

Bridge ramp with WOW! Factor using TensarTech GreenSlope system



A484 Footbridge

Llanelli, Wales – UK

Tensar's TensarTech GreenSlope system was used on the A484 footbridge to provide support to a curved approach ramp and the load bearing abutment. Given that this was a footbridge, aesthetics were an important factor so that it blended in with the local environment. Tensar's solution also met the clients desire for giving users a positive experience when viewing and using the bridge.

CLIENT'S CHALLENGE

GD Harries and Sons Ltd needed to build a 30.4m span bridge with a design life of 120 years, that was also visually appealing as well as to provide the best possible experience for pedestrians and cyclists. This included a complex spiral curved approach ramp, with a 1.4m high safety parapet and handrail on top to protect users. The client also required a system where the materials could be stored in a small compound next to a busy trunk road.

TENSAR SOLUTION

Tensar's TensarTech GreenSlope system easily accommodated the curved geometry and provided a natural looking embankment. It was also capable of carrying the heavy bank seat loading and being modular in construction, made materials easy to store and enabled detailing of the required radius for the southern approach ramp simple.

Tensar®

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PROJECT DETAILS

Application

Soil Retaining Walls & Slopes | No. 527

Constructed in

2023

Client

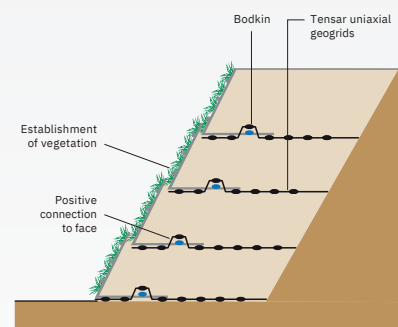
Carmarthenshire County Council

Consultant

WS Atkins

Contractor

GD Harries & Sons Ltd



A typical section through the TensarTech GreenSlope System shown with a stepped face to aid irrigation of the vegetation.

B E N E F I T S

- Long design life
- Supported the carrying of the heavy bankseat loading
- Modular in design
- Small storage and construction footprint

PROJECT BACKGROUND

GD Harries was appointed as the principal contractor for the project under the SWWRCECF (South West Wales Regional Civil Engineering Contractors Framework). It undertook piling works consisting of rotary bored, cast in place piles, reinforced concrete pier foundations, and steep reinforced soil slopes using TensarTech® GreenSlope System. The bridge spans 30.4 metres over the busy A484 and is finished with stainless steel handrailing that includes integrated lighting.

In August 2023, GD Harries successfully handed over a new bridge across the A484 at Trostre in Llanelli to the client, Carmarthenshire County Council. Within minutes of being opened, the new bridge welcomed its first users including several dog walkers and cyclists. As part of an active travel route, the £1.7 million bridge for pedestrians and cyclists completes the traffic free route that will link Hendy, Trostre and the Delta Lakes.

The bridge, which was designed by WS Atkins to be visually appealing as well as provide the best possible experience for pedestrians and cyclists, features a straight northern approach ramp and a curved southern off ramp. The bridge deck is 4 metres wide and has non-slip waterproof surface, with users protected by 1.4 metre high parapet handrails along its length.

BRIDGE DETAILS

	Abutment loading		Bridge bankseat type			Bridge function		Spans	Total Deck Length
TensarTech Systems	Non-load bearing	Load bearing	Simply supported	Semi-integral	Integral	Over structure	Under structure	1	30.4m
TensarTech GreenSlope		X	X			Pedestrian	Pedestrian		



The bridge was designed to be visually appealing as well as provide the best possible experience for pedestrians and cyclists



Tensar's TensarTech GreenSlope system easily accommodated the curved geometry and provided a natural looking embankment.

“ Tensar's GreenSlope System was ideal for this project not only due to its green credentials but due to its flexibility in helping solve challenges with geometry”

Tony Young
Technical Lead — Reinforced Soil Structures
Tensar UK

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