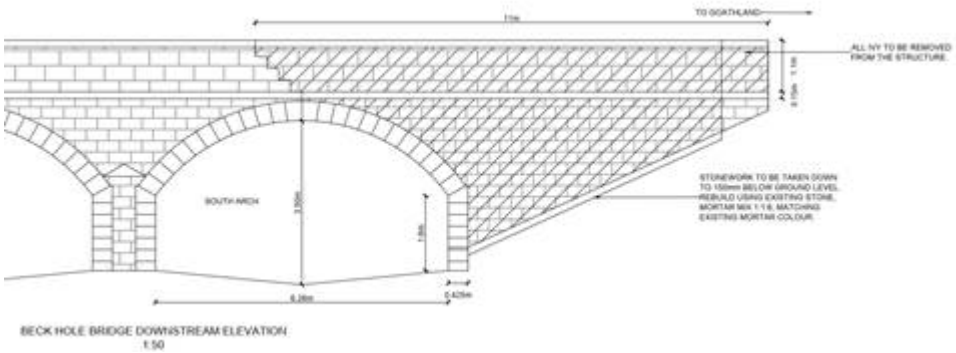
From: Maria Calderon
Sent: 20 September 2021 09:53
To: Megan O'Mara
Subject: Beck Hole Bridge

Morning Megan please see the below in regards to beck hole bridge

I've reviewed the proposed intervention for Beck Hole Bridge, and offer the following observations:

- The DAS sounds reasonable, and has the proposal down as an essential repair to deal with a localised issue affecting the SW spandrel wall
- The problem appears to be lateral translation of the SW spandrel about the arch barrel extrados, rather than complete outward displacement of the whole SW wing wall. However the supporting information does not examine in detail what has caused the problem. Reading between the lines, this seems to be an issue of sliding failure of the spandrel under lateral earth pressure from vehicle loading surcharge.
- The HS sounds reasonable, and the scope as described seems limited to the affected area of the SW spandrel only. A minor issue in thew HS is that it asserts the existing bridge 'uses cement type mortar' which is clearly erroneous for a masonry bridge of this age, and not supported by evidence in the submission
- However, the supporting drawing conflicts with the DAS/HS in scope: the extent of the proposed downtaking is about double that which is actually suffering from structural

activity (see below).



- The photographic evidence suggests the lateral translation of the spandrel relative to the barrel peters out and terminates around springing level at the lower end, and does not reach the crown at the higher level. For practical stability reasons, the masonry will need to be opened up to a splayed / corbelled profile to access the affected area, but even accounting for this the scope in my view is about twice that which seems to be required. I can see no justification for the rebuilding of the upper part of the end pilaster. Further, taking down the masonry beneath springer block will open up a can of temporary support worms which should be borne in mind, I wouldn't do this unless expressly required.
- I can't see any record of investigations to determine why the deterioration has actually occurred. Some trial pit investigation to prove the section profile of the wall would be a bare minimum in my view, unless the answers were open-and-shut. The Engineering Statement suggests that the problem is purely mechanical, in that this is a response to heavy vehicles for which the structure wasn't designed. If this were the whole story, then the other spandrels would be expected to exhibit similar distress. On the basis that the problem seems much more localised, and that this is a hump-backed bridge at the bottom of a hill, with no drainage that I can see from Google Streetview, this suggests to me that it may be softening of the fill in this area. Intervention should include correction / improvement of the water-handling response of the bridge, with some interception channel or gully on the uphill side.
- A more focused scope of repairs based on the photos is outlined below, which I think the project should be tapered back to. The proposed intervention doesn't in my view actually deal with the problem: if the spandrel is too thin to resist the lateral earth pressure, then it should be thickened to the rear (i.e. dig down the back of it and substantially increase its thickness – possibly combined with some fixing into the extrados if this is not toothed).

- The commentary on mortars for repairs in the Engineering Statement is simply flawed, and makes numerous assertions that are not supported by evidence. Traditional masonry bridges can be repaired and conserved successfully with lime mortars, given appropriate care and attention. Moreover, this can be done in sensible timescales – if the works were carefully timed (i.e. spring-time) then aftercare need only last for 1-2 weeks following completion of the masonry works, to ensure proper hydration of the hydraulic component. The commentary is unbalanced, and it is clear that 1:1:6 is the predetermined outcome.
- Rather than poking holes in the narrative, to assist in practical specification, I would suggest two mortars be used here:
    - Cope bedding and pointing – 1:1:6 or Prompt/NHL blend at 1:1:6, to throw vertical rainfall off the parapet (this **must** be well galleted and joints kept as thin as possible)
    - Spandrel and parapet rebuilding and general fabric repair mortar – QL/NHL blend at 0.5:0.5:4 (becoming ca. 1:2.5), the QL being CL90 grade, the NHL would be St Astier NHL 5, and **critically**, the aggregate would be a blend of 2.2 parts Portland Limestone Dust (Graded 2.36-dust), 0.8 parts wood ash, and 1 part washed grit sand (5mm down)
- The above is designed to accelerate carbonation, reduce water ingress and maximise water egress. Normal sand will not work. Portland stone dust can be sourced from Rose of Jericho who crush and grade it. If the mortar comes out too white for the context, Portland stone dust can be replaced with Hamstone dust at the same proportions. Trial panel highly recommended.

Based on the above, I would recommend the designers reconsider the scope of the proposed intervention, and properly engage with this bridge as a listed building. Some further investigations would be advisable to get to the bottom of what's caused the problem.

From:
To:
Cc: Planning;
Subject: NYM/.2021/0263/LB - Beck Hole Bridge
Date: 08 June 2021 11:47:17

Dear Megan

The application site is an extremely sensitive site ecologically, being up (and down) stream of SSSIs which include the watercourse, as well as having numerous records for bats and otters in the area, a spawning site for sea trout, being downstream of known water vole habitat and with records for non-native invasive species nearby. Ecological survey of the site will be required before the application can proceed.

Bridges in the Beck Hole area often support roosting bats, with numerous roosts recorded in the surrounding area including houses in the village, and the masonry slip of the bridge appears from the images provided to provide ideal potential roost features. Bats are a protected species and it is illegal to disturb or injure bats or their roosts, including when the roosts are not in use. The applicant will need to engage a suitably qualified ecologist to inspect the affected parts of the structure for potential and to provide guidance on further steps required to ensure protected species are not impacted by the proposed works. I would expect that at a minimum a watching brief will be required and suitable mitigation may include ensuring that gaps are left in the repaired masonry to provide further roosting opportunities in the future. The ecological report detailing the inspection, proposed mitigation and further steps will need to be provided to us before the application can be determined.

We have a record of Japanese knotweed being present on or next to the bridge. This is an extremely invasive species and is listed under Schedule 9 of the Wildlife and Countryside Act. Whilst this record dates from 2013, it was noted that no treatment had been carried out to eradicate it, and so it will be essential for both the long term safety of the structure but also to minimise the risk of translocation of invasive species that the structure itself and the immediate surrounding area is checked for evidence of Japanese knotweed by a suitably experienced professional (ideally either a suitably qualified ecologist, or a specialist contractor with experience in dealing with invasive species including Japanese knotweed), and if found a management plan put in place to both remove plants found and to prevent any spread to other sites through appropriate biosecurity measures. This could be secured by a pre-commencement condition, although it must be noted that as the plant dies back over winter any surveys must be conducted during the growing season to ensure it is detected if present.

Eller Beck at this point is a sea trout spawning location, and also supports protected species including otter, with a low potential of water vole as well. Whilst it is not anticipated that the proposed works will result in loss of habitat once completed, there is the potential for habitats supporting these species to be negatively affected or direct disturbance effects whilst the works are carried out because of sediment, other pollutants or disturbance (eg light, noise, soil obstruction/movement). A Construction Environmental Management Plan, informed by appropriate ecological survey of the river bed and surrounding banks, will be required to ensure impacts on protected species are minimised and to set out the appropriate mitigation measures that will be taken. This could be secured by pre-commencement condition. The required CEMP should also ensure that there are no impacts on the surrounding SSSIs through avoiding impacts on the watercourse and minimising effects caused by dust, light or noise.

Best wishes

Elspeth

Elspeth Ingleby MA$_{Cantab}$ ACIEEM
Ecologist
North York Moors National Park Authority
The Old Vicarage, Bondgate, Helmsley, York YO62 5BP

Verity Allen

From:

01 June 2021 19:10

To: Planning

Subject: Comments on NYM/2021/0263/LB - Case Officer Miss Megan O'Mara - Received from Building Conservation at The Old Vicarage, Bondgate, Helmsley, York, YO62 5BP, via

There is insufficient detail in the application to inform any decision. The NPPF is quite clear in that “Any harm to, or loss of, the significance of a designated heritage asset (from its alteration or destruction, or from development within its setting), should require clear and convincing justification.” Whilst I accept that bridge collapse would be justification, I see no evidence in the information submitted as to why this decay has happened in the first place. The proposals to rebuild it appear address the symptom and not the cause.

Furthermore the materials proposed (grouting in concrete and 1:1:6 mortar mix) are wholly incompatible with traditional masonry.

This application appears to be ill thought-out and utilise a standard approach, not taking into account the fact that the structure is historic and traditional in its construction, or the fact that it is listed.

Whilst I welcome an application for the repair of this bridge, I would ask that the highways team consult with a conservation accredited professional to inform their proposals.

Comments made by Building Conservation of The Old Vicarage Bondgate Helmsley York
YO62 5BP

Comment Type is Request Additional Information Letter ID: 566594

From:
To: Planning
Subject: NYM/2021/0263/LB
Date: 03 June 2021 09:12:25

FAO Miss Megan O'Mara

Dear Megan

Further to the Parish Council meeting held last night, I would like to inform you that no objections were raised in connection to the listed building consent and all were in favour of the application.

Many thanks

Connie

Mrs Connie Wiggins
Clerk, Goathland Parish Council
Moorgarth
Mill Green Way
Goathland
Whitby
YO22 5LZ

Historic England

Miss Megan O'Mara
North York Moors National Park Authority
The Old Vicarage, Bondgate
Helmsley
York
North Yorkshire
YO62 5BP

Our ref: **W:** L01428092

17 May 2021

Dear Miss O'Mara

Arrangements for Handling Heritage Applications Direction 2015

BECK HOLE BRIDGE, GOATHLAND, SCARBOROUGH, NORTH YORKSHIRE
Application No. NYM/2021/0263/LB

Thank you for your letter of 10 May 2021 regarding the above application for listed building consent. On the basis of the information available to date, we do not wish to offer any comments. We suggest that you seek the views of your specialist conservation adviser.

It is not necessary for us to be consulted on this application again, unless there are material changes to the proposals. However, if you would like detailed advice from us, please contact us to explain your request.

Yours sincerely

K Babington

Kerry Babington
Inspector of Historic Buildings and Areas