

# Safe passage to the wilderness park, Horgen-Sihltalstrasse

2016



Large parts of the Horgen pedestrian bridge over the Sihltalstrasse had to be replaced. Many central wooden elements of the crossing were in poor condition.

## The project

The aging pedestrian bridge crosses the Sihltalstrasse and connects the Sihlwald train station with the Zurich Wilderness Park. It is the only crossing over this busy road in the immediate vicinity. The park covers around twelve square kilometers, is home to over 300 wild animals and attracts over half a million visitors each year. Timbatec was commissioned by the Civil Engineering Office of the Canton of Zurich to conduct a condition analysis of the bridge, which was built in 1983. At the time, it served as a test object for pressure-impregnated wood. Structural wood protection was practically completely dispensed with. The engineers found that the floor coverings, including the staircase structure, had rotted. Analysis showed that rot had spread, especially in those bridge elements that were not pressure-impregnated right down to the core or were in the immediate vicinity of the soil.

## The construction method

The two main glulam girders, their supports and the steel structure connecting the girders were in good order. Based on the condition analysis, the pedestrian bridge was rehabilitated in such a way that it can be used until at least the year 2030. Timbatec was responsible for the entire execution planning as well as for the construction management. Main girders, their supports and steel structure could be retained. The complete stairway structure, the runway decking and longitudinal beams had to be completely replaced. The connection of the stairs to the terrain was also redesigned in order to better comply with the structural wood protection. The first two steps, made of wood in the original bridge, were newly made of concrete. All new wooden components were again treated with a pressure impregnation (Impralit-KDS chrome-free brown).



**Construction Data**

- Total length with stairs 37.0 m
- Length of the bridge 24 m
- width 2.0 m
- Newly installed solid wood BFH / spruce approx. 8.0 m<sup>3</sup>

**Services of Timbatec**

- SIA Phase 32 Construction project
- SIA Phase 51 Implementation project
- Structural analysis and design
- SIA Phase 41 Tendering and comparison of offers
- Site supervision and site inspections
- cost estimation
- Status analysis
- Structural analysis
- Remediation proposals

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