

ECC Scope Template - Early Supplier Engagement (ESE)

Environment Agency

NEC4 engineering and construction contract (ECC) Scope

24/09/2018 412_13_SD10

Project / contract information

Project name	West Moor Reservoir Improvements
Project 1B1S reference	ENV0001197C
Contract reference	31640
Date	14 th April 2021
Version number	2.00
Author	

Revision history

Revision date	Summary of changes	Version number
9 th February 2021	First issue	1.00
14 th April 21	Final issue	2.00

customer service line
03708 506 506
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incident hotline
0800 80 70 60

floodline
0845 988 1188

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 between them, this Scope shall prevail. The *works* are to be compliant with the Scope

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1. Background and Description of the works

West Moor Flood Storage Reservoir has been inspected by All Reservoirs Panel Engineer (ARPE) who has recommended several Measures in the Interest Of Safety (MIOS) which must be completed before specified deadlines. These are safety improvements to the reservoir as instructed under Section 10 (2) of The Reservoirs Act 1975.

West Moor Reservoir is a Flood Storage Area (FSA) located on low lying ground approximately 3.5 kilometres south of the town of Langport, Somerset. The reservoir last impounded in the 2013/14 floods. The reservoir did not breach in these floods and local communities were better protected as a result. West Moor is sum 12 million cubic meters.

The FSA is bounded by the River Parrett and the River Isle, located immediately upstream of their confluence. Both rivers are embanked above the storage area and the resulting reservoir is therefore described as an 'off-line' flood storage area. The West Moor storage area is connected under the River Isle, via a siphon, to a low lying area to the North of the river known as South Moor. The key elements that retain water within the storage area are located at the North-East end of the area and comprise of the following:

- Raised river bank along the River Parrett - 1.2km long;
- Embankment set back from the River Isle (immediately upstream of the confluence with the River Parrett), including the pumping station – 0.4km long;
- Raised river bank along the River Isle and Westport Canal – 1.1km long;
- Raised river bank along Westport Canal, upstream of Hambridge – 0.5km long;
- The recently constructed Thorney Ring Bank, near the upstream end of the River Parrett raised river bank – 0.3km long.

The main element of this project relates to a defective penstock structure that connects two elements of the reservoir together. West Moor and South Moor are connected by an inverted siphon which is located adjacent to the Midlney Pumping Station (National Grid Reference: ST4171123565). The siphon goes underneath the River Isle, immediately upstream of the River Parrett confluence. The two moors are classified as a single large raised reservoir, West Moor Reservoir, under the Reservoirs Act 1975.

The purpose of the siphon is to provide the connection between the two moors, to increase the overall floodable capacity of West Moor and to allow drainage of South Moor. The siphon is thought to date from the development of the Westport Canal in about 1840. Flow through the siphon can be controlled by a penstock on the South Moor side, with the West Moor side having no control. The penstock guides have rusted with material loss evident and this has rendered the gate inoperable. It is currently seized open by approximately 0.5m above invert level. This is the normal opening height and historically has not been adjusted, as the Environment Agency currently prefers the structure to be in a passive state.

Alongside the siphon there is a gravity outlet structure, which is also in need of remedial works. This higher-capacity outlet would allow both moors to release their flood waters, once fluvial levels within the Isle / Parrett have lowered.

The purpose of The Reservoirs Act 1975 is to ensure adequate safety in the design, construction and operation of a large raised reservoir. The EA are deemed the 'Undertaker' for any large raised reservoir that is managed and operated by us. As the Undertaker for any large raised reservoir, they are responsible for the safety of that reservoir under the provisions of the Act.

As such, the Environment Agency has a legal obligation as the Undertaker of the reservoir to carry out the recommended improvements within this fixed timeframe.

The MIOS items are as follows:-

- 1) *The River Isle siphon culvert structure and the West Moor gravity outfall structure and control gates should both be renovated or replaced. It is recommended that this is done in two stages. The first stage is to be a design options study to determine a safe and acceptable approach to achieve this. It is expected that this will include consultation on heritage value of the existing structures. The study should include an assessment of the hydraulic capacity of both the existing siphon and outlet structure.*

The second stage will consist of detailed design and implementation. While doing this, the river banks around the structures at Midelney Pumping Station should be set at or above 9.0m aOD.

- 2) *The area of the old railway embankment forming the lowest outlet spillway from South Moor should be cleared of the existing thicket and assessed for the need for remedial erosion protection. If found necessary, erosion protection to the spillway should be provided, the bank and crest reinstated to an appropriate level to act as a spillway for the reservoir or the sections of the railway embankment with crest levels below 8.80m aOD reinstated as a flood embankment to above 9.00m aOD, topsoiled and grassed.*
This recommendation should be carried out in two stages with an initial study to determine an appropriate level, followed by design and implementation.
- 3) *The surveys, drawings of existing structures, and historic reports that that have been produced or found relating to the reservoir should be collected together with the updated definition of the combined reservoir to produce, so far as is reasonably practicable, a "Description of Works" for the reservoir. This should include preparation of a layout plan for the whole revised reservoir area.*

WI 101 Description of the works

The Early Supplier Engagement (ESE) Contractor shall provide advice to the appraisal consultant (South West Collaborative Delivery Framework Lot 1 – Atkins) to enable the appraisal outcomes to be delivered.

WI 102 Purpose of the Works

The purpose of the works is to provide the required Deliverables - ESE technical and buildability advice covering but not limited to:

- Option development from short list to preferred option.
- Health and safety implications of options
- Temporary and permanent works outline design
- Operating regime and maintenance
- Access and buildability
- Sustainability and carbon
- Environmental impact
- Materials
- Cost
- Review of proposed site investigation
- Construction methodology
- Risks and opportunities
- Programme and phasing of works

- Option development from short list to preferred option.
- Value engineering and efficiency
- Knowledge transfer and lessons learnt

Management of overall project delivery shall be the responsibility of the *Client*.

The *Project Manager* will keep an issues log established for response by both the Lot 1 and the ESE supplier to record how issues identified have been incorporated into the project going forward.

The *Contractor* is to provide the following services:-

- a) The *Contractor* shall maintain verbal contact with the *Project Manager* and the *Client's* environmental project manager (NEAS) such that the *Client* is fully informed of progress and issues.
- b) The *Contractor* shall prepare and issue to the *Project Manager* monthly progress reports to include financial, progress and issue log updates / resolutions by the last two clear working days before the progress meeting.
- c) The *Contractor* shall attend all meetings required to deliver the services including weekly catch ups and the monthly progress meetings.
- d) The *Contractor* shall revise and issue to the *Project Manager* their monthly expenditure forecast with each Application for Payment (AFP). This shall show (broken down monthly) spend to date, invoiced to date (with order number referenced), forecast cost to complete and an estimate total cost to the *Project Manager*
- e) The *Contractor* shall assist the *Clients* design consultant to deliver outline designs for the *Clients* West Moor Reservoir Improvements design in accordance with the *Client's* Minimum Technical Requirements.
- f) The *Contractor* shall engage with the *Clients* design consultant as required to deliver the project programme.
- g) The *Contractor* shall review and comment on the designers risk assessment for all elements of the outline design.
- h) The *Contractor* shall follow the Employers Operating Instruction - OI 120_16 (02/11/16) Whole Life Carbon Planning Tool and review the Carbon Calculator and Carbon Optimisation Report once drafted by the *Client*. Provide advice on available materials and products including information on carbon and sustainability implications using amongst other tools the Carbon Planning Tool
- i) The *Contractor* shall input to the projects 'Combined Efficiency Reporting Tool (CERT)' and proactively identify efficiencies by involving the entire project team. The project team will discuss efficiencies at each monthly progress meeting to assist in identifying efficiencies.
- j) The *Contractor* shall input to the projects 'Lessons Learnt' register and proactively identify lessons learnt. Also to Share lessons learned from the *Contractor's* wider organisation
- k) The *Contractor* shall undertake any stakeholder engagement for the successful delivery of the service included in this Scope.
- l) Collaboratively work with the *Client* and *Project Manager*, Designer, Principal Designer and others to assist in developing the preferred solution for the scheme
- m) Identify Health & Safety issues, potential value engineering opportunities and efficiencies in delivery.
- n) Assist in the identification of project risks and the development of the project risk register; including estimating the cost of risks realisation and mitigation measures.
- o) Provide Information and advice on buildability.
- p) Review outline design options / drawings that are to form part of the tender information to assist to ensure that sufficient information is available to price the options. Identification and advice to be provided on buildability, construction methods, SHEW compliance, access requirements etc

- q) Attend site visits to identify access requirements, physical constraints, easement requirements, required working areas, compound areas, etc.
- r) Attend design and risk workshops as required
- s) Produce a project draft delivery programme based on the preferred option at FBC stage. Programme is to identify required consenting, procurement, and site mobilisation and construction activities.
- t) Review of high-level project programme, as part of the strategic programme and input into activities, durations and sequence, identification of long lead items, ecological constraints, third party constraints, consents, and robust delivery durations considering risk. Early identification of programme constraints that could prevent a scheme from commencing or completing as planned.
- u) Co-operate with the *Client* in the role of the BIM Information Manager.
- v) Review of any required draft temporary works schedules. Identification of any significant temporary works designs that need to be considered from a CDM perspective in advance of the works pricing, to ensure sufficiency of resources and time.
- w) Contribution to specialist areas of the high level cost estimate against a defined scope as requested by the project team. Advise / calculate suitable risk cost allowance.
- x) Input into a project level risk register that can be communicated and updated regularly throughout the life of the project. Identify opportunities and risks, the measures required to mitigate, quantification, and the allocation of residual risk to the party best placed to manage the residual impacts as part of the integrated project risks register
- y) Attend landowner meetings to discuss working methodology, disturbance, duration, temporary access arrangements, compound locations etc.
- z) Produce plans of all temporary compound locations and traffic routes.
- aa) Provide market relevant advice to support on project whole life costs (and carbon) as requested by the *Client*
- bb) Consider where applicable innovation and technology that can be embedded throughout the project, evaluating on a risk and opportunity basis
- cc) Input into optioneering and selection of best procurement methods for the project/package.
- dd) Provide input into Enabling or advance works, where this will allow the project to proceed to the required programme, or will accelerate it.
- ee) Selection and advanced procurement and storage of materials where this delivers efficiencies in cost and time to the project/package
- ff) Engaging with utility companies to discuss service diversion requirements and proposed plant activities in immediate vicinity of service
- gg) End user engagement to set the scene for future delivery in terms of solution expectation,
- hh) Review of draft Site Information - is sufficient information available to enable pricing the options. If gaps are identified, assessment made as to whether there is value in closing the gaps.
- ii) Costing of specialist or bespoke operations to inform or augment PCT costing
- jj) Providing advice on specialist operations and viability of those operations

2. General constraints on how the *Contractor* provides the *works*

WI 201 General constraints

The working hours shall be limited to those noted under the Minimum Technical Requirements.

The *Project Manager* shall arrange access to the site. The *Contractor* shall inform the *Client* of their access requirements.

The *Contractor* is to maintain safe access routes for public, local landowners, properties and businesses during the contract period.

The *Contractor* shall not gain access to any occupied premises or third-party land without the prior written agreement of the *Client's* Estates Team.

Use of the Site – undertake site visits to collect information needed to provide the *works*.

Access to the Site – via public highways. Agreement to be sought of relevant landowners via EA Estates.

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 permission.

WI 202 Security and protection on the site

When attending site, The *Contractor* shall comply with relevant legislation and EA's constructing a Better Environment, Safety, Health, Environment and Wellbeing (SHEW), Code of Practice (CoP).

WI 203 Security and identification of people

The *Contractor* shall comply with relevant legislation, their own, and EA's mandatory security and vetting procedures.

WI 204 Protection of existing structures and services

Existing structures

The *Contractor* shall repair any structure or service damaged by *Contractor's* negligence and for any consequence of damage during the execution of these services, due to *Contractors* negligence

The *Contractor* shall only remove any fencing, gates or structures with the prior approval of the Project Manager. The *Contractor* shall record the location of any third-party property (e.g. fences and gates etc.) prior to removal and any replaced or reinstated shall be recorded on the as-constructed drawings.

Existing services

The *Client* shall obtain services data from utility companies and shall ensure services data is requested from relevant landowners. The *Contractor* shall assist the *Client* in identifying services for the works and for the future stages of the project (i.e. detailed design and construction).

Public Rights of Way (PRoW)

The *Contractor* shall advise the *Project Manager* on any potential requirements for temporary Public Rights of Way diversions where required to accommodate their *works* areas. The *Contractor* shall plan their method of working to manage and minimise PRoW diversions. The

Client shall be responsible for obtaining all approvals for PRow diversions from the relevant authority following request from the Contractor.

WI 205 Protection of the works

N/A

3. Contractor's design

The *Contractor* shall not be required to undertake any design.

4. Completion

WI 401 Completion definition

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

- Deliverables as detailed above.
- Population of the *Client's* latest version of the Project Cost Tool, or its successor
- Transfer to the *Client* databases of BIM data
- Delivery of the Final Carbon Report

WI 402 Correcting Defects

Procedures for access for the correction of any Defects and process for liaison with the *Project Manager*. The *Contractor* shall inform the *Project Manager* of defects in need of correction.

WI 403 Pre-Completion arrangements

Prior to any of the scope being offered for Completion the *Contractor* shall arrange a joint inspection or review with the *Supervisor, Project Manager, Client* (scheme Project Manager) QCE and Senior User.

WI 404 Take over

Not applicable

5. Programme

WI 501 Programme Requirements

The delivery programme shall be provided in native file format, Microsoft Project Professional 2016 and PDF file formats.

The programme complies with the requirements of Clause 31.2 and also includes alignment and submission of the BEP and Master Information Delivery Plan (MIDP).

WI 502 Programme Arrangement

The *Contractor* shall input as required to the integrated whole life programme for the project. The *Project Manager* remaining accountable for the programme.

Provide a draft methodology to support the draft construction element of the integrated whole life programme

WI 503 Methodology statement

None

WI 504 Work of the Client and Others

The order and timing of the work of the *Client* and Others to be included in the programme and information to be provided. Refer as necessary to sections WI 901 and WI 902.

WI 505 Information required

W401 refers, required by contract end date

WI 506 Revised programme

The *Contractor* shall provide a revised programme as required to ensure that the version provided at the end of this contract is the most up to date

6. Quality management

WI 601 Samples

State the materials and samples required including any procedures for submission and acceptance.

The *Contractor* shall take samples and submit for testing as defined in any GI scope produced by the appraisal consultant.

WI 602 Quality Statement

None

WI 603 Quality management system

State any requirements for a quality management system, including accreditations or legislative standards.

The *Contractor* shall comply with their own quality management system.

WI 604 BIM requirements

The BIM Information Manager is the *Client Project Manager*

State any requirements for a BIM data to be collected.

The *Contractor* shall collect and provide all data in accordance with the *Client's* BIM standards.

7. Tests and inspections

8. Management of the works

WI 801 Project team – Others

The project team are:

Client – Environment Agency

Project Manager – EA PCM project manager.

Site Supervisor & EcOW – Provided as required by *Client*

Design Consultant – Atkins

WI 802 Communications

The *Contractor* shall engage in the project team to assist in realising the objectives of the project stage. Specifically the *Contractor* shall attend / engage in:

- Attending all weekly and monthly programmed meetings as required by the Project Manager
- Reporting requirements (monthly progress reports detailing expenditure to date, forecast to completion, work undertaken in last month and work planned in next month)
- Other ad-hoc meetings either via Teams, in person or on site.

9. Working with the *Client* and Others

WI 901 Sharing the Working Areas with the *Client* and Others

The *Contractor* shall coordinate and co-operate with the appraisal consultant who may occasionally use the Working Area (for GI) to deliver their services.

WI 902 Co-operation

The *Contractor* shall co-operate with the appraisal consultant and the *Project Manager* at all times, together with all other members of the project team.

WI 903 Co-ordination

The *Contractor* shall co-ordinate activity with the *Client*, *Project Manager* and appraisal consultant.

WI 904 Authorities and utilities providers

The *Contractor* will assist in the identifications of *works* to be carried out by the authorities and utilities providers.

WI 905 Diversity and working with the *Client*, Others and the public

- Consider the following and document how they are addressed on this contract:
- The Contractor shall consider the following in delivery of the works
- **Public:** how to effectively engage with, and how they perceive us, the diverse public throughout projects?
- **Project team:** how to create an inclusive environment for our project team?
- **Framework:** identify opportunities to support diverse workforces on our projects across our organisations.

10. Services and other things to be provided

None

11. Health and safety

The *Contractor* shall comply with relevant legislation and EA's constructing a Better Environment, Safety, Health, Environment and Wellbeing (SHEW), Code of Practice (CoP).

The Contractor shall:

- a) Provide guidance and advice that the following documents (produced by the *Client*) are comprehensive and provide the best information available at this stage, inputting as required, to include suitable assurance for each of the following documents:

Hazard Plan, Buildability Statement, desktop services searches, Pre-Construction Information Pack, Design Statement, Environmental Action Plan, and Construction Method in the EIA, Information Delivery Plan, and Carbon Reporting.
- b) Provide comprehensive advice on proposed options such as the impact of potential relevant permissions and consenting application processes including related programme considerations;
- c) Provide the logistics and practical considerations for the design elements, including for the use of supply chain engagement, temporary works, carbon costs, example materials, site compound locations, access constraints, construction logistics, community safety, procurement and sourcing options;
- d) Consider the impact on services.
- e) Champion SHEW, wider sustainability matters and challenging assumptions where applicable.

12. Subcontracting

It is a requirement for any subcontracting that the *Contractor* remains responsible for all the services

Acceptance procedures

There are no additional constraints above CDF framework agreements on acceptance.

13. Title

N/A

14. Accounts and records (Options C and E)

Additional Records

The *Contractor* shall keep but are not limited to the following additional records:

- Forecasts of the Fee (Forecasts are to include, but not be limited to costs to date, costs to completion including detailed breakdown of staff, any sub-contractors and major material items)
- Cost reports
- Timesheets and site allocation sheets
- Equipment records

The format and presentation of records to be kept are to be accepted by the *Project Manager*

Client's work specifications and drawings

WI 1701 Client's work specification

None

WI 1702 Drawings

None

WI 1703 Standards the Contractor will comply with

The Contractor should carry out their work using the following guidance. Ref	Report Name	Where used
	Project Cost Tool	Costs
	Sustainability Measures Form	
	Timber Policy Documents	
	300_10 SHE handbook for managing capital projects	
	300_10_SD27 SHE Code of Practice	
	Carbon Planning Tool	