Bentofix® X

Artificial lake

Project name
Nantong artificial lake project, China

Construction period
07/2020 - 02/2021

Designer
East China Architectural Design
and Research Institute

Client
Vanke Real Estate

Product
Bentofix® NSP X2 4000

Naue

Fig. 1: Installed Bentofix® X type

Fig. 2: Soil placement over Bentofix® X

Vanke is renowned in China for its real estate developments, including shopping centres, residential towers, ski resorts, and more. Many of the world's top architectural firms are involved in these projects.

Challenge

One of the signature elements of the new Vanke Nantong Fei Cui Xin Lake - the 25,000m² artificial lake - utilizes a Bentofix® X2 polyethylene coated geosynthetic clay liner (GCL) for superior sealing performance.

The site is in the lush, green countryside near Nancheng. Fei Cui Xin Lake is the centrepiece of the real estate. The area is home to a unique freshwater jellyfish. With its presence and with a focus on environmental protection in the region, the housing development required significant water resource conservation and cleanliness protections.

Solution

Naue's Bentofix® X2 GCL was specified to provide a high-quality environmental barrier for the artificial lake.

The Bentofix® X series features multi-component GCLs. These needle-punched, reinforced composites combine two durable geotextile outer layers and a uniform core of high-swelling powder sodium bentonite clay, as used in other Bentofix® products; but, with one key difference: an additional polyethylene coating is extruded onto the woven component side.

The coating enhances the material's internal shear resistance and barrier performance. It guards against desiccation and serves as a root barrier. It also provides protection against any possible effects to the sealing bentonite layer and prevents any bentonite piping due to high hydraulic gradients.

For Fei Cui Xin Lake, a Bentofix® X2 multi-component GCL was precisely what the developer needed to ensure that the community's new residents would have a clean, idyllic water body to build their lives around. Another interesting part about this project is that the Craspedacusta, which has not been seen in the Yangtze River basin for many years, has extremely high water quality requirements, reappears in the artificial lake.

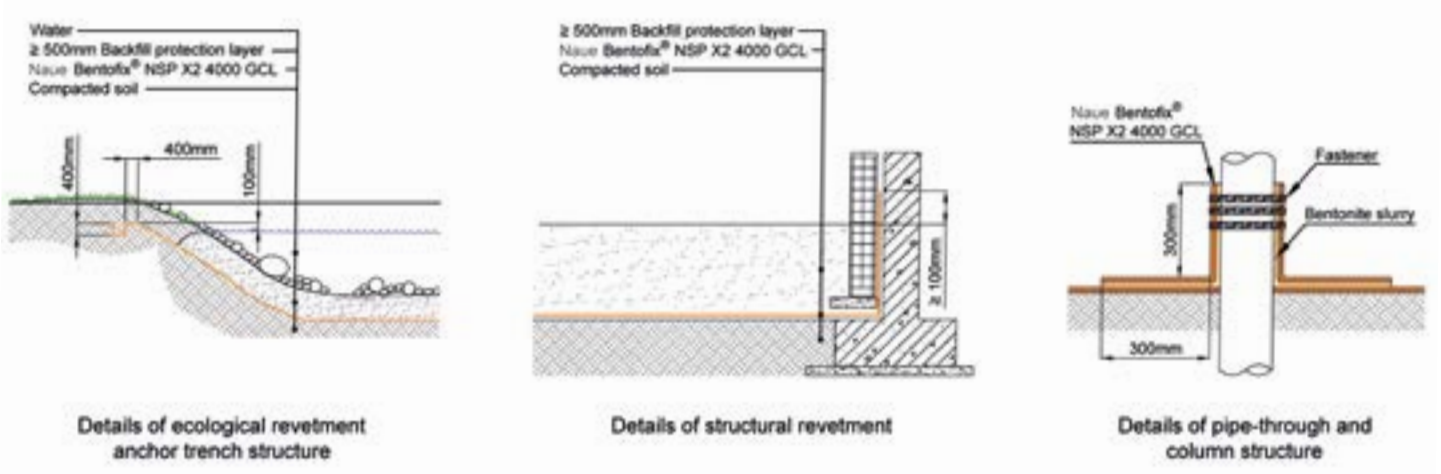

Fig. 3: Technical details

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