Environment Agency
NEC4 Professional Service Contract (PSC)
Scope

Project / contract information

Project name	Alconbury Flood Alleviation Scheme Initial Assessment
Project SOP code	ENV0003898C
Contract number	TBC
Date	09 December 2021
Version Number	P01 06
Author	[redacted]

Assurance

Author	Project Manager	Date:
Consulted	Senior User	Date:
Reviewed	Project Executive	Date:
Checked prior to issue	Commercial Services Manager [redacted]	Date: 17/08/2021
Consulted (if required)	Add others (if required)	Date (if required)

Revision History

Revision date	Summary of changes	Version number
4 July 2021	First issue	P00 01
16 Sep 2021	Various following comments	P00.06
16 Sep 2021	Various following comments	P01
07 Oct 2021	Updated following comments from Alconbury Flood Group	P01 01

28 Oct 2021	Scope update to remove hydraulic modelling from scope	P01.02
11 Nov 2021	Further update	P01.03
25 Nov 2021	Addition of Environmental Design Concept	P01 04
02 Dec 2021	Minor changes to further comments	P01.05
09 Dec 2021	Further changes following programme review	P01.06

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 following version of the Minimum Technical Requirements:

Document	Document Title	Version No	Issue date
412_13_SD01	**Minimum Technical Requirements**	**11**	**4 May 2021**

1 Overview

1.1 Background

1.1.1 The Alconbury catchment has a history of flash (rapid response) flooding. Alconbury and Alconbury Weston have experienced many flood events over the last 50 years. The most recent events in December 2020 and January 2021 resulted in over 40 properties being flooded in the villages (the Alconbury Flood Group report 102 properties impacted in some way). In the widespread 1998 flood event 47 properties in Alconbury Weston and 68 in Alconbury experienced internal flooding

1.1.2 There are currently no traditional, collective flood defences in the villages. Over recent years, some properties have installed Property Level Resilience (PLR) and upstream Natural Flood Management (NFM) measures have been implemented

1.1.3 In 2007, Royal Haskoning used hydraulic modelling to estimate the standard of protection (SoP) for the first properties to flood in both Alconbury Weston (75% Average Exceedance Probability (AEP) 1 in 1 33 years) and Alconbury (20% AEP 1 in 5 years).

1 1 4 Previous studies in 2002 and 2007 did not identify options which were either acceptable to the communities (primarily due to impact on the villages), or met the cost benefit criteria for an affordable project. The 2002 report stated that:

"The combined scheme for Alconbury and Alconbury Weston was estimated at [redacted] for capital funding. An overall benefit/cost ratio of 3.41. Recommendation for a Project Appraisal Report to be undertaken for a combined Flood Alleviation Scheme "

1 1 5 However, shortly afterwards, a new method of DEFRA priority scoring was released in order to bid for Grant in Aid funding After this, the combined scheme was no longer viable. The schemes for Alconbury and Alconbury Western were then separated.

1.1.6 In 2007, the Alconbury Weston Draft Appraisal report shortlisted a number of options: Maintenance; Channel Diversion; Flood Storage; Flood Banks; Walls & demountable defences and downstream improvements. None of the options achieved a sufficient priority score to be funded under Grant in Aid. The options were therefore not sound on an economic basis Under the Partnership Funding (PF) Calculator, a contribution of almost [redacted] would be needed to unlock Grant in Aid (GiA) funding, which neither the community nor Local Authority could afford

1 1 7 The Alconbury FAS Outline Design Report (2007) stated that the Priority Score was no longer high enough. It recommended that no further work was undertaken until the Priority Score was lowered such that funding of the scheme was viable again The Partnership Funding system has now superseded this Using the costings from the appraisal report, a partnership of contribution of at least [redacted] would be needed to unlock GiA funding, however these costings will need to be updated to current prices

1.1.8 A two-stage channel downstream of the Heritage Bridge in Alconbury has been suggested as an alternative option more recently by the Bedford Group of Internal Drainage Boards, who manage some watercourses in the catchment This option has not been discounted either by the *Client* or the community, but no modelling or cost-benefit analysis has been undertaken.

1 1 9 At the time that these reports were written, NFM was not a mainstream option for reducing flood risk, and therefore not included in the options appraisals.

1.1.10 However, an ongoing NFM pilot project in the catchment has resulted in a number of NFM measures being installed upstream of the villages This work will continue whilst the Initial Assessment is being undertaken to build on the momentum and engagement with landowners.

1 1 11 Due to the significant rainfall events occurring in December 2020 and January 2021 resulting in significant property flooding, there was a renewed community and media attention on flood risk in the catchment It was clear that further work was required to reduce this risk Rather than repeating previous appraisals, a catchment strategy was deemed more appropriate to determine the best options. This will likely be a combination of NFM (to build on the work of the pilot project), resilience measures, and more traditional options Key to this will be input from the Alconbury Flood Group and the Alconbury Brook Flood Management Partnership to ensure that whatever options are determined to be the most viable are also acceptable to the community and add up in terms of cost-benefits.

1.1.12 In order for a project to be considered for inclusion in the Flood and Coastal Risk Management (FCRM) programme there will need to be a formal appraisal of potential options, to assess the probability and consequence of the options proposed and assess their value for money. However, at present there is insufficient information to allow the *Client* to identify opportunities which are realistic, achievable and likely to get support for FCRM investment. Therefore there is a need to undertake an initial piece of work (an initial assessment study) to build on previous work and analysis by exploring the viability of new options and updating previous work This will help ensure that options which are taken forward for appraisal are viable, acceptable to the community and add-up in terms of costs and benefits.

1 1 13 This project, and the associated stakeholder communications and engagement, will form just one part of a wider initiative to improve flood resilience and readiness in the locality

1.2 Objectives

1.2.1. The objectives for the project are:

1) High level assessment / study of flood alleviation options not previously considered (NFM, two stage channel, flood storage, others) to improve flood resilience in Alconbury and Alconbury Western
2) High level review of previous flood alleviation options considered, suitably updated / augmented as necessary

3) To produce a longlist of all options identified, with a qualitative multi-criteria assessment of each option The longlist shall include resilience measures proposed by stakeholders Details of these measures will be provided by the *Client*.
4) To use the longlist and feedback from the *Client*, to produce a list of options for the *Client* to use in stakeholder engagement
5) Produce a shortlist of options using results from the multi-criteria analysis and stakeholder feedback Undertake cost benefit analysis of shortlisted options, including an analysis of the benefits they could deliver against their indicative costs, and partnership funding contributions that would be needed.
6) Produce a report encompassing the above, and to include a summary table setting out the results of the cost benefit assessment (CBA) in clear and concise format, which the *Client* will use as the focus of the stakeholder engagement.
7) Support the *Client* with stakeholder engagement to facilitate the decision making in regards the options to take forward to detailed appraisal.
8) Support the *Client* with SOC development.
9) Support the *Client* with scoping for the Appraisal stage

1.3 Previous Studies

1.3.1 In undertaking the *service* the *Consultant* shall take account of the previous studies detailed in the table below and produce a short technical summary explaining how best use will be made of historical data

Report	Date	Format E.g. Digital format (enclosed), paper copy (enclosed) or paper copy (available for inspection)	Outcomes of study
Summary of Alconbury Studies	2021	Digital .doc	Summary of previous studies noted below
Alconbury & Alconbury Weston Flood Alleviation Scheme: Preliminary Engineering Appraisal	2002	Digital	9 single and 12 combination options identified in this study. This included; Storage Reservoir, Diversion/Bypass Channel, Flood Walls/Embankments, Channel Improvements. After PEA: A new method of DEFRA priority scoring was released in order to bid for Grant in Aid funding After this, the combined scheme was no longer viable. The schemes were then separated.
Alconbury Flood Alleviation Scheme: Project Appraisal Report	2005	Digital	Various options were revisited, this included; flood walls/embankments only, flood storage reservoir, diversion channel and re-profiling the Alconbury Brook. These options were also looked at in combination
Alconbury Weston Draft Appraisal report (Royal Haskoning)	2007	Digital	Shortlisted Options: Maintenance, Channel Diversion, Flood Storage, Flood Banks, Walls & Demountables defences and Downstream Improvements Under current PF Calculator, a contribution of almost [redacted] would be needed to unlock GiA funding, which was unaffordable at that time

Alconbury FAS Outline Design Report	2007	Digital	The Priority Score was no longer high enough Recommended that no further work is undertaken until the Priority Score is lowered such that funding of the scheme is viable again Partnership Funding system has now superseded this. Using the costings from the appraisal report, a partnership of contribution of at least [redacted] would be needed to unlock GiA funding.

2 The *service*

2.1 Outcome Specification

2 1 1 The *Consultant* shall demonstrate sustainability leadership through fully considering and contributing to achieving the *Client*'s environment and sustainability ambitions and targets These are set out in the EA2025 Action Plan, e:Mission 2030 Strategy, the Defra 25 Year Environment Plan and are in line with the principles of sustainability as described by the United Nation's Sustainable Development Goals.

2 1 2 The *Consultant* shall assess options taking into account the environmental sensitivities and opportunities of the sites and involving key environmental specialists as appropriate within the *Consultant* and the *Client's* organisation.

2 1 3 The *Consultant* shall ensure the optioneering process fully considers and addresses sustainability including carbon reduction as strategic outcomes.

2.1.4 The *Consultant* shall ensure the optioneering process fully considers the *Client* hold points noted in section 13 1 7

2.1.5 The *Consultant* shall ensure the initial assessment process considers options that avoids where possible, minimises and compensates or offsets any adverse environmental effects and that consideration is made of opportunities to achieve Biodiversity Net Gain.

2.1.6 The *Consultant* shall ensure that the options and the preferred option take into consideration all relevant guidance and legislation and seek to minimise long term asset/land management and maintenance costs and carbon.

2 1 7 The options will also demonstrate that the *Consultant* has reasonably learnt from best practice and demonstrate how optimum flood risk reduction, natural processes, carbon reduction, recreation, good ecological water quality and visual amenity can be combined and has followed Landscape and Environmental Design Guidance where appropriate.

2.1.8 The *Consultant* shall identify in conjunction with the *Client* a preferred option/s that will enable the *Client* to produce a Strategic Outline Case (SOC)

2.1.9 The *Consultant* shall demonstrate that consideration has been given to a long list of potential options, identified an appropriate shortlist and assessed these to identify a preferred option/s The *Consultant* shall identify a series of options to meet the above objectives.

2.1.10 The National Environmental Assessment Service (NEAS) will screen this project under the appropriate Environmental Impact Assessment Regulations to produce an initial screening determination which will be appended to the SOC The *Consultant* will provide an Environmental Lead for this project who will assess the environmental constraints and opportunities for the scheme, including feeding into the options appraisal process and assessing the sustainability of each option, with help from heritage and landscape specialists as required. Proportional consideration will be given to environmental impacts / opportunities associated with each option during the Initial Assessment, including liaising with NEAS where appropriate An environmental checklist will be produced. NEAS must be advised of the outcome of the Initial Assessment to enable the scope of further environmental appraisal to be determined.

2.2 Constraints

2.2.1 Political – strong desire to reduce flood risk in the catchment as quickly as possible, which may constrain the options.

2 2 2 The community have previously expressed that they are not keen to have a large wall or anything that detracts from the visual appearance and key qualities of the villages. Whatever is proposed will have to be agreeable to the community.

2 2 3 The majority of land in the catchment is privately owned Whilst landowner buy-in has been achieved across much of the catchment, there is still some way to go to extend this and some landowners have different ambitions now. The best options may be on land where the landowner/tenant is not on board with the project

2.2.4 Cost-benefit whilst a combination of measures would be preferable, this may not be feasible in terms of costs.

2 2 5 Partnership funding options that are proposed need to have potential to achieve any partnership funding that would be required at future stages to allow them to be delivered

2 2 6 Planning permission for NFM measures has been difficult to obtain in the past due to unfamiliarity with the risks and understanding of the measures by Huntingdonshire District Council's planning team. A meeting was held in 2020 to provide information on the scheme and ensure future planning applications are expedited A memorandum of Understanding (MoU) is in place with Huntingdonshire District Council to ensure they work more effectively with us in the future However, this is still a risk, and options need to account for it This may mean consideration will need to be given to limiting the number of measures which require planning permission (to date, only large >0.2 ha ponds require this) to prevent significant delays in the final project

2.2.7 The following opportunities have been identified:

1. Links to the current Flood Risk Management Plans and River Basement Management Plans which will be completed by the end of 2021, in which an Alconbury Strategy has been mentioned. This will mean that any scheme will be given a higher priority in terms of funding over other schemes not mentioned in these documents

2. Defra 25 year Environment Plan encourages Flood and Coastal Erosion Risk Management (FCERM) solutions which enhance the environment, e g NFM and requirement for Biodiversity Net Gain
3. The National flood and Coastal Erosion Risk Management Strategy for England. This sets the overall strategic direction for Flood and Coastal Erosion Risk Management (FCERM) in England and confirms the need to explore a wide range of FCERM activities to improve the flood resilience of a community. This project should be in line with the national FCERM strategy Cambridgeshire Local Flood Risk Management Strategy sets the local direction for managing flood risk. The project should be in line with the Cambridgeshire Local Flood Risk Management Strategy
4. Environmental Land Management Scheme – potential to be a pilot catchment as a result of the significant work already undertaken with landowner engagement as part of the Alconbury NFM Project
5. Potential for Forestry Commission grants for tree planting schemes.
6. Priority area for Natural England for water quality, confirms the importance of taking forward FCERM activities which also deliver water quality benefits
7. Cambridgeshire County Council (CCC) and Huntingdonshire District Council (HDC) are keen to reduce flood risk in the area. In December 2020/January 2021, over 40 properties flooded Flood events occur regularly (every 4 10 years) in the area, with the worst taking place in 1998 when 115 properties flooded. CCC are keen to work with us to combine all sources of flood risk and share data identifying surface water pathways and ordinary watercourse issues, when this is available.
8 Highways England (HE) recently upgraded the A1/A14 which passes through the catchment There are suggestions that run-off from these roads has contributed to the recent flooding, so there may be opportunities to link in with HE to obtain additional funding and options
9. There is also an Alconbury Brook Flood Partnership in place, incorporating CCC, HDC, Bedfordshire Group of IDBs, and the Parish Councils of Alconbury, Alconbury Weston and Hamerton Utilising their contacts and local knowledge could improve the Initial Assessment. Karen Paterson (Partnership and Strategic Overview (PSO) Great Ouse) leads this group, and will be the main contact. Input will be requested for the modelling, and subsequently for the options appraisal
10. Opportunities to reinforce local landscape character, in line with the Statements of Environmental Opportunity for National Character Area 88: Bedfordshire Claylands;

2.3 *Consultant* Project Management

2.3.1 In managing the *service* the *Consultant* shall follow all the requirements as set out in the Collaborative Delivery Framework schedules and the relevant content of the Minimum Technical Requirements

2.3.2 In managing the *service* the *Consultant* shall

- Contribute monthly to the updates to the project risk register
- Provide input to project efficiency CERT Form
- Attend progress meetings and prepare record minutes within a week for the *Client* to issue

- Produce monthly financial updates and forecasts meeting the *Client's* project reporting timetable together with progress reports Monthly financial updates and forecasts to meet the *Client's* deadlines provided by no later than the 10th day of each month, or otherwise agreed at the project start up meeting

- Deliver a monthly progress report in the *Client's* standard template (Link) giving progress against programme, deliverables received and expected and financial and carbon summary against programme.

- Attend project board meetings as required. Assume 3 Project Board Meetings.

- Ensure quarterly input into framework performance assessment/environmental Performance Measures.

- Maintain and show how accurate and up to date information on the whole-life cost and carbon of options is driving optimum solutions at all stages of design development

- Capture lessons learnt relevant to scheme delivery for the *Client* to include in the scheme lessons learnt log to be appended to the SOC.

- The contract will be administered using FastDraft.

- Co-operate with the *Client* in the role of the BIM Information Manager

- Provide technical support to the *Client* in its public relations and liaisons with land owners, land owners agents, parish councils, local authorities, members of parliament. Technical support will be necessary for the *Client* to secure land access for the Topographic Survey and will include attending meetings as required with these stakeholders. Assume 3 No. meetings of 3 hours.

- Challenge and review stakeholder Engagement and Quality. *Client* will lead all stakeholder engagement *Consultant* will be required to attend stakeholder meetings to explain the modelling/options appraisal (assume include in above meetings).

- Ensure that all the original data sent to the *Consultant* (i.e. all model and survey information provided by the *Client* in an encrypted format (using WinZip 128 bit encryption) according to the *Client's* data security policy), which is classed as commercially sensitive, is returned to the *Client* in an encrypted format using WinZip 128 bit encryption

- Ensure that project deliverables such as model files, survey data or anything of a personal nature such as questionnaires or address data is returned to the *Client* in an encrypted format using WinZip 128 bit encryption

- For each data set used necessary for preparation of the SOC, provide a note of the assumptions made to accompany the risk register

- The *Consultant* is to make full use of the *Client's* web based project collaboration tool (Asite) Whenever practical all project and contract communications and records are to be distributed and stored using this project collaboration tool.

2 3 3 The contract will be administered using FastDraft

2.4 Outputs and Deliverables

2.4 1 The *Consultant* shall provide input to product descriptions for key outputs and deliverables that the *Consultant* shall produce during the current initial assessment stage. Agree the list of products with the *Client* and submit the product description for the *Client's* approval before commencing work on the product

2.4.2 The *Consultant* shall produce the following key documents for this commission:

- A summary report with a full cost benefit analysis of all shortlisted options
- Environmental Design Concept
- Long list of options file note
- Short list of options file note (or update of long list note with shortlisted options clearly identified alongside justification for their selection)
- Environmental checklist (including initial consideration of potential for Biodiversity Net Gain)
- Carbon modelling tool
- Programme showing milestones to construction completion for the preferred option including funding and environmental constraints and opportunities. The programme shall take account of the timeframe required for all approvals necessary for mitigation and enabling works to be carried out in advance of main construction
- The *Consultant's* Scope for the Appraisal Stage and support in preparation of the Outline Business Case (OBC).

3 *Service* required for Initial Assessment

3.1 Desk study of all existing information

3.1.1 Using available information, gain an initial understanding of the problem and issues associated with the risk location:

Information	Format	Document ref/ Date (If applicable)
Flood risk maps	On EA website and available as shapefile	

Flooding history	Property flooding March 1947 July 1968 October 1987 April 1998 November 2000 March 2016	Road and access flooding April 1981 September 1992 October 1993 October 2004 January 2007 2012 December 2017	Alconbury Brook NFM FBC
Topographic data	????		????
Lower Ouse Hydraulic model (draft)	????		????
Environmental, ecological and heritage baseline, including Local polices, land cover mapping, green infrastructure reports and maps, landscape character assessments	Varies		Various, TBC
SMP/CFMP	Website?		Great Ouse Catchment Management Plan. 2011. Cambridgeshire's Local Flood Risk Strategy 2015 - 2020. 2015.
NFCDD data	????		????
NaFRA Data	????		????
Asset Inspection Data and Photographs	????		????
National Receptor Dataset			
Lidar	????		????

3.2 Site Visit

3 2 1 The *Consultant* shall make a site visit with key members of the team to gain an understanding of the situation on the ground and identify any environmental or communication risks and issues. The *Client* will arrange this.

3 2 2 For any future site visits required by the *Consultant,* the *Consultant* must obtain agreement from the *Client* to gain access.

3.3 Internal Liaison

3.3.1 The *Consultant* will attend a meeting with the area representative to communicate current understanding of source, pathway and receptor and any local issues, external relations to contribute knowledge of stakeholders, politics, reputation risk and historic relationships and *Client* to identify socio-environmental constraints and potential opportunities for environmental improvements (recognising that the locations lie within the Cambridgeshire Strategic Green Infrastructure Network).

3.3.2 The *Consultant* shall identify any legal, policy compliance and planning requirements and the need to outline the consents that are likely to be required

3.4 Scoping the problem and the preliminary assessment

3.4 1 With reference to the following sources, scope the boundaries of the problem, including allowance for climate change. Consult with *Client* about potential negative impacts as well as opportunities and input into the scope of the problem. Consult with local team for an interpretation of the policy intent and other relevant inputs

3.5 Modelling

3.5.1 No modelling activities are to be undertaken by the *Consultant* as part of this scope. Modelling outputs from modelling previously undertaken will be provided by the *Client* for use in the assessment

3.6 Cost Estimation

3 6 1 An estimate of costs for potential options will be prepared by the *Client's* appointed contractor and all other future project costs will be estimated by the *Client's* Cost and Carbon Team, based upon the information collated to date and operational experience.

3.7 Benefit Estimation

3 7 1 The *Consultant* shall undertake an estimate of benefits for potential options(s) based upon the information collated to date, hydraulic modelling results from previous studies and operational experience as provided by the *Client* in the flood history. Any benefits or impacts not included in the rough estimate that will be undertaken at this stage but potentially relevant to decisions should be flagged at this stage.

3.8 Initial Assessment Deliverables

3.8.1 The *Consultant* shall provide to the *Client* all deliverables listed in the Outputs and Deliverables section 2.4.

4 Site Investigation

4.1 Topographic Survey

4.1.1 The table below contains details of previous studies:

Report	Date	Format
????	????	????

4 1 2 The *Consultant* shall review the available Topographic Survey Data available and undertake a Gap Analysis Review No topo survey is envisaged at this stage

4.2 Ground Investigation Survey

4.2.1 The table below contains details of previous studies:

Report	Date	Format
????	????	????

4.2.2 The *Consultant* shall review the available Ground Investigation (GI) Data available and undertake a Gap Analysis Review. No GI is envisaged at this stage.

4.3 Services Search

4.3.1 Not envisaged at this stage.

5 Economics Appraisal

5.1.1 The *Consultant* shall undertake an economic appraisal to be undertaken in line with FCERM AG, Supplementary guidance and the HM Treasury 'Green Book' This will include a valuation of all the key benefits, both economic and environmental, and whole life costs in order to produce a cost benefit analysis that will be used to determine the selection of a preferred option

5 1 2 Costs will be the whole life expenditure including, design, investigation, construction, operation and maintenance. An estimate of costs for potential option(s) will be prepared by the *Client's* appointed contractor and all other future project costs will be estimated by the *Client's* Cost and Carbon Team The *Client* will provide support and costs where possible to complete this estimate.

5 1 3 Carbon will be whole-life emissions of an asset including embodied (construction), operation, maintenance and end of life emissions. The values will be calculated from the carbon tool (OI 120_16) to help optimise all options through all stages of design and business case development

5.1.4 Risk and Optimism Bias allowance shall be calculated in accordance with Risk Guidance for Capital Flood Risk Management Projects. Input to a risk register shall be provided by the whole project team The *Consultant* shall allow for attendance at risk workshops facilitated by others/the *Consultant* to deliver the scope.

5.1.5 The assessment to be undertaken shall be proportionate to the stage of the project and the information available Should more detailed assessment be recommended to provide confidence for progression to the next stage, the *Consultant* will advise the *Client* for the *Client* to confirm the course of action to be taken

5 1 6 Selection of the economic preferred option shall be undertaken in accordance with the FCERM AG decision rules including consideration of the most sustainable and lowest carbon options following the EA business case template and guidance.

5 1 7 The assessment shall include for sensitivity tests to look at the effects of any changes to key parameters/beneficiaries and to demonstrate the robustness of any key assumptions made

5 1 8 The *Consultant* shall produce, and maintain through the project, the FCRM Partnership Funding Calculator for Flood and Coastal Erosion Risk Management Grant in Aid (The PF calculator) The PF calculator shall be updated at the request of the *Client* or when evidence obtained during the project suggests a significant change is likely. The *Consultant* shall inform the *Client* of any expected significant change in scheme choice or affordability at the earliest opportunity as the project develops

5.1.9 The *Consultant* shall use this data to assist the *Client* in identifying suitable sources of external funding.

5.2 Economic appraisal deliverables

5 2 1 The *Consultant* shall provide the results of this section of the study in an economics report which shall feed into the economics appendix of the SOC. This will provide a clear view of the process in order that the economic lead for the review team can review the process As a minimum this will include, but not be limited to:

- Overview of methodology adopted
- Parameters quantified and standards used (e.g. Multi Coloured Manual)
- Parameters considered and not used together with reasons
- Key receptors/ major beneficiaries
- Wider benefits
- Assumptions made
- How the decision rule has been applied
- What sensitivity tests have been applied and why
- Treatment of climate change, carbon reduction and sustainability benefits.
- FCERM-AG spreadsheets and PF Calculator

6 Environmental Assessment

6.1.1 NEAS shall undertake a Screening Assessment for the Options Appraisal and lead on the identification of opportunities for Biodiversity Net Gain

6 1 2 The *Consultant* shall prepare an Environmental Checklist and an Environmental Design Concept.

6 1 3 The *Consultant* shall ensure that the project level assessment sits within the context of any previous strategic environmental assessment and supporting information for the area and brings forward all relevant information and conclusions.

6 1 4 The *Consultant* shall establish and understand the baseline and the legal and policy context to identify the key environmental/sustainability risks and opportunities. This shall support the options appraisal and justify the need for any future environmental assessment activity

6.1.5 The *Consultant* shall report the findings of the scoping exercise as required which will form an Appendix to the SOC with relevant summary details incorporated into the relevant section(s) of the SOC main text

7 Option Development

7.1.1 The long list will be agreed with the *Client* at an options meeting, where the *Client* will invite representation from Area FCRM, the *Client's* appointed ESE, NEAS, Ops delivery and the Principal Designer The *Consultant* shall screen and assess this long list of options for technical, environmental, sustainability, carbon and economic suitability, as considered appropriate

7 1 2 Following stakeholder engagement, the *Consultant* shall prepare a short list of viable options for the *Client's* approval, giving reasons for including or excluding each of the long list options On the agreement of the *Client*, the *Consultant* should assess each of these short listed options for technical, environmental and economic suitability, as discussed in the relevant sections of this brief, utilising the evidence and data collated as part of this commission The level of detail should be proportionate for this stage of assessment.

7.1.3 Options appraisal shall include engagement with the *Client's* appointed contractor on pricing and buildability and the *Client* including Field Services and Area FCRM and NEAS.

7.1.4 The *Consultant* shall seek options that support the e:Mission 2030 sustainability targets

7.1.5 The *Consultant* shall facilitate an option appraisal workshop and attend/ facilitate a risk workshop to produce a risk register with analysis in accordance with LIT 14847 Risk Guidance for Capital Flood Risk Management Projects

7.1.6 The *Consultant* shall assist the *Client* in developing the Strategic Outline Case for the preferred option The *Consultant* shall provide technical support to the *Client* during the completion of the SOC

7.1.7 The *Consultant* shall draft the scope for the next stage of the project (SOC OBC) and the *Client* shall support the *Consultant* to produce the scope.

8 Stakeholder Engagement/Consultation

8.1.1 Stakeholder engagement will be undertaken by the *Client*'s PSO team.

8 1 2 The *Consultant* should prepare information for and attend 3 external stakeholder meetings as well as preparing information and reviewing external communications prepared by others (e.g. quarterly newsletters).

9 Health and Safety

9 1 1 The works on site included at this stage are unlikely to be subject to notification to the HSE. Appraisal work to outline design shall be treated as if it was notifiable.

9.1.2 The *Consultant* will provide the Principal Designer for this scheme. The Principal Designer duties will include for a review of any site based works and notifying the HSE of these if required. The *Consultant* shall supply designer risk assessments, drawings and any other data for Principal Designer comment and include for any work required following review

9.1.3 Health, Safety and Wellbeing (HSW) is the number one priority of the *Client*. The *Consultant* shall promote and adopt safe working methods and shall strive to deliver design solutions that provide optimum HSW to all

9.1.4 The *Consultant* shall follow and comply with the requirements outlined in the Safety, health environment and wellbeing (SHEW) Code of Practice (LIT 16559)

9 1 5 The *Consultant* shall supply designer risk assessments, drawings and any other data required to fulfil their duties under CDM.

10 Business Case Submission

10.1.1 The *Consultant* shall aggregate all of the work undertaken from this commission into a summary report setting out all the options to improve flood resilience in Alconbury and Alconbury Western, in which the anticipated benefits and costs are included

10.1.2 The *Client* will collate and submit the SOC for assurance.

10 1 3 The *Consultant* to assist the *Client* in the SOC drafting and dealing with responses to queries during the approval process

10.1.4 This section of the study shall conclude with the final approval of SOC using latest Environment Agency Guidance including all appendices and FSoD approval following submission to NPAS

11 Carbon

11.1.1 Carbon emissions shall be identified and assessed on a strategic whole life basis (cost and benefit) in the economic appraisal of options and also as a specific operational target (carbon budget) of the *Client*

11.1.2 The *Consultant* shall demonstrate how they have met the corporate requirement for carbon reduction using the Carbon Tool and 'ERIC'

12 Specifications of Standards to be used

12.1.1 Health and Safety

12 1 2 Health and safety is the number one priority of the *Client* The *Consultant* will promote and adopt safe working methods and shall strive to deliver solutions that provide optimum safety to all.

12 1 3 Relevant Guidance

The *Consultant* shall deliver the *service* using relevant guidance including but not limited to:

Ref	Report Name	Where used
LIT 16559	Safety, health environment and wellbeing (SHEW) Code of Practice	Throughout
183 05	Data management for FCRM projects	Mapping and modelling
LIT 14847	Risk Guidance for Capital Flood Risk Management Projects	Option development
OI 120_16	Whole-life Carbon Planning Tool	Option development
LIT 14284	Whole Life (Construction) Carbon Planning Tool User Guide	Option development
	Access for All Design Guide	Option development
	Project Cost Tool	Costs
LIT 12982	Working with Others: A guide for staff	Consultation & Engagement
Gov uk	Appraisal Guidance Manual	SOC
672 15 SD03	Business case template 5 case Model	SOC
672 15 SD02	Short Form Business case template	SOC
LIT 4909	Flood and Coastal Erosion Risk Management appraisal guidance (FCERM-AG)	SOC
	Flood and Coastal Erosion Risk Management: A Manual for Economic Appraisal (the 'Multi Coloured Manual')	SOC
OI 1334_16	Benefits management Framework	SOC

Ref	Report Name	Where used
Gov uk	Partnership Funding Calculator Guidance	SOC
LIT 15030	The Investment Journey	SOC
LIT 55124	Write a Business Case	SOC
LIT 14953	FCRM Efficiency Reporting capital and Revenue	SOC
LIT 12280	Lessons Log template	SOC
LIT 55096	Integrated Assurance & Approval Strategy	Approvals
	Landscape and Environmental Design Guidance	Option Development

13 Requirements of the Programme

13.1.1 The *Consultant* shall provide a detailed programme in Microsoft Project format meeting all requirements of Cl 31 of the Conditions of Contract

13 1 2 The *Consultant* shall provide a baseline programme for the project start up meeting and shall update the programme monthly for progress meetings with actual and forecast progress against the baseline The programme shall also include alignment and submission of the BIM Execution Plan (BEP) and Master Information Delivery Plan (MIDP).

13 1 3 The programme shall cover all the activities to be undertaken by the *Consultant* and other members of the project team Include all major project milestones from commencement to the end of the reporting, consultation and approvals stage.

13 1.4 The programme shall include review and consultation periods for drafts, scoping letters, statutory consultation etc.

13.1.5 The programme shall identify time risk allowance on the activities and float.

13 1 6 Implement Stakeholder Engagement and Quality plan

13.1.7 Include internal project team/board decision gateways (as a minimum) for:

a) Project team confirmation of longlist
b) Project team confirmation of shortlist
c) IA (project team) approval before moving to SOC.

These gateways are critical in managing project expenditure, programme and scope creep and shall be well considered and managed to ensure project remains on time and cost. They shall also be used as decision points where future works are re-planned if necessary

13.1.8 The following are absolute requirements for Completion to be certified:

- Population of the *Client's* latest version of the Project Cost and Carbon Tool, or its successor
- Transfer to the *Client* of BIM data
- Clause 11.2(2) work to be done by the Completion Date

14 Services and other things provided by the *Client*

14 1 1 Access to Environment Agency systems and resources including:

- Asite.
- FastDraft.
- Collaborative Delivery Community SharePoint access
- Letter of Appointment of Principal Designer to relevant party.
- Site access authorisation letter(s).
- Previous studies listed in Section 1 3 1 The *Client* will provide the previous studies, including supporting information such as models, within two weeks of contract award

15 Data

15.1.1 Data and information management and intellectual property rights

- All of the data listed as being supplied to the *Consultant* as part of this study remains the IP of the *Client.*

15.1.2 Data custodianship

- The data custodian for project deliverables from this commission will be the PSO team

15.1.3 Licensing information

- Licences for LiDAR Data, Ordnance Survey mapping, model, survey, hydrometric and historical data will be provided to the *Consultant* upon award of this commission.

15 1.4 Data management and metadata

- The *Client* populates a metadata database called the information asset register (IAR). It is a requirement that all information produced by modelling work is appropriately tagged with metadata The *Client* will supply an IAR spreadsheet (and any supplementary local metadata requirements if appropriate) where all relevant metadata can be recorded and handed over on project completion.

15 1 5 Data security

- All model and survey information will be provided to the *Consultant* in an encrypted format (using WinZip 128 bit encryption) according to *Client* data security policy. It is expected that once the commission is completed, all the original data sent to the *Consultant*, which is classed as commercially sensitive, is returned in an encrypted format using WinZip 128 bit encryption

- Project deliverables such as model files, survey data or anything of a personal nature such as questionnaires or address data must also be returned in an encrypted format using WinZip 128 bit encryption.

- Further details regarding security measures (if required) will be discussed at the start up meeting for this commission.

16 *Client's* Advisors

16 1 1 The *Client* for the Contract is represented by the Programme & Contract Management (PCM) team, primarily the EA Project Manager, acting as the *Service Manager*, and in their absence the Project Executive. Instructions may only be given by these staff.

16 1 2 The *Client* has a number of advisory departments Instructions will only be deemed enacted from them when they are confirmed by an Instruction from the *Service Manager*. These departments include Asset Performance, Partnership & Strategic Overview, NEAS, etc

16.1.3 The *Client's* organisation has a regulatory function. Communications from the Environment Agency in its capacity as a regulator are not to be confused with communications as the *Client*

17 *Client* Documents the *Consultant* Contributes to

17.1.1 The *Client* maintains several project documents, the *Consultant* is required to contribute to these *Client* owned documents:

- Project Risk Register.
- Project Efficiency CERT Form
- Scheme Lessons Learnt Log.
- Strategic Outline Case (SOC)
- Cost and Carbon Tool (CCT)

Appendices

Appendix 1 – BIM Protocol

The *Consultant* shall adhere to the Environment Agency's Employers Information Requirements (EIR) framework level minimum technical requirements.

All *Client* issued information referenced within the Information Delivery Plan (IDP) requires verifying by the *Consultant* unless it is referenced elsewhere within the Scope.

[redacted]

The *Consultant* shall register for an Asite Account and request access to the project workspace to view the IDP