

COMPETITION TASK

COMPETITION FOR CONCEPTUAL DESIGN OF LEŠKOPOLJSKA GORICA FOREST PARK IN PODGORICA

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1. INTRODUCTION

The Mayor of the Capital City Podgorica has adopted a Decision to announce a Competition for the conceptual landscape and architectural design of the Forest Park Lješkopoljska Gorica in Podgorica, No: 01-018/21-2027, dated March 18, 2023.

The legal basis for the adoption of this Decision is in the provisions of Article 54, paragraphs 1 and 4 of the Law on Spatial Planning and Construction of Buildings (“Official Gazette of Montenegro”, No. 64/17, 44/18, 63/18, 11/19, 82/20, 86/22 and 4/23), Article 6 of the Regulations on the manner and method of announcing and conducting a public competition for a conceptual architectural design (“Official Gazette of Montenegro”, No. 19/18, 2/24 and 8/24), and Article 100, paragraph 1, point 20 of the Statute of the Capital City (“Official Gazette of Montenegro - local government regulations”, No. 8/19, 20/21 and 49/22). The competition for the conceptual landscape and architectural design is announced and conducted in line with the Regulations on the manner and method of announcing and conducting a public competition for a conceptual architectural design.

The Spatial-urbanistic plan of Podgorica, in force until 2025, localizes its long-term development goals in sustainable urban development, protection of biodiversity, and mitigating the impact of climate change. Currently, the city is facing challenges connected to rapid urban growth, environmental degradation that exacerbates extreme temperatures during the summer months, affecting the quality of life of residents and the overall socio-economic development.

This Competition aims to achieve a comprehensive vision for the Forest Park Gorica that, through the transformation of underutilized spaces and innovative landscape-architectural solutions, will support the existing green infrastructure and drive the future vision for a climate-resilient city, where ecological elements will raise the quality of life of its residents.

2. OBJECTIVES AND GOALS OF THE COMPETITION

The main objective of the competition is the development of a conceptual design for the Gorica Forest Park in Lješkopolje, Podgorica.

The primary goal of the competition is to obtain the best conceptual landscape-architectural design for the Lješkopoljska Gorica Forest Park, which will serve as the basis for development of the Main design.

Ideas submitted to the competition are expected to include:

- **Emphasized ecological aspect** – the focus should be on a design that embraces nature, ensuring that the future Forest Park promotes biodiversity and enhances ecosystem health. Priority should be given to the restoration of local flora and fauna,

contributing to the goal of nature conservation and improving the quality of life in the city;

- **Improve landscape linkages** – emphasize connection of the Forest Park with the surrounding landscape, taking into account topography, surrounding river, hills, and urban fabric. It is important to identify all potential pedestrian and habitat linkages to develop trail networks and green corridors. Design viewpoints that allow for experiencing the natural and urban landscapes of Podgorica;
- **Sustainability and climate change focus** - Incorporate sustainable practices, nature-based solutions and green infrastructure to mitigate and adapt to climate change effects, such as urban heat island.
- **Forest Park identity and program** – design a flexible and adaptable space that can accommodate various activities and events throughout the year. Avoid planning elements that detract from the ecological focus, such as pre-programmed attractions and artificial structures. Instead, envision activities that entail a deeper connection with nature, support the local ecosystem, and respects cultural heritage.
- **Community engagement** – Foster community engagement and social cohesion through inclusive design features and programming. Forest Park shall be universally accessible for people of all ages, abilities, and backgrounds. Anticipate facilities that enable educational and cultural events and promote ecological awareness.

Participants are expected to present a vision for transformation of the area into a natural oasis, embodying contemporary landscape-architectural approach to restore natural and ecological harmony in an urban environment, and adapt to climate change effects. With greater biomass the goals are multifold: to achieve higher carbon sequestration, habitat creation, and increase biodiversity.

The establishment of the Lješkopoljska Gorica Forest Park aims to contribute to the unique Greenery System of Podgorica and strengthen the city's green infrastructure. Additionally, the conceptual design should serve as a model for further consideration of projects for urban afforestation in Podgorica and the entire country.

3. GENERAL CHARACTERISTICS OF THE AREA

The boundary of the project is given on the geodetic survey in the competition documentation. The area of the future park is approximately 35 hectares, and includes the following cadastral parcels: 2107, 2108, 2109, 2129/1, 2129/2, 2130/1, 2131/1, 2131/2, 2132/2, 2133/2, 2139/2, 2189, 2191/1, 2191/2, 2191/4, 2192/1, 2192/2, 2192/3, 2355/2 KO Donja Gorica.

3.1. Current situation, identified deficiencies and potentials of the area

Lješkopoljska Gorica is located in the southwest part of Podgorica, approximately 5 km away from the city center. On the eastern side, this location is defined by the Morača river and the 21st May Boulevard. On the southern and southwest side of the hill is Donja Gorica

settlement while on the north and northwest side of the hill is Gornja Gorica settlement. Geomorphologically, Gorica is a hill or mound extending in the northwest-southeast direction, about 1 km in length. It represents an elevation in the form of a limestone hill, rising from the flat base of the Zeta Plain, offering extensive visibility of the surrounding areas and beautiful view of the city and its surroundings. The highest point within the area is at 103 m above sea level, while the terrain at the base of the hill is between 35 m and 39 m above sea level. The intervention area covers 35.03 ha.

The hill is hydrologically dry, without the presence of springs on the topographic surface. According to the Spatial Urban Plan (PUP) of the Capital City Podgorica until 2025, the intervention area belongs to landscape type 2 - Flat area with eastern hills. Considering the dominant structural elements (geomorphological, hydrological, vegetative features) and the use of land (cultural pattern), the intervention area belongs to subtype 2.4 - Urban core.

From a phytogeographical point of view, Podgorica is located in the zone of thermophilic sub-Mediterranean deciduous vegetation where the community of hornbeam and Rusco-Carpinetum orientalis dominates. As a result of the high degree of degradation of this vegetation community, there has been a development of rare and low thickets and shrublands, which are differentiated into three subassociations: Punicetosum where the pomegranate (*Punica granatum*) dominates, paliuretosum where **drača** (*Paliurus spinachristi*) prevails, and quercetosum macedonicae, dominated by the Macedonian oak (*Quercus macedonicae*).

The existing natural vegetation of the intervention area is of secondary origin. It is represented by the community of "čubra" and ofresine (*Satureia subspicata-Poa bulbosa*). These are dry meadows, known as "utrine", with a poor xerothermic cover of plant. The potential natural vegetation belongs to forests of Macedonian oak. The slopes at the foot of the hill are slightly more covered with low vegetation of maquis and individual trees, while the increase in altitude offers the decrease in the vegetation cover and is reduced to grassy low vegetation.

The soil is eutrophic brown, shallow to medium deep, skeletal, with a light mechanical composition. The ecological productive value of the soil is low due to its low depth (10 - 25 cm) and high permeability.

3.2 History of the Area and Architectural Heritage

The intervention area is mostly not constructed. At the highest point of the hill, there is a semi-buried concrete structure and an antenna mast. On the southwest slope of the hill, there have been recorded several illegally built residential buildings with auxiliary structures. There is a cemetery along the southwestern boundary of the intervention area. The dominant type of construction in the contact zone are low rise residential buildings. On the northwest side, there is the Church of St. George the Great Martyr which was built in 1907.

Within the intervention area and its vicinity, there are no legally protected heritage sites. Nevertheless, there have been identified three significant spots in the location and contact zone: "Tumulus on Gorica Hill", "Church of St. Cyricus", and "Grot Site".

-Tumulus on Gorica Hill

On the southwest slope of Gorica Hill, there is a stone tumulus with a diameter of 10 meters. A tumulus (Latin: tumulus, i, m.) is a characteristic burial monument created by the piling of the material above one or more graves thus forming a mound which is usually of a circular base. Based on its dimensions, the tumulus on the Gorica Hill belongs to the category of tumulus of medium-size and represents a tumulus with a stone coat. The first such objects in Montenegro area and surroundings appear in the Eneolithic period, and in the Bronze and Iron Ages, they became a dominant form of burial, persisting through the ancient period, including the period of Roman dominance, and can also be encountered in later epochs, including the Middle Ages. Tumuli sometimes contain only one grave, but more often multiple graves from different periods.

-Church of St. Kirik

On the slopes of Gorica Hill, above the active cemetery, there is the Church of St. Kirik. According to sayings of the local residents, the church was built in the 17th century. It is a smaller aisleless church, with the dimensions 5 x 7 meters, with a semi-circular apse. On the north side, there is a niche-shaped window. The church is built in mortar from hewn stone.

-Grot Site

On the property of the Mugoša family, there are remnants of architecture that were the subject of protected archaeological research. In the foundation zone, there are walls made with hydraulic mortar. The fragments of pottery indicate that it is a *Villa rustica* type structure from the 4th century AD. The northern and northeastern part of the building are shaped like the Cyrillic letter "Г", with an atrium and a pool, in which a layer with fragments of smaller vessels, amphorae, and several fragments of *terra sigillata* was found during the research. On the wall surfaces, there were traces of colored plaster.



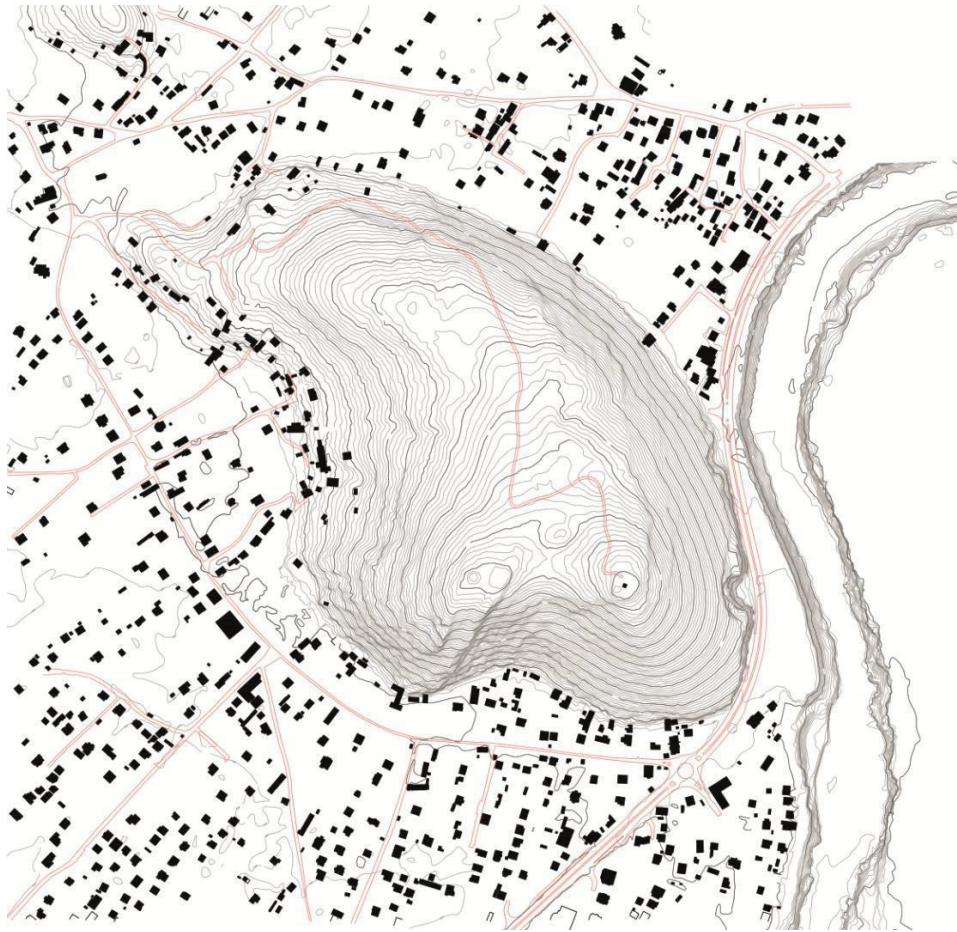
Representation of significant objects at the actual location and contact zone

- 1- Church of St. George the Great Martyr
- 2 – Church of St. Kirik
- 3- Cemetery
- 4- Archeological site Grot
- 5- Tumulus on Gorica Hill

3.2. Traffic characteristics of the area

Vehicle access to the location is currently only possible from the northwest side, via Lješkopoljska Street. There is only one improvised path-road with an average width of 3m on the location itself, which leads from the base to the highest point of the hill, slightly over one kilometer in length. The area is connected to the main road M2.3 Podgorica - Cetinje, that is the 21st May Boulevard, through the south side of Lješkopoljska Street, and Vojvođanska and Miloja Pavlovića Streets from the north side. Even though the western boundary of the intervention area touches the above-mentioned boulevard, the location is not directly connected to it by road. The valid planning document of the DUP "Gornja Gorica 1" envisages the construction of a road along the north-eastern side of the hill, from Bul. May 21 to Vojvođanska Street (shown in graphical part of documentation).

There are several bus stops for different urban and suburban public transport lines near the location. The nearest stop is in Vojvođanska Street, next to the yard of the Church of St. George the Great Martyr, and it belongs to the suburban line No. 54B. At the intersection of Vojvođanska Street and Miloja Pavlovića Street, there is the nearest stop of the city line No. 5, and on the 21st May Boulevard, near the roundabout with Lješkopoljska Street, there is a stop for the city line No. 8. The intervention area is also connected to the urban transport line connecting Donja Gorica with Rogami. There are currently no bicycle corridors near the location.



Display of topography with the disposition of buildings and roads in the contact zone

3.3. Information from Spatial Planning Documentation

The subject location is within the scope of the "Donja Gorica" Detailed Urban Plan (DUP), which is currently under development and in the proposal phase.

According to the guidelines of the Spatial Urban Plan (PUP) of the Capital City Podgorica (Official Gazette of Montenegro – local government, No. 6/14), it is planned that certain city center activities will be transferred to locations along the 21st May Boulevard. The PUP specifically provides guidelines for the revision of planning documents, as well as norms and standards for the implementation of certain programs and use of surfaces.

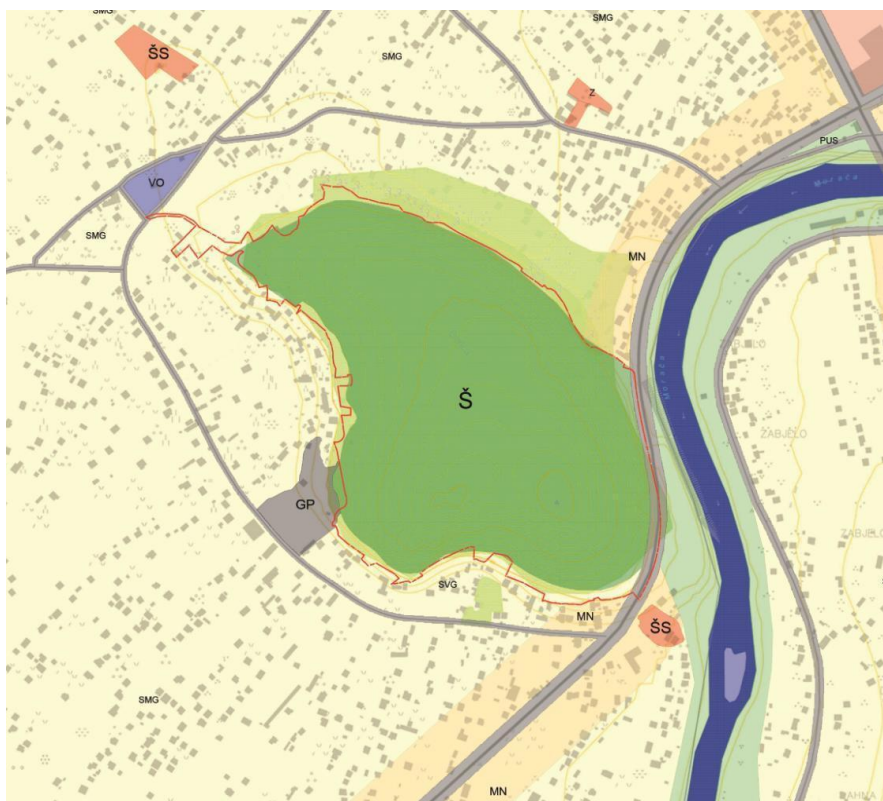
The subject area belongs within the scope of the General Urban Plan of Podgorica and the planning unit of Donja Gorica. In addition to existing zoned areas for housing, new zones are planned in Donja Gorica along the Podgorica - Cetinje main road. The area of the former plant nursery has been converted from residential zone to zone for central activities. Mixed-use is planned on a large surface, particularly along the Podgorica-Cetinje main road within a 100m belt on both sides of the main road.

As regards the above mentioned, it can be concluded that there are planning premises for elevating the level of urbanity in the immediate contact zone of the subject location.

According to the 2011 census, the planning unit of Donja Gorica had a population of 5,244

citizens. The projections from the PUP of the Capital City suggest that by 2025, the population in this area will increase to 7,409 inhabitants.

It is important to note that the subject location is on the peripheral part of the planning zone and is influenced by the population from the contact planning zones.



Representation of the location in the General Urban Plan, annex - Detailed use of surfaces

- * PUP - Spatial Urban Plan of the Municipality (a type of spatial-regulation plan for the territory of the municipality)
- ** GUR - General Urban Development (part of the PUP with a more detailed organization and arrangement of space, possibilities for use, and purposes of areas for the territory of the center or centers of the municipality)
- *** DUP - Detailed Urban Plan (regulation plan of settlements or parts of settlements within the territory of the PUP)

The mentioned draft Detailed Urban Plan (DUP) for "Donja Gorica," which is currently under development, includes guidelines for landscape architecture aimed at establishing a Forest Park in the designated area. These guidelines focus on improving sanitary and hygienic conditions, enhancing microclimatic conditions, improving the aesthetic value of the degraded landscape, and creating conditions for active and passive recreation for residents of the settlement and its surroundings.

Here partially included Landscape Architecture Guidelines from the Detailed Urban Plan in relation to afforestation process:

- at least 95% of the plot area should be covered with greenery;
- plant trees and shrubs in free form, with distinct stratification
- raise a mixed forest and avoid creating monolithic ones;
- maximally use autochthonous woody species for afforestation;

- use autochthonous species of trees and shrubs that are edifiers of natural potential vegetation (*Quercus trojana*, *Q. pubescens*, *Fraxinus ornus*, *Celtis australis*, *Carpinus orientalis*, *Amygdalus webbii*, *Acer monspessulanum*, *Tilia cordata*, *Crataegus monogyna*, *Cotinus coggygria*, *Punica granatum* and etc.) as well as domesticated non-native species (*Pinus pinea*, *Cupressus sempervirens*);
- use pioneer shrub species (*Juniperus oxycedrus*);
- Aleppo pine (*Pinus halepensis*) and cypress (*Cupressus sempervirens*) should be used as "pre cultures", i.e. as pioneer species that renovate the soil, which creates more favorable living conditions for planting and cultivating other species, as well as for the progressive development of vegetation towards the climatogenic community of the given habitat;
- use nursery-grown and healthy seedlings, of standard dimensions;
- use natural materials for construction of paths, rest areas and plateaus;
- provide technical water for watering and fire protection (wells/hydrant system)

3.5. Getting to know the local natural conditions and ecosystem

For a better understanding of the natural characteristics of urban flora and fauna in Podgorica, as well as methods of afforestation of Lješkopoljska Gorica hill, we direct competition participants to the following sources:

- <https://sekretariat-za-ppor.podgorica.me/wp-content/uploads/2023/08/studija-gorica-maj-2022.pdf>
- https://www.researchgate.net/publication/281272638_The_Urban_Flora_Of_Podgorica_Montenegro_SE_Europe_Annotated_Checklist_Distribution_Atlas_Habitats_And_Life-Forms_Taxonomic_Phytogeographical_And_Ecological_Analysis

The Protection Study for the Gorica Park Forest in the center of Podgorica is in the local language and serves as a valuable source of data on the established ecosystem in the urban core of Podgorica through a long-term afforestation process.

Source of the meteorological data for Podgorica:

- <https://www.meteo.co.me/page.php?id=41>

4. COMPETITION TASK

4.1. General guidelines

The project task defines the location as a Forest Park with emphasized natural components, transforming the area into a rich, predominantly forested ecosystem integrated with the surroundings and enriched with appropriate amenities, enabling symbiosis between nature and humans in the urban environment.

The primary task is considered to be the preservation and enhancement of the ecosystem

through afforestation. This defines the space's identity as a forest and prioritizes the natural environment, subordinating interventions to that goal in terms of program and design. The project should provide clear guidelines for the afforestation process, primarily relying on local flora. The list of species is given in the previous part of the task, as well as sources for getting to know the natural conditions of the location. It is recommended to investigate methods of afforestation and establishment of forest ecosystems (Miyawaki method, etc.). Design intent shall demonstrate knowledge of native plant communities that will sustain climate change and potential shift of climate zones. Show the phasing of the afforestation process in accordance with the programmatic and ecological development of the Gorica Forest Park.

Sustainability strategies should include but not limit to: storm water management and runoff catchment, and energy efficient lighting. Design elements and material selection should reflect a sense of timelessness and highlight the beauty of the natural world.

Solutions should be based on the relationship between the location and its immediate and wider environment, especially the river, surrounding hills, and mountains. Recognize viewpoints that define this location and enable a new experience of the city and the surrounding nature.

Zone the forest park in such a way that planned programmatic contents are concentrated in one or two locations within the park, allowing the rest of the area to be experienced as completely natural surroundings. When selecting contents, ensure they enable activities that support both the ecosystem and human activity. Avoid contents that overly activate the space, such as skate parks or adventure parks. Desirable contents include a café/restaurant and a stage for cultural events. Spaces for educational activities are mandatory, within which it is possible to propose a small nature center focusing on native forest species, afforestation, and biodiversity. Such a facility could be an important catalyst for changes initiated by the construction of this park.

Special attention should be paid to forming a network of paths that provide connections to all amenities, easy visibility, and orientation. Position the paths through diverse, attractive parts and enable continuous circular routes through the park. The most suitable length of the route is a 30-minute slow walk. Adapt the compositional solution to the urban layout of the surrounding area. It is necessary to connect the network of paths with access roads, open or close viewpoints depending on the quality of the vistas and the purpose of the contact zone. The compositional solution for paths should be based on comprehensive study of climatic and other natural conditions, directions of visitor movement, zoning characteristics, as well as the arrangement of existing structures and vegetation. The goal is to find the most rational planning solutions for the network of park roads and paths. They should properly distribute visitors throughout the entire park area, avoiding transit movement through specific zones. Path widths and gradients should be adapted to the movement of all user categories, respecting the Regulation on detailed conditions and methods of adaptation of facilities for access and movement of persons with reduced mobility and persons with disabilities ("Official Gazette of Montenegro", No. 48/13, 44/15). Consider the fact that paths and roads are a decorative element of the park and that they

are intended for viewing the park. In this regard, the compositional solution should also be planned with an aim of viewing the most interesting landscapes.

Properly distribute an adequate number of resting areas for short or long-term pedestrian stops and resting. Adapt the spatial layout to the purpose of the area, duration of stay, age and social structure of users, micro-climatic conditions, ambient and other values. Plan warm and durable materials for seating to ensure user comfort and safety. Orient seating towards attractive features and enable social interactions. Adapt materials and design to the natural surroundings, striving for longevity and a timeless feel. Place an adequate number of waste bins at all resting points and appropriate locations along paths. Install informational boards at park entrances and key locations. Lighting is a crucial aspect that should be planned according to the purpose and micro-location conditions within the forest park. Apply lighting principles that reduce negative effects on the ecosystem (positioning lights closer to the ground, directed illumination, light colour...). All urban equipment should enable rational, innovative, functional, and dynamic use of space. Urban furniture design should be functional, uniform, and recognizable in contemporary architectural expression. For urban equipment requiring electricity, consider using new technical and technological solutions, especially regarding energy consumption from renewable sources.

Define cycling and fitness trails that can be traced separately or alongside pedestrian paths within the intervention area. When planning the trails, focus attention on the aspect of fire prevention.

4.2. Specific program conditions, conclusions and recommendations

Through landscape and architectural design, propose facilities complementary to the predominant use of the space, in accordance with spatial possibilities. We suggest considering the following facilities without limiting them to the ones listed:

- Summer stage for performances, film screenings, concerts...
- Commercial facilities (café bar, restaurant, souvenir shop)
- Experimentation and sensory playground
- Outdoor gym
- Small botanical garden for educational purposes
- Therapeutic garden
- Toilet

Authors are given the opportunity to design artistic installations (sculptures, installations, mosaics, murals, land art, etc.) to create a unique identity for the space.

4.2.1. Guidelines and Recommendations for Traffic

The traffic solution will greatly determine the usage of the space, considering the purpose which excludes motor traffic except for emergency vehicles. Considering that the location is currently only accessible from one side, participants in the competition are expected to offer a traffic solution that will necessarily involve at least one additional access point, preferably

from Boulevard 21st May. Consider positioning a third access point on the southwest side of the hill, next to the existing cemetery. Provide an appropriate number of parking spaces near the entrance. For this purpose, it is possible to use the area between Boulevard 21st May and the bank of the Morača River (cadastral parcels No. 2192/2, 2192/3, cadastral municipality Donja Gorica). Plan a total parking capacity for a minimum of 115 vehicles in the proposed zones on state/city-owned land

4.2.2. Design recommendations and regulations

During the process of the design, it is necessary to comply with the provisions of the following regulations:

- Law on Spatial Planning and Construction of Buildings (“Official Gazette of Montenegro”, No. 64/17, 44/18, 63/18, 11/19, 82/20, 86/22, and 4/23);
- Regulations on the detailed content and form of the planning document (“Official Gazette of Montenegro”, No. 91/20);
- Regulations on specific conditions and methods of adapting facilities for access and movement of people with reduced mobility and people with disabilities (“Official Gazette of Montenegro”, No. 48/13 and 44/15); as well as other regulations governing the construction of buildings.

During the process of design, it is also recommended to use the Manual for Planning Public Spaces in Montenegro (Ministry of Sustainable Development and Tourism of Montenegro, Podgorica, Montenegro, 2015).

<https://mrt.gov.me/rubrike/publikacije/155472/Prirucnik-za-planiranje-i-uredjenje-javnih-prostora-u-CG.html>).