to know the new quarter better. This installation, which will become the district's trademark, looks spectacular not only during the day, but is even more impressive at night, when the strips glow thanks to the integrated LED strips.



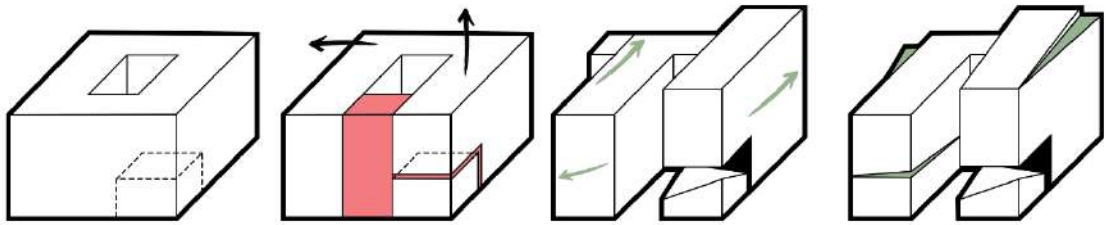
Architectural concept development scheme for buildings A and B



Architectural concept development scheme for building C

Building C idea reflects the connection between three elements: buildings, nature and people. The architectural expression of the building is characterized by its relationship with the surrounding buildings - the business centers across the street, which are characterized by small courtyards, massive volumes and vertical facade divisions. Also, not forgetting SLC Panorama, the horizontal division of the facades is emphasized and a volumetric link is created with the roof of the shopping center. The building provides a courtyard with planting and opens onto the street to create a sense of space. The courtyard is like a green oasis, linking the different parts and functions of the building, providing recreational and meeting opportunities for the building's employees and residents. The dramatically cut corner of the building creates a perspective on the courtyard, as if inviting people to come in. The volume of the existing transformer power station, refurbished with mirrored facades, is an element of the building's composition, like an inclusion that has grown into it. Its sloping roof is an allusion to the historical development of the Žvėrynas area, a kind of reflection of history, which is enveloped by the new building, but does not disappear into it. It also emphasizes the connection with nature throughout the building. This can be seen first in the courtyard, and as you go up, the upper floors of the building, as if they were cut off, develop 'hanging gardens' - planted terraces with swaying plants. The roofs of the building are also planted, with a recreational function. The facades of the part of the building

where temporary accommodation is planned use wood paneling and wooden sliding partitions to give the building a cozy, lively feel.



Architectural form development of building C

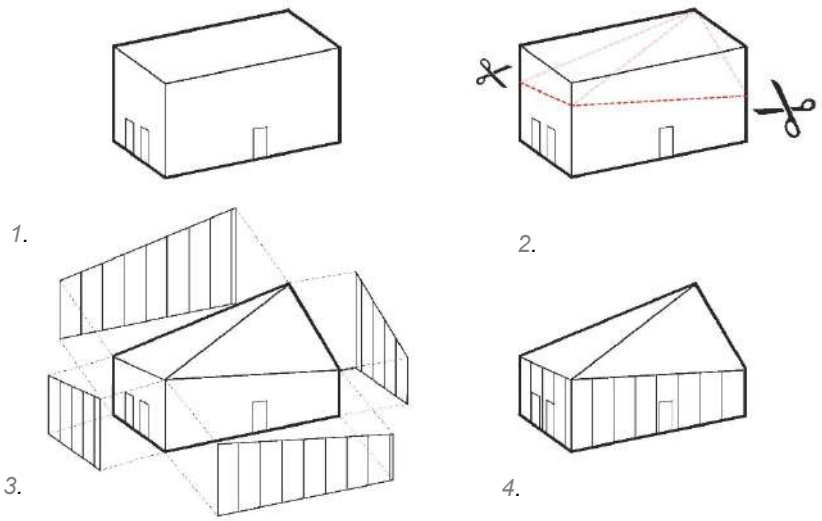
PROPOSED SOLUTIONS FOR THE SITE

FUNCTIONAL LAYOUT OF THE TERRITORY

Zone A includes a 6-storey office building with a dramatic sloping facade. Parking is provided on the ground floor of the building. On the 2nd floor there is a spacious private terrace for office workers and guests.

Zone 'B' includes a 7-storey office building with underground parking. On the 7th floor there is a private terrace for office employees and guests with views to Žvėrynas. Building B has a small, cozy square on the Stumbrų Street side. There is space for a restaurant. The square is intended to preserve a valuable existing tree, plant new trees and create a mini fountain.

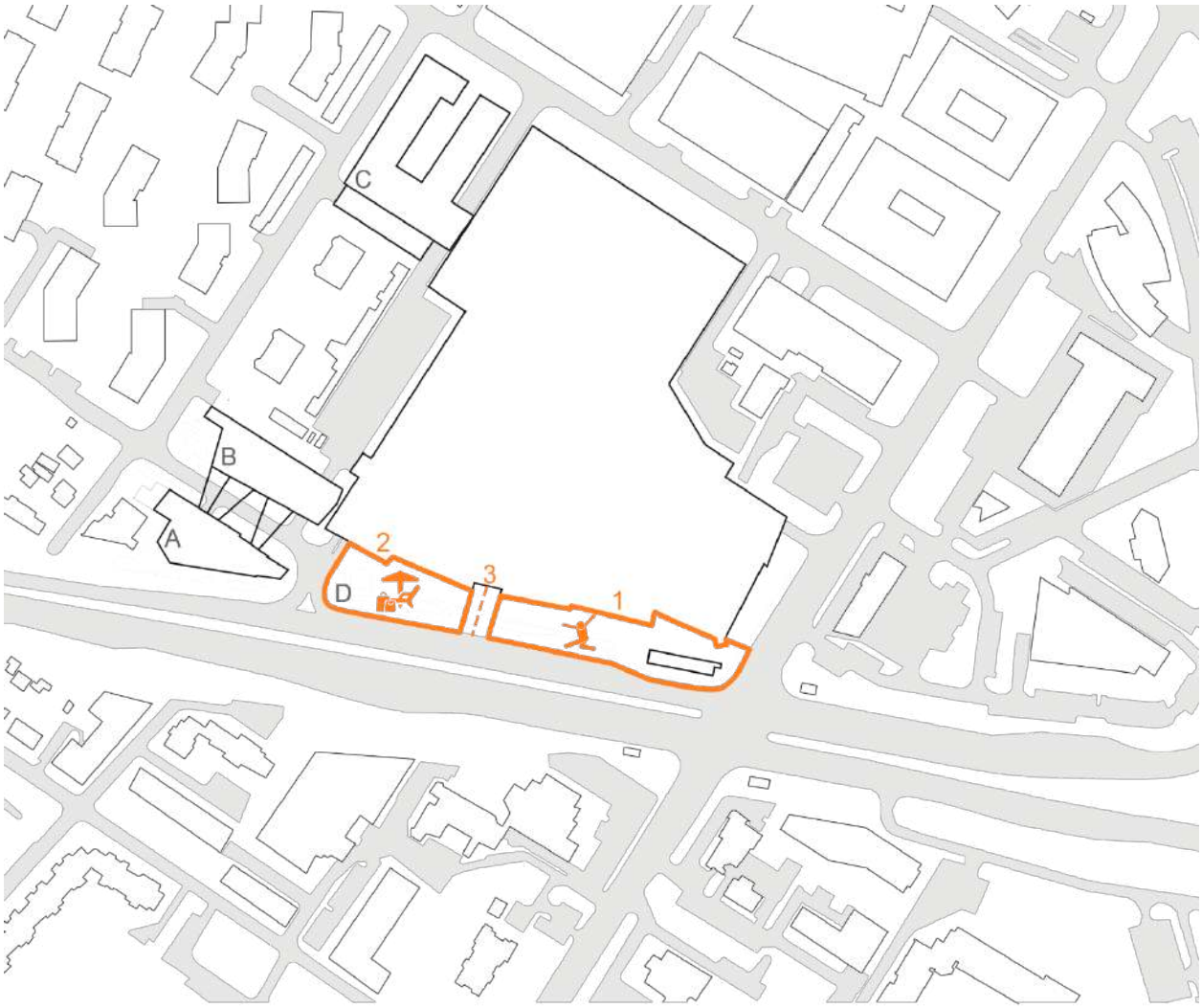
Zone "C" provides for a 7-storey office building with a 2-storey underground car parking. The buildings are to be formed along the perimeter of the existing streets, with the main access from Pieninės Street. The buildings are U-shaped with an internal open courtyard with access to the individual lobbies of the buildings. On the ground floors commercial, sports, assembly hall complex and catering facilities are formed. On floors 2 to 7 there are offices, co-living rooms. Rooftop terraces and lounge areas. The existing transformer power station is being reconstructed to create the image of a broken sloping building. The transformer power station becomes a sculpture, a work of art at the entrance to the central courtyard.



Scheme representing design development of power station

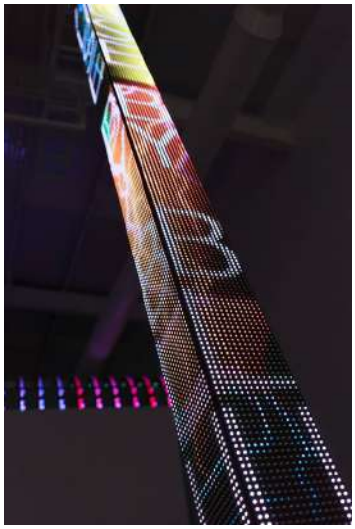
In Zone D, a landscape is designed consisting of the different zones. This is currently the most boring and least used area of SLC Panorama, which is to be revitalized by zoning and by creating different scenarios for different activities.

The designed zones are: 1. Active zone on the eastern side 2. Quiet zone on the western side 3. Central axis on the southern entrance of T. Narbutas Street, which is accentuated from the bus stop by the existing widening staircase and the stairs and ramp from the central pedestrian terrace.



Zoning scheme of plot D

The active part of the eastern zone, at the intersection of Saltoniškės and T. Narbutas Street, is intended for a larger gathering and movement of people, as well as for a possible commercial activity. It is proposed to extend the existing entrance to the underground passage by adding an additional glass volume for commercial activities, combined with a public use roof/terrace, with access via external stairs and a lift. The existing lift is supplemented by one stop and the structure itself is visually raised to the height of the existing PC Panorama terrace, i.e. a minimum of 15.0m from the ground level, thus forming a 4-sided advertising display symbol/pylon. The pylon is clearly visible from the Narbuto Street roundabout, where the advertising screens will be used to display variable information and the symbolism of the SLC PANORAMA, etc.



Example of LED pylon Example public terrace over extended underground passage

In the center of the active zone, a wide passageway is formed - a square that can accommodate a food truck town, a seasonal produce market or a ramp for skateboarding competitions. At the edges of the square, columns of luminaires are designed to provide light in the dark time of the day/year and, in the summer or when needed, to act as canopies against precipitation or the sun. Also, in the continuation of this zone, in order to emphasize the 6 advertising windows on the façade, it is proposed to create a shallow cascading basin of 15-30 cm parallel to the façade at the main southern staircase. The shimmering reflection of the advertisements and the water lighting in the evening would create a sense of a dynamic and coziness. In front of the long pool, a long bench for relaxation and waiting would be built, with a green area behind it. In the hot season, the pool could be used for wading for refreshment, especially liked by kids and pets, and in the winter, the pool could serve as an ice rink for the little ones.

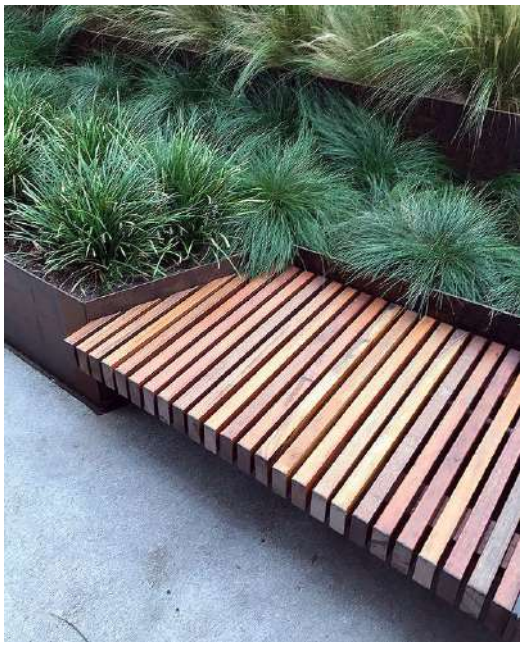
Example of covered food truck area

Example of shallow reflective pool

The southern entrance is emphasized by a staircase and an adjacent ramp to be built from the highest area, thereby shortening the length of the ramp.

The quiet western side of Zone D is intended for easy access for visitors from adjacent buildings and for comfortable seating and respite in a green oasis. Taking into account the pedestrian flows and underground utility lines, paths have been designed, and islands of planting with dwarf trees have been created. Intimate, hidden resting areas are created, away from the active resting benches of Narbutas Street. An amphitheater of wide benches with embedded steps and greenery is formed at the southern facade of PC Panorama. This will 'cozy up' the plinth of the façade, forming a space for a larger group of people to rest, lie down and relax.

There is also the possibility left of maintaining façade signage, etc.



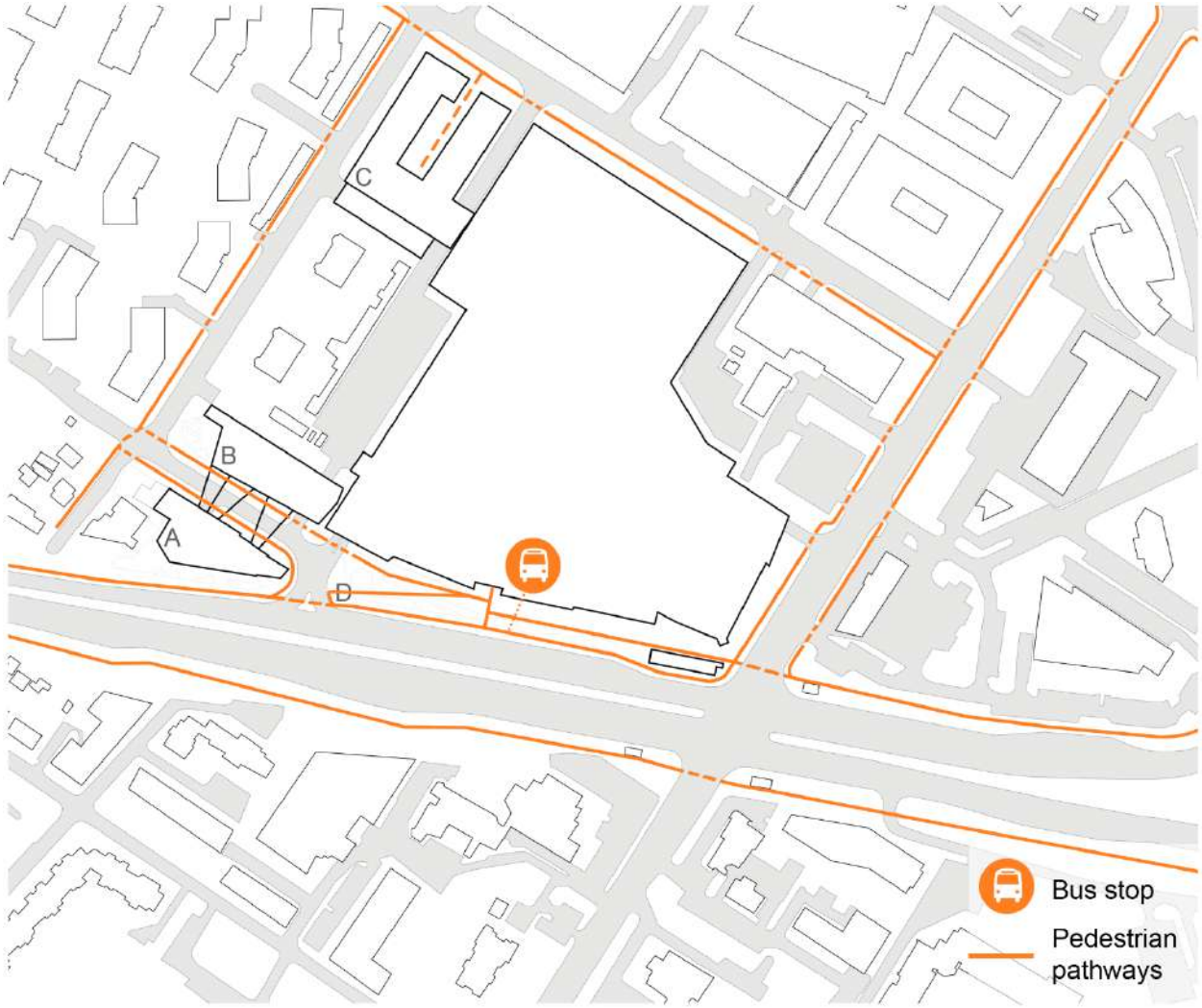
Examples of tree planting beds and integrated seating

Conceptual section of landscape in zone D

PEDESTRIAN FLOW SOLUTIONS

New and extension of existing convenient pedestrian directions are created from the main sides of the building. The commercial premises on the ground floors are easily and clearly accessible. Buildings A and B have canopies on the Stirnų Street side, clearly indicating where the main entrance to the building is for visitors.

Building C has its main entrance on Pieninės Street.



Scheme of pedestrian movement

CAR AND BICYCKLE TRAFFIC SOLUTIONS

SLC Panorama's two-story underground car park has 1,418 spaces. This is 702 spaces more than the required number. This means that we have a reserve for Buildings A, B and C. During the design process, it was decided that it was not economically viable to design an underground car park in Building A, as the number of parking spaces is too small to recoup the high cost of underground construction due to various restrictions. On the ground floor, a 27-space car park has been designed for VIPs and disabled guests.

Building A has a main floor area of 3379 m². 135 parking spaces are required in accordance with Building Regulations. Building A has a 27-space surface car park, which means that the remaining 108 spaces will be located in the SLC Panorama car park.

Building B has an underground parking area of 42 spaces, the shape of which has been restricted by the root protection zone of the protected tree and the requirements of the Detailed Plan. No parking spaces at street level are provided at Building B.

Building B has a main floor area of 6534 m². 261 parking spaces are required in accordance with Building Regulation. An underground parking lot of 42 spaces is designed. This means that the remaining 219 will be located in the SLC Panorama car park.

Building A has a total floor area of 4260 m². According to the requirements of Building Regulations, 17 bicycle parking spaces are required. Storage for them is provided on the ground floor of the building near the car park.

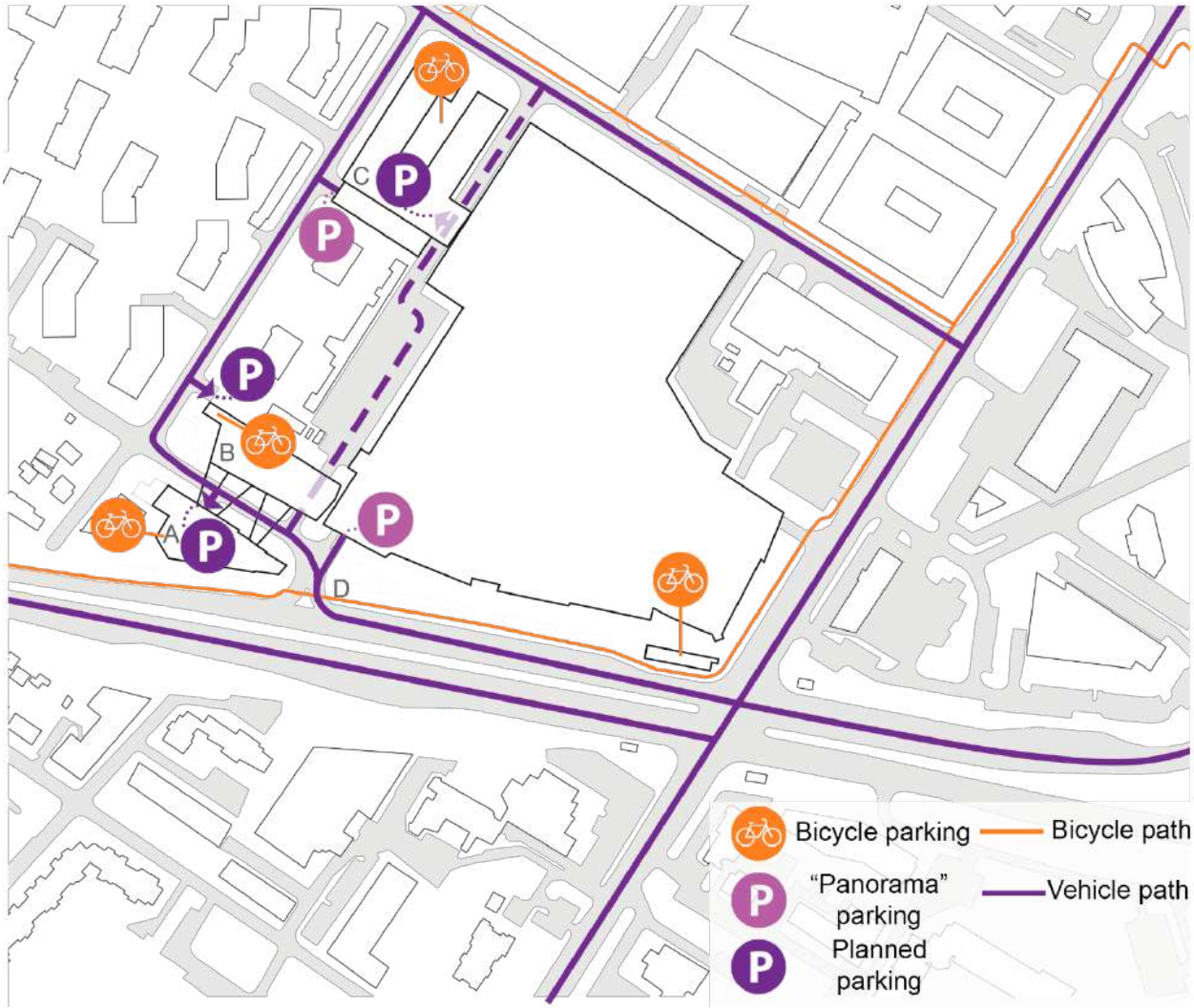
Building B has a total floor area of 7793 m². 31 bicycle parking spaces are required. Enclosed lightweight storage for bicycles is provided in the western part of Zone B, at the ramp to the underground car park.

A bicycle track is designed parallel to T. Narbutas Street, and an extended bus stop is planned. From T. Narbutas Street at the entrance to Stirnų Street, it is proposed to provide two wider crossings for pedestrians and cyclists

The entrance to the SLC Panorama back yard on the eastern side of Building "B" shall be retained and a passage shall be formed. Service vehicles will access Building B via the passage. Room for waste containers is also to be provided in the inner courtyard. The location of the waste containers for Building A is provided at the south-west corner of the site, at the junction of Stumbrų and Stirnų Street.

The underground car park of Building C is accessible from Pieninės Street. Access to the proposed underground car park shall utilize the existing access to the backyard by means of ramps between the underground floors. The total area of the parking areas over two floors is 5623 m², the total number of parking spaces is 160 units. The second floor of the underground car park (-2) is connected with the existing car park of SLC Panorama. Both floors of the underground car park have a bicycle storage area of 58 m² each (Total over 2 floors – 116 m²). In addition, 8 parking spaces are provided outside, next to the formed access to the back yard and the access to the underground parking. A total of 168 parking spaces shall be provided at Building C.

In the active part of Zone D, at the proposed extended volume of the pedestrian crossing, ~30 parking spaces for scooters and bicycles are planned. This will allow for a short stop and visit either the roof/terrace or an outdoor event taking place in the Active Zone at the time.



Scheme of bicycle and car traffic

MATERIALS USED THROUGHOUT THE SITE

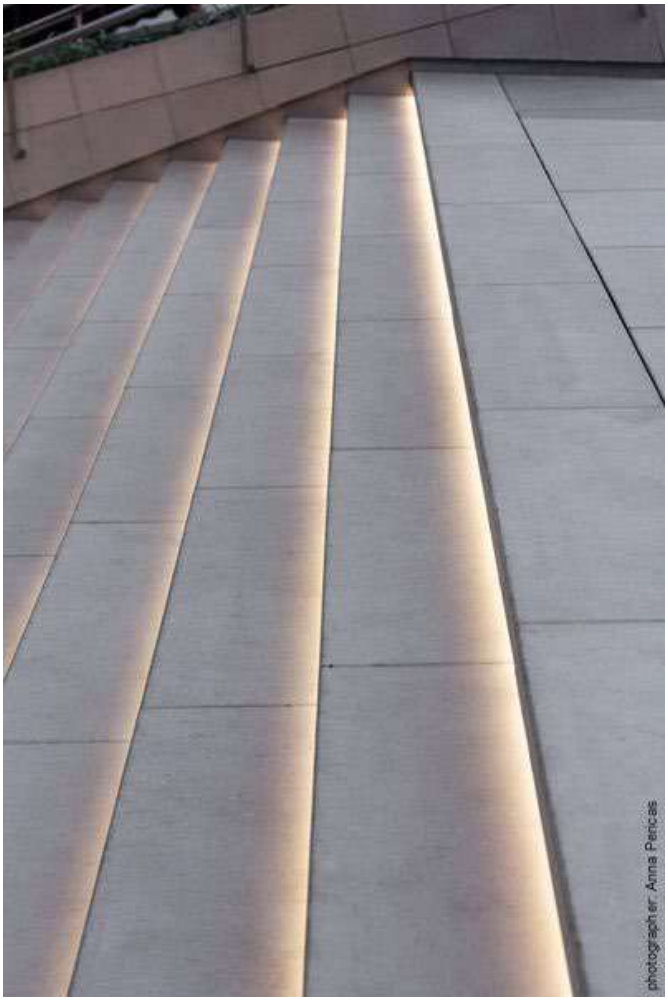
The proposed office district uses several types of pavements, repeating in materiality and sizing, and adapting the pattern to the architecture of the buildings. The main use is of large-size concrete slabs 750 x 375 mm (equivalent to Hansa 8 Mega, Quartz, Silver and Lava colors).

Different color and direction of placement of the slabs, separating pedestrian flows and quiet areas. Special tactile tiles are used to indicate the direction for movement needs of people with disabilities.

Precast concrete stair treads are proposed for the outdoor staircases throughout the site (with integrated Led concealed lighting in the treads). The amphitheater shall be constructed using precast concrete segments with solid wood seating.

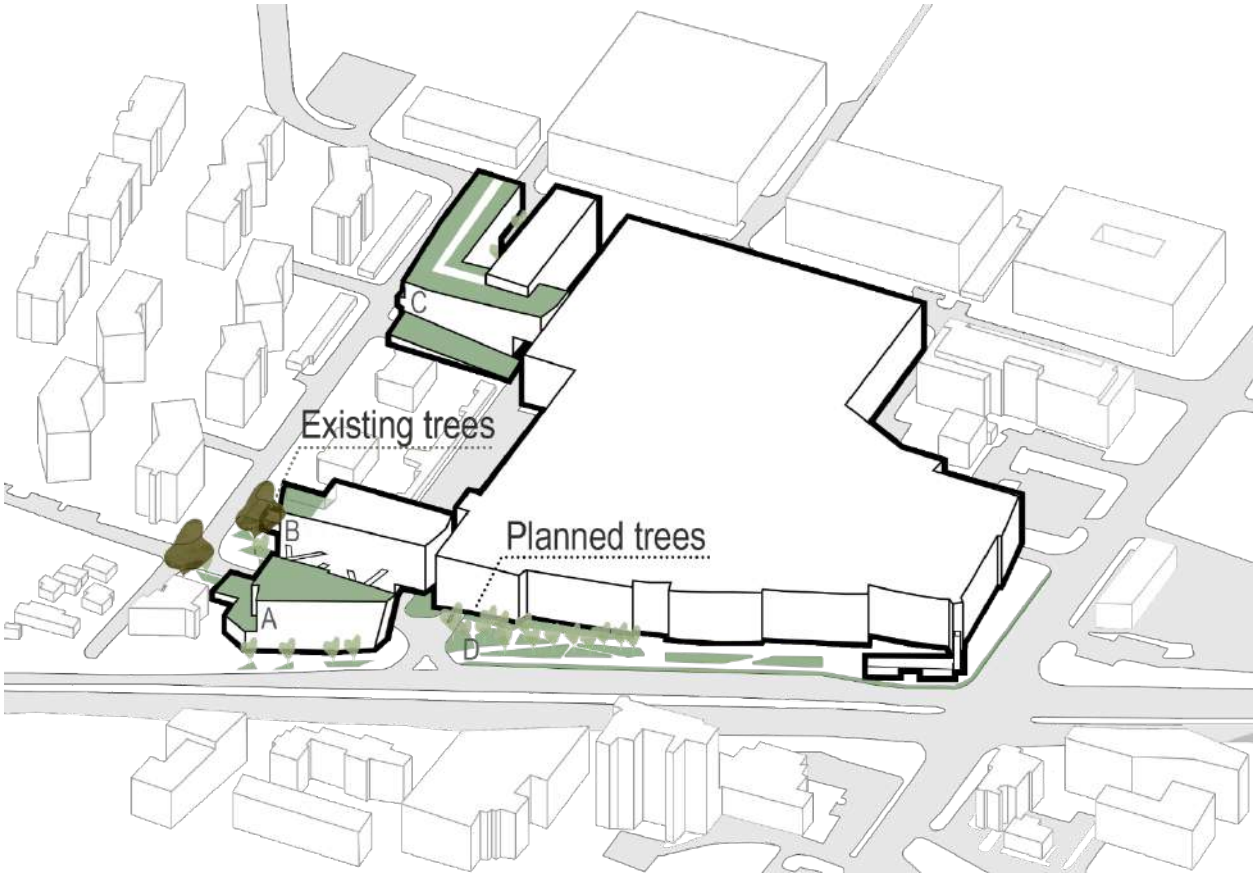
The concrete products used throughout are bevel-free, particularly suitable for bicycles, roller skates, playgrounds, and do not obstruct the movement of pushchairs, shopping trolleys, and do not cause additional noise when moving over the pavement.

Hansa 8 Mega tiles



Example of outdoor stairs with integrated lights

PLANTING



Scheme of greenery in the site

Currently, the site has an area of ~53038.0m², with ~1500.0m² of existing vegetation. According to the regulations of the current Detailed Plan, the proportion of plants and green areas must be ≥20%, i.e. ~10607.6m².

In order to meet the requirements of the regulations and to create islands of greenery in an intensively urbanized area, all building plots shall be planted as much as possible at ground level, as well as on the terraces on the intermediate floors of the buildings and on the roofs of these buildings. In addition, due to the intensive and complex design brief, which does not allow to achieve the desired planting requirements in the zones of the new buildings, it is proposed to plant the roof of the existing SLC Panorama shopping center. Options include natural, undemanding planting (e.g. with sedum), or by creating access for visitors to the roof, and by creating areas of natural grassland and beehive 'towns'. As the SLC Panorama building is not part of the brief, we do not provide solutions for this project.

The project achieves green areas in individual buildings:

Building Zone A – 1260 m² of green space, 13 trees.

Building Zone B – 800 m² total green space, 6 trees.

Building Zone C - total 2790 m² of planting, 9 trees.

Site D – 740 m² total planting, 15 trees.

To prevent potential problems with the removal of protected trees, healthy trees in good condition on the site are retained. While this reduces the amount of developable area, it avoids any future

difficulties in the coordination of the project. The mature and healthy tree (PK12) on Building Plot A shall be retained. The healthy tree (MA4) on Building B shall be retained. Only trees in poor condition (Caucasian Plum, 4 Western Thuja) and Unsatisfactory condition (Sycamore, Sycamore, 2 apple trees and a Western Thuja) and 2 invasive Ash trees shall be removed, as assessed by the arborist.

There are no existing trees in Building C.

There are no existing trees on Lot D.

The concept of planting new trees and smaller plants shall have repetition and continuity throughout the site, and the heights, flowering times, colors of flowers and foliage shall be coordinated with those of the pavements and facades to create a cohesive and welcoming whole.

Zone D creates two landscaping moods: the Active Zone, in the eastern part, is based on the concept of a natural meadow. To this end, two large green areas are formed, where it is proposed to sow mixtures of natural, typical of Lithuanian meadows, annual flowering flowers, foliage, and herbs, which would not require special care and would self-seed annually. In addition, the meadow-type planting would not obstruct the advertising areas of the main facades of SLC Panorama.

Rowan tree

The quiet-western zone, divided into smaller planting islands and planted with trees. In order to create islands of privacy and distance from T. Narbutas Street, the planting islands are raised to a height of 100cm. High planting beds and retaining walls (Corten metal) are formed with different angles of inclination, creating an interesting labyrinth of pedestrian paths and helping to form private seating and resting areas. It is proposed to plant 15 pcs of rowan tree (*lat. Sorbus aucuparia*), whose height would not overshadow the SLC Panorama advertising areas, but would create a perfect shelter at pedestrian level and would be colored in autumn with a distinctive deep yellow-orange color.

Under the trees undergrowth planting is proposed, for example phlox, stonecrop sedum, creeping juniper, etc.

Carpet" like plants with cascading blooming plant insertions (e.g. Aubretes, Thyme, Japanese forest grass, Juniper, etc.) are proposed for the amphitheater's quiet zone.

Stonecrop sedum roof

Aubrieta

Japanese forest grass

The same theme of greenery is continued in the surroundings of Buildings A and B for visual coherence. It is proposed to form an avenue on both sides of Stirnų Street with 11 Monument Oaks (lat. *Quercus* 'Monument'), and to replace the trees that will be removed near Narbut Street with 8 pcs. of Rowan trees.

Separate 'raised' planting islands are also created, with carpet-type planting similar to Zone D. On the intermediate terrace of Building A, planting areas of different heights are being formed, neatly shaped 'beds' are being created, and arrays of herbaceous plants (mint, chamomile, sage, rosemary, etc.) are proposed. The roof of Building A shall be planted with low-maintenance Stonecrop Sedum plants.

The environment of Building C responds to the overall landscape concept of Pangaea project. The entrance to the back yard and the new underground car park is softened by the creation of additional side stops and the planting of 6 oak trees.

The existing covered ramp to the underground SLC Panorama site (next to zone C) is to be redone to form an amphitheater-type space of planting and seating areas. Various flowering plants (daisies, cornflowers, veronicas, etc.) and cascading plants (e.g. Aubretes, Thyme, Japanese forest grass, Juniper, etc.) are proposed. The inner courtyard of the building C, in the main entrance area, is covered with diagonal pergolas to create planting arrays and planting of three oak trees. The entire roof of Building C is also being planted, and in the lower part of the building in use it is proposed to combine areas of annual wildflower meadow plants, mixed with masses of hedges.

LIGHTING SOLUTIONS

The area is proposed to be illuminated in different scenarios. The lighting is thus divided into several groups: 1. Decorative lighting of the green groups (ground-mounted, non-glare luminaires) 2. Functional lighting of the pathways (ground-mounted or low, wide-beam luminaires) 3. Exclusive accents (high dominant luminaires with interesting shapes, LED strips on the facades) 4. Hidden decorative LED strip lighting on the staircase steps and in the amphitheater.

Attention is also paid to energy saving by installing modern energy-saving lighting controls that react according to light demand, time of day and season.

OTHER EQUIPMENT ON THE PLOT

Small architectural elements also contribute to the overall aesthetic character of the neighborhood. There are prefabricated modular concrete benches with wooden seats, as well as Corten metal flowerbeds with wooden seats. Metal scooter and bicycle stands, painted black metal, are designed. Also, for sorting outdoor bins, tree root protection grilles, outdoor flower beds, etc. The aim is to use natural materials of high quality throughout the site, as well as products of similar design.

GREEN/SUSTAINABLE SOLUTIONS

An outdoor swimming pool in Zone D would also serve as a reservoir for rainwater harvesting. Water and humidity in the public space have a positive effect on the environment and the microclimate, reducing the heat effect. It is proposed to use part of the rainwater collected from the roofs of the proposed buildings for the maintenance of plants.

UNIVERSAL DESIGN SOLUTIONS

All buildings in the complex are accessible to people with disabilities. The whole area is accessible - public spaces, passages, paths, driveways, yards, recreational areas. Special paving tiles adapted for people with disabilities are also used for outdoor surfaces. All walkways in Zone D shall be designed with a maximum gradient of 5%, and sloping tops/ramps shall be provided at the southern entrance to SLC Panorama with a maximum gradient of 1:12.

The proposals comply with the requirements of the legislation of the Republic of Lithuania. The car parks shall provide the necessary number of parking spaces for disabled persons.

FUNCTIONAL PLANNING OF BUILDINGS

BUILDING A

Due to the maple tree root protection zone and the limitations of the heating network sanitary zone, it was impractical to design an underground car park in Building A and this idea was abandoned. Instead, the ground floor car park is redesigned and extended, partly under the building and partly outside. The car park is open air. Due to its small capacity, the car park is intended for VIP clients and for the needs of the people with disabilities. On the ground floor, a lockable bicycle storage room is being designed. Office visitors are encouraged to use bicycles and scooters, and as an alternative, additional spaces in the SLC Panorama underground car park will meet the parking needs of Building A.

Building A greets visitors from the intersection of Narbutas and Stirnų Streets with a dramatic sloping façade and an atrium designed across all floors of the building, with an impressive chandelier visible from a distance.

Building A, in accordance with the specifications of the Detailed Plan, is in two parts: a main volume of 6 stogeys and a 2-storey 'tail' in the zone where the development cannot exceed 2 stogeys high. The so-called "tail" is ideal for generating additional rentable space on the 2nd floor, and allows for a large private roof terrace. The terrace is intended for office workers. It includes flowerbeds, dining areas for larger and smaller groups, and an open pergola. On the ground floor there is an impressive and representative reception area with space over all floors, as well as several commercial spaces with direct access to Narbutas Street. On floors 2-6 there are offices of 150-300 m² each.

BUILDING B

In order to maximize the use of space and leasable area, Building B adjoins the existing volume of SLC Panorama on the eastern façade, but maintains sufficient distance, allowing daylight to reach the windows of the SLC Panorama offices on the third floor. On floors 1-2, the existing entrance to the back yard of the SLC Panorama is retained, forming a passage.

The retention of a tree (MA4) in good condition is sought on Plot B of the building. The root protection zone of this tree has been taken into account in the design and the underground car park and ground floor have been planned accordingly. As a result, a natural square has been created in front of the building on the Stumbrų Street side, with the existing tree being protected and the new tree groups planted.

The ground floor of the building B provides for a reception area with space over two floors. On the Stirnų Street side there are commercial spaces with direct access. There is an excellent location for a restaurant with direct access to the square on the Stumbrų Street side. On the ground floor, there are also conference rooms of various sizes for rent, which can be used by both the tenants of the building B and other residents of the district.

The lightweight bicycle storage is designed on the Stumbrų Street side, next to the entrance to the underground car park. The underground parking area provides 42 spaces. 150-300 m² of offices are designed on floors 2-7. On the 7th floor, due to the limitations of the Detailed Plan regulations, the building is “bitten” - it serves perfectly as an open terrace for office workers.

BUILDING C

The building is divided into two parts. One (large) part is designed as administrative (office) space and the other part as co-living space and rooms to rent. The parts of the building are separated, but are connected through a common ground floor and a common wall on all floors.

The L-shaped 6-storey office building has two lift lobbies giving access to the floors of the building and to the underground car park. On the ground floor, a café-restaurant (over two floors), conference rooms, a sports club, common public spaces and commercial retail space are planned.

The office space on the floors can be subdivided into different sizes of leasable space of 475-1120 m2. Outdoor terraces and a landscaped roof are available to employees and visitors of the projected building.

The lower part of the 7-storey building has one common lobby with lifts and staircases on all floors. On the upper floors, "co-living" rooms of different sizes are formed - 1 room (approx. 32 m²), 2 rooms (approx. 43 m²), 3 rooms (approx. 55 m²) and some 4 rooms (approx. 80 m²). The layout of the rooms can be changed and improved according to the Customer's requirements.

MOVEMENT OF EMPLOYEES, VISITORS, RESIDENTS

Employees and visitors can access the office complex very conveniently and cheaply by public transport. There is a public transport stop right next to Buildings A and B on T. Narbuto Street. Employees and visitors access Buildings A and B from Stirnų Street. All commercial premises have direct entrances on the street side.

Building C has a courtyard accessed from Pieninės Street. From the courtyard there are three separate entrances to three separate lobbies with vertical connections (lifts, staircases) to the leased premises. On the ground floor there are commercial premises with their own separate entrances from outside. The ground floor premises (sports club, cafeterias, conference center) are combined into a common space and used by both the building and the city's customers. The shared use includes landscaped roofs and outdoor terraces (above the ramps to SLC Panorama underground car parks).

MATERIALITY

BUILDING A AND BUILDING B

In order to create an aesthetic unity with the existing SLC Panorama building, the nearest designed Buildings A and B replicate the color palette of the SLC Panorama facades, but with different materials. Green copper becomes green tinted glass and yellow and orange ceramic panels become matt gold ALUCOBOND panels. The result is iconic architecture that will last, represented by the bold choice of materials and the quality of the architecture.

BUILDING C

The facades of the building are aluminum structures (transparent parts - triple glazing units, opaque parts - enameled glazing units) with decorative vertical slats. The façade systems are to be fitted with wooden or imitation wood roller blinds with automatic solar control. The plinth shall use exposed concrete surfaces, using prefabricated factory-made products as much as possible. The chosen façade solution would visually relate to the surrounding development and aesthetics of the office buildings in Pieninės Street.

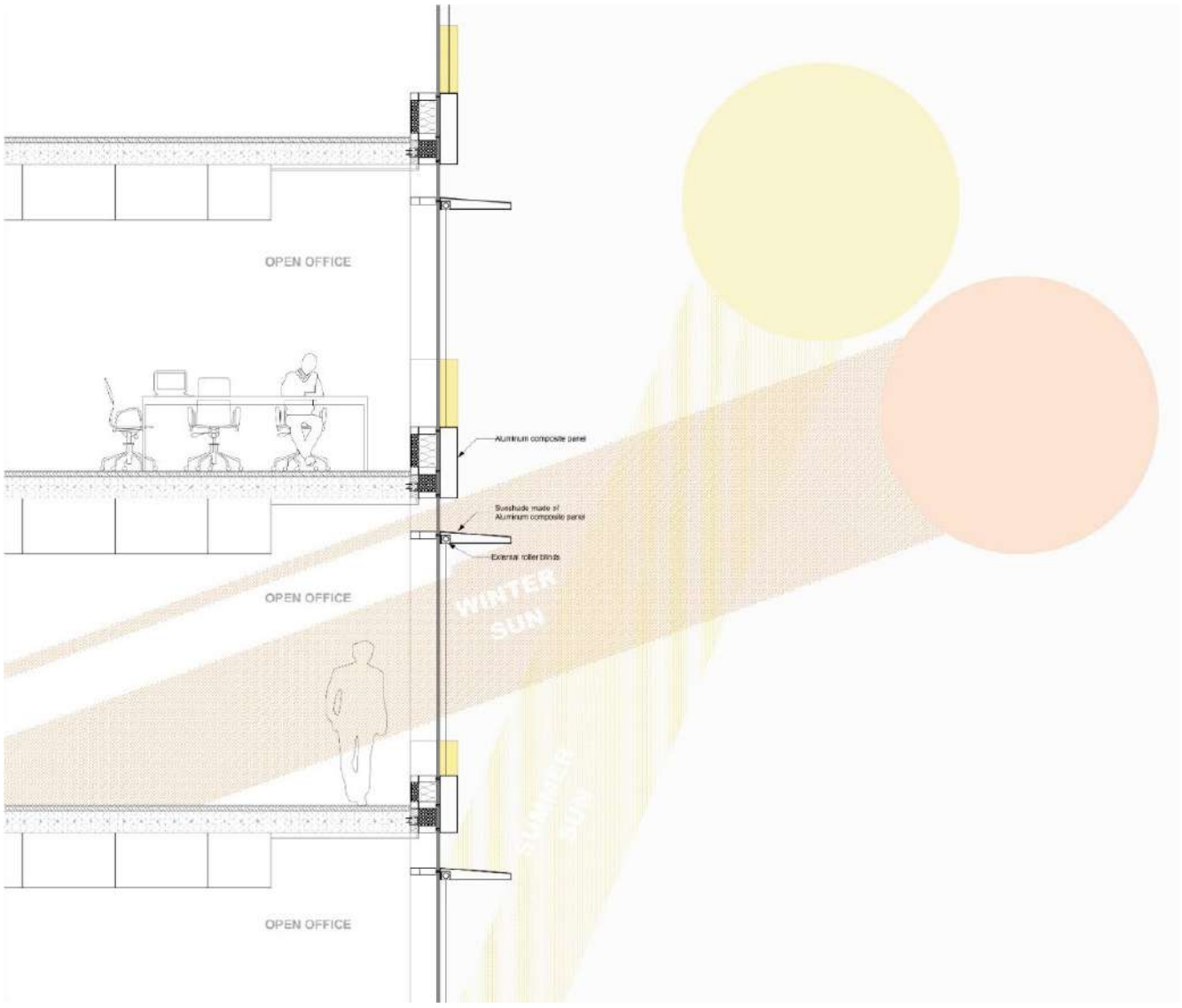
The adjacent transformer station is being reconstructed and the roof of the building is to be broken pitched. For the façades of the transformer station, we propose to use mirror materials (glass or stainless metal panels) to accentuate the sculptural character of the building and the artistic image of the 'sign'.

CONCEPTUAL ENGINEERING SOLUTIONS

Sculptural shape of buildings that helps to create compact building envelope together with rational layout of the buildings are the main components which contribute to energy savings.

Where possible – sun panels are placed on the roofs, as well as rain water tanks. Water collected shall be used for watering plants on the terraces and ground level as well as flushing the toilets.

Smart sun shading system is integrated into the envelopes of Buildings A, B and C. Motorized roller blinds are provided in the cavity of sun shading roof and are automatically deployed to deal with the high solar loads in warm weather but retracted in cool weather to capture beneficial solar heat.



Façade detail of buildings A and B

STRUCTURAL SOLUTIONS

Taking into account the architectural aspects, the economic indicators of the construction and in order to ensure the essential requirements of the building, i.e. mechanical durability and stability, a monolithic reinforced concrete frame is designed. The building frame consists of columns, walls, slabs and slab-on-grade, staircase and lift shaft walls. In the office areas, the choice of right dimensions between columns allows for free space planning according to the client's needs. Stair treads and intermediate landings in precast reinforced concrete.

The roofs of the building are flat - in use, with terraces in some areas and solar panels and rainwater tanks in others.

The external walls are glazed façade systems with decorative ALUCOBOND strips on each floor. For sun protection, a sun canopy is installed which has integrated smart roller shutters. For noise protection, there are double-glazed windows.

ENGINEERING SOLUTIONS

Roofs that are not used for terraces are used to put solar panels on. These could cover the lighting needs of the building and the site. Smart roller shutters are provided to ensure that buildings do not overheat in the summer, but get enough sun and heat in the winter. Centralized heat recovery systems for ventilation of individual buildings, with indoor CO2 sensors - variable air volume is supplied exactly as required. This reduces energy consumption for ventilation by up to ~30%. The ventilation units are equipped with rotary recuperators with a heat recovery efficiency of over 85%. The buildings are equipped with central heating nodes and connections to the city's main networks.

FIRE SAFETY

Buildings A, B and C are approached on three sides. Building B has a passage under the building with a height sufficient (more than 4,5 m) to allow a fire engine to pass into the back yard.

The safety of people on the escape routes is ensured by means of planning, ergonomics and design, engineering, technical and organizational measures. Escape routes in the designed buildings shall ensure the safe evacuation of people from the premises. The determination of escape routes protection shall be provided for the safe evacuation of people, taking into account the purpose of the premises exiting the escape route, the number of persons to be evacuated, the degree of fire resistance of the building, the fire hazard class of the structure and the number of means of escape from the storey and the building. These plans will be detailed in the following design phases.

COMPLIANCE WITH UNIVERSAL DESIGN

The ground floors of the buildings are designed to be accessible to people with disabilities, without stairs and overfalls. Throughout the complex, outdoor walkways and pavements are provided to the building so that access to the buildings and commercial spaces from the street is free of obstacles (stairs, ramps) with minimal gradients.

All people have access to all floors of the building. Bathrooms are designed on each floor. Accessible bathrooms are designed for people with disabilities.

PHASING OF CONSTRUCTION

Every designed building A, B and C, as well as landscape zone D, can be built separately and independently at any time.

GENERAL PLOT AND BUILDING INFORMATON

- *Plot area (unique No 4400-5087-0249), comprising the existing buildings and structures and the proposed buildings "A", "B", "C" and the part of the competition area (plot) "D", area ~ 53038,00 m2*
- *Intensity of development of the plot (UI) 2,2*
- *Density of development of the plot (UT) 74%*

BUILDING A

- *Gross floor area - 4360 m^2*

Functional areas:

- *Offices - 3300 m^2*
- *Commercial - 175 m^2*
- *Auxiliary area - 880 m^2*
- *Gross underground floor areas (technical facilities) - 90 m^2*
- *Total surface area for on surface parking - 725 m^2*
- *Volume of building (over ground) - 20100 m^3*
- *Volume of building (underground) - 460 m^3*
- *Number of floors - 6*
- *Height of the building - 22,95 m*

BUILDING B

- *Gross floor area - 7800 m^2*

Functional areas:

- *Offices - 6120 m^2*
- *Commercial - 430 m^2*
- *Auxiliary area - 1250 m^2*
- *Gross underground floor areas (technical facilities and parking) – 1470 m^2*
- *Volume of building (over ground) - 29590 m^3*
- *Volume of building (underground) - 5120 m^3*
- *Number of floors - 7*
- *Height of the building – 27,30 m*

BUILDING C

- *Gross floor area – 14420 m^2*

Functional areas:

- *Offices – 8760 m^2*
- *Commercial - 630 m^2*
- *Auxiliary area - 740 m^2*
- *Co-Living 4290 m^2*
- *Gross underground floor areas (parking & technical facilities) - 5240 m^2*
- *Volume of building (over ground) - 48200 m^3*
- *Volume of building (underground) - 15300 m^3*
- *Number of floors – 6-7 m*
- *Height of the building – 26,90 m*

PLOT D

- *Total area of plot D ~4836,00 m^2 of which:*
- *1. Active zone ~ 2700 m^2*
- *2. Quiet zone ~ 1780 m^2*
- *3. Central axis on the southern entrance of T. Narbutas Street ~ 400*
- *The project achieves green areas in individual buildings as follows:*
- *Building Zone A - 1260m^2 of green space, 13 trees.*
- *Building Zone B - 800m^2 total green space, 6 trees.*
- *Building Zone C - total 2790.0m^2 of planting, 9 trees.*
- *Site D - 740.0m^2 total planting, 15 trees.*

ESTIMATED COSTS FOR THE IMPLEMENTATION (CONSTRUCTION) OF THE PROJECT IDEA

CALCULATION METHODOLOGY

The estimated cost of implementing the project has been calculated on the basis of the calculator offered by the "bigmates" e-services.

The volumes of the planned buildings and the proposed building cost adjustment factors were used for the calculations.

ESTIMATED COST OF PROJECT IMPLEMENTATION				
Parameters:				
Building volume, m3	20560	34710	63470	4836
Construction type, object	**New construction. Object A**	**New construction. Object B**	**New construction. Object C**	**Reconstruction. Object D**
Construction cost without PVM, Eur/kub.m	**207.45 €**	**207.45 €**	**207.45 €**	**40.00 €**
Building cost correction indicators:				
Repeated structural elements will be used	1.00	1.00	0.95	1.00
Increased quality requirements for finishes, floor coverings and equipment	1.05	1.00	1.00	1.00
Special conditions will be provided for the execution of the construction works due to the geological features of the site, existing infrastructure, increased site costs for	1.00	1.05	1.15	1.00
Specific technical and quality requirements will be provided for construction and installation	1.10	1.10	1.10	1.00
Final construction price without PVM, Eur/kub.m after assessment of correction indicators	239.60 €	239.60 €	249.30 €	40.00 €
Final construction price Eur. Without PVM.	**4,926,274 €**	**8,316,681 €**	**15,823,264 €**	**193,440 €**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