Framework: Collaborative Delivery Framework
Supplier: Jacobs UK Ltd
Company Number: 02594504

Geographical Area:
Project Name: Fleetwood & Copse Brook FRMS
Project Number: ENV0001471C

Contract Type: Professional Service Contract
Option: [redacted]

Contract Number: 30048

Revision	Status		Originator		Reviewer		Date

PROFESSIONAL SERVICE CONTRACT under the Collaborative Delivery Framework
CONTRACT DATA

Project Name Fleetwood & Copse Brook FRMS

Project Number ENV0001471C

This contract is made on 04 August 2020
between the *Client* and the *Consultant*

- This contract is made pursuant to the Framework Agreement (the "Agreement") dated 12th 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
  Fleetwood PSC Jacobs - Appraisal Scope 11 Aug 20.docx

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 [redacted]

Option for resolving and avoiding disputes [redacted]

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 Undertake a detailed appraisal of options to manage the flood risk and other necessary activities, and produce the Outline Business Case (OBC) in collaboration with the Client.

The *Client* is Environment Agency

Address for communications
Horizon House
Deanery Road
Bristol
BS1 5AH

Address for electronic communications [redacted]

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

Address for electronic communications [redacted]

The Scope is in
Fleetwood PSC Jacobs - Appraisal Scope 11 Aug 20.docx

The *partner contract* is
TBA

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 17 August 2020

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

access	*access date*

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

The *completion date* for the whole of the *service* is 30 April 2021

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 *Client* set total of the Prices is £128,716.00

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

[redacted]

[redacted] [redacted] [redacted]

6 Compensation events

These are additional compensation events

1. Managing and mitigating the impact of Covid 19 and working in accordance \
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	[redacted] 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] **0** in respect of each claim, without limit to the number of claims	[redacted] 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

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 Aggregated Consultant's share

Delete existing clauses 54 and 93.3 and replace with:
54.1 The *Service Manager* assess the *Consultant's* share of the difference between the Aggregated Total of the Prices and the Aggregated Price for Service Provided to Date.
The difference is divided into increments falling within each of the *share ranges* . The limits of a share range are the Aggregated Price for Service Provided to Date divided by the Aggregated Total of the Prices, expressed as a percentage. The *Consultant's* share equals the sum of the products of the increment within each share range and the corresponding *Consultant's share percentage* .
54.2 If the Aggregated Price for Service Provided to Date is less than the Aggregated Total of the Prices, the *Consultant* is paid its share of the saving. If the Aggregated Price for Service Provided to Date is greater than the Aggregated Total of the Prices, the *Consultant* pays its share of the excess.
54.3 If, prior to the Completion Date, the Price for Service Provided to Date exceeds 110% of the total of the Prices, the amount in excess of 110% of the total of the Prices is retained from the *Consultant* .
54.4 The *Service Manager* makes a preliminary assessment of the *Consultant's* share at Completion of the Whole of the *service* using forecasts of the final Aggregated Price for Service Provided to Date and the final Aggregated Total of Prices. This share is included in the amount due following Completion of the whole of the *services* .
54.5 The *Service Manager* makes a final assessment of the *Consultant's* share, using the final Aggregated Price for Service Provided to Date and the final Aggregated Total of the Prices. This share is included in the final amount due.
93.3 If there is a termination except if Z4 applies, the *Service Manager* assesses the *Consultant's* share after certifying termination. The assessment uses as the Aggregated Price for Service Provided to Date the sum of

- the total of
  – the Defined Cost which the *Consultant* has paid and
  – which it is committed to pay for work done before termination

and

- the total of
  – the Defined Cost which the *Consultant* or *Contractor* has paid and
  – which it is committed to pay

in the *partner contract* before the date the termination certificate is issued under this contract.
The assessment uses as the Aggregated Total of the Prices the sum of

- the total of
  – the lump sum price for each activity which has been completed and
  – a proportion of the lump sum price for each incomplete activity which is the proportion of the work in the activity which has been completed

and

- the total of
  – the lump sum price for each activity which has been completed and
  – a proportion of the lump sum price for each incomplete activity which is the proportion of the work in the activity which has been completed

Add:
11.2(25) The Aggregated Total of the Prices is sum of

- the total of the Prices and
- the total of the Prices in the partner contract

11.2(26) The Aggregated Price for Service Provided to Date is the sum of

- the Price for Service Provided to Date and
- the Price for Service Provided to Date or the Price for Work Done to Date in the partner contract.

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 2 weeks

OPTION X18: Limitation of liability

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

[redacted]0

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 14 days after the date on which payment becomes due

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

term *beneficiary*

Contract Execution

***Client* execution**

Signed under hand by [redacted] for and on behalf of the Environment Agency

[redacted]

Signature Role

***Consultant* execution**

***Consultant* execution**

Signed under hand by for and on behalf of Jacobs UK Ltd

[redacted]

Signature Role

Environment Agency
Collaborative Delivery Framework (CDF)

NEC4 Professional Services Contract (PSC)

Scope – C1 Appraisal: SOC to OBC

Project / contract information

Project name	Fleetwood & Copse Brook FRMS
Project SOP reference	ENV0001471C
Contract reference	30048
Date	11 August 2020
Version number	5
Authors	[redacted]

Revision history

Revision date	Summary of changes	Version number
29/05/20	Draft for discussion	1
03/07/20	Updated following discussion with Jacobs	2
07/07/20	Section 3.10.1 updated	3
15/07/20	Minor revisions to text	4
11/08/20	Clarification for programme (April end date)	5

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

1 Overview

1.1 Summary

The Environment Agency (EA) have completed a Strategic Outline Case (SOC) and obtained funding to further investigate and develop a preferred option to manage estuarine and fluvial flood risk to the community of Fleetwood on the northern Wyre Peninsula in Lancashire.

The area is subject to a combined flood risk associated with tidal overtopping of the primarily undefended estuary frontage, fluvial flooding from the predominantly culverted Copse Brook watercourse and tidal ingress risk due to the poor condition of the Copse Brook gravity outfall.

The scope of this contract is to undertake a detailed appraisal of options to manage the flood risk and other necessary activities, and produce the Outline Business Case (OBC) in collaboration with the *Client*.

This contract is to be let under the Collaborative Delivery Framework (CDF) and shall be compliant with the overarching CDF policies and clauses.

1.2 Background

The current approach to flood risk management on the Wyre Peninsula is defined within the approved 2013 Wyre Urban Core Flood Management Strategy, (WUCS). Measures to manage both tidal and fluvial risk were identified within the WUCS, with the highest impact flooding assessed to be from tidal sources. The Strategy justified improvements to provide and maintain a 1:200 (0.5%) Annual Exceedance Probability (AEP) Standard of Protection (SoP) for the next 100 years. Major schemes have recently been constructed to manage tidal flood risk from the western coastal frontage.

The peninsula hinterland is primarily flat, with little or no flood boundaries to form discrete flood risk areas under extreme events. Therefore, to allow prioritised spending to those frontages and systems most urgently requiring improvement, the flood plain was divided into ten Sub-Units (SUs). Economic benefits were apportioned within each area to support future works. It is noted that these SUs can flood from multiple sources.

Hydraulic modelling commissioned by the Environment Agency subsequent to the WUCS has identified an increased flood risk to Fleetwood from the eastern Wyre Estuary frontage. This modelling has been further updated within the SOC and now provides a better understanding of estuarine flood risk. It identifies a residual risk associated with tidal overtopping of the undefended quayside estuary frontage around Jubilee Quay and the presently disused Associated British Ports (ABP) Ro-Ro terminal. The current day SoP of this frontage is between 1:50 (2%) and 1:75 (1.33%) AEP, although this will reduce with climate change. Modelling indicates that 737 residential properties are currently at risk from estuary overtopping in a 1:200 (0.5%) AEP tidal event.

There is also residual risk of flooding associated with the poor condition of the gravity tidal outfall located at the downstream end of the Copse Brook. The existing outfall flaps are in urgent need of replacement. Failure would result in tidal ingress and significant inland flooding. Modelling indicates that 2,238 residential properties would be at risk from the combined impacts of outfall failure and estuary overtopping in a 1:200 (0.5%) AEP tidal event.

To inform the SOC, Copse Brook has been hydraulically modelled to determine the scale of fluvial flood risk. The modelling indicates that the fluvial SoP of the majority of the watercourse is in excess of 1:200 (0.5%) AEP. Where flooding does occur, it is generally localised and of shallow depth. Modelling indicates that 12 properties are at risk of tidal inundation in the current day 1:200 (0.5%) AEP fluvial event.

The required business case aims to justify a scheme to mitigate previously unidentified flood risk. Therefore, in the SOC, the economic appraisal was developed to take account of the previous allocation of properties and economic damages within the approved WUCS.

The SOC considered a range of options and concluded:

- A linear defence should form the basis of the Short List Do Something intervention options in order to mitigate the significant tidal overtopping flood risk;
- Short term improvement works to the Copse Brook gravity outfall should be incorporated in all Do Something intervention options to reduce the significant risk of tidal inundation;
- There are a number of potential approaches available to manage the fluvial flood risk which will require further consideration. These range from the overarching approach of reducing or removing the major United Utilities inflow, to localised flood risk management schemes in each of the three areas at flood risk. The fluvial flood risk is significantly lower than the flood risk from tidal estuary overtopping and culvert inundation; and
- Future works will be required throughout the 100 year appraisal period. In addition to ongoing asset maintenance and residual life based replacements, this includes future works to accommodate climate change.

1.3 Study Area

The town of Fleetwood is located at the northern tip of the Wyre Peninsula, North West England. The peninsula is bounded by the Wyre Estuary to the east, Morecambe Bay to the north and the Irish Sea coastal frontage to the west. The predominantly culverted Copse Brook watercourse flows north beneath the town, discharging to the Wyre Estuary via a flapped gravity tidal outfall at Jubilee Quay.

The study area shown on Figure 1 is based on the current understanding of the tidal estuarine and fluvial flood risk issues.

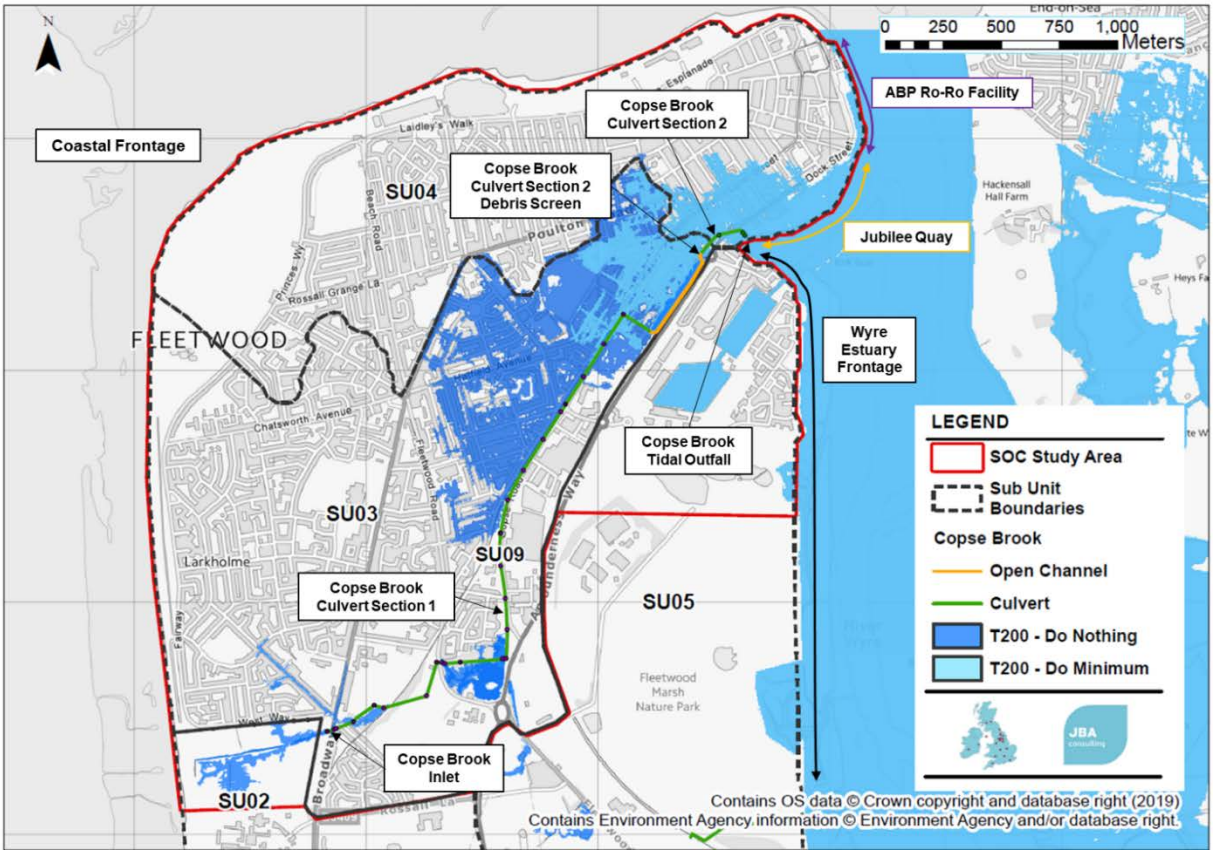

Figure 1: Fleetwood Study Area

1.4 Objectives

The primary objectives of this contract are:

- To undertake the detailed appraisal stage of the Fleetwood & Copse Brook FRMS;
- To fully appraise short list options, aligning with local aspirations for regeneration;
- To undertake an assessment of damages, costs and benefits for the short listed options and confirm the detail of the preferred option;
- To provide input to the OBC (lead on strategic, economic and financial cases) and appendices;
- To identify and develop environmental enhancements within the confines of the preferred option; and
- To produce an outline design for the preferred option in sufficient detail to inform the scoping, cost setting for the detailed design stage and future capital cost estimates.

1.5 Opportunities

The *Consultant* is to assist the *Client* in identifying potential opportunities to:

- Maximise the number of OM2s that can be delivered by the project.
- [redacted].
- Reduce the carbon footprint of the preferred option towards the *Client's* aspirational target to be net carbon zero.
- Support the regeneration of Fleetwood and work with external partners to meet their aspirations and add value, where possible.
- Improve public access and amenity value within the parameter and extent of the preferred option.

2 Managing the *services*

2.1 Key Activities

The *Consultant* is required to undertake activities to progress the project through the management stages Gateway 1 (SOC) and Gateway 2 (OBC), including:

- General project management;
- Data collection;
- Problem definition;
- Preferred option selection & outline design; and
- OBC production (leading on the strategic, economic and financial cases and producing appendices).

2.2 Deliverables

The deliverables that the *Consultant* is required to provide during each of the management stages are detailed in Section 3.

Topographical and structural surveys, as well as ground investigation may be undertaken by external partners as contributions in kind.

2.3 Previous Studies

The following studies (see Table 1), provided by the *Client*, may support the delivery of this contract. If the *Consultant* finds that any of the existing documentation or supporting information provided is not correct, contains anomalies, its accuracy is not adequate for the intended purpose, or the *Consultant* disagrees with assumptions made in deriving said information, then the *Consultant* shall inform the *Client* and seek instruction on how to proceed.

Table 1: Previous Studies

Report	Date	Format	Outcomes of study
Fleetwood & Copse Brook Flood Risk Management Scheme – Strategic Outline Business Case. Version 5.0	July 2020	pdf and other formats	Business case justification for further appraisal of flood risk management scheme.
[redacted]	Feb 2013 Version 3.0	pdf	Flood Risk Management Strategy. Identifies assigned benefits and preferred options for sub areas within Strategy study area.
[redacted]	Mar 2013 Version 1.0	pdf	[redacted] Report used to gain funding for coastal defence works NOTE: Only main report and Appendix G (Economic Analysis) provided.
[redacted]	Mar 2013 Version 3	PDF	[redacted] Report used to gain funding for coastal defence works NOTE: Only main report provided.

Report	Date	Format	Outcomes of study
[redacted]	Feb 2019	pdf with hyperlinks	Sets out vision for growth and development of borough until 2031.
[redacted]	Aug 2004	pdf	Strategy to establish a long term sustainable plan for the land drainage of the whole Borough.
Environment Agency Copse Brook CCTV inspection	16/01/17	Pdf and CCTV	CCTV condition Inspection for Copse Brook.
Copse Brook Outfall Condition Inspection	06/06/17	pdf and dwg	Copse Brook outfall inspection and remedial works options.
Lancashire Tidal Areas Benefitting from Defences	January 2015	pdf	Flood inundation modelling and mapping outputs of defended, undefended, breach and scenarios with infrastructure removed.

2.4 Additional Data Provided by the *Client*

The *Consultant* is to refer to and use the following data (which will be provided by the *Client*) throughout the delivery of this contract.

Table 2: Additional Data

Data	Date	Format
Hydraulic model and EA sign off records	2019	
Topographic survey from ABP	2019	pdf / dwg
High level whole life programme	2020	pdf / mmp
Outline plans for an embankment	2020	pdf
Ro Ro Phase 1 Desk Study – Wardell Armstrong. From ABP	2019	pdf
Service plans from ABP		
Phase II Geo-Environmental Site Assessment of ABP Fleetwood Port, RO-RO Site – TRC. From ABP	June 2020	pdf
IDP		

3 Tasks Required

3.1 Project Management

3.1.1 Project Management - General

As part of the general project management duties the *Consultant* shall, as a minimum, undertake the following activities:

1. General project management and monthly progress reporting (including progress update report, record of deliverables issued, updated programme, financial updates & forecasts and risk management updates meeting the *Client's* project reporting timetable).
2. Attend a start-up workshop within two weeks of contract award with all internal *Client* project stakeholders.
3. Attend monthly progress meetings and produce meeting minutes for issue by the *Client*.
4. Provide project updates to the *Clie*nt via phone on at least a weekly basis.
5. Maintain and update a Project Issues Log which will be reviewed at monthly progress meetings and determine the appropriate actions necessary to resolve the identified issues.
6. Capture lessons learnt relevant to project delivery on the lessons learnt log; this is to be reviewed at progress meetings.
7. Co-operate with the *Client* in the role of the BIM information manager; including production of BIM execution plan and updated Master Information Delivery Plan (MIDP) using the BIM implementation plan and MIDP structures provided by the *Client*.
8. Provide input to the Project Efficiency Register at monthly progress meetings.
9. Deliver a copy of all models, including input/output data and results files such as 2D depth/level/velocity grids, survey data etc. undertaken and collected for the appraisal, and supporting detailed technical reports.
10. The *Consultant* is to make full use of the *Client's* web based project collaboration tools (Asite/Adoddle/FastDraft) for the handover of project deliverables. All project and contract communications and records are to be distributed and stored using project collaboration tools.
11. Provide quarterly input into framework performance assessment and implementation of associated actions arising.
12. Provide input to carbon and sustainability reporting at key project milestones.
13. General quality assurance of the deliverables and services provided under this contract.
14. Attend formal risk workshop to agree risk mitigation measures and budgets for input to the OBC.
15. Attend project board and programme board meetings, as required, in the capacity of the *Consultant.*

3.2 Modelling

3.2.1 Modelling - General

The Fleetwood model was produced by JBA in 2018 / 2019 and signed off by the *Client's* Evidence and Risk team. The tidal flood levels generated by this model should be used to inform the FRM options design for the coastal works, taking into consideration current climate change guidance.

The *Consultant* shall review the modelling work completed by JBA and produce a file note to document this review. Based on this review, the *Consultant* shall provide recommendations for any updates to the hydrology and / or hydraulic modelling. If there are no recommendations for changes then the *Consultant* shall utilise the existing modelling for the appraisal of short listed tidal and fluvial flood risk management options in the study area. This review process should however not delay proceeding with any other aspects of the Scope to OBC.

The *Consultant* shall work in close liaison with the *Client's* Evidence & Risk team throughout the planning, development and sign off of all hydrology and modelling.

The *Consultant* shall take account of existing modelling results and where appropriate shall undertake further fluvial and tidal runs to inform the short list options appraisal (including DN, DM and likely most sustainable scenarios, if required) and outline design. The modelling shall consider at least 8 return periods over the 100 year appraisal period accounting for climate change as per the current guidance. Suggested return periods are 1:2, 1:5, 1:20, 1:50, 1:75, 1:100, 1:200 and 1:1,000.

Modelling shall be appropriate to enable depths of flooding of property to be determined for the purposes of economic analysis in accordance with the multi-coloured manual methodologies.

The *Consultant* shall undertake modelling sensitivity analysis to inform flood risk assessments, option designs and to ultimately inform the sensitivity analysis of economic benefits and costs of options.

The *Consultant* shall provide written commentary on the AEP of onset of flooding and SoP (including allowance for residual uncertainty).

Flood defence levels will be defined based on modelled water levels plus an allowance for residual uncertainty. The *Consultant* shall undertake an assessment based on Environment Agency guidance applicable at the contract date. The assessment shall be submitted to the *Client* for acceptance, together with proposed flood defence levels.. The *Consultant* shall convene a meeting with the *Client* during this task to obtain agreement regarding residual uncertainty. As a result, the *Consultant* should not await feedback from the *Client* on the reporting before proceeding with subsequent linked activities.

The *Consultant'*s deliverables shall provide the *Client* a single means of accessing information to understand all relevant hydrology, tidal and fluvial modelling work completed within the study area. Should existing modelling and outputs from the SOC be sufficient then these can be presented (i.e. duplication of work is not to be undertaken).

The *Consultant* shall provide an interpretative Hydrology & Modelling Report that will document all the work undertaken in meeting the Scope, including results and analysis.

As a minimum the report shall:

- Provide a clear technical description of the method used for hydraulic modelling, including agreed changes to the original model.
- Give a high level description of the derivation of the run parameters (e.g. roughness, hydraulic coefficients, etc.) used within both the hydrological assessment and the hydraulic model.
- Exception reporting (describe what non-standard things have been done to build, run or post-process the model). Describe any other criteria used to improve the final results.

- Describe what, where and when the model is sensitive to as highlighted by the sensitivity analysis to give an idea of the robustness of the model.
- Provide a list of the final design runs, together with where the result files can be found. Ensure that this list acknowledges where specific model runs have been combined to achieve the final products (e.g. combined outputs of fluvial and tidal models).
- Provide a summary (tabular or screen capture of relevant simulation window) to show the run time, convergence, stability and mass balance. Include a statement about why these are acceptable. State the minimum and maximum computational time-steps under which the model runs stably and with acceptable convergence for all the key simulations required for the study.

Following completion of the study, a copy of the model and results shall be provided to the *Client* on a portable hard drive. All electronic data should be in an agreed format in line with the Information Delivery Plan and be supplied as native and pdf file formats.

3.2.2 Modelling - Deliverables

The *Consultant* shall provide:

- Hydrology and hydraulic model review;
- Baseline (Do Nothing & Do Minimum) scenario assumptions;
- Baseline (Do Nothing & Do Minimum) flood mapping;
- Surface water problem review;
- Do Something options flood mapping;
- Hydrology & Modelling Report; and
- Updated hydraulic model.

3.3 Economic Appraisal

3.3.1 Economics Appraisal General

The *Consultant* shall produce an economic appraisal in accordance with the FCERM – Appraisal Guidance, supplementary guidance and the HM Treasury 'Green Book'. The *Consultant* shall assess the value of all the key benefits, both economic and environmental, and whole life costs in order to complete a cost-benefit analysis to determine the preferred option.

The *Consultant* shall develop the economic assessment undertaken at SOC stage. The *Consultant's* economic appraisal shall be in line with the constraints associated with the previous allocation of benefits within the WUCS. The SOC describes the approach that has been adopted in order to identify and allocate benefits in support of the current business case.

The *Consultant* shall derive costs for options for the whole life expenditure including, design, investigation, construction, operation and maintenance and with sufficient breakdown to be interrogated in detail. The *Consultant* shall include risk in the assessments.

The *Consultant* will lead the programme for, and compile, cost estimates with assistance from the *Client's* ESE contractor and the *Client's* Cost and Carbon Estimator (CCE), to undertake the options cost estimating. The Project Cost Tool (PCT) shall be used and will be the default method for cost estimation.

The *Consultant* shall work with the *Client's* CCE to use the PCT for establishing default option costs. The *Consultant* shall develop option designs in a format that can be used to extract data from PCT. During this activity carbon footprints for all options shall also be calculated using the carbon modelling / calculator and shall feed in to the options appraisal and selection process.

The *Consultant* shall calculate a risk allowance using a Monte Carlo analysis with input to a risk register provided by the project team. The *Consultant* shall allow for attendance at a risk workshop facilitated by others.

The *Consultant* shall undertake calculation of the Partnership Funding (PF) score for all options throughout the project (assuming a SoP of 1 in 200 years for all options), especially if new information is obtained. If there are fundamental changes to the modelling / flood outlines / options then other SoP may be required.

The economic appraisal shall include an economic optimisation of benefit duration with climate change in light of the PF calculator requirements. The economic appraisal shall include an economic and environmental assessment of managed adaptive implementation compared to precautionary implementation. This will identify the optimal benefit duration for the preferred option and the PF calculator.

The *Consultant* shall provide the results in a fully detailed Economics Technical Report that will be included as an appendix to the OBC. This will provide a clear view of the method, results and interpretation of the economic analysis undertaken. Should existing outputs from the SOC be sufficient then these can be presented (i.e. duplication of work is not to be undertaken). As a minimum this will include, but not be limited to:

- Overview of methodology adopted.
- Parameters quantified and standards used (including the Multi-Coloured Manual).
- Assessment of existing assets, breach / failure modes and rates of deterioration.
- Definition of Do Nothing and Do Minimum.
- Definition of Do Something options, including the likely most sustainable option.
- A breakdown of all damages, including both direct and indirect, and a summary of capped damage values.
- Identification of key receptors / major beneficiaries, with a breakdown of flood damage values.
- Assumptions made.
- How the decision rule and process has been applied.
- What sensitivity tests have been applied and why, along with results and analysis.
- Treatment of climate change.
- FCERM-AG and PF calculator spreadsheets.
- Presentation of costs and damages using economic spreadsheets provided via the FCERM appraisal pages on the .gov website.

The *Consultant* shall undertake sensitivity testing for the appraisal of options as part of the economic analysis.

Sensitivity tests shall quantify the effects of any changes to key parameters or assumptions that affect appraisal options costs and/or benefits. The purpose of sensitivity is to demonstrate the tipping points when option choices and decisions being made and recommended by the OBC would change and to test the robustness of any key assumptions made. Further guidance can be found in the FCERM-AG.

Tipping points when option choices change (e.g. defence types and alignments) will be identified for explanation in the OBC and the detailed technical reports. These can be linked to major risk items or design assumptions. The aim being to identify how prone or un-prone to change the selected preferred option is and give confidence that continuation of the project beyond OBC is sound and unlikely to change.

3.3.2 Economic Deliverables

The *Consultant* shall provide:

- Baseline (Do Nothing & Do Minimum) damage assessment;
- Do Something options damage assessment;
- Costing & risk allowance; and
- Economics Appraisal Report.

3.4 Environmental Assessment

3.4.1 Environmental Assessment General

The *Consultant* shall carry out all work in accordance with the Minimum Technical Requirements 801_14 Environmental sustainability, design and management and associated guidance documents - 801_14 SD01 Cultural heritage and archaeology and 801_14 SD02 Landscape and environmental design.

The *Consultant* shall undertake an in-depth desktop assessment, reviewing all previous environmental information made available, including the environmental information in the SOC. The *Consultant* shall liaise with Local Government and appropriate regional specialists (where available) to identify information and data gaps. The *Consultant* shall collate this data and their recommendations in an Environmental Desktop Study and Recommendations File Note. Any additional work will be discussed and agreed with the *Client* and then instructed separately. The *Consultant* should not delay any subsequent tasks while awaiting *Client* feedback and approval of the Desk Study.

The *Consultant* shall organise and attend a site visit with the *Client* to further understand the project's environmental constraints and opportunities. Attendance from an environmental coordinator is required as a minimum in order to develop a shared understanding of and vision for the site, its environmental constraints and opportunities. The *Consultant* shall provide a note recording the findings and summary of the site visit.

The *Consultant* shall identify any risks / opportunities not previously identified in the project documentation and propose means of resolving / advancing these. This should be sufficient to quantify the environmental damages and benefits in the baseline scenarios and inform the mitigation measures. The *Consultant* shall identify the need for further surveys or assessment.

The *Consultant* shall consider and comment on the following potential issues:

- Habitats and protected species (including coastal squeeze)
- Invasive and non-native species
- Water Framework Directive (WFD)
- Cultural heritage
- Landscape and visual amenity
- Noise, vibration and air quality
- Contaminated land
- Amenity
- Social and community impacts

- Environmental assessment requirements
- Consents
- Stakeholders

The *Consultant* shall identify opportunities for wider environmental enhancements, considering local benefits and stakeholder requirements, and support the *Client* in identifying funding opportunities to aid deliverability of the enhancements. The *Consultant* will undertake a mapping exercise to produce a plan to indicate the locations of potential enhancements. The task should be done in the early stage of the OBC. The *Consultant* will use the data collected to produce a habitat creation / restoration plan.

The *Consultant* shall provide environmental resource to support communication with environmental stakeholders.

The WFD compliance assessment should also include an assessment of opportunities to deliver WFD improvements, through options selection and integrated design elements.

The *Consultant* shall liaise with the *Client's* archaeologist to ensure that the heritage and archaeological risks are identified and addressed in any ground investigation work that is to be undertaken.

The *Consultant* shall identify the need for environmental consents such as Marine Licence, Habitat Regulations Assessment and protected species licences, and advise on the need to progress any investigations during OBC.

The *Consultant* shall produce a screening letter to enable a screening opinion to be obtained from the Local Planning Authority (LPA) under the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (where appropriate).

The *Consultant* shall prepare an Indicative Landscape Plan (ILP) and landscape vision that sets out the preferred proposal. The ILP shall be prepared by a chartered landscape architect. This needs to show an understanding of key environmental (landscape, heritage and ecology) risks, how they will be managed and the estimated costs to achieve this. Accompanying the ILP will be the production of an outline landscape cost estimate breakdown to support the business case.

3.4.2 Environmental Deliverables

The *Consultant* shall provide:

- Environmental Desktop Study and Recommendations File Note;
- Preliminary Environmental Information Report (PEIR) light version;
- Extended Phase 1 Habitat Survey;
- Environmental Site Appraisal Plan (ESAP);
- Preliminary Ecological Appraisal (PEA);
- Habitats Regulation Assessment – Stage 1;
- WFD baseline assessment;
- Cultural heritage desk based assessment;
- Site visit record;
- Screening letter for EIA;

- Habitat creation / restoration plan; and
- Indicative Landscape Plan (ILP) and landscape vision.

3.5 Topographic Survey

3.5.1 Topographic Survey General

The *Consultant* shall assess and carry out a desk study review of the existing LiDAR and topographical data.

Based on this review, the *Consultant* shall provide recommendations for any additional topographical survey works necessary to inform the detailed appraisal and outline design development.

3.5.2 Topographic Survey Deliverables

The *Consultant* shall provide:

- Topographic survey desk study; and
- Recommendations for any additional Topographical Survey works.

3.6 Ground Investigation Survey and Services Search

3.6.1 Ground Investigation General

The *Consultant* shall undertake a statutory undertakers' service search in order to inform the project development. The *Client* will also provide copies of service plans, as supplied by ABP, to assist the *Consultant*.

The *Consultant* shall collate all the existing available ground investigation information and undertake a desk study to identify works that will be required during the appraisal stage to inform the appraisal and outline design development. A copy of the completed desk study is to be provided to the *Consultant's* heritage specialist to inform the cultural and heritage desk based assessment and for discussions with the *Client's* archaeologist to ensure any archaeological and heritage risks are considered in further development of Ground Investigation (GI) activities.

The *Consultant* shall provide a specification, including an indicative testing schedule, for the GI required to inform the detailed design. As part of this, the *Consultant* shall determine the extent of the required non-intrusive buried services survey and produce a specification for the survey in accordance with the EA Guidance (as per EA Buried Services Specification 300_10_SD10). The *Consultant* shall consult with the Principal Designer in defining the type and purpose of survey; establishing the extents of the survey and understanding existing available information. A ground-penetrating radar survey will be required in all areas where ground is to be broken.

The *Consultant* shall produce an Environmental Action Plan (EAP) for the service search and GI works.

3.6.2 Ground Investigation Deliverables

The *Consultant* shall produce:

- Service Search Desk Study Report;
- Geotechnical and Geoenvironmental Desk Study Report;

- Scope for the ground investigation;
- Environmental Action Plan for the GI; and
- Ground model to inform the OBC.

3.7 Structural Assessments

3.7.1 Structural Assessments General

The *Consultant* shall determine the requirement for structural assessments to identify the condition of assets, vulnerable structures and assess the potential impacts to the project. This will include the assessment of existing assets upon which there would be a reliance for the implementation of options, such as the outfall, quayside and revetments. This assessment of the existing assets is to be based on the information within the SOC. Following this, the *Consultant* shall provide a scope for the structural assessments / condition surveys required to inform the OBC.

The *Consultant* shall review the findings of the structural condition survey, assessing the current condition of structures and how the proposed options and methodology may affect them.

3.7.2 Structural Assessments Deliverables

The *Consultant* shall provide:

- Structural Survey Scope; and
- Structural Survey Review.

3.8 Option Appraisal Development & Outline Design

3.8.1 Option Appraisal Development & Outline Design General

The *Consultant* shall review and understand the options presented in the SOC, plus variations for front line linear coastal defences (e.g. embankments, different configurations of flood walls). Currently a front line linear defence is the preferred option to address tidal flood risk. It is this front line option that the *Consultant* shall develop. The retired line option presented in the SOC is rejected, but shall be assessed for cost comparison purposes only. The *Client* will provide details confirming the “design vision” for the preferred option arrangement (alignment and, possibly, desired form of defence) prior to the preferred option being developed. The *Consultant* should explore design options within the context of the design vision provided. The *Consultant* shall assume that the variations on the front line option do not include works to the existing quayside. Any works are to be explored and paid for by others and not form part of the FRM scheme. The *Consultant* should allow for presenting options at a design workshop for consideration by the *Client* and other external partners. The *Consultant* should allow for presenting the final option design at a further workshop with similar attendees.

Options must address the sources of flooding. For surface water flood risk the *Consultant* shall identify where additional flood risk management action would be required as a result of the provision of fluvial and tidal defences.

The option appraisal will include a review of the previous work and consideration of approaches to confirm the appropriateness of the proposed options, but this review should not prevent progress being made developing the preferred option.

The *Consultant* shall use the *Client's* carbon planning tool to identify carbon differentials between the various options being considered and to inform the selection of the preferred

option, although it is acknowledged that other factors are likely to drive the selection of the preferred option. The *Consultant* shall use the latest version of the OBC guidance and template, which requires the identification and appraisal of the most sustainable option as baseline in addition to Do Nothing and Do Minimum. In establishing the options for appraisal the *Consultant* shall actively seek to reduce environmental impacts and carbon footprints.

Once a final preferred option has been confirmed, the *Consultant* will develop the Preferred Option Outline Design Report. The *Consultant* shall ensure that the preferred option outline design includes design calculations, design drawings and environmental action plan. The *Consultant* shall ensure that the outline design is sufficient to inform the detailed design stage.

The *Consultant* shall produce an Optioneering Report and provide input to the optioneering section of the OBC and relevant appendices. The *Consultant* shall check that the Optioneering Report addresses the technical, environmental and economic viability of the preferred option as well as addressing the *Client's* sustainability targets.

The *Consultant* shall provide a WFD compliance assessment following the identification of the preferred option.

The *Consultant* shall produce a Preferred Option Buildability Statement with input from the EA's ESE contractor. The *Consultant* shall ensure that the buildability statement includes an assessment of how the works could be safely and effectively constructed, consideration of construction access, working area, traffic movements, material handling and identify any residual hazards.

3.8.2 Option Appraisal Development & Outline Design Deliverables

The *Consultant* shall provide:

- Preferred option selection criteria (appraisal objectives);
- Carbon modelling tool assessment (short listed options);
- Optioneering Report;
- WFD compliance assessment;
- Preferred Option Buildability Statement; and
- Preferred Option Outline Design Report (including design calculations, design drawings and environmental action plan).

3.9 Consultation

3.9.1 Consultation General

The *Consultant* shall work collaboratively with the *Client* to develop and maintain a Stakeholder Engagement Plan (prepared and led by the *Client*) in accordance with EA "Working with Others Approach".

The *Consultant* shall integrate the Stakeholder Engagement Plan timescales and activities within the project / contract programme.

The *Consultant* shall prepare information for input into a public consultation event, such as site plans and typical outline design drawings for public display.

3.9.2 Consultation Deliverables

The *Consultant* shall provide:

- Display material for appraisal stage consultation event.

3.10 Health and Safety

3.10.1 Health and Safety General

The *Consultant* shall assume that this project is notifiable under the CDM 2015 Regulations.

The *Consultant* is required to undertake the role of Principal Designer for the project and will be responsible for complying with the duties of that role in accordance with the CDM Regulations 2015.

In addition, the *Consultant* shall provide CDM support and guidance to the *Client* and assist the *Client* in complying with their CDM *Client* duties under the CDM Regulations 2015. Support that the *Consultant* shall provide includes:

- Submitting the F10;
- Assist with the *Client's* assessment of suppliers' competences;
- Compiling Pre-Construction Information (PCI);
- Confirming the acceptability of Construction Phase Plans (CPP);
- Managing the *Client's* CDM Stop/Go check list.

The *Consultant* shall undertake the role of Designer under the CDM 2015 Regulations.

At least 7 days in advance of any site visit the *Consultant* must contact the *Client* to assess and understand the existence of any potential hostile sites within the study area.

The *Consultant* shall produce a Draft Public Safety Risk Assessment for the preferred option. The assessment must be undertaken by a suitably trained person as stipulated in the EA SHEW document.

The *Consultant* shall produce a Designer's Risk Assessment (DRA) for the preferred option as well as a draft RAG list. The *Consultant* shall take into consideration the comments and views of the Principal Designer when developing the DRA and RAG list.

3.10.2 Health and Safety Deliverables

The *Consultant* shall produce:

- Draft Public Safety Risk Assessment; and
- Designers Risk Assessment and RAG list.

3.11 Outline Business Case Submission

3.11.1 Outline Business Case Submission General

The *Consultant* shall compile and produce the technical information and appendices required to support the business case at OBC stage of the project in accordance with the latest EA

template and guidance. Produced in collaboration with the *Client, the Consultant* will lead on strategic, financial and economic cases, and relevant appendices, with the *Client* leading on the commercial and management cases.

The *Consultant* shall work with the Client and provide an outline programme to develop the preferred option from OBC to FBC taking into consideration key funding and environmental constraints and opportunities. The *Consultant* shall take into account the time frame to obtain all necessary approvals, along with any mitigation required and any enabling works in advance of construction.

The *Consultant* shall produce a PF calculator for the preferred option following the completion of the outline design.

3.11.2 Outline Business Case Submission Deliverables

The *Consultant* shall provide:

- OBC stage PF calculator;
- OBC input, appendices and technical information; and
- Input into the outline programme for the next stage of the project (OBC to FBC).

3.12 Sustainability Targets

3.12.1 Sustainability Targets

In developing the outline design the *Consultant* shall benchmark it against the *Client's* sustainability targets, which include:

- 40% reduction in construction embedded carbon between baseline set at Gateway 1 and actual achieved at Gateway 4.
- recover, reuse or recycle more than 95% of construction waste.
- 100% of timber purchased to be legal and sustainable.
- at least 85% of construction aggregate to be from a recycled source.

The *Consultant* shall arrange and organise a sustainability workshop to challenge the options / preferred option on sustainability grounds.

The *Consultant* shall provide a Carbon Optimisation Report for the outline design using the *Client's* standard template. The Carbon Optimisation Report should record the measures taken during the development of the outline design to minimise the carbon footprint and demonstrate how the 40% carbon reduction between Gateway 1 and Gateway 4 will be achieved. The *Consultant* shall produce a carbon calculator for the preferred option using the latest information relevant to the outline design to support the Carbon Optimisation Report. The Carbon Optimisation Report and carbon calculator will be required for inclusion in the OBC.

The *Consultant* shall check that the preferred option complies with the adopted Wyre Local Plan 2011 - 2031 (adopted on 28 February 2019) and Wyre Borough Council's planning requirements for biodiversity. The *Consultant* shall also endeavour to provide 20% biodiversity net gain in line with the EA's aspirational target.

The *Consultant* shall explore how the public access and amenity value within the study area can be improved within the confines of the final proposal.

The *Consultant* shall complete the CEEQUAL assessment in line with the provided CEEQUAL scoping note based on the CEEQUAL V6 technical manual requirements.

The *Consultant* shall scope the individual questions within the assessment issues identified for agreement with the *Client*, and provide a qualified CEEQUAL assessor.

The *Consultant* shall set up and undertake the assessment and evidence-gathering throughout the duration of the contract, using the CEEQUAL online tool via BREEAM projects.

The *Consultant* shall support the *Client* with scope submission to BRE as well as provide supporting information to the *Client* when handling verifier consultation.

The sustainability (CEEQUAL) lead shall be an integrated member of the project team and will provide an update against CEEQUAL targets. The *Consultant's* Project Manager, in collaboration with the CEEQUAL lead, shall champion sustainability across the project team.

The *Consultant* shall provide all evidence to the *Client* upon request, to enable programme-level external verification.

3.12.2 Sustainability Targets – Deliverables

The *Consultant* shall provide:

- Carbon Optimisation Report and carbon calculator;
- CEEQUAL assessment including submitting project and assessment details on the CEEQUAL portal; and
- Sustainability workshop summary note.

4 Specifications of standards to be used

4.1 Health and Safety

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

The *Consultant* is to develop the outline design in accordance with the requirements of the Environment Agency's Safety, Health, Environment and Wellbeing Code of Practice.

4.2 *Client* Standard Documents

The *Consultant* shall provide the *services* using the *Client's* current guidance this includes but is not limited to the following.

Table 3: *Client* Standard Documents

	OI No	Report Name	Where used
1	-	Guidance for practitioners on Initial Assessment	Initial Assessment
2	379_05	Computational modelling to assess flood and coastal risk	Modelling
3	84_09	How to write a strategy	OBC report
4	85_09	How to produce a simple/supported change business case	OBC report
5		OBC template	OBC report
6		Project Cost Tool	Costs
7		FCERM-AG	Business case
8		Multi Coloured Manual	Business case
9	183_05	Data management for Flood Risk Management projects and good data management considerations	Mapping and modelling
10		Appraisal Guidance Manual	
11		Sustainability Measures Form	
12		EA Building Trust with Communities	
13		Carbon Planning Tool Guidance notes available on Asite	Carbon Optimisation
14	300_10_SD10	Buried Service Survey Specification	Optioneering
15	300_10	SHEW Handbook	Project development
16	801_14 SD02	Landscape and environmental design	Landscape and Environmental design
17		Project Efficiency Register	Throughout Appraisal
18	S01_14_ SD01	Cultural Heritage and Archaeology	Cultural Heritage and Archaeology- assessment/ design

5 Constraints on how the *Consultant* Provides the *Services*

5.1 Constraints

The *Consultant* shall ensure that their Project Manager and relevant project team members are available to attend all monthly progress meetings and optioneering / risk / outline design development workshops. Meetings may be held virtually or in the Preston / Fleetwood areas.

The *Consultant* will work in collaboration with the EA's ESE contractor in order to develop cost estimates, understand buildability issues and construction timescales.

The *Consultant* shall assume that the programme for the coastal element of the project will drive the critical path and contract completion date. The programme for the appraisal and development of options to reduce flood risk on Copse Brook should be developed so that it fits within the same timescales as the coastal element. Should this not be possible, then the *Client* will instruct a programme extension or change to Scope.

6 Requirements of the Programme

6.1 Programme

The *Consultant* provides the programme in accordance with the Contract Data and the requirements of Clause 31 of the *conditions of contract* in Microsoft Project format (Version 2013).

The *Consultant's* programme should be compatible with the *Client's* whole life programme for the overall project.

The *Consultant* shall include within the overall project programme:

- the programme activities for the submission of the BEP and MIDP;
- appropriate time allowances for the internal quality assurances and review of all deliverables prior to issue to the *Client*;
- a two week period for the *Client* to review each of the deliverables prior to their finalisation. It is recognised that not all deliverables will require finalisation before subsequent tasks can commence. The *Client* shall advise accordingly; and
- appropriate time periods to undertake consultation with statutory consultees and other key stakeholders. Key consultees will include but are not limited to: ABP, Wyre Borough Council and utility companies.

7 Services and other things provided by the *Client*

7.1 Data and Information Management and Intellectual Property Rights

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

7.2 Data Custodianship

The data custodian for project deliverables from this contract will be the Partnership and Strategic Overview team (P&SO).

7.3 Licensing Information

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

7.4 Data Management and Metadata

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

7.5 Data Security

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

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

Further details regarding security measures will be discussed at the start-up meeting for this contract.

7.6 *Client's* Advisors

The *Client* has a number of advisory departments. Instructions will only be deemed enacted from them when they are confirmed by an instruction under this contract from the *Client.* These departments include Area, NEAS, etc.

7.7 Quality

The *Consultant's* quality plan and quality management system shall comply with the requirements of ISO9001 and ISO14001.

7.8 BIM Protocol – Production and Delivery Table

All *Client* issued information referenced within the IDP requires verifying by the *Consultant* unless stated otherwise in the Scope (refer to schedule 19 of the framework agreement).