



-Document translated from Romanian-

MUREȘ PARKS, TÂRGU MUREȘ
„HIPPODROME PARK, MUNICIPAL
PARK, TURBINEI CANAL BLUE-GREEN
ENSEMBLE”
DESIGN COMPETITION

ANNEX 1
COMPETITION BRIEF

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1. GENERAL DATA

1.1. CONTRACTING AUTHORITY AND COMPETITION ORGANIZER

The contracting authority within the design competition is the Municipality of Târgu Mureș, which will become the beneficiary of the service provision contract resulting from this competition.

The competition is organized with the support of the Romanian Order of Architects (OAR), a professional organization whose mission is to increase the quality of urban space and architecture and to promote them as cultural acts of public interest. In this regard, OAR promotes policies and professional practices that valorise the built and natural heritage and favour the production of valuable architecture, which are fundamental areas for the quality of life.

1.2. PURPOSE OF THE COMPETITION

The purpose of the competition is for the City Hall of Târgu Mureș to contract the design services necessary for the realization of the Hippodrome Park - Municipal Park - Turbinei Canal blue-green ensemble, in accordance with the values and specifications set out in this documentation, following the selection of the best design for the implementation of this investment package.

1.3. INVESTMENT STAKE: OPPORTUNITIES AND NEEDS

The historical development and urban structure of the municipality of Târgu Mureș have been strongly shaped by the presence of watercourses: the Mureș River with its various branches and meanders, as well as its tributaries. The city's relationship with the various watercourses has been translated over time either in the creation of infrastructures meant to remove the river from the city, or through interventions that have integrated the watercourses into the urban fabric by regulating, channelling, or underground draining them.

The stake of the competition is to reintegrate the natural blue-green area related to the Mureș River's watercourses into the urban space by creating a new major park system that would restore the identity of a city by the Mureș river to the municipality of Târgu Mureș. The aim is to enhance the landscape, ecological, and urban climate resilience values, while also providing an improved infrastructure for sustainable urban mobility for pedestrians and cyclists, and a wide range of recreational, social, relaxation, and leisure spaces, outdoor exercise, and play.

The area that is the object of the competition currently appears in the form of isolated fragments of green spaces resulting from various construction and densification operations in the Mureș River floodplain. These are often uncorrelated and broken from the urban, natural, and historical context. The reintegration of nature fragments aims both to restore ecological continuity along the historical bed of the Mureș River and to create and reactivate spaces for

promenade and connection with the nature of the river, in close relation with the historical core of the city.

With the reunification of the various green fragments of the Mureș (the Hippodrome area, the Relict Meander, the Mureș riverbank, the Municipal Park, the Turbinei Canal) into a coherent natural and urban network, the Hippodrome area and the entire suite of parks at the Mureș river have the potential to become a green urban landmark in the city's network of public spaces and an ecological and symbolic link with the Mureș river.

1.4. INTERVENTION AREA AND INVESTMENT OBJECTIVES

The design of a network of blue-green spaces with the center of gravity in the Hippodrome area is requested, with connections to the Mureș River bank to the northwest, the natural branch and the Pocloș stream outlet to the south, respectively upstream along the Turbinei canal, including the unbuilt spaces in the Municipal Park and the canal riverbanks in the Carpați Alley area.

The intervention area is divided into three distinct investment objectives to facilitate phased implementation, and, at the same time, preserve the unitary vision and functional cohesion of the different interventions. The three objectives and their importance within the future project are described below.

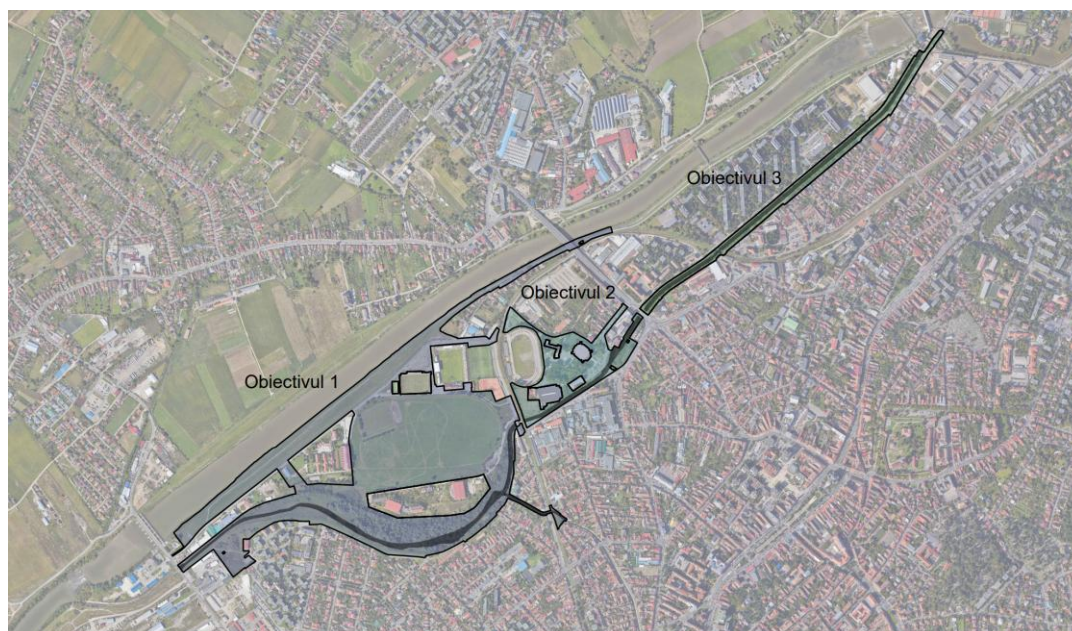


Fig.1 Boundaries of the investment objectives

1.4.1. Investment objective 1: Hippodrome area with the Relict Meander and adjacent Mureș riverbank

This area, which corresponds to a historical meandering area of the Mureș, will concentrate the most extensive interventions requested to be studied in the design

competition. The area is defining for the intentions of the competition, taking place between the old and new riverbeds of the Mureș. The competitors will have the opportunity to propose designs both for protecting the area of the Relict Meander of the Mureș, an area of maximum ecological interest, and for integrating equestrian trails, respectively for creating pedestrian and ecological connections between the old and new Mureș, thus redefining the identity of the Hippodrome area as an urban park along Mureș river. To enable the maximization of ecological values, but also to achieve the objectives of developing the bicycle-pedestrian network, a series of spaces that can be classified today as residual between the various functions present on the site or adjacent to it are included in the competition area: sports fields, functions related to the hippodrome, various constructions. The new park developed around the Hippodrome core will be well connected both to Mureș and to the city's street network, requiring the most direct connections possible to the historic center, for example, along the Pocloș stream.

Intervention area: ~ 43.4 ha

1.4.2. Investment objective 2: Municipal Park area

The area of the former “Elba” island, which later became the “Elisabeta Park”, was in the past the first and only example of urban integration of a natural space related to the Mureș into the urban fabric. Throughout the 20th century, this space moved away from the river, losing direct contact with the water, the island appearance being maintained instead by infrastructural obstacles: railway, sports infrastructure. The vital space of the current Municipal Park is currently oversaturated with constructions, the park itself becoming a residual space for circulation between the various buildings present on the site. The integration of the Municipal Park into the municipal blue-green system is important to ensure the continuity of the ensemble of parks, but also to restore coherence and spatial identity to the current park, in relation to both the Mureș River and the historical core of the city.

Intervention area: ~ 6.4 ha

1.4.3. Investment objective 3: Aleea Carpați - Turbinei Canal area

The area of the current Turbinei Canal is the former branch of the Mureș River known in the past as the “Morii” (mill) branch, regulated and controlled over time to play certain functional roles related to the city's industry and infrastructure. The canal area is the upstream continuation of the Relict Meander of the Mureș River, which makes the entire Hippodrome - Aleea Carpați urban area a neighbourhood surrounded by waters. Rethinking the connection between the Relict Meander of the Mureș River and the Turbinei Canal is necessary to ensure a blue-green corridor that will contribute both to the longitudinal continuity along the canal and to the proximity of the historic center to the river by improving the transversal connections between the Carpați Alley neighbourhood and the historic fabric of the city.

Intervention area: ~ 4.7 ha

1.5. CURRENT USES, FUNCTIONS AND ACTIVITIES ON THE SITE

1.5.1. Hippodrome area with the Relict Meander and adjacent Mureș riverbank



The Hippodrome area is currently a base for traditional equestrian activities: training, sporting events, horseback riding and related activities – and is mainly used by the Târgu Mureș Stallion Depot and the Romsilva Equestrian Club (1.1). In the northern vicinity there is the Trans-Sil Municipal Stadium (1.2) and various public and private sports complexes

(1.3 - public football field, 1.4 - football field of the High School with sports program, 1.5 - private tennis courts), a restaurant (1.6), parking lots and open areas used as free fields or green spaces, and to the west the Stallion Depot (1.7) and the headquarters of the Agency for Payments and Intervention in Agriculture (1.8). The main access is from Insulei Street, an intensely circulated artery including heavy traffic (until the completion of the bypass road). The perimeter of Investment Objective 1 also includes an area at the western limit of the Stallion Depot, currently occupied by a hayloft, with the aim of increasing connectivity between the Mureș bank and its Relict Meander. To the south there is a plot belonging to Romgaz (1.9), with constructions of an abandoned sports and leisure complex, which create an enclave between the sports area and the Relict Meander of the Mureș. The latter has a high natural value and is used mainly for informal recreation – walks, nature observation, occasional fishing – but access is limited and fragmented. In the same perimeter is also the Pocloș stream discharge area (1.10), currently inaccessible to pedestrians due to the fences of adjacent homes, but with the potential to become a direct bicycle-pedestrian connection with the city center in the future. From Barajului Street to the east, there is a succession of areas with different functions – industrial, apartment blocks, and single-family housing. On its southern bank, the Arm is protected by a dike for which a project to develop a bicycle path is being prepared by the National Administration of Romanian Waters. The same public entity is also carrying out a project aimed at restoring the longitudinal continuity of the Relict Meander and the Turbinei Canal riverbeds. Both documentations can be found in Annex 8.1. and 8.2.

The Mureș Riverbank is currently used informally for walking, fishing, and nature observation. The lack of formal trails or transversal connections reduces the

accessibility and fragments the relations with the adjacent areas of the city. A major problem is the connectivity between the riverbank and the Hippodrome area, hampered by traffic on Insulei Street, as well as the lack of a direct connection with the existing promenade along the Mureș River in the Aleea Carpați neighbourhood. There is a small pontoon on the riverbank that allows direct contact with the water, and the river is also used for non-motorized sports activities such as kayaking and canoeing.

1.5.2. Municipal Park area



The Municipal Park constitutes a central green core, but it is surrounded by a complex and heterogeneous urban context. To the north is the courtyard of the former Military Barracks (2.1), which was used for some time as a flea market, but is currently

non-functional and in an advanced state of degradation. Also to the north is a road and a secondary access to the park. The main public entrance is located in the south of the Municipal Park, between the Multi-purpose Arena (2.2) and the TVR building (2.3). Another secondary access is found to the west, from Uzinei Street, between the Everest Hotel (2.4) and the Multi-purpose Arena. Next to the main entrance to the park, on the left side, there is the TVR building, the ice rink building currently under construction (2.5), and a building of the Municipal Sports Club adjacent to abandoned tennis courts (2.6). In front, at the end of the central axis of the park, there is the Bölöni László Stadium (2.7), with concrete stands, temporarily used as a storage space for materials. A skatepark is planned to be built to the north of the stadium (2.8 - according to Annex 8.5). On the right side of the axis, there is a Ground Floor + 1 Floor building used by sports clubs and annexes (2.9), and to the right of it, a handball court (2.10) and basketball courts (2.11). West of the Multi-purpose Arena, between the Turbinei Canal and Uzinei Street, there is the Electrica complex and the former turbine (2.12) - an industrial heritage landmark - and on the opposite bank of the canal there are restaurant and guesthouse functions, as well as the former swimming pool (2.13), where the Jewish baths once operated, which are non-functional today. South of the park, on the opposite side of Tamás Ernő Street, there is the Richter Gedeon factory complex, Hotel Arena, and other commercial functions. Access to the park is thus diversified, but the public spaces are dominated by extensive constructions and parking lots, and car traffic that fragment the pedestrian continuity. Also, connections with the Hippodrome and the Mureș riverbank are limited, currently achieved through informal crossings over the railway. Inside, asphalt roads and car parking overlap with the green space function, and the view is often affected by

buildings under construction, unused constructions, damaged fences, and temporary material storage. The major challenges are related to the fragmentation of space, physical barriers, parking pressure, visual conflicts, and the lack of fluid connections with the city's blue-green network.

1.5.3. Aleea Carpați - Turbinei Canal area



The Turbinei Canal represents an important linear element in the urban structure, accompanied by areas of mixed nature – residential, public, and industrial. Along it, there are collective and individual housing complexes, public institutions (Court of

Accounts - 3.1, "Traian Săvulescu" Agricultural College - 3.2), industrial complexes (SGA Mureș - 3.3, former Mobex factory - 3.4), hotel and commercial functions, such as "Cocoșul de Aur" (*the Golden Rooster*) (3.5), public food and service spaces, as well as the Aquaserv complex (3.6), technical heritage buildings from the early 20th century. The canal is crossed by numerous roads, pedestrian and railway bridges that provide visual perspectives and connections between adjacent neighbourhoods, but pedestrian and bicycle continuity is fragmented, and connections over the railway are, in many cases, informal and unsafe. Near the dam area and Plutelor Street, the canal directly connects to the Weekend Leisure Complex (3.7), used intensively for recreational and sports activities. The space adjacent to the canal is choked in certain places by parking lots and car traffic, but is used informally for fishing and walking. Despite urban pressure and fragmented uses, the Turbine Canal retains the potential of a green-blue corridor capable of connecting the central area of the city with the Mureș riverbank and the main recreational spaces. Right next to Zăgazului Street, a major new connection for the city is planned, featuring a bridge over the Mureș River, having an urban street profile with sidewalks, bicycle paths, and vehicular lanes (according to Annex 8.4).

2. CONTEXT AND AREA OF INTERVENTION

Târgu Mureș is a city whose development has been closely linked over the centuries to the presence and dynamics of watercourses. The Mureș River, the main natural axis of the area, together with its tributaries, has shaped the landscape and urban structure, influencing the location of neighbourhoods, green spaces, and economic areas. The link between the city and water is both geographical and historical, this interdependence being preserved to this day.

Historical analysis reveals that urban green spaces partly originate in floodplains or in former river meadows. Their transformation into parks and public gardens is an example of the city's adaptation to the natural environment, but also of valorisation of the landscape heritage.

2.1. GEOGRAPHICAL CONTEXT

2.1.1. TOPOGRAPHY/RELIEF

The municipality of Târgu Mureș is located in the wide corridor of the Mureș River, at the contact between the Transylvanian Plain, the Târnaveilor Plateau and the volcanic mountains area, with their submontane extensions. The urban relief is varied, composed of the Mureș meadow, its successive terraces and the slopes that delimit them, to which the narrow valley of the Pocloș stream is added, a southern tributary of the Mureș river. The city develops on several altimetric levels, between 310 m on the Mureș valley and 450 m on the top of the Cornești Hill, outlining a natural amphitheatre-type of configuration.

The Mureș River crosses the city in a northeast-southwest direction, forming a wide meadow of 3-4 km, at an average altitude of 307 m, and its terraces rise to 300 m (the first) and 360 m (the second). The Pocloș stream shapes a narrow secondary meadow, located at 310 m altitude, with poorly differentiated terraces.

This morphology directly influenced urban development: the medieval city was formed on the first terrace of the Mureș, modern extensions occurred in the Pocloș meadow, and the upper terraces were gradually occupied, especially after the 1970s.

2.1.2. GEOLOGY

The municipality of Târgu Mureș is located in the central part of the Transylvanian Depression, on a sedimentary substrate mainly composed of Neogene deposits – clays, marls, and sands – covered by Quaternary formations. In the Mureș meadow, recent alluvial deposits prevail, consisting of sands, gravels, and clays, and on the terraces, gravels and sands appear, which give the land a variable stability. The geological structure includes marly-clay and sandy complexes, interspersed with proluvial-deluvial deposits, which explains the susceptibility of some areas to subsidence and landslides, especially on deforested or intensively used slopes.

Under the soil layer of the meadow, there is a level of gravels with sands that constitute a groundwater aquifer, used punctually, but with limited resources compared to the surface water provided by the Mureș River. In the past, the clays and ballast pits in the area were exploited, and some of these lands were later incorporated into the urban area. The topography has a generally even appearance, with low interfluvies and wide valleys, and in terms of natural hazards the municipality falls within an area with medium seismicity.

2.1.3. HIDROLOGY

The main watercourse of the municipality of Târgu Mureș is the Mureș River, which crosses the city in a northeast-southwest direction. In the past, the Mureș branched into three arms, but today only one main course is still active, resulting from the extensive hydrotechnical regulation works in the 1970s, which occurred after catastrophic floods. The second most important watercourse is the Pocloș stream (also known as the "Hell stream"), formed by the confluence of two streams: the Sășvar stream, coming from the village of Livezeni, and the Vațman stream, from the area of the village of Corunca.

In the past, there were other small watercourses that crossed the city, which have almost completely disappeared today, remaining only in local toponymy. Currently, in addition to the Mureș and Pocloș, the hydrographic network only includes torrential streams and variable flows, active especially during periods of intense rainfall.

The hydrological regime of the Mureș River is determined by precipitation and snowmelt in the mountainous areas. The Mureș River Plain was in the past prone to periodic flooding, but regulation and damming works have considerably reduced this risk. However, low-lying areas remain vulnerable to flooding, and the Pocloș stream is exposed to silting and diffuse pollution from the urban area. The hydrographic network is an essential element in the ecological structure of the city, functioning as a system of blue-green corridors connecting natural areas and urban green spaces.

2.1.4. CLIMATE

Târgu Mureș has a moderate temperate-continental climate, influenced by its central position in Transylvania and the proximity of the Gurghiu Mountains. The average annual temperature is approximately 8.2 °C, with an average of –3 °C in January and 19 °C in July, and the annual thermal amplitude reaches 23–24 °C. The average amount of precipitation varies between 600 and 663 mm/year, with a maximum in June and a minimum in February, and the average atmospheric humidity is approximately 77%. The dominant winds come from the north and northwest, being channelled by the Mureș Valley.

In recent decades, climate analysis indicates a warming trend – milder winters, with reduced snow cover, warmer summers and an increase in the frequency of tropical days, which reflects an increase in the average annual temperature by 0.5–1.2 °C.

2.2. VEGETATION

In the municipality of Târgu Mureș, the vegetation is distributed differently depending on altitude and local environmental conditions. In the meadows and on the banks of the Mureș River, associations of willow (*Salix sp.*) and poplar (*Populus sp.*) predominate, and on the terraces and hill areas, deciduous forests appear - oak (*Quercus sp.*), hornbeam (*Carpinus sp.*), linden (*Tilia sp.*), and ash (*Fraxinus sp.*) - along with ornamental plantations and secondary meadows in urbanized areas.

In the intervention area, although it is partially located in proximity to water, the structure and composition of the vegetation differ significantly from the natural zonal patterns, being influenced by previous land uses, anthropogenic interventions, and the presence of allochthonous species. This structural and compositional diversity requires the separate analysis of each objective with the related subzones, in order to highlight the existing particularities.

The Hippodrome area is dominated by isolated trees or alignments – walnut (*Juglans sp.*), acacia (*Robinia sp.*), poplar (*Populus sp.*), linden (*Tilia sp.*), apple tree (*Malus sp.*) and chestnut (*Aesculus sp.*). The shrub layer is missing, and allochthonous vegetation, such as thuja specimens, provides partial visual camouflage of the buildings, but do not integrate into the local landscape.

The Relict Meander of the Mureș has a dense, naturalized vegetation, dominated by willow (*Salix sp.*), walnut (*Juglans sp.*), and poplar (*Populus sp.*), to which acacia (*Robinia sp.*), plum tree (*Prunus sp.*), and hornbeam (*Carpinus sp.*) are added. The presence of fruit trees (apple – *Malus domestica*, walnut – *Juglans sp.*, plum tree – *Prunus sp.*) indicates former gardens, and the high density of trees creates a valuable habitat, although it is difficult to access.

The Mureș River bank has less vegetation, with isolated acacia (*Robinia sp.*) and hazel (*Corylus sp.*) trees and a spontaneous herbaceous cover, affected by dry periods.

Along the Turbinei Canal, the vegetation is diverse and dominated by mature maple (*Acer sp.*), linden (*Tilia sp.*), walnut (*Juglans sp.*), poplar (*Populus sp.*) and acacia (*Robinia sp.*) trees, alternating with ornamental and non-native specimens, which gives a heterogeneous landscape.

In the Municipal Park, the vegetation is rich and mature, consisting of oak (*Quercus sp.*), chestnut (*Aesculus sp.*), linden (*Tilia sp.*), ash (*Fraxinus sp.*), maple (*Acer sp.*), hornbeam (*Carpinus sp.*), birch (*Betula sp.*), and spruce (*Picea sp.*). The trees define the landscape character of the park, giving it a high ecological and visual value, while herbaceous and shrubby vegetation has a reduced and discontinuous presence.

2.3. FAUNA

The urban fauna of Târgu Mureș reflects a balance between adaptation to the anthropized environment and the conservation of natural elements associated with the ecological corridor of the Mureș River and the adjacent forest and aquatic habitats. Avifauna is the dominant group, including both synanthropic species and species dependent on mature trees, wetlands, and river banks. The fauna of amphibians, reptiles, and small mammals completes the local biodiversity, highlighting a remarkable ecological potential. Considering the particularities of habitat and use of each area analysed in the competition, the fauna is treated differently by objectives in order to highlight the ecological specificity and the conservation or valorisation potential of each unit.

In the Hippodrome area, dominated by meadows and open spaces, the fauna is typical of anthropized environments – sparrows, starlings, small rodents, and pollinating insects. In contrast, the Mureș Relict Meander represents a core of urban biodiversity, hosting amphibians (green frog, newt), reptiles (water lizard), a diverse aquatic avifauna (grey heron, mallard, coot), and even an active colony of European beaver (*Castor fiber*), a species with a positive role in shaping the meadow habitat. The high natural value in an urban context may justify the future classification of the Relict Meander area as a natural urban area.

The banks of the Mureș River provide nesting and feeding habitats for numerous waterfowl and species of Community interest, reinforcing the ecological importance of the river corridor. Also, the Turbinei Canal, although partially artificial, functions as a secondary ecological corridor, frequented by waterfowl and bats.

In the Municipal Park, the mature trees and the mosaic of urban green spaces support a rich avifauna, with species such as woodpeckers, tits, blackbirds, but also small birds of prey (red kestrel, forest wagtail). Overall, the faunal structure of the municipality of Târgu Mureș reveals a still functional urban system from an ecological point of view, with areas of high interest for conservation and landscape reconnection.

2.4. HISTORICAL HIGHLIGHTS OF THE SITE

The municipality of Târgu Mureș was formed in a strategic point of Transylvania, on the Mureș River corridor, at the intersection of regions with different resources and economic functions. Although traces of habitation date back to prehistoric times, the urban structure took shape in the Middle Ages, when the initial rural settlement transformed into a craft and commercial market-town, documented in the 14th century. The city initially developed on the second terrace of the Mureș, around the current fortress and Bolyai Square, later expanding into the meadow, with the regularization of the river course and the connection of the “upper” and “lower” areas. In the 16th–17th centuries, fortifications and the first representative buildings appeared, and in the modern era, the city expanded on both banks of the Mureș, integrating the nearby villages. The 19th–20th centuries brought the modernization

of the infrastructure – railways, streets, residential districts, industrial areas and the first urban green spaces. After the floods of the 1970s, the embankment works strengthened the relationship between the city and the Mureș River.

Today, the urban structure of Târgu Mureș clearly reflects the historical stages of growth, visible in the built fabric, in the placement of public spaces, and in the continuity of the hydrographic corridor that shaped the evolution of the town.

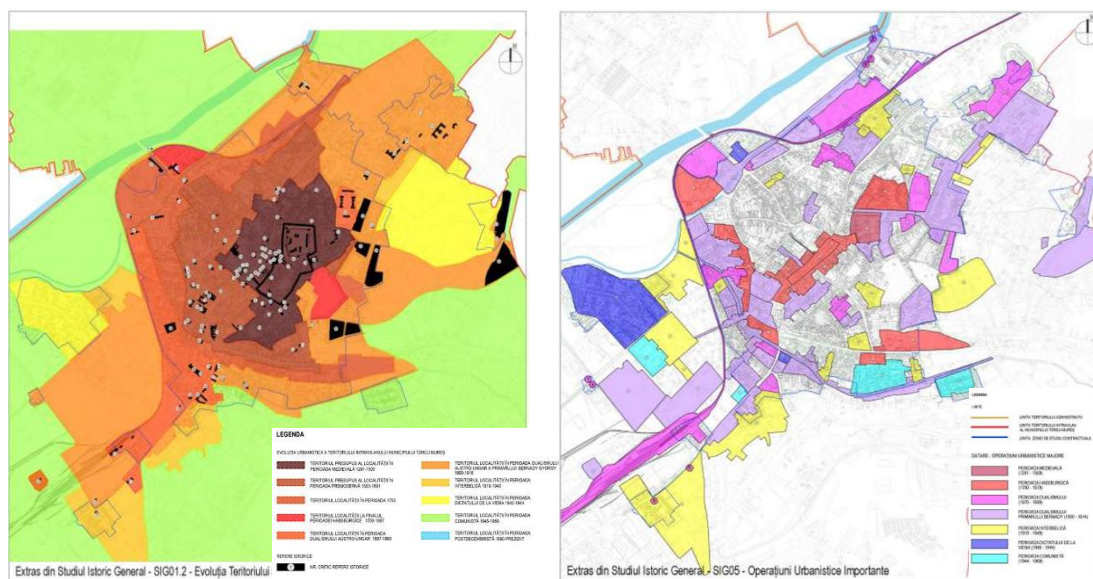


Fig.2 Excerpt from the General Historical Study – Substantiation studies for the Preliminary Zonal Urban Plan – Târgu Mureș Protected Built Area (2021)

2.5. HYDROGRAPHIC EVOLUTION OF THE CITY

The hydrographic network of the municipality of Târgu Mureș has undergone major transformations, determined by the natural evolution of the Mureș and by the regulation works. In the past, the river had a meandering course, with several secondary branches, one of which crossed the central area. The regulation works in the 19th century led to the disappearance of the central branch, the stabilization of the Relict Meander, and the formation of Elba Island, later transformed into the current Municipal Park.

Over time, the water network has expanded through anthropogenic works: the Morii Canal, derived from the Mureș, fed the city's mills, and the Pocloș stream was partially rectified at the beginning of the 20th century. After the floods of the 1970s, embankments, bank consolidations, and dams were built, significantly reducing the risk of flooding in the central area.

Today, the strategy for managing and capitalizing on hydrographic resources aims to create a coherent network of blue-green corridors by integrating the Mureș, Pocloș, and Turbinei Canals into an urban system of protection, recreation, and slow mobility, which would reconnect the city with its natural structure.

Thus, the city's hydrographic evolution reflects the transition from a natural landscape dominated by meanders and extensive wetlands to a controlled system of regularization works, but which retains a high potential for reconnecting urban spaces to water.

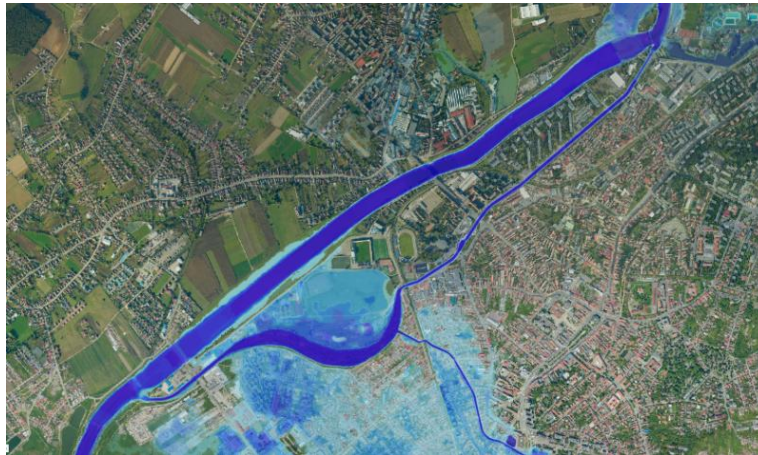


Fig.3 Hazard and risk map for fluvial floods in the studied area (inundatii.ro)

2.6. GREEN SPACES NETWORK

The green spaces network of Târgu Mureș municipality represents a fundamental ecological infrastructure, contributing to the climate balance, the quality of the urban space, and social cohesion. The current structure includes fragments of urban gardens and squares, street alignments, green spaces in socialist neighbourhoods, recreational areas, and peri-urban forests, complemented by the green banks of the Mureș and its tributaries. The most important green cores are the Cornești Plateau, the Mureș Relict Meander area, and the Turbinei canal, which ensure a significant natural continuity. The forests of Budiu (380 ha) and Remetea (160 ha) complete the peri-urban system, providing protective functions and potential for recreation.

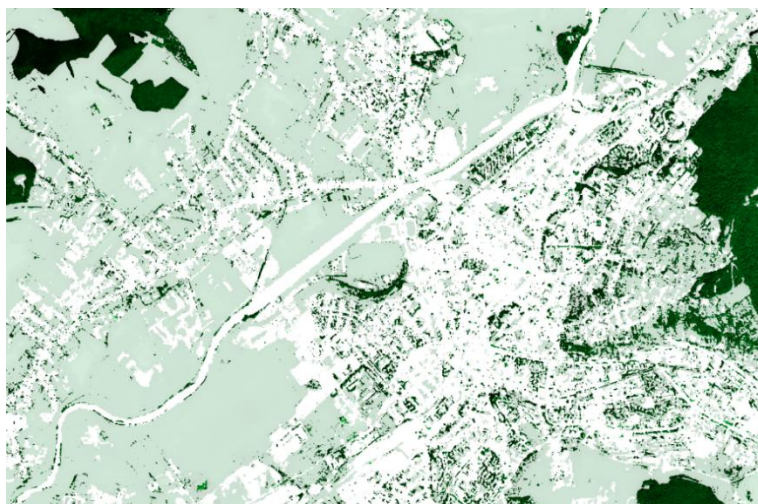


Fig.4 Current network of green spaces (processing based on GoogleEarth-Meta)

Despite these resources, the green network is fragmented and unevenly distributed, with a sharp deficit in the densely populated neighbourhoods built in the 1980s and 1990s. The lack of coherent and interconnected urban parks led to the need for a new strategic approach, materialized by the initiation of the “Mureș Parks”

competition, which aims to reconnect the city with its natural system and expand public access to green spaces.

In the long term, the development of the green network involves the creation of multifunctional parks, the expansion of vegetal alignments, the connection of peri-urban forests with central areas through continuous ecological corridors, and the valorisation of riparian areas. This vision aims to transform the existing green system into an integrated urban infrastructure, with complementary ecological, recreational, and climate adaptation functions.

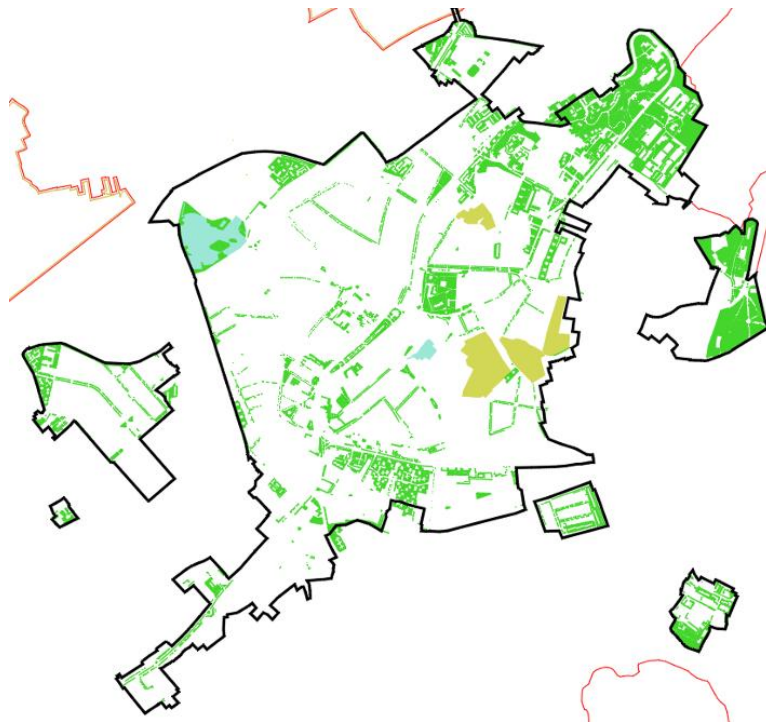


Fig.5 Distribution of green spaces in the Protected Built Area (parks, squares, alignment vegetation, sports areas, cemeteries), Source: Zonal Urban Plan –Târgu Mureș Protected Built Area (2021)

2.7. MOBILITY AND CIRCULATIONS

Currently, the studied area is suffering from a series of dysfunctions from a mobility perspective:

- insufficiency of exclusively pedestrian routes, promenades, and bicycle paths;
- lack of key pedestrian and bicycle connections: on the banks of the Mureș River, along the Turbinei Canal, along the Pocloș Stream, along the railway, on Călărașilor Street, on Insulei Street;
- improperly designed intersections;
- oversaturation of public space with cars;
- railway barrier affecting pedestrian, bicycle, and road traffic, due to the railway route that runs through the area;
- presence of heavy traffic on the route Insulei Street – Tamás Ernő Street – Sinaia Street.

Regarding the planned interventions and future prospects, the Sustainable Urban Mobility Plan 2021-2030 (approved in 2022) and the General Urban Plan of Târgu Mureș Municipality (2022) provide for the following:

- the creation of a network of bicycle paths at the municipal level, with a series of interventions foreseen at the level of the intervention area of the “Mureș Parks” competition;
- the implementation, on sections, of the bypass belt (SE-NE direction and SW-NW direction), which will allow the diversion of transit traffic and heavy traffic from within the city and the gradual elimination of car traffic from the central-historical area;

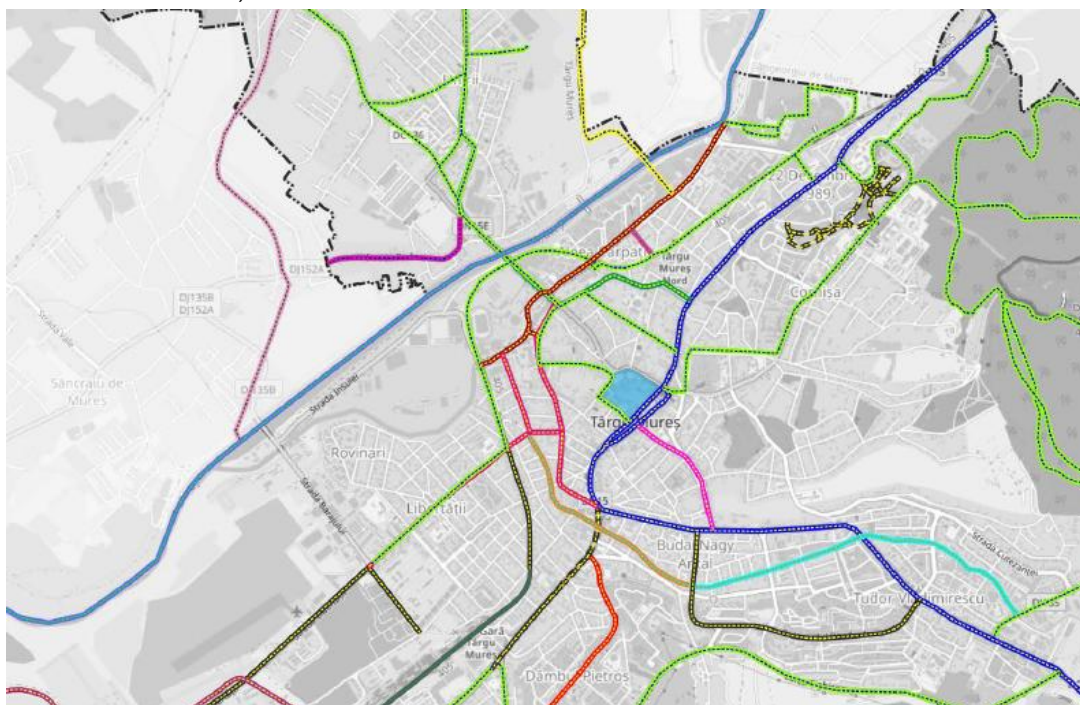


Fig.6 Bicycle infrastructure proposed through the 2021-2030 PMUD

2.8. PROVISIONS OF THE URBAN PLANNING DOCUMENTATION

The surface of the studied area and its surroundings are regulated by the General Urban Plan (PUG) of the Municipality of Târgu Mureș (2022), respectively, the Preliminary Zonal Urban Plan – Protected Built Area (PUZCP) Târgu Mureș (2021).

The intervention area is zoned according to the PUG in green areas of various types: parks, public gardens, squares (V1a/V1aP), green spaces for recreation (V3a, V3b/V3bP), watercourse protection areas (V4), protection from technical or sanitary infrastructure (V5/V8), as well as a blue area related to the watercourses themselves (Mureș River and Pocloș Stream).

The surroundings of the intervention area present a diversity of neighbourhoods, consolidated or unstructured urban tissues along the watercourses:

- Central urban fabrics, in the protected built area: with historical fabric, with insertions of buildings built in recent decades (CP2), with industrial buildings, small production, manufacturing, and services for industry (CP4);
- Dispersed urban fabrics with complex functions of municipal and supra-municipal importance, such as university education and research (CB2), or other areas with existing facilities (CB1/CB1P);
- Mixed urban fabrics: with relatively low height regime, maximum Ground Floor +3 Floors (CM1), or within the urban fabrics with collective housing blocks (CM3);
- Neighbourhood center area (CC);
- Public equipment area (CE);
- Urban fabrics with small individual and collective housing: with discontinuous regime (L2a), or isolated and grouped, created based on pre-established subdivisions (LL/LLP);
- Urban fabrics with medium-sized collective housing (L1);
- Activity areas: productive (AI3a/AI3aP) and for services (AI2b);
- Area of constructions and designs for communal management (G1/G1P);
- Railway corridor (TF).

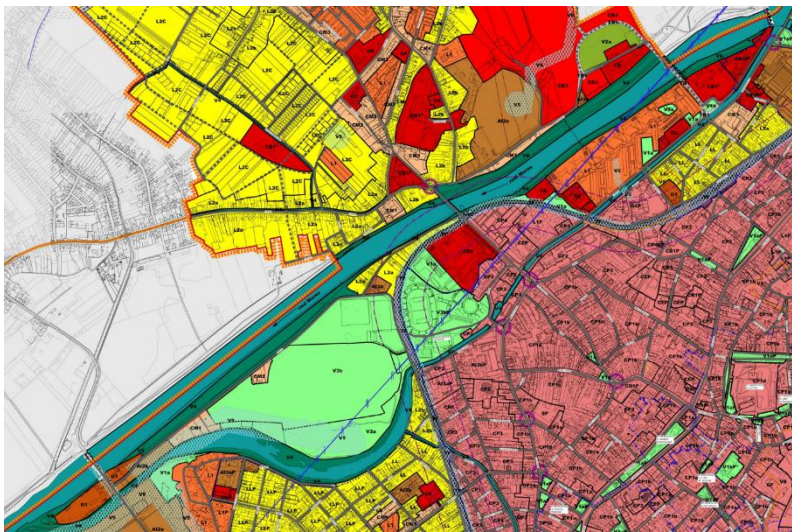


Fig.7 The General Urban Plan of Târgu Mureș Municipality (2022) highlighting the diversity of urban fabrics along the watercourses.

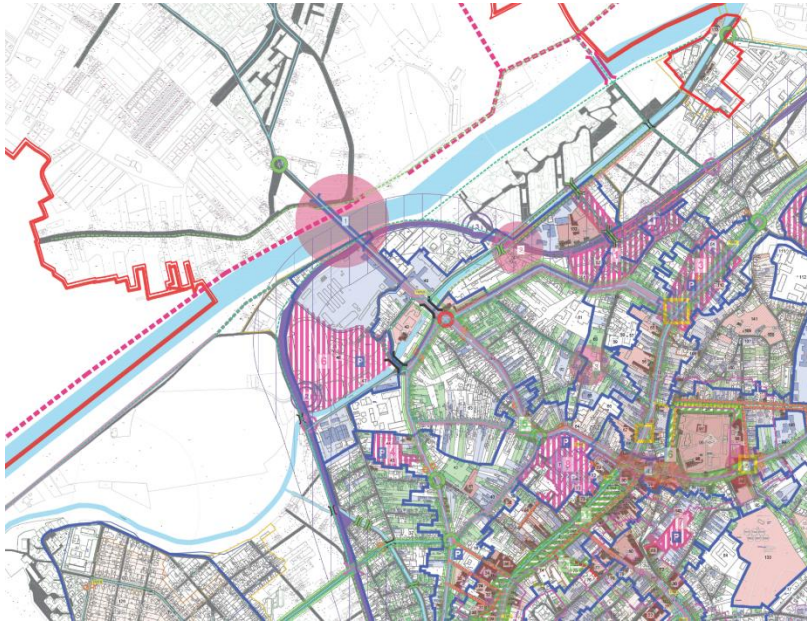


Fig.8 Zonal Urban Plan
 – Târgu Mureș
 Protected Built Area
 (2021) highlighting
 valuable elements in the
 urban fabric adjacent to
 the study area.

2.9. PUBLIC CONSULTATION

For the “Mureș Parks” project, the consultation was carried out in stages, through an online questionnaire, roundtables with specialists, and public debate, with the objective of presenting and discussing the values that substantiate the competition brief. The questionnaire highlighted the community's need for more planted green spaces, shaded and natural areas, continuous pedestrian and bicycle connections, playgrounds, non-motorized sports activities, and opportunities for direct contact with nature and water. During the meetings, aspects related to the legal status of the land, the role of equestrian activities, the integration of the Romanian Waters projects, bicycle-pedestrian connectivity, the protection of areas with ecological value (Relict Meander, Pocloș stream), as well as the relationship with existing sports and cultural spaces were clarified.

The general conclusions show broad support for the development of a network of unitary green spaces, accessible to all age groups, with recreational and educational functions, connected to each other and integrated into the urban structure of the municipality. The results were summarized in a written report, highlighting how the elements raised by the public were integrated into the documentation (according to Annex 8.7 - Public Survey).

3. BRIEF REQUIREMENTS

3.1. GENERAL REQUIREMENTS, DESIGN PRINCIPLES

The project requested through this competition is of great complexity, requiring designs that bring into play the skill of an urban planner, the imagination of an architect, and the ingenuity of a landscaper. The synthesis of these will have to result in a nuanced intervention, of great sensitivity, in which the understanding of the memorial function of the place is combined with the artistic component required by the enhancement and landscape-ecological amplification of the entire network of blue-green spaces.

The brief demands design solutions for a network of predominantly blue-green public spaces totalling approximately 54.5 ha with the center of gravity in the Hippodrome area, with connections to the bank of the Mureș River to the northwest, the natural branch and the outlet of the Pocloș stream to the south, respectively upstream along the Turbinei canal, including the unbuilt spaces in the Municipal Park and the banks of the canal in the Aleea Carpați area. This network of green spaces will be designed to optimize and reduce the space used by car traffic and parking, respectively, to maximize the vegetal, pedestrian, and bicycle components of the development, while offering a wide range of possibilities for recreation, socialization, relaxation, and leisure, outdoor exercise, and play.

The proposals will be based on the following principles:

3.1.1. LANDSCAPE AND ECOLOGICAL VALORISATION

The design will be based on respect for the natural and cultural landscape and for the ecological dynamics of specific habitats. The watercourses in the studied area represent a unique landscape heritage for the city, which must be integrated responsibly and creatively into the urban structure. The proposed interventions will preserve and enhance natural values, favouring community access to the landscape and, at the same time, strengthening the natural processes essential for biodiversity.

The landscape will be designed as a succession of visual and sensory experiences, in which the openness to the water, shaded areas, open meadows, and promenade routes complement each other. The perspective on the watercourses, the contact with the vegetation specific to riparian areas, and the topographic variations will be carefully studied through the design proposals.

The ecological component has a central role: protecting areas of high natural value (such as those remaining in the Mureș Relict Meander riverbed) and improving the ecological value of existing and newly proposed green spaces for the expansion of specific habitats, the integration of bioretention areas, natural filtration and infiltration of rainwater, the use of native plant species adapted to climate change. The parks will be designed as spaces of balance between human use and environmental

conservation, places where the community can directly observe how nature contributes to the quality of urban life.

Landscape and ecological valorisation also requires that the design be sensitive to the dynamic nature of watercourses, with areas that may be flooded or subject to natural transformations. Instead of an artificial rigidity, the design will embrace these characteristics, transforming them into an asset of the project, while respecting the technical conditions imposed by the Mureș Water Basin Administration. Thus, the Mureș Parks will function as a link between nature and the city, offering a living environment that educates, inspires, and creates urban identity.

3.1.2. PUBLIC OPENNESS

The fundamental nature of the proposed spaces will be that of a common good, intended for all. The design will ensure unrestricted free access, without physical or symbolic barriers. The proposed spaces will be designed as a public blue-green infrastructure that responds to the needs of climate resilience, recreation, health, and socialization. By their conception, they must be easily accessible, friendly, and welcoming.

3.1.3. ACCESSIBILITY

The proposed spaces will be easily accessible from all directions, linked to the adjacent neighbourhoods, the historic center, and the urban mobility network in general. Accessibility requires not only multiple clearly defined entrances, but also internal circulations adapted to different types of users: pedestrians, cyclists, people with reduced mobility, children, or the elderly. Fluency and safety of movement are essential for parks to become a natural part of the daily lives of residents. Attention will also be paid to possible conflicts between pedestrian and bicycle traffic.

At least the following will be considered:

- pedestrian and bicycle connections and natural corridors between the Hippodrome area, the Municipal Park, the Aleea Carpați neighbourhood, and the Weekend Complex, along the Turbine canal, which would become a blue-green corridor;
- connections with the historic center of the city, including along the Pocloș stream (the shortest potential connection);
- activation and reintegration into the urban promenade circuit of the current banks of the Mureș River in the area of the Hippodrome, including the dikes;
- pedestrian promenade connections and routes in the area of the Relict Meander of the Mureș River with an educational-ecological vocation;
- improvement of connections with the urban tissues adjacent to the blue-green system;
- improvement of pedestrian and bicycle infrastructure, ensuring continuity of crossings and connecting the various points of interest of the city in the intervention area;

- optimization and reduction of the space used by car traffic, optimization of the space used by parking lots without reducing their number, respectively maximizing the vegetal, pedestrian, and bicycle component of the development;
- reconfiguration of public space taking into account the accessibility of existing adjacent buildings;
- improvement of residents' access to water courses for recreation and sports.

3.1.4. SOCIAL INCLUSION

The Mureș parks will offer spaces open to everyone, regardless of age, physical abilities, social status, or cultural preferences. They will host a diverse range of areas and activities – from playgrounds for children of different age groups, to quiet areas for rest and contemplation of nature, recreational and sports trails, or access areas to the various existing sports facilities – so that each visitor can find their right place. Inclusion does not only mean the coexistence of different users, but also encourages spontaneous encounters and exchanges between people. Through careful design, parks will avoid spatial segregation and stimulate interaction, strengthening their role as catalysts of social cohesion and symbols of urban unity.

3.1.5. ADAPTABILITY

The designed spaces will be open to change, rather than designs with a predefined, monofunctional organization. The “Mureș Parks” must be conceived to support both daily, regular use and occasional events that bring vitality to the community. Certain spaces will be designed to be able to easily switch from daily functions – walking, sports, relaxation – to special uses such as small public events, outdoor screenings, etc. Pavilions and shelter buildings will be few and small, but versatile, capable of hosting multiple activities, so that the green surface is maximized. Adaptability thus becomes a principle of resilience: parks will be able to evolve with the community and will remain relevant over time.

3.1.6. DIFFERENTIATED MANAGEMENT

The designed spaces will be designed on the principles of differentiated management, emphasizing low maintenance and respect for the environment. The goal is to create urban spaces that are friendly to people and nature, that are attractive, functional, and sustainable at the same time.

Differentiated management involves dividing green spaces into areas with different maintenance requirements, so that resources – water, energy, and workforce – are used efficiently, and the impact on the environment is minimal.

- Protected natural areas – spaces where human intervention is minimal, designed to conserve biodiversity, preventing only major risks, such as the accumulation of dry vegetation that can cause fires.
- Low-maintenance areas – extensive carpets of native plants and wild meadows, which are almost self-sustaining, reduce water consumption and eliminate the

need for frequent cutting or pesticides. These areas create habitats for biodiversity and increase the attractiveness of the landscape.

- Moderate-maintenance areas – stands of shrubs and trees resistant to local conditions, which require occasional interventions, such as selective pruning or cleaning of access paths. These areas balance aesthetics with maintenance effort.
- Intensive maintenance areas – punctual spaces that require frequent and careful care to maintain their appearance and functionality, such as lawns, floral arrangements, squares, or areas that highlight buildings and decorative elements.

Through this balanced approach, parks become an example of harmony between nature and the city, reducing maintenance costs and efforts, while supporting biodiversity, ecosystem health, and visitor comfort.

3.1.7. ATMOSPHERE

Beyond the functionality and ecological and social performance of the parks, particular attention is required for the atmosphere that the “Mureș Parks” will convey. The aim will be to create a varied palette of ambiances - from vibrant areas dedicated to collective meetings, to intimate spaces for peace and reflection. Direct contact with water courses, the play of lights filtered through vegetation, the changes in seasonal textures and smells will shape the user experience. The atmosphere is not a simple decoration, but an essential element, anchored in the nature of the place, which determines the emotional attachment to the parks. Through its diversity, it will transform each visit into a memorable experience and will consolidate the identity of the place in the collective imagination of the community.

3.2. SPECIFIC REQUIREMENTS FOR THE INVESTMENT OBJECTIVES

3.2.1. Investment objective 1: Hippodrome area with the Relict Meander and adjacent Mureș riverbank

Hippodrome area:

The spatial redefinition of the area as an urban park is requested, taking into account the adjacent and on-site functions. A coherent system of pedestrian alleys and bicycle paths will be ensured, with a variety of access points, equipped with bicycle parking.

Pedestrian and bicycle crossings will be provided over Insulei Street, designed to function in the initial phase, until the diversion of heavy traffic onto the future city bypass, as well as later. Along Insulei Street, the continuity of both bicycle and pedestrian routes will be ensured, in correlation with the proposed developments on the Mureș River bank.

The connections with the Municipal Park will be improved by designing bicycle-pedestrian under- or over-crossings of the railway.

The ground organization of parking spaces will be optimized, maintaining the total number of 630 existing spaces at the level of objectives 1 and 2 considered together. The method of redistribution is at the discretion of the competitors within the area of the two objectives.

The pavilion/pavilions in the park will be small, being dedicated to functions such as: shadeing, small public catering, public toilets.

The project will integrate solutions that allow the use of the park in various scenarios, both daily and for special events, in the summer season and in the winter season. The spaces will be designed with a high degree of flexibility, to respond both to everyday activities, but also to allow the development of temporary cultural-recreational activities (open-air exhibitions, projection spaces, and open-air performances - film/show – small-sized).

The lighting will be adapted to the proposed layouts and overall ecological objectives.

The urban furniture will be diversified (benches, trash cans, pergolas, picnic tables, bicycle racks, drinking water fountains, etc.), strategically placed, both in the rest areas and along the circulation routes. The furniture will be harmoniously integrated into the landscape and adapted to both individual users and groups.

The number, position, and dimensions of the playgrounds remain at the discretion of the competitors, in accordance with the proposed vision. It is recommended to avoid extended mono-functional areas, being preferable to intersperse them with seating areas or with attractions calibrated for other types of public.

Given the density of sports facilities already present in the vicinity and on the site, no new sports functions will be provided, but all existing functions will be carefully integrated. In particular, the landscaping of the park will take into account the possibility of continuing to carry out equestrian activities.



Fig.9 Functions related to equestrian activities that must be integrated into the park's design.

The intervention area excludes some of the areas used by the Romsilva Stallion Depot, such as horse shelters, covered riding arenas, exercise paddocks, spaces for teams, spaces for staff and visitors/athletes, annexes. However, the following elements related to equestrian activities are included in the intervention area and must be integrated into the park's design solution:

- H00. The area for setting-up various types of equestrian competitions. Currently, the Romsilva Equestrian Club organizes about 7 competitions per year. In the future, the frequency and type of competitions will be determined by inter-institutional decisions and agreements, and may decrease. It is requested that the park design solution allows the possibility of temporarily setting-up equestrian competition routes. Vegetation on all levels is allowed and even encouraged, as long as the various types of circuits can be arranged at a minimum distance of 3m from trees or shrubs. During the equestrian competitions, parking for transport vehicles and competitors' caravans must also be accommodated. The equestrian trails are not fixed; they are designed for each competition by specialized organizers, observing principles such as adapting the length and difficulty to the level of competitors, smoothness in the route, avoiding sudden changes of direction or "S"-type curves. The park layout design must allow temporary hosting of different trail lengths, but without having permanently delimited spaces for these events: for the pre-novice category (600-700m trail length), the CCI1 category (this being the most common category, trail length of min 2000m - max 3000m), or the CCI2 (3650m trail length). The riding surface for temporary equestrian trails can be sand or grass, with vegetation management on these trails being carried out in such a way as to allow the safe development of the events. For more details on the horse racing circuits, including some examples of routes previously developed on the site, see Annex 8.3.
- H01. Hayloft: a simple fodder shelter with the current dimensions of 13x32m. It was included in the intervention area together with its neighbouring area with the

aim of increasing connectivity between the Mureș riverbank and its Relict Meander. The function will be maintained, but it can be relocated to a location directly connected (fenced) to the Stallion Depot.

- H02. Outdoor riding arena: a fixed fenced perimeter for training, measuring 109m long X 87-98m wide. The function will be maintained, but it can be relocated to a location not very far from the Stallion Depot. A direct connection is not required.
- H03-H09. Small groups with different types of obstacles, used in equestrian competitions. Groups H07, H08, and H09 can be freely repositioned, and groups H03-H06 are preferable to remain in the current area with possible punctual repositioning.
- H10. Water area: a specially arranged area for horses to cross the water during competitions, usually representing the most spectacular point on the route for the public. The function will be preserved, but it can be repositioned.

The relationship with the Romgaz base will be conceived for the scenario of reactivating the area, also with public functions. At the same time, the need to ensure intervention and maintenance access to the gas infrastructure will be taken into account.

Specific requirements for vegetation and biodiversity:

Preserving and diversifying existing vegetation:

The project will aim to integrate existing vegetation as much as possible, with priority given to maintaining old trees. Native, indigenous species specific to characteristic habitats will be used, as well as species adapted/suitable to the site, with the objective of increasing the floristic and arboreal diversity and strengthening the natural character of the development, as well as resistance to climate change. Insertions of plant species considered invasive, alien to the site, are not desired. At the same time, the semi-natural grassy habitats will be partially preserved.

Principles for organizing vegetation and open spaces:

Creating a harmonious alternation between shaded areas of trees and open spaces of meadows or free areas, complemented by vertical transparencies under the tree crowns, which preserve perspectives and facilitate various activities and functions.

Planting standards:

Differentiated planting standards will be applied for trees. Thus, in more intensively used areas, advanced standard trees will be provided, capable of quickly contributing to the improvement of the microclimate and the consolidation of the park's image, and in areas with reduced use, younger specimens will be proposed, in order to reproduce the natural dynamics of growth and to generate a varied plant structure in the long term.

Plant palette and biodiversity:

The species palette will be designed to support fauna on all plant levels: trees,

shrubs, ground covers. Mixtures of perennial herbaceous plants and flowering meadows will be used, with a role in increasing biodiversity.

Nature-based landscaping and landscape integration:

The landscaping will integrate as many natural designs as possible (mini-forests, rain gardens, temporary/permanent ponds with native aquatic vegetation, etc.). Protective plantings adapted to the neighbourhoods will also be included, where necessary, to ensure a more natural visual transition and better integration into the landscape context of the area.

Sustainable management of green spaces:

It is recommended to formulate and apply sustainable maintenance designs for green spaces, based on reducing intensively maintained lawn areas, favouring native and climatically adapted vegetation, using permeable substrates, limiting areas requiring irrigation, etc. Thus, green spaces maintain their ecological functions and become more resilient to climate change.

Ecological connections and habitat for fauna:

The design solution will propose ecological connections between the different areas of the park, between the park and the Mureș riverbank, as well as along the Relict Meander or the canal. These will facilitate the mobility of species and support the functioning of ecosystems.

Relict Meander of the Mureș River

The area will be integrated as a recreational space, but in a manner that keeps the ecological functions. Dense vegetation is recommended to be preserved as a natural habitat with limited access, and more open spaces can be intended for easy circulation, ecological education, or relaxation. Through this functional differentiation, the landscape preserves its natural value while providing benefits to the community.

Measures will be provided to protect valuable habitats, and correlation with the "Romanian Waters" project will be ensured, to ensure the longitudinal continuity of the watercourse at the level of the riverbed. The transit flow at the normal retention level on the Turbinei Canal and the Relict Meander is 20m³/s, while the maximum transit flow is 56m³/s.

Access to the water will be facilitated through specially arranged points, and specific arrangements will be designed for observing the fauna.

The network of paths will be adapted to the natural specifics of the area, completed with bicycle parking and two new bicycle-pedestrian crossings over the Relict Meander, also taking into account the project for the development of the bicycle track on the southern bank of the dike (according to Annex 8.2). The bicycle-pedestrian crossings will be lightweight structures that will not visually impose themselves on the natural setting, aiming for a minimal physical and ecological

impact. Connectivity will also be strengthened by an under- or over-crossing of the railway towards Tamás Ernő Street.

The lighting will be provided exclusively for safety purposes, without extending over the water and without illuminating the treetops.

Specific requirements for the left bank:

A pedestrian pathway and a functional bicycle path will be designed between Barajului Street and Insulei Street.

A green space will be created for the community in the Ady Endre collective housing district.

Specific requirements for the right bank:

An pathway will be designed between the Black Lord hotel area and Insulei Street. Direct pedestrian connections with the Hippodrome area will be ensured.

Specific requirements for vegetation and biodiversity:

Preservation and planting of trees:

Existing trees will be preserved for their essential role in maintaining the specific microclimate. Native trees adapted to wetlands – such as *Alnus sp.*, *Fraxinus sp.*, *Salix sp.*, or *Populus sp.* – will be proposed to ensure both natural shading of the water and habitat for fish and birds. At the same time, it is recommended to preserve fallen trees in the water as biodiversity elements and to integrate the fruit trees remaining from former gardens (*Malus sp.*, *Prunus domestica*, *Juglans regia*), which can provide food for fauna and landscape value.

Plant palette and biodiversity:

The species palette will be designed to support fauna on all plant levels: trees, shrubs, ground covers. Mixtures of perennial herbaceous plants and flowering meadows will be used, with a role in increasing biodiversity. Native, specific species will be used to strengthen the natural character of the layout. Insertions of plant species considered invasive, alien to the site, are not desired.

Specific restrictions:

No modifications or alterations to the complementary projects currently being implemented as provided for in Annex 8.1 and 8.2 (restoring the longitudinal continuity of the watercourse, respectively, the design of the bicycle path on the left bank dam) are accepted.

Pocloș Stream

A pedestrian walkway and a functional bicycle path will be arranged on the left bank of the stream, ensuring the continuity of alternative mobility routes.

The connection with adjacent areas and the city center will be strengthened by an under- or over-crossing of the railway and by connecting to the potential link from Pârâului Street to Libertății Street.

Specific restrictions:

No reduction of the riverbed section is allowed, in particular no new supporting structures (pillars/walls) are allowed in the riverbed.

Mureș Riverbank

On the left bank of the river, between Barajului Street and the Aleea Carpați neighbourhood, a pedestrian pathway and a functional bicycle path will be designed, with the possibility of completing the profile of Insulei Street on certain sections where necessary, in correlation with the proposed designs in the area adjacent to the Hippodrome. These arrangements and crossings will be designed so that they can function in the initial phase too, until the diversion of heavy traffic on the future city bypass, as well as subsequently. In the northern area, under the road bridge over the Mureș, the profile of Insulei Street on the section adjacent to the bank will be reconsidered so as to ensure the continuity of pedestrian and bicycle routes to the pathway on the dike in the Aleea Carpați neighbourhood. The pathways network will be designed taking into account the restrictions imposed by the floodable area.

Access to the water will be facilitated through dedicated points and pontoons that will allow for non-motorized recreational and sports activities. A small pavilion may be included for changing rooms, toilets, and storage spaces related to these activities.

Artificial lighting will be permitted only within such limits that do not affect the water surface.

Specific requirements for vegetation and biodiversity:

Planting native trees and shrubs:

To increase habitat diversity and improve environmental comfort, it is recommended to plant trees and shrubs exclusively from native species.

Planting in the floodable area:

Tree and shrub plantations can be introduced in the space between the dike and the water, provided that the natural flow of water is respected. Their location must ensure a sufficient distance between the elements to allow the transit of water during flood periods, according to the existing model upstream of the bridge.

Management of grassy vegetation:

Considering that grassy vegetation is sensitive to drought, designs for its diversification are recommended to reduce vulnerability to drought periods and to increase the ecological stability of the bank.

Specific restrictions:

Excavation or reduction of the dike section is not accepted. Any paths on the dike crest or access ramps to them will be made by adding additional material.

In the floodable area between the dike and the water, only interventions parallel to the dike are allowed, which do not affect the water flow and do not create obstacles in the event of a flood.

A protection zone of at least 300 m upstream of the dam will be maintained, in which interventions on the water surface are not allowed.

Interventions that could compromise the bank consolidation works are not allowed.

For any floating structures, access to the pontoon is allowed exclusively from above/from outside the bank defence works that are in contact with the water.

3.2.2. Investment objective 2: Municipal Park

Requirements for the entire area:

The design will integrate the existing sports and cultural functions (ice rink, multi-purpose arena, TVR headquarters, sports clubs and annexes, various sports fields, skatepark, etc.) and will provide for the spatial reorganization of green areas, recreational areas and recreational equipment (playgrounds, ping-pong tables, fountains, pergolas, etc.), so that they are distributed coherently, accessible and harmonized with the spatial structure and the newly proposed pedestrian routes. As for the repositioning of sports fields (basketball, handball, tennis), this can only be done where it is strategically justified. For the tennis courts in the south, adjacent to the railway, it is allowed to reduce their number from 5 (currently degraded) to 3, and implicitly to relocate them.

The spatial organization of pedestrian areas, bicycle areas, car traffic, and ground parking spaces will be optimized (the total number of 630 existing spaces at the level of objectives 1 and 2 considered together will be maintained, but the method of redistribution is at the discretion of the competitors within the area of the two objectives). Bicycle parking spaces will also be provided.

Bus drop-off areas will be provided in the vicinity of important buildings or functions, and the location of a bus parking space will be left at the discretion of the competitors within objectives 1 and 2 considered together, provided that it is integrated into the functional and landscape ensemble of the area.

The connections with the Hippodrome Area will be improved by designing bicycle-pedestrian under- or over-crossings of the railway (see also chapter 3.2.1).

A pedestrian pathway and a functional bicycle path will be designed along the entire length of the project from the Hippodrome area (Insulei Street) and the Aleea

Carpați area (Călărașilor Street), ensuring the continuity of alternative mobility and connectivity with existing or proposed routes. These routes will be designed to serve both daily traffic and recreational activities, offering multiple access points and bicycle parking spaces. Both the spaces along the Turbinei canal and Uzinei street, whose profile can be reconfigured, will be taken into account for these routes.

Permeable and semi-permeable surfaces will be introduced in circulation and recreation areas, with natural designs for rainwater retention (rain gardens, green alveoli, permeable gutters). These measures will contribute to sustainable water management, reducing the heat island effect, and integrating the area into the landscape.

The public lighting system will be adapted to the specifics of the proposed routes and spaces, respecting the overall ecological objectives. The lighting fixtures will be energy efficient, with controlled orientation, to ensure user safety and limit light pollution.

Urban furniture will be diversified (benches, trash cans, pergolas, picnic tables, bicycle racks, drinking water fountains, etc.), strategically placed, both in rest areas and along circulation routes. The furniture will be harmoniously integrated into the landscape and adapted to both individual users and groups.

The area will be equipped with play facilities, sized for different age categories and activity levels. The playgrounds will be designed with a high degree of flexibility, interspersed with relaxation areas and vegetation, and sports equipment will support small-scale recreational activities (urban fitness, ping-pong tables, mini-multipurpose courts).

Where possible, fencing solutions will be eliminated or redesigned, aiming to improve accessibility and visual and physical permeability, while observing safety requirements. It is recommended to use natural fencing (hedges, shrubbery cordons) or minimal solutions, which delimit functional spaces (such as individual sports fields) without fragmenting the landscape.

The project will integrate designs that allow the use of the park in various scenarios, both daily and for special events, in the summer season and in the winter season. The spaces will be designed with a high degree of flexibility, in order to respond to both daily activities and cultural, sports, or community events.

Possible access points to the Turbinei Canal watercourse will be taken into account, while observing the correlation with the Apele Române project, aiming to ensure longitudinal continuity at the riverbed level.

At strategic points, bicycle and pedestrian crossings over the Turbinei Canal will be provided where necessary.

Requirements for vegetation and biodiversity:

Preserving and diversifying existing vegetation:

It is recommended to maintain mature trees and existing valuable specimens, which have both a landscape role and major ecological functions (shading, microclimate, habitat for birds and insects). It must also be taken into account that in certain situations they can be eliminated if the phytosanitary status before the start of the construction works shows that they constitute a major impediment to the safe use of public space, for example, in the area around the stadium or other heavily used public infrastructure. Native, autochthonous species specific to characteristic habitats will be used, as well as species adapted/suitable to the site, with the objective of increasing the floristic and arboreal diversity and strengthening the natural appearance of the design, as well as resistance to climate change. Insertions of plant species considered invasive, alien to the site, are not desired.

Soil clearing around trees:

It is recommended to remove impermeable surfaces (concrete, asphalt, compact slabs) around trees and replace them with a permeable substrate. The measure allows water infiltration, soil aeration, and root system protection, contributing to the health and longevity of trees.

Plant palette and biodiversity:

The species palette will be designed to support fauna at all plant levels: trees, shrubs, ground covers. Mixtures of perennial herbaceous plants and flowering meadows will be used, with a role in increasing biodiversity.

Sustainable management of green spaces:

It is recommended to formulate and apply sustainable maintenance designs for green spaces, based on reducing intensively maintained lawn areas, favouring native and climatically adapted vegetation, using permeable substrates, limiting areas requiring irrigation, etc. Thus, green spaces maintain their ecological functions and become more resilient to climate change.

Restrictions:

Access to adjacent buildings and functions will not be affected.

No changes or alterations to the complementary projects currently being implemented as set out in Annex 8.1 and 8.5 (restoration of the longitudinal continuity of the watercourse, respectively the design of the skate park) are accepted.

3.2.3. Investment objective 3: Aleea Carpați - Turbinei Canal area

Requirements for the entire area:

On both banks of the Turbinei Canal, pedestrian promenades and functional bicycle paths will be arranged. This may require reconsidering the street profile of the Carpați Alley, but without reducing the number of car lanes.

Additional crossings over the Turbinei Canal will be provided, also accessible to cyclists.

Access to the watercourse will be facilitated through dedicated points. In this regard, any changes to the banks will be punctual and strategic.

The correlation with the "Romanian Waters" project must be achieved in order to maintain the longitudinal continuity of the riverbed.

Artificial lighting will be limited and oriented exclusively towards the circulation areas, in order to protect nocturnal fauna and preserve the quality of aquatic habitats.

Urban furniture will be diversified (benches, trash cans, picnic tables, bicycle racks, drinking water fountains, etc.), strategically placed, both in rest areas and along circulation routes. The furniture will be harmoniously integrated into the landscape and adapted to both individual users and groups.

Requirements for vegetation and biodiversity:

Preserving existing vegetation:

The riparian vegetation already established on the banks of the Turbinei Canal must be maintained. Mature trees and existing shrubs provide soil stability and ecological value, being essential elements for strengthening the banks and reducing erosion. Vegetation removal will only be done where absolutely necessary for access or safety.

Plant palette and biodiversity:

It is recommended to use exclusively native species characteristic of wetlands and meadows (*Salix sp.*, *Alnus sp.*, *Populus sp.*, *Fraxinus sp.*), to ensure both the natural strengthening of the banks and the creation of diversified habitats. The introduction of the shrub layer and moisture-resistant herbaceous vegetation contributes to biological diversity and the maintenance of a favourable microclimate.

Ecological links and habitat for fauna:

The Turbine Canal has the role of a linear ecological corridor. The bank vegetation and planted trees must ensure the continuity of habitats for birds, bats, and insects. Floating islands or local plantations can be used in specific sectors, but these will be introduced with caution, avoiding excessive loading of the water surface and preserving the visibility of the canal course.

Restrictions:

No changes or alterations to the complementary projects currently being implemented, as set out in Annex 8.1 and 8.4 (restoring the longitudinal continuity of the watercourse, respectively the access to the future bridge over the Mureș from the continuity of Zăgazului Street) are accepted.

In the area of the former swimming pool, due to access to the weir at the power plant, the concrete bank must be maintained or replaced with similar protective works.

Floating promenades on the Turbinei Canal are not encouraged.

4. REQUIRED MATERIALS

4.1. FINANCIAL PROPOSAL

The financial proposal for the services detailed in Annex 2.3.2. (Description of services and contracted terms) will be drawn up in accordance with Annex. 2.3.1. (Financial Proposal Model). The financial proposal will have values expressed in lei (RON) and will not exceed the maximum estimated value for design costs. The financial proposal will be part of the negotiation basis for concluding the design services contract with the winner of the competition.

The provisions of point 4.2.8 of the Rules regarding negotiation will be taken into account. The negotiation will have as its subject the price and execution duration. The negotiation can only be made in the sense of decreasing the proposed values, not increasing them.

The negotiation may not have as its subject the architectural proposal.

4.2. TECHNICAL PROPOSAL / COMPETITION SHEETS

The projects will be presented on 4 (four) sheets, A0 format extended to 1500mm (841x1500mm), paginated vertically (portrait), made of white paper, unlaminated on rigid support, indicating the north, the scale of the representations, and the title of the presented elements.

If the competitors choose to have the plans rotated, they will be rotated in all representations and on all panels at the same angle to the north, regardless of the scale or type of plan. The plans will contain the intervention boundary, the marking of accesses, and the relevant level elevations.

The detailed perspectives within objectives 1, 2, and 3 will present the ambience of the proposed designs in different seasons.

Explanatory texts, other than image legends and titles, will not exceed 1000 words, will be written in 12pt font size, and will be conveniently arranged on the 4 panels.

Explanatory texts will briefly describe:

- the concept and motivation for the specific decisions for one design or another
- the planting strategy, the motivation for the chosen plant variety, and the attitude towards the existing vegetation
- the surface water management strategy with the argumentation of the chosen design
- the concept of sustainability of the initial investment, its management, and its evolution over time.

The required drawn materials will be grouped as follows:

Sheet 1: Presents the landscape and urban planning concept for the area dedicated to the competition for all three objectives together, from the Mureș River to the Turbinei Canal and the Mureș Relict Meander, in relation to the existing urban and natural context.

- **A site plan, scale 1:3500**, covering the entire area dedicated to the competition (according to Annex 6.1 Support plan – competition boundaries);
- Layout of the components of the blue-green ensemble: the landscape framework and the existing and proposed spaces to form a unitary whole in relation to the city and the Mureș River.
- Layout of pedestrian accessibility, for bicycles, public transport, and car mobility (including a clear highlighting of the location and number of parking spaces in the intervention area)
- Layout of stormwater management

Sheets 2 and 3: Detail Objective 1: Hippodrome area, Mureș riverbank, Mureș Relict Meander.

- **An overall plan, scale 1:1750**, at ground elevation and of the ground floors of the buildings that captures the entire area dedicated to Objective 1. The following will be presented:
 - o access points, manner of organizing traffic on the plot;
 - o the relationship of the new park with the neighbouring streets, the manner of designing/prioritizing the resulting spaces.
 - o the placement of small functions and pavilions adjacent to the landscape designs
 - o the structure of the landscape project: alignments and groups of trees, proposed and existing vegetation (marked differently), etc.
 - o proposed parking areas
 - o possible routes for equestrian competitions
 - o the types of surfaces represented distinctly (vegetal, mineral, water, etc.), with different colours (not shades of the same colour)
- **Detailed plans, scale 1:500**, with the materialization of the spatial typologies proposed for Objective 1 in strategic areas such as central areas, areas of connection with the context, etc. Their number and scope are to be defined by each competitor depending on the proposed project, but will not exceed the total area of 5ha.
- **Plans and sections, scale 1:200**, detailing one of the park's facilities, buildings housing functions within Objective 1.
- **A cross-section, scale 1:200**, presenting the new interventions in the Mureș Relict Meander area. The framing is to be defined by each competitor depending on the proposed project. The position will be marked on the 1:1750 plans, indicating the name.
- **A cross-section, scale 1:200**, presenting the new interventions in the Hippodrome area. The framing is to be defined by each competitor depending on the proposed project. The position will be marked on 1:1750 plans, indicating the name.

- **A cross-section, scale 1:200**, presenting the new interventions in the Mureș riverbank area. The framing is to be defined by each competitor depending on the proposed project. The position will be marked on the 1:1750 plans, indicating the name.
- An eye-level perspective in the Relict Meander area that will highlight the proposed interventions
- An eye-level perspective in the area of the current Hippodrome that will highlight the proposed interventions in the spaces considered representative by the competitor.
- An eye-level perspective in the Mureș riverbank area that will highlight the proposed interventions.
- Planting scheme and attitude towards existing vegetation
- Maintenance scheme for vegetated surfaces

Sheet 4: Details Objective 2 - Municipal Park area and Objective 3 – Turbinei Canal

- An overall plan, scale 1:1750, with the entire area dedicated to Objectives 2 and 3, or two distinct plans with each objective, made at ground elevation and the ground floors of the buildings. The following will be presented:
 - o access points, how to organize traffic on the plot;
 - o relationship with neighbouring streets, how to arrange/hierarchize the resulting spaces.
 - o placement of small functions and pavilions adjacent to the landscape designs
 - o structure of the landscape project: alignments and groups of trees, proposed vegetation, existing vegetation (represented differently), etc.
 - o proposed parking areas
 - o types of surfaces represented distinctly (vegetal, mineral, water, etc.), with different colours (not shades of the same colour)
- **Detailed plans, scale 1:500**, with the materialization of the spatial typologies proposed for Objective 2 and Objective 3 in strategic areas such as central areas, areas of connection with the context, etc. Their number and framing are to be defined by each competitor depending on the proposed project, but will not exceed the total area of 3ha.
- **Plans, facades, sections, scale 1:200**, which detail one of the facilities related to the design, buildings housing functions within Objectives 2 and 3.
- **A cross-section, scale 1:200**, which presents the new interventions in the Municipal Park area. The framing is to be defined by each competitor depending on the proposed project. The position will be marked on the 1:1750 plans, indicating the name.
- **A cross-section, scale 1:200**, showing the new interventions in the Turbine Canal area. The framing is to be defined by each competitor depending on the proposed project. The position will be marked on the 1:1750 plans, indicating the name.



- An eye-level perspective in the Municipal Park area that will highlight the interventions proposed by the project in the spaces considered representative by the competitor.
- An eye-level perspective of the Turbine Canal area that will highlight the interventions proposed by the project in the spaces considered representative by the competitor.
- Planting scheme and attitude towards existing vegetation
- Maintenance scheme of vegetated surfaces

5. EVALUATION CRITERIA

The maximum score is 100 points; the weights of the criteria are explained in detail as follows:

A. FULFILLING THE FUNCTIONAL, TECHNICAL, LANDSCAPE, AND ARCHITECTURAL REQUIREMENTS – 60% of the final evaluation (maximum 60 points)

Evaluates on a scale from 1 to 60 the compliance with the minimum requirements demanded by the competition brief. It is calculated by the sum of the points awarded by the jury for the following aspects:

A1. Landscape – ecological – sustainable criterion – maximum 30 points

The criterion assesses the capacity of the proposed design to use local geographical and landscape resources and to contribute to urban climate resilience. Several aspects will be taken into account for the evaluation of the criterion, such as:

- use, protection, and enhancement of existing geographical and landscape elements: vegetation, habitats, topography, hydrology, wetlands
- correlation of plant proposals with local climate conditions
- ecological added value of the proposed plant communities
- contribution to reducing the urban heat island - degree of tree canopy coverage and other nature-based solutions
- connectivity of the proposed blue-green interventions with the existing green network

A2. Functional criterion – maximum 15 points

The criterion evaluates the capacity of the proposed design to meet functional requirements in terms of:

- efficiency and safety of pedestrian and bicycle travel
- efficiency and safety in operation
- versatility and capacity to adapt proposals to changes in context, optimization of space use (functional changes or carrying out activities depending on the time of day or year); capacity to form functional (zonal) sequences; adaptation of details and finishes to the specific needs of each program/function
- correlation of functions with each other so as not to negatively influence or disturb each other during operation
- accessibility for all types of abilities and age groups for the proposed functions in the intervention area, as well as for those existing on the intervention boundary
- specific design of the proposed functional units/areas for all proposed activities

A3. Technical and management criterion – maximum 10 points

- characteristics of the designs presented in terms of resistance, durability, and maintenance over time, use of Nature-Based Designs, meeting the nZEB

standard

- quality of details and feasibility of the designs
- degree of differentiated management of planted (or built) areas, so that the intensive use of limited areas in the park is counterbalanced by minimal management for other generous areas, left to develop almost entirely naturally
- use of different planting standards to correctly calibrate the initial investment with the need for areas with a clear atmosphere, right from the start.

A4. Financial criterion – maximum 5 points

The compliance with the maximum cost estimate for design services indicated in the competition documentation will be evaluated.

Failure to meet the maximum cost estimate leads to the disqualification of the project.

For falling within the maximum cost estimate indicated by the lowest price, the maximum score (5 points) is awarded; for other prices, the score is awarded proportionally.

$$P(n) = [\text{Price}(\text{min}) / \text{Price}(n)] \times 5 \text{ points}$$

The score ($P(n)$ = max. 5 points) is awarded as follows:

- a) For the lowest of the prices offered (denoted Pricemin) 5 points are awarded.
- b) For the other prices offered (denoted $\text{Price}(n)$), the score $P(n)$ is calculated proportionally, as follows:

$$P(n) = [\text{Price}(\text{min}) / \text{Price}(n)] \times 5 \text{ points}$$

Calculation algorithm – the arithmetic mean of the points awarded by the jury for each factor becomes the jury score for the project in question.

Calculation algorithm for point A – Minimum requirements:

$$A = A1 + A2 + A3 + A4 = 60 \text{ points}$$

B. ADDED ARCHITECTURAL-ARTISTIC VALUE OF THE PROPOSED INTERVENTION – 40% of the final evaluation (maximum 40 points)

Evaluates on a scale from 1 to 40 the architectural-landscape-artistic value of the proposed design. It is calculated by the sum of the points awarded by the jury for the following aspects:

B1. The manner of integrating and the relationship with the neighbouring built environment and with the city as a whole, respectively the contribution to urban quality both inside and outside the intervention boundaries – maximum 15 points

The criterion evaluates the capacity of the green spaces proposed by the project to integrate and relate to the neighbouring built environment and to the city as a whole, respectively their capacity to contribute to urban quality both within the intervention boundaries and outside them.

B2. The appearance of the green spaces and the general atmosphere following the proposed intervention – maximum 15 points

The criterion evaluates the qualities of the design of the network of blue-green spaces, capable of generating aesthetic values of its own and those of the project, which are leading at the same time to new ways of valuing the natural heritage, new ways of appreciating the landscape, and new ways of understanding public space.

B3. Quality and clarity of the representation of ideas so as to illustrate the competitor's ability to implement the proposed project – maximum 10 points

The criterion evaluates the quality and clarity of the representation of designs and ideas, respectively, the extent to which the competitor demonstrates the ability and professional experience to implement these designs proposed by the project.

Calculation algorithm - the arithmetic mean of the points awarded by the jury for each factor becomes the jury's score for the project in question.

Calculation algorithm for point B - Added value: $B = B1 + B2 + B3 = 40$ points

The final score is the sum of the scores awarded for each factor.

Calculation algorithm for the final evaluation (maximum 100 possible points):

$A+B = 60 + 40 = 100$ (maximum)

Professional advisors,

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Arch. Cristian Panaite,

Landscape architect Ana Horhat

Competition Coordinator,

Arch. Mirona CRĂCIUN

Approved,

The Municipality of Târgu Mureș

MAYOR

Soós Zoltán

CHIEF ARCHITECT,

Miheș Florina Daniela