

Kiora Sluice Footbridge



Details

Location	Nazeing Marsh, Broxbourne, Hertfordshire.
Description	Design supply and installation of a 21m long x 1.5m clear width footbridge to maintain a public ROW crossing the river adjacent to an Environment agency flood relief site.
Client	Environment Agency.
Date of project	July 2017
Where FRP composites are used and why	<p>Existing timber footbridge was rotting and requiring extensive ongoing maintenance. The Environment Agency embraced the use of fibre reinforced polymer composites (FRP) for a replacement bridge deck due to its elimination of the majority of the maintenance liability, high durability, safety of the integral silica anti slip surface and long expected life span.</p> <p>The FRP solution was deemed to offer the lowest whole life cost, and to eliminate many associated health & safety risks with maintenance.</p> <p>The low overall mass of the FRP solution allowed for reuse of the existing abutments (after structural assessment and concrete testing).</p> <p>The bridge parapets were manufactured in galvanised steel, with a powdercoat finish in the interests of economy.</p>
Specific design details	<p>Overall length 21m, with spans split in two by virtue of existing central abutment.</p> <p>Designed for 5kn/m2 pedestrian loading to Eurocodes and CUR9-6. Parapet designed and manufactured to BS7818 Class 3.</p>
Type of composite used	Infracore Vacuum infused GFRP moulded bridge deck.
Performance in service	Expected service life in excess of 100 years.
Project partners	ECS Engineering Services provided the project on a design & build basis to the Environment Agency, undertaking structural assessment of the existing abutments, 3D survey of the site, producing a detailed 3D model for stakeholders (and planners) to approve and undertaking the full installation including DDA compliant ramps to improve public access
Further information	<p>Video case study https://www.youtube.com/watch?v=fgGj7WkQjjs</p> <p>More info on ECS Engineering Services www.ecseng.co.uk</p>

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