

likelihood of achieving an acceptable level of seal when a new set of stop logs is provided. The investigation will culminate in the production of a Condition Report detailing the key findings and recommending whether any remedial work needs to be undertaken to ensure a good seal of the stop logs

- Carry out a thorough investigation to establish the condition of the lifting equipment at both sites. The survey shall confirm the suitability of the equipment to carry out regular operation, its estimated residual life and a recommendation for any maintenance/improvement *works* which might contribute to extend its residual life. The above shall be included in a Condition Report to be submitted to the *Client* for review. Inspection can be undertaken from existing walkways and loading areas, full scaffolded access is not required.
- For the purpose of this procurement, the *Contractor* shall assume that no remedial *works* are to be carried out as a result of these investigations. Should remedial *works* be deemed necessary for the correct functioning and operating of the new stop logs (as a result of the investigations carried out) this will constitute a *Compensation Event*
- A total number of 14 stop logs are required for the project. The *Contractor* is required to design, fabricate and test (at both sites) 2 new sets of stop logs to match the existing ones – for further details please refer to the drawings provided as part of the *Scope*. The stop logs shall be designed as a like-for-like as much as possible so to allow them to be compatible with the existing lifting equipment, guide brackets, stop log grooves and any other element associated with the operation of the stop logs at both sites. However, in designing the stop logs, the *Contractor* shall consider the following:
 - A) The stop logs seals shall be designed using the best materials available to ensure a good seal and minimal risks of jamming are achieved
 - B) The *Contractor* shall explore and propose options to provide a horizontal seal between the stop logs
 - C) The *Contractor* shall consider and propose solutions to enhance the durability of the stop logs (the stop logs might be stored under saline water for periods of time or out in the open), for example by applying a protective coating etc.
 - D) The *Contractor* shall consider and propose ways to minimise the risk of debris accumulating inside the stop logs

3 no. covers are required: 1 no. on upstream side at Tail Sluice, 2 no. at Head Sluice (1 upstream and 1 downstream side)

One set of new stop logs shall be delivered to Tail Sluice and the other to the AG Wright Sluice. Upon delivery of the new stop logs the *Contractor* shall remove the 2 old sets of stop logs (which will be located at the AG Wright Sluice) and shall dispose of them. The removal and disposal of the old stop logs shall not be carried out until the new ones have been fully and successfully tested at both sites.

The number of stop logs to be fabricated shall be sufficient to isolate 2 bays at the same time. According to the current design, this means 2 sets of 7 stop logs.

The new stop logs shall be designed so that they can be installed using the existing lifting equipment available on site.

The testing of the new stop logs shall be carried out by the *Client's* Operatives in the presence of *Contractor's* representatives. The testing will be deemed successful if the stop logs can be easily slotted into position and removed using the existing lifting equipment. Additionally they will need to achieve a satisfactory seal with no visible leakage observed. Dewatering of the channel is not required for the test.

The *Contractor* shall submit a proposed solution to the *Client* for the delivery of the above *works*. The solutions will be suitably detailed to demonstrate the *Client's* objectives are met and will require the *Client's* approval before they can be implemented.

The *Contractor* shall identify, plan and undertake all pre-construction activities required to deliver the *works*, such as ecological surveys, utility searches, footpath diversion/closure, traffic management authorisations, etc. Additionally, as the work will be carried out near or in water it is important that all relevant authorisations, are obtained by the *Contractor* before commencing with the *works*. All the above will also be dependent on the methodology proposed by the *Contractor* to deliver the *works*, whom of which shall be solely responsible for successfully completing the pre-construction activities required.

The *Contractor* shall update and complete the Pre-Construction Information (provided as part of the *Works Information*) to reflect the proposed design and construction methodologies and shall submit it for acceptance to the *Principal Designer*

IMPORTANT: In developing the proposal, the *Contractor* shall provide a clear plan as to how they propose to carry out the *works*, with particular reference to access to site (and the proposed equipment/plant needed) as well as working within a water course.

Additionally the *Contractor* shall provide a single delivery programme for the whole package to include this scheme and accounting for the various programme constraints identified in the *Works Information Package*

IMPORTANT: All design, specification and construction undertaken by the *Contractor* and/or any subcontractors shall be compliant with the latest Environment Agency's MEICA Minimum Technical Requirements.

IMPORTANT: Please refer to the Pre-Construction Information and Environmental File Note with regards to access and environmental constraints

Steel Sheet Piling Work

Contractor to provide PAL3040 S235JRC sheet piles in various lengths to include delivery and offloading at the Ely Depot

Please note that this project will be subject to ongoing requirements and may be removed after contract award.

Material Price Changes

Client provides confirmation of quantities in time to enable orders for long-lead items to be placed by 22nd November 2021, or such other date as agreed between *Client* and *Contractor*, specifically steel sheet piles, stoplogs and timber vee-doors

Any reduction in the price of Year 2 steel sheet piles from the contract award price shall be to the benefit of the *Client*

Contractor provides suitable evidence to justify any changes to the price list due to changes in material prices, including, without limitation, supplier quotations and invoices

2. Drawings

Drawing Number	Revision	Title
<u>Welmore Lake Sluice gearbox repairs</u>		
Appendix A	01	Welmore Lake Sluice repairs Drawings and Maps
<u>Kala Jugga Sluice: Vee-door Replacement</u>		
Drawing Number	Revision	Title
EA/KJSI/2021 1	1	Kala Jugga Sluice Site Information & Map
EA/KJSS/2021 1	1	Kala Jugga Sluice Utilities Overview
5166119 DG 126 Kala Jugga Sluice	1	Kala Jugga Sluice Detailed Asset Inspection (DAI)
<u>Head and Tail Sluice: Stop Logs Replacement</u>		
Drawing Number	Revision	Title
EA/TSSL/2021.1	1	Tail Sluice Site Information Map
EA/HSSL/2021.1	1	Head Sluice Site Information Map
EA/HSSL/2021.1_Utilities	1	Utilities Overview – Head Sluice
EA/TSSLU/2021.1_Utilities	1	Utilities Overview – Tail Sluice
5157418_DG_147_Tail Sluice	1	Tail Sluice Detailed Asset Inspection (DAI)

5166119_DG_090_DAI AG Wright Head Sluice	1	A.G Wright/Head Sluice Detailed Asset Inspection (DAI)
KR09 07 21	1	Design Drawing: Stop Log Section Through Grooves
KR09 07 20	1	Design Drawing: Stop Log Sections & Handling Gear Proposed Arrangement

3. Specifications

All sites

Title	Date or Revision	Tick if publicly available
Clients Minimum Technical Requirements (412_13_SD01)	March 2020	
Civil Engineering Specification for the Water Industry	7 th Edition	
Lot 1 Specification Supplementary Clauses	V.1	
Lot 1 Specification Supplementary Clauses for Culvert Works	V.1	
Environment Agency SHEW-COP	2018	

Welmore Lake Sluice gearbox repairs

Title	Date or Revision	Tick if publicly available
369 13 SD01 Materials and Mechanical Installations	03/07/17 V2	
369 13 SD06 Gate and Valve Actuators	03/07/17 V2	
369 13 SD21 Documentation	03/07/17 V2	

Kala Jugga Sluice: Vee-door Replacement

Title	Date or Revision	Tick if publicly available
369_13 - MEICA standard specification	26/06/21 V5	
369 13 SD01 Materials and mechanical installations	03/07/17 V2	
369 13 SD02 Painting and protection systems	03/07/17 V3	
369 13 SD04 Water control structures	03/07/17 V2	
369 13 SD21 Documentation	03/07/17 V2	

Head and Tail Sluice: Stop Logs Replacement

Title	Date or Revision	Tick if publicly available
Principal Bridge Inspection Report K001 (Tail Sluice)	February 2017, P02	
Principal Bridge Inspection Report E003 (Head Sluice)	November 2014, P01	
LOLER inspection reports for Tail Sluice	Emails dated January 2021	
LOLER inspection report for Head Sluice		

4. Constraints on how the *Contractor* Provides the *Works*

Constraints to all projects in package both scoped and un-scoped:
The <i>Contractor</i> shall not commence any work on the <i>site</i> until the <i>Client</i> , or their representative, has accepted the Construction Phase Plan, including method statements and risk assessments ahead of each project in this contract. Acceptance will be by way of a written communication from the <i>Client</i> confirming the <i>Contractor</i> may take possession of the site from the agreed starting date.
The <i>Contractor</i> must allow a minimum of 2 weeks to allow the Principal Designer to review construction phase plans.
In order to assess the extent of work, the <i>Contractor</i> shall visit each site when pricing the work. The <i>Contractor</i> shall inform the <i>Client</i> of the time and date of each site visit before going to site
The <i>Client</i> has the contractual right to access the working area as shown on the drawings. The <i>Contractor</i> shall be required to determine the suitability of the access and agree any alternative routes with the landowner should the identified routes be unsuitable. Details of the routes must be included within the method statements. Access conditions may deteriorate following wet weather and the <i>Contractor</i> should assume the worst conditions when preparing his quotation
Compensation will be agreed and paid by the <i>Client</i> (via its appointed land agents) to affected landowners based on the <i>Contractor's</i> programme, proposed access routes and method statements. Compensation claims incurred due to the <i>Contractor's</i> failure to comply with its programme, access routes and/or method statements will be passed on to the <i>Contractor</i> .
Where necessary the <i>Contractor</i> shall include for the removal and replacement of any gates, fences or hedges or any other measures necessary such as installing temporary tracks or crossings to facilitate access. The <i>Contractor</i> shall be responsible for reinstating access tracks/routes to the same conditions as encountered on arrival to the site
The <i>Contractor</i> shall take all reasonable steps to avoid damage and disruption to the surrounding land, to the designated sites and associated access routes. Such land may be privately owned, commercially managed for industrial, agricultural use, or part of the local social amenities etc. Any problems with access should be reported directly to the <i>Client</i> .
A key, which must be returned on completion of the <i>works</i> , will be provided as necessary to allow access through the <i>Client's</i> gates.
If access to a site has deteriorated (e.g. due to heavy rainfall) making it difficult or impossible for the <i>Contractor</i> to access, the <i>Contractor</i> shall immediately contact the <i>Client</i> . The <i>Contractor</i> shall inform the <i>Client</i> of their intention to continue work at this site or submit a request to the <i>Client</i> that he may either postpone work or be permitted to start work at another site. If the <i>Contractor</i> decides to continue at the original site, this will be at his own risk
7 working days' notice of commencement of <i>works</i> shall be given to the <i>Client</i>
2 working days' notice must be given to the <i>Client</i> in advance of completion of the <i>works</i>
All accidents, near misses, dangerous occurrences and environmental incidents shall be notified to the <i>Client</i> , or their representative.
The <i>Contractor</i> shall be responsible for obtaining and/or registering for any necessary waste exemptions.
We require 24 hour / 7 days per week emergency contacts from the <i>Contractor</i> including the provision of out of hour's response if required due to theft, fire, flood and vandalism. It is expected that any emergency procedures are carried out by a competent employee of the <i>Contractor</i> .
The <i>Contractor</i> shall undertake an inspection and obtain pre and post work condition photos of any access routes that are expected to be used. This shall be made available to the <i>Client's</i> Project Manager upon request.
The <i>Contractor</i> shall be responsible for obtaining the necessary Environmental Permits for Flood Risk Activities (if applicable). The <i>Contractor</i> shall ensure the permits are received a minimum of 2 weeks prior to commencement of <i>works</i> . The <i>Contractor</i> shall be responsible for all costs associated with permit applications. The <i>Client</i> has, where possible, started the application process which will need to be transferred to the <i>Contractor</i> and finalised. Please be aware the Permitting process can take 8 weeks from receipt of payment, need for permits to be discussed with <i>Client's</i> Project Manager prior to applying for permits
No mud or other debris to be deposited on any tarmac areas outside the site access gate, any such material to be removed immediately.

The Contractor shall ensure that any service diversions and protection measures required during the works have been arranged and agreed with the relevant Statutory Authority

Un-scoped or additional projects shall be added to the package upon acceptance of the relevant CE's and revised programmes depending on *Contractor* performance.

Permits

Works will require the *Contractor* to obtain a Flood Risk Activity Permit from the Environment Agency where required.

Covid-19

The *Contractor* should have a detailed Safe System of Working for each site during the Covid-19 pandemic and allow extra time in their work programme during the pre-construction and construction phase to accommodate safe working practices. Any safe system of working plan should adhere to the government's guidance in place during the project's timeframe.

Welmor Lake Sluice gearbox repairs

Welmor lake Sluice is located within the Ouse Washes which is a SSSI, RAMSAR site

Works at this site are constrained by an environmental working window July 15th to 31st of October. Construction *works* must be carried out during the working window

Downstream of the structure has tidal influence.

Cradge Bank upstream of Welmor sluice is owned by a third party. Access to this section of the Cradge bank is through the site. Third party access must be maintained during the work. The temporary unavailability of access due to deliveries or site work etc must be informed to the third party landowners well in advance of any proposed disruption.

The maximum Bridge weight (E040, E042 and E043) 40GVW See Map 01 for location of the bridges

The *Contractor* is required to obtain an environment permit and permit to work before the commencement of the project.

Access to the pumping station must be maintained at all times.

The Middle Level Barrier Bank is currently under construction the project boundary detailed on Map 02

Kala Jugga Sluice: Vee-door Replacement

Known constraints to the project have been outlined for the *Contractor* below:

Tidal working

Kala Jugga is located in the second line of defence and therefore tidal working will not be required. However, the *Contractor* should keep a good awareness of the tidal levels and liaise with *Client* staff prior to and during the working window.

The upstream penstock is required to be fully accessible and operational during the working window to mitigate the consequence of a breach of shingle ridge during a tidal event.

Access Restriction

There is an access track behind the second line of defence to the upstream side to Kala Jugga with room for a site compound. As the sluice is located within the second line of defence access to the vee-doors are on the seaward side of the earth embankment. Therefore, access may need to be sort through the caravan park during the installation of the vee-doors

There are also electrical overhead cables directly above the vee-doors access hatch which will affect the accessibility of lifting equipment on site.

Public Right of Way

There is a footpath along the crest of the earth embankment separating the upstream and downstream side of the sluice. Walkers regularly use this footpath with local residents using the access steps to walk down the embankment onto the local nature reserve. This is a heavily used footpath where the *Contractor* will need to consider whether a suitable diversion can be put in place or full closure will be needed ahead of time to give sufficient notice. The Contractor shall have obtained all highway and footpath consents required prior to starting construction.

Environmental Constraints

The *works* are believed to have a low environmental risk; however the *Contractor* shall consider the potential impacts from breeding birds. If *works* are to be carried out during bird breeding season the *Contractor* shall look for nests at the structures and where found, shall leave a 10m buffer zone around the nest.

Head and Tail Sluice: Stop Logs Replacement

Potential known constraints to the project have been outlined for the *Contractor* below:

Tail Sluice

- Tail Sluice is a fully automated structure with downstream gates acting as the tidal limit. The *Contractor* will need to have an awareness of the tide times and heights at King's Lynn, as tidal working may be required as part of the project.
- To maintain a minimum level of operability at Tail Sluice, only two out of the seven gates can ever be disabled and worked on at any one time. The *Contractor* shall take a phased approach to any *works*, which require the gates to be out of operation.

Head Sluice

- Head Sluice is manually operated by the operational staff at Denver. The *Contractor* shall liaise with the operational staff on site prior to undertaking any *works* at the structure.
- To maintain a minimum level of operability at Head Sluice, only one of the three gates can ever be disabled and worked on at any one time. The *Contractor* shall take a phased approach to any *works*, which require the gates to be out of operation.

Public Right of Way

- There is a Public Right of Way over the bridge integrated into Tail Sluice. There is also a footpath at Head Sluice where the bridge crosses the structure as well as a public highway. These rights of way should remain open at all times, unless absolutely necessary. The *Contractor* should consider whether a suitable diversion would need to be put in place or closures, ahead of time, to give sufficient notice. The *Contractor* shall have obtained all highway and footpath consents required prior to starting construction.

Bridge capacity

- The bridges at both Head and Tail Sluice have a safe working load that will limit any craneage that will be compatible on site. Depending on the safe working load, the *Contractor's* methodologies must be adapted to suit this requirement. The loading capacity of the bridge at Head and Tail Sluice has been assessed at 40 Tonnes. See Principal Bridge Inspection Report K001 and E003.

Works Programme

- For resilient planning, *works* can only be undertaken at either Head or Tail Sluice, but not both, at any given time and therefore the *Contractor* shall plan *works* around the other constraints listed to ensure that one structure remains fully operational at any given time.
- Within the 2 year contract window other maintenance work may be undertaken at the structures. Therefore, the *Contractor* shall clearly outline their work programme and make sure any revisions are clearly communicated to the *Client* and other subcontractors on-site, to ensure there are no programme overlaps, which could hinder work completion.

Technical Specification

Head Sluice has lifting gear for the upstream and downstream side of the structure to install the stop logs though Tail Sluice only has a lifting gear for the upstream side. The new stop logs will need to be designed to utilise the current lifting equipment on site. Therefore, the location and number of lifting eyes should remain the same as on the current stop logs and the weight of the individual stop logs should not exceed the weight limit of the on-site lifting equipment. The *Contractor* should consider where possible to reduce the maintenance requirement of the stop logs through the use of the construction materials or protective coatings and provide the required maintenance details of the stop logs.

- The new stop logs must be able to be lifted using the current on-site lifting equipment. Therefore, the location and number of lifting eyes shall remain the same and the weight of the individual stop logs shall not exceed the weight limit of the on-site lifting equipment. This information is provided in the LOLER inspection report for both structures.
- The stop logs shall have a protective coating to improve the life span of the structure and reduce corrosion. The specification of the material used shall be provided to the *Employer* with a recommendation of the renewal period for the coating.

Environmental Constraints

- The *works* are believed to have a low environmental risk however, the *Contractor* shall give consideration to the potential impacts on breeding birds. If *works* are to be carried out during bird breeding season the *Contractor* shall look for nests at the structures and where found shall leave a 10m buffer zone around the nest.

Piling Work

Access is restricted to between 08:00 – 16:00 Monday to Friday. Prior arrangement for delivery is required five days prior to delivery to ensure there are no issues when trying to access the compound.

The access road to the compound requires passing over a railway crossing.

The Ely Depot piling compound is located adjacent to a railway line therefore unloading to be undertaken via the use of appropriate plant. The use of craneage may require Network Rail consent which the *Contractor* must obtain prior to delivery

Working times

The *Contractor* will be permitted to work between 7.30am and 6.00pm on weekdays (Monday to Friday)

5. Requirements for the programme

The *Contractor* submits its programme with the *Contractor's* Offer for acceptance. The *Contractor* shows on each programme submitted for acceptance (in form of Gantt chart showing the critical path, proposed order and timing to undertake the *works* and proposed plant and labour resources) the following:

- Period required for mobilisation/ planning & post contract award
- Design and all required approvals
- Construction starting date
- Each of the activities listed within the Price List
- Any key third party interfaces: lead in periods for materials and subcontractors; time required to obtain consents/waste permits; stated constraints; *Contractor's* risks
- Completion date

Contractor to provide monthly programme updates and to attend monthly progress meetings

6. Services and other things provided by the *Client*

Item	Date by which it will be provided
Electricity exists on all sites, apart from the piling works where it will not be required to be used by the <i>Contractor</i>	Commencement
Utilities information (<i>Contractor</i> expected to verify, CAT Scan, mark and manage risk as appropriate)	Pre-commencement
<u>Welmore Lake Sluice gearbox repairs</u>	
FBG file note	
HR01	Dec 2021
Utility searches	
EA utilities	Included

<u>Kala Jugga Sluice: Vee-door Replacement</u>	
EA utilities	Included
<u>Head and Tail Sluice: Stop Logs Replacement</u>	
EA utilities	Included

Site Information

Site Information is information which describes the site and its surroundings and is in the documents called Pre-Construction Information (PCI) A PCI will be provided for each scoped project within this contract, please note that the PCI's will not be issued at tender stage, they will be available following contract award for the scoped projects

PCI's will follow for un-scoped projects as they are introduced into the package

Welmore Lake Sluice gearbox repairs

Access to the site is along a track from A1122 at Salters Lode near war memorial (Map 01- Access). The *Client* has shared access rights along the track.

The Welmore Lake Sluice is the outfall structure of the Ouse Washes flood storage reservoir and water discharges from reservoir to the Hundred Foot tidal river. The structure consists of three vertical gates, 3 sets of vee-doors in front of the vertical gates, two land drainage pumps together with a silt jetting system and 3 transfer pumps.

During the winter period, the vertical gates are left opened and the vee-doors operate automatically depending on the differential water pressure discharging from the Ouse Washes. In the Spring the Ouse Washes water levels usually become lower than the downstream low tide levels. When this happens, the water cannot be discharged through the gates any longer and because gravity discharge cannot be achieved the pumps are operated as required in order to achieve or maintain the summer retention according to Water Level Management Plan (WLMP) in the River Delph, for environment reasons.

The pumps are operated manually as and when required by *Client* operatives. Access to the pump operation must be maintained at all times.

Tidal riverbank, Middle Level Barrier Bank and the Cradge Bank Crest are public footpaths/rights of way (Map 03)

Welmore lake Sluice located within the Ouse Washes, which is a SSSI and RAMSAR site. The *Client* will produce a HR01 and will get Natural England asset in order for the *Contractor* to carry out the work.

Kala Jugga Sluice: Vee-door Replacement

Kala Jugga Sluice comprises of an upstream penstock, a culvert and a downstream set of vee doors. The structure is located within the secondary sea defence, set back from the primary sea defence by approximately 300m. The original purpose of the vee-doors is to allow discharge of fresh water from the Heacham River through the sea defence at low tide, whilst also holding back seawater at high tide. The structure still provides this function and only in the event that the primary sea defence is over-topped or breached the structure will then become the first line of defence. The Kala Jugga penstock is operated prior to a high tide to ensure operational ability and can be shut as secondary protection in advance of a forecast tidal flooding event, or to retain fresh water in the Heacham River.

Location: Kala Jugga Sluice, Heacham, NGR: TF6661237874, Nearest Post Code: approx PE31 7AR

Access: Kala Jugga Sluice can be accessed via gated access track along Seabank Road, off Jubilee Road in Heacham. The road becomes an unpaved track after 150m. Following the track the structure can be found a further 250m down the track, where there is a turning area and parking for several vehicles.

The *Contractor* should be aware that Heacham River is a non-main river and as such is regulated by the King's Lynn Internal Drainage Board. Any restriction to the flow or levels of the Heacham River should be discussed with the *Client* along with the IDB prior to any *works* being undertaken.

Please reference to site information EA/KJSI/2021 1 for further information.

Photographs and the latest DAI for the sluice have been provided along with the scope for reference. This information should be used for reference only.

Service Searches

Service searches have been undertaken for Kala Jugga and the access track leading to the structure.

The service searches undertaken identify that there is electrical overhead cable running parallel to the earth embankment on the seaward side. This electrical overhead cable also crosses close to the access hatch from which the vee-doors are to be installed. The *Contractor* will be required to liaise with UK Power Networks to confirm the locations and overhead clearance restrictions prior to any *works* commencing. Further information has been provided in the utilities maps and service searches.

Head and Tail Sluice: Stop Logs Replacement

Head & Tail Sluice are the controlling water level structures at either end of the Relief Channel, which stores flood water when discharge is not possible through Denver Sluice at high tide.

Tail Sluice comprises of 7 sets of vertical lift gates and tidal flaps (located immediately upstream of the lift gates). All gates are approximately 9m wide. The gates are located between concrete piers and channel walls. The gates are accessed via concrete access bridges and platforms. The structure is fully automated and operates in flood mode to discharge the maximum quantity of floodwater from the Relief Channel to the Tidal River Ouse during low tide. The sluice also acts as the tidal limit preventing the ingress of saline water upstream into the relief channel, which is abstracted by agriculturists and local industry.

Location: Tail Sluice, Saddlebow, NGR: TF 60515 17295, Nearest Post Code: PE34 3AQ.

Access: From the A47 (King's Lynn bypass), take the exit to the Saddlebow junction and follow High Road, towards Saddlebow Industrial Estate. Continue for approximately 1km and take the second exit at the roundabout. Continue for approximately 400m and turn right at the sharp left bend. Follow the gated track (TF 60919 16925) for approximately 500m before reaching the site. Adequate parking is available adjacent to the site. The *Client* is the registered land owner for the site and access track, though accessed is shared with the Sailing Club.

Head Sluice comprises of 3 large counterbalanced guillotine gates, which control flows into the Relief Channel. The gates are set within a large concrete structure, which consists of an overhead working platform, 4 concrete towers and 2 piers. At the lower level, lifting beams span the complete width of the structure upstream and downstream to facilitate the installation of the stop logs.

Location: Head (AG Wright) Sluice located at the Denver Complex, Sluice Road, Denver PE38 0AZ, NGR: TF 58986 01153

Access; From A10, take exit to Denver along Ely Road, turn left on bend opposite church along Sluice Road. Continue along Sluice Road, after crossing first bridge turn left into Denver Complex. Car parking is available. Head Sluice is accessible via an access gates, adjacent to and opposite the main complex gate.

The flow and levels upstream of Head Sluice and in the Relief Channel are susceptible to change depending on weather conditions at time of *works*. Any restrictions to Head or Tail Sluice should be discussed and agreed with the *Employer*.

Please reference to site information EA/TSSL/2021 1 and EA/HSSL/2021 1 for further information.

Technical Information

Currently Tail and Head Sluice share 2 sets of 7 stop logs, which are in a deteriorated state after years of exposure to the elements and limited maintenance. The stop logs are a vital part to the contingency plan for both structures.

Photographs of the current stop logs have been provided along with the scope and the latest DAIs for the structures have been included with the scope. Please note that remedial *works* have been undertaken at both structures including the lifting equipment at Tail Sluice since the DAIs were produced. They should be used for reference only.

Service Searches

Service searches have been undertaken around both structures and utility maps provided along with the scope.

Tail Sluice: The service searches undertaken at Tail Sluice have indicated there are electrical overhead cables crossing the access track to Tail Sluice. There is also a buried high-pressure gas line which services the power station and Palm Paper which will require Cadent clearance to cross (based on previous conversations with their

representatives). The *Contractor* will be required to liaise with National Grid / Cadent (Gas) and UK Power Networks to confirm the locations and required clearance prior to any *works* being undertaken. Further information has been provided in the utilities map and service searches for Tail Sluice

Head Sluice: The service searches undertaken at Head Sluice have indicated there are BT Openreach cables crossing the gated access track to the Denver Complex park and over Head Sluice. There are buried electrical cables and potable water services across Head Sluice and the access track to the site car park. Further information has been provided in the utilities map and service searches for Head Sluice

Proposed sub-contractors

	Name and address of proposed subcontractor	Nature and extent of work
1.	Martin Childs Ltd 1 Green Way, Swaffham Norfolk, PE37 7FD Form of Contract: Lump Sum	Fabrication and installation of Vee doors & Stop logs.
2	Rotork UK Ltd Unit 9, Brown Lane West Leeds LS12 6BH Form of Contract: Lump Sum	Actuator replacement (Welmor Sluice)
3.	Bradshaw Electrical Shaftesbury Avenue, Lincoln LN6 0QN Form of Contract: Lump Sum	Electric Cabling works
4	Allianz Engineering 57 Ladymead, Guildford Surrey GU1 1DB Form of Contract: Lump Sum	Lifting Equipment surveys
5.	Ultra Beam Ltd Unit 3 Hayle Marine Business Park, Nth Quay, Hayle Cornwall TR27 4DD Form of Contract: Lump Sum	Underwater Survey of Sluice Channel.