

Design of Whitegates to Athlone Castle Pedestrian, Cycle Bridge

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Abstract

The modern and sleek design of a new pedestrian, cycle bridge across the River Shannon is a vital link in the EuroVelo Route 2 Galway to Dublin Cycleway. The scheme was configured to act as a landmark structure, central to the proposed national cycle network, and a beacon for eco-tourism and patrons of active travel. It sought to overcome the severe space restrictions along riverbanks to construct the bridge and approaches over and within the Shannon Special Area of Conservation. The design aspired to deliver high quality finishes appropriate to a landmark structure in a thriving urban centre. The design needed to overcome severe geometric constraints to accommodate river navigation to land on the roof of the award winning Luan Gallery and altering the gallery to accommodate the bridge abutment in a visually seamless fashion. The scheme required the construction of the western approach ramps and boardwalk while maintaining the existing mature treeline along the river.

Keywords: cycle, river, bridge, orthotropic, steel, analysis, constrained, vibration, pier.

1 Introduction



Figure 1.1: EuroVelo Route 2

In 2012, ROD-AECOM was appointed by Westmeath County Council to develop EuroVelo Route 2, the Dublin to Galway Cycleway. It represents a principal component of the National Cycle Network, and is key to Active Travel transition in Ireland. A critical element of the cycle route required a landmark bridge crossing of the River Shannon in Athlone town, the ancient centre of Ireland.

ROD-AECOM worked in partnership with Seán Harrington Architects to deliver the design of this unique structure. This paper briefly describes the

option selection process for the scheme and presents, in more detail, the design development and construction of the bridge. A key objective was to provide sustainable transport options for both cycling and walking along a safe and secure route which is separated from vehicular traffic. Furthermore, schemes which serve to enhance connectivity for sustainable tourism, promoting good health and wellbeing at a local level, fully align with Ireland's Sustainable Development Goals (SDGs).

2 Options Selection

Nine alternative crossing locations and configurations were considered in choosing an appropriate bridging point along with six route options through the town to the river. The route and crossing options are shown in Figure 1.2.