

**crtADEPT ENGINEERING BOARD**  
**NATIONAL BRIDGES GROUP**  
**MEETING NOTES**

**Venue:** Online – MS Teams

**Date and Time:** 10:30 Wednesday 20 September 2023

<b>Name</b>	<b>Present</b>	<b>Initials</b>	<b>Representing</b>
Keith Harwood	✓	KH	Chair
Helen Rowe	<input type="checkbox"/>	HR	Secretary
Jim Hall	✓	JH	CSS Wales, Chair
Bob Humphreys (part)	✓	BH	CSS Wales
Caroline Haycock	✓	CH	East Midlands
Abul Tarafder	✓	AT	East Midlands, Chair
Clive Woodruff	<input type="checkbox"/>	CWo	East, Chair
Stuart Heald	<input type="checkbox"/>	SH	East, Secretary
Colin Ferris	✓	CF	Infrastructure NI
Kevin McCarron	<input type="checkbox"/>	KM	Infrastructure NI
Aidan McCusker	<input type="checkbox"/>	AM	Isle of Man
Alex Holden	<input type="checkbox"/>	AH	Isle of Man
Stuart Molyneux	✓	SM	North West, Chair
Colin Jenkins	✓	CJ	North West, Sec
Alastair Swan	<input type="checkbox"/>	AS	North, Chair
Nigel Burn	<input type="checkbox"/>	NB	North, Sec
Donald MacPherson	✓	DM	SCOTS, Chair
Maria Lucey	<input type="checkbox"/>	ML	SCOTS
Alan Mclean	✓	AM	South East, Chair
Scott Gregory	✓	SG	South East, Sec
Rob Causton	✓	RC	South West, Chair
John Burr ridge	✓	JB	South West, Sec
Philip Gray	<input type="checkbox"/>	PG	TfL
Maureen Robson	<input type="checkbox"/>	MR	TfL
Sharan Gill	<input type="checkbox"/>	SG	TfL
Chris Wright	✓	CWr	West Midlands, Chair
Chris Plant	✓	CP	West Midlands, Sec
Mark Watson	✓	MW	Yorks/Humber, Chair
Claire Richardson	<input type="checkbox"/>	CRi	Yorks/Humber, Sec
<b>Guests</b>			
Kevin Dentith, part of the meeting	✓	KD	Independent, Ex Chair of ADEPT NBG
Gary Kemp, part of the meeting	✓	GK	DfT
Steve Davy, part of the meeting	✓	SD	National Highways

ITEM		ACTION
1.	<b>Introductions and apologies</b>	
2.	<p>KD was only present at the start of the meeting and left due to connectivity issues.</p> <p>Apologies from the Secretary HR. KH took these minutes.</p> <p><b>UK Bridges Board/Bridge Owners Forum</b></p> <p>2.1 Last meeting of BOF was on 13th June and was reported at the last NBG meeting. Minutes have been circulated.</p> <p>2.2 Last UKBB meeting was on 7<sup>th</sup> September, minutes will be circulated when they are available. Key points were:</p> <p><b>Problems with precast concrete</b> as reported previously by Hertfordshire CC, where bridge has now been demolished and replaced. Issues reported also by National Highways, Welsh Govt, Transport Scotland and others. To be followed up through the Concrete Bridge Development Group (CBDG), and National Highways are considering a quality and/or safety alert.</p> <p>RC reported receiving precast units where C40/50 concrete had been specified but 105MPa achieved. RC to provide further brief details. All to send any further examples to KH.</p> <p><b>Research:</b></p> <ul style="list-style-type: none"> <li>• Welsh Govt proceeding with overloaded vehicles, collating WIM data from across UK, but struggling.</li> <li>• Bridge Collapse reporting is being taken forward by Richard Fish, to encourage knowledge sharing.</li> </ul> <p>Colin Hall presented a summary of recent Network Rail research topics and can provide more detail on request:</p> <ul style="list-style-type: none"> <li>• Using AI for defect recognition, working with Oxford University.</li> <li>• New Level 0 assessment tool to deal with non-standard U frames.</li> <li>• Strengthening of metallic connection with FRP with Porto University</li> <li>• NDT testing of an existing HS2 Granby Terrace at TRL. Will help with using new tools for PTSI eg muon tomography.</li> </ul> <p><b>Net Zero update.</b> An interesting discussion with the following conclusions:</p> <ul style="list-style-type: none"> <li>• University courses should include learning on refurbishment, too much is on new design.</li> <li>• Avoid re-work.</li> <li>• SAVI is hoping for DfT research funding to add carbon calculation.</li> <li>• JH – CSS Wales hoping to develop carbon tools.</li> </ul> <p>Update in future meetings</p>	<p>HR</p> <p>RC All</p> <p>JH</p>

### 3

#### **DfT discussion, Gary Kemp, DfT**

#### 3.1

GK works within the DfT Highways and Active Travel Strategy Team and attends UKBB where Bridge Cat was discussed at the last meeting

BridgeCat is a mobile bridge inspection system that uses an underwater camera, sonar and sensors to investigate scour and flood impact. Developed through Lancaster Uni by Cumbria, Gaist and DfT following Cumbria flooding in 2015 where 792 bridges were at risk.

BridgeCat was very useful for Cumbria to inspect while still flooded, but needs improvement. It is heavy and difficult to transport, hence not easily used nationally, or for normal inspections. It is proposed to develop an improved vehicle which would be smaller, quicker, with a 360 degree camera, and avoid road closures. This would promote wider usage by LA bridge owners nationally, and by others such as NH, NR and port authorities.

CP: Had discussed trialling with MHA and using more variety of sensors.

JH: Unimog was expensive, could drones be used? Talk to NR and NH to avoid duplication. GK: still exploring, but good points. Maybe BridgeCat has had its day.

RC: Could the kit be separate from the vehicle?

CWr: Following one week trial of BridgeCat. Water level drones need stabilisation, and suffer from debris. Consider UB40 chassis. Provide local training. Discuss with divers. Most useful when previous surveys are available. Consider LIDAR or multi-directional sonar in murky water.

GK: Very useful discussion. Further discussion would be useful – CWr, KD, RC, CP.

GK

### 4

#### **MCHW and DMRB Update and Consultation Steve Davy, National Highways**

Slides to be circulated – New acronym IfS is Instructions for Specifiers replaces Notes for Guidance, WSR is Works Specific Requirements and replaces Numbered Appendices.

SD

The update is part of a commitment in the second roads period. Some documents are 25 years old, average 11 years.

Completely new format and structure, digital, 3 volumes SHW, IfS, and MoM. Aiming to separate design from construction and to be contract agnostic.

New clause style aims for clarity and consistency. WSR are in the form of locked down Excel spreadsheets, with the main spec referenced in. They replace Appendices. All on the Standards website. Editable versions also available.

Country specific requirements will be in-line. Note that NH are not required to provide standards for local authorities, but have borne their needs in mind.

Timescale – publication March 2025, authoring complete Oct 2023, DMRB updates authoring Jan 2024. Training courses will be rolled out shortly starting with early awareness.

Technical Standards Committee – ADEPT members may be invited to join when appropriate. This group is consulted, and comments considered.

JH: Will there be YouTube videos? SD: Yes

KH: Difficulty circulating zip files. SD: Will consider other formats.

SD: Happy to provide more detail, further presentations etc if needed.

SD

## 5 **Liaison with Network Rail, SM reported**

**SM reported:** no liaison meeting since last ADEPT meeting.

Succinct document drafted on BridgeGuard 3 outstanding issues, outlining the LA financial liability and based on 50% of NR data. Group comprises SM, JH, PG and Colin Hall. To be presented to this group in due course, and linked into BG3 protocol update.

JH: Has Colin's data on Wales and discussing with authorities. Many not aware of 95% liability for costs. The financial liability looks very high - £2-£5m per bridge, and hundreds of bridges

CP: are we picking up costs for other people's lack of maintenance. JH: new BE4 would need to be done, metallic bridge process is clear, arch methods not clear.

**CP reported** on NR ASPRO meeting to facilitate good relations with customers. All heads of ASPRO, NH, UKPN. Felt very positive.

Developers expecting eg glare reports. Unnecessary extra work

UKPN: investing £90m but cannot access NR to lay cables

ADEPT: Representing Access Planning Group and ADEPT. Raised cost issues of cancellations, survey from 22 authorities showed 60% of possessions cancelled. David Castlo has analysed the survey and suggested a sub-group looking at sharing disruptive programmes. access to new AM system and planning portal, joint inspections, coordination of NR renewal programme, check box for critical works, who employs COSS.

Regions all work differently, interfaces and comms could be improved.

Some ASPRO teams attend regional ADEPT meetings. This is to be encouraged. Could NR have a regional liaison person?

Can we arrange inspections 2 years in advance under a single BAPA. Keen to reduce contact lists etc,

MW: Good promises/aspirations but remains to see if any real action happens. He is attempting to get refunds when £30k costs

attracted after 10 cancellations. Having problems getting access even in simple cases.

Questionnaire to be circulated with clarity of requirements.

List of ASPRO contacts to be circulated.

CP

CP

## **Break for Lunch**

**6**

### **Bridge Inspector Competency**

**6.1**

#### **Yorkshire/Humber region Inspector Competency**

Mark Watson presented, paper circulated prior to meeting

- Elements taken from several of the existing schemes. Agreed regionally. Main components are Declaration, Submission, Written Paper, Practical Test, Interview and Certificate
- Test questions will evolve and expand to be a set to choose from. Based on Wales
- Includes senior and inspector, maintenance included at senior but no testing as this is for the engineer.
- Proposing an entry grade, weighting of questions

KH summarised ADEPT NBG view. We support the requirement for demonstration of competency of inspectors, but feel this is best done on a regional basis rather than nationally. Since 2021 we have stated that we support five regional schemes.

JH reminded that we agreed to support each other's schemes, and to accept each other's accreditations.

KH: Note that the Inspection Manual will be updated in the autumn. Could a shared bank of questions be developed?

CH: Scheme looks very good. Devon scheme question paper very long, likes the shorter set. Scots

The meeting unanimously agreed to support the Yorkshire/Humber scheme.

**6.2**

#### **Updates on regional schemes: All regions**

JB report. Devon – seven inspectors, three senior. Only one outside Devon but three authorities have intentions. Dorset are aiming for Lantra BICS. RC: Cornwall is hoping to get six of the team to start on the Devon scheme this year.

CJ: North West went for SCOTS in 2021. Tweaked to add more questions so now have a bespoke scheme – identification, general knowledge, practical and interview. Lancashire have rolled this out to in-house inspectors, Warrington to Consultants. Inspectors also to go on Sheffield training.

JH: CSS Wales scheme has good uptake in North and West Wales. Only 3 inspectors in South Wales. Management topics

	<p>were taken out of the original questions and may form the basis of a Supervising Eng competency process.</p> <p>AM and SG: Main part of the scheme is defect identification, and written test. Large turnover of inspectors. Only Hampshire have implemented the scheme but none accredited.</p> <p>SCOTS scheme hasn't changed, update can be circulated after 3<sup>rd</sup> October meeting.</p> <p>All to provide current scheme details to KH for collation and publication by ADEPT.</p>	<p>DM</p> <p>JH, CJ, AM, JB, DM</p>
<p><b>6.3</b></p>	<p><b>Update on LANTRA BICS: Bob Humphreys</b></p> <p>Bob is on the Lantra Steering Group, and previously was a BICS assessor. Francis McKeown is the new Chair of the BICS steering group.</p> <p>Sector Scheme will be setup with a meeting in October.</p> <p>Trying to get alignment with CIHT and ICE</p> <p>National Highways have recognised the need to get better take-up. Considering reducing fees, make knowledge questions online and therefore quicker to complete.</p> <p>55 certified inspectors, 200 signed up.</p> <p>DfT have drafted a letter to Chief Executives to encourage use of BICS, and DfT are considering incentives.</p> <p>Bursaries are available through Rochester Bridge Trust</p> <p>No progress on Lantra recognising, or coordinating with, regional schemes.</p> <p>KH: Need to promote the regional schemes at UKBB and BOF as DfT seem to be favouring Lantra BICS</p> <p>BH: Will ask for breakdown of accredited inspectors by type of authority. And will confirm whether certified number includes assessors.</p>	<p>BH</p>
<p><b>7</b></p>	<p><b>Exploiting the resilience of masonry arch infrastructure</b></p> <p>Bob Humphreys reported on the conference last week on the research by Sheffield, Leeds and Imperial College.</p> <p>Hi-fidelity 3D models have been developed to match tested models. Now developing a medium-level 3D model that practicing engineers can use which is close to correct, but conservative. Still a year to run on the research project. An online physics model has been published – link to be circulated, and slides too.</p> <p>KH asked if we are interested in a presentation on CIRIA C800 but the meeting felt that not enough teams had used the document yet, and this would be premature.</p>	<p>BH</p>

	<p>JH: Will the research completely change the approach to arch assessment? BH: No but the research will supplement and allow better understanding of more complex cases.</p>	
8	<p><b>ADEPT Engineering Board, Asset Management Board, ABC Board</b></p> <p><b>Asset Management Board.</b> Last meeting 8<sup>th</sup> June. Minutes are available. Main topics were on update to asset management guidance, little directly related to bridges.</p> <p><b>Engineering Board</b> was on 4<sup>th</sup> July but no minutes as yet.</p> <p>Hannah Bartram presented Live Labs 2, £30m UK-wide programme over 3 years with 5 years monitoring afterwards. There are 7 Live Labs, with a focus on tackling carbon reduction across the whole lifecycle of assets.</p> <p>The updated Commuted Sums Guidance is due to be published shortly but will not directly affect the bridges process. External consultation proposed. Alan to try to find the draft document for circulation.</p> <p>Bridges process needs updating, and potentially linking to the SAVI tool through DfT research funding.</p> <p><b>ABC Board</b> – minutes to be circulated when published</p>	AM HR
9	<p><b>Liaison with other groups</b> <b>ADEPT Rights of Way Group, HRESAF, ALLG, BSPG</b></p> <p>The only item to report is that National Highways has agreed to re-establish the Abnormal Loads Liaison Group with a strategic structures focus. SH continuing as our rep</p> <p>HRESAF and BSPG have not met recently</p> <p>ROW Liaison in abeyance since James Salmon left</p>	
10	<p><b>CSS/NR Cost Sharing Protocol update: Jim Hall</b></p> <p>CRT are chairing the discussions and the group includes ADEPT, NR, NH and DfT. CRT are keen to extend the scope of the protocol to include their structure, and seem to be suggesting extensive updates. Next meeting 1<sup>st</sup> November.</p> <p>Concerns expressed included:</p> <ul style="list-style-type: none"><li>• Whether the modifications proposed are too extensive</li><li>• The structures are CRT/NR assets but we are paying for strengthening in certain cases – who is managing the projects?</li><li>• CRT are chairing the group, with the possibility that their emphasis is on attracting more funding. Will they be able to adequately reflect local authority concerns?</li></ul>	

	<ul style="list-style-type: none"> <li>Some disagreement in the steering group about who should be the TAA, whether the owner of the bridge or the Highway Authority. To be discussed at the next protocol meeting. Does there need to be an arbitrator in case of dispute?</li> </ul>	
	<p>Last meeting requested examples, can these be provided to Jim in preparation for the November meeting.</p> <p>CP has concerns regarding previous experience with CRT weak bridges, and assumptions. Details to be sent to JH</p>	<p>All</p> <p>CP</p>
10	<p><b>Knowledge sharing and discussion</b></p> <p><b>RAAC</b> was discussed at UKNN. None of the board members had any knowledge of RAAC being used in bridges. This meeting confirmed the same view.</p> <p>CJ reminded that RAAC issues were identified 20 years ago and recommendations not followed.</p> <p><b>Climate resilience.</b> Examples to be sent through for UKBB agenda item. Quick email, or full presentation</p> <p><b>Codes and Standards.</b> Nothing to report at present</p>	
11	<p><b>Upcoming conferences and events</b></p> <p><b>Bridges Conference, Coventry 12<sup>th</sup>/13<sup>th</sup> March.</b> Any ideas for conference content to KH, Richard Fish, or Jose.</p>	All
12	<p><b>Future meeting dates, online or in-person.</b></p> <p>Agreed online in March, then review</p> <p>Bridges Board proposed dates: Thu 29<sup>th</sup> Feb, <del>Thu 27<sup>th</sup> Jun</del>, Thu 26<sup>th</sup> Sep 24. Post meeting note: UKBB moved to 4<sup>th</sup> July.</p> <p>ADEPT NBG: 6<sup>th</sup> March, 10<sup>th</sup> July, 9<sup>th</sup> Oct 2024 (All Wednesdays)</p>	
13	<p><b>Minutes of Meeting held on 4th July 2023 – accuracy and matters arising</b></p> <p>Actions from this meeting, and previous outstanding actions, are included in the Action Log.</p> <p>Reminder to all regional secretaries to compile a list of membership and contact details which can be collated and shared with ADEPT Secretariat. In future this will be updated annually</p>	Regional Secretaries
14	<p><b>Any other business</b></p> <p><b>Abnormal loads</b></p> <p>CJ: Update to <b>ESDAL</b> about to be published, without any Consultation. CJ believes a lot of improvements could be made.</p>	

North-west abnormal load meeting being set up. Colin to update this meeting as and when.

CP asked whether there is data on abnormal load routes being used. CJ said that this should be in LTP strategies, but believes that funding should be available to support these routes.

Such topics should be raised at the new ALLG, via Stuart Heald. SH to be invited to the March meeting.

SH/KH/HR

**NUAR** would be of interest to the group, and a general discussion on utilities.

RC was very positive suggesting instant information could be found through NUAR on all utilities, local authority assets etc. And in due course this will be 3D rather than 2D. Structures can be denoted as polygons which is a significant improvement.

CH had doubts about Nuar as compared to Quick Stats which is used currently. NUAR proposals are vague.

CWr agreed that current process is quick, and having another organisation involved would not speed things up.

KH to invite NUAR to the next meeting

KH

## Recent circulation emails

e20/23 10/07/23 ADEPT NBG, CD 354 - Design of minor structures

e21/23 10/07/23 ADEPT and CROSS Newsletters

e22/23 11/07/23 Draft Minutes and Actions 04/07/2023

e23/23 19/07/23 Attachments onto Minor Structures

e24/23 02/08/23 ADEPT NBG Minutes, Actions and Presentations 04/07/2023

e25/23 02/08/23 Manual of Contract Documents - CP and CC 481 - Minor Structures

e26/23 31/08/23 MCHW Consultation CP and CC 490 - Expansion joints & sealing of gaps

e27/23 18/09/23 March NBG presentations

e28/23 18/09/23 MCHW Update CP and CC 487 - Maintenance painting of steelwork

e29/23 18/09/23 MCHW Update CP and CC 491 - Brickwork, Blockwork and Stonework

**Jim** is handing over the reins of CSS Wales to Osian Richards. The Chair thanked Jim for all his support over the years, and wished him well for the future. No doubt we will remain in contact.

**The meeting concluded at 3pm with the Chair thanking everyone for their contributions**