

What's happening?

Best practice reuse at Borough Viaduct

Overview:

The demolition of arches at road level was adjacent to sensitive stakeholders and there was an engineering concern regarding impact loading. Environmental impacts of vibration due to brickwork falling onto a basement concrete slab were key considerations.

The traditional scaffold deck was unsuitable due to programme constraints and erecting a scaffold would have put operatives at risk in a restricted work space. There were concerns that debris would have resulted in damage to scaffold materials and that would then require disposal at both a material wastage and financial costs.

Two innovative solutions were put forward as an alternative. The Engineering & procurements Departments worked together to develop firstly a solution using hay bales (a waste product from a local farmer in Kent) that were lowered into vault none where access was restricted. The bales lined the vault floor effectively cushioning impact and reducing noise and vibration. These were then disposed as organic waste and composted off site by Mcgrath.

For the vaults with less restrictive working space and larger access hatch, one tonne sand bags were lowered down into the first vault by a 21t excavator and sand bag protection layers were installed. When the roof layer was removed this protective layer worked effectively and reduce impact on the slab below and environmental impacts on our neighbours. Once the debris was removed the sand bags were lifted out by an excavator and put back into the second vault to be reused in its existing state.

After this the sand was reused again for temporary works for piling and the piling matt. It was reused a fourth time as a banded layer to contain bentonite flow as the sand

layer was the first to be augered out and retained to create a bund.



Both examples of reuse worked effectively reducing the issue of heavy impact and using resources efficiently

Benefits:

- *Resource efficiency – the same sand bags were used for four operations*
- *Cost savings – By reusing materials costs of new materials was eliminated*
- *The Procurement team secured a buy back arrangement on the wooden pallets the sand originally arrived on and any unused or uncontaminated sandbags*

Meeting our objectives & targets:

By careful planning and co-ordination on site, materials can be reused for many different operations, creating both a cost saving and reduce environment impact, diverting waste from landfill. Ruse of unwanted materials facilitated by involving the supplier and negotiating buy back / reuse in terms of contract. Reusing materials is improving resource efficiency and meeting TLP environmental sustainability objectives and targets set

- *Prudent use of natural resources*
- *Reducing waste*