

The landscape around the new navigation lock on the river Labe in Přelouč

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Abstract

Small towns are characterized by the proximity of the countryside, which is directly adjacent to the urban area and fulfils essential recreation functions. A new, large-scale landscape design project in the vicinity of a town can be implemented within a planned state project, such as a new element in the transport infrastructure (a bypass road or a highway) or within a river channel reconstruction project. The latter is the case of Přelouč, where a new navigation lock is planned on the river Labe near the town. The landscape design project should be created under the leadership of a landscape architect.

Key words: Small town; Vegetation concept; Watercourse; Navigation lock; Landscape design; Landscape architecture.

1. Introduction

A small town is a town with no more than 15 000 (or 20 000) inhabitants (Jebavý, 2001). It is, at the same time, a visually comprehensible entity. The inner composition of a small town includes the basic town spaces – town squares, streets, embankments (in towns on watercourses), administrative buildings, businesses, education and service buildings (Mužík, 1984). Since the end of the 19th century, these spaces have been complemented by ornamental vegetation (Horký and Vorel 1994). Another important characteristic of a small town is the direct relationship between its structure and the surrounding landscape (Jebavý, 2007). The built area of small towns is dominated by housing and its accompanying vegetation. In 1937, J. Gočár formulated his vision

of an ideal town for 10 000 inhabitants, and, in the USA, W. Gropius presents a vision of a town with a transport system based on 10 to 15-minute pedestrian routes (Hrůza and Zajíc, 1995; 1996). The most significant influence on the design of the vegetation in small towns was E. Howard's theory of the garden city, from 1898 (Howard, 1944). At the same time, a small town enjoys the advantages of a rural environment (Mareček, 2005). Future development needs to take into account the landscape character of each individual small town (Vorel, 2000). Landscape development should also be attended to in the process of regional planning (Koucký, 2005; Jebavý, 2008). The design of the landscape around a small town is often connected with designing the landscape around a watercourse,

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Figure 1a. historical forms of the landscape around Přelouč - Map of the First Military Mapping (1764-68 and 1780-83).



Figure 1b. historical forms of the landscape around Přelouč - Map of the Second Military Mapping (1819-1858)

connected with a planned waterway (Jebavý and Kareis, 2007). A significant river channel reconstruction project of the river Labe near the small town of Přelouč was already implemented in the first half of the 20th century (Trejtnar, 1978). A project which inspired the new Přelouč project was carried out on the Rhine-Main-Danube Canal towards the end of the 20th century (Bader, 1989).

2. Methods

A new navigation lock is planned near the small town of Přelouč, with the main purpose of making

the river navigable in the area. At the same time, a new landscape design relating to the waterway is proposed. In 2005, an assessment was carried out of the impact of the structure on the character of the landscape. One of the main conditions for approval of the project within this assessment was that the new landscape design for the area adjoining the Přelouč II navigation lock will be created under the leadership of a landscape architect (Sklenička and Jebavý, 2006).

The new riverside landscape will have a significant eco-stabilizing effect – it lies within the supraregional biocorridor of the river Labe. Close to the town, there will be a new island between the old and the new branch of the river. The island will have a high eco-stabilizing value, and will also be a new natural recreation area for the inhabitants of Přelouč.

2.1 Cultural and historical context

The landscape design follows the cultural and historical values of the area. The most dominant visual features of the town are connected to the landscape by the new landscape design, through a series of composed visual links – composed views and vistas. Since the turn of the 19th - 20th century, the dominant features of Přelouč have been two pseudo-renaissance buildings on the town square. These are the buildings of the primary school (1880-81) and the savings bank (1899-1901), designed by a noted Czech architect, Rudolf Kříženecký. Another visually expressive building in Přelouč is the evangelical church, from 1904, by the same architect. The new landscape design also encompasses the listed building of the hydraulic power plant and the weir, from 1928.

2.2 General concept of the landscape design

From the standpoint of the landscape, this project will change the character of the entire area. However, within the new construction activities there is also potential for creating a new quality of the landscape scene. It is therefore necessary to approach the entire space from a common, landscape-based perspective, which respects the character of the affected landscape area. The most significant feature in the area is clearly the current watercourse of the Labe, with its system of blind channels - the supraregional biocorridor of the river

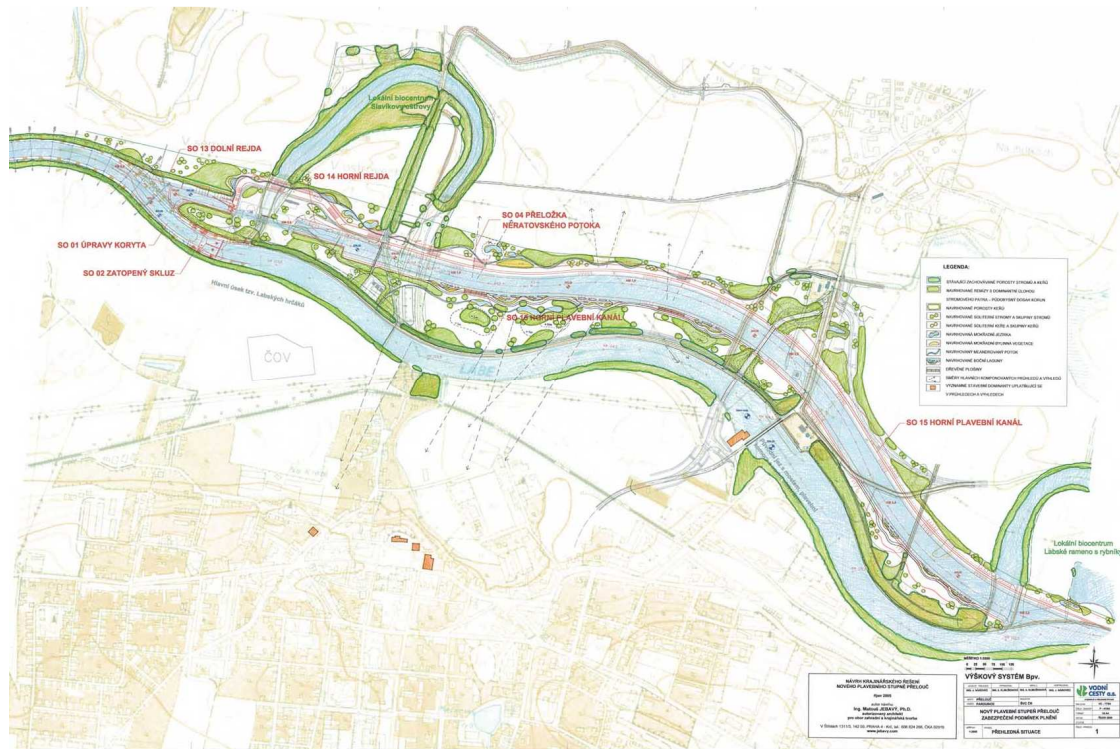


Figure 2. Proposed landscape design, plan view.

Labe and the Slavíkovy ostrovy biocentre (Slavík's Islands). The landscape has evolved under the influence of natural processes, ensuing mainly from the meandering of the river Labe, as well as under anthropogenic influences. These include above all the regulation of the watercourse between 1921 and 1928, when the course of the Labe in the vicinity of Přelouč was straightened, and the planting of a lime-tree alley across a horseshoe-shaped blind channel of the river. The new landscape design, connected with the planned construction of the Přelouč II navigation lock, respects these facts and develops the potential of the landscape in innovative ways.

The planting design for woody plants within the new landscape design includes mostly native species. When these become grown, the proposed navigation lock will be optically connected with the surrounding landscape. The new plantings consist of small closed wood stands and solitary, composed groups of native trees and shrubs, dividing the space of the future island and the

masses of both the new and the old branch of the river. The landscape design also includes new, naturalistic water bodies. On the Neratovský stream, ten small naturalistic wetland-type water bodies are proposed, while the stream is also newly meandered.

The project respects the significant role of the Slavíkovy ostrovy biocentre (Slavík's Islands), which directly adjoins the project area. There is valuable natural landscape in an area determined by the presence of the blind river channel. The design and management of this area will be motivated by an effort to maintain the current flood-plain forest in the landscape, and also to create "burnet meadows", functioning as habitats for endangered animal populations. After the development of the garden burnet (*Sanguisorba officinalis*) is initiated on meadows under specific management, species of the blue (butterfly) from genus *Maculinea* will colonize these meadows.

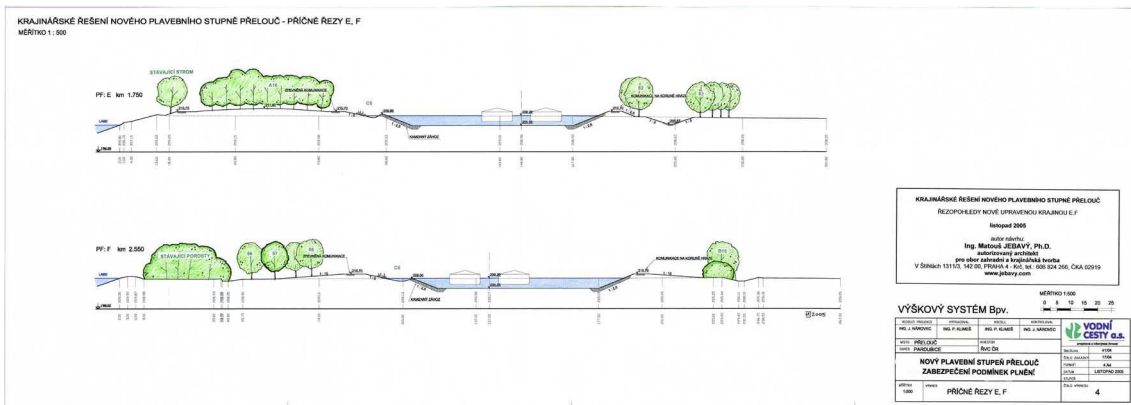
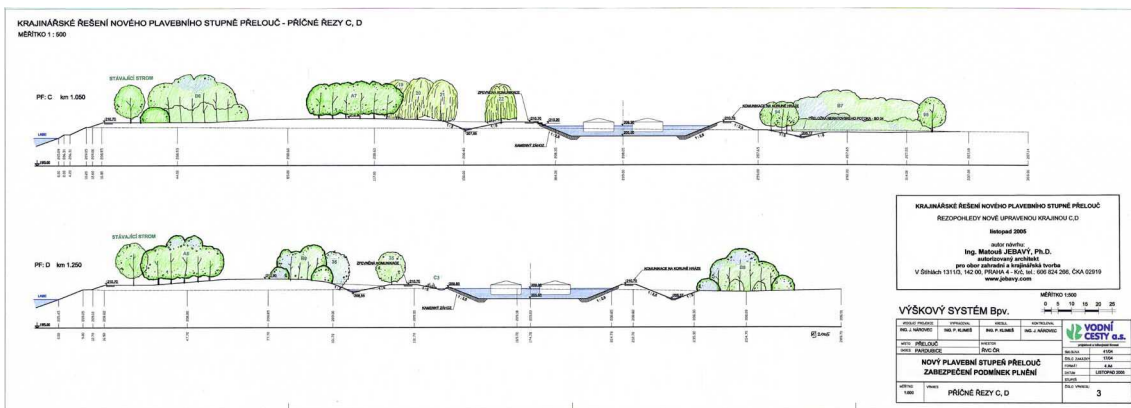
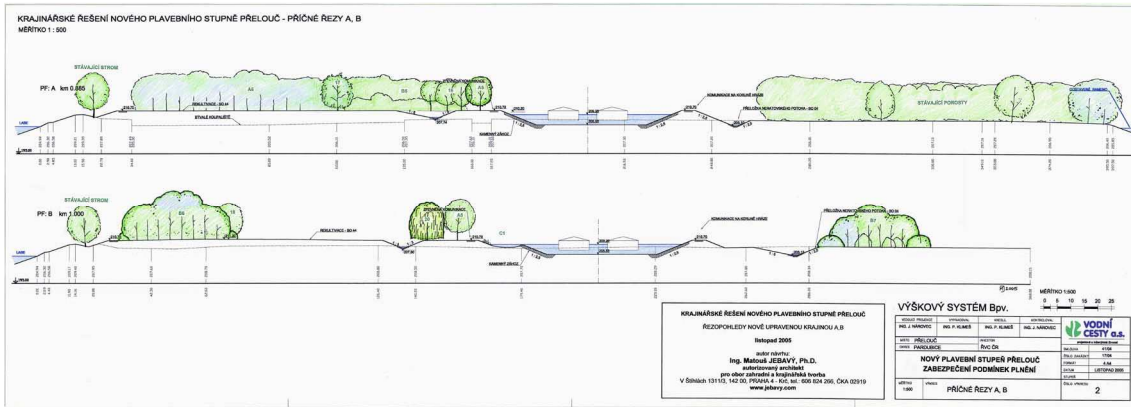


Figure 3 a,b,c. Proposed landscape design, sections.

3. Discussion and conclusions

Vegetation in a small town acts as an independent functional area (park, landscaped area, wood, scattered vegetation, landscape vegetation) or becomes part of a multifunctional area (residential areas, linear vegetation, vegetation of enclosed areas - sports grounds, cemeteries, schools etc.) The vegetation in a small town forms a system. The system of urban vegetation is directly connected with the surrounding landscape. This is a characteristic common to vegetation in a small town and vegetation in a village (Mareček, 2005; Jebavý, 2008). A new, radical landscape design in a small town is usually in conjunction with a newly planned large structure, which initiates the design (technical infrastructure, transport-related construction, navigation lock). In the vicinity of Přelouč, a new navigation lock will be built on the river Labe. A similar task was worked on at the end of the 20th century in Germany, in the landscape around the Rhine-Main-Danube Canal (Bader, 1989). The new landscape design at Přelouč is inspired by this German example. A new island will be created near Přelouč, fulfilling both recreational and eco-stabilization functions. Other new landscape features will include small wetland lakes on a meandering natural watercourse and side lagoons on the main channel of the Labe. These will have a mainly eco-stabilizing function.

The new landscape design at Přelouč will be implemented in conjunction with the construction of a new navigation lock on the river Labe. The new landscape will fulfill both recreational and eco-stabilizing functions. The new design will cover a whole area of landscape adjoining the planned structure. A new landscape area will be created, *the landscape of the new island* between the new proposed channel and the current channel of the Labe. To enhance the character of the landscape, the new stands of woody plants are composed in such a way that, when grown, they will optically divide this new landscape into more independent, intimate areas. The design accentuates the visual relationships between the landscape of the new island and the dominant features of the small town of Přelouč, and between the landscape of the island and the harmonic cultural landscape to the north of the new navigation lock. A walking trail will be established on the new island. Along the southern side of the

lock, several step-like wooden elongated decks are proposed to facilitate sitting undisturbed and observing the new channel and the surrounding landscape. For enhanced durability, these decks will be constructed of tropical wood. On the island, three small, naturalistic, kidney-shaped water bodies are placed on a new, meandered stream. Along the left bank of the channel, eight shallow zones - lagoons of naturalistic shape and design - will be established to facilitate the life and reproduction of amphibians and other animals. Other small, wetland-type water bodies are planned on the newly meandered stream north of the new lock.

3.1 Landscape reclamation using woody plants

Woody plants native to the area and to the site are used in the planting design for the new island and the supraregional biocorridor. In the future, visitors will be able to come from sunny meadow areas into shaded spaces, and in many places they will be surprised by newly opening areas and inner landscape spaces. All meadow areas will be newly established, in two basic forms: as natural, flowering mezophytic meadows (60% of the area) and as park lawns (40% of the area). All plants used in implementing the design should be acquired locally, i.e. in the watershed of the Labe.

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