

Environment Agency

NEC4 professional service contract (PSC)

Scope

Project / contract information

Project name	Wessex Bridge Inspections
Project 1B1S reference	ENVRESW001144
Contract reference	36687
Date	07/06/2022
Version number	1
Author	

Revision history

Revision date	Summary of changes	Version number
18 th July 2022	Paragraph 2.11 & paragraph 2.2 BP3	001

This Scope shall be read in conjunction with the version of the Minimum Technical Requirements current at the Contract Date. In the event of conflict, this Scope shall prevail. The *service* is to be compliant with the version of the Minimum Technical Requirements.

Wessex Bridge Inspections 2022-23

1 Background Information

The *Client* owns a large number of bridges (Highway bridges, Field access bridges, access bridges over wiers/ trash screens and footbridges). As a competent authority the *Client* has a duty to carry out inspections to ensure its bridges are maintained to an acceptable standard and take appropriate action/remediation works, as necessary.

In addition, *Client's* staff use third party bridges as access routes to carry out essential maintenance works. these third party bridges need to be inspected to ensure they are safe for *Client* operatives to use. This excludes public highway bridges used by the *Client*, which are maintained by other competent authorities.

This commission is to undertake the required inspections and assessments at numerous *Client* and non-*Client* owned bridges (as identified in Appendix 1).

The information obtained from the inspections will form recommendations for proportionate remedial works.

A document explaining the process of inspections and maintenance can be found in Appendix 2.

A description of the *service* to be provided by the *Consultant* is provided in Section 2 below.

2 Description of the service

2.1

The *service* is to inspect the following number of bridges across the Environment Agency Wessex Area:

Table 1

	Year 2022/23
Type	
<i>Client</i> Owned Structural Assessment (SA)	9
<i>Client</i> Owned Bridges PRINCIPAL INSPECTION (PI)	28
<i>Client</i> Owned Bridges GENERAL INSPECTION (GI)	50
<i>Client</i> Owned Pedestrian Bridges (GI)	44
Non- <i>Client</i> owned Bridges (GI)	67
Total inspections to assets	199

Note: The number of bridges to be inspected is subject to change during the commission. A change to the number of bridges would trigger a compensation event.

2.2 Description of each type of inspection to be undertaken by the *Consultant*

(a) *Client Owned Bridges*

The *service* is :

- **General Inspection** of bridges as detailed in Design Manual for Roads and Bridges (DMRB), production of General Inspection Form (an example of which can be found in Appendix 3) and updating of records in the bridges database (see Appendix 4 and Section 2.11 of this Scope).
- **Principal Inspection** of bridges as detailed in DMRB, production of Principal Inspection Form (Appendix 5), production of Principal Inspection Report (as per example in Appendix 6 - PI Report) and updating of records in the bridges database.
- **Structural Assessment** of bridges shall provide the information required to undertake a structural assessment as detailed in the DMRB CS450 and CS454. The assessment report will include A Record of Structural Review as per CS451 Structural review and assessment of highway structures Appendix B, (Appendix 7). The assets identified in Appendix 1 requiring a Structural Assessment are a representation of the type of assets owned by the client.

Note: General and Principal Inspections are to be to the standards and procedures stated in:

- a) The relevant, current section of DMRB <https://www.standardsforhighways.co.uk/dmrbs/>
- b) Section 2.5 below
- c) EA Bridge Inspection Process Document (see Appendix 2)

The *Consultant's* inspection form must identify any remedial works required:

- To ensure the *Client* meets any legal/statutory obligations in respect of each bridge (e.g. public and operational Health & Safety requirements).
- To identify any interventions that could be undertaken in the short term to reduce whole life cost.
- Indication of the likely repair cost.
- Identify any limitations that should be placed on the use of a structure by operational staff.

The *Consultant* shall ensure all inspection information is added to a bridges asset list, see Section 2.11. All inspection reports files must be uploaded to Asite (or future replacement system) on completion and in compliance with the Building Information Modelling (BIM) file naming requirements. The current bridge asset list is provided in Appendix 4. This must be updated following completion of all inspections.

The *Consultant* shall ensure all sites inspected have a minimum of 3 photographs taken one of each side elevation and one of the deck. These must be clearly labelled and included within the Bridge Condition Indicator (BCI) form. Any defects identified during the inspection must also be photographed, labelled and included in the BCI form in a similar manner, to clearly define the defect.

(b) *Client Owned Pedestrian Bridges and non-Client owned bridges*

The *service* is:

- Carry out a **General Inspection** as detailed in Design Manual for Roads and Bridges (DMRB), production of General Inspection Form (an example of which can be found in Appendix 3) and updating of records in the bridges database (see Appendix 4 and Section 2.11 of this Scope).

Note: *Client* owned pedestrian bridge inspections are to the standards and procedures stated in:

- a) The relevant, current section of DMRB <https://www.standardsforhighways.co.uk/dmr/>
- b) Section 2.5 below
- c) EA Bridge Inspection Process Document (see Appendix 2)

The *Consultant's* inspection form must identify any remedial works required.

- To ensure the *Client* meets any legal/statutory obligations in respect of each bridge (e.g. public and operational Health & Safety requirements).
- To identify any interventions that could be undertaken in the short term to reduce whole life cost.
- Identify any limitations that should be placed on the use of a structure by operational staff.
- Indication of the likely repair cost.

The *Consultant* shall ensure all inspection information is added to a bridges database, see Section 2.11. All files must be uploaded to Asite (or future replacement system) on completion and in compliance with the BIM file naming requirements. The current bridges database is provided in Appendix 4. This must be updated following completion of all inspections.

The *Consultant* shall ensure all sites inspected have a minimum of 3 photographs taken one of each side elevation and one of the deck. These must be clearly labelled and included within the BCI form. Any defects identified during the inspection must also be photographed, labelled and included in the BCI form in a similar manner, to clearly define the defect.

2.3 Project Management Activities

The *Consultant* shall:

- Liaise with the *Client*
- Liaise with the *Client* for bridges not publicly accessible.
- Undertake financial monitoring and reporting, resource planning and risk reviews.
- Prepare weekly progress reports for issue to the *Client*.
- Attend weekly virtual progress meetings (1 hour duration) on Microsoft Teams with key personnel. This shall include the *Consultant's* project manager, and if required the project director & lead bridge engineer. These meetings are to incorporate in the agenda:
 - Health & Safety issues raised.
 - Early Warning Notice.
 - Compensation Events.
 - Payments & invoices.
- Prepare and distribute in a timely manner the weekly meeting minutes.
- Provide quality assurance, including Formal Inspection Review, and reviews by the *Consultant's* Project Director.
- Review and maintain project programme as required, and specifically in advance of each progress meeting.
- Review and maintain early warning register as required, and specifically in advance of each progress meeting.
- Liaise directly with *Client's* estates team and field teams where required to complete the inspection programme.

- Ensure the inspection programme is aligned with the lowest reasonably practicable water level based upon weather forecast, water penn level and tide level (see Section 2.6 constraints).
- Immediately notify the *Client* of any Health & Safety issues raised during an inspection. Incidents requiring RIDDOR notification or near misses.
- Immediately raise any dangerous or urgent problems with any bridge being inspected to the *Client*, including a recommended course of action.

2.4. Drawings, Site Information or Reports already available

Can be made available by request via Asite. The information consists of previous inspection reports and records of remedial works undertaken.

2.5 Specifications and standards to be used

- a) Design Manual for Roads and Bridges (DMRB) - CS 450 - Inspection of highway structures. Apr 2021
- b) Design Manual for Roads and Bridges (DMRB) – CS 454 Assessment of highway bridges and structures. Mar 2020
- c) Design Manual for Road and Bridges (DMRB) – CS451 Structural review and assessment of highway structures. Mar 2020
- d) Well-managed Highway Infrastructure: (ACoP), 2016
- e) The Inspection Manual for Highway Structures (TSO), Vol 1 & 2 (2007)
- f) County Surveyors Society (CSS) guidance notes.
- g) London Bridge Engineering Group (LoBEG), Technical Advice Documents.
- h) CIRIA (C656) Masonry arch bridges: condition appraisal and remedial treatment (2006)
- i) CIRIA (C664F) Iron and steel bridges: condition appraisal and remedial treatment (2008)
- j) CIRIA (C676) Drystone retaining walls and their modifications: condition appraisal and remedial treatment (2009)

2.6 Constraints on how the *Consultant* Provides the *Service*

- a) Working hours are limited to 8am to 6pm, Monday to Friday, unless otherwise agreed with the *Client*
- b) Access is to be arranged by the *Consultant* (some sites will require notice as they are on *Client* operational sites).
- c) The inspections in the Somerset area must be carried out during the period of Somerset 'Winter Pens' (1st December to 31st March) where the watercourse levels are typically held lower than in the 'Summer Pens', but noting the whole programme of Bridge Inspections is to be carried out between the 1st December 2022 and 25th February 2023.

- d) The *Consultant* is not expected to identify hidden defects associated with a structure, such as a design defect. If any bridge element is uninspectable, this must be made clear within the BCI form. If critical elements are uninspectable the inspection must be aborted.

2.7 Requirements of the Programme

- a) The *Consultant* shall submit inspection reports/forms to the *Client* within 4 weeks of inspection. As inspections are carried out it is suggested the outputs of this are presented in a phased way (e.g. bi-weekly)
- b) Bridge database/AiMS to be updated by 28th April 2023

2.8 Efficiencies

The *Consultant* is required to assist the *Client* to find 15% efficiencies within this project through more efficient working practices, and working closely with all to identify any potential efficiency.

The *Consultant* must identify any efficiencies found, and their financial value. Examples of these may include adjusting the inspection programme to reduce the number of bridge visits required or the use of technology to compile reports whilst on site undertaking the inspection.

2.9 Flexibility of the programme

The programmed Bridge Inspections will be carried out between the 1st December 2022 and 25th February 2023. Bridges may be added to or removed from the inspection programme by the *Client*. The type of inspection to an asset required may also change. All programmed inspections to be uploaded to Asite (or equivalent) by 28th April 2023.

2.10 Access

- (a) The *Consultant* shall arrange access to sites with the relevant *Client* field teams where access is not publicly available.
- (b) The *Consultant* shall be aware that many water levels within Wessex are controlled by penning, pumping or affected by rainfall. Before planning inspections, the *Consultant* must contact the relevant field teams to best plan inspection around water levels.
- (c) Vegetation clearance (by others) around the perimeter of the bridges has been programmed by the *Client* prior to the Inspection programme being undertaken. However bridges may still be inaccessible due to vegetation growth. If this prevents the bridge being effectively inspected, then the *Client* shall be contacted within one week of the inspection being aborted. Photos taken to show vegetation growth preventing inspection shall be provided.

2.11 Bridges Spreadsheet / Database

The *Consultant* shall provide and keep up to date a database of ALL the *Clients'* bridge assets, not just those programmed for inspection in 2022/2023, with information and functionality at least equivalent to that in Appendix 4. This can take the form of a new database or maintenance of the existing one. Key required information includes:

- Bridge list including bridge name, type, location, asset references.
- BCI average and BCI critical scores.

- Programme showing which bridges are due to be inspected in 2022/2023 and the type of inspection required.
- Historic data must be kept within the database provided by the *Consultant*.

If a new database is to be provided all of the information and records contained within Appendix 4 shall be transferred to the new database by the *Consultant*.

3 Staff

The *Consultant* shall ensure that all inspections are carried out by the same staff members contained in a small team. If this is not possible, the *Consultant* shall seek the prior acceptance of any change to this.

Appendices

Appendix 1 – 2022 – 2023 EA Wessex Bridges Requiring Inspection

Appendix 2 – Bridge Inspection Process

Appendix 3 – General Inspection Form - example Output (Highway Bridge)

Appendix 4 – EA Wessex Bridge Asset List

Appendix 5 – Principal Inspection Form - example Output

Appendix 6 – Inspection Assessment - summary of report extract from CS451, appendix B.

Appendix 7 – Identified Maintenance works spreadsheet.