



**Framework:** Client Support Framework  
**Supplier:** [REDACTED]  
**Company Number:** [REDACTED]  
**Geographical Area:** National  
**Project Name:** RtO PCM Project Management Services NW Projects  
**Project Number:** ENV0002360C  
**Contract Type:** Professional Service Contract  
**Option:** Option E  
**Contract Number:** 36758  
**Stage:** Study\_or\_Service\_NOT\_Design

Revision	Status		Originator		Reviewer		Date

**PROFESSIONAL SERVICE CONTRACT - Under the Client Support Framework**  
**CONTRACT DATA**

**Project Name** RtO PCM Project Management Services NW Projects

**Project Number** ENV0002360C

This contract is made on 19 September 2022  
between the *Client* and the *Consultant*

- This contract is made pursuant to the Framework Agreement (the "Agreement") dated 02nd day of July 2019 between the *Client* and the *Consultant* in relation to the Client Support Framework. The entire Agreement and the following schedules are incorporated into this contract by reference
- Schedules 1 through to 14 inclusive of the Framework schedules are relied upon within this contract.
- The following documents are incorporated into this contract by reference

**Part One - Data provided by the Client**

**Statements given in  
all Contracts**

**1 General**

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

Main  
Option

Option E

Option for resolving and  
avoiding disputes

W2

Secondary Options

X2: Changes in the law

X9: Transfer of rights

X10: Information modelling

X11: Termination by the *Client*

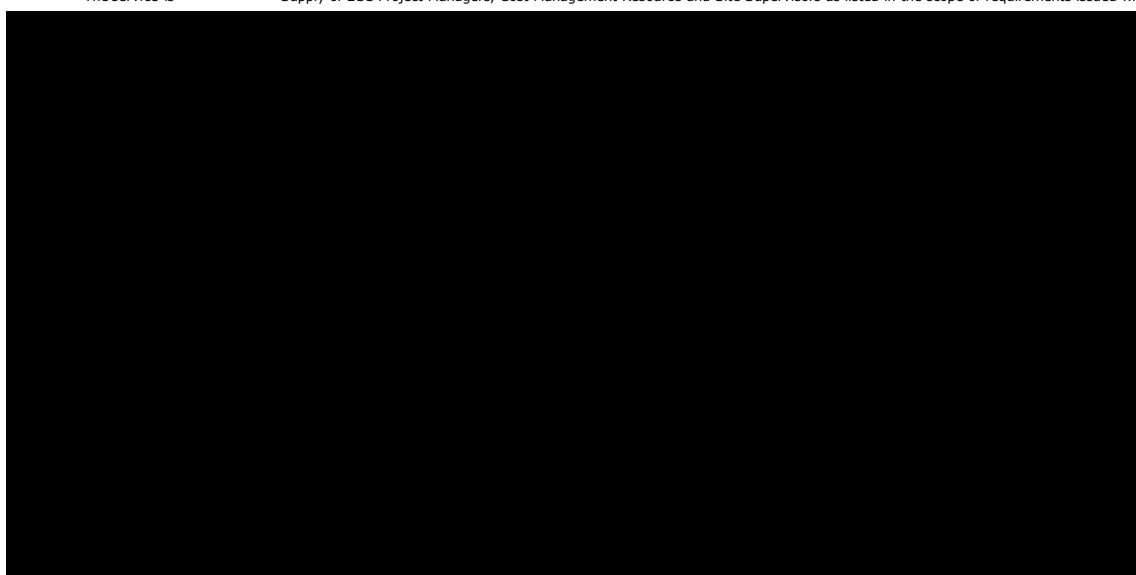
X18: Limitation of liability

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 Supply of ECC Project Managers, Cost Management Resource and Site Supervisors as listed in the scope of requirements issued with



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  
*condition* 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 19th September 2022

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 23rd September 2023

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 *expenses* stated by the *Client* are as stated in Schedule 6.

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

The *exchange rates* are those published in  
on

## 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	PERIOD FOLLOWING COMPLETION OF THE WHOLE OF THE <i>SERVICE</i> OR TERMINATION
The <i>Consultant's</i> failure to use the skill and care normally used by professionals providing services similar to the <i>service</i>	£1 million in respect of each claim, without limit to the number of claims	6 years
Loss of or damage to property and liability for bodily injury to or death of a person (not an employee of the <i>Consultant</i> ) arising from or in connection with the <i>Consultant</i> Providing the Service	Which ever is the greater of £1 million or the amount required by law in respect of each claim, without limit to the number of claims	12 months
Death of or bodily injury to employees of the <i>Consultant</i> arising out of and in the course of their employment in connection with the contract	Which ever is the greater of £5m or the amount required by law in respect of each claim, without limit to the number of claims	For the period required by law
The <i>Consultant's</i> total liability to the <i>Client</i> for all matters arising under or in connection with the contract, other than the excluded matters is limited to	£5 million	

## Resolving and avoiding disputes

The <i>tribunal</i> is	litigation in the courts
The <i>Adjudicator</i> is	'to be confirmed'
Address for communications	'to be confirmed'
Address for electronic communications	<a href="#">'to be confirmed'</a>
The <i>Adjudicator nominating body</i> 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 replace with:

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

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

## **Z5 Secondments**

When appointing *Consultants* on a secondment basis only:

Add clause 19

19.1 The *Client* will from starting date to Completion Date indemnify the *Consultant* against any and all liabilities, proceedings, costs, losses, claims and demands whatsoever arising directly or indirectly out of the activities of the *Consultant* in providing the services save where such claims, in the reasonable opinion of the *Client*, arise from or are contributed to by:

19.1.1 Misrepresentation or negligence by or on behalf of the *Consultant* ;

or

19.1.2 The *Consultant* has acted contrary to the *Service Manager's* reasonable instructions or wholly outside the scope of the *Consultant's* duties as defined by the *Service Manager*.

## **Z6 The Schedule of Cost Components**

The Schedule of Cost Components are as detailed in the Framework Schedule 6.

## **Z7 Linked contracts**

Issues requiring redesign or rework on this contract due to a fault or error of the *Consultant* under this contract or a previous contract 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.

## **Z8 Requirement for Invoice**

Insert the following sentence at 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 insert the following:

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

## **Z9 Conflict of Interest**

The *Consultant* immediately notifies the *Client* of any circumstances giving rise to or potentially giving rise to conflicts of interest relating to the *Consultant* (including without limitation its reputation and standing) and/or the *Client* of which it is aware or which it anticipates may justify the *Client* taking action to protect its interests. Should the Parties be unable to remove the conflict of interest to the satisfaction of the *Client*, the *Client*, in its sole discretion, may terminate this Contract.

## **Z10 Change in Control**

The *Consultant* shall notify the *Client* as soon as reasonably practicable, in writing, of any agreement, proposal or negotiations which will or may result in a *Consultant* Change in Control and shall give further notice to the *Client* when any Change in Control has occurred. The *Client* may terminate this contract with immediate effect by notice in writing and without compensation to the *Consultant* within six (6) months of being notified that a Change of Control has occurred, or, where no notification has been made, the date that the *Client* becomes aware of the Change of Control, but shall not be permitted to terminate where the *Client's* prior written acceptance was granted prior to the Change in Control. A Change of Control is defined as per the Deed of Agreement, Z14.4.

## **Z12 Waiver**

No waiver shall be effective unless it is expressly stated to be a waiver and communicated to the other Party by the Service Manager in writing in accordance with the Contract, and with express reference to Clause Z12. The failure of either party to insist upon strict performance of the Contract, or any failure or delay in exercising any right or remedy shall not constitute a waiver or diminution of the obligations established by the Contract.

## 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 X10: Information modelling

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

### OPTION X18: Limitation of liability

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

£1,000,000.00

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

£1,000,000.00

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

### Y(UK2): The Housing Grants, Construction and Regeneration Act 1996

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

### Y(UK3): The Contracts (Rights of Third Parties Act) 1999

term beneficiary

# ECC Project Manager

PSC scope template June 2022

**NEC4 Professional Services Contract (PSC)**

412\_13\_SD06

**Environment Agency**

**NEC4 professional services contract (PSC)**

**Scope**

## Project / contract information

Project name	ECC Project Manager Services PCM NW Projects
Project SOP reference	Various
Contract reference	DGC to complete
Date	09 <sup>th</sup> June 2022

customer service line  
03708 506 506

[www.environment-agency.gov.uk](http://www.environment-agency.gov.uk)

incident hotline  
0800 80 70 60

floodline  
0845 988 1188

## Revision history

Revision date	Summary of changes	Version number
	First issue	1

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
LIT13258	Minimum Technical Requirements	11	05/21



# 1 Objectives of the project (project outcomes)

## 1.1 Objective

Project and Contract Management (PCM) are delivering a number of construction projects and packages of construction works across the North West of England.

We are tendering **5 ECC Project Manager posts** to manage these projects and packages during the design, construction and defects stages. The total number of appointments may vary from this. We will appoint under separate 12 month contracts, with each contract having the potential for extension subject to performance and ongoing workload.

The EA invites suppliers to submit a maximum of **2 CVs per post for consideration up to a total of 10 CVs**. CVs must be for staff that are currently employed by the supplier and have a notice period of 1 month or less.

The ECC Project Managers can work in a hybrid manner; although they will be based out of Richard Fairclough House, Warrington, WA4 1HT where the PCM team is based. Since the work being undertaken is in the northwest region, there are opportunities to work out of Lutra House, Preston, PR5 8BX and our Penrith office. There will certainly be a need to attend meetings at these locations in addition to site visits at other locations. All candidates applying to work in the North West hub should ideally be based in the NW of England and should include their base location in their application.

The individuals will be working on a range of capital projects to deliver flood risk management schemes or studies, and/or revenue and maintenance projects to bring existing assets up to condition.

Each role can be part-time but full-time is preferred, up to a maximum of 40 hours per week and a minimum of 3 days/week. Each post has funding for 12 months but there is an intention to extend these, subject to ongoing workload, funding, the individual's performance and any CSF retendering exercises. We reserve the right to redeploy successful candidates to different projects through the duration of each commission for the benefit of our programme delivery.

The pay for this opportunity will be within the scope of the negotiated rates as found in the lot 2 CSF framework

There will be no EA Laptop or Mobile telephone provision during this contract.

Tender Evaluation will be undertaken against the Curriculum Vitae(s) submitted and the proposed rate for that individual. We will reserve the right to video interview those candidates that are shortlisted to confirm the information provided in the CVs and assess their suitability for working with the EA, and specifically in PCM. If an interview is completed, the results of the interviews will supersede the results of the initial quality-cost tender evaluation.

We do welcome a video call with any of our suppliers to discuss any questions they have regarding these posts.

We are looking to review applications immediately following the conclusion of the tender period and notify candidates that interviews are scheduled to be held w/c 23<sup>rd</sup> and 30<sup>th</sup> May.

Successful candidates will be notified immediately with an expected start date period from June no later than the 1<sup>st</sup> of July.

## 1.2 Outcome Specification

The *Consultant* is required to:

- Undertake the role of ECC Project Manager (the *Project Manager* under a NEC3 and/or NEC4 Engineering and Construction Contract), or the *Client's* representative under the NEC3 and/or NEC 4 Engineering and Construction Short Contract.
- Review of contract documentation for construction work to check for ambiguities or conflicts that may give potential opportunities for compensation events
- Undertake an assessment with the project team to ensure all risks and costs are clearly understood
- Review *Contractor's* proposed methodology in building the scheme(s) to drive efficiencies and identify potential opportunities for efficiencies
- Separate site reporting based on the individual requirements of the projects
- Support the *Client* in agreeing the allocation of risk during the agreement of the final target cost

The overall objective of this commission is to enable the efficient delivery of construction projects and/or environmental protection/enhancement measures.

The details of the projects currently requiring ECC Project Management Services are:

- Preston and South Ribble Flood Risk Management Scheme.
- Kendal FRMS Scheme.
- Littleborough Scheme
- Radcliffe and Redvales Scheme.
- Skirting Beck Scheme in Egremont.
- Crossens and Redbridge Scheme
- Threlkeld Flood risk Management Scheme
- Cumbria and Lancashire Culvert Refurbishment
- Appleby Town Centre Scheme
- Low Crosby Flood Risk Management Scheme
- Salford Improvements Scheme.
- North West Incident Response Contract

## 2 Project team

- The design consultant is various

- The *Contractor* is various
- The *Supervisor* various
- The *Contractor* will be appointed using the NEC3 or NEC4 Engineering and Construction Contract (option C most normally but can be Option E), or another version of the NEC4 suite of contracts (e.g. smaller projects may use the NEC3 or NEC4 Engineering and Construction Short Form contract)
- Cost management will be provided by either the Programme and Contract Management (PCM) project cost advisor or the co-located cost manager
- Principal Designer is various
- BIM Information Manager the EA Project Manager (*Client*)
- The Environmental Clerk of Works is various

### **3     *Consultant provides the services***

- Carry out the duties of ECC Project Manager as required by the *Client's* NEC3/NEC4 Engineering and Construction Contract. The ECC Project Manager is to maintain close contact with the *Client* in order that their actions reflect the *Client's* objectives for the project.
- The ECC Project Manager is to carry out their duties strictly in accordance with the *Client's* version of the ECC. This is particularly important when dealing with Early Warnings and Compensation Events.
- If the ECC Project Manager believes it is necessary to act other than strictly in accordance with the Contract they must seek and obtain written confirmation in advance from the *Client's* project manager and project executive.
- The ECC Project Manager is to report monthly on the tasks they have undertaken and time to be charged for that month and provide a forecast of the final cost for their services all as detailed in the *Client's* NEC4 Professional Services Contract.
- During construction of the works the ECC Project Manager is to chair all contract progress meetings and produce & distribute meeting minutes. For typical meeting agendas see Pre-Start meeting and Progress meeting agenda [*Client* document ref 413\_13\_SD13].
- In addition during the construction period the ECC Project Manager will report monthly on the construction works using the *Client's* Monthly Work Progress Summary (MWPS) [*Client* document ref 413\_13\_SD15] and Tracker Schedule for Early Warnings & Compensation Events [on Asite NEC4 Manager]. Post-construction this report should be updated when changes (eg to costs, forecasts, defect corrections etc) occur.

- Note that the ECC Project Manager needs to discharge the duties they have under the modifications made by the *Client* to the NEC3/NEC4 ECC including their additional conditions of contract (Z clauses). Some examples are:
  - certification under the Client NEC ECC the target cost figure used should only include Compensation Events that have been implemented.
  - completion may not be awarded until the Contractor has provided the Client with two copies of the H&S File and O&M Manual. Population of the Client's latest version of the Project Cost Tool, Carbon Tool and BIM information has been uploaded onto the Client's data storage system. These are an absolute requirement of Completion
- The ECC Project Manager may also required to provide additional services for these projects. These will be instructed by the *Client*.

#### **4 Definition of completion and defects**

- Completion is only achieved 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, is an absolute requirement of Completion.
- A defect is part of the services which is not in accordance with the Scope or the applicable law.

#### **5 Constraints on how the consultant provides the services**

- the ECC Project Manager is not to delegate their duties or powers without prior written agreement from the *Client*.
- the Consultant will be expected to attend Client offices, construction sites or suppliers' offices as required
- when working remote it is the Consultant's responsibility to ensure that suitable Display Screen Equipment (DSE) assessments, internet connections and safety precautions are provided
- the Consultant shall not work more than 40 hours per week without prior approval from the Service Manager
- any time deemed necessary for the Consultant's line management by the Consultant's Employer, including training and development would be by agreement and be non-chargeable
- any time deemed necessary for the Consultant to line manage or undertake any other tasks for the Consultant's Employer, would be by agreement with the Client and be non-chargeable
- the Consultant will be entitled to take annual leave, based on the Consultant's terms of employment with the Consultant's Employer, and statutory holiday entitlement. These costs will be non-chargeable. The Consultant shall secure the approval of the Service Manager for the provision of appropriate delegated holiday cover
- the Consultant shall provide the services in compliance with the Client's 'Environment Agency Operational Instructions' and policies

## 6 Standards to be achieved

### 6.1 Health and safety

Health, safety, environment and welfare is of paramount importance to the *Client* and one of the objectives for the contract is that the works should be undertaken in a manner that achieves highest possible standards. Health, safety and welfare provisions must be seen as integral parts of carrying out the works and not as stand-alone considerations. The ECC Project Manager will take reasonable steps, when considering documents supplied to them by the Contractor, that the **management arrangements** adopted by the Contractor for safety are suitable.

The contract requires the Contractor to produce a schedule of activities for which risk assessments and method statements must be prepared. The schedule and method statements will meet the dual requirements of the Construction Design and Management Regulations and the requirements of sub-clause 31.2 of the contract.

The ECC Project Manager will be required to:

- before the start of construction work, or thereafter in the case of a proposal for a revision, receive from the Contractor the schedule of risk assessments and method statements for acceptance;
- Take reasonable steps to ensure that the persons carrying out risk assessment on behalf of the Contractor are competent for the type of risks, and have adequate resources including time, to properly consider, in an appropriate time, risks identified in the schedule.
- Take reasonable steps, for ensuring the effectiveness of method statements as regards language, appropriate detail and quality of briefing arrangements for example by review at progress meetings of risk assessments and method statements to be employed for higher risk or unusual tasks in the coming period.
- Seek a more specialised opinion, about the content of a submission from the Principal Designer, *Client* project manager and/or ncpms safety advisor or safety, health and environment manager as appropriate.
- Ensure that the Contractor completes, updates and holds on behalf of the *Client*, the schedule of risk assessments and method statements.

### 6.2 Co-operation with the Principal Designer

Where a Principle Designer is appointed, the Principal Designer duties will include a review of any site-based works, notifying the HSE of these if required and a review of the design. The Principal Designer will comment undertake further work required following review. The ECC PM will need to ensure that any instructions from the Principal Designer are properly administered

### 6.3 Specifications or standards to be used

In managing the Contract the ECC Project Manager and Contractor should make full use of the *Client* ECC standard commercial and contract forms that have been developed for this purpose.

The ECC PM is to make full use of the *Client's* web based project collaboration tool. Whenever practical all contract records are to be distributed and stored using this project collaboration tool.

## 7 Requirements of the programme

### 7.1 A programme is not required

## 8 Services and other things provided by the *Client*

### 8.1 Contract to be administered

These contracts are to be let under the Client Support Framework (CSF) and will be compliant with the overarching terms and conditions of this framework. The pay for this opportunity will be within the scope of the negotiated rates as found in the lot 2 CSF framework

The *Client* will provide a bound copy of the contract to be administered to the ECC Project Manager and Site Supervisor. This will include the ECC Scope and Site Information. Other information referred to in the contract will be available on the Project Collaboration Tool.

### 8.2 Training to be provided by the *Client*

The *Client* will provide access to and training on their web based Project Collaboration Tools.

### 8.3 Data and information management and intellectual property rights

All of the data listed as being supplied to the ECC Project Manager as part of this study remains the Intellectual Property of the *Client*.

### 8.4 Data custodianship

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

### 8.5 Licensing information

Not required for this contract

### 8.6 Metadata

Not required for this contract

## 8.7 Data security

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

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

## 8.8 Timesheets

Timesheets as normally utilised by the ECC Project Manager shall be submitted with fee notes unless otherwise agreed with the *Client's* project manager. Electronic submissions would be acceptable.

## 8.9 Payment procedure

Payment will be in accordance with the procedures set out in the terms and conditions of the Client Support Framework (CSF).

## 8.10 Quality

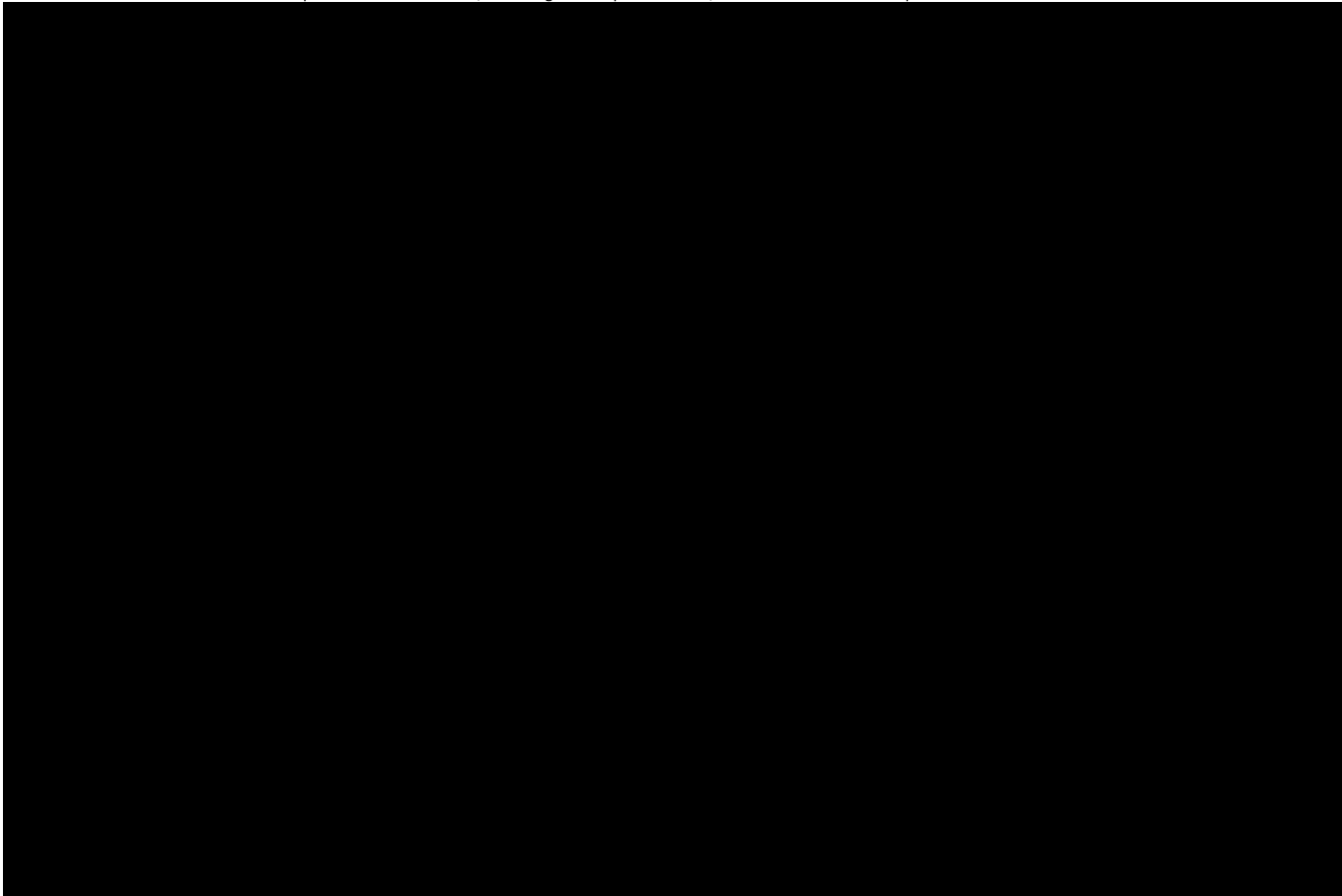
The quality management system complies with the requirements of ISO9001 and ISO14001.

## 8.11 Equipment

The *Employer* will not be providing an EA Laptop or mobile phone as part of this contract.

**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.



The *key persons* are

- Name (3)
- Job
- Responsibilities
- Qualifications
- Experience

The *key persons* are

- Name (4)
- Job
- Responsibilities
- Qualifications
- Experience

The *key persons* are

- Name (5)
- Job
- Responsibilities
- Qualifications
- Experience

The *key persons* are

- Name (6)
- Job
- Responsibilities
- Qualifications
- Experience

The *key persons* are

- Name (7)
- Job
- Responsibilities
- Qualifications



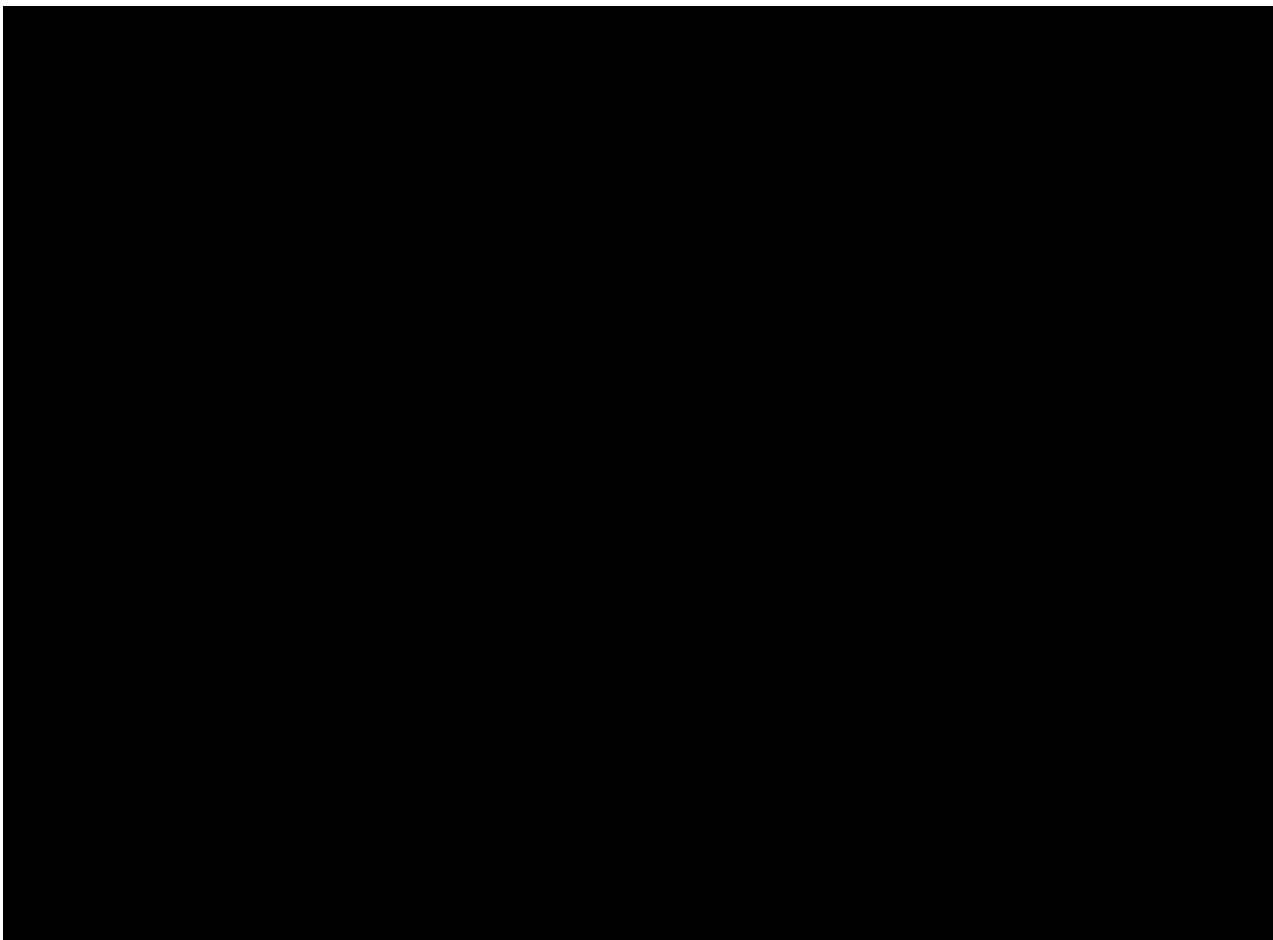
Experience

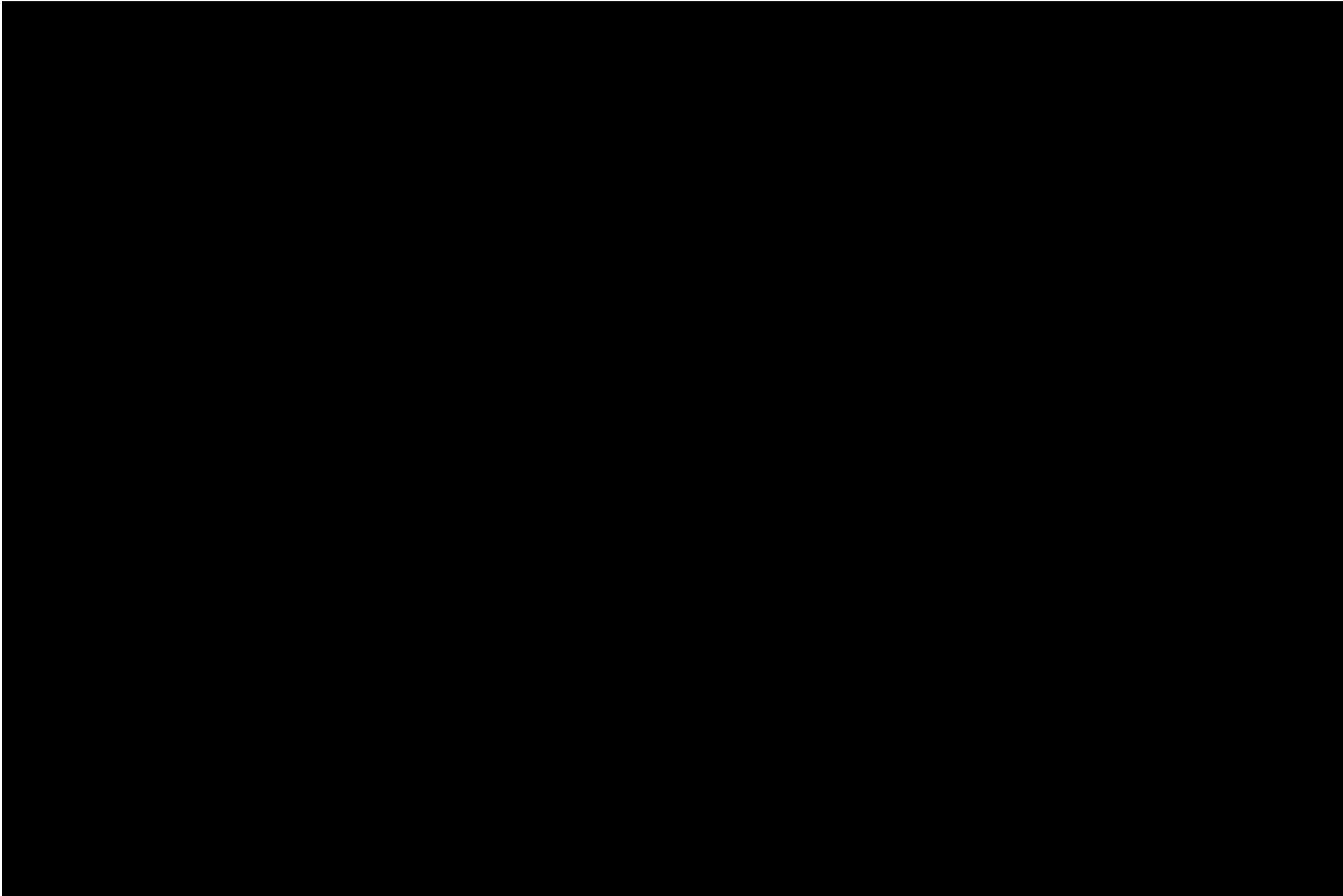
The following matters will be included in the Early Warning Register

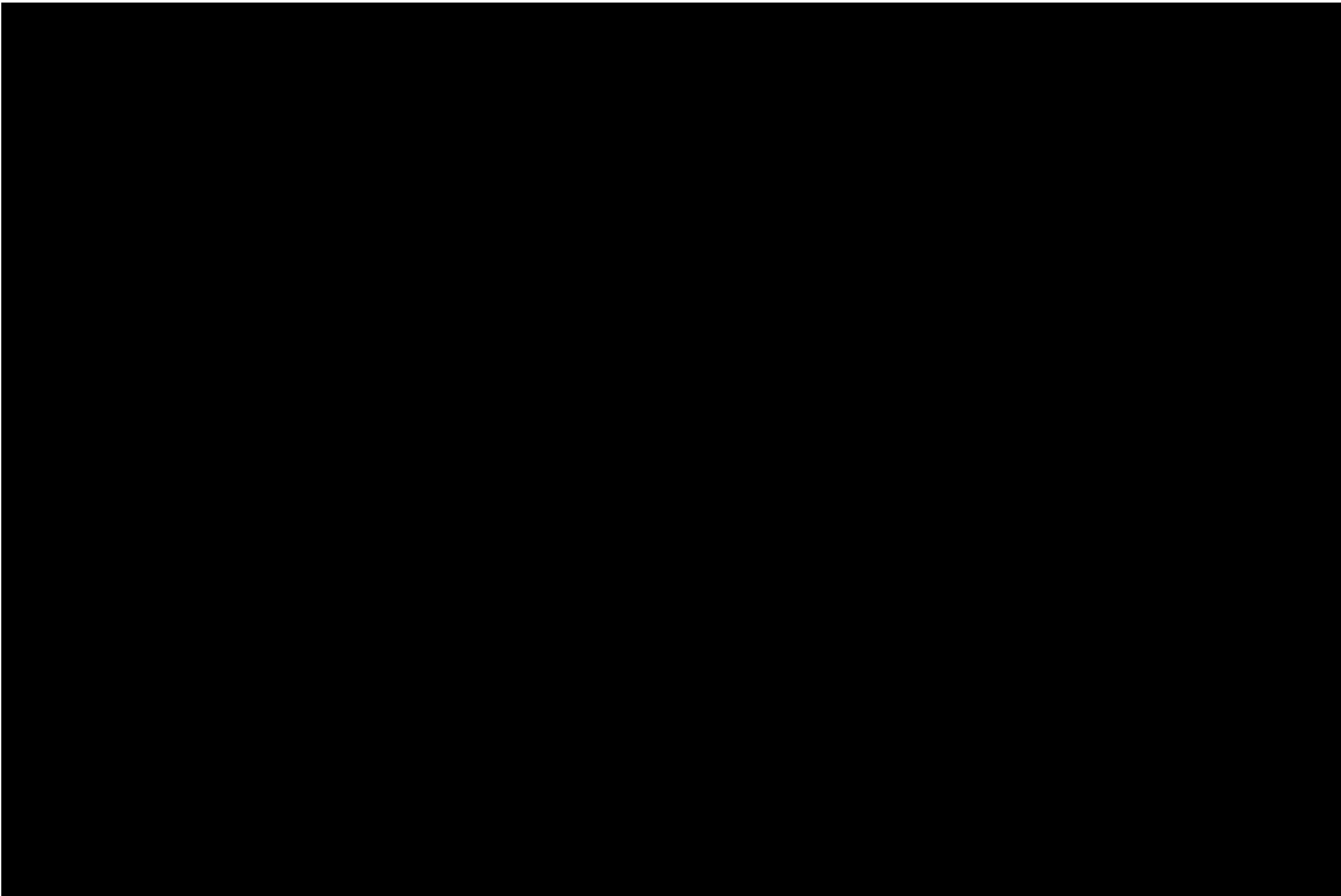
### **3 Time**

The programme identified in the Contract Data is

### **5 Payment**





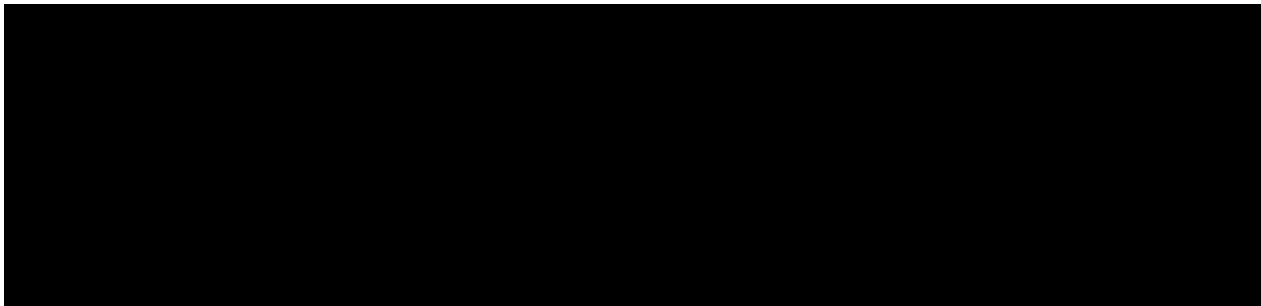


## Contract Execution

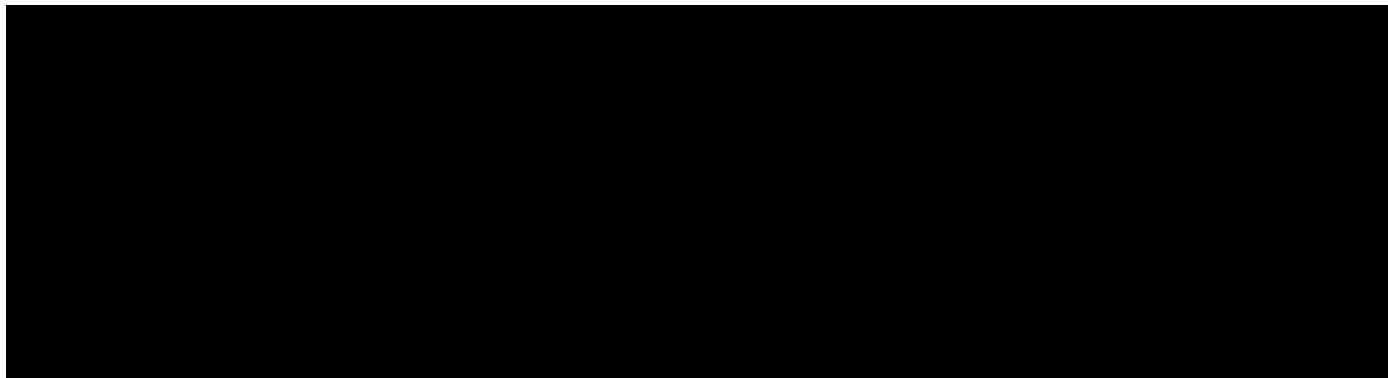
### *Client* execution

Signed Underhand by [PRINT NAME]

for and on behalf of the Environment Agency



### *Consultant* execution



Rev 1.8.4a