

Structural Report

Redundant Railway Bridge Abutment Adjacent to Lucy Plackett Playing Field, Adderbury

Introduction

Wellan Ltd has been requested by Adderbury Parish Council, as owners of the redundant railway line, to carry out a further inspection and produce an updated report regarding this bridge abutment. A report was originally produced in October 2019 to report on its structural condition and any concerns about its stability and safety.

A site visit was carried out on 21st January 2026 by Mr M Walker who is a Chartered Civil Engineer with more than 30 years experience of inspecting and assessing structures.

The bridge is on the disused railway line that formerly ran through Adderbury but has been closed in excess of 50 years. It is understood that the railway line was transferred to the ownership of the Parish Council approximately 40 years ago. The route of the disused railway line passes alongside the Lucy Plackett playing field and then over the River Cherwell and the public footpath that runs beside it.

The bridge that formerly carried the railway tracks over the river and public footpath has been removed for many years. This is presumed to have occurred prior to handover of the route to Adderbury Parish Council. The route of the railway line is, therefore, on an embankment terminating at the railway abutment and its wing walls.

It is understood that the route of the disused railway line is available for use by the public along with the footpath running adjacent to the abutment.

No opening up of the structure or exposing of the foundations has been carried out and this report is therefore based only on a visual inspection. Access was gained to the upper part of the abutment and wing walls with some difficulty due to the steepness of the slopes, the slippery surface and severely overgrown nature of vegetation.

Form of Construction

The construction of the bridge is fully described in the report produced in 2019 to which reference should be made.

Inspection

Main Abutment: Comparison of photographs taken in January 2026 shows no evidence of change nor is there any difference apparent in verticality checks.

North Wingwall: There is an increase in the width of the long horizontal substantial crack which is present towards the base of this wingwall. This crack is in the brickwork that was added to reface the original wingwall as noted in the 2019 report. A careful inspection of the adhesion of the new facing where it is visible at the top of the abutment shows no indication of slippage of the upper part of this facing and it is thus apparent that it is the base of the additional facing that has sunk further. It was concluded in the 2019 report that the crack was opening up as a result of the facing being inadequately founded, with the upper part of the facing attached to the original wingwall either by mechanical fixing or mortar adhesion.

South Wingwall: There has also been very slight movement of this wingwall at its junctions with the main abutment.

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Cause For The Defect

Causes for the defects were described in the report produced in 2019 to which reference should be made. There is no reason, based on this further inspection, to revise the likely cause of the defects.

It should be noted however, that climate change appears to be causing intermittent periods of extended dry and wet periods which may be having a detrimental effect on retaining structures.

Conclusions

- 1) Main Abutment: There is no apparent change in the verticality of the walls or the width of cracks. The condition of the brickwork and mortar joints is a little poorer but there is no reason for immediate concern in this regard. Advice remains unchanged and it is exceedingly unlikely that a significant change in the structural condition of the wall will occur during the course of the next 5-10 years. In the longer term, it is possible that the vertical cracks in the front face of the abutment wall will become sufficiently wide to cause loss of integrity of the structure. In this case the abutment will act as three elements (front and two side returns) with each of them being significantly weaker as a result. The cracks should therefore be kept under observation and Wellan (or an alternative qualified engineer who should be provided with a copy of this report) should be asked to carry out a further inspection.
- 2) Wing Wall: the base of the refacing has dropped a little further, presumably due to inadequacy of its foundation. This is clearly shallower and less substantial than the original wingwall – presumably as it was constructed principally for cosmetic purposes. As there is minimal support from the bottom element of this facing to the upper part, this will make no significant alteration to the likelihood of its collapse. Nevertheless, the possibility remains that rapid failure of the facing could occur if the adhesion of the upper part is lost. Such a failure would not lead to overall failure of the wingwall or the abutment but would result of collapse of bricks on to the footpath. This brick facing should be reviewed regularly for signs of more widespread cracking. As noted in the 2019 report, it would be useful to investigate the nature of fixing between the facing and the original brickwork. Mechanical fixing would give a greater degree of comfort that sudden collapse of the facing is unlikely. There appears to have been very slight movement of the wingwall at its junction with the main abutment. As the two elements are reasonably well bonded, it is unlikely that movement here will progress rapidly.
- 3) South Wing Wall: The general condition of the south wingwall remains fair, although there appears to have been slight movement at its junction with the main abutment. As with the north wingwall, the wall is well bonded to the abutment and rapid progress is unlikely.

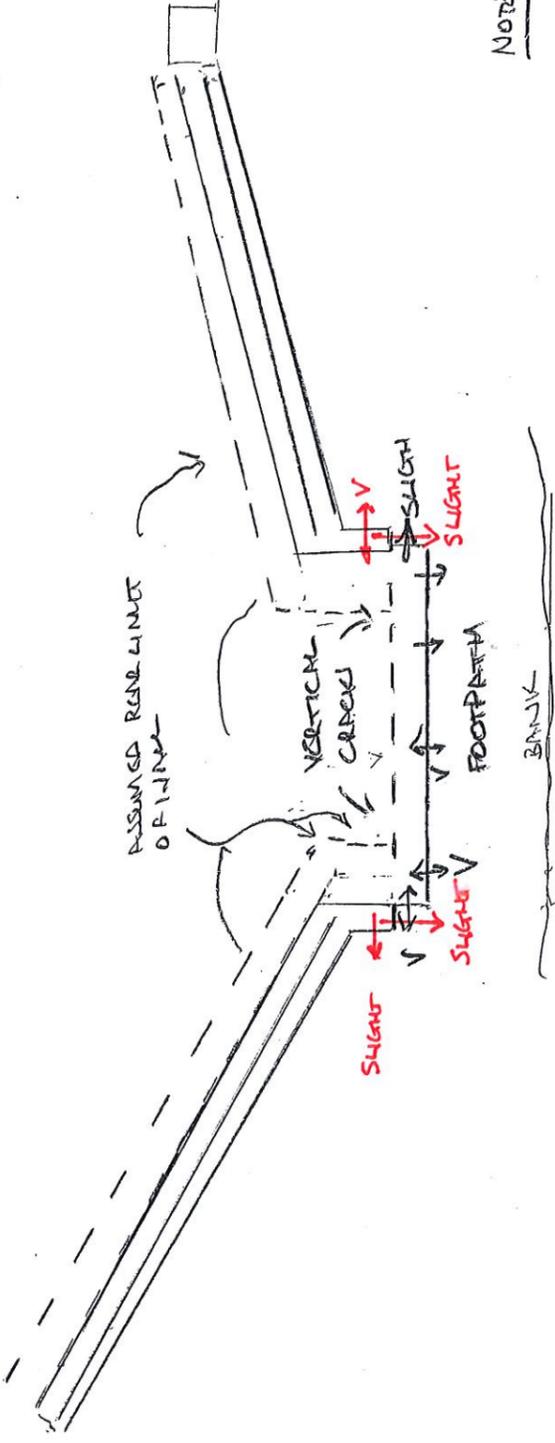
Recommendations

- 1) It is recommended that periodic observation of the north wing wall is undertaken and that Wellan (or another qualified engineer) is requested to advise immediately, if new cracking appears.
- 2) Further formal review should be undertaken within the next five years.
- 3) The information provided by Wellan Ltd should be retained by Adderbury Parish Council and made available to any future party advising with regard to the bridge abutment or wing walls.

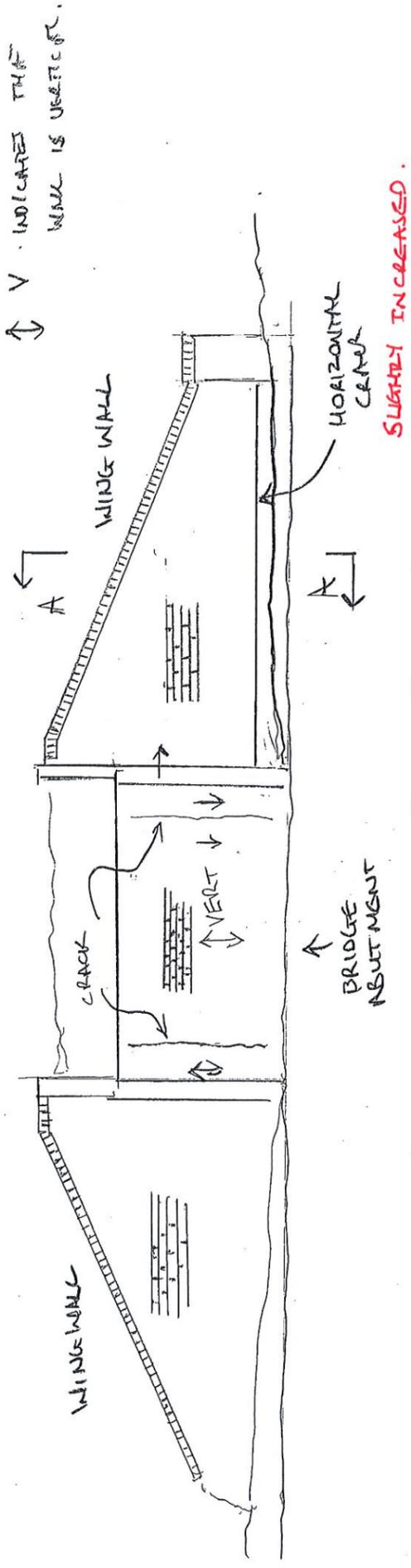
Appendix A

Sketch SK/01A - Plans, Elevations and Details Showing Structural Defects – Updated Jan 2026

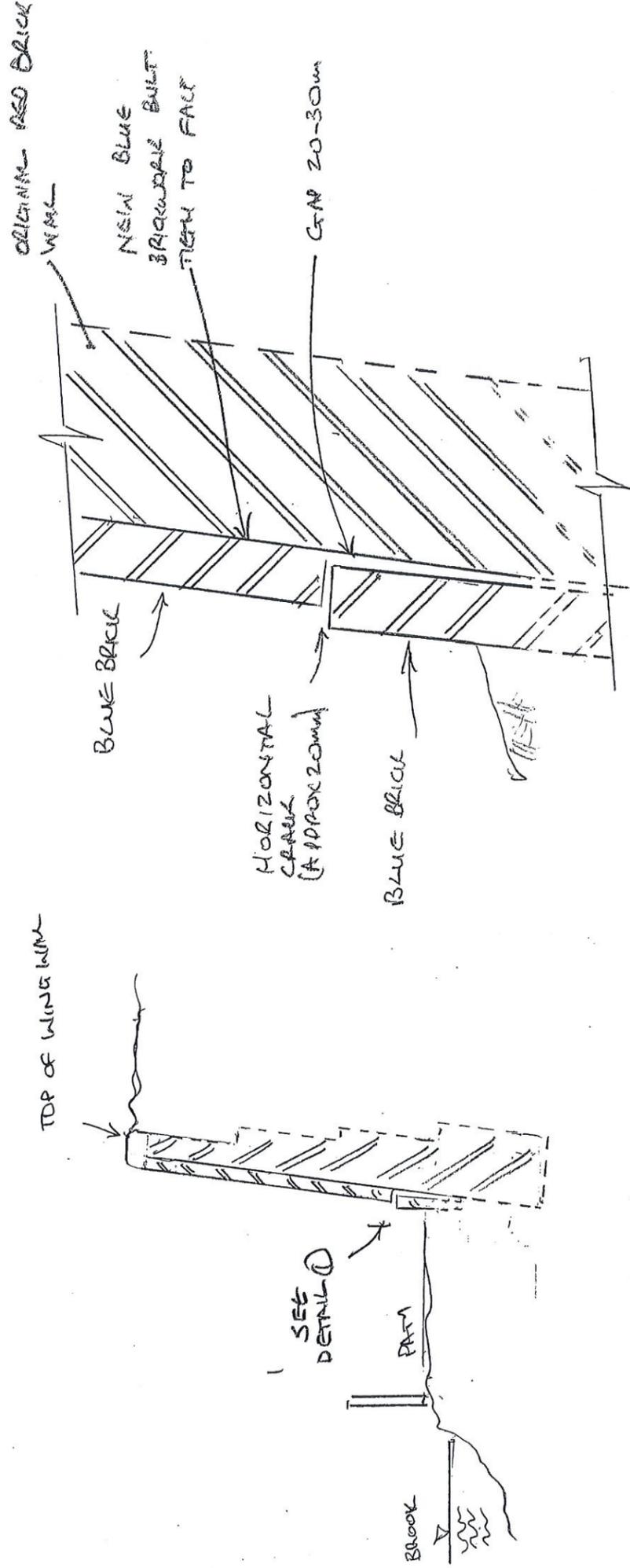
NOTE: RED INDICATES UPDATES JAN 2019



PLAN ON BRIDGE ABUTMENT



ELEVATION ON BRIDGE ABUTMENT



SECTION A-A

DETAIL 1

A3 DRAWING

Wellan Tel 01608 688753

Wellan House, Aylesmore, Warks, CV36 5EJ

Date 02/10 Scale NTS

Title PLANS, ELEVATIONS & DETAILS Project REDUNDANT RAILWAY BRIDGE ABUTMENT SHOWING STRUCTURAL DEFECTS

Adjacent LUCH PARKET FLD, ADDRESSBURY

Dwg No SK/01A

Proj No 19-195