

Environment Agency

NEC4 Professional Service Contract (PSC)

Scope

Project / contract information

Project name	Kenwith Dam MIOS - Strategic Outline Case (SOC)
Project SOP code	ENV6005265R
Contract number	C5441
Date	18 November 2022

Assurance

Author	[REDACTED]	Date: 14/10/2022
Consulted	[REDACTED]	Date: [REDACTED] 18/10/2022 [REDACTED] 18/10/2022
Reviewed	[REDACTED]	Date: 09/12/2022
Checked prior to issue	[REDACTED]	Date: 13/12/2022
Consulted (if required)		

Revision History

Revision date	Summary of changes	Version number
14/10/2022	First draft issue for comment	v1 Draft
02/11/2022	Second draft following clarification call	V2 Draft
13/12/2022	Third draft following Ian Wright	v3 Final

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	12.0	30/12/2021

1 Overview

1.1 Background

- 1.1.1 The Kenwith Reservoir was built in the 1980s by Torridge District Council and was taken on by the National Rivers Authority (NRA) in 1989 being improved in a number of phases until present day with the raising of the dam wall being completed in 1995. The scheme is currently maintained by the Environment Agency. The scheme helps protect approximately 600 low-lying properties in Bideford as well as key infrastructure in the town. The Reservoir itself is situated within the Kenwith Nature Reserve and is regularly visited by dog walkers and the general public. It has been estimated that the standard of protection of the Kenwith Reservoir Flood scheme is in the region of 1:50-1:75 (Mott MacDonald 2013 Flood Study Report). The MIOS measures proposed will increase the resilience of the Reservoir when overtopping and additionally result in improvements in operation and maintenance of the Reservoir.
- 1.1.2 A 10 yearly inspection of Kenwith Reservoir was carried out in March 2021 under the Reservoir Act 1975 with the final report received at October 8th 2021. The report made a number of recommendations in the interest of safety. (MIOS) under S10 (6) of the act. Additional mandatory recommendations in the respect of records under S10 (3)b and (11.2) of the Reservoir's Act were also made. Further recommendations, detailed in the S10 report but not mandatory will be incorporated into the MIOS project to streamline the delivery of the works.
- 1.1.3 A Strategic Outline Business Case is to be developed to secure funding to deliver the activities required to meet the Environment Agency's obligations under the Reservoir Act. It is expected that the project will be delivered under the Collaborative Delivery Framework with appropriate suppliers appointed to support project development and delivery.
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1.2 Previous Studies

- 1.2.1 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.

Document title	Date	Format / hyperlink	Status / Outcomes of study / Comments
Kenwith Flood Storage Reservoir, Kenwith Valley flood protection scheme, Bideford	08/10/2021	Digital copy	Report on an inspection under Section 10(2) of the Reservoirs Act 1975. Recommendations made on improvements, investigations and studies to be delivered.
EA Kenwith Culvert Survey	10/03/2021	Digital copy	Report of culvert Northam Stream inspection to MSCC5 Sewers & Drainage GB (SRM5 Scoring) standard
Kenwith CCTV report 12 02 2018	12/02/2018	Digital copy	Culvert CCTV surveys
Elliots Garage drone survey March 2021	25/03/2021	Digital copy	Photo drone survey images
Elliots Garage drone survey2 March 2021	25/03/2021	Digital copy	Photo drone survey images

Kenwith backwater culvert drone survey Mar 21	25/03/2021	Digital copy	Photo drone survey images
EA Kenwith Valley Bat Surveys report	15/08/2020	Digital copy	Bat survey report
Kenwith Flood Scheme	18/11/2019	Digital copy	Schematisation of the Kenwith flood scheme
Kenwith Service Returns (zip)	16/06/2022	Digital copy	Service returns for BT; WPD; WWU; SWWI; UXO; Linesearch. Folder includes GPR survey of culvert location
Site topo surveys (zip)	01/03/2021	Digital copy	Topo survey of Northam Rd section
Bideford Flood Risk Modelling Study	11/01/2013	Digital copy	Bideford flood risk modelling report
BIDEFORD – KENWITH VALLEY – USEFUL INFORMATION -1979 - 1994	N/A	Digital copy	Historical information for the scheme
IMSW002216P04-MM-Kenwith Ground Investigation Report Ver1	01/01/2018	Digital copy	GI Report for Kenwith scheme site
Kenwith Reservoir GPR Gwalia	10/10/2017	Digital copy	GPR survey of Kenwith Dam

- 1.2.2 The previous studies have been undertaken by or for the *Client* using reasonable skill and care and have been accepted. The *Consultant* shall review the information provided and notify the *Client* of any deficiencies in the previous studies which affects the *Consultant's* ability to use the previous data for this commission. Any work required to rectify deficiencies is outside this Scope.

1.3 Objective

- 1.3.1 The overall project objective is to develop a Strategic Outline Case (SOC) for delivery of the MIOS mandatory requirements up to the EA mandatory deadline as per S2.2.2. This will develop a holistic knowledge base that encompasses all previous work, identifies and agrees options for future appraisal, and delivers the outputs required for SOC.
- 1.3.2 In addition, through consultation with the Reservoir's Team, develop a better understanding of MIOS Improvement Options, risks and programme.

2 The service

2.1 Outcome Specification

The *Consultant* shall deliver the *service* such that it meets the outcomes listed in this section.

- 2.1.1 The overall objective of this commission is to provide support for the development of a SOC for the *Client* to secure funding for delivery of MIOS Mandatory requirements from SOC to OBC.
- 2.1.2 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
- 2.1.3 The affordability of the scheme will be measured using Defra's partnership resilience funding calculations.
- 2.1.4 The *Consultant* shall ensure that the options considered are compliant with all guidance and legislation and seek to minimise long-term asset/land management and maintenance costs and carbon.
- 2.1.5 The options will also demonstrate that the *Consultant* has learnt from international best practice and demonstrate how optimum flood risk reduction, natural processes, recreation, good ecological water quality and visual amenity can be combined.
- 2.1.6 Providing there is a viable option, the *Consultant* shall produce a leading option that gains SOC approval and enables the *Client* to gain a high-level price for the construction phase of work.
- 2.1.7 The *Consultant* shall consider the environmental sensitivities and opportunities of the sites and involve key environmental specialists as appropriate within the *Consultant* and the *Client's* organisation as well as Key Stakeholders. The *Consultant* shall maximise positive environmental outcomes and demonstrate mitigation has been considered.
- 2.1.8 The *Consultant* shall fully consider and address sustainability including carbon reduction as strategic outcomes.
- 2.1.9 A key plan is available in Appendix 2 showing the area included in the study.
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2.2 Constraints

- 2.2.1 No landowner engagement has been undertaken to date.
- 2.2.2 MIOS mandatory deadline is EA – 08/10/2023, legal – 08/10/2024. SOC needs approval in accordance with a programme to meet these deadlines.
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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 weekly progress meetings.
 - Produce monthly financial updates and forecasts meeting the *Client's* project reporting timetable together with progress reports. Monthly financial updates and forecasts to meet EA deadlines provided by no later than the 10th day of each month, or otherwise agreed at the project start up meeting.

- Attend project board meetings as required.
- 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 EA PM to include in the scheme lessons learnt log to be appended to the OBC.

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 appraisal 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:
- Strategic Outline Case (SOC) (strategic, economic and financial cases) using the long-form business case template.
 - Partnership funding calculator for the leading option.
 - ERIC carbon modelling tool for each of the short-listed options.
- 2.4.3 The *Client* shall produce the commercial and management cases of the SOC
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3 Hydrology and Hydraulics (Not Used)

3.1 Hydrology (Not Used)

3.2 Hydraulics (Not Used)

4 Economics Appraisal

- 4.1.1 The *Consultant* shall undertake an initial economic appraisal in line with FCERM – Appraisal Guidance (FCERM-AG), Supplementary guidance and the HM Treasury ‘Green Book’. This will include a valuation of all the key benefits, both economic and environmental, carbon assessment and whole life costs in order to produce a cost benefit analysis that will be used to determine the selection of a leading option.
 - 4.1.2 Costs will be the whole life expenditure including, design, investigation, construction, operation and maintenance. Costs can be devised in the most efficient but accurate manner. Any estimating is to be undertaken by the *Client*, who may request support from the *Consultant*.
 - 4.1.3 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.
 - 4.1.4 Optimism Bias allowances shall be calculated in accordance with Risk Guidance for Capital Flood Risk Management Projects.
 - 4.1.5 Selection of the leading 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.
 - 4.1.6 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.
 - 4.1.7 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.
 - 4.1.8 Reference shall be made to the baseline economic information throughout the project life-cycle to provide information on the likely affordability and scale of options that will be achievable at this location. The *Consultant* shall undertake a calculation of the resilience partnership funding score of the preferred option.
 - 4.1.9 The *Consultant* shall use this data to assist the *Client* in identifying suitable sources of external funding.
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4.2 Economic, Sustainability and Carbon Appraisal Deliverables

4.2.1 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 considered and not used together with reasons.
- Key receptors/ major beneficiaries.
- Wider benefits.
- Assumptions made.
- How the decision rules have been applied.
- What sensitivity tests have been applied and why.
- Treatment of climate change and carbon planning.
- FCERM-AG spreadsheets and PF calculator.

5 Environmental Assessment

- 5.1.1 The *Consultant* shall confirm the expected environmental outputs agreed through engagement with NEAS. The activities identified shall take into account proportionality whilst supporting the achievement of the *Client's* wider aspirations.
 - 5.1.2 The *Consultant* shall give due consideration of the environment and sustainability risks and opportunities throughout the project to maximise the delivery of *Client* and project objectives.
 - 5.1.3 The *Consultant* shall undertake a scoping exercise to 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.
 - 5.1.4 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.
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6 Option Development

- 6.1.1 The *Consultant* shall undertake an options appraisal, which will include a review of the previous work, to prepare a long list of options. The long list shall not be constrained by previous work and will be agreed with the *Client* at an options meeting, where the *Client* will invite representation from client teams. The *Consultant* shall screen and assess this long list of options for technical, environmental, sustainability, carbon and economic suitability, as considered appropriate.
 - 6.1.2 Following this screening, 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. The most sustainable option shall be included in the short list.
 - 6.1.3 Options appraisal shall include engagement with the ESE contractor, and/or the *Client's* cost and carbon estimator, on pricing, buildability and maintainability and the *Client* including Field Services and Area FCRM.
 - 6.1.4 The *Consultant* shall analyse and appraise the carbon footprint of options as outlined in Section 10.
 - 6.1.5 The *Consultant* shall seek options that support the e:Mission 2030 sustainability targets.
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7 Stakeholder Engagement

- 7.1.1 The *Consultant* shall support and contribute to the stakeholder engagement plan which will be developed by the *Client*, in accordance with the EA guidance "Working with Others". *Consultant* shall ensure that the results from the stakeholder engagement informs the appraisal.
 - 7.1.2 The *Consultant* shall provide technical support, prepare information for and attend a key stakeholder meeting as well as preparing information and reviewing external communications prepared by Others (e.g. quarterly newsletters).
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8 Health and Safety

- 8.1.1 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.
 - 8.1.2 The *Consultant* shall follow and comply with the requirements outlined in the Safety, health environment and wellbeing (SHEW) Code of Practice ([LIT 16559](#)).
 - 8.1.3 The *Consultant* shall undertake the role of Principal Designer. The *Client* will appoint a CDM advisor to provide oversight and assurance as required.
 - 8.1.4 The project will follow Operating Instruction 1310.
 - 8.1.5 The *Consultant* shall apply the principles of prevention in the early stages of the project.
 - 8.1.6 The *Client* shall provide all existing information within two weeks of contract award.
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9 Business Case Submission

- 9.1.1 The study will conclude with a rounding up of all the study input into a business case document – SOC. The format of this document and guidance on the contents is detailed in the guidance ‘completing a project appraisal report’ and the SOC templates.
 - 9.1.2 The *Consultant* shall contribute to dealing with responses to relevant queries during the approval process and any resubmission required.
 - 9.1.3 The SOC Delivery is to be in accordance with the *Client’s* submission programme for either the National Project Assurance Service (NPAS) or the Large Projects Review Group (LPRG) for projects costing over £10m. The *Client* shall be kept up to date of progress and submission dates in order that the delivery of this to the review team can be programmed and a place booked at the appropriate review meeting.
 - 9.1.4 This section of the study shall conclude with the final approval of SOC using latest EA Guidance including all appendices and FSoD approval following submission to NPAS or LPRG.
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10 Carbon

- 10.1.1 The *Consultant* shall demonstrate how they have met the corporate requirement for carbon reduction using the Carbon Tool, ‘ERIC’ and:
 - Identifying carbon differentials between alternative solution options at appraisal stage.
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11 General

- 11.1.1 A CEEQUAL assessment is not included in the current Scope. It is intended to include this as additional Scope once agreed with NEAS. Once the scope is agreed the following clauses will apply:
- 11.1.2 The *Consultant* shall complete the CEEQUAL assessment in line with the provided CEEQUAL scoping note based on the CEEQUAL V6 Technical Manual requirements. For these services, 5-10 assessment issues have been scoped in.
- 11.1.3 The *Consultant* shall provide a qualified CEEQUAL assessor and scope the individual questions within the assessment issues identified for agreement with the *Client*,
- 11.1.4 The *Consultant* shall set up and undertake the assessment and evidence-gathering throughout the *Services*, using the CEEQUAL online tool via BREEAM Projects. The *Consultant* shall ensure that all of the evidence is uploaded prior to completion of the *service*.
- 11.1.5 The *Consultant* shall support the *Client* with scope submission to BRE as well as provide supporting information to the *Client* when handling verifier consultation.
- 11.1.6 The sustainability (CEEQUAL) lead is an integrated member of the project team attending progress meetings, key project workshops including but not limited to options/ design and risk as required providing an update against CEEQUAL targets and championing sustainability across the project team.
- 11.1.7 The *Consultant* shall provide all evidence to the *Client* upon request, to enable programme-level external verification.
- 11.1.8 The *Consultant* shall have completed the CEEQUAL process including provision of all evidence onto the CEEQUAL online tool prior to contract completion.

12 Relevant guidance

- 12.1.1 The *Consultant* shall deliver the *service* using the following guidance:
- 12.1.2 Any *Client* guidance that the *Consultant* needs to know about should be listed here. The following list gives typical examples, not all will be applicable to the individual schemes and is not an exhaustive list.

Ref	Report Name	Where used
412_13_SD01	Minimum Technical Requirements	Throughout
LIT 16559	Safety, health environment and wellbeing (SHEW) Code of Practice	Throughout
183_05	Data management for FCRM projects	Mapping and modelling
379_05	Computational Modelling to assess flood and coastal risk	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

Ref	Report Name	Where used
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
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

13 Requirements of the Programme

- 13.1.1 The *Consultant* shall provide a detailed programme in Microsoft Project format version 2016 meeting all requirements of Cl.31 of the Conditions of Contract. The *Consultant* shall give the *Client* a minimum 10 working day review period of the draft outputs.
- 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 and deliverables in the project, and 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.
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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.

14.1.2 Previous studies listed in Section 1.2.1. The *Client* will provide the previous studies within two weeks of contract award.

15 Data

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

15.1.3 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 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 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. 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.

15.1.6 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.

15.1.7 Further details regarding security measures 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.
 - Cost and Carbon Tool (CCT).
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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.

<https://www.asite.com/login-home>

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

www.Pow.bim4.info

Appendix 2 – Map of Study Area

