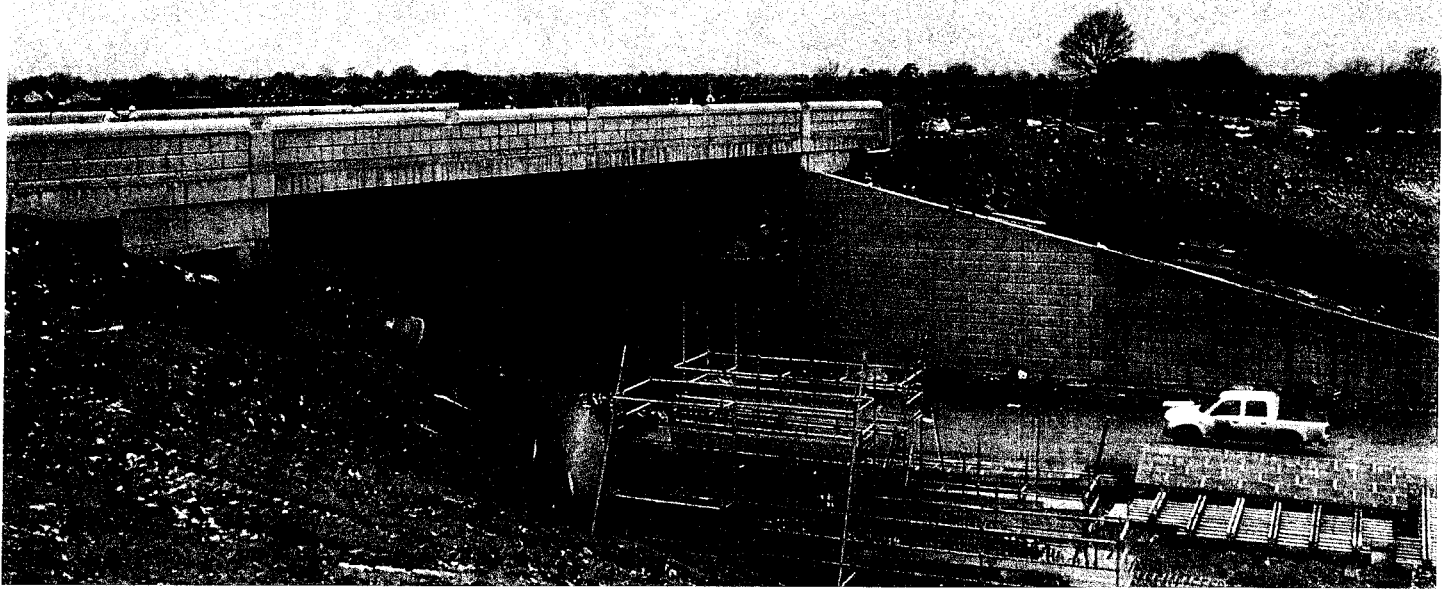


# Recycled Glass Gives Aqueduct a Smooth Finish

2005079



## Background Information

Semington is a small village located near Trowbridge in Wiltshire (United Kingdom). The village currently sits on the path of the A350, a busy trunk road linking Trowbridge and Melksham – that sees 18,000 vehicles passing through the village each day. In order to draw the heavy traffic away from Semington, a new by-pass is currently under construction.

In building the road, constructor McAlpine Capital Projects has had to take into account two engineering challenges including an aqueduct to carry the Kennet and Avon Canal and a three-span bridge over Semington Brook. There were also important environmental issues arising from a local gold-crested newt population – who are protected by law, as well as other wildlife including badgers, so tunnels were constructed under the by-pass to allow the wildlife to continue to live undisturbed and safe from the road.

## Aim of the work

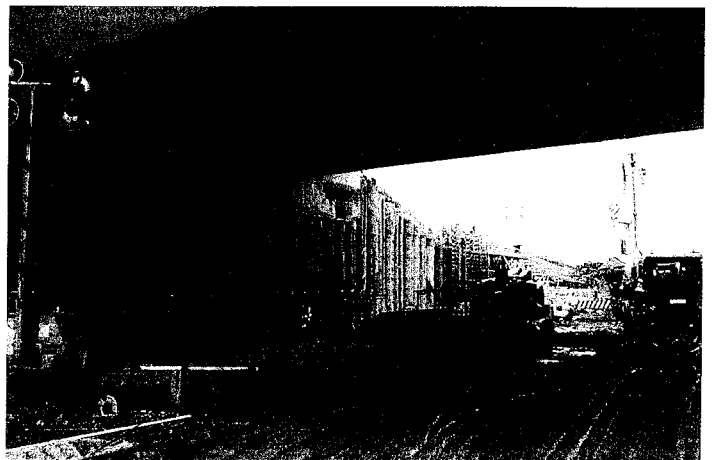
The aim of the work was to remove dirt and debris from the cylinder supports on the side of the new Kennet and Avon Canal Aqueduct to produce a clean surface for the final layer of concrete to adhere to. This final concrete layer will cover the supports to give an aesthetically pleasing, smooth, flat surface facing the by-pass.

## Technical data

Glass abrasive, made from recycled glass, is increasingly being recognised as a safe, environmentally responsible and cost effective alternative to the traditional abrasives used by the grit blast industry. Grit blast abrasives are used

to clean and prepare a wide range of materials. This is achieved by firing the granular or powdered abrasive at the material using high pressure air or water. Glass abrasive can remove paint and corrosion from steelwork, clean masonry, renovate equipment and restore woodwork as effectively, and in many cases more successfully, than traditional abrasives such as copper slag, olivine, garnet or stonegrit.

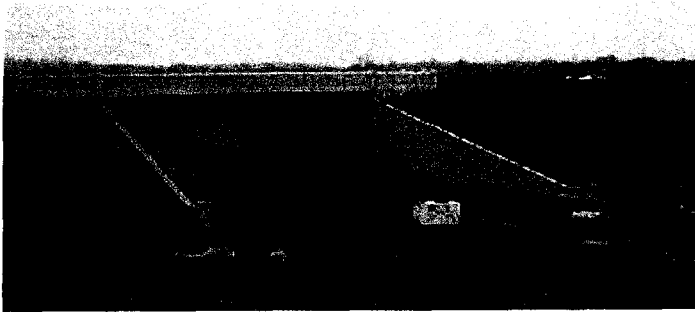
Contracted by McAlpine Capital Projects to undertake the surface preparation of the bridge, Barnes Blasting used a recycled grit abrasive – Trugrit Coarse (1.5mm – 2.5mm) supplied by Crystalgrit. An area approximately 200 sq metres was prepared using two tonnes of abrasive, one tonne per side. The process took two days to complete with a team of two. Using standard blasting equipment, the sides of the bridge were cleaned of mud and other debris generated in the construction process. *Continued on page 26*



### Results and benefits

Traditionally, copper slag would have been used for this type of application. The properties of the glass grit made it quicker and therefore more effective than traditional abrasives. Using glass grit also gave the added benefit of being sensitive towards the aquatic habitat. The material for the whole job cost £160, making it a more cost effective option.

The result was successful, leaving an excellent clean finish for the new concrete to adhere to.



### Conclusions

Barnes Blasting needed to complete this job in a tight timeframe, and the nationwide, readily available supply of glass grit allowed them to achieve this. Using glass grit meant that the concrete could be cleaned of dirt and debris quickly and effectively in a short period of time,

producing an ideal surface for the final layer of concrete to be adhered to, and the best possible finish

### Comment from McAlpine Capital Projects

Site Agent Lee Emery said: "We were really pleased as the job was completed quickly and efficiently, leaving a clean surface for us to work with. Using the glass grit proved to be much more effective than jet washing, and was also a cost effective option - the fact that it was also environmentally friendly is a great benefit."

### Comment from Barnes Blasting

Director Kierien Barnes said: "Glass grit was the most suitable abrasive for this application. The properties of the glass made it really fast, effective and easy to work with, producing the desired result for our client at a competitive price."

For more information on recycling programs in the United Kingdom, visit the WRAP web site at [www.wrap.org.uk](http://www.wrap.org.uk). WRAP's mission is to accelerate resource efficiency by creating efficient markets for recycled materials and products, while removing barriers to waste minimisation, re-use and recycling.



# SHOT PEENING

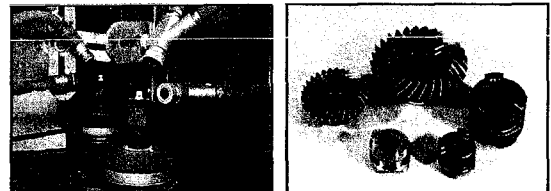
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