



Background

As part of this project, a new canal bridge was required to replace an existing masonry structure. The conforming scheme for the bridge comprised a simply supported single span deck on piled abutments. As an alternative, Reinforced Earth Company proposed an arch structure. The arch was required to accommodate a clearance envelope for the navigable waterway and provide pedestrian clearance along the towpath.

Challenge

The solution adopted comprised a TechSpan® arch structure founded on a piled strip foundation. The precast segmental arch was erected as a three pinned structure. However, due to the minimal fill cover over the crown, the structure was made continuous across the crown joint with an in-situ concrete stitch to form a two pinned structure. The spandrel walls and wingwalls were formed in Reinforced Earth using the TerraTrel™ galvanized steel mesh facing system. The completed walls were subsequently clad in brickwork to meet the aesthetic requirements of the project.

Solution

Erection of the arch units was completed in just two days. The combination of Reinforced Earth Company's TechSpan® arch and masonry clad TerraTrel™ retaining walls provided the Contractor with a cost effective alternative to the conforming scheme. The finished project was shortlisted for the Institution of Civil Engineers' Midlands Award in 2003.

CASE STUDY

Shrub Hill Retail Park

Worcester

Reinforced Earth TechSpan® Arch

Client: St Modwen Developments Ltd

Consultant: Halcrow

Contractor: C J Pearce

Construction: 2002

System: TechSpan®

TerraTrel™

Arch Span: 9.1m

Arch rise: 3m

Design Load: HB

Design Life: 120 years



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