

# REVITALIZATION OF THE GREEN INFRASTRUCTURE OF THE MUNICIPALITY OF DEVA THROUGH INTERVENTIONS ON THE AXIS PARC CETATE - PARC BEJAN AND MODERNIZATION OF THE BEJAN LEISURE AREA

**Key words:** green infrastructure, urban green spaces, green pockets, waste spaces, urban acupuncture, green networks, green axis between green poles

## National context - County context – Hunedoara - Deva - Urban context & site location



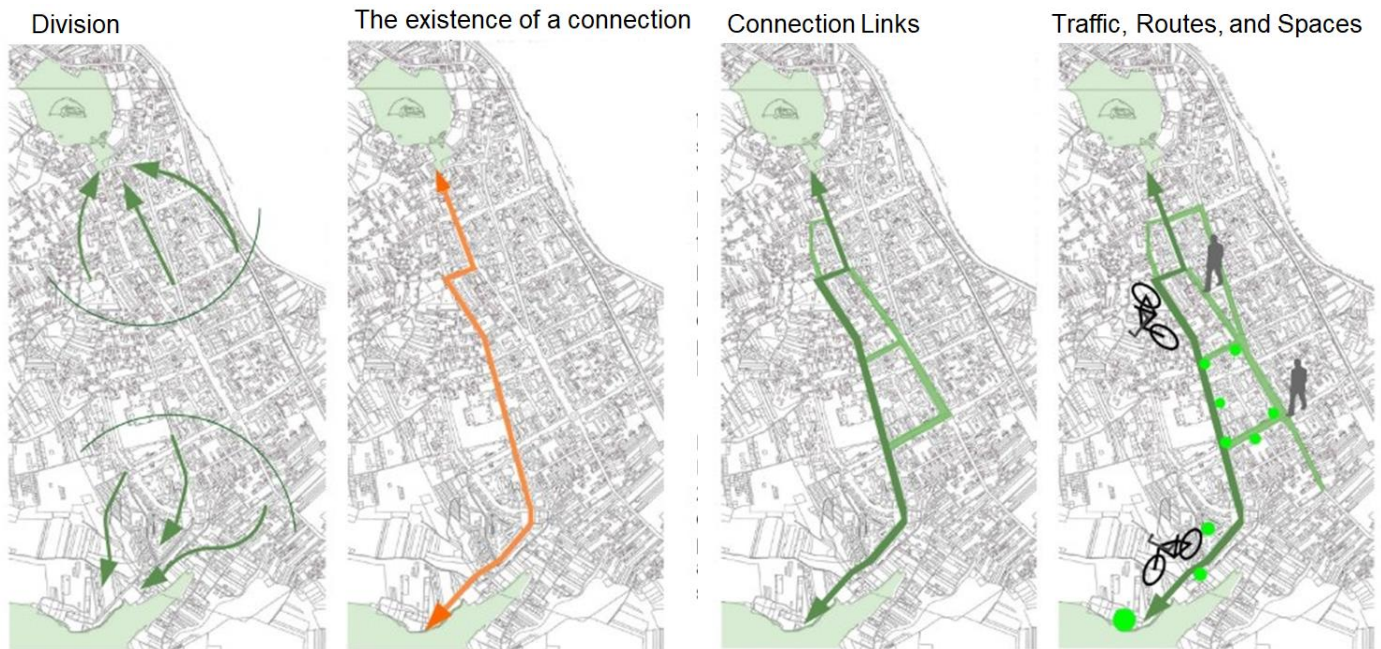
The aim of the work is to propose and arrange several interventions in order to improve the green axis of the Municipality of Deva through urban acupuncture and the redevelopment of spaces in the city in deficient areas. Two of them are planned to be landscaped. **The aim is to improve and revitalize the axis linking the two green poles of the city** through changes to the Mihai Eminescu street profile and to create **viable connections between the proposed axis and the central boulevard**. For the revitalization of the Bejan recreational area, the aim is to find a solution that meets the wishes of the users and that will enhance the specific atmosphere of the area.

The **network of green spaces** does not provide a uniform coverage of the intravilan territory of the city, the **distance between the municipal park and Bejan Park even in a straight line exceeds 4 km**. This inequality of access to public green areas, influences the quality of life of the inhabitants, and this fact requires remedial or improvement measures

The conclusions of the analysis and the theoretical background study were interpreted into both a long and a short term intervention strategy, in which several interventions were considered. These are related to an overall vision for the axis, mobility on it, and acupuncture interventions to valorize semi-abandoned and currently unused spaces.

## Brief Analysis

The route between the Bejan area and the central administrative district serves as the axis connecting the city's two major green hubs. It starts at the City Hall in the pedestrian zone, at the intersection of Iuliu Maniu Boulevard and 1 Decembrie 1918 Boulevard, heading toward Unirii Square, then mainly along Mihai Eminescu Street to the Pădurea Bejan recreational area.

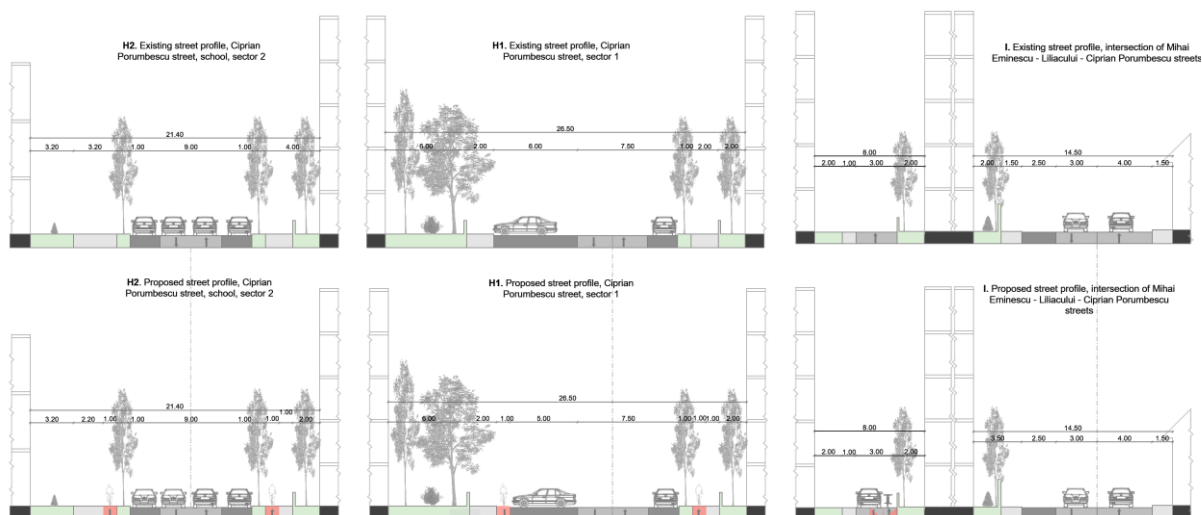


The city of Deva is divided into two significant zones in terms of large green spaces: Cetate Park and Bejan Forest. Thus, in the central area, walking in the main park is preferred, whereas in the Micro 15 neighborhood located close to Bejan park), walks towards Bejan Forest are favored

Along Mihai Eminescu Street, which connects the city's two major poles, there are no other public green spaces that provide the ambiance of these two large areas.

Following the implementation of urban acupuncture across various typologies of green spaces, a connection is established along the two main routes and their linking elements. This achieves the interconnection of the Micro 15 and Dacia neighborhoods with the central area, as well as with the two main poles: Bejan Forest and Cetate Park. Mihai Eminescu Street and the boulevard serve as primary routes, while Nicolae Bălcescu and Ciprian Porumbescu streets act as connecting pathways.

I have also developed a proposal for bike routes to connect the two hubs, but here I will include only a few details from the areas studied.



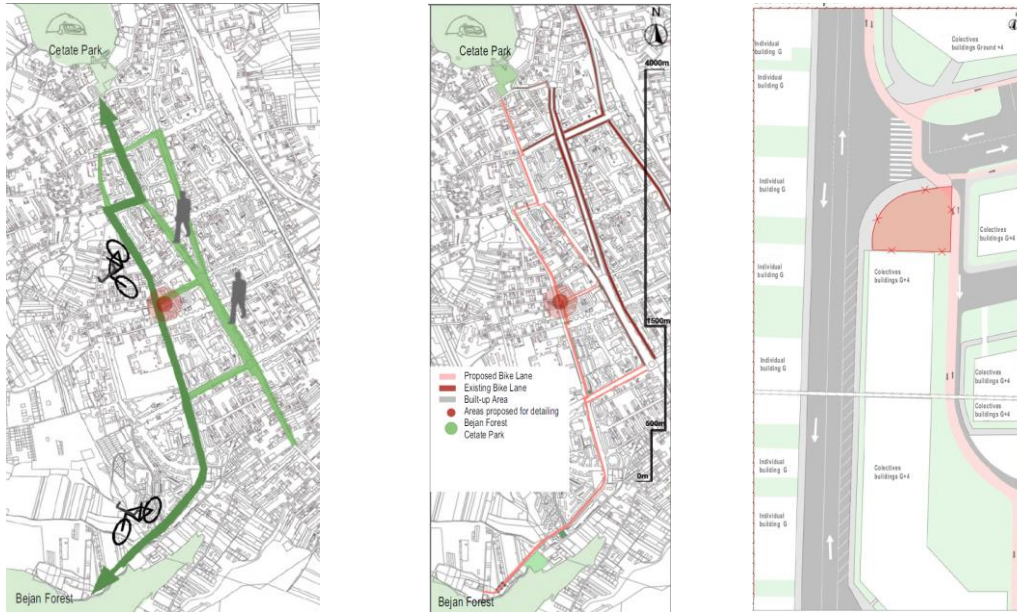
Response Zone 1

Response Zone 2



## **Operation 1—Residual space**

Along the connection, plans were made to develop two green spaces of different sizes and types. These two spaces offer the opportunity to improve urban connectivity, transform unused areas into green projects that promote sustainability, and diversify the landscape through the varied character of these spaces.



**Location in Deva situated along the route under study**

### **Problems/ Disfunctionalities**

A vacant plot at the junction of Eminescu and Ciprian Porumbescu Streets – the site is situated halfway between the two points.

Currently used as an informal parking lot with moderate aesthetic degradation, the site holds high potential to become a high-performance urban haven.



It prolonged stationing of heavy vehicles severely compacts the upper layer of the soil. In the absence of vegetation, stormwater can no longer infiltrate, stagnating and turning the area into a muddy surface. These dysfunctions accentuate the appearance of an abandoned and neglected area, significantly decreasing the quality of the residential environment in the immediate vicinity.



Due to the lack of demarcation, the land is used exclusively as an ad hoc parking lot, eliminating any potential for pedestrian or social use. This place has become dangerous even for pedestrians, as drivers are not always aware of their presence behind them.



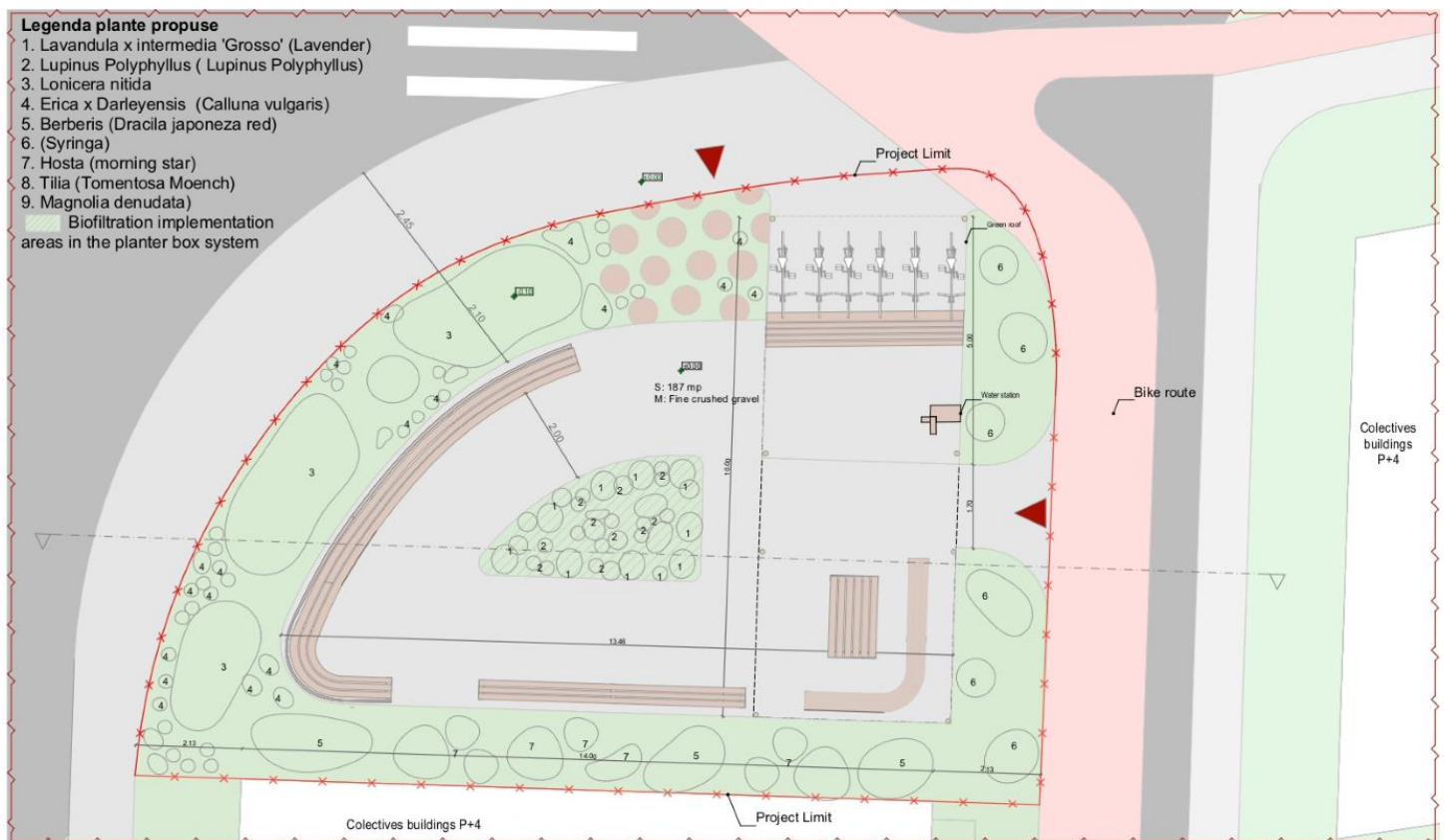
The lack of street furniture has led to parking, and a landscaping strategy has allowed the gradual degradation and even disappearance of existing vegetation and the accumulation of dust and urban waste.

## Context & Concept

First place to- revitalize is an underutiized 187 sqm site in Deva, strategically located at the junction of pedestrian and transit flows between the city center, residential areas, and the nearby schools.

Given the expansion of the city's cycling network, **this green pocket** functions as an independent nucleus- an essential intervention that brings intrinsic value to the oommunity.

**This green infrastructure** is complemented by low-maintenance perennial species, selected to provide **a dynamic chromatic display throughout the seasons** a **relaxation hub for cydlists and pedestrians**, equipped with a drinking water source and adequate lighting, transforming a transit space into a **neighborhood destination**, providing continuity to the green allgnment given by the gardens at the ground floor of the apartment blocks



Proposed development plan 1:100





**Section 1:100 – Spatial Relationship**

I have provided urban furniture, seating areas, and a shading structure-a green roof. This offers both shelter from precipitation and ensures a favorable climate. The visual impact is doubled by a clear social function: a relaxation hub for



cyclists and pedestrians, equipped with a drinking water source and adequate lighting, transforming a transit space into a neighborhood destination, providing continuity to the green alignment given by the gardens at the ground floor of the apartment blocks



**The project's sustainability** is anchored by a **rainwater biofiltration system** and a local biodiversity renewal strategy. Bioretention gardens are designed as infiltration cells that capture and manage street runoff, recharging the water table and mitigating urban pollution.

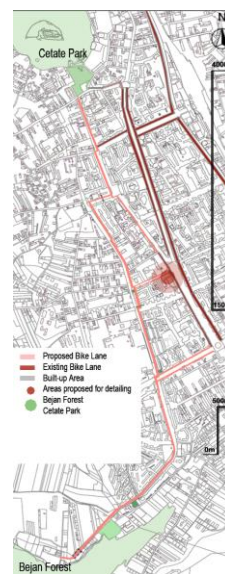
The presence of smallgrained crushed stone paving was taken into account to reduce the ecological footprint. The solution protects the base layer through permeability and combats the urban heat island effect. By transforming this green pocket" from an ignored space into an active urban aesthetic, the project improves the quality of life for residents.

## Biofiltration implementation detail



1. Inlet – intake configurations include direct curb inlet, piped inlet, and curb inlet chamber.
2. Internal bypass pipe – conveys excess flow through the treatment chamber.
3. Mulch stabilization layer – captures trash and large debris and retains water for vegetation.
3. Engineered media – inorganic components remove TSS (Total Suspended Solids) and metals.
4. Organic components remove nutrients and facilitate absorption.

## Operation 2 — Green pocket



Location in Deva situated along the route under study

## Problems/ Disfunctionalities



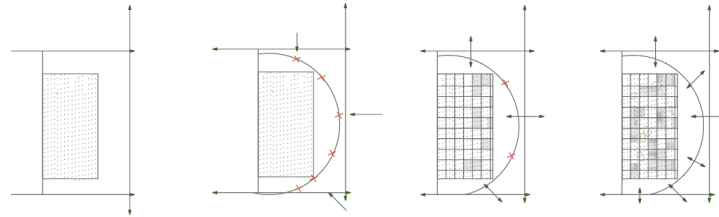
A plot of land situated in the city centre, opposite an educational institution (Sigismund Toduță High School). Despite its potential as a central public space, the site currently appears to be an abandoned plot. From a landscape perspective, the vegetation is in a state of disrepair, ruling out any possibility of recreational use.

This lack of maintenance, particularly evident at the boundary with the hotel grounds, creates an environment conducive to marginalisation, attracting social groups that cause discomfort to local residents. Furthermore, the lack of civic-mindedness and poor sanitation are exacerbated by the improper use of the land for walking pets, without observing basic hygiene standards.

## Context & Concept

Given its location near the secondary school and the fact that this space can be used by both pupils and passers-by, the proposed solution has taken the users into account. On the side facing the hotel's delivery area, the wire fence will be concealed by a graffiti wall.

The space will be fitted with seating at various heights interspersed amongst planters. The structures will be made from hollow recycled materials, whilst the planters will contain perennials.



- Măr (*Malus domestica*)
- Cireș (*Prunus avium*)
- Cortodus (*Prunus cerasifera*)
- Tuia obisnuită (*Thuja occidentalis*)
- O specie de trandafiri (*Rosa sp.*)
- Nuc (*Juglans regia*)
- Mesteacan negru (*Betula nigra*)

## Suggested Plants

1. Sedum Pachyclades ; 2. White Aster (*Boltonia asteroides*); 3. Red Maple (Summer Red); 4. Sycamore Maple (*Acer pseudoplatanus*); 5. Barberry (Japanese Dracila, red); 6. Barberry (Japanese Dracila, green); 7. Elephant grass (*Miscanthus sinensis*); 8. Chinese grass

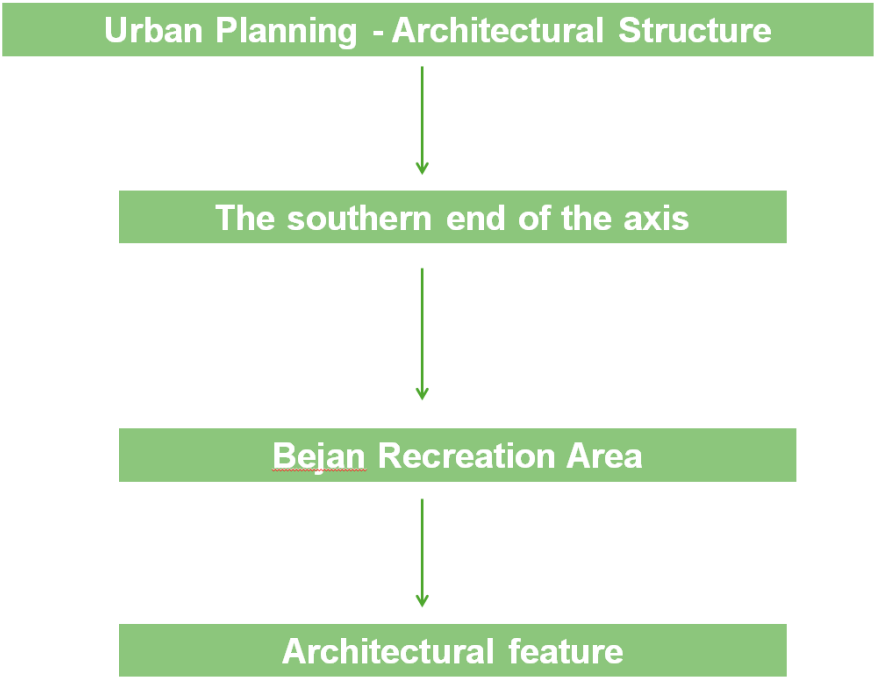
## Locations

- A. Deva and Profi Hotel parking lot (private property with public access); C. Bioretention wetland; D. 22 Decembrie Boulevard; E. Existing Easybox concrete platform; F. Bicycle rack parking; G. Graffiti wall; H. Proposed table tennis table





The area between the structures will be covered with turf featuring patches of vegetation. The positioning of these structures will **allow every user to make recreational use of the space**. As part of the design, on the right-hand side, at the edge of the site, I have envisaged an area with denser vegetation, which can be used to capture runoff **from both the pavement area and excess water from the entire site**. This will serve as a wetland bioretention area.





## **Operation 3—Bejan Forest Area**

With the development of **hiking trails through the forest** and its designation as a nature reserve, visitor **interest** in the area **has grown**; however, there is still no such facility available in the entire recreational area.

**The area near Bejan Park** is used as a **campground** and is **equipped with barbecue areas and outdoor furniture for leisure activities**. The area features three sports fields, access to a public water fountain, and restrooms (shown below).



**The current situation regarding the camping area and sports activities.**



The former cabin, which served as a landmark for the area but was destroyed in a fire, needs to be rebuilt. The goal is to create an architectural structure that blends harmoniously into the forest landscape, offering a space of refuge and contemplation for those seeking a deeper connection with nature.

The proposal is to construct a public dining facility with a maximum capacity of **40 people indoors** and **20 outdoors** and 5 employees; during events on the **upper terrace**, an **additional 20 people** are accommodated. At the same time, thanks to the **amphitheater-style design** that **bridges the outdoor garden and the building's accessible terrace**, the **structure blends organically into the landscape**. This stepped continuity blurs the boundary between the ground floor and the roof, transforming the terrace into a natural extension of the terrain.

### **General Characteristics**

**Height classification: Ground Land**    **Area – 5,686.66 square meters**    **Total floor area: = 902.3 square meters**  
**Usable area = 803.50 square meters**                      **Built-up area = 902.3 square meters**

**Actual floor area ratio (C.U.T.) = 0.16,**

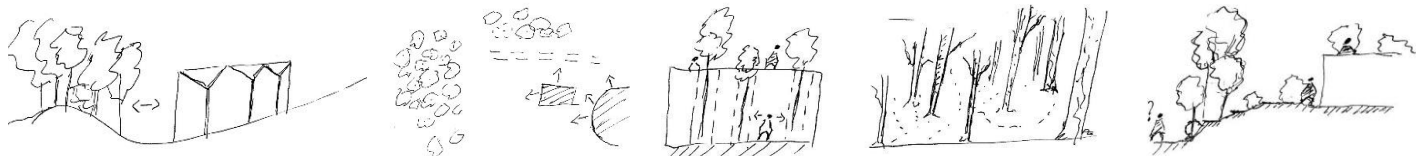
**Actual plot ratio (P.O.T.) = 16%**

Location within the town: The site is located on Mihai Eminescu Street, in the Micro15 neighborhood.  
Geographic coordinates: 45.854409, 22.897571 (latitude, longitude), elevation: 245 m above sea level.

## Concept ideas

The project **focuses on creating spacious outdoor areas dedicated to relaxation and direct interaction with nature.** Through terraces, gardens, and pathways, **the concept aims to blur the boundaries between interior and exterior,** offering a fluid and harmonious experience.

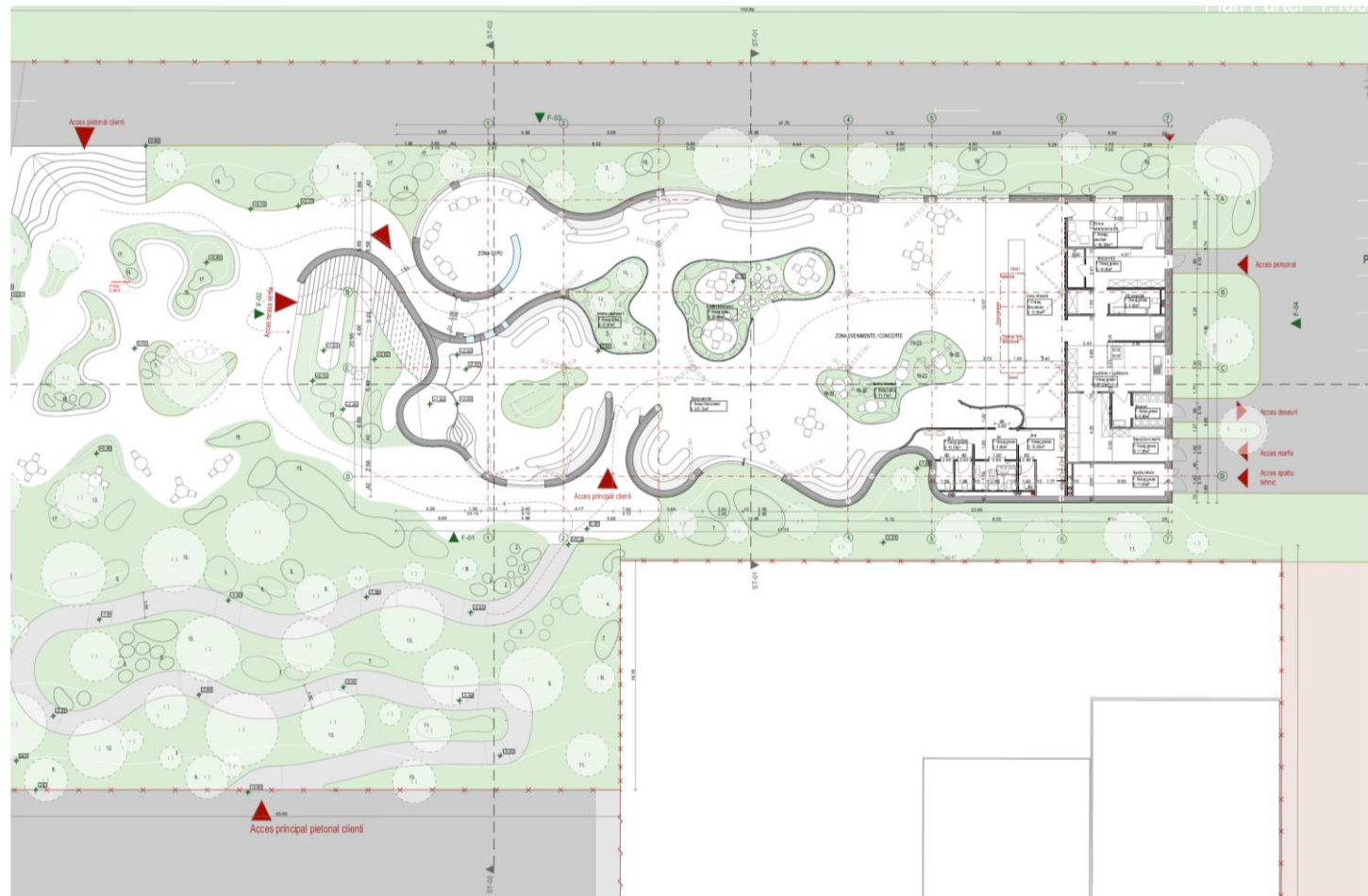
**Central Idea:** To create an architectural structure that blends harmoniously into the forest landscape, providing a space of refuge and contemplation for those seeking a deeper connection with nature.



General Site Plan, Scale 1:300



A detailed analysis of the ground floor plan reveals the building's fluid spatiality and how the landscaping intertwines with the architecture, creating a continuous path.



From a functional standpoint, vehicle access is planned on the south side—where the terrace opens onto the forest and Eminescu Street. The route continues along the west side, serving the customer parking lot and, further on, the loading area, and is 5.0 m wide.





The atmosphere of the terrace is directly related to the roof

The focal point of the interior design is the **integration of nature** directly into the restaurant's structure, **transforming the space into a true oasis of greenery**. Through the use of “living columns”—represented by the trees inside—,nature supports the entire structure”, both metaphorically and visually.

This approach goes beyond the simple image of a landscaped space: it creates an invisible dialogue between the ground and the upper terrace, contributing to a unique atmosphere in which architecture takes a back seat to nature.







**The second entrance** on the east side **guides the user** without rushing them, transforming the ascent into a mental transition and the arrival into a true discovery. This approach resonates with Peter Zumthor's theory, which likens architecture to a temporal art, much like music. In this vision, **space is not revealed all at once, but unfolds gradually through a succession of moments orchestrated by movement and the journey itself.**

The ascent begins at the existing parking lot of the sports area, where the path is 1.50 m wide, with a winding route featuring a 3.80 m elevation change, a length of 88 m, a maximum slope of 7%, and rest areas.



**The further you move through the space, the more the building's boundaries seem to disappear.** Through a succession of glass surfaces and green spaces, the architecture dissolves, giving way to an experience dominated by light and nature.

The project was based on an in-depth analysis of the community's needs, conducted through interviews and surveys focused on local aspirations and issues. At the same time, various contextual analyses



of the site were carried out. The project thus represents the physical manifestation of this extensive research process.