



Framework:

Supplier:

Company Number:

Geographical Area:

Project Name:

Project Number:

Contract Type:

Option:

Contract Number:

Stage:

Collaborative Delivery Framework

Ove Arup & Partners Ltd

01312453

North East

Dutch River (left-bank) - Appraisal - Arup

ENV0004601C

Professional Service Contract

project_35587

SOC_to_OBC

Revision	Status	Originator	Reviewer	Date
1 Draft				28/02/2022
2 Draft				04/05/2022
3 Final				26/05/2022

PROFESSIONAL SERVICE CONTRACT under the Collaborative Delivery Framework
CONTRACT DATA

Project Name Dutch River (left-bank) - Appraisal - Arup

Project Number ENV0004601C

- This contract is made on 26 July 2022 between the *Client* and the *Consultant*
- This contract is made pursuant to the Framework Agreement (the "Agreement") dated 01st day of April 2019 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 22 inclusive of the Framework schedules are relied upon within this contract.
 - The following documents are incorporated into this contract by reference
Dutch River (left-bank) Scope - PSC SOC to OBC Appraisal - Arup v7

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	<div></div>	Option for resolving and avoiding disputes	<div>W2</div>
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- 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 produce a flood risk management appraisal, outline design and Outline Business Case for Dutch River (left-bank).

The <i>Client</i> is	Environment Agency
Address for communications	<div></div> <div></div> <div></div> <div></div>
Address for electronic communications	<div></div>
The <i>Service Manager</i> is	<div></div>
Address for communications	<div></div> <div></div> <div></div> <div></div> <div></div>
Address for electronic communications	<div></div>

The *Scope* is in Dutch River (left-bank) Scope - PSC SOC to OBC Appraisal - Arup v7

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
As part of this contract the Consultant will review previous surveys and models and identify any additional requirements to allow a full appraisal to take place and

Early warning meetings are to be held at intervals no longer than [REDACTED]

2 The Consultant's main responsibilities

The <i>key dates</i> and <i>conditions</i> to be met are	
<i>conditions</i> to be met	<i>key date</i>
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 [REDACTED]

3 Time

The *starting date* is [REDACTED]

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

access	[REDACTED]
Asite	[REDACTED]
Fast Draft	[REDACTED]

The *Consultant* submits revised programmes at intervals no longer than [REDACTED]

The *completion date* for the whole of the *service* is [REDACTED]

The period after the Contract Date within which the *Consultant* is to submit a first programme for acceptance is [REDACTED]

4 Quality management

The period after the Contract Date within which the *Consultant* is to submit a quality policy statement and quality plan is [REDACTED]

The period between Completion of the whole of the *service* and the *defects date* is [REDACTED]

5 Payment

The *currency of the contract* is the £ sterling

The *assessment interval* is Monthly

The *Client* set total of the Prices is £204,162.61

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

If Option C is used

[REDACTED]				
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	0 %
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

6 Compensation events

These are additional compensation events

- 1. 'not used'
- 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 <i>SERVICE</i> OR TERMINATION
The <i>Consultant's</i> failure to use the skill and care normally used by professionals providing services similar to the <i>service</i>	in respect of each claim, without limit to the number of claims	
Loss of or damage to property and liability for bodily injury to or death of a person (not an employee of the <i>Consultant</i>) arising from or in connection with the <i>Consultant</i> Providing the Service	in respect of each claim, without limit to the number of claims	
Death of or bodily injury to the employees of the <i>Consultant</i> arising out of and in the course of their employment in connection with the contract	<i>Legal minimum</i> in respect of each claim, without limit to the number of claims	<i>For the period required by law</i>
The <i>Consultant's</i> total liability to the <i>Client</i> for all matters arising under or in connection with the contract, other than the excluded matters is limited to		

Resolving and avoiding disputes

The *tribunal* is litigation in the courts

The *Adjudicator* is

Address for communications

'to be confirmed'

'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

Z4 Share on termination

Delete existing clause 93.3 and 93.4 and replace with:

93.3 In the event of termination in respect of a contract relating to services there is no *Consultant's* share'

Z6 The Schedule of Cost Components

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

Z7 Consultant's share

After cl54.2 and before cl54.3, insert the following additional clause:

54.2A If, prior to the Completion Date, the Price for Service Provided to Date exceeds █████ of the total of the Prices, the amount in excess of █████ of the total of the Prices is retained from the Consultant.

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

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 [redacted] [redacted]

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 [redacted]

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 [redacted] 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 [redacted] after the date on which payment becomes due

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

term	<i>beneficiary</i>
Not used	Not used
Not used	Not used
Not used	Not used
Not used	Not used

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 Ove Arup & Partners Ltd

Address for communications

Address for electronic communications

The fee percentage is

The key persons are

Name (1)
Job
Responsibilities
Qualifications
Experience

Name (2)
Job
Responsibilities
Qualifications
Experience

Name (3)
Job
Responsibilities
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

5 Payment

The *activity schedule* is

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 Environment Agency

[Redacted Signature]

[Redacted Date]

Date

[Redacted Role]

Role

Consultant execution

Signed Underhand by [PRINT NAME]

for and on behalf of Ove Arup & Partners Ltd

[Redacted Signature]

Signature

[Redacted Date]

Date

[Redacted Role]

Role

Environment Agency

NEC4 Professional Service Contract (PSC)

Scope

Project / contract information

Project name	Dutch River (left-bank): Went Outfall to River Ouse Confluence
Project SOP code	ENV0004601C
Contract number	project_35587
Date	26/05/2022

Assurance

Author		Date: 29/11/2021
Consulted		Date: 12/01/2022
Reviewed		Date: 12/01/2022
Checked prior to issue		Date: 26/05/2022
Consulted		Date: 07/03/2022
Checked prior to issue		Date: 25/02/2022

Revision History

Revision date	Summary of changes	Version number
29/11/2021		1
07/02/2022		2
25/02/2022		3
07/03/2022		4
21/03/2022		5
23/03/2022		6

Template Reference: LIT 13261
Version: 4.0

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Project Reference:
Uncontrolled when printed

26/05/2022	Final version following Commercial Services Manager Review	7
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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	December 2021

1 Overview

1.1 Background

The Dutch River and its neighbouring rivers lie with the Humberhead levels, which typically comprises flat, low-lying land, with much of it below the mean high-water mark. The existing flood defences in the area protect Goole and the surrounding area from both tidal and fluvial flooding. The area is primarily protected by raised defences, typically earth embankments, however, issues with asset condition and stability problems have been identified at various locations both on the Dutch River and elsewhere.

The December 2013 tidal surge caused extremely high water levels in the Humber Estuary and the River Ouse, River Aire and Dutch River. Defences largely worked well during the event, preventing large scale flooding. However, around the middle region of the estuary, visible movement was evident to the embankment of the right-bank of the Dutch River adjacent to Chantry Cottages and also to the foreshore and berm at Airmyn, in addition to a partial breach of the defences at Yokefleet. Subsequent recovery works were required to repair the assets damaged during the event, at a cost in excess of £10m.

Investment is now required around the remainder of the middle estuary to ensure that other assets in the area are sufficiently robust, such that they can withstand future tidal surges and other flood events, protecting Goole and surrounding areas in the future.



The study area is shown in Figure 1.

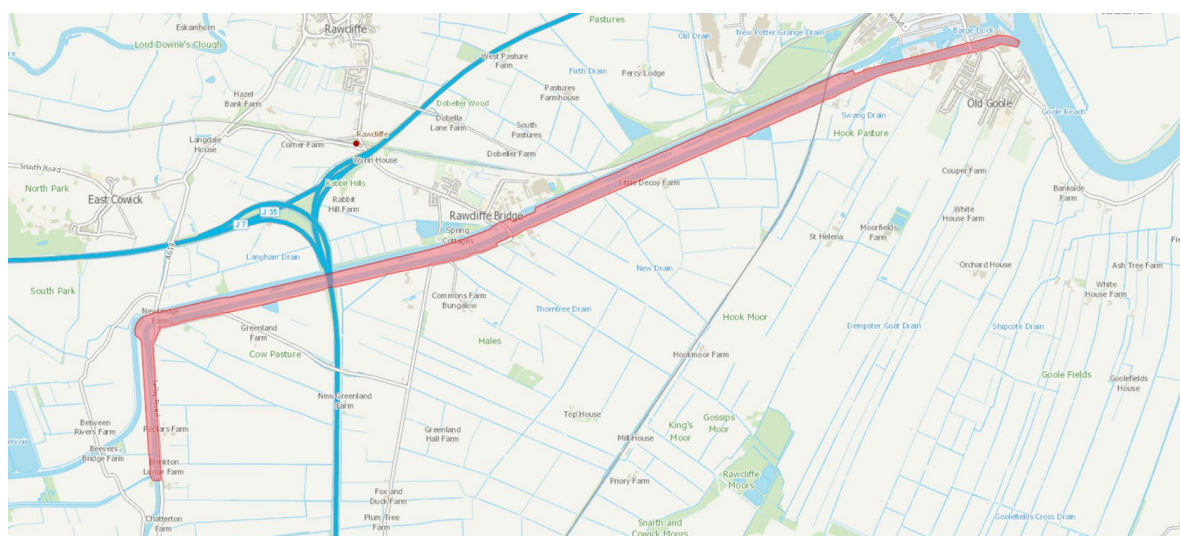


Figure 1 – Red line boundary

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
Strategic Outline Case	Feb 2022	Digital – word doc
Initial Assessment 2016	2016	Digital - PDF
Initial Assessment 2021	Dec 2021	Digital – PDF
Strategic Review of the Middle Humber – Strategic Overview Report	Ongoing	Digital – Draft Word doc
Strategic Review of the Middle Humber – GIS layer	Dec 2021	Digital – GIS layer
Upper Humber Model	2016	Model inputs and outputs
Humber Strategy Extreme Water Levels	2021	Model output
The Humber Landscape and Green Infrastructure Study	TBC	PDF
The Humber Estuary Landscape and Investment Study	TBC	PDF

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

The Dutch River (left-bank): Went Outfall to River Ouse Confluence project is a capital maintenance project which aims to carry out remedial works to reduce the likelihood of breach and sustain the defence height of the existing flood defence assets on the left bank of the Dutch River. It is focused on the 10km stretch of the Dutch River from the outfall of the River Went to its confluence with the River Ouse. The defences consist predominantly of earth embankments, which form part of a network of assets that reduce fluvial and tidal flood risk to thousands of residential and commercial properties in the town of Goole and the surrounding area.

The objective of this project is to reduce flood risk to Goole and the surrounding area through enhancement of the existing defences.

The objective of this contract is to produce a flood risk management appraisal in line with the Flood and Coastal Erosion Risk Management – Appraisal Guidance (FCERM-AG) which establishes the need for investment, appraises the main options for service delivery and provides management of further analysis to provide an Outline Business Case (OBC).

The output of this commission will be to produce an OBC as part of the Environment Agency appraisal process which is deemed technically and economically viable. The *Consultant* shall use the SOC document for developing the OBC.

AD: All work carried out under this commission must take account of the work ongoing through the Strategic Review of the Middle Humber; Goole Town Deal and the Humber Strategy (2100+).

In this contract the *Client* is the Environment Agency, the *Consultant* (Collaborative Delivery Framework (CDF) lot 1 Delivery Partner) is Arup and the Lot 2 Contract is BAM Nuttall (CDF Lot 2 Delivery Partner).



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 *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 design 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 EA 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 Environment Agency's 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 an Outline Business Case.
- 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 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.
- 2.1.9 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.
- 2.1.10 The *Consultant* shall demonstrate that consideration has been given to a long list of potential options, identified an appropriate shortlist, appraised these to identify a preferred option and developed this option, its impacts, planning and Environmental Impact Assessment (EIA) requirements scoped to a level that it can be priced. The *Consultant* shall develop a series of options to meet the above objectives.
- 2.1.11 The *Consultant* shall assume that the options shortlisted in the OBC will be aligned with the strategy identified in the SOC. However, the *Consultant* shall not assume that the preferred option will necessarily be the same as that identified at the SOC stage.
- 2.1.12 The *Consultant* shall compile the supporting technical documentation required for the *Client* to obtain a screening opinion from the local planning authority.
- 2.1.13 AD: The *Consultant* shall review and validate the GIS output of the Strategic Review of the Middle Humber, identifying any additional areas of concern.
-

2.2 Constraints

- 2.2.1 
- 2.2.2 The *Client* shall secure private landowner agreement to adoption of the outline design. The *Consultant* shall support this through associated consultation as set out in 8.1.8.
- 2.2.3 The *Client* shall secure confirmation of public and private sector acceptance and adoption to the scheme. The *Consultant* shall support the *Client* in obtaining acceptance from affected parties through associated consultation as set out in 8.1.9.

2.3 *Consultant* Project Management

- 2.3.1 In managing the *service* the *Consultant* shall follow all the requirements as set out in the Collaborative Delivery Framework schedules and the relevant content of the Minimum Technical Requirements.
- 2.3.2 In managing the *service* the *Consultant* shall:
- Contribute monthly to the updates to the project risk register.
 - Provide input to project efficiency CERT Form.
 - Attend progress meetings and prepare record minutes within a week for the *Client* to issue.

- Produce monthly financial updates and forecasts meeting the *Client's* project reporting timetable together with progress reports. Monthly financial updates and forecasts to meet EA deadlines provided by no later than the 10th day of each month, or otherwise agreed at the project start up meeting.
- Deliver a monthly progress report in the *Client's* standard template ([Link](#)) giving progress against programme, deliverables received and expected and financial and carbon summary against programme.
- Attend project board meetings as required.
- 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 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:

- Modelling report.
- Economics report.
- Options appraisal report.
- Documentation of the environmental process and considerations including risks and opportunities (e.g. Scoping Report).
- Outline Design(s).
- Carbon Optimisation Report.
- 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.

- Draft text within relevant sections of OBC.

3 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 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.
- 3.1.3 For any supplementary surveys required, the *Consultant* shall:
- Prepare a brief and procure the survey in accordance with the current version of the Environment Agency's National Standard Technical Specification for Surveying Services
 - Review and agree surveyor's site risk assessment
 - Supervision and management of topographic survey company
 - Review data/checking deliverables
- 3.1.4 AD: The Consultant shall review previous aerial surveys used in the asset condition analysis and existing models to identify gaps in existing data. The Consultant will use this to inform the scope of supplementary topographic survey required.
- 3.1.5 ~~Example text~~ A cross sectional survey of the main river is being undertaken by Others and will be provided for the *Consultant* to use in constructing the hydraulic model. The *Consultant* shall liaise with the survey team on the requirements of the survey and the format of output.
- 3.1.6 ~~Example text~~ the *Consultant* shall undertake cross sectional survey of the main river and spatial survey of the flood plain sufficient to allow for in bank and floodplain modelling and determination of depths of flooding of properties within the flood plain. Spacing of the survey shall be determined to suit the hydraulic model and shall include a survey of all restrictions, bridges, culverts and structures.
- 3.1.7 ~~Example text~~ A topographical survey is required to provide further details of the existing piles so that the alignment of new piles may be optimised relative to this. A survey is also required to supplement that previously undertaken by ~~XXX~~ in order to identify the location of key features on the quay so that we may clearly define working areas and accesses in the ECC scope. Specific requirements are:
- ~~Preparation of a brief and procurement of the survey in accordance with the current version of the Environment Agency's National Standard Technical Specifications for Surveying Services, to enable the above.~~
 - ~~Review and agree surveyors' site risk assessment.~~

- ~~Supervision and management of topographic survey company.~~
- ~~Review data / checking deliverables.~~
- ~~AD: The *Consultant* shall undertake the topographic survey necessary to be able to assess the shortlist of options and complete an outline design.~~

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

3.2 Ground Investigation

- 3.2.1 The *Consultant* shall scope the Ground Investigation required to be able to undertake an options appraisal and detailed design and agree the scope with the *Client*.
- 3.2.2 The *Consultant* shall ensure that the environmental risks and opportunities associated with the Ground Investigation, including the collection of environmental evidence to support Appraisal and Assessment, are identified and addressed.
- 3.2.3 In scoping the Ground Investigation works the *Consultant* shall include the necessary works to facilitate efficient and sustainable materials management planning and re-use within the project.
- 3.2.4 The *Consultant* shall identify any contaminated land within the area of the project and specify testing within the Ground Investigation scope such that it can be classified properly for disposal.
- 3.2.5 The *Consultant* shall clearly communicate the scope of the Ground Investigation to the Lot 2 contractor for the Lot 2 contractor to undertake.
- 3.2.6 The *Consultant* shall supervise the Ground Investigation undertaken by the Lot 2 contractor. The supervision will be subject to a Compensation Event.
- 3.2.7 The *Consultant* shall produce a summary of key interpretative decisions for the Ground Investigation undertaken by the Lot 2 contractor.
- 3.2.8 The *Consultant* shall be responsible for obtaining all relevant Permits and Consents are in place to allow any surveys or ground investigations. The Lot 2 Contractor is responsible for obtaining the Flood Risk Activity Permit.
- 3.2.9 AD: The *Consultant* shall carry out a Habitat Regulations Assessment (HRA) screening report for the Ground Investigations, submitting to NEAS and Natural England if necessary.
-

3.3 Services Search

- 3.3.1 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.
 - 3.3.2 The *Client* will arrange for a non-intrusive survey to detect key utilities (e.g. GPR etc.) to inform SI and or options appraisal. The *Consultant* shall determine the extent of the survey and produce a specification for the survey in accordance with EA Guidance and Principal Designer discussion; defining type and purpose of survey including extents and available information.
 - 3.3.3 The *Consultant* shall also provide a site supervisor to manage the survey supplier.
 - 3.3.4 The outputs from this survey shall be included in the appraisal, including revising the plans.
-

4 Hydrology and Hydraulics

4.1 General

- 4.1.1. The existing modelling is identified in the table in section 1.2. The extents of the modelling and assumptions made are within the model report.
 - 4.1.2. The *Consultant* shall verify the model with quality and extent checks.
 - ~~4.1.3. The *Consultant* shall provide the service in accordance with the Modelling Technical Scope, included in Appendix 2.~~
 - ~~4.1.4. Additional runs shall be allowed for the final design case to give a sensitivity analysis on key parameters.~~
 - 4.1.5. The output shall be designed to interface with the economic analysis to allow for depths and durations of flooding to be determined.
 - 4.1.6. The *Consultant* shall run the agreed Do Nothing, Do Minimum and Do Something options based on the short list of viable options as identified in Section 7.1.2.
 - 4.1.7. AD: The *Consultant* shall produce a short note on the proposed Do Nothing and Do Minimum scenarios for agreement with the *Client* prior to hydraulic modelling of the short list of options.
 - 4.1.8. AD: The *Consultant* shall submit a method statement for acceptance by the *Client* prior to model update activity, providing clear recommendations on required activities to update the model(s). These recommendations shall consider the Upper Humber Model and Humber Strategy Extreme Water Levels and be in line with the Environment Agency hydrology and modelling guidance and MTR.
 - 4.1.9. AD: The *Consultant* shall conduct sensitivity testing of the preferred option to optimise the design on key parameters (e.g testing bund height/orifice size/FSR area etc.).
 - 4.1.10. AD: The *Consultant* shall run the final flood alleviation scheme design model for the following fluvial and tidal defended: 50%, 20%, 10%, 5%, 3.3%, 2%, 1.33%, 1%, 0.5%, 0.1% AEPs. Climate change scenarios are required as part of this project.
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5 Economics Appraisal

- 5.1.1 The *Consultant* shall undertake an 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 preferred option.
- 5.1.2 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 and Early Supplier Engagement (ESE) input is required. The *Client* will provide support and costs where possible to complete this estimate.
- 5.1.3 Carbon will be whole-life emissions of an asset including embodied (construction), operation, maintenance and end of life emissions. The values will be calculated from the carbon tool (OI 120_16) to help optimise all options through all stages of design and business case development.
- 5.1.4 Risk and Optimism Bias 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.
- 5.1.5 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 EA business case template and guidance.
- 5.1.6 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.
- 5.1.7 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.
- 5.1.8 The *Consultant* shall use this data to assist the *Client* in identifying suitable sources of external funding.

Economic, Sustainability and Carbon Appraisal Deliverables

5.1.9 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 OBC. 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.
 - FCERM-AG spreadsheets and PF calculator.
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6 Environmental Assessment

- 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 produce a Preliminary Ecological Appraisal (PEA), using this to assess any potential requirements for additional protected species surveys and any mitigation requirements.
- 6.1.7 The *Consultant* shall carry out a Phase 1 Habitat survey and any other surveys/data collection required to produce the PEA.
- 6.1.8 The *Consultant* shall consider the application of current EIA Regulations and assess the requirement for a statutory EIA including, but not limited to, Town and Country Planning, Land Drainage Improvement Works and Marine Works. Where a project will or could be subject to a statutory EIA the *Consultant* shall obtain a screening opinion for the relevant Competent Authority/Authorities. The *Consultant* shall provide the screening to the Client for acceptance prior to submitting it for a screening opinion, including any mitigation assumed. The screening opinion shall be built in the Preliminary Environmental Information Report (PEIR).
- 6.1.9 The *Consultant* shall produce an environmental action plan for the preferred option, to reflect the issues identified in the Appraisal.
- 6.1.10 The *Consultant* shall carry out a landscape desk study and site walkover to produce an Environmental Site Appraisal Plan, Landscape Options (plans, graphics, illustrations) and indicative landscape plans.
- 6.1.11 The *Consultant* shall carry out a high-level heritage appraisal, producing a product description for agreement with NEAS.
- 6.1.12 AD: The *Consultant* shall carry out a Habitat Regulations Assessment (HRA) screening report which shall be submitted to Natural England through the NEAS Project Manager.
- 6.1.13 AD: The *Consultant* shall complete a Water Framework Directive (WFD) preliminary assessment (screening and scoping). This should include an assessment of opportunities to deliver WFD improvements through options selection and integrated design elements.

6.1.14 AD: The *Consultant* shall undertake a Biodiversity Net Gain (BNG) assessment using the Biodiversity Metric. Proposals for achieving the 10% biodiversity net gain target, and opportunities for achieving the ambition of 20% biodiversity net gain target shall be included in the OBC, together with any risks to their deliverability.

6.1.15 CEEQUAL


AD: The *Consultant* shall:

- Complete the CEEQUAL assessment in line with the provided CEEQUAL scoping note (appendix 2) based on the CEEQUAL V6 Technical Manual Requirements. For these services, 13 assessment issues have been scoped in.
 - Provide a qualified CEEQUAL assessor and scope the individual criteria within the assessment issues identified for agreement with the *Client*.
 - 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 within 1 month of completion of the *services*.
 - Support the *Client* with scope submitting to BRE as well as provide supporting information to the *Client* when handling verifier consultation.
 - 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 workshops as required to provide an update against CEEQUAL targets and to champion sustainability across the project team.
 - Provide all evidence to the *Client* upon request to enable programme-level external verification.
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7 Option Development

- 7.1.1 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 area FCRM, the ESE contractor's representative, NEAS, Field Services and the Principal Designer. The *Consultant* shall screen and assess this long list of options for technical, environmental, sustainability, carbon and economic suitability, as considered appropriate.
 - 7.1.2 Following 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 Options appraisal shall include engagement with the ESE contractor on pricing, buildability and maintainability and the *Client* including Field Services and Area FCRM.
 - 7.1.4 The *Consultant* shall analyse and appraise the carbon footprint of options as outlined in Section 11.
 - 7.1.5 The *Consultant* shall seek options that support the e:Mission 2030 sustainability targets.
 - 7.1.6 The *Consultant* shall use these outputs to select a preferred option. The *Consultant* shall facilitate design workshops and attend risk workshops to produce a risk register.
 - 7.1.7 The *Consultant* shall develop the business case for the preferred option and the outline design including provision of specification, drawings and documentation required for Early Supplier Engagement.
 - 7.1.8 The *Client* shall draft the scope for the next stage of the project (OBC-FBC) and the *Consultant* shall support the *Client* to produce the scope.
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8 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 Monthly 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 2 no. public meeting/workshops. 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 2 no. meetings with key external organisations/individuals impacting upon option selection process.
- 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 
- 8.1.8 AD: The *Client* shall secure private landowner agreement to adoption of the outline design. The *Consultant* shall support this through updating existing project drawings to make them suitable for consultation and producing technical notes which provide key details to be communicated as part of consultation.
- 8.1.9 AD: The *Client* shall secure confirmation of public and private sector acceptance and adoption of the scheme. The *Consultant* shall support the *Client* in obtaining acceptance from affected parties through updating existing project drawings to make them suitable for consultation and producing technical notes which provide key details to be communicated as part of consultation.
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9 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 fulfil their duties under CDM.
- 9.1.4 The works on site included in the geotechnical section will be subject to notification to the HSE. Appraisal work to outline design shall be treated as if it was notifiable.
- 9.1.5 Principal Designer duties are not required under this contract.
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10 Business Case Submission

- 10.1.1 The *Consultant* shall aggregate all of the work undertaken from this commission into a business case document – the Outline Business Case. The format of this document and guidance on the contents is detailed in the Business Case templates and guidance documents.
- 10.1.2 The *Consultant* shall be responsible for dealing with responses to queries during the approval process and any resubmission required.
- 10.1.3 The OBC 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.
- 10.1.4 This section of the study shall conclude with the final approval of OBC using latest EA Guidance including all appendices and FSoD approval following submission to NPAS or LPRG.
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11 Carbon

- 11.1.1 Carbon emissions shall be identified and assessed on a strategic whole life basis (cost and benefit) in the economic appraisal of options and also as a specific operational target (carbon budget) of the *Client*.
- 11.1.2 The carbon budget for the project has been set to 2,559 tonnes CO₂e. The *Consultant* is required to work with the *Client* and the ESE contractor to reduce the project carbon footprint by 40%.
- 11.1.3 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.

- Ongoing updates to the carbon calculator and use of the carbon calculator to inform design and construction methodology decisions.
 - Completion and submission of the carbon calculator at the pre-defined stages.
 - Inclusion of a whole-life carbon appraisal to ensure optimisation of lowest carbon in short-listed and preferred options in OBC.
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12 General

12.1.1 The *Consultant* shall deliver the service in line with the most recent SHEW CoP.

12.1.2 The BIM Information Manager is the *Client* Project Manager. The *Consultant* shall deliver the service in line with the projects IDP.

13 Relevant guidance

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
	Minimum Technical Requirements (Modelling)	Modelling
LIT 14847	Risk Guidance for Capital Flood Risk Management Projects	Option development
OI 120_16	Whole-life Carbon Planning Tool	Option development
LIT 14284	Whole Life (Construction) Carbon Planning Tool User Guide	Option development
	Access for All Design Guide	Option development
	Project Cost Tool	Costs
LIT 12982	Working with Others: A guide for staff	Consultation & Engagement
Gov.uk	Appraisal Guidance Manual	OBC
672_15_SD03	Business case template – 5 case Model	OBC
672_15_SD02	Short Form Business case template	OBC

Ref	Report Name	Where used
LIT 4909	Flood and Coastal Erosion Risk Management appraisal guidance (FCERM-AG)	OBC
	Flood and Coastal Erosion Risk Management: A Manual for Economic Appraisal (the 'Multi Coloured Manual')	OBC
OI 1334_16	Benefits management Framework	OBC
Gov.uk	Partnership Funding Calculator Guidance	OBC
LIT 15030	The Investment Journey	OBC
LIT 55124	Write a Business Case	OBC
LIT 14953	FCRM Efficiency Reporting – capital and Revenue	OBC
LIT 12280	Lessons Log template	OBC
LIT 55096	Integrated Assurance & Approval Strategy	Approvals
MTR_801_14	Environmental sustainability, design and management	Appraisal, ground investigations and OBC
MTR_801_SD01	Cultural Heritage and Archaeology	Appraisal, ground investigations and OBC
MTR_801_14_SD02	Landscape and Environmental Design	Appraisal, ground investigations and OBC

14 Requirements of the Programme

- 14.1.1 The *Consultant* shall provide a detailed programme in Microsoft Project format version 2016 meeting all requirements of Cl.31 of the Conditions of Contract.
- 14.1.2 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).
- 14.1.3 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.
- 14.1.4 The programme shall include review and consultation periods for drafts, scoping letters, statutory consultation etc.
- 14.1.5 The programme shall identify time risk allowance on the activities and float.
- 14.1.6 ~~The *Consultant* shall produce a Programme such that the following milestone dates are achieved (examples below, delete if not required):~~
- 14.1.7 The following are absolute requirements for Completion to be certified:
- Population of the *Client's* latest version of the Project Cost and Carbon Tool, or its successor
 - Transfer to the *Client* of BIM data
 - Clause 11.2(2) work to be done by the Completion Date
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15 Services and other things provided by the *Client*

- 15.1.1 Access to Environment Agency systems and resources including:
- Asite.
 - FastDraft.
 - Collaborative Delivery Community SharePoint access.
- 15.1.2 Letter of Appointment of Principal Designer.
- 15.1.3 Site access authorisation letter(s).
- 15.1.4 Previous studies listed in Section 1.2.1. The *Client* will provide the previous studies within two weeks of contract award.
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16 Data

16.1.1 Requirements for the handling of project data are covered by the framework schedules.

17 *Client's* Advisors

17.1.1 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.

17.1.2 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 Asset Performance, Partnership & Strategic Overview, NEAS, etc.

17.1.3 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*.

18 *Client* Documents the *Consultant* Contributes to

18.1.1 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.

Appendix 2 – CEEQUAL Scoping Note
