



Far from pedestrian

Miró Rivera Architects have created - not designed - a pedestrian bridge that embodies the real spirit of its environment

Living not far from the Somerset Levels, with its rivers and leets edged with reed beds, and the extensive nature reserve and bird sanctuary at Shapwick Heath near Glastonbury, I was immediately struck by one of the entrants in Bentley's 2008 BE Awards in the Sustaining the Environment category.

It consisted of a simple pedestrian bridge, connecting a house on the shores of Lake Austin to a newly constructed guest house across a small inlet. It wasn't even built using Bentley software, but was designed to imitate the reeds and other native vegetation that cover the shores of the lake. The end result is a beautiful, light and maintenance-free structure that is completely integrated into its wetland setting.

An arch spanning 100 feet, with a main span of 80 feet, the bridge is composed of five nested five inch diameter pipes that diverge gracefully between the spring point of the main span and the abutment at the beginning of the bridge.

To create a natural look to the sides of the bridge, steel bars have been intertwined at the abutments and grow over the bridge, camouflaging it and turning into a symbiotic, almost

invisible link.

The steel, half-inch diameter bars forming the guardrails are extended and become the decking as well - u-shaped pieces of steel of irregular length to mimic the varied lengths of the native reeds on the shore. The thin profile of the superstructure is made even thinner when viewed through the veil of the reeds. A hand rail has been provided, consisting of a rope secured with steel wire rings to a 1 x 1 horizontal tube welded to the vertical bars.

At the abutment, naked stone slabs are layered vertically to create the ramps leading up to the bridge, and deep raked joints recreate the rhythm of the steel bars of the deck and railings. To add a final touch, and to integrate the bridge into its natural setting, the steel is left unfinished and allowed to weather, like the rope handrail and the stone ramps.

WHY CAD?

Inspired and delightful as the pedestrian bridge is, you may ask what business it has in a magazine devoted to CAD. Apart from the fact that I love the natural design (you know how I feel about bridges) the creators of this masterpiece, Miró Riviera Architects,

based in Austin, Texas, used both Adobe Photoshop Architectural Drawings and AutoCAD to lay out the geometry of the structure, and to produce the digital images that they presented to the client.

The natural form of the bridge is based on a length of the 5-inch piping creating a simple arch, curving with gravity, yet easily strong enough to support lightweight pedestrian use. There was definitely no need to subject the structure to any form of structural analysis, and the software will have been used mainly to formalise the design so that the quantities, lengths and shapes of the component parts could be listed for the constructors and suppliers.

I also included the bridge in this issue to demonstrate that using computer aided design need not constrain the creative energy of architects, even on simple projects, and especially where there is a need to balance new structures within existing natural environments.

Sustainability is not just about the sensible use of limited materials and energy, to ensure that the earth's resources are available for future generations, but also about recognising the special relationship that man has with his environment. This pedestrian bridge embodies that relationship implicitly.

www.mirorivera.com