TOWER BRIDGE

WALKWAY COVER SLAB REPLACMENT

TRIAL WORKS WED 24th FEBRUARY 2021

Report Prepared by

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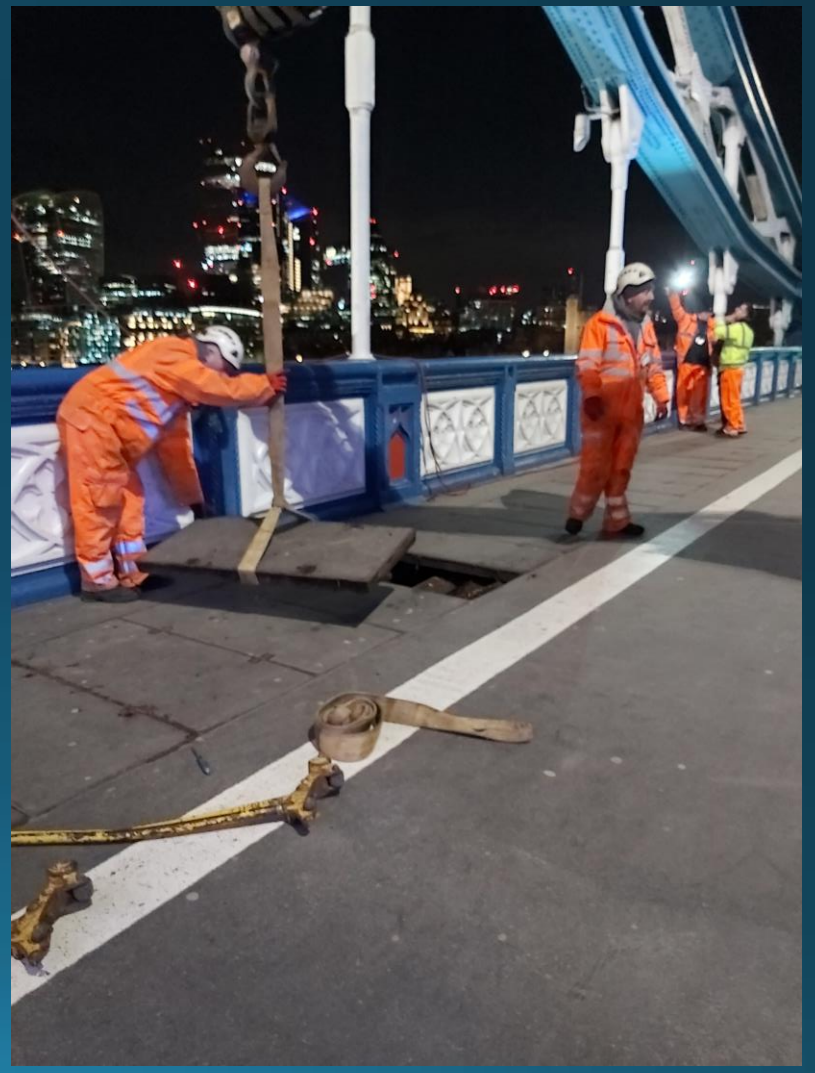
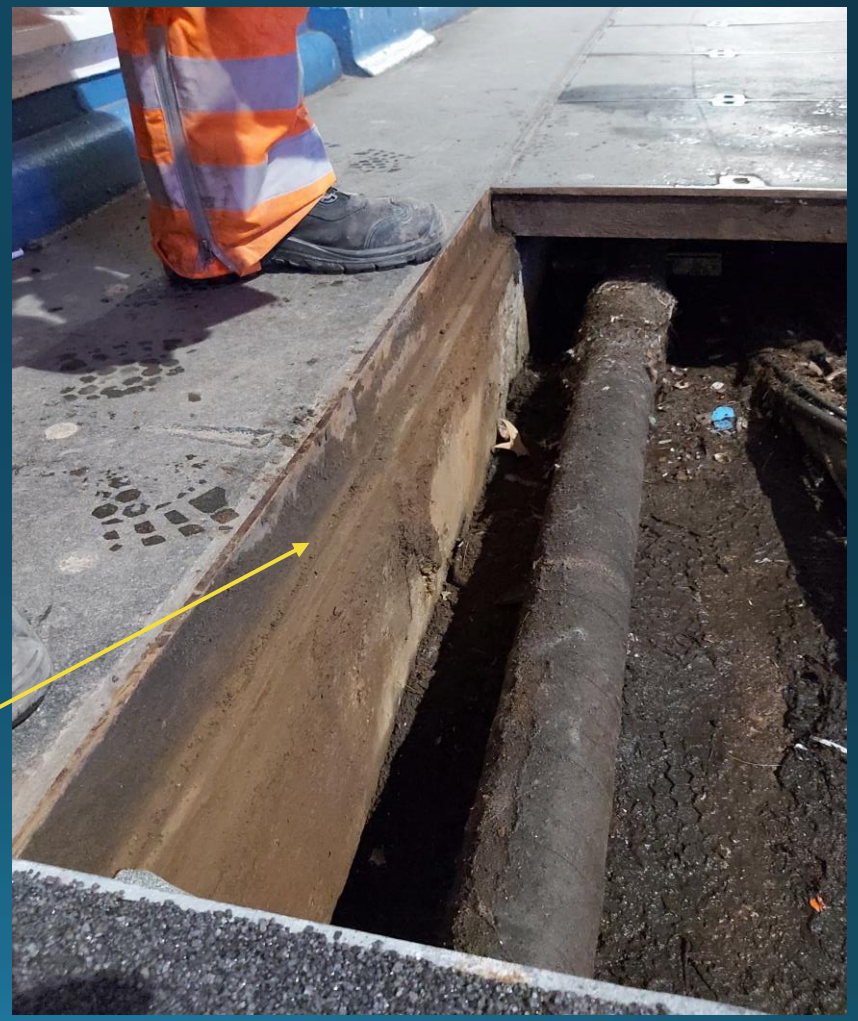
Removal of Existing Covers



Existing Bearing Frame Inspected/cleaned

Slight high spots noted where existing bearing frame Sections meet each other

Bearing frame cleaned and prepared for new covers



First 2No New Covers installed

1275mm Dimension of new covers a good fit

80mm Depth dimension good fit into existing frame

Bearing area on frame good

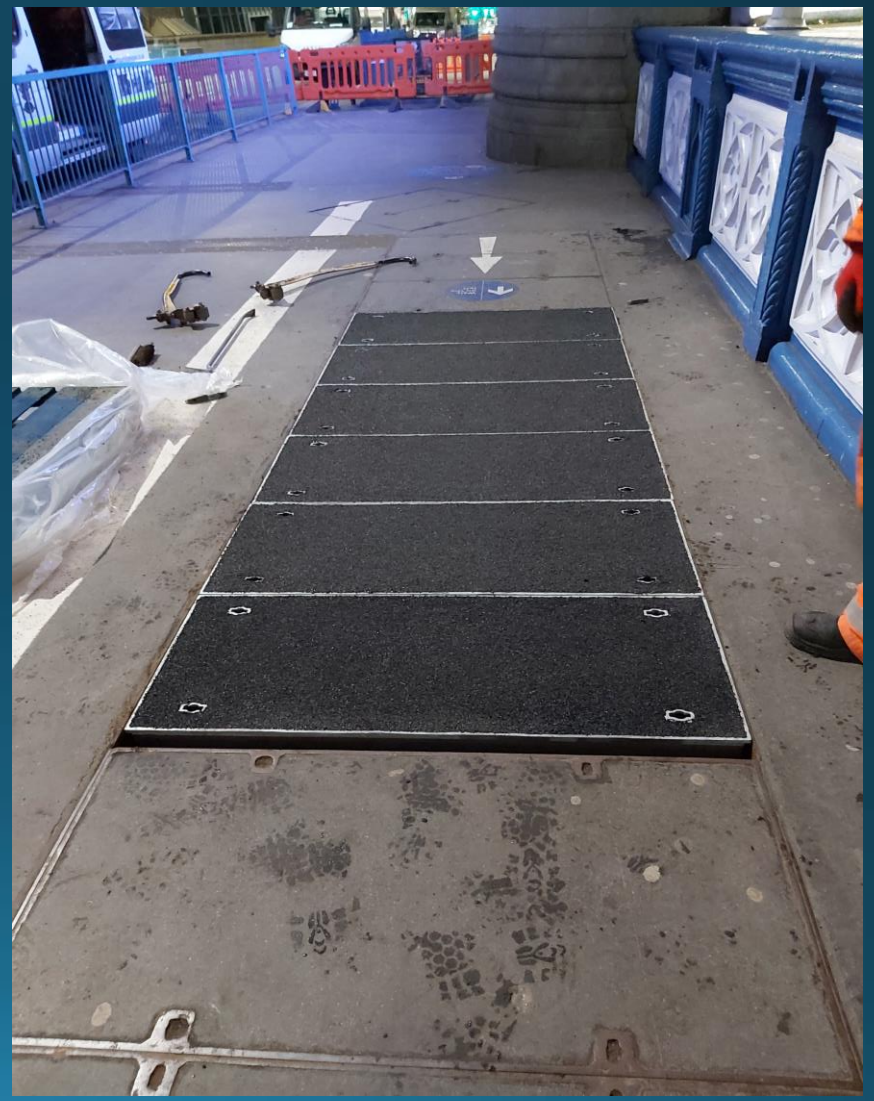
No gaps between each panel

All 5No New Covers in situ

5No Existing Covers Removed
5No x 610mm Wide = 3050mm

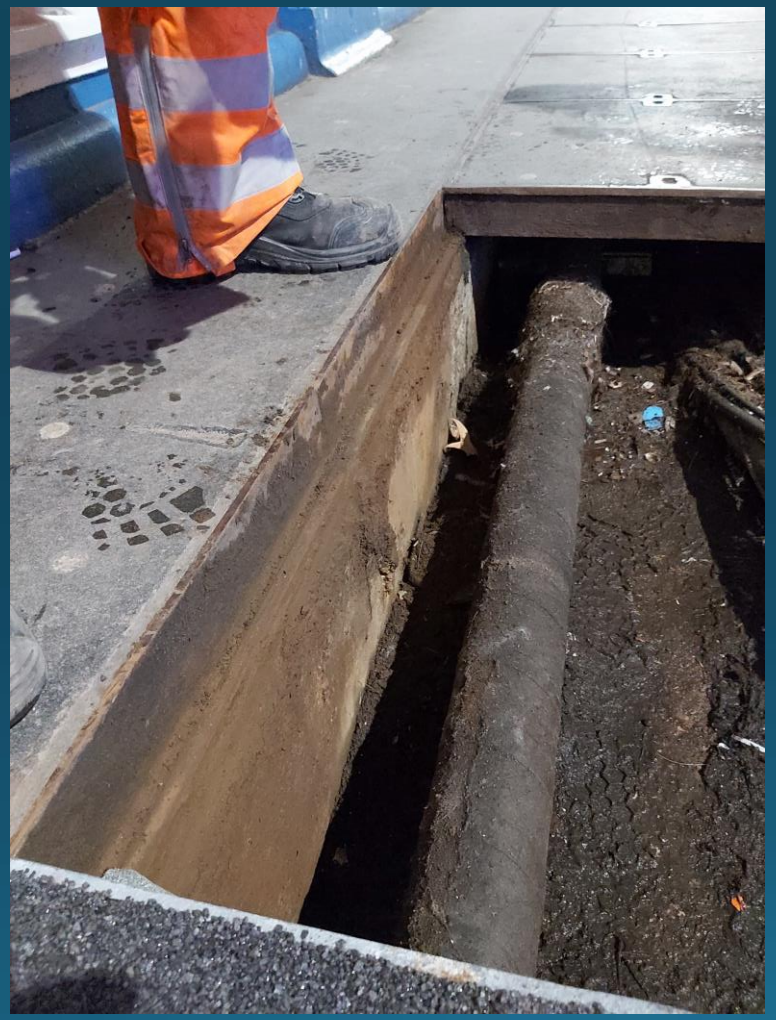
6No New Lightweight DI covers
Installed 500mm wide
(500mm Wide selected to keep
weight per panel under 50Kg)

6No x 500mm = 3000mm



Installation of 6No New Covers complete

Observations – Bearing Frames



Generally the existing bearing frames are in very good condition.

Not loose nor showing any major signs of corrosion.

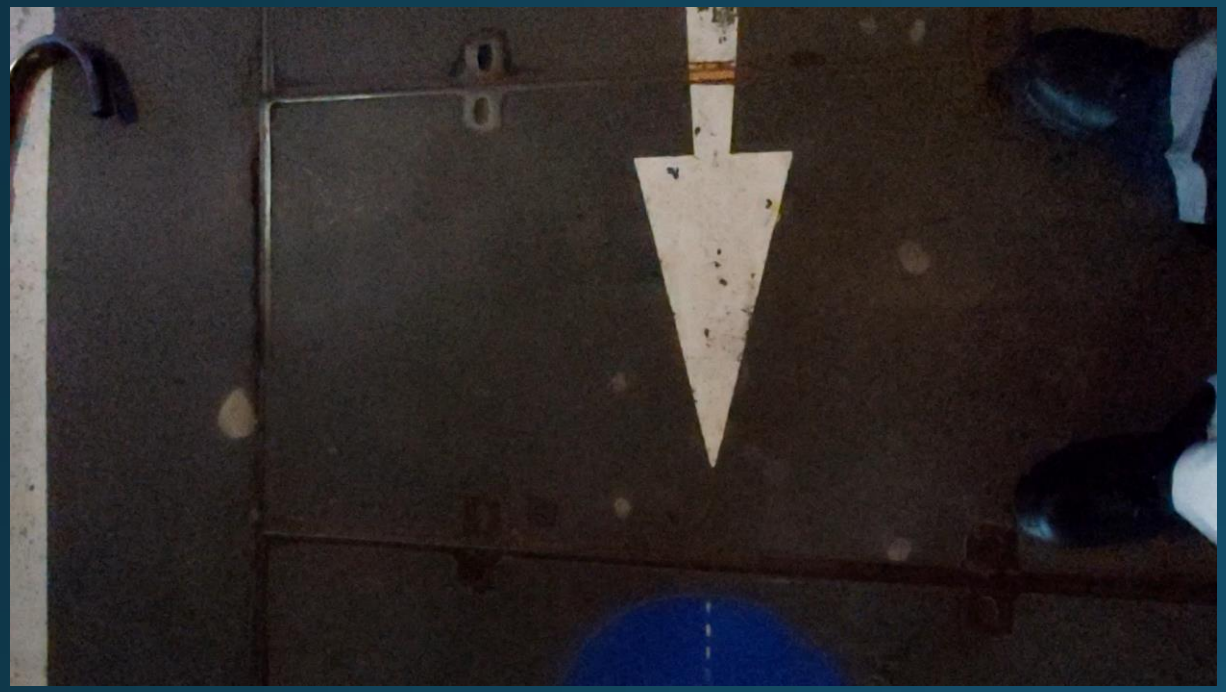
They provide an acceptable bearing angle for the new DI lightweight covers

Before installation of the new covers Ekspan cleaned up the bearing areas.

It was noted that slight high spots exist in some places where the 2No sections of frame meet each other

This explains why some of the existing covers do rock slightly

Observations – Existing Bearing Frame



The “high spots” highlighted at the bearing frame joints is actually causing some of the existing covers to rock slightly.

2No of the new covers were sat on such spots so Ekspan used a bitumen felt material under the covers to stop the rocking and level the covers

This could be achieved by grinding down the high spots on the frame under the full replacement works.

Whilst we do think the existing frames need replacing as part of any main contract to replace all the covers, inspection and work to the frames should be undertaken to highlight any high spots on the frames and grind them level before installation of the new DI lightweight covers.

The client might also want to consider the use of an adhesive compressible foam on the bearings to take up any slight variance between the new covers and the existing frames. Compriband would be an ideal material as it is able to compress to very minimal thickness

*Play Video

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Observations – New Covers – Dims/Keyholes

The length of the covers at 1275mm proved a good fit

The 80mm depth mirrored very well the depth of the existing covers

The 3/4mm recess also looked a good spec to accept the instagrip Anti skid surfacing material Ekspan had applied.
The trial over the coming weeks will no doubt prove whether the material can withstand the foot traffic on the bridge

Lifting Points

We originally thought our lifting keyholes were a bit big but actually they seemed to be almost the same size as the ones on the existing covers.

At less than 50Kg each, we could reduce the lifting keys from 4No to 2No Removal of the covers will likely always be a 2-man lift and the client may consider that to keep the 4No lifting points better ensures a more balanced and safer lift for their maintenance crews

Observations – New Covers – Galv Finish

During the design period a request was made for the new covers to be Hot dip galvanised, this was carried out for the trial covers.

Hot Dip Galvanising on average provides between a 10 and 20 year protection to metallic materials (depending on location etc etc)

The new covers are made from Spheroidal Graphite Iron so will not actually corrode excessively, however any exposed surfaces once any transit coating (such as bitumen) has worn off will oxidize to a rust/orange type of colour.

The client can see the finish that galvanising the units will give to the walkway so it remains their choice what finish they would prefer should a decision and contact be awarded for the replacement of all the covers

Observations – New Covers – Dimensions

Consideration and thought needs to be given to the overall length of the existing covers installation and the new covers.

The existing covers are 610mm wide – The new covers were designed and manufactured to be 500mm to ensure a safe 2 man lift under 50Kg.

The existing covers are located in 4No separate runs over the deck
A quick and approx. count on one of these runs came out at 127No covers
127No x 610mm = 77470mm
77470 /500mm (Width of the new covers) = 154No 500mm wide covers
Plus 1No make up piece approx. 470mm wide.

If an accurate survey/count could be done on all 4No locations then Eccles could manufacture all the required number of 500mm covers
(inc any spares that the client may want) before we adjust one of the tools and manufacture the 4No make up pieces


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