



Cracked Masonry Example



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Location	Approach
Orientation	East/West
Element	Masonry

Repair Justification: The masonry to the East and West approaches are as per the original construction and no major works have been carried out in their lifetime, although it is likely some repointing has occurred intermittently. A small degree of masonry has been subject to mortar loss, cracking within mortar beds and movement within the masonry units. The masonry extents are highly visible and accessible elements and one of the first points of interaction for visitors. Likewise, they are an important element in the long-term life of the structure, supporting the approaches to each bank for pedestrian and vehicle access and egress onto the bridge. As such they are high-risk elements which would benefit from refurbishment.

There are many solutions available for refurbishment of masonry, however the construction is generally in good condition, therefore removal and rebuilding of the affected areas would be a disproportionate action. Additionally, the present construction has worked since 1906 and does not warrant replacement with a modern alternative. Likewise, replacement with an alternative material or structural solution with different dimensional constraints would result in an obvious and detrimental impact on the existing structure. As such various repair solutions are deemed unsuitable and like for like replacements and repair solutions are proposed.

Proposal: As above only one solution is justified, therefore the highlighted elements will be subject to the refurbishment proposals below;

- Cracked mortar; Affected areas are to receive Helifix Helibars within mortar beds with existing mortar to be removed, followed by placement of Helibond cementitious grout and reinstatement of the facing mortar bed.
- Cracked masonry; Affected masonry units to be assessed on a case by cases basis. However, where a masonry unit is deemed to have degraded to a degree that is detrimental to the future of longevity of the construction this is to be removed repaired through the use of Cemtie reinforcement within single blocks. The masonry unit is then to the reinstatement to original position and orientation within wall.
- Repointing; Affected mortar beds and perpend joints are to be assessed on a zone by zone basis. However, where the mortar is deemed to have degraded to a degree that is detrimental to the future longevity of the construction this is to be removed and replaced with a mortar specification to suit existing, subject to testing of existing material.

General Notes:

- G1 Please do not scale this drawing. All dimensions are in millimetres unless noted otherwise.
- G2 The members sizes, layout and details etc. indicated on this drawing are derived from drawings of the original structure and are indicative only. The Contractor is responsible for confirming all dimensions on site prior to fabrication of any item of permanent or temporary works and for ensuring the satisfactory fit of all elements.
- G3 The details as indicated on this drawing are preliminary only and subject to agreement with CADW and receipt of LBC approval.

GENERAL NOTES:	Rev:	Description:	Date:	By:
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