

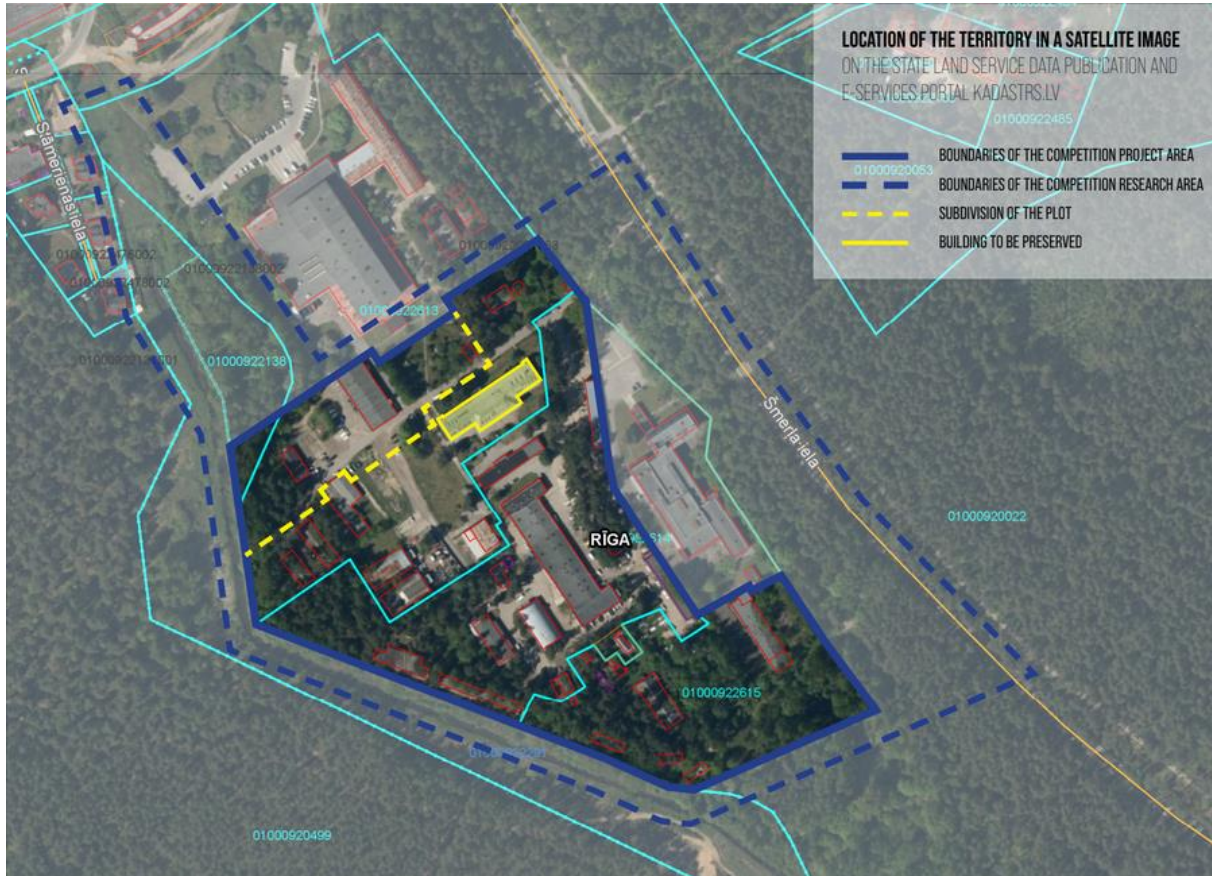
INTERNATIONAL IDEA COMPETITION
“CONCEPT OF THE TERRITORY DEVELOPMENT IN ŠMERLIS”

(RIGA, ŠMERĻA STREET 3-K3, ŠMERĻA STREET 5 AND ŠMERĻA STREET 17)

DESIGNING PROGRAM

1 INTRODUCTION

The Competition area is located in Riga, Šmerļa Street 3, 5, and 17 (land plots with cadastral No. 01000922613, 01000922614, 01000922615.) between the area of Mežciems, Teika, and Jugla, as well as between Šmerlis and Biķernieki forests. The competition area is separated from Biķernieku forest by the river Šmerļupīte. The competition site borders on the territory of the Riga Film Studio.



Competition project and study area

2 COMPETITION PROJECT, SUBJECT AND AIM

Competition project – territory in Šmerļa Street 3, 5 un 17 with a total space of 75 449 m².

Competition subject – development concept of the site 3, 5, and 17 Šmerļa Street, as well as the division of the territory into development stages. The best proposal obtained in the competition will be taken as a basis for developing the functional zoning and division of the Competition territory in stages, the organization of transport flows and guidelines for prospective site development, and the creation of public outdoor space.

The target of the Competition is to create an area site plan, which will be used in further design processes by architects whose tasks will be determined by specific locations of buildings and architectural design in stages (the development of the territory will be divided into 5 to 7 stages), offering different types of houses in various sizes and price categories.

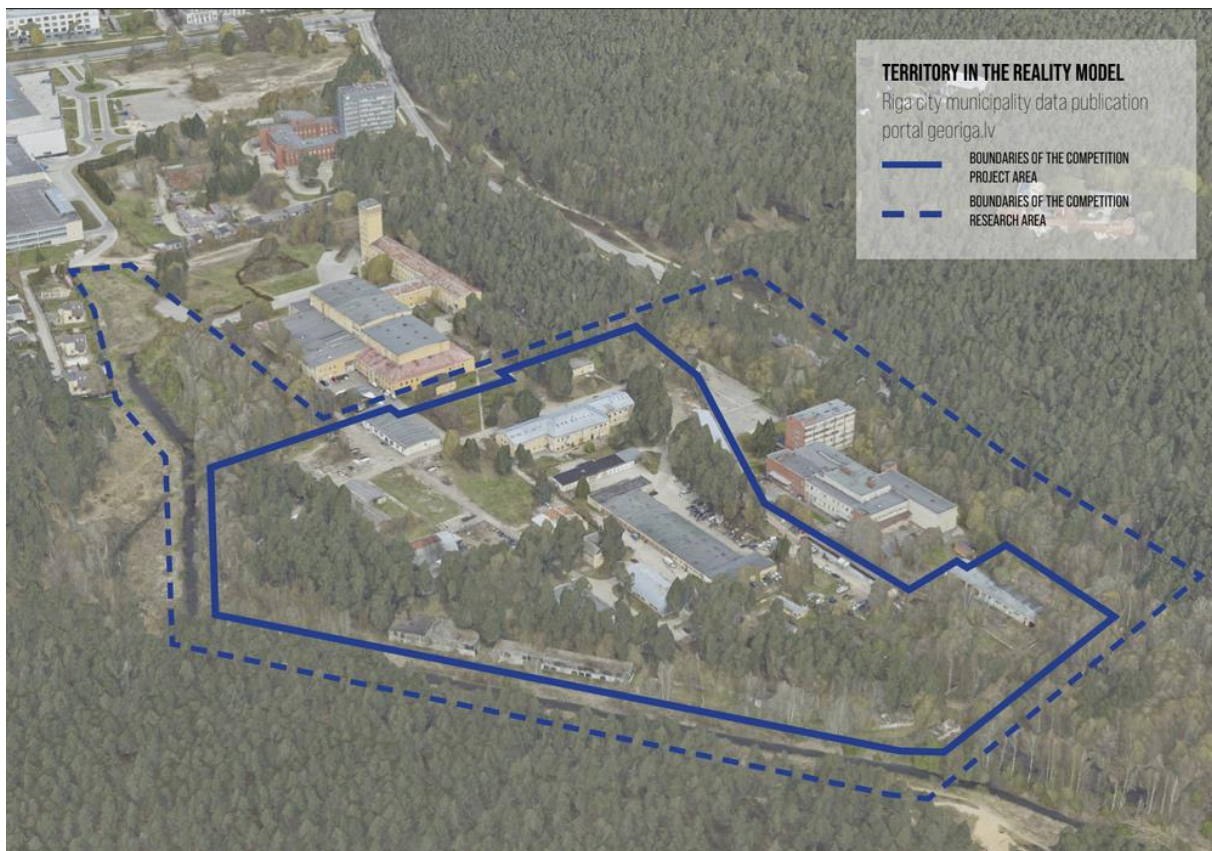
Competition purpose – is to find the best urban and architectural concept of the Idea Competition, which will be the basis for the future architectural design process and its realization in separate and more detailed competitions.

Competition task – to create the most desirable environment for people belonging to different generations, income groups, or cultural backgrounds: including seniors, young people, young families with children, childless families, couples of any age, single people, business people, cultural employees, artists, etc. It is planned that rental housing in this area will comprise approximately 10 to 20 percent of residential buildings.

3 COMPETITION PROJECT AND STUDY AREA

The Competition project territory is located in Šmerļa Street 3, 5 un 17 – cadastral No. 01000922613, 01000922614, 01000922615.

The Competition study area includes Šmerļa Street and the river Šmerļupīte, part of the Riga Film Studio territory to the shopping center Acropole Alfa.



Boundaries of the Competition object and study area in the reality model

4 COMMISSIONER

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5 CURRENT SITUATION OF THE COMPETITION PROJECT AND STUDY AREA, EXISTING FACILITIES

The Competition project and the study area are located in the eastern part of Riga, in the vicinity of Mežciems and the Vidzeme suburb. Most of Mežciems area (62.7%) belongs to the nature and green area. The territory of the neighborhood includes the entire area of Biķernieki forest, a part of which is also Šmerlis forest. There are dunes in the central part of the Biķernieku forest, covering an area of about 3 km². The relative height of the highest dunes is

8-12 meters, while the absolute height above sea level is 19–22 meters. The Competition project and study area has a border with Šmerļa Street in the East and includes the river Šmerļupīte in the West.

Next to the Competition objects are the pavilions of the Riga Film Studio. Riga Film Studio has a remarkable creative history – it is the oldest in Latvia and one of the first film studios in Northern Europe. It has been operating since 1961 in its current premises – Šmerļa Street 3. Similar to the Soviet time, when the Riga Film Studio was the main technical base for film production, even today it has the technical equipment and appropriate facilities for the production of various films, broadcasts, advertisements, and other audiovisual projects. Filming pavilions and a wide collection of costumes and props remain at the disposal of the film studio.



Riga Film Studio, J. Sedols foto

The Competition study area extends in the North-West to the shopping center Acropole Alfa, located at Brīvības gatve. On the opposite side of Brīvības gatve is located the Latvian Academy of Sports Education (Brīvības gatve 333).

The name Šmerlis comes from the former Šmerlis manor, once located near the current Latvian Academy of Sports Education. The history of the manor began in 1769, when the homestead land of the farmer Baļķis Toms was separated from the Šmerlis manor, and Small Šmerlis – a small manor with a pub - was built on it. This manor house was bought by the Riga landlord Šics, his family owned it until 1828.

6 BINDING REGULATIONS OF COMPETITION PROJECT AND STUDY AREA

The Competition project and study area, under the Territorial Use and Construction Regulations of the Riga Territorial Planning (https://www.rdpad.lv/wp-content/uploads/2023/03/TIAN_20230316_1625.pdf) are located in the Mixed-built-up area of the center (JC2), which is the functional zone defined as the territory planned for a broad spectrum of mixed-use or that is used or can be developed as a neighborhood center. In these territories, the quality of the urban environment necessary for housing and public functions is primarily ensured.

6.1 JC2 territory can be mainly used

(excerpt from Territory Use and Development Regulations) for:

- Construction of row houses/townhouses (11005),
- Construction of apartment buildings (11006),
- Construction of trade or service facilities (12002),
- Well-improved outdoor space (24001).

Additional use of JC2 territory:

- transport service infrastructure (14003): parking lots and terminals, if the land unit has access (direct connection) to a C or D-category street or a B-category street local traffic lane. Motor vehicles' maintenance facilities, parking lots, and terminals can be built only by conducting a public discussion of the development plan and placing the facility no closer than 25 m from an existing residential building.



Functional zoning of the Competition object and study area

- JC2 construction parameters:

Type of use of the territory	Development intensity (%)	Building height (number of floors)	Minimal free area indicator (%)
Townhouses/row houses*	up to 220	up to 3	40
Apartment buildings*	up to 220	up to 6	40
Service facilities*	up to 220	up to 6	10
Well-improved outdoor space*		6 m	
Transport service infrastructure*	up to 280	up to 6	10

*Conditions for the area of the minimum plot to be newly created are marked with **

Calculation of development parameters

Building intensity is the ratio of the sum of the above-ground floor area of all buildings to the area of the land unit in the relevant functional area. It is calculated as a percentage using the following formula:

$$I = \frac{S}{Z} \times 100 \%, \text{ where}$$

- I – building intensity (as a percentage);
- S – the sum of the above-ground floor area of all buildings (m²);
- Z – area of the land unit in the relevant functional area (m²).

The free green area is the undeveloped area of a land unit and is calculated using the following formula:

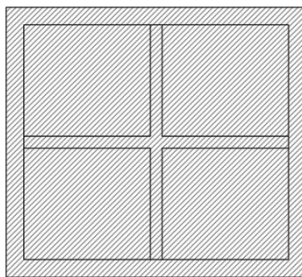
$$B = (Z - L1 - L2 - L3), \text{ where}$$

- B – free green area (m²);
- Z – an area of land unit (m²);
- L1 – the sum of the construction areas of all buildings (m²);
- L2 – the area occupied by driveways (m²);
- L3 – the area occupied by parking lots (m²).

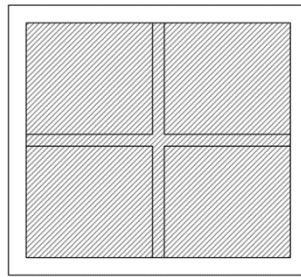
The free green territory is characterized by an indicator of free green territory. It is determined as a percentage of the ratio of the free green area to the sum of all built-up areas and is calculated using the following formula:

$$b = \frac{B}{Z} \times 100 \%, \text{ kur}$$

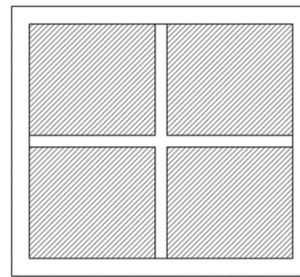
- b – free green area indicator (as a percentage);
- B – free green area (m²);
- Z – land unit area (m²).



Gross floor area (GFA) is the total floor area contained within the building measured to the external face of the external walls. GFA is used for the calculation of intensity



Gross internal area (bruto) (GIA)



Usable floor (neto) area (UFA)

6.2 CREATION OF LAND UNITS*

As a result of dividing, merging land units or rearranging their boundaries, a land unit may not be created, in which part free of restrictions (for example, a protective zone) a building cannot

be rationally located (a square with a side length of 9 m cannot be inserted), including a land unit whose street front is shorter than 9 m. This provision shall not apply to land units to which the perimeter building regulations are applicable, land units where terraced houses are built, land units whose street front has an access road (driveway) connected to the street, and land units where only open vehicle parking spaces, engineering supply networks, and structures are placed.

In vacant areas outside of urban planning monuments and protection areas, where the minimal area of a newly created land unit is strictly determined, in the land development project or detailed plan, designed for the division of land units, a deviation of up to 10% from the requirements set by Territory Use and Development Regulations may be provided regarding the minimal area of one newly created land unit.

When calculating the minimum area of a land unit, the territory between the red lines of the streets is excluded.

6.3 CONDITIONS FOR THE ORGANIZATION OF THE COURTYARDS FOR LARGE-SCALE RESIDENTIAL AREAS

- In the land unit not attached to a residential house and not bordering with the red lines of the streets, but to which access is ensured under the requirements of Territory Use and Development Regulations, the creation of greenery and well-organized recreation area and temporary use structures are allowed: parking space and a local trade or service object with a maximum built-up area up to 50 m², intended for the purchase or sale of goods directly to the consumer and the provision of household services.
- The following requirements are applied during the review process of the functionally necessary land unit for a residential house:
 - * when developing the area and boundary plan of the land unit functionally necessary for a residential house, should be observed the construction parameters set by Territory Use and Development Regulations, as well as ensured proportionality in terms of area and configuration between the functionally attached land units within the boundaries of one block and evaluated the possibilities of creating unattached land units as independent buildable land units;
 - * when developing the area and boundary plan of the land unit functionally necessary for a residential house, should be considered the possibility of providing areas for vehicle parking and the following landscaping elements – greenery, playgrounds, quiet recreation zones, and active recreation areas;
 - * the creation of intermediate plots is permissible if the intermediate plot is intended for the placement of shared infrastructure, including parking lots.

6.4 REQUIREMENTS FOR ACCESS TO LAND UNITS

A land unit may be created, developed, or used if:

- access is provided to the land unit. Access to the land unit is provided if the land unit borders a C (28.5 m wide), D (20 m wide), or E (12 m wide) category street or pedestrian street with limited transport movement – already created or determined by the plan, local plan, or detailed plan or development project;
- the land unit adjoins already built or determined by the development project or planning document a driveway connecting the land unit to a C, D, or E category street, local traffic lane, or pedestrian street with limited traffic;
- the land unit adjoins already built-up or determined by the development project or planning document B or C street local traffic lane which ensures access to the land unit.

When constructing a new street and rebuilding an existing one, except for B and C category streets, access to all land units bordered by the new street is ensured.

Newly constructed streets, driveways, and underpasses are connected to the category C or D roadway no closer than 50 m from the intersection, and the connection to the category E street – no closer than 20 m from the intersection.

Newly constructed streets, driveways, and underpasses are connected to the roadway no closer than 30 m from the public transport stop. In cases where it is possible to connect to streets of a different category, the connection is made to the street of the lowest category.

6.5 REQUIREMENTS FOR PROVIDING ENVIRONMENT ACCESSIBILITY IN PUBLIC OUTDOOR SPACE

- For designing the construction of streets and other public outdoor areas, special solutions for ensuring environmental accessibility are set:
- When designing sidewalks and pedestrian paths (paths in parks, squares, and other public outdoor areas), the following requirements are observed:
 - a) the minimum free space width of a newly constructed sidewalk longer than 25 m is 1.8 m;
 - c) the minimum sidewalk width is 1.5 m.

Landscaping elements are placed in a single lane outside the free space of the sidewalk. Functional or decorative environmental elements on sidewalks and pedestrian paths are placed in a single lane outside the free space, not to obstruct pedestrian movement routes. In the free space, it is allowed to place environmental elements fixed at a height of not less than 2.5 m from the pavement surface.

When designing stairs, ramps, and other elements to ensure the functions of the object, they are placed outside the sidewalks and pedestrian paths (both in the area between the red lines of the streets and outside them), except for cases where within the boundaries of the block there already are protruding elements in the area of the sidewalk or pedestrian path.

7 COMPETITION IDEA

Competition participants are invited to elaborate a concept of the Competition territory development. The main focus and priority of the concept must be the human being. The goal of the Competition project developers is to create the most desirable and most comfortably inhabited area in the city of Riga, with a convenient urban environment and interesting architecture, providing residents with a homelike atmosphere both indoors and in public outdoor spaces. There are no restrictions on architectural design and the forma language, the Competition project developers prefer a heterogeneous mixture of different stylistics and architectural solutions. According to the vision of the project developers, the territory as a whole will consist of smaller, idiosyncratic sub-zones that will complement each other and enrich the entire territory, where the future Šmerlis will be an attractive neighborhood for residents of different ages, cultures, origins, and income levels – for everyone who values an urban environment, which respects people first of all.

It is planned to create the Competition territory as a residential area, which will gain value over time due to its diverse stages of architectural development, which will form an exciting and holistic urban environment. Therefore, in the Idea Competition, first of all, should be offered the overall development concept of the territory with the organization of pedestrian, cyclist, and traffic flows, the creation of a scenic environment, considering the variations of different

buildings in the height – the architectural solutions for the next development stages will be developed later, by holding a sketch design competition for each particular stage separately.

The Competition territory development concept is based on people and their well-being. Pedestrians and cyclists are the priority when organizing the flow of the Competition territory, car traffic and public transport are of secondary importance. Since the goal of the project developers is to offer housing in various price categories, the majority of which would be available to the residents of Riga, closed vehicle parking spaces (underground parking) will be reserved for only 20–30% of residential buildings (i.e. only in 'premium' class buildings). A viable solution for car parking is on-street parking spaces, in specially designated areas, in addition to established parking lots and closed parking spaces for 'premium' buildings.

When developing the organization of the territory's flows, it is desirable that a free zone is created around the entire perimeter of the buildings and that the open parking lots are not located near the buildings, but a little further away from them, which will create a more private usable space between the buildings. Special attention should be paid to the maximum use of outdoor space along the perimeter of the building at the ground floor level, where there would be terraces that would ensure the optical fusion of the interior of the apartments and the green area surroundings.

A zone of approximately 5 to 10 meters around the buildings (excluding the area of commercial premises) can be reserved for semi-private use, i.e. only for the residents of the building. Outside this zone, the use of the territory must be provided for residents of the block and groups of buildings. The rest of the territory of the Competition object would serve as a common area.

When creating the public outdoor space of the territory, the surrounding environment should be respected and used as much as possible. From the apartment windows of any house, you should be able to look into the forest or at least the greenery of the public outdoor space, making the most of the beautiful views and creating a feeling of living in the environment of a natural landscape. Most of the apartments should have terraces, balconies, or roof terraces, so that residents in this area can be provided with such comfort as if they were living in the countryside, surrounded by the green environment.

One of the crucial aspects of the territory development is CONFIDENTIALITY. Compared to the inhabitants of Central Europe or many other nations, the inhabitants of Latvia value their privacy highly and prefer to spend time in private space – in their homes.

Competition task, planning guidelines

The total area of the Competition object territory is 75,449 m², which will be additionally increased with a promenade in the direction of the shopping center Acropole Alfa. The Competition territory consists of two separate properties – the boundaries of the 1st property remain unchanged, but the 2nd property would be divided into separate properties according to the Competition result, based on the proposed territory development concept.

The entire Competition territory should be divided into 5 to 7 stages, where the size of each stage is relatively similar.



Distribution of properties of the Competition territory

Each development stage should include different types of residential units, providing the end user with a variety of options such as family apartments, small apartments as well as premium housing.

The total building above-ground area (gross) of each development stage is approximately 12,000 to 16,000 m² or 150 to 200 residential units per development stage. To ensure the diversity and versatility of the Šmerlis residential area, each stage will be designed by a different architectural office, based on the best territorial zoning concept for the Competition territory development.

The integrity of the whole project, the possibility of construction works, as well as the creation of access roads, parking spaces, and landscaping, should be taken into account when planning the division of the Competition territory into stages.

Typology and quantity of residential units in the territory of the entire Competition territory

Type	Description	User profile	Parking lots	% of the total development area
Large family apartments	4 (5) rooms, 70–85 m ² + balcony; (if possible) first-floor apartments with a terrace and direct access to outdoor spaces; near the playground; bathroom with bathtub; good value for money	First home for young families who value and prefer separate space for the privacy of family members Price-sensitive customer.	Car parking or open vehicle parking or parking spaces	20%
Small family apartments	2 rooms, 35–48 m ² ; 3 rooms, 49–62 m ²	Young families with one child or no children. A mature couple or single who appreciates the quiet and privacy of a separate bedroom but doesn't need a private entrance, large bedroom or extra bathroom. Price-sensitive customer.	Car parking or open vehicle parking or parking spaces	40%
Apartments for rent	Studio, about 30 m ² 2 rooms, 38–42 m ² 3 rooms, 52 m ²		Car parking or open vehicle parking or parking spaces	15%
"Premium" class apartments	2, 3 and 4 rooms. Master bedroom with bathroom and wardrobe. Large balcony/terrace. The size of the apartment is 10-15% larger than large family apartments	A customer who appreciates the value of comfort and scenic views	Closed parking lots (underground) or parking spaces in the immediate vicinity	15%
Townhouse type: a part of the building with a	4 to 5 rooms; private terrace or courtyard; separate entrance	Wealthier families	Closed parking lots (underground) or parking spaces in the immediate vicinity	15%

private entrance, from the outside or corridor, gives the feeling of living in a house				
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All apartment buildings, including 3-story buildings, will be equipped with an elevator. Most apartments will have a separate storage area. The Competition territory development proposal must ensure that the final result will meet the price category requirements and the customer needs/habits.

Other planning conditions:

The area of the entire Competition territory is 75,449 m² + promenade + access roads, which includes property no. 1 (marked with an orange line, see the scheme of the property distribution of the Competition territory) and property no. 2 (marked with a blue line).

- The estimated Competition object gross area is approximately 90,000 m², including an additional parking space.
- It is planned to build around 1,000 residential units, i.e. future housing, on the Competition territory.
- The concept of the Competition territory development must be developed under the Territory Use and Development Regulations of Riga City.
- There is one building on the Competition territory, the preservation or demolition of which must be decided by the authors of the site development concept; it is marked as a "Laboratory building" on the plan;
- The development concept of the Competition territory must include commercial premises that will serve the residential area. The area of commercial premises is approximately 2000 to 2500 m², including a private kindergarten, hairdresser, cafe, yoga room, etc. The commercial premises or building may change over time;
- For the first development stage of the Competition territory it is recommended to take into account the boundaries of the property no. 1. However if it is absolutely necessary, these boundaries can also be corrected. The authors of the territory development concept in the rest of the Competition territory (property no. 2) will be not limited by the official boundaries of the land plot. Attention should be paid only to the possibilities of execution of construction stages.

The architecture of proposed buildings

- Table of typology outlines the specifics of residential buildings based on needs of different consumer groups:
 - the location of the buildings and the perspectives of the views that open from the apartments must be taken into account in the planning of different types of residential units;
 - when arranging the location of the buildings in the Competition territory, the privacy of residents and the offered views must be taken into account;
 - design of buildings is characterized by their variety, yet the construction scheme is logical and has the similar number of storeys.

- When planning terraced courtyard areas and balconies/terraces, the direction of sunlight should be taken into account. All apartments will have either a terrace or a balcony.

Landscape architecture

- The existing natural landscape features should be preserved to the maximum extent.
- The organization of flows should be developed taking into account the requirement that people are the priority of the concept. It means providing pedestrian paths throughout the entire territory and its blocs (keeping in mind its gradual development), ensuring a scenic environment and easy access to residential buildings, while maximally preserving the privacy of residents.
- As far as possible, create the feeling of a traffic-free zone, while paying attention to economically organized vehicle parking spaces, people's comfort, and well-being.
- Ensure the privacy of the residential area and its buildings by creating the existing and future landscape environment, including:
 - playgrounds, outdoor rest rooms for sports (considering different stages and keeping in mind the integrated vision of the whole neighborhood);
 - leisure areas and meeting places.

Promenade and walkways connecting the Competition object and study area with the shopping center Acropole Alfa Center.

Parking lots

- Various solutions to offer a wide variety of options – parking lots, parking houses (underground parking under the building), outdoor car parks, etc.
- 'Premium' class buildings will have direct access from the parking space to the apartments.

What is expected from Competition participants:

Idea Proposal should be submitted, as listed in Clause 4.8 of the Brief.

Competition Participants (under a personal invitation) must be ready to publicly present their concept in a 40-minute long presentation, describing their idea of the best residential area in Riga to be developed.

The proposed concept of Idea Competition should provide an understanding of the urban-building and landscape development of the territory in Šmerlis, as well as the stages of the project development while defining the general principles and reference points in the architectural designing of the entire territory, to preserve its integrated character, which will later serve as the basis for the next stages of the development process – competitions of the architectural Sketch designs.

8 BRIEF DESCRIPTION OF THE ENVIRONMENT AND THE CLIMATE OF THE COMPETITION PROJECT AND STUDY AREA

The climate in Riga and the territory of the Competition territory is influenced by air masses of the Atlantic Ocean, which are associated with active cyclonic activity and precipitation. According to the data of the Latvian Environment, Geology and Meteorology Centre from 1991 through 2020, the warmest month in the city of Riga was July with an average air temperature of +19 °C, but the coldest months of the year with an average air temperature of -2.2 °C were January and February.

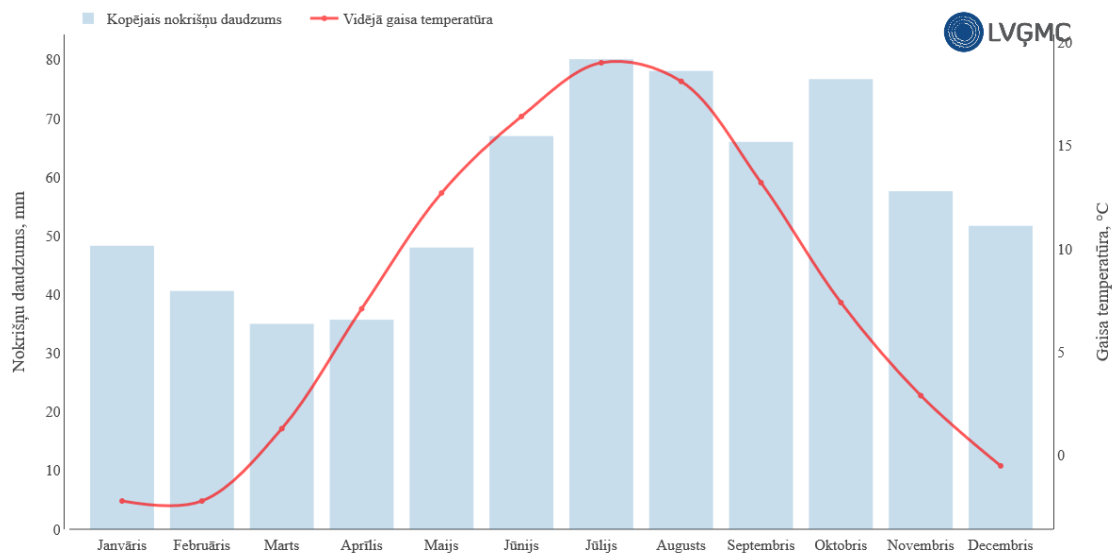
(https://klimats.meteo.lv/klimats_latvija/pasvaldibu_apskati/valstspilseta/rigas_pilseta/).

Amount of precipitation

In 2022, the total amount of precipitation in the city of Riga was 618.8 mm, it was 11% drier than the 1991–2020 annual norm (692.1 mm).

In the city of Riga, the annual precipitation during the period of the climatic standard norm is 692.1 mm on average. On a monthly basis, the most precipitation occurs in July (80.1 mm), and the least in March, when the total amount of precipitation reaches an average of 35 mm.

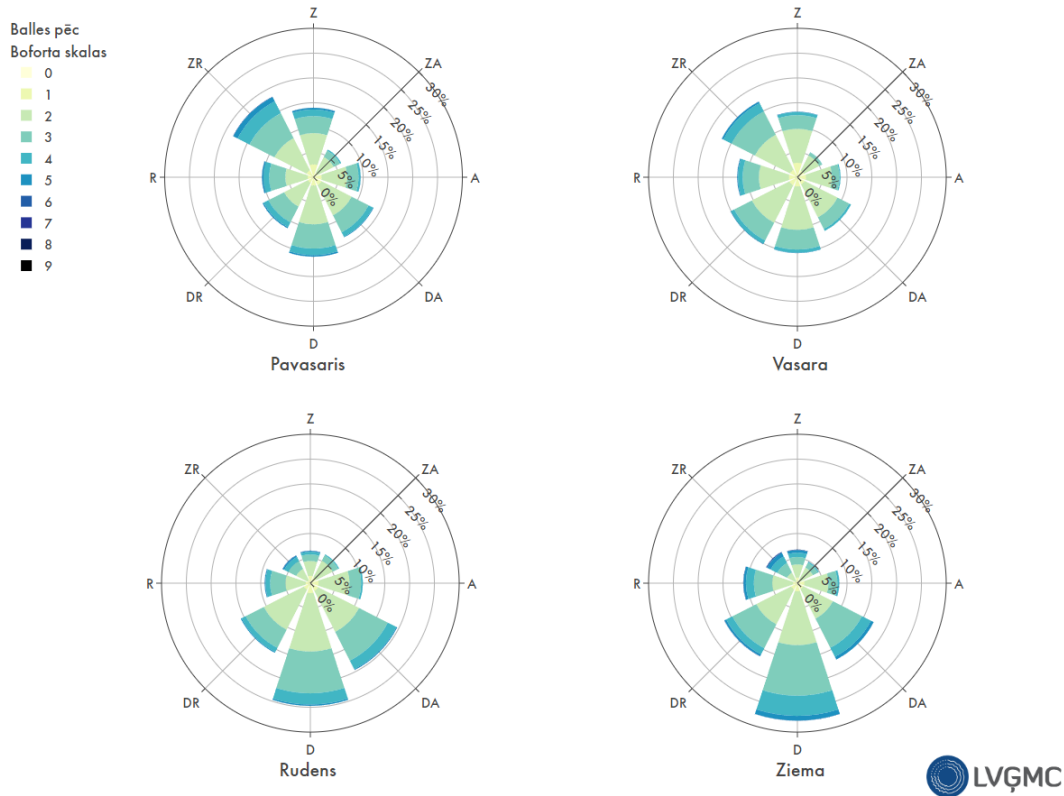
Comparing the climatic standard norm (1991–2020) with the climatic reference period (1961–1990), the annual average air temperature in the city of Riga has increased by 1.2 °C, while the amount of precipitation has increased by 0.1 mm.



Rīgas pilsētas mēnešu vidējās gaisa temperatūras
un nokrišņu daudzuma klimatiskā standarta norma

Wind speed and direction

During the period of the current norm (1991–2020), the average wind speed at the observation station "Rīga" was 3.3 m/s. The windiest months are January and December, with an average wind speed of 3.8 m/s and it mainly blows from the south (January and December). During the period of the norm, the calmest wind is in August with an average speed of 2.8 m/s. On average, at the "Rīga" observation station, 2% of the year is windless. The windiest season is winter with an average wind speed of 3.7 m/s.



Vēja virzienu atkārtošanās biežums stacijā "Rīga" un ātruma sadalījums katram virzienam kalendārajos gadalaikos

Future forecasts show that the annual average air temperature in the city of Riga will continue to rise. At the end of the century (2071–2100), according to the medium climate change scenario, the average annual air temperature will reach +9.7 °C, that is, it will be 1.9 °C higher than through the period of 1991–2020.

The number of frost days will decrease significantly – from an average of 106 frost days through 1991–2020 up to 76 days in case of average climate changes and up to an average of 50 days in case of significant climate changes in 2071–2100.

The number of summer days will increase – from an average of 26 summer days in 1991–2020 up to 48 days in case of average climate change and up to 69 days in case of significant climate change in 2071–2100.

The length of the growing season will increase from the recent 210 days to 227 or 248 days by the end of the century, under moderate or significant climate change, respectively.

In the city of Riga, the duration of heat waves has increased over the last 30 years, while the duration of cold waves has decreased. Forecasts until the end of the 21st century show that the trends for both climatic indices will not change.

Annual precipitation is projected to increase to 730.1 mm (an increase of 38 mm) or even to 745.9 mm (an increase of 53.8 mm) by the end of the century under moderate or significant climate change, respectively.

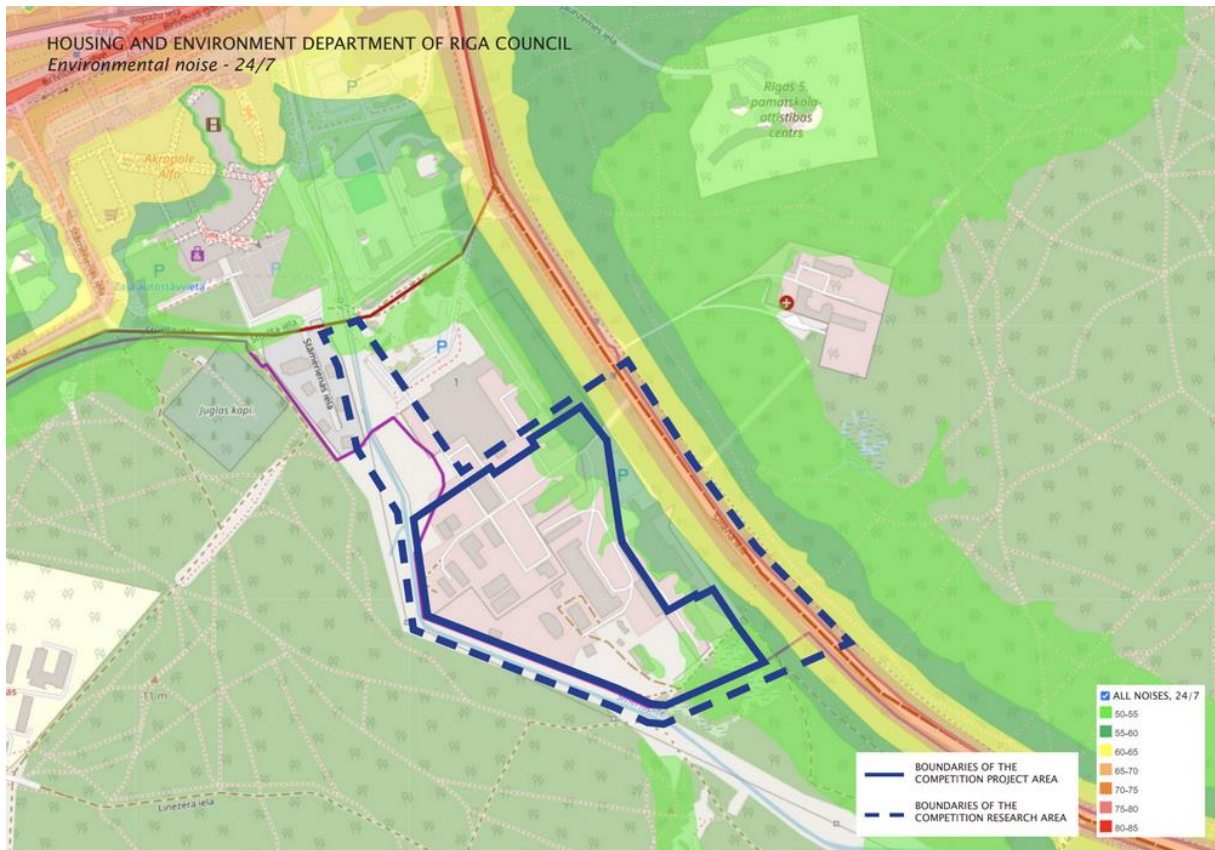
Also, the number of days with heavy and very heavy precipitation will increase.

9 BRIEF DESCRIPTION OF THE NOISE LEVEL OF THE COMPETITION AREA

In the development of strategic noise maps, the following indicators were applied to the Riga agglomeration territory:

- daytime noise index – L_{day} , characterizing the daytime discomfort;
- evening noise indicator – L_{vakars} , describing the evening discomfort;
- night noise indicator – L_{night} , characterizing sleep disturbances caused by noise;
- 24-hour noise index – L_{dvn} , characterizing the overall discomfort caused by noise

https://mvd.riga.lv/uploads/troksna_kartes/Kluso%20rajonu%20karte/Kopejais/#15/56.9769/24.2162)



Limit values are defined for noise indicators Day, Evening, and Night, according to the function of the territory use:

Nr. p.k.	Teritorijas lietošanas funkcija	Troksņa robežlielumi		
		$L_{diēna}$ (dB(A))	L_{vakars} (dB(A))	L_{nakts} (dB(A))
1.	Mazstāvu dzīvojamo ēku, kūrortu, slimnīcu, bērnu iestāžu un sociālās aprūpes iestāžu teritorija	50	45	40
2.	Daudzstāvu daudzdzīvokļu dzīvojamo ēku teritorijas, kultūras, izglītības, pārvaldes un zinātnes iestāžu teritorija	55	50	45
3.	Dažādu funkciju ēku (ar dzīvokļiem) teritorijas	60	55	45
4.	Viesnīcu, darījumu, tirdzniecības un pakalpojumu, sporta un sabiedrisko iestāžu teritorija	60	55	50

In most of the Competition territory, the noise indicators are acceptable for the development of a comfortable residential area (see the noise indicator maps in appendix *4_1_2_NOISE MAP.pdf*)

10 GEOLOGICAL CHARACTERISTICS OF THE COMPETITION TERRITORY

Ltd. "Environmental Consulting Office" ("Vides Konsultāciju birojs") during Augst 28–29, 2023, carried out a geotechnical feasibility study on the territory of Riga, Šmerļa Street 3, 5, and 17, where 4 mechanical drilling wells were installed up to depth of 12.0 m and 4 static probing points in depth of 9.5–12.0 m (for a full overview, see the appendix *4_1_1_Geotechnical investigation report.pdf*)

The geotechnical conditions in the Competition territory are simple to moderately complex. The potential new development site – multi-story buildings, according to LVS EN 1997-1 corresponds to geotechnical category II, while according to Minister Cabinet rules no. 500 to the 3rd category of buildings. The geotechnical conditions of the territory and the mutual interconnection of the separated geotechnical elements are characterized by the geotechnical borehole sections (Appendix 3, see *4_1_1_Geotechnical investigation report.pdf*).

In the territory of the Competition (up to a depth of 12.0 meters from the ground surface), the following soils are formed: embankment, peat, sludge, medium-dense to dense fine sand, and loose to dense medium-coarse sand.

In general, the geotechnical conditions of the territory of the Competition are relatively simple for the planned building works. Only in the southeastern part of the examined territory, in the lowest parts of its terrain, weak soils are found – sludge and mud. As the natural base of the planned structures can be used layers of medium-dense and dense fine and medium-coarse sand which lie between 0.2 and 2.7 m from the ground surface.

When designing the concept, the presence of weak load-bearing soils should be taken into account – easy-flowing sludge of high plasticity, and loose medium-coarse sand.

During the fieldwork, the groundwater level of the construction site was fixed at a depth of 1.8–5.8 m (abs. reference from +2.3 to +4.0 m above sea level). When designing built-in constructions, measures must be taken against the inflow of surface water and groundwater into them, and it must also be taken into account that when exposing layers of sludge and mud at the groundwater level, they can pass into a latently flowing consistency, i.e. has thixotropy. During the construction process, any disturbance of the natural soil structure (excavation, flooding, freezing, etc.) under the foundations of the planned structures is not allowed.

According to LVS EN 206-1:2014 and the results of chemical analyses (Appendix 5, see *4_1_1_Geotechnical investigation report.pdf*), groundwater is weakly aggressive towards concrete and steel. The groundwater sample was taken at a depth of 1.8 m in borehole No. 3.

The choice of the specific foundation version can be made according to technical and economic estimates. The basic choice of foundation types (depths) largely depends on the grade of the intended deepening of the structure. The normative depth of ground freezing according to LBN 003-19 with a probability of 50% is 121 cm, with a probability of 10% – 134 cm, and with a probability of 1% – 144 cm.

11 ASSESSMENT OF TREES

The visual assessment of trees in Šmerļa Street 3, 5, and 17, Riga (land plots with cadastral No. 01000922613, 01000922614, 01000922615) was carried out from August 24 to

September 11, 2023. A total of 974 trees were assessed, including several groups of trees. From the fruit trees growing in the territory, only the valuable and to-be-preserved fruit trees and their groups were evaluated. Trees are physically numbered with plastic numbers according to a unified system, the numbering is reflected in the assessment plan and tables. The condition of the trees is assessed according to the "Tree assessment criteria" (see appendix 4_3_1_KN_Šmerļa iela 3,5,17, Rīga 20.09.23.pdf) determining vitality, physical condition and assigning certain value color; it can be seen in the appendix "Tree evaluation table".



Koku novērtējumu skatīt pielikumā 4_3_1_KN_Šmerļa iela 3,5,17, Rīga, 20.09.23.pdf

In the territory are found:

- Excellent trees - 1 pcs., a crown is marked in purple on the plan, must be preserved;
 - Very valuable trees - 13 pcs., crowns are marked in red on the plan, must be preserved;
 - Valuable trees – 757 pcs., the crowns are marked in green on the plan, have to be preserved as much as possible,
 - Low-value (low scenic value) trees – 172 pcs., marked in dark gray in the table and plan.
- It is permissible to remove low-value trees for landscaping purposes (see "Tree assessment table" maintenance works)

*'Premium' class flats, % of the total development area	pcs./									
	%									
*Townhouse type: part of a building with private entrance, from outside or corridor, creates a feeling of living in a house	pcs./									
	%									
Commercial spaces	m ²									
The number of parking lots, including:	pcs.									
*If the concept involves underground parking, how many parking places are underground - pcs. and the underground constructible gross area	pcs.									
	m ²									
*external parking area	pcs.									
	m ²									
* if the concept involves parking house, pcs. and parking house gross area in m ²	pcs.									
	m ²									
The number of bicycle stands	pcs.									

Note:

*** calculation of parameters according to the indication in the Designing programm, page 6