



Staufense Tunnel Trap

Data and facts

Company	Nägele Hoch- und Tiefbau GmbH
Type	Baugrubensicherung, Foundation engineering
Runtime	02.2025 - 05.2025
Principal	Amt der Stadt Dornbirn

[Project report online](#)

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Specialist civil engineering under challenging conditions

Between February and May 2025, Nägele Hoch- und Tiefbau GmbH carried out challenging specialist civil engineering works on the Staufensee lake in Dornbirn on behalf of the City of Dornbirn. The aim of the project was to create a temporary, waterproof construction pit to carry out inspection work on the tunnel gate of the bottom outlet. This is a mechanically operated shut-off valve that fulfils an important function for the safe operation of the hydraulic plant.

To carry out the job, a construction pit approximately ten metres deep was created directly in the lake. The particular challenge lay in permanently sealing the construction pit against water ingress whilst ensuring the necessary structural stability under complex boundary conditions. A honeycomb-structured sheet pile box was used, whose self-bracing construction enables the efficient transfer of forces of compression and tension via the sheet pile interlocks. This construction method ensured a high level of stability and safety throughout the entire construction phase.

Additional requirements arose due to the project site's alpine location. The difficult access, limited transport weights for equipment and materials, and the heterogeneous geological conditions demanded precise planning and meticulously coordinated construction work. Thanks to many years of experience in specialist civil engineering, the project was completed efficiently and on schedule.

With the successful excavation of the temporary construction pit, Nägele Hoch- und Tiefbau GmbH created the conditions necessary for the overhaul of the tunnel sump, thereby making a significant contribution to the long-term operational safety of the hydraulic engineering infrastructure at Staufensee. The construction project impressively demonstrates the company's expertise in complex specialist civil engineering projects under challenging environmental and terrain conditions.

Impressions

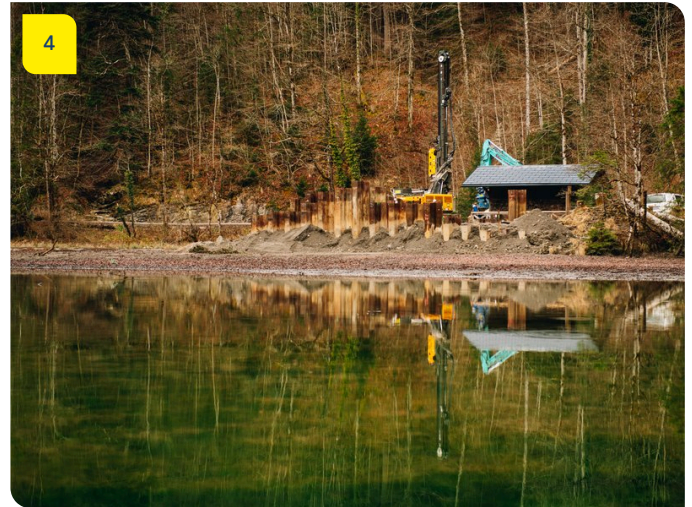


Image notes

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Do you have questions about the project or would you like to learn more? Feel free to contact us for further information.

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