Environment Agency
Site Specific Pack

Project name	Wessex Eel Passage Improvements (May 21)
Project SOP reference	ENV0002498C
Contract reference	32966
Site	Site B - Brean Cross Tidal Sluice
Date	21/06/2021
Version number	1.1
Author	[redacted]

Revision history

Revision date	Summary of changes	Version number
21/06/21	First issue	1
30/07/21	SSP update to exclude electrical connections and clarify confined space elements	1.1

Non-returnable Documents

NEC4 Engineering and Construction Short Contract

Site Specific Pack

This Site Specific Pack should be read alongside the over-arching Contract Data and Scope.

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SSP 100 Scope

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S100 Description of the *works*

Background

Site B - Brean Cross Tidal Outfall (the Site) is a control structure located at the mouth of the River Axe into the Severn Estuary (NGR ST 30860 56229), and is currently an obstruction to eel passage (see Site Location Plan in Brean Cross Site Information **Appendix A**). The structure consists of two large tidal flap gates on the outer headwall (see Photographs in Brean Cross Site Information **Appendix B**), internal emergency gates behind the tidal flaps, a small penstock located between the two channels and a penning gate arrangement on the upstream left channel inlet (Drawing No. 2990_7 – Site Information **Appendix C**).

The tidal flap gates have recently been refurbished (October 2020), at which time a damper arrangement was installed on the right tidal gate (a damper already exists on left tidal gate) in order to facilitate eel passage through the tidal flaps. The structure is also currently acting as the flow control/penning structure in place of the upstream Bleadon Sluice that is currently offline.

During the summer months (April to October) the Brean Cross internal gates are completely closed with river levels controlled by the small central penstock and two upstream pumping stations. During the winter months the internal gate in the left chamber is opened (right gate remains closed except during flood events), with levels controlled by the penning gate on the left inlet channel. Currently eels are able to enter the structure via the left tidal flap up until April (i.e. date when levels are changed to summer pen and both internal gates are closed), but are not able to navigate past the penning gate.

To comply with the Eels (England and Wales) Regulations 2009, the *Client* has a legal obligation to ensure safe passage of eel past this obstruction, whilst having the ability to safely operate, inspect and maintain the eel pass in the future.

The *Client* has two main objectives for the Site.

1. To ensure safe passage of eels, and
2. To ensure that the eel pass can be safely maintained.

To deliver the project objectives, the *Client* commissioned an eel pass specialist to design an acceptable solution for this site. The final design proposed a pumped eel pass (See Table 1 for drawing details).

The *works*

In conjunction with the over-arching ECSC Contract Data and Scope, the *Client* requires the following scope of works to be undertaken by the *Contractor*.

Brean Cross Pre-Construction Works

Prior to works commencing on site the *Contractor* shall:

- Attend the Site to gain an understanding of the Site constraints, specifically with regards access and buildability;
- Undertake a pre-construction ecological check of the Site to ensure no protected species (e.g. bats) will be affected by the construction works, and that there are no invasive species concerns. The ecological check is to be undertaken by an appropriately experienced ecologist, with experience of protected species and site supervision;
- Before any work commences on the Site, and based on the findings of the ecological walkover, the *Contractor* shall provide an ecological toolbox talk to their staff. To ensure any identified ecological constraints are appropriately actioned, the ecological toolbox talk should be undertaken by the ecologist who undertook the ecological walkover. The *Client's* project team are to be invited to the toolbox talk;
- Undertake a brief photographic pre-construction condition survey of all access points and access routes to the structure, and areas around the working area. Pre- construction condition survey is to be presented in a concise standalone document, with each photograph clearly and appropriately titled. The report is to be provided to the *Client* prior to works commencing at the site;
- Apply for and manage, using all reasonable endeavours, the application to obtain the Flood Risk Assessment Permit (FRAP) from the Environment Agency for the temporary works and installation of the eel pass. NOTE – Eel passes are normally exempt from FRAP requirements, however the Site is within 200m of the European designated site and as such will require a FRAP. Initial discussions with Natural England indicate that the works will be permissible at this site during the wintering bird season.
- Fabricate all of the eel pass design elements as per the *Client* approved construction drawings; and
- Liaise with the *Client's* project team and Residential Principal Designer to develop and gain *Client* approval on:
    - Construction Phase Plan (CPP), Traffic Management Plan, Risk Assessments and Method Statements (RAMS) and any Temporary Works. Refer to overarching Eel Project Package ECSC for further details.

Brean Cross Construction Works

To deliver the works the *Contractor* shall, in accordance with the approved Detailed Design, CPP and RAMS:

- Mobilise to site and set up the Site working area, storage areas and safety signage (refer to the Site Redline Boundary and Access Plan in the Brean Cross Scope Documents);
- Install *Client* accepted Temporary Works (where required);
- Install the *Client* approved and consented eel pass design;

  NOTE

  - The upper chamber and lower culvert are confined spaces and, if the *Contractor* chooses to access the lower culvert via the upper chamber, there will be a requirement for two escape sets and additional staff to man the escape winches i.e. escape set on top of the structure to facilitate emergency escape from the upper chamber and a second escape set within the chamber to facilitate emergency escape from the lower culvert.
  - The Eel pass control box and all electrical connections will be installed/undertaken by the *Clients* MEICA team. In accordance to the *Clients* 369_13 MEICA Standard Specification and supplementary documents, the *Contractor* is to provide the pump and suitable and sufficient cabling from the pump to the control box, (refer to overarching Eel Project Package ECSC for details).
  - the supplementary documents sets out the minimum technical specification to be followed and must be read in conjunction with standard specification; and,
- Make good the Site as required.

Brean Cross Post-Construction Works

The *Contractor* shall liaise with the *Client's* project team and CDM Principal Designer, to provide:

- Clearly annotated/marked up drawings, with any deviations from the design captured accordingly to enable the designer to produce 'as constructed' drawings;
- Construction information required to update the CDM Health and Safety File for the Site. The Health and Safety File information for the relevant sections is/are to be provided in an editable digital format;
- A Brean Cross Eel Pass Operation and Maintenance Manual, which includes an agreed maintenance protocol. Maintenance protocol to be advised by the *Clients* FBG representative. An example Eel Pass Operation and Maintenance Manual and Maintenance Schedule has been provided (see Over-arching ECSC Scope Documents); and
- A separate electronic folder containing appropriately titled photographs of the works pre-, during and post- construction.

S200 Drawings

The *Client* has provided the following Draft Detailed Design drawings that can be found in Brean Cross Scope Documents. Final Construction drawings are in development and will be available upon contract award. No major changes from the draft versions are anticipated, however any changes from the Draft version will be identified and will be a compensation event.

Drawing No.	Project No.	Issue No.	Title
411	02891	P01	Site layout
412	02891	P01	General Arrangement 1 of 2
413	02891	P01	General Arrangement 2 of 2
414	02891	P01	Standard Details
415	02891	P01	Flight Box Details
416	02891	P01	Splitter Box and Stilling Pipe Details

S300 Specifications

Refer to general specifications section in the over-arching NEC4 ECSC Contract Data and Scope

S400 General Constraints (to be read in conjunction with the over-arching NEC4 ECSC Contract Data and Scope)

1. The access date for this site is 01 November when the campsite closes for the season. The water levels are reduced from (4.1mAOD to 2.3mAOD) at the end of November, when the levels are switched to winter penning levels.

2. The Site is a tidal structure resulting in the river levels backing up twice a day in accordance with the tides. This submerges the internal inspection chamber within which the eel pass climbing channel will be installed. The *Contractor* will programme the works within the inspection chamber around suitable tide times. The last 5 years of upstream water levels have been provided for information (Brean Cross Site Information **Appendix B**).

3. The internal inspection chamber and lower culvert, within which the CCTV camera tube and the eel pass climbing channel is to be installed, are classed as confined spaces. Only staff with appropriate confined space training will be able to undertake works within the confined space.

4. The *Employer's* Estates team will identify landowners and carry out landowner negotiations

5. Works and access should take into consideration the potential presence of protected species and invasive species (refer to the Environmental Action Plan (EAP) within the over-arching ECSC Scope Documents)

6. The structure is an active Environment Agency tidal structure.

S500 Programme

The *Contractor* shall include a site specific programme within the Over-arching Programme that is submitted with the *Contractor*'s Offer for acceptance.

As this is normally an Exempt FRAP activity, the FRAP application will be a simple, shortened FRAP process. The *Contractor* should allow a 6 week FRAP application period within the Beer Wall Site Specific Programme.

Access to the Site will be from 01 November when the Caravan Park/Campsite has closed for the winter. The *Client* changes the water levels to winter pen levels at the end of November. The *Contractor* shall have to be flexible with regards the construction window, monitoring tides and weather for an optimum installation window. To facilitate this programming constraint the construction window will be from November 2021 to March 2022.

Refer to Programme section in the over-arching NEC4 ECSC Contract Data and Scope for general details to be included within each programme the *Contractor* submits.

S600 Services and others things provided by the *Client*

Item	**Date by which it will be provided**
Services check	See over-arching NEC4 ECSC Contract Data and Scope for details
Access to the Site for initial surveys and investigation	Contract award
Access to the Site for installation	Min 2 weeks prior to start on site
Redirecting of flow from the left outfall channel i.e. penning gate side, through the right outfall channel during low tides can be provided to lower the water level at the penning gate. NOTE - this is a tidal structure and the Contractor will have to programme work according to appropriate tides.	On day of installation
Habitats Regulations Assessment consent	Min 2 weeks prior to start on site

SSP 300 Site Information

SECTION	SCOPE
SI100	*Site* location
SI200	Reports and surveys
SI300	Public Information
SI400	Buried pipes, services and other objects
SI500	Buildings, structures and other things adjacent to the Site
SI600	Health and safety information

Checklist	Description of possible content

SI100 Site location

Site B - Brean Cross Sluice is a control structure located at the mouth of the River Axe into the Severn Estuary (NGR ST 30860 56229), see Site Location Plan in Site Information (**Appendix A**). The structure consists of two large tidal flap gates on the outer headwall, two internal emergency gates behind the tidal flaps, a small penstock located between the two channels and a penning gate arrangement on the upstream left channel inlet (see Drawing No. 2990_7 **Appendix C** and Brean Cross Photos - **Appendix B**).

Normal operating procedure - During the summer months (April to October) the Brean Cross internal gates are completely closed with river levels controlled by the small central penstock and two upstream pumping stations. During the winter months the internal gate in the left chamber is opened (right gate remains closed except during flood events), with levels controlled by the penning gate on the left inlet channel. Currently eels are able to enter the structure via the left tidal flap up until April, but are not able to navigate past the penning gate.

The Site is accessed from a caravan park off Weston Road, whilst the structure itself has a busy public footpath - The Brean Down Way - crossing it.

SI200 Reports and surveys

Survey Doc No.	Title	Location
A20-045-01	Brean Cross Sluice Topographic survey	Site Information **Appendix B**
0001-DV00118-R-02-Brean Sluice Gate	Structural Inspection of Brean Sluice Gate	Site Information **Appendix B**
1000/29	Brean Cross Operation and Maintenance Manual	Site Information **Appendix B**

Upstream level data for the last 5 years has also been provided for level reference (see BREANCROSS.L5 (TidalLevel).15min_5yrs – Site Information **Appendix B**)

SI300 Site Drawings

Drawing No.	Title	Location
2990/7	General Arrangements & Details of Proposed Penning Gate	Site Information **Appendix C**
2990/8	Modifications to Existing Tidal Flaps Record Drawing	Site Information **Appendix C**
2356/1	General Arrangement	Site Information **Appendix C**
2356/16	Building Details of Control House	Site Information **Appendix C**

SI400 Public Information

Brean cross Sluice is a crossing point over the River Axe on the Brean Down Way, which is a public cycle and footpath. Also the Site can be accessed by the public via the Diamond Farm Caravan Park.

SI500 Buried pipes, services and other objects

A desk based services check has been undertaken. Details of the utility companies that have been searched can be found in Site Information **Appendix D**.

An underground Low Voltage cable has been identified entering the Site from the west. This terminates on the downstream side of the structure. An underground High Voltage cable has also been identified passing across the Sluice structure itself, this is located within a 300mm diameter service pipe positioned along the top of the structure. No other services were returned within the Site boundary.

SI600 Buildings, structures and other things adjacent to the Site

The Brean Cross Structure itself forms an access bridge over the River Axe that is a public right of way and a cycle path (The Brean Down Way).

There are two control rooms one above the other. The upper room includes the control panels for the sluice structure.

Diamond Hill Caravan park is located immediately adjacent to the Site

SI700 Health and safety information

There is a Brean Cross Operation and Maintenance Manual created in 2003 (See Pre-Construction Information **Appendix B**). The O&M Manual includes:

- residual hazards and how they were dealt with
- hazards associated with materials used
- nature, location and markings of significant services