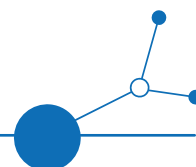


Collaboration with MENDELU

May 2025



Version 1
05 2025





1. Introduction

At the end of April, the first student meeting under the Spaces4All project took place at the Faculty of Horticulture of Mendel University in Lednice. The introductory workshop, held on April 30, 2025, offered a detailed presentation of the project as well as insights into the work completed so far. Students were introduced to the project's objectives, reviewed previous outputs, and received assignments for the fieldwork portion.



Figure 2: Faculty of Horticulture, Mendel University



Figure 1: Meeting with students

On May 5, 2025, students, together with representatives of the Podyjí National Park and the Czech Paraplegic Association (CZEPA), went into the field to experience firsthand what it is like to navigate natural terrain alongside a wheelchair user. The goal of this excursion was to help students better understand the obstacles wheelchair users face in nature—such as surface conditions, steep gradients, missing railings, or inaccessible shelters. This direct experience, and the opportunity to perceive the landscape through the eyes of someone with limited mobility, provided valuable input for the students' subsequent work.



Figure 3: Field trip



Between May 5-9, students carried out a detailed field analysis under the guidance of their instructors. They focused on specific locations that could be improved and sought solutions to enhance accessibility not only for wheelchair users but also for other people with limited mobility.

On May 12, 2025, the students presented their initial designs and outputs during an online meeting attended by representatives of CENIA, CZEPA, and a cross-border partner from the Weinviertel region. This presentation served as an opportunity for early feedback and allowed open interdisciplinary discussion among organizations committed to accessibility.

The final presentation of the student projects took place on May 16, 2025. Individual teams showcased their proposals for selected sites—specifically in the area of the Podyjí National Park near Čížov and Havraníky.



Figure 5: Group - Čížov



Figure 4: Group - Havraníky

2. Collaboration Between MENDELU and CENIA within the Spaces4All Project

The Spaces4All project aims to improve the accessibility and usability of public spaces for all population groups, including individuals with specific needs. Through this initiative, a close collaboration was formed between Mendel University in Brno (MENDELU), the Czech Environmental Information Agency (CENIA), Podyjí National Park (NP Podyjí), the Weinviertel tourist organization from Lower Austria, and the Czech Paraplegic Association (CZEPA). These project partners acted as assignment providers for the students' field workshops.

One of the main goals of the workshops was to design accessible and inclusive public spaces in specific areas of the Podyjí National Park, taking into account the needs of people with different physical abilities. Two field workshops were held in the Čížov and Havraníky areas, where students analyzed the current conditions and proposed possible improvements.



2.1. Accessibility Improvement Proposals for the Havraníky Area

The main goal of the landscape study for Havraníky is to improve barrier-free access to the landscape and make selected trails, viewpoints, and rest areas accessible to a broader range of visitors—with a special focus on wheelchair users and others with specific needs. The students' proposals aim to combine functionality with playfulness while respecting the historical character of the Podyjí National Park.

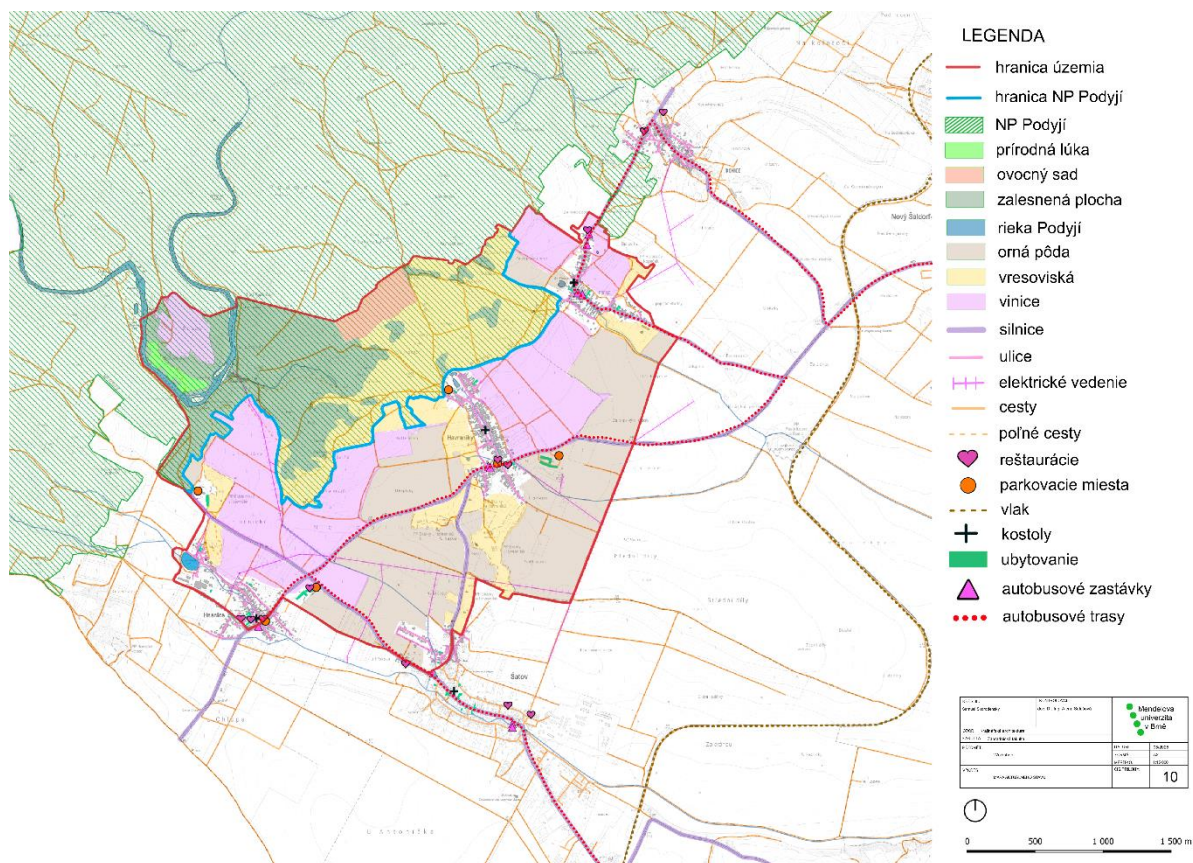


Figure 6: Map of the Havraníky location - current status

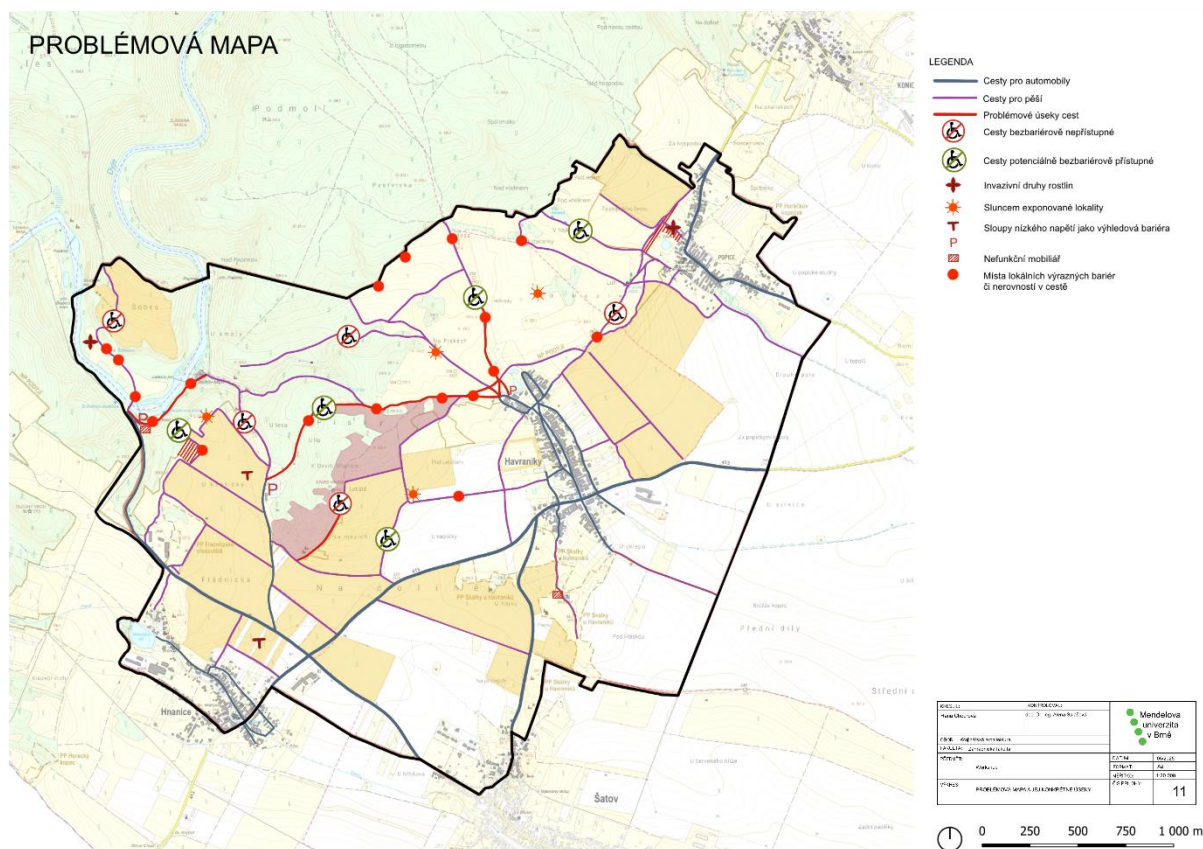


Figure 7: Map of the Havraníky locality - problem map

2.1.1. Trail Accessibility and Categorization

Students proposed revising and adapting existing hiking trails to better meet the needs of wheelchair users. Based on the Czech Tourist Club (KČT) methodology, they developed a three-category system of barrier-free trails:

- Blue - accessible
- Red - partially accessible
- Black - difficult to access

Each trail has clearly defined parameters—such as slope, width, and elevation obstacles—facilitating orientation and trip planning based on users' physical abilities.



Figure 8: Problem x Solution

Figure 9: Problem x Solution



2.1.2. New Barrier-Free Trails

The specific proposals include trails such as a path to the Devět mlýnů viewpoint, a trail above the vineyards, a route to an orchard, and a riverside path along the Dyje. All routes are designed for smooth movement, sufficient width, and safe surfaces, using natural materials like compacted sandy soil or local stone in a lime-cement mixture

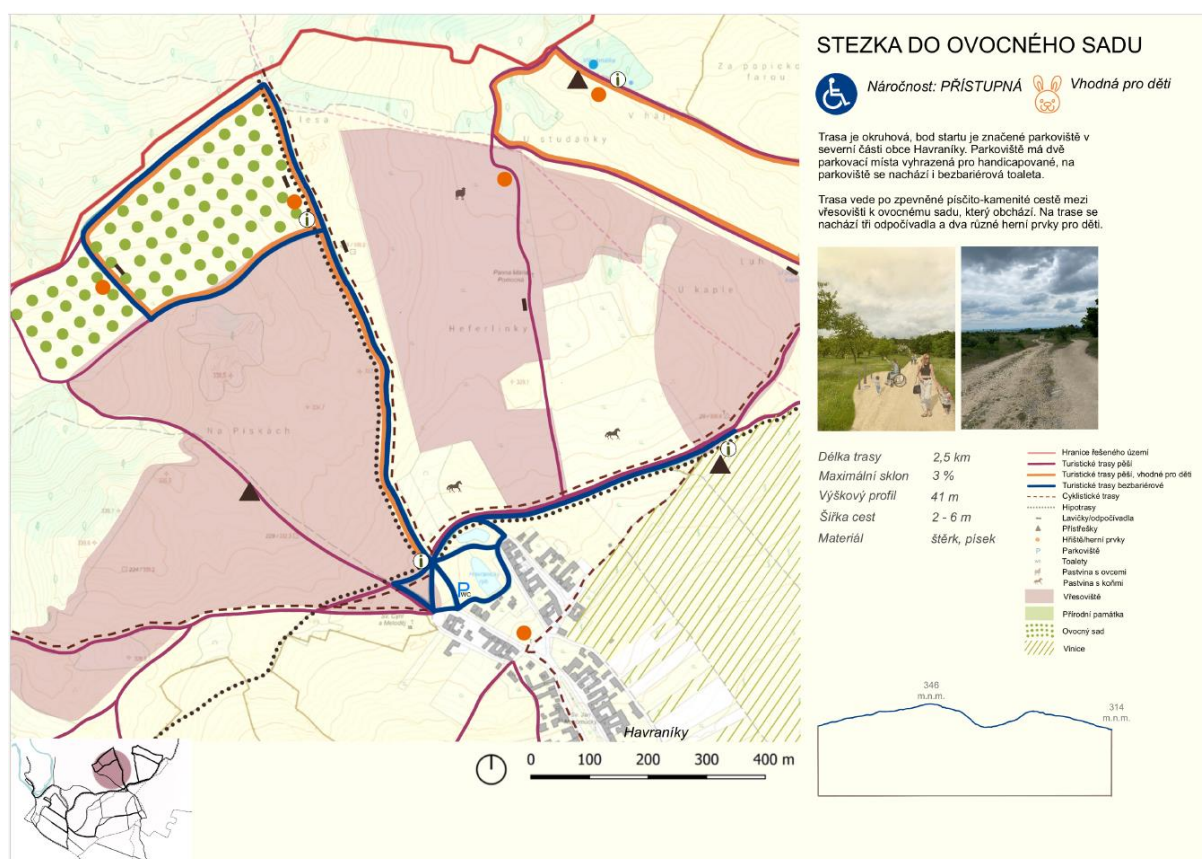


Figure 10: Design of a path to an orchard

2.1.3. Accessible Viewpoints and Footbridges

The proposals also include architecturally sensitive designs for accessible viewpoints and bridges. For instance, the Devět mlýnů viewpoint is to be made accessible via a ramp, allowing views from the former military bunker ("řopík") even for wheelchair users. Other areas feature proposed docks and elevated boardwalks to cross marshy areas while bringing visitors close to nature safely.



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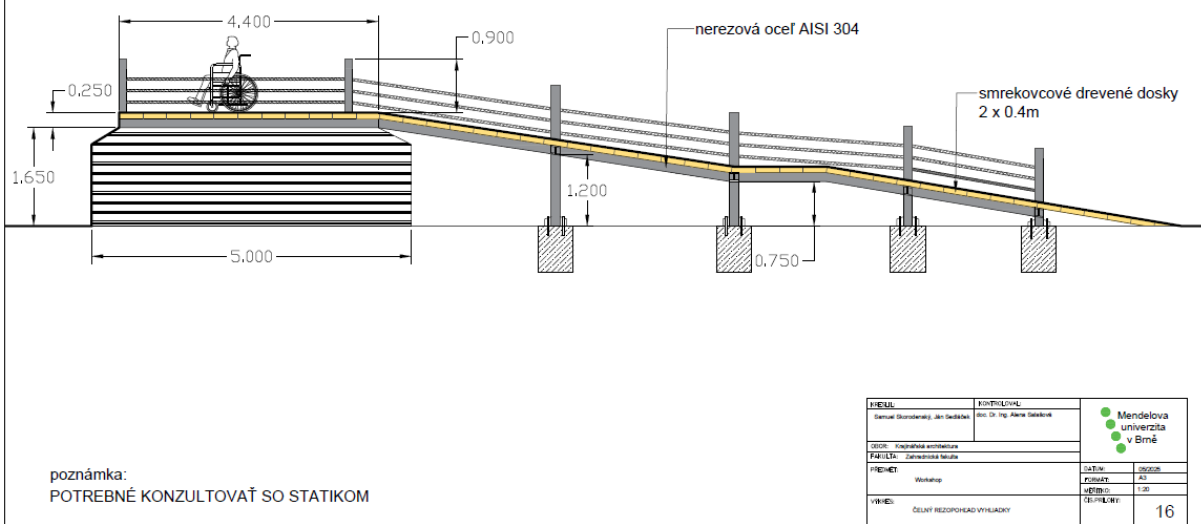


Figure 12: Sketch of the viewpoint

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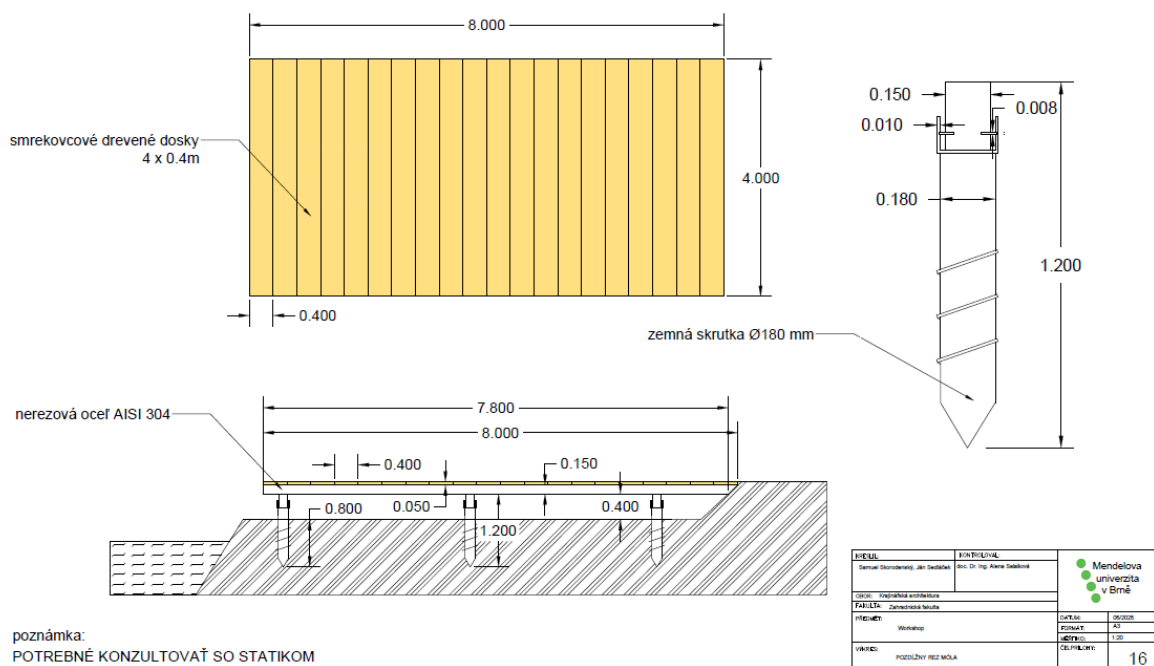


Figure 11: Sketch of the pier



2.1.4. Barrier-Free Shelters and Street Furniture

The students suggested modifications to existing shelters by removing elevation differences, adding access ramps, and reinforcing floors with permeable materials. They also proposed a uniform furniture design and adding 15 new benches along the trails.



Figure 14: Tourist shelter design



Figure 13: Bench design

2.1.5. Inclusive Information System

Significant attention was given to modernizing the information system, which will be clear and easy to understand, enhanced with QR codes offering audio recordings and tactile symbols for visually impaired visitors. The solution includes a brochure describing the trails, available both online and in print.

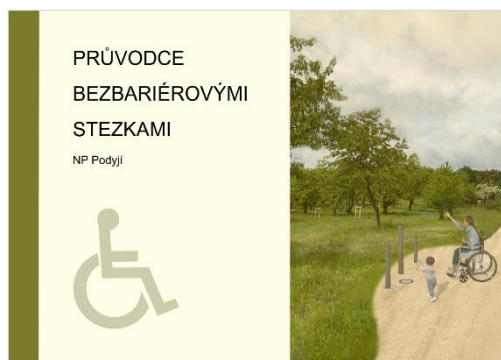


Figure 15: Information brochure design

2.1.6. Barrier-Free Toilets and Parking

Three barrier-free toilets are proposed near key routes, along with designated parking spots for persons with disabilities, all designed to meet legal standards. These features aim to ensure not only possible but comfortable movement throughout the area.

2.1.7. Removing Terrain Barriers

A fundamental aspect of the proposals is the elimination of existing barriers—such as narrow paths, steep slopes, or elevation changes. Students suggest natural detours around obstacles like boulders or steep banks to maintain the natural landscape without drastic interventions.



2.2. Accessibility Improvement Proposals for the Čížov Area

The student landscape study for the Čížov area aims to significantly improve access to selected trails, viewpoints, and other areas in the Podyjí National Park. Special attention is given to wheelchair users and those using electric or manual wheelchairs and handbikes—to allow safe, independent, and dignified movement.

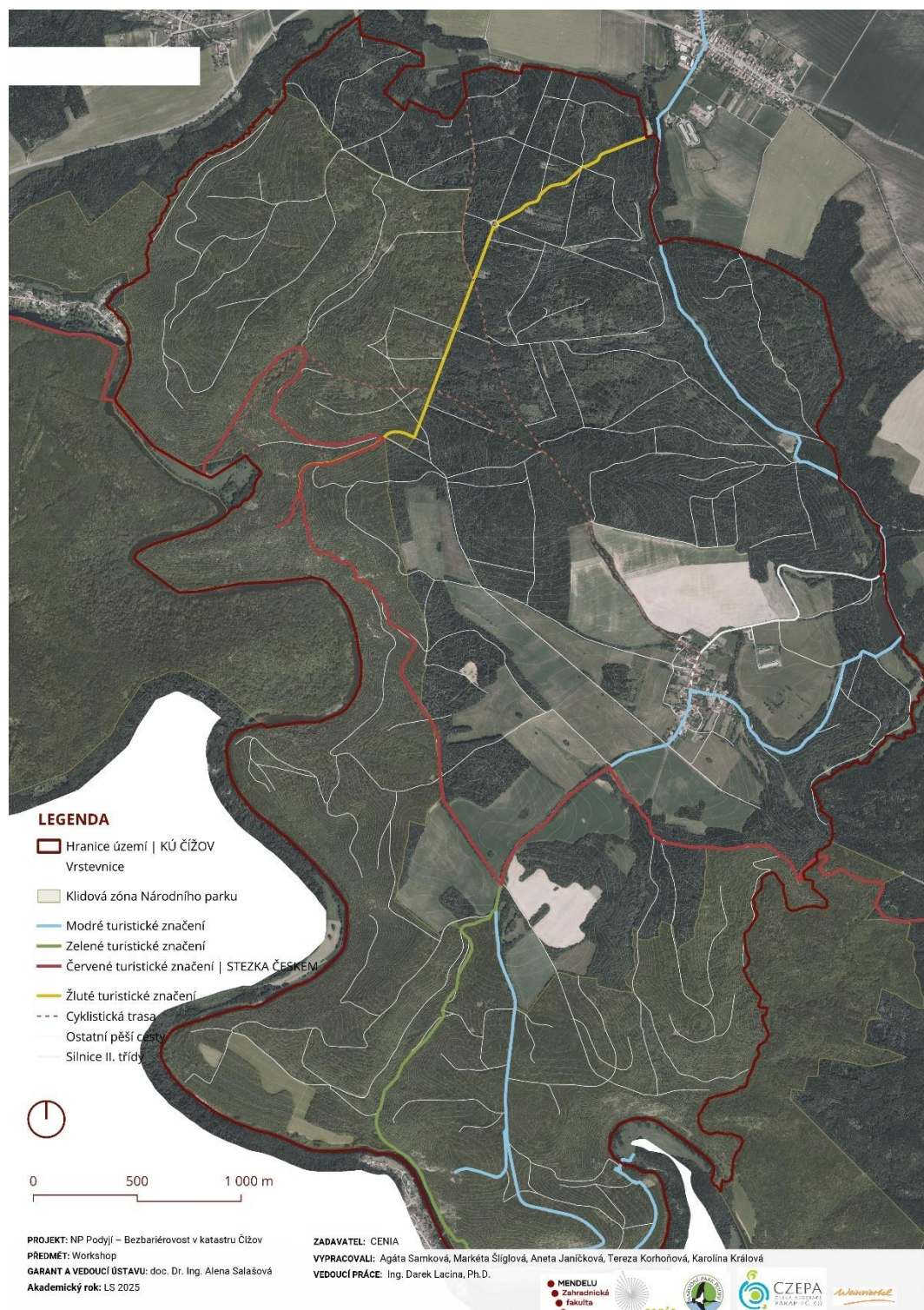


Figure 16: Map of the Čížov location - existing roads

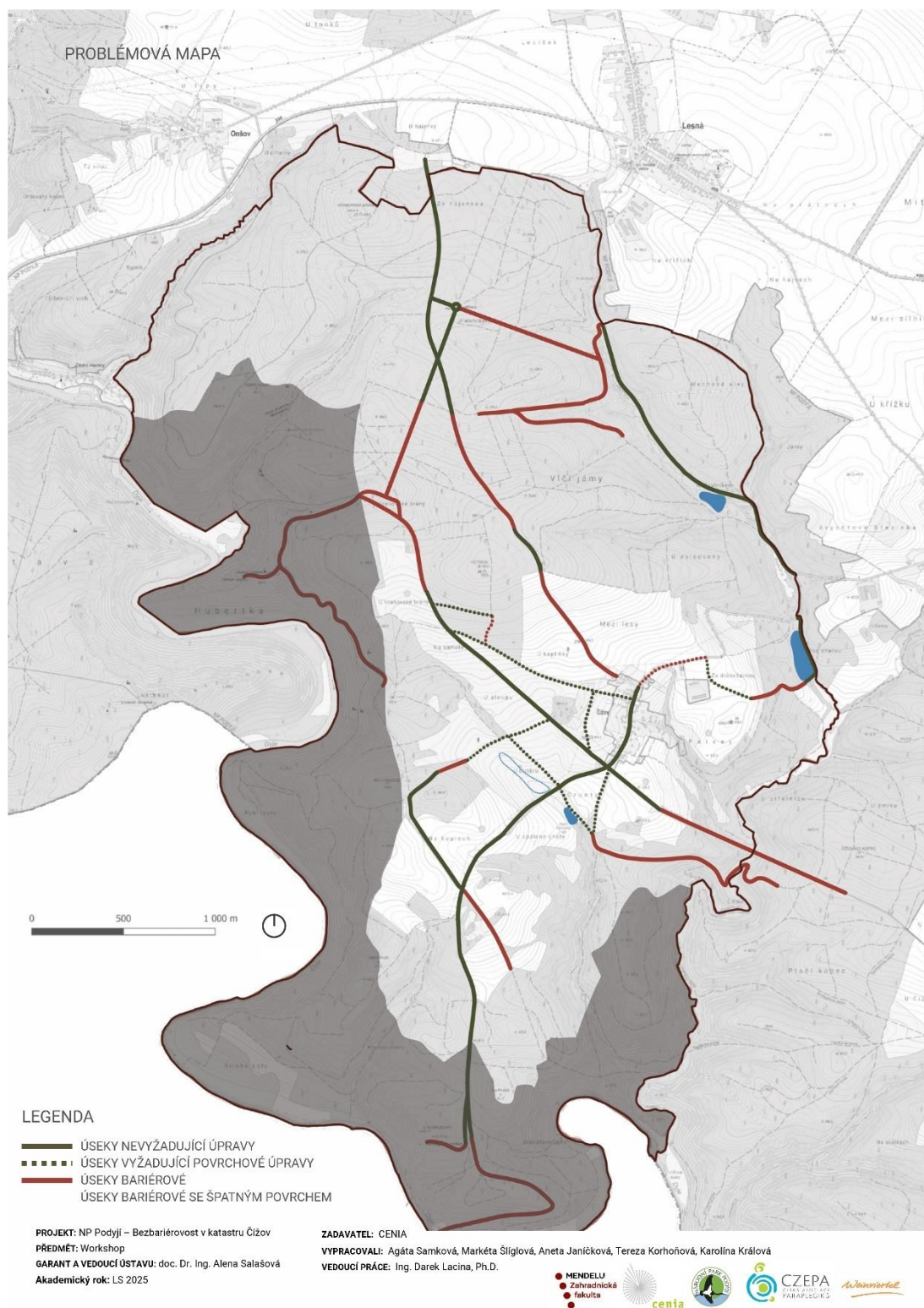


Figure 17: Map of the Čížov location - problem areas

2.2.1. Trail Modifications and Barrier-Free Routes

A key step in improving accessibility is revising and modifying existing paths. Students identified problematic sections—due to surface damage, excessive cross-slopes, or insufficient width—and proposed adjustments to meet barrier-free standards.

Following the KČT methodology, the students used a three-tier trail system:

- Blue - accessible without assistance
- Red - for more skilled users with assistance
- Black - for experienced users of off-road wheelchairs

In Čížov, most proposed trails fall into the red category—gentle gradients and safe, stabilized surfaces.

2.2.2. Specific Routes and Surfaces

New circular routes were proposed, such as the “Biotopes Trail” and “Water in the Landscape Trail,” both with minimal elevation changes. A new trail to the Hardegg viewpoint is also included, running along a contour line to minimize slope.

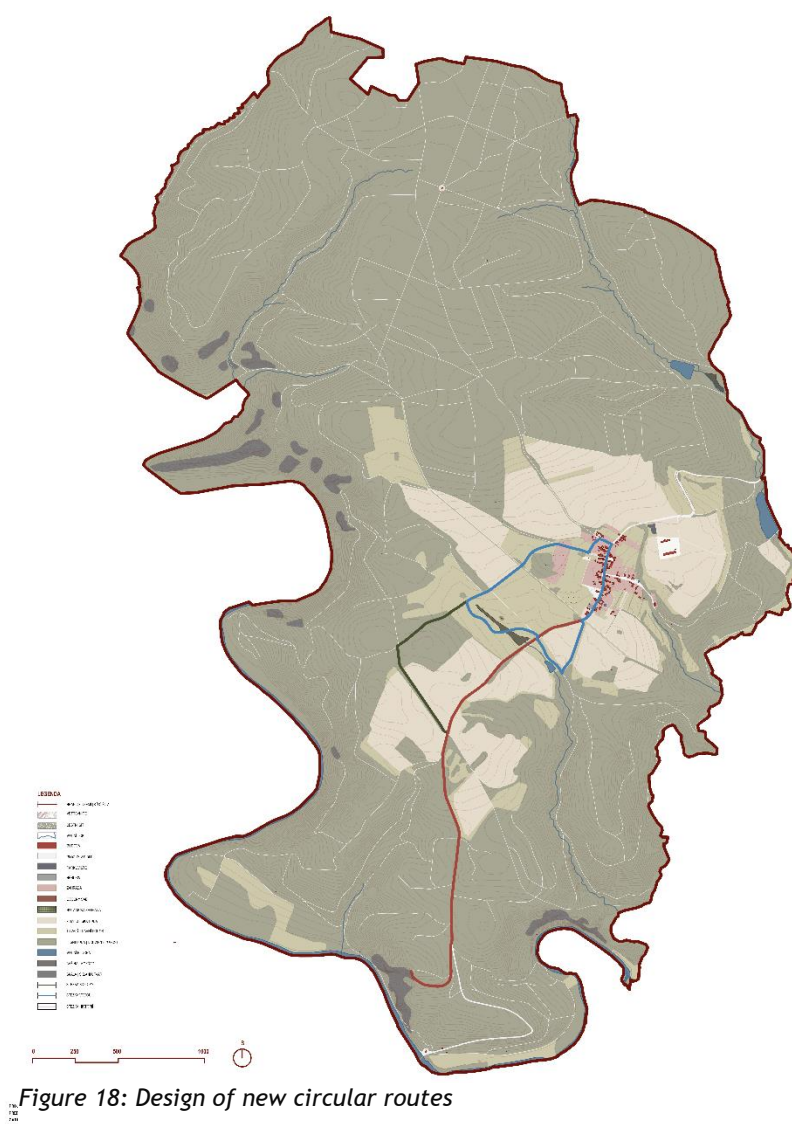


Figure 18: Design of new circular routes



To ensure stability and a natural look, trail surfaces would use mechanically stabilized gravel (granite or limestone) bound with a natural mix to form a firm, permeable, and durable surface. Paths would have a uniform width of 2 meters.

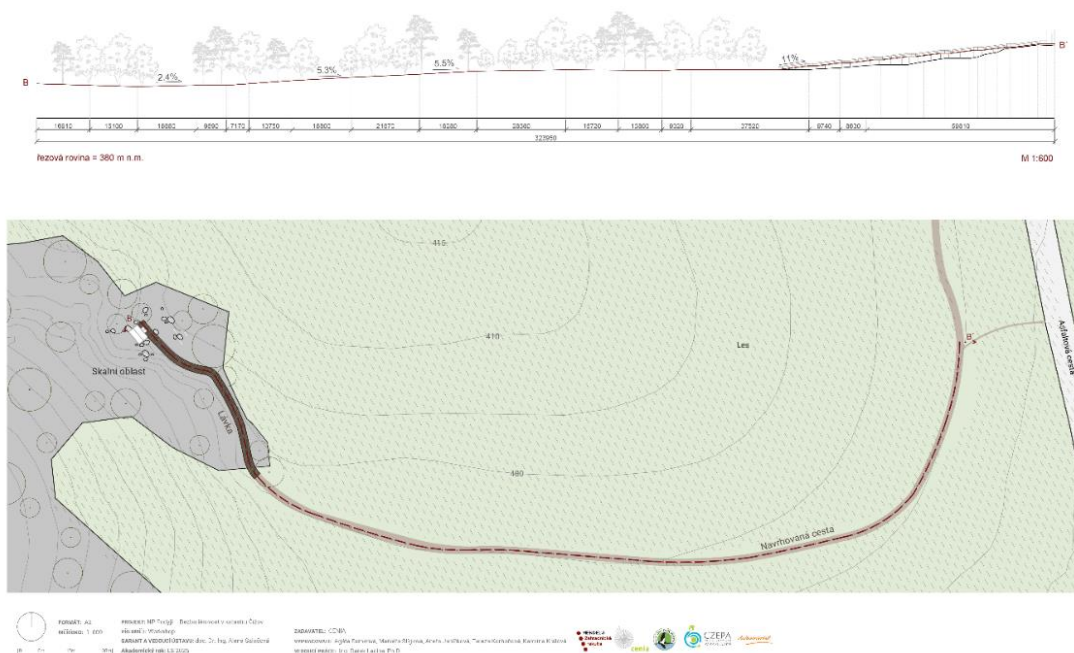


Figure 19: Off-road solution to the lookout

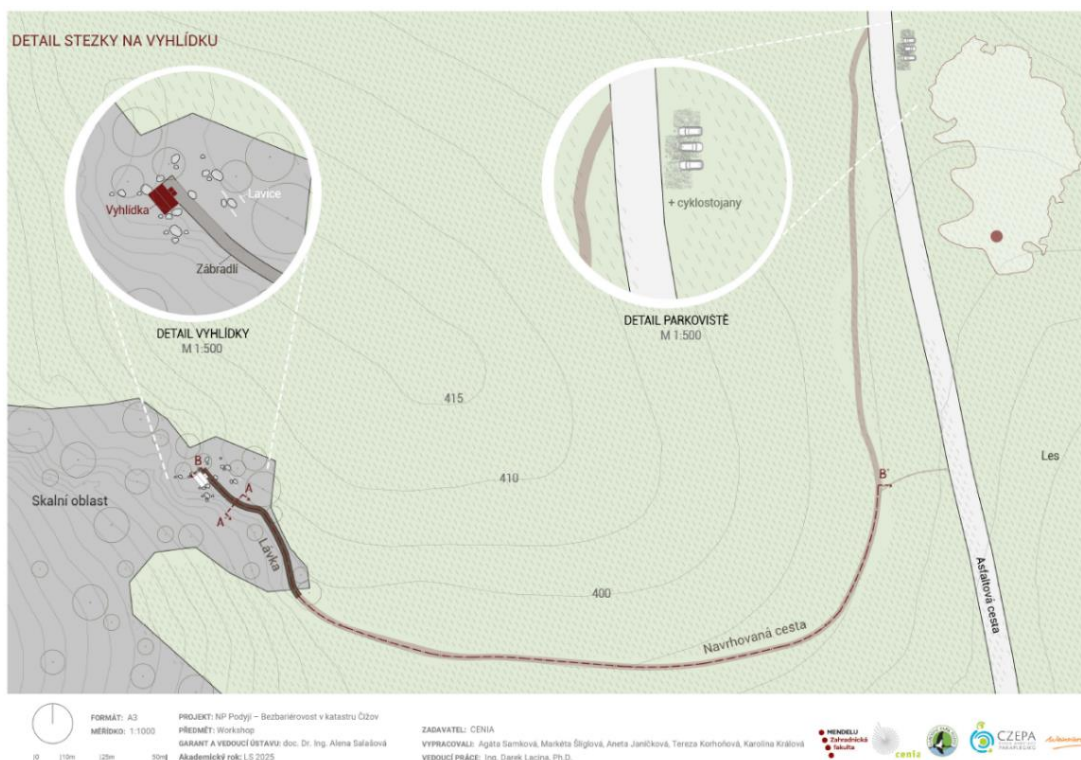


Figure 20: Detail of the path to the viewpoint



2.2.3. Viewpoint Walkways and Wooden Structures

Some proposals address architectural transitions over terrain. For example, the route to the Hardegg viewpoint ends with a wooden footbridge with an anti-slip surface, ensuring safe access. Similar elevated walkways over wetland areas are designed to be stable and safe for wheelchair users.

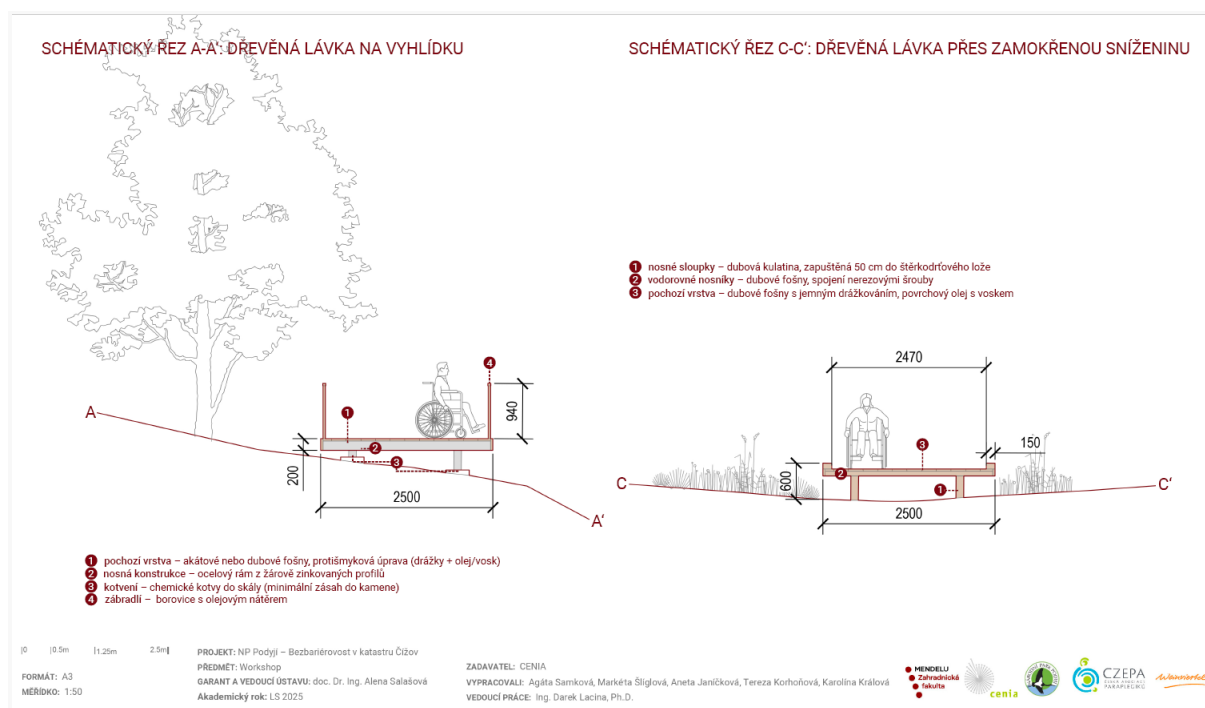


Figure 22: Wooden footbridge diagram



Figure 23: Visualization of a footbridge over wetlands



Figure 21: Visualization viewpoint

2.2.4. Information System and Interactive Features

The comprehensive information system is designed to help users with different limitations. Panels will be supplemented with QR codes enabling audio playback—particularly helpful for hearing- or visually-impaired visitors.

An interesting detail is the proposal to restore the bell system at the information center—previously difficult to access and thus limiting the ability to call for assistance or service.



Figure 24: Information boards and elements

2.2.5. Barrier-Free Toilets and Parking

While the existing accessible toilet at the information center is functional, the accessibility of its control elements (like the bell) is insufficient. The proposal recommends improving access to signaling devices.

As for parking near the Hardegg viewpoint, the study notes that current facilities are inadequate—there are no designated spaces, and parking occurs on an unsuitable forest turnaround. Although no specific design for a new parking area is elaborated, the issue is clearly identified as needing resolution.

2.2.6. Removing Physical Barriers

The proposals include rehabilitating damaged trail segments, removing elevation obstacles (especially on red-category routes), and decommissioning unsuitable paths—such as steep trails to be left to natural overgrowth and replaced by more suitable ones. The overarching goal is to create a network of routes that are safe, logical, and well-marked for visitors with reduced mobility.

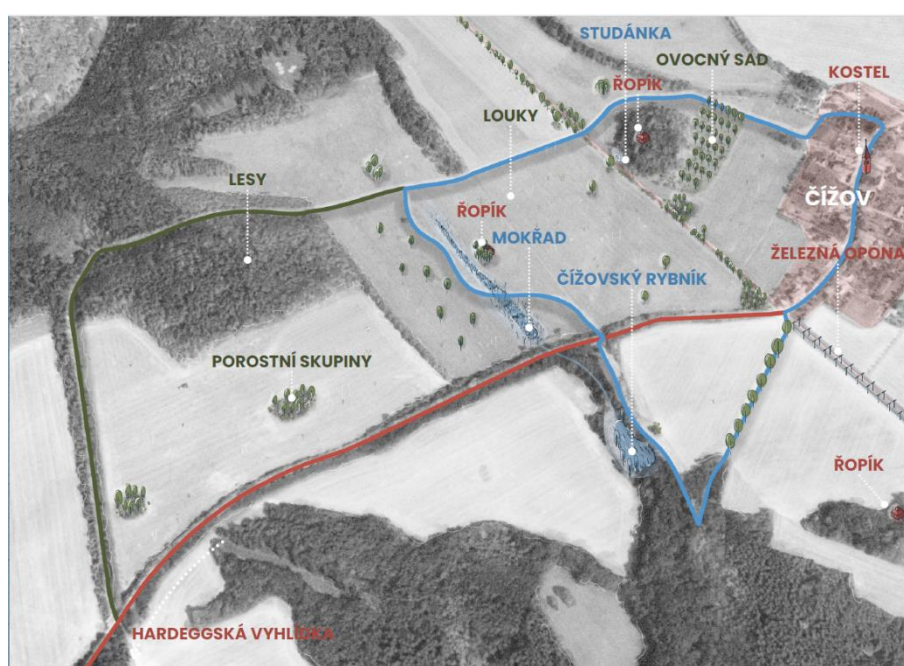


Figure 25: Overview of the overall road network solution



3. Conclusion

The collaboration between Mendel University in Brno, CENIA, Podyjí National Park, the Weinviertel region, and the Czech Paraplegic Association under the Spaces4All project is yielding tangible results that enhance the quality and accessibility of public spaces for all. The pilot proposals and implementations clearly demonstrate that creating environments accessible to everyone is not only feasible but also achievable—when expert knowledge, practical experience, and interdisciplinary cooperation come together.