

Councillor Stephen Cowan

Leader of the London Borough of Hammersmith & Fulham
Hammersmith Town Hall, London W6 9JU



13 January 2021

Baroness Vere of Norbiton Parliamentary
Under Secretary of State
The Department for Transport
Great Minster House
33 Horseferry Road
London
SW1P 4DR

Dear Minister

Please find attached the Mott McDonald report into the north-east pedestal; a briefing paper and covering note in response from the Board for the Continued Case for Safe Operation of Hammersmith Bridge, authored by Xanta, and a 16-page response to the AECOM and Fleck reports following comments from the CCSO Board including engineers from Mott McDonald, WSP, Xanta and H&F.

Please note, in view of the widespread public interest, we will be putting into the public domain the executive summary of the Mott McDonald report, the CCSO briefing paper and the response to the AECOM/ Fleck reports.

I have accepted the advice of officials that, on security grounds, we will not publish the detailed, technical 259-page report by Mott McDonald, and are redacting the *Summary of behaviour at cracks* table for the same reason.

Again, we are similarly asking the Department of Transport to respect the security of the bridge in any public response. The bridge has been attacked by terrorists on three separate occasions. More recently, there has been terrorist-related tagging on the bridge.

AECOM/ Fleck reports

There has been, as you know, widespread public debate and an increased expectation of the re-opening of the 134-year-old Hammersmith Bridge to pedestrians and cyclists, following the publication of the AECOM/ Fleck reports on 10 December and the suggestions that closing the bridge on 13 August was "conservative", and that the CCSO should be reviewed and updated.

It is important to understand that the Mott McDonald report and those of AECOM/ Fleck cannot be compared as like-for-like. The Mott McDonald report is based on physical inspection and investigation of the structure, while the AECOM/ Fleck reports are based on theoretical modelling and interpretations and analysis of previous Mott McDonald reports.

The AECOM report raises expectations of a reopening without offering solutions. In fact, where it does suggest a way forward these include blast cleaning of the two remaining pedestals, and a Category 3 check of Mott McDonald's work. Both these suggestions would take a matter of several months to conclude and can, in no way, be interpreted as suggesting the bridge could be re-opened within a matter of weeks.

AECOM acknowledges that its work isn't based on any tangible investigations: "AECOM has provided high level considerations of how gross failure may occur. These considerations have been developed through our experience and through carrying out limited simplified analysis".

One of its main recommendations is re-inspection of the depth of crack NE10 "as it seems likely the crack is shallow". This conclusion appears to be based on photographic images. Please advise if that is correct?

Furthermore, it goes on to say: "It is acknowledged that a huge amount of complex technical work has been undertaken by others. AECOM has not carried out any detailed calculations but have relied on their experience".

The AECOM report appears to have been published prematurely as, without the Mott McDonald report, it can only talk in hypotheticals.

It states: "AECOM understands that Mott McDonald are currently modelling the effects of the cracks on pedestal NE10. This will be useful to determine to what extent the failure load of the pedestal has been reduced". The issue of letting pedestrians back on "needs to be studied in more depth".

And it concludes: "Whilst AECOM was carrying out this review, several other activities have been taking place forming part of the overall Task Force to augment existing studies. The findings of these studies may influence some of the issues raised in this report, which will be updated on receipt of further information."

Mott McDonald report

The Mott McDonald report, following the previous investigation in January 2020, has involved site investigations, monitoring and further refined analysis, enabling a much better understanding of the behaviour of the NE pedestal including the recorded defects.

I am pleased to say it states that the temperature control system, capable of actively moderating the load demand on the pedestals, which was commissioned by H&F in August 2020 following the bridge's closure to pedestrians and cyclists "provides some mitigation".

It goes on: "The conclusion that can be drawn...is that the temperature control system is effective in maintaining a stressed state that is significantly less onerous compared to the one that has been experienced by the pedestal previously."

All 13 cracks have been individually investigated: "The investigations into the behaviour of the recorded and potentially extended cracks, indicate that the application of an active temperature control system minimises the potential for further deterioration of the casting and significantly reduces the risk of uncontrolled crack propagation; thus minimising the risk of progressive failure."

The executive summary concludes: "This report documents the refined analysis for the NE pedestal but there are another 3no. pedestals with different defects pattern and ground conditions. Whilst there are clearly similarities in behaviour at each of these pedestals, conclusions cannot be reliably drawn on these remaining pedestals until blast cleaning and 100% visual and MPI examination are complete. It will be

prudent to undertake a study to calibrate the response at the remaining pedestals in advance of the findings from the post blast inspections.”

CCSO Update

We requested the CCSO Board to review the Mott McDonald report, and the AECOM/Fleck analysis. This is the summary advice, prior to any consideration of re-opening the bridge, from the CCSO:

- We must still inspect as fully as possible the west side pedestals.
- We must still demonstrate by practical experience that the temperature controls are effective over the full range of ambient temperatures likely to be experienced.
- The MM report must be subjected to an independent Cat 3 check.
- We must be aware that a failure to set a date for remedial works must mean closure of the bridge
- Indefinite use of temporary measures is not acceptable.

The attached briefing paper makes clear that the Mott McDonald report “provides a good deal of evidence to suggest that the NE pedestal is likely to be stable. However, that does not provide the degree of certainty required to reintroduce pedestrians in the short term because the necessary degree of independent checking has not been applied.”

It adds: “The works so far are temporary solutions pending structural repair. They cannot be used indefinitely and, following crack extensions, the public cannot be allowed to use the bridge until it is repaired because it has proved to be unstable and still contains unknowable features.”

“Amid the plethora of detail there is the simple position that H&F, AECOM and Prof Norman Fleck all agree upon - remedial works must be undertaken to restore any meaningful use of the bridge.”

With regard to the DfT requests to explore options with strict conditions, other than the bridge being permanently fixed, to allow pedestrian and cycle traffic use, the CCSO adds:

“This is an objection to an inconvenience and not to a point of physical laws which determine the safety of the bridge. AECOM has already commented that, *‘this may prove to be unworkable’*. Prof. Norman Fleck is silent on the matter. The term *‘strict conditions’* implies that what is good for boats (fewer than ten people passing each hour) would apply also to pedestrians. That is truly unworkable.

“The works so far are temporary solutions pending structural repair. They cannot be used indefinitely and, following crack extensions, the public cannot be allowed to use the bridge until it is repaired because it has proved to be unstable and still contains unknowable features.”

In conclusion, the advice to H&F is: “H&F must bear in mind that the safety of the bridge depends on one brittle cast iron pedestal known to contain cracks which have shown movement, one which does not, and two others, still with paint needing removal, but known to contain some cracks that are of unknown condition. Those two pedestals must be investigated fully before consideration is given to any changes although unknowns will remain even then.

“It is obvious, and intuitive, to any member of the public that even with detailed knowledge of all the pedestals the case for any use of the bridge would be finely balanced. Therefore, with the unknowns which apply here, the case is clearly for no use of the bridge without remedial works.”

Duty holder responsibility

The CCSO asserts that H&F, as the duty holder, and its agents are “accountable for the safe operation of the bridge” and that others e.g. AECOM / DfT are “free to create the case for pedestrian use before remedial works, and to take duty holder responsibility, but have never done so”.

In the light of all the above, it is H&F’s view that the CCSO can only be reviewed once the remaining pedestals have been blast cleaned and investigated, a Category 3 check of the work has been completed, and the programme for the remedial works is underway.

I hope you will agree with the engineers’ technical assessment and the advice for continued closure until such works are agreed. I would reiterate our offer to pass ownership and responsibility for the bridge to the DfT should you decide that an earlier reopening is possible.

Yours sincerely



Cllr Stephen Cowan

Leader of the London Borough of Hammersmith & Fulham

Cc

- **Heidi Alexander**, Deputy London Mayor for Transport
- **Cllr Gareth Roberts**, Leader of the London Borough of Richmond
- **Robin Mortimer**, Chief Executive of the Port of London Authority