



Framework:	Mapping & Modelling Framework
Supplier:	Jacobs UK Ltd
Company Number:	02594504
Geographical Area:	Midlands
Project Name:	Tidal Trent re-run Modelling
Project Number:	ENV0002887C
Contract Type:	Professional Service Contract
Option:	Option C
Contract Number:	31842

Revision	Status		Originator		Reviewer		Date

PROFESSIONAL SERVICE CONTRACT under the Mapping and Modelling Framework CONTRACT DATA

Project Name Tidal Trent re-run Modelling

Project Number ENV0002887C

This contract is made on
between the *Client* and the *Consultant*

22 April 2021

This Contract is made pursuant to the Framework Agreement (the "Agreement") dated 16th day of May 2019 between the *Client* and the *Consultant* in relation to the NGSA Mapping and Modelling Support Framework. The entire Agreement and the following schedules are incorporated into this Contract by reference

- Schedules 1 to 22 inclusive
- The following documents are incorporated into this contract by reference
Tidal Trent re-run modelling PSC Management Scope v2 final dated 07/04/2021

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

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

Z: *Additional conditions of contract*

The *service* is

The objective of the project is to improve the Client's understanding of flood risk by delivering a range of modelling outputs. These outputs are listed in the individual project Scope

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

Tidal Trent re-run modelling PSC Management Scope v2 final dated 07/04/2021

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

'none set'
'none set'
'none set'

key date
'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 22 April 2021

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 31 March 2022

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 9

The *interest rate* is 2.00% per annum (not less than 2) above the
Base rate of the Bank of England

The locations for which the *Consultant* provides a
charge for the cost of support people and office
overhead are All UK Offices

The *Consultant's share percentages* and the *share ranges* are
share range
less than 80 % *Consultant's share percentage*
0 %

from 80 % to 120 % 50 %
greater than 120 % 100 %

6 Compensation events

These are additional compensation events

1. Managing and mitigating the impact of Covid 19 and working in accordance with Public Health England guidance, as may vary from time to time between 1st November 2020 and 30th June
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	£ 5 Million in respect of each claim, without limit to the number of claims	12 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>) from or in connection with the <i>Consultant</i> Providing the <i>Service</i>	£ 5 Million in respect of each claim, without limit to the number of claims	12 Months
Death of or bodily injury to the employees of the <i>Consultant</i> arising out of and in the course of their employment in connection with the contract	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 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	'to be confirmed'
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 replaced by:

The *service* is are 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 sub contractor, 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:

92.3 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.

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* approval of a fee note.

Delete existing clause 51.2 and replace with:

51.2 Each certified payment is made within one week after the paying Party receives an invoice from the other Party and

If a certified payment is late, 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

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 2

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

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

[REDACTED]

Address for communications

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Email address

[REDACTED]

The subcontract *fee percentage* is

Option C

The *key persons* are

Name (1)

[REDACTED]

Job

Project Principal

Responsibilities

General review, check if project is on right track

Qualifications

BSc, MSc, MCIWEM, CWEM, Csci, CEnv

Experience

20 years of flood risk management: Head of Discipline Hydrology

The *key persons* are

Name (2)

[REDACTED]

Job

Hydraulic Modeller and Technical Lead

Responsibilities

Provide technical input; oversight of the technical outcomes

Qualifications

BSc, MSc

Experience

14 years experience of flood modelling and flood forecasting

The *key persons* are

Name (3)

[REDACTED]

Job

Hydraulic Modelling SME

Responsibilities

Modelling insights from Humber2100+ and oversight

Qualifications

BTec HNC Civil Engineering Studies

Experience

Expertise in Hydraulic modelling of free surface systems in 1D, 2D

The *key persons* are

Name (4)

[REDACTED]

Job

Hydrology Lead

Responsibilities

Technical leadership of hydrology and integration with modelling

Qualifications

BSc, MSc, CWEM, CEnv

Experience

12 years experience covering all aspects of the water environment

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

Availability of data from stakeholders - adjust programme or dra
Data quality from other organisations - identify additional source
Availability of staff in EA, Jacobs and other stakeholders due to lo

5 Payment

The *activity schedule* is
PSC Pricing Sheet Tidal Trent Re-Run Modelling

The tendered total of the Prices is

[REDACTED]

Resolving and avoiding disputes

The *Senior Representatives* of the *Consultant* are

[REDACTED]

Address for electronic communications

[REDACTED]

X10: Information Modelling

The information execution plan identified in the Contract Data is

Contract Execution

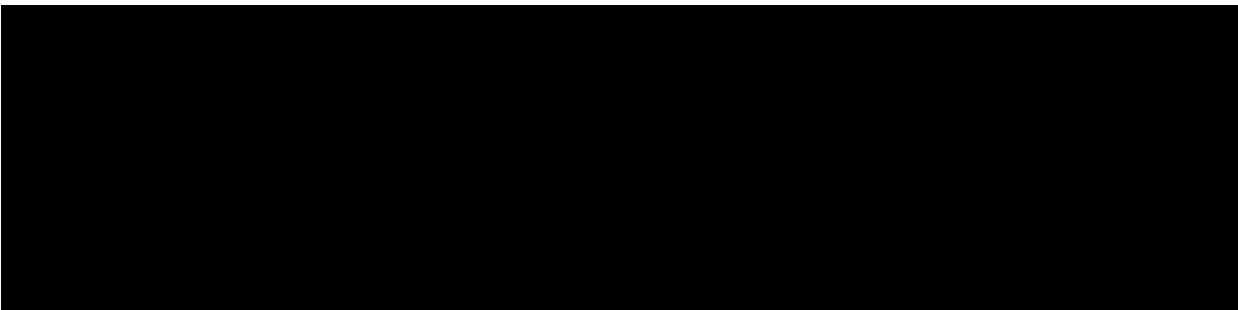
Client execution

Signed under hand by

for and on behalf of the Environment Agency



Consultant execution



Environment Agency

NEC4 Professional Services Contract (PSC) Scope

Project / contract information – Management scope

Project name	Tidal Trent re-run Modelling
SOP reference	ENV0002887C
Contract reference	31842
Date	07/04/2021
Version number	2.0
Author	

Revision history

Revision date	Summary of changes	Version number
01/12/20	First issue	1
07/04/21	Technical Scope reference amended (Nick Barron & Arif Iqbal)	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.

1 Overview

This contract is for a single modelling project in the IDT operational areas of the Midlands hub. This Scope details the overarching management arrangements that are to be applied to the individual project Scope listed in 1.2.

1.1 Objectives

The objective of the project is to improve the *Client's* understanding of flood risk by delivering a range of modelling outputs. These outputs are listed in the individual project Scope and may include, but are not limited to:

- Hydrological and Hydraulic model reviews;
- Flood history reviews;
- Hydrological assessments;
- New hydraulic models;
- Flood mapping.
- Climate change updates.

1.2 Project Details

The supporting Scope is listed below:

- Tidal Trent re-run modelling tech scope version 6

The *Client* has provided an individual project Scope, detailing the technical services required.

2 Services required

2.1 Consultant project management

The overall management of the *services* includes the following:

2.1.1. Attendance at:

- a) Project Start-up meeting
- b) monthly progress meetings when COVID19 restrictions allow alternating monthly between telephone and face-to-face meetings at one of the *Client's* Midlands venues with attendance at the minimum by the *Consultant's* Service Manager (either Trentside NG2 5FQ or a Birmingham city centre location)

The *Consultant* ensures the management of actions arising from these meetings.

- 2.1.2. Monthly project progress reports to be provided to the *Client*, including: a financial update and forecast; an updated programme; and a summary of work completed in month, an overview of upcoming stages and milestones, and key issues and risks using the *Client's* Modelling and Forecasting Monthly Reporting Tool template. These must be provided by the 8th of every month unless stated otherwise by the *Client*.
- 2.1.3. Monthly risk register review, update (including *Consultant* risk budget) and implementation of resulting actions.
- 2.1.4. Fortnightly progress updates via phone and/or email to the *Client* throughout the duration of the project. Any key decisions agreed with the *Client* must be documented by the *Consultant* and issued within a week to the *Client*.
- 2.1.5. All meetings (including progress and consultations) shall be recorded by the *Consultant* with actions identified (responsible party, date required). Minutes shall be provided within 1 working week of meeting date for review by the *Client*.
- 2.1.6. Recording and updating a list of data required to provide the services, which must be provided to the *Client* at the project start-up meeting and weekly intervals thereafter.
- 2.1.7. Quarterly input into the project efficiency register (CERT Tool).
- 2.1.8. Obtaining data from *Others* in order to provide the *services* and ensuring it is correctly licensed for use by the *Client*.
- 2.1.9. Following completion of a project, provide responses to *Client* queries about the completed project until the Services are completed. The *Consultant* provisions no more than 1% of the total contract value for delivering this task.
- 2.1.10. Highlights any slippage on the timescales identified in Section 3 immediately to the *Client's* Service Manager.
- 2.1.11. Model handover meetings – face to face anticipated at the *Client's* office, location as identified previously

3 Requirements of the programme

3.1 Programme

- 3.1.1. The *Consultant* shall provide a detailed programme in Microsoft Project 2013 meeting all requirements of the *conditions of contract*. The programme must show critical path activities, gateway, risk buffers and activities requiring *Client* input, for example review periods, and allowances for stakeholder/third party engagement.
- 3.1.2. Allow 10 working days for the *Client* review of standard draft deliverables and provide 2 weeks' notice of submission for review. The exception to this will be for *Client* review of all the draft baseline models, for which 20 working days will be allowed.
- 3.1.3. Allow 25 working days for the initial data collection by the *Client* following the data review by the *Consultant*.
- 3.1.4. Allow 20 working days for the *Client* to arrange site visits if specified in the project Scopes.

4 Data

4.1 Previous studies and data sources

See the individual project Scopes for previous studies and data sources.

- 4.1.1. The *Client* is responsible for the accuracy & sufficiency of existing data owned by the *Client*. The *Client* will only cover costs of sourcing new data, if existing data is proven to be incomplete or to contain mistakes or errors.
- 4.1.2. The *Consultant* is responsible for any new data requirements and third party data. The *Consultant* is to scope, procure and manage the acquisition of any new surveys or data requirements and third party data. The *Consultant* will ensure any Intellectual Property Rights remain with the *Client* after final delivery.
- 4.1.3. The *Consultant* completes a data review to analyse the completeness, accuracy, content and size of previous studies and data and identifies any risks or issues associated with these within 6 weeks of the Project Start-up Meeting. The *Consultant* produces a data review report to identify any major concerns within 6 weeks of the project start up meeting and attends a call to discuss the content of the report to allow appropriate action to be taken.

5 Specifications and guidance

Where applicable, the *Consultant* shall use the following specifications and guidance:

- 5.1.1. Operational Instruction 379_05 'Computational modelling to assess flood and coastal risk'.
- 5.1.2. Operational Instruction 197_08 Flood Estimation Guidelines
- 5.1.3. NEC4 Minimum Technical Requirements for Modelling_v1.xlsm
- 5.1.4. Fluvial Design Guide (online): <http://evidence.environment-agency.gov.uk/FCERM/en/FluvialDesignGuide.aspx>
- 5.1.5. Operational Instruction 466_15 Guidelines on high flow rating curve development using hydraulic models.
- 5.1.6. Development of flood warning thresholds must comply with Operation Instruction 137_05, Flood Warning Levels of Services (06/01/2014) and Operational Instruction 55_07 Threshold Setting in Flood Incident Management (26/10/10) where the 0.1% AEP flood outline exists.
- 5.1.7. PDM Model Calibration Principles 20151109.docx
- 5.1.8. Operational Instruction 57_07 Assessment of flood risk – topographic and hydrographic surveys.
- 5.1.9. Carry out any required surveys in accordance with the National Standard Contract and Specification for Survey Services version 4.1.

6 Services and other things provided by the *Client*

The *Client* will provide the following services:

- 6.1.1. Access to land to carry out surveys and site visits.
- 6.1.2. Arrangement of progress meetings, meetings with landowners and site visits with the *Client* in attendance.
- 6.1.3. Any other data owned by the *Client* which is requested by the *Consultant* will be provided along with a data licence.