



The potential of historical railway infrastructure, possibilities of its adaptation on the examples of railway water towers

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Summary

This paper applies to issues associated with material heritage of the railway infrastructure. When transformation of railway systems became a fact, many changes appeared in the way they work. In connection with technological advances, which support the needs of modern rail the facilities have changed. Many objects of historical architectural value are no longer used, they no longer serve their original function and they go to rack and ruin. The special historical and architectural qualities of these objects, their locations, visibility and the fact that they constitute specific points in space, are indicating their great potential. The possibility of renewal and adaption is justified, and water towers should become the matter of interest, and should be adopted for various functions. The article presents examples of adaption of railway water towers.

Keywords: historic building refurbishment, modernization of railway infrastructure

1. Introduction

Factors associated with the development of modern civilization and the progress of technology, urbanization, the development of the means of production, have created the need to resolve the problem of supply and storage of drinking water and water for industrial purposes. The solution became water towers that are buildings of a technical nature, but by reason of the scale they have a great impact on the landscape. Bodies of water towers can perform the essential function of the distribution of water under sufficient pressure, or may be optional equipment, ensuring sufficient water supply in times of increased demand, when pumps alone are not enough. Supply by water towers may be weaker, and thus cheaper, and water consumed during the severe decline in consumption may be supplemented, for example at night. Towers can also act as a reserve tanks, which are used in case of pump failure or lack of energy, or act as a compensatory device that provides a balance of pressure in different parts of a water supply system.

2. Types of water towers

- Municipal water towers are part of the urban water supply network that supplied water to homes and other buildings in the city are connected to the network
- Railway towers from which the water was used to fill steam engines and water supplies technical and social buildings such as railway stations
- Works to ensure the supply of water pressure for industrial plants, factories, farms, and other facilities that require a secure, reliable access to water, such as hospitals.

These towers use the same principle of communicating rises, but are fundamentally different in terms of architecture and design, which depend on the technical capabilities and needs. Municipal water towers are the most effective and are an attractive part of downtown buildings. They were often designed by famous architects and their location in the city is particularly exposed and are important element of spatial composition, often surrounded by a park, on a hill. They were designed in accordance with the applicable fashion and based on available technologies. In the same way has solved the problem of water supply to palaces, estates, farms and industrial plants. City water towers, more often than railway projects were created on the basis of the projects of well-known architects, they have unique architectural value, and their location in the city gave a chance for survival and eventual adaptation to new goals.

3. Railway water towers

In the second half of the nineteenth century, with the appearance of the steam railway, it was necessary to build facilities for supplying water to steam locomotives. This role was played by railroad towers. These devices are also supplied with water stations, and associated facilities, social and warehouses. When in the 80's steam locomotives were withdrawn from service and replaced with electric locomotives, the towers no longer served as a utility and began to fall into ruin. Due to the situation and conditions of ownership, many have already been demolished. Two towers in Leborg, two in Slupsk, and many others were already demolished.

4. Adaption and transformation, examples of implementation

-An interesting example to use the railway water tower in a new way in Slupsk, Kółtąja Street, where the pub "Water Tower" was localized. Adaption did not break the historic building fabric, octagonal brick structure since the changes are minor. Pub rooms were located on the lower floors of the object.

-The water tower in Radom, was built in 1926 and designed by architect Feliks Michalski. It's height is 28 meters. Until the 70s the tower was used by the water supply, now it is under construction, it is adopted to the function of office.

-The water tower on Hetmanskę Hill in Szczecin, was built in the years 1863-1865 for municipal water supplies. The tower was built by the plan of a sixteen-sided, base diameter of 30 meters and a height of 14 m. Container tank with a capacity of 3080 m³ was imported from Berlin. After World War II it ceased to fulfill its function. The water tower was converted into a church by dr. architect Witold Jarzynka. Changes could not go too far to keep the value of a historic building. The temple was consecrated only in 1997.

5. Conclusions

For economic reasons, many connections have been closed down, many miles of railway lines were dismantled. Restoration of rail transport in the old scale is unrealistic. However, the needs of tourism services, catering, and the need to establish social relationships in small towns is significant. At the same time the potential of unused lines with existing buildings and architectural qualities of historical, scenic routes, unique tourist attractions, points to the possibility of the gradual transformation of the railway infrastructure. There for tourism, recreation, which will stimulate the development of today sleeping villages. One should pay attention to all the factors: technical, conservation, history, location, potential to become a deployed location.