

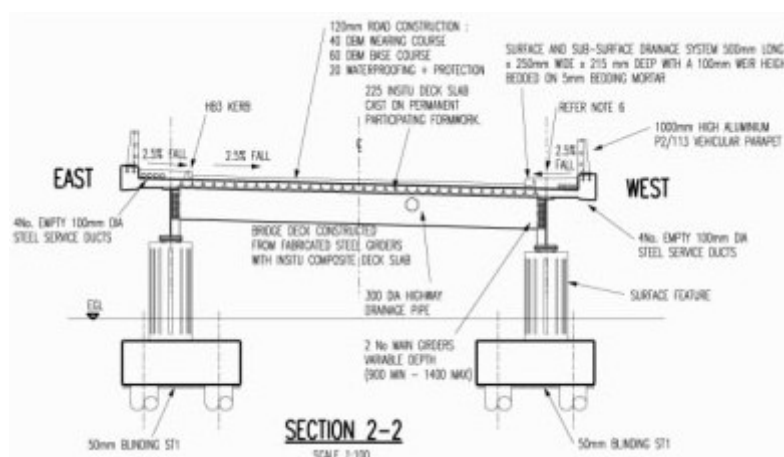
Semington Brook Bridge, A350 Semington to Melsham Diversion, Wiltshire

Completion: 2004
Client: Wiltshire County Council
Main Contractor: Alfred McAlpine
Designer: Arup
Steelwork Contractor: Fairfield-Mabey
Steel Producer: Corus

This bridge carries a single carriageway road over a brook as part of the bypass of the village of Semington. The key constraints of this design and build contract were buildability, minimum obstruction to the flood plain, minimum whole life cost, and meeting the visual requirements of the local planning authorities (ie a haunched elevation).



The resulting concept was a 69m long 3-span (23+23+23) continuous steel composite ladder deck, integral with reinforced concrete abutments. 'Pot' bearings were used on intermediate circular columns and the total steel weight was 113T.



The deck comprises two variable depth (900mm to 1400mm) main girders 10.5m apart, with cross girders at approximately 3.6m centres, and a 225mm in situ reinforced concrete slab. The use of continuous and integral construction eliminated the joints and minimised the bearings.

The steelwork was transported in manageable lengths with the main girders being approximately 27m long. The main girders were erected singly as 'span & cantilevers', with the cross girders being fitted for the first span before progressing to subsequent spans. The main girder connections were welded, and cross girder connections were bolted.