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| **NEC4 Engineering and Construction** |
| **Short Contract** |
| **FCRM Operational Framework – Central Hub**  |
| **A contract between** | **The Environment Agency****Horizon House****Deanery Road****Bristol****BS1 5AH** |
|  |
| **And** |  |
|  |
| **For** | **West Midlands Area Asset Blockage Flood Risk Assessments** |
|  | **Contract Forms*** **Contract Data**
* **The *Contractor’s* Offer and *Client’s* Acceptance**
* **Price List**
* **Scope**
* **Site Information**
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| **Contract Data** |
| The *Client’s* Contract Data |
|  | The *Client* is |
| Name |  |
|  |
| Address for communications |  |
|  |
| Address for electronic communications |  |
|  |
| The *works* are | The assessment of flood risk caused by hypothetical blockage scenarios at assets within the EA West Midlands Area  |
|  |
| The *site* is | Numerous locations throughout the EA West Midlands Area |
|  |
| The *starting* *date* is | 11 August 2022 |
|  |
| The *completion date* is | 31 March 2023 |
|  |
| The *delay damages* are | nil | Per day |
|  |
| The *period* for reply is | 2 | weeks |
|  |
| The *defects date* is | 52  | weeks after Completion |
|  |
| The *defects correction period* is | 4 | weeks |
|  |
| The *assessment day* is  | the last working day | of each month |
|  |
| The *retention* is | nil | % |
|  |
| The United Kingdom Housing Grants, Construction and Regeneration Act (1996) **does** apply |
|  |
| The *Adjudicator* is :  |
| In the event that a first dispute is referred to adjudication, the referring Party at the same time applies to the Institution of Civil Engineers to appoint an *Adjudicator*. The application to the Institution includes a copy of this definition of the *Adjudicator*. The referring Party pays the administrative charge made by the Institution. The person appointed is also *Adjudicator* for later disputes. |

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| **Contract Data** |
| The *Client’s* Contract Data |
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| The interest rate on late payment is |  | % per complete week of delay. |
| **Insert a rate only if a rate less than 0.5% per week of delay has been agreed.** |
| For any one event, the liability of the *Contractor* to the *Client* for loss of or damage to the *Client’s* property is limited to |  |
|  |
| The *Client* provides this insurance | None |
|  |
| **Insurance Table** |
| **Event** | **Cover** | **Cover provided until** |
| Loss of or damage to the *works* | The replacement cost | The *Client’s* certificate of Completion has been issued |
| Loss of or damage to Equipment, Plant and Materials | The replacement cost | The defects Certificate has been issued |
| The *Contractor’s* liability for loss of or damage to property (except the works, Plant and Materials and Equipment) and for bodily injury to or death of a person (not an employee of the *Contractor*) arising from or in connection with the *Contractor’s* Providing the Works | Minimum £5,000,000 in respect of every claim without limit to the number of claims |
| Liability for death of or bodily injury to employees of the *Contractor* arising out of and in the course of their employment in connection with this contract | The amount required by the applicable law |
| Failure of the *Contractor* to use the skill and care normally used by professionals providing works similar to the works | Nil  | 6 years following Completion of the whole of the works or earlier termination |
|  |
| The *Adjudicator* *nominating body* is | The Institution of Civil Engineers |
|  |
| The *tribunal* is | litigation in the courts |
|  |
| The *conditions of contract* are the NEC4 Engineering and Construction Short Contract June 2017 and the following additional conditions |
| **Only enter details here if additional conditions are required.** |
| Z1.0  | Sub-contracting |
| Z1.1 | The *Contractor* submits the name of each proposed subcontractor to the *Client* for acceptance. A reason for not accepting the subcontractor is that their appointment will not allow the *Contractor* to Provide the Works. The *Contractor* does not appoint a proposed subcontractor until the *Client* has accepted them. |
| Z1.2 | Payment to subcontractors and suppliers will be no more than 30 days from receipt of invoice. |
| Z2.0 | Environment Agency as a regulatory authority |
| Z2.1 | The Environment Agency’s position as a regulatory authority and as *Client* under the contract is separate and distinct. Actions taken in one capacity are deemed not to be taken in the other. |
| Z2.2 | Where statutory consents must be obtained from the Environment Agency in its capacity as a regulatory authority, the *Contractor* is responsible for obtaining these and paying fees (unless stated otherwise in the Scope). The *Client’s* acceptance of a tender and the *Client’s* instruction or variation of the works does not constitute statutory approval or consent. |
| Z2.3 | An action by the Environment Agency as regulatory authority is not in its capacity as *Client* and is not a compensation event. |
| Z3.0 | Confidentiality & Publicity |
| Z3.1 | The *Contractor* may publicise the works only with the *Client’s* written agreement. |
| Z4.0 | Correctness of Site Information |
| Z4.1 | Site Information about the ground, subsoil, ducts, cables, pipes and structures is provided in good faith by the *Client* but is not warranted correct. The *Contractor* checks the correctness of any such Site Information they rely on for the purpose of Providing the Works. |
| Z5.0 | The Contracts (Rights of Third Parties) Act 1999 |
| Z5.1 | For the purposes of the Contracts (Rights of Third Parties) Act 1999, nothing in this contract confers or purports to confer on a third party any benefit or any right to enforce a term of this contract. |
| Z6.0 | Design |
| Z6.1 | Where design is undertaken, it is the obligation of the *Contractor* to ensure the use of skill and care normally used by professionals providing similar design services. |
| Z6.2 | The *Contractor* designs the parts of the works which the Scope states they are to design. |
| Z6.3 | The *Contractor* submits the particulars of their design as the Scope requires to the *Client* for acceptance. A reason for not accepting the *Contractor’s* design is that it does not comply with either the Scope or the applicable law.The *Contractor* does not proceed with the relevant work until the *Client* has accepted this design. |
| Z6.4 | The *Contractor* may submit their design for acceptance in parts if the design of each part can be assessed fully. |
| Z7.0 | Change to Compensation Events |
| Z7.1 | Delete the text of Clause 60.1(11) and replace by:The *works* are affected by any one 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 *Contractor* and sub-contractors• 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 device or thing dropped from them |
| Z8.0 | Framework Agreement |
| Z8.1 | The *Contractor* shall ensure at all times during this contract it complies with all the obligations and conditions of the Framework Agreement made with the *Client*. |
| Z9.0 | Termination |
| Z9.1 | Delete the text of Clause 92.3 and replace with:If the *Contractor* terminates for Reason 1 or 6, the amount due on termination also includes 5% of any excess of a forecast of the amount due at Completion had there been no termination over the amount due on termination assessed as for normal payments. |
| Z10.0 | Data Protection |
| Z10.1 | The requirements of the Data Protection Schedule shall be incorporated into this contract |
| Z11.0 | Liabilities and Insurance |
| Z11.1 | Civil data protection claims and regulatory fines for breaches of Data Protection Legislation are excluded from any limit of liability stated. |
| Z12.0 | Packaging |
| Z12.1 | For contracts containing packages of projects the *Client’s* Contract Data, Scope and Site Information particular to an individual project is contained within its Site Specific Pack |
| Z30.0 | Material Price Volatility The Client recognises the ongoing pricing uncertainty in relation to materials for the period from 1 July 2021 to 30 June 2022 the Client will mitigate this additional cost through this clause. Payment is made per assessment based upon a general average material proportion within assessments, calculated at 40%. |
| Z30.1 | Defined terms a) The Latest Index (L) is the latest index as issued by the Client. The L, which is at the discretion of the Client, is based upon the issued consumer price index ((CPI) based upon the 12-month rate) before the date of assessment of an amount due. b) The Price Volatility Provision (PVP) at each date of assessment of an amount due is the total of the Material Factor as defined below multiplied by L for the index linked to it. c) Material Factor (MF) 40% is used, based on a general average material proportion across our programme. The volatility provision is only associated with material element. No volatility provision is applicable to any other component of costs. |
| Z30.2 | Price Volatility Provision Through a Compensation Event the Client shall pay the PVP. PVP is calculated as: Assessment x MF x L = PVP |
| Z30.3 | Price Increase Each time the amount due is assessed, an amount for price increase is added to the total of the Prices which is the change in the Price for Work Done to Date for the materials component only (and the corresponding proportion) since the last assessment of the amount due multiplied PVP for the date of the current assessment. |
| Z30.4 | Compensation EventsThe Contractor shall submit a compensation event for the PVP on a monthly basis (where applicable) capturing Defined Cost only for the PWDD increase in month. Forecasted costs should only be considered for the June 2022 period compensation event.

|  |  |  |
| --- | --- | --- |
| Assessment Date | Defined Cost? | Forecasted Cost? |
| 31st Jul 21 | In period costs only  | No |
| 31st Aug 21 | In period costs only  | No |
| 30th Sept 21 | In period costs only  | No |
| 31st Oct 21 | In period costs only  | No |
| 30th Nov 21 | In period costs only  | No |
| 31st Dec 21 | In period costs only  | No |
| 31st Jan 22 | In period costs only  | No |
| 28th Feb 22 | In period costs only  | No |
| 31st Mar 22 | In period costs only  | No |
| 30th Apr 22 | In period costs only  | No |
| 31st May 22 | In period costs only  | No |
| 30th Jun 22 | In period costs only  | Forecasted costs for remainder of contract |

The Defined Cost for compensation events is assessed using - the Defined Cost at base date levels for amounts calculated from rates stated in the Contract Data for People and Equipment and - the Defined Cost current at the date the compensation event was notified, adjusted to the base date by 1+PVP for the last assessment of the amount due before that date, for other amounts. |

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| **Contract Data** |
| The *Contractor’s* Contract Data |
|  |
|  | The *Contractor* is |
| Name |  |
|  |
| Address for communications |  |
|  |
| Address for electronic communications |  |
|  |
| The *fee* percentage is | As submitted in the Lot 1 Price Workbook | 7.3% |
|  |
| The *people rates* are  |  |
|  |
| category of person | unit | rate |
|  |
|  |  |  |
|  |
|  |  |  |
|  |
|  |  |  |
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|  |
| The *published list of Equipment* is |  |
|  |
| The *percentage for adjustment for Equipment* is |  |
|  |

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| **Contract Data** |
| The *Contractor’s* Offer and *Client’s* Acceptance |
|  |
| The *Contractor* offers to Provide the Works in accordance with these *conditions of contract* for an amount to be determined in accordance with these *conditions of contract*. |
|  |
| The offered total of the Prices is | £  |
|  | **Enter the total of the Prices from the Price List.** |
| Signed on behalf of the *Contractor* |
|  |
| Name |  |
|  |
| Position |  |
|  |
| Signature |  |
|  |
| Date | 11/08/2022 |
|  |
| The *Client* accepts the *Contractor’s* Offer to Provide the Works |
|  |
| Signed on behalf of the *Client* |
|  |
| Name |  |
|  |
| Position |  |
|  |
| Signature |  |
|  |
| Date | 15/09/2022 |
|  |

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| Price List |
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| **For items where the *Contractor* is to be paid an amount for the item, which is not adjusted if the quantity of work in the item changes, the tenderer enters the amount in the Price Column only: the Unit, Quantity and rate columns being left blank.****Where the *Contractor* is to be paid an amount for the item of work which is the rate for the work multiplied by the quantity completed, the tenderer enters the rate which is then multiplied by the expected quantity to produce the Price, which is also entered.** |
|  |
| **Item Number** | **Description** | **Unit** | **Expected Quantity** | **Rate** | **Price** |
|  | **Phase 1a** |  |  |  |  |
| 1 | Data Collection and Review – AIMS:OM | Each | 1121 | £26.00 | £29,146.00 |
| 2 | Data Collection and Review – Extra over for Inspection Report Reviews | Each | 264 | £36.00 | £9,504.00 |
|  | **Phase 2** |  |  |  |  |
| 3 | Hydraulic and Economic Assessments | Each | 900 | £114.00 | £102,600.00 |
| 4 | Reports - Overarching Technical Note |  |  |  | £7,194.00 |
| 5a | Report style - individual asset reports; |  |  |  | Not Required |
| 5b | Reports style - Interactive PDF Mapping  |  |  |  | Not Required |
| 5c | Report style - Asset Database |  |  |  | £15,637.00 |
|  |
| **The total of the Prices** | **£164,081.00** |

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| The method and rules used to compile the Price List are |
| Assume that at least 900 assets will pass forward from Phase 1 to Phase 2. Item 3 will be paid per asset at the rate entered. Items 4 and 5 are fixed price regardless of how many assets are included. The *Client* may ultimately decide to purchase one, some or all of Items 5a, 5b and 5c |

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| Scope |
|  |
| **The Scope should be a complete and precise statement of the *Client’s* requirements. If it is incomplete or imprecise there is a risk that the *Contractor* will interpret it differently from the *Client’s* intention.** |
|  |
| **1. Description of the *works*** |
|  |
| **Give a detailed description of what the *Contractor* is required to do and of any work the *Contractor* is to design.** |
|  |
| **Introduction**Within the Environment Agency’s West Midlands Area there are a large number of culverts and other assets within the watercourses that could potentially lead to flooding of property should they become blocked.The objective of this contract is to better understand the flood risk caused by hypothetical blockage scenarios at these assets and is required to inform the Environment Agency’s long-term plan of capital investment.The *works* therefore includes rapid high-level assessment of hydraulic risk associated with each asset, together with economic assessment of the potential damages caused by flooding.**Description of the *Works***A total of 1121 culverts are included in the Scope. A schedule of the assets, with location information is provided in Appendix A – Flood Risk Assessment Sites.The assets are located throughout the West Midlands Area.239 of the culverts have debris / security screens associated with them, either at the inlet or the outlet or both.Asset Inspection Reports are available for 264 of the culverts. These usually, but not always, take the form of CCTV Survey Reports.The *works* are undertaken in two Phases* Phase 1 – Data Collection and Review
* Phase 2 – Hydraulic and Economic Assessment

**Phase 1 – Data Collection and Review**Phase 1A – Desk-based Data Collection and ReviewIn Phase 1A the *Contractor* does the following:* Provides the *Client* with details of the asset information, relevant to the hydraulic and economic assessments, that the *Contractor* requires and that may be available from AIMS:OM. The *Client* then interrogates AIMS:OM to gather and provide the available information.
* Reviews the AIMS:OM information provided by the *Client* and determines its adequacy in respect of Providing the Works.
* Reviews Asset Inspection Reports of the culverts (where available) to gather information relevant to the hydraulic and economic assessments and determines its adequacy in respect of Providing the Works.
* Considers the suitability of each site (and each cluster of sites if they are in the same locality) for the modelling process to be used;
* Categorise each asset as follows:
	1. All required data is ready and available to allow modelling to proceed; or
	2. Further data required which is to be collected; or
	3. Asset not suitable for modelling for the chosen modelling approach.
* For Category B assets, provide the *Client* with details of the further information required, how it can be collected and an estimate of the cost of collection.
* For Category C assets, explain why the asset is not suitable for the chosen modelling approach and suggest any alternative approaches that could be considered.

Phase 1B – Further Data CollectionThis phase will be for the collection of the missing data required for Category B assets and will be subject to a compensation event.Phase 2 – Hydraulic and Economic Assessment and ReportsIn Phase 2 the *Contractor* does the following for each asset brought forward from Phase 1:Hydraulic Assessment:* Builds high resolution 2D hydraulic models;
* Runs the models and determines the resulting flood outlines for all combinations of the following flood return periods and blockage scenarios:
	+ Return Periods: 2yr, 10yr, 20yr, 75yr, 100yr, 200yr, 1000yr
	+ Blockage Scenarios: Unblocked; 50% Blocked; 75% Blocked; 100% Blocked

Economic Assessment:* Determines property counts and damages for all modelled events;
* Models depth information combined with property data and the latest Multi-Coloured Manual depth- damage curves to calculate economic damages;
* Identifies the benefits of asset improvement / replacement by comparing the difference between the unblocked baseline and blocked scenario model outputs;
* Populates the FCRM Partnership Funding Calculator and derives simple estimates of Outcome Measure benefits and FCRM GiA eligibility;

 Reports:The following report format is required:* + ~~Overarching Technical Note plus individual asset reports;~~
	+ ~~Overarching Technical Note plus Interactive PDF Mapping - allowing assets and flood risk to be viewed at various levels of detail (ie County; Catchment; Asset);~~
	+ Overarching Technical Note plus Asset Database – with facility to allow the Environment Agency to recreate the reports and mappings as it sees fit.

Regardless of format, each report records the following:* Descriptions of the methodologies used;
* Flood event peak flow estimates;
* Estimated hydraulic capacity of the culvert;
* A summary of affected receptors (residential properties, commercial properties and key local infrastructure) for each scenario;
* Maps identifying flood extent together with depth, velocity and DEFRA hazard-rating grids for each scenario;
* Damage estimates for each return period and blockage scenario;
* Long-term annual average damages;
* Present Value Damages;
* Outcome Measure benefits OM2;
* FCRM GiA Eligibility.
 |
|  |
| **2. Drawings** |
| **List the drawings that apply to the contract.** |
| None |
|  |
| **3. Specifications** |
| **List the specifications which apply to the contract.** |
| Refer to 1. Description of the *works* |

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| **4. Constraints on how the *Contractor* Provides the Works** |
|  |
| **State any constraints on the sequence and timing of work and on the methods and conduct of work including the requirements for any work by the *Client*.** |
| **Delegation of Authority**In accordance with Clause 14.5 of the contract, all of the *Client’s* actions under the contract are delegated to Steve Lambert. The *Contractor* only acts upon instructions received from the *Client’s* delegate. |
| **Sequence of Work**In Appendix A – Flood Risk Assessment Sites, each site is allocated a priority group: Group A (highest priority), Group B or Group C (lowest priority). Group A sites are sites with associated debris and/or security screens, that are being needs-assessed under a separate contract. The output from this Flood Risk Assessment project feeds into the Needs Assessment project. The *Contractor* ensures that delivering the Hydraulic and Economic Assessment Reports for the Group A sites is prioritised over all other activities. |
| **Management Activities**MeetingsThe Contractor attends the following meetings:* A project start-up meeting
* Monthly progress meetings

Meetings are virtual, using Microsoft Teams.Management ReportingIn managing the *works* the *Contractor*:* Maintains weekly verbal contact with the *Client’s* Delegate such that the *Client’s* Delegate is fully informed of progress, issues and risks.
* Produces monthly financial updates and forecasts and progress reports giving progress against programme.
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| **Working times**Any site-based *works* are carried out between 7.30am and 6.00pm on weekdays (Monday to Friday) |
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| **5. Requirements for the programme** |
|  |
| **State whether a programme is required and, if it is, state what form it is to be in, what information is to be shown on it, when it is to be submitted and when it is to be updated.****State what the use of the *works* is intended to be at their Completion as defined in clause 11.2(1).** |
| The *Contractor* submits an initial programme with the *Contractor’s* Offer, for acceptance by the *Client.*The programme is in the form of a Gantt chart showing the following:* the *starting date*
* the *completion date*
* planned Completion
* the period required for mobilisation / planning, post contract award
* each of the activities listed within the Price List

The programme clearly demonstrates how the Sequence of Works requirements given in Section 4 will be met.The *Contractor* submits a revised programme each month from the *starting date* to Completion. In addition to the information listed above, each revised programme shows the following:* the actual progress achieved on each of the activities and its effect upon the timing of the remaining work;
* the effects of implemented compensation events;
* any other change which the *Contractor* proposes to make to the order and timing of the operations;
* explanations for any changes.
 |
| **6. Services and other things provided by the *Client*** |
| **Describe what the *Client* will provide, such as services (including water and electricity) and “free issue” Plant and Materials and equipment.** |
| The *Client* provides access and/or licences for the following:* Flood Estimation Handbook Web Service
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| The *Client* provides electronic copies of asset inspection reports (where available). |
| The *Client* provides data, as requested by the *Contractor*, from AIMS:OM, to the extent that it is readily available. |

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| Site Information |
| Not applicable initially. Relevant site information will be provided as required for any site-based activities instructed under Phase 1b – Further Data Collection |

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| Proposed sub-contractors |
|  | Name and address of proposed subcontractor | Nature and extent of work |
|  | Form of Contract: |  |
|  | Form of Contract: |  |
|  | Form of Contract: |  |
|  | Form of Contract: |  |