NEC4 Engineering and Construction

Short Contract

FCRM Operational Framework – Eastern Hub	
A contract between	**The Environment Agency** **Horizon House** **Deanery Road** **Bristol** **BS1 5AH**
And	**Jackson Civil Engineering**
For	Taplow Weir Gantry – Design & Build
	Contract Forms - **Contract Data** - **The *Contractor's* Offer and *Client's* Acceptance** - **Price List** - **Scope** - **Site Information**

Contract Data

The *Client's* Contract Data

	The *Client* is	
Name	Environment Agency	
Address for communications	Kings Meadow House, Kings Meadow Road, Reading, Berkshire. RG1 8DQ	
Address for electronic communications	defra.bravosolution.co.uk	
The *works* are	The project requires the temporary works, design, fabrication, and installation of a gantry for the deployment of head stop logs plus the design, fabrication and supply of the head & tail stop logs at Taplow Sluice / Weir. Taplow Weir is the control structure for flows along the Jubilee River and these stop logs and gantry system will ensure improved operational testing and maintenance of the sluice gates. In addition to this, the design of an eel pass is required within the existing fish pass channel to elicit environmental enhancements to the *site*.	
The *site* is	Taplow Weir, Mill Lane, Taplow, Maidenhead SL6 0AF SU 90472 81938	
The *starting date* is	To be determined by the successful *Contractor's* programme, reference 'Programme – Taplow Weir – Stoplogs and Gantry – Tender Submission Rev 1'	
The *completion date* is	To be determined by the successful *Contractor's* programme, 'Programme – Taplow Weir – Stoplogs and Gantry – Tender Submission Rev 1'	
The *delay damages* are	Nil	Per day
The *period* for reply is	2	weeks
The *defects date* is	104	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.

Contract Data

The *Client's* Contract Data

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	£100,000
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	Minimum £2,000,000 in respect of every claim without limit to the number of claims	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.
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 Events The 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.

Z6.5	The Contractor's total aggregate liability (in contract, tort, for breach of statutory duty or otherwise under and in connection with the contract including for delay) shall not exceed £ 2 million and shall have no liability for any loss of indirect, special or consequential losses.

Contract Data

The *Contractor's* Contract Data

	The *Contractor* is	
Name	Jackson Frameworks Limited	
Address for communications	30 Whitehouse Road, Ipswich, Suffolk, IP1 5LT	
Address for electronic communications	FPizzardi@jackson-civils.co.uk	
The *fee* percentage is	[redacted]	%
The *people rates* are	FCRM Operational Framework-South East Hub-Lot 1: Year 2 Confirmed new rates ref 23396 dated 3rd Sept 2020.	
category of person	unit	Rate £
Contracts Manager	hr	[redacted]
Project Manager	hr	[redacted]
Quantity Surveyor	hr	[redacted]
The *published list of Equipment* is		CECA Schedule of dayworks
The *percentage for adjustment for Equipment* is		[redacted]

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	£ 618,762.00 (Six Hundred and Eighteen Thousand, Seven Hundred and Sixty Two Pounds Sterling) Excl VAT
	Enter the total of the Prices from the Price List.

Signed on behalf of the *Contractor*

Name	[redacted]
Position	Regional Director
Signature	[redacted]
Date	26th January 2022

The *Client* accepts the *Contractor's* Offer to Provide the Works

Signed on behalf of the *Client*

Name	[redacted]
Position	Project Executive
Signature	[redacted]

Date	27/01/2022

Price List

Entries in the first four columns in this Price List are made either by the *Client* or the tenderer.

If 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.

If 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	Quantity	Rate	Price
1	Preparation and production of required paperwork:	Sum	1	[redacted]	[redacted]
2	Production, application and submission of Flood Risk Permit Application (FRAP)	Sum	1	[redacted]	[redacted]
3	Surveys of areas of intrusive works and other areas as deemed necessary by *Contractor*	Sum	1	[redacted]	[redacted]
4	Site mobilisation	Sum	1	[redacted]	[redacted]
5	Review impact of installation on existing asset	Sum	1	[redacted]	[redacted]
6	Design of temporary works	Sum	1	[redacted]	[redacted]
7	Design of stop logs (head and tail), a fixed system to install head stop logs, fixed or temporary system to install tail stop logs and walkway modifications to ensure safe access to gate structure.	Sum	1	[redacted]	[redacted]
8	Design of an onsite storage facility for stop logs when not in use	Sum	1	[redacted]	[redacted]
9	Design of an eel pass solution within the existing fish pass	Sum	1	[redacted]	[redacted]
10	Fabrication of stop logs (head and tail) and installation system Taplow (head)	Sum	1	[redacted]	[redacted]
11	Supply and installation of temporary Works	Sum	1	[redacted]	[redacted]
12	Build and installation of stop logs (head and tail), a fixed system to install head stop logs, fixed or temporary system to install tail stop logs and walkway modifications to ensure safe access to gate structure.	Sum	1	[redacted]	[redacted]
13	Build and installation of onsite storage facility for stop logs when not in use	Sum	1	[redacted]	[redacted]
14	Test and commission of the installed works	Sum	1	[redacted]	[redacted]

15	Site demobilisation	Sum	1	[redacted]	[redacted]
16	Completion of the Environment Agency's Carbon Calculator and Final Carbon Report for the 'as built' project to be provided within a month of project completion.	Sum	1	[redacted]	[redacted]
17	Preparation of 'as built' drawings and provision of information to the Principal Designer to compile the Health and Safety File (including information on materials used, operating manuals and maintenance).	Sum	1	[redacted]	[redacted]
18	All surplus wastes generated by the works to be disposed of off-site in accordance with the current Waste Management Regulations.	Sum	1	[redacted]	[redacted]
19	Preliminaries and supervision	Sum	1	[redacted]	[redacted]
20	For *Contractor's* Use (Risk)	Sum	1	[redacted]	[redacted]

Clarification:

- Please be aware that the prices offered are on the basis that we reserve the right to review these and reprice them (increases captured as per the agreed CEQ route) to account for any price increases as a result of any delays to contract award and the subsequent rate increases experienced in the market.
- For the purposes of the tender and to expedite contract sign-off, the tender Rev 1 programme has been attached. However, along with any price changes, the construction programme has been affected due to the delay in the contract award, beyond the original tender dates. A new (construction) programme extending the works (possibly into the 3rd and/or 4th quarter of 2022), will be revised and submitted, once in contract to advise of this impact.
- Additional [redacted] allowed for contractor risk additional work required for the design and construction/fixing of the new gantry structure

The total of the Prices	£618,762.00

The method and rules used to compile the Price List are

Civil Engineering Standard Method of Measurement 4th edition (CESMM4) as per the Framework Price Workbook.

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.

Background:

The Jubilee River is an artificial flood relief channel, diverting water from the River Thames during times of high flow. The scheme reduces the risk of fluvial flooding to 3,200 properties. Taplow Weir is the first, and largest of the five-control structures on the River. The Environment Agency (the *Client*) has signed up to a Low Flow Agreement, whereby they must ensure a consistent sweetening flow (10m^3/s) along the Jubilee River. The fully drawn operation passes 180m^3/s and is then throttled back to maintain this flow and maintain downstream channel freeboard.

Taplow Weir is the only control structure controlling flows from the Thames into the Jubilee River. The asset consists of three radial rising gates (7m wide x 5.5m deep), all incorporating tilting flap gates. Both the gate and flap movements are hydraulically operated in response to control on site by the *Client's* personnel. To ensure the scheme can be activated when required, 2 of the 3 gates must be operational during any maintenance or improvement works.

The original design of Taplow Weir did not take maintenance fully into account and no dedicated stop logs for the scheme were supplied when the Jubilee River was constructed (stop logs are required to staunch the upstream flows when maintenance or testing are carried out). Currently at Taplow Weir if maintenance or testing on the gates is required, a complex programme of enabling works must be put into place, including 15+ personnel, external divers, as well as a lifting operation using a crane. It is this that the *Client* wishes to simplify.

Fabrication of a full set of dedicated stop logs for Taplow Weir and the development of an effective means of deploying the stop logs are required to allow routine operational and maintenance checks and periodic maintenance on the three flap gates and large radial gates. The stop logs will be employed to staunch flows on the Jubilee River and create a safe working environment to allow maintenance work either in a wet working environment (head stop logs only) or dry working site (head and tail stop logs deployed).

To add environmental enhancements, the proposal of incorporating an eel pass to Taplow Weir is to be investigated and a design developed. Subject to the *Client's* approval of the design, a Compensation Event (CE) will be awarded for the fabrication and installation.

Scope of Works

The *works* include for the *Contractor* to provide the following items to specification as listed in this document:

- Stop Logs:
    a. the design, fabrication and installation of the head stop logs and a fixed installation system
    b. the design, fabrication and installation of the tail stop logs and installation system (fixed or temporary)
    c. the design, fabrication and installation of all temporary works
    d. the design, fabrication and installation of safe means of access into weir chamber (for example additional hand railings to be installed along piers and walkway abutments, as well as access points, ladder fixing points and harness anchors).
- The design of an eel pass. Upon submission, once the *Client* has determined that the design is classified as a 'workable solution' which 'does not impact the working requirements of Taplow Weir', a CE for fabrication and installation will be awarded)
- Ensure Taplow Weir remains operational during these works (work sequentially within / over one gate at a time).

The *Contractor* shall note the following requirements:

- Head Stop Logs – shall be designed such that they can be easily and safely installed by the *Client* without divers or cranes to allow the *Client* to undertake gate operational checks several times a year and annual routine maintenance; it must be possible for the head stop logs to also be used with tail stop logs to create a dry working site around the weir gate structure.
- Tail Stop Logs – the *Contractor* shall supply stops logs and the specification for installation, to be used by the *Client* for more major maintenance work, e.g., 5 yearly, to staunch off one channel at a time with head stop logs in place to create a dry working site around the weir gate structure.
- Eel Pass – shall not impact the working of the radial gates or deployment of stop logs.

The Site has existing stop log channels on both head and tail side (see drawings attached)**.** The *Contractor* is required to ensure that the existing stop log channels can be used with the head and tail stop logs that they're designing and fabricating.

The stop log cill recess which secures the bottom stop log in place currently requires divers to clean out silt in advance of stop log installation. The *Contractor* shall provide for an alternative method of cleaning (without divers) in their designs.

Dam sections must adhere to all current temporary works regulations.

Purpose/Outcome of the Works

- To provide easily installable head stop logs to allow for the operational checks to be carried out on gates at Taplow Weir to improve operational safety and reliability.
- To provide an easily installable set of head and tail logs, working platforms and modifications to the Site structure to allow safe access to all gate elements for routine and periodic maintenance to be carried out.

Specifications and Drawings

<u>General</u>

- The *Contractor* shall submit the proposed design of the stoplog staunching system, stop logs and access provision to the *Client* for approval.
- The *Contractor* shall prepare fabrication drawings for the new stop logs and stop log installation system.
- The drawings of the stop logs shall demonstrate that they will fit into the existing stop log channels.
- The *Contractor* shall submit for approval and acceptance by the *Client*, detailed proposals for corrosion protection suited to the aggressive water environment.
- The *Contractor* shall submit for approval and acceptance by the *Client*, detailed proposals for any topcoat paint colour to be applied to stop logs and stop log installation system.
- The *Contractor* will be responsible for completing their own survey of existing stop log channels to check dimensions and structural integrity of weir abutments, walls and walkways.

Design of head stop logs and installation system:

- The *Contractor* shall design the stop log system to safely withstand the maximum unbalanced pressure condition of the stoplog cill height. With respect to the dimensioning of the stoplog panel, the *Contractor* shall consider the capability to withstand and transmit the applied hydraulic loading to the side walls and/or intermediate piers, as well as the wall and pier concrete bearing pressure. The horizontal deflection of the stoplog staunching system under loading shall be limited to not affect safety, cill and side seal characteristics.
- Head stop logs to be installed by the *Client* without the need for divers or cranes.
- Head stop log installation system to be easily operated by two-person team to allow routine gate operational checks and maintenance to be carried out.
- Stop logs to be installed by the *Client* in existing concrete grooved channels on structure walls.
- Stop logs to be installed by the *Client* in one channel at a time.
- The *Contractor* shall provide seals on sides and base of stop logs sections to ensure a dry working site around the gate structure when head and tail stop logs are deployed.
- Head stop log installation system to have low maintenance requirements.
- Stop logs and stop log installation system to be designed with a 30-year design life.
- Storage of stop logs when not required operationally needs to be included within the design and build within the existing car park which is now closed to the public and being set up as a designated site compound. Note there is very limited space at Taplow for stop log storage.
- The *Contractor* shall provide CAT III design checks and certification for the stop logs.
- The *Contractor* shall provide operational instructions to install and maintain stop logs.

Design of tail stop logs and installation system:

- To be installable without the involvement of divers if possible. If practical, the need for the use of a crane is also to be avoided.
- Stop logs to be installed by the *Client* in existing concrete grooved channels on structure walls.
- Stop logs to be installed by the *Client* in one channel at a time.
- The *Contractor* shall provide seals to ensure a dry working site around the gate structure when head and tail stop logs are deployed.
- Stop log installation system to have low maintenance requirements.
- Stop logs and stop log installation system to be designed with a minimum 30 year design life.
- Storage of stop logs when not operational needs to be included on site within the existing Taplow car park, whilst still ensuring access to the site and compound.

Stop Log Cill Recess

- Existing stop log recess to be considered as part of design solution, provided that a means to clear recesses prior to stop log installation is included in design.
- Alternative means of securing base stop logs can also be proposed to meet the specification for head stop logs to be installed without requiring divers.
- Modification to existing stop log recess is permitted (if required) as part of design solution.

Provision of safe means to access gate operational elements for maintenance:

- Stop log installation systems: This may include providing hand-railing and gate(s) for access along existing unprotected gate wall abutments.
- Access to gate structural elements and gate chambers: This may include provision of hand-railing and padlocked gates along gate wall abutments.
- Access and egress from gate chambers: This may be provided in the form of a ladder to be fixed onto the gate walls, or an alternative solution. Any permanent structure must be fixed only above the maximum water level.

Eel Pass:

- The asset must not interfere with the workings of Taplow Weir or the installation of the stop logs. Subject to a suitable design, the fabrication and installation of these works will form a Compensation Event within this contract.

Design Life

- The design life of the stop logs, stop log installation system and eel pass shall be not less than 30 years.
- The period to first major overhaul on the stop log installation system shall be not less than 10 years.
- Where a protective coating system is used, it shall have an effective life of at least 20 years.
- The design life of other ancillary components shall comply with the *Client's* MEICA minimum technical requirements.

Safety Considerations

- The *Contractor* is to undertake any required utility searches and Cat & Genny Scans
- Advanced site investigation as deemed necessary by the *Contractor* to aid in the Design and Installation
- The *Contractor* is to develop the Design Risk Assessment (DRA), buildability statements etc as necessary for the site.

Standards the *Contractor* will comply with

The *Contractor* shall carry out their work using the following guidance:

- SHEW Code of Practice (follow latest version, currently v3 May 2018)
- The *Client's* MEICA specification documents
- All fabrication to be in accordance with BS EN 1090 Structural Steel.

Design Responsibility

Design submission procedures:

- The *Contractor* shall submit to the *Client Project Manager* discrete design packages comprising calculations, drawings and specifications of workmanship and materials sufficient to substantiate that all parts of the *works* will comply with the Scope.
- Within two weeks of the *starting date*, a schedule of design deliverables shall be produced and submitted to the *Client Project Manager*. The following documents shall be required, as a minimum:
- Designer Risk Assessment.
- Public Safety Risk Assessment
- General arrangements;
- Detailed sections, elevations and supporting details
- Detailed dimensioned drawings of any equipment being provided;
- Fabrication drawings [where applicable]
- Electrical schematics [where applicable];
- Cable installation routes [where applicable];
- Final single line diagrams [where applicable];
- Final cabling diagrams [where applicable];
- As built drawings.
- All drawings shall be drawn on A3 sized paper or larger and shall be submitted to the *Client Project Manager* for acceptance prior to the commencement of any manufacture.
- Drawings shall be submitted in AutoCAD (*.dwg) readable by legacy versions and PDF format (A3 size, *.pdf).
- The *Client* may appoint an Independent Technical Advisor (ITA) to assist in evaluating the design of the *works*. The *Contractor* shall assist the ITA in their advisory role.
- The *Contractor* shall submit the following with the design proposals:
- Buildability Statement
- RAG (Red, Amber, Green) List

- The Final Design package submitted for acceptance shall contain, as a minimum:
- Design calculation control sheets identifying standards, loadings, methods of analysis and checking and review procedures;
- Detailed design calculations appropriately prepared and checked;
- General arrangement and detail drawings;
- Specification;
- Designer Risk Assessment including the "Environment Agency Operational Instruction 300_10_SD14: Designers' safety, health and environmental Red Amber Green (RAG) list"; and
- The "Environment Agency Operational Instruction 733_11: Public safety risk assessment of assets in the water environment – recreation, water, and land access".
- Any design being provided for review at any stage (draft, outline, for comment, etc) must include the following elements as a minimum:
    a. Design drawings or sketches
    b. SHEW boxes or hazard symbols on drawings or sketches
    c. Evidence of RAG List review
    d. Residual risks identified from design risk management processes
    e. Public safety risk assessment
    f. Buildability statement
    g. Other deliverables may also be required such as traffic plans, COSHH MSDS, calculations, environmental assessments etc. as necessary.

Design approval from Others

- Each submission shall be issued to the Principal Designer for review
- Design review submissions will be programmed at concept, 75% & 100%. It is recommended that design review workshops are included within the programme in order to streamline this process.

Client requirements

The *Contractor* is to adhere to the following *Client* requirements in addition to the specifications above.

- All the *works* shall be constructed, manufactured, fabricated, installed and tested in accordance with the latest revision, as of Contract Date, of the relevant regulations and standards, and in particular the following as appropriate:
- British and European Standards Specifications
- British Regulations and Codes of Practice
- *Client's* Minimum Technical Requirements
- BS EN 1090 : Execution of steel structures and aluminium structures and CE marking thereof
- DIN 19704: Hydraulic Steel Structures
- Health and Safety at Work etc. Act 1974 and all Regulations and Approved Codes of Practice and associated regulations and best practise guides.
- Design information should also address future operation, maintenance and demolition risks for inclusion in the health and safety file and shall be included with the design deliverables.
- Where practicable, each item of Plant shall be clearly and indelibly marked to indicate the standard with which it complies. Alternatively, a Certificate of Conformity shall be provided.
- Any residual risks identified by the *Contractor* must have an associated construction/maintenance/operation solution. Residual risks shall be shown on SHE boxes on all relevant drawings as set out in "Environment Agency Operational Instruction 300_10_SD11: Safety, health and environmental (SHE) information to be included on construction and as-built drawings".
- All designs shall be prepared and reviewed in accordance with "Environment Agency Operational Instruction 300_10_SD14: Designers' safety, health and environmental Red Amber Green (RAG) list".

Design co-ordination

- The *Contractor* is responsible for the co-ordination in preparing the design and that of any *Subcontractor*.
- In developing the design, as a minimum the *Contractor* shall consult with:
    a. The *Client*;
    b. The Principal Designer appointed by the *Client, and*

c. Any Independent Technical Advisor (ITA) appointed by the *Client.*

Requirements of Others

- The *Contractor* shall liaise with the local planning authority to determine the permissions required and make application as Agent on behalf of the *Client* to secure the necessary approvals as required to Provide the Works.
- The *Contractor* shall provide the *Client* with the information necessary to fulfil any planning permission conditions as required.
- The *Contractor* shall prepare and submit all consents, licences, and approvals on behalf of the *Client*. The following consents and approvals are required (but not limited to):
- Flood Risk and Environmental Activity Permits from the Environment Agency under the Environmental Permitting Regulations 2016: The *Contractor* shall obtain consent for the temporary and permanent *works.*

Copyright/licence

- The *Client* may wish to use and copy the *Contractor's* design in pursuance of their objective to achieve standardisation of design across the Environment Agency.

Access to information following Completion

- The *Contractor* shall produce one paper and one electronic copy of all Operations Manuals and Installation Manuals for the Plant and Materials provided as part of the *works*, to be supplied prior to Completion.
- The manuals shall contain at least the following information as per the *Client's* Supporting document 369_13_SD21:
    a. Index;
    b. General description of the Plant and its operation;
    c. Operating instructions;
    d. Maintenance Instructions;
    e. A complete list of all of the Plant supplied along with the manufacturer's nameplate details;
    f. Spare parts list with names, full addresses and contact details for suppliers;
    g. A complete set of as-built drawings for the entire civil and Mechanical & Electrical (M&E) installation;
    h. All test certificates;
    i. A list of all signed Site Acceptance Test (SAT) documentation for all items and systems on Site.
- The *Contractor* shall retain a copy of all design records, supplier's details and other relevant information for a period of at least 6 years following Completion and shall make these available to the *Client* on request. These records should be in the Health & Safety (H&S) file or referenced in the Operation & Maintenance (O&M) manuals.

Completion

Completion definition

The following are absolute requirements for Completion to be certified, without these items the *Client* is unable to use the *works*:

- All installed Plant is fully tested, commissioned and operational;
- All operational training has been provided to the *Client's* personnel;
- Provide the Principal Designer with all information required to produce the Health and Safety File as per the most up to date version of the Environment Agency's Health and Safety File template 300_10_SD16;
- One hard copy of Operating and Maintenance Manuals and one electronic version;
- One hard copy of As Built drawings and one electronic version;
- Population of the *Client* 's latest version of the Project Cost Tool, or its successor;
- Transfer to the *Client* databases of BIM data; and
- Delivery of the Final Carbon Report.

The operation and maintenance manuals shall contain, at least the following information as per the most up to date version of the Environment Agency's Supporting Document 369_13_SD21:

- Index;
- General description of the Plant and its operation;

- A complete list of all of the Equipment supplied along with the Plant manufacturer's nameplate details e.g. model, type, serial number, kW rating and voltage;
- Spare parts list with names, full addresses and contact details for suppliers;
- All Materials' coating and test certificates;
- Electrical installation test certificates (NICEIC) to comply with the Electricity at Work Regulations;
- A list of all signed Factory Acceptance Test (FAT) and Site Acceptance Test (SAT) documentation for all items and systems on site.

Training

- The *Contractor* shall provide training for six *Client* personnel. This must be undertaken prior to commissioning to ensure the personnel are adequately trained to operate and replace any Plant and Materials prior to Completion.
- Training shall incorporate all procedures listed within the Operating and Maintenance Manuals. All alarms, diagnostics and typical failure modes shall be addressed, with resolutions identified where possible.

Final Clean

- All temporary structures, surplus materials, waste, temporary protection, temporary fencing, signage, tools and the like shall be removed from Site prior to Completion.
- All new Plant, panels and kiosks shall be thoroughly cleaned to ensure that no dust or deleterious materials remain from the construction activities prior to Completion.

Correcting Defects

- The *Contractor* is to give the *Client* a minimum of one week's notice before any planned Defect correction work unless the Defect is considered to be an emergency.

Pre-Completion arrangements

- Prior to any works being offered for takeover or Completion the *Contractor* shall arrange a joint inspection with the *Client Project Manager*. The initial inspection shall take place a minimum of three weeks in advance of the planned takeover or *Completion*.
- Prior to the *Client* taking over the *works*, the *Contractor* is to ensure that training has been provided to the *Client's* personnel and that the Operating and Maintenance Manuals are complete.
- Should the *Client* require to use the *works* (or part of the *works*) prior to the Completion Date, it will not constitute taking over the *works* (or part of), unless the *Client Project Manager* deems it appropriate to do so.
- The *Contractor* shall assist the *Client* with meetings to agree reinstatement with landowners.

Tests and inspections

Tests and inspections

- The *Contractor* shall undertake all the inspections and tests of Plant and Materials, and methods of construction. The *Contractor* may need to carry out additional testing to substantiate that all parts of the *works* will comply with the *Client*'s requirements.
- The *Contractor* shall provide adequate lighting where *works* are being executed and shall provide and install any additional lighting, safety guarding or other facilities that the *Client Project Manager* may require in order to watch and supervise the *works* and carry out any testing and examination of Materials.

Stop Log and Stop Log Installation System Tests

- Stop log installation system will be tested in accordance with submitted designs.
- All stop logs shall be subject to the following tests:
- An in-situ wet test of all stop logs within all three chambers will be undertaken by the *Contractor* in the presence of the *Client Project Manager* to test seepage through the seals.
- An in-situ dry test with head and tail stop logs installed within all three chambers will be undertaken by the *Contractor* in the presence of the *Client Project Manager* to test seepage through the seals.

- The wet test will be carried out with head stop logs in place and gate raised to fully open position. On the downstream side of the weir gate the normal tail water level should be maintained.
- It is expected that minimal water should be passing through the sealing system. The rate of leakage of water will be visually assessed by the *Client Project Manager*.
- The dry test will be carried out with head and tail stop logs in place and gate raised to fully open position.
- It is expected that minimal water should be passing through the sealing system, no more than that which can be removed using 1 or 2 2" pumps to maintain a dry working site. The rate of leakage of water will be visually assessed by the *Client Project Manager*.
- All equipment for lifting during the test will be supplied by the *Contractor*.

Factory Acceptance Tests

- Where tests are to be carried out, they shall be witnessed by the *Client* and the tests shall be carried out in accordance with the appropriate ISO (or other standard previously agreed with the *Client*) and certified test certificates produced before the item is coated or despatched to Site.
- Written reports, measurements and photographs covering each inspection and test by the *Contractor* will be furnished promptly to the *Client*. Any Materials and/or workmanship which are not in full compliance with the Scope will be Defects. All expenses associated with the *Client* witnessing repeat Factory Acceptance Tests will be the responsibility of the *Contractor*.
- Elements to be included in the pre-coating factory inspection tests are: dimensional accuracy, material thickness and section sizes, weld configuration and quality, absence of distortion, material certification, surface preparation for coating.
- Elements to be included in the post-coating factory inspection tests are: quality, coverage and thickness of paint system.

Site Acceptance Tests

Site Acceptance Tests, as witnessed by the *Client Project Manager*, shall be conducted to ensure that all snagging items raised at the factory acceptance tests have been corrected, the Plant has not been damaged in transit and to ensure that the *Contractor* has installed the equipment correctly and each manufacturer has field-verified their specific devices to guarantee the criteria for warranty.

- The *Contractor* shall submit a commissioning document demonstrating how Plant shall be commissioned. No temporary *works* shall interfere in the commissioning and temporary *works* and shall not be removed until commissioning has been accepted by the *Client Project Manager*.
- The Site Acceptance Test shall be conducted following the *Contractor* satisfying themselves during the commissioning trials that Plant functions fully in accordance with the Scope.

Management of tests and inspections

- Within four weeks of the access date, the *Contractor* shall compile and submit to the *Client Project Manager* for acceptance, a test and inspection schedule containing all relevant information. The schedule shall be updated on a monthly basis and the revision submitted to the *Client Project Manager* for acceptance five working days before the scheduled monthly progress meetings.
- The *Contractor* shall notify the *Client Project Manager* of the workshops and places where *works* are being or are intended to be prepared or from which manufactured articles or Materials are being or are intended to be supplied. The *Contractor* shall also notify the *Client* of the times when such *works*, articles and Materials will be ready for inspection so that the *Client* may inspect the *works,* articles or Materials without delaying despatch to the Site. Such notices shall be given at such times as will permit inspection of the whole of the *works* by the *Client* at all stages of the processes of manufacture, and not only when the goods are completed ready for despatch.

Covering up completed work

- No operation shall be carried out, coated, galvanised or covered up without full and complete notice being given to the *Client* by the *Contractor* sufficiently in advance of the time of the operation to enable the *Client* to make such arrangements as they deem necessary for inspection and checking.
- A minimum of seven days' notice shall be given to the *Client Project Manager* when such inspection and checking is required remotely from the weir locations.
- During the execution of the *works*, the *Contractor* shall submit to the *Client* full and detailed particulars of any proposed amendments to the arrangements and methods submitted.

Client procedures for inspections and watching tests

- The *Contractor,* or the *Contractor's* appointed Subcontractor, shall be responsible for undertaking appropriate witness testing, with the *Client,* of any Plant provided.
- The following test and inspection procedures checklist shall be followed as a minimum:
    a. All tests are fully recorded on appropriate result recording sheets;
    b. Where appropriate, photographic and dimensional records are completed;
    c. All covers removed for testing are replaced and all areas made safe.
    d. Acceptance of the *works* shall be based on the following:
    e. Conformity with the *Contractor's* or *Client* design;
    f. Conformity with the Scope;
    g. Suitability for incorporation within other elements of the *works* or the existing structures;
    h. Satisfactory operation of all Plant.

Communications and management of the *works*

Monthly Progress Meetings

The *Contractor* shall attend formal monthly progress meetings when Providing the Works. The *Contractor* shall arrange for appropriate attendance at these meetings by their key persons and their Subcontractor's. The *Client Project Manager* and Others will attend the meetings as necessary.

Monthly Progress Reports

- The *Contractor* shall submit formal monthly progress reports using the *Client's* 'standard' template available on the *Client's* Common Data Environment, which is currently Adoddle. The report shall cover all aspects of the *works* highlighting any actual or anticipated deviations from the applicable programme together with details of the actions proposed to rectify each deviation.
- Progress photographs are to be provided with each monthly report.
- The *Client's* standard forms are used to manage the procedures of the contract unless otherwise agreed by the Parties.
- The *Contractor* and the *Client Project Manager* shall use the *Client's* standard contract administration forms as follows (available on Adoddle):
- Project Manager's Instruction (PMI)
- *Contractor's* Submission (CS)
- *Contractor's* Technical Query (CTQ)
- Early Warning (EW)
- Compensation Event (CE)
- Value Improvement Process Defects Certificate (DC)
- Payment Certificate (PC)
- Completion Certificate (CC)
- Emergency contact arrangements
- The *Contractor* and *Client Project Manager* shall jointly maintain chronological indexes of each of the above items.
- The *Contractor* shall provide meeting facilities for monthly progress meetings.
- The *Contractor* shall submit weekly reports in writing to the *Client Project Manager* in a form to be agreed, covering the items listed below, to be received no later than the Tuesday of the week following the one to which they relate:
- Number of people employed by Subcontractors at the Site;
- Equipment used and standing at the Site;
- Accidents, near misses, to employees reportable and non-reportable by statute;
- Weather conditions on each day and night;
- Progress of the *works* in general terms.
- The *Contractor* shall notify the *Client Project Manager* within 24 hours of any accidents on site.
- Near misses report shall be provided within 7 days to the *Client Project Manager*.

Working with the *Client* and Others

Sharing the Working Areas with the *Client* and Others

- The *Contractor* is required to co-operate with Others in sharing the Working Areas they need in connection with the *works*.
- The *Contractor* shall facilitate access for the *Client's* Operational Team(s) through the Site to monitor the weirs, fish passes and to operate other parts of the structure which are not a part of the *works*. Provision shall be made to afford such access at any time of day or night.
- The *Contractor* shall erect suitable temporary safety fences, plate over unattended openings and make other provision as required to ensure that such shared access is safe for use by the *Client* and Others. Where shared access routes are necessary, these shall be kept clear of any obstructions.

Co-operation

The *Contractor* is required to co-operate with Others in obtaining and providing information which they need in connection with the *works*.

Co-ordination

- The *Contractor* shall arrange meetings to be held at appropriate intervals during the design phase and weekly during the *Contractor's* Site working periods to co-ordinate execution of the *works* and accesses. The *Contractor* shall arrange for appropriate attendance at these meetings by their and their Subcontractor's staff. The *Client's Project Manager* will attend the meetings and Others will attend as required.
- Coordination/planning meetings shall be highlighted on the *Contractor's* programme. The *Contractor* shall give two weeks' notice of coordination/planning meetings during the design phase to allow coordination of attendance by the project team.

Authorities and utilities providers

- The *Contractor* shall be responsible for arranging and managing all of the appropriate Highway Authority consents and road/footpath closures that may be required.
- The *Contractor* shall be responsible for arranging and managing all of the *works* by utility providers to enable water, telecommunication and electricity service connections necessary to Provide the Works.

Services and other things to be provided

Services and other things for the use of the *Client* or Others to be provided by the *Contractor*

- The *Contractor* shall be responsible for arranging electricity, lighting, water and drainage facilities for the compound to Provide the Works and shall be responsible for all costs and charges in connection therewith.
- The *Contractor* shall provide first aid facilities, Materials and personnel trained in first aid, for the benefit of their own people, those of their Subcontractor's and the site staff of the *Client*.
- The accommodation shall comply with the requirements of the Offices, Shops and Railways Workshops Act 1963, the Construction (Health and Welfare) Regulations 1966 and the Health and Safety at Work, etc. Act 1974. It shall have a wooden floor with vinyl floor covering, a clear floor to ceiling height of not less than 2.3m and the walls and roof shall be lined internally.
- The accommodation shall be located on a suitable foundation, where appropriate, within the Site and all compound areas. The *Contractor* shall reinstate the compound to its original condition at Completion.
- The *Contractor* shall provide regular maintenance for the welfare facilities.
- The *Contractor* shall be responsible for the removal of foul sewage and shall allow for paying all charges in connection therewith.
- The *Contractor* shall be responsible for the removal of all Equipment on Completion.
- The *Contractor* shall provide the services of one or more of the site team to act as chainman, as and when required. Chainmen are competent, unskilled surveying assistants who will undertake surveying and other duties as required.
- The *Contractor* will supply welfare and delivery areas which will be safe and secured from members of the public.
- The *Contractor* to supply all floating plant, boats and rescue craft.

Services and other things to be provided by the *Client*

- Suitable locations for Site, compounds, accesses and Working Areas shall be provided by the *Client* and agreed before any construction *works* commences.
- All landowner negotiations will be led by the *Client's* land agent.
- The *Client* will provide a site notification board for each weir site, with fixings, to be erected at site.

Health and safety

Health and safety requirements

Additional health and safety requirements for the project, may include all or some of the following.

- *Client's* safety requirements,
- *Reporting requirements,*
- Safety management, supervision and qualification,
- Management of Subcontractors,
- Drug and alcohol policy
- Site induction procedures
- Procedures and policies as outlined in the *Client's* "Managing *Contractor's* health, safety and environmental performance" (Operational Instruction 44_07) document shall be applied throughout the Contract.
- The *Contractor* shall comply with all applicable legislation for the health, safety and welfare of his people or any other person in or near the Site of the *works*, and of members of the public.
- The *Contractor* copies to the *Client Project Manager* all correspondence with the Principal Designer.
- All lifting operations will conform to the HSE approved code of practice, LOLER98 Regulations.
- All manual handling must be eliminated or reduced as much as reasonably practicable.
- The *Contractor* will have a fully comprehensive water rescue and recovery plan. These plans will show drawings and written procedures. These plans will be kept on site for the duration of the *works*.
- The necessary surveys must be completed and included within the programme to ensure they are completed to inform the design decision.

Toolbox talks

- The *Contractor* provides regular toolbox talks to site personnel to ensure that health and safety issues, the requirements of the contract and the design and the contents of method statements are communicated throughout the site team.

Incident reporting

- The *Contractor* reports any health and safety incidents on site using the procedure outlined in "Environment Agency Operational Instruction 300_10_SD20: Reporting incidents at *Contractor*s' sites".
- The *Contractor* shall provide a written report within 21 days of the incident, unless otherwise agreed with the *Client's Project Manager*.

Safety, Health, Environment and Wellbeing Code of Practice

- Procedures and policies as outlined in the latest version of the *Client's* "Safety, Health, Environment and Wellbeing (SHEW) Code of Practice (CoP)" document shall be applied throughout the Contract.

Method statements

- As a minimum, the *Contractor* is required to submit method statements and risk assessments for the following activities to the *Client's Project Manager* for comment:
    a. Site establishment
    b. Traffic management and plant movement plans
    c. Connection to or modification of existing services
    d. Removal and installation of cabling and jointing
    e. Main crane lifting operations
    f. Fabrication work

g. Coating work
h. Repairs to or adaptation of the existing structure
i. Installation of stop log installation system
j. Civil/building work
k. Building services
l. All installation, maintenance and removal of temporary works and dewatering
m. All testing procedures
n. All commissioning and handover procedures
o. Any other activities identified by the *Client Project Manager.*

- The *Contractor* shall provide the method statements and risk assessments at least one week prior to the commencement of the *works* to which it applies.

Legal requirements

- The Principal Designer duties under the CDM Regulations 2015 shall be undertaken by the *Client's* appointed third-party specialist.
- The Principal Contractor duties under the CDM Regulations 2015 should be undertaken by the *Client's* appointed *Contractor*.
- The Designer duties under the CDM Regulations 2015 shall be undertaken by the *Contractor's* relevant design teams.
- The Client duties under the CDM Regulations 2015 shall be undertaken by the *Client*.

Inspections

- The *Contractor* shall provide a competent health and safety officer whilst *works* are being carried out on the Site.
- The *Contractor's* nominated site health and safety manager carries out bi-weekly audits of the Site and submits copies of audit reports and proposed remedial actions to the *Client Project Manager* prior to the end of the following week.
- The *Client* may carry out site audits. The *Contractor* assists in these audits and complies with any recommendations made during such audits.

Health and Safety File

- The *Contractor* prepares information for the Health and Safety File in accordance with the requirements of "Environment Agency Operational Instruction 300_10_SD16: Health and Safety file (HSF) template" document to be submitted to the Principal Designer and *Client Project Manager*.

Operating and Maintenance Manuals

- Operating and maintenance manuals shall be supplied for each asset. Manuals shall contain sufficient information to permit the *Client* to take over, operate and maintain Plant and Materials. The Operating and Maintenance Manuals shall be submitted to the *Client's Project Manager* and the Principal Designer for acceptance prior to Completion being certified as per the *Client's* Supporting document 369_13_SD21.
- A paper copy of Taplow and Marsh Lane O&M manual is available at Environment Agency, Goldcrest House, Alice Holt, Wrecclesham, Farnham GU10 4LQ.

Title

Vesting of Plant and Materials

- Stored Plant shall be titled (vested) in the name of "Environment Agency" and Title Certificates provided for all the Plant stored. The format and wording of the Title Certificate shall require approval by the *Client Project Manager* prior to vesting taking place. The titling (vesting) shall include for insurance of the Plant against loss and damage.
- Stores shall be secure, dry and undercover with all the plant protected from the elements. Any electrical material storage areas shall have frost protection heating to minimise the ingress of condensation.
- Titled Plant shall be placed in a sectioned off part of the store with each item having securely attached to it a sign which reads "Property of the Environment Agency". A copy of the Title Certificate shall also be attached to the sign.

Marking

- Where practicable, each item of Plant shall be clearly and indelibly marked to indicate the standard with which it complies.
- All relevant items of plant shall be CE Marked in accordance with BS EN 1090.

Accounts and records

Additional Records

List the additional records to be kept by the *Contractor*. This may include but not be limited the following:

- People timesheets and site allocation sheets
- Equipment records, including as a minimum, Goods Received Notes (GRNs) purchase orders and Invoices
- Material received sheets / delivery records; including as a minimum; GRN's purchase orders and invoices
- Subcontractor applications, due date and payment records and associated valuations and payment certificates.
- Daily diary sheets as completed by site management personnel
- Vesting certificate, accompanying photographs and documentation for any Material off-site, included within the *Contractor's* application for payment.
- Forecasts of the total Defined Cost, separating forecast of total defined cost into the following cost components:
    a. People
    b. Equipment
    c. Material
    d. Risk
    e. Subcontract
    f. Fee
- Specific procurement and cost reports.

2. Drawings

List the drawings that apply to the contract.

(All located within the Health & Safety File)

Drawing Number	Revision	Title
30106	2	Radial Gate General Arrangement Taplow Intake Structure
B-M-4006-073	B	Floating Safety Booms General Arrangement
B-M-4004-072	E	Taplow Intake Structure General Arrangement, Plan
B-M-4004-704	B	Taplow Intake Structure Plan, Base slab
B-M-4004-705	B	Taplow Intake Structure Plan, Piers, Walls and Walkways
B-M-4004-706	B	Taplow Intake Structure Piers, Right Bank Retaining Wall and Base Slab Sections and Elevations
B-M-4004-707	B	Taplow Intake Structure Piers, Left Bank Retaining Wall and Base Slab Sections and Elevations
B-M-4004-708	D	Taplow Intake Structure Right Bank Retaining Wall and Fishpass Plan and Elevation
B-M-4004-709	B	Taplow Intake Structure Sections and Elevations Sheet 1 of 2
B-M-4004-710	C	Taplow Intake Structure Sections and Elevations Sheet 2 of 2

B-M-4004-711	A	Taplow Intake Structure Miscellaneous
B-M-4004-712	A	Taplow Intake Structure Walkway Details
B-M-4004-713	B	Taplow Intake Structure Fishpass Details
B-M-4004-714	D	Taplow Intake Structure Radial Gate – Main pivot and RAM Anchorage Details
B-M-4004-720	A	Taplow Intake Structure R.C. Details, Base Slab
B-M-4004-721	A	Taplow Intake Structure Walkway & Ringbeam -R.C. Details
B-M-4004-722	A	Taplow Intake Structure Left Bank Abutment- R.C. Details
B-M-4004-723	A	Taplow Intake Structure Right Bank Abutment- R.C. Details
B-M-4004-724	A	Taplow Intake Structure Piers- R.C. Details
B-M-4004-725	A	Taplow Intake Structure Fishpass and Right Bank Wall, RC Details Sheet 1 of 2
B-M-4004-726	A	Taplow Intake Structure Fishpass and Right Bank Wall, RC Details Sheet 2 of 2
B-M- 4004-227	D	Taplow Intake Structure Control Building General Arrangement
B-M-4004-242	A	Taplow Intake Structure Radial Gate, Gate Side Seal Contact Plate Assembly
B-M-4004-243	A	Taplow Intake Structure Radial Gate, Gate Cill Beam Assembly
B-M-4004-551	K	Mill Lane Bridge General Arrangement and Details
B-M-4004-794	H	Mill Lane Car Park and Fencing Layouts

3. Specifications

List the specifications which apply to the contract.

Title	**Date or Revision**	**Tick if publicly available**
Environment Agency Blockage Management Guide (Gov.uk)	12/2019	yes
The civil engineering works are to be constructed to the 'Civil Engineering Specification for the Water Industry, Seventh Edition', published by the Water Industry Research Ltd in 2011.	7th Edition	Yes

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*.

How the Contractor Provides the Work

The *Contractor* shall not commence any work on the *site* until the *Client*, or their representative, has accepted the method statements and risk assessments related to this contract.

All *works* are to be provided in accordance with the above Specifications.

- Working on operational structures. Sweetening flows (5-10 cumecs) must be maintained along the Jubilee River throughout the *works*. Any operation of the Jubilee River for flood defence purposes is determined by water levels at Boulters Lock. Work on individual gates is to proceed sequentially so that flows to only one gate are staunched at a time.
- The *Contractor* is to note that the weir walkways are used by the weir operators to access and operate the weir gates. Safe access for the weir operator should be maintained at all times during the *works*. Should there be any hazardous activities occurring on, over, under, or additional hazards created by the *works*, access to and across the walkway should be prevented. Regular liaison with the weir operator should be maintained to inform the weir operator of these potential restrictions.
- Out of hours, the walkways shall be returned to their original arrangement so that the weir operator can safely access the weir gates. It is noted that one gate will be out of action at any one time during construction.
- The *Contractor* is to note that although water depth information upstream of the apron is known, suitable checks will need to be carried out by the *Contractor* so that they can install suitable temporary works to facilitate the required works.
- Where dissimilar metals are used, suitable isolation shall be provided to prevent bimetallic corrosion.
- The structural loading of any stop log installation system on the concrete piers and wingwalls will need to be investigated and the design confirmed as acceptable with loading against the existing structure.
- Stop log cill recesses are present at both sites. These recesses must be clear of silt and other debris prior to installation of head and tail stop logs. For head stop log installation this must be done without needing divers.
- Site work will be weather and river flow dependent. Temporary works will need to be removed when instructed, within 48 hours.
- Provision to be made for fish pass flows which are returned to the channel just upstream of the downstream Gate 3 tail stop log channel recesses (see drawings B-M-4004-704 and B-M-4004-706).
- Very limited space at Taplow Car Park for stop log storage.
- Mill Lane Bridge is a public highway.
- Access to properties and the public footpaths adjacent to Taplow Car Park to be maintained throughout the *works* and a means of safe passage of pedestrians to be provided.
- Thames Water own land on left bank of Taplow weir structure.
- Works are being conducted within a residential area, mitigation for disruption should be identified within the methodology.
- Taplow height from walkway to water on head and tail side of structure is approximately 2.3 and 5 m respectively. Risk of falling from height during installation works and long-term using of installation system proposed needs to be included in project design.

<u>Operational restrictions – flood conveyance</u>

- The *Contractor* shall ensure that all gates which are not isolated by stoplogs or within a cofferdam remain serviceable and available for use under normal power or alternative temporary power source.
- The *Client's Project Manager* shall be continually updated on the *works* affecting defence standards. A suitable flood protocol document shall be developed for the duration of the *works*. This shall be agreed with the *Client's Project Manager* and submitted as part of the flood risk activity permit.
- Providing that no other obstructions to flow are present, one of the three large radial gates may be taken out of service at any one time, leaving two gates operational.
- The *Client* has telemetry and / or electrical supply equipment cabinets and other buildings within the weir area. These services are critical and should be avoided/protected from damage during the *works*. The *Client* may need access to these for operation and maintenance purposes so access shall be maintained.

<u>Operational restrictions – drought</u>

- The *Contractor* shall ensure that the standard head water level for each weir (SHWL) is not compromised by the *works* in order that levels in the Thames can be used for navigation.
- The *Contractor* shall not obstruct or otherwise compromise channels, structures or equipment.

Environment

- Most of the trees near the weir are subject to tree protection orders or other protection. No trees shall be removed from any of the weir sites unless directly affected by the footprint of the permanent *works* and with the approval of the *Client Project Manager* following written approval from the Local Authority.
- The project has been screened by the *Client's* National Environmental Assessment Service (NEAS) as low risk, however, the *Contractor* shall manage all activities in line with the Environmental Action Plan (EAP) produced by the *Contractor* to minimise and mitigate environmental risks e.g. pollution.

Sustainable procurement and construction policies

- The *Client* has a policy of maximising sustainability within all of its activities. This includes sustainable procurement and construction, in particular the efficiency of plant and systems, sourcing of materials, transport, as well as material disposal and recycling.
- The *Contractor* shall ensure that resources are procured in accordance with the ethos of this policy.

Access constraints

- The *Contractor* shall not exceed the safe loading limits on the bridges and on the access routes. Where no safe loading limit is given for these bridges, the *Contractor* is responsible for obtaining the safe working limit of each structure.
- Pedestrian access to residents living opposite Taplow car park needs to be maintained throughout the *works*.

Working hours

- Working hours are only during the following periods, unless an emergency should arise:

Monday to Friday	08:00 to 18:00hrs
Saturday	No Works Permitted
Sunday and Bank Holidays	No Works Permitted

- Delivery restrictions are limited to normal working hours as stated above.
- Deviation from these hours shall only be permitted with the written acceptance of the *Client Project Manager*.

Parking

- All site related vehicles shall be parked in the *Contractor's* compound and shall cause no obstruction to the operation of local businesses, associated structures or public use of local facilities.
- The *Contractor* shall ensure that no vehicles are parked in front the Thames Water gate to access their track adjacent to the weir site.

Planning permission and other consents

- The *Contractor* is responsible for applying for and securing the Flood Risk and Environmental Activity Permit.

Footpath diversions

- Where the *Contractor's* access and works interfere with a public footpath, bridleway or other route the *Contractor* shall arrange for all necessary diversions with the relevant Local Authority.

Confidentiality

- The *Contractor* does not disclose information in connection with the *works* except when necessary to carry out their duties under the contract or their obligations under the contract.
- The *Contractor* may publicise the services only with the *Client's* written agreement.
- The *Contractor* shall notify the *Client* of any meetings requested by third parties so that the *Client* has the option to attend or send a representative.

Security and protection on the site

- The *Contractor* shall take appropriate actions to protect the Site, the *works* and all Plant and Materials from anti-social behaviour problems and other associated security risks.
- The *Contractor* shall secure the Site including any compound areas and the *works* against trespass and other unauthorised access. The *Contractor* shall erect suitable site fencing, with access gates as required, to demarcate and secure the Site and any compound areas. The extent of this fencing shall be determined by the *Contractor* and shall include suitable returns and features to prevent unauthorised entry around the end of the fencing.
- All fencing shall be maintained in good order, kept free of graffiti and posters, and damage repaired as soon as is practicable to ensure the security of the compound.
- The *Contractor* shall erect at the start of the Contract and remove at the end of the Contract a notice board on site (these will be provided by the *Client*). The notice boards shall be erected on Environment Agency land unless otherwise directed by the *Client*. The *Contractor* shall agree the locations of the notice boards with the *Client*. The boards shall be securely fixed to site fencing and clearly visible to the public.

Security and identification of people

- All visitors to the Site must report to the *Contractor's* offices, undergo an appropriate site induction and sign in prior to entering the Working Areas.

Protection of existing structures, services and other items

- *T*he *Contractor* shall employ all reasonable methods and take all reasonable care to protect and avoid damage to all Environment Agency structures and equipment within the site boundary. Should the *Contractor* cause damage or deterioration of any existing structure the *Contractor* shall repair or replace them at their own expense to the satisfaction of the *Client's Project Manager*.
- The *Contractor* shall protect all trees, hedgerows, gates and fences within or adjacent to the Working Areas, accesses and compound areas to ensure that no damage occurs.
- The *Contractor* shall ensure that all weir gates which are not enclosed within temporary works remain powered, serviceable and available for use by the *Client* as part of the *Client's* normal or emergency activities, whether those gates are part of this contract or not.
- The *Contractor* shall protect all structures and safety facilities to ensure that they remain serviceable and available for use and that no damage occurs.
- The water quality of all watercourses must be maintained for the duration of the *works*. Where dewatering or other site activities are likely to affect water quality, release sediment into the watercourse or disturb existing sediment bodies, the *Contractor* shall make all necessary arrangements to prevent or mitigate the impact.
- No debris shall be allowed to flow downstream; watercourse to be kept clean with no silting or pollution.
- Control of dust and debris generated by the *works* needs to be managed to ensure that as far as reasonably practicable no particles enter the watercourse.
- The *Contractor* shall undertake their *works* in such a way as to avoid damage to the cosmetic finishes of the weirs, control panels and all existing buildings and structures.

Statutory Authority Services

- The *Contractor* shall undertake in situ investigations to confirm the locations of the statutory authority services identified in the Site Information contained in the PCI document, identify any other services that have not been identified, and identify any privately owned services within and adjacent to the Working Areas, compound areas and accesses. The *Contractor* shall verify that the services shown on the drawings are complete and correct. Any services found by the *Contractor* shall be identified and recorded in suitable format for inclusion into the Health and Safety File.
- The *Contractor* is to confirm the exact location of any services using methods approved in writing by the *Principal Designer*.
- The *Contractor* is responsible for maintaining the existing services within the Site and Working Areas and shall allow for the relocation of any services to allow delivery of the *works*.
- When working near an underground service, the *Contractor* shall follow industry best practice and the guidelines set out in the latest version of the *Client's* Constructing a Better Environment – Safety, Health, Environment and Wellbeing Code of Practice (SHEW CoP).

- Any ground penetration activities are to be carried out by the *Contractor* in accordance with Health and Safety Executive guidance document HSG47 - 'Avoiding danger from underground services' following approval in writing of the Principal Designer. PAS 128:2014 Specification for underground utility detection, verification and location must also be applied if any ground penetration activities are to be carried out.
- The *Contractor* shall comply fully with any requirements that the relevant statutory authority shall apply with regard to the *Contractor's* working in the vicinity of their apparatus, both for the permanent and temporary works, including in all compound areas, accesses off the public highway and Site.

Traffic Management

- The public roads to access the sites are narrow and not designed for large volumes of construction traffic. The possibility of disturbance, congestion and damage arising from construction traffic is a sensitive local issue. All existing private and public access roads and entrances must be kept clear at all times for both pedestrian and vehicular traffic.
- The *Contractor* shall arrange all necessary permissions, notices and licences for any temporary closures or diversions with the appropriate authority.
- The *Contractor* shall arrange all necessary temporary traffic control measures and maintain them in good working order and condition at all times, re-positioning, covering or removing them as necessary to Provide the Works.
- A site-specific Traffic Management Plan must be included within the CPP by the *Contractor*, this must include provision for scheduling lorry deliveries and movements within sociable hours (8.00-18:00 Monday - Friday).

Condition survey

- The *Contractor* shall fully document the site's pre-works condition including photographs and submit a copy of the pre-works condition to the *Client Project Manager* for agreement prior to any *works* being undertaken on site.
- The site must be returned to an equal or better condition post-works.

Consideration of Others

- The *Contractor's* attention is drawn to the landscape, recreational and historic settings of the weir sites. The *works* are to be executed in a manner such that the disruption to local residents, landowner, businesses and the general public are kept to a minimum to the satisfaction of the *Client Project Manager.*
- No site related activities are to block or restrict access to or egress from residential properties, farm land, park land, or businesses.
- The efficient execution of the *Client's* activities at the weirs is dependent on good quality relationships with local landowners and businesses, particularly along the access routes; the *Client's* Senior User will provide support. The *Contractor* shall Provide the Works and use the access routes in such a way as to avoid detriment to these relationships.
- The *Contractor* shall keep noise levels to a minimum. All working methods proposed by the *Contractor* shall be in accordance with Health and Safety Executive Guidance Leaflet INDG362 "Noise at Works – Guidance for *Client* on the Control of Noise at Work Regulations 2005".
- All public relations and landowner engagement activities shall be co-ordinated by the *Client* with the *Contractor's* support.
- The *works* will partially take place during the summer holidays as well as during the summer months, so there may be increased footfall along the towpath or within the Berkeley Homes development, especially young children.
- The *Contractor* shall notify the *Client* of any issues that may affect residents or the public and the dates and times of expected disturbances.

Control of site personnel

- All people working on or visiting the Site shall hold a suitable CSCS card.
- The *Contractor* shall facilitate access to the *Client's* staff through the site to monitor the weirs, fish passes, telemetry equipment and to operate other parts of the structure which are not isolated by stoplogs or a cofferdam as part of the w*orks*. Provision shall be made to afford such access at any time of day or night.

Site cleanliness

The *Contractor* shall maintain the Site in a clean, safe and tidy condition clear of debris. Waste materials and debris shall be removed from around the Site on a regular basis

Waste materials

The *Contractor* shall comply with the "Pollution prevention for business" guidance as per the gov.uk website and will submit a pollution incident response plan to the *Client*.

Deleterious and hazardous materials

The *Contractor* shall comply with the "Pollution prevention for business" guidance as per the gov.uk website and will submit pollution incident response plan to the *Client*.

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).

- A project programme shall be submitted for design and fabrication of the stop logs and the stop log installation system, to include temporary works design and associated site works. It shall contain sufficient details to enable proposed working methods to be assessed. The programme, as a minimum, shall include detail design activities, fabrication period, start date, equipment and resources. The programme shall clearly show periods of on-site activities and critical path activities as well as delivery of products stated in the Scope and Price List.
- A start up meeting shall be programmed shortly after contract award to agree the expectations and working practices for the project.
- Time is key programme constraint on this project. Site construction works are not to go beyond 30th June 2022. Anticipated time frames as follows:
    - Design: September 2021 - November 2021
    - Fabrication: November - February 2021 (allowing time for delays with sub suppliers, assumed to only require 2-3 weeks for fabrication)
    - Site Set up: March 2022
    - Construction: April 2022 – June 2022
- The programme is to be produced in an electronic format in *.msp and *.pdf format.
- The programme shall identify the elements of the Plant that will be in operational status.
- The programme must clearly identify all included activity float.

Programme arrangement

- The programme shall cover all the activities to be undertaken by the *Contractor* and other members of the project team and shall include all major project milestones from commencement to the end of the construction stage.
- As a minimum, the *Contractor* shall include the following information as separate activities in the programme:
    - Submission dates for permanent and temporary *works* design packages for review and acceptance;
    - Submission dates for necessary surveys to ensure they are completed to inform the design decision;
    - Permissions, approvals, consents and licences;
    - Environmental constraints;
    - Dates between which access is required to each Working Area and compound area for the purposes of advanced survey etc, for construction and for post-construction inspections etc;
    - Dates between which each gate at each weir site will be unavailable for the *Client* to operate;
    - Lead-in periods for Plant and Materials where these periods are greater than 4 weeks or otherwise impact on the programme;
    - Dates of any operations likely to impact upon neighbouring residents and businesses (re: restrictions on access, etc).

- The programme shall be made available in summary level for overall management purposes and also in full detail.

Methodology statement

- Method Statements shall be submitted, for information only, to the *Client Project Manager* one week in advance of the associated activities taking place. The statements shall be referenced in the programmes submitted for acceptance to the *Client Project Manager*.

Work of the Client and Others

- The *Client's* staff will require access through the Site to monitor the weirs, fish passes and to operate other parts of the structure which are not isolated by stoplogs or a cofferdam as part of the *works*. Provision shall be made to afford such access at any time of day or night. Such *works* are not expected to have any impact on the programme.

Revised programme

- The *Contractor* shall provide a brief explanation of changes to each programme activity, sufficient to enable the *Client* and the *Client Project Manager* to understand the cause and impact of the change.
- The *Contractor* shall submit his revised programmes for acceptance five working days in advance of scheduled monthly progress meetings.
- Following contract award, a programme is to be submitted every 4 weeks for acceptance by the *Client.*

Critical Dates

Time is a key programme constraint on this Contract. Construction is to be completed no later than 30th June 2022. This is based on experience that the risks of high flows preventing works on site increase significantly after this date.

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.

Item	**Date by which it will be provided**

Site Information

The Pre-Construction Information (PCI) contains relevant site information. Information included:
Taplow Health & Safety File
Taplow Drawings
Taplow PCI

The *Contractor* should be aware that the documentation within the Site information Pack contains information on assumed design methodologies. It should be noted that any such suggestions **do not** constitute scope or represent an instruction. The *Contractor* must fully develop and assume full responsibility for their chosen methodology.

Proposed sub-contractors

	Name and address of proposed subcontractor	Nature and extent of work
1.	Form of Contract:	
2.	Form of Contract:	
3.	Form of Contract:	
4.	Form of Contract:	