Framework:	**Collaborative Delivery Framework**
Supplier:	**Ove Arup & Partners Ltd**
Company Number:	[redacted]
Geographical Area:	**Midlands**
Project Name:	**Structures Bundle CDF**
Project Number:	[redacted]
Contract Type:	**Professional Service Contract**
Option:	**Option C**
Contract Number:	[redacted]
[redacted]	**OBC_to_FBC**

[redacted]	[redacted]s		Originator		Reviewer		[redacted]

PROFESSIONAL SERVICE CONTRACT under the Collaborative Delivery Framework
CONTRACT DATA

Project Name Structures Bundle CDF

Project Number [redacted]

This contract is made on 07 April 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
NEC4 PSC Contract for Structure CDF final v2, dated 11th March 2022

Part One - Data provided by the *Client*

Statements given in all Contracts

1 General

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

Main Option: Option C

Option for resolving and avoiding disputes: W2

Secondary Options

X2: Changes in the law

X7: Delay damages

X9: Transfer of rights

X10: Information modelling

X11: Termination by the *Client*

X18: Limitation of liability

X20: Key Performance Indicators

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

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

Z: *Additional conditions of contract*

The *service* is Structural investigations and design for multiple sites in L[redacted]

The *Client* is Environment Agency

Address for communications [redacted]

Address for electronic communications [redacted]

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

Address for electronic communications [redacted]

The Scope is in
NEC4 PSC Contract for Structure CDF final v2, dated 11th March 2022

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 [redacted]

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

access	*access date*
SharePoint	[redacted]

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

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 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 [redacted]

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

The *interest rate* is [redacted] 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

The *Consultant's share percentages* and the *share ranges* are:

	Consultant's share percentage
less than	*0* %
from	*as set out in Schedule 17*
greater than	*as set out in Schedule 17*

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

Resolving and avoiding disputes

The *tribunal* is litigation in the courts

The *Adjudicator* is	'to be confirmed'
Address for communications	'to be confirmed'
Address for electronic communications	'to be confirmed'
The *Adjudicator nominating body* is	The Institution of Civil Engineers

Z Clauses

Z1 Disputes
Delete existing clause W2.1

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

Z3 Disallowed Costs

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

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 112% of the total of the Prices, the amount in excess of 112% 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] per day

OPTION X10: Information modelling

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

OPTION X18: Limitation of liability

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

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

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

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

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

A report of performance against each Key Performance Indicator is provided at intervals of 3 months

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

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

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

term *beneficiary*

Part Two - Data provided by the *Consultant*

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

1 General

The *Consultant* is

Name

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

[redacted]

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] [redacted] [redacted] [redacted]

Signature Date Role

[redacted]

Consultant **execution**

Signed Underhand by **[PRINT NAME]** for and on behalf of Ove Arup & Partners Ltd

[redacted]

[redacted] [redacted] [redacted]

Signature Date Role

[redacted]

Environment Agency
NEC4 professional services contract (PSC)
Scope

Project / contract information

Project name	LNA Non-Recovery Structure CDF
Project SOP reference	[redacted]
Contract reference	[redacted]
Date	[redacted]
Version number	02
Author	[redacted]

Revision history

Revision date	Summary of changes	Version number
Feb 2022	Clarifications	2

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, this Scope shall prevail. The *services* are to be compliant with the version of the Minimum Technical Requirements.

Document	Document Title	Version No	Issue date
412_13_SD01	Minimum Technical Requirements	V9	12/2019

1 Overview

As part of an asset maintenance regime across the Lincolnshire & Northamptonshire Area (LNA), there is a requirement on the *Client* to carry out regular maintenance and improvements to all assets which comprise a component of a *Client* flood defence system. This is to maximise asset utilisation and potential enhancement to avoid any failing assets.

1.1 Objectives of the *services:*

The objective is to implement a viable solution to improve the assets which are failing to function at a required standard. The design services required under this Scope will ensure that all aspects of the assets are understood and evaluated with an appropriate solution produced to create a functional, productive and sustainable asset. The *Consultant* shall produce a design for each site, which is appraised and accepted by the *Client*.

Sites included for this Structure design *services* contract for 2021/22 are:

LNA Catchment	
1.	M/127 West Drain Bridge
2.	M/024 Hibalstow Bridge Refurbishment
3.	SP22-10C Humberston Flood wall
4.	SP3-01C Kenwick Road Culvert
5.	SP11-11C Wisbech Defences
6.	SP11-23C South Barrier Bank Rings End
7.	SP15-05C Mkt Deeping Mill overspill weir
8.*	SP11-14C Raised earth Embankment*
	etc
*	These projects may be included at a later date through a compensation event

The *Client* has currently included 7 assets in the Scope of works for 2021/22, and 2 un-scoped assets, which may be scoped and included at a later date through a compensation event. The *Client* may also, at its sole discretion, add a similar amount of assets through a compensation event, for maintenance and improvement works in the same or next financial year 2022/23.

1.2 Outcome Specification

The *Consultant* shall deliver a detailed design of the sites mentioned above. The detailed design will enable the works to be priced and constructed (under the NEC ECC).

Working with the *Client* and Early Supplier Engagement (ESE) contractor, the *Consultant* shall be responsible for:

- Ensuring the design is acceptable to the *Client* (approval of gateway 2), statutory and key stakeholders.
- Gaining planning approval if required and other associated approvals to enable works to commence.

The design will ensure that the cost and quality of the construction work represents value for money and is affordable by the *Client* and within the agreed budget.

1.3 Details of the Scope

Details of the scopes for each site are as follows;

1. M/127 West Drain Bridge

Background:

Principle bridge inspection was undertaken in 2018, which made the recommendations to undertake further investigation to determine the full capacity of the bridge, in order to assess the work needed to increase the bearing capacity to carry *Client* machinery.

Based on a Level 2 assessment, the bridge can currently carry 3 tonnes Live Loading with a 5mph speed restriction. However, it is unsafe to carry any of the *Client* tracked vehicles. The load capacity is dictated by the profile of the arch which is relatively flat in the central part of the arch. It is sensitive to small variations in the geometry, the thickness of the abutment and the presence, if any, of backing material.

Scope:

The *Consultant* shall:

1.1 Receive and consider source information supplied by the *Client* to confirm constraints including utilities, and previous Inspection & Assessment Reports.

1.2 Undertake a review and desk study to inform assessment and requirement for further investigation.

1.3 Undertake full ecology surveys where required to enable completion of the works.

1.4 Undertake a precise survey of the arch geometry by a remote scanning technique, to determine the profile of the arch to enable comparison with previous intrusive Inspections [redacted]

1.5 Undertake a tactile Visual Inspection to confirm current condition of the arch barrel and abutments. If access prevents this, consider visual inspection with camera mounted on a pole to support the information obtained from the survey

1.6 Specify the required ground investigations to determine thickness of the abutments, arch barrel, the type and thickness of pavement and backing material, if present.

1.7 Recommend and arrange further analysis of the structure to confirm the loading capacity of the Bridge if required.

1.8 Determine the improvement works required to increase loading capacity to allow passing of Client machinery.

1.9 Liaise with the external stakeholders such as [redacted] and local authority.

1.10 Produce a detailed design for the improvement/ restoration work required to increase the bridge loading capacity to a safe and operational condition

1.11 Organise design development meetings with the *Client* and ESE contractor [redacted] finalise and agree the suggested implementation measures. (to be instructed as compensation event)

2. M/024 Hibalstow Bridge Refurbishment

Background:

The bridge suffered arson damaged from a torched van burning section of the deck, and it is unclear what other damage may have been caused to the metal structure. Full assessment of the bridge is required to determine the full extent of work required to restore the bridge to it's original state and fit for vehicles use. This is to include assessment of the abutments, parapets, deck, and metal structure. The bridge is Grade 2 listed so this will need to be taken into consideration during the assessment and when determining the repair works required.

Scope:

The *Consultant* shall:

2.1 Receive and consider source information supplied by the *Client* to confirm constraints including weight limits, structure listing, utilities, previous Inspection & Assessment Reports.

2.2 Undertake full ecology surveys where required to enable completion of the works.

2.3 Undertake a Lidar survey of the top and underside of the steelwork arch bridge to confirm geometry to establish steelwork distortion in order to supplement the visual inspection. This will allow verification and refinement for any further assessment (if required).

2.4 Undertake a tactile Visual Inspection and site testing to confirm current condition of steelwork, abutments, parapets and deck. Access to be arranged within ID.

2.5 Undertake a desk study to inform assessment and requirement for further investigation. Subject to the results of the site testing of fire damaged steelwork, provide a judgement as to whether structural members can be reused or replaced, or whether further analysis based on the lower steel strength (if affected by fire) is required.

2.6 Carry out a detailed Principal Inspection of the bridge in accordance with The Inspection Manual for Highway Structures (Volumes 1 and 2): 2007.

2.7 Check the bridge's compliance with current standards for highways in accordance with DMRB (Design Manual for Roads and Bridges) and record any non-compliance. Each element of the structure will be inspected, and its condition recorded. Produce a detailed inspection report for the bridge to include the results of any intrusive site testing.

2.8 Undertake any further testing or/and sampling needed (to be instructed as a compensation event), or if this is not possible, definition of the assumptions and / risks contained within the assessment of the asset condition.

2.9 Subject to the findings from 2,5 produce an AIP for assessment of Steel Arched Bridge (subject to findings/conclusion) or Structural Design of new elements.

2.10 Liaise with the external stakeholders such as [redacted] and local authority.

2.11 Produce a detailed design for the improvement/ restoration work required to return the bridge to a safe and operational condition. (to be instructed as Compensation event)

2.12 Organise Design development meetings with Client and ESE contractor [redacted] finalise and agree the suggested implementation measures. (to be instructed as Compensation event)

3. SP22-10C Humberston Flood wall

Background:

This flood wall is constructed of concrete filled blocks that have been in place for 40+ years and is located adjacent to row of Black Poplar trees. Over the years the wall has suffered damage from the root of the trees causing cracking and movement in the wall. The trees all have TPO's and previous attempts to deal with the trees to prevent further damage to the wall hasn't met with much success.

The Catchment Flood Management Plans (CFMPs) for this catchment is 4 (Take further action to sustain current level of flood risk), therefore, refurbishment of this asset is in line with the current management policy.

Scope:

The *Consultant* shall:

3.1 Receive and consider source information supplied by the *Client* to confirm constraints including as-built details, critical flood levels, required flood risk benefits, utilities, previous Inspection & Assessment Reports.

3.2 Undertake full ecology surveys where required to enable completion of the works.

3.3 Undertake a Lidar Survey of the top riverside bank to the flood wall located adjacent to row of Black Poplar trees to determine the wall construction, geometry, location of physical elements and ground/embankment profiles to allow verification and refinement for any further investigation.

3.4 Specify the required ground investigations to determine wall foundations and soil parameters for the design.

3.5 Undertake a tactile Visual Inspection to identify the location and nature of defects in the asset and their potential causes in order to assess the condition of the wall and to determine if it can be refurbished to provide the required flood risk benefit or whether a new replacement wall is required.

3.6 Produce a detailed inspection report for the wall, including the results of any intrusive site testing.

3.7 Undertake to review and desk study to inform assessment and requirement for further investigation.

3.8 Liaise with external stakeholders.

3.9 Develop a design and produce detailed drawings for construction for a contractor to undertake the works. (to be instructed as compensation event)

3.10 Organise design development meetings with Client and ESE contractor [redacted] o finalise and agree the suggested implementation measures. (to be instructed as compensation event)

4. SP3-01C Kenwick Road Culvert Repair

Background:

Stewton Beck is a watercourse located in Louth, Lincolnshire. The watercourse includes a 215m culvert of various construction types. The length of culvert carries the Stewton Beck beneath The White Horse Inn garden and carpark areas, Kenwick Road (carriageway and pavement), Albany Road junction with Kenwick Road and Florence White Avenue junction with Kenwick Road. There are seven intermediate manholes along the route of the culvert.

To determine the culvert condition, a CCTV survey of the culvert was commissioned in 2016, then in October 2020 a structural inspection of the culvert was carried out. Both inspections have identified the Length 3 (brick arch culvert) section was in poor condition, which appears the oldest section of the culvert. The section was damaged at numerous places especially where services have been broken through. A hole in the soffit was noted near MH3, as well as spalling, missing bricks and mortar loss, which are contributing to debris in the culvert. Some repairs were made, using plywood or plastic board, but these are unsuitable as a long term solution. The bricks around the repairs were also very loose.

The inspections identified that Length 1, 2 and 4 were in fair to good condition however in Length 2, it was noted that a service pipe entering/exiting the culvert has resulted in exposed reinforcement and deterioration of grout.

[redacted] under the previous contract, has produced a scope of work for [redacted] o deliver.

Scope:

The *Consultant* shall:

4.1 Attend the site surveys and if needed provide assistance on the current design specification for the contractor to undertake the related works

5. SP11-11C Wisbech Defences

Background:

The raised defences through Wisbech are mainly floodwalls of various designs, some dating back to the late 1970s / early 1980s, whilst other lengths were replaced or strengthened in the late 2000s. Through certain lengths, mainly through the Port of Wisbech there are gaps in the defence which are filled by floodgates.

The late 2000s was the last time the existing defences downstream of Freedom Bridge were properly checked and any repairs made to the mainly concrete floodwalls along with expansion joint replacement. There are now a number of locations where damage has occurred that need attention to reinstate the defence to its target condition grade. There are a few sections where some vegetation has become established and needs removing first.

Following the storm surge in December 2013 there were several local improvements made to ensure the gates sealed better, but these need to be reviewed and checked.

Scope:

The *Consultant* Shall:

5.1 Receive and consider source information supplied by the [redacted] to confirm constraints including as-built details, critical flood levels, utilities, previous Inspection & Assessment Reports.

5.2 Carry out inspection of the entire length of hard defences on both banks to identify:

- Damaged sections that require repairing
- Expansion joints that need replacing
- Feasibility of providing an access or walkways for future inspection and maintenance on the wet side in coordination with *Client.*

5.3 Undertake a review and qualitative assessment of the structural cracks in the defence wall between Freedom Bridge and Town Bridge.

5.4 Liaise with [redacted] for the section upstream to Town Bridge along the south bank to determine the extent of the problem and find an appropriate solution for the drainage, which was severed, during the construction of new floodwalls.

5.5 Floodgates – Liaise with the Client's Field MEICA team to review existing arrangements and develop solutions to any improvements that are required. If a floodgate has been identified as redundant, develop a design for it's removal and replacement with a continuous fixed defence. Review the seals on all flood gates.

5.6 The yellow box warning marks on the ground adjacent to the flood gates throughout the port have worn away. Assess which markings are still required and need to be renewed according to public safety risk assessment and with the liaison to the adjacent landowner.

5.7 Produce a detailed inspection report for the entire length of hard defences and provide recommendations to address the deficiencies and concerns.

5.8 Produce a detailed design for the improvement/ restoration work required to improve the condition of flood defence wall. To be instructed as compensation event

5.9 Carry out an ecological survey of the entire length to identify constraints and liaise with the *Client's* FBG team, who are preparing the Japanese Knotweed Management Plan.

5.10 Prepare an Environment Action Plan

5.11 [redacted] s to finalise and agree the suggested implementation measures (to be instructed as compensation event).

6. SP11-23C South Barrier Bank Rings End

Background:

Section 1 – between Rings End Sluice access ramp and disused railway embankment. This section has been damaged by vermin (rabbits), the landward slope has been slipping towards the properties that back onto it. The crest is now very uneven due to routine maintenance and is slumping towards the Wash face.

Section 2 – between disused railway embankment and car park area. This section has been damaged by vermin (rabbits), the landward slope is okay, but the crest is narrow and the Wash slope is steep.

Section 3 – Wing wall around the sluice – The bank has eroded

Scope:

The *Consultant* shall:

6.1 Receive land and asset ownership with associated critical levels, constraints and requirements, including potential hydraulic impacts to flood capacity from changing the bank profile. Obtain utility search, asset inspection and as-built records to inform design and construction.

6.2 Specify a baseline topographic survey of proposed work site to clarify extent of slope failure, and propose ground investigation works to inform cause of defect and reduce design risk. A comprehensive visual inspection and geotechnical desk study is proposed for all sites that consider embankments or retaining structures.

6.3 Design the remediation of areas of bank failure, including production of drawings for construction specifications and preconstruction information, in order to reprofile the cross section of the bank and reduce the crest height to match levels upstream and downstream (section 1 & 2). (Restrictions to be accommodated include the existing property boundary fences on the dry side and overhead power cables on the wet (Washes) side).

6.4 Design a 1 in 3 slope into the washes, with a 5.0m wide crest.

6.5 Design to stabilise the slope adjacent to property boundary fences.

6.6 Provide a repair solution for the damage caused by rabbits, localised slumping, slippages and distortion on the bank.

6.7 Provide a repair solution for the damaged bank near the sluice (section 3).

6.8 Organise design development meetings with the Client and ESE contractor [redacted] to finalise and agree the suggested implementation measures (to be instructed as compensation event).

6.9 All potential interventions are subject to confirmation by the *Client* that the level of existing and proposed flood embankments are sufficient to provide protection under the critical flood event. They would also be subject to any interface requirements with third party assets.

7. SP15-05C Mkt Deeping Mill overspill weir toe repairs

Background:

A flood diversion scheme was completed in the 1970's to protect villages on the River West Glen. This diverted floodwater along the newly constructed Great ford cut into the River Welland upstream of Market Deeping. The overspill weir into the bypass channel has eroded at its toe, cutting into the existing bank.

Scope:

The objective of this commission is to design a solution for the overspill weir toe, to ensure overflow water can pass into the bypass channel without risk of erosion of the weir and bank.

The *Consultant* shall:

7.1 Receive and consider source information supplied by the *Client* to confirm constraints including as-built details, critical flood levels, utilities, previous Inspection & Assessment Reports.

7.2 Undertake a full ecology surveys where required to enable completion of the works.

7.3 Undertake tactile Visual Inspection to confirm current condition of the weir. Access and vegetation clearance to be arranged by *Client* in advance.

7.4 Undertake a review and desk study to inform assessment and requirement for further investigation.

7.5 Liaise with external stakeholders.

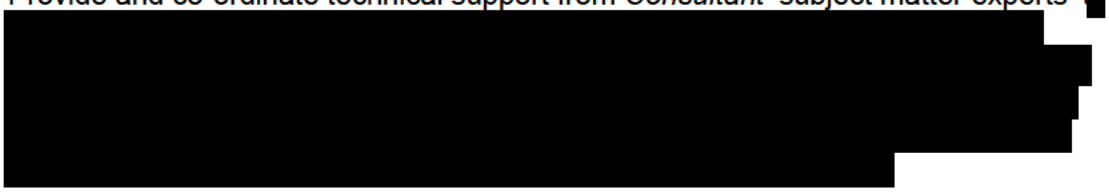
7.6 Specify ground investigations to determine weir and bank construction and soil parameters for the design.

7.7 Produce design drawings for construction specification and preconstruction information for to the bank and toe repair where it meets the bypass channel to withstand washout from flood water

7.8 Organise design development meetings with Client and ESE c[redacted] finalise and agree the suggested implementation measure (to be instructed as compensation event).

1.4 *Consultant* project management

In the management of the commission by the *Consultant* they shall include the following:

- Adhering to the project requirements, programme and budget constraint.
- Attend fortnightly progress meetings with the *Client* and other Stakeholders. Including a project kick-off meeting, monthly risk register meetings and quarterly workshops, monthly progress meetings (face-to-face or via teleconference as required) and monthly project board meetings. The *Consultant* will be responsible for recording these meetings and the dissemination of key decisions and actions to the *Client* and project team.
- Provide and co-ordinate technical support from *Consultant* 'subject matter experts' f

- On behalf of the *Client*, the *Consultant* should apply for planning permission, Reservoir Act approval, Impoundment Licence, working in watercourse approval and other consents such as land drainage consent, flood defence consent, listed building consent, Marine Management Licence (as needed) and manage the passage of these approvals.
- Once planning permission has been obtained, the *Consultant* should apply for protected species licences, on behalf of the *Client*. (Note: currently for asset repair works planning permission is not considered as being required)
- Provide input to Project Risk Register
- Provide input to project efficiency register
- Produce monthly financial and carbon updates and forecasts as required to meet *Clients* deadlines and other management products in accordance with PRINCE2
- Deliver a monthly progress report giving progress against programme
- Review and update the issues log during monthly progress meetings and determine the appropriate action required to resolve
- Provide all data correctly in line with Project IDP and upload information into *Client's* SharePoint
- Ensure all information is provided to the *Client* in a consistent electronic format
- Ensure that all the original data sent to the *Consultant* (i.e. all model and survey information provided by the *Client* in an encrypted format (using WinZip 128 bit encryption) according to the *Client's* data security policy), which is classed as commercially sensitive, is returned to the *Client* in an encrypted format using WinZip 128 bit encryption.
- Deliver a copy of all models, survey data etc. undertaken and collected for the preparation, and supporting detailed technical reports to the *Client*.
- Co-operate with the *Client* in the role of the BIM Information Manager

1.5 The detailed design (outputs and deliverables)

As part of the services the *Consultant* is to provide the following deliverables. This is not an exhaustive list and other outputs may be required.

- The *Consultant* will complete a full detailed design including drawings and specifications for construction of works, sufficient for a contractor to set out and construct the works. The detailed design should include but is not be limited to:
  a. Calculations
  b. Drawings (including landscape/ ecological design drawings/ planting schedules)

c. Environmental Products
d. Specifications (including any additional clauses to Environment Agency standard specifications - i.e. Environment Agency NEAS Landscape Specification template)
e. Design report, including asset schedule, buildability statement and maintenance plan
b. Designer's Risk Assessments
c. Public Safety Risk Assessments
d. Pre-construction information
e. Application for IDB consent
f. Environmental action plan

- The *Consultant* shall discuss designs with the *Client* including the Field Service and Area Teams.
- The *Consultant* shall discuss with the *Client* where environmental information, landscape details, archaeological information, methodologies or on-site management deviate from that stated in the Environmental Statement or associated documents. This will enable any legal implications to be checked and for the environmental implications of the changes to be assessed.
- The *Consultant* shall discuss developments in the design with the appointed Principal Designer provided by the *Consultant*.
- The *Consultant* shall facilitate design and risk workshops.
- The sustainability of the design shall be analysed using appropriately detailed carbon costing to gauge influence of carbon costs of the design. It shall be run on the *Client's* carbon calculator.
- The *Consultant* shall prepare the Particular Specification for the main works tender document. The Particular Specification shall not contradict the *Client*'s standard documents. If there is a requirement to do so the *Consultant* shall justify the need and obtain the prior written agreement of the *Client*.

1.6 Definition of completion and defects

It is an absolute requirement of the contract that Completion is only certified when:

- All of the *services* have been provided and accepted by the *Client.*
- Population of the *Client's* latest version of the Project Cost Tool, or its successor.
- Transfer to the *Client's* databases of BIM data
- Completion of the relevant phase of the *Client's* carbon tool

Any site query post Completion that is a result of errors or incomplete design details being provided by the Consultant under this contract will be considered a Defect under this contract.

1.7 Project team

[redacted]

[redacted]

2 Previous and ongoing studies

The table below contains details of the most relevant previous studies, and a complete list of individual reports is available from the *Client*.

3 *Services* required

3.1 Site Investigation

3.1.1 Ground Investigation

Where needed, the *Consultant* shall design, specify, and coordinate the ground investigation with the help of CDF *Contractor*[redacted]

Ground investigation deliverables

- All design contracts should include any ground investigation required to inform the design within the Scope of this contract.
- The *Consultant* is required to review findings from previous studies and appraisal to identify any gaps in existing data
- The *Consultant* is required to use gaps identified above to inform scope of supplementary investigations needed to inform detailed design of elements (as relevant to the scope)
- The *Consultant* is required to clearly communicate the specifications for these further ground investigations to the *Contractor* for the *Contractor* to undertake

3.1.2 Topographic & CCTV survey

Where no detailed survey of the structure or surrounding area exists, the *Consultant* shall specify, and coordinate the survey with the help of [redacted] sufficient to allow for detailed design. Spacing of the survey shall be determined by the *Consultant*.

Topographic survey deliverables

- The *Consultant* shall obtain the final output of the survey in the form of a survey report in paper/ digital format, together with the survey data in digital format in ASCII format ready to be imported in a GIS system.
- Preparation of a brief and specification of the survey in accordance with the Environment Agency's National Specification for Surveying Services Version 3.1, to enable the above.
- Review data / checking deliverables
- Liaise with the NEAS Archaeologist to ensure that the heritage and archaeological risks are identified and addressed and to determine if efficiencies can be made by joint working.

3.1.3 Services search and diversion plan

The *Consultant* shall check existing data, identify any further gaps for detailed design stage and obtain services data from utility companies. This should include direct costs of obtaining data. This should be incorporated into the appraisal, including preparation of plans.

If required, the *Consultant* shall organise for a non-intrusive survey with the help of CDF [redacted] determine the extent of the survey and produce a specification for the survey in accordance with *Client* Guidance and Principal Designer discussion; defining type and purpose of survey including extents and available information. The *Consultant* should also provide a site supervisor to manage the survey *Consultant* whilst they are on site. The outputs from this survey should be included in the appraisal, including revising the plans.

3.1.4 Ecological surveys

Undertake additional surveys consistent with current guidelines, where these are essential to securing permissions or are essential to achieving good environmental design. Utilise existing knowledge of the distribution of species and the current understanding of the factors governing their distribution. Use the species and survey information in a scientific and informed way to justify environmental decision making.

3.1.5 Hydrology and hydraulics

A study may require for the few sites. The *Consultant* should verify the model with quality and extent checks.

3.1.6 Landscapes and Environmental design

NEAS Summary sheet attached in the Appendix for the project specific constraints and requirement

Environmental considerations

The *Consultant* will work with the *Client* and project partners to reduce flood risk to people and property in the selected sites through an adaptive approach that is resilient to climate change and that works with natural processes whilst:

i. Creating a better place and maximising environmental outcomes for people and wildlife, which includes landscape character, aesthetics, recreation, education, green infrastructure, navigation and heritage;
ii. If required, involve local people and organisations to assist in the process of developing the optimal solution;
iii. Minimising by designing out where possible, and mitigating for unavoidable adverse environmental effects as a result of the scheme;

An Environmental Statement will be required to accompany the planning application.

3.1.7 Health and safety

The *Consultant* will provide the Principal Designer for this scheme. The Principal Designer duties will include for a review of any site-based works at detail design stage and notifying the HSE of these, as well as a review of the outline design. The *Consultant* shall supply designer's risk assessments, drawings and any other data for *Client* comment and include for any work required following review

4 Standards to be used

4.1 Health & 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.

4.2 *Client* standard documents

The *Consultant* should carry out their design using the following standards.

Designs produced must be in compliance with the *Client* Minimum Technical Requirements Contract Documents produced must be in compliance with latest *Client* standard template

Ref	Report Name	Where used
LIT 16559	Safety, health environment and wellbeing (SHEW) Code of Practice	Throughout
183_05	Data management for FCRM projects	Mapping and modelling
379_05	Computational Modelling to assess flood and coastal risk	Modelling
LIT 14847	Risk Guidance for Capital Flood Risk Management Projects	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

5 Constraints on how the *Consultant* provides the *services*

The *Consultant* will be provided access to the *Client*'s Document Management System (SharePoint) which will be established for the [redacted] to deliver the works for the storage and access of information.

Verification of identity
The *Consultant* is responsible for verifying the identity of their staff prior to commencement of employment on the Contract. This includes the verification, copying and checking of the appropriate documentation:

- Confirmation of name, date of birth and address
- National Insurance number
- Confirmation of qualification/licences
- Confirmation of permission to work in the UK (if appropriate)

This information should be checked to ensure no obvious gaps exists and a copy kept on file.

Verification of nationality and immigration status
The *Consultant* is responsible for carrying out a physical check of appropriate documentation or (by exception) through an independent check of UK Border Agency (UKBA) records to ensure the individual has the right to remain in the UK and undertake the work in question. This needs to take place prior to commencement of employment.

Verification of employment history
The *Consultant* is responsible for verifying the candidates past 3 years employment history. Any unexplained gaps are to be brought to the attention of the Project Manager prior to commencement of employment.

Verification of criminal record (unspent convictions only)
The *Consultant* is responsible for verifying unspent criminal records using a Basic Criminal Record (CRB) check provided by Disclosure Scotland (DS) prior to the commencement of employment. This also applies to all agency and sub-*Consultant* staff. Any convictions, other than minor offences, are to be brought to the attention of the Project Manager prior to commencement of employment.

In exceptional circumstances the *Client* may decide to undertake a risk assessment where delays would impact on operation of business to allow an individual to start on conditional employment contract whilst waiting for results of the check.
Individuals with evidence of valid and live CRB, Counter Terrorist Check (CTC), Security Check (SC) or Developed Vetting (DV) clearance will not be required to undertake Baseline Personnel Security Standard (BPSS) clearance again (except proof of identity).

Keeping records
The *Consultant* should keep a BPSS verification record of each individual employed on such Contracts on the personal file. A standard form is provided by the Cabinet Office. Where individuals have valid and live clearance, this should be obtained in the form of the BPSS verification record from their previous organisation. There is no requirement to renew the BPSS once it has been approved. It is the responsibility of the *Consultant* to keep records for temporary agency and sub-*Consultant* staff. The Employer may audit the *Consultant*'s referencing and vetting processes upon request.

6 Requirements of the programme

6.1 PROGRAMME

The project will commence in the [redacted] Milestones and dates for project deliverables will be agreed between the *Consultant* and *Client* during programme development.

The *Consultant* shall provide a detailed project plan in Microsoft project format version 2013 meeting all requirements of Cl.31 of the conditions of contract. A programme shall be provided with the tender, and this will be updated monthly for progress meetings with actual and forecast progress against the baseline, accompanied by a *Consultant* commentary to explain any changes from the baseline/ previous accepted programme.

The programme shall cover all the activities to be undertaken by the *Consultant* and other members of the project team. Include all major project milestones from commencement to the end of the design stage and readiness to start on site.

The programme shall also include:

- Appropriate review and consultation periods.
- The following consultation periods, with adequate allowance for review and revision of documents by the project team where appropriate:
  a. *Consultant* internal review (as per your quality review procedures) and *Client* review of all outputs before circulation to the wider project team to ensure high quality of all output.
  b. Submission for approval and time allowance for the *Client*'s approval process.

The following are absolute requirement for Completion to be certified:

- Population of the *Client's* latest version of the Project Cost Tool, or its successor
- Completion of the relevant phase of the *Client's* carbon tool
- Clause 11.2(2) work to be done by the Completion Date

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 IP of the *Client*.

7.2 Data Custodianship

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

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 commission.

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* project manager 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 Environment Agency Data Security Policy. It is expected that once the commission is completed, all the original data sent to the *Consultant*, which is classed as commercially sensitive, is returned in an encrypted format using WinZip 128 bit encryption.

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

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

7.6 *Client*'s Advisors

The *Client* has a number of advisory departments. Instructions from such departments should only be deemed enacted and formalised under the contract, when they are confirmed by an Instruction from the Service Manager. These departments include but are not limited to Area, NEAS, PSO, geotechnical, survey and modelling specialists etc.

7.7 *Client* Documents the *Consultant* contributes to;

The *Client* maintains several project documents. The *Consultant* is required to contribute to these *Client* owned documents, that include, but are not limited to:

- Project Risk Register
- Project Efficiency Register