

Mart Lane Overbridge & New Canal Basin, Stourport on Severn

Client	Woodford Environmental.
Designer	Consult (Woodford Group)
Value	£0.85m.

The Staffordshire & Worcestershire Canal was built by James Brindley and opened in 1722. Stourport, at the confluence of the rivers Stour and Severn, underwent massive growth following the opening of the canal and by 1783 had become a thriving hub with brass and iron foundries, vinegar works, tan yards, mills, carpet manufacturers, boat building yards, wharfs and warehouses all using the three Basins in the town to load and unload their goods for transportation.

Redevelopment of the disused and infilled Lichfield basin in Stourport on Severn is being undertaken by Woodford Land in partnership with British Waterways Board. The canal arm and basin were infilled in the 1950's and subsequently used as a timber yard. The aim of the development is to reinstate the former canal arm overbridge at Mart Lane and build a new canal basin within the footprint of the former Lichfield Basin creating a waterside development on the 4.2 acre site of 144 town houses and apartments.

Forkers were commissioned by Woodford to complete the new bridge, the canal basin retaining walls and car park. It is thought that this is the first new 'hump back' bridge to be constructed for some considerable time.

The new bridge was designed in heritage style to match local architecture as required by British Waterways and Worcestershire County Council Archaeological Department and it was opened by the mayor of Stourport on 22nd of August 2006.

Mart Lane Bridge

Main works consisted of;

- Removal of the existing 'at grade' crossing of the infilled canal arm
- Construction of a temporary puddle clay and stone dam across the existing Stourport basin to seal off the canal system from the new construction work. Due to its location it was necessary to place the puddle clay and stone using a long reach excavator
- excavation between the brick abutment walls of the original bridge built 230 years ago. These walls were retained for heritage purposes
- Construction of in-situ reinforced concrete main channel base and walls, 3300mm wide and 4250mm high. High strength concrete (C40/50) was specified due to aggressive ground conditions
- Construction of in-situ reinforced concrete retaining walls and bases. 70m of retaining walls were constructed in heights varying from 2m to 5m including radius sections. Parapet walls were constructed with a sloping finish to the wall tops.
- The bridge arched soffit was constructed in-situ, the only exposed concrete being the soffit arches on each side. Bridge deck waterproofing was carried out by specialist subcontractor.



Mart Lane Overbridge & Canal Basin, Stourport on Severn (continued)

- The bridge was designed as a reinforced concrete structure with brickwork cladding. Brickwork to the bridge and retaining walls was specified as Baggeridge smoked russet to match existing buildings adjacent to the bridge. Lime mortar was specified both for its durability and also for heritage reasons. 29,500 bricks were used.
- The road and footpath over the bridge were blacktop surfaced with Marshalls granite conservation kerbs used on the bridge and approaches
- It was originally proposed to re-model the copings to the bridge and retaining walls from sandstone copings salvaged from the original basin walls, however due to the limited quantity of copings retrieved and the prohibitive cost of transporting and reshaping, it proved more viable to procure new copings. These were cut and shaped from Mottled Hollington Sandstone quarried in North Staffordshire. The copings, mainly cut in random lengths together with a number which were shaped to suit the radius section of the wall, were bedded and jointed on lime mortar and butted-up with stainless steel dowel bars, anchored with epoxy resin.
- Installation of stop planks inside bridge channel to BWB specification



Lichfield Canal Basin

The new canal basin was constructed within the footprint of the old infilled basin as investigations of the existing walls proved that they were unable to withstand current load conditions. Main work involved the following;

- 305lm of new in-situ reinforced concrete 'L' shaped retaining wall ('wash walls') constructed to form the perimeter of the new basin
- Retaining wall tie in to the newly constructed canal arm with heritage brick cladding as the new bridge
- Construction of a 24 space car park for British Waterways staff and customers with heritage brick wall to car park perimeter
- Strengthen an existing 230 year old brick retaining wall on Lichfield Street
- Reconstruction of 14m section of heritage brick wall adjacent to the Ginnel including re-pointing of original arch feature

