

Shared Learning

COSTAIN

The Thameslink Programme

Issue Date: 29th July 2015 - For further info contact sharon.fink@networkrail.co.uk

Issue Number: TLP034

Title: Arch Structure Damage (2nd June 2015)

Overview of Event:

Works to reduce ground levels above the arches at London Bridge station were being undertaken using an excavator mounted breaker (pecker) when the arch below was penetrated and a hole of 100mm x 70mm was created. The arch below was lined with corrugated metal. A small part of a brick fell onto the corrugated metal. The arch below was used as a storage area by a third party.

Underlying Causes:

Immediate Cause

The arch structure was broken through by the pecker when the operator and banksman, under the direction of the Engineer who incorrectly assessed the position of the arch relative to the datum level they were working to.

Root and Underlying Causes

- **Process** - the failure to follow process with respect to the Permit to Demolish as the permit had not been authorised.
- **Communcation** – the failure to adequately communicate and control the dig and break out operation when encountering differing levels of underground structures. The team were advised to remain above the level of the bitumen of the cofferdam. It subsequently transpired that the bitumen level was different at the area in which the arch brickwork was breached.
- **Lack of information** available to accurately identify underground structures. The drawings detailed in the permit to dig did not show the full extent of the dig.
- **Supervision** – a failure to deploy a trained supervisor and to instead place this responsibility on an Engineer which does not follow the policy laid down by Costain.
- **Competence** – the gang's overall experience and controls were diminished as a result of the regular supervisor not being present during the works and a new excavator operator being involved in the activity.

Actions Taken As a Result of Investigation:

- Training on permit and process compliance
- Resource planning strategies (replacement in the event of planned absence)
- Enhancement of the availability of information on underground structures
- Enhanced information on the WPP & TBS on the protocols to be followed when encountering underground obstructions
- Review of competence and selection of suitable personnel to operate excavators where sensitive structures are present

Diagram/ Photo of event: Hole created into arch below



General Key Messages:

- Where permits are deemed necessary for a work activity, the Supervisor must make sure that these are in place before works are permitted to commence
- Persons carrying out works must have the required competencies for the roles they are undertaking on site
- Supervision arrangements must be clearly documented, understood and complied with on the site