Framework: Collaborative Delivery Framework
Supplier:
Company Number:

Geographical Area:
Contract Name: Lower Risk Debris Screens - WMD Scoping
Project Number:

Contract Type: Professional Service Contract
Option: Option E

Contract Number: C21810 - 003

Stage: Other

Revision	Status		Originator		Reviewer		Date

PROFESSIONAL SERVICE CONTRACT under the Collaborative Delivery Framework
CONTRACT DATA

Project Name Lower Risk Debris Screens - WMD Scoping

Project Number [redacted]

This contract is made on 27 November 2023
between the *Client* and the *Consultant*

- This contract is made pursuant to the Framework Agreement (the "Agreement") dated 01st day of April 2019 and Framework Agreement Extension dated 1st April 2023 between the *Client* and the *Consultant* in relation to the Collaborative Delivery Framework. The entire agreement and the following Schedules are incorporated into this Contract by reference

- Schedules 1 to 23 inclusive of the Framework schedules are relied upon within this contract.

- The following documents are incorporated into this contract by reference
[redacted] WMD Lower Risk Debris Screens Scoping & Outline Design Scope V5 08.11.23

Part One - Data provided by the *Client*

Statements given in all Contracts

1 General

The *conditions of contract* are the core clauses and the clauses for the following main Option, the Option for resolving and avoiding disputes and secondary Options of the NEC4 Professional Service Contract June 2017.

Main Option	Option E	Option for resolving and avoiding disputes	W2

Secondary Options

X2: Changes in the law

X7: Delay damages

X9: Transfer of rights

X10: Information modelling

X11: Termination by the *Client*

X18: Limitation of liability

X20: Key Performance Indicators

Y(UK)2: The Housing Grants, Construction and Regeneration Act 1996

Y(UK)3: The Contracts (Rights of Third Parties) Act 1999

Z: *Additional conditions of contract*

The *service* is To undertake the scoping and outline design for lower risk screens (covering proposed YR 1& 2 programme).

The *Client* is [redacted]

Address for communications [redacted]

Address for electronic communications [redacted]

The *Service Manager* is [redacted]
Address for communications [redacted]

Address for electronic communications [redacted]

The Scope is in
[redacted] WMD Lower Risk Debris Screens Scoping & Outline Design Scope V5 08.11.23

The *language of the contract* is English

The *law of the contract* is
the law of England and Wales, subject to the jurisdiction of the courts of England and Wales

The period for reply is 2 weeks

The *period for retention* is
6 years following Completion or earlier termination

The following matters will be included in the Early Warning Register

Early warning meetings are to be held at intervals no longer than 2 weeks

2 The *Consultant's* main responsibilities

The *key dates* and *conditions* to be met are *conditions* to be met	*key date*
'none set'	'none set'
'none set'	'none set'
'none set'	'none set'

The *Consultant* prepares forecasts of the total Defined Cost plus Fee and *expenses* at intervals no longer than 4 weeks

3 Time

The *starting date* is 27 November 2023

The *Client* provides access to the following persons, places and things

access	*access date*
Site Access	27 November 2023
Asite	27 November 2023

The *Consultant* submits revised programmes at intervals no longer than 4 weeks

The *completion date* for the whole of the *service* is 27 November 2025

The period after the Contract Date within which the *Consultant* is to submit a first programme for acceptance is 4 weeks

4 Quality management

The period after the Contract Date within which the *Consultant* is to submit a quality policy statement and quality plan is 4 weeks

The period between Completion of the whole of the *service* and the *defects date* is 26 weeks

5 Payment

The *currency of the contract* is the £ sterling

The *assessment interval* is Monthly

The forecast of the Prices is [redacted]

The *expenses* stated by the *Client* are as stated in Schedule 9

The *interest rate* is 2.00% per annum (not less than 2) above the Base rate of the Bank of England

The locations for which the *Consultant* provides a charge for the cost of support people and office overhead are All UK Offices

6 Compensation events

These are additional compensation events

1. Carbon Methodology - Adherence to and compliance with the Carbon Methodology dated 08 June 2023
2. 'not used'
3. 'not used'
4. 'not used'
5. 'not used'

8 Liabilities and insurance

These are additional *Client's* liabilities

1. 'not used'
2. 'not used'
3. 'not used'

The minimum amount of cover and the periods for which the *Consultant* maintains insurance are

EVENT	MINIMUM AMOUNT OF COVER	PERIOD FOLLOWING COMPLETION OF THE WHOLE OF THE *SERVICE* OR TERMINATION
The *Consultant's* failure to use the skill and care normally used by professionals providing services similar to the *service*	[redacted] in respect of each claim, without limit to the number of claims	12 years after Completion
Loss of or damage to property and liability for bodily injury to or death of a person (not an employee of the *Consultant)* arising from or in connection with the *Consultant* Providing the Service	[redacted] in respect of each claim, without limit to the number of claims	12 months after Completion
Death of or bodily injury to the employees of the *Consultant* arising out of and in the course of their employment in connection with the contract	*Legal minimum* in respect of each claim, without limit to the number of claims	*For the period required by law*
The *Consultant's* total liability to the *Client* for all matters arising under or in connection with the contract, other than the excluded matters is limited to	[redacted]	

Resolving and avoiding disputes

The *tribunal* is litigation in the courts

The *Adjudicator* is 'to be confirmed'
Address for communications 'to be confirmed'

Address for electronic communications 'to be confirmed'

The *Adjudicator nominating body* is The Institution of Civil Engineers

Z Clauses

Z1 Disputes
Delete existing clause W2.1

Z2 Prevention
The text of clause 18 Prevention is deleted.
Delete the text of clause 60.1(12) and replaced by:
The *service* is affected by any of the following events
• War, civil war, rebellion, revolution, insurrection, military or usurped power;
• Strikes, riots and civil commotion not confined to the employees of the *Consultant* and sub consultants,
• Ionising radiation or radioactive contamination from nuclear fuel or nuclear waste resulting from the combustion of nuclear fuel,
• Radioactive, toxic, explosive or other hazardous properties of an explosive nuclear device,
• Natural disaster,
• Fire and explosion,
• Impact by aircraft or other aerial device or thing dropped from them.

Z3 Disallowed Costs
Add the following in second bullet of 11.2 (18) add:
(including compensation events with the Subcontractor, i.e. payment for work that should not have been undertaken).
Add the following additional bullets after 'and the cost of ' :
• Mistakes or delays caused by the *Consultant's* failure to follow standards in Scopes/quality plans
• Reorganisation of the *Consultant's* project team
• Additional costs or delays incurred due to *Consultant's* failure to comply with published and known guidance or document formats
• Exceeding the Scope without prior instruction that leads to abortive cost
• Re-working of documents due to inadequate QA prior to submission, i.e. grammatical, factual arithmetical or design errors
• Production or preparation of self-promotional material
• Excessive charges for project management time on a commission for secondments or full time appointments (greater than 5% of commission value)
• Any hours exceeding 8 per day unless with prior written agreement of the *Service Manager*
• Any hours for travel beyond the location of the nearest consultant office to the project unless previously agreed with the *Service Manager*
• Attendance of additional individuals to meetings/ workshops etc who have not been previously invited by the *Service Manager*
• Costs associated with the attendance at additional meetings after programmed Completion, if delay is due to Consultant performance
• Costs associated with rectifications that are due to *Consultant* error or omission
• Costs associated with the identification of opportunities to improve our processes and procedures for project delivery through the *Consultant's* involvement
• Was incurred due to a breach of safety requirements, or due additional work to comply with safety requirements
• Was incurred as a result of the *Client* issuing a Yellow or Red Card to prepare a Performance Improvement Plan
• Was incurred as a resulting of rectifying a non-compliance with the Framework Agreement and/or any call off contracts following an audit

Z6 The Schedule of Cost Components
The Schedule of Cost Components are as detailed in the Framework Schedule 9.

Z23 Linked contracts
Issues requiring redesign or rework on this contract due to a fault or error of the *Consultant* will neither be an allowable cost under this contract or any subsequent contract, nor will it be a Compensation event under this contract or any subsequent contract under this project or programme.

Z24 Requirement for Invoice
Add the following sentence to the end of clause 51.1:
The Party to which payment is due submits an invoice to the other Party for the amount to be paid within one week of the *Service Manager's* certificate.
Delete existing clause 51.2 and replace with:
51.2 Each certified payment is made by the later of
• one week after the paying Party receives an invoice from the other Party and
• three weeks after the assessment date, or, if a different period is stated in the Contract Data, within the period stated.
If a certified payment is late, or if a payment is late because the *Service Manager* has not issued a certificate which should be issued, interest is paid on the late payment. Interest is assessed from the date by which the late payment should have been made until the date when the late payment is made, and is included in the first assessment after the late payment is made

Z25 Risks and insurance
The *Consultant* is required to submit insurances annually as Clause Z4 of the Framework Agreement

Z 29 Payment for Service Provided to Date
Delete existing clause 11.2 (21) and replace with:
"11.2 (21) The Price for Service Provided to Date is the total Defined Cost which the *Service Manager* forecasts will have been paid by the *Consultant* before the next assessment date plus the Fee. The Price for Service Provided to Date shall not exceed the forecast for the same as provided under clause 20.5"

Z111 PSC - Fee adjustment for non compliance with Scope
Delete existing 11.2 (8) and replace with the following clause
The Fee is the amount calculated by applying the fee percentage to the amount of the Defined Cost excluding the cost of Subcontractors that have not complied with procurement by best value processes as defined in the Scope. 80% of the fee percentage is applied to the amount of the Defined Cost for Subcontractors that have not complied with procurement by best value processes as defined in the Scope.

Z120 PSC – Carbon reduction

Ref. (Clause No.)	Clause words
11.2 Definitions	Add as Clause 11.2(36) (36) The Performance Table states the targets the *Consultant* is to achieve in Providing the Service and sets out the adjustment to payment if a measured performance is higher, the same or lower than its target. The Performance Table is the *performance table* unless later changed in accordance with the contract.
15.1 Early Warning	In Clause 15.1 add as a new bullet between the second and third bullet: "• result in a target in the Performance Table not being met.
42.2 Accepting Defects	Delete Clause 42.2 and replace with: 'If the *Consultant* and the *Service Manager* are prepared to consider the change, the *Consultant* submits a quotation to the *Service Manager* for acceptance including any combination of: •Reduced Prices •With earlier Completion Date •Revised programme •Changes to the Performance Table If the quotation is accepted, the *Service Manager* changes the Scope, the Prices, the Completion Date and the Performance Table accordingly and accepts the revised programme.
Performance Measurements	
57	Add as Clause 57:
57.1	From the starting date until the Completion Date, the *Consultant* reports to the *Service Manager* its performance against the targets in the Performance Table. Reports are provided at the intervals stated in the Performance Table.
57.2	If the *Consultant's* performance against a target in the Performance Table is not achieving or is forecast not to achieve the performance target stated, it submits to the *Service Manager* for acceptance its proposals for improving performance. A reason for not accepting the proposals is that they will not provide the improvement in performance needed to achieve the target in the Performance Table.
57.3	At the dates stated in the Performance Table, • if the relevant performance does not meet the target stated in the Performance Table, the *Consultant* pays the amount stated in the Performance Table, • if the relevant performance exceeds or meets the target stated in the Performance Table, the *Consultant* is paid the amount stated in the Performance Table.
57.4	Information in the Performance Table is not Scope.

The *performance table* is PSC-carbon-performance-table.xlsx

the Performance Table for this contract type [form, Partner, Stage] as set out in the Carbon Methodology dated 08 June 2023

Secondary Options

OPTION X2: Changes in the law

The *law of the project* is the law of England and Wales, subject to the jurisdiction of the courts of England and Wales

OPTION X7: Delay damages

X7 only Delay damages for Completion of the whole of the *service* are

nil per day

OPTION X10: Information modelling

The period after the Contract Date within which the *Consultant* is to submit a first Information Execution Plan for acceptance is 2 weeks

OPTION X18: Limitation of liability

The *Consultant's* liability to the *Client* for indirect or consequential loss is limited to

[redacted]

The *Consultant's* liability to the *Client* for Defects that are not found until after the *defects date* is limited to

[redacted]

The *end of liability* date is 6 years after the Completion of the whole of the *service*

OPTION X20: Key Performance Indicators (not used with Option X12)

The *incentive schedule* for Key Performance Indicators is in Schedule 17

A report of performance against each Key Performance Indicator is provided at intervals of

3 months

Y(UK)2: The Housing Grants, Construction and Regeneration Act 1996

The period for payment is 14 days after the date on which payment becomes due

Y(UK)3: The Contracts (Rights of Third Parties Act) 1999

term *beneficiary*

Part Two - Data provided by the *Consultant*

Completion of the data in full, according to the Options chosen, is essential to create a complete contract.

1 General

The *Consultant* is

Name [redacted]

Address for communications [redacted]

Address for electronic communications [redacted]

The *fee percentage* is Option E 15.00%

The *key persons* are

Name (1) [redacted]
Job [redacted]
Responsibilities Stakeholder Management & Programme Management
Qualifications
Experience 43 years

Name (2) [redacted]
Job [redacted]
Responsibilities Commercial Management
Qualifications
Experience 29 years

Name (3) [redacted]
Job [redacted]
Responsibilities Commercial management
Qualifications
Experience

Name (4)
Job
Responsibilities
Qualifications
Experience

Name (5)
Job
Responsibilities
Qualifications
Experience

Name (6)
Job
Responsibilities
Qualifications
Experience

Name (7)
Job

Responsibilities
Qualifications
Experience

The following matters will be included in the Early Warning Register

3 Time

The programme identified in the Contract Data is

n/a

Resolving and avoiding disputes

The *Senior Representatives* of the *Consultant* are

Name (1) [redacted]
Address for communications
[redacted]

Address for electronic communications
[redacted]

Name (2)
Address for communications

Address for electronic communications

X10: Information Modelling

The *information execution plan* identified in the Contract Data is

Contract Execution

Client **execution**

Signed Underhand by [**PRINT NAME**] for and on behalf of the [redacted]

27/11/2023 Programme Manager

Signature Date Role

Consultant **execution**

Signed Underhand by [**PRINT NAME**] for and on behalf of [redacted]

23/11/2023 Company Secretary

Signature Date Role

[redacted]

NEC4 Professional Service Contract (PSC)
Scope
Project / contract information

Project name	Debris & Security Screen Improvements - WMD Lower Risk Scoping and Outline Design
Project SOP code	[redacted]
Contract number	TBC
Date	

Assurance

Author	Project Manager – [redacted]	Date: 8th November 2023
Consulted	Senior User – [redacted]	Date: 8th November 2023
Reviewed	Project Executive – [redacted]	Date: 8th November 2023
Checked prior to issue	Commercial Services Manager – [redacted]	Date: 8th November 2023

Revision History

Revision date	Summary of changes	Version number
04/08/2023	Initial Draft for Commercial and PE Review	1
09/10/2023	Draft scope addressing [redacted] comment	2
18/10/2023	Scope updated using current template version 6	3
26/10/2023	Updated with comment on carbon management	4
08/11/2023	Updated with comments from [redacted] review	5

This Scope should be read in conjunction with the version of the Minimum Technical Requirements and Exchange Information 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 and Exchange Information Requirements:

Document	Document Title	Version No	Issue date
LIT 13258	Minimum Technical Requirements	12	Dec 2021
LIT 17641	Exchange Information Requirements	3.0	Jan 2023
	CIRIA Culvert, Screen and Outfall Manual, C786F, 2019	1	2019

1.1 Background

1.1.1 Following an asset failure, the *Client* recognised the need to review its national stock of debris and security screens for compliance with the design guidance: Culvert, Screen, and Outfall Manual, CIRIA C786, 2019 (CIRIA C786). Initial Needs Assessments (INAs) have been completed in the WMD's Area for a total of 172 screens to define whether the screens are compliant or if they need replacement, modification or removal.

1.1.2 The *service* to be provided by this contract is to undertake the scoping and outline design for the 30 screens (covering the proposed Year 1 & 2 programme). The screens require either of the following:

a. Removal of screen.
b. Replacement of screen.
c. Modification of screen.
d. Screens that are compliant with CIRIA C786 and therefore classed as acceptable. Compliant screens may be retained but their sites may require other works such as improvements to safety, security, site access or improvements to their operation and maintenance.

1.1.3 Outline designs are to be developed in line with CIRIA C786. Where applicable, the designs shall also be compliant with the Screen Design Good Practice Notes produced by [redacted]

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.

Report	Date	Format	Outcomes of study
Initial Needs Assessments Reports		Digital copy (available on Asite)	
Design Authority Assurance Records		Digital copy (available on Asite)	
Master summary Outcome Spreadsheet		Digital copy (Appendix B)	
CCTV Survey Reports		Digital copy (Appendix C)	
Hydraulic models and hydrological information		Digital copy (Appendix D)	
Blockage Modelling Report		Digital Copy (Appendix E)	
Details of land ownership of and around each site		Available on request.	

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 its adequacy. Following this review, and completion of any work required to rectify the deficiencies identified, the *Consultant* shall take the risk of any deficiencies in existing data quality and quantity which have not been notified to the *Client*.

1.3 Objective

1.3.1 The overall objective is to make the necessary improvements to the *Client's* debris and security screens such that they are:

a. Legally compliant in respect of flood risk and public safety
b. Safe and efficient to operate and maintain and compliant with CIRIA C786.
c. Low in whole-life financial and carbon cost.

1.3.2 The objective is for the *Consultant* to undertake the scoping and outline design and ensure compliance with CIRIA C786, whilst also applying the guidance as laid out in Screen Design Good Practice Notes. The sites specific to this Scope can be found in Appendix A. The *Client* reserves the right to add in additional screens at a later date. This will be managed as a compensation event.

2.0 The service

2.0.1 The *Consultant* provides the service such that it meets the requirements detailed in this section.

2.0.2 The CIRIA C786 guidance shall be followed in all cases unless it can be shown by way of a rational analysis, applying reasonable engineering judgement that any asset should not comply with the document.

2.0.3 Where there is a need to depart from the guidance contained within CIRIA C786, the *Consultant* agrees this with the *Client's* design authority and records this, with the reasoning, in a written record of 'Agreed Departure' from guidance.

2.1 Outcome Specification

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

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 provide outline designs for the scheme 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. The *Client*t business case template further requires separate option appraisals of sustainability benefits and whole-life carbon to compare with the economic appraisal and promotes a preference for the most sustainable option.

2.1.4 The *Consultant* shall ensure the optioneering process fully considers environmental mitigation and opportunities to further conserve and enhance as per our legal and policy obligations but to also contribute to the [redacted] ambitions. This includes delivery against OM4, to achieve biodiversity net gain but must also consider wider sustainability opportunities. The *Consultant* shall ensure the optioneering process avoids where possible, minimises and compensates or offsets any adverse environmental effects.

2.1.5 The *Consultant* shall produce an outline design which seeks to provide the optimum economic, technical, social and environmental/sustainability/carbon outcomes, supported by evidence that will enable the *Client* to produce a Business Case Update Report.

2.1.6 The *Consultant* shall produce an appraisal report and outline design that enables the *Client* to achieve efficiency targets set for this commission and future stages of the project using the Combined Efficiency Reporting Tool (CERT).

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

2.1.8 Each screen and associated structures which form part of the works shall have a design life of 25 years.

2.1.9 During the site visits each asset will be assessed to establish its suitability to support the 25year design life for any new or modified screens. The *Consultant* shall recommend to the *Client* where structural strengthening works are required to meet this requirement. This will be treated as a compensation event.

2.1.10 The options will also demonstrate that the *Consultant* has 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.

2.1.11 This commission must consider planning permission and all other necessary permissions/licences being obtained at detailed design stage. The outline design shall feasibly be able to obtain planning permission.

2.1.12 The *Consultant* completes an options appraisal for each site where the screen is to be replaced or modified. Sites at which the screen is to be removed do not need options to be considered. However, PSRA features at these sites shall be reviewed and addressed as necessary.

2.1.13 The *Consultant* shall compile the supporting technical documentation required for the *Client* to obtain a screening opinion from the local planning authority.

2.2 Details of the Scope

2.2.1 The detail of the Scope includes the following:

- Collection and/or review of all site information pertaining to each screen, as required for assessment, outline design and implementation purposes.
- Review the Initial Needs Assessments (produced by others) and update details where required in consultation with the *Client's* senior user (SU).
- Assess the screen area required for compliance with the CIRIA C786 guidance.
- Complete hydraulic assessments for each screen to demonstrate the effects of modifying the screen on flows and water levels and to confirm the required screen area.
- Assess other options for safely dealing with debris at each site (including where screens are to be removed or no screen works are required) and prepare options reports.
- Identify all consents/licences/permits/ etc. that will be required (including checking whether planning permission will be required) and determine any constraints that these may impose on the outline design and implementation of the screens.
- Obtain approval from the *Client's* design authority, operations and asset performance at various stages throughout the contract.
- Prepare drawings (plans, sections, details, etc) and specifications sufficient to allow consultants/contractors to produce the draft Engineering Construction Contract (ECC) detailed design and construction contract.
- Prepare all other documentation/specification required for the purposes of tendering an ECC detailed design and construction contract or contracts.
- The *Consultant* shall undertake site scoping and outline design of the screens and all associated structural services which form part of works, as well as any pre-screen or other associated screen at the locations specified in Appendix A.
- Where the site and outline design require, the *Consultant* shall produce an assessment of the impacts in relation to the objectives in the Water Framework Directive (WFD) and

hydraulic modelling using JFLOW or a similar system to determine outcome measures (OM's).

- Identification of Key Constraints (land, utilities, environmental and other client assets)
- Constructability Statement

2.3 Tasks

The *Consultant* shall undertake the following tasks:

2.3.1 Undertake any site visits necessary to adequately inform the preparation of the outline design. These are to be arranged between the *Consultant* and the *Client's* SU to determine what is needed to gain access to each site.

2.3.2 Specify, procure, and manage detailed topographical survey of the screen site where necessary. The topographical survey is to include but is not limited to, culvert inlet and outlet (if required) head wall structures, channel upstream and downstream to a sufficient level of detail to complete outline design, facilitate hydraulic performance checks and hydraulic analysis as determined by the *Consultant.*

2.3.3 Undertake a geotechnical desk study and production of technical note to inform of ground conditions and help the understanding of whether further ground investigation is required at each site.

2.3.4 Advise on further investigative work that may be necessary to allow completion of detailed design. Including but not limited to; identification and location of utilities, structures (and their integrity), pumping stations, hydro-electric power stations, flood and tidal protection structures.

2.3.5 Carry out a review of the INA outputs in discussion with the SU. Consider alternatives to the recommendation made in the INA, especially where proposed screen size is difficult to construct. Consider the installation of features which would potentially mitigate the need for a larger screen e.g., throttle structures, *Client's* SU & Operational Staff are to be consulted to define the operational requirements for each site.

2.3.6 Investigate and identify what utilities work is required to allow installation of the debris screens and any associated accessories (e.g., telemetry, CCTV, water level monitoring equipment; etc).

2.3.7 Provide a view on the likely need for planning permission or listed building consent for each site and identify at what stage this will be secured/ required, i.e., outline or detailed design stage.

2.3.8 Identify other features needed for the satisfactory operational performance (e.g., access for operator to the whole asset area including channel bed, vehicular access where possible, parking arrangements (on a site-by-site basis), security or boundary fencing, signage, lighting, working platforms, fall or edge protection, harness attachments, debris storage, hard invert, water level or visual monitoring, lighting and restricted access for pedestrian safety (if applicable).

2.3.9 Identify any other features needed for satisfactory functional (hydraulic) performance (e.g., liftable sections, by-pass, and upstream primary screen).

2.3.10 Identify opportunities to improve operational efficiency or achieve whole-life financial cost or carbon savings within the constraints of CIRIA C786.

2.3.11 Derive hydraulic parameters and undertake a hydraulic performance check using the hand-calculation method to show compliance with CIRIA C786 and confirm that the screen will not increase flood risk under a credible operating condition. Where the design of the screen is deemed complex, a 2D model may be required to demonstrate acceptable operation. A copy of the "Screen Design Toolkit 3 Hydraulic Performance Check v7.3" can be made available upon request.

2.3.12 Prepare sufficient drawings to demonstrate constructability and geometrical fit into the space available or for the extension or modification of an existing inlet structure or headwall to accommodate enlarged screen size as identified in the INA. These drawings will typically include site location, general arrangement, a longitudinal section, and typical cross-sections.

2.3.13 Prepare health & safety information; a designer's risk assessment, including design assumptions, known hazards, public safety considerations/assessment and any required improvements (a baseline PSRA for each site) and temporary works. To be included as a site-specific annex which is appended to the multi-site PCI document.

2.3.14 Submit and present draft designs to the *Client* for comment and amend to meet the *Client's* requirements allowing up to two rounds of comments. The first round of comments to be on technical notes and drawings, the second round to comment on all remaining deliverables.

2.3.15 To secure the approval of the *Client's* design authority, carry out the requirements stated in the Design Authority Assurance Record (DAAR) and prepare a short technical note that demonstrates compliance with CIRIA C786 and, where compliance is not reasonably practicable, justifies any departures, assesses the risks associated with those departures and identifies mitigation measures.

2.3.16 Undertake ecological surveys, including protected species. The *Consultant* will identify the presence, record the location and notify the *Client* of Invasive Non-Native Species (INNS).

2.3.17 Following the *Client's* acceptance of the proposed screen and supporting technical note, prepare final outline design drawings for the screen(s) containing sufficient detail to permit the pricing of the detailed design and building by the tendering contractor.

2.3.18 Prepare high-level capital cost estimate.

2.3.19 Prepare contract documentation for construction contract development, including but not limited to performance specification, pre-construction information, drawings, technical note covering design philosophy and buildability, relevant health and safety information and draft master and site-specific ECC Scopes.

2.3.20 Identify any potential third-party constraints or requirements that could impact on detailed design and the construction stage. This should include but not limited to:

- Land ownership and use.
- Utilities.
- Environmental.
- Permits, consents, permissions, approvals.
- Interfaces with other EA assets.

2.3.21 Set out what assumptions have been made in the outline design that requires investigation, survey, and confirmation by the *Consultant* for the contractor as part of the design and build phase. Furthermore, set out what permissions, consents and approvals the contractor will need to allow for construction.

2.3.22 Where required, liaise with the *Client's* SU & Hydrology & Telemetry and MEICA teams to understand what type of telemetry is required for each screen. Also, to understand what other works are required (e.g., power supply, installation of kiosk etc), to allow for installation of any telemetry, webcams, CCTV, or water-level-monitors, to facilitate installation of the screen.

2.3.23 Taking into consideration the full site and recommendations from the INA and summary spreadsheet, where it is considered that a debris screen is no longer required and the removal of the screen is recommended, the *Consultant* is to provide the specification and appropriate drawings to facilitate the removal of the screen and making good/safe the remaining asset. Further recommendations may be made as part of the INA (e.g., installation of security measures or upgrades to the fencing). These recommendations are to be considered during the design process. Any design outputs must also take into consideration findings from the Public Safety Risk Assessment (PSRA).

2.3.24 For a screen removal, some of the above items are not needed. A reduction in Scope for these schemes is to be agreed with the *Client* in advance of the start of the *services*.

2.3.25 In some cases, screens proposed as 'no further works required' may require operational improvement such as dump slabs, access improvements, etc. The *Consultant* shall consider operational improvements recommended as part of the INA and incorporate then into the outline design. The *Consultant* shall liaise with the SU and the Operational Team to agree the operational requirements for each site.

2.4 Constraints

2.4.1 The *Consultant* shall ensure that appropriate use is made of existing data, to avoid duplicating work already undertaken. This may include but is not limited to any previous as-builts, photos, maintenance logs and supplementary information gathered during the INA stage.

2.4.2 In addition, any other existing sources known to the *Consultant* should be utilised.

2.4.3 The Initial Needs Assessment (INA) is for the asset on which the screen lies. Where reference is made in this Scope to 'screen' it is strictly each culvert, flood storage area or pumping station which is assessed. This may involve assessment of the need for more than one screen (e.g., there may be a need for an outlet screen or separate screen on a by-pass).

2.5 Further Work

2.5.1 Subject to further instruction, the *Consultant* may be instructed as a compensation event to:

- Prepare a high-level programme for the efficient completion of all improvement works using parameters and constraints provided by the *Client.*

2.6 *Consultant* Project Management

2.6.1 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.

2.6.2 In managing the service, the *Consultant* shall:

- Provide monthly updates to the project risk register, updates the risks, assumptions, issues & dependencies register and determines the appropriate action required to mitigate them, as agreed with the *Service Manager.*
- Provide input to project efficiency CERT Form.
- Attend progress meetings and prepare record minutes within 3 working days of the meeting being held.
- Deliver a monthly progress report in the *Client's* standard template (Link) giving progress against programme, deliverables received and expected through IDP and MIDP and financial summary against programme.
- Provide a backup to application for payment in accordance with the *Client's* standard template. However, for this scoping and Outline design phase, carbon reporting shall be done by the EA Project Team utilising the 'Carbon Ready Reckoner' tool. (Worksheet for actual Cost and Carbon CDF Lot 1)

2.6.3 Submission of an application for payment without this format of backup sheet will not be recognised and treated as a compliant submission.

- Commission capital forecast to be entered on FastDraft monthly & Project forecast carbon outturn to be entered onto FastDraft monthly. The *Consultant* is required to provide a monthly forecast on FastDraft for both carbon and cost in accordance with FHU

  Framework Heads Up 244 Commercial Clarification 54
  Framework Heads Up 256 Commercial Clarification 57

- Attend project board meetings as required.
- Ensure quarterly input into framework performance assessment/environmental Performance Measures.

- Ensure the *Consultant's* environmental lead provides monthly progress and risk reviews to the *Client* and attends progress meetings, as invited.

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

- Capture lessons learnt relevant to scheme delivery for the *Service Manager* to include in the scheme lessons learnt log.

2.6.4 The contract will be administered using FastDraft.

2.6.5 Procurement of subcontractors.

2.6.6 Subcontractors need to be selected using best value processes.

2.6.7 This requires the ***Consultant*** **to demonstrate that they have made reasonable attempts to obtain three competitive tenders for all work in excess of £25,000.**

2.6.8 The only exception to this is work which has been accepted (in **writing) by the hub Commercial Services Manager for strategic suppliers or for emergency work.**

2.7 Outputs and Deliverables

2.7.1 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.

2.7.2 The *Consultant* shall in accordance with the latest Exchange Information Requirements ensure that a 3D modelling approach is undertaken. The approach should plan to generate object-based native Autodesk format discipline 3D models and to federate these for coordination, alignment and review by the Client purposes. The federated output model should be produced in NavisWorks NWD format and open ifc format

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

- Updated INA information where required.

- Options appraisal report where required.

- Documentation of the environmental process and considerations including risks and opportunities (e.g., Scoping Report).

- Outline Design(s) for each screen compliant with CIRIA 786 unless this is not practicable.

- 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.

- Master Information Delivery Plan (MIDP).

- Topographical survey where needed.

- Hydraulic performance check confirming that the proposed screen will not increase flood risk.
- Technical notes for *Client's* design authority, including justification of any deviation from the CIRIA C786, options considered and basis of selected design.
- Information from the Geotechnical Desk Study where it is deemed that further GI may be required to determine buildability of design.
- Drawings.
- *Client's* Design Authority and Operations approval.
- Where applicable, Departure Notes.
- Environmental and WFD appraisal.
- High-level capital cost estimate.
- Designers risk assessment.
- Health and safety information.
- Public Safety Risk Assessment (PSRA) for each site.
- Pre-Construction Information Pack (PCI).
- Confirm maintenance requirements.
- Sufficient contract documentation to allow for contractor tender and/or pricing. This should include drawings, scope, constraints, specifications, site information etc.
- Buildability report detailing how the screen will be built, temporary works (including access requirements) needed, how much land the temporary works will need, site compound requirements, etc
- Planning requirement for each site.
- Outcomes of requirements from discussions with Client's SU & Hydrology & Telemetry and MEICA teams.
- Actions and Progress Tracker.
- Create a SharePoint/digital platform for the purpose of sharing on information.
- Information for Health & Safety File.

2.8 Project Team

2.8.1 The *Consultant* provides a project team with the relevant demonstrable knowledge, skills and experience to undertake the work defined in the Scope. The team includes the following as a minimum:

- A dedicated project manager with PRINCE2 or APM qualification or equivalent, responsible for the organisation and production of the service detailed in this document. This project manager is the lead contact for the *Service Manager*.
- A Mechanical Electrical Instrumentation Control & Automation (MEICA) specialist, where required.
- Engineers and technicians trained and competent in the use of CIRIA C786.
- A civil / structural engineer.
- A qualified and experienced environmental lead and, for ecological surveys, relevant species-specific ecologists
- A geomorphologist, to provide input in respect of channel dynamics - Chapter 9 of CIRIA C786.

2.9 Meetings and site visits

2.9.1 The *Consultant* attends the following meetings:

- A project start-up meeting with other key project team members including the *Client's* Design Authority and *Client's* Area SU Representatives, arranged by the *Service Manager*. The *Service Manager* shall set the agenda, record, and issue minutes of the project start-up meeting.
- Collaborative programming meetings with the *Client,* to jointly agree the programme for the following stage. Assume two meetings, one at the start of each stage.
- Technical meetings with the *Client's* SU and other of the *Client's* staff for each site.
- A visit to each of the culverts/screens alongside the *Client's* staff, to optimise outline design in accordance with this Scope.
- Weekly progress / design review meetings.
- Project board meetings as required.
- Early Warning meetings – held immediately after the progress / design review meetings.

2.9.2 Meetings other than those requiring or incorporating a site visit will be virtual, using Microsoft Teams.

2.9.3 The *Consultant* ensures that their attendees at each meeting are appropriate to the matters to be discussed. The list of attendees shall be agreed with the *Service Manager* at least one whole day prior to each meeting.

2.9.4 The *Consultant* records and issues minutes of the key decisions and actions arising from the site meetings and the progress / design review meetings.

2.9.5 The *Service Manager* revises and issues the Early Warning Register in accordance with the contract.

2.10 Reporting

2.10.1 In managing the *service*, the *Consultant*:

- Maintains weekly verbal contact with the *Service Manager* such that the *Service Manager* is fully informed of progress and issues.
- Produces monthly financial updates and forecasts meeting the *Client's* project reporting timetable together with progress reports. Monthly financial updates and forecasts to

meet *Client's* deadlines provided by no later than the 10th day of each month, or as otherwise agreed at the project start up meeting. The finances shall be checked and correct with zero errors at the time of circulation to the *Client*.

- The *Consultant's* financial report shall include a breakdown of all expenditure to date and forecast future expenditure. In addition, this will identify and provide an estimated valuation of all outstanding compensation events and an estimated value to completion.
- Submits a monthly progress report giving progress against programme, deliverables received and expected and financial summary against programme.
- Ensures the *Consultant's* environmental lead provides monthly progress and risk reviews to the *Service Manager* and attends progress meetings, as invited.
- Produces, updates and circulates a project action and progress tracker, in consultation with the project team, on a weekly basis.
- Produce monthly programme updates.
- Inputs into framework performance assessment/environmental Performance Measures.
- Captures lessons learnt relevant to scheme delivery, for discussion at the progress meetings.

3.0 Site Investigation

3.1 Topographic Survey

3.1.1 The *Consultant* will review previous topographic survey to identify gaps in existing data. The *Consultant* will use this to inform the Scope of supplementary topographic survey required.

3.1.2 The *Consultant* shall assume that there are no existing topographic surveys of the sites.

3.1.3 The *Consultant* assesses what survey information is required at each site, ensuring that what is needed is sufficient for design and construction purposes. The *Consultant* shall inform the *Client* what survey the requirements are for each site.

3.1.4 The *Consultan*t also identifies appropriate locations for installation of a new client benchmarks in accordance with National Standard Technical Specifications for Surveying Services 4.01 guidance. Where these exist, the *Consultant* validates the levels of any new or existing benchmarks.

Where topographic surveys are required, the *Consultant* does the following:

1. Prepares the scoping document for the surveys in accordance with the current version of the *Client's* National Standard Technical Specifications for Surveying Services, to enable collection of the required data.
2. Provides the *Service Manager* with a quotation for the survey work, together with a compensation event notification.

Upon instruction the *Consultant* undertakes the agreed surveys.

The data collected is included within drawings produced by the *Consultant*, as appropriate to the purpose of the drawings.

3.1.5 The *Consultant* shall work with NEAS to ensure that environmental and sustainability constraints within the likely scheme footprint are identified and included in the survey and to determine if efficiencies can be made by joint working.

3.1.6 The *Consultant* shall use the outputs from the topographic survey in their ~~modelling and~~ option appraisal.

3.2 Services Search

3.2.1 The *Consultant* shall obtain services data from utility companies and shall ensure services data is requested from relevant landowners. This shall include direct costs of obtaining data. This shall be incorporated into the appraisal, including preparation of plans.

3.2.2 The *Consultant* will arrange for a non-intrusive survey to detect key utilities (e.g., GPR etc.) to inform the options appraisal and outline design. The *Consultant* shall determine the extent of the survey and produce a specification for the survey in accordance with the *Client's* Guidance and Principal Designer discussion; defining type and purpose of survey including extents and available information. This work will be a compensation event.

3.2.3 The *Consultant* shall also provide a site supervisor to manage the survey supplier.

3.2.4 The outputs from this survey shall be included in the appraisal, including revising the plans.

3.2.5 If utilities need to be diverted to accommodate the proposed works, the *Consultant* engages with the relevant utility company to arrange for the C3 diversion estimates with relevant utility company.

3.3 Ecological Surveys

3.3.1 The *Consultant:*

- Engages with the *Client's* Fisheries, Biodiversity and Geomorphology team (FBG) to agree what ecological surveys and data are required for securing permissions or for achieving good environmental design.
- Upon instruction as a compensation event: Scopes, procures and manages the acquisition of any ecological surveys or data and reports, where these are required. Surveys are undertaken by species-specific qualified person(s).

3.3.2 The *Consultant* uses the species and survey information in a scientific and informed way to justify environmental decision making.

3.4 Structural Assessments

3.4.1 The *Consultant* undertakes a structural assessment at each site to establish if the existing channel walls / wing walls, headwalls, aprons, etc. are in suitable condition to support screen installation works.

3.4.2 The *Consultant* recommends to the *Client* where intrusive assessments are required.

4.0 Hydrology and Hydraulics

4.1 General

4.1.1. The *Consultant* undertakes hydraulic performance assessments for each screen site (except where the screen is to be removed, unless specified in the Master Summary Outcome Spreadsheet (Appendix B).

4.1.2. The purpose of the hydraulic assessments is to demonstrate that the new / modified screens do not increase the flood risk and are compliant with CIRIA C786 guidance.

4.1.3. Sites where the screen is to be removed (and where this has been accepted by the *Client's* PSRA lead) are not assessed unless specified by the *Client.*

4.1.4. Hydraulic assessments are undertaken using hand calculation or a basic 1D hydraulic model using a standard modelling package such as HEC-RAS or FloodModeller or JFlow.

4.1.5. If it is determined that unsteady flow analysis is required (e.g., due to choked flow or to support an environmental permit, licence or consent application), this will be a compensation event.

4.1.6. The hydraulic performance of the screen and culvert (including any by-pass) is assessed in accordance with CIRIA C786 Section 11.6.

4.1.7. The screen designs are assessed for the impact of the peak flows using Screen Design Practice Note 3, Hydraulic Performance Check.

4.1.8. The output from the assessment shall include the maximum headwater levels upstream of the screen for each scenario and flow rate and shall state the differences between the baseline and current scenarios (note: the same position in the channel should be used for all scenarios).

4.1.9. If the design check headwater levels are lower than both the baseline and current scenarios then the screen has passed the hydraulic performance check. If not, then the new screen design is revised further until compliance is achieved.

4.1.10. If a hydraulic model is used (based on an existing one or a new one) the *Consultant* provides the service in accordance with the modelling standards listed in the 'Relevant Guidance' section of this Scope.

4.1.11. A note is produced for each culvert/screen system, briefly describing the approach taken and confirming the results.

5.0 Economics Appraisal

Where works are required due to legal requirements, for example under the Reservoirs Act 'in the interests of safety', This work is required in order to fulfil legal obligations. The *Consultant* shall undertake a cost effectiveness analysis (CEA) approach to establish the least cost method of fulfilling the obligations, rather than a full cost benefit analysis (CBA).

5.1

5.1.1 Costs will be the whole life expenditure including, design, investigation, construction, operation and maintenance. The *Consultant* shall devise the cost in the most efficient but accurate manner. The *Client* will provide support and costs where possible for the *Consultant* to complete this estimate.

5.1.2 Risk and Optimism Bias allowances shall be calculated in accordance with Risk Guidance for Capital Flood Risk Management Projects. The *Consultant* shall attend risk workshops facilitated by others / the *Consultant* to deliver the Scope.

5.1.3 Selection of the 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 *Client's* business case template and guidance.

5.1.4 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.

Economic, Sustainability and Carbon Appraisal Deliverables

5.1.5 The *Consultant* shall provide the results of this section of the study in a cost effectiveness economics statement. 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 rules have been applied.
- What sensitivity tests have been applied and why.
- Treatment of climate change, carbon reduction and sustainability benefits.

6.0 Environmental Assessment

6.1

6.1.1 The *Consultant* shall confirm in the activity schedule 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.

6.1.2 The *Consultant* shall give due consideration of the environment and sustainability risks and opportunities throughout the design evolution of the project to maximise the delivery of *Client* and project objectives.

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 OBC with relevant summary details incorporated into the relevant section(s) of the OBC main text.

6.1.6 The *Consultant* shall report on the BREEAM Infrastructure assessment in accordance with the hub workload plan.

6.1.7 The *Consultant* identifies opportunities and implements agreed, achievable options for wider environmental improvements within the vicinity of the screens.

6.1.8 The *Consultant* delivers the following environmental outputs for each screen.

- Initial Landscape Appraisal.
- Heritage Appraisal
- An Environmental Risk Assessment
- A preliminary Water Framework Directive Assessment.
- Ecological survey reports.
- Biodiversity Net Gain Report.

7.0 Option Development

7.1.1 The *Consultant* shall engage with the *Client's* wider operational team (including Senior Users, Lead Operatives, PSRA Officers, MEICA team leaders, the Principal Designer and other EA stakeholders. The purpose is to understand the operational, maintenance, operative safety and public safety requirements at each site and to include appropriate provision in the preferred option and subsequent detailed design.

7.1.2 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. On the agreement of the *Client*, the *Consultant* shall assess in detail these 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.

7.1.3 The *Consultant* completes an options appraisal for each site where the screen is to be replaced or modified. Sites at which the screen is to be removed do not need options to be considered. However, PSRA features at these sites shall be reviewed and addressed as necessary.

7.1.4 Options appraisal shall include engagement with the Principal Designer and the *Client* (including Field Services and Area FCRM teams) on pricing, buildability and maintainability and public safety on the proposed facilities, and the *Client* including Field Services and Area FCRM.

7.1.5 The *Consultant* shall analyse and appraise the carbon footprint of options as outlined in Section 11.

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

7.1.7 The *Consultant* shall use these outputs to select a preferred option. The *Consultant* shall facilitate design workshops and facilitate risk workshops to produce a risk register with analysis in accordance with LIT 14847 Risk Guidance for Capital Flood Risk Management Projects.

7.1.8 The *Consultant* shall develop the outline design for each preferred option including provision of specification, drawings and documentation required required for the next phase.

7.1.9 The *Consultant* shall assess the option for each site and describe (in words and drawings/sketches) the following:

- Buildability
- Maintainability
- Health and Safety risks (Design Risk Assessment)
- PSRA requirements
- Sustainability benefits
- Environmental impact
- Social impact
- Design, Construction and operational cost
- Risks and uncertainties in any of the above

7.1.10 The *Consultant* shall draft the Scope for the next stage of the project for the *Client's* acceptance.

7.1.11 The primary purpose of the Options Development and Appraisal is to consider different configurations of screens to achieve the required design standard whilst optimising the economic, carbon, environmental and social impacts. Where appropriate, consideration is also given to alternatives to screen, see section 4.2 of CIRIA C786.

8.0 Stakeholder Engagement

8.1.1 The *Consultant* shall prepare / review and update and maintain a stakeholder engagement plan in accordance with the EA guidance "Working with Others" including agreement of key stakeholders with discussion with the *Client*. The *Consultant* shall ensure that the results from the stakeholder engagement informs the appraisal.

8.1.2 Weekly circulation of updated communications record at progress meetings.

8.1.3 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).

8.1.4 The *Client* will arrange and advertise public meeting/workshops when required. The *Consultant* shall provide technical support, prepare information for input into the consultation documents and prepare site plans and typical outline design drawings for public display. Attendance at these meetings shall include the *Consultant* project manager, environmental lead and other roles as necessary.

8.1.5 The *Consultant* shall provide technical support and attend meetings with key external organisations/individuals impacting upon option selection process when required.

8.1.6 The *Consultant* shall consider the following and document how they are addressed on this contract:

- Public diversity in engagement and perception of the project team.
- Accessibility.
- How inclusive environments are created for the project team.

8.1.7 The *Client* has created a Design Authority to provide assurance that proposals for all new or modified debris and security screens will result in compliance with CIRIA C786. For this contract the Design Authority is represented by Jeremy Benn Associates for the WMD's Area.

8.1.8 The *Consultant* liaises with, submits design proposals to and obtains approval of its designs from the relevant Design Authority. See Appendix F for Instruction on the Technical Assurance (TA) framework on screen Programme.

8.1.9 The *Service Manager* does not accept any of the *Consultant's* designs until they have Design Authority approval.

8.1.10 The *Consultant* ensures that all communications from and to the Design Authority are copied to the *Service Manager.*

8.1.11 The *Consultant* liaises with the *Client's* Operations team (Senior User, Site Liaison Officer and Site Responsible Officer) for each screen, to ensure that those teams' knowledge and experience of the sites, and their safety and operability improvement requirements are adequately acknowledged and incorporated in the designs.

8.1.12 The consultations with Operations are recorded in writing and signed off by the relevant representatives. An example of a consultation record, with example questions and answers is in Appendix G. The example questions are not definitive and should be reframed as appropriate for each site both pre- and pose-design. However, the *Consultant* ensures that the range of issues covered by the example questions are fully explored and resolved with Operations teams.

8.1.13 The consultation record forms part of the submission to the Design Authority.

8.1.14 All of the existing screen sites are subject to public safety risk assessments. The *Consultant* liaises with the relevant EA PSRA team leader responsible for each site and incorporates their requirements into the designs.

8.1.15 It is possible that the PSRA team leader's requirements may not comply with the requirements of CIRIA C786. Such cases are immediately brought to the attention of the *Service Manager*.

8.1.16 The implications of any non-compliance with CIRIA C786 are fully explored and challenged. If the non-compliance persists the *Consutant's* design submission includes documentation explaining the non-compliance in accordance with section 2.

8.1.17 The *Consutant* liaises with the appropriate representatives of FBG to establish the environmental constraints to be observed and to seek opportunities for environmental mitigation and enhancement. Bio-Diversity Net Gain requirement shall be determined for each site.

8.1.18 Where required, the *Consultant* engages with the *Client's* MEICA team, ensuring that their requirements are incorporated into the designs.

8.1.19 Where existing hydrometric and telemetry equipment is potentially impacted by the screen designs the *Consultant* liaises with the H&T teams to ensure such equipment is protected, relocated, or recalibrated as appropriate. Where new telemetry installations are proposed, the *Consultant* shall liaise with H&T teams to enable suitable installation.

8.1.20 Add any project specific requirements.

9.0 Health and Safety

9.1.1 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.

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

9.1.3 The *Consultant* shall supply designer risk assessments, drawings and any other data required to allow the Principal Designer to fulfil their duties under CDM.

9.1.4 The *Consultant* shall take appropriate measures, following Public Health England Guidance, to protect the Public, the *Consultant's*, and *Client* staff from COVID-19.

9.1.5 The *Service Manager* shall provide the *Consultant* with details of known hostile sites or known contamination risk.

9.1.6 The *Consultant* shall review the health and safety requirements of each screen site to ensure compliance with regulations and best practice.

9.1.7 The *Consultant* shall liaise with the *Client's* PSRA lead and incorporate any design requirements that arise.

9.1.8 The *Consultant* discusses developments in the design with the appointed Principal Designer and responds to any comments made.

9.1.9 The *Client* will appoint the Principal Designer under a separate agreement.

9.1.10 Add any project specific requirements.

10.0 Carbon

10.1. FBC must aim to minimise carbon emissions by:

10.1.1 Stating 'minimised carbon' as a strategic objective.

10.1.2 Appraising and ranking options by their net whole-life carbon impact value (cost-benefit) in tCO2e and monetised as carbon £ NPV.

10.1.3 Selecting a most likely/preferred option that best delivers the outcome measures and strategic objectives whilst minimising carbon based on the ranked carbon impact measures.

10.1.4 Optimising for lowest carbon in the design of the proposed option and evidencing this through an assessment of carbon forecast against a carbon budget.

10.2. An FBC must have a supporting carbon appendix that reports the results of appraising carbon impacts and the carbon assessment.

10.2.1. A carbon impact tool and guidance are available as part of the FCRM Appraisal Guidance.

10.2.2. The project should be looking at how to minimise carbon throughout the design and construction stages.

10.2.3. set out most likely opportunities for further reductions by project completion.

10.2.4. The Consultant shall identify and assess carbon emissions on a strategic whole life basis (cost and benefit) in the economic appraisal of options and also a specific operational target (carbon budget) of the Client.

10.2.5. The Consultant is required to work with the Client to reduce the project carbon footprint for each screen location.

10.2.6. The operational carbon has been calculated assuming:

- An assumed design life of 25 years per screen;
- The need for a further 3 interventions over the 100-year whole life carbon assessment.

11. General

11.1.1. Through liaison with the appropriate organisations the *Consultant* establishes what consents, permits, licence, etc. will be required at each screen site together with any associated conditions that might be imposed. On behalf of the *Client* and upon notification of a compensation event, the *Consultant*:

- Applies for all third party consents, licences, permits, etc. as required for site investigations and permanent works. This includes checking whether planning permission will be required for any of the screens.
- Prepares and submits all necessary documentation (drawings, reports, designs, application forms, etc) required to obtain the approval of the third parties.
- Liaises directly with and/or attends meetings with the third parties in order to assist in obtaining such approvals.

11.1.2. Any substantiated fees payable to third parties will be reimbursed by the *Client.*

12. Relevant guidance

12.1.1. The *Consultant* shall deliver the *service* using the following guidance:

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
379_05	Computational Modelling to assess flood and coastal risk	Modelling
LIT 14847	Risk Guidance for Capital Flood Risk Management Projects	Throughout
LIT 14284	Whole Life (Construction) Carbon Planning Tool User Guide	Throughout
	Project Cost Tool	Costs
LIT 12982	Working with Others: A guide for staff	Consultation & Engagement

Ref	Report Name	Where used
LIT 12280	Lessons Log template	Throughout
LIT 55096	Integrated Assurance & Approval Strategy	Approvals
	Environment Agency: EA2025 creating a better place	Throughout
	Environment Agency: reaching net zero by 2030	Throughout
LIT 11052	TIMBER: Contracting and purchasing requirements	Throughout
LIT 18749	National Standard Technical Specifications for Surveying Services – February 2023	Throughout
LIT 132227	MEICA – Specification - Powered weedscreen rakes	Throughout
	Environment Agency's designer's proforma	Throughout
LIT 18686	NEC4 Minimum Technical Requirements for Modelling_v2	Hydraulic performance report
LIT 11327	Computational modelling to assess flood and coastal risk	Hydraulic performance report
LIT 14688	How to apply climate change allowances in flood risk assessments	Throughout
	Climate Change guidance https://www.gov.uk/guidance/flood-and-coastal-risk-projects-schemes-and-strategies-climate-change-allowances	Throughout
LIT 13877	Minimum Technical Requirements: sustainability in design and management	Throughout
LIT 13878	Minimum technical requirement cultural heritage and archaeology	Throughout
LIT 13879	Minimum Technical Requirements – Landscape and Environmental Design	Throughout
LIT 18697	Managing Plastics in Environment Agency Construction and Assets	
JBA Consulting	Screen Design Good Practice Notes	
LIT 13219	MEICA- Specification - General	
LIT 13220	MEICA - Specifications - Materials and Mechanical Installations	
LIT 13221	MEICA - Specifications - Painting and Protection Systems.	
LIT 13229	MEICA - Specifications - Kiosks and enclosures.	

Ref	Report Name	Where used
LIT 13230	MEICA - Specifications - Electrical Installations.	
LIT 13238	MEICA - Specifications - Instrumentation.	
	Screens Design Good Practice Notes	

13. Requirements of the Programme

13.1.1. The *Consultant* shall provide a detailed programme that is compatible with Microsoft Project Professional 2016 and meets 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). The programme must also be issued in both MS Project and PDF format.

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 all activities to be undertaken by the *Consultant* and other members of the project team.

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

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

13.1.7. The *Client* may add, at its sole discretion, further sections (Debris screens) with additional Scope. One criteria the *Client* will use in determining this will be whether the *Consultant* achieves the sectional completion date for the Package 1.

13.1.8. Completion is when:

- All of the *service* has been provided and accepted by the *Client.*

13.1.9. The following are absolute requirements for Completion to be certified:

- 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 [redacted] systems and resources including:

- Asite.
- FastDraft.
- Collaborative Delivery Community SharePoint access.

14.1.2. Letter of Appointment of Principal Designer.

14.1.3. Site access authorisation letter(s).

14.1.4. 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. The *Consultant* shall handle, manage data in accordance with the framework schedules and Exchange Information Requirements (EIR).

15.1.2. 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*.

15.1.3. Data custodianship

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

15.1.4. Licencing 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.

15.1.5. 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 any relevant metadata can be recorded and handed over on project completion.

15.1.6. Data security

- All model and survey information will be provided to the *Consultant i*n 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.

15.1.7. The *Clien*t hosts the 'EA Debris screens programme' SharePoint site with the aim of sharing good practice between framework *Consultants* and driving continuous improvement. The *Client* will provide access to the *Consultant* on request. The *Consultant* may use the good practice notes and tools during the performance of the *services*. The *Consultant* will share knowledge and experience of good practice and provide feedback on existing good practice materials.

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 *Client*. These departments include Senior Users, Asset Performance, Partnership & Strategic Overview, NEAS, etc.

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

16.1.4. Regardless of context, the *Consultant* ensures that all communications, both from and to, other [redacted] departments/personnel are copied to the *Service Manager.*

16.1.5. All outline design outputs need to be reviewed by the Senior User. The Senior User will review the design, making suggestions or recommendations to the outline designs.

16.1.6. If the outline design does not comply with CSOM C786 and requires a Deviation from Guidance, it will be passed to the Design Authority (DA) for approval. Two Client review points are to be built into the programme:

- Client Review 2, of technical note, outline design drawings, PCI annex, buildability statement, HPC, PSRA, DRA, by EA, Principal Designer and Design Authority.

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.

Appendices

Appendix A – List of screen sites in this scope

Appendix B – Master Summary Outcomes

Appendix C – CCTV Survey Reports

Appendix D – Hydraulic models and hydrological information

Appendix E – Blockage Modelling Report

Appendix F – Instruction on the TA framework on the Screens Programme

Appendix G – Example of a consultation record

Appendix H – Outline Design Example

Appendix I – WFD Assessment Example

Appendix J – Method of Work Example

Appendix K – Environmental Assessment Form

Appendix L – Design Drawings Example

Appendix M – BIM Protocol

The *Consultant* shall adhere to the [redacted] Exchange 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.